

# OWNER'S MANUAL

TGE

Edition 01.2024



## MAN Truck & Bus SE

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MAN Truck & Bus SE works continuously to develop all models. The data provided concerning scope of delivery, appearance, performance, dimensions, weights, standards and vehicle functions is all correct at the time of going to print. Some of the equipment described might not yet be available in a particular vehicle (information can be provided by your local MAN service


point), and some equipment may not be available in certain countries. No legal commitment may be inferred from the information, illustrations or descriptions in this manual.

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 This paper was bleached without the use of chlorine.

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By purchasing this MAN product, you have become the owner of a vehicle fitted with the most up-to-date technology and a multitude of convenience functions for your use and enjoyment.

**Before using your vehicle for the first time, please read and observe the information in this owner's manual. It will quickly help you to become familiar with your vehicle and all of its functions as well as making you aware of dangers to yourself and others and of how these dangers can be avoided.**

If you have any further questions about your vehicle, or if you think that the owner's manual has not covered everything, please get in touch with your MAN service outlet. They will always be happy to deal with your questions, suggestions or problems. If you have any problems with your vehicle, our MAN Mobile24 mobility service will also be happy to help at any time.

We hope you enjoy driving your new vehicle. Happy motoring.

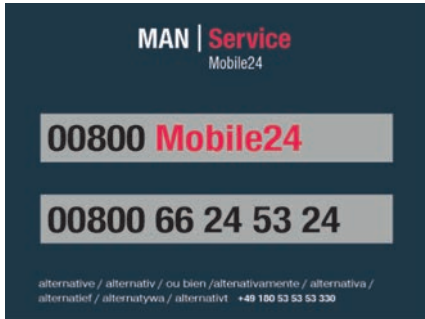
## **WARNING**

Please observe the important safety instructions for use of child restraint systems on the front passenger seat → page 81.

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MAN Service Mobile24 is on hand to provide round-the-clock support. Of course, it's better if you don't need to use it, but it's good to know it's there if you need it – the MAN mobility service. Our Europe-wide hotline will connect you straight to our Mobile24 call centre. A specially trained agent who speaks your language will set the wheel in motion to make sure you get the help you need as soon as possible. Wherever you're heading, we are always on your side.



**Fig. 1** MAN Service Mobile24

Please provide the following information: your name and the telephone number we can reach you

on. Please also note your vehicle identification number, vehicle registration number, mileage (km) and the vehicle's initial registration date. Then describe the problem to the MAN Service Mobile24 call agent. Please note: for tyre-related problems, we will also need the tyre brand, size, etc. and information as to whether you have a spare wheel.

If your vehicle is fitted with a MAN telematics box and a corresponding three-button module (in the roof console), you can also contact MAN Service Mobile24 by pressing the MAN Breakdown Call or MAN Information Call buttons → page 93.

|   |    |   |     |  |     |
|---|----|---|-----|--|-----|
| <b>Vehicle overviews</b>                      |    | Vehicle settings menu                         | 53  | <b>Lights</b>                              |     |
| Front view                                    | 12 | Driver Alert System                           | 54  | Vehicle lighting                           | 130 |
| Side view of panel van                        | 14 | Dynamic Road Sign Display                     | 57  | Fog lamps                                  | 136 |
| Side view of dropside                         | 16 | <b>Safety</b>                                 |     | Parking lamps                              | 137 |
| Rear view of panel van                        | 18 | Sitting position                              | 61  | Light functions                            | 139 |
| Rear view of dropside                         | 20 | Seat belts                                    | 64  | Interior lighting                          | 148 |
| Driver door                                   | 22 | Airbag system                                 | 72  | <b>Vision</b>                              |     |
| Driver side                                   | 24 | Safe transport of children                    | 81  | Wipers                                     | 149 |
| Centre console                                | 27 | In an emergency                               | 91  | Mirrors                                    | 153 |
| Front passenger side                          | 30 | <b>Opening and closing</b>                    |     | Sun blind                                  | 156 |
| Controls and displays in the roof             | 31 | Vehicle key                                   | 97  | <b>Heating and air conditioning system</b> |     |
| <b>Driver information</b>                     |    | Doors and central locking button              | 100 | Climatronic                                | 157 |
| Symbols in the instrument cluster             | 32 | Anti-theft alarm                              | 109 | Manual Climate Control                     | 159 |
| Warning and information messages              | 36 | Interior monitoring system and anti-tow alarm | 110 | Heating and fresh air system               | 161 |
| Introduction to the instrument cluster        | 37 | Wing doors                                    | 112 | Temperature control                        | 162 |
| Analogue instrument cluster                   | 38 | Windows                                       | 114 | Air distribution and blower speed          | 164 |
| Rev counter                                   | 44 | <b>Steering wheel</b>                         |     | Defrost function                           | 166 |
| Fuel gauge                                    | 45 | Adjusting the steering wheel position         | 119 | Air recirculation mode                     | 167 |
| Coolant temperature display                   | 46 | <b>Seats and head restraints</b>              |     | Roof ventilator                            | 168 |
| Driving data display (multi-function display) | 47 | Front seats                                   | 120 | Seat heating                               | 169 |
| Service                                       | 50 | Rear seats                                    | 125 | Steering wheel heating                     | 171 |
| Time  | 52 | Head restraints                               | 128 | Windscreen heating                         | 172 |
|   |    |   |     | Rear window heating                        | 173 |
|   |    |   |     | Electric supplementary air heating system  | 174 |

|   |     |  |     |   |     |
|---|-----|--|-----|---|-----|
| Auxiliary heater and ventilation                                  | 175 | Lane keeping system (Lane Assist)                  | 253 | MAN Connect                                       | 304 |
| Remote control for the auxiliary heater and auxiliary ventilation | 181 | Blind Spot Monitor                                 | 257 | MAN DigitalServices                               | 308 |
| Troubleshooting   | 184 |  |     |   |     |
| <b>Driving</b>  |     | <b>Parking and manoeuvring</b>                     |     | <b>Radio and Infotainment system</b>              |     |
| Steering  | 186 | Parking the vehicle safely                         | 260 | Introduction                                      | 309 |
| Pedals  | 188 | Information on the parking systems                 | 263 | Safety information                                | 311 |
| Brakes  | 189 | Park Distance Control                              | 267 | Notes on use                                      | 316 |
| Starting the engine   | 192 | Reverse warning system                             | 270 | Brands, licences, copyright law                   | 318 |
| Switching off the engine  | 198 | Rear view camera system                            | 271 | Cleaning the screen                               | 320 |
| Manual gearbox  | 200 | Park Assist  | 273 |   |     |
| Automatic gearbox   | 203 | Trailer Assist                                     | 277 | <b>MAN Radio Van</b>                              |     |
| Start/stop system   | 210 | Rear Traffic Alert (Rear Cross Traffic Alert)      | 280 | Getting started                                   | 321 |
| Information on driving  | 214 | Brake support systems                              | 282 | Radio   | 328 |
| Driving on uphill gradients                                       | 221 |  |     | Media   | 333 |
| Off-road driving situations                                       | 224 | <b>Practical equipment</b>                         |     | Mobile phone interface                            | 338 |
|   |     | Stowage  | 286 | Wired and wireless connections                    | 347 |
| <b>Driver assist systems</b>                                      |     | Cigarette lighter                                  | 290 |   |     |
| Information on sensors  | 231 | Sockets and charging facilities for mobile devices | 291 | <b>MAN Media Van/Business/Navigation</b>          |     |
| Cruise control system   | 234 | Tachograph   | 298 | Overview and operation of the Infotainment system | 351 |
| Speed limiter   | 238 | Optional equipment                                 | 299 | Radio   | 361 |
| Adaptive Cruise Control (ACC)                                     | 242 |  |     | Media   | 366 |
| Autonomous Emergency Braking (Front Assist)                       | 248 | <b>Data transmission</b>                           |     | Navigation  | 370 |
|   |     | Cyber security                                     | 302 | Mobile phone interface                            | 380 |
|   |     |  |     | Voice control                                     | 387 |
|   |     | <b>Mobile online services</b>                      |     | Wired and wireless connections                    | 391 |

|                                       |     |  |     |  |     |
|---------------------------------------|-----|--|-----|--|-----|
| Using the internet in the vehicle     | 396 |  |     |  |     |
| MAN SmartLink                         | 401 |  |     |  |     |
| <b>Transporting items</b>             |     | <b>Checking and refilling</b>                            |     | <b>Customer information</b>                              |     |
| Stowing a load                        | 407 | In the bonnet space                                      | 492 | Warranty and guarantee                                   | 603 |
| Load compartment equipment            | 411 | Service fluids and equipment                             | 497 | MAN mobility guarantee                                   | 604 |
| Load bed equipment                    | 418 | Windscreen washer fluid                                  | 499 | Declaration of conformity                                | 605 |
| Towing bracket                        | 423 | Engine oil   | 501 | Data storage and data protection information             | 606 |
| Trailer towing                        | 428 | Coolant  | 508 | Event data recorder                                      | 611 |
| Rear carrier system (bicycle carrier) | 438 | Brake fluid  | 516 | Radar sensors  | 613 |
| Roof load carrier                     | 440 | 12-volt vehicle battery                                  | 519 | Infotainment system and antennas                         | 614 |
| <b>Fuel and emission control</b>      |     | Battery master switch                                    | 527 | Component protection                                     | 615 |
| Safety information on using fuel      | 444 | <b>Wheels and tyres</b>                                  |     | Third-party copyright information                        | 616 |
| Fuel types and refuelling             | 445 | Introduction   | 529 | Information stickers and plates                          | 617 |
| Emission control                      | 451 | Wheel and tyre care                                      | 531 | Fluids in the air conditioning system                    | 618 |
| <b>If and when</b>                    |     | Wheel and tyre maintenance                               | 535 | Information in accordance with the EU's REACH Regulation | 620 |
| Vehicle toolkit                       | 461 | Wheels and tyres in snow and ice                         | 539 | Product recycling  | 621 |
| Wiper blades                          | 464 | Troubleshooting  | 542 | Returning and scrapping end-of-life vehicles             | 624 |
| Changing lights                       | 467 | Tyre Pressure Monitoring System                          | 544 | Instructions for vehicle ventilation                     | 625 |
| Changing fuses                        | 478 | Changing a wheel   | 552 | Repairs and maintenance                                  | 626 |
| Jump starting                         | 482 | Breakdown set  | 571 | Information on radio systems                             | 627 |
| Towing                                | 487 | Tyre characteristics                                     | 577 | Declaration of conformity for radio systems in countries | 661 |
|                                       |     | <b>Maintenance</b>                                       |     |  |     |
|                                       |     | Service  | 582 |  |     |
|                                       |     | Vehicle care   | 586 |  |     |
|                                       |     | Accessories, modifications, repairs and renewal of parts | 596 |  |     |

outside the European Union  
(EU)

## Technical data

|                               |     |
|-------------------------------|-----|
| Notes on technical data       | 670 |
| Vehicle identification number | 672 |
| Type plate                    | 674 |
| Safety certificate            | 675 |
| Panel van dimensions          | 676 |
| Dropside dimensions           | 678 |
| Capacities                    | 680 |
| Diesel engines                | 681 |

## Information for second stage manufacturers

## List of abbreviations

## Index

This owner's manual is valid for all variants and versions of your MAN model and model year. The owner's manual describes all equipment and models without indicating whether the equipment is optional or specific to the model type. This means that your vehicle may not have some of the equipment described, or it may only be available in certain markets. Please refer to the sales documents for information on your actual vehicle equipment, or contact a qualified workshop. MAN recommends a MAN service outlet for this.

In addition, the effectiveness of systems can be significantly impaired if components and systems have been retrofitted, e.g. by second stage manufacturers. The proper functioning of systems may therefore be impaired or adapted in vehicles with add-ons and modifications. Have the correct operation of the systems confirmed by the second stage manufacturer.

All data in this owner's manual corresponds to the information available at the time of going to print. Because the vehicle is constantly being developed and further improved, there may be differences between your vehicle and the data in this owner's manual. No discrepancy in data, illustrations or descriptions shall form the basis for any legal claim.

An alphabetical [index](#) and a [list of abbreviations](#), which explains technical abbreviations and terms, help you to familiarise yourself with and understand the owner's manual.

[Short definitions](#) appear in a different colour before some sections of this manual to provide a summary of the relevant topic. More detailed information about the features, conditions and limitations of systems and equipment can be found in the relevant sections.

#### **Booklets in the vehicle wallet:**

- Owner's manual
- Proof of maintenance

- Supplements (optional)
- Additional information about technical modifications to the vehicle or any amendments to important safety information that may be made after publication of this booklet.



Please ensure that the complete vehicle wallet is always in the vehicle if you lend or sell the vehicle to someone else. MAN also recommends restoring the Infotainment system to its factory settings to delete all personal data.

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#### **Registered brands**

MAN Truck & Bus SE and/or other companies of the TRATON GROUP are owners of a wide range of registered trademarks in Germany, in other European countries and/or in many other countries around the world. The MAN, TGE and eTGE symbols in particular are registered trademarks.

A list of the registered trademarks that are used in the publications of

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**<https://manserviceportal.eu>**

The fact that a symbol is not included in this list and/or is not marked as a trademark cannot be interpreted to mean that this symbol is not a registered trademark and/or that this symbol could be used without prior written consent.

The following section explains some phrases and terms used in the owner's manual to help you to understand them better.

**Directions**

Directions and positions such as left, right, front and rear are normally relative to the vehicle's direction of travel, unless otherwise indicated.

**Dimensions and speeds**

Values given in miles instead of kilometres or mph instead km/h refer to the country-specific instrument clusters or Infotainment systems.

**Illustrations**

Illustrations help with orientation and should be regarded as a general guide. The illustrations may differ from your vehicle.

This owner's manual was written for left-hand drive vehicles. In *right-hand drive vehicles*, the controls may sometimes be arranged differently to those displayed in illustrations or described in the text.

**Form of address**

For better legibility, the male form of address is used. However, this refers to all genders equally. The shortened linguistic form is used for editorial reasons and does not represent a value judgement.

**Terms and their meanings:**

**Qualified workshop** Qualified workshops are staffed by trained personnel who specialise in carrying out service work on commercial vehicles. A qualified workshop can be either a MAN service outlet or an independent workshop.

**MAN** Abbreviation of MAN Truck & Bus SE.

**MAN service outlet** Qualified workshop belonging to the MAN service network. A MAN service outlet operates in accordance with MAN's specifications and is authorised to provide services within the scope of the warranty.


Information on our MAN service outlets is available on the MAN website.

<https://mantruckandbus.com>

**Go to a qualified workshop.** In some situations you will have to take your vehicle to a qualified workshop to have it checked.

**Seek expert assistance** If it is not possible to continue driving the vehicle, you must have an expert check performed on the vehicle on the spot. A decision must then be taken as to whether the vehicle can continue to be driven after the check or if it has to be towed. This depends on the individual situation.



Refers to a section within a chapter that contains important information and safety notes  that should always be observed.



The arrow indicates the end of a section.



The symbol indicates situations in which the vehicle must be stopped as quickly as possible.

TM

This symbol means “Trademark” and denotes a recognised but as yet not officially registered trademark. However, the absence of this symbol does not constitute a waiver of the rights concerning any term.



The symbol indicates a registered mark. However, the absence of this symbol does not constitute a waiver of the rights concerning any term.



The symbol means “Copyright” and indicates that MAN holds the full usage rights. In particular, any reproduction, distribution, storage and publication is prohibited without the prior consent of MAN.



Symbols like this refer you to warnings within the same section or on a given page. They draw your attention to possible risks of accident or injury and explain how they can be avoided.



Cross reference to potential risks of damage to property in the same section or on the page specified.

### **DANGER**

Texts with this symbol indicate dangerous situations which will lead to fatal or severe injuries if you do not observe the warning.

lead to fatal or severe injuries if you do not observe the warning.

### **CAUTION**

Texts with this symbol indicate dangerous situations which could lead to slight or medium injuries if you do not observe the warning.

### **NOTICE**

Texts with this symbol indicate situations which could cause vehicle damage if you do not observe the warning.

### **WARNING**

Texts with this symbol indicate dangerous situations which could



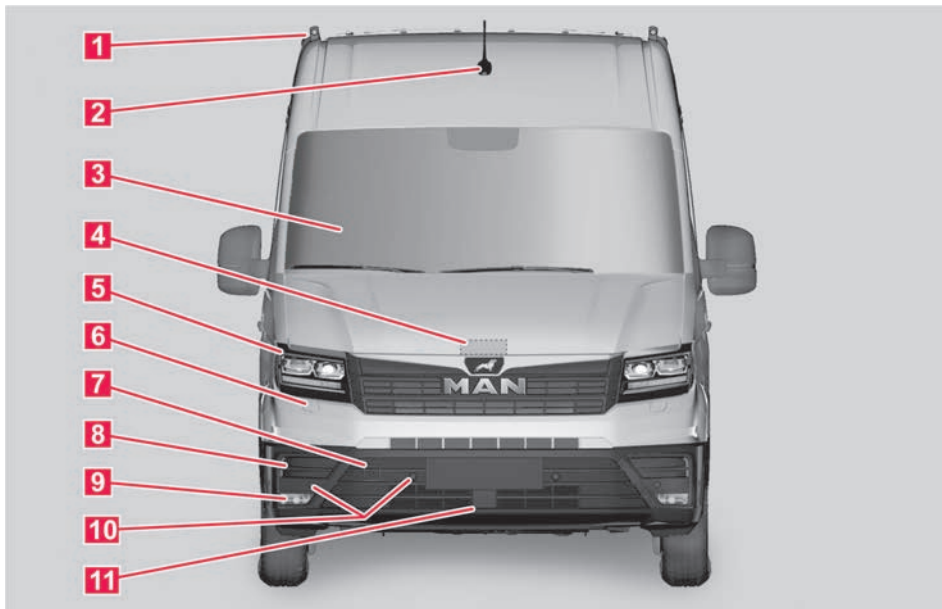
Texts with this symbol contain additional information on the protection of the environment.

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Texts with this symbol contain additional information.

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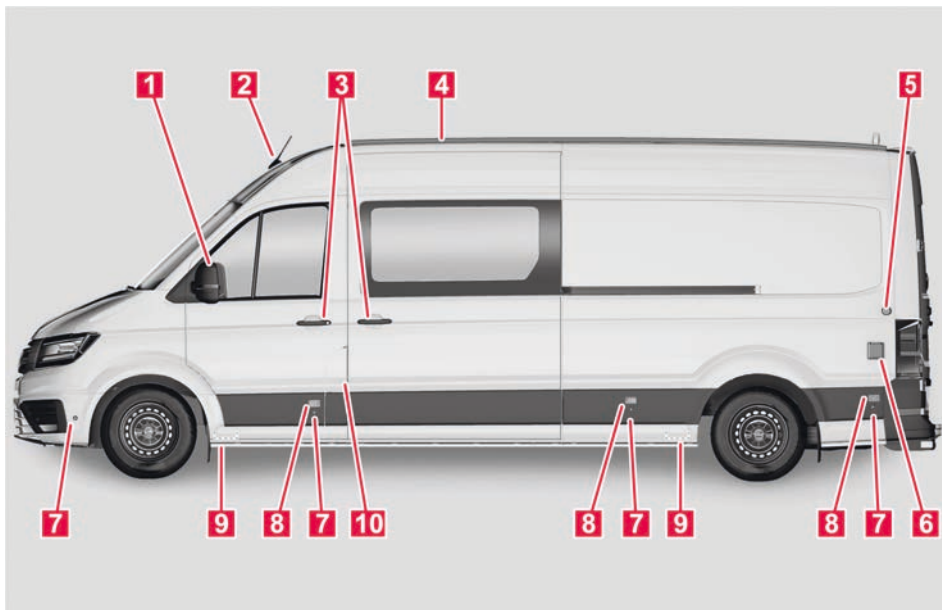
**Fig. 2** Overview of the front of the vehicle.

- |          |                                      |     |
|----------|--------------------------------------|-----|
| <b>1</b> | Marker lights                        | 467 |
| <b>2</b> | Roof aerial                          |     |
| <b>3</b> | Windscreen:                          |     |
|          | ▪ with vehicle identification number | 670 |
|          | ▪ with windscreen heating            | 172 |
|          | ▪ with windscreen wiper              | 149 |

---

|           |  |          |
|-----------|--|----------|
|           | ▪ with camera window for assist systems                      | 589      |
|           | ▪ with rain/light sensor positioned near the interior mirror | 151, 589 |
| <b>4</b>  | Lever for opening the bonnet                                 | 494      |
| <b>5</b>  | Headlights   | 467      |
| <b>6</b>  | Headlight washer system                                      | 150      |
| <b>7</b>  | Behind a cover: mount for the towing eye                     | 487      |
| <b>8</b>  | Behind a cover: steps  | 589      |
| <b>9</b>  | Lights in the bumper   | 467      |
| <b>10</b> | Sensors for assist systems                                   | 589      |
| <b>11</b> | Radar sensor for assist systems                              | 589      |

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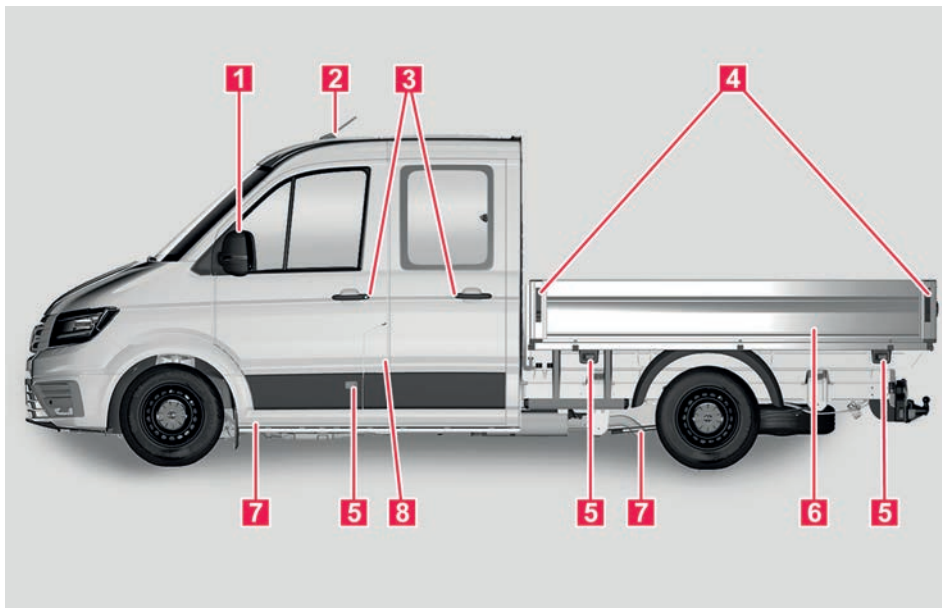
**Fig. 3** Overview of left-hand side of vehicle.

- |          |                                  |     |
|----------|----------------------------------|-----|
| <b>1</b> | Exterior mirrors                 | 154 |
|          | ▪ Blind Spot Monitor display     | 257 |
| <b>2</b> | Roof aerial                      |     |
| <b>3</b> | Door handles                     | 100 |
| <b>4</b> | Rails for roof carrier           | 440 |
| <b>5</b> | Stop for holding wing doors open |     |

---

|           |                                     |     |
|-----------|-------------------------------------|-----|
| <b>6</b>  | Socket for 230-volt electrical feed | 291 |
| <b>7</b>  | Sensors for assist systems          | 589 |
| <b>8</b>  | Marker lights                       | 467 |
| <b>9</b>  | Jacking points                      | 552 |
| <b>10</b> | Tank flap                           | 445 |

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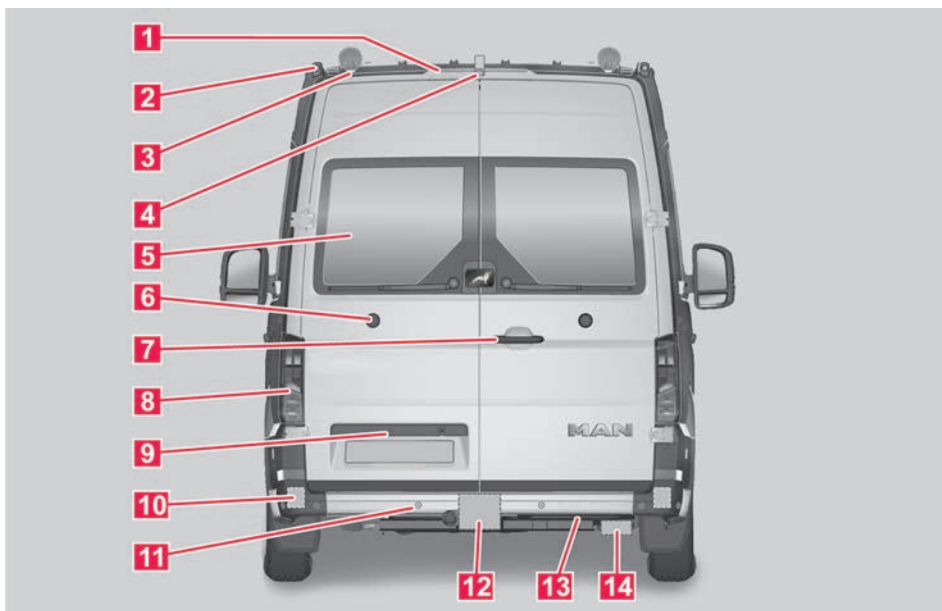
**Fig. 4** Overview of left-hand side of vehicle.

|          |                                |     |
|----------|--------------------------------|-----|
| <b>1</b> | Exterior mirrors               | 154 |
| <b>2</b> | Roof aerial                    |     |
| <b>3</b> | Door handles                   | 100 |
| <b>4</b> | Grips for opening the dropside | 418 |
| <b>5</b> | Marker lights                  | 467 |
| <b>6</b> | Dropside                       | 418 |

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|          |                |     |
|----------|----------------|-----|
| <b>7</b> | Jacking points | 552 |
| <b>8</b> | Tank flap      | 445 |

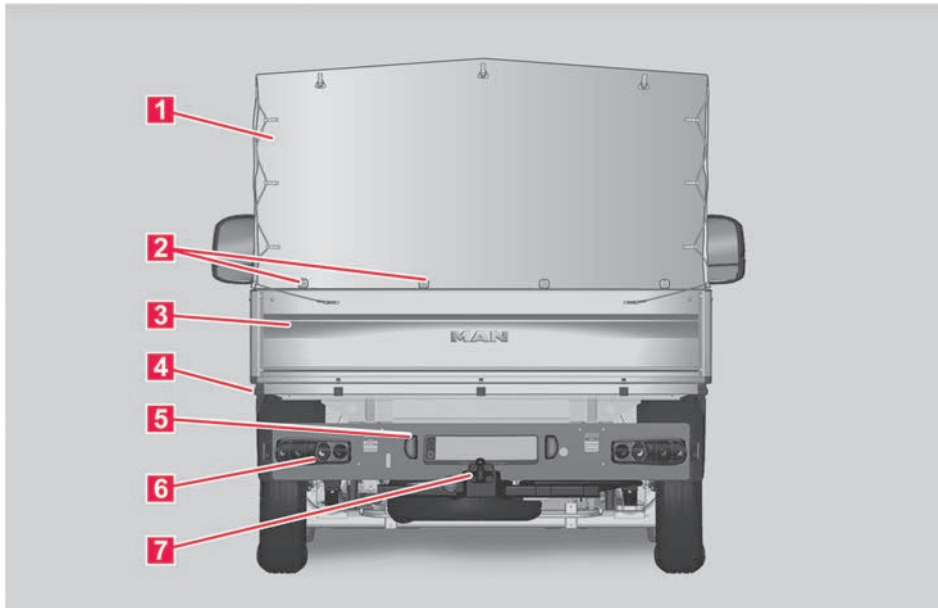
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**Fig. 5** Overview of the rear of the vehicle.

|          |                            |          |
|----------|----------------------------|----------|
| <b>1</b> | High-level brake light     |          |
| <b>2</b> | Marker lights              | 467      |
| <b>3</b> | High-level turn signals    | 467      |
| <b>4</b> | Camera for parking systems | 271, 589 |
| <b>5</b> | Rear window:               |          |
|          | ▪ with rear window heating | 173      |

|           |  |     |
|-----------|--|-----|
|           | ▪ with rear window wiper   | 149 |
| <b>6</b>  | Stop for holding wing doors open   |     |
| <b>7</b>  | Door handle  | 100 |
| <b>8</b>  | Tail light cluster   | 467 |
| <b>9</b>  | Area:  |     |
|           | ▪ for number plate light   | 467 |
|           | ▪ for camera of the trailer manoeuvring system   | 277 |
| <b>10</b> | Behind the bumper: Radar sensor for assist systems   | 589 |
| <b>11</b> | Sensors for assist systems   | 589 |
| <b>12</b> | Area of towing bracket   | 428 |
| <b>13</b> | Step   |     |
| <b>14</b> | Under the vehicle on vehicles without factory-fitted towing bracket: towing eye (with some equipment levels) | 487 |

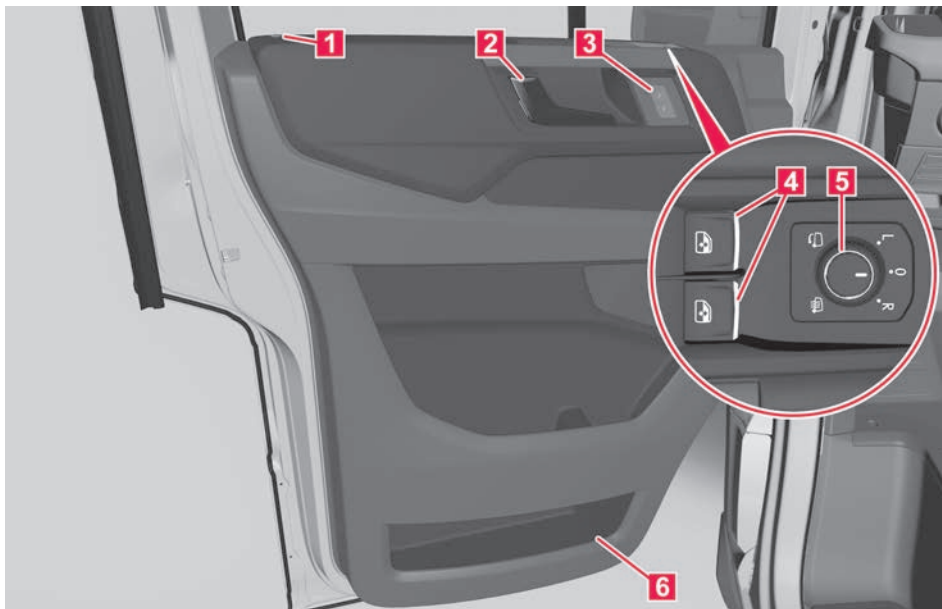


**Fig. 6** Overview of the rear of the vehicle.

- |          |  |     |
|----------|--|-----|
| <b>1</b> | Tarpaulin (depending on equipment)                           | 419 |
| <b>2</b> | Buckles for fastening the tarpaulin (depending on equipment) | 467 |
| <b>3</b> | Tailboard  | 467 |
| <b>4</b> | Marker lights  | 467 |
| <b>5</b> | Number plate light   | 467 |
| <b>6</b> | Tail light cluster   | 467 |

**7** Area of towing bracket

428



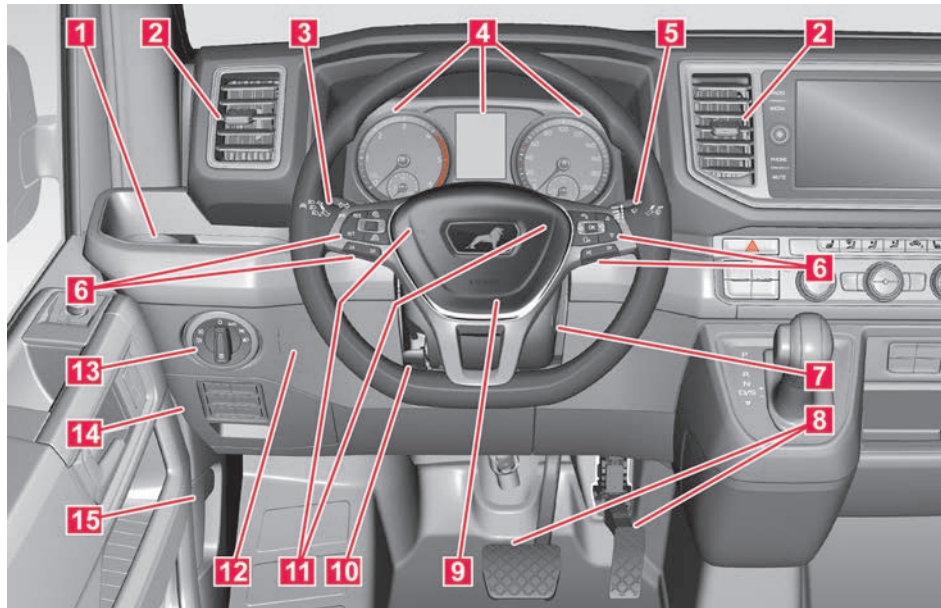
**Fig. 7** Overview of controls in the driver door (left-hand drive vehicles).

- |          |  |     |
|----------|--|-----|
| <b>1</b> | Central locking system indicator lamp                        |     |
| <b>2</b> | Door release lever   | 100 |
| <b>3</b> | Central locking button for locking and unlocking the vehicle | 103 |
| <b>4</b> | Buttons for operating the electric windows                   | 114 |
| <b>5</b> | Switch for exterior mirror adjustment and functions          | 154 |
| <b>6</b> | Stowage compartment:   |     |

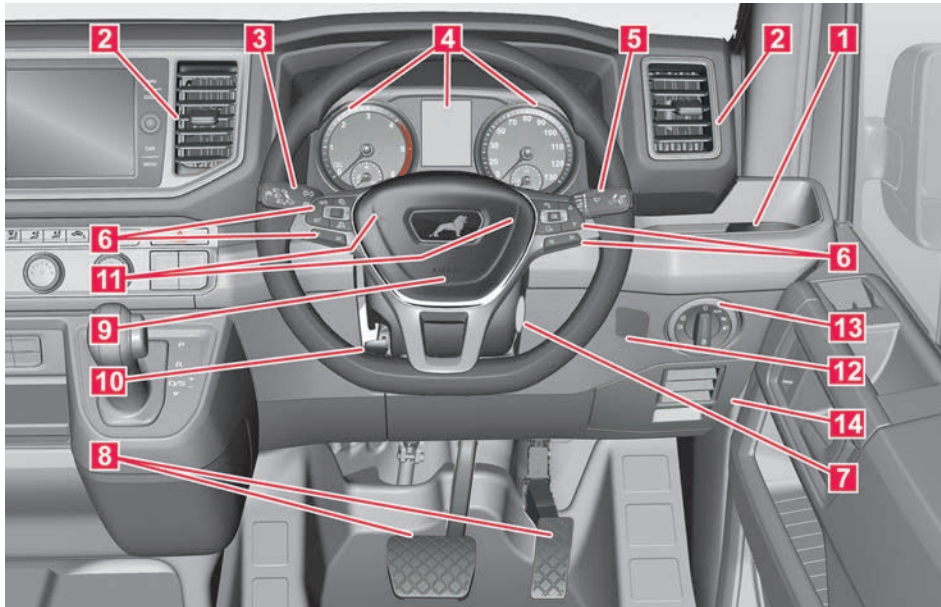
- for warning triangle
- for breakdown set

92

571, 572








**Fig. 8** Overview of driver side in left-hand drive vehicles.



**Fig. 9** Overview of driver side in right-hand drive vehicles.

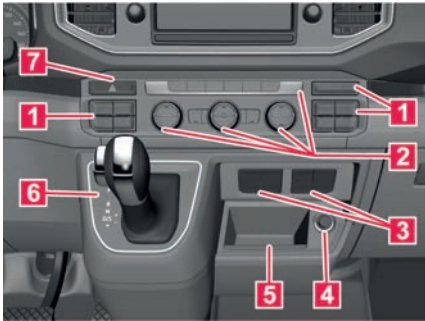
|          |   |          |
|----------|---|----------|
| <b>1</b> | Stowage compartment with drink holder                     |          |
| <b>2</b> | Vents   | 164      |
| <b>3</b> | Turn signal and main beam headlight lever                 | 130, 132 |
|          | ▪ With switches and buttons for the driver assist systems | 231      |
| <b>4</b> | Instrument cluster  | 37       |
|          | ▪ with warning and indicator lamps                        | 32       |

|           |   |     |
|-----------|---|-----|
| <b>5</b>  | Lever for wipers and washers  | 149 |
|           | ▪ with buttons for operating the menu   | 53  |
| <b>6</b>  | Controls on the multifunction steering wheel:   |     |
|           | ▪ for driver assist systems   | 231 |
|           | ▪ for menu selection  | 53  |
|           | ▪ for audio, navigation   |     |
|           | ▪ for volume adjustment   |     |
|           | ▪ to activate voice control  (not available for some equipment levels)                                     |     |
|           | ▪ to switch between the current and previous menus <b>VIEW</b>  |     |
| <b>7</b>  | Ignition lock   | 192 |
| <b>8</b>  | Pedals  | 188 |
| <b>9</b>  | Location of the driver front airbag   | 72  |
| <b>10</b> | Lever for adjusting the steering column position  | 119 |
| <b>11</b> | Horn  |     |
| <b>12</b> | Control for headlight range control   | 139 |
| <b>13</b> | Light switch  | 130 |
| <b>14</b> | Cover for vehicle fuses   | 478 |
|           | ▪ with buttons for additional equipment   | 299 |
| <b>15</b> | Bonnet release lever  | 494 |



**Fig. 10** Overview of the upper section of the centre console.

|          |  |     |
|----------|--|-----|
| <b>1</b> | Tachograph   |     |
| <b>2</b> | Stowage compartments or vents (depending on equipment) | 164 |
| <b>3</b> | Infotainment system                                    | 351 |



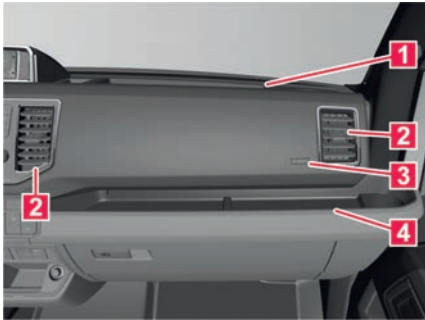
**Fig. 11** Overview of the lower section of the centre console.

|          |  |     |
|----------|--|-----|
| <b>1</b> | Buttons (depending on equipment):                                      |     |
|          | ▪ for start/stop system  | 210 |
|          | ▪ for assist systems for parking and manoeuvring                       | 260 |
|          | ▪ for traction control system (TCS)                                    | 282 |
|          | ▪ for windscreen heating   | 172 |
|          | ▪ for steering wheel heating   | 171 |
|          | ▪ for interior lighting  | 148 |
|          | ▪ for differential lock  | 229 |
|          | ▪ for load compartment locking function                                | 100 |
| <b>2</b> | Controls for the air conditioning system, heating and fresh air system | 157 |
| <b>3</b> | Buttons (depending on equipment):                                      |     |
|          | ▪ for Hill Descent Control   | 222 |
|          | ▪ for reverse warning system   | 270 |

---

|          |  |          |
|----------|--|----------|
|          | ▪ for rotating beacon  | 148      |
| <b>4</b> | Cigarette lighter or 12-volt socket  | 290, 291 |
| <b>5</b> | Stowage compartment  |          |
| <b>6</b> | Lever:   |          |
|          | ▪ for automatic gearbox  | 203      |
|          | ▪ for manual gearbox   | 200      |
| <b>7</b> | Hazard warning lights button  | 91       |

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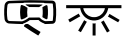





**Fig. 12** Passenger side (left-hand drive vehicles): overview of the dash panel (mirrored for right-hand drive vehicles).



**Fig. 13** Passenger side (left-hand drive vehicles): glove box open.

|          |   |     |
|----------|---|-----|
| <b>1</b> | Stowage compartment:  |     |
|          | ▪ with drink holder   |     |
|          | ▪ With 12-volt socket   | 291 |
| <b>2</b> | Vents   | 164 |
| <b>3</b> | Location of front passenger front airbag in the dash panel                  | 72  |
| <b>4</b> | Stowage compartment with drink holder                                       |     |
| <b>5</b> | Opening lever for stowage compartment on the front passenger side with lock |     |
| <b>6</b> | Key switch for switching off the front passenger front airbag               | 76  |
| <b>7</b> | Media drive in the Infotainment system                                      |     |

| Symbol  | Meaning   |
|---|---|
|  | Buttons for interior and reading lights → page 148.                                 |
|  | Buttons for emergency call service, information call and breakdown call → page 93.  |
|  | Indicator lamps for the front passenger front airbag switch-off function → page 72. |
|  |   |


The warning and indicator lamps can light up individually or in combination and indicate warnings, faults or certain functions. Some warning and indicator lamps light up when the ignition is switched on and should go out after a short period of time.

You can find information on other indicator lamps, e.g. in switches or touch panels, in the respective chapters.











#### **WARNING**













Failure to observe illuminated warning lamps and text messages can lead to your vehicle breaking down in traffic and can cause accidents, serious injury or even death.







- Never ignore any illuminated warning lamps or text messages.
- Stop the vehicle as soon as it is possible and safe to do so.







 Due to ongoing vehicle enhancement, the listed warning and indicator lamps may differ in their











appearance in the vehicle after an update.

| Symbol   | Meaning  |
|--|--|
|   |  Do not continue driving!<br>Central warning lamp<br>→ page 36    |
|   | Seat belt not fastened<br>→ page 65  |
|   | Handbrake applied<br>→ page 261  |
|   |  Do not drive on!<br>Brake system fault<br>→ page 191, → page 284 |
|   |  Do not drive on!<br>Brake fluid level low<br>→ page 518          |
|   | Depress the brake pedal!<br>→ page 242   |
|  | Engine oil level too low<br>→ page 507   |

| Symbol   | Meaning   |
|--|---|
|   |  Do not drive on!<br>Engine oil pressure too low<br>→ page 506 |
|   |  Do not drive on!<br>Steering fault<br>→ page 186              |
|   |  Do not drive on<br>12-volt power supply faulty<br>→ page 526  |
|   | Collision warning<br>→ page 249   |
|   | SCR system fault<br>→ page 455  |
|   | AdBlue® level too low<br>→ page 455   |
|   | SCR system fault<br>→ page 455  |
|  |  Do not drive on!<br>Fault in the coolant system<br>→ page 512 |








| Symbol   | Meaning  |
|--|--|
|             | Central warning lamp<br>→ page 36  |
|             | Airbag or belt tensioner system switched off with diagnostic tool<br>→ page 74 |
|  | Airbag or belt tensioner system fault → page 74                                |
| <b>OFF</b>  | Front passenger front airbag switched off<br>→ page 77                         |
| <b>ON</b>   | Front passenger front airbag switched on<br>→ page 77                          |
| <b>SOS</b>  | Emergency call system fault → page 96  |
|             | Check the brake pads<br>→ page 191   |












| Symbol   | Meaning   |
|--|---|
|   | Lit up: electronic stability control (ESC) switched off by the system<br>→ page 285                           |
|  | Flashing: Electronic Stability Control (ESC) or traction control system (TCS) control intervention → page 283 |
|   | Traction control system (TCS) switched off<br>→ page 284  |
|   | Anti-lock brake system (ABS) fault → page 284   |
|  | Engine oil system fault → page 507  |
|   | Engine oil level too low<br>→ page 507  |
|  | Engine oil level too high<br>→ page 507   |
|   | Engine oil system fault<br>→ page 507   |
|  | Fuel tank almost empty<br>→ page 45   |












| Symbol  | Meaning  |
|---|--|
|  | Water in the diesel<br>→ page 450  |
|  | Vehicle lighting failure<br>→ page 134   |
|  | Rear fog light switched on → page 136  |
|  | Rain and light sensor fault → page 135,<br>→ page 152  |
|  | Wiper fault → page 152   |
|  | Washer fluid level too low → page 151  |
|  | Steering fault<br>→ page 186   |
|  | Do not drive on!   |
|   | Tyre pressure low<br>→ page 549  |
|  |  Do not continue driving! |
|   | Fault in the tyre monitoring system → page 550   |







## Driver information





### Symbols in the instrument cluster

| Symbol  | Meaning  |
|---|--|
|  | Autonomous Emergency Braking (Front Assist) deactivated → page 251       |
|  | Adaptive Cruise Control (ACC) is not available → page 246                |
|  | Lane keeping system (Lane Assist) not available → page 256               |
|  | Lane keeping system (Lane Assist) is switched on but inactive → page 255 |
|  | Fault in the Blind Spot Monitor → page 259                               |
| <b>EPC</b>  | Fault in engine management system → page 195                             |
|  | Exhaust system fault → page 459  |
|  | Diesel engine preheating → page 196, → page 196, → page 459              |

| Symbol  | Meaning  |
|---|--|
|  | Particulate filter clogged with soot → page 458                    |
|  | Engine speed limited → page 196                                    |
|  | SCR system fault → page 456  |
|  | SCR system fault → page 456  |
|  | 12-volt power supply faulty → page 526                             |
|  | Gearbox fault → page 201, → page 207                               |
|  | Differential lock → page 230                                       |
|  | Depress the brake pedal! → page 207                                |
|  | Turn signals → page 134  |
|  | Trailer direction indicator → page 134                             |
|  | Speed stored, regulation active → page 234, → page 238, → page 244 |

| Symbol   | Meaning  |
|--|--|
|   | Lane keeping system (Lane Assist) is active → page 255             |
|   | Main beam or headlight flasher → page 132                          |
|   | Seat belt not fastened → page 65                                   |
|   | Seat not occupied → page 65  |
|   | Start/stop system active → page 210                                |
|   | Start/stop system not available → page 210                         |
|   | Service due → page 50  |
|   | Main-beam control active → page 133                                |
|   | Autonomous Emergency Braking (Front Assist) is starting → page 251 |
|   | Distance warning → page 249  |
|  | Cruise control system switched on → page 234                       |


| Symbol  | Meaning   |
|---|---|
|  | Fault in the Cruise Control System (CCS)<br>→ page 237                                  |
|  | Adaptive Cruise Control (ACC) intervention active, no vehicle detected ahead → page 244 |
|  | Adaptive Cruise Control (ACC) intervention active, vehicle detected ahead → page 244    |
|  | Speed limiter switched on, control active<br>→ page 238                                 |
|   | Maximum speed is limited → page 42  |
|  | Hill Descent Control<br>→ page 222  |
|  | AdBlue® level too low<br>→ page 456   |
|   | AdBlue in the normal operating range<br>→ page 452                                      |

| Symbol  | Meaning   |
|---|---|
|  | Mobile phone battery charge level → page 43                 |
|  | Reference to information in the owner's manual<br>→ page 36 |
|  | Engage power take-off<br>→ page 300                         |
|  | Mobile telephone connected via Bluetooth®<br>→ page 43      |

The system runs a check on certain components and functions in the vehicle when the ignition is switched on or while the vehicle is in motion. Malfunctions are indicated by red and yellow warning symbols with information messages on the instrument cluster display. An acoustic warning is also given in certain cases. What the information messages and symbols look like can vary depending on the version of the instrument cluster.

In addition, a list of current malfunctions can be opened manually. To do so, open the [Vehicle status](#) or [Vehicle](#) menu → page 53.

#### **Priority 1 warning message**

The red central warning lamp flashes or lights up, in some cases together with acoustic warnings or additional symbols.  **Do not drive on!** Danger. Check the fault and correct the cause. If necessary, seek assistance from a suitably qualified workshop.

#### **Priority 2 warning message**


The yellow central warning lamp flashes or lights up, in some cases together with acoustic warnings or additional symbols. Malfunctions and insufficient service fluids can damage the vehicle and cause it to break down. Check the fault as soon as possible. If necessary, seek assistance from a suitably qualified workshop.

#### **Reference to information in the owner's manual**


You can find further information on the warning message in the owner's manual.

#### **Information message**


Information about various procedures within the vehicle.

 Depending on the vehicle equipment level, some settings and displays may also appear in the Infotainment system.

---

 If several warning reports are detected, the symbols will appear for several seconds, one after another. The symbols will continue to appear until the faults are rectified.

---

 If warning messages about malfunctions are displayed when the ignition is switched on, it may not be possible to adjust some settings or display information as described. If the fault persists, consult a suitably qualified workshop.

---

The vehicle is fitted with an analogue instrument cluster. The instrument cluster indicates basic information, such as speed.

The following functions may also be available, depending on the equipment:

- Various menus, e.g. For driver assist systems.
- Status displays for the driver assist systems.
- Display messages.
- Warning and indicator lamps.
- Information on consumption and range.


You can use these menus to customise the content and adjust the settings.

### WARNING


Operating the instrument cluster and the Infotainment system can distract you from the road. If the driver is distracted when driving, this can cause accidents and serious or fatal injuries.

- Always drive with your full attention and responsibly.
- Never operate the instrument cluster while the vehicle is in motion.
- Adjust all settings in the instrument cluster and Infotainment system only when the vehicle is stationary.


### WARNING

The display may be switched off if there is a serious fault in the instrument cluster. The indicator lamp  may also light up. Warnings can no longer be displayed. This can lead to your vehicle breaking down in traffic and can cause accidents, serious injury or even death.

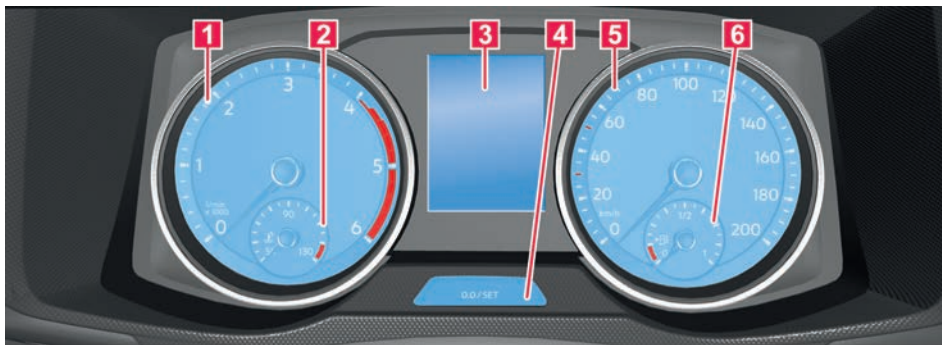
- Park the vehicle safely.
- Seek assistance from a suitably qualified workshop.

 You may find that system settings, such as personal convenience settings and programming, have been changed or deleted

when you start the engine after the 12-volt vehicle battery has been fully discharged, replaced or after a jump start. Check and correct the settings as necessary once the 12-volt vehicle battery has been sufficiently charged.

 When the outside temperature is low, the display in the instrument cluster may take slightly longer to appear than it does when the outside temperature is higher.

#### Overview of the analogue instrument cluster



**Fig. 14** Analogue instrument cluster in the dash panel.

- 1** Rev counter (running engine speed in revolutions x 1,000 per minute) → page 44.
- 2** Coolant temperature display → page 46.
- 3** Displays → page 40.
- 4** Reset, set and display button.
- 5** Speedometer.
- 6** Fuel gauge → page 45.

## Analogue instrument cluster operation



**Fig. 15** Right-hand side of the multifunction steering wheel: operating the analogue instrument cluster.



**Fig. 16** On the right of the steering column: buttons on the wiper lever.

There are no buttons on the wiper lever in vehicles equipped with



a multifunction steering wheel. The multifunction display is controlled using the buttons on the multifunction steering wheel only.

*Vehicles with multifunction steering wheel:* If any priority 1 warnings → page 36 are displayed, you will be unable to open any menus. You can confirm and hide some warnings using the **OK** → Fig. 15 button.

*Vehicles without multifunction steering wheel:* If any priority 1 warnings are displayed, you will be unable to open any menus. Some warnings can be confirmed and hidden with the **OK/RESET** → Fig. 16 **1** button.

### Selecting a menu or information display

*Vehicles with multifunction steering wheel:*

1. Switch on the ignition.
2. If a message or vehicle pictogram is displayed, press the **OK** → Fig. 15 button.
3. Press the  or  button multiple times to navigate through



the individual menu options → Fig. 15.

*Vehicles without multifunction steering wheel:*

1. Switch on the ignition.
2. Press the **OK/RESET** → Fig. 16 **1** button, several times if required, if a message or the vehicle pictogram is displayed.
3. To display the menus → page 40 or to return from a menu or an information display to the menu selection, press and hold the rocker switch TRIP → Fig. 16 **2**.
4. To browse through the menus, press the rocker switch TRIP → Fig. 16 **2** up or down.
5. To open the menu or information display shown, press the **OK/RESET** button → Fig. 16 **1** or wait until the menu or information display opens automatically after a few seconds.


#### Making settings in menus

*Vehicles with multifunction steering wheel:*


1. Press the arrow button  or  in the displayed menu until the desired menu option is highlighted → Fig. 15.

A frame appears around the selected option.

2. Press the  button → Fig. 15 to make the required changes.


A tick  indicates that the relevant function is switched on.

*Vehicles without multifunction steering wheel:*

1. In the displayed menu, press the rocker switch TRIP → Fig. 16  on the wiper lever upwards or downwards until the desired menu option is marked.



A frame appears around the selected option.

2. Press the **OK/RESET** button → Fig. 16  to make the required changes.

A tick  indicates that the relevant function is switched on.

#### Returning to the selection menu


*Vehicles with multifunction steering wheel:*


1. Press the  or  button → Fig. 15.

*Vehicles without multifunction steering wheel:*

1. Select the **Back** menu option.

#### Button on the multifunction steering wheel

1. To switch between the current and previous menus, press the  button → Fig. 15.

 If warning messages about malfunctions are displayed when the ignition is switched on, it may not be possible to adjust some settings or display information as descri-

bed. If the fault persists, consult a suitably qualified workshop.

#### **WARNING**

Operating the instrument cluster can distract you from the road. If the driver is distracted when driving, this can cause accidents and serious or fatal injuries.

- Always drive with your full attention and responsibly.
- Never operate the instrument cluster while the vehicle is in motion.

#### Information displays on the analogue instrument cluster


The range of content and layout of the menus and displays depend on the vehicle electronics and the level of vehicle equipment.

Some menus can only be opened when the vehicle is stationary.



### Possible analogue instrument cluster displays

Depending on the vehicle equipment level, various kinds of information can be displayed on the instrument cluster display:

- Outside temperature display.
- Road signs detected by the Dynamic Road Sign Display system → page 57.
- Driving data display (multifunction display) and menus for various settings → page 47.
- Driver assist systems.
- Gear-change indicator → page 215.
- Speed warning function.
- Open doors, bonnet and wing doors.
- Speed warning for winter tyres.
- Maximum speed limiter
- Infotainment system.
- Mileage displays.
- Compass display.
- Radiator fan run-on.

- Engine code (EC).
- Economical mode .
- Selector lever position for automatic gearbox → page 203.
- Radio and navigation information.
- Service interval display → page 50.
- Start/stop system status → page 210.
- Telephone information.
- Time → page 52.
- Warning and information messages → page 36.

### Outside temperature display

In the event of outside temperatures below approximately +4°C (around +39°F), the outside temperature is shown on the instrument cluster display, e.g.  Attention: outside temperature -2.0 °C. The  symbol remains lit up until the outside temperature rises above +6°C (+43°F).

In the following situation, the temperature displayed may be higher than the actual outside tempera-


ture as a result of the heat radiated from the engine.

- When the vehicle is stationary.
- When the auxiliary heater is being used.
- When travelling at very low speeds.

The measuring range is between -45°C (-49°F) and +76°C (+169°F).

### WARNING

Roads may be icy at low outside temperatures, also above freezing. There is an increased risk of accidents on icy roads. This can result in serious injury or death.

- Drive with particular care if the  symbol is displayed on the instrument cluster display.
- Always adapt your speed and driving style to the current visibility, weather and road or traffic conditions.
- Never rely only on the outside temperature display.

#### **Gear-change indicator**

While the vehicle is in motion, the instrument cluster may show which gear should be selected to reduce fuel consumption → page 215.

#### **Opened doors, bonnet and wing doors**

The instrument cluster display indicates if any doors, the bonnet and the wing doors are open once the vehicle has been unlocked, and while the vehicle is in motion. In some cases, an acoustic signal is also given. Different instrument cluster designs may have different displays.

#### **Speed warning for winter tyres**


A display in the instrument cluster indicates when you have exceeded the set maximum speed.

Speed warning settings can be made in the vehicle settings in the Infotainment system → page 53.

#### **Maximum speed limiter**

The customer-specific maximum speed limiter restricts the vehicle speed to a set maximum value that

cannot be exceeded. This maximum speed can only be set by a suitably qualified workshop.

If you start the engine when the maximum speed limit has been set, the warning lamp  lights up in the instrument cluster. The set maximum speed is also indicated by a text message.

#### **⚠ WARNING**


The set maximum speed limit can make overtaking difficult. This can cause accidents and serious or fatal injuries.

- Always adapt your speed and way of driving to the set maximum speed.
- Please note that the maximum speed limit cannot be cancelled by the kickdown function.

#### **Mileage displays**

The odometer records the total distance travelled by the vehicle.

The trip recorder shows the distance travelled since the trip recorder was last reset.

1. Briefly press the  button in the instrument cluster to reset the trip recorder to 0.

#### **Compass**

If the ignition is switched on, depending on the equipment level, the instrument cluster display shows the current direction of travel in the form of an abbreviation (e.g. NW for north-west).

The graphic compass display is also available when the Infotainment system is switched on and route guidance is not active.

#### **Radiator fan run-on**


This appears after the vehicle ignition has been switched off and the radiator fan continues to run.

The cause of this can be:


- Exhaust gas treatment, e.g. as part of particulate filter regeneration.


- Active brake cooling after hill descent.
- Dissipation of engine heat after a high load, e.g. when towing.

### Engine code


1. Switch on ignition, but the engine must not run.
2. Press and hold the  button on the instrument cluster for around 15 seconds to display the engine code.

### Telephone information

The  symbol is shown in the instrument cluster display if a mobile telephone is connected via Bluetooth®.

The  symbol also indicates the charge level of the mobile phone battery.


### Economical mode

When driving, the instrument cluster display shows whether the vehicle is in an economical mode .

### Selector lever position for the automatic gearbox

The gear selected is displayed on the side of the selector lever and on the display in the instrument cluster. The instrument cluster display shows which gear has been selected if the selector lever is in D position or in Tiptronic mode → page 203.


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 Different instrument clusters are available, which means that the versions and displays may vary. In displays without warning or information texts, faults are indicated exclusively by the indicator lamps.

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 Some displays in the instrument cluster may be overridden by sudden alerts, e.g. incoming telephone calls.

---

The start of the red zone on the dial indicates the maximum engine speed that may be used in each gear when the engine is warm and after it has been run in properly.

You should change up a position, set the driving mode selector to D/S position or lift your foot off the accelerator before the needle reaches the red zone.

#### **NOTICE**

The needle on the rev counter should only briefly point into the red area, as engine damage may otherwise be incurred. Heavy loads on the engine, particularly when the engine is cold, can cause engine damage.

- When the engine is cold, avoid high engine speeds, strong acceleration and high loads on the engine.




Changing up a gear early will help to save fuel and reduce engine noise.

---

## Analogue fuel gauge



**Fig. 17** On the analogue instrument cluster: fuel gauge (illustration).


 The small arrow next to the petrol pump symbol in the fuel gauge shows you the side of the vehicle on which the tank flap is located.

## Troubleshooting

### Fuel tank almost empty

The indicator lamp lights up yellow. The engine is consuming the reserve volume (red marking).

1. Fill the tank at the next opportunity → page 447.

With some equipment levels: The auxiliary heater and the fuel-powered supplementary heater switch off automatically when the indicator lamp  lights up.

### WARNING

When the fuel level is too low, the fuel supply to the engine could be irregular and lead to the engine stuttering or stalling, especially when driving up or down hills and inclines. The steering, all driver assist systems and brake support systems will not function if the engine stalls due to a lack of fuel or irregular fuel supply. This can cause breakdowns in traffic, accidents and serious or fatal injuries.

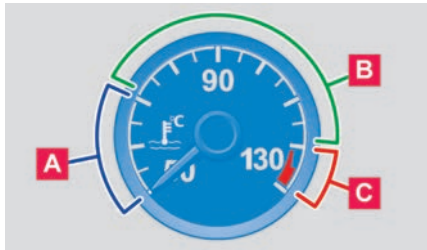
- Make sure that the fuel tank is always sufficiently full.
- Always refuel when the fuel tank is only 1/4 full.

### NOTICE

The irregular fuel supply can cause backfiring and allow unburnt fuel to enter the exhaust system.


- Never run the fuel tank completely empty.

#### Analogue coolant temperature display



**Fig. 18** On the analogue instrument cluster: Coolant temperature display (illustration).

- A Cold range:** The engine has not yet reached operating temperature. Avoid high engine revs and heavy engine loads until the engine is warm.
- B Normal range.**
- C Warning range:** The needle may also move into the warning range when the engine is working hard, especially at high ambient temperatures.

If the  indicator lamp flashes red, the coolant temperature is too high or the coolant level is too low  
→ page 508.

The driving data display (multifunction display) shows various travel and fuel consumption data.


Different driving data can be selected depending on the vehicle equipment level. The displayed driving data depends on the current driving behaviour, the vehicle condition, e.g. particulate filter regeneration, and the current driving situation, e.g. urban traffic. The driving data is calculated as an average value over stretches of varying length. Consequently, the value currently displayed may differ from the actual average value.

### Switching between displays

1. *Vehicles with multifunction steering wheel:*


Press the  or  button.

1. *Vehicles without multifunction steering wheel:*

Press the rocker switch  on the wiper lever.

### Switching memory

1. *Vehicles with multifunction steering wheel:*

Press the  button.

1. *Vehicles without multifunction steering wheel:*

Press the  button on the wiper lever.

#### Since start **memory**

The memory collects travel and consumption data from the moment the ignition is switched on until it is switched off. The memory will be deleted if the journey is interrupted for more than two hours.

#### Since refuelling **memory**

Display and storage of the collected driving and consumption values. The memory is deleted upon refuelling.

#### Long-term **memory**


The memory records driving data for up to 19 hours and 59 minutes or 99 hours and 59 minutes of driving time or 1999.9 km (mi) or

9999 km (mi) distance covered. The memory is deleted if one of these maximum values is exceeded. The maximum values vary depending on the instrument cluster version.


### Deleting driving data memories

1. Select the memory that you wish to delete.

2. *Vehicles with multifunction steering wheel:*

Press and hold the  button for approximately 2 seconds.

1. Select the memory that you wish to delete.
2. *Vehicles without multifunction steering wheel:*

Press and hold the  button in the wiper lever for approximately 2 seconds.

### Setting the speed warning

In some countries, a single acoustic warning is given at speeds above 80 km/h (around 50 mph) and a continuous acoustic warning sounds above 120 km/h (around

75 mph). This warning is a legal requirement and cannot be changed.

1. *Vehicles with multifunction steering wheel:*

Select the display *Warning at --- km/h or Warning at --- mph.*

2. Press the **OK** button on the multifunction steering wheel to save the current speed and activate the warning.

3. Set the speed within approximately 5 seconds using the **▲** and **▼** buttons on the multifunction steering wheel.

4. Press the **OK** button on the multifunction steering wheel or wait for a few seconds.

The speed is now saved and the warning is activated.

5. To deactivate, press the **OK** button on the multifunction steering wheel again.

The stored speed will be deleted.

1. *Vehicles without multifunction steering wheel:*

Select the display *Warning at --- km/h or Warning at --- mph.*

2. Press the **OK/RESET** button on the wiper lever to save the current speed and activate the warning.


3. Within approximately 5 seconds, set the speed using the rocker switch **TRIP** on the wiper lever.

4. Press the **OK/RESET** button on the wiper lever again or wait for a few seconds.

The speed is now saved and the warning is activated.

5. To deactivate, press the **OK/RESET** button on the wiper lever again.

The stored speed will be deleted.

 The warning can be set for speeds from 30 km/h (18 mph) to 250 km/h (155 mph).

### Selecting the displays

You can select which driving data you want to display in the vehicle settings in the Infotainment system → page 53.

#### Average speed **display**

The average speed is displayed after around 100 m (around 328 ft). The display will show dashes until this point.

#### Consumption **display**

The average fuel consumption is displayed after around 300 m (around 984 ft). The display will show dashes until this point.

#### Fuel range **display**

Approximate calculation of the distance that the vehicle can still travel in km (miles) if the same driving style is maintained.

#### SCR range **or** Range **display**

Approximate calculation of the distance in km (miles) that the vehicle can still travel with the current AdBlue® level if the same driving style is maintained. Depending on

the equipment, the display only appears when the remaining range is around 2000 km (approximately 1243 miles) or 2400 km (around 1491 miles) and cannot be deselected.

### **Convenience consumers**

List of active convenience systems which can increase energy consumption, e.g. the air conditioning.

The display shows the guide values of the respective consumer.

### Service interval display

Service events are displayed on the instrument cluster and in the Infotainment system.

Versions and displays can vary as different versions of the instrument cluster and Infotainment system are available.

Service schedules are divided into two categories, oil change service and inspections. The service interval display provides information on the next service which includes an oil change and on the next scheduled inspection.

In vehicles with a fixed oil change service interval, services take place at predefined intervals.

The service intervals are calculated on an individual basis for vehicles with flexible oil change service interval. An oil change service must only be carried out when required by the vehicle. The individual conditions in which the vehicle is used and the driver's personal driving style are taken into account. The


service reminder is displayed 30 days before the service is due. The distance is rounded to the nearest 100 km and the remaining time is rounded to full days.

### Service alert

If an oil change service or inspection is due soon, a service alert will appear the next time the ignition is switched on.

The mileage or time shown corresponds to the maximum mileage or time that can still be driven before the next service.

### Service event



For a scheduled oil change service or a scheduled inspection, an acoustic signal will be given when the ignition is switched on and a spanner symbol  may be displayed on the instrument cluster display for several seconds together with one of the following displays:

- Inspection now!
- Oil service now!



- Oil service and inspection now!

### Accessing service schedules

You can access the current service schedule when the ignition is switched on, the engine is not running, and the vehicle is stationary:


1. Tap and hold the  button in the instrument cluster until the word *Service* appears in the display.
2. Release the  button.

The current service message will be shown in the display.

You can also access service information in the Infotainment system by pressing the  button and the  and *Service* function buttons → page 53.

### Resetting the service interval display

If the service interval display was not reset after a service or inspection, it can be reset as follows:


1. Switch off the ignition.
2. Tap and hold the  button in the instrument cluster.

3. Switch on the ignition again.
4. Release the **0.0/SET** button if one of the following words appears on the instrument cluster display: *Reset oil change service?* or *Reset inspection service?*.
5. Press the **0.0/SET** button in the instrument cluster for confirmation.

Do not reset the service interval display between service intervals, otherwise incorrect data may be shown.


If the oil change service interval was reset manually, the service interval display then also changes to a fixed service interval in vehicles with flexible oil change service.

---

 The service message will disappear after a few seconds when the engine is running, or when you press the **OK/RESET** button on the wiper lever or the **OK** button on the multifunction steering wheel.

---

---

 If the 12-volt vehicle battery was disconnected for long periods in vehicles with a flexible oil change service interval, the system cannot calculate the time at which the next service is due. The information shown in the service interval display may therefore be incorrect. In this case, observe the maximum permissible service intervals → page 582.

---

#### Setting the time via the analogue instrument cluster

1. To set the time on all vehicle clocks, tap and hold the **0.0/SET** button in the instrument cluster while the doors are closed until the word **Time** appears in the instrument cluster display.

2. Release the **0.0/SET** button.

The time is shown in the instrument cluster display and the hour setting is marked.


3. Press the **0.0/SET** button repeatedly until the desired number of hours is displayed. Press and hold the **0.0/SET** button to scroll through quickly.

4. Once you have set the hour, wait until the minutes display in the instrument cluster is marked.

5. Press the **0.0/SET** button repeatedly until the desired number of minutes is displayed. Press and hold the **0.0/SET** button to scroll through quickly.


6. Release the **0.0/SET** button to finish setting the time.



The analogue clock adjusts itself to the new time a few seconds after ignition is switched on.

You can also set the time in the Infotainment system using the **CAR** button and the  and **Time and date** function buttons → page 53.

You can switch individual functions and systems on and off and make settings in the vehicle settings of the Infotainment system.


### Opening the Vehicle settings menu

1. Switch on the ignition.
2. Switch on Infotainment system if necessary.
3. Depending on the version, press the **(MENU)** button or function button, select the Vehicle menu and tap .
 


**Or:** Press the **(CAR)** button and tap the  function button.
4. Tap the corresponding function buttons to open additional sub-menus in the Vehicle settings menu or to make settings in the menu options.
5. Tap the  function button to return to the previous menu.

The respective function is switched on if the checkbox in the function button is ticked .

### Systems settings and display of vehicle information

Depending on the version, you can display information or adjust settings by pressing the **(MENU)** button then tapping the  function button, or by pressing the **(CAR)** Infotainment system button then tapping the corresponding function buttons:

- Active media.
- Vehicle settings → page 53.
- Auxiliary heater settings → page 176.
- Vehicle status → page 53.
- Driving data.
- Convenience consumers.
- Radio station selection.
- Supplementary heater.

 When you start the engine after the 12-volt vehicle battery has been totally discharged or changed, you may find that system settings (e.g. time, date, personal convenience settings, program-

ming and user accounts) have been changed or deleted. Check and correct the settings as necessary once the 12-volt vehicle battery has been sufficiently charged.

### WARNING

Operating the Infotainment system can distract you from the road. If the driver is distracted, this can cause accidents and serious or fatal injuries.

- Always drive with your full attention and responsibly.
- Adjust all settings in the Infotainment system only when the vehicle is stationary.

### Introduction



**Fig. 19** On the display of the instrument cluster: Driver Alert System symbol.

The Driver Alert System informs the driver if their driving shows signs of tiredness.

The Driver Alert System determines the driving behaviour at the beginning of a journey and uses it to evaluate the tiredness of the driver. The Driver Alert System is constantly compared to the behaviour of the driver while actually driving. If the system detects driver fatigue, an acoustic warning signal will sound and a symbol will be displayed on the instrument cluster display together with a supplementary text message → Fig. 19. The message on the instrument cluster

display appears for about 5 seconds and may be repeated once. The last displayed message is saved by the system.

### Function conditions

The driving behaviour can be evaluated only when the speed is above 60 km/h (around 37 mph) up to approximately 200 km/h (around 125 mph).

### ⚠ WARNING

The Driver Alert System is not a substitute for the full attention of the driver and operates only within the limits of the system. The Driver Alert System therefore may not detect that the driver is tired in all situations and may not react or may react with a delay or in an undesired way. There is a risk of accidents and serious or even fatal injuries.

- Always remain alert and do not rely solely on the system. The driver is responsible at all times for their fitness to drive.

- Observe the system limits → page 55.
- Never drive a vehicle when you are tired.
- During long trips, take regular and sufficient breaks.
- Follow the information in the instrument cluster display, and respond according to the commands.
- Please note that no urgent warning will be given in the case of microsleep.

---

ⓘ The Driver Alert System has been developed for use only while driving on motorways and good roads.

---

ⓘ If there is a fault in the system, go to a suitably qualified workshop and have the system checked.

---

## Limits of the Driver Alert System

📖 Please refer to  at the start of the chapter on page 54.

### Function limitations

The Driver Alert System has system-related limitations. The following conditions can limit the function of the Driver Alert System, or prevent it from working altogether:

- When travelling at speeds of less than approximately 60 km/h (around 37 mph).
- When travelling at speeds of more than approximately 200 km/h (around 125 mph).
- Roads with bends.
- Poor roads.
- Adverse weather conditions.
- Sporty driving style.
- The driver is distracted.
- Unfavourable load levels (distribution of loads).
- Driving with trailers → page 428.

### Microsleep

No urgent warning will be given in the event of the phenomenon known as microsleep. The Driver Alert System is reset in the following situations:

- The ignition is switched off.
- The driver seat belt is unfastened and the driver door is open.
- The vehicle has been stationary for longer than approximately 15 minutes.

The Driver Alert System is reset automatically if you drive slowly at a speed less than approx. 60 km/h (around 37 mph) for a long period. If the speed is then increased, the system evaluates the driving behaviour again.

## Using the Driver Alert System

📖 Please refer to  at the start of the chapter on page 54.



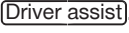
### Hiding a message

The message on the instrument cluster display can be hidden as follows:



1. Press the  button on the multifunction steering wheel.

### Switching on and off

Depending on equipment, the Driver Alert System can be switched on and off in the Infotainment system.

1. Press .
2. Tap .
3. Tap .
4. Switch the Driver Alert System on and off in the corresponding submenu.

### Or:

1. tap .
2. Select *Assist systems*.
3. Tap .

4. Switch the Driver Alert System on and off in the corresponding submenu.

## Introduction

Dynamic Road Sign Display uses a camera in the base of the interior mirror to detect standard road signs and informs the driver of any detected speed limits or overtaking restrictions. Within the limits of the system, the system also displays sub-plates, e.g. time-limited restrictions or restrictions in wet conditions. In some cases, the system can also display the current speed limits on non-signposted routes.

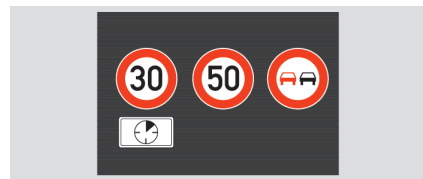
In addition to speed limits and overtaking restrictions, Dynamic Road Sign Display also detects the road sign which indicates that all restrictions have been lifted on motorways and main roads in Germany. In all other countries in which the system is operated, the current speed limit is displayed instead.

The road signs detected by the Dynamic Road Sign Display system are displayed on the instrument cluster depending on the selected information profile. Road signs may also be displayed in the Infotainment system, depending on the system installed in the vehicle.

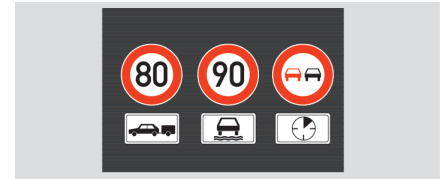
### Display of traffic signs



**Fig. 20** On the display of the instrument cluster: Displays of the Dynamic Road Sign Display system (illustration).



**Fig. 21** On the display of the instrument cluster: Displays of the Dynamic Road Sign Display system (illustration).



**Fig. 22** On the display of the instrument cluster: Displays of the Dynamic Road Sign Display system (illustration).

After validation and evaluation of the information from the camera, the Infotainment system and the current vehicle data, the activated Dynamic Road Sign Display shows up to three valid road signs with the accompanying sub-plates → Fig. 20, → Fig. 21, → Fig. 22:

**1st position:** The road sign that currently applies is shown on the left-hand side of the display, e.g. a speed limit of 130 km/h (80 mph).

**2nd position:** Traffic signs that do not always apply (e.g. 100 km/h (60 mph) “in wet”) are shown in second place.

**Additional signs:** if the wind-screen wiper is active while

the vehicle is in motion, the applicable road sign with the “when wet” sub-plate will be moved left to the first position, for example.

**3rd position:** A further road sign can be displayed in the third position, for example a sign indicating that overtaking is not permitted at certain times.


#### **WARNING**

The Dynamic Road Sign Display system is not a substitute for the full attention of the driver and operates only within the limits of the system. Dynamic Road Sign Display therefore cannot recognise all road signs and may not react or may react with a delay or in an undesired way. Driving recommendations and traffic symbols displayed by the Dynamic Road Sign Display system may differ from the current traffic situation. There is a risk of accidents or even fatal injuries.

- Observe the system limits  
→ page 58.

- Always remain alert and do not rely solely on the system. The driver is always responsible for all driving tasks.
- Traffic signs and traffic regulations have priority over the recommendations and displays provided by the Dynamic Road Sign Display system.
- Always adapt your speed and driving style to the current visibility, weather and road or traffic conditions.

---

 Availability of the Dynamic Road Sign Display function is limited in waypoint mode (waypoint navigation) of the Infotainment system.

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#### Limits of Dynamic Road Sign Display

 Please refer to  at the start of the chapter on page 57.

#### Error messages

No road signs available. The system is in the initialisation phase.

**Or:**

the camera has not detected any regulatory or warning signs.

Fault: Dynamic Road Sign Display. **System fault.** Go to a suitably qualified workshop.

Speed warning currently not available. Fault in the Dynamic Road Sign Display system speed warning. Go to a suitably qualified workshop.

Dynamic Road Sign Display: Clean the windscreen!

The windscreen is dirty in the area of the camera or the camera view is impaired due to the weather conditions. Clean the windscreen  
→ page 589.

Dynamic Road Sign Display is currently restricted.

No data transmission from the Infotainment system. Check that valid map data is installed in the Infotainment system.

**Or:**

the vehicle is located in an area that is not covered by the map stored in the Infotainment system.

No data available. Dynamic Road Sign Display is not supported in the country in which you are currently travelling.

### Function limitations

Dynamic Road Sign Display is subject to system-related limitations. The following conditions can restrict the function of Dynamic Road Sign Display, or prevent it from working altogether:

- Poor visibility, for example when it snows.
- When dazzled, e.g. by oncoming traffic or sunlight.
- High speeds.
- Covered or dirty camera.

- Road signs that are located outside of the camera's field of view.
- Partially or fully hidden road signs, e.g. by trees, snow, dirt or other vehicles.
- Road signs that do not correspond to the standard design.
- Damaged or bent road signs.
- Variable road signs on gantries (changeable road sign display using LEDs or other light sources).
- Out-of-date map material of the Infotainment system.
- Vehicles that have road sign stickers, e.g. speed restrictions on trucks.

### Using Dynamic Road Sign Display

 **Please refer to  at the start of the chapter on page 57.**

### Switching on and off

Depending on equipment, continuous display of road signs in the in-

strument cluster can be switched on and off in the vehicle settings in the Infotainment system.

### Speed warning function

If the Dynamic Road Sign Display detects that an applicable speed limit has been exceeded, it can issue an acoustic warning signal or display a message on the instrument cluster display.

The speed warning can be set or completely deactivated in the vehicle settings in the Infotainment system → page 53. The settings can be adjusted in increments of 5 km/h (3 mph) within a range between 0 km/h (mph) and 15 km/h (9 mph) above the permitted maximum speed.

### Trailer mode

In vehicles with a factory-fitted towing bracket and a trailer with an electrical connection to the vehicle, the display of road signs that may apply to the vehicle when towing a trailer, e.g. applicable speed limits and no-overtaking signs, can be

activated or deactivated in the vehicle settings in the Infotainment system → page 53.

In trailer mode, the speed warning function display can be adjusted to the type of trailer or to legal requirements. The settings can be adjusted in increments of 10 km/h (5 mph) within a range between around 60 km/h (around 40 mph) and around 130 km/h (around 80 mph). If a higher speed is set than is permitted for driving with a trailer in the country in which you are currently travelling, Dynamic Road Sign Display automatically issues a warning at the usual speed limit, e.g. at 80 km/h (50 mph) in Germany.

If the speed warning for the trailer is deactivated, Dynamic Road Sign Display issues warnings as if the vehicle was being driven without a trailer.

## Introduction

Assuming an incorrect sitting position considerably impairs the level of protection provided by a seat belt. This could lead to severe or even fatal injuries. The risk of severe or fatal injuries is especially increased when a deploying airbag strikes a vehicle occupant who has assumed an incorrect sitting position. The driver is responsible for all occupants transported in the vehicle, especially children.

### Number of seats

The number of seats depends on the seating configuration and the equipment in the particular vehicle model.

Each seat is equipped with a seat belt.

### Retrofitting seats

Additional seats can be retrofitted, provided that the maximum number of seats specified by the manufacturer in the vehicle documentation is not exceeded. For this pur-

pose, seat anchor points should be fitted to the vehicle floor by a suitably qualified workshop in accordance with the manufacturer's instructions.

These additional seats must also have seat belt anchor points and seat belts.

## WARNING

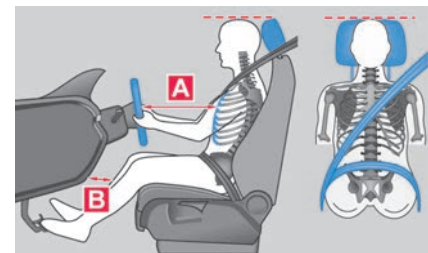
Assuming an incorrect sitting position in the vehicle can increase the risk of severe or fatal injuries during a sudden driving or braking manoeuvre, in the event of a collision or accident, or if the airbags are triggered.

- All vehicle occupants must assume a correct sitting position before setting off and maintain this position throughout the trip. This also applies to the fastening of seat belts.
- The number of vehicle occupants must never exceed the number of seats with seat belts in the vehicle.

- Never tilt the backrest too far to the rear.
- Always keep your feet in the footwell during the journey. Never place your feet on the seat or dash panel, for example. Never hold your feet out of the window. If you sit like this, the airbag and seat belt cannot provide optimal protection and could actually increase the risk of injury during an accident.

## Correct sitting position

Please refer to  at the start of the chapter on page 61.



**Fig. 23** Illustration: correct distance between the driver and the steering wheel,

correct seat belt routing and correct head restraint adjustment.

The following details the correct sitting positions for the driver and passengers.

If any vehicle occupants cannot assume a correct sitting position due to their physical build, they should contact a suitably qualified workshop to find out about possible special modifications. The seat belts and airbags can only provide a maximum level of protection if you assume a correct sitting position.

Adopt the following seating position for your own safety and to reduce the level of injury in the event of a sudden braking manoeuvre or an accident:

### The following applies to all vehicle occupants:

- Adjust the head restraint so that its upper edge is at the same height as the top of the head, but not lower than eye level. Position the back of your head as

close to the head restraint as possible → Fig. 23.

- For shorter people: Push the head restraint all the way down, even if the head is then underneath the top edge of the head restraint.
- For taller people: Push the head restraint up as far as it will go.
- Keep both feet in the footwell while the vehicle is in motion.
- Adjust and fasten seat belts properly → page 64.

### Additional points for the driver:

- Sit as far back as possible on the seat cushion.
- Adjust the driver seat by moving it forwards or backwards so that you are able to press the pedals to the floor with your knees still slightly bent and so that the distance from the dash panel to the lower leg area is at least 10 cm (around 4 inches) → Fig. 23 B.
- Adjust the height so that you can reach the highest point of the steering wheel.

- Move the backrest into an upright position so that your back rests fully against it.
- The thighs should rest comfortably on the seat cushion. The back of the knees should protrude a few centimetres beyond the front edge of the seat. Use further equipment-dependent adjustment options for the seats.
- Adjust the seat so that the distance between the steering wheel and your breastbone is at least 25 cm (around 10 inches) → Fig. 23 A and the circumference of the steering wheel can be held at the sides with both hands and your arms slightly bent.
- The steering wheel must always point towards the breastbone and not towards the face.

### Additional points for the front passenger:

- If possible, move the backrest into an upright position so that your back rests fully against it.

- Push the front passenger seat as far back as possible so that the airbag can provide maximum protection if it is deployed.

### Introduction

If worn properly, seat belts hold the vehicle occupants in the correct sitting position during an accident or braking manoeuvre, providing maximum protection.

### WARNING

Incorrectly fastened or unfastened seat belts can increase the risk of severe or fatal injuries.

- Before every trip, each vehicle occupant must adopt the correct sitting position, correctly fasten the seat belt belonging to their seat and keep it fastened properly throughout the trip.
- Before every journey and while the vehicle is in motion, secure all children travelling in the vehicle in a restraint system suitable for their weight and height. They must also wear correctly fastened seat belts → page 81.
- Insert the latch plate only into the belt buckle of the corresponding seat and make sure that the latch plate engages se-

curely. Using a buckle that does not belong to the seat that you are occupying reduces the level of protection and can lead to severe injuries.

- Never unfasten the seat belt while the vehicle is in motion.
- Never allow more than one person to share the same seat belt.
- Never transport children or babies on your lap and never secure them together with a person.
- Never travel wearing loose, bulky clothing (such as an overcoat over a jacket). This could prevent the seat belts from fitting and functioning properly.

### WARNING

Damaged seat belts increase the risk of serious or fatal injuries. If the belt webbing or any other part of the seat belt becomes damaged, the seat belt may tear during an accident or sudden braking manoeuvre.

- Never damage the belt by trapping it in the door or in the seat mechanism.
- If the belt webbing, belt connections, belt retractor or seat belt buckle become damaged, have the seat belt or belt attachment element in question replaced immediately by a suitably qualified workshop. The qualified workshop must use correct spare parts that are compatible with the vehicle, equipment level and model year.
- Never try to repair, modify or remove the seat belts or belt attachment elements yourself. Have all repairs to seat belts, belt retractors and buckles carried out by a suitably qualified workshop. The qualified workshop may only replace the seat belt with a seat belt approved for the seat.
- Have seat belts that have been subjected to stress and stretched during an accident replaced by a suitably qualified workshop. Renewal may be neces-

sary even if there is no apparent damage. Also check the anchorages of the seat belts.

### **WARNING**

Using seat belts incorrectly increases the risk of severe or fatal injuries.

- Regularly check to ensure that the seat belt and its related parts are in perfect condition.
- Always keep the seat belts clean.
- Avoid allowing foreign bodies or liquids to enter the seat belt buckle slots and belt buckles. This could prevent the seat belt buckle slots, belt buckles and seat belts from working properly.
- Never trap the seat belt. Never damage the belt or allow it to rub against sharp edges.


### **Buckle-up request**


 **Please refer to  at the start of the chapter on page 64.**



**Fig. 24** On the display of the instrument cluster: Warning lamp.

### **Seat belt warning system for the front seats**

An acoustic signal will be given for a few seconds if the seat belt for the driver seat and, depending on the equipment, the front passenger seats are not fastened as the vehicle pulls off and reaches a speed of more than approximately 25 km/h (15 mph), or if the seat belts are unfastened while the vehicle is in motion. The red warning lamp  will also flash → Fig. 24.

The red warning lamp  only goes out when the seat belt is fastened.

Always wear your seat belt while the vehicle is in motion.

### **Fasten seat belt prompt for the rear seats (depending on country and equipment)**




When the ignition is switched on, the seat belt warning system shows the driver in the instrument cluster display whether or not the rear passengers have fastened their seat belts.



The symbol indicates that the passenger on this seat has fastened their seat belt.



The symbol indicates that this seat is not occupied.

If a rear seat belt is unfastened during a journey, the  and  symbols for this seat will flash alternately, depending on the version of the instrument cluster installed. The red warning lamp  also flashes on the instrument cluster display. An acoustic signal will also sound for

126 seconds if the vehicle is traveling faster than approximately 25 km/h (around 15 mph).

### ⚠ WARNING

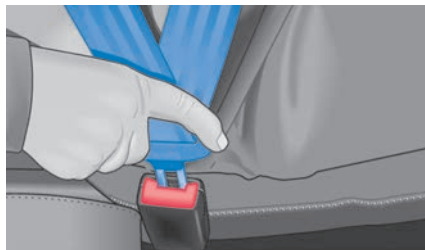
The buckle-up request is designed to detect adult persons. If a seat is occupied by lighter persons, in particular children, the detection will not be reliable. The buckle-up request also does not respond or only in a limited way if child seats and seat supports are used. As a result, the system may not be able to detect when lighter persons and children have not fastened their seat belts and this can lead to them suffering serious or fatal injuries in the event of an accident.

- Always ensure that all vehicle occupants, especially children, have fastened their seat belts properly.

### Fastening and unfastening seat belts

📖 Please refer to ⚠ at the start of the chapter on page 64.

#### Fastening the seat belts



**Fig. 25** Inserting the seat belt latch plate into the buckle.

Fasten seat belts before every trip.

1. Adopt correct sitting position → page 61.
2. Take hold of the belt and pull it evenly across your chest and pelvis. Do **not** twist the belt when doing this.
3. Insert the latch plate securely into the buckle belonging to the occupied seat → **Fig. 25**.

4. Pull on the seat belt to ensure that the latch plate is securely locked in the buckle.

#### Unfastening the seat belts



**Fig. 26** Removing the latch plate from the buckle

Unfasten seat belts only when the vehicle is stationary.

1. Press the red button on the belt buckle → **Fig. 26**. The latch plate is released and springs out.
2. Guide the belt back by hand so that it rolls up easily, without twisting the seat belt and without damaging the trim.

### Twisted seat belt

If it is difficult to remove the seat belt from the belt guide, the seat belt may have become twisted if it was returned too quickly into the side trim:

1. Take hold of the latch plate then slowly and carefully pull out the seat belt.
2. Untwist the seat belt and guide it back slowly by hand.
3. Fasten the seat belt even if you are unable to undo the twist.

However, the twist should not be in the part of the seat belt that comes into direct contact with the body.

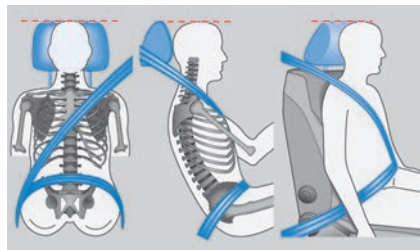
4. Contact a suitably qualified workshop as soon as possible to have the twist removed.

### Seat belt routing

📖 Please refer to ⚠ at the start of the chapter on page 64.

Seat belts only provide an optimum level of protection during an accident when they are routed correctly. Correct seat belt routing reduces the risk of severe or fatal injuries. Correct seat belt routing also holds the vehicle occupants in position so that an inflating airbag can offer the maximum level of protection. Therefore you must always fasten your seat belt and ensure that the seat belt routing is correct → Fig. 27.

### Correct seat belt routing



**Fig. 27** Correct seat belt routing and head restraint adjustment

- The shoulder part of the seat belt must always lie on the centre of the shoulder, never across the neck, over or under the arm or behind the back.
- The lap part of the seat belt must always lie across the pelvis, never across the stomach.
- The seat belt must always lie flat and snugly on the body. Tighten the belt if necessary.

### Correct seat belt routing during pregnancy



**Fig. 28** Correct seat belt routing during pregnancy

**Pregnant women** must position the seat belt evenly over the chest

and as low as possible over the pelvis. It must lie flat so that no pressure is exerted on the lower body – this applies in every stage of pregnancy → Fig. 28.

### Correct seat belt routing according to height

The following equipment can be used to adjust the seat belt routing:

- Seat belt height adjuster for the front seats → page 69.
- Height-adjustable front seats → page 120.

### WARNING


Incorrect seat belt routing can cause serious injuries in the event of an accident or a sudden braking or driving manoeuvre.

- Make sure that the seat belt routing is correct.
- Adjust the backrest to an upright position and fasten the seat belt correctly corresponding to your body size in order to achieve the optimum protective effect of the seat belts.

- Route the shoulder section of the seat belt over the centre of the shoulder and never under the arm or across the neck.
- Route the seat belt so that it lies flat and snugly on the upper body and pelvis. Pull the belt a little again to tighten it if necessary.
- Make sure that the lap part of the belt is routed in front of your pelvis and never over your stomach.
- If you are pregnant, make sure that the seat belt is routed evenly over your chest and as low as possible over your pelvis and so that it lies flat during the entire course of the pregnancy. In this way, no pressure is exerted on the lower abdomen.
- Never twist the belt when fastening or wearing the seat belt.
- Never hold the seat belt away from your body with your hand.
- Do not route the belt over hard or fragile objects, such as glasses, pens or keys.

- Never change the belt routing by means of belt clips, retaining eyes or similar.

---

 If a person's physical build prevents them from routing the seat belt properly, contact a suitably qualified workshop to find out about any special modifications so that the seat belts and airbags can provide the optimum level of protection.

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### Seat belt height adjuster

📖 Please refer to ⚠️ at the start of the chapter on page 64.



**Fig. 29** Next to the front seats: Seat belt height adjuster.

The seat belt height adjusters for the front seats can be used to adjust the position of the seat belt on the shoulder so that it can be fastened properly:

1. Push and hold the shoulder belt guide in the direction of the arrow → Fig. 29.
2. Push the shoulder belt guide up or down so that the seat

belt is routed over the middle of the shoulder → page 67.

3. Let go of the shoulder belt guide.
4. Pull sharply on the seat belt to check whether the shoulder belt guide is engaged securely.

### ⚠️ WARNING

If you adjust the belt height while the vehicle is in motion, this can cause serious and fatal injuries.

- Never adjust the seat belt height when the vehicle is in motion.

### Belt retractor, belt tensioner, belt tension limiter

📖 Please refer to ⚠️ at the start of the chapter on page 64.

The seat belts in the vehicle are part of the vehicle safety concept → page 72 and include the following important functions:

### Automatic belt retractor

The seat belts on the front seats and, depending on equipment, on the rear seats are equipped with a belt retractor. Full freedom of movement is made possible when the shoulder belt is pulled slowly or when the vehicle is travelling at normal speeds. However, if the belt is pulled out quickly or during sudden braking, during travel in mountains or bends and during acceleration, the automatic belt retractor is locked.

### Belt tensioners

The seat belts of the driver seat and the outer front passenger seat are equipped with belt tensioners depending on the equipment level.

The belt tensioners are activated by sensors during severe frontal, side and rear collisions. They tighten the seat belts against the direction in which they are pulled. A loose seat belt is retracted and kept taught, which can reduce the forward motion of the vehicle occupants and their motion in the direc-

tion of impact. Depending on the equipment, the belt tensioner works together with the airbag system.

A fine dust may be produced when the airbags are triggered. This is quite normal and does not mean that there is a fire in the vehicle.

### **WARNING**


The protective function of the belt tensioners permits only one activation of the belt tensioners. The system must be replaced if the belt tensioners have been triggered.

- Belt tensioners that have been triggered, and any affected system parts, must be replaced immediately with new parts that are approved for the vehicle.
- Have repairs and modifications to your vehicle carried out only by a suitably qualified workshop. Suitably qualified workshops have the necessary tools, diagnostic equipment, repair information and qualified personnel.

- Never install recycled belt tensioner components or components that have been taken from end-of-life vehicles in your vehicle.
- Never modify any components of the belt tensioners.

### **Belt tension limiter**

Depending on the equipment, the seat belts are equipped with belt tension limiters. The belt tension limiter reduces the pressure exerted by the seat belt on the body during an accident.

 All safety requirements must be observed when the vehicle or components of the system are scrapped. Suitably qualified workshops are familiar with these requirements.

### **Service and disposal of belt tensioners**

 **Please refer to  at the start of the chapter on page 64.**

Seat belts may become damaged during any work on the belt tensioners or while removing or refitting any vehicle parts in conjunction with any other repair work. This damage will not always be noticeable. The consequence may be that the belt tensioners could function incorrectly, or not function at all, in the event of an accident.

Regulations must be observed to ensure that the effectiveness of the belt tensioner is not reduced and that removed parts do not cause any injuries or environmental pollution. Suitably qualified workshops are familiar with these requirements.

### **WARNING**

The risk of severe or fatal injuries may be increased if the seat belts, automatic belt retractors and belt

tensioners are not used correctly, or if they are repaired by a non-professional. As a result, the belt tensioners may not be triggered when they should, or they may be triggered unexpectedly.

- Never carry out any repairs, adjustments or removal and refitting of parts in the belt tensioners or seat belts by yourself, and have such work carried out only by a suitably qualified workshop → page 596.
- Seat belts, belt tensioners and automatic belt retractors cannot be repaired. They must be replaced.



The airbag modules and belt tensioners may contain perchlorate. Observe the applicable legislation regarding disposal.

---

### Introduction

Airbags cannot replace seat belts, which must be worn at all times.

Airbags are only able to offer additional safety for vehicle occupants if the seats, seat belts, head restraints and – in the case of the driver – steering wheel are adjusted and used correctly.

Visible damage to the vehicle does not always mean that the airbag should have been triggered.

Situations in which the airbags will not necessarily be triggered:

- If the ignition is switched off during a collision.
- In the case of minor front-end collisions.
- During a minor side collision.
- During rear collisions.
- If the vehicle rolls over.
- In the case of low-speed collisions.

A triggered airbag may cause injuries, such as swelling, bruising, burning and grazing.

### WARNING

The risk of injury increases if there are any objects between the vehicle occupants and the deployment zones of the airbags when they are triggered as these objects will change the airbag deployment zone. The objects could enter the deployment zone of the airbag during sudden braking or driving manoeuvres and then be flung dangerously through the vehicle interior or if the airbag is activated.

- Never hold any objects in your hand or on your lap while the vehicle is in motion.
- Never transport any objects on the front passenger seat.

### WARNING

Airbags no longer work effectively after being triggered and must be replaced. Without the protection offered by airbags, the risk of injury

increases in the event of sudden braking or driving manoeuvres or accidents.

- Airbags that have been triggered, and any affected system parts, must be replaced immediately with new parts that the vehicle manufacturer has approved for the vehicle.
- Have repairs and modifications to your vehicle carried out only by a suitably qualified workshop. Suitably qualified workshops have the necessary tools, diagnostic equipment, repair information and qualified personnel.
- Never install recycled airbag components or components that have been taken from end-of-life vehicles in your vehicle.
- Never alter components of the airbag system.

### WARNING

Fine dust particles or steam may be released when the airbags are triggered. This is normal and does

not mean that there is a fire in the vehicle. The fine dust can cause irritation to the skin and eye membranes and cause breathing difficulties, particularly for people suffering from asthma or people who have (had) other respiratory problems.

- To help reduce breathing difficulties, get out of the vehicle or open the windows or doors for more fresh air.
- If you come into contact with the dust, you should wash your hands and face with a mild soap and water before eating.
- If dust has entered your eyes, rinse them with water.

### WARNING

Cleaning agents that contain solvents cause the surface of the airbag modules to become porous. In an accident that triggers the airbag, loose plastic parts can cause serious injury.

- Never clean the dash panel or the airbag covers with cleansers that contain solvents.

### Type of front passenger front airbag system


 Please refer to  at the start of the chapter on page 72.

With some equipment levels, an **airbag system** or an **airbag system with front passenger front airbag deactivation** may be installed.

#### Airbag system

The front passenger front airbag can be deactivated only by a suitably qualified workshop.




Characteristics of the airbag system:

- Front passenger front airbag in the dash panel.
- Indicator lamp  in the instrument cluster display.

#### Airbag system with front passenger front airbag deactivation

The front passenger front airbag can be deactivated manually by means of a key-operated switch → page 76.

Characteristics of the airbag system with front passenger front airbag deactivation:

- Front passenger front airbag in the dash panel.
- Indicator lamp  in the instrument cluster display.
- PASSENGER AIR BAG indicator lamp **OFF**  in the roof console.
- PASSENGER AIR BAG indicator lamp **ON**  in the roof console.
- Key-operated switch on the front passenger side.

### Indicator lamp

 **Please refer to  at the start of the chapter on page 72.**

#### Functional check



The yellow indicator lamp in the instrument cluster display lights up briefly as a functional check when the ignition is switched on and goes out after a few seconds.

#### Fault in airbag or belt tensioner system



The yellow indicator lamp lights up continuously. In addition, a message may be displayed in the instrument cluster. A malfunction has been detected in at least one airbag or belt tensioner.

1. Go to a suitably qualified workshop and have the airbag and belt tensioner system checked.

#### Airbag system or belt tensioner system switched off with diagnostic tool



The yellow indicator lamp lights up for around 4 sec-


onds when the ignition is switched on and then flashes for around 12 seconds. In addition, a message may be displayed in the instrument cluster. At least one airbag or belt tensioner was switched off with a diagnostic tool.

1. Go to a suitably qualified workshop and have a check carried out to establish whether the airbag or belt tensioner system must remain switched off.

### Fitting locations and deployment zones

 **Please refer to  at the start of the chapter on page 72.**

The airbag locations are identified by the text “AIRBAG”.

The areas inside the red lines in the images of airbags are covered by the airbags when deployed (deployment zone). You must never leave or attach any objects in these areas → .

### WARNING

Once triggered, an airbag inflates in milliseconds at very high speed. This could cause objects to be flung through the vehicle interior. This can cause serious injuries.

- Always leave the deployment zones of the airbags clear.
- Never secure any items to the covers or in the deployment zones of the airbags.
- Do not stick anything on or cover the locations of the airbags or the surfaces in the deployment zones of the airbags or modify these components in any way.
- No other people, animals or objects may be carried between the occupants and the airbag deployment zones. Ensure that children and passengers keep to this rule.
- Do not attach any objects, e.g. mobile navigation devices, to the windscreen above the front

airbag on the front passenger side.

- Only push the sun visors over to the side windows if no items are attached to them (e.g. pens or the remote control for a garage door).
- Do not install any sun blinds onto the side windows unless they have been expressly approved for use in your vehicle.
- The coat hooks in the vehicle should be used only for light-weight clothing. Do not leave any heavy or sharp objects in the pockets.
- Do not fit any accessories to the doors.

### **⚠ WARNING**

Incorrect use of the seats could hinder the proper function of the airbags and cause serious injury.

- Never remove the front seats from the vehicle or modify any part of them.

- Do not exert excessive force on the seat backrest bolsters.
- Do not fit seat covers or protective covers over the seats unless they have been expressly approved for use in the vehicle.
- Have any damage to the seat covers or around the seams of the airbags repaired immediately by a suitably qualified workshop.

### Front airbags

📖 Please refer to ⚠ at the start of the chapter on page 72.



**Fig. 30** Location and deployment zone of the driver front airbag (illustration).



**Fig. 31** Location and deployment zone of the front passenger front airbag (illustration).

### ⚠ WARNING

An incorrect seat position could hinder the proper function of the front airbag and cause serious injury.

- When driving, always hold the steering wheel with both hands on the outside of the ring: 9 o'clock and 3 o'clock position.
- Adjust the driver seat so that there is at least 25 cm (around 10 in) between the driver's rib cage and the hub of the steering wheel.

If your build makes it impossible to fulfil this requirement then you must contact a suitably qualified workshop for assistance.

- Adjust the front passenger seat so that the distance between the passenger and the dash panel is as large as possible.

### Switching the front passenger front airbag on and off

📖 Please refer to ⚠ at the start of the chapter on page 72.



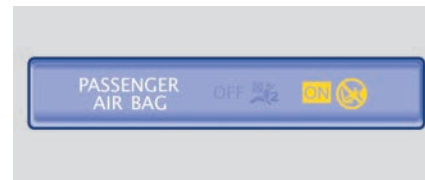
**Fig. 32** In the glove box: key-operated switch for switching the front passenger front airbag on and off.

**The front passenger front airbag must be deactivated if you fit a rear-facing child seat on the front passenger seat.**


Observe the country-specific specifications for use of child seats on the front passenger seat.

Deactivation of the front passenger front airbag is not available in all countries. If there is no key-operated switch in the vehicle, the front passenger airbag can only be switched off by a suitably qualified workshop.

**Front passenger front airbag switched on**

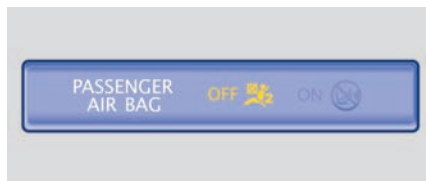


**Fig. 33** In the roof console: indicator lamp showing front passenger front airbag enabled.


**ON**  The yellow indicator lamp for the activated front passenger front airbag lights up for around 60 seconds after the ignition is switched on or after switching on the front passenger front airbag with the key-operated switch → Fig. 33 and then goes out automatically. The front passenger front airbag has been switched on.

1. Check whether the front passenger front airbag must remain switched on.

#### Front passenger front airbag deactivated



**Fig. 34** In the roof console: indicator lamp showing front passenger front airbag disabled.


**OFF**  The yellow indicator lamp lights up continuously → Fig. 34. The front passenger front airbag has been switched off.


1. Check whether the front passenger front airbag must remain switched off, e.g. when using a child seat on the front passenger seat.

#### Enabling the front passenger front airbag

1. Switch off the ignition.
2. Open the glove box.
3. Fold the key bit of the vehicle key all the way out.
4. Insert the key bit into the key-operated switch in the glove box until the second point of resistance → Fig. 32. Around three quarters of the key bit should be inserted in the key-operated switch at this point.
5. Turn the vehicle key, without applying force, to the **ON** position.

6. Remove the vehicle key from the key-operated switch.

The yellow PASSENGER AIR BAG indicator lamp  **ON** in the roof console lights up and goes out after approximately 60 seconds.

7. Close the glove box.
8. Check that the PASSENGER AIR BAG indicator lamp **OFF**  in the roof console **does not** light up → page 74.

#### Deactivating the front passenger front airbag

1. Switch off the ignition.
2. Open the glove box.
3. Fold out the vehicle key bit.
4. Insert the key bit into the key-operated switch in the glove box until the second point of resistance → Fig. 32. Around three quarters of the key bit should be inserted in the key-operated switch at this point.

5. Turn the vehicle key, without applying force, to the **OFF** position.
6. Remove the vehicle key from the key switch and fold the key bit away.
7. Close the glove box.

The PASSENGER AIR BAG **OFF** indicator lamp in the roof console lights up continuously when the ignition is switched on → page 74.

### Recognising a deactivated front passenger front airbag

A deactivated front passenger front airbag is indicated **only** by the yellow PASSEN-

GER AIR BAG **OFF** indicator lamp lighting up continuously in the roof console → page 74.

If the **OFF** indicator lamp in the roof console **does not light up continuously** or lights up together with the indicator lamp in the instrument cluster display, there may be a fault in the airbag system. Do not fit a child restraint system on the front passenger seat for safety

reasons. The front passenger front airbag may trigger during an accident.

### DANGER

Please observe important safety information about the front passenger front airbag → page 83.

### DANGER

If the airbag is deactivated, people on the front passenger seat may be severely or fatally injured in the event of an accident. For this reason, the front passenger front airbag must be deactivated only in special cases.

- Switch the front passenger front airbag off only if, in exceptional circumstances, a rear-facing child seat is secured on the front passenger seat. As soon as the rear-facing child seat on the front passenger seat is no longer being used, switch the front passenger front airbag on again.

- Only deactivate the front passenger front airbag if, in exceptional circumstances, the front passenger seat backrest is folded forwards (depending on the vehicle equipment). Reactivate the front passenger front airbag as soon as the front passenger seat backrest is folded back again.
- To prevent damage to the airbag system, switch the front passenger front airbag on and off only when the ignition is switched off.
- As the driver, always make sure that the key-operated switch is in the correct position.

### WARNING

If there is a fault in the airbag system, the airbag may not trigger correctly, may not trigger at all or may trigger unexpectedly. This can cause severe or fatal injuries.

- In the event of a fault, have the airbag system checked immedi-

ately by a suitably qualified workshop.

- If there is a fault in the airbag system, never install a child seat on the front passenger seat and remove any child seats that are installed.

### **⚠ WARNING**

If the vehicle key or manual key remains in the key-operated switch while driving, vibrations may cause it to turn unintentionally in the switch and potentially activate the front passenger front airbag. Unintended inflation of the front passenger front airbag could lead to serious or fatal injuries.

- Always remove the vehicle key or manual key from the key-operated switch before you switch on the ignition.

### **NOTICE**

If the key bit is not inserted far enough, the key switch could be damaged when the key is turned.

- Insert the key bit into the key-operated switch up to the second point of resistance.

### **NOTICE**

If the vehicle key or emergency key is inserted in the key-operated switch, this could result in damage to the key-operated switch and vehicle key or manual key when the glove box is closed.

- Always remove the vehicle key or manual key from the key-operated switch before you close the glove box.

### **Side airbags**

📖 Please refer to **⚠** at the start of the chapter on page 72.



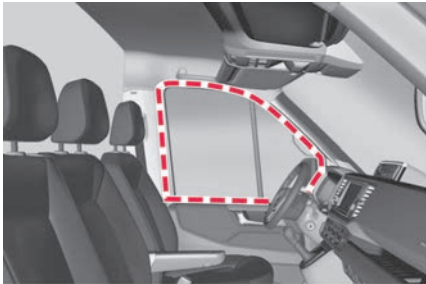
**Fig. 35** On the left-hand side of the vehicle: side airbag deployment zone.



**Fig. 36** On the side of the front seat: Location of the side airbag.

### Curtain airbags

📖 Please refer to ⚠ at the start of the chapter on page 72.



**Fig. 37** On the left-hand side of the vehicle: curtain airbag deployment zone.

Depending on the vehicle equipment, curtain airbags are fitted on the driver side and possibly on the front passenger side.

## Introduction

Using child seats can reduce the risk of injury to the child if there is an accident. Always use child seats when driving with children.

Note the following:

- Child seats are classified into groups depending on the size, age and weight of child for which they are designed.
- Various securing systems are used to secure child seats in the vehicle.

For safety reasons, child seats must always be fitted to the rear seats → page 83.

## WARNING

If children are not secured or are inadequately secured, they are at greater risk of serious or even fatal injury. Please note the following:

- Children who are either under 12 years of age or less than 150 cm (around 4 ft, 11 in) tall must not be carried in the vehicle unless they are secured in

a suitable child seat while the vehicle is in motion. Regulations in some countries may differ, and must be complied with.

- Always secure children in the vehicle in a suitable child seat. The child seat used must be appropriate to the child's height, weight and age.
  - Observe the child seat manufacturer's instructions for securing the child seat in the vehicle and for securing the child in the child seat.
  - Never fasten more than one child into one child seat.
  - Under no circumstances should children or babies be held on a vehicle occupant's lap while driving.
  - Never leave a child unsupervised in a child seat.
  - Never allow a child to be carried in a vehicle without being properly secured, and never allow a child to stand up or to kneel on a seat, or to sit incorrectly while the vehicle is in motion.
- This is particularly important for children carried on the front passenger seat. In an accident, children may sustain serious injuries to themselves and others.
- The child seat can only provide maximum protection if the seat belt is routed correctly around it. Always ensure that the seat belt is routed as specified in the instructions provided by the child seat manufacturer. If the seat belt is routed incorrectly it may cause injuries even in a minor accident.
  - After an accident, it is vital to replace any child seats that were in use during the accident, as they could have sustained non-visible damage.

## Types of child seat

 **Please refer to  at the start of the chapter on page 81.**

Only use child seats that have been officially approved and are suitable for the child.

### Standards for child seats

Regulations ECE-R 44 or ECE-R 129 apply to child seats within the European Union. Both regulations apply simultaneously. Child seats which have been tested in accordance with these standards carry an orange ECE approval label. This ECE approval label may include the following information on the child seat:

- Weight class.
- Size class.
- Approval category (universal, semi-universal, vehicle-specific or i-Size).
- Approval number.

On child seats that are approved under regulation ECE-R 44, the eight-digit approval number on the ECE approval label must begin with 03 or 04. This shows that the seat is admissible for use. Older child seats with an approval number beginning with 01 or 02 are not admissible.

### Child seat weight classes



**Fig. 38** Example illustrations of child seats.

| Class    | Child's weight |
|----------|----------------|
| Group 0  | up to 10 kg    |
| Group 0+ | up to 13 kg    |
| Group 1  | 9 to 18 kg     |
| Group 2  | 15 to 25 kg    |
| Group 3  | 22 to 36 kg    |

- **Weight class 0/0+:** group 0/0+ or 0/1 rear-facing infant carriers → Fig. 38 are the best option for the period from birth to around 18 months.
- **Weight class 1:** group 1 (up to about 4 years old) and group 1/2 (up to about 7 years old) with an integral belt system are the best

option for children over the relevant weight limit.

- **Weight classes 2/3:** groups 2 and 3 include child seats with a backrest, and booster seats with no backrest. Child seats with a backrest have integrated seat belt routing and side padding, and so provide better protection than booster seats with no backrest. The use of child seats with backrests is recommended. Group 2 child seats are for children up to the age of about 7, group 3 child seats for those older than 7.

When using a Group 2 child seat, use the fourth anchorage point of the child seat, if available, for the seat belt. Please observe the instructions for use of the child seat.

Not every child will fit in the child seat specified for their weight group. Likewise, not every seat will fit in every vehicle. Therefore it is vital to check that the child fits properly in their child seat and that

the child seat can be securely fastened in the vehicle.

### Child seat approval categories

Child seats can be classified as “universal”, “semi-universal” “or vehicle-specific” (all in accordance with regulation ECE-R 44) or “i-Size” (in accordance with regulation ECE-R 129).

- **Universal:** child seats with “universal” approval are approved for use in all vehicles. No type list is required. ISOFIX child seats with universal approval must also be secured using a top tether.
- **Semi-universal:** “semi-universal” approval requires other safety devices for attaching the seat (that require additional testing) in addition to the standard requirements for universal approval. Child seats with “semi-universal” approval come with a type list. The seats should only be used in vehicles that are included on this list. Please refer to the child seat manufacturer's

vehicle type list to find out whether the child seat may be fitted in the vehicle.

- **Vehicle-specific:** a child seat with vehicle specific approval must have undergone dynamic testing in each model of vehicle for which it is approved. Child seats with “vehicle-specific” approval also come with a type list. Please refer to the child seat manufacturer's vehicle type list to find out whether the child seat may be fitted in the vehicle.
- **i-Size:** child seats classified as i-Size must conform to the installation and safety requirements prescribed in regulation ECE-R 129. Contact the child seat manufacturer to find out which child seats are approved for this vehicle in accordance with i-Size.

### Installing and using child seats

📖 Please refer to ⚠️ at the start of the chapter on page 81.

### Country-specific regulations

The standards and regulations governing the use of child seats and child seat securing mechanisms differ from country to country. Not all countries allow you to transport children on the front passenger seat. Regulations and legal requirements take precedence over the information given in this owner's manual.

### Information on fitting a child seat

Observe the following general information when fitting a child seat. This information is relevant whatever child seat securing system is being used.

- Read and follow the instructions provided by the child seat manufacturer → ⚠️.
- Whenever possible, fit the child seat on the rear bench seat behind the front passenger seat so

that children can exit the vehicle on the kerb side.

- Set the seat belt height so that the seat belt routing follows a natural line and is adjusted to the child seat without turning back on itself. For rear-facing child seats, use the lowest position of the belt height adjuster.
- When fitting on the front passenger seat, push the front passenger seat back fully and adjust the seat to the highest position. Adjust the backrest to an upright position → page 61.
- Always ensure that there is enough space around the child seat. If necessary, adjust the position of the seat in front. When doing so, ensure that the driver or front passenger can still maintain a correct sitting position → page 61.
- The backrest of the child seat must lay as flat as possible against the vehicle seat backrest. If required, adjust the seat backrest angle so that the child

seat lies flush against the backrest. Once it has been installed, if the child seat is touching the head restraint and therefore cannot be positioned flush against the backrest, push the head restraint all the way up, or remove and stow safely in the vehicle → page 61.

### Airbag sticker



**Fig. 39** Diagram: airbag label on the sun visor.




**Fig. 40** Diagram: airbag label on the B-pillar.


The vehicle may be provided with stickers giving key information about the front passenger front airbag. The information on these stickers may vary from country to country. The stickers may be found:


- On the front passenger sun visor and, in some cases, on the driver sun visor → Fig. 39.
- On the B-pillar on the front passenger side → Fig. 40.

It is essential to observe the warning information shown on these stickers before installing a rear-facing child seat → ⚠.

### Risks involved in carrying children on the front passenger seat

If you are using a **rear-facing child seat**, the front passenger front airbag can cause critical or potentially fatal injuries when it inflates → .


Rear-facing child seat may only be used on the front passenger seat if the front passenger front airbag has been deactivated. The front passenger front airbag has been deactivated when the PASSENGER AIR BAG **OFF**  indicator lamp is displayed continuously in the roof console. Deactivating the front passenger front airbag → page 74.

If using a **front-facing child seat**, do not deactivate the front passenger front airbag. When fitting the child seat, ensure that it is as far away as possible from the front passenger front airbag. The front passenger front airbag can cause severe injuries when it inflates → .

Some child seats are not suitable for use on the front passenger

seat. The child seat must be specially authorised by the manufacturer for use on the front passenger seat in vehicles with front and side airbags.

### Risks presented by side airbags

If the side airbag is triggered, the airbag could hit the child in the head, causing serious injury → .

#### DANGER

Please observe important safety information about the front passenger front airbag → page 76.

#### DANGER

If you use a rear-facing child seat on the front passenger seat, the child sitting in it is at increased risk of sustaining serious or life-threatening injuries or being killed in the event of an accident.

- Never secure a rear-facing child seat to the front passenger seat if the front passenger front airbag is switched on.
- Deactivate the front passenger front airbag if you want to install a child seat on the front passenger seat. If the front passenger front airbag cannot be deactivated, you must not use rear-facing child seats.
- In order to establish the maximum possible distance from the front passenger front airbag, move the front passenger seat as far back as possible and adjust to the highest position.
- Move the backrest to the upright position.
- Set the seat belt height so that the seat belt routing follows a natural line and is adjusted to the child seat without turning back on itself. For rear-facing child seats, use the lowest position of the seat belt height adjuster.
- Only use child seats that have been approved by the child seat manufacturer for use on a front passenger seat with front and side airbags.

### WARNING

Child seats present a risk of injury if incorrectly installed.

- Always read and follow the installation instructions and warning information provided by the child seat manufacturer.

### WARNING

Using a front-facing child seat on the front passenger seat presents a risk of injury.

- In order to establish the maximum possible distance from the front passenger front airbag, move the front passenger seat as far back as possible and adjust to the highest position.
- Move the backrest to the upright position.
- Set the seat belt height so that the seat belt routing follows a natural line and is adjusted to the child seat without turning back on itself. For rear-facing child seats, use the lowest posi-

tion of the seat belt height adjuster.

- Only use child seats that have been approved by the child seat manufacturer for use on a front passenger seat with front and side airbags.

### WARNING

To avoid injuries caused by inflation of a head airbag or side airbag:

- Make sure that children are not in the airbag deployment zone.
- Do not place any objects in the side airbag deployment zones.

### Securing systems

 Please refer to  at the start of the chapter on page 81.

Different countries use different securing systems for safely fitting child seats in the vehicle.

### Overview of securing systems

- **ISOFIX:** ISOFIX is a standardised securing system for fitting

child seats in the vehicle quickly and safely. The ISOFIX attachment system creates a rigid connection between the child seat and the vehicle body.

The child seat has two rigid attachment arms. The attachment arms click into ISOFIX anchor points which can be located between the seat and the rear seat backrest. The ISOFIX securing system as described here is specific to the EU → page 88. A top tether or a support foot may sometimes have to be used in addition to the ISOFIX anchor points described above.

- **Three-point automatic seat belt:** It is better to secure child seats using the ISOFIX system, if available, rather than with a three-point automatic seat belt.

Additional securing points:

- **Top tether:** The top tether is routed over the vehicle seat backrest and hooked into an anchor ring in the luggage com-

partment. Top tether anchor points are marked with an anchor symbol → page 86.

- **support foot:** some child seats are propped up with a support foot resting on the floor of the vehicle. This support foot helps prevent the child seat tipping forward in a crash.

### Recommended child seat securing systems

Child seats should be secured as follows:

- **Infant carrier or rear-facing child seat:** ISOFIX and support foot.
- **Forward-facing child seat:** ISOFIX and top tether and possibly also support foot.

### WARNING

Child restraint system anchorages are designed to withstand only those loads imposed by correctly fitted child restraint systems. Under no circumstances are they to be used for adult seatbelts, harnesses, or for attaching other items or equipment to the vehicle.

### WARNING

Incorrect use of the support foot can cause severe or fatal injuries.

- Ensure that the support foot is always correctly and safely installed.
- Always read and follow the installation instructions and warn-

ing information provided by the child seat manufacturer.

### WARNING

Unsecured or inadequately secured children can suffer serious or fatal injuries in the event of a sudden driving or braking manoeuvre and in an accident.

- Observe the child seat manufacturer's instructions for securing the child seat in the vehicle and for securing the child in the child seat.

### Securing child seats with ISOFIX and top tether

📖 Please refer to ⚠️ at the start of the chapter on page 81.

#### Overview of process for fitting with ISOFIX and top tether

ISOFIX child seats with universal approval must be secured with an upper strap (top tether) in addition to the ISOFIX anchor points. Se-

cure the strap only to the top tether anchor rings. Retaining rings for use with the top tether are marked by a symbol and sometimes also with “TOP TETHER”.

The table below shows the options for securing ISOFIX or i-Size child seats to ISOFIX anchor points at the various possible seats in the vehicle.

| Group                         | Size class | Front passenger seat/<br>front passenger seat<br>bench | Second row of seats |
|-------------------------------|------------|--|---------------------|
| Group 0: up to 10 kg          | E          | X  | X                   |
| Group 0+: up to 13 kg         | E          | X  | X                   |
|                               | D          | X  | X                   |
|                               | C          | X  | X                   |
| Group 1: 9 to 18 kg           | D          | X  | X                   |
|                               | C          | X  | X                   |
|                               | B          | X  | X                   |
|                               | B1         | X  | X                   |
|                               | A          | X  | X                   |
| Group 2: 15 to 25 kg          | -          | X  | X                   |
| Group 3: 22 to 36 kg          | -          | X  | X                   |
| i-Size child restraint system | -          | X  | X                   |

▪ **Size class:** the size class shown corresponds to the permissible

weight range of the child using the seat. The size class is indica-

ted on the ECE test certificate for child seats with universal or

semi-universal approval. A size class indication is affixed to the child seat.

- **X**: seat not suitable for securing an ISOFIX or i-Size child seat of this group using top tether.

### Securing a child seat using the seat belt

📖 Please refer to ⚠ at the start of the chapter on page 81.

If you want to fit a child seat from the “universal” (u) approval category in your vehicle, you must first en-

sure that it is approved for the seat position in question. Important information is given on the orange

ECE approval label on the child seat. Installation options are shown in the table below.

| Group    | Child's weight | Front passenger two-seat bench            |   | Seats on the rear bench seat |
|----------|----------------|---|---|------------------------------|
|          |                | Front passenger front airbag is activated | Front passenger front airbag is deactivated |                              |
| Group 0  | up to 10 kg    | x   | u   | u                            |
| Group 0+ | up to 13 kg    | x   | u   | u                            |
| Group 1  | Rear facing    | x   | u   | u                            |
|          | Forward facing | u   | x   | u                            |
| Group 2  | 15 to 25 kg    | u   | x   | u                            |
| Group 3  | 22 to 36 kg    | u   | x   | u                            |

u: Universal; x: Seat not suitable for attaching a child seat in this group.

#### Securing a child seat using the seat belt

1. Observe the instructions → page 83.

2. When fitting on the front passenger seat, push the front passenger seat back fully and adjust the seat to the highest

3. Set the seat belt height so that the seat belt routing follows a natural line and is adjusted to position. Set the backrest to the upright position.


the child seat without turning back on itself. For rear-facing child seats, use the lowest position of the belt height adjuster.


4. Put on the seat belt according to the instructions of the child seat manufacturer and guide it through the child seat.
5. Ensure that the seat belt is not twisted.
6. Insert the latch plate into the buckle for the appropriate seat and push it down until it audibly engages.

### Making you and your vehicle safe

Observe any legislation concerning the safety of a broken-down vehicle. For example, many countries stipulate that you have to switch on the hazard warning lights and wear a high-visibility waistcoat.

#### Checklist

To ensure your own safety and the safety of your passengers, observe the following actions in the specified order → :

1. Stop the vehicle at a safe distance away from moving traffic and on a suitable surface.
2. Switch on the hazard warning lights with the  button.
3. Apply the handbrake firmly.
4. Select the neutral position or move the selector lever to the **P** position.
5. Switch off the engine and remove the key from the ignition.
6. Ensure that all occupants exit the vehicle and go straight to a safe place away from moving

traffic, e.g. behind the safety barrier. Observe the country-specific regulations concerning high-visibility waistcoats.

7. Take all vehicle keys with you when you leave the vehicle.
8. Place the warning triangle in position to draw the attention of other road users to your vehicle.
9. Allow the engine to cool down and if necessary seek suitably qualified expert assistance.

If the ignition is switched on and the hazard warning lights activated, you can still indicate a change in direction or change of lane with the turn signal lever. The warning lights will be interrupted temporarily.

#### Switch on the hazard warning lights

Switch on the hazard warning lights in the following situations to alert following traffic:

- If the traffic in front slows suddenly.
- You reach the end of a traffic jam.

- There is an emergency situation.
- The vehicle has broken down.
- When tow-starting or towing.

Always follow local regulations for the use of the hazard warning lights.

If the hazard warning lights are not working, you must use an alternative method of drawing attention to the broken-down vehicle. This method must comply with traffic legislation.

#### WARNING

Any broken-down vehicle poses a high accident risk for the vehicle occupants and other road users.

- Stop the vehicle as soon as it is possible and safe to do so.
- Park the vehicle at a safe distance from moving traffic.
- Switch on the hazard warning lights.
- Never leave anyone in the vehicle, particularly children or people requiring assistance. This applies in particular when the

doors are locked. People locked in the vehicle may be subjected to very high or very low temperatures.

### **⚠ WARNING**

The components of the exhaust system become very hot. This can cause fires and serious injuries.

- Park the vehicle so that no part of the exhaust system can come into contact with any inflammable material underneath the vehicle, e.g. dry grass, fuel.

### **NOTICE**

Pushing the vehicle by hand can damage the vehicle.

- When pushing the vehicle by hand, make sure that you do not exert excessive pressure on the components.

**⚠** The 12-volt vehicle battery will discharge if the hazard warning lights are left on over a long period

of time – even when the ignition is switched off.

**⚠** In some vehicles, if you brake hard at speeds over approximately 80 km/h (50 mph), the brake lights will flash to warn the traffic behind. If you then continue to brake, the hazard warning lights will be switched on automatically at speeds under approximately 10 km/h (6 mph). The brake light will light up steadily. Once the vehicle starts to accelerate, the hazard warning lights will switch off again.

### **Equipment for an emergency**

Depending on equipment, a first-aid kit, a high-visibility waistcoat, a portable warning lamp and warning triangle may be stowed in the driver or front passenger door.

#### **First-aid kit**

The first-aid kit must comply with legal requirements. Please observe the use-by date of the contents.

After use, renew contents if necessary and then stow the first-aid kit away again safely.

#### **High-visibility waistcoat**

The high-visibility waistcoat must comply with legal requirements.

#### **Warning triangle**

The warning triangle must comply with legal requirements.

Remove the warning triangle from the stowage compartment: Press the holders upwards and remove the warning triangle.

#### **Fire extinguisher**

Depending on the equipment, the vehicle may contain a fire extinguisher.

The fire extinguisher must comply with applicable legal regulations, must always be ready for use and must be checked regularly (see inspection seal on the fire extinguisher).

### Portable warning lamp

Depending on the equipment, the vehicle may contain a portable warning lamp.

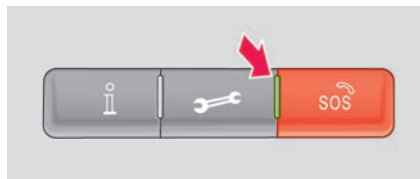
The portable warning lamp must comply with the applicable legal requirements. The portable warning lamp must be checked regularly to ensure that it is working.

### **⚠ WARNING**

In the event of a sudden driving or braking manoeuvre or accident, loose objects could be flung through the vehicle and cause severe injuries.

- Always secure the first aid kit, warning triangle and fire extinguisher safely in the holders provided in the vehicle.
- Stow the high-visibility waistcoat in a stowage compartment where it can be easily reached.

### MAN Information Call, MAN Breakdown Call and Emergency Call



**Fig. 41** In the roof console: buttons for voice services.

- i** MAN information call.
- 🔧** MAN breakdown call.
- SOS** Emergency Call.

Depending on the equipment and country, the vehicle may be equipped with an emergency call system. In some countries, the free legally required eCall Emergency System is activated as standard. The control is located in the roof console.

The emergency call function allows help to be organised very quickly in danger situations. A voice connection is established to a public emergency call centre. The call

centre communicates in the language of the country in which the vehicle is located. In addition, data relevant to the emergency call and required by law is transmitted automatically to the public emergency call centre, e.g. the current vehicle position.

The legal basis for data processing by the legally required eCall Emergency System corresponds to the country-specific legislation such as the EU Regulation 2015/758. Please also observe the information on data storage units and data services.

The required connection is established by a factory-fitted control unit. Additional components are required in order to ensure that the function is still possible even after a serious accident – emergency call microphone, emergency call loudspeaker and an integrated battery that is independent of the vehicle electrical system.

### Indicator lamp

The control is equipped with an indicator lamp → Fig. 41 (arrow). Depending on the operational status of the emergency call system, the indicator lamp will light up in different colours and with different light sequences:

- Indicator lamp is not lit up: emergency call is not available.
- Indicator lamp flashes red for about 20 seconds after the ignition has been switched on: emergency call is deactivated.
- Indicator lamp lights up red continuously: system fault. Emergency call is restricted or not available.
- The indicator lamp lights up green: emergency call is available, system ready for operation.
- The indicator lamp flashes green: emergency call is active.

### WARNING

It may not be possible to make a manual or automatic emergency call, or the availability of the emergency call function may be restricted, in the following conditions:

- Your current emergency call location is in an area with no or insufficient mobile communications and satellite signal reception.
- No 2G/3G mobile communications network of telecommunication providers is available in areas with sufficient mobile communications and satellite signal reception.
- The emergency call system is not available in some countries.
- The public emergency call centre is technically not able to receive emergency call data.
- The components in the vehicle required for the manual or automatic emergency call are damaged or do not have sufficient electrical energy.

- The vehicle ignition is not switched on.

### MAN Information Call


- When you use the MAN Information Call, a call is made to the MAN Mobile24 call centre.
- The call centre agent answers questions about the vehicle and its controls.
- Data that is relevant for an information call (e.g. vehicle identification number, Infotainment system language and vehicle position) is transmitted to the back-end.
- The Information Call function is available only in some sales regions.

### MAN Breakdown Call

- When you use the MAN Breakdown Call, a call is made to the MAN Mobile24 call centre.
- The Breakdown Call service allows you to seek professional assistance should your vehicle break down.

- Data that is relevant to the breakdown (e.g. Infotainment system language, vehicle position and error data) is transmitted to the MAN Mobile24 call centre.
- The Mobile24 agent also requests the vehicle identification number in order to view the transmitted data.

### Initiating an emergency call manually


1. Press the emergency call button  until the indicator lamp flashes green. The emergency call is now initiated and a voice connection is established to the public emergency call centre.

If you have accidentally pressed the emergency call button, cancel the emergency call immediately:

2. Press the emergency call button again until the indicator lamp lights up green continuously.

### Automatic emergency call

An automatic emergency call is initiated only when the ignition is switched on.

A connection to the emergency call centre is set up immediately after the airbags or belt tensioners have been triggered. The automatic emergency call **cannot** be cancelled by pressing the emergency call button .

Rescue measures will be initiated automatically if there is no response to questions from the public emergency call centre.

### Integrated battery

The integrated battery ensures that the eCall Emergency System remains available for some time if the 12-volt vehicle battery is disconnected or faulty.

A corresponding message will be displayed in the instrument cluster display if the integrated battery is discharged or faulty → page 96, *Troubleshooting*. If the corresponding message is displayed, go to

a suitably qualified workshop immediately and have the integrated battery replaced.

### Data transmission

In the event of an emergency call, the legally prescribed data is transmitted to the public emergency call centre in order to determine necessary rescue measures.

The data on the vehicle location is continuously overwritten so that only the last three stored locations required for correct functioning of the legally required eCall Emergency System are available. The vehicle is therefore not permanently tracked.

The data relating to the emergency call is processed exclusively in order to ensure correct functioning of the legally required eCall Emergency System. The data relating to the emergency call will be deleted automatically by the system 13 hours after the emergency call was initiated.


The transmitted data include the following:

- Current position of the vehicle when the emergency call was initiated.
- Two further positions shortly before the emergency call was initiated (route, a few 100 m, or around 328 ft).
- Vehicle identification number (VIN).
- Type of vehicle drive.
- Vehicle class.
- Type of initiation (automatic or manual).
- Type of call.
- Direction in which the vehicle was moving when the emergency call was triggered.
- Time of the collision.
- Reliability of the positioning data.
- Data record version.
- Counter for transmitted data records per call.

- Estimated number of passengers per call.

### Troubleshooting

#### eCall emergency call system fault

The indicator lamp in the emergency call button lights up red continuously . In addition, a text message may be displayed in the instrument cluster.

There is a system fault in the eCall Emergency System. It may not be possible to make an emergency call.

1. Go to a suitably qualified workshop immediately and have the fault rectified.

## Functions of the vehicle key

### Buttons on the vehicle key



Lock the vehicle.



Unlock the vehicle.



Unlock wing door separately.



Unlock the load compartment and lock the driver's cab → page 107.

### Single door unlocking

Single door unlocking can be activated and deactivated using the vehicle settings in the Infotainment system.

### Replacement key

You will need to quote the vehicle identification number when ordering a replacement key or additional vehicle keys.

Each new key contains a microchip which must be encoded with the data for the vehicle's electronic immobiliser. A vehicle key will not

work if it contains an unencoded microchip. The same applies for keys that have been cut to fit the vehicle.

New vehicle keys are available from qualified workshops and authorised key services which are qualified to manufacture these vehicle keys.

### **⚠ WARNING**

If the vehicle key is left unattended in the vehicle, children or unauthorised persons could lock the doors and boot lid, activate the vehicle's drive system or switch on the ignition and thus operate electrical equipment, e.g. electric windows. This can result in accidents and serious or even fatal injuries.

- Take all vehicle keys with you every time you leave the vehicle.

### **⚠ WARNING**

If children, persons requiring assistance or animals are left unattended in the vehicle, they can acci-

dentally set the vehicle in motion or be exposed to very high or low temperatures. There is a risk of accidents and serious or fatal injuries.

- Never leave children, people requiring assistance or animals unattended in the vehicle.

### **NOTICE**

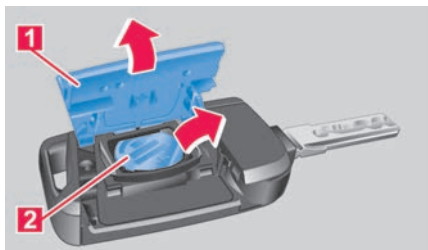
External influences can restrict the functionality of the vehicle key and damage it.

- Protect the key from moisture and excessive vibration.



The regular use of convenience systems will reduce the service life of the button cell in the vehicle key, as will other usage patterns.

### Changing the button cell



**Fig. 42** Vehicle key: Replacing the button cell.

This button cell can be changed by a suitably qualified workshop → ⚠.

1. Fold out the key bit on the vehicle key.
2. Lever off the cover → Fig. 42 1.
3. Lever the button cell out of the battery compartment → Fig. 42 2.
4. Press the new button cell into the battery compartment.
5. Press the cover onto the housing.

### ⚠ DANGER

If you swallow a button cell, or if it enters your windpipe, it can cause serious or even fatal injuries within a very short time due to choking or internal burns.

- Seek immediate medical assistance if you suspect that someone has swallowed a button cell.
- Always keep the remote control and key ring with button cells out of the reach of children.

### NOTICE

The vehicle key may be damaged if the button cell is not changed correctly or if an unsuitable battery is used.


- Replace discharged batteries only with a new battery of the same voltage rating, size and specification.
- Pay attention to the correct polarity when inserting the battery.

- Do not use the remote control if you cannot close the battery cover.

🌳 The type of batteries used in the remote control of your vehicle key may contain perchlorate. This may require special handling. Please observe all the legal requirements regarding the handling and disposal of these batteries. We recommend that you have this service carried out by a suitably qualified workshop.

### Synchronising the vehicle key

If you cannot lock or unlock the vehicle with the vehicle key, synchronise the vehicle key or replace the button cell → page 98.

1. Fold out the key bit on the vehicle key.
2. Stand beside the vehicle.
3. Press the  button on the vehicle key.

4. Unlock the vehicle using the vehicle key bit.
5. Switch on the ignition.

The synchronisation process is complete.

## Troubleshooting

### Locking or unlocking not possible

The vehicle cannot be locked or unlocked.

1. Close all doors.
2. Check whether the sensor of the vehicle key is subject to interference, such as from obstacles or transmitters close to the vehicle.
3. Synchronise the vehicle key → page 98.

**Or:** the central locking system has switched itself off temporarily to protect the system against overloading.

1. Lock or unlock the doors manually → page 102.

2. If the fault persists, the system should be checked by a suitably qualified workshop.

### The indicator lamp in the vehicle key is not working

1. Change the button cell in the vehicle key → page 98.


#### Introduction

If the vehicle key or central locking fails, the doors can be locked manually and, in some cases, also unlocked manually.

The central locking system enables you to centrally lock and unlock all the doors and the tank flap.

The vehicle can only be locked if the ignition has been switched off or the driver has switched off the engine before leaving the vehicle.

Always take the vehicle key with you when you leave the vehicle.

A symbol in the instrument cluster display indicates if one or more doors or lids are not closed properly → .

#### Do not drive on!

1. Park the vehicle safely if necessary.
2. Open the door in question and then close it again.

This symbol is also visible when the ignition is switched off and will

go out a few seconds after the vehicle has been locked when all doors and lids are closed.

#### WARNING

Any door that is not properly closed could open suddenly while the vehicle is in motion. This could lead to severe or fatal injuries.

- Stop immediately and close the door.
- Make sure that the door is closed properly and that the lock has engaged. The closed door must be flush with the surrounding body panels.
- Open or close the doors only when there is no-one in the movement path of the boot lid.

#### WARNING

Any door being held open by the door arrester could close unexpectedly in strong winds or if the vehicle is on an uphill slope. This could lead to serious injuries.

- Always hold the door handle firmly when opening and closing doors.

#### WARNING

Opening and closing the doors and boot lid without taking due care is dangerous and can cause serious injuries.

- Open or close the doors and boot lid only when there is no-one in the movement path.

#### WARNING

The central locking system locks all doors. In the event of an emergency or an accident, locked doors can make it more difficult for persons providing assistance to gain access to the vehicle interior. If the vehicle is locked from the outside, the doors and electric windows cannot be opened from the inside. There is a risk of serious injury or death.

- Never leave children, people requiring assistance or animals unattended in the vehicle.

**⚠ WARNING**

All doors can be locked from the inside using the central locking button. This may mean that children, people requiring assistance or animals lock themselves in the vehicle. In an emergency, they may not be able to leave the vehicle independently or to help themselves. In addition, they could also be exposed to very high or low temperatures. There is a risk of serious injury or death.

- Never leave children, people requiring assistance or animals unattended in the vehicle.

**NOTICE**


Opening and closing the wing doors without taking due care is dangerous and can cause serious injuries.

- Open or close the wing doors only when there is no-one in the movement path.


**NOTICE**

Removing the caps without taking due care can damage the vehicle.

- When carrying out manual opening or closing, remove parts carefully and fit them again correctly.

 Locking the vehicle from the inside can prevent accidental opening of the doors and unauthorised persons from entering the vehicle.

**Indicator lamp in the driver door**

 Please refer to  and  at the start of the chapter on page 100.

The central locking system indicator lamp is located in the driver door.

The indicator lamp shows the status of the central locking for about 30 seconds after the vehicle has been locked.

A red LED flashes for approximately 2 seconds in short intervals.

The central locking status is then displayed for about 28 seconds:

**Locking a vehicle with SAFELOCK (depending on equipment)**

- If the red LED flashes in long intervals, the vehicle is locked with SAFELOCK.
- If the red LED does not light up, the vehicle is locked but without SAFELOCK.

**Vehicle without SAFELOCK**

- If the red LED flashes in long intervals, the vehicle is locked.

The LED starts to flash in slow intervals after approximately 30 seconds.

#### Locking and unlocking doors manually

📖 Please refer to ⚠️ and ! at the start of the chapter on page 100.

The doors can be locked or unlocked manually in the event of a fault in the electric vehicle key or central locking.

#### Locking the doors manually

1. Insert the vehicle key bit into the lock cylinder of the driver door.
2. Turn the vehicle key **clockwise**.
3. Ensure that the door is locked.

Depending on the equipment, the locked door will be unlocked again when the vehicle is unlocked or the door is opened from the inside.

#### Unlocking the doors manually

1. *From the inside (depending on the equipment):* Pull the door release lever.

2. *From the outside:* Insert the vehicle key bit into the lock cylinder of the left front door.
3. Turn the vehicle key **anticlockwise**.

Depending on the vehicle equipment, the alarm may be triggered when you open the door. Switch on the ignition immediately with the valid vehicle key to deactivate the alarm.

#### ⚠️ WARNING

Opening and closing the doors without taking due care is dangerous and can cause serious injuries.

- Open or close the doors only when there is no-one in the movement path of the boot lid.

#### NOTICE

Removing the caps without taking due care can damage the vehicle.

- When carrying out manual opening or closing, remove parts carefully and fit them again correctly.

! If there is no vehicle voltage present (e.g. due to a discharged 12-volt vehicle battery), only the door that was manually locked or unlocked will be locked or unlocked. The other doors will remain in their initial condition.

! Depending on the equipment, the windows cannot be opened from the inside if the vehicle is locked from the outside.

#### Automatic locking and unlocking

📖 Please refer to ⚠️ and ! at the start of the chapter on page 100.



#### Automatic locking (Auto Lock)


The vehicle can lock itself automatically at speeds above approximately 15 km/h (9 mph). The 🚪 indicator lamp in the central locking button lights up yellow when the vehicle is locked.



The vehicle will be locked again automatically after a few seconds if the vehicle is unlocked but no door is opened. This function prevents the vehicle from remaining unlocked if the unlocking button is pressed by mistake.

### Automatic unlocking (Auto Unlock)


If one of the following conditions is met, all doors will be automatically unlocked:

- The vehicle is at a standstill and the vehicle key has been removed.
- **Or:** The vehicle is stationary and the  button has been pressed → page 103.
- **Or:** The vehicle is stationary and the  button has been pressed → page 107.
- **Or:** the door release lever has been pulled.
- **Or:** In an accident where the airbags have been triggered → page 108.

 Automatic unlocking gives emergency responders access to the vehicle.

 Depending on the settings selected for central locking, it may be the case that all of the doors are unlocked only when the  button has been pressed twice.

### Central locking button

 Please refer to  and  at the start of the chapter on page 100.

The indicator lamp for the central locking system is a red light-emitting diode (LED) located in the driver door. When the vehicle is locked, the red LED flashes for approximately 2 seconds, first at short intervals and then more slowly.

Settings for the central locking system can be adjusted in the instrument cluster.

### Touch control for central locking



Lock the vehicle.





Unlock the vehicle.


The central locking buttons will function only if all doors are closed.

If the vehicle has been locked from outside with the vehicle key, the central locking buttons do not work.

### Locking and unlocking the vehicle from inside

Please note the following when using the central locking button  to lock the vehicle from the inside:

- The indicator lamp  in the button lights up yellow when all doors are closed and locked.
- It is not possible to open the doors from the outside.
- The anti-theft alarm will **not** be activated.

The doors can be opened from the inside by pulling the door release handle. The indicator lamp  in the

button goes out. The unopened doors and the boot lid remain locked and cannot be opened from the outside.

An open door will not be locked.

#### Opening and closing the manual sliding doors

📖 Please refer to ⚠️ and ! at the start of the chapter on page 100.



**Fig. 43** In the sliding door: Door release lever.



**Fig. 44** In the sliding door: Manual locking with the vehicle key.

#### Opening the sliding door

1. *From the outside:* Unlock the vehicle using the vehicle key → page 97.
2. Pull the door handle and push the sliding door open until it is held open by the arrester → ⚠️.

#### Closing the sliding door

1. Insert the vehicle key bit into the lock cylinder and turn it **clockwise** as far as it will go → Fig. 44.
2. Pull the door release lever → Fig. 43.

3. Close sliding door using a bit of momentum. Make sure that the sliding door is completely closed.

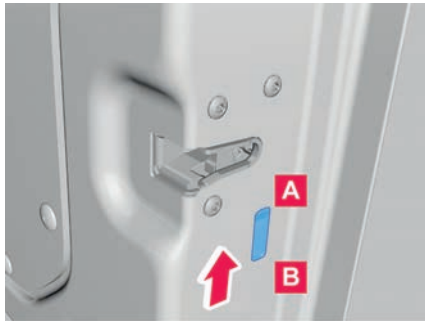
#### ⚠️ WARNING

If the sliding door is not fully opened it could close suddenly. This could lead to severe injuries.

- Always open the sliding doors fully.

## Childproof locks

📖 Please refer to ⚠️ and ! at the start of the chapter on page 100.



**Fig. 45** Childproof lock in the sliding doors and right wing door.

- A** Childproof lock is switched on.
- B** Childproof lock is switched off.

The childproof lock prevents the rear doors being opened from the inside. When the childproof lock is activated, the respective door can only be opened from the outside → ⚠️.

There is a sticker on the sliding door and wing door that warns about becoming locked in the load compartment when the childproof lock is activated → ⚠️.

### ⚠️ WARNING

A closed sliding door or wing door can no longer be opened if a partition has been retrofitted and the childproof lock is activated. It is no longer possible to exit the vehicle from the load compartment. There is a risk of serious injury or death.

- When you enter the load compartment, make sure that the sliding door or wing door is fully open and engaged in position.
- Switch off the childproof lock on the doors.

### Switching the childproof lock on and off

1. Unlock the vehicle and open the appropriate door.
2. Move the lever to the desired position → Fig. 45.

### ⚠️ WARNING

The door cannot be opened from the inside when the childproof lock is activated. This may mean that people lock themselves in the vehicle. In an emergency, they may not be able to leave the vehicle independently or to help themselves.

- Never leave children or people requiring assistance alone in the vehicle when the doors are locked.

### ⚠️ WARNING

If children, people requiring assistance or animals are left unattended in the vehicle, they could be exposed to very high or low temperatures. There is a risk of serious injury or death.

- Never leave children, people requiring assistance or animals unattended in the vehicle.

#### Partition wall with sliding door

📖 Please refer to ⚠️ and ⚠️ at the start of the chapter on page 100.



**Fig. 46** In the partition wall: Open the sliding door.

The driver reaches the load compartment through the sliding door from the driver's cab.

#### Opening the sliding door manually

1. Push down the door release lever → Fig. 46.
2. Push the sliding door open until it is held open by the arrester.

#### Closing the sliding door manually

1. Push the door release lever up.
2. Close sliding door using a bit of momentum.

The sliding door closes automatically → ⚠️.

1. Make sure that the sliding door is completely closed.

#### ⚠️ WARNING

If the sliding door is not fully opened it could close suddenly. This could lead to severe injuries.

- Always open the sliding doors fully.

#### SAFELOCK

📖 Please refer to ⚠️ and ⚠️ at the start of the chapter on page 100.

Depending on the vehicle equipment level, the vehicle may have a SAFELOCK mechanism.

If the vehicle is locked, SAFELOCK deactivates the door release levers

and central locking button so that it becomes more difficult to break in to the vehicle. The doors can no longer be opened from the inside → ⚠️.


#### Activating SAFELOCK

1. Press the  button on the vehicle key.

The vehicle is locked. SAFELOCK was activated.

#### Deactivating SAFELOCK

The SAFELOCK can be deactivated in one of the following ways:

- Press the  button on the vehicle key again **within 2 seconds**.
- Switch on the ignition.

The vehicle is locked. SAFELOCK was not activated.

There may be an indication of the activated SAFELOCK in the display of the instrument cluster (Check SAFELOCK! or SAFELOCK).

The following applies when SAFELOCK is deactivated:

- The vehicle can be unlocked and opened from the inside using the door release lever.
- The anti-theft alarm is active.
- The interior monitoring system and anti-tow alarm are deactivated.

### ⚠ WARNING


The doors can no longer be opened from the inside once the SAFELOCK is activated. Careless or unsupervised use of SAFELOCK can lock people in the vehicle interior and cause serious injuries in the event of an emergency.

- Never leave anybody in the vehicle if the vehicle has been locked using the vehicle key.

💡 If you unlock the driver door mechanically using the vehicle key, only the driver door is unlocked, and not the whole vehicle. The doors are released (but not unlocked) and the central locking button is activated only when you switch on the ignition.


### Load compartment locking (panel van)


📖 Please refer to ⚠ and ⚡ at the start of the chapter on page 100.

The button for the load compartment locking function  locks the load compartment → Fig. 47.




**Fig. 47** In the centre console: button for locking the load compartment.


You can only unlock the vehicle with the  button if the ignition is switched on, and if all of the load compartment doors are closed.

The  button does not work if the vehicle has been locked manually with the vehicle key.

The following information applies when using the  button to lock the load compartment:

- The yellow indicator lamp in the button lights up.
- The unlock button  in the driver door is disabled when the ignition is switched off. The unlock button is enabled again as soon as the ignition is switched on.
- The anti-theft alarm is **not** activated.
- It is not possible to open the doors from the outside.
- The rear doors can be unlocked and opened from the inside by pulling the door release levers. The doors that are not opened remain locked.

### Button on the vehicle key

The  button on the vehicle key locks the passenger compartment while the load compartment is simultaneously unlocked → Fig. 48.



**Fig. 48** On the vehicle key: button for unlocking the load compartment.

When the  button is used to lock the driver's cab:

- The anti-theft alarm in the driver's cab is not activated.
- It is not possible to open the driver door and front passenger door from outside.
- The driver and front passenger doors can be unlocked and opened from the inside by pulling the door release levers.
- It is possible to open the sliding doors from the outside and the inside.

### Troubleshooting

 Please refer to  and  at the start of the chapter on page 100.

#### The red LED in the driver door lights up continuously

The red LED for the central locking system in the driver door flashes at short intervals and then lights up continuously.

There is a fault in the locking system.

1. Go to a suitably qualified workshop and have the system checked.

#### Turn signals do not flash when locking

The turn signals do not flash to confirm that the vehicle has been locked.

1. Close all windows and doors.
2. If the turn signals still do not flash, go to a suitably qualified workshop to have the system checked.

#### Locking the vehicle after airbags have been triggered

The entire vehicle is unlocked if the airbags are activated during an accident. Depending on the extent of the damage, the vehicle can be locked as follows after an accident:

1. Switch off the ignition.
2. Remove the vehicle key from the ignition lock.
3. Open and close any vehicle door.
4. Lock the vehicle using the vehicle key.

**Or:** Press the central locking button in the driver door  
→ page 103.

Depending on the vehicle equipment level, the vehicle may have an anti-theft alarm.

The anti-theft alarm monitors the doors and the bonnet.

The anti-theft alarm is activated automatically when the vehicle is locked using the vehicle key.

If the vehicle is not opened with a valid vehicle key, the anti-theft alarm is triggered and emits acoustic and visual warning signals for up to 5 minutes.


#### **When does the system trigger an alarm?**

- When a manually unlocked door is opened without switching on the ignition.
- When the bonnet is opened.
- If the ignition is switched on using an invalid key.
- If the 12-volt vehicle battery is disconnected.

#### *Vehicles with interior monitoring and anti-tow alarm:*


- In the event of movement in the vehicle.
- If the vehicle is raised or towed.
- If the vehicle is transported on a ferry or train.
- If a trailer that is connected to the anti-theft alarm system is removed.

#### **Switching off the alarm**

1. Unlock the vehicle using the unlocking button  on the vehicle key.

**Or:** Switch on the ignition using a valid vehicle key. A short alarm lasting around one second may sound.

---

 The anti-theft alarm will not function correctly if the 12-volt vehicle battery is weak or discharged.

---

Depending on the vehicle equipment level, the vehicle may have interior monitoring and an anti-tow alarm.

If movements are detected in the vehicle interior when the vehicle is locked, the interior monitoring triggers an alarm.

The anti-tow alarm will be triggered if the vehicle is lifted.

#### **Switching on the interior monitoring system and anti-tow alarm**

##### 1. Lock the vehicle.

When the anti-theft alarm is switched on, interior monitoring and the anti-tow alarm are also active.

Depending on the equipment, the function of interior monitoring may be impaired if a load guard is used.

#### **Temporarily switching off the interior monitoring system and anti-tow alarm**

Depending on the equipment level, the interior monitoring system and anti-tow alarm can be switched off temporarily in the **Opening and**

**closing** submenu in the Infotainment system → page 53.

The interior monitoring and anti-towing alarm are deactivated until the next time the vehicle is locked.

To avoid false alarms, deactivate interior monitoring and the anti-tow alarm in the following situations:

- If any people or animals are to remain in the vehicle interior for a short period.
- If the vehicle is to be loaded onto another vehicle.
- If the vehicle is to be transported.
- If the vehicle is going to be towed with one axle off the ground.
- If the vehicle is to be parked in a two-storey garage.
- If the vehicle is to be parked in a car wash.

#### **Risk of false alarms for the interior monitoring system**


Interior monitoring can only work properly if all the vehicle doors are

fully closed. Observe the legal requirements.


A false alarm can be triggered in the following situations:

- If one or more windows are fully or partially open.
- If lightweight items are left in the vehicle, such as loose pieces of paper or items hung from the interior mirror.
- If the vibration alarm of a mobile telephone is switched on.


---

 Permanent deactivation of interior monitoring and the anti-tow alarm is not possible.

---


 If doors are still open when the anti-theft alarm is activated, only the anti-theft alarm is activated. Interior monitoring and the anti-tow alarm will not be activated until all doors are closed.

---

 The SAFELOCK is also deactivated when the interior monitoring

and anti-tow alarm are switched off.

---



 Depending on equipment, the load compartment is also monitored. Retrofitted equipment or loads that are inadequately secured can restrict correct functioning of the system and increase the risk of a false alarm.

---

#### Introduction

The wing doors are unlocked and locked together with the doors.

A symbol in the instrument cluster display indicates that the wing doors are not closed properly.

 **Do not drive on!** Close the wing doors → .

This symbol is also visible when the ignition is switched off and will go out a few seconds after the vehicle has been locked when all doors and lids are closed.

#### WARNING

Always take care when unlocking, opening or closing the wing doors otherwise you could cause accidents and serious injuries.

- Open or close the wing doors only when there is no-one in their movement path.
- Always keep the wing doors closed while the vehicle is moving so that no poisonous exhaust fumes can enter the vehicle interior.

- Close and lock the wing doors and all doors when the vehicle is not in use. Ensure that no one remains in the vehicle.

#### WARNING

If children, persons requiring assistance or animals are left unattended in the vehicle, they can accidentally set the vehicle in motion or be exposed to very high or low temperatures. There is a risk of accidents and serious or fatal injuries.

- Never leave children, people requiring assistance or animals unattended in the vehicle.

#### WARNING

If the wing doors are not closed correctly, this can cause the windows of the wing doors to shatter and lead to serious injuries.

- Never close the wing doors by pressing with your hand on the rear window.

#### WARNING

A wing door which is being held open by the door arrester may close in strong winds or if the vehicle is on a slope. This could lead to serious injuries.

- Always hold the door handle firmly when opening and closing wing doors.

#### *NOTICE*

The opening and closing path of the wing doors is dangerous and can cause injuries.

- Open or close the wing doors only when there is no-one in the movement path.

## Opening and closing the wing doors

📖 Please refer to ⚠️ and ! at the start of the chapter on page 112.

### Opening wing doors

1. Always open the right wing door first until it is held open by the door arrester.
2. Pull the lever on the front of the left wing door.
3. Open the wing door until it is held open by the door arrester.

### Disengaging the door arresters

1. Do not open the wing door to the limit position, but only as far as necessary until it is possible to access the door arrester.
2. Disengage the door arresters.
3. Carefully open the wing door to the limit position.
4. Fold the door arrester into the wing door until it engages.

### Closing the wing doors

1. If necessary, pull the disengaged door arrester out of the catch and return it to its initial position.
2. Always swing in the left wing door first until it engages in position.
3. Then swing in the right wing door until it engages in position.
4. When the wing doors are closed, the door arrester will engage again automatically provided it is not folded into the wing door.

### ⚠️ WARNING

A wing door that is not properly closed could open suddenly while the vehicle is in motion. This could lead to severe or fatal injuries.

- Stop immediately and close the wing door.
- After closing the wing door, always check that it is properly engaged in the lock carrier. The

closed wing door must be flush with the surrounding body panels.

### Opening and closing windows

The buttons for operating the windows are located in the driver door → page 22.



Open window: Press the button. Close window: Pull the button.

**Mechanical windows:** The windows in the driver door and front passenger door can be opened and closed by rotating the respective window winders.

### One-touch opening and closing

One-touch opening and closing makes it possible to fully open and close the windows. The individual buttons do not have to be held down to do this.

### One-touch closing

1. Pull the button for the appropriate window briefly up into the second position.

### One-touch opening

1. Push the button for the appropriate window briefly down into the second position.

### Stopping the one-touch function

1. Press or pull the button for the appropriate window again.

### Convenience opening and closing

The windows can be opened and closed from outside the vehicle using the vehicle key when the ignition is switched off:

1. Press and hold the locking or unlocking button on the vehicle key.

**Or:** hold the vehicle key in the driver door lock cylinder in either the locking or unlocking position until all windows are either opened or closed.

2. To interrupt the function: Release the locking or unlocking button on the vehicle key.

**Or:** turn the vehicle key in the opposite direction.

To convenience-open the windows using the key in the door lock, you must first unlock the vehicle using the vehicle key.

The windows in the doors are closed at the same time as part of the convenience closing function.

### WARNING

Careless or unsupervised use of the electric windows can cause serious injuries.

- Always take all vehicle keys with you every time you leave the vehicle.
- Please note that the windows can still be opened or closed using the buttons in the doors for a short time after the ignition has been switched off, provided that the driver door or front passenger door is not opened.
- When transporting children on the rear bench seat, the rear electric windows should always be deactivated so that they cannot be opened or closed.

**⚠ WARNING**

When the vehicle is locked, the windows can no longer be opened and this makes it impossible to exit the vehicle interior. In an emergency situation, this can result in serious or fatal injuries.

- Never leave children or people requiring assistance alone in the vehicle when the vehicle is locked.

**⚠ WARNING**

Improper use of the electric windows can cause crush injuries to the body.

- Never allow children to play with the electric windows.
- Always make sure that your vehicle is in view when using the convenience opening and closing function.

**NOTICE**

If it starts to rain or snow when the windows are open, this can soak the interior equipment of the vehi-

cle and restrict the functions of the controls or damage them.


- Close all windows if it starts to rain or snow.

**NOTICE**

The electric windows are equipped with a roll-back function. It can occur that automatic closing is interrupted and the window opens again even if there is no apparent obstacle.

- Keep pulling the window regulator switch until the window has closed completely.

ⓘ One-touch opening and closing and the roll-back function will not work if there is a fault in the electric windows. Go to a qualified workshop.

ⓘ If the  button on the vehicle key is pressed for more than two seconds, the exterior mirrors will fold in automatically.

**Electric window roll-back function**

The roll-back function for the electric windows can reduce the risk of injuries when the windows are closing.

If the window is not able to close because it is stiff or because of an obstruction, the window will immediately open again → ⚠.

1. Check to see why the window has not closed.
2. Try to close the window again.

If the window closing process is interrupted again, the roll-back function will be disabled for a few seconds.

If the window still cannot be closed, the window stops at the corresponding position → ⚠.

To close the window without the roll-back function, press the button again within a few seconds → ⚠.

Go to a suitably qualified workshop if the window still cannot be closed.

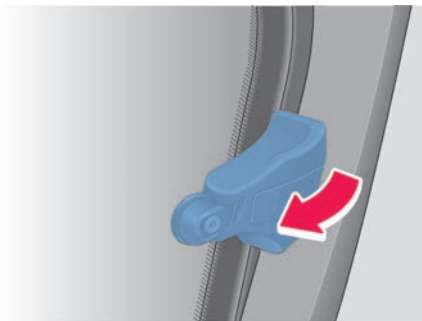
### **⚠ WARNING**

Closing the electric windows without the roll-back function can lead to severe injuries.

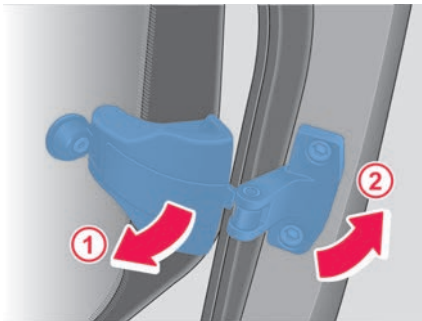
- Always take care when closing the windows.
- Close windows only when there is no-one in the operating path.
- Please note that the roll-back function does not prevent fingers and parts of the body being trapped against the window frame.

**!** The roll-back function is also activated if the windows are closed using the vehicle key for convenience closing.

### Opening and closing vent windows



**Fig. 49** In the rear doors: opening the vent window.



**Fig. 50** In the rear doors: vent window opened.

In four-door vehicles, the rear vent windows can be opened and closed manually.

### Opening and closing vent windows

1. *Opening:* Pull the locking lever in the direction of the arrow → Fig. 49.
2. Press the vent window outwards at the locking lever until it engages in position.
3. *Closing:* Pull the locking lever inwards → Fig. 49 **1**.
4. Push the locking lever back → Fig. 49 **2** until it audibly engages in position and the window is closed.

### **⚠ WARNING**

In the event of a sudden braking manoeuvre or accident, a vent window that is not securely engaged could move and cause serious injuries.

- Always allow the vent window to engage securely.

- Open or close the vent windows only when there is no-one in the opening and closing path.

### NOTICE

If a vent window is open and it starts to rain, water can soak the vehicle's interior equipment and cause damage to the vehicle.

- Make sure that the vent windows are closed when leaving the vehicle or if it is raining.

### Opening and closing the sliding window

#### Opening the sliding window in the side panel

1. Press the window buttons.
2. The sliding window automatically springs inwards.
3. Keep the window buttons in this position and open the sliding window.
4. Release the window buttons.

#### Closing the sliding window in the side panel

1. Press the window buttons.
2. Keep the window buttons in this position and close the sliding window.
3. Release the window buttons.

#### Opening and closing the sliding window in the partition

1. Pull the window handle and open or close the sliding window.

### WARNING

In the event of a sudden braking manoeuvre or accident, a sliding window that is not securely engaged could move forward and cause injuries.

- Always allow the sliding windows to engage securely.

### Troubleshooting

#### One-touch opening and closing is not working

One-touch opening and closing is deactivated if the 12-volt vehicle battery has been disconnected or discharged while the windows were not fully closed. The function will have to be reset.

1. Switch on the ignition.
2. Close all windows and doors.
3. Pull and hold the button for the respective window for a few seconds.
4. Release the button.
5. Pull and hold the button again.

One-touch opening and closing is now ready for operation again.

The one-touch function can be restored for individual windows or for several windows at the same time.

#### The windows do not close

1. Check if there is an obstacle in the operating area.

2. Attempt to close the window again within a few seconds by pulling and holding the button.

The roll-back function will be deactivated for a small section of the path of the closing window. If the closing procedure takes longer than several seconds, the roll-back function will be reactivated.

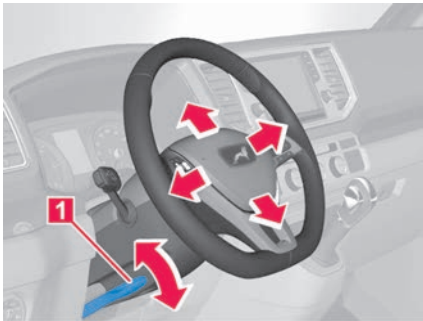
If it is still stiff or obstructed, the window will stop and open again automatically.

1. If the fault persists, the system should be checked by a suitably qualified workshop.

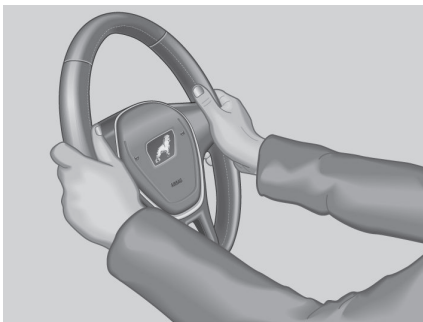
#### **Touch panels do not react as expected**

Moisture, dirt and grease can impede the functioning of the touch panels.

1. Always keep touch panels clean and dry.



**Fig. 51** Under the steering wheel in the steering column trim: lever for adjusting the steering wheel position.



**Fig. 52** On the steering wheel: 9 o'clock and 3 o'clock position.

Adjust the steering wheel position before setting off and only when the vehicle is stationary → ⚠.

1. Push the lever down → Fig. 51 **1**.
2. Adjust the steering wheel so that you can hold it with both hands at its circumference at the 9 o'clock and 3 o'clock positions with your arms slightly bent → Fig. 52.
3. Push the lever → Fig. 51 **1** up firmly until it is flush with the steering column trim → ⚠.

### ⚠ WARNING

Incorrect use of the steering column position adjustment and incorrect adjustment of the steering wheel can cause serious or fatal injuries.

- After adjusting the steering wheel, always move the lever up firmly. This prevents the steering wheel from moving accidentally while the vehicle is in motion.

- Never adjust the steering wheel when the vehicle is in motion. If you determine that adjustment is necessary when driving, stop the vehicle safely and adjust the steering wheel to the correct position.
- The steering wheel must always point towards the chest and not towards the face. This ensures that the driver front airbag provides maximum protection in the event of an accident.
- While driving, always keep both hands on the outside of the steering wheel at the *9 o'clock and 3 o'clock positions*. This reduces the risk of injury if the driver front airbag is triggered.
- Never hold the steering wheel at the 12 o'clock position, or in any other manner, e.g. at the hub of the steering wheel. If the driver front airbag is triggered, you could receive severe injuries to the arms, hands and head.

### Introduction

The following section describes the options for adjusting the front seats. Always ensure that your sitting position is correct → page 61.

### WARNING

Driving with an incorrect sitting position due to incorrectly adjusted seats can lead to serious injuries.

- Always adjust the front seats to the correct sitting position before any journey and ensure that all passengers have fastened their seat belts correctly.
- Push the front passenger seat as far back as possible.

### WARNING

Incorrect adjustment of the seats can cause accidents and serious injuries.

- Adjust the seats only when the vehicle is stationary. The seats could change position unexpectedly if you attempt to reposition them while the vehicle is

in motion so that you lose of control of the vehicle as a result. Furthermore, an incorrect sitting position is adopted while adjusting the seat.

- Adjust the height and angle of the front seats or move them forwards and backwards only when there is no-one in the adjustment range of the seats.
- The adjustment range of the seats must not be restricted by any items.
- The adjustment and locking areas of the seats must not be soiled.

### WARNING

Improper use of seat covers or protective covers may lead to the electrical seat controls being operated accidentally and the front seats moving unexpectedly while the vehicle is moving. You could lose control over the vehicle. This could result in serious injury and accidents. Furthermore, this may result

in damage to the electrical components in the front seats.

- Never fit seat or protective covers on the electric controls.
- Do not fit seat covers or protective covers over the seats unless they have been expressly approved for use in the vehicle.

### WARNING

Cigarette lighters in the vehicle could be damaged or accidentally lit. This could lead to serious burns and other injuries.

- Before adjusting the seats, always make sure that there is no cigarette lighter on or near the movable parts of the seat.

### **NOTICE**

Sharp edges can damage the seats.

- Do not touch the seats with sharp-edged objects. Sharp objects, such as zips, rivets on clothing or belts, may damage

surfaces. Open Velcro fasteners can also cause damage.

### Mechanically adjusting the front seat

📖 Please refer to ⚠ and ⚠ at the start of the chapter on page 120.

The following section contains a description of all controls. The number of controls may vary depending on the version of the seat.

The controls are mirrored for the right-hand front seat.

The seat may have a combination of mechanical and electrical controls.



**Fig. 53** On the left front seat: controls.



**Fig. 54** On the left front seat: controls.

- 1** Turn the thumb wheel under the armrest to adjust the incline of the armrest.
- 2** Operate the lever to adjust the lumbar support.
- 3** Operate the lever to adjust the seat height.

- 4** Turn the handwheel to adjust the angle of the seat cushion.
- 5** Pull the lever while pushing the front seat forwards or backwards. The front seat must engage after you let go of the lever.
- 6** Take your weight off the backrest and turn the handwheel to adjust the angle of the backrest.

### Adjusting the suspension seat

Controls for adjusting the seat suspension may be located underneath the front of the front seat.

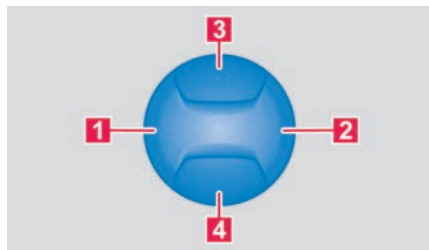
1. Turn the lever up or down in order to lock or release the vertical lock on the suspension seat.
2. Take your weight off the seat and use the handwheel to adapt the seat suspension to match your weight.

#### Electrically adjusting the front seat

📖 Please refer to ⚠️ and ⚠️ at the start of the chapter on page 120.

The controls are mirrored for the right-hand front seat.

The seat may have a combination of mechanical and electrical controls.



**Fig. 55** Switch on left seat: adjusting the lumbar support.

- 1 Moves the curve of the lumbar support forwards.
- 2 Moves the curve of the lumbar support back.
- 3 Moves the curve of the lumbar support up.

- 4 Moves the curve of the lumbar support down.

#### NOTICE

Improper use can damage the electric components in the front seats.

- Do not kneel on the front seats and do not apply point loads to the seat cushion and backrest.

⚠️ It may not be possible to adjust the seat electrically if the charge level of the 12-volt vehicle battery is too low.

⚠️ Starting the engine will interrupt the seat adjustment procedure.

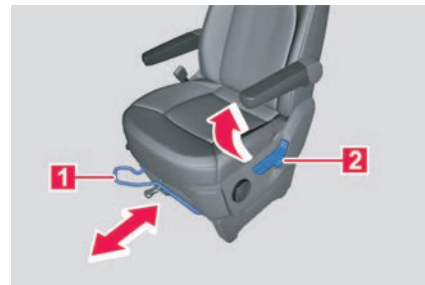
#### Swivelling front seats

📖 Please refer to ⚠️ and ⚠️ at the start of the chapter on page 120.

Rotating front seats for the driver and front passenger may be instal-

led in the vehicle depending on its equipment level.

The controls are mirrored for the right-hand front seat. The following describes only those controls required to rotate the front seat.



**Fig. 56** In the front of the vehicle: swivelling front seats.



**Fig. 57** In the front of the vehicle: swivelling front seats.

- 1** Sliding the seat.
- 2** Adjusting the seat height.
- 3** Rotating the seat.
- 4** Adjusting angle of backrest.

#### Driver seat:

1. Bring the vehicle to a stop.
2. In vehicles with an automatic gearbox, move the selector lever to position **P**.
3. In vehicles with a manual gearbox, move the gear lever into the neutral position.
4. Apply the handbrake and push it downwards.

5. Put the steering wheel in its foremost and uppermost position.
6. If necessary, put the armrests in an upright position.
7. Adjust the backrest to an upright position → **Fig. 57 4**.
8. Push the seat to its rear position → **Fig. 56 1** and adjust to the highest position using the height adjuster **2**.
9. Operate the lever → **Fig. 57 3** and rotate the seat inwards.
10. The seat and armrest may need to be readjusted after rotating.

#### Front passenger seat:

1. Ensure that the vehicle is stationary.
2. If necessary, put the armrests in an upright position.
3. Adjust the backrest to an upright position → **Fig. 57 4**.
4. Push the seat to its rear position → **Fig. 56 1** and adjust to

the highest position using the height adjuster **2**.

5. Operate the lever → **Fig. 57 3** and rotate the seat inwards.
6. The seat and armrest may need to be readjusted after rotating.

#### Folding seat

**Please refer to ⚠ and ! at the start of the chapter on page 120.**



**Fig. 58** Next to the load compartment sliding door: folding seat.

The folding seat is on the passenger side in vehicles with a load compartment sliding door.

#### **Folding the seat cushion of the folding seat up and down**

1. Fold the seat cushion up or down until it is locked in place.

#### **WARNING**

Serious injuries could be sustained if due care is not taken when folding the folding seat forwards or backwards.

- The seat cushion of the folding seat should only be folded up and down when the vehicle is stationary.
  - Make sure that you do not trap or damage the seat belt when folding back the seat cushion of the folding seat.
-

**Introduction****WARNING**

Using the seat functions incorrectly can cause accidents and serious injuries.

- Keep hands, fingers, feet and other body parts away from seat's moving parts and adjustment range.
- Never adjust the seat functions while driving as the rear seats may move unexpectedly. Furthermore, an incorrect seating position is adopted while adjusting the seat.
- Only adjust the settings when there is nobody in the adjustment area of the rear seats.
- All rear seats must always be fitted in their retainers and must be securely engaged.
- Floor mats or other objects must be kept away from the area of the hinges. Floor mats or other objects could get caught in the hinges on the front passenger seat backrest.

This could cause the front passenger seat backrest to fail to engage securely when you return it to the upright position.

- You should not transport adults, children, loads or animals on these seats if the backrest is folded forward or is not engaged securely into place.

**WARNING**

Cigarette lighters in the vehicle could be damaged or accidentally lit. This could lead to serious burns and other injuries.

- Before adjusting the seats, always make sure that there is no cigarette lighter on or near the movable parts of the seat.

**NOTICE**

Incorrect use or removal and fitting of the rear seats can damage the vehicle.

- Ensure that the seat belt is not trapped or damaged when folding back the backrest.

- While fitting and removing the rear seats, make sure that the seat feet are not soiled or damaged.

**NOTICE**

Sharp edges can damage the seats.

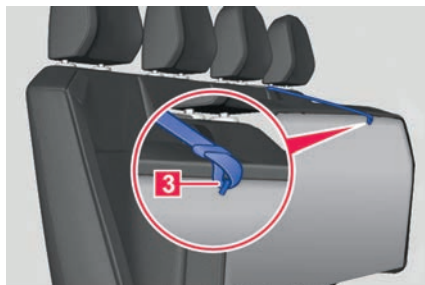
- Do not touch the seats with sharp-edged objects. Sharp objects such as zips, studs on clothing, and belts, may damage surfaces. Open Velcro fasteners can also cause damage.

### Folding the seat cushion of the rear bench seat up or down (double cab)

📖 Please refer to ⚠️ and ! at the start of the chapter on page 125.



**Fig. 59** On the rear bench seat: Fold up the seat cushion.



**Fig. 60** On the rear bench seat: securing the seat cushion.

- 1** Securing strap with retaining loop.
- 2** Seat cushion.
- 3** Hook under the seat cushion.

### Folding up the seat cushion

1. Fold up the seat cushion → Fig. 59 **2** in the direction of the arrow and hold in position.
2. Attach the retaining loop **1** to the hook → Fig. 60 **3** (close-up) under the folded-up seat cushion.

### Folding down the seat cushion

1. Hold the seat cushion → Fig. 59 **2** and unhook the retaining loop **1** from the hook → Fig. 60 **3** (close-up) under the folded-up seat cushion.
2. Fold seat cushion down.

### ⚠️ WARNING

Serious injuries could be sustained if the seat cushion of the rear bench seat is folded up and down in an uncontrolled way and without taking appropriate care.

- Use the securing straps to secure the folded up seat cushion.
- Make sure you do not trap or damage the seat belt when folding down the seat cushion.

### NOTICE

The securing straps for securing the folded-up seat cushion can tear if they are not used correctly.

- Use the securing straps only to secure the folded-up seat cushion.

- Do not use the securing straps as grab handles for passengers or as securing points for cargo.
-

### Introduction

The following section shows the options for adjusting and removing the head restraints. Always ensure that your sitting position is correct → page 61.

Every seat is fitted with a head restraint. The head restraints on the front seats have been developed specifically for the front seats. Depending on the equipment, the rear head restraints have been developed for the respective seats or seat rows. Therefore you should not install the head restraints in any other positions.

There are notches in the rods of the head restraints which enable them to engage in different positions. Only correctly mounted head restraints can engage in the notches in the adjustment area. To prevent accidental removal of the head restraints after installation, stops are fitted at the top and bottom of the adjustment area.

### Correct head restraint setting

Adjust the head restraint so that its upper edge is at the same height as the top of the head, but not lower than eye level. Position the back of your head as close to the head restraint as possible.

### Head restraint setting for shorter people

Push the head restraint all the way down, even if the head is then underneath the top edge of the head restraint. There may be a small gap between the head restraint and backrest in the lowest position.

### Head restraint setting for taller people

Push the head restraint up as far as it will go.

### WARNING

Driving without head restraints or with incorrectly adjusted head restraints increases the risk of severe or fatal injuries in the event of an accident or sudden driving or braking manoeuvre.

- If a seat is occupied, the head restraint for that seat must always be fitted and adjusted correctly.
- If a seat is occupied, adjust the head restraint corresponding to the size of the person sitting on the seat.
- Never adjust the head restraint when the vehicle is in motion.

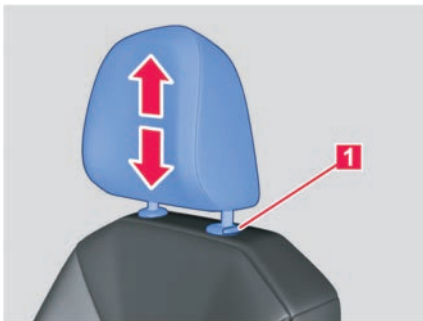
### *NOTICE*

If you do not remove and fit the head restraints properly, this can result in damage.

- When removing or fitting head restraints, make sure that they do not hit the roof, the front seat backrest or other parts of the vehicle. This will prevent damage from occurring.

## Adjusting and removing the head restraints

📖 Please refer to ⚠️ and ⚠️ at the start of the chapter on page 128.



**Fig. 61** On the seats: Adjusting and removing the head restraints.

### Adjusting the head restraints

1. Push the head restraint up or down in the direction of the arrow while pressing and holding the button → Fig. 61 1.

The head restraint must engage securely into position.

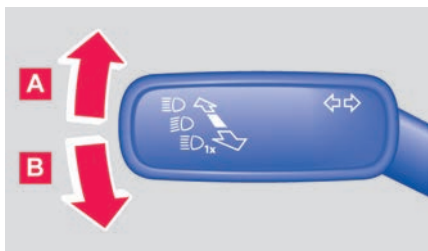
### Removing the head restraint

1. Push the head restraint all the way up.
2. Pull the head restraint out fully while pressing the button → Fig. 61 1.

### Fitting the head restraint

1. Insert the head restraint into the guides on the corresponding backrest.
2. Press and hold the button and push down the head restraint.
3. Adjust the head restraint so that a correct sitting position can be assumed → page 61.

### Switching turn signals on and off



**Fig. 62** On the left-hand side of the steering column: Turn signal and main beam lever

- A** Activate right turn signal ➔.
- B** Activate left turn signal ➜.

### Switching turn signals on and off

1. Switch on the ignition.
2. Move the lever from the centre position to the desired position → Fig. 62.
3. To switch off the turn signal, move the lever back to the basic position.

Go to a suitably qualified workshop and have the vehicle checked if the

acoustic signal does not sound when a turn signal is switched on.

### Lane change flash

1. Push the lever up or down to the pressure point and then release the lever.

The turn signal flashes three times.

To cancel the lane change flash, immediately move the lever in the opposite direction up to the pressure point and then release it.

You can activate and deactivate the convenience turn signal in the vehicle settings in the Infotainment system → page 53.

### **⚠ WARNING**

Incorrect use of turn signals, failure to use turn signals, or forgetting to switch off a turn signal can confuse other road users. This can cause accidents and serious or fatal injuries.

- Always activate the turn signal in good time when changing

lanes and performing overtaking or turning manoeuvres.

- Always switch off the turn signal once the lane change or overtaking or turning manoeuvre has been completed.

**!** The hazard warning lights also work when the ignition is switched off.


### Switching lights on and off





**Fig. 63** Beside the steering wheel: light switch (one variant).

### Switching lights on

1. Switch on the ignition.
2. Turn the light switch to the corresponding position → Fig. 63:

**AUTO** Automatic lighting control: the lighting is switched on or off depending on the brightness level and the weather conditions → , → page 139.

 The side lights and daytime running lights are switched on. The symbol in the light switch lights up green.


 The dipped beam headlights are switched on.


### Switching off the lights

1. Switch off the ignition.
2. Turn the light switch to the corresponding position:

**0** The lights are switched off.


**AUTO** The Leaving Home function (orientation lighting) may be switched on → page 137.

 The side lights are switched on. The symbol in the light switch lights up green.

 Dipped beam switched off – the side lights remain on while the vehicle key is in the ignition lock.


### Daytime running lights



The daytime running lights (dependent on equipment level) can increase the visibility of your vehicle in traffic during the day.

The daytime running lights are switched on every time the ignition is switched on when the light switch is in position **0**,  or **AUTO** (if brightness is detected).

The daytime running lights cannot be switched on or off manually.

### Rotating beacon

The  button for the rotating beacon is located in the bottom section of the centre console.

- Switching on the rotating beacon: Press the button. The symbol in button  lights up.
- Switching off the rotating beacon: Press the button. The symbol in the button  goes out.

### WARNING

If the vehicle's lights are not switched on appropriately for the weather conditions, the road will not be adequately lit. The vehicle may not be seen, or not be seen adequately, by other road users. This can cause accidents and serious or fatal injuries.

- Always switch on dipped beam when it is dark or raining and in poor visibility.
- Regularly check that all lights and turn signals are working properly.

### WARNING

The side lights or daytime running lights are not bright enough to illuminate the road ahead and to ensure that other road users are able to see you. The rear lights will not be switched on with the daytime running lights. The vehicle cannot be seen by other road users in darkness, precipitation and poor visibility without the rear lights

switched on. This can cause accidents and serious or fatal injuries.

- Always switch on dipped beam when it is dark or raining and in poor visibility.

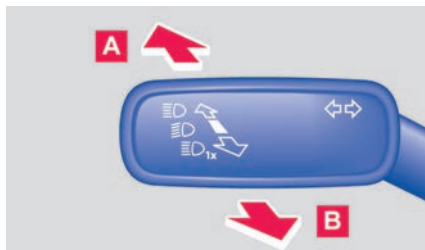
### **⚠ WARNING**

The automatic lighting control **AUTO** only provides support; the driver is responsible for making sure the vehicle lights are switched on correctly. Automatic lighting control **AUTO** switches the dipped beam headlights on and off only when there is a change in brightness level. An insufficiently lit road can cause accidents and serious or fatal injuries.


- Switch the dipped beam on manually if required by the weather conditions, e.g. in the event of fog.


**!** When reverse gear is engaged, the cornering light on both sides of the vehicle switches on to provide better illumination of the surrounding area when manoeuvring.

### Switching main beam on and off



**Fig. 64** On the left-hand side of the steering column: Turn signal and main beam lever

- A** Switch on the main beam .
- B** Operate the headlight flasher or switch off main beam.

The blue indicator lamp  lights up in the instrument cluster when the main beam or headlight flasher is switched on.

### Switching on main beam

1. Switch on the ignition and dipped beam.
2. Push the lever forwards from the centre position → **Fig. 64**.

### Switching off main beam

1. Pull the lever to the rear from the centre position → **Fig. 64**.

### Switching the headlight flasher on and off

1. Pull the lever to the rear from the centre position and hold in this position → **Fig. 64**.

Release the lever to switch off.

### Main-beam control

Depending on the vehicle equipment level, advanced main-beam control may also be available → page 133.


### **⚠ WARNING**

Using the main beam incorrectly can distract and dazzle other road users. This can cause accidents and serious or fatal injuries.

- Use main beam only if other road users cannot be distracted or dazzled.

### Main-beam control (Light Assist)



Main-beam control (Light Assist) automatically dips the headlights when oncoming vehicles and vehicles driving in front are detected. Light Assist normally also recognises illuminated areas such as towns and deactivates the main beam while driving through them.

Within the limits of the system, the main beam is automatically switched on or off depending on ambient and traffic conditions and on the driving speed → .

Depending on the vehicle equipment level, Light Assist can be activated and deactivated in the vehicle settings in the Infotainment system → page 53.

#### Switching on Light Assist

1. Switch on the ignition.
2. Switch on automatic headlights **AUTO**.
3. Push the turn signal and main beam lever forwards from its basic position.

When the Light Assist is switched on, the  indicator lamp lights up in the instrument cluster display. The blue indicator lamp  for high beam also lights up in the instrument cluster when Light Assist is active.

#### Switching off Light Assist

1. Switch off automatic headlights **AUTO**.

**Or:** if Light Assist is switched on and active, pull back the turn signal and main beam lever.

**Or:** if Light Assist is switched on and not active, tap the turn signal and main beam lever forward.

The manual main beam is now switched on. To switch off the manual main beam as required, pull the turn signal and main beam lever backwards.

**Or:** Switch off the ignition.

#### System limits

The main beam has to be manually switched off under the following conditions, as it is not switched off by Light Assist in time or at all:

- In poorly lit streets where there are highly-reflective signs.
- When encountering other road users with insufficient lighting, e.g. pedestrians or cyclists.
- In the case of crossing traffic at right-angled junctions.
- In tight bends, brows of hills or depressions in the land or half-hidden oncoming traffic.
- With oncoming traffic on streets with a central barrier where the driver can see clearly over the central barrier e.g. truck drivers.
- In fog, snow or heavy rain.
- In dusty or sandy areas.
- Damage to the windscreen in the camera's vision field.
- If the viewing field of the camera is misted up, dirty, covered by a sticker, snow or ice.

- If the camera is broken or the power supply is interrupted.

### **WARNING**

Light Assist may not be able to recognise all driving situations correctly and may not work properly in certain situations. Light Assist only provides support; the driver is responsible for making sure the vehicle lights are switched on correctly. Switching on the main beam without due care can distract and dazzle other road users. This can cause accidents and serious or fatal injuries.

- Always check the lighting yourself and adjust it to suit the light, visibility and traffic conditions.
- Switch off the main beam manually if it is likely to dazzle to other road users.

### **WARNING**

If the camera's field of view is dirty, covered or damaged, the function of Light Assist may be impaired.

This also applies if changes are made to the vehicle's lighting system, for example if additional headlights are fitted. This can cause accidents and serious or fatal injuries.

- Clean the camera's field of view at regular intervals, and keep it clean and free from snow and ice.
- Do not cover the camera's field of view.
- Check the area of the wind-screen which is in the camera's field of view for damage at regular intervals.

## Troubleshooting



### **Turn signal indicator lamp**

The indicator lamp flashes green.

If a turn signal on the vehicle has failed, the indicator lamp will start flashing twice as fast.

1. Check the lighting and change the appropriate bulb as required → page 467.

2. If the fault persists, consult a suitably qualified workshop.

### **Trailer turn signal indicator lamp**

The indicator lamp flashes green.

The indicator lamp goes out if a trailer turn signal or all trailer lights stop working.

1. Check the lighting and change the appropriate bulb as required → page 467.
2. If the fault persists, consult a suitably qualified workshop.

### **Exterior drive lighting not working**

The indicator lamp lights up yellow.

Exterior lighting not working partially or completely.

1. Check the lighting and change the appropriate bulb as required → page 467.
2. If the fault persists, consult a suitably qualified workshop.


### Fault in rain and light sensor

The indicator lamp lights up yellow.

In light switch position **AUTO**, the vehicle lighting is not switched on or off automatically.



1. Switch the ignition on and off.
2. If the fault persists, consult a suitably qualified workshop.

---

 In cold or damp weather, condensation may build up briefly on the interior of the headlights, tail light and turn signals. This is normal and does not affect the service life of the lighting system of your vehicle.


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### Switching on and off the fog lights

The front fog lights can be switched on by turning the light switch to the side lights  and dipped beam  positions.


If the fog lights are switched on with activated automatic headlight control **AUTO**, the dipped beam headlights will also be switched on irrespective of the current light conditions outside.

### Switching on the front fog lights



1. Switch on the ignition.
2. Pull the light switch out to the first position → page 130. The indicator lamp  in the light switch lights up green.

### Switching off the fog lights

1. Press in the light switch or turn it to the **0** position.


 In vehicles with a factory-fitted towing bracket: the vehicle's rear fog light is not switched on if a trailer with rear fog light is electrically connected to the vehicle.

### Switching the rear fog light on and off

The rear fog light can be switched on by turning the light switch to the positions for the side lights  and dipped beam headlights .


### Switching on the rear fog light


1. Switch on the ignition.
2. Pull out the light switch fully.

The  indicator lamp in the instrument cluster lights up yellow.

### Switching off the rear fog light

1. Press in the light switch or turn it to the **0** position.

 If the rear fog light is switched on with activated automatic headlight control **AUTO**, the dipped beam headlights will also be switched on irrespective of the current light conditions outside.

 In vehicles with a factory-fitted towing bracket: the vehicle's rear

fog light is not switched on if a trailer with rear fog light is electrically connected to the vehicle.


## Switching the side lights on and off

### Side lights

If the side lights are switched on, both headlights light up with side lights together with parts of the tail light clusters, the number plate lighting and the buttons in the centre console and the dash panel. The daytime running lights also switch on when the ignition is switched on.

### Automatic switching off of side lights

The vehicle will detect a weak 12-volt vehicle battery and switch off the side lights in good time so that the engine can still be started – however, this will occur after 2 hours at the earliest.

If the battery capacity is not sufficient for the side lights to remain switched on for 2 hours, the 12-volt vehicle battery may discharge so far that the engine can no longer be started → .

## WARNING

Accidents and serious or even fatal injuries can occur if the vehicle is parked without sufficient illumination, as other road users might have difficulty seeing the vehicle, or may not see it at all.

- Always park the vehicle safely and with sufficient lighting.
- Observe any applicable country-specific legal requirements.

## Coming Home and Leaving Home function (orientation lighting)

The “Coming home” and “Leaving home” function lights up the area immediately surrounding the vehicle when you get in or out of the vehicle in darkness.

The Coming Home function is switched on manually. In contrast, the Leaving Home function is controlled automatically by a rain/light sensor.

The switch-off delay can be set and the function activated or deactivated in the vehicle settings in the Infotainment system → page 53.

### Activating the “Coming Home” function

1. Switch off the ignition.
2. Operate the headlight flasher for approximately 1 second.

The Coming home lighting is switched on when the driver door is opened. The switch-off delay starts when the last vehicle door or the wing doors have been closed.

### Deactivating the “Coming Home” function

- Automatically after the set switch-off delay has elapsed.
- **Or:** Automatically if a vehicle door or the wing doors are opened approximately 30 seconds after switching on.
- **Or:** Turn the light switch to position **0**.
- **Or:** Switch on the ignition.

#### Activating the Leaving Home function

- Unlock the vehicle when the automatic headlight control **AUTO** is switched on and the rain/light sensor detects that it is dark.

#### Deactivating the Leaving Home function

- Automatically after the switch-off delay.
- **Or:** Lock the vehicle.
- **Or:** Turn the light switch to position **0**.
- **Or:** Switch on the ignition.

### Static cornering light

When the low beam head lamps are switched on, a cornering light is switched on when turning slowly or driving around very tight bends.

⚠ When reverse gear is engaged, the cornering light on both sides of the vehicle switches on to provide better illumination of the surrounding area when manoeuvring.

### Automatic lighting control

When the automatic lighting control **AUTO** is switched on, the vehicle lighting and the instrument and switch lighting will switch on under the following conditions:

- The light sensor has detected darkness.
- The windscreen wipers have been switched on for an extended period.

When the lights are switched on, the indicator lamp **AUTO** lights up yellow → page 130.

The automatic lighting control is merely an aid and will not always be able to detect all driving situations.

In vehicles with a corresponding equipment level, the switch-on time of the automatic headlights can be set in the vehicle settings in the Infotainment system  
→ page 53.

### Headlight range control



**Fig. 65** Beside the steering wheel: slider for headlight range control.

Headlight range control can be used to adjust the light cone in the front headlights to the vehicle load level. This gives the driver the best visibility possible and means that oncoming traffic will not be dazzled  
→ ⚠.

The headlight range control may not work properly if the vehicle is incorrectly loaded.

Depending on the vehicle equipment, the headlight range can be adjusted with the control → Fig. 65.

With the correct setting, the dipped beam headlight range is around 80 metres (around 282 ft).

### Manual headlight range control

1. Turn the control → Fig. 65 to the required position (typical vehicle load level):

### Parameters for vehicles with single tyres on the rear axle

#### Commercial vehicle <sup>a) b)</sup> panel van:

##### Setting with the control <sup>c)</sup>

—

Driver seat occupied, load compartment empty.

3

Driver seat occupied, load compartment fully laden.

<sup>a)</sup> Vehicles with a permissible gross weight of 3.5 tonnes.

<sup>b)</sup> Vehicles with a permissible gross weight of more than 3.5 tonnes and up to 12 tonnes.

<sup>c)</sup> If you have different loads, you can select a position between the settings.

### Setting values for vehicles with twin tyres on the rear axle

#### All vehicles:

##### Setting with the control <sup>a)</sup>

—

Front seats occupied, load compartment or load surface empty

<sup>a)</sup> If you have different loads, you can select a position between the settings.

**Commercial vehicle, dropside, single cab, short wheelbase, short overhang:****Setting with the control <sup>a)</sup>****15**

Permitted total weight 3,500 kg, permitted rear axle load 2,250 kg, fully loaded, with maximum vehicle equipment

**2**

Permitted total weight 3500 kg, permitted rear axle load 2250 kg, fully loaded, with minimum vehicle equipment

**2**

Permitted total weight 3880 kg, permitted rear axle load 3100 kg, fully loaded, with maximum vehicle equipment

**25**

Permitted total weight 3880 kg, permitted rear axle load 3100 kg, fully loaded, with minimum vehicle equipment

**2**

Permitted total weight 4000 kg, permitted rear axle load 3100 kg, fully loaded, with maximum vehicle equipment

**25**

Permitted total weight 4000 kg, permitted rear axle load 3100 kg, fully loaded, with minimum vehicle equipment

**25**

Permitted total weight 5000 kg, permitted rear axle load 3500 kg, fully loaded, with maximum vehicle equipment

**3**

Permitted total weight 5,000 kg, permitted rear axle load 3,500 kg, fully loaded, with minimum vehicle equipment

**25**

Permitted total weight 5500 kg, permitted rear axle load 3500 kg, fully loaded, with maximum vehicle equipment

**3**

Permitted total weight 5500 kg, permitted rear axle load 3,500 kg, fully loaded, with minimum vehicle equipment

<sup>a)</sup> If you have different loads, you can select a position between the settings.

**Commercial vehicle: dropside, single cab, long wheelbase, short and long overhang:**

| <b>Setting with the control <sup>a)</sup></b> |  |
|---|--|
| <b>15</b>                                     | Permitted total weight 3,500 kg, permitted rear axle load 2,250 kg, fully loaded, with maximum vehicle equipment |
| <b>2</b>                                      | Permitted total weight 3500 kg, permitted rear axle load 2250 kg, fully loaded, with minimum vehicle equipment   |
| <b>2</b>                                      | Permitted total weight 3880 kg, permitted rear axle load 3100 kg, fully loaded, with maximum vehicle equipment   |
| <b>25</b>                                     | Permitted total weight 3880 kg, permitted rear axle load 3100 kg, fully loaded, with minimum vehicle equipment   |
| <b>2</b>                                      | Permitted total weight 4000 kg, permitted rear axle load 3100 kg, fully loaded, with maximum vehicle equipment   |
| <b>25</b>                                     | Permitted total weight 4000 kg, permitted rear axle load 3100 kg, fully loaded, with minimum vehicle equipment   |
| <b>2</b>                                      | Permitted total weight 5000 kg, permitted rear axle load 3500 kg, fully loaded, with maximum vehicle equipment   |
| <b>25</b>                                     | Permitted total weight 5,000 kg, permitted rear axle load 3,500 kg, fully loaded, with minimum vehicle equipment |
| <b>2</b>                                      | Permitted total weight 5500 kg, permitted rear axle load 3500 kg, fully loaded, with maximum vehicle equipment   |
| <b>25</b>                                     | Permitted total weight 5500 kg, permitted rear axle load 3,500 kg, fully loaded, with minimum vehicle equipment  |

<sup>a)</sup> If you have different loads, you can select a position between the settings.

**Commercial vehicle dropside, double cab, short wheelbase, short overhang:**

| Setting with the control <sup>a)</sup> |  |
|--|--|
| <b>15</b>                              | Permitted total weight 3,500 kg, permitted rear axle load 2,250 kg, fully loaded, with maximum vehicle equipment |
| <b>2</b>                               | Permitted total weight 3500 kg, permitted rear axle load 2250 kg, fully loaded, with minimum vehicle equipment   |
| <b>2</b>                               | Permitted total weight 3880 kg, permitted rear axle load 3100 kg, fully loaded, with maximum vehicle equipment   |
| <b>25</b>                              | Permitted total weight 3880 kg, permitted rear axle load 3100 kg, fully loaded, with minimum vehicle equipment   |
| <b>2</b>                               | Permitted total weight 4000 kg, permitted rear axle load 3100 kg, fully loaded, with maximum vehicle equipment   |
| <b>25</b>                              | Permitted total weight 4000 kg, permitted rear axle load 3100 kg, fully loaded, with minimum vehicle equipment   |
| <b>2</b>                               | Permitted total weight 5000 kg, permitted rear axle load 3500 kg, fully loaded, with maximum vehicle equipment   |
| <b>25</b>                              | Permitted total weight 5,000 kg, permitted rear axle load 3,500 kg, fully loaded, with minimum vehicle equipment |
| <b>25</b>                              | Permitted total weight 5500 kg, permitted rear axle load 3500 kg, fully loaded, with maximum vehicle equipment   |
| <b>3</b>                               | Permitted total weight 5500 kg, permitted rear axle load 3,500 kg, fully loaded, with minimum vehicle equipment  |

<sup>a)</sup> If you have different loads, you can select a position between the settings.

**Commercial vehicle dropside, single cab, long wheelbase, short and long overhang:****Setting with the control <sup>a)</sup>**

|           |  |
|-----------|--|
| <b>1</b>  | Permitted total weight 3,500 kg, permitted rear axle load 2,250 kg, fully loaded, with maximum vehicle equipment |
| <b>2</b>  | Permitted total weight 3500 kg, permitted rear axle load 2250 kg, fully loaded, with minimum vehicle equipment   |
| <b>15</b> | Permitted total weight 3880 kg, permitted rear axle load 3100 kg, fully loaded, with maximum vehicle equipment   |
| <b>2</b>  | Permitted total weight 3880 kg, permitted rear axle load 3100 kg, fully loaded, with minimum vehicle equipment   |
| <b>15</b> | Permitted total weight 4000 kg, permitted rear axle load 3100 kg, fully loaded, with maximum vehicle equipment   |
| <b>2</b>  | Permitted total weight 4000 kg, permitted rear axle load 3100 kg, fully loaded, with minimum vehicle equipment   |
| <b>2</b>  | Permitted total weight 5000 kg, permitted rear axle load 3500 kg, fully loaded, with maximum vehicle equipment   |
| <b>2</b>  | Permitted total weight 5,000 kg, permitted rear axle load 3,500 kg, fully loaded, with minimum vehicle equipment |
| <b>2</b>  | Permitted total weight 5500 kg, permitted rear axle load 3500 kg, fully loaded, with maximum vehicle equipment   |
| <b>25</b> | Permitted total weight 5500 kg, permitted rear axle load 3,500 kg, fully loaded, with minimum vehicle equipment  |

<sup>a)</sup> If you have different loads, you can select a position between the settings.

**Commercial vehicle panel van, short wheelbase, short overhang:****Setting with the control <sup>a)</sup>**

|           |  |
|-----------|--|
| <b>15</b> | Permitted total weight 3,500 kg, permitted rear axle load 2,250 kg, fully loaded, with maximum vehicle equipment |
| <b>2</b>  | Permitted total weight 3500 kg, permitted rear axle load 2250 kg, fully loaded, with minimum vehicle equipment   |
| <b>2</b>  | Permitted total weight 3880 kg, permitted rear axle load 3100 kg, fully loaded, with maximum vehicle equipment   |
| <b>25</b> | Permitted total weight 3880 kg, permitted rear axle load 3100 kg, fully loaded, with minimum vehicle equipment   |
| <b>2</b>  | Permitted total weight 4000 kg, permitted rear axle load 3100 kg, fully loaded, with maximum vehicle equipment   |
| <b>25</b> | Permitted total weight 4000 kg, permitted rear axle load 3100 kg, fully loaded, with minimum vehicle equipment   |
| <b>2</b>  | Permitted total weight 5000 kg, permitted rear axle load 3500 kg, fully loaded, with maximum vehicle equipment   |
| <b>25</b> | Permitted total weight 5,000 kg, permitted rear axle load 3,500 kg, fully loaded, with minimum vehicle equipment |
| <b>25</b> | Permitted total weight 5500 kg, permitted rear axle load 3500 kg, fully loaded, with maximum vehicle equipment   |
| <b>3</b>  | Permitted total weight 5500 kg, permitted rear axle load 3,500 kg, fully loaded, with minimum vehicle equipment  |


<sup>a)</sup> If you have different loads, you can select a position between the settings.

**Commercial vehicle panel van, long wheelbase, short and long overhang, long wheelbase and short overhang:**

| <b>Setting with the control <sup>a)</sup></b> |  |
|---|--|
| <b>1</b>                                      | Permitted total weight 3,500 kg, permitted rear axle load 2,250 kg, fully loaded, with maximum vehicle equipment |
| <b>2</b>                                      | Permitted total weight 3500 kg, permitted rear axle load 2250 kg, fully loaded, with minimum vehicle equipment   |
| <b>15</b>                                     | Permitted total weight 3880 kg, permitted rear axle load 3100 kg, fully loaded, with maximum vehicle equipment   |
| <b>25</b>                                     | Permitted total weight 3880 kg, permitted rear axle load 3100 kg, fully loaded, with minimum vehicle equipment   |
| <b>15</b>                                     | Permitted total weight 4000 kg, permitted rear axle load 3100 kg, fully loaded, with maximum vehicle equipment   |
| <b>2</b>                                      | Permitted total weight 4000 kg, permitted rear axle load 3100 kg, fully loaded, with minimum vehicle equipment   |
| <b>15</b>                                     | Permitted total weight 5000 kg, permitted rear axle load 3500 kg, fully loaded, with maximum vehicle equipment   |
| <b>25</b>                                     | Permitted total weight 5,000 kg, permitted rear axle load 3,500 kg, fully loaded, with minimum vehicle equipment |
| <b>2</b>                                      | Permitted total weight 5500 kg, permitted rear axle load 3500 kg, fully loaded, with maximum vehicle equipment   |
| <b>25</b>                                     | Permitted total weight 5500 kg, permitted rear axle load 3,500 kg, fully loaded, with minimum vehicle equipment  |

<sup>a)</sup> If you have different loads, you can select a position between the settings.

### Dynamic headlight range control

The headlight range cannot be adjusted manually if the vehicle has dynamic headlight range control. The headlight range is automatically adapted to suit the vehicle load level as soon as the headlights are switched on → .

#### WARNING

Heavy objects in the vehicle can change the ride height so that the

#### Acoustic warnings if lights are not switched off

When the ignition has been switched off and the driver door is opened, acoustic warnings will sound under the following conditions:

- If the parking light is switched on.
- If the parking lamps are switched on.
- If the rear fog lamp is switched on.

headlights dazzle and distract other road users. This can cause accidents and serious or fatal injuries.

- Always adapt the light cone to the load level of the vehicle to avoid dazzling other road users.

#### WARNING

Failure or malfunction in the headlight range control can cause the headlights to dazzle or distract other

road users. This can cause accidents and serious or fatal injuries.

- Have the headlight range control checked by a suitably qualified workshop as soon as possible.


No acoustic warning will be given as a reminder that a light is still switched on when leaving the vehicle when the orientation lighting is switched on → page 137.

### Instrument and switch lighting

The brightness of the instrument and switch lighting can be adjusted in the vehicle settings in the Infotainment system → page 53.

The brightness setting is automatically adjusted to the changing light conditions in the vehicle.

When automatic lighting control **AUTO** is switched on, a sensor will switch the dipped beam and the lighting in the instruments and switches on and off automatically depending on the ambient brightness.



 When the lights are switched off and the ignition switched on, the instrument and switch lighting (needles and scales) is switched on. As the ambient light decreases, the lighting of these scales is automatically reduced and may be switched off entirely. This function is intended to remind the driver to switch on the dipped beam in good

time, i.e. when driving through tunnels.

### Interior lights and reading lights




#### Switching the front interior lights and reading lights on and off


Press the corresponding button:

-  Switches the interior lights on and off.
-  The interior lights are switched on automatically when the vehicle is unlocked, a door is opened or the vehicle key is removed from the ignition lock.



#### Switching the interior lighting in the rear of the vehicle on and off



Press the corresponding button:


-  Switches on the interior light.
-  The interior lights are switched on automatically when the vehicle is unlocked or a door is opened.
-  Switches off the interior light.

Panel van: Depending on the specification package, the load compartment lighting can be turned on and off using the  button in the right D-pillar.

#### Switching the interior lighting in the rear of the vehicle on and off via a switch in the centre console

The light key must be in position  or .

- Switch on interior lighting: Press the  button in the centre console. The indicator lamp in the switch lights up.
- Switch off the interior lighting: Press the  button in the centre console. The indicator lamp in the switch is switched off.

 The lights switch off when the vehicle is locked or after a few minutes once the ignition has been switched off. This prevents the 12-volt battery from discharging.


## Operating the wiper lever




**Fig. 66** On the right of the steering column: Operating the front windscreen wipers

- A** **OFF** Wipers switched off.
- B** **INT** Interval wipe for the windscreen, or rain sensor mode. The interval wipe for the windscreen depends on the speed of the vehicle. The wipers will wipe more frequently as the vehicle moves faster.
- C** **LOW** Slow wipe.
- D** **HIGH** Fast wipe.



**E** **1x** Flick wipe – wipes briefly. Push and hold the lever down for longer to wipe more quickly.

**F**  Wash and wipe system for cleaning the windscreen with the lever pulled. The automatic air conditioning system will switch to air recirculation mode for approximately 30 seconds to prevent the smell of the washer fluid from entering the vehicle interior.

**1**  Switch for wipe intervals (vehicles without rain and light sensor) or adjusting the sensitivity of the rain and light sensor.



**Fig. 67** On the right of the steering column: Operating the rear window wiper.

- G**  Interval wipe for the rear window. The windscreen wiper will wipe the window approximately every 6 seconds.
- H**  Wash and wipe system for cleaning the rear window with the lever pushed.

The wipers function only when the ignition is switched on and the bonnet or boot lid are closed.

### **WARNING**

Without adequate anti-freeze, the washer fluid may freeze onto the windscreen and obscure your view.

This can cause accidents and serious or fatal injuries.

- At winter temperatures, use the window washer system only when adequate anti-freeze has been added.
- Never use the windscreen washer system at winter temperatures before the windscreen has been heated by the ventilation system.

### **WARNING**


Worn or dirty wiper blades reduce visibility and increase the risk of accidents and severe injuries.


- Always change wiper blades if they are damaged or worn and are thus unable to clean the window properly → page 465.

### **NOTICE**

Improper handling of the wipers may cause damage to the window as well as the wiper blades and the windscreen wiper motor.

- Before driving off and before switching on the ignition, check that the wiper lever is in the basic position.
- Remove any snow and ice from the wipers and windows.
- Always carefully detach frozen wiper blades from the window.
- Do not switch on the wipers when the window is dry.

 When switched on, the wipers will temporarily be switched to the next setting down when the vehicle is stationary.

 If the vehicle is parked during cold weather, the service position of the windscreen wiper may be helpful in order to be able to release the wiper blades better from the windscreen → page 464.

## **Wiper function**

### **Automatic activation of the rear window wiper**

The rear window wiper is switched on automatically if the front windscreen wipers are switched on and reverse gear is engaged. Automatic activation when reverse gear is engaged can be activated and deactivated in the vehicle settings in the Infotainment system → page 53.

### **Heated washer jets**

The heating defrosts frozen washer jets. The heating output is automatically regulated when the ignition is switched on, depending on the ambient temperature. Only the washer jets are heated and not the hoses carrying washer fluid.

### **Headlight washer system**

The headlight washer system cleans the headlight lenses and only works when the vehicle lighting is switched on.

Once the ignition has been switched on, the headlights will be wash-

ed the first time the wash and wipe system is used, and every tenth time thereafter. Hardened dirt, such as insect remains, should be removed from the headlight lens at regular intervals.

In winter, you should remove any snow from the headlight washer system covers in the bumper to keep it in working order. Remove any ice with a de-icer spray.

### Rain/light sensor



**Fig. 68** On the right of the steering column: wiper lever.

- 1** Switch for setting the sensitivity of the rain and light sensor.

- A** The rain and light sensor is deactivated.
- B** The rain/light sensor is active, automatic wipe when necessary.

When the rain/light sensor is activated, it automatically controls the frequency of the wiper intervals, depending on the intensity of the rain.

### Activating and deactivating the rain/light sensor

1. Push the lever to the desired position → Fig. 68.

The automatic wipe function can be activated and deactivated in the vehicle settings in the Infotainment system → page 53.

If the automatic wipe function is deactivated in the Infotainment system, the intervals are set at fixed levels.

### Adjusting the sensitivity of the rain/light sensor

The sensitivity of the rain and light sensor can be adjusted manually

using the switch in the wiper lever → Fig. 68 **1** → ⚠.

- For high sensitivity, set the switch to the right position.
- For low sensitivity, set the switch to the left position.

### ⚠ WARNING

The rain and light sensor cannot always sufficiently detect all precipitation and activate the wipers. If visibility is restricted, this can cause accidents and serious or fatal injuries.

- If necessary, switch on the wipers manually if the water on the windscreen restricts the field of vision.

### Troubleshooting



#### Washer fluid level too low

The indicator lamp lights up yellow.

Fill up the washer fluid reservoir as soon as possible → page 499.



### Fault in wipers

The indicator lamp lights up yellow.

The wipers do not wipe.

1. Switch the ignition on and off.
2. If the fault persists, go to a suitably qualified workshop.



### Fault in rain and light sensor

The indicator lamp lights up yellow.

The wipers are not switched on automatically if it rains during rain/light sensor operation.

1. Switch the ignition on and off.
2. If the fault persists, go to a suitably qualified workshop.

### Changes in the response of the rain and light sensor

Possible causes for faults and misinterpretations *relating to the sensitive surface* of the rain and light sensor → page 12 include:

- **Damaged wiper blades:** a film of water or smears caused by

damaged wiper blades can increase the time the wipers are switched on, can shorten the length of the intervals between wipes or cause the wipers to run continuously.

- **Insects:** insects hitting the windscreen surface can cause the wipers to be activated.
- **Salt deposits:** in winter, salt deposits can cause the wipers to continue to wipe the windscreen when it is almost dry.
- **Dirt:** dry dust, wax, windscreen coatings (lotus effect), or detergent deposits (from an automatic car wash) can cause the rain/light sensor to become less sensitive and react later or too slowly, or prevent it from reacting at all. Clean the sensitive surface of the rain and light sensor at regular intervals and inspect the wiper blades for damage → page 589.
- **Crack in the windscreen:** a wash cycle will be triggered if the rain/light sensor is on when

the windscreen is impacted by a stone. The rain/light sensor will then register the reduction in sensitivity of the surfaces and adjust accordingly. Depending on the size of the stone impact, the response of the rain/light sensor may change.

We recommend that you use an alcohol-based glass cleaner to remove wax and polish.



The wipers will try to wipe away any obstacles that are on the window. The wipers will stop moving if the obstacle blocks their path. Remove the obstacle and switch the wipers back on again.

### General safety notes

You can use the exterior mirrors and the interior mirror to observe traffic behind you and adjust driving style accordingly.

For safety reasons, it is important that the driver positions the exterior and interior mirrors correctly before starting a journey.

Looking in the exterior mirrors and the interior mirror does not allow the driver to see the entire area around the side and rear of the vehicle. The area that cannot be seen is known as the blind spot. Objects and other road users may also be located in the blind spot.

### ⚠ WARNING

Adjusting the exterior and interior mirrors while driving may cause the driver to become distracted. This can cause accidents and serious or fatal injuries.

- Adjust the exterior mirrors and interior mirror only when the vehicle is stationary.

- Always ensure that the mirrors are positioned correctly and that the rear view is not restricted by ice, snow, condensation or any other objects.

### ⚠ WARNING

The fields of view of the exterior mirrors and interior mirror do not cover the entire area around the vehicle at the sides and rear. There may be objects and other road users in these blind spots. This can cause accidents and serious or fatal injuries.

- When parking, changing lane, overtaking or turning, always pay careful attention to the area around the vehicle.

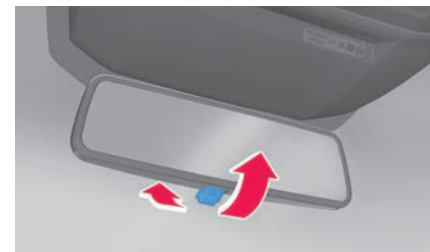
### ⚠ WARNING

Curved mirrors (convex or aspheric) enlarge the field of vision and can make objects in the mirror seem smaller and further away than they actually are. This leads to an inaccurate estimation of the distance from vehicles following be-

hind, e.g. when changing lanes. This can cause accidents and serious or fatal injuries.

- Whenever possible, use the interior mirror to check the exact distance between your vehicle and following traffic or other objects.
- Make sure that you have a good view to the rear of the vehicle.

### Interior mirror



**Fig. 69** On the windscreen: Manual anti-dazzle interior mirror

The driver must adjust the interior mirror so that the driver can see clearly the rear area through the rear window.

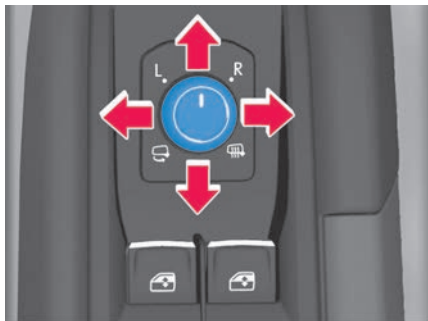
The driver's rear view may be restricted or completely obscured e.g. by a rear window that is covered in ice, snow or dirt.

### Manual anti-dazzle interior mirror

Basic position: the lever on the lower part of the mirror is pointing towards the windscreen.

1. Pull the lever back to select the anti-dazzle function → Fig. 69.

### Exterior mirrors



**Fig. 70** In the driver door: Rotary knob for adjusting the exterior mirror.

The exterior mirror functions for left-hand drive vehicles are descri-

bed below. Position **L** corresponds to the exterior mirror on the driver's side and position **R** to the exterior mirror on the front passenger side. These instructions are mirrored for right-hand drive vehicles.

1. Switch on the ignition.
2. Turn the rotary knob in the driver door to the desired symbol → Fig. 70.
3. Turn the rotary knob to the front, rear, right or left in the direction of the arrow to adjust the exterior mirror.



Fold exterior mirrors into the body electrically → ⚠.



Switch on the exterior mirror heating. The exterior mirror heating heats for around 4 minutes.

**L**

Adjust the exterior mirror on the driver side.

**R**

Adjusts the right exterior mirror.

**O**

Neutral position. The exterior mirror cannot be adjusted and all functions are switched off.

### Activating the exterior mirror functions


The following exterior mirror functions must be activated once in the vehicle settings in the Infotainment system → page 53.

### Synchronised mirror adjustment


Synchronous mirror adjustment means that the right-hand exterior mirror is also adjusted at the same time when you adjust the left-hand exterior mirror.


1. Turn the rotary knob to position **L**.
2. Adjust the exterior mirror on the driver side. The right-hand exterior mirror will be adjusted at the same time (synchronised).
3. Correct the settings of the right exterior mirror if necessary: turn the rotary knob to position **R** and adjust the right-hand exterior mirror.

### Folding in the exterior mirrors while parking

The rotary knob for the electric exterior mirrors must be in , **L**, **R** or **O**

position to enable automatic folding in and out of the mirrors.

- *Folding in:* press the  button on the vehicle key for approximately 2 seconds when you lock the vehicle.
- *Folding out:* Switch on the ignition.

The exterior mirrors will remain folded in if the rotary knob for the electric exterior mirrors is in the fold-in position .

### Manually adjusting exterior mirrors

1. Press the edge of the mirror it until it reaches the desired position.

### Folding the exterior mirrors in and out manually

Folding in:

1. Pull the mirror housing back until it engages.

Folding out:

1. Carefully fold out the mirror housing.

### WARNING

If the exterior mirrors are folded out or in without paying due attention, fingers can be trapped between the exterior mirror and the mirror base. This can cause serious injuries.

- Fold the exterior mirrors in or out only when there is no obstruction in the path of the mirror.

### NOTICE

Exterior mirrors may be damaged if they are not folded in when driving through a car wash.

- Always fold in the exterior mirrors.

### NOTICE

Folding in the electrically adjustable exterior mirrors mechanically can lead to increased wear or damage the electric drive.

- Do not fold electrically adjustable exterior mirrors in or out by hand.



You should switch off the exterior mirror heating when it is no longer needed. Fuel is otherwise wasted.

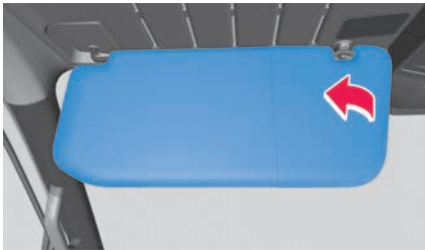


In the event of a fault, the electric exterior mirrors can be adjusted by hand by pressing on the outer edge of the mirror.



The vehicle aerials are located in the exterior mirrors. If any metallic chrome-plated trim, such as chrome-plated design caps, is retrofitted to the exterior mirrors, you may experience problems with the radio, mobile telephone and navigation services or they may lose the ability to transmit and receive signals completely.

### Sun visors



**Fig. 71** In the roof at the front: Sun visor

#### Adjustment positions for the driver and front passenger sun visors

1. Folded down over the wind-screen.
2. Depends on model: Pulled out of the retainer and swung over towards the door → Fig. 71.

#### Sun visor with wide-angle mirror

The convex wide-angle mirror increases the range of vision in unclear areas when manoeuvring, e.g. at junctions and driveways.

1. Change the seat position to make the area visible in the

wide-angle mirror larger or smaller.

#### **⚠ WARNING**

Driving with the sun visors folded down and the sun blinds pulled out can reduce your view of the road. This can cause accidents and serious or fatal injuries.

- Sun visors should always be folded away and sun blinds should always be retracted if they are not being used.

#### **⚠ WARNING**

Curved mirrors (convex or aspheric) enlarge the field of vision and can make objects in the mirror seem smaller and further away than they actually are. This leads to an inaccurate estimation of the distance from vehicles following behind, e.g. when changing lanes. This can cause accidents and serious or fatal injuries.

- Whenever possible, use the exterior mirrors, the interior mirror and the view through the win-

dows to check the exact distance between your vehicle and following traffic or other objects.

- Make sure that you have a good view to the rear of the vehicle.



Curved mirrors enlarge the field of vision and can make objects in the mirror seem smaller and further away than they actually are.

## Overview of the Climatronic

The Climatronic is an automatic air conditioning system that heats, cools and dehumidifies the air. Automatic mode enables the Clima-

tronic to control the air temperature, air distribution and air volume automatically.

Some air conditioning system functions depend on the vehicle equipment.



**Fig. 72** In the upper part of the centre console: Climatronic air conditioning block.

### Using the air conditioning system efficiently

The air conditioning system will work most effectively if the vehicle interior is kept closed. If heat has built up in the vehicle interior, cooling can be accelerated by briefly airing the vehicle.

#### Display of active functions

Lit up LEDs in the air conditioning block indicate that the function is switched on.

### **⚠ WARNING**

Windows that are iced up, covered in snow or condensation restrict visibility to a great extent. This increases the risk of collisions and accidents, which can result in serious or fatal injuries.

- Keep all windows free from ice, snow and condensation.
- Adjust the heating, air conditioning system and rear window

heating to prevent the windows from misting up → page 184.

- Only set off once all windows are clear.
- Use air recirculation mode for a short period only. Condensation could otherwise form on the windows very quickly so that visibility is greatly reduced.
- Switch off the air recirculation mode as soon as it is no longer required.

### Switching Climatronic on and off

#### Fresh air intake


Before switching the air conditioner on, always make sure that there is no snow in the fresh air intake duct.

#### On the air conditioning block

**OFF** Switch off the Climatronic.



Adjust the blower speed.

 In vehicles with the residual heat function, the air conditioning block may contain the **REST** button instead of the **OFF** button, depending on the equipment.

1. To switch on the Climatronic, turn the centre rotary knob clockwise.
2. To switch off the Climatronic, turn the centre rotary control anticlockwise as far as it will go.

### Climatronic automatic mode

#### On the air conditioning block

**AUTO** The set air temperature is kept constant. The volume of air and air distribution are controlled automatically. Automatic mode switches itself off when the blower speed is adjusted manually.

When the Climatronic automatic mode is switched on, no blower speed is displayed on the air conditioning block.

## Overview of manual air conditioning system

The manual air conditioning system heats, cools and dehumidifies the air.

Some air conditioning system functions depend on the vehicle equipment.



**Fig. 73** In the upper part of the centre console: air conditioning block of the manual air conditioning system or the heating and fresh air system.

### Using the air conditioning system efficiently

The air conditioning system will work most effectively if the vehicle interior is kept closed. If heat has built up in the vehicle interior, cooling can be accelerated by briefly airing the vehicle.

#### Display of active functions

Lit up LEDs in the air conditioning block indicate that the function is switched on.

### ⚠ WARNING

Windows that are iced up, covered in snow or condensation restrict visibility to a great extent. This increases the risk of collisions and accidents, which can result in serious or fatal injuries.

- Keep all windows free from ice, snow and condensation.
- Adjust the heating, air conditioning system and rear window

heating to prevent the windows from misting up → page 184.

- Only set off once all windows are clear.
- Use air recirculation mode for a short period only. Condensation could otherwise form on the windows very quickly so that visibility is greatly reduced.
- Switch off the air recirculation mode as soon as it is no longer required.

#### Switching the manual air conditioning system on and off

##### Fresh air intake

Before switching the air conditioner on, always make sure that there is no snow in the fresh air intake duct.

##### On the air conditioning block

**OFF** Switch off the air conditioning system.



Adjust the blower speed.

1. To switch on the manual air conditioning system, turn the centre rotary knob clockwise.
2. To switch off the manual air conditioning system, turn the centre rotary knob anticlockwise as far as it will go.

## Overview of the heating and fresh air system

The heating and fresh air system warms up and supplies fresh air to the vehicle interior. The heating and fresh air system does not cool down the vehicle interior.

### Display of active functions

Lit up LEDs in the buttons indicate that the function is switched on.

### WARNING

Windows that are iced up, covered in snow or condensation restrict visibility to a great extent. This increases the risk of collisions and accidents, which can result in serious or fatal injuries.

- Keep all windows free from ice, snow and condensation.
- Adjust the heating, air conditioning system and rear window heating to prevent the windows from misting up → page 184.
- Only set off once all windows are clear.

- Use air recirculation mode for a short period only. Condensation could otherwise form on the windows very quickly so that visibility is greatly reduced.
- Switch off the air recirculation mode as soon as it is no longer required.

## Switching the heating and fresh air system on and off

### On the heating and fresh air system



Adjust the blower speed.

1. To switch on the heating and fresh air system, turn the centre rotary knob clockwise.
2. To switch off the heating and fresh air system, turn the centre rotary knob anticlockwise as far as it will go.

### On the air conditioning block

■ ■ Select temperature.

**A/C** The air is cooled and dehumidified in cooling mode.

**SYNC** Adopt temperature settings of driver side for all seats.

**REST** Depending on the vehicle engine and equipment, the vehicle interior can be ventilated by the blower when the ignition is switched off or the residual heat of the engine used to keep the vehicle interior warm. The function is switched off after 30 minutes and if the 12-volt vehicle battery has a low charge level.

**MAX A/C** Switch maximum cooling output on and off. Air recirculation mode is automatically switched on and the Climatronic automatically directs air to the upper body.

### Setting the temperature on the Climatronic air conditioning block

1. Turn the left or right rotary knob to ■ or ■.

Climatronic shows the temperature settings.

### Setting the temperature on the air conditioning block of the manual air conditioning system

1. Turn the left rotary knob to ■ or ■.

### Maximum cooling and heating output

1. Turn the left or right rotary control left as far as it will go to ■ or ■.

**Or:** To switch on the maximum cooling output of the Climatronic, press **MAX A/C** on the air conditioning block.

**Or:** Turn the left rotary knob on the manual air conditioning system as far as it will go to ■ or ■.


### Setting the temperature for the rear passenger compartment with Climatronic

**REAR** Set the temperature value for the rear passenger compartment on the Climatronic.

### Setting the temperature for the rear passenger compartment with the manual air conditioning system





**Fig. 74** In the front roof console: Air conditioning block for the rear passenger compartment.



1. Switch on the ignition.
2. Switch on the blower at the air conditioning block in the centre console.
3. To open the menu for the “Cool passenger compartment” operating mode, press and hold the  → Fig. 74 button on the

air conditioning block in the roof console.

The operating modes that can be configured depend on the equipment.

4. To set the temperature, press the  or  button → Fig. 74.

The selected temperature setting is shown by dashes on the display. The display and settings vary depending on the equipment. The rear passenger compartment is being heated when  appears on the display. The rear passenger compartment is being ventilated when  appears on the display.

To cool down the rear passenger compartment, the cooling mode  must be switched on. The function is not available for your vehicle if  does not light up in the display when the cooling mode is switched on.

### Vents

The vents are located in the following positions in the vehicle:

- Driver side.
- Front passenger side.
- Front centre console.
- Rear passenger compartment.

### NOTICE


Foodstuffs, medicines and objects that are sensitive to heat or cold can be damaged or made unusable by the air flowing out of the vents.

- Never leave food, medicines or other temperature-sensitive objects in front of the vents.

### NOTICE

Objects that are inserted into the vents can damage the vents.

- Do not insert any objects into the vents.

 The air from the air outlets (vents) flows through the entire vehicle interior and out of the vehicle

through the ventilation openings below the wing doors. The ventilation openings must not be covered by items of clothing or other objects.

### Air distribution functions on the air conditioning block

#### WARNING

A lacking fresh air supply can lead to restricted visibility due to misted-up windows and to fast driver fatigue due to the stale air. This can lead to collisions and accidents and cause serious or fatal injuries.

- Never switch off the blower for an extended period.
- Use air recirculation mode for a short period only.
- Switch off the air recirculation mode as soon as it is no longer required.



Adjust the blower speed.



Direct air towards upper body.



Direct air into the footwell.



Direct air to the upper body and footwell.



*Climatronic*: Direct air onto the windscreen.





Guide air to the windscreen and the footwell.

### Setting the blower speed for the rear passenger compartment with Climatronic


**REAR** Set the blower speed for the rear passenger compartment on the Climatronic.


### Setting the blower speed for the rear passenger compartment with the manual air conditioning system

1. Switch on the ignition.
2. Switch on the air conditioning block blowers in the centre console.
3. To set the blower speed, press the  or  buttons on the air conditioning block in the roof console.

4. To switch the system off, press the  button until only a dash is visible on the display. Wait for around 3 seconds and press the  button again.

#### On the air conditioning block

 The defrost function of Climatronic clears the windscreen of ice and condensation. The air is dehumidified and the blower is set to a high speed.


 The defrost function of the manual air conditioning system clears the windscreen of ice and condensation. The air must be dehumidified when the defrost function is switched on. For this reason, you cannot switch on air recirculation mode or switch off cooling mode when the defrost function is switched on.

When air recirculation mode is switched on, no fresh air enters the vehicle interior.



Switch air recirculation mode on and off at the air conditioning block.

### When does air recirculation mode switch off?

Air recirculation mode switches off in the following situations → :

- When the defrost function is switched on.
- If a sensor detects that condensation might form on the vehicle's windows.

### WARNING

A lacking fresh air supply can lead to restricted visibility due to misted-up windows and to fast driver fatigue due to the stale air. This can lead to collisions and accidents and cause serious or fatal injuries.


- Use air recirculation mode for a short period only.

- Switch off the air recirculation mode as soon as it is no longer required.

### NOTICE

Tobacco smoke can leave a residue on the evaporator of the air conditioning system and the enhanced air filter with activated carbon, producing a lasting unpleasant odour.

- To prevent lasting unpleasant odours, do not smoke in the vehicle when air recirculation mode is switched on.

 *Manual air conditioning system:*  
If the outside temperature is very high, brief activation of air recirculation mode helps to cool the vehicle interior more quickly.

### Roof ventilator

The roof ventilator can be used to ventilate the luggage compartment. The mechanical roof ventilator or the electrical roof ventilator is available depending on equipment level.



#### Mechanical roof ventilator

The mechanical roof ventilator can be opened and closed with the rotary knob.

#### Switching electric air extraction on and off



Electric air extraction.

1. Press the  button to switch on electric air extraction.
2. Press the  button again to switch off electric air extraction.

#### Switching electric ventilation on and off



Electric ventilation.

1. Press the  button to switch on electric ventilation.

2. Press the  button again to switch off electric ventilation.



If the roof ventilator runs for a long period with the engine switched off, the 12-volt vehicle battery will discharge. Drive the vehicle for an appropriate distance in order to recharge the 12-volt vehicle battery.

## Overview of seat heating

When the engine is running, the front seats can be electrically heated in three settings. Only the outer seat in the front passenger 2-seat bench is heated.




Switch the seat heating on and off at the air conditioning block.

### Heating levels of the seat heating

The seat heating operating conditions are highlighted in colour. All three LEDs light up at the highest temperature setting.

### When should the seat heating be switched off?

Switch off the seat heating if one of the following conditions applies:

- A person with reduced sensitivity to pain or temperature is sitting on the seat → .
- The seat is not occupied.
- A child seat is installed on the seat.

- Objects are covering the seat cushion, e.g. protective covers, jackets, blankets or bags.
- The seat cushion is damp or wet.
- The temperature in the vehicle interior or the outside temperature is above +25°C (+77°F).

### WARNING

Magnetic fields are produced during operation of the seat heating. These magnetic fields can affect active medical implants (e.g. pacemakers) in isolated cases.

- If you have a medical implant, you should consult your doctor or the implant manufacturer before operating the seat heating.
- Also make the other vehicle occupants aware of this.

### WARNING

Anyone experiencing reduced sensitivity to pain or temperature due to medication, paralysis or chronic illness (e.g. diabetes) could sustain burns on the back, buttocks and

legs when using the seat heating. These burns may take a long time to heal or may never heal fully.

- Never use the seat heating if you have reduced sensitivity to pain or temperature.
- Please consult a doctor to determine your own level of health.

### WARNING

Wet seat covers can cause a malfunction in the seat heating and increase the risk of burns.

- Ensure that the seat cushion is dry before using the seat heating.
- Do not sit on the seat in damp or wet clothing.
- Do not place any damp or wet objects or items of clothing on the seat.
- Do not spill any liquids on the seat.







### NOTICE

The heater elements of the seat heating can be damaged by point loads and insulating materials.


- Do not kneel on the seats and do not apply any other point loads to the seat cushion and backrest.
- Do not load the seat cushion and backrest with pointed objects.
- Switch off the seat heating if insulating materials are fitted on the seat, e.g. a protective cover or child seat.
- Use the seat heating only if the seat is equipped with the original seat covers.
- If odours develop, switch off the seat heating immediately and have it checked by a suitably qualified workshop.

### Operating the seat heating function

📖 Please refer to ⚠ and ! at the start of the chapter on page 169.

1. To switch on the seat heating at the highest temperature setting, press  or  on the air conditioning block.
2. Press  or  repeatedly to adjust the temperature setting.
3. To switch off the seat heating, press  or  repeatedly until no LED is lit.

---

 To save fuel, switch off the seat heating as soon as possible.

---

### Seat heating switches on automatically

If you start the engine again within approximately 10 minutes, the most recent driver seat temperature setting is switched on automatically.

The steering wheel heating functions only when the engine is running.



Switching steering wheel heating on and off in the centre console.

### **Temperature settings of the steering wheel heating**

When you switch on the steering wheel heating, the current temperature setting is continuously shown as a bar display in the instrument cluster. All three bars are filled at the highest temperature setting.

### **Steering wheel heating switches off automatically**

The steering wheel heating switches itself off automatically if one of the following conditions is met:

- The power consumption is too high.
- There is a fault in the steering wheel heating system.

### Windscreen heating

The windscreen heating works when the engine is running.



Switch the windscreen heating on and off in the centre console.

The windscreen heating switches itself off depending on the outside temperature or after around 8 minutes at the latest.

#### **Windscreen heating using the defrost function**

The windscreen heating will be switched on automatically when the defrost function is switched on and a sensor detects that condensation may form on the windscreen.

#### **Windscreen heating switches off automatically**

The windscreen heating switches itself off automatically if one of the following conditions is met:

- The power consumption is too high.
- There is a fault in the air conditioning system.

- The specified time has elapsed.

The rear window heating works when the engine is running.



Switch the rear window heating on and off at the air conditioning block.

The rear window heating switches off automatically after around 10 minutes at the latest.

### **NOTICE**

Stickers that are affixed over the heating wires of the rear window heating on the inside of the rear window or objects that are in contact with the inside of the rear window can damage the rear window heating.

- Do not stick any stickers over the heating wires of the rear window heating.
- Load the load compartment only up to a height where no objects are in contact with the rear window.



To save fuel, switch off the rear window heating as soon as possible.

The electric supplementary air heating system is available depending on the equipment and allows the vehicle interior to be heated up more quickly.

#### **Switching the electric supplementary air heating system on and off**

1. Open the *Vehicle settings* menu  
→ page 53.
2. Select the *Heating* menu.
3. Tap the checkbox.

#### **Supplementary air heating system switches on automatically**

The supplementary air heating system switches on automatically if the following conditions are met and the charge level of the 12-volt vehicle battery is sufficient.

- The outside temperature is lower than approximately 4°C (39°F).
- The engine coolant temperature is lower than approximately 80°C (176°F).
- The engine was started.

### Introduction

The auxiliary heater and ventilation system can be used to heat the vehicle interior in the winter and ventilate it in the summer. It is able to clear ice, condensation and a thin layer of snow from the windscreen. The auxiliary heater is supplied with fuel from the vehicle fuel tank and can be operated when the vehicle is stationary with the ignition switched off. The auxiliary ventilation system is powered by the 12-volt vehicle battery.

### Possible auxiliary heaters

Depending on the equipment in the vehicle, it may have an auxiliary coolant heater, auxiliary air heater or a combination of both.

- The auxiliary coolant heater primarily heats the front end of the vehicle.

- The auxiliary air heater primarily heats the vehicle interior.

If your vehicle has a auxiliary coolant heater with remote control, the auxiliary heater can also be programmed via an app on your mobile telephone . Information about the app, the requirements for use and availability, and about compatible end devices is available on the internet → page 304.

### Operating mode of the auxiliary heater

You will be able to select different modes depending on the type of auxiliary heater installed in the vehicle. If you are unable to select a particular mode, the vehicle is not equipped with the relevant auxiliary heater.

- Vehicle interior and windscreen (auxiliary coolant heater).
- Vehicle interior (interior using auxiliary air heater).
- Ventilate (ventilate the vehicle interior). The vehicle interior is not cooled in ventilation mode.

Depending on the equipment in the vehicle, you can select the temperature and the areas to be heated in some modes.

### Auxiliary heater exhaust system

The emissions generated by the auxiliary heater are removed via an exhaust pipe fitted underneath the vehicle. The exhaust pipe must not be blocked by snow, mud or any objects.

### DANGER

Among the emissions from the auxiliary heater is carbon monoxide, which is an odourless and colourless poisonous gas. Carbon monoxide can cause people to lose consciousness. It can also cause death.

- Never switch on the auxiliary heater and leave the auxiliary heater running if the vehicle is located in enclosed or unventilated spaces.
- Never program the auxiliary heater so that it is switched on

and runs in unventilated or enclosed spaces.

### WARNING

Parts of the auxiliary heater exhaust system become very hot. This can cause fires.

- Park the vehicle so that no part of the exhaust system can come into contact with any inflammable material underneath the vehicle, e.g. dry grass.

### NOTICE

Foodstuffs, medicines and objects that are sensitive to heat or cold can be damaged or made unusable by the air flowing out of the vents.


- Never leave food, medicines or other temperature-sensitive objects in front of the vents.

### Switching the auxiliary heater and auxiliary ventilation on and off

 Please refer to ,  and  at the start of the chapter on page 175.

The auxiliary heater and ventilation can be operated when the ignition is switched on or off.

#### Switching on the auxiliary heater


1. Press the immediate heat button  on the air conditioning block in the roof console.

**Or:** Press the  button on the remote control → page 181.

**Or:** Program a departure time → page 177.

The auxiliary heater will not switch on if the charge level of the 12-volt vehicle battery is low or the fuel tank is empty.


#### Switching off the auxiliary heater

1. Press the immediate heat button  on the air conditioning block in the roof console.


**Or:** Press the  button on the remote control → page 181.


#### Auxiliary heater switches off automatically

The auxiliary heater switches itself off automatically if one of the following conditions is met:

- The programmed departure time is reached or the set running time has elapsed → page 177.
- The yellow indicator lamp  (fuel gauge) lights up → page 45.
- The charge level of the 12-volt vehicle battery is too low.

The auxiliary heater runs on for a short time after it is switched off manually or automatically so that the remaining fuel in the system can be burnt off.

 Operating noises can be heard when the auxiliary heater is switched on.

 If you park on a downhill slope with very little fuel in the tank (just

above the reserve level), the fuel gauge may be inaccurate and lead to functional restrictions of the auxiliary heater.

### Programming the auxiliary heater

📖 Please refer to ⚠️, ⚠️ and ! at the start of the chapter on page 175.



**Fig. 75** In the front roof console: Operating the auxiliary heater.

- 1** Select temperature.
- 🌀 Switch the immediate heat function on and off.
- 🌀 Continuous mode (only for auxiliary air heaters).

- 🌀 Call up the menu.
- OK** Confirm settings.
- ^ Adjust settings.
- ∨ Adjust settings.

### Opening the auxiliary heater menu

1. Switch on the ignition.
2. Press and hold the 🌀 button on the air conditioning block in the roof console.
3. Using the ^ and ∨ buttons, select the Auxiliary heater menu.

### Setting the running time of the auxiliary heater

The running time of the auxiliary heater can be set on the air conditioning block in the roof console.

1. Open the Auxiliary heater menu.
2. Under Running time, set the time for which the auxiliary heating is to be switched on in 10-minute increments.

You can set a maximum running time of 120 minutes for the auxiliary heater.


When the vehicle is at a standstill, the auxiliary heater can be activated up to three times in succession with a running time of 60 minutes, for example. A complete heating operation with the maximum possible running time of 120 minutes can be performed only once in full when the vehicle is stationary. The auxiliary heater then prematurely switches itself off automatically or can no longer be switched on. In order to switch on the auxiliary heater again, you must first move the vehicle by a distance of around 30 m at a speed of at least walking pace.


### Auxiliary heater in continuous mode







Continuous mode of the auxiliary heater depends on the vehicle equipment and is available only with the auxiliary air heater.

You can only switch on continuous mode by pressing the 🌀 button.

Continuous mode functions only when the vehicle is stationary. If the vehicle is moved when continuous mode is switched on, a message

may be shown on the control panel display. Continuous mode is deactivated automatically while the vehicle is in motion and the message text and display  in the roof console display go out.

A message will be displayed on the control panel for a short time if the  button is pressed while the vehicle is moving. However, it is not possible to switch on continuous mode.

1. Press the  button.
2. Use the  and  buttons to select **Yes**.
3. Press the  button to switch on continuous mode.
4. Press the  or  button to switch off continuous mode.

### Programming departure time

Activation is always for one heating period only. The departure time must be activated for every start. When a departure time is activated, a message appears in the display of the air conditioning block in the

roof console when you switch off the ignition.

#### *Manual air conditioning system:*

The programmed departure time determines the time at which the auxiliary heater should switch off. The point at which the auxiliary heater begins the heating process depends on the programmed operating period.

*Climatronic:* The programmed departure time determines when the set temperature should almost be reached in the vehicle. The point at which the auxiliary heater begins the heating process is determined automatically based on the exterior and interior temperatures.

1. Before programming, check that the date and time set in the vehicle are correct  
→ page 52.
2. Open the **Auxiliary heater** menu.
3. In the **Departure time** menu, select a memory location for the departure time.

4. Adjust the departure time with **Change**.

Select **UM** if you wish to start the auxiliary heater at a specific time. Select day of the week if you want to switch the auxiliary heater on for a certain day of the week.

5. Under **Running time**, set the time for which the auxiliary heating is to be switched on in 10-minute increments.

The maximum running time is 120 minutes.

6. Press **Activate** to save the settings.

The auxiliary heater starts before the selected time using the selected runtime and mode. You can only change a departure time when the heater is deactivated.

When the vehicle interior is being heated, the warm air is first directed towards the windscreen and then via the air vents to the vehicle interior. This is dependent on the

ambient temperature. You can modify the air distribution by adjusting the vents, e.g. by pointing them towards the side windows.

### Automatic supplementary heating function

Vehicles fitted with certain types of diesel engine may also be equipped with a fuel-driven supplementary heater. The supplementary heater heats the vehicle interior as quickly as possible when the engine is running. The supplementary heater will start automatically when the relevant conditions are fulfilled. The supplementary heater will be switched off automatically if the level in the fuel tank is low (reserve level).

For vehicles where an auxiliary heater is installed, it provides the supplementary heating.

You can switch the automatic supplementary heating function on and off in the Infotainment system.

1. Press the  button.
2. Tap the  function button.


### DANGER

Among other things, the emissions from the auxiliary heater contain carbon monoxide, which is an odourless and colourless poisonous gas. Carbon monoxide can cause people to lose consciousness. It can also cause death.

- Never program the auxiliary heater to switch on and run when the vehicle is in an unventilated or enclosed space.

### Auxiliary heater vents

 Please refer to ,  and  at the start of the chapter on page 175.

The temperature of the air emitted from the vents may be very hot → .

In vehicles equipped with an auxiliary air heater, the vents are located in the footwell area between the driver seat and front passenger seat. Depending on the selected

settings, the air from the vents can flow towards the front or the rear.

### WARNING

People who have limited or no sensitivity to pain or extreme temperatures as a result of medication, disabilities or chronic illnesses, e.g. diabetes, may suffer from burns if they get too close to the vents. These burns may take a very long time to heal or may not fully heal at all.

- If you suffer from limited sensitivity to pain or temperature, keep away from the area of the vents when the auxiliary heater is switched on.
- Please consult a doctor to determine your own level of health.

### NOTICE

Foodstuffs, medicines and objects that are sensitive to heat or cold can be damaged or made unusable by the air flowing out of the vents.

### Auxiliary heater and ventilation

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- Never leave food, medicines or other temperature-sensitive objects in front of the vents.

#### ***NOTICE***

Objects that are inserted into the vents can damage the vents.

- Do not insert any objects into the vents.
-


### Remote control of the auxiliary heater and auxiliary ventilation


With the remote control, the fuel-operated auxiliary heater or auxiliary ventilation can be switched on and off from outside the vehicle.




**Fig. 76** Remote control for the auxiliary heater.




#### Switching the auxiliary heater on and off using the remote control

1. *Switching on:* Press the  button for around 1 second → Fig. 76.

2. *Switching off:* Press the  button for around 1 second → Fig. 76.

#### LED in the remote control

The LED indicates various operating states after you press a button → Fig. 76 .

-  Lit up green: Auxiliary heater and auxiliary ventilation are switched on.
-  Flashes green evenly: Switch-on signal has not been received. Move closer to the vehicle.
-  Flashes green irregularly: Auxiliary heater and auxiliary ventilation are locked.


If one of the following conditions is met, the auxiliary heater and auxiliary ventilation are locked:


- The fuel tank is almost empty.
- The current of the 12-volt vehicle battery is too low.
- There is a system fault.

1. Fill the vehicle with fuel.

2. Drive the vehicle for an appropriate length of time in order to recharge the 12-volt vehicle battery.
3. If the fault persists, consult a suitably qualified workshop.

 Lit up red: The auxiliary heater is switched off.

 Flashes red evenly: Switch-off signal has not been received. Move closer to the vehicle.

 Flashes or lights up orange: The button cell in the remote control is weak. Replacing the button cell.

#### Range

The remote control has a range of several hundred metres when the button cell is fully charged and under ideal conditions.

- Keep a distance of at least 2 m (7 ft) between the remote control and the vehicle.
- Avoid obstacles between the remote control and vehicle.

- Hold the remote control with the aerial → Fig. 76 1 pointing vertically upwards.
- Do not cover the aerial.

Poor weather conditions, nearby buildings or a weak button cell will significantly reduce the range.

#### **⚠ DANGER**

Among the emissions from the auxiliary heater is carbon monoxide, which is an odourless and colourless poisonous gas. Carbon monoxide can cause people to lose consciousness. It can also cause death.

- Never switch on the auxiliary heater and leave the auxiliary heater running if the vehicle is located in enclosed or unventilated spaces.
- Never program the auxiliary heater so that it is switched on and runs in unventilated or enclosed spaces.

#### **⚠ WARNING**

Parts of the auxiliary heater exhaust system become very hot. This can cause fires.

- Park the vehicle so that no part of the exhaust system can come into contact with any inflammable material underneath the vehicle, e.g. dry grass.

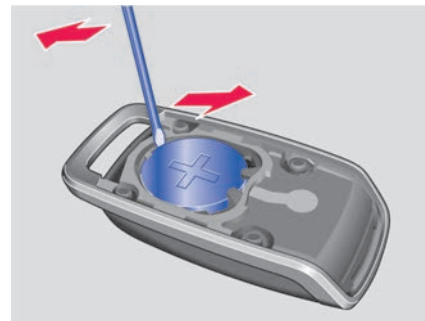
#### **NOTICE**

The remote control contains electronic components which can be damaged by moisture, strong vibrations and direct sunlight.

- Protect the remote control from moisture, excessive vibration and direct sunlight.

#### **Replacing the button cell in the remote control**

Replace the button cell in the remote control if the LED stops lighting up.



**Fig. 77** Remote control: Replacing the button cell.

#### **Replacing the button cell**

1. Insert a suitable tool, e.g. a screwdriver, in the recess on the housing of the remote control in the direction of the arrow.
2. Use the tool to lever off the battery compartment cover in an upward direction until the housing catches are released.
3. Carefully push the battery compartment cover in the direction of the arrow and remove the battery compartment cover.
4. To remove the button cell, carefully insert a screwdriver, for ex-

- ample, in the recess on the button cell.
5. Carefully lever up the button cell with the screwdriver until the button cell is released from the holder and remove the button cell.
  6. Insert a new button cell of the same type so that it engages in the battery compartment. Observe the information on the polarity and the battery cell type on the inside of the battery compartment cover.
  7. Carefully push the battery compartment cover onto the housing of the remote control in the opposite direction to the arrow and press gently until the battery compartment cover engages.

### DANGER

If you swallow a button cell, or if it enters your windpipe, it can cause serious or even fatal injuries within a very short time due to choking or internal burns.

- Seek immediate medical assistance if you suspect that someone has swallowed a button cell.
- Do not use the remote control if you cannot close the battery compartment cover.
- Always keep the remote control and key ring with button cells out of the reach of children.

### NOTICE

Using unsuitable button cells can damage the remote control.

- Replace a discharged button cell only with a new button cell of the same voltage rating, size and specification.
- Make sure that the button cell is inserted properly so that the polarity is consistent.



The button cell in the remote control may contain perchlorate. Observe the legal requirements for disposal.



Dispose of discharged button cells in an environmentally-friendly way.

### Cooling mode **A/C** or heating cannot be switched on or its function is restricted

Cooling mode **A/C** works only when the engine is running and at ambient temperatures above +3°C (+38°F).

Cooling mode **A/C** is switched off when the engine is very hot.

The heating and defrost function are more effective when the engine is warm.

- Switch on the blower.
- Check the fuse of the air conditioning system → page 478.
- Replace the enhanced air filter with activated carbon → page 582.
- If the fault persists, consult a suitably qualified workshop.

### **NOTICE**

If the air conditioning system is not working and is nevertheless still operated, this can cause secondary damage.

- If the air conditioning system does not cool or heat the air, switch it off immediately.
- Have the air conditioning system checked by a suitably qualified workshop.

### Condensation on the windows

Condensation forms on the windows if they are colder than the ambient temperature and the air is very humid. Cold air can absorb less moisture than warm air, which is why condensation frequently forms on windows in cold weather.

1. Keep the air intake in front of the windscreen free from ice, snow and leaves to improve the heating or cooling output → page 586.
2. Switch on the defrost function → page 166.

### The wrong unit of temperature has been set

1. Change the unit of temperature for all temperature displays in

the vehicle using the Infotainment system → page 53.

### Water or water vapour under the vehicle

If the humidity and temperature outside the vehicle are high, condensation can drip off the evaporator in the cooling system and form a pool underneath the vehicle. This is normal and does not indicate a leak.

If the outside humidity is high and the outside temperature low, condensation may evaporate when the auxiliary heater is running. If this is the case, steam may appear underneath the vehicle. The vehicle is not damaged.

### Auxiliary heater cannot be switched on

If you park on a downhill slope with very little fuel in the tank (just above the reserve level), the fuel gauge may be inaccurate and lead to functional restrictions of the auxiliary heater.

When the vehicle is at a standstill, the auxiliary heater can be switch-

ed on up to three times in succession for the maximum operating duration.

The 12-volt vehicle battery will be discharged if the auxiliary heater runs several times for an extended period.

1. Drive the vehicle for an appropriate distance in order to recharge the 12-volt vehicle battery.

### **The interior temperature is slightly higher than expected**

The temperature at which the auxiliary heater heats the vehicle interior could be slightly higher if the temperature selector for the heating and fresh air system or manual air conditioning system was set to the highest setting before the auxiliary heater was switched on. This also depends on the ambient temperature.

### **Noises when the auxiliary heater is switched on**

It is normal for the auxiliary heater to make noises when switched on.

The noise does not indicate a malfunction.

### Information on steering

The steering should be locked every time you leave the vehicle to make it more difficult for the vehicle to be stolen.

#### The steering

The power steering provided by the electromechanical steering system automatically adjusts to the vehicle speed, steering wheel torque and steering wheel angle. The electromechanical steering only functions when the engine is running. If the start/stop system is activated and the engine is switched off, the steering also works.

You will need considerably more strength than normal to steer the vehicle if the power steering is reduced or has failed completely.

#### Electronic steering lock

The steering column is locked if the vehicle key is removed from the ignition lock when the vehicle is stationary. The electronic steering lock does not engage if the vehicle re-

mains in motion for more than approximately 10 seconds after the vehicle key is removed from the ignition lock.

### WARNING

If the power steering is not working, the steering wheel is difficult to turn, which makes it difficult to steer the vehicle.

- Depending on the vehicle's equipment level, the power steering only functions when the engine is running.
- Never let the vehicle roll with the engine switched off.
- Never remove the vehicle key from the ignition if the vehicle is in motion. The steering lock may be activated and you will no longer be able to steer the vehicle.

### NOTICE

When the vehicle is towed, the ignition must be switched on to prevent the steering wheel from locking, and so that the turn signals,

horn, wipers and window washer system can be used.

### Troubleshooting



#### Steering fault

The warning lamp lights up or flashes red.

The electronic steering lock is faulty.

1.  **Do not drive on!** Seek expert assistance.

If the warning light **lights up** red, the steering may be difficult to operate because of a fault in the electromechanical power steering.

If the warning lamp **flashes** red, the steering column cannot be unlocked.



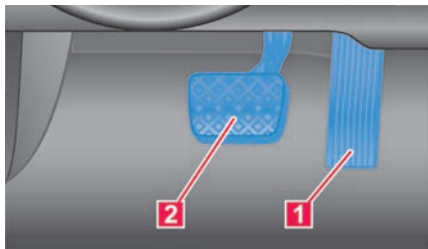
#### Steering fault

The indicator lamp lights up or flashes yellow.

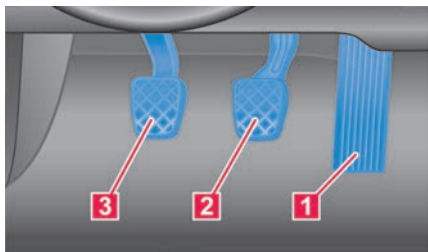
If the indicator lamp **lights up continuously**, restart the engine and drive a short distance slowly. If the indicator lamp continues to light up, go to a suitably qualified workshop.

The indicator lamp **flashes**:

1. Move the steering wheel slightly back and forth.
2. Switch the ignition off and then back on again.
3. Observe the messages on the instrument cluster display.
4. If the indicator lamp still flashes after restarting the vehicle, do not continue to drive. Seek expert assistance.



**Fig. 78** In the footwell: Pedals in vehicles with an automatic gearbox.



**Fig. 79** In the footwell: Pedals in vehicles with a manual gearbox.

- 1** Accelerator.
- 2** Brake pedal.
- 3** *Vehicles with a manual gearbox:* Clutch pedal

### **⚠ WARNING**

Objects in the driver footwell can hinder pedal operation. This can lead to loss of control of the vehicle and increase the risk of serious or fatal injuries.

- Make sure that all pedals can always be operated without any hindrance.
- The floor mats must always be properly secured in the footwell.
- No additional floor mats or other floor coverings should be placed over the fitted floor mat.
- Use only floor mats that are suitable for your vehicle.
- Make sure that no objects can enter the driver footwell while the vehicle is in motion.
- If there are any objects in the footwell, remove them when the vehicle is parked.
- Wear shoes that provide good grip for your feet when using the pedals.


### **⚠ WARNING**

If a brake circuit fails, a larger brake pedal travel will be necessary in order to stop the vehicle. A longer braking distance can result in accidents and serious or fatal injuries.

- Continue pressing the brake pedal and press the pedal with more force than usual if the braking power is reduced.

## Information on the brakes

### Running in brake pads


New brake pads cannot generate the full braking effect during around the first 200 to 300 km (around 100 bis 200 miles) and must first be “run in” → . However, you can compensate for the slightly reduced braking force by applying more pressure to the brake pedal. During the run-in period, the braking distance is longer when the brakes are depressed fully or during emergency braking than with those that have been fully run in. In the run-in period, the brakes should not be depressed fully and situations should be avoided that create a heavy load on the brakes, e.g. when driving up close to the vehicle ahead.


### Brake pad wear


The rate of wear of the brake pads depends to a great extent on the conditions under which the vehicle is operated and the way in which the vehicle is driven. If the vehicle

is used for regular urban trips or short journeys and is driven with a sporty driving style, have the brake pads checked regularly by a suitably qualified workshop.

### External influences on the brake

When driving with wet brakes, for example after driving through water, after heavy rainfall or after washing the vehicle, the braking effect may be delayed as the brake discs will be wet, or possibly iced up (in winter). The brakes must be “dried” as quickly as possible by careful braking at higher speed. Make sure that no following vehicle and no other road user is put at risk as a result of this action → .

Any salt layer accumulating on the discs and pads will delay the braking effect and increase the braking distance. If the brakes on the vehicle have not been applied for a long time on roads that have been gritted with salt, the layer of salt must be reduced through careful braking → .

Corrosion on the brake discs and dirt in the brake pads is facilitated through long periods of inactivity, low mileage and low load levels. If the brake pads have been hardly used, or if they are at all corroded, we recommend that the brake discs and brake pads be cleaned by braking strongly several times from high speed. Please ensure that no other vehicles and no road users are put at risk as a result of this action → .

### WARNING

Driving with worn brake pads or with a faulty brake system can lead to loss of vehicle control, accidents and serious or fatal injuries.

- If you have reason to believe that the brakes are worn down or the brake system is faulty, go to a qualified workshop immediately and have the brake system checked and have any worn brake pads replaced.

**⚠ WARNING**

New brake pads cannot generate the full braking effect during around the first 300 km (around 200 mi) and must first be "run in". Insufficient braking effect can increase the risk of accidents. This can cause severe or fatal injuries.

- Increase the pressure on the brake pedal if you notice that the braking effect is reduced.
- Drive with particular care when driving with new brake pads in order to reduce the risk of accidents, serious injuries and loss of control of the vehicle.
- Never drive too close to other vehicles when running in new brake pads, and never create a driving situation that will place a heavy load on the brakes.

**⚠ WARNING**

Constant braking will cause the brakes to overheat. This can considerably reduce the brake effect, increase the braking distance and,

in certain circumstances, cause the brake system to fail completely. This can cause you to lose control of the vehicle, which can lead to accidents and serious or fatal injuries.

- Never "ride" the brake pedal. Do not overuse the brake pedal.

**⚠ WARNING**

When driving downhill the brakes are placed under particular strain and become hot very quickly. Overheated brakes reduce the braking effect and considerably increase the braking distance. This can cause you to lose control of the vehicle, which can lead to accidents and serious or fatal injuries.

- Before driving down a long, steep gradient, reduce speed by selecting a lower gear of the manual gearbox or in Tiptronic mode of the automatic gearbox.
- Use the engine braking effect to reduce the load on the brakes.
- Before driving off, make sure that the air supply to the brakes

is not obstructed, e.g. by non-standard or damaged front spoilers.

**⚠ WARNING**

Wet brakes or brakes coated with ice or road salt react more slowly and require longer braking distances. This can cause you to lose control of the vehicle, which can lead to accidents and serious or fatal injuries.

- Test the brake carefully.
- Dry brakes and clean off any coating of ice and salt with a few cautious applications of the brake when visibility, weather, road and traffic conditions permit.



If the front brake pads are tested, the rear brake pads should be tested at the same time. Regularly check the thickness of the brake pads through the openings in the rims or from the underside of the vehicle. If necessary, remove the wheels to carry out a comprehen-

sive check. Consult a suitably qualified workshop for additional information.

## Troubleshooting

### Brake system fault

The warning lamp lights up red.

A text message may also be displayed.

### Do not drive on!

1. Seek expert assistance immediately and have the brake system checked.

### Brake pad wear indicator

The indicator lamp lights up yellow.

The front or rear brake pads are worn.

1. Go to a suitably qualified workshop immediately.
2. All brake pads should be checked and renewed as necessary.

### Unusual noises when braking

If you hear scratching or squeaking noises each time you brake, this is an indication that your brake pads on the front and rear axle are worn.

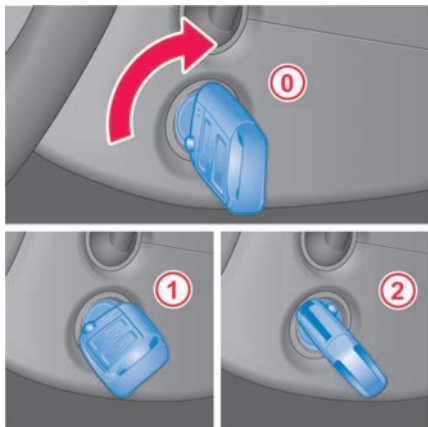
1. Immediately consult a suitably qualified workshop and have the system checked.
2. All brake pads should be checked and renewed as necessary.

### If the braking performance of the vehicle changes

If the brake pads are worn or if you establish that the vehicle is no longer braking in the usual way (e.g. sudden lengthening of the stopping distance), proceed as follows:

1. Immediately consult a suitably qualified workshop and have the system checked.
2. All brake pads should be checked and renewed as necessary.

### Ignition lock



**Fig. 80** Positions of the vehicle key in the ignition lock

Vehicle key positions:

- 0** Ignition switched off. The vehicle key can be removed.
- 1** Ignition switched on. The steering lock can be released. The diesel engine is pre-heated and the indicator lamp  $\infty$  lights up yellow.
- 2** Start the engine. Release the vehicle key as soon as the

engine starts. Once released, the vehicle key moves back to position **1**.

When there is no vehicle key in the ignition lock, the steering column lock may be activated.

#### Unauthorised vehicle key

If an unauthorised vehicle key has been inserted in the ignition lock it can be removed as follows:

Vehicles with an automatic gearbox:

1. Press the lock button in the selector lever and release. The vehicle key can be removed.

Vehicles with a manual gearbox:

1. Pull the vehicle key out of the ignition lock.

#### **⚠ WARNING**

If the vehicle key is left unattended in the vehicle, children or unauthorised persons could lock the doors and the boot lid, start the engine or switch on the ignition and thus operate electrical equipment, such as

the electric windows. This can result in accidents and serious or even fatal injuries.

- Always switch off the engine and take all vehicle keys with you when you leave the vehicle.

#### **⚠ WARNING**


If children, persons requiring assistance or animals are left unattended in the vehicle, they can accidentally set the vehicle in motion or be exposed to very high or low temperatures. There is a risk of accidents and serious or fatal injuries.


- Never leave children, people requiring assistance or animals unattended in the vehicle.

#### **⚠ WARNING**

If the vehicle key is removed from the ignition lock while the vehicle is in motion, the steering lock may engage and you will no longer be able to steer the vehicle. This can result in accidents and serious or even fatal injuries.

- Never remove the vehicle key from the ignition if the vehicle is in motion.
- Always completely unfold the key bit of the vehicle key and lock it in this position.
- Attach only light objects weighing less than around 100 g (around 3.5 oz) to the vehicle key.

 If the vehicle key is left in the ignition for a long period with the engine switched off, the vehicle battery could discharge.


 *Vehicles with an automatic gearbox:* If the vehicle key is removed when a position is engaged, the engine will be switched off. If the vehicle key cannot be removed, select parking lock position **P**. If necessary, press the lock button in the selector lever and then release it.

### Electronic immobiliser

The immobiliser helps to prevent the engine from being started and driven with an unauthorised vehicle key.


There is a chip in the vehicle key. This deactivates the immobiliser automatically when a valid vehicle key is in the ignition lock.

The engine can only be started using a genuine MAN vehicle key with the correct code. Coded vehicle keys are available from a MAN service point.

 The vehicle cannot be operated properly if you do not have a genuine MAN key.

### Ignition bypass circuit


#### Activating ignition bypass circuit

1. Stop the vehicle safely → .
2. Apply the handbrake firmly.
3. Shift manual gearbox into neutral. **When restarting the en-**

**gine, first select a gear and then shift into neutral.**

4. Press and hold the  button.

Then within 3 seconds:

1. Switch off the ignition → page 192 and remove the vehicle key.
2. Release the  button. The yellow indicator lamp in the button lights up.

#### Deactivating engine run lock

1. Switch on the ignition → page 192.

**Or:** start the engine again manually using the vehicle key.

**The ignition bypass circuit is deactivated or switches the engine off automatically if:**

- The engine speed is less than 500 rpm.
- The handbrake is released.
- A gear is selected on the manual gearbox.

**⚠ WARNING**


The exhaust fumes contain carbon monoxide, an odourless and colourless, toxic gas. Carbon monoxide can cause people to lose consciousness. It can also cause death.

- Never leave the engine running in unventilated or enclosed spaces.
- Never leave the vehicle unattended if the engine is running.

**!** When the ignition bypass circuit is active, the convenience opening and closing function is not available. When you leave the vehicle, make sure that all windows are properly closed (anti-theft protection).

**!** The anti-theft alarm does not function when the ignition bypass circuit is switched on.

**Starting the engine**

1. Switch on the ignition → page 192.
2. When the diesel engine is preheated, the indicator lamp  lights up in the instrument cluster.
3. Depress and hold the brake pedal until the handbrake is released.
4. *Vehicles with a manual gearbox:* Fully depress the clutch pedal until the engine has been started. Shift the gear stick to a neutral position.
5. *Vehicles with an automatic gearbox:* Move the selector lever to position **N** or select parking lock **P**.
6. turn the vehicle key further in the ignition lock – do not depress the accelerator.
7. Release the vehicle key once the engine has started.
8. Release the handbrake if you wish to pull away → page 261.

**⚠ WARNING**

Toxic gases can enter the vehicle interior if the engine is started in unventilated or closed spaces. This can cause serious injuries and lead to death by suffocation.

- Never start the engine in unventilated or closed spaces or allow it to run in unventilated or closed spaces, e.g. in garages.

**⚠ WARNING**

Hot components and exhaust gases can ignite combustible or explosive materials located nearby. This can lead to fires and cause serious or fatal injuries.

- Never start the engine or allow the engine to run if oil, fuel or other highly flammable service fluids are close to the vehicle or are leaking from the vehicle.
- Never use start boosters.

**⚠ WARNING**

A vehicle that is left unattended when the vehicle's drive system is

activated can cause accidents and serious injuries.

- Never leave the vehicle unattended with the engine running, particularly if a gear or position has been selected.

### NOTICE

Incorrect vehicle handling can increase component wear (e.g. on the engine or starter) or lead to damage.

- Avoid restarting the engine while the vehicle is in motion or directly after switching off the engine.
- When the engine is cold, avoid high engine speeds, driving at full throttle and overloading the engine.
- Please note that the density of air decreases with increasing altitude and this may make it more difficult to start the engine.

### NOTICE


Unburnt fuel can damage the catalytic converter.


- Do not tow or push the vehicle to start it.


### NOTICE


*Vehicles with ignition lock:* Incorrect vehicle handling can increase component wear, e.g. on the starter, or lead to damage.

- Never use the starter with a gear selected for driving or tow-starting if the engine does not start, e.g. when the fuel tank is empty.
- Refill fuel if necessary → page 445 or obtain jump starting assistance → page 482.
- Seek expert assistance if the engine does not start.

 Do not warm up the engine by running it while the vehicle is stationary. Instead, drive off as soon as there is good visibility through the windows. This helps the engine reach operating temperature faster and reduces emissions.

 Components with a high power consumption are switched off temporarily when the engine is started.

 When starting from cold, the engine may be a little noisy for the first few seconds. This is quite normal, and no cause for concern.

 At outside temperatures of less than +5°C (+41°F), fumes may be detected under a vehicle with a diesel engine if the fuel-powered supplementary heater is switched on.

### Troubleshooting

#### **EPC** Engine management system fault

The indicator lamp lights up yellow.

Fault in engine management system.

1. Observe the text on the instrument cluster.

2. Have the engine checked by a suitably qualified workshop as soon as possible.

### Engine management system fault

The indicator lamp in the instrument cluster lights up.

The indicator lamp lights up yellow.

The vehicle's drive power is limited!

The drive power has been limited to prevent the engine management system components from overheating.

- You can drive on with reduced drive power.

The drive power limitation will be lifted in the following cases:

- The engine management system components are no longer in a critical temperature range.

### Engine speed limited

The indicator lamp lights up yellow.

The engine speed was limited to prevent the engine from overheating.

The engine speed is shown on the instrument cluster display.

The engine speed limitation will be cancelled again in the following cases:

- Engine is no longer in a critical temperature range.
- Foot is taken off the accelerator.

### together with **EPC** engine speed limitation due to fault in the engine management system

The indicator lamps light up yellow.

Engine speed limitation is activated due to a fault in the engine management system.

1. Make sure that the displayed engine speed is not exceeded.
2. Have the engine checked by a suitably qualified workshop as soon as possible.

### Glow plug system or engine management system

The indicator lamp **lights up** yellow.

When the diesel engine is being pre-heated, the indicator lamp lights up in the instrument cluster for a few seconds.

The indicator lamp **flashes** yellow.

There is a fault in the engine management system.

1. Have the engine checked by a suitably qualified workshop as soon as possible.

### **Vehicle key cannot be removed from the ignition lock**

An unauthorised vehicle key has been inserted in the ignition lock.

Remove the vehicle key as follows:

*Vehicles with an automatic gearbox:*

1. Press the lock button in the selector lever and release.

2. Pull the vehicle key out of the ignition lock.

*Vehicles with a manual gearbox:*


1. Pull the vehicle key out of the ignition lock.

### **Engine cannot be started**

A corresponding message will be displayed in the instrument cluster if an unauthorised vehicle key is used or there is a system fault.

1. Use an authorised vehicle key.
2. If the problem persists, seek expert assistance.

### Switching off the engine

1. Bring the vehicle to a standstill → .
2. Park the vehicle → page 260.
3. Switch off the ignition.
4. Follow the instructions in the instrument cluster → page 37.

### Warning when leaving the vehicle

In order to indicate that the vehicle is capable of rolling when leaving the vehicle, an acoustic warning signal sounds when the driver door is opened and corresponding warning messages appear on the display of the instrument cluster.

*Vehicles with an automatic gearbox:* If the selector lever is in the neutral position **N**, an acoustic warning signal will sound when the driver door is opened and the warning message Vehicle not secured against rolling away! will appear on the instrument cluster display. In this way, a warning is given that the vehicle could potentially roll away.

### WARNING

When the engine is switched off, certain vehicle systems do not function or function only to a restricted extent, e.g. brake servo or power steering. As a result, more force has to be used for steering and more pressure has to be applied to the brake pedal to stop the vehicle. If the vehicle is in motion, this can cause loss of control over the vehicle, accidents and serious or fatal injuries.

- Never switch off the engine while the vehicle is in motion.

### WARNING

The airbags and belt tensioners do not function when the engine is switched off. This can result in accidents and serious or fatal injuries.

- Never switch off the engine while the vehicle is in motion.

### WARNING

When the ignition is switched off, the steering lock may activate and

you will no longer be able to steer the vehicle. If the vehicle is in motion, this can cause loss of control over the vehicle, accidents and serious or fatal injuries.

- Never switch off the ignition while the vehicle is in motion.

### WARNING

The components of the exhaust system become very hot and can ignite highly flammable materials, e.g. undergrowth, leaves, dry grass or spilt fuel. This can lead to a fire and cause serious or fatal injuries.


- Always park the vehicle so that no part of the exhaust system can come into contact with highly flammable materials underneath the vehicle.
- Never apply additional under-seal or anti-corrosion coatings to the exhaust pipes, catalytic converters, heat shields or particulate filter.

**NOTICE**


If the vehicle has been driven at high load for a long period, the engine can overheat when it is switched off.

- Allow the engine to run in neutral for approximately 2 minutes before switching it off.

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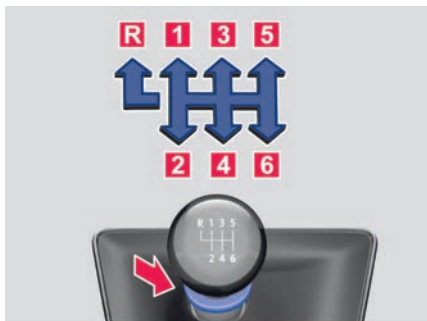
 In vehicles with an automatic gearbox, the vehicle key can be removed from the ignition lock only if the parking lock **P** is engaged.

---

 After the engine is switched off, the radiator fan in the engine compartment may run on for some minutes, even if the ignition is switched off or the vehicle key has been removed. The radiator fan will switch itself off automatically.

---

### Manual gearbox: Selecting a gear



**Fig. 81** Gear shift pattern of a 6-speed manual gearbox

Depending on the vehicle specification, your vehicle may have a 5-speed manual gearbox.

#### Selecting a forward gear

The positions of the individual gears are shown on the gear lever → **Fig. 81**.

1. Fully depress and hold the clutch pedal.
2. Move the gear lever to the required position.
3. Release the clutch to engage.

In some countries, the clutch pedal will have to be depressed fully in order to start the engine.

#### Selecting reverse gear

1. Reverse gear should only be selected when the vehicle is stationary.
2. Fully depress and hold the clutch pedal.
3. Pull the ring on the gear lever upwards and push the gear lever fully to the left and then forwards into the reverse gear position → **Fig. 81 R**.
4. Release the clutch to engage.

#### Shifting down

Shifting down while driving should always be done one gear at a time, i.e. to the next lower gear, and not at high engine speeds. At high speeds or high engine speeds, damage to the clutch and the gearbox could occur if one or more gears are skipped when shifting down, even if the clutch is not released when doing this.

#### **⚠ WARNING**

When a gear is engaged and the clutch pedal released, the vehicle will start moving immediately if the engine is running. This also applies when the electronic park brake has been switched on. Unintentional vehicle movements can cause accidents and serious injuries.

- Never engage reverse gear while the vehicle is in motion.

#### **⚠ WARNING**

Fast acceleration or switching off TCS can lead to a loss of traction and skidding on slippery roads, e.g. in wet or icy conditions or on dirty road surfaces. This can cause you to lose control of the vehicle and lead to accidents and serious or fatal injuries.

- Accelerate quickly only if visibility, weather, road and traffic conditions permit, and other road users are not put at risk due to the acceleration and driving style.

- Always adapt your driving style to suit the traffic flow.

### WARNING

Shifting gears incorrectly to gears that are too low can lead to a loss of control over the vehicle and cause accidents and serious or fatal injuries.

- Always select a suitable gear for the current driving situation.

### NOTICE


Serious damage to the clutch and gearbox could occur if the gear lever is shifted to a gear that is too low or if the clutch pedal is pressed and held and the clutch not engaged when travelling at high speeds or at high engine speeds.

- Always select a suitable gear for the current driving situation.
- Avoid pressing the clutch unnecessarily or for too long.

### NOTICE

If the manual gearbox is not used correctly, this can lead to damage or premature wear.

- Do not rest your hand on the gear lever when driving. The pressure from your hand is passed onto the selector forks in the gearbox.
- Ensure that the vehicle has come to a complete standstill before engaging reverse gear.
- Always release the clutch pedal fully when changing gear.
- Do not hold the vehicle by “riding” the clutch on a hill with the engine running.

 Changing up a gear early will help to save fuel and minimise engine noise.

### Troubleshooting



#### Clutch slipping

The indicator lamp lights up yellow.

Clutch does not transmit the entire engine torque.

1. If necessary, remove foot from clutch pedal.



#### Clutch overheated

The indicator lamp lights up yellow.

An acoustic warning may also be given → page 200.

The clutch can overheat, for example if the vehicle pulls off regularly, travels at a “crawl” for long periods, or in stop and go traffic.

Overheating is indicated by the warning lamp and in some cases by additional warning lamps and a text message in the instrument cluster display.

- Driving can be continued.



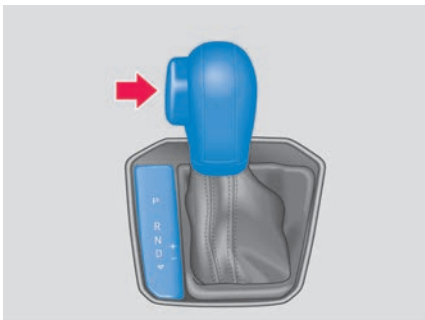
#### **Clutch fault**

The indicator lamp lights up yellow.

The clutch is faulty.

1. **Drive on carefully!**
2. Go to a suitably qualified workshop. Failure to do so could result in considerable damage to the clutch.

## Automatic gearbox: Selecting a position



**Fig. 82** Selector lever for automatic gearbox with lock button (arrow) in left-hand drive vehicles. The controls are mirrored for right-hand drive vehicles.

The selected selector lever position will be shown in the instrument cluster display when the ignition is switched on.

### **P** – Parking lock

The drive wheels are blocked. May only be selected when the vehicle is *stationary*.

To disengage this selector lever position while the ignition is switched on, depress the brake pedal and press the lock button in the selector lever.

### **R** – Reverse gear

Reverse gear is selected. May only be selected when the vehicle is *stationary*.

### **N** – Neutral

The gearbox is in the neutral position. No force is transmitted to the wheels and the braking effect of the engine is not available.

### **D** – Standard forward driving position (Normal programme)

All forward gears are shifted up and down automatically. The timing of the gear shift is determined by the engine load, your individual driving style and the speed of the vehicle.

### Selector lever lock

The selector lever lock prevents a position from being engaged inadvertently, which would cause the vehicle to move unintentionally.

1. To release the selector lever lock, switch on the ignition and press the brake pedal. Then press the lock button in the selector lever handle in the direction of the arrow → **Fig. 82**.

The selector lever lock is not engaged if the selector lever skips position **N**, e.g. when shifting from reverse to **D**. This makes it possible, for instance, to “rock” the vehicle backwards and forwards if it is stuck in snow or mud. The selector lever lock engages automatically if the brake pedal is not depressed and the lever is in position **N** for more than approximately 1 second and the vehicle is travelling no faster than approximately 5 km/h (3 mph).

### **WARNING**

Selecting the wrong position can cause you to lose control of the vehicle and lead to accidents and serious or fatal injuries.

- Never press the accelerator when engaging a gear selector position.
- Never select reverse gear **R** or engage the parking lock **P** when the vehicle is in motion.

### **WARNING**

The vehicle will start moving if the brake pedal is released when the engine is running and position **D/S** or **R** is engaged. This can lead to unintentional vehicle movements and cause accidents and serious injuries.

- The driver must never leave the driver seat when the vehicle's engine is running and a gear selector position has been selected.
- If the engine is running and the selector lever is in gear selector

position **D/S** or **R**, hold the vehicle on the foot brake.

- Always switch on the electronic parking brake and move the selector lever to position **P** if it is necessary to leave the vehicle with the engine running.

### **WARNING**

Selecting the wrong position can cause you to lose control of the vehicle and lead to accidents and serious or fatal injuries.

- Never press the accelerator when engaging a gear selector position.
- Never select reverse gear **R** or engage the parking lock **P** when the vehicle is in motion.

### **WARNING**


If you leave the vehicle on uphill gradients in selector lever position **N**, the vehicle will roll downhill even if the engine is switched on. This can result in accidents and severe injuries.


- Never leave the vehicle in selector lever position **N**.

### **NOTICE**

If the electronic parking brake is not switched on when the vehicle is stationary and the brake pedal is released when the parking lock **P** is engaged, the vehicle may move a few centimetres (inches) forwards or backwards. This can result in damage to the vehicle.

- Always switch on the electronic parking brake first before releasing the brake pedal.

 If you accidentally shift to **N** while driving, immediately take your foot off the accelerator. Wait for the engine to reach idling speed in the neutral position. Only engage a position once this has occurred.

 If the selector lever is not left in the parking lock position **P** for long periods when the engine is switch-

ed off, the 12-volt vehicle battery will discharge.

### Changing gear with Tiptronic

Using Tiptronic, the gears can be shifted up and down manually in an automatic gearbox.



**Fig. 83** Selector lever in Tiptronic position (left-hand drive). The controls are mirrored for right-hand drive vehicles.


The gear that is currently selected will be maintained when the Tiptronic program is selected. This remains the case as long as the sys-


tem does not automatically carry out a change of gear due to the current driving situation.

### Operating Tiptronic with the selector lever

1. Push the selector lever from position **D** to the right into the Tiptronic gate.
2. To shift up or down, tap the selector lever forward **+** or to the rear **-** → Fig. 83.

When tapping the selector lever in the Tiptronic gate, it is not necessary to press the lock button on the selector lever.

 When accelerating, the gearbox automatically shifts up to the next gear shortly before the maximum permitted engine speed is reached.

 When shifting down a gear manually, the gearbox will not change gear until the engine can no longer be overrevved.

### Driving with an automatic gearbox

The gearbox changes the forward gears up and down automatically.

### Driving down hills

The steeper the downhill gradient, the lower the gear that must be selected. Lower gears increase the braking effect of the engine. Never allow the vehicle to roll down mountains or hills in the neutral position **N**.

1. Reduce your speed.
2. Push the selector lever from position **D** to the right into the Tiptronic gate → page 205.
3. Gently push the selector lever to the rear to change down gear.

### Stopping and pulling away on uphill gradients

The steeper the incline, the lower the gear that is required.

If you stop the vehicle on an incline with a position selected, you must always prevent the vehicle from

rolling backwards or forwards by depressing the brake pedal or by applying the handbrake. The brake pedal or the handbrake should not be released until you start to pull away.

#### **Kickdown function**

The kickdown function enables maximum acceleration in the selector lever position **D** or in the Tiptronic position.

If the accelerator pedal is depressed fully, the gearbox will automatically shift to a lower gear, depending on the speed and engine revs. This will make use of the full vehicle acceleration.

The gearbox does not shift up to the next gear until the engine reaches the maximum engine speed for the gear.

#### **⚠ WARNING**

Fast acceleration or switching off TCS or ESC or activation of ESC Sport can lead to a loss of traction and skidding. On slippery

roads in particular, e.g. in wet or icy conditions or on dirty road surfaces, this can lead to loss of control over the vehicle, accidents and serious or fatal injuries.

- Always adapt your driving style to the traffic conditions.
- Only use the kickdown function or fast acceleration if visibility, weather, road and traffic conditions permit, and other road users are not put at risk due to the acceleration and the driving style.
- After acceleration, switch TCS or ESC back on again, or switch ESC Sport off again.

#### **⚠ WARNING**

Constant braking will cause the brakes to overheat. This can significantly reduce the braking effect, increase the braking distance, and even cause a complete brake system failure in certain circumstances. This can result in accidents and serious or fatal injury.

- Never “ride” the brake pedal. Do not overuse the brake pedal.

#### **NOTICE**

The gearbox is not lubricated if the vehicle rolls with the engine switched off. The automatic gearbox could overheat and be damaged.

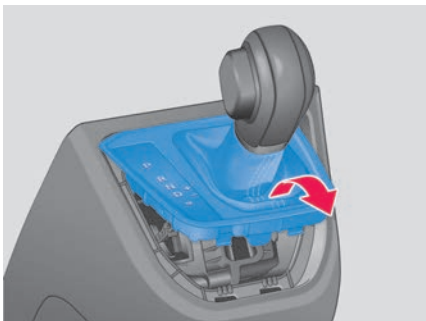
- If you stop the vehicle on an incline while a position is selected, do not attempt to stop it from rolling back by depressing the accelerator.
- Never allow the vehicle to roll in the gear selector position **N**, particularly if the engine is switched off.

#### **NOTICE**

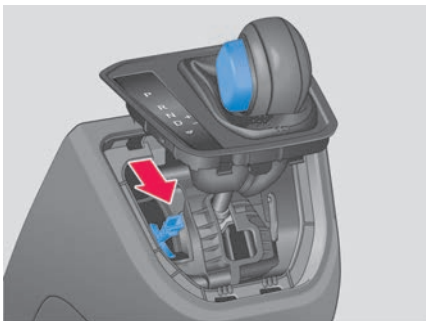
If the brake pads “rub” due to light pressure on the brake pedal, this will increase wear.

- Never let the brakes “rub” by applying light pressure to the brake when it is not necessary to brake.

## Troubleshooting



**Fig. 84** Removing the selector mechanism cover.



**Fig. 85** Releasing the selector lever lock manually.

### Engine does not start

The indicator lamp lights up green.

Brake pedal was not depressed, e.g. when trying to engage another position with the selector lever.

1. To select a gear, press the brake pedal.
2. See also handbrake → page 261.

### Lock button stops vehicle driving off

The indicator lamp flashes green.

The lock button in the selector lever is not engaged.

1. Check whether the lock button is engaged.
2. Engage the lock button if necessary.

### Selector lever lock prevents vehicle driving off

The indicator lamp flashes green. An information text is additionally displayed.

In rare cases, the selector lever lock may not engage in vehicles with an automatic gearbox.

The drive is then deactivated to prevent the vehicle from accidentally pulling away.

1. Press the brake pedal and then release it again.
2. **Or:** move the selector lever to position **N** or engage the parking lock **P**, release and then select a position.

### Gearbox overheated

The indicator lamp lights up yellow.

An acoustic warning may also be given. A text notification may also be shown on the instrument cluster display.

The automatic gearbox can overheat, for example, if the vehicle pulls off regularly, “crawls” for long periods, or in stop and go traffic.

-  **Do not drive on!**

- Allow the gearbox to cool down with the parking lock **P** engaged.
- Do not drive on if the indicator lamp does not go out.
- Seek qualified professional assistance to avoid causing serious gearbox damage.

### Releasing the selector lever lock manually

The manual release mechanism is located under the cover of the gearshift gate.

Removing the cover of the gearshift gate:

1. Apply the handbrake firmly. If the handbrake cannot be applied firmly the vehicle will have to be prevented from rolling off using other means.
2. Switch off the ignition.
3. Carefully pull the cover upwards in the area around the selector lever gaiter with connected electrical wiring → Fig. 84.


4. Pull the cover up and over the selector lever.


Releasing the selector lever lock manually:

1. Push the release lever in the direction of the arrow → Fig. 85 and hold it in this position.
2. Press the lock button on the selector lever and move the selector lever into the neutral position **N**.
3. After manual release, carefully press the cover into the centre console while ensuring that the electrical wires are positioned correctly.

If the power fails in the vehicle (for example if the 12-volt battery is flat) and the vehicle has to be towed, the selector lever lock must be released manually. Seek expert assistance.

### Emergency program

If the automatic gearbox is in emergency mode, a text message is displayed and the yellow indicator lamp  lights up in the instrument

cluster display. Depending on the current system fault, the selector lever position may continue to be displayed. The text message will disappear after a few seconds. The yellow indicator lamp  remains lit up as long as the system fault is present.

1. In all cases the automatic gearbox should be checked by a suitably qualified workshop immediately.

### Vehicle does not move even though position is engaged

If the vehicle will not move in the required direction, the system may have selected the position incorrectly.

1. Depress the brake pedal and reselect the position.
2. If the vehicle still does not move in the required direction, there is a system fault. Seek expert assistance and have the system checked.

**NOTICE**

If the vehicle rolls for an extended period or at high speed with the engine switched off and in gear selector position **N**, the automatic gearbox will be damaged.

- Do not allow the vehicle to roll for an extended period or at high speed with the engine switched off and in gear selector position **N**, e.g. when being towed.

**NOTICE**

If the gearbox becomes too hot or overheats, this can lead to increased wear or damage to the component.

- Avoid moving-off operations and driving at walking pace as long as the gearbox is overheated.
- Drive faster than around 20 km/h (around 12 mph) or park the vehicle in a safe place immediately when a warning is displayed for the first time indicating that the gearbox has overheated.

- Park the vehicle in a safe place immediately and switch off the engine if the text message and acoustic warning are repeated around every 10 seconds.
- Allow the gearbox to cool down.
- Continue driving only when the acoustic warning is no longer emitted.

## Start/stop system



**Fig. 86** In the upper part of the centre console: button for the start/stop system.

The start/stop system automatically switches the engine off when the vehicle is coming to a stop and when stationary. When required, the engine restarts automatically.

### Indicator lamps

If the indicator lamp (A) lights up, the start/stop system is available and automatic engine stop is active.

If the (A) indicator lamp lights up, the start/stop system is not available or the start/stop system has started the engine automatically.

You can find additional information about the start/stop system by pressing the (CAR) button and the (info) function button in the *Vehicle status* menu in the Infotainment system.

### Switching on the start/stop system

The function is automatically activated every time the ignition is switched on. The instrument cluster display will show information about the current status.

Vehicles with a manual gearbox:

1. Disengage the gear and release the clutch pedal when the vehicle is coming to a stop, or when it is stationary. The engine is stopped.
2. Depress the clutch pedal to restart the engine.

Vehicles with an automatic gearbox:

1. To stop, press and hold the brake pedal. The engine switches off shortly before the vehicle reaches a complete standstill or when the vehicle is stationary.

2. Take your foot off the brake pedal or depress the accelerator to restart the engine.

### Important preconditions for automatic engine switch-off

- The driver is wearing their seat belt.
- The driver and front passenger doors are closed.
- The bonnet is closed.
- Engine minimum temperature has been reached.
- *Vehicles with Climatronic:* The temperature of the vehicle interior is within the preset temperature range, and the humidity level is not too high.
- The defrost function of the air conditioning system is not switched on.
- The charging state of the vehicle battery is sufficient.
- The temperature of the vehicle battery is not too low or too high.

- The vehicle is not on a steep incline.
- *Vehicles with an automatic gearbox:* The steering wheel is not turned too sharply.
- Reverse gear is not engaged.
- The Park Assist system is not active.

*Automatic gearbox:* When the conditions for automatic engine switch-off are fulfilled only while the vehicle is stationary, the engine can also switch off subsequently, e.g. after switching off the defrost function.

### Conditions for an automatic restart

The engine can start automatically under the following conditions:

- If the temperature inside the vehicle substantially increases or decreases.
- If the vehicle rolls on.
- If the electric voltage of the 12-volt vehicle battery drops.
- If the steering wheel is moved.


The following applies in general here: the engine always starts again automatically when required by the detected situation and the vehicle.

### Conditions that require a manual engine start


The engine must be started manually in the following conditions:

- If the driver door is opened.
- If the bonnet is opened.


### Activating and deactivating the start/stop system manually

1. Press the  button in the centre console to deactivate the system manually.

If the start/stop system has been deactivated, the indicator lamp in the → Fig. 86 button lights up.

2. Press the  button in the centre console again to activate the system manually once more → Fig. 86.

The instrument cluster shows the status of the start/stop system every time the  button is pressed.

If the start/stop system has switched the engine off, it will start again as soon as the system has been deactivated manually with the  button.

### Start/stop mode when Adaptive Cruise Control (ACC) is active

The engine will be switched off after the Adaptive Cruise Control (ACC) has brought the vehicle to a standstill via an active braking intervention → page 242.

*Vehicles with an automatic gearbox:* the automatic gearbox can shift into coasting mode when Adaptive Cruise Control (ACC) is active.

In the following instances, the engine will restart when the Adaptive Cruise Control (ACC) is active:

- If the accelerator is depressed.

- When the Adaptive Cruise Control (ACC) has resumed speed and distance control.
- If the vehicle ahead has moved on.
- If the Adaptive Cruise Control (ACC) is deactivated and the vehicle ahead moves further away.

#### **WARNING**

The engine can start suddenly if the start/stop system is activated when working in the engine compartment. This can lead to accidents and serious injuries.

- Always deactivate the start/stop system before working in the engine compartment.

#### **WARNING**

When the ignition is switched off, certain vehicle systems do not function or function only to a restricted extent (e.g. brake servo or power steering). As a result, more force has to be used for steering and more pressure has to be applied to the brake pedal to stop the

vehicle. If the vehicle is in motion, this can cause loss of control over the vehicle, accidents and serious or fatal injuries.

- Never switch off the ignition while the vehicle is in motion.

#### **WARNING**

The airbags and belt tensioners do not function when the ignition is switched off. This can result in accidents and serious or fatal injuries.

- Never switch off the ignition while the vehicle is in motion.

#### **WARNING**


When the ignition is switched off, the steering lock may activate and you will no longer be able to steer the vehicle. If the vehicle is in motion, this can cause loss of control over the vehicle, accidents and serious or fatal injuries.


- Never switch off the ignition while the vehicle is in motion.


#### **NOTICE**

If the start/stop system is used in very high outside temperatures over a long period, the 12-volt vehicle battery can be damaged.

- Avoid using the start/stop system at very high outside temperatures.

 The start/stop system may be deactivated automatically if the temperature is above around 38°C (100°F).

 In some cases, it may be necessary to restart the engine manually. Follow any corresponding messages on the instrument cluster display.

 Always deactivate the start/stop system manually when driving through water.

## Troubleshooting

### Engine no longer starts automatically

If the engine no longer starts automatically, a corresponding warning may be displayed on the instrument cluster display.

1. Start the motor manually→ page 194.
2. Deactivate the start/stop system manually.
3. Go to a suitably qualified workshop immediately.

### General notes on driving

#### Think ahead when driving

The fuel consumption will increase if you do not adopt a steady driving style. Keeping a close eye on the traffic can help to avoid frequent acceleration and braking. Keeping a sufficient distance from the vehicle in front will help you to think ahead when driving.

#### Avoid driving at full throttle

The rolling and air resistance increase at excessively high speeds. This in turn increases the force needed to move the vehicle. Never make use of the vehicle's top speed.

#### Observe the tyre pressures

Low tyre pressures does not just mean greater wear, but also increases the rolling resistance of the tyres and thus the fuel consumption. Use optimised rolling resistance tyres.

Adjust the tyre pressure according to the vehicle load:

- Observe the information on the tyre pressure sticker  
→ page 529.
- Tyre Pressure Monitoring System  
→ page 544.

#### Use low viscosity engine oils

Fully synthetic engine oils with low viscosity reduce frictional resistance in the engine and spread better and more quickly, especially for cold starts.

#### WARNING

The engine power may be reduced by lower air density at increasing altitude. Reduced engine power can lead to accidents, e.g. when overtaking. This can result in serious or fatal injuries.

- Always adapt your speed and driving style to the current visibility, weather and road or traffic conditions.

#### WARNING

Lack of attention when driving in traffic can cause accidents and serious or fatal injuries.

- Always observe the current traffic regulations and speed limits and drive with an anticipatory driving style.
- Take regular breaks on long journeys – at least every two hours.

#### WARNING

Alcohol, drugs, medication and narcotics can severely impair perception, reaction times and driving safety. This could cause you to lose control of the vehicle. This can cause accidents and serious or fatal injuries.

- Do not drive under the influence of alcohol, drugs, medicines and narcotics.

## Running in a new engine

A new combustion engine has to be run in during the first 1,500 km (around 1,000 miles). All moving parts should be given the time to get used to running together. During the first few operating hours, the combustion engine has higher internal friction than it does later.

### Up to 1,000 km (around 600 miles):

- Avoid strong acceleration.
- Do not load the combustion engine with more than 2/3 of the top engine speed.
- Do not drive with a trailer attached.

### Between 1,000 and 1,500 km (around 600 to 1,000 miles):

1. Gradually increase speed and engine speed.

The driving style during the first 1,500 km (around 1,000 mi) also af-

fects the engine quality. Even after this time – and especially with a cold engine – drive the vehicle at moderate speeds in order to reduce engine wear and to increase the mileage that the engine can cover.

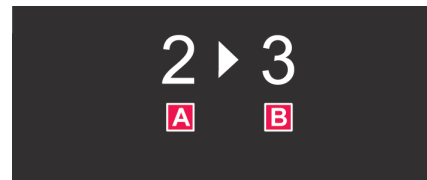
Do not drive at engine speeds that are too low. Always shift down gear if the engine is not running “smoothly”.

New tyres → page 531 and brake pads → page 189 must be run in carefully.



If the new combustion engine is run in gently, its life will be increased and its oil consumption reduced.

## Gear-change indicator



**Fig. 87** On the display of the instrument cluster: Gear-change indicator.

- A** Currently selected gear.
- B** Recommended gear.

Depending on the vehicle equipment, the instrument cluster display may indicate the gear which should be selected to reduce fuel consumption while the vehicle is in motion → Fig. 87.

No recommended gear is indicated if the most suitable gear is already selected. The currently selected gear is displayed.

### Information on “cleaning” the particulate filter


The engine management system recognises when the particulate fil-

ter is becoming clogged and supports regeneration of the particulate filter by recommending the most suitable gear. As an exception compared with normal driving, this may mean driving with an increased engine speed → page 457.

### ⚠ CAUTION

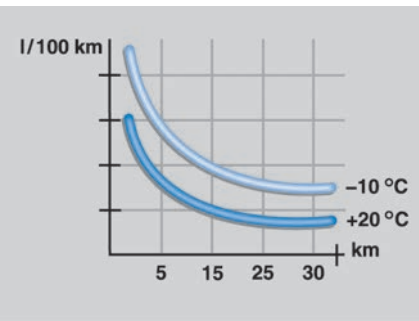
The gear-change indicator is designed only as an aid and is not a substitute for the full concentration and responsibility of the driver. If an unsuitable gear for the driving situation is selected, this can result in accidents and injuries.

- Always select the correct gear for the respective driving situation, e.g. when overtaking or driving up or down hills.

 Driving in the correct gear can help to reduce fuel consumption.

### Economic driving style

Fuel consumption, environmental impact and wear of the engine, brakes and tyres can be reduced by adopting the correct driving style. A few tips are provided below which will help you protect the environment and also save money.



**Fig. 88** Fuel consumption in litres per 100 km at two different outside temperatures.

### Use coasting mode

*Vehicles with an automatic gearbox:* If neither the accelerator nor

brake pedal are pressed in selector lever position **D**, the vehicle will roll (“coast”) almost without any energy consumption.

### Changing gear to save energy

Changing up a gear early at engine speeds of 2,000 rpm saves energy. Do not drive gears to the limit and avoid high revs.

- *Vehicles with a manual gearbox:* change from first to second gear immediately after moving off.
- *Vehicles with an automatic gearbox:* Accelerate slowly and avoid using the kickdown function.
- Observe the gear-change indicator → page 215.
- Use the **ECO** if possible.

### Reduce idling

Pull away immediately with low engine speeds. If you are stopped for a long period, do not allow the engine to idle but switch it off, e.g. when in a traffic jam or at a railway crossing.

In vehicles with an activated start/stop system, the engine can switch off automatically when the vehicle is stopping and when the vehicle is stationary.

### Refuel moderately

A full fuel tank increases the weight of the vehicle. A fuel tank that is half to three quarters full is sufficient for urban journeys in particular.

### Avoid short journeys

A cold engine has very high fuel consumption. They do not reach optimum operating temperature until the vehicle has travelled a few kilometres (miles). The fuel consumption is above average at very low ambient temperatures, e.g. in winter → Fig. 88. Plan journeys economically and combine short journeys.

### Carry out regular maintenance

Regular maintenance is an essential prerequisite for economical driving and increases the service life of the vehicle.

### Do not drive with unnecessary loads in the vehicle

You can reduce consumption by clearing out the load compartment before setting off, for example, by removing empty drink crates or unused child seats.

To keep the air resistance of your vehicle as low as possible, remove any add-on parts and equipment once you have finished using them.

### Save energy

The alternator is driven by the engine and generates electrical power for convenience consumers such as the air conditioning system, windscreen heating and ventilation. Saving electrical power is easy, e.g.:

- Open the windows and doors before driving at high outside temperatures and drive for a short distance with a window open. Only then switch the air conditioning system on.

- Switch the convenience consumers off as soon as they have served their purpose.


### WARNING


Adapt your speed and distance from the vehicles ahead to suit visibility, weather, road and traffic conditions.

### NOTICE

The gearbox is not lubricated if the vehicle rolls down mountains or hills in neutral position **N**. The automatic gearbox could overheat and be damaged.

- Do not allow the vehicle to roll in neutral position **N**, particularly if the engine is switched off.

 For more information on proper maintenance and replacement parts that are particularly energy-efficient, e.g. new tyres, contact a qualified workshop.

 In vehicles equipped with active cylinder management (ACT®), engine cylinders can be automatically deactivated in driving situations with low power requirements. When a cylinder is deactivated, no fuel is injected into that cylinder, which leads to an overall reduction in fuel consumption.

### Driving a loaded vehicle

For good vehicle handling when driving a loaded vehicle, please observe the following:

- Stow the entire load securely → page 407.
- Accelerate particularly cautiously and carefully.
- Avoid sudden braking and driving manoeuvres.
- Brake earlier than in normal driving.
- If necessary, refer to information about the roof load carrier → page 440.

- If applicable, observe the information about driving with a trailer → page 428.
- If applicable, observe the information about driving with a bicycle carrier → page 438.

### WARNING

Shifting loads can severely impair the vehicle's stability and driving safety and lengthen the braking distance in the event of braking hard or emergency braking. This can cause accidents and serious or fatal injuries.

- Secure objects properly to prevent them from sliding.
- Use suitable straps when securing heavy objects.
- Securely engage the rear seat backrests and, if applicable, the reclining rear seats.

### Driving with open wing doors

Driving with open wing doors is particularly dangerous.

1. To reduce the amount of any toxic gases entering the vehicle, secure all objects and the open wing doors properly and take suitable measures.

Make sure you observe any legal requirements when driving with open wing doors.

### WARNING

If the vehicle is driven with the boot lid unlocked or open, loose objects can fall out of the vehicle and strike road users following behind. This can result in accidents and serious or even fatal injuries.

- Always drive with the boot lid closed.
- Always stow all items securely in the load compartment.
- Always drive carefully and be prepared for the unexpected.
- Avoid any abrupt or sudden driving and braking manoeuvres as this can cause the open boot lid to move unpredictably.

- If it is necessary to drive with the boot lid open, any luggage carrier fitted and its load must be removed from the boot lid.

### WARNING

Objects that project out of the load compartment change the length of the vehicle and may endanger other road users. This can result in accidents and serious or even fatal injuries.

- Observe legal requirements.
- Any objects protruding from the luggage compartment must be marked to ensure that they are visible to other road users.
- Never use the boot lid to jam or hold objects in position.

### WARNING

Among other things, exhaust fumes contain carbon monoxide, an odourless and colourless toxic gas. When driving with an open boot lid and a closed convertible top, toxic exhaust gases can enter the vehicle interior and lead to un-

consciousness, carbon monoxide poisoning, accidents and serious or fatal injuries.

- Close all windows.
- Switch off air recirculation mode.
- Open all vents in the dash panel.
- Switch the blower to the highest blower speed.
- Always drive with the boot lid closed if the load can be transported with the boot lid closed.

### NOTICE

The vehicle height, and possibly the length, are different when the boot lid is open. This can cause damage to the vehicle if you do not drive with due care.

- Pay attention to the changed exterior dimensions, e.g. when driving through underpasses.

### NOTICE


The vehicle dimensions change when the wing doors are open.

This can result in damage to your vehicle and other vehicles.

- Pay attention to the increased length and width of your vehicle when manoeuvring.
- Do not open the boot lid in very confined spaces.

### Driving through water on roads

Please follow these rules to help prevent damage to your vehicle when driving through water, for example if the road is flooded:

- Check the depth of the water before driving through it. The water level must be **no higher** than the lower edge of the vehicle body → .
- Do not drive faster than walking speed.
- Never stop the vehicle, reverse or switch off the engine while in water.
- Oncoming vehicles will create waves that could increase the water level for your vehicle to

such an extent that it is not safe to drive through the water.

- Always deactivate the start/stop system manually when driving through water.

#### **⚠ WARNING**

After driving through water, mud, slush etc., the brakes may react slowly and the braking distance will be increased as the brake discs and pads will be wet, or possibly iced up in winter.

- Dry the brakes and clean off any coating of ice and salt with a few cautious applications of the brake. Make sure that you do not endanger any other road users or violate any legal requirements while doing this.
- Avoid abrupt and sudden braking manoeuvres directly after driving through water.

#### **NOTICE**

If you drive through water, parts of the vehicle, such as the running

gear and vehicle electrics, could sustain severe damage.

- Never drive through salt water as salt can cause corrosion. Rinse all components that have been exposed to salt water immediately with fresh water.

#### **Using the vehicle in other countries and continents**

The vehicle has been manufactured specifically for a particular country and complies with the registration regulations that applied in that country at the time of vehicle production.

If you want to use the vehicle abroad for a short period, all relevant information and instructions should be followed → page 64.

If the vehicle is going to be sold in another country or used in another country for an extended period, the legal requirements applicable in that country must be observed.

In some cases, certain equipment will have to be fitted or removed and functions deactivated. The service scope and service types could also be affected. This is particularly important if the vehicle is driven in another climate region for a long period of time.

The factory-fitted Infotainment system may not work abroad because different frequency bands are used in different countries.

#### **NOTICE**

- MAN is not responsible for any vehicle damage caused by low-quality fuel, inadequate servicing work or lack of genuine parts.
- MAN cannot be held responsible if the vehicle does not comply with or only partly complies with the relevant legal requirements in other countries and continents.

### Hill Start Assist

The Hill Start Assist function actively holds the vehicle when pulling away on an uphill gradient.

**The Hill Start Assist function is automatically activated if the following conditions are met**

*Vehicles with a manual gearbox*

The following conditions must be met simultaneously:

- On an uphill gradient, the stationary vehicle must be held in position with the foot brake until you move off.
- The engine is running “smoothly”.
- The clutch pedal is fully depressed and you have shifted into first gear to drive forwards up a hill or into reverse gear if you want to reverse up a hill.

1. In order to start moving, remove your foot from the brake pedal, then release the clutch pedal (clutch engages) and press the accelerator simultaneously.

The brake will be gradually released as the clutch is engaged. If the accelerator is not immediately depressed, the brake disengages autonomously after a few seconds.

*Vehicles with an automatic gearbox*

The following conditions must be met simultaneously:

- On an uphill gradient, the stationary vehicle must be held in position with the foot brake until you move off.
- The engine is running “smoothly”.
- The position **D** or reverse gear has been selected.

1. To start moving, remove your foot from the brake pedal and press the accelerator immediately.

The brake will gradually be released as the vehicle pulls away.

**The Hill Start Assist function will be deactivated immediately:**

- As soon as one of the conditions listed above is not fulfilled.
- If the driver door is opened.
- If the engine is not running smoothly or there is an engine fault.
- If the engine is switched off or has stalled.
- *Vehicles with an automatic gearbox:* If the gear selector lever is in the neutral position **N**.

### CAUTION

If you do not drive off immediately after releasing the brake pedal, the vehicle may roll backwards. This can lead to injuries or damage.

- In this case, press the brake pedal immediately or switch on the electronic parking brake.
- Press the brake pedal for a few seconds before driving off if you want to prevent the vehicle from rolling backwards when driving off in heavy traffic on an incline.


### Hill Descent Control

The Hill Descent Control system automatically brakes all four wheels to limit the speed when driving forwards and reversing on steep downhill gradients. The wheels will not lock as the anti-lock brake system remains active. In vehicles with a manual gearbox, Hill Descent Control adjusts the target speed so that the engine speed does not drop below the idling speed.

If you enter a downhill slope travelling at a speed under 30 km/h (19 mph), the vehicle speed will be limited to a minimum of 2 km/h (1 mph) and a maximum of 30 km/h (19 mph). The driver can increase or reduce the speed at any time within the specified speed limits by accelerating or braking.



However, a prerequisite here is that the road surface offers sufficient grip. Hill Descent Control cannot perform its intended function on an icy or slippery slope, for example.

### Hill Descent Control is active if the following conditions are met:



- The engine is running.
- The speed is under 30 km/h (19 mph) (the  indicator lamp in the instrument cluster display lights up).
- The downhill gradient is at least 10% when driving forwards or 9% when reversing.
- You do not brake or accelerate.

Control is deactivated if the speed exceeds 30 km/h (19 mph), if the driver brakes or accelerates or if the downhill gradient is less than 5%. The regulation restarts once the requirements are met again.

### Switching Hill Descent Control on and off:

1. To switch on Hill Descent Control, press the  button in the centre console at speeds under approximately 30 km/h (19 mph). The  indicator lamp in the instrument cluster display lights up.

The indicator lamp *flashes* when the Hill Descent Assist system is applying the brake.

2. To switch off Hill Descent Control, press the  button in the centre console again. The  indicator lamp in the instrument cluster display goes out.

### WARNING

Hill Descent Control is not a substitute for the full attention of the driver and operates only within the limits of the system. Hill Descent Control cannot detect all driving situations and may not react or may react with a delay or in an undesired way. If you do not pay due attention, there is a risk of accidents due to unintentional vehicle movements. This can cause severe or fatal injuries.

- Always remain alert and do not rely solely on the system. The driver is always responsible for all driving tasks.
- Please note that Hill Descent Control cannot always hold the

vehicle on an uphill gradient or sufficiently brake the vehicle on downhill gradients, e.g. on slippery or icy surfaces.

- Brake the vehicle manually if the vehicle becomes faster in spite of Hill Descent Control.
  - Ensure that your speed and driving style are always appropriate for the current visibility, weather and road/traffic conditions.
-

### Introduction

You can also drive all-wheel drive vehicles offroad in addition to on normal roads. It is very important to read the contents of this section before driving offroad.

The examples stated in this chapter must be understood as general guidelines that are intended to help the driver to drive safely when driving off-road. However, it is not possible to predict whether these guidelines will be valid for all situations that could occur. Before driving in unknown terrain, it is crucial to obtain knowledge about the characteristics of the terrain ahead. This will enable you to assess potential danger in advance. The driver is responsible for deciding whether the vehicle is suitable for the terrain in question and whether it is possible to drive through the terrain.


Driving off-road demands different skills and driving styles in comparison to driving on roads.


The vehicle is not built for “expeditions”.


Switch off the driver assist and parking systems when driving off-road.


### Checklist

Prior to driving off-road for the first time, please follow these steps to be able to operate and drive the vehicle off-road:

- ✓ Observe the basic safety notes  → page 224.
- ✓ Adjust the seat position so that you have a good view to the front. Fasten seat belts → page 61.
- ✓ Always wear suitable, well-fitting shoes that provide good grip for your feet when using the pedals.

 A responsible driver should respect the environment when driving offroad. Remember that driving through undergrowth and on meadows can destroy animal and plant habitats.

 Leaking service fluids due to vehicle damage can pollute the environment. Collect any service fluids that escape or are spilled and dispose of them correctly and with respect for the environment.

 Take suitable accessories and equipment with you when driving offroad.

### Safety notes for offroad driving

 Please refer to  and  on page 224.

### WARNING

ABS and ESC are not a substitute for the full attention of the driver and operate only within the limits of the respective system. They were developed exclusively for driving on surfaced roads. ABS and ESC are unsuitable for offroad use. If you do not pay due attention, there is a risk of accidents and serious or even fatal injuries.

- Always remain alert and do not rely solely on the systems. The driver is always responsible for all driving tasks.
- Always adjust your speed and driving style to suit the terrain conditions. In spite of ABS and activated ESC, difficult ground conditions can still lead to vehicle instability, e.g. if the vehicle is braked hard or when cornering.

### WARNING

Traversing slopes can be dangerous. The combined centre of gravity of the vehicle and its payload (vehicle occupants and payload) can shift and cause the vehicle to roll over and roll down the incline. This can cause damage to the vehicle, accidents and serious or fatal injuries.

- Never choose a dangerous route and do not take any risks.
- Turn around and choose another route if you are not able to

continue or if you are unsure about the safety of the route.

- Explore the terrain ahead of you on foot beforehand even if it seems easy to drive over.
- Drive particularly carefully and think ahead when driving off-road.
- Never drive faster than the current terrain, road conditions, traffic and weather allow.

### WARNING

Driving too fast over embankments, ramps or slopes can lead to the vehicle losing contact with the ground. If the wheels are not pointing straight ahead when the vehicle lands, it could roll over. This can result in loss of control of the vehicle and lead to accidents and serious or fatal injuries.

- Do not drive too fast when driving offroad.
- If the vehicle does lose contact with the ground, always point the front wheels straight ahead.

### WARNING

Terrain that looks harmless can be very dangerous and put the vehicle occupants at risk. Potholes, hollows, ditches, precipices, obstacles, shallows, soft and boggy surfaces are often not recognisable as such and can be covered either fully or partly by snow, water, grass or branches lying on the ground. Driving over such terrain can cause the vehicle to break down and result in accidents and serious or fatal injuries.

- Check any unknown offroad sections on foot carefully before driving over this terrain.
- Never choose unsafe routes and do not take any risks.
- Turn around and choose another route if you are unsure about the safety of the route.
- Always adjust your speed and driving to match vehicle load levels and visibility, terrain and weather conditions.

#### **WARNING**

Sport utility vehicles have a higher centre of gravity and are more prone to rolling over than a normal on-road vehicle which is unsuited for offroad driving. This can cause accidents and serious or fatal injuries.

- Make sure that all vehicle occupants have fastened their seat belts. In the event of an accident, vehicle occupants not wearing seat belts are subjected to a considerably higher risk of fatal injury than those wearing seat belts.
- Never drive too fast, particularly through corners.
- Do not perform any extreme driving manoeuvres.
- Always adjust your speed and driving style to suit the terrain conditions.

#### **WARNING**

Loads and other items transported on the roof of the vehicle raise the

centre of gravity and will make the vehicle more likely to roll over. This can cause accidents and serious or fatal injuries. → page 227.

- If possible, stow loads and other objects in the load compartment. Stow heavy loads and objects as low down as possible.

#### **WARNING**

The vehicle can tip over or become unstable when driving on slopes or inclined banks. This can result in accidents and serious or even fatal injuries.

- Always avoid traversing a slope.
- Never exit the vehicle via the doors that are facing downhill when parked sideways on a steep hill. The combined centre of gravity of the vehicle and its payload (vehicle occupants and payload) can shift and cause the vehicle to roll over and roll down the incline. Always leave the vehicle slowly

via the doors which open up the incline.

#### **WARNING**

The driver assist systems were designed for use on surfaced roads only. The driver assist systems are not suited to driving offroad and therefore may even be dangerous. This can result in loss of control of the vehicle and lead to accidents and serious or fatal injuries.

- Never use the driver assist systems when driving offroad.

#### **WARNING**

Driving the vehicle when the fuel level is too low could lead to your vehicle breaking down offroad, accidents and serious injuries.

The steering and brake support systems will not function if the engine sputters or stops completely due to a lack of fuel or irregular fuel supply. This can cause accidents and serious or fatal injuries.

- Fill up with sufficient fuel before driving offroad.

### NOTICE

During sudden rain showers, water can enter the vehicle interior via open windows and cause damage to the vehicle.

- Always keep the windows closed when driving the vehicle offroad.

### Explanation of technical terms

📖 Please refer to ⚠️ and ! on page 224.

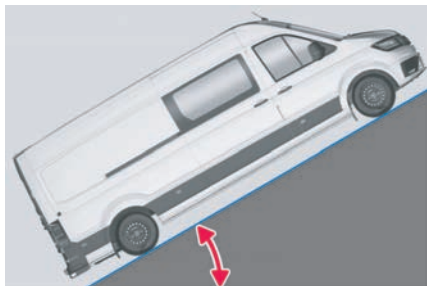


Fig. 89 Diagram: Angle of gradient.

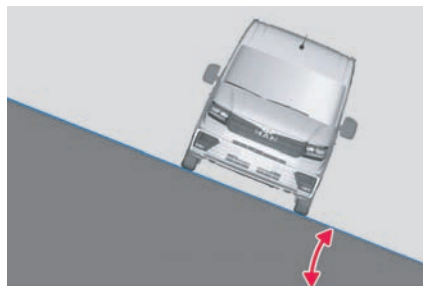


Fig. 90 Diagram: Tilt angle.

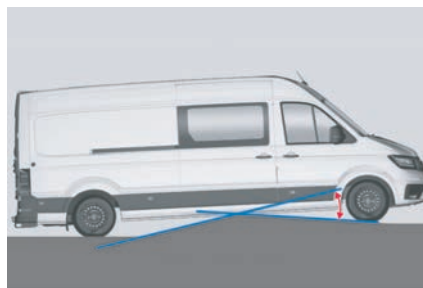


Fig. 91 Diagram: Breakover angle.

**Centre of gravity** The centre of gravity of a vehicle influences its propensity to roll over. The vehicle has greater ground clearance for offroad driving, and thus a higher centre of gravity than a “normal” vehi-

cle. The high centre of gravity means that there is an increased risk of the vehicle rolling over when in motion. Always remember this fact when driving and follow the safety tips and warnings given in this owner's manual.

**Ground clearance** This is the vertical distance between the level ground and the lowest item on the vehicle.

**Gradient angle** The number of metres in height gained over a distance of 100 m (gradient) will be given as a percentage or degree → Fig. 89. Indication of gradient that the vehicle can drive up under its own power. The maximum gradient angle that the vehicle can overcome depends among other things on the road surface and engine power.

**Inclination angle** Maximum angle at which the vehicle may be driven across a slope without the vehicle tipping over (de-

pendent on the centre of gravity) → Fig. 90.

**Breakover angle** Maximum permitted angle given in degrees that a vehicle driven at low speed can clear a ramp without the underbody of the vehicle bottoming on the ramp → Fig. 91.

**Ramp angle** Crossover from the horizontal level surface to an uphill gradient, or from a downhill gradient back to the level surface. Maximum permitted angle given in degrees that a vehicle can clear a ramp without the underbody of the vehicle scraping the ramp.

**Fall line** This is the vertical drop route.

**Axle articulation** The vehicle's torsional flexibility when driving over objects with just one side of the vehicle.

### Checklist “Before driving offroad”

📖 Please refer to ⚠️ and ! on page 224.

#### Checklist

To ensure your own safety and the safety of your passengers, observe the following points before driving offroad:

- ✓ Inform yourself sufficiently about the nature of the terrain ahead before you drive into the terrain.
- ✓ Fill the tank up to the maximum capacity. Fuel consumption is considerably higher offroad.
- ✓ Check that the tyre tread of all tyres and the tyre type are suitable for the planned offroad trip.
- ✓ Check the tyre pressure of all tyres and adjust as required.
- ✓ Check engine oil level and refill engine oil as necessary. Engine oil will be supplied to the engine when driving at an incline only if the engine oil level is high enough.

- ✓ Completely refill the washer fluid reservoir with water and washer fluid.
- ✓ Pack the load in the vehicle as evenly and as low as possible. Secure all loose items.

### General rules and driving tips

📖 Please refer to ⚠️ and ! on page 224.

- MAN recommends never driving off-road alone. You should only drive offroad with at least two offroad vehicles driving as a team. Unexpected situations can always occur. We recommend that you carry equipment you can use for calling for help.
- Stop your vehicle when you reach difficult sections and check the route ahead on foot.
- Drive slowly over the crests of hills so the vehicle does not lose contact with the ground as this could cause damage, possibly leaving you unable to manoeuvre.

- Drive slowly when the route is difficult. Shift up a gear when on slippery ground and always keep the vehicle in motion.
- The ground is predominantly soft when driving offroad meaning the tyres could sink into the ground. This will reduce ground clearance and the wading depth. If possible, always drive on flat and firm ground.
- Even when driving at low speeds, always keep your distance from other vehicles. If the first vehicle suddenly gets stuck, the following vehicle can stop without getting stuck.

### NOTICE

When driving on uneven terrain, the clutch may be pressed accidentally. This interrupts the power connection between the engine and gearbox, and driving with a slipping clutch can lead to rapid wear of the clutch linings and loss of control over the vehicle.

- Do not slip the clutch or rest your foot on the clutch when driving offroad.

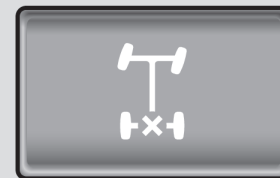
### NOTICE

If the vehicle bottoms on the ground, this can cause serious damage to the underbody. This damage could cause the vehicle to break down and thus make it impossible to drive on.

- Always ensure that there is enough ground clearance underneath the vehicle.

### Differential lock



📖 Please refer to ⚠️ and ! on page 224.



**Fig. 92** In the centre console: button for the differential lock (illustration).

The differential lock ensures a mechanically rigid connection between the wheels on the rear axle so that it is not possible for there to be a difference in the rotational speeds of the wheels. When driving off-road, the differential lock improves traction in difficult terrain conditions, e.g. holes or surfaces with poor grip and when the vehicle is driving uphill → ⚠️.

### Engaging the differential lock

1. Press the button → **Fig. 92** while travelling at a low vehicle speed.
2. The yellow indicator lamp  flashes and an acoustic signal also sounds. The yellow indicator lamp  lights up continuously after a short time and the differential lock is engaged.

If the ignition is switched off when the differential lock is engaged, the differential lock will be switched off automatically and must be engaged again if necessary when the ignition is switched on again.

### Switching off the differential lock

1. Press the → **Fig. 92** button.
2. The yellow indicator lamp flashes. After release of the tension forces in the drive train, the yellow indicator lamp goes out and the differential lock is disengaged.

### Situations in which the differential lock must not be engaged

- If you are driving on surfaced roads, e.g. asphalt → page 230.
- If the vehicle is being towed.
- When the drive wheels are spinning.
- If the brakes are being tested on a rolling road test bed.
- When the spare wheel is not the same as the other tyres mounted on the vehicle → page 537.

### **WARNING**

The steering ability of the vehicle is very restricted when the differential lock is engaged. This could mean that you lose control over the vehicle and cause serious injuries.

- Never engage the differential lock when driving on well-surfaced roads or when the vehicle is being towed.


### **NOTICE**

If the differential lock is engaged, the axles, gearbox and drive shaft


will be subjected to stresses, loading and damage during cornering.

- Never engage the differential lock when driving on surfaced roads.

---

 If the differential lock is switched off when driving through a bend, this may cause a small shudder to pass through the vehicle. This is caused by the release of tension forces in the drive train. This is normal and is not a indication of damage to the vehicle.

---

 If you drive through bends with the differential lock engaged, the wheels “rub” on the road surface. You might be able to hear this. The “rubbing” of the tyres – especially on solid ground – will lead to increased wear on the tyres.

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## Introduction

Depending on equipment, the vehicle has driver assist systems that increase comfort and convenience when driving. Some of these driver assist systems use sensors or cameras (also referred to below generally as “sensors”) for operation. These are visible to you in some cases and in other cases not.

The sensors and cameras detect the vehicle surroundings optically or using radar waves.

### Installed sensors

Depending on equipment, the following sensors may be installed:

- Radar sensor at the front of the vehicle.
- Radar sensors at the rear of the vehicle.
- Camera behind the windscreen.

! Further information on the respective locations can be found in the vehicle overviews → page 12.

### ⚠ WARNING

The driver assist systems cannot replace the driver’s attention and operate only within the limits of the respective system. The driver assist systems cannot detect all driving situations and may not react or may warn or react with a delay or in an undesired way. If you do not pay due attention, there is a risk of accidents and serious or even fatal injuries.

- Always remain alert and do not rely solely on the system. The driver is always responsible for all driving tasks.
- Observe the limits of the sensors and the system limits of the individual systems.
- Adapt your speed and distance from the vehicles ahead to suit visibility, weather, road and traffic conditions.

- Be ready at all times to override or cancel automatic interventions.
- Observe the information on the instrument cluster display and respond according to the displays if permitted by the traffic situation.
- Do not use the driver assist systems if you suspect there is a problem or damage.

### Limits of the sensors

📖 **Please refer to ⚠ at the start of the chapter on page 231.**

#### Limits of the radar sensors

Driver assist systems that use the radar sensors can react unexpectedly, with a delay or not at all in the following situations:

- Driving in poor weather conditions, e.g. heavy rain, snow or heavy spray.
- Driving through road works, tunnels or toll stations.

- Driving on twisting roads, e.g. mountain roads
  - Crests and dips in the road.
  - Driving off-road
  - Driving in multi-storey car parks.
  - Driving on roads with embedded metal objects, e.g. railway tracks.
  - Driving on roads with loose chip-pings
  - In complex driving situations, e.g. at traffic islands.
  - If components in the area of the radar sensors are exposed to external force, e.g. after a rear-end collision.
  - If the radar sensors are covered, dirty, displaced or damaged.
- Driving off-road
  - Driving in poor weather conditions, e.g. heavy rain, snow, fog or heavy spray and poor road conditions.
  - When the sun is low in the sky, in darkness or with glare from oncoming vehicles.
  - If the camera is temporarily unavailable due to prolonged exposure to direct sunlight or high ambient temperatures.
  - If the camera window is covered, dirty or damaged.
  - If the camera is displaced.

#### Limits of the camera behind the wind-screen

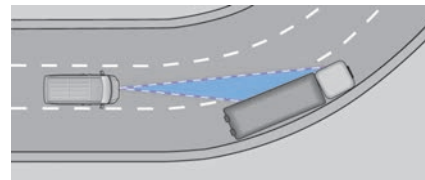
Driver assist systems that use the camera behind the windscreen can react unexpectedly, with a delay or not at all in the following situations:

- Crests and dips in the road.
- Driving through road works.

#### Delayed response

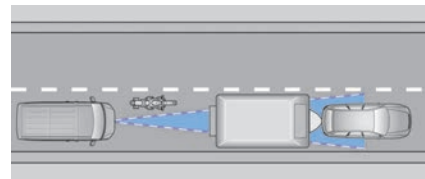
If the sensor system is exposed to environmental conditions that impair sensor functioning, the driver assist systems may detect this only after a certain delay. For this reason, any restrictions to functions may be displayed only after a delay at the start of the journey and when driving .

#### Limits in certain driving situations



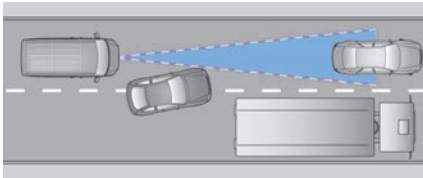
**Fig. 93** Driving through bends.

The sensor system always measures straight ahead. For this reason, vehicles may be incorrectly detected or vehicles driving ahead not detected in tight bends.



**Fig. 94** Narrow vehicle.

Vehicles that are driving outside the sensor range in close proximity to your vehicle, e.g. motorbikes, cannot be detected.



**Fig. 95** Vehicle changes lane.

Vehicles that change into your lane directly in front of your vehicle cannot be detected. This also applies to vehicles with bodies or attachments that project beyond the vehicle.

### Specific system limits

In addition to the limits of the sensors, each driver assist system has additional, functional system limits. Also observe these:

- Adaptive Cruise Control (ACC)  
→ page 243.
- Autonomous Emergency Braking (Front Assist) → page 249.
- Lane keeping system (Lane Assist) → page 253.
- Blind Spot Monitor → page 257.

### Introduction

The cruise control system helps to maintain a speed set by the driver.

### Speed range

The cruise control system is available when driving forwards at speeds of approx. 30 km/h (around 20 mph) and above.

### Driving with the cruise control system

You can exceed the stored speed at any time, e.g. to overtake. Control is interrupted for the duration of the acceleration manoeuvre and is then resumed with the stored speed.

### Displays

When the cruise control system is switched on, the instrument cluster display shows the stored speed and the status of the cruise control system:



Cruise control system switched on.



Shown large or white: Cruise control system switched on, control active.



Shown small or grey: Cruise control system switched on, control not active.

If no speed is stored, the instrument cluster display shows --- instead of the speed.

### Changing gear

Cruise control is interrupted as soon as you press the clutch pedal and is resumed automatically after the gear change.

### Driving downhill

The vehicle cannot maintain the stored speed in all driving situations. Always be prepared to brake the vehicle.

1. Shift down before extended downhill stretches.

In this way you will make use of the engine braking effect and relieve the load on the brakes.

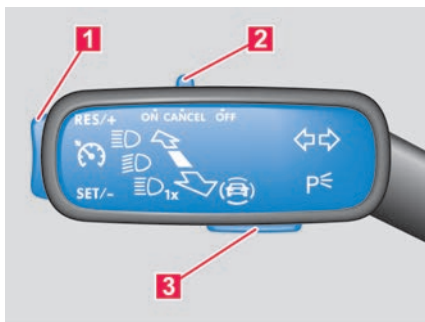
### WARNING

The use of the cruise control system can lead to accidents and serious injuries or even death if traffic does not allow you to drive at a safe distance from the vehicle in front at a constant speed.

- Adapt your speed and distance from the vehicles ahead to suit visibility, weather, road and traffic conditions. The driver is responsible for the vehicle speed at all times.
- Never use the cruise control system in heavy traffic, if the distance to the vehicles in front is insufficient, on steep or winding roads, on slippery road surfaces (e.g. due to snow, ice, wet roads, loose chippings) or on flooded roads.
- Never use the cruise control system when driving off-road or on unpaved road surfaces.

## Operating the cruise control system with the turn signal lever

📖 Please refer to ⚠️ at the start of the chapter on page 234.



**Fig. 96** On the left-hand side of the steering column: switch and buttons for operating the cruise control system.

### Switching on

1. Move switch → **Fig. 96 2** to position **ON**.

No speed has been stored yet and the speed is not yet controlled.

### Starting control

1. Press button → **Fig. 96 1** in the area **SET/-** while driving.

The cruise control system stores and regulates the current speed.

### Adjusting the speed

You can adjust the stored speed using the → **Fig. 96 1** button while the cruise control system is regulating speed:

- + **1 km/h** (1 mph): Press button → **Fig. 96 1** in the area marked **RES/+**.
- **1 km/h** (1 mph): Press button → **Fig. 96 1** in the area marked **SET/-**.

Press and hold the → **Fig. 96 1** button to continuously change the stored speed. The vehicle adapts the current speed, but does not actively brake.

### Cancelling control

1. Move switch → **Fig. 96 2** to **CANCEL** position.

**Or:** Depress the brake pedal.

The speed is stored in the memory.

### Restarting control

1. Press button → **Fig. 96 1** in the area marked **RES/+**.

The cruise control system resumes operation with the stored speed and regulates the speed again.

### ⚠️ WARNING

There is an accident risk if you resume a stored speed unintentionally, or if the stored speed is too high for the prevailing road, traffic and weather conditions. This can cause serious injuries or death.

- Check that the stored speed suits the prevailing road, traffic and weather conditions before you resume regulation.
- Switch off the cruise control system if you do not need it.

### Switching off

1. Move switch → Fig. 96 2 to position **OFF**.

The cruise control system is switched off and the stored speed is deleted.

### Changing to the speed limiter

1. Press the → Fig. 96 3 button.

The cruise control system is switched off.

### Operating the cruise control system via the multifunction steering wheel

📖 Please refer to ⚠ at the start of the chapter on page 234.




**Fig. 97** Left-hand side of the multifunction steering wheel.

### Switching on

1. Press the  button.

No speed has been stored yet and the speed is not yet controlled.


### Starting control


1. While driving, press the  button.


The cruise control system stores and regulates the current speed.


### Adjusting the speed



You can adjust the stored speed while the cruise control system is regulating the speed:

+ **1 km/h** (1 mph): Press the  button.

- **1 km/h** (1 mph): Press the  button.



+ **10 km/h** (5 mph): Press the  button. Pressing it for the first time switches to the next highest 10 km/h or 5 mph interval:

- **10 km/h** (5 mph): Press the  button. Pressing it for the first time switches to the next lowest 10 km/h or 5 mph interval:

Press and hold the  or  button to continuously change the stored speed.

The vehicle adapts the current speed, but does not actively brake.

**Cancelling control**

1. Briefly press the  or  button.

**Or:** Depress the brake pedal.

The speed is stored in the memory.

**Restarting control**

1. Press the  button.

The cruise control system resumes operation with the stored speed and regulates the speed again.

**⚠ WARNING**

There is an accident risk if you resume a stored speed unintentionally, or if the stored speed is too high for the prevailing road, traffic and weather conditions. This can cause serious injuries or death.

- Check that the stored speed suits the prevailing road, traffic and weather conditions before you resume regulation.

- Switch off the cruise control system if you do not need it.

**Switching off**

1. Press the  button.

The cruise control system is switched off and the stored speed is deleted.

**Changing to the speed limiter**


1. Press the  button.

The cruise control system is switched off.

**Troubleshooting**

 **Please refer to  at the start of the chapter on page 234.**

**Cruise control system fault**

Malfunction. The indicator lamp lights up. The yellow central warning lamp  also lights up.

1. Switch off the cruise control system and go to a suitably qualified workshop.

**Control is interrupted automatically**

- You have kept the clutch depressed for an extended period.
- The vehicle has exceeded the stored speed for an extended period.
- The driver has not selected a position for driving forwards.
- Brake support systems (e.g. TCS or ESC) have performed a control intervention.
- The vehicle was braked by Autonomous Emergency Braking (Front Assist).
- If the problem persists, switch off the cruise control system and go to a suitably qualified workshop.

### Introduction

The speed limiter helps you to stop exceeding a selected speed.

### Speed range

The speed limiter is available when driving forwards at speeds of approx. 30 km/h (around 20 mph) and above.

### Driving with the speed limiter

You can interrupt the speed limiter function at any time by fully depressing the accelerator beyond the point of resistance. As soon as the stored speed is exceeded, the green indicator lamp will flash and an acoustic warning may sound. The speed is stored in the memory.

The speed control function switches back on automatically as soon as the speed drops back below the stored speed.

### Displays

When the speed limiter is switched on, the instrument cluster display shows the stored speed and the status of the speed limiter:



Speed limiter switched on.



Shown large or white:  
Speed limiter switched on,  
control active.



Shown small or grey:  
Speed limiter switched on,  
control not active.

### Driving downhill

The vehicle cannot maintain the stored speed in all driving situations. Always be prepared to brake the vehicle.

1. Shift down before extended downhill stretches.

In this way you will make use of the engine braking effect and relieve the load on the brakes.

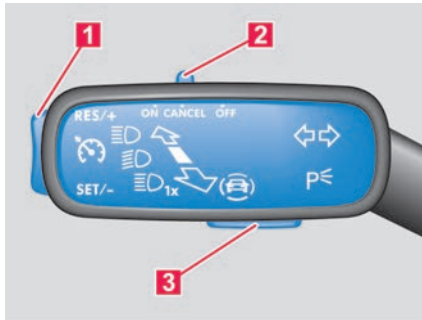
### WARNING

Use of the speed limiter in adverse weather conditions is dangerous and can cause accidents and serious injuries or even death.

- Ensure that your speed is always appropriate for the current visibility, weather and road/traffic conditions. The driver is responsible for the vehicle speed at all times.
- Do not drive at full throttle if it is not required.
- Never use the speed limiter on slippery roads, e.g. as a result of aquaplaning, snow, ice or leaves.
- In order to avoid unintentional control interventions, switch off the speed limiter when you do not need it.

## Operating the speed limiter with the turn signal lever

📖 Please refer to ⚠ at the start of the chapter on page 238.



**Fig. 98** On the left-hand side of the steering column: switch and buttons for operating the speed limiter.

### Switching on

1. Slide switch → **Fig. 98 2** into position **ON**.

No speed is stored. No control yet.

### Starting control

1. Press button → **Fig. 98 1** in the area marked **SET/-** while driving.

The current speed is stored as the maximum speed.

### Adjusting the speed

You can adjust the stored speed by means of the → **Fig. 98 1** button:

- + 1 km/h (1 mph): Briefly press button → **Fig. 98 1** in the area marked **RES/+**.
- 1 km/h (1 mph): Press button → **Fig. 98 1** in the area marked **SET/-**.

Press and hold the → **Fig. 98 1** button to continuously change the stored speed.

### Cancelling control

1. Slide switch → **Fig. 98 2** into position **CANCEL**.

The speed is stored in the memory.

### Restarting control

1. Press button → **Fig. 98 1** in the area marked **RES/+**.

### Switching off

1. Slide switch → **Fig. 98 2** into position **OFF**.

The speed limiter is switched off and the stored speed is deleted.

### Switching to other driver assist systems

Depending on equipment, you can switch to the following driver assist systems:

- Cruise control system.
  - Adaptive Cruise Control (ACC).
1. Press the → **Fig. 98 3** button.
  2. Select the desired system on the instrument cluster display.

The speed limiter is switched off.

### Operating the speed limiter via the multifunction steering wheel

📖 Please refer to ⚠️ at the start of the chapter on page 238.




**Fig. 99** Left-hand side of the multifunction steering wheel.

#### Switching on

1. Press the  button.

No speed is stored. No control yet.





#### Starting control



1. While driving, press the  button.

The current speed is stored as the maximum speed.

#### Adjusting the speed

You can adjust the stored speed:

- + 1 km/h (1 mph): Press the  button.
- 1 km/h (1 mph): Press the  button.
- + 10 km/h (5 mph): Press the  button. Pressing it for the first time switches to the next highest 10 km/h or 5 mph interval:
- 10 km/h (5 mph): Press the  button. Pressing it for the first time switches to the next lowest 10 km/h or 5 mph interval:

Press and hold the  or  button to continuously change the stored speed.

#### Cancelling control

1. Press the  or the  button.

The speed is stored in the memory.

#### Restarting control

1. Press the  button.


#### Switching off

1. Press and hold the  button.

The speed limiter is switched off and the stored speed is deleted.

#### Switching to other driver assist systems

Depending on equipment, you can switch to the following driver assist systems:

- Cruise control system.
  - Adaptive Cruise Control (ACC).
1. Press the  button.
  2. Select the desired system on the instrument cluster display.
- The speed limiter is switched off.

## Troubleshooting

📖 Please refer to ⚠ at the start of the chapter on page 238.

### Control is interrupted automatically

Fault or malfunction.

1. Switch off and restart the engine.
2. If the problem persists, switch off the speed limiter and go to a suitably qualified workshop.

For safety reasons, the speed limiter switches itself off completely only when you release the accelerator once or switch off the system manually.

### Introduction

The Adaptive Cruise Control (ACC) maintains a speed selected by the driver. If the vehicle approaches a vehicle in front, the ACC automatically adapts the speed so that a distance you have selected is maintained.

### Does my vehicle have the ACC function?

The vehicle is equipped with ACC if you can adjust the ACC settings in the Assist systems menu in the Infotainment system.

### Speed range

You can set a speed between 30 km/h (20 mph) and 160 km/h (100 mph). This speed range may differ depending on country.

### Driving with Adaptive Cruise Control

You can override the ACC at any time. Control will be cancelled if you brake. If you accelerate, the

system will be interrupted for the duration of the acceleration process and will then continue again at the set speed.

Control by the ACC is less dynamic when towing a trailer → page 428.

### Driver intervention prompt



The ACC will send a message to the instrument cluster telling you to apply the brake if the ACC's automatic deceleration is insufficient, or if the system limits are reached. In addition, the red warning lamp lights up and an acoustic warning is given. Take control of the vehicle and be prepared to apply the brakes!

### WARNING

ACC is not a substitute for the full attention of the driver and operates only within the limits of the system. ACC cannot detect all driving situations and may not react or may react with a delay or in an undesired way. If you do not pay due atten-

tion, there is a risk of accidents and serious or even fatal injuries.

- Always remain alert and do not rely solely on the system. The driver is always responsible for all driving tasks.
- Observe the system limits → page 243.
- Adapt your speed and distance from the vehicles ahead to suit visibility, weather, road and traffic conditions.
- Take control of the vehicle immediately if requested to do so by a prompt on the instrument cluster display or if the speed reduction by ACC is not sufficient.
- Apply the brakes if the vehicle starts rolling unintentionally, e.g. after a driver intervention prompt.

## Special driving situations

📖 Please refer to  at the start of the chapter on page 242.

The functions described below are dependent on the equipment level and are not available in all countries.

### Overtaking

If you indicate left (left-hand traffic: indicate right) to overtake, ACC can accelerate the vehicle and thus reduce the distance from the vehicle in front. The system will not exceed the speed you have stored.

If the ACC has not detected a vehicle in front once you have changed lanes, the ACC will accelerate the vehicle up to the selected speed.

### Braking to a standstill

In vehicles with an automatic gearbox, the ACC can brake the vehicle to a standstill behind a vehicle in the front. The driver's vehicle is then held stationary for approximately 1.5 seconds. The vehicle

then releases the brake and rolls forward.

## System limits of ACC

📖 Please refer to  at the start of the chapter on page 242.

### Limits of the sensors


ACC detects driving situations by means of the radar sensors at the front of the vehicle. The range of the radar sensor is up to approximately 120 m (around 400 ft).

## WARNING

If you use ACC in driving situations that are outside the system limits, this could result in accidents and serious injuries as well as violations of legal regulations.

- Observe the limits of the sensors → page 231 and cancel control in the specified situations.

### When not to use the ACC

Due to the system-related limitations, ACC is not suitable for use in the following driving situations. To cancel control → :

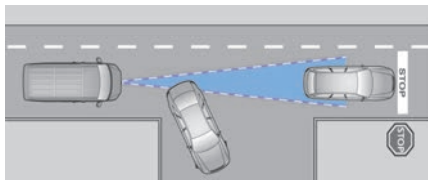
- On roads with more than one lane, if other vehicles are driving more slowly in the overtaking lane.

### Objects that cannot be detected

ACC only detects vehicles moving in the same direction as your vehicle. The following are not detected:

- Persons
- Animals
- Stationary vehicles.
- Crossing or oncoming vehicles
- Other stationary obstacles

### Turning and stationary vehicles



**Fig. 100** Turning and stationary vehicle.

If a stationary vehicle is hidden behind a vehicle that has been detected by Adaptive Cruise Control (ACC) and this vehicle turns off the road or changes lane, ACC will not react to the stationary vehicle → **Fig. 100**.

### Switching ACC on and off

📖 Please refer to ⚠ at the start of the chapter on page 242.



**Fig. 101** Left-hand side of the multifunction steering wheel.

#### Switching on

1. Press the  button.

ACC is not yet performing a control intervention.

#### Starting control

1. Press the **SET** button while driving forwards.

The ACC stores the current speed and maintains the selected distance. If the current

speed is outside the defined speed range, ACC will set the minimum speed (when driving more slowly than the limit) or maximum speed (when driving faster than the limit).

Depending on the driving situation, the following indicator lamps light up:



ACC is regulating the speed.



ACC control active, no vehicle detected ahead.



ACC control active, vehicle in front detected.

#### Cancelling control

1. Briefly press the  button.

**Or:** Depress the brake pedal.

The indicator lamp corresponding to the driving situation lights up, and the speed and distance remain stored.

Control is automatically cancelled if the traction control system (TCS) is deactivated.

### Restarting control

1. Press the **RES** button.

The ACC adopts the last stored speed and gap. The instrument cluster display shows the set speed and the indicator lamp corresponding to the driving situation lights up.

### Switching off

1. Press and hold the **OFF** button.

The set speed will be deleted.

### Changing to the speed limiter

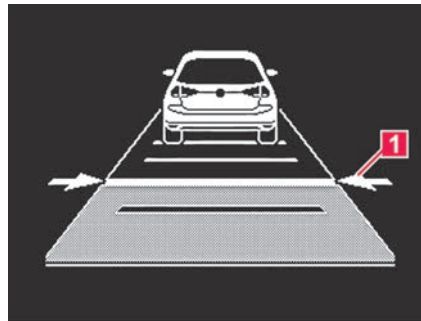
1. Press the **SEL** button.
2. Select the speed limiter on the instrument cluster display.

Adaptive Cruise Control is switched off.

### Adjusting ACC

 Please refer to  at the start of the chapter on page 242.

### Adjusting the distance



**Fig. 102** On the instrument cluster display: set distance **1**, ACC regulating (illustration).

You can set the distance in five steps from very small to very large:

1. Press the **SET** button.
2. Press the **+** or **-** button.

**Or:** press the **SET** button repeatedly until the required distance is set.

The instrument cluster display shows the chosen distance setting → Fig. 102 **1**. Note the country-specific regulations regarding the minimum distance.

In the vehicle settings of the Infotainment system, you can choose whether you want to start control with the distance set at the end of the journey or a preselected distance → page 53.


If the ACC is not controlling the distance, the set distance and vehicle are not highlighted on the instrument cluster display.


### Adjusting the speed



Using the buttons on the multifunction steering wheel, you can adjust the stored speed within the specified speed range as follows:

**+ 1 km/h (1 mph):** Press the **RES** button only when ACC is regulating the speed.

**- 1 km/h (1 mph):** Press the **SET** button only when ACC is regulating the speed.

+ **10 km/h** (5 mph): Press the  button. Pressing it for the first time switches to the next highest 10 km/h or 5 mph interval:

- **10 km/h** (5 mph): Press the  button. Pressing it for the first time switches to the next lowest 10 km/h or 5 mph interval:

Press and hold the  or  button to continuously change the stored speed.

#### **WARNING**

ACC may not detect all driving situations correctly. If you do not maintain the minimum distance to a vehicle in front or if the difference in speed between the vehicle in front and your own vehicle is so great that the braking action of the ACC is insufficient, you are in danger of colliding with the vehicle in front. This can cause serious injuries or death.

- Always be prepared to brake the vehicle yourself.

- Press the accelerator to override Adaptive Cruise Control. In this case, the ACC will not brake the vehicle automatically.
- Observe any country-specific regulations regarding the minimum distance between vehicles.
- Maintain a larger gap in wet weather, snow or poor visibility.

#### Adjusting the way the ACC responds

You can decide how sporty the response of the ACC should be:

1. Select your preferred gearbox programme in the vehicle settings menu of the Infotainment system.

#### Troubleshooting

 **Please refer to  at the start of the chapter on page 242.**



**! ACC not available**

The indicator lamp lights up yellow.

- The radar sensor is dirty. Clean the radar sensor → page 589.
- The radar sensor's range has been impaired by the weather, e.g. by snow, or residue/layers of cleaning agent. Clean the radar sensor → page 589.
- The radar sensor's range is obstructed by add-on parts, trim frame for number plate holders or stickers. Keep the area around the radar sensor clear → page 597.
- The radar sensor has been displaced or damaged, e.g. due to damage to the front of the vehicle. Check whether damage is visible → page 597.
- Fault or malfunction. Switch off and restart the engine.
- Painting work or structural modifications have been performed on the front of the vehicle.
- If the problem persists, go to a suitably qualified workshop.

**ACC does not function as expected**

- The radar sensor is dirty. Clean the radar sensor → page 589.
- The system limits have been exceeded → page 243.
- The brakes have overheated, control was cancelled automatically. Leave the brakes to cool and check them again.
- If the problem persists, go to a suitably qualified workshop.

**Control cannot be started**

Make sure the following conditions are met:

- *Vehicles with a manual gearbox:* A forward gear other than first gear is selected and the speed is at least 25 km/h (16 mph).
- *Vehicles with an automatic gearbox:* A forward gear has been engaged and the speed is at least 5 km/h (3 mph).
- The brake lights on the vehicle are working.

- The brake lights on the electrically connected trailer are in working order.
- ESC is not performing a control intervention.
- The brake pedal is not depressed.

**Unusual noises during automatic braking**

This is normal and is not a fault.

### Introduction

The Autonomous Emergency Braking (Front Assist) system can detect imminent frontal collisions and issue corresponding warnings. The system can also assist when braking and initiate automatic braking.

Front Assist can help to avoid accidents, but is not a substitute for the full concentration of the driver.

Front Assist functions only within the system limits. The warning times vary depending on the traffic situation and driver behaviour.

### **Detectable objects**

Front Assist can detect stationary vehicles and vehicles moving in the same direction as you.

### **Driving with Front Assist**

You can cancel the automatic braking interventions by steering or pressing the accelerator.

### **Automatic braking**

Front Assist can decelerate the vehicle to a standstill. The vehicle will not remain stationary. Depress the brake pedal!

The brake pedal will feel harder during an automatic braking manoeuvre.

### **WARNING**

Front Assist is not a substitute for the full attention of the driver and operates only within the limits of the system. Front Assist cannot detect all driving situations and may not react or may react with a delay or in an undesired way. If you do not pay due attention, there is a risk of accidents and serious or even fatal injuries.

- Always remain alert and do not rely solely on the system. The driver is always responsible for all driving tasks.
- Observe the system limits → page 249.

- Adapt your speed and distance from the vehicles ahead to suit visibility, weather, road and traffic conditions.
- You should consider cancelling the automatic interventions by Front Assist if necessary.
- If Front Assist issues a warning, brake the vehicle immediately if the traffic allows or avoid the obstacle.

### **Warning levels and braking intervention**

 **Please refer to  at the start of the chapter on page 248.**

### **Speed ranges**

Front Assist provides assistance in the following maximum speed ranges:

- Reaction to vehicles: around 5 km/h (around 3 mph) to around 250 km/h (around 155 mph).

The assistance may include an advance warning, automatic braking

or a braking intervention. A distance warning may also be displayed.

### Influencing factors

Whether and in what speed range Front Assist reacts to the specified objects depends on the following factors:

- Type of object.
- Direction of travel of the object.
- Speed of the object.
- Speed of the vehicle.

The operating range may therefore be restricted if the vehicle approaches an object very quickly and there is therefore little time for a reaction.

In addition, not all warning levels are used in all situations. Depending on the vehicle speed, there may not be an advance warning or an urgent warning. Instead, automatic braking may take place immediately in order to ensure optimum protection for the object.

### Distance warning



Front Assist detects when safety is endangered due to driving too close to the vehicle in front.

The indicator lamp lights up. Increase the distance.

### Advance warning



Front Assist detects a possible collision and prepares the vehicle for possible emergency braking.

An acoustic warning sounds and the red warning lamp lights up. Brake or take evasive action!

### Automatic braking

Front Assist can brake the vehicle automatically in several stages with increasing braking force. The reduced speed may help to minimise the severity of an accident.

### Braking intervention

If the system detects that you are braking insufficiently when there is


a risk of collision, Front Assist can increase the braking force and help prevent a collision. The braking intervention takes place only for as long as you press the brake pedal hard.

### System limits of Front Assist

 **Please refer to  at the start of the chapter on page 248.**

### Limits of the sensors

Front Assist detects driving situations by means of the radar sensor at the front of the vehicle. The range of the radar sensor is up to approximately 120 m (around 400 ft).

 Observe the limits of the sensor system → page 231. Always pay due attention and intervene yourself if necessary.

#### After vehicle start



Front Assist is not available or only available to a limited extent directly after the vehicle has been started or if the system is restarted. The white indicator lamp lights up in the instrument cluster display during this time.

#### Objects that cannot be detected

Front Assist cannot react – or will react with a delay – in the case of the following objects:

- Oncoming vehicles or vehicles crossing your path.
- Pedestrians.
- Cyclists.


#### Function limitations

In addition to the situations specified in the section on the limits of the sensors, Front Assist may not react or may react with a delay or in an undesired way in the following situations, among others:

- Reversing.
- If TCS is switched off.

- If ESC is performing a control intervention.
- If several brake lights on the vehicle are defective.
- If there is a fault in at least one brake light on a trailer or bicycle carrier with an electrical connection to the vehicle.
- If the vehicle accelerates strongly or the accelerator is fully depressed.
- In unclear traffic situations, e.g. vehicles ahead are braking heavily or turning off.
- If there is a fault in Front Assist.

#### Switching off Front Assist

Front Assist is not suitable for use in the following situations due to the limitations of the system and must be switched off → :

- If the vehicle is utilised in a capacity beyond usage on public roads, e.g. offroad or racing tracks.
- If the vehicle is being towed or is loaded onto another vehicle.

- If the radar sensor is covered by any auxiliary equipment, e.g. auxiliary headlights.
- If the radar sensor is faulty.
- If components in the area of the radar sensor are exposed to external force, e.g. after a rear-end collision.
- In the event of multiple unwanted interventions.

#### WARNING

If you use Front Assist in the situations mentioned, this can cause accidents and serious injuries or even death.

- Switch off Front Assist in the specified situations.

#### Operating Front Assist

 Please refer to  at the start of the chapter on page 248.

Front Assist and the advance warning (country-dependent) are automatically switched on after around

15 seconds when you switch on the ignition.



However, Front Assist is not available or only available to a limited extent as long as the indicator lamp is lit.

MAN recommends that Autonomous Emergency Braking (Front Assist) and the distance and advance warnings are switched on at all times. Exceptions → page 249.

### Switching on and off

You can switch Front Assist on and off manually and view the current activation status.

On the display of the instrument cluster:

1. Press the  button.
2. Switch Front Assist on or off.

Depending on the equipment, in the Infotainment system → page 53:

1. Open the Assist systems menu.
2. Switch Front Assist on or off in the corresponding submenu.



The advance warning and distance warning are also switched off if you switch off Front Assist. The yellow indicator lamp lights up in the instrument cluster display.

### Adjusting the distance and advance warnings

When Front Assist is switched on, you can adjust the distance and advance warnings as follows:

1. Switch the desired function on and off in the Assist systems menu of the Infotainment system → page 53.

### Troubleshooting

 **Please refer to  at the start of the chapter on page 248.**



### Front Assist is starting

The indicator lamp lights up.

- Front Assist is temporarily not available or only available to a limited extent. Front Assist is available after driving straight

ahead for a short time, and the indicator light goes out. When the vehicle is not moving, the indicator lamp lights up continuously.

### Front Assist is not available, the radar sensor does not have sufficient visibility

- The radar sensor is dirty. Clean the radar sensor → page 589.
- The radar sensor's range has been impaired by the weather, e.g. by snow, or residue/layers of cleaning agent. Clean the radar sensor → page 589.
- The radar sensor's range is obstructed by add-on parts, trim frame for number plate holders or stickers. Keep the area around the radar sensor clear → page 597.
- The radar sensor has been displaced or damaged, e.g. due to damage to the front of the vehicle. Check whether damage is visible → page 597.

- Painting work or structural modifications have been performed on the front of the vehicle.
- If the problem persists, switch off Front Assist and go to a suitably qualified workshop.

**Front Assist does not function as expected or is triggered unnecessarily several times**

- The sensors are not working correctly. Check remedies for sensors that are not available or whose availability is restricted → page 251.
- The system limits have been exceeded → page 249.
- If the problem persists, switch off Front Assist and go to a suitably qualified workshop.

## Introduction

Within the system limits, the lane keeping system (Lane Assist) helps the driver to stay in lane. The function is not designed to keep the vehicle in lane automatically, nor is it suited to this purpose.

If your vehicle moves too close to a recognised road lane marking, Lane Assist will warn the driver with a corrective steering intervention. The corrective steering intervention can be overridden by the driver at any time.

### Speed range

When road lane markings can be detected, Lane Assist is ready to intervene at speeds above around 60 km/h (around 35 mph) (system status active).

## WARNING

Lane Assist is not a substitute for the full attention of the driver and

operates only within the limits of the system. Lane Assist cannot detect all driving situations and may not react or may react with a delay or in an undesired way. If you do not pay due attention, there is a risk of accidents and serious or even fatal injuries.

- Always remain alert and do not rely solely on the system. The driver is always responsible for staying in lane.
- Observe the system limits → page 253.
- Adapt your speed and distance from the vehicles ahead to suit visibility, weather, road and traffic conditions.
- Your hands should always be on the steering wheel so that you can steer at any time.
- Immediately override any undesired intervention by the system by steering.
- Observe the information on the instrument cluster display and respond according to the


prompts, if permitted by the traffic situation.

## System limits of Lane Assist

 **Please refer to  at the start of the chapter on page 253.**

### Limits of the sensors

Lane Assist detects road lane markings by means of the camera behind the windscreen.

 Observe the limits of the camera → page 231. Always pay due attention and intervene yourself if necessary.

### Road lane markings not recognised or incorrectly recognised

Lane Assist is not able to correctly recognise all lane markings. If road lane markings are not recognised or are incorrectly recognised as such, Lane Assist may not provide any control assistance or may perform undesired interventions. In addition to the situations stated for

the camera limits, this can also happen in the following situations, among others:

- If there are no road lane markings present.
- With a very dynamic driving style.
- Away from motorways and good main roads.
- On poor road surfaces, when there are road structures or objects present.
- If there are reflections or glare effects.

Always pay attention and intervene yourself and override an undesired system intervention immediately if necessary. Switch off Lane Assist temporarily if necessary.

#### Lane Assist not available

The system is not available under the following conditions (passive system status):

- The vehicle speed is under 55 km/h (approximately 32 mph).

- Lane Assist has not detected a road lane marking.
- On tight bends
- Temporarily if the driving style is very dynamic.
- When a turn signal is switched on before changing lane manually.
- If the driver steers to override a system intervention.
- If the driver does not react to a driver intervention prompt.

#### Interference

#### WARNING

The effectiveness of systems can be severely inhibited if components and systems are retrofitted, e.g. by second stage manufacturers. The proper functioning of systems may therefore be impaired or adapted in vehicles with add-ons and modifications. There is a risk of accidents and serious or even fatal injuries.

- Have the correct operation of the systems confirmed by the second stage manufacturer.

### Driving with Lane Assist

 Please refer to  at the start of the chapter on page 253.

#### Switching on and off

Depending on the country, Lane Assist is always switched on when the ignition is switched on. You can also switch Lane Assist on and off manually and view the current system status.


On the display of the instrument cluster:

1. Press the  button.
2. Switch Lane Assist on or off.

On the Infotainment system  
→ page 53:

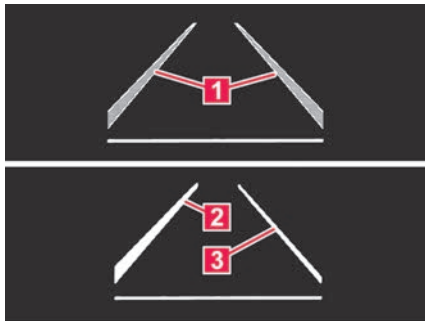
1. Open the Assist systems menu.
2. Switch Lane Assist on or off in the corresponding submenu.

---

 If there is a system fault, Lane Assist can switch itself off automatically.

---


## Displays




**Fig. 103** On the display of the instrument cluster: Lane Assist display (illustration).

- 1** Lane markings detected. System not regulating.
- 2** Lane markings detected. System regulates on the side displayed.
- 3** The system is not ready to perform control intervention. Depending on equipment, the white line is displayed as a thin line or is not shown at all.

Depending on the driving situation, the following indicator lamps light up:

 Lit up: System is active and ready to perform control intervention.

Flashing: System controls (corrective steering intervention).

 Lit up: System is switched on but not ready to perform control intervention (system status is passive)

### Driver intervention prompt

If there is no steering activity, Lane Assist prompts you to drive in the middle of the lane by means of acoustic warnings and a display on the instrument cluster.

Lane Assist switches to the passive state if you do not react.

Independently of steering activity, you are also prompted to drive in the middle of the lane by means of a display on the instrument cluster and acoustic warnings if the cor-

rective steering intervention takes place for an extended time.

### Steering wheel vibration

The following situation can cause the steering wheel to vibrate:

- The system can no longer detect a lane during a major steering intervention.

You can also select the *Vibration or Steering wheel vibration* option in the *Assist systems* menu on the Infotainment system. In this case, the steering wheel will vibrate if the vehicle drives across a detected road lane marking when Lane Assist is active.

#### Troubleshooting

📖 **Please refer to ⚠️ at the start of the chapter on page 253.**

#### ⚠️ Lane Assist not available

The indicator lamp lights up yellow.

- The camera window is dirty.  
Clean the windscreen  
→ page 586.
- The view of the camera is impaired due to the weather conditions, e.g. snow, or due to detergent deposits or coatings. Clean the windscreen → page 586.
- The view of the camera is impaired by add-on parts or stickers. Keep the area around the camera window clear  
→ page 597.
- The camera has been displaced or damaged, e.g. due to damage to the windscreen. Check whether damage is visible → page 597.
- The camera was automatically deactivated due to high ambient temperature or long periods of direct sunlight. When the camera

is available again, Lane Assist is also available again. Switch off and restart the engine.

- Fault or malfunction. Switch off and restart the engine.
- If the problem persists, go to a suitably qualified workshop.



It may take several seconds before a system error is detected once the ignition is switched on.

---

#### The system behaves differently than expected

1. Do not attach any objects to the steering wheel.

## Introduction

The Blind Spot Monitor assists the driver when checking for traffic behind the vehicle.

Radar sensors behind the rear bumper cover monitor the area behind the vehicle. The system measures the distance and speed difference in relation to other vehicles and informs the driver by means of visual signals in the glass of the exterior mirrors.

Use the Blind Spot Monitor only on surfaced roads.

### Speed range

When switched on, the Blind Spot Monitor is active from a speed of around 15 km/h (around 9 mph).

## WARNING

The Blind Spot Monitor is not a substitute for the full attention of the driver and operates only within the limits of the system. The Blind Spot Monitor cannot recognise all

driving situations or all objects in the surroundings and may possibly not react or may react with a delay or when not desired. If you do not pay due attention, there is a risk of accidents and serious or even fatal injuries.


- Always remain alert and do not rely solely on the system. The driver is always responsible for all driving tasks and lane changes.
- Observe the system limits → page 257.
- Adapt your speed and distance from the vehicles ahead to suit visibility, weather, road and traffic conditions.
- Your hands should always be on the steering wheel so that you can steer at any time.
- Observe the displays in the mirrors and on the instrument cluster display and act in accordance with the requests.

## System limits of the Blind Spot Monitor

📖 Please refer to  at the start of the chapter on page 257.

### Limits of the sensors

The Blind Spot Monitor detects driving situations by means of radar sensors in the rear area of the vehicle.

 Observe the limits of the radar sensors → page 231 and always pay due attention.

### Function limitations

The Blind Spot Monitor may not interpret the traffic behaviour correctly in the following traffic situations, among others:

- When driving in between two lanes
- When road lanes are not the same width
- Where there are special roadside structures, e.g. high or offset crash barriers.

### Limited visibility


In direct sunlight, the visibility of the indicator lamp in the exterior mirror glass may be limited.

### Driving with the Blind Spot Monitor

📖 Please refer to ⚠️ at the start of the chapter on page 257.

### Switching on and off

You can view the activation status of the Blind Spot Monitor on the instrument cluster display and in the Infotainment system. You can also switch the Blind Spot Monitor on and off there.

1. Press the  button.
2. Turn the Blind Spot Monitor on or off.

Depending on the equipment level, in the Infotainment system:

1. Open the Assist systems menu.
2. Switch the Blind Spot Monitor on or off in the relevant submenu.

When the Blind Spot Monitor is ready for operation, the yellow indicator lamp in the exterior mirrors will light up once briefly.

The switched-on state is retained even after the ignition has been switched off and on again.


💡 If there is a system fault, the Blind Spot Monitor can switch itself off automatically.


### Deactivation when towing a trailer

If you are using the factory-fitted trailer towing coupling and have set up the necessary electrical connection, the Blind Spot Monitor switches itself off automatically as soon as the vehicle pulls away. After you have disconnected the electrical connection, you must switch the Blind Spot Monitor back on manually.

If the trailer towing coupling is not factory-fitted, you must manually switch off the Blind Spot Monitor and then switch it back on again.


### Display in the exterior mirror

 Flashing: A vehicle was detected in the blind spot and the turn signal was activated in the direction of the detected vehicle.

 Lit up: Your vehicle is being overtaken or you are overtaking another vehicle with a speed difference of up to around 10 km/h (about 6 mph). No display will be shown if the takeover manoeuvre is much faster.

The quicker the vehicle approaches, the earlier it causes the display on the exterior mirror to light up.

### Blind Spot Monitor Plus

In the case of vehicles with the lane keeping system (Lane Assist), the yellow indicator lamp  flashes even if you do not activate the turn signal when leaving your lane, provided that Lane Assist is switched on (Blind Spot Monitor Plus). The driver is warned by a corrective

steering intervention when changing lanes during a possible critical situation (information level, warning level). The steering intervention also occurs when the turn signal is activated for the corresponding direction. If you override the steering intervention, the steering wheel vibrates to give an additional warning.

### Troubleshooting

 **Please refer to  at the start of the chapter on page 257.**

#### **Blind Spot Monitor not working**

Fault or malfunction. The indicator lamp in the instrument cluster display lights up yellow.

1. Switch off and restart the engine.
2. If the problem persists, go to a suitably qualified workshop.

#### **No sensor visibility, fault message, system switches itself off**

- Clean the radar sensors and remove any stickers or accessories from radar sensors, mirror glass and bumpers → page 589.
- Check for any visible damage.
- If the problem persists, go to a suitably qualified workshop.


#### **The system behaves differently than expected**

- The radar sensors are dirty. Clean the radar sensors → page 589.
- The radar sensors are covered by water.
- The radar sensors' view has been impaired by the weather (e.g. snow) or cleaning agent residue or coatings. Clean the radar sensors → page 589.
- The system limits have been exceeded → page 257.
- The vehicle is damaged in the area of the radar sensors, e.g. caused by parking colli-

sions. Check for any visible damage → page 597.

- The radar sensors' view is impaired by add-on parts, bicycle carrier systems or stickers. Keep the area around the radar sensors clear → page 597.
- Paintwork or structural modifications have been carried out in the area around the radar sensors, on the rear of the vehicle or on the running gear.
- Tinted window film has been applied to the side windows after delivery.
- If the problem persists, go to a suitably qualified workshop.

### Parking the vehicle

1. Stop the vehicle on a suitable surface → , → .

2. Depress and hold the brake pedal.

On vehicles with a manual gearbox, either *fully* depress or disengage the clutch.

3. With an automatic gearbox, engage the parking lock **P**.

4. Apply the handbrake firmly.


5. On uphill and downhill slopes, turn the steering wheel so that the vehicle will roll against the kerb if it starts to move.

6. Stop the engine and switch off the ignition.

7. With a manual gearbox, select first gear for flat ground and uphill gradients, or reverse gear for downhill gradients, and then release the clutch.

8. Release the brake.

9. Turn the steering wheel slightly if necessary to engage the steering lock.

10. Get out of the vehicle → . Watch out for other road users!

11. Take all vehicle keys with you and lock the vehicle.

### WARNING

If the vehicle is not parked properly it can roll away even on a slight gradient. There is a risk of accidents and serious or fatal injuries.

- Make sure that the handbrake is applied securely.
- Never remove the vehicle key from the ignition if the vehicle is in motion. This could cause the steering lock to engage suddenly. You will no longer be able to steer the vehicle.
- When parking, always observe the specified sequence.

### WARNING

If children, persons requiring assistance or animals are left unatten-

ded in the vehicle, they can accidentally set the vehicle in motion or be exposed to very high or low temperatures. There is a risk of accidents and serious or fatal injuries.

- Never leave children, people requiring assistance or animals unattended in the vehicle.

### WARNING

The components of the exhaust system become very hot. This can cause fires and serious injuries.

- Never park the vehicle where parts of the exhaust system can come into contact with inflammable material underneath the vehicle, e.g. undergrowth, leaves, dry grass, spilt fuel, oil, etc.

### NOTICE


Uneven ground, sand or mud may mean that the vehicle cannot be parked safely. This could result in damage to the vehicle.

- Always park the vehicle on a level and firm surface.

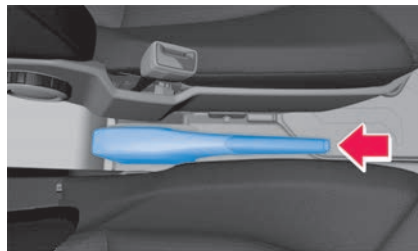
### NOTICE

Low-lying vehicle components such as bumpers, spoilers and parts of the running gear can collide with obstacles protruding from the ground when driving over them. The vehicle may be damaged.

- Drive carefully over drives, ramps, kerbs, borders and dips.

 Please adhere to relevant legislation when stopping and parking your vehicle.

### Handbrake



**Fig. 104** Between the front seats: handbrake.



### Applying the handbrake

Depending on the vehicle load or trailer load, pull up the handbrake lever with force and latch it. The maximum effect of the brake is achieved when the handbrake lever is pulled up as far as it will go.

Always check whether the maximum effect of the handbrake is reached.

1. Depress and hold the brake pedal.
2. Pull the handbrake lever up firmly with the lock button pressed → **Fig. 104**.

3. Remove your foot gradually from the brake pedal and be ready to apply the brake.
4. If the vehicle still moves, pull up the handbrake more and repeat the procedure.

 When the ignition is switched on, the indicator lamp in the instrument cluster lights up red → .


Vehicles with fold-down handbrake lever: the handbrake lever returns to the starting position automatically.

### Releasing the handbrake

1. Vehicles with fold-down handbrake lever: pull the handbrake lever up as far as it will go.
2. Pull the handbrake lever up slightly and press the lock button → **Fig. 104**.
3. Guide the handbrake lever down whilst the lock button is pressed.

#### **WARNING**

If the handbrake is applied improperly, this can result in accidents, vehicle damage and serious injuries.

- Always apply the vehicle handbrake firmly when you park the vehicle. The red indicator lamp  lights up already even if the handbrake is only slightly applied. The vehicle will not be held securely in this case.
- Never drive the vehicle with the handbrake lightly applied. The brake can overheat, which can adversely affect the brake system. It can also cause premature wear to the rear brake pads.

#### **WARNING**


The handbrake is not designed to brake the vehicle. The braking distance is considerably longer as only the rear wheels are braked in some cases. This can result in accidents and serious or even fatal injuries.

- To brake the vehicle, always use the foot brake and never the handbrake, except in an emergency.

#### **NOTICE**

If the handbrake is not applied fully and the brake pedal is released, the vehicle may move forward or backward a few centimetres (inches). This can result in damage to the vehicle.

- Always apply the handbrake firmly before releasing the brake pedal.

 An acoustic warning is given if the vehicle is driven faster than approximately 6 km/h (4 mph) with the handbrake applied.

### Safety information

#### WARNING

The parking systems are not a substitute for the full attention of the driver and operate only within the limits of the respective system. The parking systems cannot detect all driving situations and may not react or may react with a delay or in an undesired way. If you do not pay due attention, there is a risk of accidents and serious or even fatal injuries.

- Always remain alert and do not rely solely on the system. The driver is always responsible for all driving tasks.
- When parking, always look in the direction of travel and observe the vehicle surroundings.
- Pay special attention to small children, animals and objects when parking.
- Do not allow the parking system displays to distract you from the traffic around you.

- Please note that the parking system may not react if an obstacle is approached too fast and will then not issue a warning.
- Ensure that your speed and driving style are always appropriate for the current visibility, weather and road/traffic conditions.


#### NOTICE

The vehicle may be damaged by obstacles when manoeuvring in parking spaces without kerbs.

- Observe a safety distance of around 50 cm (around 20 in) from walls and buildings.

#### Limits of sensors and cameras


There are various sensors and cameras on the vehicle which detect and monitor the area around the vehicle by means of ultrasound, radar waves and optical systems. The various parking systems use different combinations of the sensors. Common to all sen-

sors is the fact that they are subject to technical and physical limits → .

- The sensors or cameras may not detect some objects, e.g. trailer drawbars, thin bars, fences, posts, trees, very low or high obstacles, and boot lids and wing doors that are open or being opened.
- The detection ranges of the sensors have blind spots in which obstacles and people are not registered.
- In some cases, dirt or ice and water on the sensors and cameras could be registered as an obstacle or impair detection of objects. The sensor visibility may be impaired by dirt and snow or also residue from cleaning agents or coatings.
- External sources of sound and certain surfaces on objects and clothing may influence the sensors' signals. In certain circumstances, the systems will be un-

able to detect or properly detect people and objects.

- It may be difficult or impossible to see objects such as narrow posts or railings on the screen because of its low resolution or poor light conditions.
- The cameras show only two-dimensional images on the screen. The lack of depth of field means that potholes and protruding objects on the ground may only be detected with difficulty, or may not be detected at all.

 Practise using the Park Distance Control in a traffic-calmed area or car park to familiarise yourself with the systems and their functions.


### Prerequisites

#### General information

The following prerequisites must be met so that the sensors and cameras are best able to detect the surroundings of the vehicle and

display this information on the Infotainment system:

- ✓ Doors and wing doors are closed.
- ✓ Exterior mirrors are not folded in.
- ✓ The sensors or cameras are not covered by add-on parts or trim frames for number plates.
- ✓ The surrounding area has a flat surface.
- ✓ Vehicle does not have a heavy load at the rear or on one side.
- ✓ Engine running.
- ✓ Brake support systems are switched on → page 282.


 The parking function and the acoustic warnings will be deactivated if other functions are operated on the Infotainment system during a parking operation.

#### Finding a suitable parking space

Park Assist has system-related limitations. For example, Park Assist cannot help you to park the vehicle

or drive out of parking spaces if the vehicle is on a tight bend.

To ensure that a suitable parking space can be displayed and detected correctly, the following prerequisites must be met:

- ✓ The length and width of the parking space must be larger than the vehicle dimensions and offer sufficient space for manoeuvring.
- ✓ Distance when driving past the parking space: between 0.5 (1.6 ft) and 2 metres (6.5 ft).
- ✓ Speed when driving past the parking space: maximum 40 km/h (25 mph).
- ✓ Speed when parking: maximum 7 km/h (4 mph). Automatic braking intervention can occur → .

The parking manoeuvre can be continued after the automatic brake intervention.

Automatic brake intervention occurs a maximum of once per move. A parking manoeuvre will be terminated if a speed of ap-

proximately 7 km/h (4 mph) is exceeded.

### **⚠ WARNING**

The automatic braking intervention function is not a substitute for the full attention of the driver and operates only within the limits of the system. If you do not pay due attention, there is a risk of accidents and serious or even fatal injuries.

- Always be prepared to brake the vehicle yourself at any time.
- The automatic braking intervention is ended after approximately 1.5 seconds. Depress the brake pedal of the vehicle yourself following the automatic braking intervention.

### **Troubleshooting**

#### **The parking system is not responding as expected**

This could have various causes:

- The prerequisites for system operation are not met → page 264.

- The sensors or the camera are dirty or iced-up → page 589.
- The camera lens is not clean and the camera image is unclear → page 589.
- The ultrasound signal is subject to interference from external noise sources, e.g. pneumatic drill or cobblestones.
- Only the scanned area to the front of the vehicle is shown on the Infotainment system display in vehicles with a factory-fitted towing bracket and a trailer with an electrical connection to the vehicle.
- The vehicle is damaged in the area around the sensors or the camera, e.g. caused by parking collisions.
- Changes have been made to the paintwork or structural modifications have been made in the area of the sensors or the camera, e.g. on the vehicle front end or the running gear.
- The detection range of the sensors or camera is blocked by

add-on parts, e.g. bicycle carriers.

#### **Fault displays**


1. Observe the text messages in the instrument cluster display and the Infotainment system.

### **NOTICE**

If the parking system is still used even though there is a fault, this can lead to vehicle damage.

- Go to a suitably qualified workshop as soon as possible in the event of a parking system fault.

#### **No sensor or camera view, or the parking system has been switched off**

The sensor area is switched off permanently if a sensor fails. The affected sensor area can be displayed by the ! symbol and a grey image segment  in the Infotainment system. The parking system is switched off completely if necessary.

If there is a fault in the Park Distance Control, a signal tone will

sound for several seconds when it is switched on. A text notification may also be shown on the instrument cluster display.

1. Check whether one of the listed causes is present.
2. Switch the system on again once you have rectified the source of the fault.
3. If the problem persists, go to a suitably qualified workshop.

#### **Park Assist is active and the vehicle brakes**


In some countries, Park Assist can assist the driver with an automatic braking intervention in certain situations.

Depending on the vehicle equipment and certain conditions, e.g. weather, load or inclination of the vehicle, Park Assist can automatically brake the vehicle before an obstacle. Following this intervention, the driver must depress the brake pedal.

The parking manoeuvre is ended if an automatic braking intervention occurs.

#### **Park Assist is active and the parking manoeuvre is automatically cancelled**

Park Assist automatically cancels driving into or out of a parking space if one of the following criteria is met:

- The  button is pressed.
- The driver intervenes using the steering wheel.
- The driver door is opened.
- The time limit or number of manoeuvres for parking are exceeded.
- The TCS is switched off or is taking corrective action.
- There is a fault in the system.



Start the parking procedure again  
→ page 274.

## Introduction

Park Distance Control assists the driver when parking and provides warnings about obstacles.

### How the system works

Park Distance Control uses ultrasound sensors to detect the distance of the vehicle from an obstacle.

Park Distance Control warns about a collision by means of colour segments on the Infotainment system screen and acoustic signals → . The closer the vehicle drives towards an obstacle, the closer the segment will move towards the vehicle as shown on the display → .

### Acoustic signals

An intermittent signal tone is given if a sufficiently short distance between the vehicle and an obstacle is detected. The shorter the distance, the shorter the intervals. The acoustic signal will sound continu-

ously if the obstacle is very close.  
**Do not drive on!**

### WARNING

The Park Distance Control system is not a substitute for the full attention of the driver and operates only within the limits of the system. Park Distance Control may possibly not detect some obstacles and may not react or may react with a delay or in an undesired way. If you do not pay due attention, there is a risk of accidents and serious injuries.

- Always pay due attention and do not rely exclusively on the system. The driver is always responsible for all driving tasks.
- React promptly to the visual and acoustic warnings of Park Distance Control.
- Use the foot brake to brake the vehicle before an obstacle.

### NOTICE

Visual and acoustic warnings are given only for obstacles in the vehi-

cle path. The collision area has been reached when the penultimate segment is displayed on the Park Distance Control screen or a continuous acoustic warning sounds, if not before. There is a risk of damage to the vehicle.

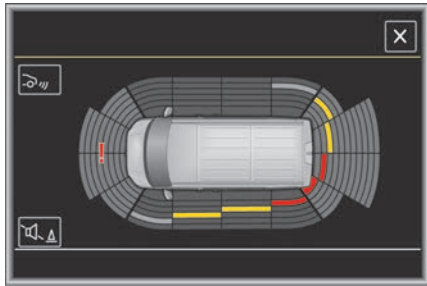
- Always brake the vehicle in good time before an obstacle.

### NOTICE

With some equipment levels, distances to obstacles in the side areas are also displayed. An obstacle entering these areas from the outside will not be displayed. This may result in damage to the vehicle.





- Drive the vehicle a few metres forwards or backwards in order to scan and display the side areas in full.

### Displays



**Fig. 105** In the Infotainment system: obstacle detection for Park Distance Control (illustration).

- Red-coloured image segment: Obstacle close to the vehicle. **Vehicle is at risk. Brake.**
- Yellow-coloured image segment: Obstacle in the vehicle's path. **Vehicle is at risk. Adjust the steering wheel angle.**
- Grey-coloured image segment: Obstacle outside the path of the vehicle or faulty sensor area.

-  Switch manoeuvre braking off or on (depending on equipment).
-  System fault in the monitored area (depending on equipment level). The colour may vary.
-  Switch to rear view camera system.
-  Mute signal tones.


### Switching Park Distance Control on and off

 Please refer to  and  at the start of the chapter on page 267.



**Fig. 106** In the centre console: button for switching the Park Distance Control on or off (with some equipment levels).

### Switching on

1. Select reverse gear.
  - Or:** Press the  button → Fig. 106.
  - Or:** vehicle rolls backwards.

### Switching off

1. Press the  button.

**Or:** the selector lever is moved to position **P**.

Park Distance Control is switched off automatically when the vehicle is driven forwards at a speed of more than 15 km/h (9 mph).

#### **Automatic activation when driving forwards (depending on vehicle equipment)**

Park Distance Control switches itself on automatically if the vehicle approaches an obstacle in front of the vehicle when driving forwards at a speed of less than 15 km/h (9 mph). Automatic activation can be switched on and off in the Infotainment system → page 39.


Automatic activation takes place only once. Renewed automatic activation is possible under the following conditions:

1. Press the **P** button.
2. Switch the ignition off and then back on again.

### **Park Distance Control menu**

**Please refer to  and  at the start of the chapter on page 267.**

Park Distance Control settings in the menu of the Infotainment system:

1. Switch on the ignition.
2. Switch on Infotainment system if necessary.
3. Press the **CAR** button.
4. Tap the  function button.
5. Tap the **Parking and manoeuvring** function button.
6. Select the required settings in the **Park Distance Control menu**.

**Activate automatically:** The Park Distance Control display will be switched on automatically when the vehicle slowly approaches an obstacle located to the front if the checkbox in the function button is ticked . Tap  **Activate automatically** again to switch off this function. After deactivation, Park Distance Control will not be activated auto-

atically when you approach an obstacle in the front.



**Fig. 107** In the lower part of the centre console: button for the reverse warning system.

In vehicles equipped with a reverse warning system, an acoustic signal will be emitted as a warning for other road users when reverse gear is selected. The reverse warning system is automatically activated if the ignition is switched on and reverse gear is selected. The reverse warning system is automatically deactivated when reverse gear is deselected.

#### Switching off the reverse warning system

1. Press the → **Fig. 107** button in the lower part of the centre console to switch off the reverse warning system. The yel-

low indicator lamp in the button lights up.

#### Switching on the reverse warning system

1. Press the → **Fig. 107** button in the lower part of the centre console to switch the reverse warning system back on again. The yellow indicator lamp in the button goes out.

#### **⚠ WARNING**


The reverse warning system is not a substitute for the full attention of the driver and operates only within the limits of the system. It is possible that the warning signal from the reverse warning system will be ignored or not heard by other road users. Therefore, the reverse warning system does not guarantee that there are no persons or obstacles behind your vehicle. If you do not pay due attention, there is a risk of accidents and serious injuries.

- Always remain alert and do not rely solely on the system. The

driver is always responsible for all driving tasks.

### Introduction


The rear view camera system in the rear of the vehicle makes it easier for the driver to see behind the vehicle and provides support for parking manoeuvres.

The rear view camera system shows the area behind the vehicle on the Infotainment system screen. Depending on the operating mode and equipment level, orientation lines aid the view to the rear → .

### WARNING

The rear view camera system is not a substitute for the full attention of the driver and works exclusively within the system limits. Using images from the camera to estimate the distance from persons or obstacles can be inaccurate. If you do not pay due attention, there is a risk of accidents and serious injuries.

- Always remain alert and do not rely solely on the system. The driver is always responsible for all driving tasks.
- Note that camera lenses can enlarge and distort the field of view.

 You should practise parking with the rear view camera system in a traffic-calmed area or car park with good visibility and weather conditions, so that you can familiarise yourself with the system, orientation lines and guiding functions in a safer environment.

### Switching the rear view camera system on and off

 Please refer to  at the start of the chapter on page 271.

### Switching on the rear view camera system

1. Select reverse gear.

### Switching off the rear view camera system


1. Select a forward gear.


### Driving into a parking space (rear view camera system with parking mode selection)

 Please refer to  at the start of the chapter on page 271.

### Displays

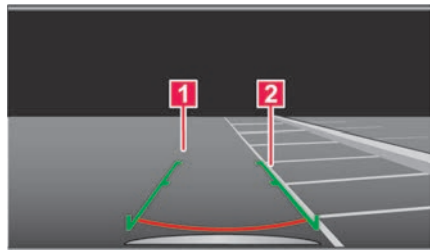
Depending on equipment, the following views are available for the rear view camera system:

 Switch to Park Distance Control.

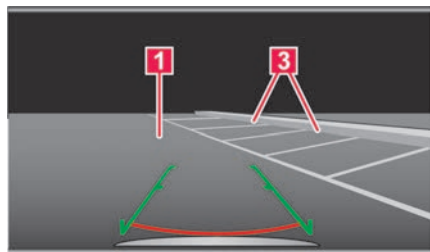
 Red line: boundary or safety clearance. The horizontal red line ends approximately 0.4 metres behind the vehicle on the road.

 Green lines: boundaries.

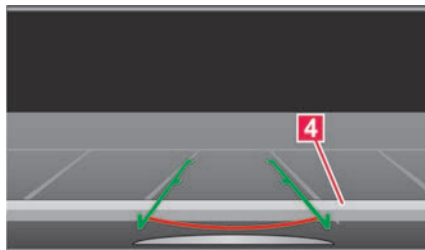
### Parking perpendicular to the road



**Fig. 108** Infotainment system: Choose parking space.



**Fig. 109** Infotainment system: Drive towards the selected parking space.



**Fig. 110** Infotainment system: Align the vehicle in the parking space.

- 1** Road.
- 2** Selected parking space.
- 3** Lateral boundaries of selected parking space.
- 4** Rear limit of the parking space.

### Parking using the rear view camera system

1. Position the vehicle in front of the parking space → **Fig. 108 2**.
2. Select reverse gear.
3. Reverse slowly and steer the vehicle so that the lateral lines lead into the selected parking space **2**. The lines must corre-


spond to the lateral boundary lines of the parking space

→ **Fig. 109 3**.

4. Stop when the horizontal line reaches the rear limit

→ **Fig. 110 4**.

---

 The system displays the orientation lines irrespective of the area surrounding the vehicle. There is no automatic obstacle detection. Drivers must judge for themselves whether the vehicle will fit into the parking space.


---

## Introduction


Park Assist shows parking spaces that are suitable for parking and assists the driver when driving into and out of parking spaces.

### How the system works

Park Assist is an extension of Park Distance Control.

Park Assist steers the vehicle into a parking space, while the driver operates the accelerator and brake and changes gear → .

Observe the text message in the instrument cluster display.

The  button for the rear window heating is located in the centre console.

## WARNING

Park Assist is not a substitute for the full attention of the driver and operates only within the limits of the system. Park Assist cannot de-

tect all driving situations and may not react or may react with a delay or in an undesired way. If you do not pay due attention, there is a risk of accidents and serious or even fatal injuries.

- Always remain alert and do not rely solely on the system. The driver is always responsible for all driving tasks.
- Use the foot brake to slow the vehicle in a hazardous situation.

## NOTICE


Park Assist uses parked vehicles, kerbs and other objects for orientation. If there are obstacles that are close to the ground, this can result in damage to components located low down on the vehicle such as tyres and wheel rims.


- Pay attention to obstacles that are close to the ground when parking.
- Brake and end the parking manoeuvre if necessary.


## NOTICE


Any equipment that has been retrofitted to the vehicle, e.g. bicycle carriers, can prevent Park Assist from functioning properly and may cause damage.

- Do not use Park Assist if add-on parts are fitted on the vehicle.

 Park Assist cannot be activated when an electrically connected trailer has been detected by the vehicle.

 Park Assist can be activated retrospectively. If a suitable parking space was driven past before, it is displayed.

 Park Assist cannot be activated when a sliding door or wing door is open.

 When carrying out parking manoeuvres, the vehicle may be

braked if the driver accelerates too strongly.


### Looking for a parking space

📖 Please refer to ⚠️ and ! at the start of the chapter on page 273.



**Fig. 111** In the upper part of the centre console: Button for switching on Park Assist.

Park Assist assists the driver when driving into and out of suitable parallel parking spaces.

1. Observing the traffic around you, drive slowly past a row of parked vehicles.
2. Press the  → Fig. 111 button. Park Assist will automatically

search for a suitable parking space on the front passenger side → page 264.

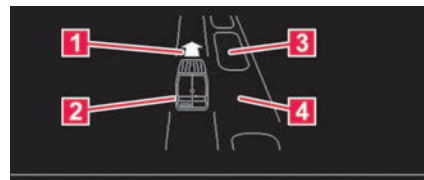
3. Stop when Park Assist displays a suitable parking space in the instrument cluster.
4. Park when the instruction to park appears on the instrument cluster display → page 274.

If you want Park Assist to look for a parking space on the opposite side of the road, operate the turn signal for the side in question.

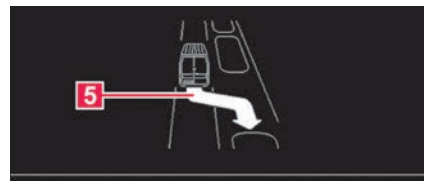
! Park Assist can be activated retrospectively. If a suitable parking space was driven past before, it is displayed.

### Driving into a parking space

📖 Please refer to ⚠️ and ! at the start of the chapter on page 273.



**Fig. 112** On the display of the instrument cluster: Looking for a parking space.



**Fig. 113** On the display of the instrument cluster: Steering into the parking space.




**Fig. 114** On the display of the instrument cluster: Aligning the vehicle in the parking space.

- 1** Prompt to drive forward
- 2** Your vehicle
- 3** Parked vehicle or obstacle.
- 4** Parking space detected
- 5** Instruction to put the vehicle into reverse gear.
- 6** Prompt to press the brake pedal.
- 7** Progress bar: symbol to show relative distance left to travel.

The prerequisites for parking space selection must be met and the vehicle must be stationary  
→ page 264.

1. Release the steering wheel  
→ page 273.


2. Select reverse gear when a reverse arrows appears in the instrument cluster.
3. Accelerate carefully.
4. Brake when an acoustic signal prompting you to change direction sounds, an arrow → Fig. 112 **1** lights up, the display  lights up or a message appears.
5. Drive forwards until an acoustic signal sounds and an instruction to reverse appears in the instrument cluster.
6. Repeat reversing and driving forwards until a corresponding message is displayed on the instrument cluster. A signal tone may also sound.
7. Always wait until Park Assist has completed the turning movements of the steering wheel at the end of each parking manoeuvre in order to achieve an optimum parking result.
8. Switch off the engine and stop the vehicle → page 260.

### WARNING

The steering wheel is turned quickly during manoeuvring. Reaching into the steering wheel can cause serious injuries.

- Take over steering only when the system requests you to do so.
- Take over steering in a hazardous situation.

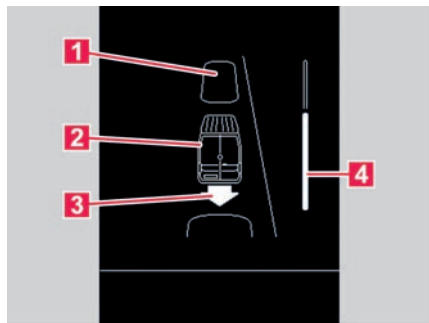
---

 Park Assist recognises parking spaces that are suitable for the vehicle, even if parking with Park Assist is not possible due to the system limits.

---

### Driving out of a parking space

📖 Please refer to ⚠️ and ! at the start of the chapter on page 273.



**Fig. 115** On the display of the instrument cluster: driving out of a parking space parallel to the road.

- 1 Stationary vehicle.
- 2 Own vehicle with reverse gear engaged.
- 3 Arrow indicating the direction of travel for the next move.
- 4 Progress bar: symbol to show relative distance left to travel.

Park Assist can drive out of parallel parking spaces if the prerequisites for this are met → page 264.

1. Press the button.
2. Press the turn signal lever for the side of the street where the parking space is that you want to get out of.
3. Select reverse gear.
4. Release the steering wheel when the following message is shown: *Steering intervention active! Please monitor area around vehicle.*
5. Accelerate carefully.
6. Brake when an acoustic signal sounds, the display lights up, or until the prompt to drive forward appears on the instrument cluster display.
7. Depress the brake pedal until Park Assist has finished steering or until the display on the instrument cluster display goes out.
8. Repeat reversing and driving forwards until a corresponding message is displayed on the in-

strument cluster. A signal tone may also sound.

9. Take over steering with the steering angle set by Park Assist.
10. Drive out of the parking space when the traffic allows.


### ⚠️ WARNING

When driving out of a parking space, there is a danger that the vehicle could drive into moving traffic. This can lead to an accident and to serious or fatal injuries.

- Drive the vehicle out of the parking space only when permitted by the traffic situation.

## Introduction

The trailer manoeuvring system (Trailer Assist) helps the driver when reversing and manoeuvring with a trailer.

Trailer Assist steers a trailer and is operated by pushing and pulling the switch for adjusting the exterior mirrors. The driver controls the accelerator, gear changes and brake → .

### System limits

Please note the following to ensure the system works correctly:

- The camera is clean and free from snow and ice.
- The camera is free from stickers and other objects.
- The drawbar is not covered.
- The wing doors are closed.

## WARNING

Trailer Assist works solely within the system limits and is not a sub-


stitute for the driver paying full attention. Trailer Assist provides support when manoeuvring a trailer and does not detect any obstacles in the area around the vehicle. In rare cases, the trailer may move differently than set. If you do not pay due attention, there is a risk of accidents and serious injuries.


- Always remain alert and do not rely solely on the system. The driver is always responsible for all driving tasks.
- Always pay close attention to the movements of the trailer and cancel the manoeuvre yourself if necessary.
- Do not rely solely on the instrument cluster displays.
- Use the foot brake to slow the vehicle in good time when an obstacle is encountered.

## NOTICE

 Practise using Trailer Assist trailer in a traffic-calmed area or in

a car park in order to familiarise yourself with the system and its functions.

 If there is no driver interaction within approximately three minutes, the manoeuvre is terminated and Trailer Assist is ended.

 For technical reasons, Trailer Assist does always detect trailers with LED tail light clusters correctly.

## Prerequisites

 **Please refer to  and  at the start of the chapter on page 277.**

### Synchronising the trailer

In order to determine the drawbar length again, the trailer must be taught each time the vehicle and trailer combination is changed.

There are a maximum of four limit positions for the angle display: approx. 30°, 45°, 60° and 75°.

The more accurately the length of the drawbar can be determined, the more angles are available when manoeuvring.

1. Attach the one- or two-axle trailer and connect electrically to the vehicle.
2. Perform as many different turning and cornering manoeuvres with the trailer as possible.

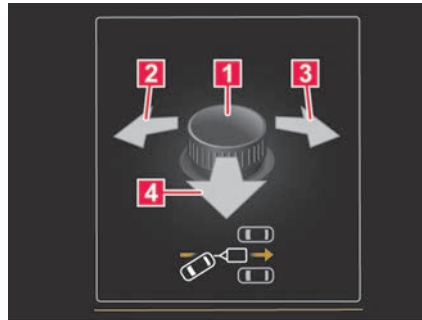
### Prerequisites

- ✓ The trailer with unsteered axles is correctly attached.
- ✓ The drawbar must not be covered.
- ✓ The vehicle and trailer are stationary.
- ✓ Driver door and wing doors are closed.
- ✓ The maximum vehicle and trailer angle (jackknifing angle) is not exceeded.
- ✓ Exterior mirrors are not folded in.
- ✓ ESC is switched on.
- ✓ A driver interaction must take place within around three mi-

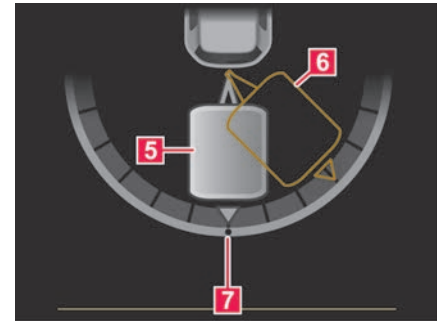
minutes, otherwise the manoeuvring procedure will be terminated and the Trailer Assist function ended.

### Manoeuvring the vehicle and trailer

📖 Please refer to ⚠ and ! at the start of the chapter on page 277.






**Fig. 116** On the display of the instrument cluster: adjusting the angle of the trailer using the rotary knob for the exterior mirrors.







**Fig. 117** On the display of the instrument cluster: Adjusting the direction of travel of the trailer.


- 1 Rotary knob for adjusting the exterior mirror position.
- 2 Align the trailer to the left.
- 3 Align the trailer to the right.
- 4 Drive into the towing bracket.
- 5 Current position of the trailer (grey).
- 6 Target trailer position (orange).
- 7 Zero position on the angle display.

## Manoeuvring

1. Check that the prerequisites for Trailer Assist are met → page 277.
2. Select reverse gear.
3. Press the  button.
4. Release the steering wheel → .
5. Tilt the rotary knob in the driver door until the desired direction is reached → Fig. 116 .

A diagram showing the current position of the trailer appears on the instrument cluster display for orientation purposes → Fig. 117 .

6. Accelerate slowly and reverse the vehicle. Keep an eye on the area around the vehicle.
7. Correct the angle with the rotary knob if necessary → Fig. 116 .
8. Press the rotary knob to the left  or right  to determine the direction of travel.


9. Pull the rotary knob to the rear to drive in the direction of the trailer .
10. Manoeuvre the vehicle until the required position is reached.

The manoeuvring operation has been completed when a corresponding message is displayed on the instrument cluster. An acoustic signal may also sound.

### Automatic braking intervention

The driver is responsible for braking in time → .

An automatic braking intervention may occur and the function may be cancelled in the following situations:

- Speed of approximately 6–8 km/h (3–5 mph) is exceeded.
- Steering interventions by driver.
- Driver door is open.
- The  button is pressed.

### WARNING

The steering wheel is turned quickly during manoeuvring. Reaching


into the steering wheel can cause serious injuries.

- Take over steering only when the system requests you to do so.
- Take over steering in a hazardous situation.
- Trailer Assist has system-related limitations. In some situations the automatic brake intervention can only work in a limited way or not at all.

---

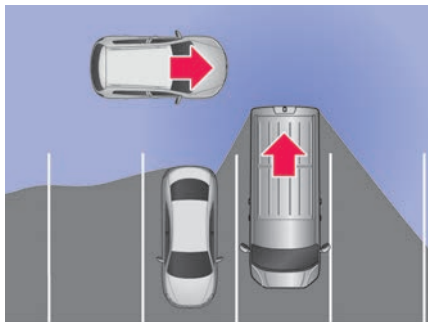
 The exterior mirrors cannot be adjusted while Trailer Assist is active.

---

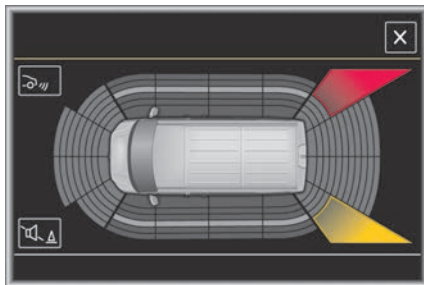
 The vehicle cannot be driven at speeds above around 6 km/h (around 4 mph) while Trailer Assist is active.

---

Rear Traffic Alert monitors crossing traffic when reversing out of a parking space or manoeuvring.



**Fig. 118** Illustration of Rear Traffic Alert: Monitored area around the vehicle leaving the parking space.



**Fig. 119** On the Infotainment system screen: Rear Traffic Alert display.

Also observe the information and warnings that apply to all Park Assist functions → page 263.

#### Switching on and off

1. Via the *Assist systems* menu in the instrument cluster → page 39.

**Or:** In the vehicle settings in the Infotainment system → page 53.

2. Switch Rear Traffic Alert on or off.

#### How the system works

Rear Traffic Alert uses radar sensors in the rear bumper.

The system detects approaching or moving objects at the rear and to the sides of the vehicle → Fig. 118 and warns the driver when approaching an obstacle → ⚠.

If the vehicle encounters an obstacle, the obstacle area is displayed in colour on the Infotainment system → Fig. 119, and an acoustic warning may also sound.

If Park Distance Control is deactivated, no feedback can be given to the driver.

#### Emergency braking

An automatic braking intervention may be performed if the driver does not react to a warning. Observe the text messages in the instrument cluster.

**Press the brake to hold the vehicle stationary.**

#### Things to note for trailer towing

Rear Traffic Alert is deactivated if the factory-fitted towing bracket is electrically connected to a trailer.


Observe the text messages in the instrument cluster.

### **WARNING**

Rear Traffic Alert is not a substitute for the full attention of the driver and operates only within the limits of the system. Not all approaching objects may be detected, e.g. pedestrians or rapidly approaching objects. If you do not pay due attention, there is a risk of accidents and serious or even fatal injuries.

- Always remain alert and do not rely solely on the system. The driver is always responsible for all driving tasks.
- Pay attention to the traffic situation and the area around the vehicle when driving out of a parking space.
- React promptly to the visual and acoustic warnings of Rear Traffic Alert.

#### Information on brake support systems

The brake support systems can assist the driver in critical driving or braking situations. The driver is responsible for driving safety → .

- Continue to brake with the necessary force when a brake support system is performing a control intervention.
- Steer the vehicle if necessary.

#### WARNING

Brake support systems are not a substitute for the full attention of the driver and operate only within the limits of the respective system. Driving fast on icy, slippery or wet roads as well as driving too close to the vehicle in front can have an adverse effect on vehicle stability and lead you to lose control over the vehicle. If you do not pay due attention, there is a risk of accidents and serious or even fatal injuries.

- Always remain alert and do not rely solely on the system. The driver is always responsible for all driving tasks.
  - Ensure that your speed and driving style are always appropriate for the current visibility, weather and road/traffic conditions. Never take any safety risks.
  - Keep the footwell under the pedals clear so that the brake pedal can move freely.
  - Always use suitable tyres because driving stability depends on the grip of the tyres.
- 
- The ESC, ABS and TCS can function properly only if all four wheels are fitted with the same tyres.
  - If there is a fault in the ABS, the ESC, TCS and EDL will also stop working.

The brake function status is automatically checked when the ignition is switched on. The indicator lamps light up briefly and then go

out again. If an indicator lamp remains lit up continuously, there is a fault → page 284. Go to a suitably qualified workshop immediately.

#### WARNING

The effectiveness of ESC can be significantly reduced if other components and systems that affect driving dynamics are not serviced properly or are not functioning properly. This applies in particular to changes to the suspension and wheel and tyre combinations that have not been approved. This can result in accidents and serious or fatal injury.

- Have repairs and modifications to your vehicle carried out only by a suitably qualified workshop.
  - Always use suitable tyres because driving stability depends on the grip of the tyres.
-

**Electronic Stability Control (ESC)**

ESC control intervention to reduce the risk of skidding and improve driving stability → . The indicator lamp flashes yellow.

**Traction control system (TCS)**

TCS control intervention to prevent the wheels from spinning. The indicator lamp flashes yellow.

The TCS reduces the drive output if wheelspin occurs and adapts the output to suit road surface conditions. The TCS makes it easier to pull away, accelerate and drive up hills → .

**Anti-lock brake system (ABS)**

ABS prevents the wheels from locking during braking so that the vehicle can still be steered → .

**Brake assist system (BAS)**

BAS can help to reduce the stopping distance. The brake assist system reinforces the braking force when the driver depresses the

brake pedal quickly in an emergency situation.

If you reduce the pressure on the brake pedal, the brake assist system will switch off the brake servo function.

**Electronic differential lock (EDL and XDL)**

EDL brakes a spinning wheel automatically and distributes the drive force to the other drive wheels.

The EDL switches off automatically under unusually heavy loads to prevent the brake from overheating. The EDL switches back on again automatically as soon as the brake has cooled down.

XDS improves traction in order to keep the vehicle on its intended course.

**Automatic Post-Collision Braking System**

In the event of a collision, the Automatic Post-Collision Braking System can help the driver to reduce the risk of skidding, and the danger

of secondary collisions, through automatic braking.

The Automatic Post-Collision Braking System functions only for collisions that are detected as a collision by the airbag control unit.

The vehicle is braked automatically if the required systems have not been damaged in the collision and have remained functional.

Requirement for automatic braking:

- ✓ The driver does not press the accelerator.

 **WARNING**

Driving without the brake servo or with restricted brake servo function can considerably increase the braking distance. This can lead to accidents with serious or fatal injuries.

- Never switch the engine or ignition off while the vehicle is in motion.
- Press the brake pedal with more force if the brake servo is not

working or if the vehicle is being towed.

- Keep the footwell under the pedals clear so that the brake pedal can move freely.

#### **WARNING**

The effectiveness of systems can be severely inhibited if components and systems are retrofitted, e.g. by second stage manufacturers. The proper functioning of systems may therefore be impaired or adapted in vehicles with add-ons and modifications. This can lead to accidents with serious or fatal injuries.

- Have the correct operation of the systems confirmed by the second stage manufacturer.

#### Switching the TCS on and off



**Fig. 120** In the centre console: button for switching TCS on and off manually.

#### Driving situations


The traction control system (TCS) can be switched off in situations where insufficient traction is achieved:

- When driving in deep snow or on loose surfaces.
- When rocking the vehicle backwards and forwards to free it from mud.

When the driving situation no longer exists, the TCS should be switched back on fully.

#### Switching the TCS on and off

1. Press the  → Fig. 120 button to switch TCS off or on.

**Or:** Switch the TCS on and off in the Infotainment system using the **(CAR)** button followed by the  and **(ESC System)** function buttons.



TCS switched off manually. The indicator lamp lights up yellow.

#### Troubleshooting



##### **Brake system fault**

The indicator lamp lights up red.



##### **Do not drive on!**

1. Seek expert assistance immediately.



##### **Anti-lock brake system failure or fault**

The indicator lamp lights up yellow.

1. Consult a suitably qualified workshop.


The vehicle can be braked without the anti-lock brake system.

### ESC fault

The indicator lamp lights up yellow. ESC has been switched off.

There is a fault or a malfunction.

1. Switch the ignition on and off.
2. Drive a short distance at a speed of around 15 km/h (around 9 mph) to 20 km/h (around 12 mph).

If the indicator lamp  remains lit, go to a suitably qualified workshop.

### Noises from the brake support systems

The brake pedal may move or noises may occur while the brake support systems are regulating.

1. Continue to apply the necessary amount of brake pressure,

and steer the vehicle when required.

### Unexpected reduction in engine power

Faults can occur in the ESC and TCS systems if the four wheels have different types of tyres.


Any differences in the rolling radius of the tyres can cause the system to reduce engine power unexpectedly.

### WARNING

If the brake warning lamp lights up together with the indicator lamp, the control function of the ABS may have failed. This can cause the rear wheels to lock when you brake. This may cause you to lose control of the vehicle and can result in accidents with serious or fatal injuries.

- Drive at reduced speed to the nearest suitably qualified workshop to have the brake system checked.
- Avoid sudden braking and driving manoeuvres.

### WARNING

If the  indicator lamp does not go out or lights up while the vehicle is in motion, the ABS is not working properly. The vehicle can be stopped using the normal brakes only. Any restriction of the ABS can cause accidents and may result in vehicle damage and serious or fatal injury.

- Go to a suitably qualified workshop.

### Introduction

Only use stowage compartments to stow light or smaller objects.

### WARNING

Loose objects may be flung through the vehicle interior in the event of a sudden driving or braking manoeuvre. This can lead to loss of control over the vehicle and cause accidents and serious or fatal injuries.

- Stow objects only in closed stowage compartments.
- Always keep stowage compartments closed while the vehicle is in motion.
- The coat hooks in the vehicle should only be used for light-weight clothing weighing max. 2.5 kg (approx. 5.5 lbs).
- Never leave any heavy, hard or sharp objects in the pockets of clothing.

### WARNING

If the glove box is open while driving, objects could be flung through the vehicle interior. This can lead to loss of control over the vehicle and cause accidents and serious or fatal injuries.

- Always keep the glove box closed while the vehicle is in motion.

### WARNING

Any lighters in the vehicle could be damaged or lit without being noticed by high surface temperatures, for example. This could lead to serious burns and other injuries.

- Before closing stowage areas or compartments always make sure that there is no lighter in the way.
- Never stow lighters in stowage areas or compartments or on other surfaces in the vehicle.

### WARNING

While driving, in the event of a sudden braking manoeuvre or in the event of an accident, objects located in the drink holder can be flung about the vehicle and hot drinks spilled. This can cause serious injuries and serious scalding.

- Place only soft, break-proof and closed containers in the drink holder.
- Never place hot drinks in a drink holder.
- Make sure that only drinks of the appropriate size are placed in the drink holder. Drinks must always be stored securely in the drink holder.

### WARNING

Closed drink bottles can explode in the vehicle in extreme heat or burst in extremely cold temperatures and cause serious injuries.

- Never leave closed drink bottles in an extremely hot or extremely

cold vehicle for extended periods.

### NOTICE

Objects kept in the vehicle could be damaged or could cause damage to the vehicle when exposed to strong sunlight or the effects of heat or cold.

- Do not stow any temperature-sensitive objects, food or medicines inside the vehicle.
- Please note that objects made of translucent materials, e.g. transparent suction pads on the windows, concentrate sunlight.

### NOTICE

Rubbing objects on the rear windows can cause damage, e.g. to the heating wires of the rear window heating.

- Load the stowage compartments only so that there are no objects in contact with the rear windows.

⚠ Do not cover the ventilation openings next to the wing doors in the load compartment as this prevents stale air escaping from the vehicle.

### Stowage compartments in the dash panel

📖 Please refer to ⚠ and ⚠ at the start of the chapter on page 286.



**Fig. 121** On driver and front passenger sides: open stowage compartment with drink holder

There is also an open stowage compartment **1** with drink holder

**2** on both the driver and front passenger sides.

**USB port** ⚡ and **AUX-IN socket** 🔊

The stowage compartment in the top left of the dash panel may be equipped with a factory-fitted USB port ⚡ and the AUX-IN socket 🔊.

### Stowage compartments in the roof

📖 Please refer to ⚠ and ⚠ at the start of the chapter on page 286.



**Fig. 122** Under the roof: stowage compartments.

### Outer stowage compartments

There may be stowage compartments in the outer sides of the roof → Fig. 122 **1**.

### Stowage compartments above the roof console

There may be one or two stowage compartments in the roof above the roof console → Fig. 122 2.

Store only light and small items in the stowage compartments.

### Stowage compartment under the roof

With some vehicle equipment, there is a stowage compartment above the driver cab. The stowage compartment can be loaded from the load compartment → !.

#### NOTICE

High or bulky objects can damage the roof as a result of braking manoeuvres.

- Do not load the stowage compartments in the roof with high or bulky objects.
- Load the outer stowage compartments with a maximum of 2.5 kg (around 5.5 lbs).
- Load the stowage compartment under the roof with a maximum of 30 kg (around 66 lbs).

### Stowage compartment in the front passenger 2-seat bench

📖 Please refer to ⚠ and ! at the start of the chapter on page 286.



**Fig. 123** Front passenger 2-seat bench: folding up the seat cushions.



**Fig. 124** Front passenger 2-seat bench: folding down the backrest and stowage compartment in the backrest.

There may be stowage compartments underneath the seat cushions for the front passenger 2-seat bench and in the folding backrest.

### Stowage area under the seat cushion

1. Folding up the seat cushion: To fold up the seat padding to vertical position, pull the corresponding loop → Fig. 123 in the direction of the arrow.
2. Folding down the seat cushion: Fold the seat padding back to its initial position until it is securely engaged.

**NOTICE**

Objects that are not stowed properly in the stowage area can damage the electric components and cable connections of the seat cushion.

- Do not overfill the stowage area under the seat cushion.

**Stowage areas in the backrest**

1. Folding down the backrest: pull the loop **1** in the direction of the arrow and fold down the backrest **2**.
2. Folding the backrest up: pull the loop **1** in the direction of the arrow and fold up the backrest **2**. You must feel the backrest click into place, and you should no longer be able to see the red marking on the loop **1**.



You can use the rubber strap in the stowage area to secure light objects.

**⚠ WARNING**

Serious injuries could be sustained if the seat cushions on the front passenger 2-seat bench are folded up and down carelessly.

- Fold the seat cushion up and down only when the vehicle is stationary.
- Please ensure that no-one can be trapped and injured when folding the seat cushion down.
- Do not trap the seat belts when folding down the seat cushion.

**⚠ WARNING**

When the vehicle is in motion, the backrest of the front passenger 2-seat bench must be in the upright position and securely engaged in this position. An incorrect sitting position can cause severe injuries.

- When the backrest is folded down, never allow the seat to be used by either adults or children.

**⚠ WARNING**

Incorrect use of the front passenger 2-seat bench can cause severe or fatal injuries.

- Never overfill the stowage compartment under the seat cushion. The seat cushion must be closed and securely engaged while the vehicle is in motion.
- Do not transport heavy objects in the stowage areas in the front passenger 2-seat bench while driving.



**Fig. 125** In the lower part of the centre console: cigarette lighter (with some equipment levels).

A cigarette lighter is located in the lower part of the centre console.

1. With the ignition switched on, press in the knob on the cigarette lighter.
2. Wait for the button to pop out.
3. Pull out and use the cigarette lighter → page 290.
4. Insert the cigarette lighter back into the socket.


#### **⚠ WARNING**

Improper use of the cigarette lighter or ashtray could cause fires, burns and other serious injuries.

- The cigarette lighter must always be used properly.

- Never leave children unsupervised in the vehicle. The cigarette lighter can be used when the ignition is switched on.
- Never place paper or other items that may cause a fire in the ashtray.

---

 The cigarette lighter socket can also be used as a 12-volt socket.

---

**Introduction**

Electrical equipment can be connected to the sockets in the vehicle.

The connected devices must be in good condition. Do not use faulty devices.

**⚠ DANGER**

Contact with the high voltage in the electrical system, e.g. sockets, can cause electric shocks, serious burns and death.

- Do not spill any liquids over the socket.
- Do not plug any adapters or extension cables into the 230-volt socket with earthing contact. Otherwise the built-in child socket protection will disengage and power will be supplied to the socket.
- Never insert any items made of conducting materials, e.g. screwdrivers, into the contacts of the 230-volt socket with earthing contact.

**⚠ WARNING**

Improper use of the sockets and connected electrical devices can cause fires and severe or fatal injuries.

- Switch the electrical devices off immediately and disconnect the mains connection if the electrical devices get too hot.
- Please note that sockets and any devices connected to them can also be used if the ignition is switched off, e.g. by children in the vehicle.

**NOTICE**

Using the wrong electrical devices or electrical devices that are not approved or not connected correctly can cause damage to the vehicle and electronics.

- In order to prevent damage to the electrical system, never connect equipment that supplies electric power, such as solar panels or battery chargers for


charging the 12-volt battery, to the 12-volt socket.


- Use only electrical devices that have been approved in accordance with current guidelines concerning electromagnetic compatibility.
- Do not use faulty devices.
- In order to avoid damage due to voltage fluctuations, always switch off any connected electrical consumers before switching the ignition on or off and before starting the engine. When the start/stop system automatically switches off and restarts the engine, you do not need to switch off any connected electrical consumers.
- Observe the operating instructions of the electrical devices!

**NOTICE**

The vehicle's electrical system can be damaged if the maximum power output is exceeded.

- Never connect electrical devices requiring more than the rated power to a 12-volt socket.

 Do not allow the engine to run while the vehicle is stationary.

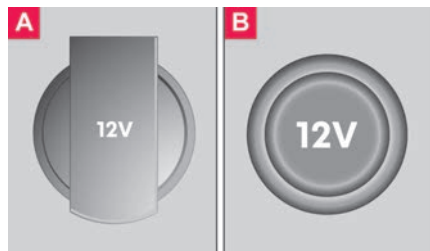
 Unshielded devices can cause interference in the radio or Infotainment system and vehicle electronics.



**Fig. 127** On the side of the driver seat: 230-volt socket with earthing contact (illustration).

### Sockets in the vehicle

 Please refer to ,  and  at the start of the chapter on page 291.



**Fig. 126** Variants to the 12-volt socket.

### Maximum power rating

| Electrical socket | Maximum power rating             |
|-------------------|----------------------------------|
| 12-volt           | 120 watts                        |
| 230-volt          | 300 watts (450 watts peak power) |

If two or more devices are connected at the same time, the overall power consumption of all connected electrical devices must never exceed 300 watts → page 294.

The maximum power rating of the individual sockets should never be exceeded. The power rating of each device is stated on its type plate.

### 12-volt socket

The 12-volt socket will work even if the ignition has been switched off.

Using electrical devices with the engine switched off will drain the 12-volt vehicle battery. Therefore only plug electrical consumers into the sockets when the engine is running.

To avoid damage caused by voltage fluctuations, switch off connected electrical equipment before switching the ignition on or off and before starting the engine.

Depending on the equipment in the vehicle, 12-volt sockets can be found in the following locations in the vehicle:

- In the stowage compartment in the centre console.

- In the stowage compartment on the left side of the dash panel.
- In the stowage compartment on the right-hand side of the dash panel.
- In the right lower part of the driver seat.
- In the load compartment on the sliding door and close to the wing doors.
- In the rear area of the sliding doors.

### NOTICE

The fuse can blow as a result of extended operation of the 12-volt sockets at maximum power.

- Never use the 12-volt sockets at maximum power for longer than 10 minutes.
- Always use only one 12-volt socket with maximum power.

### 230-volt socket with earthing contact

The 230-volt socket with earthing contact is located on the side of the driver seat.

The socket is activated automatically as soon as a plug is connected when the engine is running. If there is sufficient energy in the system, the socket can also be used when the engine is switched off → page 291.

### Connecting electrical equipment

1. Open the cover and insert the connector all the way into the socket to release the integrated child socket protection.

Electricity will not flow until the child socket protection has been unlocked.

### LED display on the socket

→ Fig. 127:

**Constant green light** The child socket protection is disengaged. The socket is ready for use.

**Flashing green light** The ignition is switched off but there is sufficient energy available to continue to supply the socket with power for up to 10 minutes. If you remove the con-

necting during this time, the socket switches off and cannot be used again until the ignition is switched back on.

**Flashing red light** There is a malfunction such as a shutoff due to excess current or temperature.

### Temperature switch-off

The inverter in the 230-volt socket with earthing contact will switch off automatically if the temperature exceeds a specific value. The switch-off function prevents the connected device from overheating when the power consumption is too high or if the ambient temperature is too high. The inverter will switch on again automatically after a cool-down phase. Any devices which are connected to the socket and switched on will then be reactivated. If the inverter has switched off due to overheating, always switch off the connected electrical equipment.

To use the 230-volt socket with earthing contact again after it has

cooled down, disconnect the plug of a connected device and then plug it in again. This helps prevent the connected electrical devices being switched on accidentally.

#### **Using the 230-volt socket with earthing contact in vehicles with second battery or 230-volt electrical feed**

The ignition is switched off but there is sufficient energy available to continue to supply the socket with power for up to 10 minutes. If the plug is removed during this time, the socket switches off and cannot be re-used until the ignition is switched on again.

#### **DANGER**

Contact with the high voltage in the electrical system, e.g. sockets, can cause electric shocks, serious burns and death.


- Do not spill any liquids over the sockets.
- Do not plug any adapters or extension cables into the 230-volt socket with earthing contact.

- Never insert any items made of conducting materials, e.g. screwdrivers, into the contacts of the 230-volt socket with earthing contact.
- Do not connect any lamps which use neon tubes.


#### **NOTICE**

The vehicle sockets can be damaged if they are not used correctly. This can result in damage to the electronics and vehicle.

- Only connect devices to the socket with a voltage that matches the voltage of the socket.
- Do not plug any very heavy devices or connectors, such as mains adapters, directly into the socket.

 If devices with a high starting current are prevented from being switched on, this may be due to the integrated overcurrent cut-out function. In this case, disconnect the power supply from the electri-

cal device and connect again after waiting approximately 10 seconds.

 The 12-volt socket in the dash panel is supplied with power from the 12-volt vehicle battery in the engine compartment. The 12-volt vehicle battery is discharged when the engine is stopped.

#### **230-volt electrical feed**

 **Please refer to ,  and  at the start of the chapter on page 291.**

With some equipment levels, a 230-volt electrical feed may be installed in the vehicle → page 14.

The 230-volt electrical feed via the external socket can be used for charging the additional batteries and for using a 230-volt socket with earthing contact in the vehicle interior → page 292.

### Connecting to the mains

1. Unlatch the external socket's protective cover downwards and then swing it upwards.
2. Keep the protective cover in this position.
3. Connect the mains coupling to the feed plug of the external socket so that the blue locking catch so that the blue locking catch on the feed plug of the external socket engages.
4. Close the cover on the external socket to protect the connection.
5. Switch on the residual current circuit breaker → page 296. Please note the positions of the bridge connection: “on” (red) and “off” (green).

### Disconnecting from the mains

1. Switch off the residual current circuit breaker → page 296.
2. Push up the external socket's protective cover.
3. Depress the blue locking catch on the left of the feed plug and

pull the mains coupling from the feed plug of the external socket.

4. Push the protective cover of the external socket down until it clicks into place.

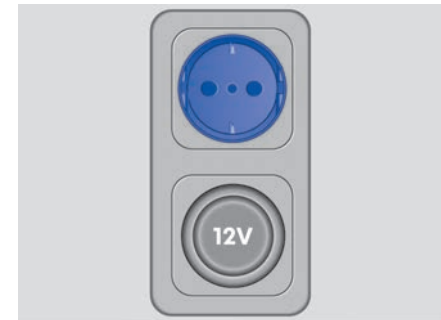
### NOTICE

The vehicle's electrical system may be damaged if an unsuitable power supply is connected.

- Power supplied to the vehicle must comply with valid standards and regulations.
- Never use power with excessive voltage, three-phase current, or the wrong frequency.

### 230-volt socket with earthing contact

📖 Please refer to ⚠️, ⚡ and ⚠️ at the start of the chapter on page 291.



**Fig. 128** In the left side panel: 230-volt socket with earthing contact (illustration).

The 230-volt socket with earthing contact is located in the left side panel → Fig. 128 , → page 291.

The 230-volt socket with earthing contact may differ from the illustration → Fig. 128 due to the specific connector types used in different countries.

The 230-volt grounded safety socket only operates when the following conditions exist concurrently:

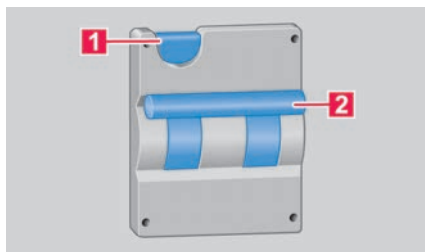
- The mains line coupling is connected properly to the feed connector of the external socket → page 294.
- The other end of the cable is connected to the public power mains.
- The jumper of the residual current circuit breaker has not been tripped.

#### Compatible devices

The maximum power rating for compatible devices is 2,500 watts. Do not exceed the maximum power rating. This also applies to the total power consumption of all connected devices if multiple devices are connected at the same time → page 291. The power rating of each device is stated on its type plate.

#### Residual current circuit breaker

📖 Please refer to ⚠️, ⚡ and ⚠️ at the start of the chapter on page 291.



**Fig. 129** In the left side panel: active residual current circuit breaker with test button **1** and selector bridge **2**.

The residual current circuit breaker offers both personal protection and wiring protection.

For the purpose of personal protection, the residual current circuit breaker is tripped by a residual current of 10 mA.

For wiring protection, the residual current circuit breaker is tripped if overloaded (over 13 A) or in the event of a short circuit. The residu-

al current circuit breaker is switched on when the bridge connection is at the top and a red marking can be seen. A green marking on the bridge connection can be seen if the residual current breaker is switched off.

#### ⚠️ DANGER

Contact with the high voltage in the electrical system, e.g. sockets, can cause electric shocks, serious burns and death.

- Modifications and repairs to the residual current circuit breaker and the electrical system should only be carried out by a suitably qualified workshop.

## Charging options for mobile devices

📖 Please refer to ⚠️, ⚠️ and ! at the start of the chapter on page 291.

Mobile devices can be charged in the vehicle via the built-in USB-A or USB-C ports.

### Charging via USB ports

The following USB-A or USB-C ports may be available in the vehicle:



Indicates a USB socket for data transfer and charging function.



Indicates a USB socket for the charging function only.

### Available charging power

Depending on the equipment, voltages of up to 20 V are provided via the USB port, which allows for a charging power of up to 45 W.

Depending on the equipment level, the following charging profiles can be supported by the USB sockets:

- Legacy charging (2.5 W).
- BC1.2 (7.5 W).
- USB-C charging (15 W).
- USB Power Delivery (up to 45 W).

The actual charging power taken by the connected device depends on the following points:

- Supported charging profiles.
- Charge level of the device.
- Temperature of the device.
- Charging cable used.

---


! With double USB ports, the charging power can be divided between the two ports.


---

### Introduction

The function and operation of the factory-fitted tachograph can be found in an additional operating manual delivered with the vehicle.

If you retrofit a tachograph to the vehicle, ensure it complies with relevant legislation.

 Observe the legal requirements relating to the tachograph in the respective countries. The local authorities can provide details.

 Manipulation of the tachograph and its signal, and misuse of the tachograph discs can result in prosecution.

### Notes on the tachograph

#### Location

The factory-fitted tachograph is located in the stowage compartment in the centre armrest.

#### Time

To set the time, refer to the additional operating instructions for the tachograph.

Please note that in digital tachographs, the time must be displayed in local time. The time on the print-outs is always given in UTC (Coordinated Universal Time).

#### Buffer battery

The digital tachograph has a buffer battery to prevent data loss. The buffer battery can supply power for approx. 1 year without an external power supply. This function is used if, for example, the digital tachograph is removed from the vehicle and stored or if left in a vehicle with a defective or flat 12-volt vehicle battery.

#### Legal requirements

By law, the tachograph must be used in:

- Vehicles that are used for commercial transportation of goods and whose gross vehicle weight

rating including trailer exceeds 3,500 kg (around 7,700 lbs). This is irrespective of whether the vehicle or the trailer or both are used for commercial transportation of goods.

- Vehicles that are built and fitted for the purpose of carrying more than nine persons, including the driver.

#### Checking the tachograph

The tachograph must be checked by the manufacturer or an authorised workshop if any of the following occurs, either in isolation or as a combination:

- If the tachograph is repaired.
- If you are not able to correct a problem yourself.
- If you have changed a wheel.
- At least every 2 years.


### Buttons for optional equipment

The vehicle may contain additional equipment, such as alternators, additional air conditioning compressors or other equipment.

Buttons for operating additional equipment may be located on the left-hand side next to the steering wheel .

Further information regarding additional equipment is available from a suitably qualified workshop or from the second stage manufacturer.



### Power take-off

The  button is in the switch unit to the left of the steering wheel.

The power take-off can only be engaged when the vehicle is stationary and the engine is running.


#### Notes on use

- Operate the power take-off only when the vehicle is stationary.

- In order to ensure sufficient cooling during power take-off operation, maintain a minimum distance of at least 3 m (10 ft) from other vehicles, building walls and other large objects that could impede air circulation.
  - Fill up the vehicle with fuel before continuous operation of the power take-off.
  - If a message about the particulate filter is shown on the instrument cluster, carry out particulate filter regeneration before operating the power take-off → page 457.
  - Never operate the power take-off for more than 10 minutes at a time in continuous operation.
  - Allow the power take-off to cool down for 20 minutes with the engine switched off after 10 minutes of continuous operation.
  - Allow the power take-off to cool down for 60 minutes with the engine switched off after it has been continuously operated three times for 10 minutes.
- If limit temperatures are reached during power take-off operation, the  button will flash as a warning. The engine speed control function may then be deactivated automatically.
- #### Coupling the power take-off manually
1. Stop the vehicle and shift the gearbox into neutral position.
  2. Apply the handbrake.
  3. Fully depress the clutch pedal.
  4. Press the  button for 1 or 2 seconds while the engine is running.  
  
An acoustic signal will sound.
  5. Release the clutch pedal.  
  
An acoustic signal will sound again.  
  
The indicator lamp in the button lights up.
- #### Uncoupling the power take-off manually
1. Fully depress the clutch pedal again.

#### Troubleshooting


#### **Not possible to disengage the power take-off**

The  button continues to light up after you press the clutch pedal.

A text message may also be displayed.

#### **Do not move the vehicle!**

1. Immediately switch off any electrical consumers or body parts that are connected to the power take-off.
2. Inform a suitably qualified workshop and have the power take-off checked.
3. If necessary, consult the second stage manufacturer.

 The power take-off is disengaged if the handbrake is released or the clutch pedal is depressed when the power take-off is engaged.

#### **NOTICE**


The temperature in the engine compartment may rise to inadmis-

sible levels if the power take-off is subjected to high loads, e.g. by high power output at high outside temperatures. This could damage the power take-off and the electrical equipment connected to the power take-off.

- Make sure that the vehicle is parked at a sufficient distance from house walls so that an air flow can cool the vehicle.

#### **Engine speed control function**


The engine speed control function ensures that the engine speed is constant when the power take-off is coupled.

Depending on the vehicle equipment, the button for the engine speed control function  is located in the switch unit to the left of the steering wheel.

#### **Switching on the engine speed control function**

You can only switch on the engine speed control function when the

vehicle is stationary and the handbrake is applied.

1. If necessary, engage the power take-off → page 299.
2. Press the .

The indicator lamp in the button lights up.

The engine speed will increase to the constant engine speed setting.

#### **Switching off the engine speed control function**

1. Press the .

The indicator lamp in the button switches off.

The engine speed will reduce to idling speed.

#### **The engine speed control function switches off automatically when:**

- The handbrake is released.
- The vehicle moves.
- The control unit detects a malfunction.

⚠ If you require a different constant engine speed, please contact a suitably qualified workshop.

### Maximum battery charge



**Fig. 130** In the upper part of the centre console: button for maximum battery charge.

With some equipment levels, your vehicle may be fitted with the maximum battery charge function.

You can activate the maximum battery charge function in order to fully charge the additional battery independently of the vehicle functions when driving.

The function increases the idling speed of the engine. The fuel consumption may increase as a result.

#### Prerequisite:

- The engine is running.

#### Switching maximum battery charge function on and off

1. Press the button → Fig. 130.

The charging current is reduced when the additional battery is fully charged.

1. Press the button again to switch off the function.

**Or:** Switch off the engine.

Cyber security refers to measures designed to reduce the risk of unauthorised access by malware or an internet attack on vehicle functions, data and control units. In the vehicle, connectivity components in particular are affected by unauthorised access or internet attacks.

Connectivity components are control units for data transmission, interfaces, media and diagnostic connections via which information and data can be exchanged between the vehicle and external devices or the internet.

Connectivity components are equipped with security mechanisms that minimise the risk of unauthorised access to vehicle systems.

The connectivity components include the following in particular:

- Diagnostic socket.

- Control unit with integrated eSIM card, for example for online call services (e.g. emergency call, MAN Breakdown Call, MAN Information Call).
- MAN telematics box.
- Mobile phone interface.
- MAN SmartLink.
- Wi-Fi hotspot.
- Bluetooth® interface.
- USB port.
- SD card slot.
- SIM card slot.



The type and number of connectivity components present in your vehicle depend on the equipment and country.

### Software and security mechanisms

The software and security mechanisms in the vehicle are subject to continuous further development. Like with computers or the operating systems of mobile telephones, the software and security mecha-

nisms in the vehicle may also be updated at irregular intervals.

System updates improve the security, stability and running speeds of the vehicle systems. A system update is a preventive measure to optimise functionality and protect against malware, for example.

The software of control units in the vehicle is updated with a system update.

There are two options for updating your vehicle, depending on vehicle and country:

- System update by a suitably qualified workshop.
- System update via an over-the-air update.

### WARNING

Malware can access data and information that are stored in control units, in the Infotainment system and on connected or paired mobile devices. In spite of integrated security mechanisms and regularly performed over-the-air updates,

malware can still damage or cause malfunctions of the control units and vehicle. Damage to and malfunctions of the control units and vehicle can also occur if you connect mobile devices to the vehicle that are infected with malware. The damage may mean complete loss of the data, and malfunctions can lead to serious accidents and fatal injuries.

- If the vehicle functions or reacts differently than normal, reduce speed in a controlled manner and contact a suitably qualified workshop.
- After system updates are made available, carry them out as quickly as possible or have them installed by a suitably qualified workshop.
- Protect mobile devices by means of a suitable anti-virus program and generally known precautionary measures. Regularly update the appropriate anti-virus program with the software updates from the provider.

### Minimising risks

You too can reduce the risk of unauthorised access to vehicle systems and functions:

- Use only data media, Bluetooth® devices and mobile telephones in the vehicle than do not contain manipulated data or malware.
- Have system updates that are made available by MAN carried out by a suitably qualified workshop as soon as possible after they are made available. If you have the possibility of carrying out over-the-air updates (dependent on vehicle and country), carry out these updates provided by MAN immediately. If the driver repeatedly rejects the over-the-air update, it is then necessary to visit a suitably qualified workshop.
- Have the vehicle serviced, repaired and maintained only by a suitably qualified workshop.

### Introduction

Observe the safety instructions for data transmission in the vehicle  
→ page 302.

MAN Connect combines various online services that offer additional functions for your vehicle. MAN Connect uses a mobile data connection to network your vehicle and provide online services and call services.

### MAN Connect service portfolio

The available MAN Connect services depend on the end device (radio or Infotainment system) you have purchased.

Not all services are available in all vehicles and countries.

When you purchase a radio or Infotainment system, the following optional call services can be accessed using the three-button pan-

el in the roof (depending on the optional equipment selected):

- MAN information call.
- MAN breakdown call.
- Emergency Call.

These call services are not available if the vehicle has a radio preparation, in motorhomes, or if other special modifications are made to vehicles with an open cab without a partition wall.

If you purchase the largest Infotainment system – MAN Media Van Business Navigation – you will receive the following additional MAN Connect services:

- MAN map update (incremental).
- Live traffic information.
- News (also available for MAN Media Van Business).
- Weather (also available for MAN Media Van Business).
- Points of interest in real time, e.g. parking, refuelling.

### MAN DigitalServices

Not available in all vehicles (depends on the selected optional equipment) and countries.

- Fleet Driving Efficiency.
- GPS tracking and route information.
- Consumption Analyser.
- Maintenance Management.

These services are available only through MAN DigitalServices and only for commercial end customers and fleet operators.


The terms of use for MAN DigitalServices can be found on the MAN DigitalServices website:

<https://digital.man>

Depending on the selected equipment variant of the Infotainment system, MAN Connect and MAN DigitalServices are available in many EU countries.

You can find a list of countries online at:

<https://van.man/de/de/infotainment.html>

 MAN Truck & Bus SE is not responsible for damage to the vehicle caused by poor-quality or faulty third-party apps, inadequate programming of third-party apps, insufficient network strength, data loss, misuse of mobile devices, or malware on data media, computers, tablets and mobile telephones.

### Legal requirements

By concluding a MAN Connect contract for your vehicle, you as the contracting party undertake within the meaning of data protection law to inform each driver that the vehicle can transmit and receive data online. This also applies if you sell or lend your vehicle.

Failure to observe this obligation to inform can infringe certain rights of vehicle occupants.

### Personal data

MAN collects, processes and uses the user's personal data in accordance with statutory requirements.

Further information on data protection can be accessed via the MAN website:

<https://mantruckandbus.com>

### Prerequisites

#### Which Infotainment system supports MAN We Connect?

The vehicle must be ordered with MAN Connect and come with a suitable factory-fitted Infotainment system. Some MAN Connect services cannot be performed with all available Infotainment systems.

MAN Connect is not available in all countries and is subject to country-specific limitations on duration of use.

#### Internet connection

To use the online services, the MAN telematics box must have a mobile data connection.

You can access all online services, which may be subject to a surcharge, without purchasing additional data plans by using the per-

manently installed eSIM card in the MAN telematics box.

### Interference

Even when the above requirements for using the services are met, the functionality of the MAN Connect services can be impaired or interrupted due to factors that lie outside the control of MAN Truck & Bus SE. Such factors include in particular:

- Maintenance, repairs, deactivation, over-the-air updates and technical changes to your service provider's telecommunication systems, satellites, servers and databases.
- The telecommunications provider has changed the mobile telecommunication standard for transferring mobile data, e.g. from LTE or UMTS to EDGE or GPRS.
- An existing mobile telecommunication standard has been

switched off by the telecommunications provider.

- Disturbance, interference or interruption of mobile phone and GPS reception (e.g. due to high speeds, solar storms, weather, landscape, interfering devices or intensive use of the mobile network in the relevant cells).
- If your current location is in an area with no or insufficient mobile communications and GPS reception. This can also include tunnels, streets with tall buildings, garages, car parks, underpasses, mountains and valleys.
- Restricted availability, completeness or correctness of information provided by third parties, e.g. maps.
- Countries and regions where MAN Connect services are not available.

### Activating MAN Connect in the vehicle

MAN Connect is activated after delivery of the vehicle. This facilitates immediate use of the online/Infotainment services.

You need to register your vehicle in order to use MAN DigitalServices.

You can find a description of how to go about it on the web portal:

**<https://digital.man>**

It also provides an overview of the digital services along with additional information.

You can deactivate and activate MAN Connect services by modifying the privacy settings (Privacy Mode) → page 306. It is not possible to deactivate services that are required by law. You cannot activate or deactivate any services if data transmission is restricted by your privacy settings → page 306.

### MAN Connect in the Infotainment system

Depending on the active function, the following symbols are displayed in the status bar at the top edge of the screen:



Online mode. There is an Internet connection.



“Maximum privacy” mode.



“No position data” mode.



“Use my position” mode.



“Share my position” mode.

#### Maximum privacy

- All services are deactivated and do not send any data. All tracking services are deactivated.
- The eSIM card is deactivated for all services except emergency calls. All vehicle functions that

require an online connection via the eSIM card are deactivated.

- It is not possible to update any information and data stored in the control units, e.g. emergency call numbers, certificates. This can restrict functions and services or mean that they are not available.
- Legally required services cannot be deactivated and still transmit data.

#### No position data

- The current position of the vehicle is not transmitted. All tracking services are deactivated.
- The eSIM card remains activated. All vehicle functions that require an online connection via the eSIM card are activated.

#### Use my position

- Information on the current position of the vehicle is not provided to other persons. All tracking services remain activated.

- The eSIM card remains activated. All vehicle functions that require an online connection via the eSIM card are activated.


#### Share my position

- All services can transmit and receive data without restriction. All tracking services are activated.
- The eSIM card is activated. All vehicle functions that require an online connection via the eSIM card are activated.

The data and tracking services for the MAN Media Van equipment option are activated in the factory. It is not possible to change the privacy settings via the Infotainment system user interface. If you still wish to deactivate the data or tracking services, send an email stating your vehicle identification number, contact details and proof of vehicle ownership to the following address:

**privacymode@man.eu**



With the MAN Media Van Business and MAN Media Van Business Navigation equipment options, you can configure the privacy settings and the display of the licence periods via a separate menu in the Infotainment system. Open this menu by swiping down from the centre of the screen at the top, indicated by a small white bar. The user can adjust the setting after selecting the current privacy setting symbol, e.g. . To close the menu, swipe up from the bottom of the screen.

#### Introduction

With MAN DigitalServices, MAN offers commercial customers a complete solution for monitoring and managing their vehicle fleet. MAN DigitalServices supplies up-to-date vehicle data for this purpose.

To use this service you need to register on the MAN DigitalServices website:

**<https://digital.man>**

After registering, fleet managers can manage their company's vehicles and drivers.

Data transmission from the vehicle takes place via the MAN telematics box with integrated eSIM card.

If you have any questions, contact a suitably qualified workshop.

#### Registering as a fleet manager

A fleet manager must be registered in order to create and manage the fleet. The fleet manager creates drivers and vehicles and manages the data. The user account of the

fleet manager is simultaneously the business user account of the company.

**About this section**

The Infotainment system is supplied in different versions. These differ with respect to the available functions, labelling and functions of the Infotainment buttons as well as the layout of the controls. This section applies to all unit versions.

The functions listed below may be available for all Infotainment systems. The functions and settings of the Infotainment system depend on the equipment and are not available in all countries.

**Before using the unit for the first time**

Please note the following points before using the Infotainment system for the first time so that you can make full use of the available functions and settings:

- Observe the safety instructions → page 311.
- Read this section and familiarise yourself with how to use the Infotainment system.
- Reset the Infotainment system to its factory settings → page 326, → page 359.
- Find your favourite radio stations, also referred to as “stations” below, and store them to station buttons or memory locations for quick access → page 328, → page 361.
- Use only suitable audio sources and data media → page 333, → page 366.
- Use current map data for the navigation system → page 377.
- Pair a mobile telephone with the Infotainment system to make calls using the mobile phone interface → page 338, → page 381.

**Other applicable documents**

In addition to this manual, please observe the following documents when using this Infotainment system and its components:

- Supplements in the vehicle wallet of your vehicle.

- The operating instructions for the mobile telephone or audio sources.
- The operating instructions for external data media, audio sources and playback devices.
- Instructions for any Infotainment accessories subsequently installed or additionally used.
- Digital owner’s manual in the Infotainment system, depending on equipment and not available in all countries.

**Activating functions**

The Infotainment system may be subsequently upgraded to perform functions that were not yet activated or available at the time of delivery from the factory.

Your MAN dealership can provide information on the functions that can be activated in your Infotainment system.



If additional functions are enabled following vehicle manufacture, this chapter and other chapter in

the vehicle wallet regarding the functions in question may contain different or incomplete descriptions.

---

Before using the Infotainment system for the first time, please read and observe the following safety notes so that you are aware of dangers to yourself and others and of how these dangers can be avoided:

- Read through this manual carefully.
- Some functions may contain links to websites that are operated by third parties. MAN Truck & Bus SE does not take ownership of the third-party websites that are reached via links and is not responsible for their content.
- Some functions may contain information supplied by third parties. MAN Truck & Bus SE is not responsible for external information being correct, up-to-date and complete, or for any infringement of third-party rights.
- The radio stations and the owners of the data media and audio sources are responsible for the content provided.

- Mobile, GPS and radio signals can be impaired by multi-storey car parks, garages, underpasses, tunnels, tall buildings, mountains, valleys, and other electrical devices such as battery chargers.
- Films or metal-coated stickers on the antenna and windows can interfere with radio reception.
- Read and follow the appropriate operating manuals of the respective manufacturer when using mobile telephones, data media, external devices, external audio and media sources.

#### **WARNING**

The Infotainment system central computer is networked with the control units installed in the vehicle. If the central computer is not repaired correctly or is not removed and installed correctly, there is an increased risk of accidents and injuries due to a control unit that does not function or does not function properly.

- Never replace the central computer with a used central computer taken from an end-of-life vehicle or a recycling facility.
- Only have the central computer removed, installed or repaired by a specialist company qualified to perform this work.

#### **WARNING**

The factory-fitted radio with integrated hardware is networked with the control units installed in the vehicle. If the radio is not repaired correctly or is not removed and installed correctly, there is an increased risk of accidents and injuries due to a control unit that does not function or does not function properly.

- Never replace the radio with a used radio from an end-of-life vehicle or a recycling source.
- Only have the radio removed, installed or repaired by a suitably qualified workshop.

### WARNING

Reading information from the screen, operating the Infotainment system and connecting, inserting or removing a data medium or audio source while driving can distract you from the traffic situation. Unfavourable light conditions and a damaged or soiled screen may result in displays and information not being read or not being read correctly from the screen. This can distract you from the road. Accidents and injuries can occur if the driver is distracted.

- Always drive with your full attention and responsibly.

### WARNING

If the volume is set too loud, this will prevent you from hearing acoustic signals. If you do not hear acoustic signals from outside, this can lead to accidents.

- Set the volume so that you can still always hear acoustic sig-

nals from outside the vehicle (e.g. emergency service sirens).

### WARNING

A volume that is too loud can damage the hearing, even if the hearing is exposed to loud volumes only for a short time.

- Adjust the volume so that it is pleasant for all vehicle occupants.
- Avoid volumes that are too loud.

### WARNING

Sudden changes in volume, such as when changing or connecting an audio or media source, can distract the driver and lead to accidents and injuries.

- Reduce the volume before switching the audio or media source or connecting a new source, for example.

### WARNING

The following conditions can lead to situations where emergency

calls, telephone calls and data transmission are restricted, interrupted or not possible:

- Your current emergency call location is in an area with no or insufficient mobile communications and satellite signal reception.
- The mobile communications network of telecommunication providers is not available in areas with sufficient mobile communications and satellite reception.
- If the components in the vehicle required for emergency calls, telephone calls and data transmission are damaged, not working, or do not have sufficient electrical power.
- The battery of the mobile telephone is empty or does not have a sufficient charge level.

### WARNING

Radio stations can transmit catastrophe and danger warnings. If catastrophe and danger warnings can-

not be received or output, this can cause accidents and injuries. The following conditions can prevent these warnings from being received or output:

- Your current location is in an area with no or insufficient radio signal reception.
- The frequency bands of the radio stations are subject to interference or are not available in areas with adequate radio signal reception.
- The loudspeakers and the components required for radio reception in the vehicle are damaged, not working or do not have sufficient electrical power.

### WARNING

In some countries and on some mobile networks, a call for assistance or an emergency call can be made only under the following conditions:

- A mobile telephone with unlocked SIM card and sufficient call credit is connected to the

mobile phone interface of the vehicle.

- There is sufficient network coverage.

### WARNING

If a mobile telephone or two-way radio that is not connected to an external aerial is used, electromagnetic radiation in the vehicle could exceed limit values and thus be a health hazard for all vehicle occupants.

- Maintain a minimum distance of 20 cm (around 8 inches) between the aerials on the mobile telephone and an active medical implant, e.g. a pacemaker, since the mobile devices may impair the function of active medical implants.
- Do not carry an operational mobile telephone close to or directly over an active medical implant (e.g. in a breast pocket).
- Switch off mobile telephones immediately if you suspect they may be interfering with an ac-

tive medical implant, e.g. a pacemaker, or any other medical device.

### WARNING

Mobile telephones, external devices and accessories in the vehicle that are loose, unsecured or not properly secured can be flung through the vehicle interior and cause accidents and serious injuries in the event of a sudden driving or braking manoeuvre or in the event of an accident.

- Safely secure or stow any mobile devices and accessories outside the deployment zone of the airbags.
- Always secure or stow mobile telephones, external devices, audio sources and accessories securely in the provided stowage areas and holders in the vehicle so that they cannot be flung through the vehicle interior and hinder the driver.

- Never leave any heavy, hard or sharp objects in the pockets of clothing.
- Route the wires for external devices and audio sources so that they do not obstruct the driver.

#### **WARNING**

Driving recommendations and displayed traffic signs of the navigation may deviate from the current traffic situation and must not tempt you to take a safety risk.

- Always drive with due care and attention and be ready to intervene at all times.
- Always remember that road signs, traffic signals, traffic regulations and local conditions take precedence over driving recommendations and displays provided by the navigation system.
- Ensure that your speed and driving style are always appropriate for the current visibility, weather and road/traffic conditions.

#### **WARNING**

The centre armrest can obstruct the driver's arm movements. This can cause accidents and severe injuries.

- Always keep the stowage compartment in the centre armrest closed while the vehicle is in motion.

#### **NOTICE**

The radiation produced by the mobile telephone when switched on may interfere with sensitive technical and medical equipment, possibly resulting in malfunction or damage to the equipment.

- Always switch off your mobile telephone in areas where special regulations apply and when the use of mobile devices is forbidden.

#### **NOTICE**

Setting the volume too high and playing tracks too loudly or with

excess distortion can damage the speakers.

- Choose the volume setting so that the loudspeakers are not damaged.

#### **NOTICE**

Insertion of objects, forcible or incorrect insertion or insertion of data media with the incorrect shape or size can damage the object, the media drives and the Infotainment system.

- When inserting a data medium, make sure it is correctly positioned.
- Insert only suitable data media in the corresponding media drives.
- Do not use excessive force when inserting data media.
- When inserting SD cards, always hold them at right angles to the front of the unit and do not tilt them.
- When removing SD cards, always hold them at right angles

to the front of the unit and do not tilt them.

---

***NOTICE***

Foreign bodies, e.g. stickers, and liquids adhering to a data medium can damage the media drives and the Infotainment system.

- Do not affix stickers or other similar items to the data medium.
  - Do not use printable data media.
  - Use only data media that are undamaged, dry, clean and suitable.
-

- The Infotainment system needs a few seconds for a complete system start and does not respond to inputs during this time. During system start-up, only the rear view camera image can be displayed.
- The Infotainment system must start up completely before all displays are available and before it is possible to execute functions. The duration of a system start depends on the functional scope of the Infotainment system and can also take longer than usual particularly at low and high temperatures.
- When using the Infotainment system and the corresponding accessories, such as a headset or headphones, please observe the country-specific regulations and legal requirements.
- To ensure that the Infotainment system works, it is important to make sure the system is switched on and that, where applicable, the correct date and time are set in the vehicle.
- A missing Infotainment button, button or function button on the screen does not constitute a fault in the unit; it reflects the equipment that is available in the country in question.
- Some of the functions and settings of the Infotainment system are available only when the vehicle is stationary. In some countries, the selector lever must additionally be in parking position **N** or **P**. This is not a malfunction, but simply a legal requirement.
- In some countries there may be restrictions on using Bluetooth® devices. Information is available from the local authorities.
- Switch on the ignition before switching the Infotainment system back on if the 12-volt vehicle battery has been disconnected.
- If settings are modified, displays on the screen may vary and the Infotainment system may behave differently from the description in this manual in some cases.
- The Infotainment system switches off automatically when the engine is switched off and when the charge level of the 12-volt vehicle battery is low.
- In some vehicles equipped with the Park Distance Control, the volume of the current audio source is automatically lowered when the reverse gear is engaged. It is possible to adjust the volume reduction → page 268.
- Information about the software and the licence conditions is stored in the Infotainment system: Settings ► System information and Settings ► Copyright.
- If you sell your vehicle or loan it to somebody else, make sure that all the stored data, files and settings are deleted and that the external SD card, external audio sources and data media are removed where applicable.
- The Infotainment system is fixed permanently to the vehicle and

marked with a security code, depending on the unit and country. It therefore cannot be used in another vehicle → page 311.

- In order to ensure that the functionality of the system is not impaired, have any repairs or modifications to the Infotainment system performed only by a suitably qualified workshop.
- High speeds, poor weather and poor road conditions, loud noise levels, also outside the vehicle, and network quality may impair telephone calls in the vehicle.
- Repairs and modifications to the Infotainment system should be carried out only by a suitably qualified workshop.
- Using a mobile telephone in the vehicle may cause noise from the vehicle speakers.
- Briefly pressing the buttons lightly or touching the touchscreen is sufficient to operate the Infotainment system.

Depending on the selected equipment variant of the Infotainment system, MAN Connect and MAN DigitalServices are available in many EU countries.

You can find a list of countries here:

**<https://van.man/de/de/infotainment.html>**

More information may be available in the Infotainment system.

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- The use of HERE navigation map data and traffic services is subject to the following terms and conditions, which are available at [www.here.com](http://www.here.com):
  - End User License Agreement:
    - <https://legal.here.com/terms/eula/>
  - Supplier Terms Applicable to Location Content:
    - <https://legal.here.com/terms/general-content-supplier/terms-and-notices/>

### Copyright law

Audio and video files saved on data media and audio sources are normally subject to national and international copyright laws. Observe legal requirements.

### Cleaning the screen

Observe this checklist when cleaning the screen:

- ✓ The Infotainment System is switched off.
- ✓ Use a clean, soft cloth that is moistened with water.

**Or:** Use a special cleaning cloth available from a MAN dealership.

- ✓ In the case of stubborn dirt:
  - Moisten dirt with only a little water and allow to soak in.
  - Carefully remove dirt with a clean, soft cloth.

#### **NOTICE**

The screen can be damaged if it is cleaned with the wrong cleaning agents or while dry.

- Only exert light pressure.
- Do not use aggressive or solvent-based cleaning products. These cleaning products can damage the unit and make the screen go blind.

#### **NOTICE**

If the screen is cleaned with too much moisture, it may no longer be possible to operate the screen or the screen may switch itself off.

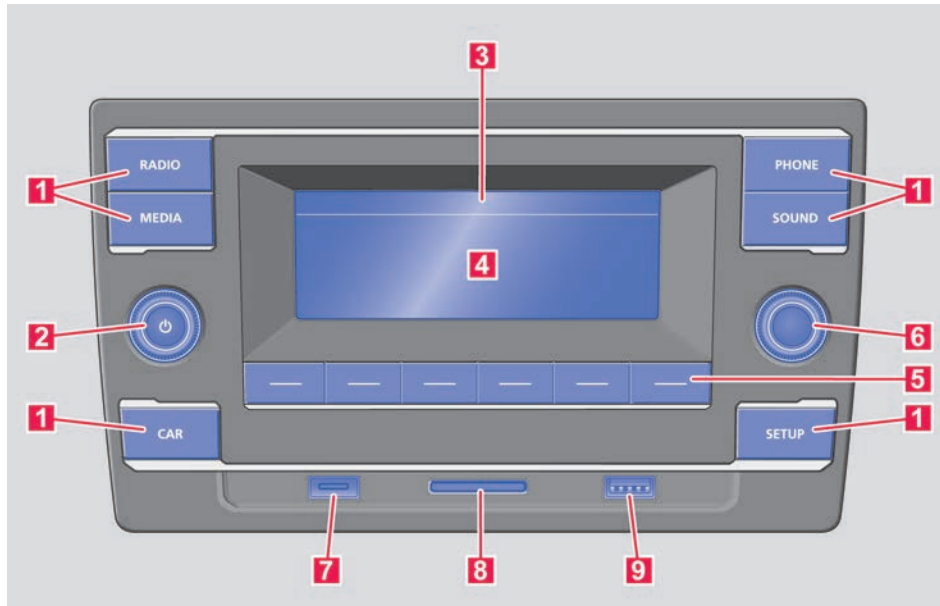
- Dry the screen then leave the vehicle locked from the outside for at least 2 minutes.

## Overview and controls

The Infotainment system is supplied in different versions. These

differ with respect to the available functions, labelling and functions of

the Infotainment buttons as well as the layout of the controls.



**Fig. 131** Overview: Display and control unit. The layout may vary depending on unit and country.

- 1** Infotainment buttons (labelled).
- 2** Rotary pushbutton  $\odot$ .
- 3** Status bar.

- 4** Screen.
- 5** Function buttons (without label).
- 6** Menu control.
- 7** Microphone.
- 8** SD card slot.
- 9** USB port.


### **1 Infotainment buttons (labelled)**


Infotainment buttons are operated by lightly pressing them or by tapping and holding them.

1. To open a function area, press the relevant Infotainment button, e.g. **[RADIO]** for the RADIO main menu.
  - **[RADIO]**: Open the RADIO main menu. Switch to radio mode. In radio mode, switch frequency band and, depending on the equipment, switch memory level → page 324, → page 328.
  - **[MEDIA]**: Open the MEDIA main menu. Switch to media mode and change the media source in media mode → page 333.

- **[CAR]**: Open the vehicle settings → page 53.
- **[PHONE]**: Open the PHONE main menu and telephone interface → page 338. If no mobile phone interface is installed, the currently active audio source will be muted.
- **[SOUND]**: Open the SOUND main menu and Sound settings menu → page 326.
- **[SETUP]**: Open the settings menu of the active function → page 326.

### **2 Rotary pushbutton**

- To switch the Infotainment system on manually, briefly press the rotary pushbutton .

- To adjust the Infotainment system volume, turn the rotary pushbutton .

### **3 Status bar**

- Displays the time and information about the operating status, e.g. the battery level of a connected mobile telephone.

### **4 Screen**

For displaying information.

- Cleaning the screen → page 320.
- Opens the settings → page 326.

### **5 Function buttons (without label)**

Six unlabelled function buttons are located under the screen. The current function of a function button varies depending on the current

operating state. The function assigned to a function button is always shown on the screen, above the relevant button.

1. Press the respective function button to execute the function of a function button.

## 6 Menu control

The menu control can be turned or pressed. The current function depends on the unit's operating state.

- Turning the control allows you to browse lists or open lists of media tracks, for example.

## Media drives

Observe the information in the section on safety → page 311.

In this manual, the SD card slot is referred to as the internal media drive.

The type and quantity of the media drives are dependent on country and equipment and may vary within a model series and differ again in a limited edition model → page 12.

- Pressing the control opens selected entries, applies settings, and starts or stops functions.

## 7 Microphone

For voice recording for the hands-free system.

1. To activate the hands-free system → page 338.

## 8 SD card slot

Insert SD cards → page 323.

1. Carefully push the SD card into the SD card slot with the cut-off corner first, the label facing

upwards, and the contacts facing down.

## 9 USB port

1. Connect the external audio sources → page 347.

## SD card slot

To use stored media such as audio files or media files in the Infotainment system, insert a compatible SD card into the SD card slot. Supported file formats are displayed in the Infotainment system. Only supported audio files are displayed and played. Other files and file formats will be ignored → page 333, → page 366.

The SD card slot is located on the front of the Infotainment system.

You must not use SD card adapters.

### Sizes of compatible SD cards

You must only insert SD cards of the following dimensions into the SD card slot. Dimensions of compatible SD cards:

- 32 mm x 24 mm x 2.1 mm (around 1 in x 0.94 in x 0.083 in).

- 32 mm x 24 mm x 1.4 mm (around 1 in x 0.94 in x 0.055 in).

### Inserting an SD card securely

1. Carefully insert a compatible SD card into the SD card slot with the cut-off corner first, the label facing up, and the contact surfaces facing down until you feel the card click into place.

If the SD card cannot be inserted, check the compatibility and the insertion position of the SD card, and inspect the SD card itself.

Playback starts automatically if the SD card contains readable audio files.

### NOTICE


The SD card slot, SD card or both may be damaged if you insert SD cards with force, if an SD card has the wrong dimensions or if you use an SD card adapter.

If you insert other objects, such as SIM cards, in the SD card slot,


the object, the SD card slot or both may be damaged.

- Do not use excessive force when inserting SD cards.
- Observe the dimensions of compatible SD cards.
- Do not use any SD card adapters.

---

 If the Infotainment system cannot read the data on an SD card, a corresponding message will be displayed on the screen.

---

 An SD card with navigation data cannot be used as a storage device for other files. Stored files are not recognised by the Infotainment system.

---

### Removing an SD card

1. Stop playback.
2. Press the inserted SD card.  
The SD card is released and “jumps” to the eject position.
3. Remove the SD card.

### SD card cannot be read

The unit will not change to SD card mode after loading if you insert an SD card containing data that cannot be read.


A corresponding message will be displayed.

### Operating the Infotainment system

The Infotainment system is supplied in different versions. These differ with respect to the available functions, labelling and functions of the Infotainment buttons as well as the layout of the controls. Use the Infotainment system controls to operate functions and settings.

### Controls

The Infotainment system has different controls according to the equipment level:


- Infotainment buttons (labelled), e.g. .
- Rotary pushbutton.

- Menu control.
- Function buttons (without label).

### Scrolling through lists, switching tracks

Select a desired function, setting or track using the menu control on the Infotainment system.

### Switching the Infotainment system on or off manually

1. Briefly press the rotary pushbutton .

### Switching the Infotainment system on and off automatically

This function is dependent on the equipment level and is not available in all countries.

- Switch on automatically: Switch on the ignition. The Infotainment system switches itself on automatically if the Infotainment system has not been switched off manually beforehand.
- To switch off automatically: Remove the vehicle key from the ignition lock. The Infotainment

system switches itself off automatically.

### Switch-off delay

If the switched-off Infotainment system is switched on again manually, it will switch itself off again automatically after approximately 30 minutes (switch-off delay).

### Energy management

If the battery voltage falls below the minimum vehicle electrical system voltage when the ignition is switched off and the Infotainment system is switched on, an acoustic signal will sound and a corresponding message will appear on the screen. The unit should be switched off.

If the battery voltage continues to decrease, the unit will switch off automatically.


### Adjusting the volume



Some volume control settings may be preset.


After switching on, the Infotainment system starts at the last selected

volume setting, provided that this does not exceed the preselected maximum switch-on volume → page 326.



### Adjusting the volume


1. Turn the rotary pushbutton  clockwise (louder) or anti-clockwise (quieter).

**Or:** Press  (louder)  (quieter) on the multifunction steering wheel.

 If the volume has been turned up high to play an audio source, lower it again before switching to another audio source → page 336.

### Mute

Any audio source currently being played is stopped while the Infotainment system is muted.  or  can be displayed on the screen.

1. Turn the rotary pushbutton  anti-clockwise until the audio source can no longer be heard.

**Security code**

Depending on the equipment and country, the Infotainment system may be protected against unauthorised use by a security code.

Once the security code has been entered for the first time, it remains stored in the vehicle (convenience radio coding).

- Please contact a MAN Support Centre if the security code needs to be cancelled manually. This is the case, for example, if the unit has been installed in another vehicle.
- Switch the ignition on before switching the Infotainment system back on if the vehicle battery has been disconnected.

**System and sound settings**

Observe the information in the section on safety → page 311.

Adjust the settings only when the vehicle is stationary.

The choice of possible settings varies depending on the country and also on the vehicle equipment.

**Opening the SETTINGS main menu**

1. Press **[SETUP]**.
2. Turn the menu control to select the desired menu option.

Settings

Privacy settings Adjust the privacy settings and open the display of privacy settings information.

Radio Adjust radio settings → page 328.

Media Adjust media settings → page 333.

Screen Adjust the screen settings, e.g. select the brightness of the screen and show the clock in standby mode. Select  to activate the clock in standby mode.

Time Set time and choose format and select Summer Time. For Summer Time, activate .

Date Set the date and select the date format.

Language Select the desired device language.

Units Select units for distance, temperature, volume, pressure, consumption and speed.

MAN Connect Make MAN Connect settings (for example, manage various services). Requires an internet connection. Not available in all countries and vehicles.

Bluetooth → page 349.

Reset all resets the device to the original condition. All entries and settings made will be deleted.

System information displays system information (device/part number, hardware and software versions, information on Bluetooth®, updating software).

Copyright information displays the copyright information.

Site notice displays the site notice.

Privacy Policy displays the Privacy Policy.

**Settings** Sound

The **Sound settings** menu can only be accessed using the **SOUND** Infotainment button.

**Opening the SOUND main menu**

1. Press **SOUND**.

**Volume** adjust the volume settings.

**Max. switch-on vol.** set the maximum switch-on volume.

**Adjusting the volume** set the degree of speed-dependent volume control. The audio volume is raised automatically as the vehicle speed increases – speed-dependent volume control (GALA).

**Audio reduction** lowers the volume when Park Distance Control is active.

The display is available depending on the country and unit version.

**Bluetooth audio** set the playback volume of audio sources connected via Bluetooth®.

The display is available depending on the country and unit version.

**Bass - Mid - Treble** manually set sound characteristics and equaliser.

**Balance** set sound focal point.

**Adjusting the output volume of external audio sources**

- If you need to increase the output volume of an external audio source, first lower the volume on the Infotainment system.
- If the sound from the paired external audio source is too quiet, increase the output volume on the external audio source. If this is not sufficient, set the input volume to *Medium* or *Maximum*.
- If the sound from the connected external audio source is too loud or distorted, lower the output volume on the external audio source. If this is not sufficient, set the input volume to *Medium* or *Minimum*.

## Introduction

Observe the information in the section on safety → page 311.

Observe country-specific regulations and legal requirements when using the unit.

Additional electrical devices connected in the vehicle can interfere with radio reception and cause noises in the loudspeakers.

Foil or metal-coated stickers attached to the windows may affect reception on vehicles with a window aerial.



The radio stations are responsible for the content of the information sent.

## Setting up radio mode

1. Switch on the Infotainment system and restore factory settings → page 326.
2. Open the RADIO main menu → page 328.
3. Search for a station in the desired frequency band or start

SCAN mode if necessary  
→ page 329.

The AM frequency band is dependent on the equipment level and is not available in all countries.

4. Store the current station to a station button → page 329.

## RADIO main menu

Radio mode starts in the last selected frequency band.

The station currently selected is displayed on the screen.

The current frequency range with memory level currently selected is shown on the screen.

If the radio data system (RDS) is available, the station name can be displayed instead of the station frequency.

## Opening the RADIO main menu

1. Depending on the country and the device, press **SETUP**.

## Settings Radio

Please refer to → page 326.

## Opening the Radio settings

1. Press **SETUP**.
2. Turn the menu control and select Radio.

Traffic Programme (TP) Availability depends on the country and the unit. traffic news monitoring. Select  to activate → page 331.

Arrow buttons Define the settings for the < and > arrow buttons, e.g. for station lists or preset lists.

Station list: all receivable stations on the selected frequency band can be browsed with the arrow buttons.

Preset list: all stored stations on the selected frequency band can be browsed with the arrow buttons.

Delete memory deletes all stored stations.

RDS Regional RDS that enables the display of station names, ra-

dio text and traffic news (TP). To change or activate the function, activate  → page 331.

Auto. freq. (AF) Availability depends on the country and the unit. automatic station tracking. Select  to activate. The radio automatically switches to the frequency of the set station which currently has the best reception.

Switch to sim. Stations switches to similar stations. Select  to activate.

### Equipment features and symbols

The scope of available functions and symbols in radio mode depend on the equipment and country.

The symbols may have a different appearance in some Infotainment systems.

#### Equipment

The scope of available functions and possible reception modes and

frequency bands available depend on equipment and country.

- AM tuner.
- FM dual tuner (antenna diversity).
- Station list.
- Station buttons as storage locations for favourites.
- Preset list.
  - Stations stored to station buttons in a list for each frequency band.
- Station logos.
- Aerial amplifier.

#### General symbols in radio mode



Updates the station list.



Station currently being played.

AM Select AM reception mode.

FM1-4 Example of how a stored station is displayed. The displayed station is stored in the

FM 1 memory level, function button 4.

### Tuning, selecting and storing stations

#### Selecting stations

1. Select the desired frequency band → page 329.

A stored station can only be played if it can be received at your current location.

2. Briefly press the function button under < or >. The unit only switches to stored or receivable stations, depending on what settings have been made for the arrow buttons. The settings for the arrow buttons can be changed in the [Radio settings](#) menu → page 329.

**Or:** press the function button to open the station list.

3. Turn and press the menu control to change the radio station frequency manually.

**Or:** if stations are stored on function buttons, briefly press the function button under the stored station frequency.

### Tuning to a station frequency manually

1. Turn the menu control to change the frequency gradually.

**Or:** press and hold the function button under < or > to browse through the frequency band quickly. When you release the button, the unit automatically tunes to the next available station.

### Manually storing stations to station buttons

1. Select the frequency band and memory level → page 329.
2. To call up the storage spots (station buttons), press the function button under √.
3. Select the desired station.
4. Press and hold the function button under the desired station button until an acoustic

signal sounds. The station currently playing is then stored to that function button.

Storing a station to a pre-assigned function button overwrites the station previously stored to that button.

### Storing stations automatically (AUTOSTORE)

The Autostore function automatically stores the stations with the strongest reception at the current location to the station buttons on memory levels FM1/FM2/FM3 or AM1/AM2/AM3.

The availability of memory levels and the **RADIO** Infotainment button varies by country and unit.

1. Press and hold **RADIO** for approx. 10 seconds, then release.

*Autostore* is displayed on the screen during the storage process. This operation can take a few seconds.

No stations available is displayed on the screen if the radio cannot receive any stations.

### Changing frequency band and memory level

Depending on the equipment and country, frequency bands and memory levels may not be available in all vehicles.

1. Depending on country and device, you may be able to switch to the desired frequency band and to open the selection menu by pressing **RADIO** again.
2. To display a memory level in the desired frequency band, press the function button under √.
3. To select a memory level in the desired frequency band, press the function button under the desired memory level displayed.

The selection menu closes automatically after a certain period of inactivity.

Every frequency band has up to four storage spots (station buttons) at every memory level.


FM FM frequency band with memory levels FM1, FM2 and FM3.

AM AM frequency band with memory levels AM1, AM2 and AM3.

### Station list


All available stations in the currently selected frequency band are displayed in the station list.

### Opening the station list

1. Press the function button under .

### Closing the station list

The station list closes automatically after a short period of inactivity.

1. Press the function button under  to close the station list.

## Special functions in radio mode

The special functions in Radio mode listed below may not be

available in all Infotainment systems depending on the equipment and country.

### TP (Traffic Programme)

The TP (Traffic Programme) function is only available in some countries and for some unit versions.


Traffic news stations are not available in all countries.

Traffic news monitoring with the TP function is only possible if a traffic news station is available (display: TP).

In FM mode, the selected station must support the TP function. Traffic news monitoring will not be possible if the TP function is switched on, and a station is selected that does not support the TP function (display: No TP).

Some stations that do not broadcast their own traffic news support the TP function through a link to a traffic news station (EON).

### Switching the TP function on and off

1. Press .
2. To select the Radio menu option, turn and press the menu control.
3. Activate Traffic Programme (TP) with  or deactivate it with .

### Activated TP function and station selection

TP is displayed in the status line in radio mode while traffic news monitoring is on. Traffic announcements broadcast by the current station or a linked traffic news station will interrupt the current radio mode.

If the currently selected traffic news station can no longer be received, No TP is also displayed and you will have to start a manual station search.

In AM or media mode, the unit will always automatically tune to a traffic news station in the background, if one is available → page 333. This

procedure may take some time, depending on the situation.

### **SCAN function**

When the scan function (SCAN) is running, all available stations on the current frequency band are played in sequence for approximately 5 seconds each.

1. Select the desired frequency band → page 329.
2. Briefly press the menu control to start the scan function. *Scan* is displayed in the status line.

Depending on the unit version, *Scan* flashes on the screen while the SCAN function is active.

3. Press the menu control to stop the scan function.

## Introduction

Observe the information in the section on safety → page 311.

### MEDIA main menu

Various media sources can be selected and controlled in media mode.

If the previous media source played is still available, playback from this media source will be continued automatically.

The selected media source is always displayed in the status line when media mode is active.

In the MEDIA main menu, the following information is shown on the screen:

- Info: Track, album, artist etc. → page 333.
- Track name.
- Track playing time in minutes and seconds.
- MIX and REPEAT playback modes.
- Currently selected media source.

### Opening the MEDIA main menu

1. Press **[MEDIA]** to switch to the MEDIA main menu and to media mode.

### MEDIA settings

Please refer to → page 326.

### Opening the MEDIA settings

1. Press **[SETTINGS]**.
2. Turn the menu control and select Media.

Mix/Rpt incl. subfolders includes subfolders in the selected playback mode. Select  to activate → page 334.

### Audio sources

The term “audio sources” is generally used for data media or any media on which music tracks, audio plays or other audio files are stored. Playback is possible via the SD card slot, the USB connection and the Bluetooth® interface of the Infotainment system.

### Restrictions and notes

Contamination, exposure to high temperatures and mechanical damage can render storage devices unusable. Please observe the manufacturer's instructions.

Variations in the quality of storage devices from different manufacturers can lead to problems during playback.

The unit may be unable to read individual tracks or the entire storage device due to the configuration of the storage device or the devices and programs used for recording. Information about the best ways to create audio files and configure storage devices, e.g. compression rate, can be found online.

The reading time may vary considerably depending on the size, state (copying and deletion operations), folder structure and file type of the data medium used. Complex folder structures can also slow down the reading of a data medium.

⚠ No liability can be accepted for damaged or lost files on the storage devices.

⚠ The owners of the audio sources or data media are responsible for their content.

### Media source and audio file requirements

The supported file formats listed are collectively referred to below as “audio files”.

#### Requirements for playing audio files

Applies to SD memory cards up to max. 2 GB, SDHC memory cards up to max. 32 GB and USB storage media with the FAT16 and FAT32 file system:

- ✓ MP3 files, .mp3, with bit rates of between 48 and 320 kbit/s or with variable bit rate.
- ✓ WMA files, .wma, up to 9.2 mono/stereo and up to

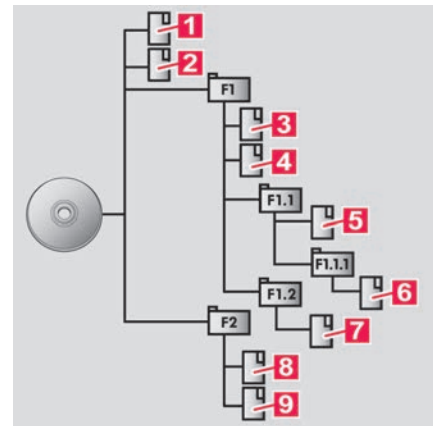
192 kbit/s without copy protection.

- ✓ Maximum of 512 folders and maximum of 65535 files on one data medium.
- ✓ Folder structures with a maximum of eight levels.
- ✓ The maximum size of a single file in the FAT32 file system: 4 GB.

#### Prerequisites for the playback of audio files via Bluetooth®

- ✓ The external audio source supports the A2DP or the AVRCP Bluetooth® V 1.4 profile and is paired with the Infotainment system → page 349.
- ✓ The external audio source is paired with the Infotainment system → page 349.



### Playing order for audio data media









**Fig. 132** Possible structure on a storage device.

Audio files on data media are often sorted by folders □ to set a certain playing order. Tracks and folders on a storage device are each sorted by name, numerically and alphabetically. Subfolders are treated like folders and numbered in accordance with the sequence on the data medium.

The illustration → [Fig. 132](#) shows a typical data medium that con-

tains tracks , folders  and sub-folders. The tracks and folders on this storage device are played and displayed in the following order:

1. Track **1** and **2** in the root directory, Root.
2. Track **3** and **4** in the first folder F1 on the root directory. Display:  01.
3. Track **5** in the first subfolder F1.1 of the folder F1. Display:  02.
4. Track **6** in the first subfolder F1.1.1 of the subfolder F1.1. Display:  03.
5. Track **7** in the second subfolder F1.2 of the folder F1. Display:  04.
6. Tracks **8** and **9** in the second folder F2. Display:  05.

 The playing order can be altered by selecting different playback modes (MIX or REPEAT) → page 334.

## Equipment features and symbols

The scope of available functions and symbols in media mode depend on equipment and country.


The symbols may have a different appearance in some Infotainment systems.

### Equipment


### Audio, media, connectivity

- Audio playback in the following formats:
  - AAC.
  - ALAC.
  - AVI.
  - FLAC.
  - MP3.
  - MP4.
  - WMA.
- Media playback and media control via Bluetooth®.


### General symbols in Media mode


-  Open the folder and track list.


## Symbols in the folder and track list

1. Press the function button under  to open the track list.

Explanations of the symbols in a media source's track list:


 Displays a parent folder.


 Current track.


 Select higher level.

 Close the folder and track list.



## Symbols for media sources


 USB storage device or external audio source connected via the USB connection → page 347.

 External audio sources connected via Bluetooth® audio sources → page 349.


 SD card in the internal SD card slot → page 323.

**Symbols for changing tracks and fast forward**

 **or**  Browsing tracks.


 Briefly press the function button once: Jump to the start of the current track. If the track running time is less than 3 seconds, the system will go to the start of the previous track.



Press and hold the function button: Fast reverse.

 Briefly press the function button once: Go to the next track. Changes from the last track to the first track on the storage device that is being played.

Press and hold the function button: Fast forward.

**Symbols for playback modes (MIX, REPEAT)**

 MIX: random playback of track in the current folder or subfolder.

  REPEAT: all tracks are repeated after they have been played once or the current track is repeated .

**Selecting and playing the media source****Selecting the media source**

1. Press **[MEDIA]** in the MEDIA main menu to display the selection menu.

All selectable media sources are shown in the bottom line of the screen. In certain operating states, e.g. while the unit is reading a media source, it is not possible to select any media sources.

2. Select the desired media source → page 335.

You can only select a media source if it is inserted in or connected to the Infotainment system.

- SD card in the internal SD card slot .
- USB storage medium or external audio source via the USB port.
- External audio source via the Bluetooth® audio source.

3. Briefly press the function button under the relevant display to select the desired media source.

**Manual track change**

You can browse through the tracks on the media source that is currently playing.

Note the playing order of audio data media → page 334.


**Browsing tracks**


Please refer to → page 335.

1. Press the function button under **< or >**.

## Folder and track list

### Selecting from the folder and track list


1. Press the function button under  to open the track list.
2. Press the menu control to browse through the list.

**Or:** Press the function button under  to select a higher level.

3. Briefly press the menu control to play the track or open a folder.
4. Press the function button under **X** to open the folder and track list.

**Or:** Press **MEDIA**.

---

 The list of folders and tracks closes automatically if you do not set or adjust a setting in the folder and track list for longer than approx. 1 minute.

---




## Changing display mode

Any additional information stored in the audio files (ID3 tag for MP3 files) can be displayed on the screen.

When an audio file which does not contain information is playing, only **TRACK** and the track number are displayed on the screen, in the same sequence as on the data medium.

### Playback modes (MIX, REPEAT)

Refer to the information on the playing order of files and folders → page 334. Include subfolders in the selected playback mode → page 326.

1. Select the playback mode → page 335.
  - **MIX** playback mode.
  - **REPEAT** playback mode.
2. Press the corresponding function button under ,  or  to select the desired playback mode.

The active function is highlighted.

 **Introduction**

Observe the information in the section on safety → page 311.

**Before using the unit for the first time**

After the Infotainment system has been reset to its factory settings, you should carry out the following steps before using it again for the first time in order to set up the mobile phone interface:

**Checklist**

- ✓ Observe general safety notes → page 311.
- ✓ Check whether your mobile telephone is suitable and supports Bluetooth®.
- ✓ Activate Bluetooth® on the mobile telephone and set it to visible.
- ✓ Pair and connect the mobile telephone to the Infotainment system.
- ✓ Familiarise yourself with the functions and telephone menus.

The telephone functions described in the following section can be ac-

cessed via the Infotainment system if a mobile telephone is paired and connected to it.

The mobile telephone must support Bluetooth® for a connection to be made between the mobile telephone and the Infotainment system. If no mobile telephone is connected, the telephone functions are not available on the Infotainment system.

Observe the information on using mobile devices in the vehicle → page 311.

How the individual telephone menus are displayed depends on the functional scope of the mobile telephone being used. There may be differences.

Only use compatible Bluetooth® devices. Information on compatible Bluetooth® products is available from your MAN service outlet or online.

Most electronic devices are shielded against high-frequency signals (HF signals). In rare cases, howev-

er, electronic devices may not be shielded against HF signals emitted by the mobile telephone interface. This can cause interference.

Some functions and settings are only available when the vehicle is stationary and are not supported by all mobile telephones.


The choice of possible settings varies depending on the country and also on the vehicle equipment.

The availability of contacts and call lists depends on the mobile telephone being used.

You can activate up to 20 devices with the telephone control system.

You can only connect one device that uses both the hands-free profile (HFP) and the audio playback profile (A2DP) at the same time → page 342.

---

 Some networks might not support all language-dependent characters and services.

---



Observe country-specific regulations when using a headset.



Using a mobile telephone in the vehicle may cause noise from the vehicle speakers.

### PHONE main menu

The name of the mobile network operator (provider) with which the SIM card of the connected mobile telephone is registered and the name of the connected mobile device are shown on the screen.

It takes a few minutes following the initial pairing process before the phone book data from the paired mobile telephone is available on the Infotainment system.

### Opening the PHONE main menu

1. Press **[PHONE]**. Any current audio playback is continued.

### PHONE settings

#### Opening the PHONE settings

Depending on the vehicle equipment, the Telephone settings menu may open when the Bluetooth menu option is selected in the SETTINGS main menu.

1. Press **[SETUP]**.
2. Turn the menu control and select Bluetooth.

#### Display: Meaning

Name: MAN BT.

Visibility: switches Bluetooth® visibility on and off. Select  to activate.

Visible: Bluetooth® visibility is activated.

Not visible: Bluetooth® visibility is deactivated. Bluetooth® visibility has to be activated before a Bluetooth® device can be paired externally with the Infotainment system.

Select mobile phone: Display paired devices. Disconnects and connects individual Bluetooth® devices and Bluetooth® profiles.

#### Display: Meaning

Finds Bluetooth® devices that are set to visible and are within the range of the Infotainment system. The maximum range is approximately 10 metres.

Delete paired devices: delete any or all user profiles.

Sort by...: define the way the phone book entries are sorted (First name or Last name).

Import contacts: displays information about importing contacts.

Ring tone: Either the selected ringtone or the ringtone set in the mobile telephone is sounded, depending on what mobile telephone is being used. select a ring tone from the list of preset ring tones. The selected ring tone is played and stored when you leave the submenu.

Mobile telephone reminder: Reminder message: Select  to activate. If there is a Bluetooth® connection to a mobile telephone, a corresponding message appears on the screen when you switch off the ignition.

## Equipment features and symbols

The available functions and the symbols depend on the vehicle equipment and country.

The symbols may have a different appearance in some Infotainment systems.

### General symbols



Indicates an existing Bluetooth® connection to a mobile telephone.



Battery charge level of a mobile telephone connected to the mobile phone interface via hands-free telephony.



Opens the telephone book in the paired mobile telephone → page 344.



Voice control mode is called up → page 345.



Pair and connect the mobile telephone to the Infotainment system.



Manage mobile telephones.

### During a telephone call



Press the function button under this symbol to accept a call.



Press the function button under this symbol to reject or end a call.



Switching to mute: Press the function button under this symbol to mute the mobile phone interface microphone during a call. Press the function button again to unmute the microphone.



Switching to mute: Press the function key under this symbol to mute the ringtone during a call. Press the function button again to unmute the ringtone.



Press the function button under this symbol to make the call only on the mobile telephone. Press the function button again to make the call using the mobile phone interface once more.

### Call lists



Opens the call lists of the connected mobile telephone → page 344.



Show telephone numbers from missed calls and calls not taken.



Shows telephone numbers that were dialled on the mobile telephone and the telephone control system.



Shows telephone numbers that were accepted via the mobile telephone and the telephone control system.

### Areas where special regulations apply

Switch off the mobile telephone and mobile phone interface in areas where there is an explosion hazard → page 344. These areas are often clearly marked, but not in all cases. This includes, for example:

- Areas immediately around chemical pipelines and tanks.
- Lower decks of ships and ferries.
- The area around vehicles that run on liquefied petroleum gas, e.g. propane or butane.
- Places where there are chemicals or particles such as flour, dust and metal powder in the air.
- All other places where the vehicle engine must be switched off.

### WARNING

In places where there is a risk of explosion, e.g. near filling stations, and in places with special regulations, ignition sparks, e.g. caused by electrostatic discharges or mobile phones, can lead to an explosion or fire and cause serious or fatal injuries.

- Switch off the mobile telephone and mobile phone interface in potentially explosive areas, e.g. near filling stations, and in locations where special guidelines apply.

- Do not operate the mobile telephone and mobile phone interface in potentially explosive areas, e.g. near filling stations, and in locations where special guidelines apply.

### NOTICE

The radiation produced by the mobile telephone when switched on may interfere with sensitive technical and medical equipment, possibly resulting in malfunction or damage to the equipment.

- Your mobile telephone must always be switched off in areas where special regulations apply and when the use of mobile telephones is forbidden.

### Bluetooth® technology

Bluetooth® technology is used to connect a mobile telephone to the mobile telephone interface of the vehicle. The devices have to be paired with each other once before the mobile telephone interface can

be used with a Bluetooth® mobile telephone.

Some Bluetooth® mobile telephones are automatically detected and connected when the ignition is switched on if a connection already existed beforehand. For this to happen, the mobile telephone itself and the Bluetooth® function in the telephone must be switched on and all active Bluetooth® connections to other devices must be disconnected.

The Bluetooth® connection is free of charge.

### Bluetooth® profiles

When a mobile telephone is connected to the mobile phone interface, data is exchanged via one of the Bluetooth® profiles.

- **Bluetooth® Hands-Free Profile (HFP):** If a mobile telephone is connected to the telephone control system via HFP, you can make calls wirelessly via the hands-free system. Many other mobile phone interface functions

are not available. The vehicle's external aerial cannot be used in this case. Observe the information on using mobile devices in the vehicle → page 311.

- **Advanced Audio Distribution Profile (A2DP):** Bluetooth® profile for transmitting audio signals in stereo quality.

Settings → page 338.

### Pairing, connecting and managing

#### Pairing and connecting a mobile telephone with the mobile phone interface

Before the mobile phone interface can be used, a one-time pairing process with the mobile telephone must be carried out so that the devices recognise each other. A user profile is created in the mobile phone interface, and the mobile telephone is then assigned uniquely to this profile.

Each mobile telephone must be paired once with the mobile phone interface via Bluetooth®. This pair-

ing procedure can take a few minutes. Pairing can take place only when the vehicle is stationary.

#### Prerequisites


- ✓ The ignition is switched on.
- ✓ The mobile telephone is switched on.
- ✓ The headset, if connected, is disconnected from the mobile telephone.
- ✓ The Bluetooth® function is enabled and set to visible on the mobile telephone and the Infotainment system.
- ✓ Active calls on the mobile telephone and any Bluetooth® connections which may switch on automatically are ended and deactivated.
- ✓ The automatic key lock and the screen saver are deactivated.

Follow the operating manual for the mobile telephone.

Inputs must be made on the mobile telephone during the pairing proc-

ess. The mobile telephone has to be at hand for this.

#### Pairing a mobile telephone

1. Press **PHONE**.
2. Press the function button under .

When the search has been completed, the names of the Bluetooth® devices found are shown on the screen.

3. Turn the menu control to select the mobile telephone to be paired from the list of Bluetooth® devices detected, then press the menu control to open it.

The Infotainment system and the mobile telephone are now paired. Further inputs may be required on the mobile telephone and Infotainment system to complete the connection of both devices.

4. If necessary, confirm the pairing on the mobile telephone.

Depends on the mobile telephone:

- Enter the PIN displayed on the Infotainment system screen into your mobile telephone and confirm.

**Or:** Compare the PIN displayed on the Infotainment system screen with the PIN displayed on the mobile telephone. If these PINs match, confirm them on both devices.

The PHONE main menu is displayed and the phone book and the call lists stored in the mobile telephone are loaded automatically once pairing has been completed. You may need to confirm the loading process on the mobile telephone.


The time taken by the loading process varies depending on the amount of data stored in the mobile telephone.

This data is available on the Infotainment system once the loading process is completed.

## WARNING

Carrying out the pairing while driving may cause accidents or injuries.

- Only ever pair devices when the vehicle is stationary.

 When some mobile telephones are paired, a PIN is shown on the display of the telephone. To finish the pairing procedure, enter this PIN on the Infotainment system.


### Pairing and connecting mobile telephones


Several mobile telephones can be paired with the Infotainment system, but only one mobile telephone can be connected to the Infotainment system at the same time.


When the Infotainment system is switched on, a connection is automatically set up with the mobile telephone that was connected last. If no connection can be set up with this mobile telephone, the telephone control system automatical-

ly attempts to set up a connection with the next mobile telephone in the list of paired devices.

Bluetooth® connections have a maximum range of 10 metres. An existing Bluetooth® connection will be interrupted if this distance is exceeded. The connection will be automatically restored as soon as the device enters the Bluetooth® range again.

 Please contact a MAN service outlet for further information about pairing and connecting mobile telephones.

 To prevent abuse, deactivate visibility on the mobile telephone when the pairing process is complete.

 For the device search, select a location where only a few Bluetooth® devices are expected. The wireless range of Bluetooth® is approximately 10 metres.

### User profile

A connected mobile telephone is stored in the telephone control system as a user profile.

Data from the mobile telephone is stored in the user profile, e.g. phone book data in the Bluetooth menu.

A maximum of four user profiles can be stored for mobile telephones in the telephone control system at the same time. If another mobile telephone is connected, the user profile which has not been used for the longest amount of time will be deleted automatically.

If the mobile telephone is reconnected to the telephone control system, the data and settings are available again.

If phone book entries in the mobile telephone are changed with an existing connection, a manual update of the phone book data can be triggered via the Bluetooth menu → page 338. The phone book will be automatically updated when the

mobile telephone is connected again (e.g. on your next journey).

1. Reset the Infotainment system to factory settings to delete the stored data completely.

### Using the mobile phone interface and making phone calls

The telephone functions described in the following section can be accessed via the Infotainment system if a mobile telephone is paired and connected to it.

The mobile telephone must support Bluetooth® for a connection to be made between the mobile telephone and the Infotainment system.

If no mobile telephone is connected, the telephone functions are not available on the Infotainment system.

Observe the information on using mobile devices in the vehicle → page 311.

How the individual telephone menus are displayed depends on the functional scope of the mobile telephone being used. There may be differences.

Only use compatible Bluetooth® devices. Information on compatible Bluetooth® products is available from your MAN service outlet.

The choice of possible settings varies depending on the country and also on the vehicle equipment.

### Accepting or rejecting a call

An incoming telephone call and the caller's telephone number are displayed on the screen.

If the caller's telephone number is stored in the phone book, the caller's stored name is displayed.

When you answer a call, the display will switch to call mode.

In call mode, the duration of the call and the stored name of the caller are displayed on the screen during the call.

### Switching off the mobile phone interface

1. End any active telephone call.
2. Switch off the ignition.
3. Remove the vehicle key from the ignition lock.

The mobile phone interface is switched off if there is no active telephone call.




If a mobile telephone was connected to the mobile phone interface, the mobile telephone transmitter will remain switched on after the mobile phone interface is switched off. If necessary, the mobile telephone must be switched off.

### Call lists menu

For telephone numbers that are already stored as contacts, the stored name is displayed in the call list instead of the telephone number.

The availability of contacts and call lists depends on the mobile telephone being used.

### Opening the Call lists menu


1. To open the call lists, press the function button under .
2. Turn the menu control to search up or down through the call lists. An entry is always highlighted.
3. Press the menu control to select the desired entry and start dialling.

### Special functions of the mobile phone interface

#### Phone book menu

It can take a few minutes after the first pairing process until the phone book data from the mobile telephone is available on the Infotainment system.

#### Opening and searching the phone book

1. Press the function button under  to open the phone book.
2. Turn the menu control to search up or down through the phone book. A phone book entry is always highlighted.


3. Press the menu control to select the desired phone book entry.

If only one number is assigned to the selected phone book entry, the dialling process will start immediately.

If two or more telephone numbers are stored for the selected phone book entry, a submenu with all stored telephone numbers will open. Select the desired telephone number to start dialling.


#### Closing the submenu or phone book


The display always switches back one level, i.e. from a submenu to the phone book and from the phone book to the PHONE main menu.

1. Press the function button under .

**Or:** press **PHONE** to access the PHONE main menu directly.

Voice control mode **menu**

If the paired and connected mobile telephone has “voice control mode”, this function can be called up via the function button under .

1. Press the function button under .

The communication channel to the mobile telephone is opened.

2. Follow the instructions on the mobile telephone.

## Introduction

Comply with the instructions given in the safety section → page 311. Some external devices can be paired with the Infotainment system using wired and wireless connections, if available in the vehicle.

The type and number of media drives and cable and wireless connections differ by equipment package and are not available in all countries. The connections may also be different within a model series or in special-edition models.

In the case of cable connections, use only the original device connecting cables or, if available, the factory-supplied connecting cables for your vehicle.

If the adapter or plug on the connecting cable cannot be inserted, check the angle of insertion and the connections.

Only supported audio files are displayed. Other files are ignored → page 334.

## NOTICE

If unsuitable or damaged connecting cables are used or if the connecting cable connector is inserted with strong pressure or in the wrong position, this can lead to malfunctions and damage to the device, e.g. the device connection and the connecting cable connector may be damaged.

- Use only suitable and undamaged connecting cables.
- When inserting the adapter and plug of the connecting cable into the appropriate port, ensure that they are correctly positioned and apply only light pressure.
- Make sure that the connecting cable is not pinched or sharply bent.


ⓘ If a connected device is not recognised, disconnect all devices and connect the device again. If necessary, check that the connecting cable you are using is working properly.

ⓘ If a connected device malfunctions, restart the device. In some cases this will remedy the fault.



## USB port


📖 **Please refer to ⓘ at the start of the chapter on page 347.**

Every USB port is a cable connection that can be operated only using a suitable connecting cable.

The USB  port supplies the voltage of 5 volts customary for USB.

There are two types of USB port. The following types of USB port may be available in the vehicle:

- USB port : suitable for data transfer and charging.
- USB port : suitable only for charging (batteries in external devices).

A USB port  with data transfer is located at the front of the unit.

The type, quantity and installation locations of the USB ports depend

on the equipment and market  
→ page 12.

The Infotainment system only supports mass storage and audio sources in “mass storage mode”. Please refer to the description of your audio source on how to activate this mode.

Audio files on an external data medium connected to the USB port can be played and controlled via the Infotainment system.


You can also connect remote control players, e.g. an iPhone. In this case, you can only use the connection to charge the battery in the remote control player. You can only play music from the remote control player via the Bluetooth® interface  
→ page 349.

### Connecting the external data media to the USB port


1. Reduce the volume on the Infotainment system.
2. Connect external data medium to the USB port.

Playback will start automatically if there are playable files on the data medium.

---


 Check which type of USB port is installed in your vehicle before connecting an audio source.

---

 Do not connect or use USB extension cables or USB hubs.

---

### Notes and restrictions

The number of USB ports  and compatibility with Apple devices as well as other media players depend on the equipment.

Due to the large number of different data media and different iPod, iPad and iPhone generations, it cannot be ensured that all the functions described can be executed error-free for all devices.





With some units, external hard disks with a capacity greater than 32 GB have to be reformatted for the FAT32 file system in some cases. You can find the necessary

software and information online, for example.

### Terminating the connection

The connected data medium must be prepared for removal before you disconnect it.

Apple devices and devices with MTP can be disconnected from the system without logging out of the system.

1. Press .
2. Turn and press the menu control to select the **Settings** menu option.
3. Press the function button under **Media settings**  **Remove safely**. Press   **USB**.

The menu option is greyed out once the data medium has been removed successfully.

4. Remove the data medium from the Infotainment system.

## Bluetooth® interface ⓘ

📖 **Please refer to ⓘ at the start of the chapter on page 347.**

The Bluetooth® interface is a wireless connection.

Bluetooth® audio sources, e.g. mobile telephones, can be connected via the Bluetooth® interface.

In Bluetooth® audio mode, audio files from a Bluetooth® audio source that is connected via Bluetooth® can be played via the vehicle loudspeakers (Bluetooth® audio playback).

Bluetooth® audio mode may be indicated by ⓘ in the status bar.

Bluetooth® audio mode is available only if the vehicle is equipped with a factory-fitted mobile phone interface that supports this function → page 341.

### Bluetooth® profiles

The Infotainment system is factory-fitted with a Bluetooth® interface.

Only one Bluetooth® device can be connected at a time.

The following Bluetooth® profiles may be available in the specified or a different version:

- HFP 1.7.
  - Telephony and speakerphone.
- A2DP 1.3.
  - Music playback.
- AVRCP 1.6.
  - Display and operation of music playback.
  - Transmission of Cover Arts.
- PBAP 1.2.
  - Access to phone book and call lists.

### Bluetooth® audio transmission

#### Prerequisites

✓The Bluetooth® audio source is paired and connected to the Infotainment system, the Bluetooth® interface of the mobile phone interface → page 341.

✓The Bluetooth® audio source supports the A2DP Bluetooth® profile.

### Starting Bluetooth® audio transmission

1. Reduce the volume on the Infotainment system.
2. Switch on Bluetooth® visibility on the external Bluetooth® audio source, e.g. mobile telephone.
3. Press **[MEDIA]**.
4. If necessary, start playback on the Bluetooth® audio source manually.


When playback is stopped on the Bluetooth® audio source, the Infotainment system remains in Bluetooth® audio mode.

### Controlling playback


The extent to which the Bluetooth® audio source can be controlled via the Infotainment system varies depending on what Bluetooth® audio source is connected.

With media players that support the AVRCP Bluetooth® profile, playback on the Bluetooth® audio source can be automatically started or stopped when the unit is switched to Bluetooth® audio mode or to a different audio source. Depending on the Bluetooth® audio source, it may also be possible to display the track and change the track using the Infotainment system.



---

 Due to the large number of possible Bluetooth® audio sources, it is not possible to guarantee fault-free operation of all described functions for all sources. The MAN Truck & Bus website contains a list of compatible mobile telephones.

---

 Always switch off the warning and service tones on a connected Bluetooth® audio source, e.g. key tones on a mobile telephone, to prevent interference noise and malfunctions.

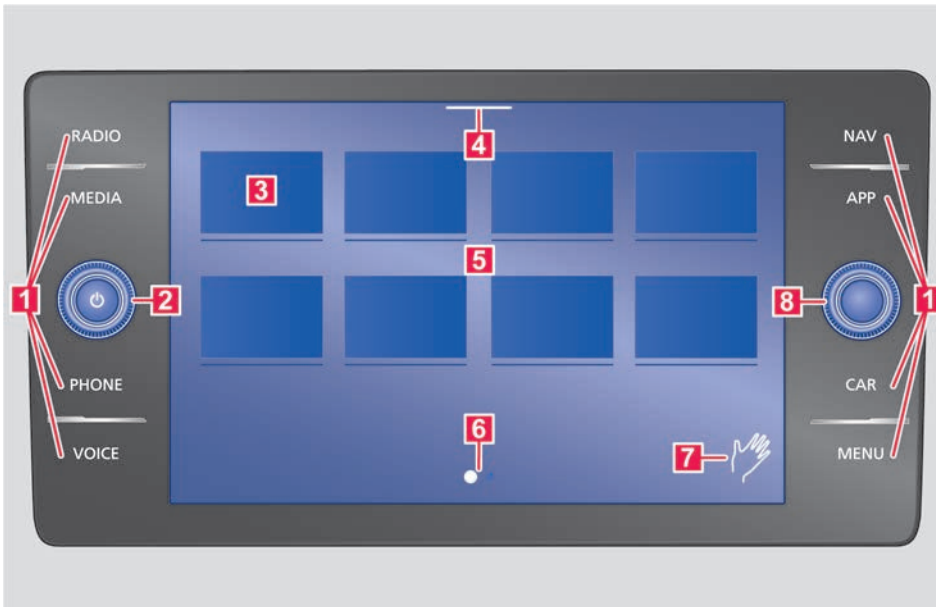
---

 With some units, the Bluetooth® audio connection will automatically be disconnected if an external media player is simultaneously connected to the Infotainment system via Bluetooth® and the USB connection .

---

## Infotainment system overview


### Overview of MAN Media Van Business/MAN Media Van Business Navigation Infotainment system



**Fig. 133** Overview of MAN Media Van Business/MAN Media Van Business Navigation Infotainment system.

- 1** Sensor fields.
- 2** Rotary pushbutton.

- 3** Function button for main menu.
- 4** Control centre.
- 5** Screen (touchscreen).
- 6** Pages.
- 7** Gesture control is switched on.
- 8** Menu control.

 You will find further information and tips on using the Infotainment system in this owner's manual → page 356.

### 1 Sensor fields

1. Tap the corresponding sensor field to open a main menu, e.g. **[PHONE]** for the mobile phone interface.
  - **[RADIO]**: Radio → page 361.
  - **[MEDIA]**: Media → page 366.
  - **[PHONE]**: Mobile phone interface → page 380.
  - **[VOICE]** → page 387. The sensor field has no function in some countries.
  - **[NAV]**: Navigation → page 370.

- **[APP]**: App-Connect → page 401. The sensor field has no function in some countries.
- **[CAR]**: Open the vehicle settings.
- **[MENU]**: Open the app overview.


### 2 Rotary pushbutton

- Press to switch the Infotainment system on or off.
- Turn anti-clockwise to reduce the volume.
- Turn clockwise to increase the volume.

### 3 Function button for main menu

The position of the function buttons cannot be configured.

1. Tap the corresponding function button to open a main menu,

e.g.  for the mobile phone interface.

### 4 Control Centre

There are additional function buttons for functions and notifications in the control centre. You can configure the displayed functions → page 356.

1. To open the Control Centre, tap and hold the marking and slide it down.

### 5 Screen (touchscreen)

The Infotainment system functions are operated via the screen. You can find the detailed explanation of the different finger gestures in the digital instructions of the Infotainment system, where available.

1. Tap **[MENU]** ►  ► Operation.

## 6 Pages

Some menus and functions have several pages with different content. The current page is highlighted.

- Tap the marking to change to a page.

- Tap and swipe to the left or to the right across the screen to switch between pages.

## 8 Menu control

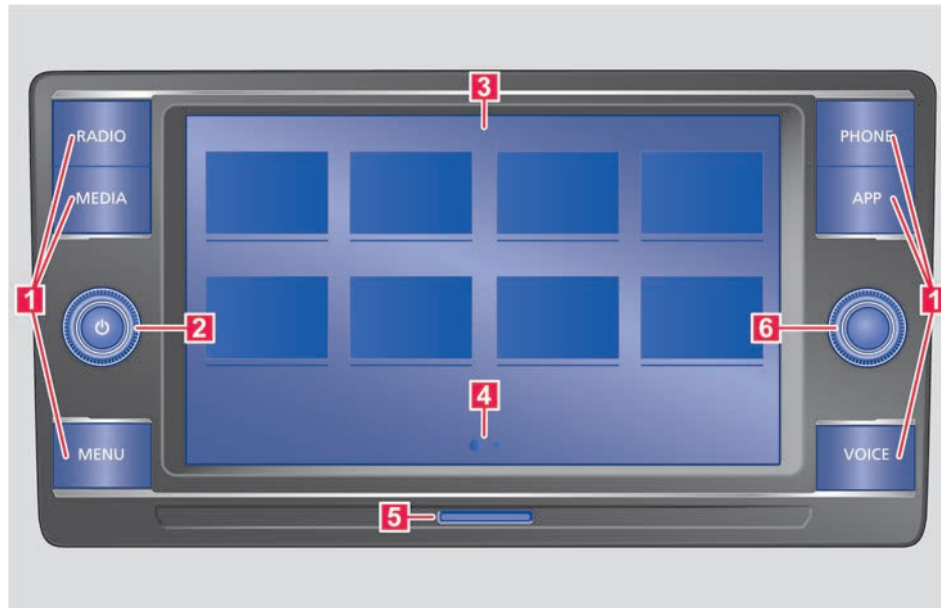
- Turn to control the selection in lists.
- Press to confirm a selection.

## Scroll bar (without position number)

Some menus and functions have further content above or below the current screen view.

1. Tap the scroll bar and swipe it up or down to display the additional content.


### Overview of the MAN Media Van Infotainment system



**Fig. 134** Overview of MAN Media Van Infotainment system.

- 1** Function buttons for opening main menus and the app overview.
- 2** Rotary pushbutton.
- 3** Screen (touchscreen).
- 4** Pages.

- 5** SD card slot.
- 6** Menu control.

 You will find further information and tips on using the Infotainment system in these operating instructions → page 356.

## **1** Function buttons

1. Press the appropriate function button to open a main menu, e.g. **PHONE** for the mobile phone interface.
  - **RADIO** → page 361.
  - **MEDIA** → page 366.
  - **MENU**: Open the app overview.
  - **PHONE** → page 380.
  - **APP** → page 401. This button will not work in some countries.
  - **VOICE** → page 387. The button may not have any function depending on the vehicle equipment and in some countries.

## **2** Rotary pushbutton

- Press to switch the Infotainment system on or off.

- Turn anti-clockwise to reduce the volume.
- Turn clockwise to increase the volume.

## **4** Pages

Some menus and functions have several pages with different content. The current page is highlighted.


- Tap the marking to change to a page.
- Tap and swipe to the left or to the right across the screen to switch between pages.

## **6** Menu control

- Turn to control the selection in lists.
- Press to confirm a selection.

## **Function button for main menu (without position number)**

The position of the function buttons cannot be configured.

1. Tap the corresponding function button to open a main menu, e.g.  for the mobile phone interface.

## **Scroll bar (without position number)**

Some menus and functions have further content above or below the current screen view.

1. Tap the scroll bar and swipe it up or down to display the additional content.

## **Media drive: SD card slot**

The SD card slot is not available in all Infotainment systems, depending on equipment, and not in all countries.

To use stored media such as audio files or media files in the Infotain-

ment system, insert a compatible SD card into the SD card slot. Supported file formats are displayed in the Infotainment system. Other file formats are ignored.

Dimensions of compatible SD cards:

- 32 mm x 24 mm x 2.1 mm (around 1 in x 0.94 in x 0.083 in).
- 32 mm x 24 mm x 1.4 mm (around 1 in x 0.94 in x 0.055 in).

#### Inserting an SD card securely

1. Insert the SD card into the SD card slot with the cut-off corner first and the contact surfaces facing down until you feel the card click into place.

### Operating the Infotainment system

#### Resetting the Infotainment system to the factory settings

1. Open the app overview and tap Settings ► Restore factory settings.

If the SD card cannot be inserted, check the compatibility and the insertion position of the SD card, and inspect the SD card itself.

#### NOTICE


The SD card slot, SD card or both may be damaged if you insert SD cards with force, if an SD card has the wrong dimensions or if you use an SD card adapter.

If you insert other objects, such as SIM cards, in the SD card slot, the object, the SD card slot or both may be damaged.


- Do not use excessive force when inserting SD cards.

- Observe the dimensions of compatible SD cards.
- Do not use any SD card adapters.

---


 If the Infotainment system cannot read the data on an SD card, a corresponding message will be displayed on the screen.

---

 An SD card with navigation data cannot be used as a storage device for other files. Stored files are not recognised by the Infotainment system.

---

---

 The vehicle settings are deleted by resetting to the factory settings. This also includes personal data, where applicable. Mobile online services can then no longer be used in this vehicle. The services can be used again only after re-

newed activation. If there is a primary user in the vehicle, this user will also be deleted and informed about this by email. If mobile keys have been created, they will be deleted irrevocably.

---

### Opening the quick guide for the Infotainment system (if available)

Depending on equipment, a quick guide to operation of the Infotainment system is available in the Infotainment system. The quick guide for the Infotainment system provides further information and tips for operation of the system.


1. Tap   .


### Switching the Infotainment system on or off

The Infotainment system will start up when the ignition is switched on if the Infotainment system was not switched off manually beforehand.

The Infotainment system will start at the last selected volume setting provided this does not exceed the preselected maximum switch-on volume.


The Infotainment system switches off automatically when the vehicle key is removed from the ignition lock.

 If you open the driver's door when the ignition is inactive, the Infotainment system switches off automatically.

 If you switch on the Infotainment system manually when the ignition is inactive, it will switch off automatically after around 30 minutes without a user input.

### Restarting the Infotainment system

You can restart the Infotainment system if it stops responding to your inputs.


1. Tap and hold the sensor field  until the Infotainment system switches off.

### Main menus in the app overview


The following main menus may be included as function buttons in the app overview:

 Background lighting, Background lighting.

 MAN SmartLink → page 401.

 Driver assistance.

 Vehicle.

 Help: here you will find further information on the functions and operation of the Infotainment system.

 Sound.

 Air conditioning → page 157.

 Media → page 366.

 Navigation → page 370.

 Radio → page 361.

 Legal information.



Settings → page 359.



Auxiliary heater.



Telephone → page 380.

### Configuring the app overview

In the Infotainment system, you can configure the layout of the function buttons and also the pages and displays in the app overview or have them positioned on the basis of factory layout templates. It is not possible to configure the app overview in all available Infotainment systems.

1. Tap and hold a function button until the function button is visibly highlighted.
2. Drag the function button to your chosen position and release.

### Personalisation

Personalise function buttons and pages depending on the vehicle equipment → page 358.

### Enlarging or reducing images and maps on the screen

Recommendation: Use your thumb and index finger.

1. Tap and hold the screen with two fingers at the same time.
2. To enlarge images and maps, move fingers slowly apart.

**Or:** To minimise images and maps, move fingers slowly together.

### Personalising the Infotainment system

Depending on the equipment, you can personalise the Infotainment system to permit faster access to favourite or frequently used functions.

You can find tiles for accessing further menus and functions on the pages of the Infotainment system.

### Adapting tiles

Adapt the tiles and the displayed tile functions on the Infotainment system pages in order to customise the Infotainment system to suit your needs.

1. Open the app overview.
2. Tap and hold the tile until an additional window appears.
3. Tap the desired function in the additional window. Various functions are available depending on the size of the tile.

**Or:** To return to the page, tap a free area on the screen.



At least two pages are always available. These cannot be removed. Depending on equipment, you can add two more pages. In total, a maximum of four pages can be displayed.



More functions are available for some tiles than are visible at first glance in the additional window.


Swipe up or down in the additional window to see all functions.

### Adapting the control centre

You can customise the Control Centre of the Infotainment system for faster access to favourite or frequently used functions.

1. Open the Control Centre.
2. Tap a function and hold until an additional window opens.
3. Tap your chosen function in the additional window and hold it until the function is visibly highlighted.
4. Drag the function to your chosen position and release.

The active function is automatically removed from the control centre and added to the additional window.

 More functions are available for the control centre than are visible at first glance in the additional window. Swipe to the left or right in

the additional window to see all functions.

### Opening tips for personalisation (if available)

Refer to the Infotainment system instructions for more information and tips on personalisation.

1. Tap     Custom.




### System and sound settings




The choice of possible settings varies depending on the country and also on the vehicle equipment.



#### Changing settings


The meanings of the following symbols apply to all system and sound settings.


Changes are automatically stored when a menu is closed.


 or  or  The setting is selected and activated or switched on.


 or  or  The setting is neither selected, deactivated nor switched off.


 or  Open the drop-down list.

 Increase the setting values.

 Decrease the setting values.

 Gradually back.

 Gradually forwards.

 Change setting values with the slider control (infinitely variable).

### System settings

The following functions, information and setup options may be available in the system settings:

- Screen.
- Time and date.

- Language.
- Additional keyboard languages.
- Units.
- Voice control.
- Wi-Fi.
- Data transmission between mobile devices.
- Data connection.
- Bluetooth®.
- Mobile devices.
- MAN Connect.
- Reset to default settings.
- System information.
- Copyright.
- Configuration assistant.

### Opening the system settings

1. Touch **MENU** ► Settings.

### Sound settings

The sound settings may contain information and setting options for equaliser, position, volume and settings.

If an emergency call is automatically triggered, all sources of sound in

the vehicle, such as the radio, are muted for the duration of the call, depending on the country.

### Opening the sound settings

1. Tap **MENU** ► Sound.

### Adjusting the output volume of external audio sources

If you need to increase the output volume of an external audio source, first lower the volume on the Infotainment system.


If the sound from the external audio source is too quiet, increase the output volume of the external audio source. If this is not sufficient, set the input volume to *Medium* or *Loud*.


If the sound from the connected external audio source is too loud or distorted, lower the output volume on the external audio source. If this is not sufficient, set the input volume to *Medium* or *Quiet*.


## Introduction

In radio mode, you can receive available radio stations using different reception modes and store your favourites for quick access.

The available reception modes are dependent on the equipment level and are not available in all countries. Frequency bands and reception modes may be discontinued, deactivated or no longer offered in individual countries.

 The radio stations are responsible for the content of the information sent.

 Additional electrical devices connected in the vehicle can interfere with radio reception and cause noises in the loudspeakers.

 Foil or metal-coated stickers attached to the windows may affect reception on vehicles with a window aerial.

## Functional descriptions

 Please refer to  and  on page 311.

### Selecting the reception mode

Various stations are available depending on the selected reception mode. The available reception modes are dependent on the equipment level and are not available in all countries.

1. Tap **Source** to open the list of reception modes.

**Or:** tap display of the reception mode.

2. Select the reception mode, e.g. FM.


### Searching for and selecting stations

You can search for and select stations in different ways. The possibilities vary depending on reception mode.

### Searching for stations in SCAN mode

In SCAN mode, the stations of the reception mode are set automati-

cally one after the other and played back for approx. 5 seconds.

1. Tap  **SCAN** to start the SCAN function.



SCAN mode starts and the station currently set is shown in the display.

2. To select a station, tap **SCAN**.


SCAN mode stops and the station is set.

### Selecting stations using the multifunction steering wheel

Depending on equipment, you can select stations from the station list or from the favourites using the multifunction steering wheel.

- To select the previous station, press  on the multifunction steering wheel.
- To select the next station, press  on the multifunction steering wheel.

### Selecting stations via the frequency band

1. Open settings and deactivate the combined station list in the settings.
2. Select reception mode AM or FM.
3. To open the frequency band, tap .
4. Tap the cursor, move on the frequency band and release at the desired frequency.

**Or:** tap a point on the frequency band. The cursor will automatically go to the relevant frequency.

The station is set at that particular frequency.

### Selecting stations from a station list

Depending on the equipment, you may have to update the station list manually if you left the area after the station list was last accessed. In the FM/DAB reception mode, the

station list normally updates itself automatically.

1. Open the station list.
2. Tap the desired station.


The selected station is set.

In the FM/DAB reception mode, the best reception mode is selected automatically, depending on the availability of the station.

### Selecting a station and storing as a favourite

Depending on equipment, you can store up to 36 stations or frequencies from different reception modes as favourites.

### Storing a station as a favourite

1. Set the required station.
2. Tap .

**Or:** Tap and hold the station in the station list.


The memory locations are displayed.

3. Tap and hold the memory location until the station is stored.

The station is stored to the selected memory location.

If a station has already been stored to the memory location, that station will be removed from the memory location and replaced by the new station.

### Showing or hiding display of station logos and the DAB slide-show

1. Tap .
2. Tap Radio text in the current playback content.

### Other functions in radio mode

The functions listed below depend on the equipment level and are only available in some countries.

### Traffic Programme function (TP function)



The Traffic Programme function (TP function) monitors the traffic reports from a set traffic news station and automatically outputs them during radio or media mode. Reception of a traffic news station must be possible and the TP func-



tion must be activated in the settings in order to receive traffic announcements → page 362. Traffic news stations are not available in all countries. Some stations that do not broadcast their own traffic news support the TP function through a corresponding traffic news station (EON).

A traffic news station is automatically set in the background in the AM reception mode and in media mode as long as a traffic news station can be received.

No TP will be shown on the display if no traffic news station can be received. The Infotainment system will automatically search for an available traffic news station. As soon as a new traffic news station is available, the status on the display changes to TP.

### Activating the TP function

1. In radio mode, tap  or  and tap and activate Traffic Programme (TP).



**Or:** in media mode, tap  or   
 ▶ Media and tap and activate Traffic Programme (TP).

### Station logos

Station logos can be pre-installed in the Infotainment system for some frequency bands.

The station logos are automatically assigned to the stations if Autoselect station logos is activated in the settings.



### Activating automatic assignment of station logos

1. In radio mode, tap  or .
2. Tap and activate Autoselect station logos.

**Or:** tap Advanced settings and tap and activate Autoselect station logos.

### Manually assigning station logos

It is not possible to assign station logos in all frequency bands. Station logos cannot be manually assigned in the AM reception mode.

1. In radio mode, tap  or  ▶ Station logos.

2. Select the station to which you wish to assign a station logo.
3. Select the station logo.
4. If required, repeat the process for other stations.
5. Tap ↵ to end assignment of station logos.

## Functions and symbols

📖 Please refer to  and  on page 311.

### Functions

The functions and possible reception modes depend on the vehicle equipment and are not available in all countries.


- AM tuner.
- FM dual tuner (antenna diversity).
- Combined station list.
  - Combination of FM and DAB stations in one list (FM/DAB).
- Combined station list for favourites.

- Display of station logos.
- Aerial amplifier.
- DAB/DAB+.
- DAB slide show.
  - Stationary images are transmitted parallel to the current broadcast.

### Symbols


The symbols depend on the equipment and are not available in all countries and can also differ in appearance depending on the Infotainment system.


### General symbols


- To open the main menu, open the app overview and tap  → page 351.

**Or:** Tap .


**Or:** Press .


 Select AM reception mode.


 Select FM reception mode.


 Select FM/DAB reception mode.

 Open additional information for the selected station.

 Select previous station from the station list or favourites.

 Select next station from the station list or favourites.

 Open preset list for favourites.

 Small in a station list: station already stored as a favourite.

 Open the settings.


**TP** The TP function for monitoring the traffic is activated.


**No TP** The selected traffic news station is not available.


**AF off** Automatic station tracking (AF) is deactivated.

**RDS off** The Radio Data System (RDS) is deactivated.


### Symbols for AM reception mode


 Open list of AM stations.

 Update station list manually.


 Open frequency band for manual selection of AM frequency.


### Symbols for FM and FM/DAB reception modes


 Open list of FM and DAB stations.

 Open frequency band for manual selection of FM frequency.

Possible only if the combined station list FM/DAB is switched off in the settings.

 No DAB reception possible.

 DAB station supports slide show.

 Slide show is not available for the DAB station.



## Introduction

In media mode, you can play media files from data media on the Infotainment system and, depending on equipment, store your favourites for quick access.

With some equipment levels, the following data media may be used as a media source:

- USB data medium, e.g. USB stick.

USB flash drives exclusively with FAT32 file system.

- Bluetooth® device, e.g. mobile telephone.
- SD map.

With some equipment levels, the following types of media files may be played back:

- Audio files, e.g. music.
- Video files.

## Restrictions and information on data media

Dirty, overheated and damaged data media may become unusable.

Please observe the manufacturer's instructions.

Quality differences in data media from different manufacturers may cause malfunctions in the media playback.

If a data storage device is incorrectly configured, this may result in the data storage device not being readable.

Storage volumes, state of use (copy and deletion processes), file system, folder structure and the volumes of data stored may increase the reading time of data media.

Playlists only specify one playback order and refer to the location of the media files within the folder structure. No media files are stored in a playlist. To play a playlist, the media files must be stored in the locations on the data medium that are referenced by the playlist.



No liability can be accepted for damaged, changed or lost files on data media.

## Playing a media file

 Please refer to  and  on page 311.

## Connecting and selecting a media source

1. Connect a media source.
2. Tap *My media* and select the desired media source.

## Searching for and playing media files

You can search for and play media files from a media source in various ways.

## Searching in a selected media source

All media files on the connected media source can be found via a folder structure or using the full-text search.

1. Open the folder structure.

2. Search the folder structure for the required track.

**Or:** To open the full text search, tap **Q** and enter the name of the desired station.

The list of found tracks updates itself automatically during input of the full text search string.

3. Tap the desired track.

If the selection is in a folder on a media source when playback starts, the media files in that folder will be added to the playback.

When a playlist is played back, all the available tracks in the playlist are added to the playback.

4. Close the selection with **X**.

### **Saving a media file as a favourite**

Only media files that are stored in **My media** in the folders **Music** and **Video** can be stored as favourites. You

can save individual tracks, albums, artists and genres as favourites.

1. Start playback of your chosen track.
2. Open the favourites list.
3. Tap a free memory location.

**Or:** tap a previously assigned favourite location and hold for around 3 seconds.

4. Choose from the selection list, e.g. track.

The selection options in the selection list depend on the data assigned to the media file. If no genre is specified for music files, for example, the genre cannot be saved as a favourite.

If a video file is currently playing, only that video can be saved as a favourite.

The selection is saved to the selected favourites space as a favourite. If the favourite location was already assigned, the previously stored favourite is overwritten by the selection.

### **Selecting a media file from favourites**

1. Open the favourites list.
2. Tap the desired favourite.

Depending on what you select, all the tracks belonging to the favourite are added to the playlist.

### **Entertainment playback via the Infotainment system**

The Infotainment system can be used to play videos as well as music.

#### **Video mode**

In video mode, the Infotainment system display can play a video from a data medium or the internal memory, depending on the equipment and country.

The video soundtrack is played on the vehicle loudspeakers.

The video image is displayed only when the vehicle is stationary. When the vehicle is in motion, the Infotainment system display is

switched off. You will still hear the video audio.

In some countries, no video image is displayed even when the vehicle is stationary for traffic safety reasons.

### Functions and symbols

📖 Please refer to ⚠️ and ❗ on page 311.

#### Functions

The functions and possible media formats depend on the vehicle equipment and are not available in all countries.

- Media playback and media control via connected media sources.
- Audio playback in the following formats:
  - AAC.
  - APE.
  - ALAC.
  - FLAC.
- MP2.
- MP3.
- MP4.
- Vorbis.
- OPUS.
- WMA.
- WAV.
- Video playback in the following formats:
  - MPEG-1 and MPEG-2 (.mpg, .mpeg, .mkv, .avi).
  - ISO MPEG -4 ASP; Xvid (.mp4, m4v, .mov, .mkv, .avi).
  - ISO MPEG-4 AVC / H.264 (.mp4, .m4v, .mov, .mkv, .avi).
  - Windows Media Video 9 (.wmv, .asf, .mkv, .avi).
- Cross-device playlists.
- Cross-source media database: My media.
  - The data of all media sources connected to the Infotainment system is stored in a media database.

- If *My media* is selected, categories, e.g. music, and connected media sources are displayed first.
- All media files of USB devices are filtered according to categories, e.g. albums. This category view is always displayed in *My media*. The classic folder structure of the individual USB data media is additionally located in the *My media* folder.
- Media search.

#### Symbols





The symbols depend on the equipment and are not available in all countries and can also differ in appearance depending on the Infotainment system.


#### General symbols

1. To open the main menu, open the app overview and tap ⏮.


**Or:** Tap MEDIA.


**Or:** Press MEDIA.


-  Start playback.
-  Pause playback.
-  Go to previous track.
-  Go to the next track.
-  Repeat current track.
-  Repeats all tracks.
-  Activate random playback sequence.
-  Search the current media source (list view).
-  Close list view.
-  Return to the media source in the higher level folder.
-  Open the favourites list.

-  Open the settings.


### Symbols for media sources

-  **My media:** Select the cross-source media database *My media* as the media source. Connected USB devices can be selected under *My media*.

-  **Bluetooth:** Select a device connected via Bluetooth® as media source.

-  Select SD card as the media source.

### Symbols for categories and groups of media files

-  Music tracks.

-  Videos.

-  Playlists.

-  Albums.


-  Artists.


-  Genre.

-  Podcasts.

-  Audiobooks.

### Symbols for video playback

-  Playback videos in full screen mode.

-  Minimise playback.

## Introduction

The current vehicle position is determined by means of a global satellite system. All measured values and any traffic information are compared with the available map material in order to enable optimal navigation to the destination.

Acoustic navigation prompts and graphic representations guide the user to the destination.

The map material used in the Infotainment systems is provided by a company called HERE.


Depending on the country, some Infotainment system functions can no longer be selected when the vehicle is travelling above a certain speed. This is not a malfunction, but simply a legal requirement.

## WARNING


If settings, destination inputs and changes for the navigation system are made while the vehicle is in motion, this can distract the driver and cause accidents and injuries.

- Always drive with your full attention and responsibly.
- Configure settings and enter destinations and changes for navigation only when the vehicle is stationary.

---

 If a turn is missed during a route guidance, the navigation may recalculate the route.

---

 The quality of the navigation recommendations depends on the navigation data available and any reported traffic problems.

---

### Limitations of the navigation function





If the Infotainment system cannot receive any data from GPS satellites, e.g. in a tunnel, navigation can still continue using the vehicle sensors.

In areas that are not or only partially digitised in the Infotainment system's memory, the Infotainment system also tries to enable route guidance.

If navigation data is unavailable or incomplete, the navigation system may be unable to determine the exact vehicle position. As a result, the navigation may not be as exact as usual.

Road layouts are subject to continuous change, e.g. due to roadworks. If the navigation data is out of date, errors or inaccuracies may occur during route guidance.

## Functional descriptions

 Please refer to  and  on page 311 and  at the start of the chapter on page 370.

### Navigation announcements

Navigation announcements are acoustic driving directions for the route currently travelled.

The type and frequency of navigation announcements depends on the settings and the driving situation, e.g. motorway driving.

A navigation announcement informing you that you have reached your destination area is played if the exact destination cannot be reached, e.g. because it is located in an area with no digital mapping. In addition, information about the direction and distance to the destination is shown on the screen.

During dynamic route guidance, you receive information about reported traffic disruptions on the route. An additional navigation announcement is given if the route is recalculated due to a traffic disruption or changed driving style.

The volume of a navigation announcement can be adjusted or muted while the announcement is playing. All other navigation announcements will be at this volume setting or will be muted.



Navigation announcements are not output when the Infotainment system is muted.

### Customising the navigation map

To obtain the optimum view, you can also customise the navigation map and map view using enhanced finger movements.

Enhanced operation is available with some equipment levels.

### Moving the navigation map

Recommendation: Use your index finger.

1. Use your finger to move the navigation map.

### Zooming into or out of the map view

Recommendation: Use your index finger.

1. Tap and hold the map twice in quick succession.
2. To zoom out of the map view, move your finger up.

**Or:** To zoom in the map view, move your finger down.

### Zooming into or out of the map view

Recommendation: Use your thumb and index finger.

1. Tap and hold the map with two fingers at the same time.
2. To zoom out of the map view, move your fingers toward each other.

**Or:** To zoom in the map view, slowly move your fingers away from each other.

### Tilting the map view

Recommendation: Use your index and middle finger.

1. Tap and hold the map with two fingers horizontal to each other at the same time.
2. Move your fingers up to tilt the map view forward.

**Or:** To tilt the map view back, move your fingers down.

**Rotating the map view**

Recommendation: Use your thumb and index finger.

1. Tap and hold the map with two fingers at the same time.
2. Turn your fingers clockwise or anti-clockwise to rotate the map view.

**Route plan**

Several destinations can be defined one after another in the route plan. The starting point is always the vehicle position determined by the Infotainment system. The route plan contains information on relevant events, such as stopovers or destinations, if navigation data is available. You can move the stopover destinations to another position within the list. When you tap an event, an additional window opens with further options. The options available depend on the event and the current settings.

**Opening or closing the route plan**

1. Tap the route plan to open it.

**Or:** Tap |▷.

2. Tap > to close the route plan.

**Or:** Tap ◀|.

3. To stop route guidance to the destination or stopover, tap ⊗ next to the destination in the route plan.

**Editing route guidance in the route plan**

To edit route guidance, move the stopovers or the destination in the route plan.

1. Tap and hold your chosen destination until it is highlighted on the screen.
2. Move the destination into your chosen position and release it.

The route will be recalculated.

**Additional window in the route plan**

You can tap on the items on a route plan to open an additional window showing further options relating to the items. These options depend on which item you tap.

**Functions in the additional window:**

**Display on map** Display the selection on the map.

**Add stopover** Add a stopover to the route guidance.

**Direct route** Start direct route guidance.

**Delete** Delete stopover from route guidance.

**Bypass** Bypass traffic disruption. The route will be recalculated.

**Stop route guidance** End the current route guidance.



Close the additional window.





Save destination as a favourite.

**Closing the additional window in the route plan**

1. Tap a free area outside the additional window.

**Setting up a favourite POIs category**


The system shows various POIs, e.g. petrol stations, via the quick

selection symbol in the destination entry field, on the route plan and on the map. You can prioritise display of these symbols under  or  ► Basic function settings ► Preferred POI categories. The system also learns your favourite categories automatically.

### Saved data

To enable fast destination input and optimise route guidance, the Infotainment system stores certain data, e.g. frequently driven routes.

### Deleting saved data

1. Tap  or  ► Basic functions ► Delete usage pattern.
2. Tap confirmation to delete.

### Learning usage patterns

While driving, the navigation saves the routes travelled and destinations arrived at in order to create suggested destinations automatically. Destinations are learned depending on the time of day and the day of the week.

The navigation system can suggest learned routes. Route guidance be-

gins when one of the suggested routes is selected.

The route guidance follows the selected route until the vehicle deviates from it. The route is recalculated and will guide you back to the selected route via a direct alternative.

Route guidance takes account of any relevant traffic disruption. Relevant traffic disruption will be avoided if an alternative route is available and the navigation system can access the data.





If you drive an already learned route when route guidance is inactive, the destination will be transferred to the route plan. It is not necessary to actively start route guidance to the learned destination. Warnings may be given about traffic disruption.

An estimated arrival time is displayed.

You can activate or deactivate the function at any time and also de-

lete the stored data for the function.





### Activating or deactivating “Learn usage pattern” function

1. Tap  or  ► Basic function settings to open the settings for this function.  
**Or:** Tap  ►  ► Basic functions.
2. Tap Learn usage pattern.

### Opening suggested routes

1. Tap  or .

### Deleting stored data of “Learn usage pattern” function

1. Tap  or  ► Basic function settings to open the settings for this function.  
**Or:** tap  ►  ► Basic functions.
2. Tap Delete usage pattern.

### Functions and symbols

📖 Please refer to ⚠️ and ❗ on page 311 and ⚠️ at the start of the chapter on page 370.

### Functions

The functions are dependent on the equipment level and are not available in all countries.

- Destination input and route calculation.
- Simultaneous display of two navigation maps (screen and instrument cluster).
- Personal destinations.
- 3D City Maps.

### Symbols

The symbols depend on the equipment and are not available in all countries and can also differ in appearance depending on the Infotainment system.


### General symbols


1. To open the main menu, open the app overview and tap △ → page 351.


Or: Tap .


Or: Press .


 or  Open destination search, search or suggested routes.

 Displays the navigation map.

 Open saved addresses, contact list of the connected mobile telephone.

 Display destination storage.

 Destinations and stopovers on the current route.


 Personal destination recommendations (home address, work address, favourite POIs nearby).


 or  Open the settings.


### Map symbols


The function buttons and displays depend on the settings and the current driving situation.

The map displays symbols for traffic information, e.g. traffic disruption and POIs, e.g. filling stations, when navigation data is available → page 370.


 Current position.

 Display route options.


 Fully automatic map mode (align to direction of travel, position, zoom, tilt).






 Set direction of travel and map tilt.

 Map scale.





 Display additional window with further options, e.g. settings for navigation and navigation announcements.

### Route plan symbols


 Display current position.

-  Destination of the current route guidance.
-  End the current route guidance.
-  Information on current route guidance.
-  Open the route plan.
-  Close the route plan.

### Symbols in the additional window

1. Tap  to open the additional window with further options.
  -  Display route overview and alternative routes for current route guidance.
  -  Repeat the last navigation announcement.
  -  Mute navigation announcements and adjust volume for navigation announcements.

### Other symbols

-  Destination search: Detailed route entry for a particular address.


### Traffic disruptions

Traffic disruptions are displayed on the map when navigation data is available → page 377.





### Opening an additional window with details

1. Tap the traffic disruption → page 370.

-  Traffic jam.
-  Accident.
-  Ice.
-  Road closed.
-  Risk of skidding.

-  Danger.
-  Road works.
-  Strong winds.

### Entering a destination and starting route guidance

 Please refer to  and  on page 311 and  at the start of the chapter on page 370.


Various functions for entering destinations are available depending on the equipment level. Some functions are available only in some countries.

The various functions for entering destinations are found in the main navigation menu. You can narrow down your search by adding certain suggestions to the results list, e.g. “nearby”.



You will find further information on the symbols on the Infotainment system screen in this owner's manual → page 374.


### Entering an address

Start route guidance by entering an address. The navigation system suggests known destinations while you are typing an entry. You can also enter a new, unknown address for route guidance.

 When entering the address, enter the name of the destination rather than the postcode.



### Selecting a destination and starting navigation


1. Tap  or .
2. Enter the address of the destination and select the desired destination.

**Or:** Tap  and enter the address via the input screen.

3. Tap *Route*.

### Quick start

1. Tap  or .
2. Enter the address then tap and hold your chosen destination for a few seconds.

 Enter the destination as accurately as possible. If you make a mistake when entering the destination, route guidance will not be possible or you may be navigated to the wrong destination.

### Suggested destinations

The navigation uses stored data such as last and learned destinations, favourites, home address and work address to suggest potential destinations.

### Selecting a destination and starting navigation



1. Tap .
2. Tap the desired destination.

Route guidance starts automatically.



### Last destinations

The navigation system stores up to ten destinations that you have driven to last in order to make the most recent destinations available for route guidance. A new destination automatically overwrites the oldest destination.

### Selecting a destination and starting navigation

1. Tap  .
2. Tap the desired destination.
3. Tap *Route*.


### Quick start

1. Tap  .
2. Tap and hold your chosen destination for a few seconds.



### Favourite destination

Save up to 50 destinations as favourites.



### Saving a destination as a favourite

1. When entering a destination, tap  in the additional window.

### Selecting a destination and starting navigation

1. Tap  ► .
2. Tap the desired destination.
3. Tap *Route*.

### Quick start

1. Tap  ► .
2. Tap and hold your chosen destination for a few seconds.

### Selecting on the map

The navigation map contains active areas at many points which are suitable for destination input. Tap your chosen position or location on the map to enter a destination. If map data is available at this point, you can start route guidance.


Destination inputs via the navigation map depends on the data status and is not possible for all positions.

Use the off-road navigation function to enter a destination point with unknown data → page 377.

### Offroad navigation

Offroad navigation calculates routes to selected destination points with no known data. If a destination point is not on known roads or positioning data, the navigation system will calculate the route up to the nearest point on the known roads and then complete the route up to the destination point by a direct connection.

### Starting navigation



1. Tap .
2. Move the map view until the desired position can be selected. The navigation map can be operated by extended touch gestures → page 370.
3. Tap the desired destination or any point on the map without positioning data.
4. Tap *Route*.

### Using a contact's address data

Start route guidance using stored address data for a contact. Stored

contacts without address data cannot be used for route guidance.

### Starting navigation





1. Tap  ► .
2. Tap your chosen contact and address data.
3. Tap *Route*.

### NOTICE

If the address details of a contact are out-of-date, the stored address will be used for route guidance and may lead to the wrong destination.

- When starting route guidance, make sure that the stored address of a contact is up-to-date.

### Navigation data

 **Please refer to  and  on page 311 and  at the start of the chapter on page 370.**

The Infotainment system has an internal navigation data memory. Depending on the country, the re-

quired navigation data is already pre-installed.

The Infotainment system always requires up-to-date navigation data for you to use route guidance correctly and make full use of the functions offered.

### NOTICE

If you use obsolete data, you may have problems with navigation. Current routes cannot be determined or route guidance leads to the wrong destination.

- Always keep navigation data up-to-date.


### Updating navigation data online


Depending on the equipment, and in some countries, it may be possible to update navigation data online. Navigation data for regions where you frequently drive and new navigation data, e.g. for new routes where no map data is yet available, is automatically updated in the background when there is an Inter-

net connection and valid privacy settings → page 304.

1. Switch on the ignition.
2. Check the Internet connection and, depending on the country, also check your privacy settings. If necessary, connect to the Internet and select a mode other than “Offline”.

Navigation data for frequently travelled regions is automatically updated in the background.





 The automatic update of navigation data depends on the country and the privacy settings. No update is carried out in offline mode.

 The map material provider uses anonymised positioning data for real-time navigation.

### Display the version of the map data


1. Tap   System information.

### Traffic information

 Please refer to  and  on page 311 and  at the start of the chapter on page 370.

Depending on equipment, it is not always possible to receive traffic information in all Infotainment systems and in every country.

The Infotainment system automatically receives detailed traffic information when connected to the internet. This information is indicated by symbols and colouring of the road network on the map.

 The reception of traffic information depends on your privacy settings in some countries. No traffic information is received in offline mode.

### Traffic disruptions

Traffic disruptions, e.g. traffic jams, are shown as symbols on the navigation map → page 374.

The route plan displays current traffic disruptions when navigation data is available.

When route guidance is active, traffic disruptions that are on the current route are displayed in the route plan. You can avoid these traffic disruptions by editing the route plan → page 370.

### **Bypassing a traffic disruption**

1. Tap the traffic disruption.
2. Tap *Bypass*.

The route will be recalculated.



It is possible to avoid only one traffic disruption in this way for each route.



Local warnings, e.g. about bad weather, may be shown as pop-up messages on the Infotainment system.

---

### **Traffic flow display**

The traffic flow is shown on the navigation map for current traffic

disruptions by means of coloured areas on the road network.

**Orange** Slow-moving traffic.

**Red** Traffic jam.


## Introduction


You can connect your mobile telephone to the Infotainment system via the mobile phone interface and then use the Infotainment system to control the telephone functions. The audio is relayed via the vehicle loudspeakers. Depending on equipment, you can connect up to two mobile telephones to the Infotainment system simultaneously → page 381.

The functions described below are dependent on the equipment, may not be available in all countries and also depend on the mobile telephone and operating system being used.

High speeds, poor weather and poor road conditions, loud noise levels, also outside the vehicle, and network quality may impair telephone calls in the vehicle.

The mobile phone interface may contain an aerial amplifier which improves the reception quality of the mobile telephone.

 As a general rule, it is only necessary to pair a device, e.g. mobile telephone, once. The device connection with the Infotainment system via Bluetooth® or Wi-Fi can be restored at any time without having to pair the device again.

 When a telephone call is made using the hands-free system or at a loud volume, a conversation can also be heard by third parties outside the vehicle.

### Areas where special regulations apply

Switch off the mobile telephone and mobile phone interface in areas where there is an explosion hazard. These areas are not always clearly signposted. This includes, for example:

- Areas immediately around chemical pipelines and tanks.
- Lower decks of ships and ferries.

- The area around vehicles that run on liquefied petroleum gas, e.g. propane or butane.
- Places where there are chemicals or particles such as flour, dust and metal powder in the air.
- All other places where the engine or mobile telephone must be switched off.

### WARNING

In places where there is a risk of explosion, e.g. near filling stations, and in places with special regulations, ignition sparks, e.g. caused by electrostatic discharges or mobile telephones, can lead to an explosion or fire and cause serious or fatal injuries.

- Switch off the mobile telephone and mobile phone interface in potentially explosive areas, e.g. near filling stations, and in locations where special guidelines apply.
- Do not operate the mobile telephone and mobile phone interface in potentially explosive

areas, e.g. near filling stations, and in locations where special guidelines apply.

### NOTICE

The radiation produced by the mobile telephone when switched on may interfere with sensitive technical and medical equipment, possibly resulting in malfunction or damage to the equipment.

- Your mobile telephone must always be switched off in areas where special regulations apply and when the use of mobile telephones is forbidden.

### Types of mobile phone interface

The following types of mobile phone interface may be present in the vehicle, depending on the equipment and the country:

- Basic mobile phone interface.

The mobile phone interface uses the Bluetooth® profile Hands-free Profile (HFP) for transmission. It enables the use of tele-






phone functions via the Infotainment System and playback via the vehicle loudspeakers.

- Comfort mobile phone interface.

Like the basic version of the mobile phone interface, the Comfort mobile phone interface uses the HFP Bluetooth® profile.

Depending on equipment, the mobile telephone is connected to the vehicle aerial. This improves the reception and call quality.

### Pairing, connecting and managing

 **Please refer to  and  on page 311 and  and  at the start of the chapter on page 380.**

Pair and connect a mobile telephone with the Infotainment system in order to use the functions of the mobile phone interface.

Depending on equipment, you can connect up to two mobile telephones to the Infotainment system

simultaneously. Only one device will be active and can be used to make calls. The second connected device can accept calls via the Infotainment system and be used for playing back media.

The functions listed below may not be available in all Infotainment systems, depending on the equipment and country.

Available functions depend on the mobile telephone used and its operating system.

### Pairing a mobile telephone

The mobile telephone must be paired with the Infotainment system before the first connection is established. A user profile is automatically saved in the Infotainment system → page 382. This pairing procedure can take a few minutes.

### Prerequisites:

- ✓ Bluetooth® is activated on the mobile telephone.
- ✓ Bluetooth® is activated in the Infotainment system.

1. Open the list of available Bluetooth® devices on the mobile telephone and select the device name of the Infotainment system.
2. Observe the messages on the mobile telephone and Infotainment system and confirm as necessary.


If pairing was successful, the data of the mobile telephone will be stored in the user profile.

3. *Optional:* confirm the message for the data transfer on the mobile telephone.


### WARNING

Carrying out the pairing while driving may cause accidents or injuries.

- Only ever pair devices when the vehicle is stationary.

 When some mobile telephones are paired, a PIN is shown on the display of the telephone. To finish





the pairing procedure, enter this PIN on the Infotainment system.

 Paired mobile telephones are stored in the Infotainment system even if they are not currently connected.

### Connecting a mobile telephone

1. Pair the mobile telephone with the Infotainment system.
2. Activate Bluetooth® on the mobile telephone.

### Functional descriptions

 Please refer to  and  on page 311 and  and  at the start of the chapter on page 380.

### User profiles

An individual user profile is automatically created for every paired mobile telephone. The data from the mobile telephone (e.g. contact data) is stored in the user profile. A maximum of ten user profiles can

be stored in the Infotainment system simultaneously.

### Completely deleting saved data

1. Reset the Infotainment system to the factory settings  
→ page 359.

### Active and passive connection

At least one mobile telephone must be connected to the Infotainment system in order to use the functions of the mobile phone interface. If several mobile telephones are connected to the Infotainment system, you can switch between active and passive connections. Establish an active connection to the Infotainment system in order to operate the mobile phone interface with the desired mobile telephone.

### Difference between the connection types

**Active** Mobile telephone is paired and connected. The functions of the mobile phone interface are performed with the data of this mobile telephone.

**Passive** Mobile telephone is paired and connected. Only incoming calls can be accepted via the mobile phone interface. Other functions are not available.

Paired mobile telephones are stored in the Infotainment system even if they are not currently connected.

### Switching connection type (passive to active)

#### Prerequisite:

✓ several mobile telephones are connected to the Infotainment system simultaneously.

1. Tap .

**Or:** Tap the name of the active mobile telephone.

**Or:** Tap  Replace.

The mobile telephone with an active connection is highlighted.



2. Tap the name of the desired mobile telephone.

Other mobile telephones then automatically have a passive connection.

### Managing connections

#### Prerequisite:

✓ The mobile telephone is paired and connected.

1. Open the app overview and tap   Mobile devices.
2. Tap to select the technology you wish to use for the connection.

### Phone book

The phone book is stored in the Infotainment system when a mobile telephone is paired with the Infotainment system for the first time. It may be necessary to confirm transfer on the mobile telephone.

Depending on the equipment, a maximum of 5000 contacts can be stored in the phone book.

The phone book is updated every time you connect. The phone book

that is still available can be used during the update.

If conference calls are supported, you can open the phone book during a call and add another person.

If an image is stored for a contact, this can also be displayed in the list next to the entry.

The symbols may have a different appearance in some Infotainment systems.


### Using a telephone

To start a call, select a telephone number. Various functions are available for selecting a telephone number.

### Using contact details


If there are several phone numbers for each contact, you must select the desired phone number.

1. Tap .

**Or:** Tap  and enter the name of the contact in the input field to search for a contact.

**Or:** Tap a favourite in the main menu of the mobile phone interface to start the call via the favourites.


2. Tap a contact in the list to start the call.

 When searching for a contact, enter the surname and first name separated by a space.

### Use call list



The mobile phone interface displays the call list of the mobile telephone.


1. Tap  ► All.

**Or:** Tap  and filter the entries in the call list, e.g. missed calls.

2. To start the call, tap a number or, where applicable, a contact in the list.

### Entering a telephone number manually

1. Tap  and enter a phone number.
2. To start the call, tap .

 While you are entering a phone number, contacts that match the number will appear on the Infotainment system display.

### Favourites and speed dial keys

A speed dial key can be assigned with a favourite from the phone book. If an image is stored in the entry, this will be displayed on the speed dial button.

Speed dial buttons must be assigned manually and are assigned to a user profile → page 381.

### Assigning speed dial keys

1. Tap an unassigned speed dial key.
2. Tap a contact from the phone book or search for it via the search bar. If multiple phone numbers are stored for the contact, tap the number from the list.


### Editing speed dial keys

1. Tap and hold a speed dial key until the phone book opens.



2. Tap a new contact from the phone book. If multiple phone numbers are stored for the contact, tap the number from the list.

### Calling a favourite

1. Tap an assigned speed dial key.

 Favourites are not updated automatically. If the telephone number of a contact should change, the speed dial key must be assigned again.

### Deleting favourites from the speed dial button

1. Tap  ► Manage favourites in the main menu of the mobile phone interface.
2. Tap  on the desired speed dial button to delete a favourite.

**Or:** Tap  ► .

**Or:** Tap **Delete all** to delete all favourites from all speed dial buttons.


3. Tap confirmation to delete.

## Sending text messages


Depending on the mobile telephone and the Infotainment system being used, you can send and receive text messages, SMS and email via the mobile phone interface in some countries.

Sending and receiving e-mails is also dependent on the app used on the mobile phone.






## Sending an SMS

1. Tap  ► Text message ► New message and enter the message.
2. Enter and tap the desired contact in the search bar.
3. Tap OK to send the message.

## Sending an email

1. Tap  ► E-mail ► New message and enter the message.
2. Enter and tap the desired contact in the search bar.
3. Tap OK to send the message.

## Functions and symbols

 Please refer to  and  on page 311 and  and  at the start of the chapter on page 380.

### Functions

The functions are dependent on the equipment level and are not available in all countries or for all Infotainment systems. The available functions depend on the mobile telephone used and its operating system.


- Hands-free function.
- SMS functions via Bluetooth®:
  - Read SMS.
  - Write SMS.
  - Have SMS read out loud.
  - Message history.
- Email functions via Bluetooth®:
  - Read emails.
  - Write emails.

### Symbols

The symbols depend on the equipment and are not available in all


countries and can also differ in appearance depending on the Infotainment system.


### General symbols


1. To open the main menu, open the app overview and tap  → page 351.


**Or:** tap  → page 351.


**Or:** press  → page 351.

 Open the contact list.

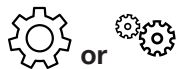
 Call lists for incoming and outgoing calls.

 Dial a phone number.

 Open text messages SMS and email, depending on country.

 Change active device.

 Select a device connected via Bluetooth® for pairing.



Open the settings.

### Symbols for telephone calls



Start, answer or display call.



End or reject a call.



Mute the hands-free system.



Hold a call.



Continue a call.



Add a participant to a conference or start a conference.



Make emergency call (SOS).



MAN breakdown call. Get help in the event of a breakdown.



Mailbox.



MAN information call. Receive information on vehicle and vehicle functions.

### Call list symbols

1. Tap  to open the call lists.



Incoming call.



Outgoing call.



Missed call.



Frequent calls or favourites from the mobile telephone if supported by the mobile telephone.



Telephone number (company).



Telephone number (private).



Mobile telephone number.



Fax unit.




Fax (company).



Fax (private).

### Symbols for text messages

1. Tap  to open the text messages.



Received text message.



Sent text message.



Template for text messages.




Have text messages read out loud.

## Introduction

Voice control allows you to perform certain functions by using voice commands.

Depending on equipment, country and Infotainment system, the symbols for voice control may differ in appearance.

### Does my vehicle have voice control?

Your vehicle is equipped with voice control if there is a  button on the multifunction steering wheel, the sensor field or the **VOICE** function button is available in the Infotainment system, or if your vehicle understands the activation word.



Voice control is active and recognises the words spoken.



Test the voice control function before driving to familiarise yourself with it.

## Types of voice control

Depending on the language set in the Infotainment system and on the country, you can use one of the following types of voice control in the vehicle:

- Command-based voice control (standard).

Voice control only recognises grammatically correct voice commands. Voice commands must follow a defined syntax in order to be recognised correctly, e.g.: “Navigate to [*Town, Street name, House number*]”. Depending on the equipment, you will find further examples in the Infotainment system → page 356.

Command-based voice control can be performed in every available language. Command-based voice control is not supported in European countries.

- Advanced voice control.

Voice commands can be freely formulated and colloquial. For example, the system will show

the remaining time until arrival at your destination in response to the statement “How much longer do I have to drive?”. Depending on the equipment, further suggestions for voice commands can be found in the Infotainment system → page 356. Suggested voice commands depend on the set language.

Advanced voice control works online and offline. In online mode, the voice commands are evaluated to provide an enhanced search for POI, for example. For online mode, you need a valid MAN Connect contract.



If advanced voice control is available in your language, it is used when voice control is activated.

## Supported languages

The number of languages available in your country depends on the vehicle equipment.

Start voice control by saying the activation word used in your country → page 389.

### Seat-based voice control

Voice control uses additional microphones to detect whether the driver or passenger is speaking. This enables you to access seat-related functions in the supported languages, e.g. switching on the seat heating.

### Starting and stopping the voice control function

 **Please refer to  and  on page 311.**

### Voice commands

Voice control only recognises voice commands in the same language set in the Infotainment system.

Note the following tips for giving successful voice commands:


- Speak clearly and at a normal volume. Speak slightly louder at higher speeds.

- Avoid over-emphasis and strong dialects.
- Do not leave long pauses when speaking.
- Avoid background noise of any kind.
- Do not direct the airflow from the vents towards the microphones or roof.

### Opening suggested voice commands




1. Tap  ►  ► .





**Or:** Tap  ►  ► .

 Depending on the content of the phone book, it may be advisable to swap the order of the desired contact's first name and surname to ensure that a name is reliably recognised from the phone book.

### Starting the voice control function

Depending on the vehicle equipment, you can start voice control using different methods:

- Starting with your voice: Say the activation word → page 389.
- Starting with the multifunction steering wheel: Press the  button.
- Starting with the Infotainment system: Tap  or press .

 Depending on the mobile telephone and operating system, voice control of the connected mobile telephone can also be started by holding down the  or  button, the sensor field or the  button.

## Stopping the voice control function

Depending on the vehicle equipment, you can stop voice control in different ways:

- Stopping with your voice: tap **MENU** ► **?** ► **(🔊)** ► General to open suggestions for voice commands to end voice control.

**Or:** tap **MENU** ► **?** ► **(🔊)** ► General.

- Stopping with the multifunction steering wheel: Press the **(🔊)** button.
- Stopping automatically: Voice control ends automatically when you use Infotainment system functions, activate the parking system, receive an incoming phone call or the navigation system makes an announcement.

### Activation word

📖 Please refer to **!** and **!** on page 311.

The spoken words are analysed continuously in the vehicle and

overwritten after around 15 seconds. Voice control is started as soon as the Infotainment system recognises the activation word as part of this analysis. If the voice control function is available online and activated, (voice) data is also transferred from the vehicle as from this time. Otherwise there is no transmission of data or words spoken in the vehicle.

Recognition of the activation word can be deactivated in the settings → page 389.

### Activating or deactivating the activation word

If the activation word is deactivated, voice control cannot be activated using the activation word.

1. Tap **MENU** ► **(⚙️)** ► Voice control ► Voice control start/end sound **or** Activation word.

**Or:** Tap **MENU** ► **(⚙️)** ► Voice control ► Voice control start/end sound **or** Activation word.

## Saying and recognising the activation word

### Prerequisite:

- ✓ The Activation word is activated in the settings.

**BG** Здравей TGE.

**BR** Olá TGE.

**CDN** Bonjour TGE.

**CZ** Ahoj TGE.

**D** Hallo TGE.

**DK** Hej TGE.

**E** Hola TGE.

**F** Bonjour TGE.

**FIN** Hei TGE.

**GB** Hello TGE.

**GR** Γεια σου TGE.

**I** Ciao TGE.

**J** こんにちは TGE.

**MEX** Hola TGE.

**N** Hallo TGE.

**NL** Hallo TGE.

**P** Olá TGE.

**PL** Cześć TGE.

**ROK** 안녕하세요 TGE.

**RUS** Привет TGE.

**S** Hej TGE.

**TR** Merhaba TGE.

**USA** Hello TGE.

### Troubleshooting

📖 Please refer to ⚠️ and ⚡ on page 311.

#### Voice control does not react

- Voice control is not available in your language.
- Set the correct language in the Infotainment system.
- Start voice control using the activation word or the button on the multifunction steering wheel.
- Voice commands are not recognised due to a system error.

Consult a suitably qualified workshop.

#### Voice control provides inappropriate answers

- The voice control system has interpreted the question incorrectly.
- Speak the voice command again clearly.

#### Voice control does not perform function

- The function cannot be performed by voice control.
- The function cannot be performed in all languages. Suggestions for voice commands in the set language can be found in the Infotainment system.
- Settings in the function prevent it from being switched on or performed.
- The voice control system has not understood the voice command.
- Insufficient data is available.

## Introduction

Some external devices, e.g. mobile devices, can be connected to the Infotainment system by cable and wireless connections present in the vehicle (if installed).

The type and number of cable and wireless connections differ according to the vehicle equipment and country. The connections may also be different within a model series or in special-edition models.

In the case of cable connections, use only the original device connecting cables or, if available, the factory-supplied connecting cables for your vehicle.

If the adapter or plug on the connecting cable cannot be inserted, check the angle of insertion and the connections.

## NOTICE

If unsuitable or damaged connecting cables are used or if the connecting cable connector is inserted with strong pressure or in the

wrong position, this can lead to malfunctions and damage to the device, e.g. the device connection and the connecting cable connector may be damaged.

- Use only suitable and undamaged connecting cables.
- When inserting the adapter and plug of the connecting cable into the appropriate port, ensure that they are correctly positioned and apply only light pressure.
- Make sure that the connecting cable is not pinched or sharply bent.

⚠ If a connected device is not recognised, disconnect all devices and connect the device again. If necessary, check that the connecting cable you are using is working properly.

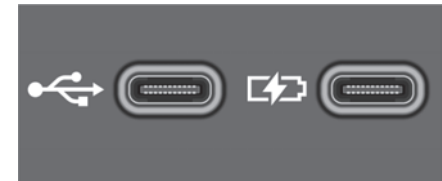
⚠ If a connected device malfunctions, restart the device. In some cases this will remedy the fault.

## USB port

📖 Please refer to **!** at the start of the chapter on page 391.


The USB port can be used to transfer data and charge devices or only to charge devices.


## USB port



**Fig. 135** USB-C port in the vehicle (illustration).

The following USB C ports may be available in the vehicle:

 Indicates a USB socket for data transfer and charging function.

 Indicates a USB socket for the charging function only.



Information on charging options and charging power can be found in this operating manual → page 297.

### Possible fitting locations of USB ports

The number and fitting locations of the USB ports depend on the vehicle and equipment level and are not available in all countries.

- Beside the steering wheel.
- In the front passenger door.
- In the sliding doors.
- Armrest in the third row of seats.
- On the interior mirror.



USB ports on the rear seats are only equipped with the charging function.

### Available data transfer functions

The following functions of USB data transmission are possible depending on the equipment level.

- App-Connect → page 401.

- Media playback → page 366.
- Update, e.g. the navigation data → page 377.

### Notes and restrictions

- Only use suitable USB connection cables. The USB connection cable must match the USB port installed in the vehicle.
- Dirty, overheated and damaged data media may become unusable. Please observe the manufacturer's instructions.
- Quality differences in data media from different manufacturers may cause malfunctions in the media playback.
- If a USB extension cable, USB connector adapter or USB hub is used, this can lead to faults with or failure of the USB functions.

### Bluetooth® interface

Please refer to at the start of the chapter on page 391.

The Bluetooth® interface is a wireless connection.

In Bluetooth® audio mode, audio files from a mobile device that is connected via Bluetooth®, e.g. mobile telephone, can be played over the vehicle loudspeakers.

Bluetooth® audio mode is available only if the vehicle is equipped with a factory-fitted mobile phone interface that supports this function.

### Bluetooth® profiles



A maximum of three mobile devices can be connected via Bluetooth® at the same time.

The following Bluetooth® profiles may be available in the specified or a different version:

- HFP 1.7.
  - Telephony and handsfree mode.

- A2DP 1.3/AVRCP 1.6.
  - Music playback.
  - Display and operation of music playback.
  - Transmission of Cover Arts.
- PBAP 1.2.
  - Access to phone book and call lists.
- MAP 1.4.
  - Access to SMS and email.
- SPP 1.2.
  - Serial data transmission via Bluetooth®.


### Pairing a mobile device with the vehicle via Bluetooth®

1. Open the app overview and tap  ► Network ► Mobile devices ► .
2. Activate Bluetooth.
3. Activate Visibility.
4. Open the list of available Bluetooth® devices on the mobile device and select the device name of the Infotainment system.

5. Observe the messages on the mobile device and Infotainment system and confirm as necessary.

If pairing was successful, the data of the mobile device will be stored in the user profile.

6. *Optional:* confirm message for data transfer on the mobile device.


 As a general rule, it is only necessary to pair a mobile device, e.g. a mobile telephone, once. You can then reconnect the device to the Infotainment system via Bluetooth® at any time without having to pair the device again.

### Starting Bluetooth® audio transmission


#### Prerequisites

- ✓ The mobile device is paired with and connected to the Infotainment system.
- ✓ The mobile device supports the Bluetooth® profile Advanced Audio Distribution Profile (A2DP).

✓ In the Bluetooth settings menu, the Bluetooth Audio (A2DP/AVRCP) function is activated.

1. Reduce the volume on the Infotainment system.
2. Switch on Bluetooth® visibility on the mobile device, e.g. mobile telephone.
3. Open the Media main menu.
4. Touch Source ►  BT-Audio.
5. If necessary, start playback on the Bluetooth® audio source manually.

When playback is stopped on the Bluetooth® audio source, the Infotainment system remains in Bluetooth® audio mode.


 With mobile devices that support the AVRCP Bluetooth® profile, playback on the mobile device can be automatically started or stopped upon switching to Bluetooth® audio mode or to a different audio source.


You can find further information on using a mobile device for music playback in this owner's manual → page 366.



### Controlling playback

The extent to which the Infotainment system can be used to control the mobile device depends on the connected mobile device.

With media players that support the AVRCP Bluetooth® profile, playback on the mobile device can be automatically started or stopped upon switching to Bluetooth® audio mode or to a different audio source. Depending on the mobile device, it may also be possible to display the track and change the track using the Infotainment system.

 Due to the large number of possible mobile devices, it is not possible to guarantee fault-free operation of all described functions for all sources.

 Always switch off the warning and service tones on a connected mobile device, e.g. key tones on a mobile telephone, to prevent interference noise and malfunctions.

 With some devices, the Bluetooth® audio connection will be disconnected automatically if an external media player is connected to the Infotainment system with Bluetooth® and the USB port  simultaneously.

### Connecting an external audio source via Wi-Fi

 Please refer to  at the start of the chapter on page 391.

The Wi-Fi connection is a wireless connection.



In Wi-Fi audio mode, sources connected via Wi-Fi. e.g. mobile telephones, can be used for audio transmission.


The Wi-Fi function depends on the vehicle equipment and is only available in some countries.


### Prerequisites

- ✓ The connected audio source has a suitable application (app) or supports UPnP media sharing.
- ✓ The audio source is connected via Wi-Fi.

### Starting Wi-Fi audio transmission

1. Reduce the volume on the Infotainment system.
2. Open the *Media* main menu.
3. Start the UPnP server application or suitable app for audio playback on the Wi-Fi audio source.
4. Tap  and select  Wi-Fi.
5. Observe the information on the further procedure on the Infotainment system screen and on the Wi-Fi audio source screen.

The function button for selecting the audio source () in the *Media* main menu may vary if another audio source is already connected to

the Infotainment system, e.g. via USB , and selected.


### **Controlling playback**


The extent to which the Wi-Fi audio source can be controlled via the Infotainment system depends on the connected Wi-Fi audio source.

### Introduction


Use of the internet in the vehicle depends on the vehicle equipment and is available only in some countries.


An internet connection is required in order to use online functions in your vehicle, e.g. MAN Connect. Some Infotainment systems can use the Wi-Fi hotspot of a mobile device, (e.g. mobile telephone) (Wi-Fi client). The Wi-Fi hotspot function is not available in all countries or vehicles.

 As default, the Wi-Fi connection is encrypted using WPA2 encryption for security reasons. MAN recommends always using WPA2 encryption. Comply with country-specific requirements.

 The necessary data transfer may be subject to charge. Due to the potentially high volume of data occurring, MAN recommends using a mobile phone tariff which includes a data flat rate. For more in-

formation contact your mobile telephone provider.

 Depending on your mobile telephone tariff, additional costs, such as roaming charges, may be charged for the transfer of online data packages, especially if you use these services abroad.

 When you cross the border into countries that have different permitted radio frequencies than in your own country, operation of the wireless function and Wi-Fi must be deactivated due to legal requirements. The Wi-Fi hotspot must be deactivated → page 397, → page 398.

Operation of functions with a cable connection is not affected by this restriction, and these functions can still be used.

### Opening the *Network settings* menu

1. Open the app overview and tap *Settings*.

**Or:** Press  and then *Settings*.

**Or:** In the *MAN Connect* main menu, tap .

2. To open the *Network settings* menu, tap *Network*.
3. Tap the appropriate function button to adjust the settings for a certain function.

Changes are automatically stored when a menu is closed.

**Or:** Use quick connection (“Wi-Fi Protected Setup” (WPS)).

### Technical specifications for internet use

 Please refer to  and  on page 311.

The technical specifications of the Wi-Fi in the vehicle that are described here depend on the vehicle equipment and are available only in some countries.

- Wi-Fi in accordance with IEEE 802.11 b/g/n.

- Transfer in 2.4 GHz and 5 GHz.
- Two Wi-Fi modes simultaneously:
  - Tethering (2.4 GHz).
  - 2.4 GHz access point.
- Up to eight mobile devices can be connected simultaneously.
- Internet connection via Wi-Fi:
  - Tethering via mobile telephone.
  - Wi-Fi hotspot for clients in the vehicle.
- Apple CarPlay via Wi-Fi.
- Android Auto via Wi-Fi.
- Simplified pairing process via Wi-Fi Protected Setup (WPS) or Quick Response Code (QR Code®).

### Possible types of data connections

The potential types of data connection depend on the equipment level and are not available in all countries.

**eSIM** (embedded SIM) The vehicle has a control unit with an em-






bedded SIM Card (eSIM). In order to use the Wi-Fi hotspot, you must purchase data plans from the In-Car Shop or the web shop of MAN's external mobile communications partner.

**Mobile device** Use the Wi-Fi hotspot of a mobile device, e.g. mobile telephone.

### Setting up an internet connection

📖 Please refer to  and  on page 311.

#### Internet connection via a mobile device


1. Activate tethering/Wi-Fi hotspot on the mobile device, refer to the operating instructions of the mobile device manufacturer.
2. Tap    .
3. Tap .


The Infotainment system searches for Wi-Fi hotspots


nearby. The search operation may take a few seconds.

4. Select the Wi-Fi network of the desired mobile device.
5. Enter the network key of the mobile device on the Infotainment system and confirm.

The Wi-Fi connection between the mobile device and Infotainment system is now established. Further inputs may be required on the mobile device to complete the connection.

 Due to the large number of possible mobile devices, it is not possible to guarantee fault-free operation of all functions.

 The availability of the function for using the Infotainment system as a Wi-Fi hotspot is country-dependent and may vary.


 Depending on your mobile telephone tariff, additional costs (e.g. for roaming) may be charged for


downloading and using online data bundles, especially if you use these services abroad. Due to the potentially high volume of data occurring, MAN recommends using a mobile phone tariff which includes a data flat rate. For more information contact your mobile telephone provider.

### Using an internet connection via the eSIM in the vehicle

In order to use an internet connection via the vehicle's eSIM, you must purchase data plans in the web shop of MAN's external mobile communications partner. If you activated the **Load in vehicle** function upon registration, you can then also purchase data plans directly in the vehicle via the Infotainment system.

### Activating internet connection via the eSIM

1. Open the app overview and tap  ► Data connection.
2. **Activate** Streaming via integrated data connection (eSIM).

 The possibility of using an internet connection via the vehicle's eSIM depends on the vehicle equipment and country.

### Activating and deactivating a Wi-Fi hotspot

 Please refer to  and  on page 311.

Depending on the vehicle equipment, the Infotainment system can be used as a Wi-Fi hotspot for internet access of up to eight mobile devices, e.g. mobile telephones and tablets.

An internet connection is required in order to use the Infotainment system as a Wi-Fi hotspot, e.g. via the eSIM card in the vehicle.

The potential types of data connection depend on the equipment level and are not available in all countries.

### Prerequisite

✓ The following is activated in the Wi-Fi settings → page 396: Network settings ► Allow internet connection.

**Or:** Data connection ► Integrated data connection.

✓ The vehicle has a control unit with an embedded eSIM card and data plans are available.

### Configuring a Wi-Fi hotspot

Inputs are necessary both on the Infotainment system and on the mobile device.

1. Open the app overview and tap Settings ► Wi-Fi ► Infotainment system as hotspot.

2. Tap and activate Use as hotspot.

**Or:** Tap and activate Mobile hotspot.

3. Find the network name of the Wi-Fi displayed on the Infotainment system on the mobile device and tap the name.

4. Enter the network key or password displayed on the Infotainment system on the mobile device and confirm.

The Wi-Fi connection between the mobile device and Infotainment system is now set up. Further inputs may be required on the mobile device to complete the connection.

5. *Optional:* Repeat the procedure to connect further mobile devices.



The network name and the network key are generated automatically. You can then change the network name and the network key.

### Deactivating the Wi-Fi hotspot

1. Open the app overview and tap Settings ► Wi-Fi ► Infotainment system as hotspot.
2. Tap and deactivate Use as hotspot.

**Or:** Tap and deactivate Mobile hotspot.

### Quick connection

📖 Please refer to ⚠️ and ❗ on page 311.

The quick connection function makes it possible to easily and quickly establish a wireless local network with encryption. Alternatively, the function can be carried out by scanning a QR Code® in some countries.

### WPS with Infotainment system as a Wi-Fi hotspot

#### Prerequisites

- ✓ The Wi-Fi hotspot of the Infotainment system is activated.
- ✓ The mobile device supports WPS.

1. Tap **[MENU]** ► ⚙️ ► Wi-Fi.
2. Touch Quick connection with Infotainment system.
3. Activate WPS on the mobile device to be connected.

The Wi-Fi connection is set up. Further inputs may be required

on the mobile device to complete the connection.

4. *Optional:* Repeat the procedure to connect further mobile devices.

Only one WPS connection can be established at any time. If several connection attempts are started simultaneously, all connection attempts will fail.


### WPS with Infotainment system as client

#### Prerequisites

- ✓ The Wi-Fi hotspot of the Infotainment system is deactivated.
- ✓ The mobile device supports WPS.

1. Tap **[MENU]** ► ⚙️ ► Wi-Fi.
2. Touch WPS quick connection (WPS button).
3. Activate WPS on the mobile device.

The Wi-Fi connection is set up. Further inputs may be required on the mobile device to complete the connection.

 WPS is not supported by all mobile devices. Establish the connection manually in this case:

1. Set up the Infotainment system as a Wi-Fi hotspot → page 396.

**Or:** connect the Infotainment system as a client to the Wi-Fi hotspot of a mobile device → page 396.

### Carrying out Wi-Fi pairing via QR code®

The Wi-Fi connection can also be established by scanning the corresponding QR Code®.


#### Prerequisites


- ✓ The Wi-Fi hotspot of the Infotainment system is activated.
- ✓ A suitable application for scanning QR Codes® is installed on the mobile device.

1. Tap  ►  ► Wi-Fi.
2. **Touch** Quick connection with Infotainment system.

3. Scan the QR Code® on the Infotainment system screen with the mobile device.

The mobile device is connected as a client to the Wi-Fi hotspot of the Infotainment system.

 While the Infotainment system is in the Wi-Fi settings menu, the wireless charging function is deactivated. Wireless charging is activated again when you leave the Settings menu.

 With older mobile devices, it may be the case that the functions are restricted or do not work. Ensure that you are using the latest software version for your mobile device.

## Introduction

MAN SmartLink enables the user to display and operate content and functions from a mobile telephone on the Infotainment system screen.

For this, the mobile telephone must be connected to the Infotainment system using a USB interface with data transfer function.

Some technologies can also be used wirelessly using Wireless MAN SmartLink via the Bluetooth® interface and a Wi-Fi connection.

### The following technologies may be available:

- Apple CarPlay.

Depending on equipment, can also be used wirelessly via Wireless MAN SmartLink.

- Android Auto.

Depending on equipment, can also be used wirelessly via Wireless MAN SmartLink.

The availability of the MAN SmartLink technologies is country-spe-

cific and may vary depending on the mobile telephone used.

Apple CarPlay and Android Auto are technologies operated by third parties and made available by MAN Truck & Bus SE. MAN Truck & Bus SE is not responsible if these technologies are terminated, discontinued or deactivated during the service life of the vehicle.

For further information, please visit the MAN Truck & Bus website.

### WARNING


Using apps while the vehicle is in motion can distract you from the road. Serious accidents and fatal injuries can occur if the driver is distracted.

- Only use apps and functions when the vehicle is stationary.
- Always drive with your full attention and responsibly.

### WARNING

Use of unsuitable apps or incorrect use of apps can cause damage to the vehicle and accidents with serious injuries, or even death.

- Protect the mobile telephone and its apps from misuse.

 MAN Truck & Bus is not responsible for damage to the vehicle caused by poor-quality or faulty third-party apps, inadequate programming of third-party apps, insufficient network strength, data loss, misuse of mobile devices, or malware on data media, computers, tablets and mobile telephones.

### Wireless MAN SmartLink when crossing a border

When you cross the border into countries that have different available radio frequencies than in your own country for operating the Wireless function of MAN SmartLink (Wireless MAN SmartLink )/Wi-Fi, please note the following:

- Wireless MAN SmartLink is restricted or not available at all due to legal regulations. This may be indicated by a message displayed on the Infotainment system.
- Wireless MAN SmartLink must be disabled due to legal requirements. The Wi-Fi hotspot must be deactivated.

Operation of wired MAN SmartLink functions is not affected by this restriction, and these functions can still be used.

### Opening MAN SmartLink

Navigation to the MAN SmartLink main menu depends on the Infotainment system used.

1. Tap **MENU**  .

**Or:** Press **APP**.

### Setting up Wireless MAN SmartLink

The mobile telephone must be paired with the Infotainment system before you can use Wireless MAN SmartLink.

### Connecting a mobile telephone for the first time

1. Unlock the mobile telephone.
2. Activate Wi-Fi reception and Bluetooth® on the mobile telephone.
3. Connect the mobile telephone to the Infotainment system using a USB cable or Bluetooth®.
4. Open the MAN SmartLink main menu if it does not appear automatically.
5. Select the mobile telephone and the desired technology.
6. Confirm any authorisation prompts on the mobile telephone to give the Infotainment system the necessary permissions.
7. Disconnect the USB connection and connect to the Infotainment system again using Wi-Fi or Bluetooth®.

Wireless MAN SmartLink is set up. The pairing is completed. In the future, the connected mobile telephone will also be able





to use Wireless MAN SmartLink without a USB connection.

If pop-up menus are rejected during the connection process, Wireless MAN SmartLink will not be available. In this case, MAN Truck & Bus recommends deleting the devices in both the mobile telephone settings and on the Infotainment system and restarting the connection process.



Wireless MAN SmartLink may not be supported by all technologies.

### Symbols

 Please refer to  and  on page 311 and  at the start of the chapter on page 401.

The symbols may have a different appearance in some Infotainment systems.



Show more information.



Open the settings.



Select Apple CarPlay technology.



Select Android Auto technology.

### Connecting a mobile telephone with MAN SmartLink

**Please refer to and on page 311 and at the start of the chapter on page 401.**

The mobile telephone must be paired with the Infotainment system before you can use MAN SmartLink or Wireless MAN SmartLink. With Wireless MAN SmartLink, the connection is started via Bluetooth® and is then set up via the Wi-Fi hotspot of the Infotainment system.



If Apple CarPlay is used, the Bluetooth® connection is terminated again as soon as the connec-

tion via the Wi-Fi hotspot of the Infotainment system has been established.

If Android Auto is used, the Bluetooth® connection is maintained.

### Connecting a mobile telephone via USB cable

1. For MAN SmartLink, connect the mobile telephone with the Infotainment system using a USB cable.
2. Confirm any authorisation prompts on the mobile telephone to give the Infotainment system the necessary permissions.

MAN SmartLink is set up.

### Connecting a mobile telephone for Wireless MAN SmartLink

1. For Wireless MAN SmartLink, connect the mobile telephone using Bluetooth® → page 391.
2. Open the app overview and tap

**Or:** Press

3. Select the mobile telephone and the required technology.
4. Confirm any authorisation prompts on the mobile telephone to give the Infotainment system the necessary permissions.

Wireless MAN SmartLink is set up.

If pop-up menus are rejected during the connection process, MAN SmartLink or Wireless MAN SmartLink will not be available. In this case, MAN Truck & Bus recommends deleting the devices in both the mobile telephone settings and on the Infotainment system and restarting the connection process.

### Apple CarPlay



**Please refer to and on page 311 and at the start of the chapter on page 401.**

The display of the function buttons on the screen may vary.


**Prerequisites:**

- ✓ The iPhone must support Apple CarPlay™.
- ✓ Voice control (Siri) must be activated on the iPhone.
- ✓ Apple CarPlay™ must be activated in the iPhone settings, with no restrictions.
- ✓ If Apple CarPlay Wireless is not possible, the iPhone must be connected to the Infotainment system via a USB connection with data transfer capability. Only USB connections with data transfer capability are suitable for using Apple CarPlay.
- ✓ The USB cable used must be an original cable from Apple.
- ✓ Apple CarPlay Wireless (wireless use): Bluetooth® and Wi-Fi must also be activated on the iPhone.

**Opening Apple CarPlay**

1. Open the app overview and tap .
- Or:** Press **[APP]**.
2. To start Apple CarPlay, tap .

**Terminating the connection**

1. To open MAN SmartLink in Apple CarPlay mode, tap **MAN**.
2. Tap  to terminate the active connection.

**Things to note**


Please note the following points during an active Apple CarPlay connection:


- Bluetooth® connections between the iPhone and the Infotainment system are not possible.
- An active Bluetooth® connection between the iPhone and the Infotainment system will be ended automatically.
- When an iPhone is connected to the Infotainment system via Apple CarPlay, the phone functions can only be used via Apple CarPlay. The Infotainment system functions described in this manual are not available.


- The connected iPhone cannot be used as a media device under Media.
- It is not possible to use the Apple CarPlay™ navigation at the same time as the internal navigation system. The last route guidance to be started terminates the previously active one.
- Depending on the Infotainment system used, the instrument cluster display shows information about telephone mode.
- Depending on the Infotainment system and navigation app you are using, turning instructions may be shown on the instrument cluster display.
- Depending on the multifunction steering wheel fitted, you can use it to accept or reject incoming calls or end a telephone call.


**Starting the voice control function**

The voice control function depends on the vehicle equipment level.





1. Tap  briefly to start voice control on the Infotainment system.

**Or:** Tap and hold  to start voice control (Siri) on the connected iPhone.

 The availability of the technologies is country-specific and may vary.

 Information on technical requirements, compatible iPhones, certified apps and availability is available on the MAN Truck & Bus and Apple CarPlay™ websites, or from your MAN dealership.

## Android Auto


 Please refer to  and  on page 311 and  at the start of the chapter on page 401.

The display of the function buttons on the screen may vary.

## Prerequisites



- ✓ The mobile telephone – referred to below as smartphone – must support Android Auto.
- ✓ An Android Auto app must be installed on the smartphone.
- ✓ If Android Auto Wireless is not possible, the smartphone must be connected to the Infotainment system by means of a USB port with data transmission function. Only USB connections with data transfer capability are suitable for using Android Auto.
- ✓ The USB cable used must be an original cable from the smartphone manufacturer.
- ✓ Android Auto Wireless: Bluetooth® and Wi-Fi must also be activated on the smartphone and in the Infotainment system.

## Starting Android Auto

1. Open the app overview and tap .  
**Or:** Press APP.

2. Tap  to set up a connection with the smartphone.

## Terminating the connection

1. To open MAN SmartLink in Android Auto mode, tap .  
**Or:** tap *Close*.
2. Tap  to terminate the active connection.


## Things to note


The following points apply when an Android Auto connection is active:

- An active Android Auto device can also be connected simultaneously to the Infotainment system via Bluetooth® (HFP profile).
- Telephone functions are possible via Android Auto. If the Android Auto device is connected to the Infotainment system via Bluetooth® at the same time, the telephone function on the Infotainment system can also be used.
- An active Android Auto device cannot be used as a media device under *Media*.

- It is not possible to use the Android Auto navigation at the same time as the internal navigation system. The last route guidance to be started terminates the previously active one.
- You can view information about telephone mode in the instrument cluster display.
- No turning instructions are shown on the instrument cluster display.
- You can accept or reject incoming calls via a multifunction steering wheel, and also end an on-going telephone call.

### Starting the voice control function

1. Tap VOICE or  briefly to start voice control on the Infotainment system.

**Or:** Tap and hold  to start voice control on the connected smartphone.



The availability of the technologies is country-specific and may vary.

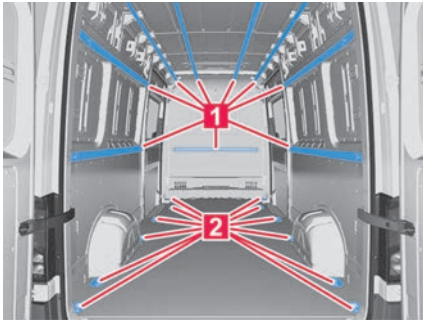
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Information on technical requirements, compatible smartphones, certified apps and availability is available on the MAN Truck & Bus and Android Auto websites, or from your MAN service outlet.

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Loads must be secured taking into account country-specific road traffic regulations and any other applicable country-specific regulations. Always observe legal requirements.



**Fig. 136** In the load compartment: fastening rails and fastening rings.

Loads can be transported in the load compartment, on the load bed or on a roof load carrier → page 440.

Alternatively, a trailer can be used → page 428.

### Stowing a load securely

- Always distribute any loads in the vehicle as evenly as possible.

- Stow loads and heavy items in the load compartment or on the load bed and position them as far forward as possible → ⚠.
- Observe gross axle weight ratings and the gross vehicle weight rating → page 670.
- Secure items in the load compartment to the fastening rings using suitable lashing, fixation and securing straps → page 411.
- Also stow small objects safely.
- If necessary, fold back the rear seat backrest and engage it securely.
- Adjust the tyre pressure to suit the load. Observe the tyre pressure sticker → page 535.
- If necessary, adapt the tyre monitoring system to the new load level.

### Fastening rails and fastening rings

With some equipment levels, the load compartment may contain fastening rails → Fig. 136 1 in the side panels, partition walls, roof

and floor, and fastening rings → Fig. 136 2 in the floor.

### Using securing straps

- Follow the instructions for the securing straps.
- Observe specifications for maximum load rating.
- The securing straps must be long enough for the item you wish to secure.

### Damaged securing straps

Never use lashing straps and securing straps under the following conditions:

- Damage to the warp and weft of the webbing (cuts or fraying) accounts for more than 10% of the webbing.
- The seams are damaged.
- The webbing is deformed by friction or heat.
- The securing straps are cracked, especially if cracked across the strap, or if the straps have notches.

### Stowing a load

- The securing straps have splits or corrosion damage.
- There is damage to the tightening device and connection elements.

#### Load compartment floor with removable segments

Depending on the equipment in the vehicle, you may be able to remove segments of the load compartment floor in order to install additional equipment. Contact a suitably qualified workshop for further information.

#### WARNING

Objects or animals that are not secured or are secured incorrectly can cause serious or fatal injuries in the event of a sudden driving or braking manoeuvre or accident. This applies particularly if objects are struck by the airbag when activated and then flung through the vehicle interior.

- Always stow all objects in the vehicle securely. Observe legal requirements when doing this.

- Stow items in the vehicle interior or in such a way that they can never enter the airbag deployment zones while the vehicle is in motion.
- Secure animals in the vehicle using a system that is suitable for their weight and size.
- Always keep stowage compartments closed while the vehicle is in motion.
- Do not stow any hard, heavy or sharp objects loose in any of the vehicle's open stowage areas, on the surface behind the rear seat backrest or on the dash panel.
- Remove any hard, heavy or sharp objects from clothing and bags inside the vehicle and stow them securely in the load compartment.

#### WARNING

If an incorrect sitting position is assumed due to stowed objects, serious or fatal injuries can occur in the event of sudden driving and

braking manoeuvres and in accidents.

- Never stow objects on a seat if this is to be occupied and used by a person.

#### WARNING

Transporting heavy objects changes the vehicle's handling due to the change in the centre of gravity and increases the braking distance. Heavy loads that are not properly stowed or secured can change the vehicle handling, e.g. as a result of the load slipping. This can lead to loss of control over the vehicle and cause serious or fatal injuries.

- Never overload the vehicle. Both the payload and the distribution of the load in the vehicle will have an effect on the driving response and braking distance of the vehicle.
- Always distribute the load evenly and as low down as possible in the vehicle.

- Always stow heavy items securely in the load compartment as far as possible in front of the rear axle.
- Secure loose objects to prevent them from slipping.
- Always adapt your speed and driving style to the current visibility, weather and road or traffic conditions.
- Accelerate particularly carefully and gently.
- Avoid sudden braking and driving manoeuvres.
- Brake earlier than usual if the vehicle is heavily loaded.

### WARNING

Lashing, retaining or securing straps that are incorrectly fastened, unsuitable or damaged may become detached in the event of a sudden braking manoeuvre or accident. This could cause objects to be flung through the interior and lead to severe or fatal injuries.

- Always use suitable and undamaged lashing, retaining or securing straps.
- Attach lashing, retaining or securing straps securely to the fastening rings.
- Load the fastening rings evenly.
- Never fix lashing, retaining or securing straps between the fastening rings in the side panel and the fastening rings in the vehicle floor.
- Never fix lashing, retaining or securing straps between opposite side walls.
- Never load the lashing, retaining or securing straps beyond their load rating.
- If necessary, observe the information sign on the side trim.
- Ensure that the load retains its form and position once it has been secured. Use stable packaging and anti-slip mats.

### WARNING


Unattended children could make their way into the load compartment, close the boot lid or doors and be unable to get out independently. This can cause severe or fatal injuries.

- Always close and lock the doors when the vehicle is not in use or unattended.
- Never leave children unattended, particularly when the boot lid is open.
- Never let children play in or around the vehicle.
- Never transport people in the load compartment.

### *NOTICE*

Rubbing objects on the rear windows can cause damage, e.g. to the heating wires of the rear window heating.

- Load the load compartment only up to a height where no objects are in contact with the rear windows.

 Suitable fixation belts, securing straps and load securing systems are available from suitably qualified workshops.

---

## Fastening rings

Observe the maximum load rating of the fastening rings → page 414.



**Fig. 137** In the load compartment: fastening rings.

There are fastening rings → **Fig. 137** in the load compartment which can be used to secure loose items and loads with the help of lashing, retaining or securing straps.

### Securing the load on the fastening rails

1. Fold up the fastening rings → **Fig. 137**.
2. Position the lashing, retaining or securing straps over the load *across both diagonals* and

hook them into the fastening rings.

3. Pull the lashing, retaining or securing straps tightly over the load. Make sure that the cross-over of the lashing, retaining or securing straps is positioned in the centre of the load.
4. Check whether the load can still be moved. If necessary, tighten the securing straps even more tautly.

### **⚠ WARNING**

Elastic tensioning straps must be stretched in order to secure them at the fastening rings and are therefore under tension. If elastic tensioning straps slip off and *snap towards* the body, the hooks attached to them can cause serious injuries.

- Protect your eyes and face when installing and removing the straps.
- Always hold the luggage net hooks tightly to prevent them from jumping out of the fasten-

ing ring during installation or removal.

- Always first secure the elastic tensioning straps to the fastening rings in the front area of the load compartment. Then pull the elastic tensioning straps towards the load sill. Secure the elastic tensioning straps to the fastening rings so that they *snap away* from the body if they slip.

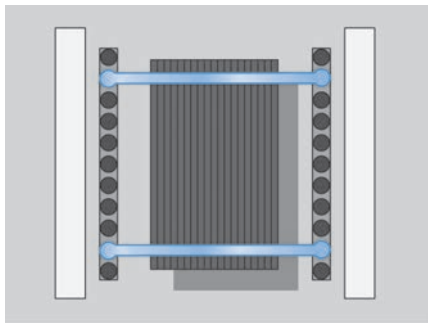
### **NOTICE**

Incorrect tensioning of lashing, retaining or securing straps can lead to damage to the vehicle.

- Never fix lashing, retaining or securing straps between the fastening rings in the side panel and the fastening rings in the vehicle floor.
- Never fix lashing, retaining or securing straps between opposite side walls.

#### Fastening rails with fastening rings in the load compartment floor

Observe the maximum load rating of the fastening rings → page 414.



**Fig. 138** In the load compartment: parallel securing of the load (illustration).

#### Tightening securing straps

1. Fold up the fastening rings.
2. Position the tensioning straps *parallel* around the load and hook them into the fastening rings → **Fig. 138**.
3. Pull the securing strap tightly over the load. Make sure that the cross-over of the securing

straps is positioned in the centre of the load → **Fig. 138**.

4. Tighten securing straps with the tensioning mechanism.
5. Check whether the load can still be moved. If necessary, tighten the securing straps even more tautly.

#### **WARNING**

Incorrect use of the fastening rails in the load compartment floor can cause severe or fatal accidents.

- Observe the maximum load rating of the fastening rails.
- Secure the load to the fastening rails using only the appropriate fastening rings. Only these fastening rings can be securely engaged in the fastening rails.
- Secure the fastening rings to the fastening rails as close as possible to the load.
- Never fix tensioning straps between the side panels or between a side panel and the load compartment floor. Only shoring beams may be fitted between

the left and right-hand fastening rails. Observe the operating instructions provided by the manufacturer.

#### **NOTICE**

Incorrect use of the fastening rails in the load compartment floor can lead to damage.

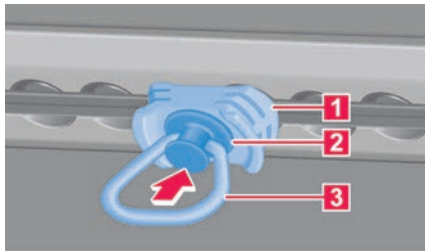
- Remove the securing straps from the fastening rings before moving the rings. The fastening rings could otherwise be damaged.

#### Fastening rails with fastening rings on the side panels

Depending on the vehicle equipment, there may be fastening rails on the side panels in the load compartment, on the partition walls, in the roof and also in the load compartment floor.

Ratchet straps can **not** be used for securing the load on the side panels.

Observe the maximum load rating of the fastening rings → page 414.



**Fig. 139** In the load compartment: Fastening rail with fastening ring (illustration).

- 1** Base element.
- 2** Unlock button.
- 3** Ring.

### Inserting fastening rings in the fastening rails

1. Hold the base element → Fig. 139 **1** tight and press the release button **2** in the direction of the arrow.
2. Insert the fastening ring into a recess in the fastening rail. Use the recess that is closest to the load.

3. Push the base element → Fig. 139 **1** slightly to the left or right and lower the base element until it engages in the rail recess.

If the ring → Fig. 139 **3** is turned 180 degrees, it can no longer be shifted or removed.

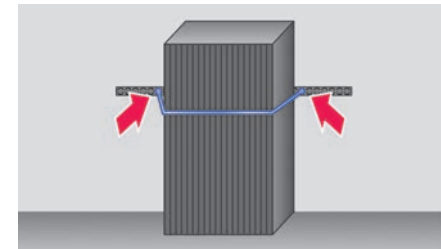
Only one fastening ring must be used in each case between two fastening points (screws) for mounting the fastening rail on the vehicle.

### Moving fastening rings

1. Push the release button → Fig. 139 **2** in the direction of the arrow.
2. Pull the base element → Fig. 139 **1** towards the ring **3**.
3. Move the fastening ring.
4. Release the → Fig. 139 **1** base element.
5. Check that the fastening ring has engaged securely.

### Removing fastening ring from the fastening rail

1. Turn the ring → Fig. 139 **3** to the position shown in the illustration.
2. Push the release button → Fig. 139 **2** in the direction of the arrow.
3. Pull the base element → Fig. 139 **1** towards the ring **3**.
4. Move the fastening ring slightly to the left or right and remove the fastening ring from the fastening rail.



**Fig. 140** In the load compartment: Securing the load to the side panels (illustration).

#### Secure the load on the fastening rails

Pass the buckle strap around the load → Fig. 140 so that the load cannot slip.

#### NOTICE

Incorrect use of the fastening rails in the load compartment floor can lead to damage.

- Remove the securing straps from the fastening rings before moving the rings. The fastening rings could otherwise be damaged.

#### Maximum load capacity of the fastening rings

| Fastening rings   | Permissible nominal tensile load |
|---|----------------------------------|
| In the load compartment floor of the panel van, up to 5.0 t gross vehicle weight rating | 500 daN                          |

| Fastening rings  | Permissible nominal tensile load |
|--|----------------------------------|
| In the load compartment floor of the panel van, over 5.0 t gross vehicle weight rating | 800 daN                          |
| At the bottom in the side panel  | 150 daN                          |
| At the top in the side panel   | 150 daN                          |
| In the partition wall  | 150 daN                          |
| Lengthwise in the roof   | 50 daN                           |
| Fastening rails in the load compartment floor  | 500 daN                          |

1 daN (decanewton) corresponds to 10 newtons. Varying country-specific requirements are met.

#### ⚠ WARNING

Incorrect use of fastening rails on the side panels and partition wall can cause severe or fatal accidents.

- The weight of the load secured to the side panel or partition wall must not exceed 150 kg.
- Observe the maximum load rating of the fastening rails.
- Never use ratchet straps to secure loads to the side panels or partition walls.
- Secure the load to the fastening rails using only the appropriate fastening rings. Only these fastening rings can be securely engaged in the fastening rails.
- Secure the fastening rings to the fastening rails as close as possible to the load.
- Never fix a tensioning strap between the side panels or between a side panel and the load compartment floor or the partition panel. Only shoring beams may be fitted between the left

and right-hand fastening rails. Observe the operating instructions provided by the manufacturer.

- Never use fastening rails with fastening rings to secure the load across the vehicle.

### NOTICE

Incorrect use of the fastening rails in the load compartment floor can lead to damage.

- Observe the details on the maximum load capacity of the individual fastening points. In the event of full braking, forces act that can be many times higher than the weight of the load being transported.
- Always use multiple fastening points in order to distribute absorption of these forces and to ensure equal stress on each fastening point.

### Tensioning rods in cross-rails

Tensioning rods can be used to secure loads on cross-rails in the load compartment floor and roof interior rails.

### Maximum load capacity of tensioning rods

| Fitted tie rod | Permissible nominal tensile load |
|----------------|----------------------------------|
|----------------|----------------------------------|

|               |         |
|---------------|---------|
| Load capacity | 350 daN |
|---------------|---------|

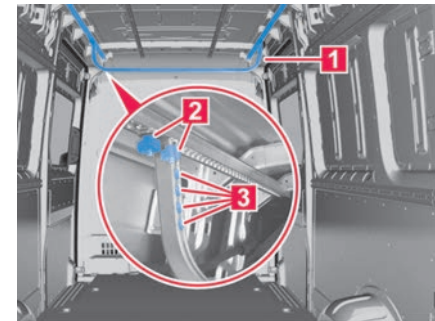
### ⚠ WARNING

Improper use of tensioning rods and cross-rails can cause serious or deadly injuries.

- Observe the maximum load capacity of the tensioning rods and cross-rails.
- Fasten the tensioning rods only on the corresponding cross-rails.
- Secure the tensioning rods as close to the load as possible.
- If necessary, observe the operating instructions provided by

the manufacturer of the tensioning rods.

### Internal roof rack



**Fig. 141** In the load compartment: internal roof rack.

Two internal roof racks can be secured in the fastening rails.

### Securing the internal roof rack

1. Clip the internal roof rack → **Fig. 141 1** into the fastening rails in the roof → page 412. The internal roof rack must be completely inserted into the fastening rail → ⚠.

2. Secure the internal roof rack on the two fastening rails using the nuts → Fig. 141 2.


#### Moving the internal roof rack

1. Undo the nuts → Fig. 141 2 on the internal roof rack 1.
2. Move the internal roof rack to the required position.
3. Secure the internal roof rack on the two fastening rails using the nuts → Fig. 141 2.

#### Removing the internal roof rack

1. Remove the nuts → Fig. 141 2 from the internal roof rack 1.
2. Remove the internal roof rack.

#### Securing a load on the internal roof rack

The internal roof racks each have a maximum load capacity of **50 kg** → .

Fastening rings → page 412 can be inserted into the holes on the internal roof rack → Fig. 141 3.

#### WARNING

Improper use of the internal roof racks can cause serious injury.

- Check that the internal roof rack has been completely inserted in the fastening rail.
- Do not exceed the maximum load of 50 kg per internal roof rack.
- Secure the fastening rings in the internal roof racks as close as possible to the load.
- Secure the load and also the securing and lashing straps to the internal roof racks using only the appropriate fastening rings. Only these fastening rings can be securely engaged in the internal roof racks.
- Always use suitable and undamaged securing and lashing straps.

#### NOTICE

Incorrect use of the fastening rails in the load compartment floor can lead to damage.

- Remove the securing straps from the fastening rings before moving the rings. The fastening rings could otherwise be damaged.

#### Fold-down shelves in the side panels

With some equipment levels, fold-down shelves may be fitted to the side panels in the load compartment.

#### Maximum load rating of the shelf

| Folded-down shelf | Maximum load rating |
|-------------------|---------------------|
| Shelf             | 200 kg              |

#### WARNING

Incorrect use of fold-down shelves can cause severe or fatal accidents.

- Observe the maximum load rating of the shelves.

- If required, observe the manufacturer's operating instructions for the fold-down shelves.
- 

### Load compartment ventilation

In vehicle models with a load compartment partition and roof ventilator, there may be a ventilation grille for ventilation in the load compartment floor, e.g. for transporting gas bottles.

The ventilation grille is on top of a shaft in the floor of the vehicle and ensures continuous replacement of the air in the load compartment.

Comply with the legal requirements concerning the transport of gas bottles.

---



Do not cover the ventilation grille in the vehicle floor that stale air can escape from the vehicle.

---

#### Driving tips

##### Things to note for load on the load bed

- If objects protrude over the end of the vehicle, draw the attention of other road users to them. Observe the legal requirements.
- If necessary, use tensioning chains to prevent the tailboards from deforming.
- Locking the tailboards securely.
- If you transport objects on an open load bed, protect them from dampness and rain.

##### Canopy and cross struts

Before assembling the canopy and cross struts, the frame must be secured properly in its fittings.

If you drive with the canopy fitted, it must be lashed down correctly. All belts on the canopy must be attached to the corresponding buckles.

#### WARNING

Persons or animals can fall off the load bed while the vehicle is mov-

ing or in the event of a sudden braking manoeuvre and can suffer serious or fatal injuries.

- Never transport people or animals on the load bed.

#### WARNING

Tailboards can come undone while the vehicle is in motion if they are not locked correctly. The load could fall off and cause serious or fatal injuries to other road users.

- Before you start to drive, make sure that all tailboards have been locked correctly.
- Please ensure that no-one can be injured when closing the tailboards.

#### WARNING

The tailboard may be subject to tension forces as a result of bulk goods or a slipped load. The tailboards can spring open suddenly when unlocked. This can cause serious injuries.

- Always open the tailboard locks carefully. If necessary, change the distribution of the load so that the strain is taken off the tailboard that you want to open.
- Do not open the side boards until you have released the spring hooks of the holding ropes from the securing eyes of the rear tailboard.

#### WARNING

The rear tailboard conceals the rear lights when lowered. This can cause accidents and serious injuries.

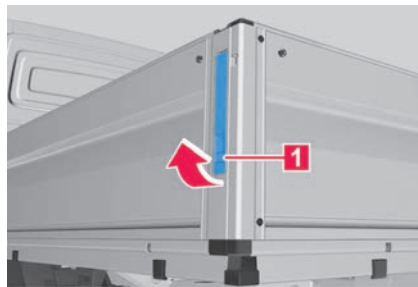
- Take suitable measures when the vehicle is stationary, e.g. use warning lights. Comply with any legal requirements.
- Never drive with the rear tailboard lowered.

#### NOTICE

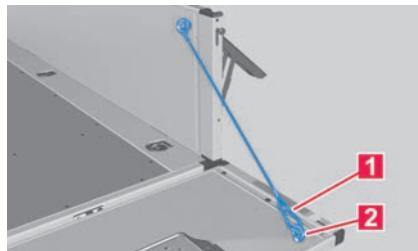
Using the tailboard or canopy incorrectly can cause damage.

- The rear tailboard has a maximum load-bearing capacity of 150 kg when held in its horizontal position by ropes. The rope and the rear tailboard can be damaged if the maximum load is exceeded.
- Manually guide the unlocked tailboards downwards. The tailboards can drop down and damage the vehicle when released.
- When the canopy is fitted, do not exceed 3/4 of the quoted maximum speed, otherwise the canopy could be damaged.

### Opening or closing the tailboard



**Fig. 142** Exterior of the tailboard: handle for opening.



**Fig. 143** Interior of the tailboard: retaining cable.

### Folding down the tailboard

1. Press the spring shackle in the handle of the opening lever downwards → Fig. 142 **1**.

2. The opening lever folds out.
3. Fold up the opening lever.
4. Repeat the procedure on the other side of the tailboard.
5. Guide the released tailboard down by hand. Do not let the dropside drop down!

### Unhooking the holding cables

1. Lift the tailboard so that the ropes are no longer under tension.
2. Hold the tailboard until both ropes have been detached.
3. Release the spring hook on the retaining cable → Fig. 143 **1** from the securing eye **2**.
4. Repeat the procedure on the other side of the tailboard.
5. Carefully fold the tailboard down. Do not let the dropside drop down!

### Holding the tailboard wall open with a rope

The rear tailboard can be held open using ropes to enable you to

transport long items on the load surface. The side tailboards must **not** be folded down in this case.

1. Guide the released tailboard by hand as far up as possible until it is horizontal.
2. Secure the ropes to the side tailboards on both sides.

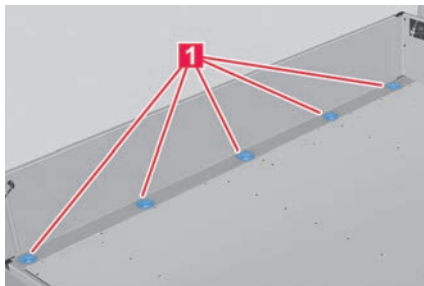
#### Attaching the holding cables

1. Fold up the tailboard and hold tight.
2. Attach the spring hook → Fig. 143 **1** to the securing eye **2**.

#### Folding up the tailboard

1. Fold up the tailboard and hold tight.
2. Push the opening lever → Fig. 142 **1** down forcefully as far as it will go until the lock is securely and fully engaged.
3. Repeat the procedure on the other side of the tailboard.

#### Fastening rings on the load bed



**Fig. 144** On the load bed: fastening rings.

There are several fastening rings on the loadbed which can be used to secure loads → Fig. 144 (arrows). Depending on the vehicle equipment, folding fastening rings may be fitted.

Always secure the lashing net or the tarpaulin using all available fastening points. Ensure that the fastening hooks cannot open accidentally.

#### **⚠ WARNING**

Unsuitable or damaged lashing or securing straps could rip in the

event of a braking manoeuvre or accident. This could cause objects to be flung through the interior and lead to severe or fatal injuries.

- Always use suitable and undamaged lashing straps or securing straps.
- Attach securing straps securely to the fastening rings.
- Loose objects on the loadbed can suddenly slide and change the way the vehicle handles.
- Small and light objects should also be secured.

---

**!** Suitable fixation belts, securing straps and load securing systems are available from suitably qualified workshops.

---

**Maximum load capacity of the fastening rings**

| Fastening rings                                  | Permissible nominal tensile load |
|--|----------------------------------|
| Dropside up to 3.5 t gross vehicle weight rating | 600 daN                          |
| Dropside over 3.5 t gross vehicle weight rating  | 800 daN                          |

1 daN (decanewton) corresponds to 10 newtons. Varying country-specific requirements are met.

Observe the values shown on the tailboards where applicable.

**NOTICE**

In the event of full braking, forces act that can be many times higher than the weight of the load being transported. The holding rope may tear if the maximum load is exceeded.

- Observe the details on the maximum load capacity of the individual fastening points.
- Always use multiple fastening points in order to distribute absorption of these forces and to ensure equal stress on each fastening point.

**Storage box**

Depending on the vehicle equipment, there may be one or more stowage boxes at the side under the load bed. Stowage boxes provide secure storage for small items and tools.

There may stowage boxes fitted on both sides of the vehicle.

In addition, there may be a single storage compartment on the left at the rear next to the wheel housing.


**Opening a storage box**

1. Insert key for locking and unlocking the stowage box into the lock cylinder at the top on the left and turn the key clock-

wise. Do the same on the right-hand side → .

2. Press the two catches 45° downwards.
3. Open the flap of the storage box downwards.

**Closing the storage box**

1. Pull the flap of the storage box upwards.
2. Turn the two catches 45° upwards.
3. Insert key for locking and unlocking the storage box into the lock cylinder at the top on the left and turn the key **anticlockwise**. Do the same on the right-hand side → .

** WARNING**

Unlocking, opening or closing the storage box incorrectly and without supervision can cause accidents and serious injuries.

- Open or close the storage box lid only when there is no-one in the movement path of the boot lid.

- After closing the storage box, check to make sure that it is closed and locked correctly so that it does not open while the vehicle is in motion.
- Close and lock the storage box when the vehicle is not in use.

#### ***NOTICE***

An overloaded storage box can result in damage to the vehicle.

- The storage box is designed for a maximum load of 40 kg.
-

### Fitting the removable ball coupling

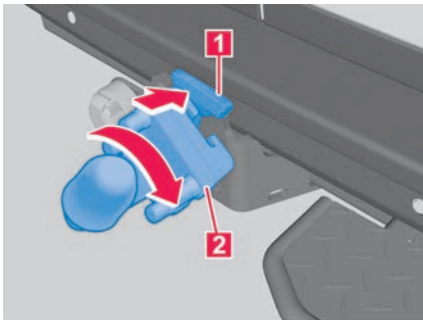



Fig. 145 Removable ball coupling.

- 1** Locking mechanism
- 2** Towing bracket

The removable ball coupling is supplied in the vehicle.

1. Place the ball coupling → Fig. 145 **2** of the towing bracket onto the towing bracket (straight arrow).
2. Push back the locking mechanism → Fig. 145 **1**.
3. Turn the ball coupling → Fig. 145 **2** in the opposite direction of the bent arrow until

you can hear and feel it engage → .

4. Before hitching a trailer, remove the dust protection cap from the ball head if present and stow.

### WARNING

Improper use of the towing bracket can cause injury and accidents.

- Use the ball coupling only when it is secured correctly.
- Never use the towing bracket if the smallest diameter of the ball → Fig. 145 **2** is less than 49 mm (1.9 in).
- If it is not possible to fit the ball coupling, have the towing bracket checked by a suitably qualified workshop.
- Always stow and attach the ball coupling securely in the vehicle.

### NOTICE

Incorrect cleaning of the vehicle could damage seals or wash off the grease required for lubrication.

### Removing and slackening the ball coupling

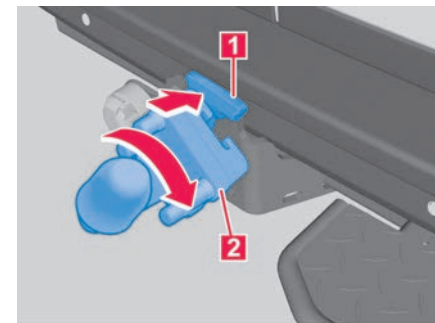


Fig. 146 Removable ball coupling.

- 1** Locking mechanism.
- 2** Ball coupling.

1. Unhitch the trailer.
2. Put the dust protection cap (if present) on the ball coupling.

3. Push back the locking mechanism → Fig. 146 **1**.
4. Turn the ball coupling → Fig. 146 **2** in the direction of the curved arrow and remove.
5. Stow the ball coupling securely with the vehicle toolkit.

#### **WARNING**

The removable ball coupling is heavy. The ball coupling could fall

off while it is being removed and cause crush injuries.

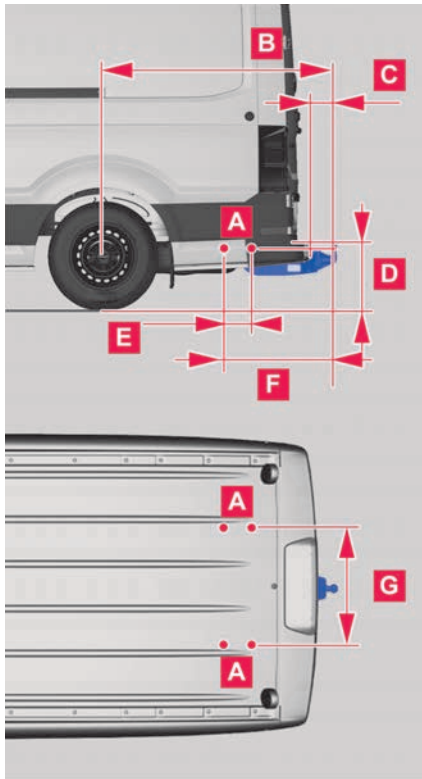
- Never unlock the ball coupling when a trailer is hitched.

#### **WARNING**

If the ball coupling is not secured, it may be flung around the vehicle interior and cause injuries during sudden braking or driving manoeuvres or in the event of an accident.

- Always stow the ball coupling securely in the vehicle.
-

## Dimensions and attachment points for retrofitting a towing bracket



### Dimensions

The dimensions must be adhered to for the retro-fitting of a towing bracket. Always observe the minimum distance given from the middle of the ball coupling → Fig. 147 **D** to the surface of the road. The values refer to the maximum loaded vehicle including the maximum drawbar load.

**Fig. 147** Dimensions and attachment points for retrofitting a towing bracket (panel van) (illustration).

### Panel van

| → Fig. 147 | Panel van with short wheel-base                      |                          | Panel van with long wheel base (short overhang) |                          | Panel van with long wheel base (long overhang) |                          |
|------------|--|--------------------------|---|--------------------------|--|--------------------------|
|            | Rigid towing bracket                                 | Removable towing bracket | Rigid towing bracket                            | Removable towing bracket | Rigid towing bracket                           | Removable towing bracket |
| <b>A</b>   | Attachment points                                    |                          |   |                          |  |                          |
| <b>B</b>   | 1489 mm  | 1539 mm                  | 1489 mm   | 1539 mm                  | 2044 mm  | 2094 mm                  |
| <b>C</b>   | min. 65 mm   |                          |   |                          |  |                          |
| <b>D</b>   | 350 – 420 mm   |                          |   |                          |  |                          |
| <b>E</b>   | 100 mm   |                          |   |                          |  |                          |
| <b>F</b>   | 597 mm   | 647 mm                   | 597 mm  | 647 mm                   | 597 mm   | 647 mm                   |
| <b>G</b>   | 920 mm (for single tyres)<br>666 mm (for twin tyres) |                          |   |                          |  |                          |

### Dropside

The mounting points shown in the illustration → Fig. 147 are schematic and also apply to the dropside.

| → Fig. 147 | Dropside with short wheel-base |                          | Dropside with long wheel base (short overhang) |                          | Dropside with long wheel base (long overhang) |                          |
|------------|--------------------------------|--------------------------|--|--------------------------|---|--------------------------|
|            | Rigid towing bracket           | Removable towing bracket | Rigid towing bracket                           | Removable towing bracket | Rigid towing bracket                          | Removable towing bracket |
| <b>A</b>   | Attachment points              |                          |  |                          |   |                          |

| → Fig. 147 | Dropside with short wheel-base |                          | Dropside with long wheel base (short overhang) |                          | Dropside with long wheel base (long overhang) |                          |
|------------|--------------------------------|--------------------------|--|--------------------------|---|--------------------------|
|            | Rigid towing bracket           | Removable towing bracket | Rigid towing bracket                           | Removable towing bracket | Rigid towing bracket                          | Removable towing bracket |
| <b>B</b>   | 1429 mm                        | 1479 mm                  | 1429 mm  | 1479 mm                  | 1822 mm                                       | 1872 mm                  |
| <b>C</b>   | min. 65 mm                     |                          |  |                          |   |                          |
| <b>D</b>   | 350 – 420 mm                   |                          |  |                          |   |                          |
| <b>E</b>   | 100 mm                         |                          |  |                          |   |                          |
| <b>F</b>   | 366 mm                         | 316 mm                   | 366 mm   | 316 mm                   | 366 mm  | 316 mm                   |
| <b>G</b>   | 925 mm                         |                          |  |                          |   |                          |

Ask a suitably qualified workshop to retrofit the towing bracket. It may be necessary to carry out modifications on the cooling system or fit heat shields, for example.

Install the towing bracket in accordance with the installation instructions provided.

A retrofitted, non-removable tow coupling must not obscure the registration number or the lighting system at the rear of the vehicle. Observe the country-specific regulations on the use of a ball coupling.

### WARNING

Electrical accessories that are not connected properly can cause faults in the entire vehicle electronics system and also cause accidents and serious injuries.

- Never connect the trailer's electrical system directly to the electrical connections of the tail light clusters or to other unsuitable power sources. Only a suitable connector may be used to connect the trailer.

- When retrofitting a towing bracket to the vehicle, have the work carried out by a suitably qualified workshop.

### WARNING

The trailer can become detached from the towing vehicle if the towing bracket is unsuitable or incorrectly fitted. This can cause serious accidents and fatal injuries.



#### Introduction

The vehicle can be used to tow a trailer if it has the required technical equipment for this.

The additional trailer load will affect the amount of wear, energy consumption and performance of the vehicle and, in certain circumstances, could shorten the service intervals.

Driving with a trailer not only places an extra load on the vehicle, but also requires increased concentration on the part of the driver.

#### **Vehicles with a start/stop system**

If towing brackets that were **not** retrofitted by MAN are used, or if a towing bracket retrofitted by MAN is not detected for system-related reasons, the start/stop system must be deactivated manually using the  button in the centre console **before** starting to tow a trailer and must remain deactivated for as long as a trailer is being towed → .

#### **Trailer with lighting function check**

You must not use any trailer equipped with a tail light or brake light that requires a function check of these lights for its approval. Please contact the trailer manufacturer for information on the type of approval that applies to your trailer.

#### **Tachograph**

Use of a tachograph is required by law for vehicles with a gross vehicle weight rating in excess of 3,500 kg, including trailer, and used commercially to transport goods. This is irrespective of whether the vehicle or the trailer or both are used for commercial transportation of goods.

#### **Unused ball coupling**

Swivel in or remove the ball coupling if there is no trailer, bicycle carrier or similar equipment mounted on it. This applies in particular if the number plate or the lighting on the rear of the vehicle are obscured by the unused ball coupling. Ob-

serve the country-specific regulations on the use of a ball coupling.

#### **Engine cooling system**

There is an increased load on the engine and the cooling system when towing a trailer. The cooling system must contain sufficient coolant and be able to cope with the extra load added by the trailer.

#### **Overrun brake**

If the trailer is equipped with its own brake system, comply with the legal regulations.

#### **Exterior mirrors**

If you are unable to see the traffic behind the trailer in the vehicle's standard exterior mirrors, additional exterior mirrors should be fitted in accordance with any country-specific regulations. Before setting off, adjust the exterior mirrors so that you have a sufficient view towards the rear.

### Towing brackets fitted to the rear bumper

Do not carry out any alterations to the exhaust or brake systems. Check that the towing bracket is properly secured at regular intervals.

### Trailer tail light clusters

The trailer tail light clusters must work correctly and meet legal requirements. Do not exceed the maximum power consumption for the trailer tail light clusters.

#### DANGER

It is dangerous to transport people in a trailer and it may also be illegal.

- Never transport people in a trailer.

#### WARNING

Improper use of the towing bracket can lead to a loss of vehicle control, accidents and serious or fatal injuries.

- Fit and use the trailer according to the instructions provided by the respective manufacturer.
- Use the towing bracket only if it is undamaged and fitted correctly.
- Do not carry out any alterations or repairs to the towing bracket. If required by the trailer manufacturer's installation instructions, removal of the coating on the ball head is permitted.

#### WARNING

When the ball coupling is swivelled out, there is an increased risk of accidents and serious injuries for pedestrians and cyclists when vehicles are parked and also in the event of rear-end collisions.

- Swivel in the ball coupling or remove it when it is not in use.

#### WARNING

The vehicle was not designed for "weight-distributing" or "load-compensating" towing brackets. The towing bracket can fail, causing the

trailer to tear loose from the vehicle. This can result in accidents and severe injuries.

- Never install a "weight-distributing" or "load-balancing" towing bracket to the vehicle.

#### WARNING

Towing a trailer and transporting heavy or bulky items can change the vehicle handling, increase the braking distance and cause accidents and serious or fatal injuries.

- Always secure loads properly using suitable and undamaged lashing, retaining or securing straps. Please note that a trailer with a high centre of gravity can tip over more easily than a trailer with a low centre of gravity.
- Always adapt your speed and driving style to the current visibility, weather and road or traffic conditions.
- Always pay attention to the road ahead and drive carefully.
- Accelerate particularly carefully and gently.


- Avoid abrupt and sudden driving and braking manoeuvres.
- Do not drive faster than 80 km/h (50 mph) when towing a trailer, or also 100 km/h (60 mph) in exceptional cases. This also applies to countries where higher speeds are permitted.
- Reduce speed, particularly on uphill gradients and when driving downhill.
- Always obey national speed limits, which may be lower for vehicles towing trailers than for vehicles without trailers.
- Take particular care when overtaking.
- Reduce your speed if the trailer shows even the slightest sign of snaking.
- Never try to stop a vehicle and trailer from snaking by increasing your speed.
- Due to the higher load for the towing vehicle, pay attention to possible messages and to any warning and indicator lamps


that light up in the instrument cluster.


#### **WARNING**


The start/stop system must always be switched off manually when towing a trailer using towing brackets that have not been retrofitted by MAN. Otherwise faults can occur in the brake system, possibly resulting in accidents and serious injuries.

- Always switch off the start/stop system manually if you have installed a towing bracket that was not retrofitted by an authorised dealer and are driving with a trailer.

 Always switch off the anti-theft alarm before hitching or unhitching a trailer → page 109. The tilt sensor could otherwise trigger an alarm unnecessarily.

 In vehicles with a new engine, do not tow a trailer during the first 1,000 km (600 mi).

 Depending on the equipment, the removable ball coupling is required for towing. Make sure you always carry the ball coupling in the vehicle → page 487.

 We recommend additional services between the normal inspection intervals if the vehicle is used frequently for towing a trailer.

#### **Technical prerequisites**

 **Please refer to  and  at the start of the chapter on page 428.**

#### **Engine cooling system**

There is an increased load on the engine and the cooling system when towing a trailer. The cooling system must contain sufficient

coolant and be able to cope with the extra load added by the trailer.

### Trailer brake

If the trailer is equipped with its own brake system, comply with the legal regulations.

### Exterior mirrors

If you are unable to see the traffic behind the trailer in the vehicle's standard exterior mirrors, additional exterior mirrors should be fitted in accordance with any country-specific regulations. Before setting off, adjust the mirrors so that you have a sufficient view of the rear.

### Retrofitting a towing bracket

MAN recommends using MAN Genuine Accessories, which are available from MAN service outlets. Always check and follow the data provided by the towing bracket manufacturer.

### Towing brackets fitted to the rear bumper

Do not carry out any alterations to the exhaust or brake systems.

Check that the towing bracket is properly secured at regular intervals.

### Trailer tail light clusters

The trailer tail light clusters must work correctly and meet legal requirements. Do not exceed the maximum power consumption for the trailer tail light clusters.

### WARNING

If the towing bracket is unsuitable or incorrectly fitted, the trailer could become detached from the towing vehicle. This can cause serious accidents and fatal injuries.

- Do not carry out any alterations to the exhaust or brake systems.

### NOTICE

- The vehicle electronics may be damaged if the trailer's power consumption is too high.
- Never connect the trailer's electrical system directly to the electrical connections of the tail

lights or to other sources of electricity. Only use suitable connections to supply power to the trailer.



We recommend additional services between the normal inspection intervals if the vehicle is used frequently for towing a trailer.

### Hitching the trailer

 **Please refer to  and  at the start of the chapter on page 428.**

### Trailer socket

A 13-pin trailer socket makes the electrical connection between the towing vehicle and the trailer. The pin assignment corresponds to DIN ISO 11446.

If the trailer has a **7-pin plug** you will need to use a suitable adapter.

1. Lift the closure cap of the socket and insert the connector.

2. Turn the connector clockwise a quarter of a turn until it fully engages in the socket.
3. Release the closure cap to lock the connector.
4. Check the function of the entire lighting system before driving off.

If you are uncertain whether the electrical connection of the trailer with the vehicle is correct, please contact a suitably qualified workshop.

#### **WARNING**

Contact between the pins in the trailer socket can lead to short circuits, overloading of the electrical system and failure of the lighting system, thereby causing accidents and serious injuries.

- Never connect the pins in the trailer socket to one another.
- Have any bent pins repaired by a suitably qualified workshop.

#### **WARNING**

Contact between the pins in the trailer socket can lead to short circuits, overloading of the electrical system and failure of the lighting system, thereby causing accidents and serious injuries.

- Never connect the pins in the trailer socket to one another.
- Have any bent pins repaired by a suitably qualified workshop.

#### **Safety cable**

In some countries, unbraked and braked trailers must be secured by means of a safety or breakaway cable.

Depending on the model, the eyelet for securing the safety or breakaway cable may be located on the neck of the ball head or next to the ball head directly on the ball coupling carrier.

Observe country-specific regulations on the use of a safety cable.

Secure the safety or breakaway cable at the eyelet provided for this purpose on the ball coupling:

1. Guide the cable through the eyelet and hook in the snap hook.

Leave enough slack in the safety or breakaway cable so that the vehicle can still drive around corners. However the emergency breakaway cable should not drag along the ground while you are driving.

#### **WARNING**

If the trailer is not properly secured, this could cause accidents and serious or fatal injuries.

- Never place the trailer's safety or breakaway cable loosely over the ball coupling.

#### **Connection to the anti-theft alarm**

The trailer is integrated in the anti-theft system if the following conditions are fulfilled:

- When the vehicle has a factory-fitted anti-theft alarm and a factory-fitted towing bracket.
- When the trailer is electrically connected to the towing vehicle via the trailer socket.
- When the vehicle and trailer electric systems are functional, fault-free and undamaged.
- When the vehicle is locked with the vehicle key and the anti-theft alarm is active.

When the vehicle is locked, the alarm will be triggered as soon as the electrical connection to the trailer is interrupted.

#### **Connection to the anti-theft alarm (trailer with LED tail light clusters)**

For technical reasons, trailers with LED tail lights cannot be integrated into the anti-theft alarm system.

When the vehicle is locked, the alarm is not triggered as soon as the electrical connection to the trailer with LED rear lights is interrupted.

#### **NOTICE**


The vehicle electronics may be damaged if the trailer's power consumption is too high.


- Never connect the trailer's electrical system directly to the electrical connections of the tail light clusters or to other power sources. Use only suitable connections to supply power to the trailer.


#### **NOTICE**

If a trailer hitched to the vehicle is parked using the support wheel or on the trailer supports, the vehicle height may be lowered or raised due to any changes in the load or tyre damage. Powerful forces then act on the towing bracket and the trailer. This can cause damage to the vehicle and trailer.

- Please note that a trailer that is parked using the support wheel or the trailer supports must not remain hitched to the vehicle.

 If there is a fault in the vehicle or trailer electrical systems, or if there is a fault in the anti-theft alarm, have the vehicle checked by a suitably qualified workshop.

 If the engine is not running and electrical equipment is switched on in the trailer via the trailer socket, the 12-volt vehicle battery will discharge.


 If the 12-volt vehicle battery charge level is low, the electrical connection to the trailer will be interrupted automatically.

#### **Loading the trailer**


 **Please refer to  and  at the start of the chapter on page 428.**

#### **Basic information**

Always make sure that the vehicle and trailer are well balanced. Do not overload the front or rear of the

trailer. Always stow heavy objects directly over the axle, or as close as possible to it. Always secure loads to the trailer properly → .

#### **Trailer weight and drawbar load**

The maximum trailer weight is the weight that the vehicle can pull → .

The drawbar load is the weight that the towing bracket exerts on the ball coupling neck vertically from above → page 670.

The figures for trailer weights and draw bar weights that are given on the data plate of the towing bracket are for certification purposes only. The correct values for your specific model, which may be *lower* than these figures, are given in the vehicle registration documents. All data in the official vehicle documents take precedence over these data.

The maximum permissible drawbar load should always be utilised. The response of the trailer on the road

will be poor if the drawbar load is too small.

The drawbar load increases the weight on the rear axle and reduces the maximum load level as a result.

#### **Gross combination weight rating**

The combination weight is made up of the actual weight of the loaded towing vehicle and of the loaded trailer → page 670.

In some countries, trailers are divided into different classes. We recommend that you contact a qualified workshop to find out about suitable trailers.

#### **Tyre pressure**

Follow the trailer manufacturer's recommendations concerning the tyre pressure for the trailer tyres.

1. When towing a trailer, inflate the tyres on the towing vehicle with the maximum permitted tyre pressure → page 535.

#### **WARNING**

Loads that may slide can severely impair stability and driving safety, which can cause accidents and severe injuries.

- Always load trailers properly.
- Always secure loads using suitable and undamaged lashing and securing straps.

#### **WARNING**

Accidents and serious injuries can occur if you exceed the vehicle's maximum permitted gross axle weight rating, drawbar load, gross vehicle weight rating or gross combination weight rating.

- Never exceed the specified values → page 670.

## Driving with a trailer

📖 Please refer to ⚠️ and ⚠️ at the start of the chapter on page 428.

### Headlight adjustment

Towing a trailer can raise the front end of the vehicle enough for the dipped beam to blind other road users. Use the headlight range control to lower the light cone as required. If the vehicle is not equipped with headlight range control, have the headlights adjusted by a suitably qualified workshop.

### Things to note when driving with a trailer

- If the trailer has an **overrun brake**, apply the brakes *gently at first* and then firmly. This will prevent the jerking that can be caused by the trailer wheels locking.
- The combination weight causes the braking distance to increase.
- Select a low gear before driving down a slope. This enables you

to use the engine braking effect to slow down the vehicle. The brake system could otherwise overheat and fail.

- The vehicle's centre of gravity and in turn the vehicle's handling will change because of the trailer load and the increased gross weight of the vehicle and trailer.
- The weight distribution of a loaded trailer with an unladen towing vehicle is very unfavourable. When driving in this situation, drive particularly carefully and slowly.

### Pulling off on slopes when towing a trailer

Depending on the steepness of the slope and the total weight of the trailer and vehicle, a vehicle towing a trailer could roll back a short distance when moving off on a hill.

When towing a trailer, pull off on slopes as follows:

1. Depress and hold the brake pedal.

2. In vehicles with a manual gearbox: Fully depress the clutch pedal.
3. 1. gear or gear selector position **D**.
4. Unlock handbrake and carefully release while holding down lock button.
5. Gently depress the accelerator and, in a manual vehicle, release the clutch pedal until you feel the vehicle moving forwards. If necessary, observe the information on Hill Start Assist → page 221.
6. Only let go of the handbrake lever when the engine has sufficient power to move off.
7. Pull away slowly.

### ⚠️ WARNING

Incorrect trailer towing can cause loss of vehicle control and serious or fatal injuries.

- Please note that the vehicle handling changes when towing a trailer and when transporting heavy or bulky objects.

- Always adapt your speed and driving style to the current visibility, weather and road or traffic conditions.
- Always pay attention to the road ahead and drive carefully.
- Take particular care when overtaking.
- Reduce your speed if the trailer shows even the slightest sign of snaking.
- Accelerate very carefully and gently.
- Brake earlier than usual because the braking distance may be longer than normal.
- Avoid abrupt and sudden driving and braking manoeuvres.
- Reduce speed particularly when driving downhill.
- Never try to stop a trailer from snaking by increasing your speed.
- Keep to speed limits, which may be lower for vehicles with trailers than for vehicles without trailers.

#### **WARNING**

If there is insufficient visibility to the rear when towing a trailer, this can lead to accidents and serious or fatal injuries.

- Make sure that you have an adequate view to the rear.
- Fit suitable additional rear view mirrors so that there is sufficient visibility to the rear.

#### **Trailer stabilisation**

 **Please refer to  and  at the start of the chapter on page 428.**



The trailer stabilisation function can detect if an attached trailer is starting to snake from side to side and can provide counter steering assistance.

Trailer stabilisation is an extension of the Electronic Stability Control (ESC).

If a lurching motion is detected, the trailer stabilisation function auto-

matically helps to reduce the trailer's rocking motion using counter steering assistance. The trailer stabilisation function may be deactivated in some countries.

#### **Requirements for trailer stabilisation**

- ✓ The vehicle is a factory-fitted towing bracket or a compatible towing bracket is fitted.
- ✓ Electronic Stability Control (ESC) and traction control system (TCS) are active. The indicator lamp  or  in the instrument cluster does not light up.
- ✓ The trailer is electrically connected to the towing vehicle via the trailer socket.
- ✓ The vehicle speed is higher than approximately 60 km/h (37 mph).
- ✓ The maximum drawbar load is being used.
- ✓ The trailer must have a rigid drawbar.
- ✓ Trailers with brakes must have a mechanical overrun system.

## System limits

The trailer stabilisation system cannot react or will react in a restricted way in the following driving situations.

- Trailer stabilisation is switched off when ESC is deactivated.
- Light trailers that are snaking will not be recognised by the trailer stabilisation function and stabilised accordingly in all cases.
- A trailer can still jack-knife on slippery roads with little grip, even if the towing vehicle is equipped with the trailer stabilisation system.
- Trailers with a high centre of gravity might tip over before snaking starts.
- Sudden braking procedures could occur automatically in extreme driving situations if the trailer socket is being used without a trailer, e.g. for a bicycle carrier with lighting.

## WARNING

The trailer stabilisation system is not a substitute for the full attention of the driver and operates only within the limits of the system. The trailer stabilisation system therefore cannot recognise all driving situations and may not react or may react with a delay or in an undesired way. If you do not pay due attention, there is a risk of accidents and serious or even fatal injuries.

- Always remain alert and do not rely solely on the system. The driver is always responsible for all driving tasks.
- Observe the system limits  
→ page 436.
- Accelerate carefully on slippery surfaces.
- Stop accelerating if a system is performing a control intervention.
- Always adapt your speed and driving style to the current visibility, weather and road or traffic conditions.

#### Introduction

Rear carrier systems are, for example, bicycle carriers or hunter boxes. There are rear carrier systems for assembly on the ball coupling or on the boot lid.

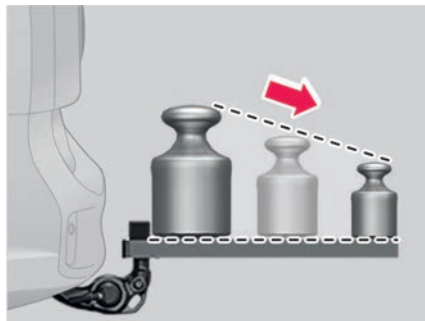
Only use rear carrier systems intended for the vehicle model, model year and vehicle version by the respective manufacturer.

Mount the rear carrier system according to the manufacturer's installation instructions.

#### Fitting a rear carrier system or bicycle carrier on the ball coupling

Use of a bicycle carrier is not permitted on dropside vehicles.

#### Maximum load of the rear carrier system



**Fig. 148** Recommended weight distribution on the rear carrier system (illustration).

The load capacity is made up of the rear carrier system and the load transported on it.

The maximum recommended load of the rear carrier system fitted on the ball coupling may differ from the vehicle-specific drawbar load of the vehicle.

However, the maximum drawbar load of the towing bracket must not be exceeded.

The load capacity decreases due to the leverage effect the further away the centre of gravity of the rear carrier system is from the ball head.

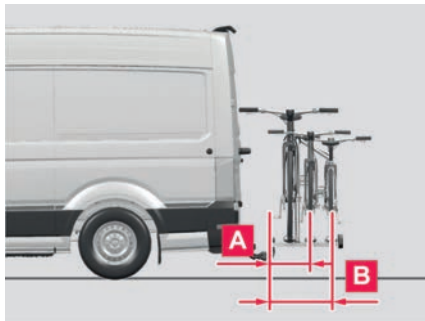
Position heavy objects as close to the ball coupling as possible.

#### Vehicle-specific maximum load capacity

To find out the recommended load capacity for your vehicle, check what the drawbar load of your vehicle is → page 670. The following table shows the load capacity. MAN recommends that the specified number of bicycles on the rear carrier system is adhered to in accordance with guideline UN-R 55.

| Vehicle-specific drawbar load | Maximum load | Number of bicycles |
|-------------------------------|--------------|--------------------|
| 50 kg                         | 50 kg        | 2                  |
| 55 kg                         | 55 kg        | 2                  |
| From 75 kg                    | 75 kg        | 3                  |

### Maximum overhang of the rear carrier system



**Fig. 149** Illustration of the maximum overhang on a bicycle carrier for two or three bicycles.

- A** With up to 55 kg (121 lbs) load: 500 mm (approx. 19.7 in).
- B** With 75 kg (165 lbs) load: 700 mm (approx. 27.6 in).

For bicycle carrier systems with two bicycles, the maximum overhang must not exceed 500 mm (approx. 19.7 in) → **Fig. 149 A** from the middle of the ball head to the middle of the rail of the last bicycle carrier. The overhang must not ex-

ceed 700 mm (approx. 27.6 in) → **Fig. 149 B** for bicycle carrier systems with three bicycles.

### **⚠ WARNING**

Incorrect use of a rear carrier system mounted on the ball coupling of the towing bracket can cause accidents and injuries.

- Make sure that the rear carrier system is suitable for use on your vehicle.
- Always read and follow the installation instructions provided by the rear carrier system manufacturer.
- Never secure a rear carrier system to the ball neck under the coupling ball. The rear carrier system could slip out of position due to the shape of the ball neck.

**!** Remove as many add-on parts as possible from the rear carrier system before setting off. This includes, for example, bicycle bags and baskets, child seats or batter-

ies. This helps improve the rear carrier system's wind load and centre of gravity.

#### Introduction

Depending on the model, the vehicle may be designed for fitting a roof load carrier.

Roof load carriers can be used to transport bulky items on the roof of the vehicle.

Please contact a suitably qualified workshop if you are unsure whether a roof load carrier can be fitted to your vehicle.

MAN recommends using MAN Genuine Replacement Parts and MAN Original Accessories, which are available from MAN service outlets.

Do not use or retrofit a roof load carrier if the vehicle is *not* approved for use with a roof load carrier.

Roof carriers *cannot* be fitted on vehicles that also have additional lighting factory-fitted on the vehicle roof.

#### WARNING

When transporting heavy or bulky objects on the roof load carrier, the way the vehicle handles will change due to a shift in the centre of gravity and increased susceptibility to crosswinds.

- Always secure loads properly using suitable and undamaged lashing, retaining or securing straps.
- Cargo that is large, heavy, bulky, long or flat will have a negative effect on the vehicle aerodynamics, centre of gravity and overall handling.
- Avoid abrupt and sudden driving and braking manoeuvres.
- Ensure that your speed and driving style are always appropriate for the current visibility, weather and road/traffic conditions.

#### WARNING

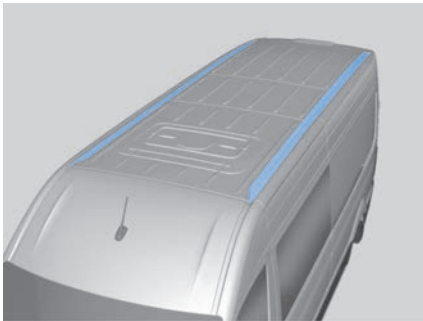
If the vehicle is not approved for operation with a roof carrier or

a roof carrier is fitted that is not approved for the vehicle, the carrier can become detached while driving and fall off the vehicle roof. This can cause accidents and serious or fatal injuries.

- Use only roof carriers that have been approved for the vehicle.
- Do not fit a roof carrier if the vehicle is not approved for this.

## Attaching the base carrier and roof load carrier

📖 Please refer to ⚠ at the start of the chapter on page 440.



**Fig. 150** On the roof of the vehicle: Rails for fitting the base carriers.

With some equipment levels, the vehicle has special roof rails → Fig. 150 on the right and left for fitting the mounts.

Special roof load carriers must be used to transport loads, bicycles, surfboards, skis and boats safely. Appropriate accessories are available from a suitably qualified workshop.

## Attaching the base carrier and roof load carrier

Install the base carrier bars in accordance with the supplied installation instructions.

Attach the base carrier bars **only** to the rails → Fig. 150.

Once you have fitted the base carrier bars, you can then secure the respective roof load carrier on them.

## Remove the roof load carrier in the following situations

- The roof load carrier is no longer needed.
- Before entering an automatic car wash.
- When the vehicle height exceeds the required clearance height, e.g. in a garage.

## ⚠ WARNING

Incorrect attachment of the roof load carrier and carrier system and incorrect use may result in luggage or the entire structure becoming

detached from the roof. This can lead to accidents and cause serious or fatal injuries.


- Always install the roof load carrier and carrier system correctly and in accordance with the manufacturer's assembly instructions.
- Attach the roof load carrier only at the specified mounting points.
- Always install special carrier systems for bicycles, skis, surfboards, etc. correctly and in accordance with the manufacturer's assembly instructions.
- Use the roof load carrier and carrier system only if they are undamaged and fitted correctly.
- Check the roof load carrier mounting points before starting your journey and tighten as necessary after driving a short distance.
- During a long trip, check all bolts and fasteners at each stop.

- Do not carry out any modifications or repairs to the roof load carrier or carrier system.

#### NOTICE

The height of the vehicle is changed by the installation of a roof carrier and the load secured to it. The vehicle may suffer considerable damage if the clearance height is insufficient, e.g. in the case of underpasses and garage doors.

- Check and compare the height of the vehicle with clearance heights.

 When the roof load carrier is fitted, consumption increases due to the increased air resistance.


#### Loading the roof load carrier

 Please refer to  at the start of the chapter on page 440.

#### Maximum permissible roof load

- Panel van with normal roof **300 kg (around 661 lbs)**.
- Panel van with high roof **150 kg (around 330 lbs)**.
- Each base carrier can carry a maximum load of **50 kg (around 110 lbs)** if the weight of the load is evenly distributed over the entire length of the base carrier.

Vehicles with super-high roof and vehicles with load platform and double cab do **not** have a maximum permissible roof load and no loads may be transported on the roof.

The roof load limit refers to the combined weight of the roof load carrier and the load carried on the roof → .

Make sure you are aware of the weight of the roof load carrier and

the load to be transported. Weigh the load if necessary.

However, you will not be able to carry the maximum permitted roof load if you are using a roof load carrier with a lower load rating. In this case, do not exceed the maximum weight limit for the load carrier system which is specified in the manufacturer's installation instructions.

#### Roof load carrier

Depending on the vehicle equipment, a roof load carrier may be mounted on the base carrier bars.

Loads that are secured on the roof load carrier must be evenly distributed and properly secured.

#### Distributing the load

Distribute the load evenly and secure it correctly → .

#### WARNING

Accidents and vehicle damage can occur if the maximum permitted roof load is exceeded.

- Never exceed the specified roof load, the maximum permissible axle loads, and the permissible gross vehicle weight for the vehicle.
- Do not exceed the load capacity of the roof load carrier, even if the maximum roof load has not been reached.

---

** WARNING**

If loose or improperly secured loads fall off the roof carrier, this can cause accidents and serious or fatal injuries.

- Always use suitable and undamaged lashing, retaining or securing straps.
-

#### **WARNING**

Incorrect handling of fuel can cause explosions, fire, serious burns and other injuries.

- Switch off the engine, the ignition, the auxiliary heater, your mobile phone and other radio equipment before refuelling.
- Avoid electrostatic discharges by not entering the vehicle during refuelling.
- Make sure that the tank cap is closed properly and no fuel can escape.
- Observe the applicable safety instructions and local regulations on handling fuel.

#### **WARNING**

Incorrect refuelling can lead to fire, serious or fatal injuries and vehicle damage.

- Use only fuels that have been approved for the vehicle.
- Do not use fuels that contain metals and use only manufac-


turer-approved additives in the approved quantity.


- Immediately remove any fuel that is spilled from all vehicle components.

#### **CAUTION**

Fuel may leak out of the fuel canister and ignite. This could cause fire and injuries.

- Do not carry a fuel canister in the vehicle.

 Fuels can pollute the environment. Collect any service fluids that escape or are spilled and dispose of them correctly.

 The tank flap cannot be opened manually. Seek expert assistance in an emergency.

## Introduction

The fuel cap is located on the left-hand side of the vehicle.

## Identification of fuels and fuels standards

📖 Please refer to ⚠ and ⚠ on page 444.

### Fuel information label

Different engines require different fuels. There is a factory-fitted fuel information sticker in the tank flap that indicates the required fuel type for the vehicle.

The designation and the framework indicate, which fuels are suitable for the vehicle. This is a minimum requirement. Other fuels must not be used for the vehicle → !.

### Fuel standards

The fuel being filled needs to comply with one of the following standards → !.

Where fuel complying with the specified standards is not available, a suitably qualified workshop will have information on which available fuels are suitable for the vehicle.

### Diesel

**B7** B7 stands for diesel with a maximum biodiesel content of 7%.

### Fuel standards

- EN 590 in the current version.
- DIN EN 590 in the current version.

### Synthetic diesels

**XTL** Synthetic diesels.

XTL stands for X - To - Liquid and is the designation used for synthetic diesel fuels.

XTL fuels are diesel fuels that are manufactured synthetically. These synthetic diesel fuels include GTL (Gas To Liquid), BTL (Biomass To Liquid) and HVO (Hydrotreated Vegetable Oils), where natural gas

or biomass are used as the initial energy carrier.

### Fuel standard

- EN 15940 in the current version.
- DIN EN 15940 in the current version.

## NOTICE

Using fuel that does not comply with these standards and is not approved may reduce performance and cause damage to the engine and fuel system.

- Before refuelling, check whether the fuel to be filled corresponds to the specification on the pump.
- Refuel only with fuels that comply with the specified standard and identification.

### Diesel

📖 Please refer to ⚠️ and ⚠️ on page 444.

Always refuel diesel with a low sulphur content or with sulphur-free diesel in order to avoid damage to the engine and particulate filter.

For vehicles with a diesel engine, fill only with pure diesel or diesel with a maximum biodiesel content of 7% → ⚠️.

If you use diesel with a high sulphur content, the service intervals are shorter. Qualified workshops can provide information on countries that use diesel with a high sulphur content.

The fuel quality affects the running properties, performance and service life of the engine. Refuel with fuel that already contains suitable additives → ⚠️.

#### Winter-grade diesel fuel and filter pre-heater system

During the winter season, you have to use diesel with improved flow

characteristics under cold conditions (winter diesel). You can avoid operational faults by refuelling winter diesel. Winter diesel is offered at filling stations during the winter season.

There may be different classes of cold depending on the climate and time in the national fuel standards.

Diesel vehicles are equipped with a filter preheater system. The cold flow characteristic of the diesel is ensured while driving by the filter pre-heating function. Information on the cold properties of diesel is provided by the filling stations in the respective country and any other qualified workshop.

In order to ensure that the vehicle can also be started at low outside temperatures, it should be parked in a location that is sheltered from the weather, e.g. in a garage.

#### ⚠️ WARNING

Incorrect refuelling can lead to fire, serious or fatal injuries and vehicle damage.

- Before refuelling, check whether the fuel standard specified on the pump meets the vehicle's requirements.
- Do not refuel with pure RME fuel, petrol, fuel oil or other unsuitable fuels.
- Use only additives that have been approved by the manufacturer in the approved quantity.



At cold temperatures, louder noises may occur in the diesel engine and the exhaust gas may be tinged blue.

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## Refuelling


📖 Please refer to ⚠️ and ⚠️ on page 444.




**Fig. 151** On the left-hand side of the vehicle: Open tank flap with attached tank cap.

### Refuelling process

You must refuel the vehicle only with the fuel grades specified on the fuel information label in the tank flap → page 445.

1. To unlock the tank flap, unlock the vehicle with the  button on the vehicle key → page 97.

**Or:** To unlock the tank flap, unlock the vehicle with the  but-

ton in the driver door  
→ page 103.

2. Open left-hand front door.
3. Open the tank flap.
4. Turn the tank cap → Fig. 151 to remove it and place it in the opening above the tank filler neck.
5. The fuel tank is full when the properly operated automatic filler nozzle clicks off for the first time → ⚠️.
6. Turn the tank cap onto the tank filler neck until it clicks into place.
7. Close the tank flap.
8. Close the left-hand front door.

Do not continue filling the tank after it switches off. The expansion space in the fuel tank can fill with fuel, for example due to heating up. This could cause fuel to overflow or automatic venting may not function.

## ⚠️ WARNING

Overfilling the fuel tank may cause the fuel to splash out and overflow. This can cause fires, explosions and serious injuries.

- Do not continue refuelling after the filler nozzle switches off for the first time.

## Diesel ageing

📖 Please refer to ⚠️ and ⚠️ on page 444.


Compared to other fuel types, fuels with a high biodiesel content (> 7 vol.%) may have a higher water absorption capacity and tend to age (decompose) more rapidly due to lower oxidation resistance. Water and dirt promote microbial activity and accelerate fuel ageing, which can lead to the vehicle's fuel system being damaged.

Perform the following actions to avoid damaging the vehicle's fuel system.

If the vehicle is stationary **as from two weeks**:

1. Fill fuel tank to maximum level.
2. Start the vehicle at least once a week for around five minutes.


If the vehicle is stationary **as from 45 days**:

1. Diesel fuel in the fuel tank may have aged → .
2. You must replace the diesel in the fuel tank and fuel filter before starting the engine again. The diesel and the fuel filter should be changed by a suitably qualified workshop.

### NOTICE

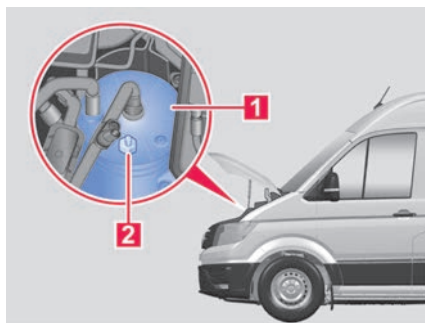
If the diesel fuel contains water or is decomposed and the engine is started, this can cause serious damage to the fuel system.

- If water has settled in the fuel filter, it must always be drained.
- Always fill up with high-quality diesel fuel that meets the required specifications.

 Water and diesel fuel must never be disposed of in gardens, forests, sewage systems, roads or paths, rivers or running waters. In order to avoid environmental pollution, disposal must be carried out by a suitably qualified workshop.

### Draining fuel filter

 Please refer to  and  on page 444.





**Fig. 152** In the engine compartment: Fuel filter with water drain plug (depending on equipment).

**1** Fuel filter.

**2** Water drain plug on the fuel filter.

### Water in diesel

If a vehicle is refuelled with diesel of poor or insufficient quality, water can make its way into the fuel system and accumulate in the fuel filter. Too much accumulated water leads to engine malfunctions → .

Observe the yellow indicator lamp  on the instrument cluster display → page 450.

### Draining fuel filter

Depending on the equipment level, you may be able to drain the fuel filter yourself. For this purpose, a water drain plug must be fitted to the fuel filter on the vehicle → Fig. 152 **1**.

Carry out the drainage procedure only in a suitable location with a sealed ground surface, e.g. filling station.

The water drain plug of the fuel filter can be found in the engine compartment → Fig. 152 2.


1. Park the vehicle on a level surface.
2. Apply the handbrake and take steps to ensure that the vehicle cannot roll away.
3. Switch off the ignition.
4. Use a sturdy, sealable container with a capacity of at least 500 ml.
5. Place the container on a level surface next to the vehicle.
6. Open the bonnet.
7. Insert a suitable, non-slip hose onto the neck of the water drain plug → Fig. 152 2.
8. Feed the hose from the water drain plug into the container next to the vehicle.
9. Use the socket wrench on the handle of the screwdriver from the vehicle tool kit to loosen the water drain plug, by turning it **anticlockwise** by about half a turn.

10. Start the engine.

Water in the fuel filter is automatically discharged under system pressure.

11. Drain about 0.2 l (0.18 qt) of the fuel/water mixture until you can see only fuel escaping.
12. Switch off the engine and tighten the water drain plug **clockwise** with the box spanner.
13. Pull the hose off the water drain plug.
14. Allow fuel residue to flow from the hose into the container.
15. Remove the hose and close the container.
16. Start the engine and check the system for leaks (visual check).

The engine may need a few seconds to start in this instance owing to the system being bled automatically.

Have the system checked by a qualified workshop if the yellow indicator lamp  continues to light up.

### WARNING

Incorrect handling of diesel fuel can cause serious burns and injuries. The high pressure of the diesel and water mixture can cause injuries during the draining procedure.

- Never let your hand or any other body part come into contact with the fluid as it drains out.
- Always wear eye protection and gloves when handling the diesel and water mixture.
- Should the diesel and water mixture come into contact with the eyes, rinse immediately and thoroughly with water. Seek medical assistance immediately if required.

### WARNING

Incorrect handling of diesel can cause severe or fatal accidents.


- Drain the fuel filter in an area in which there are no flammable materials.

- Diesel fuel is poisonous and must be stored out of the reach of children.
- Never use empty food containers, bottles or other containers to store drained fluid as other people may be fooled into thinking that the diesel and water mixture contained within is potable.
- Always wash skin that has been in contact with diesel thoroughly using water and soap.


### NOTICE

Diesel that has been spilled or has leaked will attack vehicle surfaces. The vehicle paintwork and plastic and rubber parts could be damaged as a result.

- Immediately remove any fuel that is spilled from all vehicle components.

 Observe the rules of disposal in accordance with the applicable regulations. If necessary, dispose of the fuel and water mixture at the

next filling station or in a qualified workshop.

 Ensure that fuel is of sufficient quality when refuelling.

### Troubleshooting

 Please refer to  and  on page 444.

### Irregular engine running and malfunctions


Irregular engine running or faults when driving may be a sign of poor fuel quality:

1. Reduce speed immediately.
2. Drive to the nearest suitably qualified workshop at moderate engine speeds and low loads on the engine.
3. If the symptoms occur immediately after refuelling, switch off the engine straightaway to avoid any subsequent damage.

Seek assistance from a suitably qualified workshop.


### Water in the diesel

*Vehicles with a water drain plug:*

The  indicator lamp lights up yellow.

1. Drain the diesel fuel filter using the water drain plug  
→ page 448.

**Or:** Seek assistance from a suitably qualified workshop.

 You can expect engine faults and increased fuel consumption if the indicator lamp is lit up.

## Introduction

The components relevant to emission control reduce harmful emissions:

- AdBlue® → page 451.
- Catalytic converter → page 456.
- Particulate filter (depending on equipment) → page 457.

## WARNING

Toxic gases can enter the vehicle interior if the engine runs in closed spaces. This can cause serious injuries and lead to death by suffocation.

- Never start the engine in enclosed spaces.
- Do not allow the engine to run in enclosed spaces.
- Do not leave the vehicle unattended if the engine is running.

## WARNING

The components of the exhaust system become very hot and can ignite highly flammable materials,

e.g. undergrowth, leaves, dry grass or spilt fuel. This can lead to a fire and cause serious or fatal injuries.

- Park the vehicle so that no part of the exhaust system can come into contact with highly flammable materials underneath the vehicle.
- Never apply additional underseal or anti-corrosion coatings to the exhaust pipes, catalytic converters, heat shields or particulate filter.

## AdBlue

 **Please refer to  at the start of the chapter on page 451.**

The SCR catalytic converter uses AdBlue urea solution to convert nitrogen oxides into nitrogen and water. AdBlue is a registered trademark and is also known as AUS32 or DEF (Diesel Exhaust Fluid).

## Legal information

No technical modifications should be undertaken on the exhaust purification system, which have an impact on emission control by AdBlue.

Only operation with AdBlue that complies with ISO-22241-1 is approved by the manufacturer and corresponds to the Certificate of Conformity issued for this vehicle type.

Operating the vehicle without AdBlue that complies with ISO-22241-1 may be a criminal offence.

If the emission control system is not operated as intended, the exhaust emissions may become worse.

## Information on AdBlue

The AdBlue consumption figures depend on the driving style, the operating temperature and the ambient temperature.


You can check the remaining range and refill quantity on the instrument cluster display.

There may be limitations when filling at very low temperatures as AdBlue freezes at temperatures below  $-11^{\circ}\text{C}$  ( $+13^{\circ}\text{F}$ ). While the vehicle is in motion, the system is heated to ensure effective emission control even at very low temperatures. During prolonged spells of cold weather with temperatures below  $-11^{\circ}\text{C}$  ( $+13^{\circ}\text{F}$ ), and in extremely adverse conditions, it is possible that the AdBlue cannot be defrosted and is not available for the emission control system.

1. Stop the vehicle in a warm place.
2. Wait until the AdBlue becomes liquid again.
3. If necessary, have refilling performed by a suitably qualified workshop.


AdBlue must be refilled independently of the service events. This

may be necessary more frequently and between the service intervals.

The AdBlue tank must never run empty → .

### Warning and prompting system with low fill level


Always add AdBlue when a prompt to add it appears in the instrument cluster display.

 AdBlue in the normal operating range. Remaining range of 2,000 km (1,200 miles) or 2,400 km (1,500 miles) (depending on equipment). AdBlue refilling is possible but not necessary.


As of a **remaining range of 2,000 km (1,200 miles) or 2,400 km (1,500 miles)** (depending on equipment), a prompt will be shown on the instrument cluster display to indicate that AdBlue must be refilled. The respective remaining range at that time is indicated in this prompt.


If this prompt is ignored, the yellow indicator lamp  lights up from

a **remaining range of 1,000 km (600 miles)**. A message is displayed on the instrument cluster with the warning that it will no longer be possible to restart the engine in XXX km.

It will no longer be possible to restart the engine if the yellow indicator lamp is still ignored and the displayed **remaining range is 0 km (0 miles)**. The red warning lamp  lights up.

### Warning and prompting system in the event of faults

If there is a fault in the exhaust gas purification system or if the tank has not been filled with standard-compliant AdBlue in accordance with ISO-22241-1, the white or yellow indicator lamps light up . The **remaining range is 1,000 km (600 miles)** when the white or yellow indicator lamps light up → page 458.

If the yellow indicator lamps are ignored, the red warning lamps light up . There is a **remaining range of 0 km (0 miles)** and it is

no longer possible to restart the engine → page 458.

**⚠ CAUTION**

AdBlue is an irritant and corrosive fluid that can damage the skin, eyes and breathing passages upon contact.

- Always observe the instructions for use when using AdBlue.
- Store AdBlue only in its original sealed container.
- Never use empty food tins, bottles or other containers.
- Always store AdBlue in a safe place out of reach of children.
- If AdBlue® gets into the eyes or comes into contact with the skin, immediately rinse the eyes with plenty of water for at least 15 minutes and consult a doctor.
- If AdBlue is swallowed, immediately rinse the mouth out with plenty of water for at least 15 minutes. Do not induce vomiting unless instructed to do so

by a doctor. Seek medical assistance immediately.

**NOTICE**

If the AdBlue level is too low, the vehicle cannot be restarted after the ignition has been switched off. Starting with jump leads is also not possible.

- Refill with AdBlue in accordance with the quantity shown on the instrument cluster display at the latest when the remaining range is around 1,000 km (600 mi).
- Never allow the AdBlue tank to run empty.

**NOTICE**

Improper use of AdBlue may cause damage to the vehicle that is not covered by the warranty.

- Only use and add AdBlue that complies with the standard ISO-22241-1.
- Never add water, fuel or additives to the AdBlue.

- Never fill AdBlue in the diesel fuel tank.

**NOTICE**

The bottle may develop a leak following changes in temperature and damage and the AdBlue may damage the vehicle interior.

- Do not permanently carry the refill bottle in the vehicle.

**Refilling AdBlue**

📖 Please refer to **⚠** at the start of the chapter on page 451.



**Fig. 153** Behind the tank flap: Cap for the AdBlue filler neck.

### Preparing for filling

The AdBlue filler neck is located behind the tank flap under the tank filler neck for fuel → **Fig. 153 1**.

1. Park the vehicle on a level surface and switch off the ignition.
2. Open left-hand front door.
3. Open the tank flap.
4. Insert the cap into the corresponding recess on the tank flap.
5. Insert the cap into the opening provided above the fuel filler neck.
6. If a message about the AdBlue level appears on the instrument cluster display, add at least the minimum refill quantity. A smaller refill amount is insufficient.
7. Use **only** AdBlue that complies with the standard **ISO-22241-1**.

### Filling with the refill bottle

Observe the expiry date and the manufacturer's instructions and information on the refill bottle.

1. Remove the screw top of the refill bottle.
2. Place the refill bottle on the AdBlue filler neck and hand-tighten the bottle → **Fig. 153 2**.
3. Do not squeeze the refill bottle to prevent it from being damaged.
4. Press the refill bottle towards the filler neck and hold it in this position.
5. Add at least the minimum refill quantity indicated in the instrument cluster.

The AdBlue tank is full when AdBlue no longer flows out of the refill bottle → page 455.

6. To avoid overfilling the tank, do not squeeze the refill bottle.
7. Unscrew the refill bottle.

### Filling with the filler nozzle

The AdBlue tank can be refilled at all AdBlue pumps.

Do not fill fuel and AdBlue at the same time.

The AdBlue filler nozzle works in the same way as a filler nozzle for fuel.

1. To ensure optimum filling, hold the AdBlue filler nozzle so that the handle is facing down → **Fig. 153 3**.
  2. Add at least the minimum refill quantity indicated in the instrument cluster.
- The AdBlue tank is full as soon as the filler nozzle clicks off for the first time → page 455.
3. Do not continue to fill. This will prevent the AdBlue tank from being overfilled.

### Filling with the canister

1. Remove the cap from the canister.

2. Use the integrated spout to refill the AdBlue tank.
3. Add at least the minimum refill quantity indicated in the instrument cluster.

The AdBlue tank is full when AdBlue is filled up to the level of the AdBlue filler neck. Do not overfill the AdBlue tank → page 455.

### Preparing to continue the journey

1. Screw in the cap on the AdBlue filler neck until it engages.
2. Close the tank flap.
3. Close the left-hand front door.
4. Switch on the ignition for at least 30 seconds so that refilling can be detected by the system → page 192.
5. Start the engine.


### NOTICE


Overfilling AdBlue may damage the tank system and the vehicle.


- Do not fill with more than the maximum refill quantity indicated

on the instrument cluster display.

- Remove any spilled AdBlue as quickly as possible with a damp cloth and plenty of cold water.
- Remove any crystallised AdBlue with warm water and a sponge.

 Dispose of the refill bottle in an environmentally friendly way.



 When filling with an AdBlue filler nozzle, you may notice an odour.

 Suitable AdBlue refill bottles are available from any suitably qualified workshop.

### Troubleshooting

 Please refer to  at the start of the chapter on page 451.

  **Fault in the SCR system**


The red warning lamps   light up.

A text message may also be displayed.

There is a fault in the selective catalytic reduction system or the system is not filled with standard-compliant AdBlue®. It is therefore no longer possible to restart the engine.

1. Drive immediately to a suitably qualified workshop without switching off the engine.
2. Have the system checked.

 **AdBlue® level too low**


The red  warning lamp lights up.

A text message may also be displayed.

It is not possible to start the engine because the AdBlue® level is too low.

1. Park the vehicle.
2. Refill the minimum quantity of AdBlue® → page 453.



The yellow or white indicator lamps  light up.

A text message may also be displayed.

There is a fault in the selective catalytic reduction system or the system is not filled with standard-compliant AdBlue®.

1. Drive immediately to a suitably qualified workshop.
2. Have the system checked.

### Or:


During prolonged spells of cold weather with temperatures below  $-11^{\circ}\text{C}$  ( $+13^{\circ}\text{F}$ ), and in extremely adverse conditions, it is possible that the AdBlue® cannot be defrosted and is not available for the emission control system.

1. Drive the vehicle to a warmer environment within the stated range, such as a garage, where

there is an ambient temperature higher than  $-11^{\circ}\text{C}$  ( $+13^{\circ}\text{F}$ ).

The error message disappears if there is sufficient AdBlue® and it has defrosted.



The yellow or white  indicator lamp lights up.

A text message may also be displayed.

1. Refill AdBlue® before the displayed remaining range drops to zero → page 453.


## Catalytic converter

 **Please refer to  at the start of the chapter on page 451.**

Observe the following information to help ensure the long-term functionality of the exhaust system and the catalytic converter in the petrol engine:

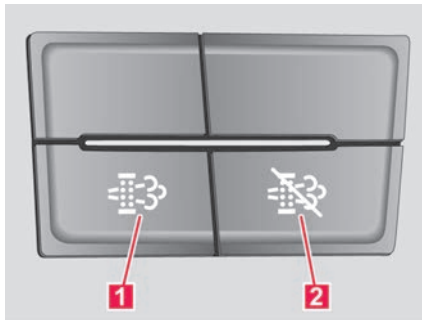
- Only refuel with fuels that are suitable for the vehicle  
→ page 445.
- Do not run the fuel tank empty.
- Do not refill too much engine oil  
→ page 504.
- Do not tow-start the vehicle. Use jump leads.

If you notice misfiring, loss of power or uneven running when driving, reduce speed immediately and have the vehicle checked by a suitably qualified workshop. If this happens, unburnt fuel can enter the exhaust system and escape into the atmosphere. The components relevant to emission control can be damaged by overheating.

 The emissions may have a sulphur-like smell even if the emission purification system is working properly.

## Particulate filter

📖 Please refer to ⚠️ at the start of the chapter on page 451.



**Fig. 154** In the dash panel: buttons for particulate filter regeneration (illustration).

### Regeneration function

During regeneration of the particulate filter, the accumulated soot inside the filter is burnt to ash so that the filter does not become clogged. Regeneration takes place at periodic intervals at high temperatures. In order to achieve the high temperatures in the particulate filter, additional diesel is injected into the engine that is burnt in the die-

sel oxidation catalytic converter, thus allowing the regeneration.

Depending on the driver's driving profile and the load placed on the engine, the amount of diesel fuel injected is continuously adjusted to maintain a high temperature in the particulate filter during regeneration. During the post-injection of diesel, small amounts of fuel may enter the oil circuit in the engine. This fuel will evaporate from the engine oil again during regular driving. If the engine oil temperatures are not high enough due to the driving profile, or if you drive a lot of short distances, the fuel cannot evaporate from the engine oil and this can cause oil thinning.

An indicator lamp may light up on the instrument cluster display → page 506.

### Automatic regeneration

Automatic regeneration occurs at regular intervals during everyday driving and is not shown on the display.

To assist the regeneration of the particulate filter, avoid making only short journeys.

The radiator fan may run on while the vehicle is moving or when the engine has been switched off.


Regeneration is interrupted automatically when the vehicle is driven in the reserve range and the yellow indicator lamp 🚦 lights up.

### Manual regeneration (stationary regeneration)

The automatic regeneration of the particulate filter can be delayed via the → Fig. 154 **2** button, e.g. for driving into closed halls. You can only postpone regeneration if the 🚦 indicator lamp in the button lights up. Regeneration is about to start when the 🚦 indicator lamp in the button lights up. You can no longer postpone regeneration once it has begun.

The 🚦 indicator lamp in the button flashes when regeneration has been postponed. Regeneration remains postponed once you restart

the engine. Postponement of regeneration is deactivated when you press the **2** button again.


You can only start stationary regeneration using the button **1** if the particulate filter is saturated with soot and the  indicator lamp in the button lights up.

To start stationary regeneration:

1. Park the vehicle on a level, non-flammable surface.
2. *Manual gearbox:* Shift into neutral.
3. *Automatic gearbox:* Move the selector lever to position **P**.
4. Apply the handbrake and take steps to ensure that the vehicle cannot roll away.
5. Press the button **1** for around two seconds.

A text message about the particulate filter is shown on the instrument cluster display.

1. Press the button **1** again for about two seconds to confirm the message.

The text message is confirmed and stationary regeneration is started. The  indicator lamp in the button flashes during stationary regeneration.

Stationary regeneration is stopped automatically in the following situations:


- *Manual gearbox:* when the clutch pedal is depressed.
- *Automatic gearbox:* when the selector lever is shifted out of **P**.
- If the handbrake is released.
- If the engine is switched off.
- If the **1** button is pressed again.


### NOTICE

If regeneration is not completed, this can thin the oil and cause engine damage.

- Do not switch off the engine unnecessarily while the indicator lamp is active.

- Avoid frequent short journeys and driving cycles at continuously low engine speeds or stationary operation.


 Stationary regeneration takes some time. If the stationary time is not sufficient to self-clean the particulate filter completely, regeneration continues automatically while the vehicle is in motion.

 Noises, slight smells and increased engine speeds may occur during regeneration.

## Troubleshooting

 Please refer to  at the start of the chapter on page 451.

 **Particulate filter clogged with soot**

The yellow indicator lamp  lights up.


The particulate filter is clogged with soot and must be regenerated

while driving. Stationary regeneration of the particulate filter is no longer possible.

1. Driving at a constant speed of between 50–120 km/h (31–75 mph) on a motorway or major road will help with regeneration.
2. Observe the relevant speed limits and the vehicle's gear-change indicator.



The indicator lamp goes out automatically when the particulate filter has been regenerated.

1. If the indicator lamp is still lit up after driving for 45 minutes, seek assistance from a suitably qualified workshop immediately.

The particulate filter may become completely clogged if you ignore the indicator lamp . If the particulate filter is clogged, a service regeneration must be carried out by a suitably qualified workshop.





### Particulate filter clogged

The yellow indicator lamps   light up together.


Self-regeneration of the particulate filter is no longer possible.

1. Contact a suitably qualified workshop immediately to have a service regeneration carried out.

The particulate filter will become damaged and will have to be replaced by a suitably qualified workshop if the indicator lamps   are ignored.



### Emissions-relevant fault


The yellow indicator lamp  **lights up**.

Fault in an emissions-relevant component that can damage the vehicle.

1. Drive to the nearest suitably qualified workshop.
2. Have the engine and exhaust system checked.



### Misfiring

The yellow indicator lamp  **flashes**.

Misfiring that can damage the vehicle.

1. Drive to the nearest suitably qualified workshop.
2. Have the engine and exhaust system checked.

### **WARNING**

Sudden braking or driving manoeuvres, e.g. when an indicator lamp lights up or due to irregular engine running, can lead to accidents. This can result in serious or fatal injuries.

- Ensure that your speed and driving style are always appropriate for the current visibility, weather and road/traffic conditions.
- Always observe the applicable country-specific traffic regulations.



There may be engine faults and fuel consumption may be higher if the indicator lamps are lit up or flashing.

---

## Introduction

Observe any country-specific legislation when securing your vehicle in the event of a breakdown.

## WARNING

In the event of a sudden driving or braking manoeuvre or accident, a loose breakdown set, temporary spare wheel or loose vehicle toolkit could be flung through the vehicle interior. This can result in serious injury or death.

- Always ensure that the vehicle toolkit, breakdown set and spare wheel are always properly secured in the vehicle.

## WARNING

Working with an unsuitable or damaged vehicle tool kit can result in accidents. This can result in serious injury or death.

- Never work with unsuitable or damaged tools from the vehicle toolkit.

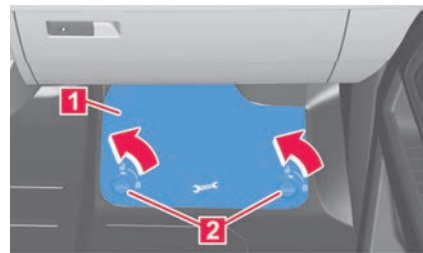
- Seek expert assistance if no suitable vehicle toolkit is available.

## Stowage

Please refer to **!** at the start of the chapter on page 461.


The vehicle toolkit and jack are located in the floor stowage area on the front passenger side.

### Opening floor stowage compartment




**Fig. 155** On the front passenger side: opening the floor stowage area.

- 1** Cover.
- 2** Quick-release fasteners.

- Turn both quick-release fasteners in the direction of the arrow to position  → **Fig. 155 2**.
- Remove the cover **1**.

### Closing floor stowage compartment

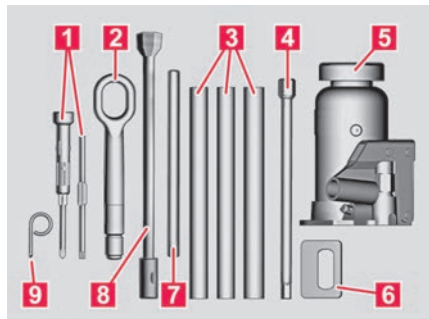
- Replace the cover → **Fig. 155 1**.
- Turn both quick-release fasteners in the opposite direction of the arrow to position  **2**.

**!** After using the jack, retract it fully to its original position so that it can be stowed safely.

## Contents of the vehicle toolkit

Please refer to **!** at the start of the chapter on page 461.

The scope of the on-board tool kit depends on the country and equipment. The following section describes the maximum scope:



**Fig. 156** Contents of the vehicle toolkit

- 1** Screwdriver with hexagon socket in the handle. The screwdriver has two reversible blades.
- 2** Screw-in towing eye.
- 3** Three-part pump lever for the vehicle jack.
- 4** Socket wrench for spare wheel winch.
- 5** Jack. Before you return the vehicle jack to the toolbox, fully wind in the disc.
- 6** Plastic lever for removing the tail light cluster.
- 7** Lever for wheel wrench.

- 8** Wheel wrench for loosening and tightening the wheel bolts.
- 9** Hook for pulling off the wheel covers and wheel bolt caps.

### Tyre pressure gauge

In some countries, there may also be a tyre pressure gauge in the vehicle.

### Servicing the jack

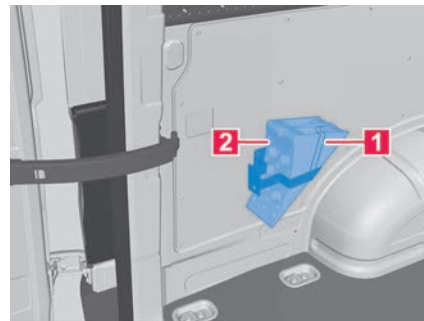
If a jack is included in the vehicle toolkit, it is not usually subject to any maintenance intervals.

1. Grease the jack with a universal lubricant when necessary.

### Chocks

**Please refer to at the start of the chapter on page 461.**

There may be chocks in the load compartment. The location depends on the model and vehicle equipment.



**Fig. 157** In the load compartment: chock (illustration).

- 1** Retaining springs.
- 2** Chock.

### Removing the chock

1. Push the retaining spring to the side → **Fig. 157 1**.
2. Pull the chock back to remove it **2**.

### Correct usage

Chocks can be used to chock the wheel that is diagonally opposite the wheel that is being changed. The chocks must be placed directly in front of or behind the wheel.

They must only be used on a solid surface.

### **WARNING**

Setting up and using the chocks incorrectly can cause accidents. This can result in serious injury or death.

- Never use damaged chocks.
  - Never use chocks to secure the vehicle if it is located on a slope.
-

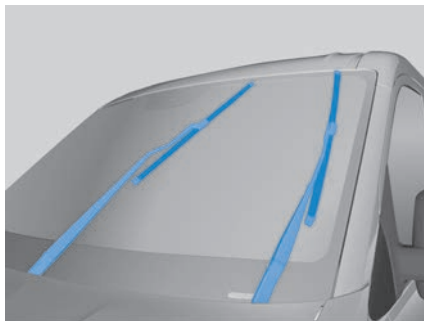
### Service position

The wiper arms can be lifted off the windscreen when in the service position → Fig. 158.

### NOTICE

If due care is not taken when working on the wiper arms, this can result in damage to the bonnet, windscreen or wiper arms.

- Lift the wiper arms carefully and always only when in service position.
- Never open the bonnet when the wiper arms have been lifted.
- Always place the wiper arms back on the windscreen before starting a journey.






**Fig. 158** On the windscreen: Wipers in service position.

### Using the wiper lever to activate the service position

1. Park the vehicle.
2. Close the bonnet and the driver and front passenger doors.
3. Switch the ignition on and then off again.
4. Press the wiper lever down briefly to activate the flick wipe function.


Wipers move to service position.

### Activating the service position via the Infotainment system

1. Park the vehicle.
2. Close the bonnet.
3. Switch on the ignition.
4. Tap the  button.
5. Select and tap the button .
6. Tap the  function button to activate or deactivate the service position.

If the checkbox in the function button is ticked , the function is switched on.

### Lifting the windscreen wiper arms

1. Move the wiper arms to the service position before lifting → .
2. When holding or lifting the wiper arms, do so only in the area of the wiper blade mount.

### Placing the wiper arms on the windscreen

1. Before driving off, grip the wiper arms carefully and only in


the area of the wiper blade mount, and place them against the windscreen.

2. With the ignition switched on, press the wiper lever briefly in the direction of 'flick wipe'.

The wiper blades return to their initial position.

### Cleaning and changing wiper blades

The factory-fitted wiper blades are coated with graphite. The graphite coating ensures that the wiper blade moves quietly over the windscreen. If the graphite coating is damaged, the windscreen wiper will become louder.

Check the condition of the wiper blades on a regular basis. Rubbing wiper blades should be changed if damaged or cleaned if dirty → .

Damaged wiper blades should be replaced immediately. Wiper blades are available from a suitably qualified workshop.

### WARNING


Worn or dirty wiper blades reduce visibility and increase the risk of accidents and severe injuries.

- Always clean dirty wiper blades.
- Always change windscreen wiper blades if they are damaged or worn and no longer clean the windscreen properly.

### NOTICE

Cleaning the wiper blades or windows with unsuitable cleaning agents can cause damage.


- Do not use fuel, nail varnish remover, paint thinner or similar liquids to clean the wiper blades and windows.
- Do not clean the wiper blades with hard sponges and other sharp objects.

 If wax residue from car washes and other care products remains on the vehicle windows, this can cause the wipers to rub. Remove

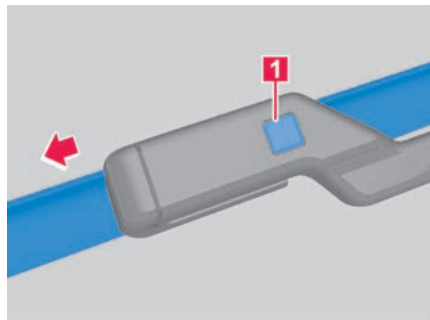
wax residue using a special cleaning product or cleaning cloths.

### Cleaning wiper blades

*Windscreen wipers:* Move the wiper arms to the service position before lifting.

1. Lift the wiper arms, making sure that you hold them only in the area of the wiper blade mounting.
2. Clean the wiper blades carefully using a damp sponge → .
3. Carefully place the wiper arms back onto the windscreen.

### Changing the windscreen wiper blades



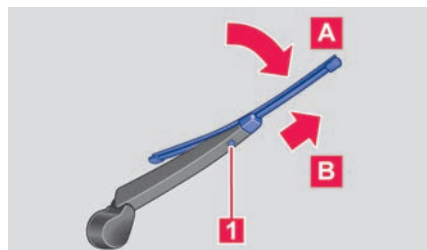
**Fig. 159** On the windscreen: Changing the windscreen wiper blades.

**1** Release button.

1. Move the wiper arms to the service position before lifting.
2. Lift the wiper arms, making sure that you hold them only in the area of the wiper blade mounting.
3. Press and hold the release button and simultaneously pull off the wiper blade in the direction of the arrow → **Fig. 159 1**.
4. Insert a new wiper blade with the same length and design on-

- to the corresponding wiper arm. Push it on until it engages.
5. Place the wiper arms carefully back onto the windscreen.

### Changing the wiper blade for the rear window



**Fig. 160** At the rear of the vehicle: Changing the wiper blade for the rear window.

**1** Release button.

1. Lift the wiper arm and fold it away, making sure that you hold it only in the area of the wiper blade mounting.
2. Press and hold the release button → **Fig. 160 1**.

3. Tilt the wiper blade in the direction of the wiper arm → **Fig. 160 A** and pull it off in the direction of the arrow **B** at the same time. You may need to use some force to do this.
4. Insert a new wiper blade with the same length and design onto the wiper arm in the opposite direction of the arrow → **Fig. 160 B** and push it on until it engages. The wiper blade must be in folded-down position to do this **A**.
5. Carefully place the wiper arm back onto the rear window.

## Introduction

Before changing bulbs, check whether a bulb or an LED light unit has failed. You can normally change bulbs yourself. If the exterior lighting is realised using LED technology (depending on model and vehicle equipment), it is not possible for you to replace the LED light units or individual LEDs yourself. If some LEDs fail, this may be an indication that more LEDs are on the point of failure. In this case, have the light units checked and renewed if necessary at a suitably qualified workshop.

You should keep a box with spare light bulbs for the lights that ensure the vehicle is roadworthy in the vehicle at all times. Replacement bulbs are available from a suitably qualified workshop. In some countries it is a legal requirement to have these spare bulbs in the vehicle.

It may be illegal to drive with defective lights of the exterior lighting.

1. Before changing bulbs, check whether a bulb or LED light unit is installed.

### Additional bulb specification

Some bulbs in headlights or in tail light clusters might have factory specifications that are different to standard bulbs. The designation is inscribed on the bulb, either on the glass part or on the base.

#### WARNING

If the vehicle's lights are not switched on appropriately for the weather conditions, the road will not be adequately lit. The vehicle may not be seen, or not be seen adequately, by other road users. This can cause accidents and serious or fatal injuries.

- Check the vehicle's lighting system and turn signals regularly.
- Have the lighting system repaired immediately if necessary.

#### WARNING

When working in the bonnet space, accidents and serious injuries can be caused as a result of bulb changes that are not performed correctly.

- Always follow the described steps and observe the general safety precautions.
- Never change bulbs unless you know exactly how to do it.
- If you are uncertain about how to change a bulb, have the work carried out by a suitably qualified workshop.

#### WARNING

When changing bulbs, sharp edges on the lamp housing, hot or exploding bulbs may lead to serious injuries.

- Replace bulbs only once they have cooled down completely.
- Always protect your hands when changing bulbs.

### NOTICE

Water penetrating into the headlight housing may cause damage to the electrical system.

- After changing a bulb, always mount the covers on the headlight housing.
- After mounting, always make sure that the covers are correctly fastened.

### NOTICE

If the glass bulb is touched when replacing lamps, fingerprints may be left on the lamp. When the light is switched on, the fingerprints will evaporate due to the heat and the reflector will become cloudy.

- Do not touch the glass part of the bulb with unprotected fingers. Use textile gloves, for example.
- When installing a lamp, always hold it by the base of the bulb only.

### Information on changing bulbs

📖 **Please refer to ⚠ and ⚡ at the start of the chapter on page 467.**

### ⚠ WARNING

If the described activities for changing bulbs are not observed, this can lead to accidents. This can result in serious injuries.

- Always follow the instructions and observe the general safety precautions.

### NOTICE

Improper removal and refitting of trim panels and headlights can cause damage to the vehicle's paint and bodywork.

- Remove the headlights and trim carefully and fit them again carefully.

Always carry out the following actions for changing a bulb in the given order:

1. Park the vehicle on a firm and level surface at a safe distance from the flow of traffic.
2. Apply the handbrake.
3. Switch off the lights
4. Move the turn signal and main beam lever to its neutral position.
5. *In vehicles with an automatic gearbox:* Engage the parking lock **P**.  
  
*In vehicles with a manual gearbox:* select a gear.
6. Switch off the ignition.
7. Allow the orientation lighting to go out → page 137, *Coming Home and Leaving Home function (orientation lighting)*.
8. Leave the defective bulbs to cool down.
9. Check to see if a fuse has blown.

- Follow the instructions to replace the affected bulb.

Always use identical bulbs with the same designation. The designation is inscribed on the bulb, either on the glass part or on the base.

Do not touch the glass part of the bulb with unprotected fingers. The heat of the bulb would cause the fingerprint to evaporate and condense on the reflector. This will impair the brightness of the headlight.

- After changing the bulb, check to ensure that the bulb is working properly. If the bulb is not working properly, the bulb may not have been inserted properly, may have failed again, or the connector may have been fitted incorrectly.
- Each time you change a bulb at the front of the vehicle, the headlamp settings should be checked by a suitably qualified workshop.

### Replacing bulbs in the headlights

📖 Please refer to ⚠️ and ⚠️ at the start of the chapter on page 467.

#### Preparations

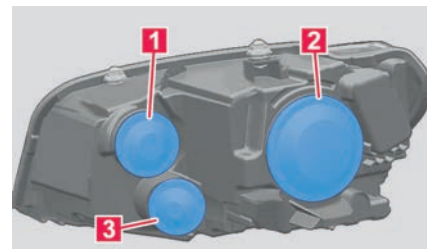
The steps should be carried out in the given order only:

- Observe information on changing bulbs and carry out any action required.
- Open the bonnet.

The headlight must not be removed when changing bulbs.

#### Cover on the back of the headlight

💡 The illustration shows the right-hand headlight from the rear. The left-hand headlight is a mirror image of the one shown.



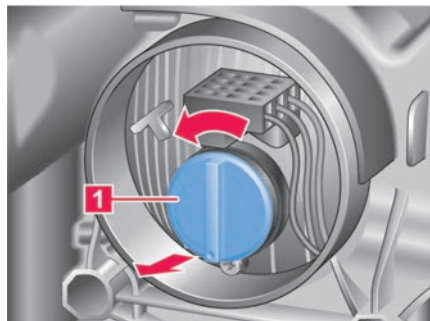
**Fig. 161** In the bonnet space: Covers on the back of the headlight.

- Main beam and daytime running lights.
- Dipped beam and side lights.
- Turn signal.

On vehicles with daytime running lights, the main beam and daytime running light functions are performed by one bulb. The failure of a daytime running light bulb can be indicated as *Parking light* in the instrument cluster display.

- Remove the cover in the headlights to perform the required bulb change → Fig. 161.

### Replacing main beam and daytime running light bulbs

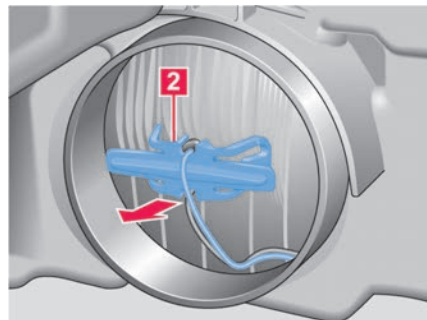


**Fig. 162** In the headlights: Bulb holder for the main beam and daytime running lights.

#### 1 Bulb holder

1. Turn the bulb holder anti-clockwise as far as it will go and pull it out to the rear along with the bulb → Fig. 162 1.
2. Replace the defective bulb with a new bulb of the same type.
3. Insert the bulb holder into the headlight and turn it clockwise as far as it will go.
4. Fit cover.

### Replacing a turn signal bulb

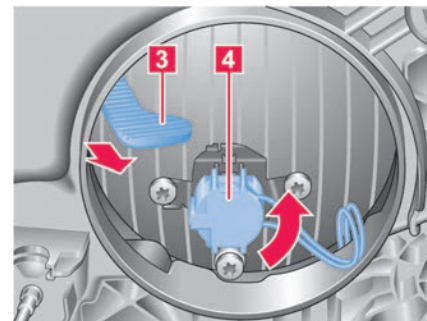


**Fig. 163** In the headlights: Bulb holder for the turn signal.

#### 2 Bulb holder

1. Pull the bulb and bulb holder out to the rear → Fig. 163 2.
2. Replace the defective bulb with a new bulb of the same type.
3. Insert the bulb holder into the headlight and turn it clockwise as far as it will go.
4. Fit cover.

### Replacing bulbs for dipped beam headlights and side lights



**Fig. 164** In the headlights: Bulb holder for dipped beam and side lights.

#### 3 Bulb holder for side lights.

#### 4 Bulb holder for dipped beam headlights.

1. Side lights: Pull the bulb and bulb holder out to the rear → Fig. 164 3.

Dipped beam headlights: Turn the bulb holder anti-clockwise as far as it will go and pull it out to the rear along with the bulb → Fig. 164 4.

2. Replace the defective bulb with a new bulb of the same type.
3. Side lights: Insert the bulb holder with bulb into the headlight → Fig. 164 3.

Dipped beam headlights: Insert the bulb holder into the headlight and turn it clockwise as far as it will go → Fig. 164 4.

4. Fit cover.

### Replacing bulbs in the fog lights

📖 Please refer to ⚠ and ! at the start of the chapter on page 467.

#### Preparations

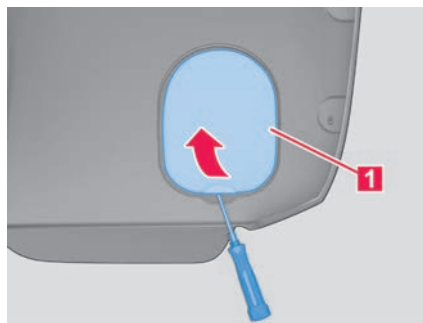
The steps should be carried out in the given order only:

1. Observe information on changing bulbs and carry out any action required.
2. Turn the steering so that the wheel on the affected side of the vehicle is centred. If necessary, start the engine to do this.

3. Switch off the engine and remove the key from the ignition.
4. Take the screwdriver out of the vehicle toolkit.

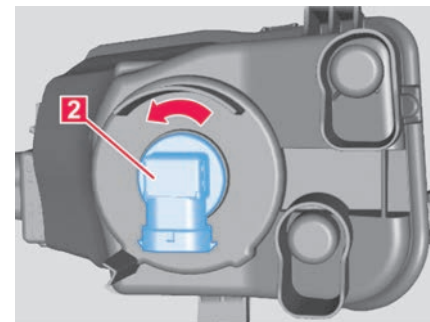
The headlight in the front bumper does not have to be removed to change the bulb.

! The illustrations show the right-hand headlight. The left-hand headlight is a mirror image of the one shown.



**Fig. 165** In the wheel housing liner: service flap for fog light (illustration).

- 1 Service flap in the wheel housing liner.



**Fig. 166** In the front bumper: Fog light from the rear (illustration).

- 2 Bulb holder for fog light.

### NOTICE


If water gets into the electrical connectors, it can damage the electrical system.


- Make sure that the electrical connector on the headlight housing is seated correctly when you plug the connector into the bulb holder.


1. Use the screwdriver to open the service flap in the wheel housing liner → Fig. 165 1.


2. Release the connector and pull it off the bulb holder  
→ Fig. 166 **2**.
3. Turn the bulb holder in the direction of the arrow as far as it will go and pull it out to the rear along with the bulb.
4. Replace the defective bulb with a new bulb of the same type. The bulb and bulb holder are a single unit.
5. Insert the bulb holder into the headlight and turn it in the opposite direction to the arrow as far as it will go.
6. Fit the connector on the bulb holder. The connector must click into place.
7. Close the service flap in the wheel housing liner  
→ Fig. 165 **1**.

#### Replacing bulbs in the tail light cluster (panel van)

 Please refer to  and  at the start of the chapter on page 467.

 The illustrations show the left-hand tail light cluster. The right-hand tail light cluster is a mirror image of the one shown.

 There are various types of tail light cluster, so the position and design of covers, bulbs and bulb holders may vary from those shown in the illustrations.

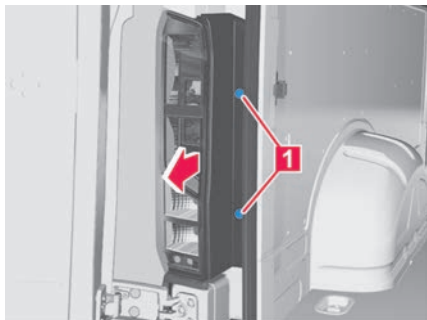
 In tail light clusters with LEDs, some light elements may be fitted with “normal” bulbs. These bulbs can be replaced.

#### Preparations

The steps should be carried out in the given order only:

1. Observe information on changing bulbs and carry out any action required.
2. Open the wing doors and release door arresters.
3. Fold the door arrester into the wing door and allow it to engage.  
  
Fully open the wing door to the 180° or 250° opening angle.
4. Remove the vehicle toolkit from the stowage area.

## Removing the tail light cluster



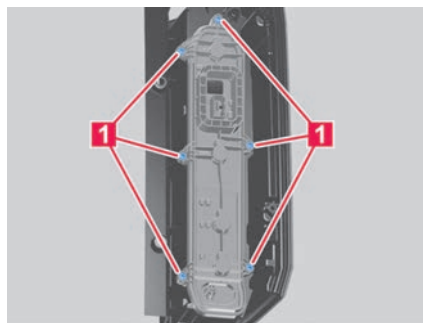
**Fig. 167** On the side of the vehicle at the rear: Tail light cluster.

### **1** Securing bolt.

1. Use the screwdriver to unscrew the securing bolts  
→ **Fig. 167 1**.
2. Push the tail light cluster outwards and remove it from the mounting in the direction of the arrow with the plastic lever from the vehicle toolkit.
3. Pull out the red fuse on the electrical connector, press in the catch and pull out the electrical connector.

4. Place the tail light cluster on a clean and flat surface.

## Replacing the bulb



**Fig. 168** Tail light cluster: Bulb carrier from the rear.

### **1** Securing bolt.

1. Unscrew six headlight securing screws with the screwdriver  
→ **Fig. 168 1**.
2. Pull the bulb holder out of the tail light cluster.
3. Push the bulb downwards slightly and unscrew anti-clockwise out of bulb holder.

4. Replace the defective bulb with a new bulb of the same type.

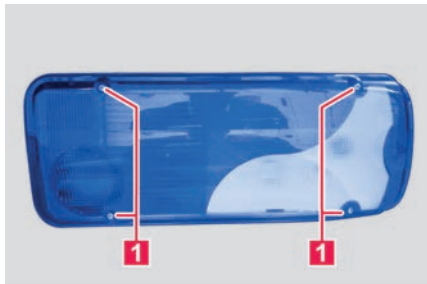
## Fitting the tail light cluster

1. Insert the bulb holder into the tail light cluster.
2. Screw the bulb holder into the tail light cluster using six fastening screws.
3. Plug in and secure the electrical connector.
4. Carefully insert the tail light cluster into the opening in the body. The tail light must be flush with the vehicle bodywork.
5. Use one hand to hold the tail light cluster in the fitting position while using the other hand to screw the securing screws firmly back into place  
→ **Fig. 167 1**.
6. Check that the tail light cluster is correctly installed and seated securely.
7. Release the door arresters from the wing doors and lock the wing doors.

- Stow the vehicle toolkit away safely.

### Replacing bulbs in the tail light cluster (dropside)

📖 Please refer to ⚠️ and ❗ at the start of the chapter on page 467.



**Fig. 169** Dropside: bulbs in the tail light cluster.

- Securing bolts for the lens.

The steps should be carried out in the given order only:

- Follow the instructions on the checklist → page 468.

- Unscrew the four screws on the tail light cluster using the screwdriver from the vehicle toolkit  
→ Fig. 169 **1**, → page 461.
- Remove the light lens.
- Gently press the bulb into the bulb holder and turn anti-clockwise.
- Pull the bulb straight out of the bulb holder.
- Replace the defective bulb with a new bulb of the same type.
- Fit the light lens. Make sure that the seal is positioned securely.
- Use the screwdriver from the vehicle toolkit to screw in the four screws → Fig. 169 **1**.
- Check that the tail light cluster is positioned correctly and securely.
- Stow the vehicle toolkit away safely.

### Replacing the bulb in the number plate light (panel van)

📖 Please refer to ⚠️ and ❗ at the start of the chapter on page 467.

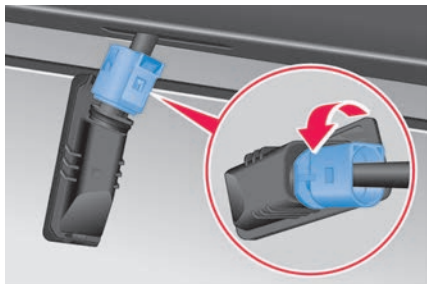
Depending on the equipment, the vehicle may be fitted with different number plate lights.

#### Fixed number plate light



**Fig. 170** In the left-hand wing door: Number plate light.

- Catch on the number plate light.



**Fig. 171** Number plate light: Removing the bulb holder.

1. Follow the instructions on the checklist → page 468.
2. Unclip the bulb holder by hand → Fig. 170.
3. Pull the number plate light out slightly.
4. Remove the connector and pull it off the bulb holder.
5. Turn the bulb holder in the direction of the arrow → Fig. 171 and pull it out together with the bulb.
6. Replace the defective bulb with a new bulb of the same type.
7. Insert the bulb holder into the number plate light and turn it

as far as it will go in the opposite direction to the arrow → Fig. 171.

8. Fit the connector on the bulb holder.
9. Carefully insert the number plate light into the opening in the door. Ensure that you put the number plate light in the right way round.
10. Push the number plate light into the door until it clicks into place audibly.

#### **Removable number plate light**

1. Follow the instructions on the checklist → page 468.
2. Use the screwdriver from the vehicle toolkit to unscrew the screws on the number plate light.
3. Pull the number plate light out slightly.
4. Push apart the clips on the back of the number plate light.
5. Remove the bulb holder from the number plate light.

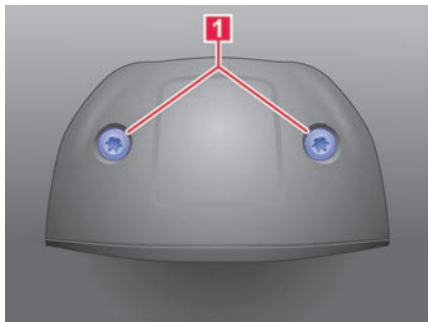
6. Replace the defective bulb with a new bulb of the same type.
7. Insert the bulb holder into the number plate light.
8. Push the clips together.

The bulb holder must be securely connected to the number plate light.

9. Carefully insert the number plate light into the opening in the door. Ensure that you put the number plate light in the right way round.
10. Use the screwdriver to screw in the securing bolts on the number plate light.

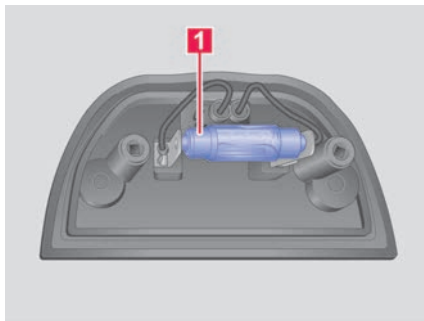
### Replacing the bulb in the number plate light (dropside)

📖 Please refer to ⚠️ and ⚠️ at the start of the chapter on page 467.



**Fig. 172** Dropside: Number plate light.

**1** Screws on the cover.



**Fig. 173** Number plate light: removing the bulb.

**1** Bulb for number plate light.

1. Follow the instructions on the checklist → page 468.
2. Use the screwdriver from the vehicle toolkit to unscrew the two screws on the number plate light → Fig. 172 **1**.
3. Remove the cover.
4. Remove the defective bulb from the base and replace it with an identical new bulb → Fig. 173 **1**.
5. Fit the cover again. Make sure the seal is correctly located.

6. Insert the two screws and tighten.
7. Stow the screwdriver and the vehicle toolkit away securely.

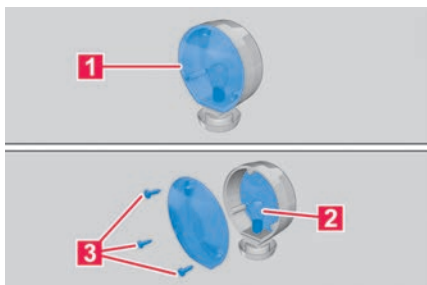
### Marker lights

📖 Please refer to ⚠️ and ⚠️ at the start of the chapter on page 467.

The LEDs cannot be replaced by customers. Consult a suitably qualified workshop.

**Additional turn signal on the roof**

📖 Please refer to ⚠️ and ! at the start of the chapter on page 467.



**Fig. 174** On the roof: additional turn signal.

- 1** Lens for additional turn signal.
- 2** Bulb for the additional turn signal.
- 3** Screws for the bulb.

1. Observe the checklist and carry out the following steps → page 468.

2. Use the screwdriver from the vehicle toolkit to unscrew the screws → Fig. 174 **3**.
3. Remove the light lens **1**.
4. Replace the defective bulb with a new bulb of the same type **2**.
5. Replace the light lens, making sure the seal is in the correct position.
6. Tighten the screws.
7. Stow the screwdriver and the vehicle toolkit away securely.

### Introduction

At the time of publication we are unable to provide an complete overview of the locations of the fuses for the electrical consumers. This is because the vehicle is under constant development, because fuses are assigned differently depending on the vehicle equipment level and because several electrical consumers may use a single fuse. You can get more information about the fuse layout from a suitably qualified workshop.

Several pieces of electrical equipment can share a single fuse. Conversely, a single consumer could have more than one fuse.

Therefore fuses should only be replaced when the cause of the fault has been rectified. If a new fuse blows again shortly after fitting, have the electrical system checked by a suitably qualified workshop as soon as possible.

### WARNING

High voltages in the electrical system can cause electric shocks, serious burns and death.

- Never touch the electrical wiring of the ignition system.
- Avoid causing short circuits in the electrical system.

### WARNING

Using unsuitable fuses, repairing fuses and bridging an electrical circuit without fuses can cause serious damage or a fire in the vehicle. This can result in serious injury or death.

- Replace fuses only with fuses with the same rating and size. Make sure that the colour and markings are identical to the defective fuse.
- Never repair fuses.
- Never use a metal strip, paper clip or similar objects to replace a fuse.

### *NOTICE*


If a fuse is replaced when the ignition is switched on, the engine is running, lights are switched on or when other electrical consumers are switched on, this can damage the electrical system.

- Switch off the engine and switch off the lights and other electrical consumers.
- Make sure that the engine cannot be started when changing a fuse.

### *NOTICE*

Dirt and moisture in the fuse boxes can damage the electrical system.

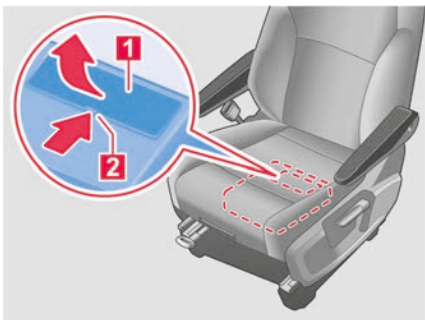
- Protect open fuse boxes against the ingress of dirt and moisture.
- Avoid causing short circuits in the electrical system.
- Check that the covers of the fuse boxes are closed tight again and are not damaged.

 This chapter does not refer to all the fuses located in the vehicle. These should be replaced only by a suitably qualified workshop.

### Fuses in the vehicle

 Please refer to  and  at the start of the chapter on page 478.

#### Opening and closing the fuse box on the left-hand seat box



**Fig. 175** Under the left seat: fuse box (illustration).

**1** fuse box cover.

**2** Catch.

#### Removing the cover

1. Move the seat all the way forward and to its highest position.
2. Press the catch rearwards with a suitable tool → Fig. 175 **2**.
3. Lift off the cover → Fig. 175 **1**.

#### Installing the cover

1. Position the fuse box cover and fold it shut until the cover audibly engages.
2. Adjust the seat.

### Fuses in the dash panel

 Please refer to  and  at the start of the chapter on page 478.

#### Opening the fuse box in the driver side footwell



**Fig. 176** In the footwell on the driver side: fuse box cover.

1. Pull the cover in the direction of the arrow → Fig. 176.
2. Remove the cover.

In some models, the fuse box can be opened by hand without tools.

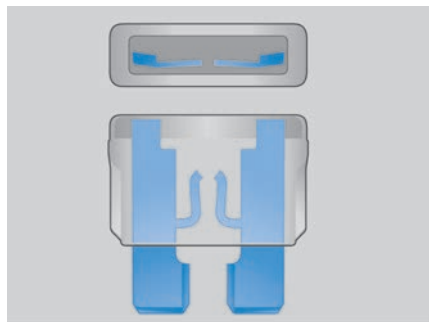
### Replacing blown fuses

📖 Please refer to ⚠️ and ! at the start of the chapter on page 478.

#### Preparations

1. Switch off the ignition, the lights and all electrical consumers.

#### Detecting a blown fuse



**Fig. 177** Blown fuse (illustration).

1. Shine a torch onto the fuse.

You can see if a fuse is blown from the top and side through the transparent housing due to the melted metal strip → **Fig. 177**.

#### Fuse types

- Standard flat blade fuse (ATO®).
- Small flat blade fuse (MINI®).
- Large flat blade fuse (MAXI® or MAXI+®).

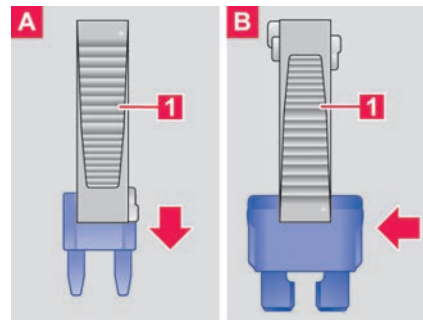
#### Colour coding of fuses

#### Fuses (ATO® - MINI® - MAXI® and MAXI+®)

*Colour Amp rating*

- Black** 1 amps
- purple** 3 amps
- light brown** 5 amps
- Brown** 7.5 amps
- Red** 10 amps
- Blue** 15 amps
- Yellow** 20 amps
- White or transparent** 25 amps
- Green** 30 amps
- Orange** 40 amps
- Red** 50 amps

#### Replacing a fuse



**Fig. 178** Removing or inserting fuse (illustration).

- 1** Plastic pliers.

#### NOTICE

You can damage another position in the electrical system by using a fuse with a higher amp rating.


- Never replace a fuse with a fuse that has a higher rating.

1. If applicable, take the plastic pliers → **Fig. 178 1** out of the fuse box cover.
2. Push the plastic grippers clip suitable for the fuse type onto

the fuse from the top

→ Fig. 178 **A** or the side

→ Fig. 178 **B**.

3. Remove the fuse.
4. If the fuse has blown, replace it with a new fuse of the same amp rating (same colour and same markings) and same size  
→ .
5. Once the new fuse has been inserted, put the plastic grippers back in the cover.
6. Insert the cover again or close the fuse box cover.

### Introduction

For technical reasons, your vehicle must not be tow-started. If the engine fails to start because the 12-volt vehicle battery is flat, the discharged battery can be connected to the 12-volt battery of another vehicle to start the engine.

In vehicles with a 12-volt vehicle battery in the vehicle interior, the jump leads must always be connected to the jump-start connection points in the bonnet space.

### WARNING

Using the jump leads incorrectly or completing the jump start procedure incorrectly can cause the 12-volt vehicle battery to explode, which can lead to serious injury or death.

- Always read and observe the warnings and safety information before carrying out any kind of work on the 12-volt vehicle battery → page 519.
- Never confuse the positive battery terminal with the negative

battery terminal or connect the jump leads incorrectly.

- Never jump start a vehicle with a frozen or thawed 12-volt vehicle battery.

### WARNING

A highly explosive mixture of gases is given off when the 12-volt vehicle battery is jump started. Sparking can cause the oxyhydrogen gas to ignite. This may result in explosions and serious or fatal injury.

- Always keep fire, sparks, naked flames and lit cigarettes away from the 12-volt vehicle battery.
- Avoid electrostatic discharge in the vicinity of the 12-volt vehicle battery.

### NOTICE

Tow-starting the vehicle can cause considerable damage to the vehicle.

- Carry out jump starting to start the vehicle.

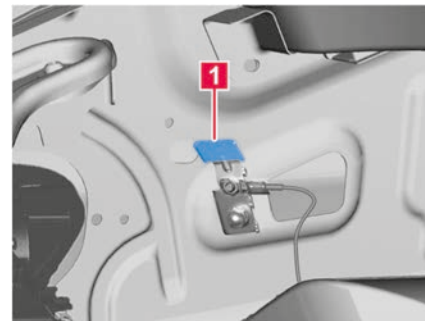
### NOTICE

A discharged 12-volt vehicle battery can already freeze at temperatures around 0°C (around +32°F) and can be damaged and fail.

- Always replace a 12-volt vehicle battery which is frozen or has been frozen.

### Jump-start connection point (earth)

 Please refer to  and  at the start of the chapter on page 482.



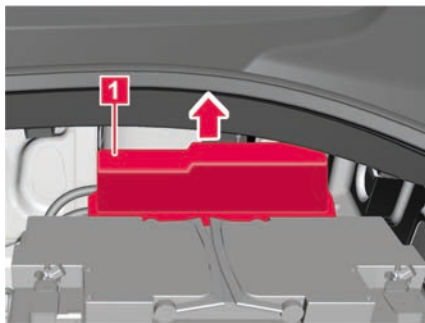
**Fig. 179** In the bonnet space: Jump-start connection point (earth).

- 1** Jump-start connection point (earth) for connecting the black jump lead.

The vehicle can be jump-started or be used to jump-start another vehicle via the jump-start connection point (earth) → Fig. 179.

### Jump-start connection point (plus)

📖 Please refer to ⚠ and ! at the start of the chapter on page 482.



**Fig. 180** Under a cover on the left-hand side of the bonnet space: Jump-start connection point (plus).

- 1** Jump-start connection point (plus) for connecting the red jump lead.

The vehicle can be jump-started or be used to jump-start another vehicle via the jump-start connection point (plus).

### Jump starting preparations and procedure

📖 Please refer to ⚠ and ! at the start of the chapter on page 482.

#### NOTICE

A discharged 12-volt vehicle battery can already freeze at temperatures around 0°C (around +32°F) and can be damaged and fail.

- Always replace a 12-volt vehicle battery which is frozen or has been frozen.

### Preparations

Observe the following information when carrying out jump starting:

- ✓ Wear suitable eye protection and protective gloves → ⚠.
- ✓ Observe the jump lead manufacturer's instructions.
- ✓ Open the bonnet.
- ✓ Always use jump leads with fully insulated terminal clamps and intact insulation for jump starting → ⚠.
- ✓ Ensure that there is sufficient distance between the vehicle giving the jump start and the vehicle receiving the jump start, as any contact could mean that electricity could flow as soon as the positive battery terminals are connected.
- ✓ Ensure that the battery clamps have good metal-to-metal contact with the battery terminals.

### Jump leads

Suitable jump leads are required to provide and receive jump starts.

The cable cross-section of the jump leads must be at least 25 mm<sup>2</sup> (0.038 in<sup>2</sup>). For vehicles

with a diesel engine, the cable cross-section of the jump leads must be at least 35 mm<sup>2</sup> (0.054 in<sup>2</sup>).

#### Vehicle receiving jump starting assistance

1. Check that the discharged 12-volt vehicle battery is properly connected to the 12-volt electrical system.
2. If the fitted 12-volt vehicle battery has a battery window, check the colour of the window. If the battery window is light yellow or colourless, do not jump start the vehicle. Seek expert assistance.

#### Vehicle providing jump starting assistance

1. Observe the owner's manual issued by the vehicle manufacturer.
2. Check that the vehicle battery providing assistance has the same voltage (12 volts) and approximately the same capacity as the discharged 12-volt vehi-

cle battery. Check the label on the vehicle battery of the vehicle giving the jump start.

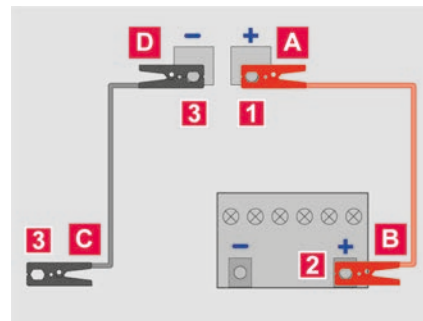
#### **⚠ WARNING**

Jump starting the vehicle incorrectly can cause the 12-volt vehicle battery to explode, which can lead to serious injuries or death.

- Always wear suitable eye protection and protective gloves.
- Never bend over the 12-volt vehicle battery.
- Always connect the positive cable first, followed by the negative cable.
- Never connect the negative lead to parts of the fuel system or to the brake lines.
- Make sure that there is no contact between the non-insulated parts of the terminal clamps.
- Make sure that the cable insulation is intact.
- Ensure that the lead attached to the positive terminal on the 12-volt vehicle battery does not

touch any electrically conductive parts of the vehicle.

#### Jump starting




**Fig. 181** How to connect the jump leads.

- 1** Jump-start connection point (positive) on the vehicle being jump-started.
- 2** Positive battery terminal on the vehicle that is giving the jump start.
- 3** Suitable earth connection: Preferably the jump-start connection point (earth connection), otherwise a solid metal part that is securely

bolted onto the cylinder block, or the cylinder block itself.


The jump leads must be connected only in the order A – B – C – D

→ Fig. 181.

1. Switch off the ignition in both vehicles.
2. If present, fold open the cover of the positive jump-start connection point (+)  
→ Fig. 181 **1**, → .
3. Connect one end of the red jump lead to the positive jump-start connection point (+) in the vehicle with the discharged 12-volt vehicle battery.
4. Connect the other end of the red jump lead to the positive terminal (+) of the vehicle providing assistance  
→ Fig. 181 **2**.
5. Connect one end of the black jump lead preferably to a ground jump-start connection point (-) → Fig. 181 **3** on the

vehicle with the 12-volt vehicle battery that is supplying power.

**Or:** if there is no earth jump-start connection point (-), connect the end of the black jump lead to a solid metal part that is bolted securely to the cylinder block or to the cylinder block itself on the vehicle with the 12-volt vehicle battery that is supplying power → Fig. 181 **3**.

6. Connect the other end of the black jump lead to the earth jump-start connection point (-) on the vehicle with the discharged 12-volt vehicle battery  
→ Fig. 181, → .

**Or:** if there is no earth jump-start connection point (-), connect the end of the black jump lead to a solid metal part that is bolted securely to the cylinder block or to the cylinder block itself on the vehicle with the discharged 12-volt vehicle battery  
→ Fig. 181 **3**.

7. Position the leads in such a way that they cannot come into contact with any moving parts in the bonnet space.

### Starting the engine

1. Start the engine of the vehicle providing assistance and let it run at idle.
2. Wait a few minutes and then start the engine of the vehicle with the discharged 12-volt vehicle battery. If the engine does not start immediately, switch off the starter after about 10 seconds and try again after about 1 minute.

Please contact an expert if the vehicle's engine still will not start.

### Removing the jump leads

1. Before disconnecting the jump leads, switch off the dipped beam headlights.
2. Turn on the air conditioning system or the heating and fresh air system blower and the rear window heating in the vehicle with the discharged 12-volt ve-

hicle battery. This helps to minimise voltage peaks which are generated when the leads are disconnected.

3. When the engines are running, the jump leads should be removed only in the order D – C – B – A → **Fig. 181**.
4. If fitted, close the cover to the positive jump-start connection point (+) or the positive terminal on the 12-volt vehicle battery.
5. After jump starting, have the 12-volt vehicle battery checked by a suitably qualified workshop.

## Introduction

Towing requires experience, especially when using a tow-rope. Both drivers should be familiar with the technique required for towing. Inexperienced drivers should not attempt to tow.

Observe any legal requirements when towing.

Make sure that no excessive pulling forces occur and take care to avoid jerking movements. When towing offroad, there is always a risk of overloading the anchorage points.

## WARNING

If a vehicle is being towed, the vehicle handling and braking effect will change significantly. This can lead to loss of control of the vehicle. This can result in accidents and serious or fatal injury.

- Please note that more force is needed for steering and braking during towing.

## WARNING

If the vehicle key is removed from the ignition lock during towing, the steering lock may engage suddenly. The steering wheel can then no longer be moved. This can result in accidents and serious or fatal injury.

- Never remove the vehicle key from the ignition lock during towing.

## *NOTICE*

When pushing the vehicle by hand, the tail light clusters, side spoilers on the rear window and large panels can be damaged. The rear spoiler can become detached.

- When pushing the vehicle by hand, do not press on the tail light clusters, side spoilers on the rear window, large panels and the rear spoiler.

## Towing

Towing is where a vehicle that cannot be driven is pulled with the aid of another vehicle.

The vehicle can be towed with a tow-bar or a tow-rope  
→ page 488.

- The maximum permitted speed is 50 km/h (approx. 30 mph).
- The maximum permitted distance is 50 km (approx. 30 miles).

It is easier and safer to tow a vehicle with a tow bar. Only use a tow rope if you do not have a tow bar. The tow rope should be slightly elastic to reduce the strain on both vehicles. A tow-rope made of synthetic fibre or similarly elastic material is suitable for this.

### Towing with a breakdown truck

If the vehicle is to be raised at one axle for towing, the vehicle must be raised only at the front axle.

**⚠ WARNING**

If the tow-ropes or tow-bars are incorrectly fastened, vehicle parts may be seriously damaged. This increases the risk of an accident and serious or injuries could result.

- Attach the vehicle only at the points provided for recovery and towing.
- Never fasten the tow-rope or tow-bar to axle or running gear components.
- Seek expert assistance and have the vehicle transported on a breakdown truck if necessary.

**Notes on towing**

📖 **Please refer to ⚠ and ! at the start of the chapter on page 487.**

It is still possible to activate the turn signals in a vehicle that is being towed, even if the hazard warning lights are switched on. To do this, operate the turn signal lever in the required direction while the ig-

inition is switched on. The hazard warning lights will not flash while the turn signal is being used. The hazard warning lights will start flashing automatically as soon as the turn signal lever is moved back to the neutral position.

**In which situations may the vehicle not be towed?**

If one of the following situations applies, do not tow the vehicle with a tow-bar or tow-rope.

- The 12-volt vehicle battery is discharged.
- The instrument cluster display does not work properly.
- The distance to be towed is further than 50 km (around 30 mi).
- *In vehicles with a manual gearbox:* In vehicles with a manual gearbox, the clutch cannot be depressed fully and neutral selected.
- *In vehicles with an automatic gearbox:* The selector lever of the automatic gearbox cannot be moved to neutral (N position).

- The handbrake cannot be released.
- The steering lock cannot be released.
- The vehicle's gearbox is damaged or does not contain any lubricant.
- If the steering function or the operating clearance of the wheels cannot be ensured after an accident.

If the vehicle cannot be towed on its own wheels due to one of the above conditions, seek expert assistance and have the vehicle transported on a breakdown truck if necessary.

**Towing**

📖 **Please refer to ⚠ and ! at the start of the chapter on page 487.**

Attach the tow-rope or the tow-bar only to the points provided for this purpose:

- Towing eye.

- Ball coupling.

### WARNING

If the tow-ropes or tow-bars are incorrectly fastened, vehicle parts may be seriously damaged. This increases the risk of an accident and serious or injuries could result.

- Attach the vehicle only at the points provided for recovery and towing.
- Never fasten the tow-rope or tow-bar to axle or running gear components.
- Seek expert assistance and have the vehicle transported on a breakdown truck if necessary.

### Preparations

- Ensure that the tow-rope is not twisted. Otherwise a towing eye may become unscrewed during towing.
- Switch on the ignition and hazard warning lights on both vehicles. However, observe any regulations to the contrary.

- Observe the legal requirements and instructions for towing in the vehicle wallet of the other vehicle.

### Pulling vehicle (front)

1. The tow-rope must be taut before you drive off properly.
2. Press the accelerator with particular care.
3. Avoid sudden braking and driving manoeuvres.
4. *In vehicles with a manual gearbox:* Engage the clutch very smoothly when driving off.
5. Do not exceed the maximum permitted trailer weight.

### Pulled vehicle (rear)

#### NOTICE

If the charge level of the 12-volt vehicle battery is not sufficient, it will not be possible to release the steering lock. This can cause damage to the vehicle during towing.

- To release the steering lock, activate the vehicle's drive system

by jump starting if necessary in the event of power failure or faults.

- Seek expert assistance and have the vehicle transported on a breakdown truck if necessary.
- 
1. Make sure that the ignition is always switched on so that the steering wheel is not locked and the turn signals and the wipers can be operated if necessary. The brake servo and power steering function only when the engine is running. Otherwise you must press the brake pedal with significantly more force and also use more effort for steering.
  2. Ensure that the vehicle key is always in the vehicle during towing.
  3. *In vehicles with a manual gearbox:* Disengage the gear.  
  
*In vehicles with an automatic gearbox:* Select gear selector position **N**.
  4. Release the handbrake.

5. Ensure that the tow-rope is always taut.

### Fitting the rear towing eye

📖 Please refer to ⚠️ and ⚠️ at the start of the chapter on page 487.

On vehicles with factory-fitted towing bracket, there is no fixed towing eye under the bumper cover. For towing, swing out or fit the ball coupling or use the permanently mounted ball coupling.

### NOTICE

If you use an unsuitable tow-bar, the ball coupling and the vehicle could be damaged.

- Only use a tow-bar that is designed specifically to be fitted on a ball coupling.
- Use a tow-rope for towing if you do not have access to a suitable tow-bar.

### Fitting the towing eye at front

📖 Please refer to ⚠️ and ⚠️ at the start of the chapter on page 487.

Depending on the country and vehicle equipment, the mounting for the towing eye is located behind the cover in the bumper.

1. Before towing, check whether a mounting with screw thread is available for the towing eye.
2. Comply with the notes on towing.
3. If this is not the case, seek technical assistance for towing and have the vehicle transported on a breakdown truck if necessary.

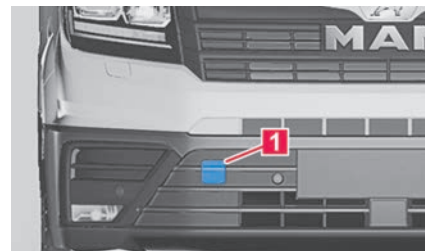
The towing eye must always be kept in the vehicle.

### NOTICE

Use of a towing eye that is not suitable for the vehicle can damage the vehicle.

- Always use the towing eye supplied in the vehicle toolkit of your vehicle or a suitable towing eye for towing.

### Fitting the towing eye at front



**Fig. 182** In the front right bumper: Remove the cover.

### ⚠️ WARNING


If the towing eye is not screwed fully and securely into the mounting, it may be wrenched out of the mount. This can result in accidents and severe injuries when towing.

- Before starting towing, check that the towing eye is fully screwed in.

**NOTICE**

Improper removal and installation of the cover and towing eye can damage the vehicle's paint and bodywork.


- Always take care when removing and installing the cover and the towing eye.

1. Take the towing eye from the toolbox.
2. To release the catch on the cover, press the marked area of the cover in the direction of the arrow → **Fig. 182**.
3. Remove the cover, allow it to hang on the vehicle or place it in the vehicle if necessary.
4. Screw the towing eye anti-clockwise into the threaded hole and tighten as far as possible → **Fig. 182** , → . Use a suitable object to screw the towing eye fully and securely into the mounting.
5. After you have finished towing, remove the towing eye by un-

screwing it with a suitable object clockwise.

6. Insert the cap in the respective recess and press in until it engages.
7. If necessary, clean the towing eye and place it back in the vehicle toolkit.

#### Safety notes for working in the bonnet space

The bonnet space of a vehicle is a hazardous area. You should only carry out work in the bonnet space if you know exactly how to perform the required tasks, are aware of the general safety procedures and have access to the correct equipment, service fluids and suitable tools. Failing to carry out work correctly can cause serious injuries → . Have all necessary work carried out by a suitably qualified workshop.

#### WARNING

The bonnet space is a hazardous area. Accidents and serious or fatal injuries can occur during all work in the bonnet space.

- Always take care and exercise extreme caution during all work.
- Carry out work in the bonnet space only if you are familiar with the necessary actions.

- Have the necessary work carried out by a suitably qualified workshop if you are unsure how to carry out work in the bonnet space.
- Before starting work in the bonnet space, apply the handbrake fully and move the selector lever to the **P** position or move the gear lever to the neutral position.
- Switch off the ignition and keep the vehicle key in a safe place far enough away from the vehicle to prevent any risk of the engine being switched on accidentally.
- Never touch hot engine components.
- Always ensure you have not left any objects, such as cleaning cloths and tools, in the bonnet space.
- Always keep children away from the bonnet space and never leave children unsupervised.

#### WARNING

The bonnet space contains rotating parts. When working in the bonnet space, particularly if the engine is started or running, contact with rotating parts, e.g. rotor blades of the radiator fan, can cause serious or fatal injuries.

- Even when the engine or ignition is switched off, never reach into the radiator fan or in the area of the radiator fan. The fan is temperature-controlled and can start automatically.
- Before starting work, remove any jewellery and ties, tie up long hair and pull clothes in tightly to avoid them getting caught in the engine.
- Always exercise due care and attention when depressing the accelerator. The vehicle could move even if the handbrake is applied.

**⚠ WARNING**

Escaping hot steam or coolant can cause serious burns, as can hot engine parts.

- Never open or close the bonnet as long as steam or coolant is escaping.
- Always wait until you can no longer see or hear steam or coolant coming from the bonnet space.

**⚠ WARNING**

The cooling system is under pressure when the engine is hot. If the cover is opened without due care, engine coolant can spray out and cause severe burns or fatal injuries.

- Never open the cap of the coolant expansion tank when the engine is hot.
- If you have to open the coolant tank cover, always protect your face, hands and arms from hot coolant or steam with a large, thick cloth.

- Turn the cap of the coolant expansion tank slowly and very carefully anti-clockwise while exerting slight downwards pressure on the cap.

**⚠ WARNING**

Additional insulating materials, e.g. blankets in the bonnet space or objects left in the bonnet space, e.g. cleaning cloths or tools, can cause malfunctions, damage to the engine and fire. This can result in serious injury or death.

- Never cover the engine with blankets or other insulating materials.
- Never leave any objects in the bonnet space.

Always park the vehicle on a level and stable surface before carrying out any work in the bonnet space

**⚠ WARNING**

Unintended vehicle movements may occur if the vehicle is not se-

cured to prevent it from rolling away during maintenance work. This may result in accidents and serious or fatal injury.

- Deactivate the start/stop system manually. Never work underneath a vehicle if it is not adequately secured against rolling away.
- Never work underneath a vehicle if it is not properly secured to prevent it from rolling away.
- Make sure that the vehicle is on a horizontal and firm surface and that the wheels are blocked when working under the vehicle while the wheels are touching the ground.
- If you intend to work underneath the vehicle, use suitable stands to provide support for the vehicle securely. The vehicle jack is not sufficient for this task and can fail.

**⚠ WARNING**

High voltage in the electrical system can cause electric shocks and

burns. This can result in serious injury or death.

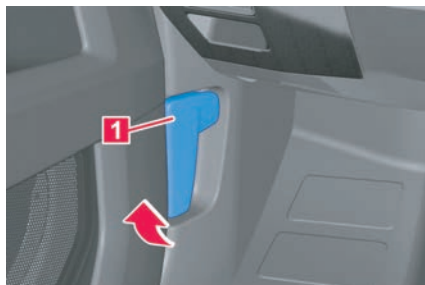
- Never short circuit the electrical system. The 12-volt vehicle battery can explode.

### Preparing the vehicle for working in the bonnet space

The following steps should always be carried out in the given order before working in the bonnet space:

1. Park the vehicle safely on a horizontal and firm surface → page 260.
2. If necessary, remove the vehicle key from the vehicle and keep it in a separate location so that the vehicle cannot be started accidentally.
3. Allow the engine to cool sufficiently.
4. Always keep other persons away from the bonnet space.
5. Secure the vehicle against rolling away.

### Opening and closing the bonnet



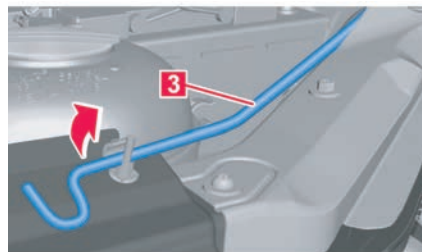
**Fig. 183** In the left-hand footwell: Opening the bonnet (illustration).

- 1 release lever.



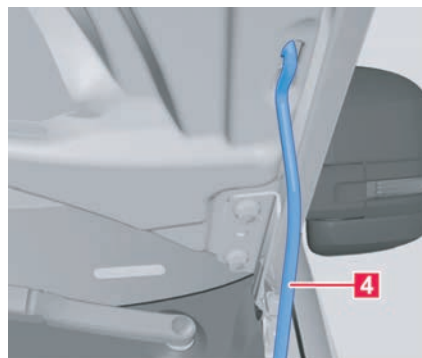
**Fig. 184** Above the radiator grille: Lever for opening the bonnet.

- 2 Opening lever.



**Fig. 185** In the bonnet space: bonnet stay in the holder.


- 3 Bonnet stay.




**Fig. 186** On the bonnet: mount for the bonnet stay.

- 4** Bonnet stay in the bonnet mount.

### Opening the bonnet

1. Please ensure that the wiper arms are positioned on the windscreen before opening the bonnet → .
2. Open the front left door and pull the release lever in the direction of the arrow → Fig. 183

**1**.

The bonnet is released from the lock carrier catch by spring force → .


3. To open the bonnet completely, lift the bonnet slightly and simultaneously press the opening lever in the direction of the arrow → Fig. 184 **2**.
4. Take the bonnet stay out of the holder → Fig. 185 **3** in the direction of the arrow and insert it into the opening → Fig. 186

**4**.

### Closing the bonnet

1. Lift the bonnet slightly and hold it.
2. Unhook the bonnet stay from the opening → Fig. 186 **4** and clip it into the holder → Fig. 185 **3**.
3. Let the bonnet drop into the catch from a height of about 20 cm – *do not* press it down!

If the bonnet has not closed properly, open it and then close it again.

The bonnet is flush with the surrounding bodywork when it is closed properly → .

### WARNING

If the bonnet is not closed properly, it can open suddenly while you are driving and completely obscure your view of the road. This can result in accidents and serious or fatal injury.

- After closing bonnet, always check that the catch is properly engaged in the lock carrier.

- If you notice while driving that the bonnet is not closed properly, park the vehicle safely and close the bonnet.

### WARNING

Careless opening and closing of the bonnet can lead to serious injuries.

- Open or close the bonnet only when there is no-one in its movement path.

### NOTICE

Opening and closing the bonnet incorrectly can damage the bonnet or the wiper arms.


- Open the bonnet only when the wiper arms are flush to the windscreen and when they are switched off.
- Always fold the wiper arms back onto the windscreen before driving away.

#### Display

A symbol on the instrument cluster display indicates if the bonnet is open or is not closed properly  
→ Fig. 187.



**Fig. 187** On the display of the instrument cluster: The bonnet is open or not properly closed (illustration).

1.  **Do not drive on!**
2. If necessary, lift the bonnet and then close it again.

This symbol remains visible when the ignition is switched off and will go out a few seconds after the vehicle has been locked when all doors are closed.

#### WARNING

Failure to observe displayed warnings can lead to your vehicle breaking down in traffic and can cause accidents, serious injuries and even death.

- Never ignore warnings.
- Stop the vehicle as soon as it is possible and safe to do so.
- Do not drive on and seek expert assistance if the warning lamp does not go out.



The symbol can differ depending on the version of the instrument cluster.

All service fluids and consumables, e.g. coolant, vehicle batteries and engine oils, are being constantly developed.

1. Service fluids and consumables should be replaced by a suitably qualified workshop.

### WARNING

If work is performed on the fuel system, fires and serious or fatal injuries can be caused by electrical discharge and flying sparks.

- Always disconnect the 12-volt vehicle battery.
- Always have a fully functional and tested fire extinguisher to hand.
- Make sure that the vehicle is unlocked when the 12-volt vehicle battery is disconnected as otherwise the anti-theft alarm will be activated.

### WARNING

Service fluids may be toxic. Incorrect use and storage can cause serious or fatal injuries.

- Store service fluids only in the closed original container.
- Never store service fluids in empty food containers, bottles or any other non-original containers as people finding these containers could drink them.
- Keep children away from all service fluids and consumables.
- Always observe and follow the information and warnings on the service fluid packaging.
- When using products that give off harmful fumes, always work outdoors or in a well-ventilated area.

### WARNING

Service fluids and some materials in the bonnet space are easily flammable and can ignite if they come into contact with hot surfaces, sparks or naked flames. This can

lead to a fire and cause serious or fatal injuries.

- Never smoke in the vicinity of the bonnet space.
- Never work in the vicinity of sparks or naked flames.
- Never work in the direct proximity of heating systems, water heaters or any other naked flames.
- Never spill service fluids onto the engine.
- Always have a fully functional and tested fire extinguisher to hand.

### *NOTICE*

Use of service fluids that do not correspond to the specification can cause serious malfunctions and damage the engine.

- When refilling or replacing service fluids, ensure that the service fluids correspond to the respective specification.
- Fill service fluids only into the filler openings intended for them.



Service fluids leaks are harmful to the environment.

- Regularly check the ground underneath the vehicle.
  - If there are patches of oil or other fluids on the ground, the vehicle should be inspected by a suitably qualified workshop.
  - Any spilt service fluids must be disposed of properly and with respect to environmental legislation.
-






**Fig. 188** In the bonnet space: washer fluid reservoir cap.

The windscreen washer fluid level should be checked regularly and topped up as necessary.

A filter can be found in the feed throat of the washer fluid reservoir. The strainer keeps larger dirt particles away from the washer jets when refilling. The filter should only be removed for cleaning. If the filter is damaged or cannot be found when refilling, dirt particles will reach the system and will block the washer jets.

- Open the bonnet  → page 494.

- The washer fluid reservoir is identified by the  symbol on the cap → Fig. 188.
- Check whether there is enough windscreen washer fluid in the reservoir.
- To top up, mix clean water (not distilled water) with a windscreen washer fluid recommended by MAN → . Observe the dilution instructions on the packaging.
- At low outside temperatures, add a special anti-freeze agent so that the fluid cannot freeze → .

### WARNING

Unsuitable additives in the washer fluid can leave an oily film on the vehicle windows. This can reduce visibility and increase the risk of accidents and can cause serious or fatal injuries.

- Never mix coolant additive or other unsuitable additives into the washer fluid.

### NOTICE

Use of an acidic cleaning agent can lead to damage and to failure of the washer jets.

- Never fill an acidic cleaning agent, e.g. a vinegar-based cleaner, into the washer fluid reservoir.

### NOTICE

Mixing different windscreen washer fluids can lead to flocculation of ingredients in the fluid and cause clogging of the washer jets.

- Use only suitable alcohol-based windscreen washer fluids.
- Never mix different windscreen washer fluids with each other.

### NOTICE

When refilling windscreen washer fluid, dirt particles can enter the washer fluid reservoir if the strainer is damaged or not present. The washer jets could become clogged.

- Remove the strainer only for cleaning.
  - Replace the strainer if it is damaged or missing.
-

**Introduction**

Engine oils are matched to the requirements of the engines, the emission purification systems, and the fuel quality. Due to the operating principle of combustion engines, engine oil always comes into contact with combustion residues and fuel, which has corresponding effects on the ageing process of the engine oil. The correct engine oil is important for the function and service life of the engine. A special multigrade high-lubricity oil has been filled at the factory and this can normally be used as an all-season oil.

Information on warning and indicator lamps that light up can be found in the troubleshooting sections at the end of the chapter → page 506.

**WARNING**

Engine oil becomes extremely hot when the engine is running. If engine oil is handled without due care, this can cause serious burns

to the body. This can result in serious injury or death.

- Always allow the engine to cool down before performing any work with engine oil.

**WARNING**

Engine oil is toxic. Contact with engine oil, and especially ingestion of engine oil, can cause serious or fatal injuries.

- Seek medical attention immediately after swallowing engine oil.
- Seek medical attention if you have health problems after working with engine oil.
- Always keep engine oil out of the reach of children and only in the original sealed container. This also applies to used oil until it is disposed of.
- Never store engine oil in empty food containers, bottles or any other non-original containers as people finding these containers may then drink the engine oil.

- Avoid regular contact with engine oil to avoid damaging the skin.
- Protect skin, face and especially eyes while working with engine oil.
- Do not eat, drink or smoke when working with engine oil.
- Wash your skin with soap and water after working with engine oil.



Leaking or spilt engine oil can pollute the environment.

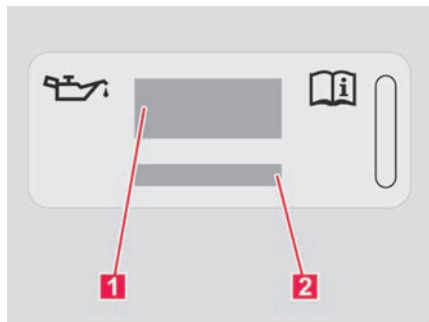
- Collect any service fluids that escape or are spilled and dispose of them in a proper and environmentally responsible manner.

### Engine oil standards

📖 Please refer to ⚠️ on page 492 and ⚠️ at the start of the chapter on page 501.

### Vehicles with an engine oil sticker

If you need to add engine oil, use an oil with the prescribed engine oil standard and engine oil viscosity → Fig. 189.



**Fig. 189** Sticker for engine oil standard and engine oil viscosity (illustration).

- 1** Information on the engine oil standard.
- 2** Information on the engine oil viscosity.

The sticker with the prescribed standard is located at the front of the engine compartment on the side next to the bonnet release mechanism → Fig. 190 **1**.



**Fig. 190** Location: On the side next to the bonnet release mechanism (illustration).

- 1** On the side next to the bonnet release mechanism.

If the prescribed engine oil → Fig. 189 is used, the engine oil level can be corrected as often as necessary → page 504.

### Vehicles without an engine oil sticker

Information on the prescribed engine oil standard and engine oil viscosity can be obtained from a suit-

ably qualified workshop. If the engine oil needs to be topped up, use an engine oil with the prescribed engine oil standard and engine oil viscosity. If the prescribed engine oil is used, the engine oil level can be corrected as often as necessary. → page 504.

If no engine oil is available according to the prescribed standard, in an emergency you may top up once with a maximum of 0.5 l of the following, deviating standards until the next regular oil change: Standards VW 507 00 and ACEA C3, ACEA C4 or API CK-4. All viscosity classes of these standards are permitted.

MAN recommends having the work carried out by a suitably qualified workshop.

### NOTICE



Using engine oils that are not approved under the respective standard can cause engine damage.

- When refilling, use only engine oils that satisfy the quality re-

quirements of the relevant applicable standard.

- In an emergency, you may top up with a maximum of 0.5 l (0.5 qt) of engine oil that does not comply with the standard.

### Changing engine oil

 Please refer to  on page 492 and  at the start of the chapter on page 501.

The engine oil must be changed regularly and in accordance with the service interval.

Additives in the engine oil can cause new engine oil to discolour quickly. This is normal and does not mean that the engine oil should be changed more frequently.

### WARNING

Engine oil can cause environmental damage, severe burns or a fire if the engine oil is changed carelessly. This can result in serious injury or death.

- Always allow the engine to cool down completely before changing the engine oil.
- Always wear eye protection when changing engine oil.
- Keep your arms horizontal when unscrewing the oil drain plug with your fingers to prevent the emerging oil from running down your arm.
- Use a suitable container when draining the used oil. It must be at least large enough to hold the entire filling quantity of engine oil.
- Always keep engine oil out of the reach of children and only in the original sealed container. This also applies to used oil until it is disposed of.
- Never store engine oil in empty food containers, bottles or any other non-original containers as people finding these containers may then drink the engine oil.
- Avoid regular contact with engine oil to avoid damaging the skin.
- Protect skin, face and especially eyes while working with engine oil.
- Do not eat, drink or smoke when working with engine oil.
- Wash your skin with soap and water after working with engine oil.

### WARNING


Engine oil is toxic. Contact with engine oil, and especially ingestion of engine oil, can cause serious or fatal injuries.

- Seek medical attention immediately after swallowing engine oil.
- Seek medical attention if you have health problems after working with engine oil.




### NOTICE

Oil and filter changes require special tools and expert knowledge. Vehicle damage can result if this work is not carried out correctly.

- You should always have engine oil and filter changes performed by a suitably qualified workshop.

 Dispose of the engine oil in an environmentally responsible manner and only at a collection point for used oil, e.g. a recycling centre or specialist company.


#### Engine oil consumption

 Please refer to  on page 492 and  at the start of the chapter on page 501.




Engine oil consumption can vary from engine to engine and can change during the working life of an engine.

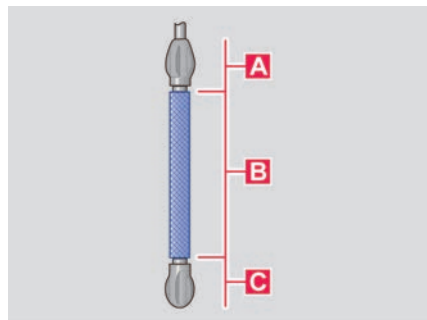
The vehicle may consume up to 1 litre of engine oil per 2,000 km, depending on how you drive and the conditions in which the vehicle is used. In new vehicles, consumption is likely to be higher for the first 5,000 km. The engine oil level must therefore be checked at regu-

lar intervals, preferably when refuelling and before long journeys.

When the engine is working hard, the engine oil level must be in the upper permissible area → page 504 , for instance during extended motorway journeys in summer, when towing a trailer or when climbing mountain passes.

#### Checking the engine oil level and refilling engine oil

 Please refer to  on page 492 and  at the start of the chapter on page 501.



**Fig. 191** Oil dipstick with level marking.






- A** Engine oil level too high – observe the messages on the instrument cluster display or seek expert assistance.
- B** Engine oil level within normal range.
- C** Engine oil level too low – follow the messages in the instrument cluster display or add engine oil, if necessary.




**Fig. 192** In the bonnet space: engine oil filler opening cap (illustration).

Carry out the steps in the specified order → , → :

- To ensure that the engine oil reading is correct, park the ve-

- hicle on a level surface with the engine at operating temperature.
2. Switch off the engine and wait at least 5 minutes for the engine oil to flow back into the sump.
  3. Open the bonnet  → page 494.
  4. Identify the engine oil filler cap and oil dipstick. The oil filler neck can be recognised by the  → Fig. 192 symbol on the cap and the oil dipstick by its coloured handle. If you cannot find the cap and oil dipstick, please contact a suitably qualified workshop.
  5. Pull the dipstick out of the guide tube and wipe it off with a clean cloth.
  6. Insert the oil dipstick into the guide tube again as far as it will go. If there is a marking on the oil dipstick, this marking must fit in the corresponding groove at the top end of the guide tube when inserting.
  7. Pull out the oil dipstick again and read the engine oil level on the dipstick as follows → Fig. 191:
    - A** Engine oil level too high. Observe the messages on the instrument cluster display or seek expert assistance as necessary → .
    - B** Engine oil level within normal range. Engine oil can be filled to the upper limit of this range, e.g. when the engine is subjected to high loads → page 501, → page 504. Continue to step 8 or 16.
    - C** Engine oil level is too low. Where applicable, follow any messages that are shown on the instrument cluster display and make sure you add engine oil. Continue to step 8.
  8. After reading off the engine oil level, push the oil dipstick back into the guide tube as far as it will go.
  9. Unscrew the engine oil filler opening cap → Fig. 192.
  10. Gradually add engine oil in small quantities, no more than 0.5 l in total, or follow the recommendation in the instrument cluster. MAN recommends the use of approved engine oils in accordance with the relevant standard.
  11. In order to avoid overfilling, wait for at least 1 minute after each refill step to allow the engine oil to flow into the oil sump up to the marking on the engine oil dipstick.
  12. Read the engine oil level from the dipstick again before refilling with a further small quantity of engine oil. Never overfill with engine oil → .
  13. After filling, the engine oil level should be in the middle of the area → Fig. 191 **B**. The engine oil level must not be in area → Fig. 191 **A** → .
  14. If too much engine oil has been added unintentionally and the

engine oil level is in area  
→ **Fig. 191 A**, do not start the engine. Seek expert assistance.

15. After refilling, screw the engine oil filler cap back on.
16. Insert the oil dipstick into the guide tube as far as it will go. If there is a marking on the upper end of the oil dipstick, this marking must fit in the corresponding groove at the top end of the guide tube when inserting.
17. Close the bonnet  → page 494.

#### **WARNING**

When adding engine oil, the engine oil can run out or overflow and ignite if it comes into contact with parts of the engine that are hot or can become hot. This can cause fires or burns. This can result in serious injury or death.

- Always ensure that the engine oil filler cap is securely tightened after refilling, and that the

dipstick is properly inserted back into the guide tube.

- Always use a suitable filling aid when adding engine oil.

#### **NOTICE**

If the engine oil level is too high after topping up and the engine is started, this can damage the engine.




- Do not start the engine and seek qualified professional assistance.

#### **NOTICE**

The use of incorrect service fluids could result in serious malfunctions and engine damage.


- When refilling service fluids, ensure that you pour the correct service fluids into the correct openings.

#### **Troubleshooting**

 **Please refer to  on page 492 and  at the start of the chapter on page 501.**

#### **Engine oil pressure too low**


The warning lamp flashes red. A message is shown on the instrument cluster display.

 **Do not drive on!** The engine could otherwise be damaged.

1. Stop the vehicle as soon as possible and when safe to do so.
2. Switch off the engine.
3. Check the engine oil level → page 504.
4. Do not drive on or leave the engine running if the warning lamp is flashing even when the engine oil level is correct. The engine could otherwise be damaged. Seek expert assistance.

**Engine oil level very low**

The warning lamp flashes red. A message is shown on the instrument cluster display.

 **Do not drive on!** The engine could otherwise be damaged.

1. Stop the vehicle as soon as possible and when safe to do so.
2. Switch off the engine.
3. Check the engine oil level → page 504.
4. If required, top up the engine oil gradually in small quantities, using no more than 0.5 l (0.5 qt) in total.
5. Do not drive on or leave the engine running if the warning lamp is lit even though the engine oil level is correct. The engine could otherwise be damaged. Seek expert assistance.

**Engine oil level too low**

The indicator lamp lights up yellow. A message is shown on the instrument cluster display.

1. Stop the vehicle as soon as possible and when safe to do so.
2. Switch off the engine.
3. Check the engine oil level → page 504.
4. If required, top up the engine oil gradually in small quantities, using no more than 0.5 l (0.5 qt) in total.
5. Do not drive on or leave the engine running if the indicator lamp is lit even though the engine oil level is correct. The engine could otherwise be damaged. Seek expert assistance.

**Engine oil level too high**

The indicator lamp lights up yellow. A message is shown on the instrument cluster display.


1. Stop the vehicle as soon as possible and when safe to do so.
2. Switch off the engine.
3. Check the engine oil level → page 504.
4. If the engine oil level is too high, do not drive on or allow the engine to run. The engine could otherwise be damaged. Seek expert assistance.

**Fault in the engine oil system**

The indicator lamp flashes yellow. A message is shown on the instrument cluster display.

1. Seek expert assistance.

### Introduction

Do not work on the cooling system unless you are familiar with the task, aware of the applicable safety procedures and have the correct equipment, service fluids and suitable tools. Failing to carry out work correctly can cause serious injuries → . Have all necessary work carried out by a suitably qualified workshop.

Information on warning and indicator lamps that light up can be found in the troubleshooting sections at the end of the chapter → page 512.

### WARNING

Coolant is toxic. Serious or fatal injuries can be caused by contact with coolant, particularly if coolant is swallowed.

- Seek immediate medical attention after swallowing coolant.
- Seek medical attention if you experience health problems after working with coolant.

- Always keep coolant out of the reach of children and only in the closed original container.
- Never store coolant in empty food containers, bottles or any other non-original containers as people finding these containers may then drink the coolant.
- Avoid regular contact with coolant to prevent damage to the skin.
- Protect your skin, face and especially your eyes when working with coolant.
- Do not eat, drink or smoke when working with coolant.
- Wash your skin with soap and water after working with coolant.

### WARNING

Coolant can freeze at extremely cold outside temperatures, causing the vehicle to break down. This may mean that heating in the vehicle no longer works. Vehicle occupants with inadequate winter clothing could then freeze to death.




- Make sure that the quantity of coolant additive is adjusted to the lowest expected ambient temperature at which the vehicle will be operated.
- Use only coolant additives that have been approved by the manufacturer.



Coolant and coolant additives can pollute the environment.

- Collect any service fluids that escape or are spilled and dispose of them in a proper and environmentally responsible manner.


### Coolant specification

 Please refer to  on page 492 and  at the start of the chapter on page 508.

The cooling system is filled at the factory with a mixture of specially prepared water and at least 40% G12evo coolant additive (TL VW 774 L).

The proportion of coolant additive must *always* be at least 40% to protect the cooling system. If greater frost protection is required in very cold climates, the proportion of anti-freeze additive can be increased. However, the percentage of coolant additive should not exceed 55 %, as this would reduce the frost protection and the cooling effect.


The coolant additive is dyed purple. The mixture of water and coolant additive provides anti-freeze protection down to  $-25^{\circ}\text{C}$  ( $-13^{\circ}\text{F}$ ), protects the alloy parts in the cooling system against corrosion, prevents limescale deposits and significantly increases the boiling point of the coolant.

When refilling the coolant, a mixture of distilled water and at least 40% G12evo coolant additive must be used in order to obtain the optimum corrosion protection → .

### NOTICE




The colour of the coolant results from mixing the purple coolant additive with distilled water. If the liquid in the coolant expansion tank is not violet but brown, for example, the suitable coolant has been mixed with another unsuitable coolant. This can result in serious malfunctions or damage to the drive and cooling system.

- Use only coolant additives that have been approved by the manufacturer.
- Have the coolant replaced immediately by a suitably qualified workshop if it has a brown colour.
- When adding coolant additives, never mix genuine coolant additives with other coolant additives that have not been approved by MAN.


 Coolant and coolant additives can pollute the environment.


- Collect any service fluids that escape or are spilled and dispose of them in a proper and environmentally responsible manner.

### Checking the coolant level and refilling coolant

 **Please refer to  on page 492 and  at the start of the chapter on page 508.**

#### Preparations

1. Park the vehicle on a firm and level surface.
2. Allow the engine to cool down → .
3. Open the bonnet.

The coolant expansion tank can be recognised by the red  symbol on the cap → Fig. 193.



**Fig. 193** In the bonnet space: cap of the coolant expansion tank.

### **⚠ WARNING**

Escaping hot steam or coolant can cause serious burns, as can hot engine parts.

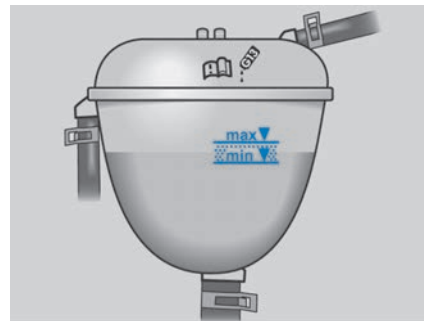
- Never open the bonnet if you can see or hear steam or coolant coming out of the bonnet space.
- Always wait until you can no longer see or hear steam or coolant coming from the bonnet space.

### **⚠ WARNING**

The cooling system is under pressure when the engine is hot. If the cover is opened without due care, engine coolant can spray out and cause severe burns or fatal injuries.

- Never open the cap of the coolant expansion tank when the engine is hot.
- Always protect your face, hands and arms from hot coolant or steam with a large, thick cloth if you have to open the cap of the coolant expansion tank.
- Turn the cap of the coolant expansion tank slowly and very carefully anti-clockwise while exerting slight downwards pressure on the cap.

## Checking the coolant level



**Fig. 194** In the bonnet space: marking on the coolant expansion tank (illustration).

The engine coolant may be above the marked area when a new vehicle is delivered or after repairs to the cooling system. This is normal. The coolant does not have to be extracted.


The coolant level cannot be checked accurately in all models as visibility of the fluid level in the coolant expansion tank may be obstructed. If the coolant level cannot be read exactly, contact a suitably qualified workshop.

1. Check the coolant level at the side markings of the coolant expansion tank when the engine is cold → Fig. 194.


The coolant level must be between the markings.

2. Add coolant if the fluid level in the coolant expansion tank is below the minimum marking “min”.

When the engine is warm, the engine coolant level may be slightly above the upper mark.

3. Do not add coolant if there is no longer any coolant visible in the coolant expansion tank → .

### Refilling coolant

1. Unscrew the lid carefully → .
2. Only refill with new coolant that is compliant with the specifications → page 508.

If in an emergency you do not have access to coolant in the required specification, add only distilled water initially. Then

have the correct mixture ratio with the specified coolant additive restored as soon as possible by a suitably qualified workshop.

3. Add coolant up to the upper level marking. After adding the coolant, the coolant level must be between the markings on the coolant expansion tank → Fig. 194.
4. Close the cap tightly.
5. Check the coolant level after one day. If the level in the coolant expansion tank again drops below the “min” mark, go to a suitably qualified workshop and have the cooling system checked.

### NOTICE

Coolant expands when it is heated. If coolant is topped up above the marked area, excess coolant may escape and cause damage to the vehicle.

- Do not fill coolant above the top edge of the marked area of the coolant expansion tank.

### NOTICE

Air may have entered the cooling system if there is no longer any coolant in the coolant expansion tank. This could cause damage to the engine.

- Do not drive on.
- Do not add any coolant.
- Seek expert assistance.

### NOTICE

Using water other than distilled water can cause corrosion in the engine due to the chemical components contained in it. This can lead to engine failure.




- Use only distilled water for refilling.
- Have the fluid in the cooling system replaced completely by a suitably qualified workshop if you have not added distilled water.

### NOTICE

Use of the incorrect service fluids can cause serious malfunctions and result in engine damage.


- When refilling or replacing service fluids, ensure that you pour the correct service fluids into the appropriate openings.

### Troubleshooting

 Please refer to  on page 492 and  at the start of the chapter on page 508.

### Coolant




The warning lamp flashes red. The coolant temperature is too high or the coolant level is too low.

 Do not drive on! The engine could otherwise be damaged.

1. Stop the vehicle as soon as possible and when safe to do so → page 260.
2. Switch off the engine.

3. Allow the engine to cool down.
4. Check the coolant level in the coolant expansion tank → page 509.
5. Do not drive on or leave the engine running if the warning lamp does not go out even though the coolant level is correct.
6. Seek expert assistance.

### Emergency filling of the cooling system – version 1

 Please refer to  on page 492 and  at the start of the chapter on page 508.

Work on the cooling system should always be carried out by a suitably qualified workshop.

The cooling system can be topped up if it is not possible to visit a suitably qualified workshop.

This description of emergency filling applies only to the engine codes *DMZB*, *DMZE*, *DMZD*, *DNAD* and *DNAE*.

*Please note:* For engines with the engine codes *DREB* and *DREC* it is not possible to perform emergency filling.

The process for filling the cooling system for other engine codes is described under Emergency filling of the cooling system – version 2.

You can find information about the engine code here → page 674.

The vehicle must not be moved if large quantities of coolant have been lost. Failure to observe this can lead to engine damage.

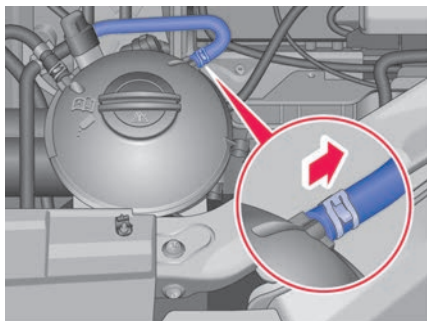
Also see → page 509, *Checking the coolant level and refilling coolant*.

### Prerequisites

- ✓ The vehicle must be stopped on a firm and level surface.
- ✓ The engine must have cooled down → page 509.
- ✓ The cooling system is not damaged (water loss).
- ✓ A tool that is not included in the vehicle toolkit.


- ✓ A sufficient quantity of coolant is available, in an emergency water filtered through a clean cloth.

### Emergency filling of cooling system




**Fig. 195** In the bonnet space: Coolant expansion tank hose connection.

The actions should only be carried out in the specified order:

1. Open the bonnet  → page 494.
2. Open the coolant expansion tank.
3. Loosen the click clamp with a suitable tool at the bleed line on the engine coolant tank → **Fig. 195**.

4. Disconnect the bleed line from the coolant expansion tank.
5. Guide the detached bleed line from above into the open coolant expansion tank.
6. Fill the cooling system up to the upper seam on the coolant expansion tank until the coolant level remains constant → **Fig. 195**, → page 509.
7. Wait around 5 minutes and add more coolant if necessary.
8. Reconnect the bleed line to the coolant expansion tank, fasten with the clamp and close the coolant tank → **Fig. 195**.
9. Switch on the ignition.

The automatic coolant bleeding process begins. The  symbol is shown on the instrument cluster display during the coolant bleeding process.

This process takes around 4 minutes.

10. When automatic coolant bleeding is complete, refill the coolant up to the seam on the cool-

ant expansion tank  
→ page 509.

11. Start the engine and switch off the air conditioning system → page 157.
12. Drive the vehicle at an engine speed above 2,000 rpm for around 30 minutes to get the engine to operating temperature.
13. Switch off the vehicle and allow it to cool down. Once it has done so, adjust the coolant level to around 3 cm (around 1 in) above the upper marking → page 509.
14. Set the air conditioning system to your preferred temperature.
15. Have the cooling system checked, repaired and filled with engine coolant of the correct specification by a suitably qualified workshop immediately.

### Emergency filling of the cooling system – version 2

📖 Please refer to ⚠️ on page 492 and ⚠️ at the start of the chapter on page 508.

Work on the cooling system should always be carried out by a suitably qualified workshop.

The cooling system can be topped up if it is not possible to visit a suitably qualified workshop.

This description of manual filling applies only to engine codes which are not described under Emergency filling of the cooling system – version 1.

*Please note:* For engines with the engine codes *DREB and DREC* it is not possible to perform emergency filling.

You can find information about the engine code here → page 674.

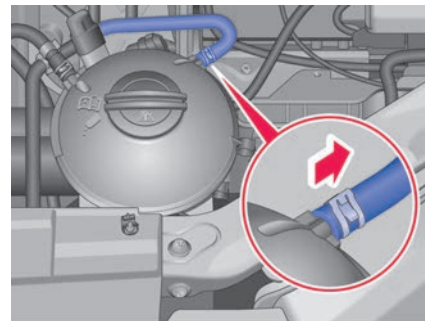
The vehicle must not be moved if large quantities of coolant have been lost. Failure to observe this can lead to engine damage.

Also see → page 509, *Checking the coolant level and refilling coolant.*

#### Prerequisites

- ✓ The vehicle must be stopped on a firm and level surface.
- ✓ The engine must have cooled down → page 509.
- ✓ The cooling system is not damaged (water loss).
- ✓ A tool that is not included in the vehicle toolkit.
- ✓ A sufficient quantity of coolant is available, in an emergency water filtered through a clean cloth.

### Emergency filling of cooling system



**Fig. 196** In the bonnet space: Coolant expansion tank hose connection.

The actions should only be carried out in the specified order:

1. Open the bonnet ⚠️ → page 494.
2. Open the coolant expansion tank.
3. Loosen the click clamp with a suitable tool at the bleed line on the engine coolant tank → Fig. 196.
4. Disconnect the bleed line from the coolant expansion tank.

5. Guide the detached bleed line from above into the open coolant expansion tank.
6. Fill the cooling system up to the upper seam on the coolant expansion tank until the coolant level remains constant → Fig. 196 , → page 509.
7. Wait around 5 minutes and add more coolant if necessary.
8. Reconnect the bleed line to the coolant expansion tank, fasten with the clamp and close the coolant expansion tank.
9. Start the engine and set the heater control to maximum temperature. Switch off the air conditioning system.
10. Leave the engine idling for 1 minute, then increase the engine speed to 2,500 rpm while stationary and keep the engine running for around 2 minutes.
11. Switch off the engine.
12. Wait for around 2 minutes and then refill the cooling system up to the upper weld seam of the coolant expansion tank → Fig. 196.
13. Drive the vehicle at an engine speed above 2,000 rpm for around 30 minutes to get the engine to operating temperature.
14. Switch off the vehicle and allow it to cool down. Once it has done so, adjust the coolant level to around 3 cm above the upper marking → page 509.
15. Set the heating control or the air conditioning system to the desired temperature.
16. Have the cooling system checked, repaired and filled with engine coolant of the correct specification by a suitably qualified workshop immediately.

### Introduction

Brake fluid will gradually absorb water from the surrounding air. The brake system will be damaged if there is too much water in the brake fluid. The boiling point of the brake fluid is also considerably reduced by the water content. Heavy use of the brakes may cause a vapour lock in the brake system if the water content is too high. Vapour locks reduce levels of braking power, considerably increase braking distance and can even cause the brake system to fail completely. Your own safety and that of other road users depends on having a brake system that functions properly at all times.

### WARNING

Brake fluid is toxic. Contact with brake fluid, particularly if swallowed, can lead to serious or fatal injuries.

- Consult a doctor immediately if you have swallowed brake fluid.

- Consult a doctor if you experience health problems after working with brake fluid.
- Always keep brake fluid out of the reach of children and only in the closed original container.
- Never store brake fluid in empty food containers, bottles or any other non-original containers as people finding these containers could drink the brake fluid in them.
- Avoid regular contact with brake fluid in order to prevent damage to the skin.
- Protect your skin, face and particularly your eyes when working with brake fluid.
- Do not eat, drink or smoke when working with brake fluid.
- Wash your skin with soap and water after working with brake fluid.

### NOTICE

Brake fluid that has leaked or been spilled will attack vehicle surfaces.

The vehicle paintwork, plastic parts and tyres could be damaged as a result.

- Wipe off brake fluid that has leaked or been spilled immediately from all parts of the vehicle.
- Then rinse all components with sufficient amounts of water.



Brake fluid can pollute the environment.

- Collect any service fluids that escape or are spilled and dispose of them in a proper and environmentally responsible manner.

### Brake fluid specification

 Please refer to  on page 492 and  and  at the start of the chapter on page 516.

### Brake fluid specification

MAN has developed a brake fluid that has been optimised for the

brake system in the vehicle. To ensure optimal operation of the brake system, MAN expressly recommends the use of brake fluid compliant with VW standard 501 14.

Before using a particular brake fluid, check that the specifications printed on the container correspond to the vehicle requirements.

Brake fluid that complies with VW standard 501 14 is available from a MAN service point.

If this brake fluid is not available and it is necessary to use another high-quality brake fluid instead, brake fluid that is compliant with DIN ISO 4925 CLASS 6 or US standard FMVSS 116 DOT 4 can be used.

Not all brake fluids that are compliant with DIN ISO 4925 CLASS 6 or US standard FMVSS 116 DOT 4 have the same chemical composition. Some of these brake fluids may contain chemicals that can damage or destroy brake system components over time.

Brake fluid that is compliant with VW standard 501 14 fulfils the requirements of DIN ISO 4925 CLASS 6 or US standard FMVSS 116 DOT 4.

### Checking the brake fluid

📖 Please refer to ⚠ on page 492 and ⚠ and ⓘ at the start of the chapter on page 516.

#### Preparations

1. Park the vehicle on a firm and level surface.
2. Open the bonnet.

### Checking the brake fluid level



**Fig. 197** In the bonnet space: brake fluid reservoir cap.

The brake fluid reservoir can be identified by the cap → **Fig. 197**.

The brake fluid level cannot be checked accurately in all models as a flap or engine components may partially conceal the brake fluid container. If the brake fluid level cannot be read exactly, please seek assistance from a suitably qualified workshop.

The brake fluid level must always be between the MIN and MAX markings on the brake fluid reservoir → ⚠.

The brake fluid level drops slightly when the vehicle is being used as the brake pads wear and the brakes are automatically adjusted.

#### Brake fluid change

Have the brake fluid changed regularly. Information on the change interval for the brake fluid can be obtained from a suitably qualified workshop. Only brake fluid that conforms with the required specification should be used.

#### WARNING

If the brake fluid level is too low or unsuitable brake fluid is used, this can cause brake failure or reduced braking efficiency. This can result in accidents and serious or fatal injury.

- Have the brake system and brake fluid level checked regularly.
- Make sure that the correct brake fluid is used.
- Use only brake fluid that is explicitly compliant with VW standard 501 14.


- Use a high-quality brake fluid according to DIN ISO 4925 CLASS 6 or the US standard FMVSS 116 DOT 4 only in exceptional cases if a brake fluid according to VW standard 501 14 is not available.

#### Troubleshooting

 Please refer to  on page 492 and  and  at the start of the chapter on page 516.

#### Brake fluid level


The warning lamp lights up red.  
The brake fluid level is too low.

 **Do not drive on!** This can result in brake failure.

1. Stop the vehicle as soon as possible and when safe to do so → page 260.
2. Check the brake fluid level.
3. Seek expert assistance if the brake fluid level is too low.

## Introduction

The 12-volt vehicle battery is a component of the electrical system in the vehicle.

Never carry out any work on the electrical system if you are not familiar with the necessary procedures and the general safety requirements and only unsuitable tools are available → . Otherwise, have all work carried out by a suitably qualified workshop. Serious injuries can be caused if work is carried out incorrectly.

Information on warning and indicator lamps that light up can be found in the troubleshooting sections at the end of the chapter → page 526.

### Number and location of the 12-volt vehicle battery

A 12-volt vehicle battery (starter battery) is located in the battery recess in the front footwell. In some vehicle equipment levels, a second 12-volt vehicle battery (additional

battery) is located on the left-hand side of the bonnet space.

In vehicles with the 12-volt vehicle battery in the battery recess in the driver footwell, ensure that the breather hose is connected properly to the 12-volt vehicle battery.

### Explanation of the warnings on the 12-volt vehicle battery



Always wear eye protection!



Electrolyte is very corrosive and caustic. Always wear protective gloves and eye protection!



No fires, sparks, naked lights or smoking!



A highly explosive mixture of gases is given off when the vehicle battery is charging!



Always keep children away from electrolyte and the vehicle battery.



Always observe the owner's manual!

## WARNING

Any work on the 12-volt vehicle battery and the electrical system can cause serious chemical burns, fire or electric shocks. This can cause severe injuries.

- Always read and observe the warnings on the 12-volt vehicle battery.
- Switch off the ignition and all electrical consumers before carrying out any work on the 12-volt vehicle battery and also disconnect the negative cable from the 12-volt vehicle battery.
- Children should always be kept away from electrolyte and the 12-volt vehicle battery.
- When working with the 12-volt vehicle battery, ensure that your hands, arms and face in particular are protected from acid spillage.
- Always wear eye protection and protective gloves.
- Never short circuit battery terminals.

- All work should be carried out by a suitably qualified workshop.

#### **WARNING**

A highly explosive gas mixture is produced when working on the 12-volt vehicle battery. The gas emitted from the 12-volt vehicle battery could be ignited by sparks. This can result in serious or fatal injuries.

- Always keep fire, sparks, naked flames and lit cigarettes away from the 12-volt vehicle battery.
- When handling cables and electrical equipment, avoid generating sparks and electrostatic discharge.

#### **NOTICE**

Ultraviolet radiation can damage the battery housing.

- Do not expose the 12-volt vehicle battery to direct sunlight for an extended time.

#### **NOTICE**

The 12-volt battery can freeze and be destroyed as a result.

- Protect the 12-volt vehicle battery against frost if the vehicle is left standing for extended periods.

#### **System settings after battery replacement**

System settings may have been changed or deleted if the 12-volt vehicle battery has been replaced or after jump starting.

1. Check the date and time and adjust if necessary.
2. Check the personal convenience settings and adjust and save if necessary.

#### **Checking the electrolyte level of the 12-volt vehicle battery**

 **Please refer to  on page 492 and  and  at the start of the chapter on page 519.**

The electrolyte level of the 12-volt vehicle battery should be checked regularly in high-mileage vehicles, in hot countries and in older 12-volt vehicle batteries. The 12-volt vehicle battery is otherwise maintenance-free.

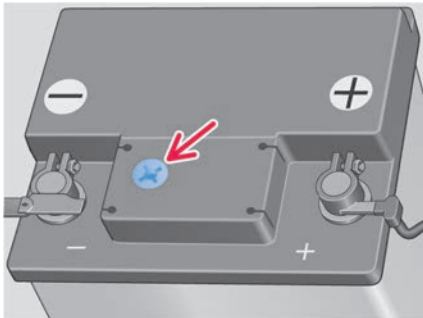
For technical reasons, you cannot check the electrolyte level of 12-volt vehicle batteries marked with **A G M**. Go to a suitably qualified workshop to have the 12-volt vehicle battery checked.

#### **Preparations**

1. Preparing the vehicle for working in the bonnet space  
→ page 494.
2. Opening the 12-volt vehicle battery cover in the driver's footwell → page 522.

- For the additional battery, open the bonnet  → page 494.

### Checking the electrolyte level (12-volt vehicle batteries with battery window)



**Fig. 198** Battery window on the top of the 12-volt vehicle battery (general guide).

Depending on equipment, it may be necessary to remove an additional bracket in order to view the battery window. An additional tool that is not included in the vehicle toolkit is required for this purpose.

- Ensure that enough light is available for you to clearly see the colour indicator in the round window on the top of the

12-volt vehicle battery → **Fig. 198**. Never use naked flames or glowing matter (e.g. cigarettes) as a light source.

- The colour indicator in the round window changes according to the electrolyte level in the 12-volt vehicle battery.

- *Light yellow or without colour*

The electrolyte level of the 12-volt vehicle battery is too low. The 12-volt vehicle battery should be checked by a suitably qualified workshop and replaced if necessary.

- *Black*

The electrolyte level of the 12-volt vehicle battery is correct.

### **WARNING**

Battery acid is caustic. Contact with battery acid – especially if swallowed – can cause severe burns.

- Never open a 12-volt vehicle battery.

- Never tilt the 12-volt vehicle battery. Electrolyte may spill out of the gas vents.
- Protect the skin, face and especially the eyes while working with the 12-volt vehicle battery.
- Do not eat, drink or smoke when working on the 12-volt vehicle battery.
- Wash your skin with soap and water after working on the 12-volt vehicle battery.
- In case of acid contact on skin and hair, remove all soiled or soaked clothing and wash skin and hair with water. Consult a doctor.
- If acid comes into contact with the eyes, rinse the affected area gently with water for a few minutes. Then consult a doctor immediately.
- Drink plenty of water immediately and swallow activated charcoal if you have swallowed acid. Consult a doctor immediately.

- Leave the danger area and breathe fresh air if you have inhaled acid mist. Consult a doctor immediately.

### **⚠ WARNING**

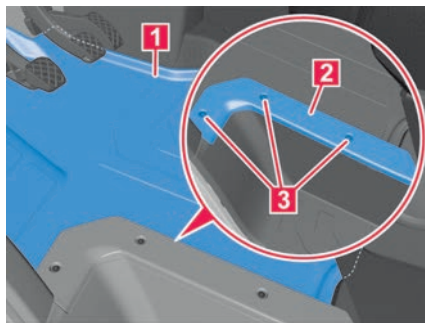
A highly explosive gas mixture is produced when working on the 12-volt vehicle battery. The gas emitted from the 12-volt vehicle battery could be ignited by sparks. This can result in serious or fatal injuries.

- Always keep fire, sparks, naked flames and lit cigarettes away from the 12-volt vehicle battery.
- When handling cables and electrical equipment, avoid generating sparks and electrostatic discharge.

### Uncovering the 12-volt vehicle battery

📖 Please refer to **⚠** on page 492 and **⚠** and **⚡** at the start of the chapter on page 519.

#### Removing the floor covering in the front footwell



**Fig. 199** In the front footwell: removing the floor covering (illustration)

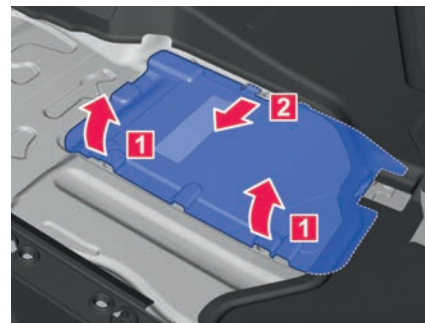
- 1** Floor covering.
- 2** Trim panel.
- 3** Securing bolts.

1. Undo the securing bolts  
→ **Fig. 199 3**.

2. Remove the trim panel  
→ **Fig. 199 2**.
3. Remove the floor covering  
→ **Fig. 199 1**.

The floor covering is installed by following the same steps in reverse order.

#### Removing the battery cover in the front footwell




**Fig. 200** In the front footwell: removing the cover of the 12-volt vehicle battery (illustration).

- 1** Cover.
- 2** Cover.
- 3** Cover.

1. Lift the cover in the direction of the arrow until the cover is released → Fig. 200 **1**.
2. Pull the cover in the direction of the arrow until the vehicle battery is exposed → Fig. 200 **2**.

The battery cover is installed by following the same steps in reverse order.

 The vehicle is fitted with jump-start connection points in the engine compartment. You must use these jump-start connection points if the 12-volt vehicle battery is discharged and the vehicle has to be jump-started → page 482.


### Charging, replacing, disconnecting and connecting the 12-volt vehicle battery

 Please refer to  on page 492 and  and  at the start of the chapter on page 519.

If you suspect that the 12-volt vehicle battery is damaged or faulty, go

to a suitably qualified workshop and have the 12-volt vehicle battery checked.

### Charging the 12-volt vehicle battery

The 12-volt vehicle battery should always be charged by a suitably qualified workshop, as the technology used in factory-fitted 12-volt vehicle batteries requires voltage-limited charging → .

### Replacing the 12-volt vehicle battery

The 12-volt vehicle battery has been developed to suit the conditions of its location and has special safety features. If a 12-volt vehicle battery has to be replaced, the replacement part must be installed by a suitably qualified workshop. For component information on size and the required maintenance, capacity and safety features, please contact a suitably qualified workshop, which must have the necessary technical documentation and equipment. The ventilation opening of the 12-volt vehicle battery must always be on the negative terminal side. The ventilation opening on

the positive terminal side must always be sealed.

Only maintenance-free 12-volt vehicle batteries compliant with the standards TL 825 06 and VW 7 50 73 should be used. These standards must be dated October 2014 or later.

The 12-volt vehicle battery must always be replaced by a suitably qualified workshop as the vehicle electronics must be adapted as part of the replacement process. In addition, the battery parameters for functional safety were determined only with the original equipment battery. Only suitably qualified workshops have the technology required to carry out this adjustment and also the correct replacement batteries. The use of unsuitable batteries can render the type approval invalid.

### Disconnecting the 12-volt vehicle battery

Please note the following if the vehicle battery has to be disconnected

ted from the electrical system in the vehicle:

1. Switch off all electrical consumers and the ignition.
2. Uncover the 12-volt vehicle battery → page 522.
3. Unlock the vehicle before disconnecting the battery in order to avoid triggering the anti-theft alarm (if fitted).
4. First disconnect the negative cable and then the positive cable.

#### **Disconnecting the 12-volt additional battery**

1. Unlock the vehicle before disconnecting the battery in order to avoid triggering the anti-theft alarm.
2. Open the bonnet → page 494.
3. First disconnect the negative cable and then the positive cable.

#### **Connecting the 12-volt vehicle battery or 12-volt additional battery**

1. Switch off all electrical consumers and the ignition before reconnecting the vehicle battery.
2. Reconnect first the positive cable and then the negative cable.

Various indicator lamps may light up after the 12-volt vehicle battery has been connected and the ignition is switched on. They will go out if you drive a short distance at a speed of 15 km/h to 20 km/h (10 – 12 mph). If the indicator lamps stay lit, the vehicle should be checked by a qualified workshop.

If the 12-volt vehicle battery was disconnected for an extended period, the system may not be able to calculate or correctly display the time when the next service is due → page 37. Observe the maximum permissible service intervals → page 582.

#### **Automatic switch-off for electrical consumers**

An intelligent vehicle electrical system management function automatically implements a range of measures to prevent the 12-volt battery from discharging under high loads:

- The performance of large electrical consumers may be reduced or they may be switched off completely.

The vehicle electricals management system cannot always prevent the 12-volt vehicle battery from being discharged, for example if the ignition is left on over a long period with the engine off or the side lights or parking lights are left on over a long period of time.

#### **What causes the 12-volt vehicle battery to discharge?**

The 12-volt vehicle battery will discharge if you use electrical consumers when the engine is switched off.

**⚠ WARNING**

Use of a 12-volt vehicle battery that does not have the same specifications and dimensions as the factory-fitted 12-volt vehicle battery can lead to short circuits or cause a fire. This can result in serious injury or death.

- Always use a maintenance-free and leak-proof 12-volt vehicle battery that has the same specifications and dimensions as the factory-fitted 12-volt vehicle battery.

**⚠ WARNING**

Improper mounting of 12-volt vehicle batteries can lead to short circuits or cause a fire. This can result in serious injury or death.

- Always secure the 12-volt vehicle battery at the mounting points provided in the vehicle.
- Fit all covers necessary for the vehicle on the battery again.

**⚠ WARNING**

A highly explosive mixture of gases is given off when the 12-volt vehicle battery is being charged. Sparks or naked flames can ignite the explosive gas mixture. This can result in serious burns.

- 12-volt vehicle batteries should only be charged in well-ventilated spaces.
- Keep sparks and naked flames away from the 12-volt vehicle battery.

**⚠ CAUTION**

Discharged 12-volt vehicle batteries can even freeze at temperatures of approx. 0°C (+32°F). Acid can leak from a 12-volt vehicle battery that has frozen and then thawed again. This can cause injuries and damage to the vehicle in the long term.

- Never charge a 12-volt vehicle battery which is frozen or has been frozen.

- The 12-volt vehicle battery must be replaced if it has ever frozen.

**⚠ CAUTION**

Incorrectly connected cables can cause a short circuit. This can damage the vehicle electronics system and cause injuries.

- First connect the positive cable and then the negative cable.

**NOTICE**

If the 12-volt vehicle battery is disconnected or connected when the ignition is switched on or when the engine is running, this can result in damage to the electrical system and electronic components and electrical malfunction can occur.

- Never connect or disconnect the 12-volt vehicle battery if the ignition is switched on or the engine is running.


**NOTICE**

If accessories that supply electric power are connected to the 12-volt

socket to charge the 12-volt vehicle battery, this can damage the electrical system and the electronic components and lead to electrical malfunctions.


- Never connect equipment that supplies electric power, such as solar panels or a battery charger, to the 12-volt socket to charge the 12-volt vehicle battery.

---

 12-volt vehicle batteries may contain toxic substances such as sulphuric acid and lead.

- Dispose of the 12-volt vehicle battery in accordance with the applicable regulations.

---

 Electrolyte can pollute the environment.

- Collect any service fluids that escape or are spilled and dispose of them in a proper and environmentally responsible manner.
- 


### Troubleshooting

 **Please refer to  on page 492 and  and  at the start of the chapter on page 519.**



#### 12-volt vehicle battery

The warning lamp lights up red. A message is shown on the instrument cluster display.

 **Do not drive on!** This can result in damage to the electrical system.

1. Stop the vehicle as soon as possible and when safe to do so.
2. Switch off any electrical consumers that are not required.
3. Seek expert assistance.

The start/stop system cannot start the engine → page 210.



#### 12-volt vehicle battery

The indicator lamp lights up yellow. A message is shown on the instrument cluster display.

1. Consult a suitably qualified workshop.

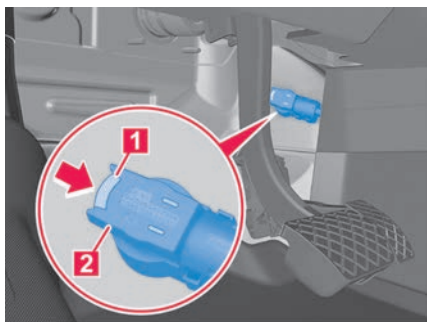
**Or:** Drive a short run to recharge the 12-volt vehicle battery.

### Switching the electrical system on or off with the battery master switch

The master battery switch disconnects the power to all electrical equipment in the vehicle. This prevents the battery from being discharged by static power consumption.

The master battery switch is in the driver footwell to the right of the accelerator.


#### Switching off the electrical system



**Fig. 201** In the driver footwell: switching off the battery master switch of the electrical system.

**1** Button for releasing the connector.

**2** Connector.

1. Remove the vehicle key from the ignition lock and wait for around 20 seconds.
2. Press and hold down button → Fig. 201 **1** and pull the connector **2** off the earth stud.
3. Secure the connector **2** safely so that it cannot make contact with the earth stud → .

The power supply to all electrical equipment is disconnected.

#### NOTICE

Components of the electrical system may be damaged if the battery master switch is removed or disconnected before the vehicle key is removed from the ignition lock.

- Always remove the ignition key from the ignition lock and then wait for at least 20 seconds.

#### Switching on the electrical system


1. Press the connector → Fig. 201 **2** onto the earth stud until it can be felt to engage and until the latch stop is deactivated.
2. Check that the connector is attached securely to the earth stud.
3. Insert the vehicle key into the ignition lock.

All electrical equipment is again connected to the power supply.


#### NOTICE

It may not be possible to establish an electrical connection if the connector is damaged or dirty.

- Check whether the connector is damaged or dirty before establishing the connection.
- Clean the connector if it is dirty.
- Have the connector replaced by a suitably qualified workshop if it is not possible to clean the connector or if it is damaged.

 Only disconnect power using the master battery switch when you intend not to use the vehicle for a long time or when absolutely necessary. Some electrical consumers might need to be re-synchronised when the power is switched on again.

---

 An interruption to the voltage supply is recorded on the fault memory by the tachograph. The functions and operation of the factory-fitted tachograph are described in additional operating instructions supplied with the vehicle upon delivery.

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Wheels are the most used and most underestimated parts of a vehicle. Wheels are very important as the narrow tyre surfaces are the only contact between the vehicle and the road.

The tyres and wheel rims approved for the vehicle have been carefully selected.

The service life of tyres is dependent on tyre pressure, driving style, handling and correct fitting. MAN recommends that all work on wheels is carried out by a suitably qualified workshop. They are familiar with the procedure and have the necessary special tools and spare parts and the proper facilities for disposing of the old tyres.

Depending on the equipment, either wheel bolts or wheel nuts may be fitted. The information on wheel bolts also applies for wheel nuts.

### **Wheel rims, tyres and wheel bolts**

Wheel rims, tyres and wheel bolts have be adjusted to the vehicle type. If different wheel rims are fit-

ted, the correct wheel bolts with the correct length and correctly shaped bolt heads must be used. This ensures that the brakes work properly and that the vehicle drives quietly and safely. For technical reasons, it is not generally possible to use the wheels from other vehicles. This can also apply to wheels of the same vehicle type. For conversion to other wheel rim/tyre combinations, it is essential to contact a suitably qualified workshop.

The correct wheel bolts must be used for all vehicle types; these bolts must always be tightened with the correct tightening torque → page 536.

### **⚠ WARNING**

Incorrect handling of wheels can reduce vehicle safety and cause serious accidents and fatal injuries.

- Check the tyre pressure regularly when the tyres are cold and always observe the specified value → page 535. If the tyre pressure is too low, it is possi-

ble that the tyre temperature will increase to such an extent when driving that the tread peels off and the tyre bursts.

- Check the tyres regularly for damage and wear.
- Never exceed the maximum speed and load permitted for the fitted tyres.
- All four wheels must be fitted with radial tyres of the same type, size (rolling circumference) and the same tread pattern.
- If you notice unusual vibrations, or if the vehicle pulls to one side when driving, stop immediately and check the tyres and wheel rims for damage.
- Never loosen the bolts on wheel rims with bolted-on rings.

### **⚠ WARNING**

New tyres or tyres which are old, worn down or damaged cannot provide full levels of vehicle control and braking power.

This can cause serious accidents and fatal injuries.

- Run in new tyres as they will initially have reduced grip and braking efficiency. For this reason, drive with particular care during the first 600 km (370 miles).
- Never drive with worn tyres or tyres that shows signs of damage such as holes, cuts, cracks or blisters.
- If you notice unusual vibrations, or if the vehicle pulls to one side when driving, stop immediately and check the tyres and wheel rims for damage.
- Do not use tyres or wheel rims if you do not know their history. Used tyres and wheel rims could be damaged, even if the damage is not visible.
- Use tyres that are more than six years old only if you have no alternative. In this case, drive slowly and with extra care at all times, even if the tyres have never been used.

- Replace worn or damaged tyres immediately.

### **WARNING**

If the tightening torque of the wheel bolts is insufficient, the wheel bolts and thus the wheels can loosen while the vehicle is in motion. The wheel bolts and the threads could be damaged if the tightening torque is too high.

Incorrectly tightened or missing wheel bolts can lead to loss of control over the vehicle, serious accidents and fatal injuries.

- Always tighten the wheel bolts with the correct tightening torque. If you do not have a torque wrench, tighten the wheel bolts with the wheel bolt wrench and have the torque checked immediately by the nearest suitably qualified workshop.
- Never drive if wheel bolts are missing or loose.
- Always use wheel bolts that match the wheel rims and the vehicle type.

- Never grease or oil the wheel bolt and the threads in the wheel hubs. This could cause the wheel bolts to loosen while the vehicle is in motion, even if the required torque setting is used.

- Make sure that the wheel bolts and threads of the wheel hubs are clean, smooth-running and free of oil and grease.
- Never loosen the bolts on wheel rims with bolted-on rings.

### **WARNING**


Incorrect mounting of the tyre on the wheel rim can cause damage to the wheel rim and lead to the tyre suddenly losing air or bursting while driving.

This can cause serious accidents and fatal injuries.

- Have tyres mounted on the wheel rims only by a suitably qualified workshop.

## Handling tyres

### Avoiding tyre damage

- Drive over kerbs and other low obstacles slowly and at right angles so that the two front wheels come into contact with the obstacle at the same time.
- Check the tyre pressure on a regular basis.
- Check the tyres for damage such as cuts at regular intervals.
- Never exceed the maximum speed and load permitted for the tyres that are fitted → page 577.
- Damaged or worn tyres must be replaced immediately → page 542.
- Protect the tyres from contact with aggressive substances, including grease, oil, petrol and brake fluid → .
- Replace missing valve dust caps immediately.
- Remove foreign bodies that have not yet penetrated to the inside of the tyre → page 542.

- Observe all warnings of the tyre monitoring system → page 549.

### WARNING

Corrosive liquids and other substances can cause visible and invisible damage to the tyres, which can cause the tyre to burst.

This can cause serious accidents and fatal injuries.


- Always keep chemicals, oils, lubricants, fuel, brake fluid and other corrosive substances away from the tyres.

### Storing tyres

- Always store tyres in a cool, dry and dark place if possible.
- Do not store tyres mounted on the rim vertically.
- Any tyres not fitted on wheel rims should be kept in suitable sleeves to protect against dirt and should be stored vertically (standing on the tread).

### Tyres that are more than 6 years old

Tyres age through physical and chemical processes that can impair their function. Tyres that have been stored unused for an extended period of time age quicker than tyres that are used all the time.

MAN recommends replacing tyres that are older than 6 years with new tyres. This also applies for tyres which appear to still be in good condition and whose tread depth has not yet reached the minimum value stipulated by legislation → .

Winter and all-season tyres also largely lose their effectiveness through ageing – regardless of the remaining tread depth.

The age of each tyre can be determined on the basis of the manufacturing date → page 577.


### WARNING

Old tyres can suddenly lose air or burst, above all at high speeds.

This can cause serious accidents and fatal injuries.

- Use tyres that are more than six years old only if you have no alternative. In this case, drive slowly and with extra care at all times, even if the tyres have never been used.

#### New tyres


- Drive particularly carefully for the first 600 km (370 miles) with new tyres as the tyres have to be run in. Tyres that have not been run in have reduced grip and braking efficiency → .
- All four wheels must be fitted with tyres of the same type, size (rolling circumference) and the same tread pattern.
- The tread depth of new tyres may vary between tyre models and manufacturers due to different design features and tread designs.

#### WARNING


New tyres will have to be run in as they will initially have reduced grip and braking effect.

This can cause you to lose control of the vehicle, which can lead to serious accidents and fatal injuries.

- Run in new tyres. Drive with particular care during the first 600 km (370 miles).

 New tyre sizes may differ significantly from the actual dimensions and tyre dimensions for different tyre brands.

#### Replacing tyres

- Always replace tyres at least on an axle-by-axle basis.
- Old tyres should only be replaced by tyres that have been approved by MAN for the vehicle type.
- Never use tyres with an effective size that is larger than MAN-approved tyres → .

#### Vehicles fitted with a Tyre Pressure Monitoring System

- If you wish to replace factory-fitted wheels, make sure that the new wheels are equipped with sensors that are compatible with the TPM → page 544.
- Drive the vehicle at a speed of over approx. 25 km/h (approx. 15 mph) for an extended period so that the new wheels can be detected.

Further information on the TPM → page 544.

#### WARNING

Incorrect replacement or conversion of the sensors of the Tyre Pressure Monitoring System can cause the valves to leak, with the result that the tyre loses air.

If the tyre pressure is too low, it is possible that the tyre will heat up to such an extent when driving that this can result in tread separation and the tyre bursting, which can cause serious accidents and fatal injuries.

- When replacing and converting sensors, always use a new valve set.

### WARNING

Wheels must have the necessary clearance. If there is insufficient clearance, the tyres can rub against parts of the running gear, body and brake lines.

This can lead to failure of the brake system, tread separation or the tyre bursting and can thus cause serious accidents and fatal injuries.

- Use only tyres whose dimensions do not exceed the dimensions of tyre makes approved by MAN and that do not rub on any vehicle parts.

### WARNING

Dirt can damage the valves and cause them to leak so that the tyre loses air.

If the tyre pressure is too low, it is possible that the tyre will heat up to such an extent when driving that this can result in tread separation

and the tyre bursting, which can cause serious accidents and fatal injuries.

- Never drive without valve caps.

### NOTICE

Tyres can be deformed by driving through potholes and over kerbs.

This can cause damage to the tyres and wheel rims.

- Avoid strong impacts and drive around obstacles if possible.

### NOTICE

The valves can be damaged when changing to different wheels.

- Do not allow removed wheels to fall onto the wheel rim.



Old tyres should be disposed of properly and as required by legislation.



If the spare tyre is not the same as the tyres that are mounted on the car - for example in the case of

winter tyres or a temporary spare wheel - only use the spare tyre in the event of a breakdown for a short period of time and drive with extra care. Replace the temporary spare wheel with a normal wheel as soon as possible.



MAN-approved tyres are guaranteed to have the dimensions that are suitable for the vehicle. In the case of other tyres, the tyre seller must provide a certificate from the tyre manufacturer stating that the tyre is also suitable for the vehicle. Store the certificate in a safe place and keep it in the vehicle.

### Handling wheel rims

#### Avoiding damage to the wheel rims

- Missing hubcaps can result in damage to the wheel rims and wheel bolts.

Fit missing hubcaps before every journey.

- Drive over kerbs and other low obstacles slowly and at right angles so that the two front wheels come into contact with the obstacle at the same time.
- Replace missing valve dust caps immediately.
- Check the tyre pressure on a regular basis.
- Rim size.
- Name of manufacturer or brand.
- Date of manufacture (month/year).
- Country of origin.
- Production number.
- Raw material batch number.
- Commodity code.

#### Wheel rims with bolted-on rim ring or trim elements

Wheel rims with bolted-on rim ring or trim elements consist of several parts. These parts are connected to each other by means of special bolts. Damaged wheel rims must be replaced and must be repaired only by a suitably qualified workshop.

#### Wheel rim identification

In some countries, new wheel rims must be provided with information on certain properties. The following information may be provided on the wheel rim:

- Conformity mark.

- Never loosen the bolts on wheel rims with bolted-on rings.
- Have all work on wheel rims with bolted-on rim rings carried out only by a suitably qualified workshop.

#### WARNING

Use of unsuitable or damaged wheel rims can impair driving safety and cause accidents and serious injuries.

- Use only wheel rims that are approved for the vehicle.
- Check the wheel rims regularly for damage and replace them if necessary.

#### WARNING

Incorrect loosening and tightening of the bolts on wheel rims with bolted-on rim rings can cause serious accidents and fatal injuries.

## Checking the tyre pressure

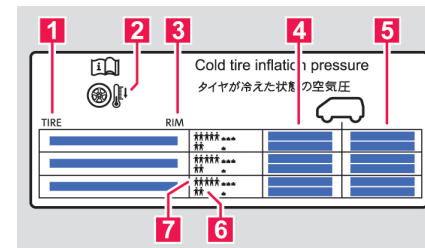
The wrong tyre pressure will have a negative effect on the vehicle's response and leads to high levels of wear or even a burst tyre → ⚠️. The correct tyre pressure is particularly important at high speeds.

- The tyre pressure should be checked at least once a month and before every long journey. The tyre pressure should be checked more frequently in colder regions.
- Always check all the tyres, including the spare if fitted.
- Always check the tyre pressure when the tyres are cold. The specified tyre pressure applies to cold tyres. Tyre pressure is always higher in warm tyres than it is in cold tyres. For this reason, never reduce the pressure in warm tyres to adjust the tyre pressure.
- Always adjust the tyre pressure to the load level → Fig. 202.

- After adjusting the tyre pressures, always screw the caps onto the valves and observe the information on the tyre monitoring system.
- Always use the tyre pressure specified on the sticker. Never exceed the maximum tyre pressure which is given on the side-wall of the tyre
- If the tyre size of the fitted tyres differs from the specified value on the type plate or tyre pressure sticker, the correct tyre pressure must be determined.

### Location of the tyre pressure sticker

The sticker provides the correct tyre pressure for approved tyres and is located either on the driver door pillar → Fig. 202 or inside the tank flap.



**Fig. 202** Information on the tyre pressure sticker.

- 1** Tyre size.
- 2** Note: check the tyre pressure when the tyres are cold.
- 3** Rim size.
- 4** Tyre pressure for the tyres on the front axle.
- 5** Tyre pressure for the tyres on the rear axle.
- 6** Tyre pressure for partial load.
- 7** Tyre pressure for full load.

The appearance of the sticker may differ between vehicles. It may contain additional tyre sizes that are not approved for your specific vehicle. For information on the tyre sizes approved for your vehicle, re-

fer to the vehicle registration certificate or the EC Certificate of Conformity, or ask a MAN service outlet.

#### **WARNING**

A tyre pressure that is too low may cause the tyre to suddenly lose pressure, the tread to separate or the tyre to burst while the vehicle is in motion. If the tyre pressure is too low, the tyres will wear prematurely and the car will not handle well.

An incorrect tyre pressure can cause serious accidents and fatal injuries.

- Check tyre pressures regularly, at least once a month and before every long trip.
- Always adapt the tyre pressure to the vehicle load level.
- Never reduce the increased tyre pressure of warm tyres.

#### **WARNING**

Driving too fast and overloading the vehicle can cause overheating,

sudden tyre damage including tyre bursts, and tread separation.


This can cause serious accidents and fatal injuries.

- Never exceed the maximum load capacity of the fitted tyres → page 577.
- Never exceed the maximum permitted speed of the fitted tyres → page 577.

#### **NOTICE**

The valve can be damaged if due care is not taken when using a tyre pressure gauge.

- When attaching the tyre pressure gauge, ensure that you do not position it at an angle to the valve stem.

 Underinflated tyres will result in increased fuel consumption.

#### **Checking the tightening torque**

The correct wheel bolts must always be used for each vehicle type

and these must always be tightened with the correct tightening torque. The tightening torque of the wheel bolts must be checked regularly with a properly functioning torque wrench. In addition, the tightening torque must be checked without delay using a correctly functioning torque wrench after every wheel change. If the tightening torque of the wheel bolts is too low, the wheel bolts and rims can loosen while the vehicle is in motion. The wheel bolts and the threads could be damaged if the tightening torque is too high.

If the wheel bolts are corroded and stiff, they must be renewed and the wheel hub threads cleaned before the tightening torque is checked. Never grease or lubricate the wheel bolts or the threads of the wheel hub.

#### **Tightening torque for wheel bolts**

The tightening torque of the wheel bolts is specified in the section *Changing a wheel* → page 564, *Changing a wheel*.

**⚠ WARNING**

If the tightening torque of the wheel bolts is insufficient, the wheel bolts and thus the wheel can loosen while the vehicle is in motion. The wheel bolts and the threads could be damaged if the tightening torque is too high.

Incorrectly tightened or missing wheel bolts can lead to loss of control over the vehicle, serious accidents and fatal injuries.

- Always tighten the wheel bolts with the correct tightening torque. If you do not have a torque wrench, tighten the wheel bolts with the wheel bolt wrench and have the torque checked immediately by the nearest suitably qualified workshop.
- Never drive if wheel bolts are missing or loose.
- Always use wheel bolts that match the wheel rims and the vehicle type.
- Never grease or oil the wheel bolt and the threads in the

wheel hubs. The wheel bolts could loosen while the vehicle is in motion, even if the required torque setting is used.

- Make sure that the wheel bolts and threads of the wheel hubs are clean, smooth-running and free of oil and grease.
- Never loosen the bolts on wheel rims with bolted-on rings.

is recommended to help ensure that tyres wear evenly. All the tyres will then last for about the same time.

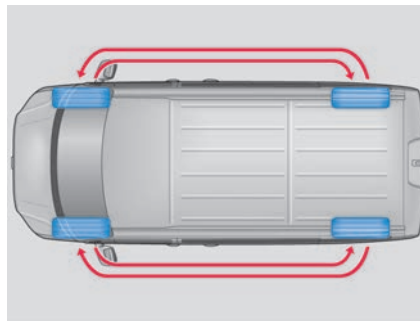
MAN recommends having the wheels changed by a suitably qualified workshop.

**Checking the tread depth****Tread depth**

Most driving situations require the highest possible tread depth. The tyres should have the same tread depth, at the minimum on each axle → ⚠. This is especially true in wet or wintry road conditions.

In most countries, the minimum tread depth required by law is 1.6 mm (1/16 in), measured in the tread grooves next to the tread wear indicators. Observe any deviating country-specific legal requirements.

Observe any country-specific legal requirements relating to the per-

**Rotating wheels**

**Fig. 203** Diagram showing how to swap wheels (illustration).

Regularly rotating the wheels as shown in the illustration → [Fig. 203](#)

missible minimum tread depths for winter and all-season tyres.

### Tyre wear

The tyre wear is affected by several factors:

- Style of driving.
- How well the tyres are balanced.
- Adjustments made to the running gear.

Wheel imbalance may develop when the vehicle is driven; you will notice this by the nervous steering response. Imbalanced tyres will affect the level of tyre wear. In this case the wheels should be balanced again.

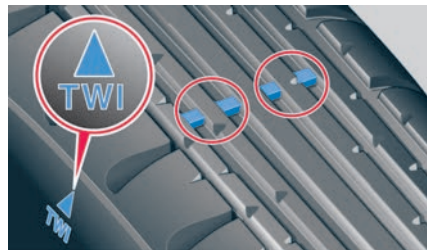
Incorrect wheel alignment causes excessive tyre wear, impairing the safety of the vehicle. The wheel alignment should be checked by a suitably qualified workshop if tyres show excessive wear.

### Tyre wear due to a sporty driving style

Fast cornering, heavy acceleration and hard braking all increase tyre wear.

In the case of a sporty driving style, check the tread depth every 5,000 to 10,000 km (about 3,107 to 6,214 miles).

### Tread wear indicators in tyres



**Fig. 204** In the tread grooves: tread wear indicators.

There are 1.6 mm (1/16 in) high wear indicators → Fig. 204 in the tread base of the tyres. Markings on the tyre sidewall indicate the position of the tread wear indicators → Fig. 204.

The tread wear indicators show if a tyre is worn down. The tyre must be replaced at the latest when the tyre tread is worn down to the tread wear indicator.

When checking the tread depth, it is necessary to check the tread wear indicators of all tread grooves.

### ⚠ WARNING

Worn tyres are a safety risk and make it difficult to control the vehicle properly. They increase the braking distance as well as the risk of skidding.

Worn tyres have significantly reduced grip. On wet roads in particular, the vehicle is more susceptible to aquaplaning.

Worn tyres lead to loss of control over the vehicle, serious accidents and fatal injuries.

- Replace the tyres with new tyres at the latest when the tyres are worn down to the tread wear indicators.


## Winter tyres

Summer tyres provide less grip on icy and snowy roads. Winter or all-weather tyres improve the vehicle and brake response during winter conditions. MAN recommends that winter tyres be fitted to the vehicle at temperatures below +7°C (+45°F) or in winter conditions. This also applies to vehicles with all-wheel drive.

Winter and all-season tyres lose their effectiveness when the tread is worn down to a depth of 4 mm (5/32 in).

### The following applies when using winter tyres:

- Observe any country-specific legal requirements.
- Use winter tyres on all four wheels at the same time.
- Only use in winter road conditions.
- Only use the sizes of tyre that have been approved for the vehicle.

- Winter tyres must have the same belt type, size and the same tread pattern.
- Observe the maximum speed permitted by the speed index → .

### Speed limitation

Winter tyres have a speed limit depending on the speed index → page 577.

You can set a speed warning in the Tyres menu in the Vehicle settings menu in the Infotainment system.


If you use V-rated winter tyres, the speed limits and required tyre pressure are determined by the engine size. Consult a suitably qualified workshop about the maximum permitted speed and the required tyre pressure.


### WARNING

The improved vehicle handling as a result of winter tyres on wintry roads does not constitute a reason to take safety risks, as this may re-

sult in loss of vehicle control and serious injuries.

- Adapt your speed and driving style to the current visibility, weather and road or traffic conditions.

 The vehicle handling is better if summer tyres are fitted at temperatures above +7°C (+45°F). The rolling noise is quieter, the tyre wear lower and the energy efficiency higher.

 On vehicles with Tyre Pressure Monitoring System, winter tyres must be fitted with compatible sensors for the Tyre Pressure Monitoring System to ensure the system works properly → page 544. If the dimensions of the winter tyres are different from those of the summer tyres and require a different tyre pressure, the tyre pressure values for the Tyre Pressure Monitoring System must be adjusted → page 544.



You can find out about permitted winter tyre sizes from a suitably qualified workshop.

### Snow chains

Please heed legislation and also the permitted speed when driving your vehicle with snow chains.

On icy or snow-covered roads, snow chains will not only improve traction, but also braking response.

Vehicles with front-wheel drive or all-wheel drive: Snow chains may only be fitted on the front wheels.

Vehicles with rear-wheel drive: Snow chains may only be fitted on the outer rear wheels (twin tyres).

Snow chains may only be fitted on the following wheel rim/tyre combinations, regardless of the drive type:

| Tyre size             | Wheel                | Type of snow chains to use   |
|-----------------------|----------------------|--|
| 205/75 R16C 113/111 R | 6.5 J x 16 ET 60     | Only fine-linked snow chains that add no more than about 15 mm (37/64 in). |
| 205/75 R16C 113/111 R | 5.5 J x 16 HMA 121.5 |  |
| 235/65 R16C 115/113 R | 6.5 J x 16 ET 60     |  |
| 235/65 R16C 121/119 R | 6.5 J x 16 ET 60     |  |
| 285/55 R16C 126/124 N | 8.5 J x 16 ET 53     |  |
| 205/70 R17C 115/113 R | 5.5 J x 17 HMA 121.5 |  |
| 235/60 R17C 117/115 R | 6.5 J x 17 ET 60     |  |

MAN recommends that you ask a suitably qualified workshop for information about appropriate wheel, tyre and snow chain sizes.

Remove hubcaps and trim rings before fitting snow chains. For safety reasons cover caps must then be fitted over the wheel bolts.

Caps are available from a suitably qualified workshop.

**⚠ WARNING**

The use of snow chains that are unsuitable for your vehicle or the incorrect installation of snow chains can cause serious accidents and fatal injuries.

- Always use the correct snow chains.
- Use snow chains only on the tyre and wheel rim combinations approved by MAN.
- Observe the fitting instructions provided by the snow chain manufacturer.
- When the snow chains are fitted, never drive faster than the speed stipulated by the snow chain manufacturer or permitted by law.

**NOTICE**


If snow chains are used on roads that are clear of snow, they will negatively affect handling, damage the tyres and be quickly destroyed.

- Remove the snow chains on roads that are clear of snow.

**NOTICE**

Snow chains that are in direct contact with the wheel can scratch or damage it.

- To avoid damage, use snow chains with integrated wheel rim protection.

Damage to tyres and wheel rims is often hidden → .

If you suspect that a wheel is damaged, slow down immediately and stop the vehicle as soon as it is safe to do so.

### **Pulling to one side or unusual vibrations**

The vehicle pulls to the left or right while driving or vibrates in an unusual way. These symptoms can be a sign of tyre damage or that the tyre pressure is too low.

 Check the tyres!

Slow down immediately and stop as soon as the traffic situation permits and it is safe to do so.

1. Check the tyres and rims for damage.
2. Do not drive on if a tyre is damaged.
3. Changing a damaged wheel → page 552. If necessary, seek assistance from a suitably qualified workshop.

**Or:** Use the breakdown set to seal the damaged tyre and then inflate it → page 571.

4. If there is no visible damage, drive slowly and cautiously to the nearest suitably qualified workshop in order to have the vehicle checked.

### **Foreign body stuck in tyre**

A foreign body is stuck in the tyre or between the tread blocks.

*On vehicles with AirStop® tyres:* Leave the foreign body in the tyre and go to a suitably qualified workshop. A sealant applied to the inside of the tyre tread encloses the foreign body and seals the tyre temporarily.

1. Leave the foreign body in the tyre if it has entered the inner tyre. Foreign bodies that are stuck between the tyre tread blocks can be removed.
2. Changing a damaged wheel → page 552. If necessary, seek assistance from a suitably qualified workshop.

**Or:** Use the breakdown set to seal the damaged tyre and then inflate it → page 571.

3. Check and adjust the tyre pressure.
4. Consult a suitably qualified workshop.

### **Tyres lose grip**

The vehicle suffers from loss of grip when cornering and breaks away. The braking distance is longer and the traction control system (TCS) and anti-lock brake system (ABS) intervene earlier.

The tyre may be too worn to guarantee sufficient grip → page 537.

1. Drive slowly and cautiously to the nearest suitably qualified workshop in order to have the vehicle checked.

### **Wheel bolts are difficult to loosen**

The wheel bolts can corrode over time. As a result, it is difficult to loosen them.

1. Seek the assistance of a suitably qualified workshop or drive slowly and cautiously to the nearest suitably qualified workshop in order to have the vehicle checked.
- If there is no visible damage, drive slowly and cautiously to the nearest suitably qualified workshop in order to have the vehicle checked.

### **WARNING**

If you notice unusual vibration or the vehicle pulling to one side while the vehicle is in motion, this may indicate that one of the tyres is damaged.

Tyre damage can cause you to lose control of the vehicle, which can lead to serious accidents and fatal injuries.

- Slow down immediately and stop as soon as the traffic situation permits and it is safe to do so.
- Check the tyres and wheel rims for damage.
- Never drive on if tyres or wheel rims are damaged. Instead, seek assistance from a suitably qualified workshop.

#### Function of the Tyre Pressure Monitoring System

The Tyre Pressure Monitoring System warns the driver if the tyre pressures are too low.

The Tyre Pressure Monitoring System (TPM) monitors the tyre pressure of the four wheels while the vehicle is in motion using pressure sensors on the tyres.

For vehicles with twin tyres: The tyre pressures of all four wheels on the rear axle are monitored. However, only the lower tyre pressure is displayed for each tyre pair on the rear axle for technical reasons. The recommended tyre pressure for the factory-fitted tyres is indicated on the tyre pressure sticker on the driver's door pillar → page 535.

The tyre pressure of all tyres, including the spare wheel or temporary spare wheel, must be checked once every month with cold tyres and must correspond to the speci-

fications of the vehicle manufacturer on the tyre pressure sticker. If the tyre size of the fitted tyres differs from the specified value on the type plate or tyre pressure sticker, the correct tyre pressure must be determined.

As an additional safety feature, the vehicle is equipped with a Tyre Pressure Monitoring System (TPMS). With this system, an indicator lamp for low tyre pressure lights up if one or more tyres have a significantly lower pressure than required. If the indicator lamp for low tyre pressure lights up, stop the vehicle as quickly as possible, check the tyres and inflate them to the correct pressure. Driving with a tyre pressure that is significantly lower than required can cause the tyre to overheat and can lead to tyre damage. If the tyre pressure is too low, this also reduces fuel efficiency and the service life of the tyre tread and can impair the vehicle's handling and braking capability.

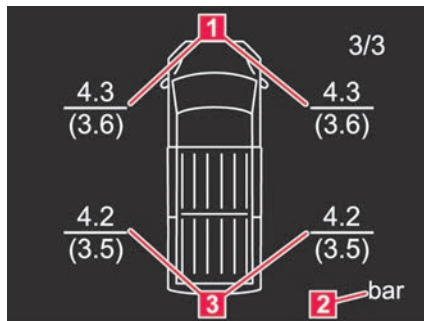
The tyre monitoring system does not replace regular maintenance and inspection of the tyres. The driver is responsible for ensuring that the correct tyre pressure is maintained at all times, even if the tyre monitoring system does not yet display a warning about low tyre pressure.

The tyre monitoring system also has a malfunction indicator that provides a corresponding warning if the system is not functioning correctly. The malfunction indicator is coupled with the indicator lamp for low tyre pressure. If the system detects a fault, the warning lamp flashes for around 1 minute when the vehicle is started and then lights up continuously. This sequence is repeated each time the vehicle is started as long as the fault is present.

If the tyre monitoring system indicates a fault, the tyre pressure cannot be monitored correctly. A malfunction of the Tyre Pressure Loss Indicator can have various causes,

e.g. due to replacement of a wheel or tyre. When a wheel or tyre has been replaced, check whether the (⚠) warning lamp is indicating a system malfunction to ensure that the tyre monitoring system is functioning properly → page 549.

### Display of tyre pressures on the instrument cluster display



**Fig. 205** Display on the instrument cluster: current tyre pressures (illustration).

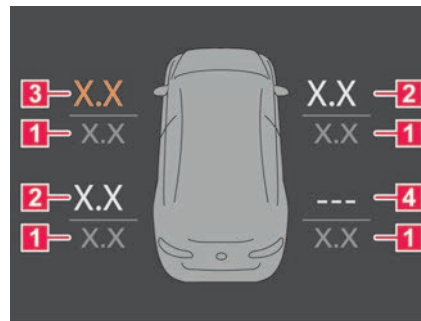
- 1** Actual tyre pressure of front wheels. Target tyre pressure in brackets.
- 2** Tyre pressure unit.

- 3** Actual tyre pressure of rear wheels. Target tyre pressure in brackets.

1. Switch on the ignition.
2. Open function → page 39.

In addition to the target tyre pressures, the current tyre pressures of the individual wheels are also displayed → **Fig. 205**.

### Tyre pressure display in the Infotainment system



**Fig. 206** Display on the Infotainment system: current tyre pressures (illustration).

- 1** Target tyre pressure in bar.
- 2** Actual tyre pressure in bar.
- 3** Loss in pressure at front left.
- 4** System malfunction for rear right tyre.

1. Switch on the ignition.
2. Press the **(MENU)** button or function button, depending on the version of the Infotainment system.
3. Tap **(Vehicle)**.
4. Tap **(Selection)**.
5. Tap **(Vehicle status)**.
6. Tap **< or >** until the Tyre Pressure Monitoring System screen is displayed.

The vehicle is displayed with the target and actual tyre pressures of all the wheels → **Fig. 206**.


When the ignition is switched on, the last measured tyre pressures will be displayed first; these values will be updated when the journey is started. If the tyre pressure is too

low, the respective actual values and the affected tyres will be marked → Fig. 205, → Fig. 206.

If the tyres are in rest state, the sensors will not transmit any tyre pressures. This stops the sensor batteries discharging.

The last received tyre pressures are shown in grey if no tyre pressures are transmitted.

If a set of tyres is fitted to the vehicle where the tyres either do not have tyre pressure sensors or have tyre pressure sensors that are not compatible with the vehicle, the indicator lamp (L) will flash for approximately 1 minute and then light up steadily. The tyre pressures will not be monitored. The system cannot be switched off.

 Observe any country-specific legal requirements for the Tyre Pressure Monitoring System.

#### **Tyre pressure warning**

If there is a significant loss of pressure in one or more tyres, the yel-

low indicator lamp lights up in the instrument cluster and a text message may appear on the instrument cluster display.

For vehicles with a multi-function display, the tyre pressure of the wheel in question is also displayed in a yellow rectangle. An acoustic warning is also given.

#### **WARNING**

The tyre monitoring system is not a replacement for the driver's attention and works only within the limits of the system. The tyre monitoring system cannot detect all driving situations and may not react or may react with a delay or in an undesired way. If you do not pay due attention, there is a risk of accidents and serious or even fatal injuries.

- Always remain alert and do not rely solely on the tyre monitoring system. The driver is always responsible for ensuring that the tyre pressure is correct.

- Observe the system limits → page 548.
- Check the tyre pressure regularly when the tyres are cold and always observe the specified value in accordance with the tyre pressure sticker for the tyres fitted on the vehicle → page 535.
- Check the tyres regularly for signs of wear or damage and replace worn or damaged tyres immediately.
- Never exceed the maximum speed and load permitted for the fitted tyres.

#### **WARNING**

Driving with insufficient tyre pressure can warm up the tyre to such an extent that this can result in tread separation, the tyre bursting and loss of control over the vehicle. If the tyre pressure is too low or too high, the tyres will wear prematurely and the vehicle will not handle well.

Different tyre pressures or tyre pressures that are too low can increase tyre wear, negatively affect driving stability, extend the braking distance and lead to tyre damage, tyre failure and loss of control over the vehicle.

This can result in serious accidents and fatal injuries.

- Always observe the warnings of the tyre monitoring system. If the (L) indicator lamp lights up, stop the vehicle immediately in a place where it is safe from traffic and check all tyres → page 535.
- The driver is responsible for the correct tyre pressure. Check the tyre pressure regularly when the tyres are cold and always observe the specified value in accordance with the tyre pressure sticker for the tyres fitted on the vehicle → page 535. The tyre monitoring system cannot function correctly until all cold tyres have the correct tyre pressure.


- If the tyre is not flat and it is not necessary to change the wheel immediately, drive at low speed to the nearest suitably qualified workshop and have the tyre pressure checked and corrected → page 535.


### WARNING


Driving too fast and overloading the vehicle can cause overheating, sudden tyre damage including tyre bursts, and tread separation.


This can cause serious accidents and fatal injuries.

- Never exceed the maximum load capacity of the fitted tyres → page 577.
- Never exceed the maximum permitted speed of the fitted tyres → page 577.

 If the tyre pressure is too low, this will increase fuel consumption and tyre wear.

 When new tyres are driven at high speeds for the first time, they can expand slightly and trigger a one-off pressure warning.

 Old tyres should be replaced only by tyres that have been approved by MAN for the vehicle type.

 Do not rely only on the tyre monitoring system alone. Check your tyres regularly to ensure that they are properly inflated and have no signs of damage, such as punctures, cuts, cracks, and blisters. Remove any foreign bodies that have become embedded in the tyre tread if they have not penetrated into the interior of the tyre.

### Limits of the Tyre Pressure Monitoring System

#### Regular maintenance

The Tyre Pressure Monitoring System does not replace regular maintenance and inspection of the tyres. The driver is responsible for ensuring that the correct tyre pressure is maintained at all times, even if the Tyre Pressure Monitoring System does not yet display a warning about low tyre pressure.

The tyre pressure of all tyres must be checked monthly on the cold tyres and correspond to the vehicle manufacturer's specifications on the tyre pressure sticker.

This also applies to the tyre pressure of the spare wheel or temporary spare wheel.

The recommended tyre pressure for the factory-fitted tyres is indicated on the tyre pressure sticker on the driver's door pillar → page 535.

#### Fault in radio signal transmission

The function of the system may be temporarily impaired by radio transmitters that operate in the same frequency band as the tyre pressure sensors → page 549.

Metal valve caps can interfere with the radio signal transmission of the sensors. A tyre pressure sensor may not be detected by the system as a result → page 549.

#### Spare wheel or temporary spare wheel

The tyre pressure of the stowed spare wheel or the temporary spare wheel is not monitored. The stowed spare wheel or temporary spare wheel does not rotate and is therefore in sleep mode.

### NOTICE

Incorrect handling of the tyre valves can damage the pressure sensors and impair functioning of the Tyre Pressure Monitoring System.

- The pressure sensors are secured to special aluminium

valves that are screwed rigidly in place. When inflating the tyres and checking the pressure, do not bend the valves “into position”.

- Missing valve caps could lead to damage to the valve and the sensors. You should therefore always make sure that all valve caps are fully screwed on while driving.
- Do not use metallic valve caps.
- Do not use “convenience” valve caps as they do not form a proper seal. This can cause damage to the sensors. “Convenience” valve caps are valve caps that do not have to be unscrewed in order to inflate the tyre.

### Adjusting the Tyre Pressure Monitoring System

#### Adjusting the tyre pressure

Following any change in the vehicle load, the tyre pressure must be checked and adjusted as necessa-

ry. The tyre pressures recommended for the vehicle are on a sticker on the driver door pillar or on the inside of the tank flap → page 535.

There may be differences between readings on the pressure gauge when filling the tyres and the values determined by the Tyre Pressure Monitoring System. The TPM is more precise.

### Selecting tyre types on vehicles with Infotainment system

If the tyre size is changed, it may be necessary to adjust the target tyre pressure for the new tyres. If no adjustment is necessary, the selection menu will not be available.

1. Switch on the ignition.
2. Press the **MENU** button or function button, depending on the version of the Infotainment system.
3. Tap **Vehicle**.
4. Tap **Settings**.
5. Select **Tyres**.
6. Select the appropriate tyre size.

If the size of the fitted tyres does not correspond to the factory-specified tyres, the corresponding target tyre pressure can be entered by a suitably qualified workshop.

### Calibrating the Tyre Pressure Monitoring System in vehicles without Infotainment system

If new reference values are to be set manually for the TPM, use the table of values near the driver door to ensure that the tyre pressures on all four wheels are correct for the vehicle's operating situation. You then need to save the reference values:

1. Switch on the ignition.
2. Press and hold the **0.0/SET** button in the instrument cluster until the text **Tyre pressure** appears in the display.
3. Release the button.  
The message **To save the tyre pressures, please press the OK button** appears on the display.
4. Press the **0.0/SET** button.

A confirmation tone sounds.  
The tyre pressures are saved.

After calibration, the display for the Tyre Pressure Monitoring System initially does not display any tyre pressures.

Pressures are displayed after around 10 minutes as soon as the sensors have been detected and tyre pressure values transmitted.

### Spare wheel

If the vehicle is factory-fitted with a spare wheel with the same tyre and rim combination as the other wheels, the spare wheel also has a compatible tyre pressure sensor.


The tyre pressure of the spare wheel under the vehicle is not monitored.

### Troubleshooting for Tyre Pressure Monitoring System

#### Low tyre pressure

The indicator lamp lights up yellow.

Text message: Flat tyre! The tyre pressure of one or more tyres is below 1.4 bar (20 psi/140 kPa) or there is a critical loss of tyre pressure.

1.  Stop the vehicle immediately in a safe place.
2. Check the tyre for visible damage → page 542.
3. If the tyre is not visibly damaged, drive slowly to the next filling station and check the tyre pressures. Correct the tyre pressures if necessary.
4. If the tyre is damaged, change the damaged wheel → page 552. If necessary, seek assistance from a suitably qualified workshop.

**Or:** seal the damaged tyre with the breakdown set and inflate → page 571.

Text message: Tyre pressures too low! The warning indicates at least one tyre with a critical tyre pressure.

1. Check the tyre pressure of all tyres and adjust if necessary → page 535.

2. If the tyre cannot hold the tyre pressure, have the tyre replaced.

**Or:** replace the damaged wheel by a spare wheel or temporary spare wheel and go to a suitably qualified workshop. → page 552.

**Or:** seal the damaged tyre with the breakdown set and go to a suitably qualified workshop. → page 571, → page 572

Text message: Please check tyre pressures. The warning indicates at least one tyre with a reduced tyre pressure.

1. Avoid long trips and high speeds as long as the warning is displayed.
2. Check the tyre pressure of all tyres and adjust if necessary → page 535.



### Fault in the Tyre Pressure Monitoring System

The indicator lamp flashes for around 1 minute and then remains lit up yellow continuously.

One or more wheels with a tyre pressure sensor have been fitted but have not yet been detected by the system.

1. Drive for a few minutes until the indicator lamp goes out.

One or more wheels without a tyre pressure sensor have been fitted or a tyre pressure sensor is defective.

1. Fit wheels with functional tyre pressure sensors.

There is a transmission fault between the sensor and the system. The function of the system may be temporarily impaired if there is interference from signals in the same frequency range as these transmitters.

1. Switch off or avoid any disruptive sources, e.g. wireless devices, remote controls or children's toys.

Metal valve caps were screwed on to the tyre valves and are blocking the radio signal of the tyre pressure sensors.

1. Replace the metal valve caps with valve caps made of plastic.

There is a system fault.

1. Switch the ignition off and then back on again. If the fault persists, go to a suitably qualified workshop.

### Introduction

You should carry out a wheel change yourself only when the vehicle is parked safely, you are familiar with the safety procedures and have access to the correct equipment. Some models are delivered from the factory without a jack or box spanner. If this is the case, have the wheel change carried out by a suitably qualified workshop.

If the vehicle is delivered from the factory with a jack, this must be used only if one wheel on the vehicle is damaged and has to be replaced. If both tyres on one side of the vehicle, both tyres on one axle, or all tyres are damaged, the factory-supplied jack must not be used. Instead, go to a suitably qualified workshop.

The following activities must be carried out to change a wheel.

1. Prepare the vehicle for a wheel change → page 553.
2. Remove spare wheel → page 554.

3. Remove wheel cover or wheel bolt caps → page 559.
4. Loosen the wheel bolts → page 560.
5. Lift the vehicle → page 561, → page 563.
6. Remove the damaged wheel and fit the spare wheel or temporary spare wheel → page 564.

### WARNING

Changing a wheel at the side of the road can be dangerous.

Serious accidents and fatal injuries can occur if the vehicle and working area are not properly secured.

- Change the wheel yourself only if you are familiar with the necessary actions. Otherwise, seek assistance from a suitably qualified workshop.
- Stop the vehicle as soon as it is possible and safe to do so.
- Park the vehicle at a safe distance from moving traffic.


- To reduce the risk of unintended vehicle movement, always switch off the engine and move the selector lever to **P** position.

To reduce the risk of unintended vehicle movement, always switch off the engine and engage a gear in vehicles with a manual gearbox.

- Apply the handbrake firmly.
- Move all passengers, especially children, a safe distance away from the working area and from moving traffic.
- To warn other road users, switch on the hazard warning lights and set up the warning triangle.
- Jack up the vehicle only on a firm and level surface. Soft ground or surfaces at an incline under the vehicle jack may cause the vehicle to slip off the jack. If necessary, use a large, strong board or similar support for the jack.
- Use a non-slip underlay, e.g. a rubber mat, to prevent the

jack from slipping on smooth surfaces such as tiled floors.


- Always use suitable and undamaged tools to change the wheel.
- The wheel bolt tightening torque should be checked immediately with a correctly functioning torque wrench immediately after changing a wheel.

 If the spare tyre is not the same as the tyres that are mounted on the car – for example in the case of winter tyres or a temporary spare wheel – only use the spare tyre in the event of a breakdown for a short period of time and drive with extra care. Replace the temporary spare wheel with a normal wheel as soon as possible.

### Preparing the vehicle

 **Please refer to  at the start of the chapter on page 552.**

### Checklist

The following actions must always be carried out in the given order in preparation for changing the wheel → :

1. Park the vehicle at a safe distance from moving traffic. Observe all the important information on parking → page 260. The ground must be firm and level. Soft ground or surfaces at an incline under the vehicle jack may cause the vehicle to slip off the jack. If necessary use a large, strong board or similar support for the vehicle jack.
2. Switch on the hazard warning lights → page 27.
3. Ensure that all occupants exit the vehicle and go to a safe place away from moving traffic, e.g. behind the safety barrier. Observe the country-specific

regulations on high-visibility waistcoats.

4. Set up the warning triangle to draw the attention of other road users to your vehicle.
5. Adjust the steering wheel so that the wheels point straight forwards.
6. Chock the wheel diagonally opposite the wheel being worked on with a stone, collapsible chocks or a similar object.
7. When towing a trailer: unhitch the trailer from the vehicle and park it → page 428.
8. When the luggage compartment is loaded: remove load.
9. Remove the spare wheel from the spare wheel bracket and vehicle tools from the vehicle.

### WARNING

Ignoring any of the items on this important safety checklist can lead to accidents and severe injuries.

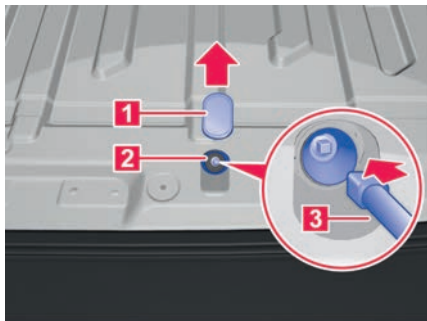
- Always follow the actions in the checklist.

- Observe the generally valid safety precautions.

### Removing the spare wheel

📖 Please refer to ⚠️ at the start of the chapter on page 552.

#### Panel van: Winding the spare wheel down



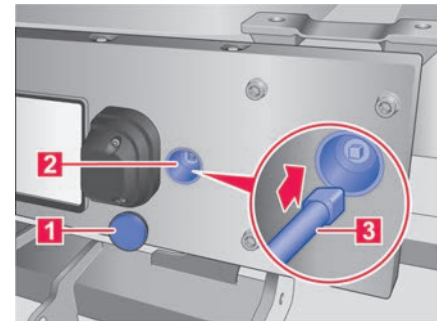
**Fig. 207** In the rear of the panel van: Using the winch to crank the spare wheel down.

These steps should be followed in the given order only → ⚠️.

1. Open the wing doors.

2. Remove the box spanner, screwdriver and socket from the vehicle toolkit → page 461.
3. Open the cap on the lock carrier cover.
4. Remove the dust cap → Fig. 207 1 from the spare wheel winch in the direction of the arrow.
5. Fit the socket → Fig. 207 3 on the square → Fig. 207 2 of the spare wheel winch. You will need to overcome some slight resistance when you do this.
6. Fit the box spanner on the socket.
7. Wind the spare wheel down anticlockwise until the cable is completely unrolled. Check visually to ensure that the wheel starts to move down from the first rotation of the tool.
8. Pull the box spanner and socket off the square.
9. Pull out the spare wheel underneath the vehicle.

#### Dropside and chassis: Winding the spare wheel down



**Fig. 208** At the rear of the vehicle – dropside and chassis: Using the winch to crank the spare wheel down.

These steps should be followed in the given order only → ⚠️.

1. Remove the box spanner, screwdriver and socket from the vehicle toolkit → page 461.
2. Open the cap on the lock carrier cover.
3. Remove the dust cap → Fig. 208 1 from the spare wheel winch in the direction of the arrow.

4. Fit the socket → Fig. 208 3 on the square → Fig. 208 2 of the spare wheel winch. You will need to overcome some slight resistance when you do this.
5. Fit the box spanner on the socket.
6. Wind the spare wheel down anticlockwise until the cable is completely unrolled. Check visually to ensure that the wheel starts to move down from the first rotation of the tool.
7. Pull the box spanner and socket off the square.
8. Pull out the spare wheel underneath the vehicle.

### Unfastening the wheel from the cable

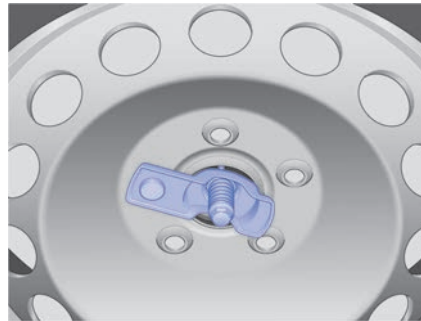


Fig. 209 Wheel holder on spare wheel.

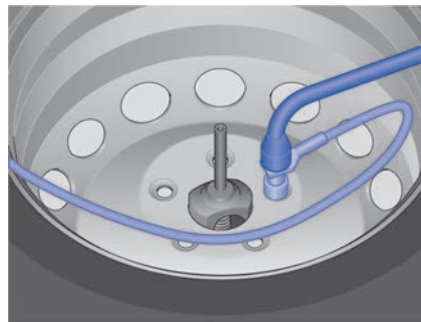


Fig. 210 To detach the arrester cable, loosen the bolt with the box spanner.

The spare wheel is connected to the cable via a wheel holder with a catch → Fig. 209.

1. Use the box spanner to loosen the bolt on the wheel catch and detach the arrester cable → Fig. 210.
2. Turn the spare wheel around so that you can access the wheel holder.
3. Pull the wheel holder out of the hole in the wheel and place the wheel holder at an angle.
4. Guide the wheel holder with the cable and the catch through the hole in the wheel.

### When the spare wheel is not the same as the other tyres mounted on the vehicle

If the spare wheel tyre differs from the other tyres on the vehicle, the spare wheel must be used only in the event of a tyre failure and for a short time → ⚠.

You must replace the spare wheel with a normal, functional road wheel as soon as possible.

#### Observe these driving guidelines:

- Do not drive faster than 80 km/h (50 mph).
- Avoid full acceleration, sudden braking and fast driving through bends in the road.
- Do not use snow chains on the temporary spare wheel → page 540.
- The tyre pressure must be checked as soon as possible after fitting the spare wheel or temporary spare wheel → page 535.

The tyre pressure of the spare wheel or temporary spare wheel must be checked each time the tyre pressure of the tyres in use is checked, at least once a month. The tyre pressure of the cold tyre on the spare wheel or temporary spare wheel must correspond to the information on the tyre pressure sticker → page 535.

#### WARNING

Incorrect use of the spare wheel or temporary spare wheel can lead to a loss of control of the vehicle, serious accidents and fatal injuries.

- Do not use the spare wheel or temporary spare wheel under any circumstances if it is damaged or worn down to the tread wear indicators.
- If the spare wheel is not the same as the other tyres mounted on the vehicle or if you are using a temporary spare wheel: Never drive faster than 80 km/h (50 mph).
- Some vehicles may be equipped with a temporary spare wheel instead of a spare wheel. The temporary spare wheel can be recognised by a sticker and the text “80 km/h” or “50 mph”. This is the maximum speed at which you are permitted to drive with this tyre. Do not cover the sticker during use of the wheel.
- Never drive further than 200 km (125 miles) with a temporary

spare wheel if it is fitted to the drive axle.

- Do not accelerate quickly, brake suddenly or drive at high speed through bends.
- Replace the temporary spare wheel with a normal wheel as soon as possible. The temporary spare wheel is designed for a short period of use only.
- Always secure the temporary spare wheel with the wheel bolts supplied from the factory.
- Never use more than one temporary spare wheel at a time.
- Never drive using more than one spare wheel that differs from the normal tyres.
- Check the tyre pressure as soon as possible after fitting the spare wheel or temporary spare wheel → page 535.
- Do not use snow chains on the temporary spare wheel.
- Do not fit a temporary spare wheel to the rear axle when towing a trailer → page 428.

**⚠ WARNING**

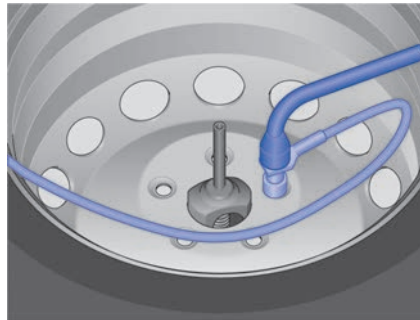
Failing to carry out the actions for removing the spare wheel in the specified order could result in serious injuries.

- Carry out the actions in the specified order.

💡 If possible, secure the spare wheel or the removed wheel securely in the spare wheel bracket.

**Stowing the spare wheel in the spare wheel holder**

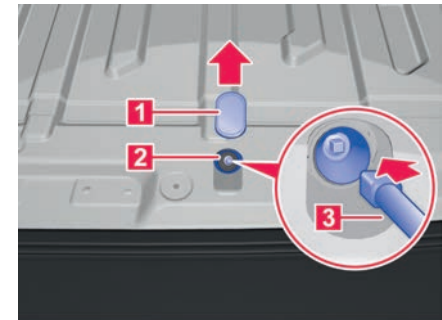
📖 Please refer to ⚠ at the start of the chapter on page 552.

**Attaching the wheel to the cable**

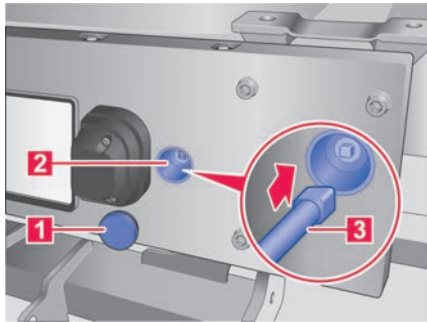
**Fig. 211** To detach the arrester cable, loosen the bolt with the box spanner.

1. Place the spare wheel behind the vehicle, position the wheel holder at an angle and guide it through the hole in the wheel.
2. Lay the wheel down with the rim facing downwards.
3. Insert the stud on the wheel holder into one of the holes for the wheel bolts.

4. Make sure that the wheel holder is positioned in the centre of the hole and is not at an angle → Fig. 211.
5. Screw the nut on the arrester cable onto the stud manually.
6. Use the box spanner to tighten the nut, thereby securing the arrester cable to the wheel → Fig. 211.

**Lifting up the spare wheel**

**Fig. 212** In the rear of the panel van: Using the winch to crank the spare wheel down.



**Fig. 213** At the rear of the vehicle – dropside and chassis: Using the winch to crank the spare wheel down.

1. Fit the socket → Fig. 212 or → Fig. 213 **3** onto the square → Fig. 212 or → Fig. 213 **2** of the spare wheel winch. You will need to overcome some slight resistance when you do this.
2. Fit the box spanner on the socket.
3. Wind up the box spanner slightly clockwise.
4. Check that the wheel holder is positioned correctly in the hole in the wheel.
5. Turn the box spanner clockwise to wind the wheel up to the point where you feel resistance. In doing so, make sure that the arrester cable does not get stuck between the wheel and the vehicle underbody.
6. Keep turning until you have passed the stopper twice. You have passed the stopper if you can hear a clicking noise.
7. Check that the wheel is securely in position. If the wheel is at an angle, wind it back a few turns and then wind it up again until you have passed the stopper twice.
8. Pull the socket and box spanner off the square of the spare wheel winch.
9. Fit the cover → Fig. 212 or → Fig. 213 **1** in the lock carrier cover.

### Stowing the tools

1. Pull the box spanner and socket off the square.

2. If necessary, place the additional caps onto the square slot for the spare wheel winch.
3. Return the box spanner, screwdriver and socket to the vehicle toolkit → page 461.
4. Close the wing doors.

### **⚠ WARNING**

The spare wheel must be stowed securely in the spare wheel bracket. If the spare wheel is not stowed correctly, it can fall out while driving and cause accidents and also serious and fatal injuries.

- Make sure that the wheel rim holder is positioned in the centre of the wheel rim hole and is not at an angle.
- Crank the spare wheel up to the limit position in the spare wheel bracket.

### **NOTICE**

Vehicles with aluminium wheels: if you replace a defective aluminium wheel with the spare wheel, the aluminium wheel cannot be stowed

in the spare wheel bracket owing to technical reasons. The aluminium wheel could be damaged if you put it in the spare wheel bracket.

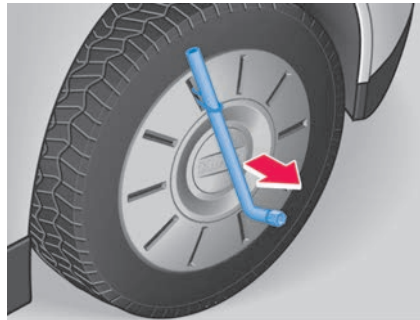
- Clean the defective aluminium wheel and stow it securely in the vehicle.

⚠ If a spare tyre that deviates from the size of the factory-fitted spare tyre needs to be stowed, the spare tyre and wheel holder may not fit in some circumstances.

### Removing and fitting wheel covers

📖 Please refer to ⚠ at the start of the chapter on page 552.

#### Removing wheel covers



**Fig. 214** Removing the wheel cover.

The wheel cover protects the wheel bolts and must be replaced after changing the tyre.

1. Take the hook from the vehicle toolkit → page 461.
2. Insert the hook into one of the holes in the wheel cover.
3. Use the puller to pull off the wheel cover in the direction of the arrow. If necessary, use

a box spanner to remove the wheel cover → Fig. 214.

#### Fitting the wheel covers

1. Check the correct position of the anti-theft wheel bolt → page 564.
2. Press the wheel cover onto the wheel rim so that the valve hole is located over the tyre valve. Please ensure the cover engages securely all the way round.

### ⚠ WARNING

Using unsuitable hubcaps, or fitting them incorrectly, can cause accidents and serious injuries.

Incorrectly fitted hubcaps can become loose while the vehicle is in motion and endanger other road users.

- Do not use damaged hubcaps.
- Check to make sure that the wheel trim has securely engaged around the entire circumference.

### ⚠ WARNING

Incorrectly fitted hubcaps can stop or reduce the air supply for cooling the brakes. This also applies if hubcaps are retrofitted. If the airflow is not sufficient, the braking distance could increase significantly.

This can cause serious accidents and fatal injuries.

- Check that the opening for the tyre valve in the wheel cover is in the correct position.
- Check to make sure that the wheel trim has securely engaged around the entire circumference.

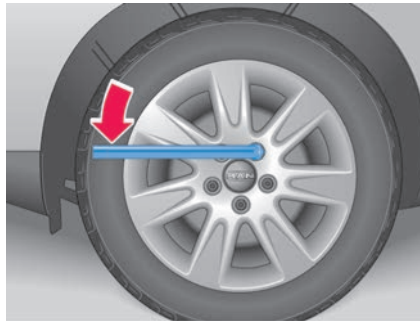
### NOTICE

The wheel cover may be bolted on and may be damaged if it is pulled off.

- Do not remove bolted-on wheel covers with force.

### Loosening the wheel bolts

📖 Please refer to ⚠ at the start of the chapter on page 552.



**Fig. 215** Loosening the wheel bolts.

Use a suitable box spanner to loosen the wheel bolts.

The box spanner from the vehicle toolkit consists of two parts and must be assembled before use → page 461.

Only loosen the wheel bolts by approximately one turn before raising the vehicle with the vehicle jack.

1. Fit the box spanner over the wheel bolt as far as it will go.

2. Hold the end of the box spanner and turn the wheel bolt one turn anticlockwise → ⚠.

ⓘ If the wheel bolt is very tight, you may be able to loosen it by pushing down the end of the spanner carefully with your foot. Hold on to the vehicle for support and take care not to slip.

### Loosening the anti-theft wheel bolt

1. Take the adapter for the anti-theft wheel bolt out of the vehicle toolkit.
2. Push the adapter onto the anti-theft wheel bolt as far as it will go.
3. Push the box spanner onto the adapter as far as it will go.
4. Hold the end of the box spanner and turn the wheel bolt one turn anticlockwise → ⚠.

ⓘ If the wheel bolt is very tight, you may be able to loosen it by pushing down the end of the spanner carefully with your foot. Hold

on to the vehicle for support and take care not to slip.

### **⚠ WARNING**

If the wheel bolts are removed or loosened by more than one turn before lifting the vehicle, the wheel could fall off and the vehicle could tip over.

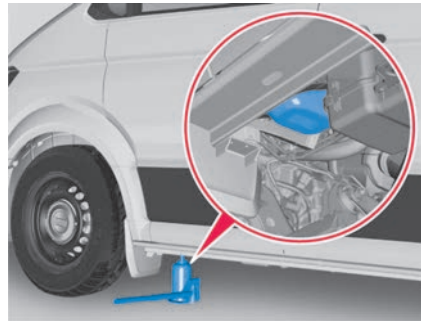
This can cause serious injuries.

- Only loosen the wheel bolts by approximately one turn before raising the vehicle with the jack.
- Never place any part of your body, such as an arm, underneath the vehicle while you are unscrewing the wheel bolts.

### **Lifting the vehicle with the jack (dropside/chassis)**

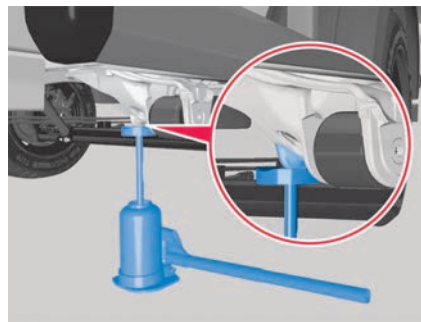
📖 Please refer to **⚠** at the start of the chapter on page 552.

The jack must be positioned only at the jacking points shown and the vehicle must be lifted only at the jacking points for the jack.

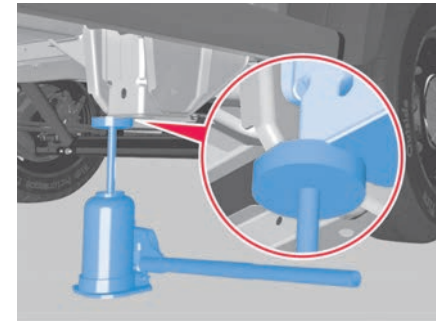


**Fig. 216** Dropside and chassis: Front jacking points.

The front jacking point is located behind the front axle under the step of the front door → **Fig. 216**.



**Fig. 217** Dropside and chassis: rear jacking points for single tyres.




**Fig. 218** Dropside and chassis: rear jacking points for twin tyres.

The rear jacking point is located next to the front mount for the leaf spring → **Fig. 217** on vehicles with single tyres and on the spring bracket on vehicles with twin tyres → **Fig. 218**.

Body makers use the chassis as a basis for body work. Depending on body work, the jack in the vehicle toolkit might not fit under the rear jacking point. In this case, the second stage manufacturer must provide a jack suitable for the body, jacking points and gross vehicle weight rating. The jack must

have a load capacity of at least 1150 kg (around 2536 lbs).

### Checklist

For your own safety, carry out the following tasks in the specified order → :

1. Observe the checklist → page 553.
2. Loosen the wheel bolts on the wheel that is being changed → page 560.
3. Find the jacking point under the vehicle that is closest to the wheel that you are changing → Fig. 216, → Fig. 217 or → Fig. 218.
4. Pump up the jack until it just fits under the jacking point on the vehicle.
5. Ensure that the foot of the jack is resting securely on the ground with its whole surface and that the foot of the jack is positioned precisely and vertically beneath the jacking point.
6. Position the jack and simultaneously continue to pump up

the jack until the head touches the jacking point underneath the vehicle.

7. Pump up the jack further until the wheel is just clear of the ground.

### WARNING

Incorrect use of the jack can cause the vehicle to slip off the jack, which can lead to serious or fatal injuries.

- Never jack up the vehicle if more than one wheel is damaged.
  - Never jack up the vehicle when the engine is running.
  - Never start the engine when the vehicle is jacked up. Engine vibrations can cause the vehicle to fall off the vehicle jack.
  - Only fit the jack at the jacking points described. The jack claw must grip the vertical rib under the door sill securely.
  - Never fit the jack to the leaf spring or the differential housing.
- Use only jacks that have been approved by MAN for your vehicle. Other jacks could slip out of position – this includes jacks supplied with other MAN models.
  - Jack up the vehicle only on a firm and level surface. Soft ground or surfaces at an incline under the vehicle jack may cause the vehicle to slip off the jack. If necessary, use a large, strong board or similar support for the jack.
  - Use a non-slip underlay, such as a rubber mat, to prevent the jack from slipping on smooth surfaces such as tiled floors.
  - Never place any part of your body, such as an arm, underneath a vehicle that is supported only by the jack. If you have to work underneath the vehicle, use suitable stands to provide extra support for the vehicle.

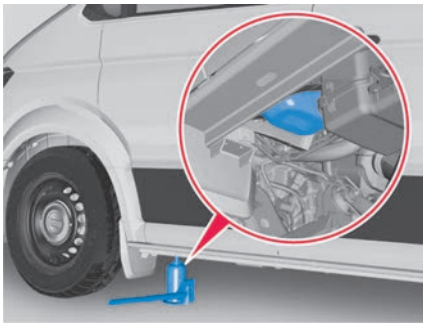
**⚠ WARNING**

Ignoring any of the items on this important safety checklist can lead to accidents and severe injuries.

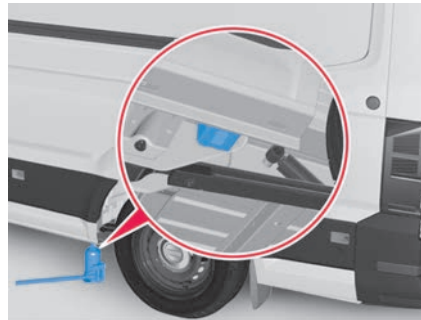
- Always follow the activities in the checklist.
- Observe the generally valid safety precautions.

**Lifting the vehicle with the jack (panel van)**

📖 Please refer to ⚠ at the start of the chapter on page 552.



**Fig. 219** Front jacking points.



**Fig. 220** Rear jacking points.

The jack must be positioned only at the jacking points shown and the vehicle must be lifted only at the jacking points for the jack.

The jacking points are the consoles on the side member. The front jacking point is located behind the front axle under the step of the front door → **Fig. 219**. The rear jacking point is located on the side member in front of the rear axle → **Fig. 220**.

**Checklist**

For your own safety, carry out the following tasks in the specified order → ⚠:

1. Observe the checklist → page 553.
2. Loosen the wheel bolts on the wheel that is being changed → page 560.
3. Find the jacking point under the vehicle that is closest to the wheel that you are changing → **Fig. 219** or → **Fig. 220**.
4. Pump up the jack until it just fits under the jacking point on the vehicle.
5. Ensure that the foot of the jack is resting securely on the ground with its whole surface and that the foot of the jack is positioned precisely and vertically beneath the jacking point.
6. Position the jack and simultaneously continue to pump up the jack until the head touches the jacking point underneath the vehicle.

7. Pump up the jack further until the wheel is just clear of the ground.

#### **⚠ WARNING**

Incorrect use of the jack can cause the vehicle to slip off the jack, which can lead to serious or fatal injuries.

- Never jack up the vehicle if more than one wheel is damaged.
- Never jack up the vehicle when the engine is running.
- Never start the engine when the vehicle is jacked up. Engine vibrations can cause the vehicle to fall off the vehicle jack.
- Only fit the jack at the jacking points described. The jack claw must grip the vertical rib under the door sill securely.
- Never fit the jack to the leaf spring or the differential housing.
- Use only jacks that have been approved by MAN for your vehicle. Other jacks could slip out of

position – this includes jacks supplied with other MAN models.

- Jack up the vehicle only on a firm and level surface. Soft ground or surfaces at an incline under the vehicle jack may cause the vehicle to slip off the jack. If necessary, use a large, strong board or similar support for the jack.
- Use a non-slip underlay, such as a rubber mat, to prevent the jack from slipping on smooth surfaces such as tiled floors.
- Never place any part of your body, such as an arm, underneath a vehicle that is supported only by the jack. If you have to work underneath the vehicle, use suitable stands to provide extra support for the vehicle.

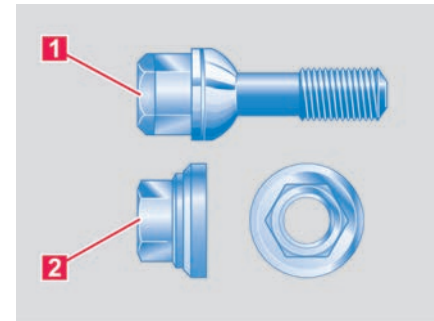
#### **⚠ WARNING**

Ignoring any of the items on this important safety checklist can lead to accidents and severe injuries.

- Always follow the activities in the checklist.
- Observe the generally valid safety precautions.

### Changing a wheel

📖 Please refer to **⚠** at the start of the chapter on page 552.



**Fig. 221** Wheel bolts **1** and wheel nuts **2**.

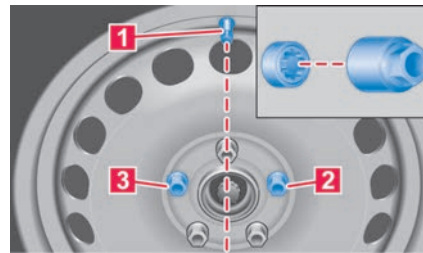
Depending on the type of wheel used, the wheels are attached using either wheel bolts or wheel nuts.

The process for fitting the spare wheel with wheel bolts differs from fitting the spare wheel with wheel nuts → page 567.

### Removing the wheel

1. Observe the checklist → page 553.
2. Loosen the wheel bolts or wheel nuts → page 560.
3. Jack up the vehicle → page 561, → page 563.
4. First unscrew the upper loosened wheel bolt or wheel nut completely with the box spanner and place on a clean surface.
5. Unscrew the remaining loosened wheel bolts or wheel nuts completely with the box spanner and place on a clean surface.
6. Remove the wheel.

### Fitting a wheel, wheels with wheel bolts



**Fig. 222** tyre valve **1** and locations of the anti-theft wheel bolt **2** or **3**.

1. Note the tyre direction of rotation → page 577.
2. Put the wheel in place.
3. Screw in the anti-theft wheel bolt with the adapter clockwise at the correct position and tighten slightly.


On wheels with a wheel cover, the anti-theft wheel bolt must be screwed in at position → Fig. 222 **2** or **3** according to the position of the tyre valve **1**. Otherwise, it will not be possible to fit the wheel cover.

4. Screw in all the wheel bolts clockwise and use the box spanner to tighten them slightly.
5. Lower the vehicle with the jack.
6. Use the box spanner to tighten all the wheel bolts securely → ⚠. Always switch to a wheel bolt opposite the one you have just tightened.
7. If present, fit the wheel cover → page 559.

### Fitting a wheel, wheels with wheel nuts

1. Note the tyre direction of rotation → page 577.
  2. Put the wheel in place.
  3. Screw on three wheel nuts over the locking disc of the wheel nut cover.
- Or:** Screw on three spherical washers with wheel nuts.
4. Check that the wheel is centred.
  5. Screw in all the wheel nuts or spherical washers with wheel

nuts and use the box spanner to tighten them slightly.

6. Lower the vehicle with the jack.
7. Use the box spanner to tighten the wheel nuts securely → . Do not tighten the bolts in clockwise or anticlockwise sequence. Tighten them in diagonal sequence.
8. If present, fit the wheel cover → page 559.

The wheel nuts and wheel bolts must be centred in the holes in the wheel.

### **Screwing on the adapter to the rear axle in vehicles with super single tyres**

1. Unscrew six bolts.
2. Take adapter off spare wheel.
3. Position the adapter on the axle so that the outer holes of the adapter are lined up over threaded holes of the axle.
4. Tighten the six bolts securely.
5. Fit the wheel on the adapter and push it on.

### **After changing a wheel**

1. Clean the removed wheel and stow it securely in the spare wheel holder → page 557.
2. If necessary, clean the vehicle tools and stow them safely in the vehicle → page 461.
3. Have the tightening torque of the wheel bolts or wheel nuts checked immediately → page 536.
4. The damaged wheel should be replaced as soon as possible.

### **Tightening torque for wheel bolts**

The prescribed tightening torque for wheel bolts on steel rims differs according to the type of tyre fitted:

- Vehicles with single tyres and wheel bolts: 200 Nm (148 ft-lbs).
- Vehicles with twin tyres and wheel nuts: 180 Nm (133 ft-lbs).

The tightening torque should be checked with a perfectly functioning torque spanner immediately after changing a wheel.

If the wheel bolts and wheel nuts are corroded and difficult to turn, they must be replaced and the wheel hub threads cleaned before checking the tightening torque.

Never grease or lubricate the wheel bolts or the threads in the wheel hub. This could cause them to loosen while the vehicle is in motion, even if the required torque setting is used.

### **WARNING**

If the tightening torque of the wheel bolts is insufficient, the wheel bolts or wheel nuts and thus the wheels can loosen while the vehicle is in motion. The wheel bolts and the threads or the wheel nuts could be damaged if the tightening torque is too high.

Incorrectly tightened or missing wheel bolts or wheel nuts can lead to loss of control over the vehicle, serious accidents and fatal injuries.

- Always tighten the wheel bolts and wheel nuts with the correct tightening torque. If you do not

have a torque wrench, tighten the wheel bolts or wheel nuts with the box spanner and have the tightening torque checked immediately by the nearest suitably qualified workshop.

- Never drive if wheel bolts or wheel nuts are missing or loose.
- Always use wheel bolts or wheel nuts that match the wheel rims and the vehicle type.
- Never grease or oil the wheel bolts, wheel nuts, wheel studs and the threads in the wheel hubs. This could cause them to loosen while the vehicle is in motion, even if the required torque setting is used.
- Make sure that the wheel bolts, wheel nuts, wheel studs and threads of the wheel hubs are clean, smooth-running and free of oil and grease.
- Never loosen the bolts on wheel rims with bolted-on rings.

### WARNING

If the wrong wheel bolts are used, the wheel bolt can loosen while driving and lead to loss of control of the vehicle, serious accidents and fatal injuries.

- Always use wheel bolts that match the wheel rims and the vehicle type.
- Never use different wheel bolts.

### NOTICE

The following applies to vehicles with super single tyres:

- Clean the contact surfaces of the wheel and axle, as you will need to bolt an adapter onto the axle. The adapter is screwed on to the spare wheel. This affects vehicle handling.
- Do not drive faster than 60 km/h (37 mph) with the spare wheel and do not drive further than 100 km (62 miles) as the different wheel speeds can damage the gearbox.



After changing a wheel, the indicator lamp for the tyre monitoring system may indicate a fault in the system → page 544.

### Mounting the complete emergency wheel

 Please refer to  at the start of the chapter on page 552.

The vehicle may contain a complete emergency wheel, depending on the equipment and the country.

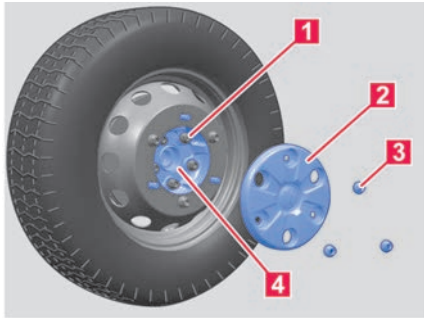
The complete emergency wheel including spacer is located below the vehicle → page 554.

The accessory set with wheel bolts, hexagon bolts and adapter piece are located in the glove box.

The cover for fitting the complete emergency wheel to the front axle is located in a pocket in the right wing door.

The box spanner and adapter piece can be found in the vehicle toolkit → page 461.

### Mounting the complete emergency wheel on the front axle



**Fig. 223** Mount the complete emergency wheel on the front axle.

- 1** Hexagon bolts.
- 2** Trim panel.
- 3** Wheel nuts.
- 4** Wheel spacer.

Complete these steps only in the specified order.

1. Take five hexagon bolts → **Fig. 223 1** and the adapter

piece for the complete emergency wheel from the accessory set.

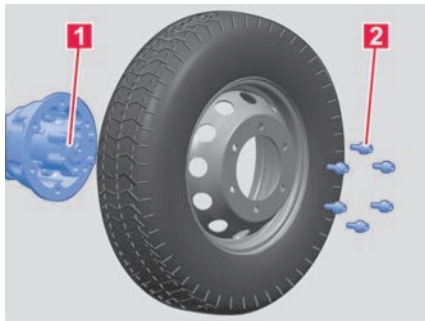
2. Use the winch to lower the complete emergency wheel and pull it out from under the vehicle → page 554.
3. Lift the vehicle using the jack.
4. Remove the defective front wheel → page 564.
5. Stow the wheel bolts and the cover of the defective front wheel securely in the vehicle.
6. Stow the defective front wheel safely in the vehicle.
7. Place the complete emergency wheel including spacer → **Fig. 223 4** (factory-fitted to the complete emergency wheel) on the front axle.
8. Screw in all hexagon bolts → **Fig. 223 1** in a clockwise direction and use the box spanner and adapter piece from the vehicle toolkit to tighten them gently.
9. Lower the vehicle with the jack.

10. Use the box spanner and adapter piece to tighten all hexagon bolts → **Fig. 223 1** in a clockwise direction. The tightening torque is 200 Nm (148 ft lbs).
11. Take the cover → **Fig. 223 2** of the complete emergency wheel from the pocket in the right wing door.
12. Undo three wheel nuts (every other wheel nut) on the complete emergency wheel → **Fig. 223 3**.
13. Fit the cover → **Fig. 223 2** with the large holes over the mounted wheel nuts.
14. Secure the cover back in place with the three loosened wheel nuts → **Fig. 223 3**.
15. Tighten all wheel nuts → **Fig. 223 3** with the box spanner. The tightening torque is 180 Nm (133 ft lbs).

The tightening torque should be checked with a perfectly function-

ing torque spanner immediately after changing a wheel.

### Mounting the complete emergency wheel on the rear axle



**Fig. 224** Mount the complete emergency wheel on the rear axle.

- 1** Rear axle.
- 2** Wheel bolts.

Complete these steps only in the specified order.

1. Take the wheel bolts with the flat thrust washers for the complete emergency wheel from the accessory set.
  2. Use the winch to lower the complete emergency wheel
3. For the complete emergency wheel, loosen the wheel nuts on the wheel spacer (factory-fitted to the complete emergency wheel) → **Fig. 223 4** with the box spanner and unscrew.
  4. Stow the wheel bolts and wheel spacer safely in the vehicle.
  5. Lift the vehicle using the jack.
  6. Remove the defective rear wheel → page 564.
  7. Stow the wheel bolts from the defective rear wheel with the dome-shaped thrust washers safely in the vehicle.
  8. Stow the defective rear wheel safely in the vehicle.
  9. Position the complete emergency wheel on the rear axle → **Fig. 224 1**.
  10. Screw in all wheel bolts with the flat thrust washers → **Fig. 224 2** clockwise and tighten them slightly using the

box spanner from the vehicle toolkit.

11. Lower the vehicle with the jack.
12. Use the box spanner to tighten all the wheel bolts securely in clockwise direction. The tightening torque is 200 Nm (148 ft lbs).

### After changing a wheel

1. Clean the removed tyre and stow it safely in the vehicle.
2. If necessary, clean the vehicle tools and stow them safely in the vehicle → page 461.
3. Check the tightening torque of the wheel bolts immediately with a correctly functioning torque wrench → page 536.
4. The damaged wheel should be replaced as soon as possible.

### Tyre pressure of the complete emergency wheel

The tyre pressure of the complete emergency wheel is 6.5 bar (94 psi/ 650 kPa).

#### **WARNING**

Incorrect use of the complete emergency wheel can lead to a loss of control over the vehicle, to collisions or other accidents and cause serious injuries.

- Never use a complete emergency wheel if it is damaged or worn down to the tread wear indicators.
- Never drive faster than 60 km/h (37 mph).
- Do not accelerate quickly, brake suddenly or drive at high speed through bends.
- Never drive more than 100 km (62 miles) with a complete emergency wheel.
- Replace the complete emergency wheel with a normal wheel as soon as possible. The complete emergency wheel is only designed to be used for a short period.
- Always secure the complete emergency wheel with the wheel bolts supplied from the factory.
- If you fit the complete emergency wheel on the front axle, you must attach the corresponding cover → **Fig. 223 2**.
- Never drive using more than one spare wheel that differs from the normal tyres.
- After fitting the complete emergency wheel, you must check the tyre pressure as soon as possible.
- Do not use snow chains on the complete emergency wheel.
- You must replace the complete emergency wheel after a single use.
- The tightening torque must be checked with a perfectly functioning torque spanner immediately after changing a wheel. The tightening torque is 200 Nm (148 ft lbs).

## Introduction

In some countries, the vehicle may be supplied with a breakdown set.

You can use the breakdown set to temporarily seal a tyre securely if it has been damaged by a foreign body or a puncture up to about 4 mm (about 5/32 in) in diameter. Do not remove the foreign object, such as a screw, from the tyre.

Once the sealant has been added to the tyre, the tyre pressure must be checked and adjusted again after approximately 10 minutes of driving.

Seek assistance from a suitably qualified workshop if more than one vehicle tyre is damaged. The breakdown set is only designed to fill one tyre.

Only use the breakdown set when the vehicle has been safely parked and if you are familiar with the work and safety precautions needed. Otherwise seek assistance from a suitably qualified workshop.

### The tyre sealant must not be used:

- If the rim is damaged.
- If the outside temperature is below  $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ).
- If there are cuts or punctures in the tyre that are larger than 4 mm.
- If the vehicle was driven with very low tyre pressure or a flat tyre.
- If the use-by date on the tyre filler bottle has expired.
- If a foreign object has been removed from the tyre.
- In connection with mobility tyres. The word “Seal” is on the outer wall of the tyre if your vehicle is fitted with mobility tyres.

### WARNING

Use of the breakdown set at the side of the road can be dangerous. If the vehicle and the working area are not secured appropriately, this can result in serious accidents and fatal injuries.

- Use the breakdown set only if you are familiar with the necessary actions. Otherwise, seek assistance from a suitably qualified workshop.
- Stop the vehicle as soon as it is possible and safe to do so.
- Park the vehicle at a safe distance from moving traffic → page 91, → page 260.
- Make sure that the surface the vehicle is parked on is level and firm.
- All passengers, and children in particular, must be at a safe distance and away from your area of work.
- Switch on the hazard warning lights and set up the warning triangle to warn other road users.
- When using the breakdown set, never lift the vehicle with a jack, even if the jack is approved for the vehicle.

### WARNING

Tyres that have been filled with sealant will not handle in the same way as an undamaged tyre.

If the sealed tyre is subjected to excessive loads, this can lead to serious accidents and fatal injuries.

- Never drive faster than 80 km/h (50 mph).
- Do not accelerate quickly, brake suddenly or drive at high speed through bends.
- Drive at a maximum speed of 80 km/h (50 mph) for not longer than 10 minutes and then check the tyre.
- Tyres that have been sealed using the breakdown set should be replaced immediately. Tyres repaired with the breakdown set are intended for temporary, emergency use only. They should be used only until you can reach the nearest qualified workshop.

### CAUTION

The sealant may be harmful if it comes into contact with the skin.

- If the sealant comes into contact with the skin, remove it from the skin immediately with a cloth or another suitable item.
- Keep the breakdown set out of the reach of children.



Dispose of used or out-of-date sealant in accordance with legal requirements.



A new tyre filler bottle can be obtained from a suitably qualified workshop.



Observe the separate operating instructions provided by the manufacturer of the breakdown set.

### Stowage

 Please refer to  and  at the start of the chapter on page 571.


The breakdown set can be found in various positions depending on the equipment:

- In the stowage compartment in the driver door.
- In the stowage compartment in the front passenger door.
- In the stowage compartment under the front passenger 2-seat bench → page 288.

### Preparing the vehicle

 Please refer to  and  at the start of the chapter on page 571.

### Checklist

Always carry out the following actions in the given order → :

1. Stop the vehicle at a safe distance away from moving traffic and on a flat and firm surface.

Observe all the important information on parking → page 260.

2. Switch on the hazard warning lights → page 27.
3. Ensure that all occupants exit the vehicle and go to a safe place away from moving traffic, e.g. behind the safety barrier. Observe country-specific regulations on high-visibility waist-coats.
4. Place the warning triangle in position to draw the attention of other road users to your vehicle.
5. Check whether the puncture can be repaired with the breakdown set → page 571.
6. When towing a trailer: unhitch the trailer from the towing vehicle and park it → page 428.
7. If the luggage compartment is loaded: remove the load.
8. Remove the breakdown set from the vehicle.
9. Do not remove foreign objects, e.g. screws, from the tyre.

### **⚠ WARNING**

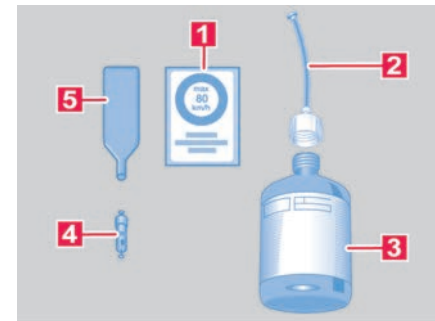
Ignoring any of the items on this important safety checklist can lead to accidents and severe injuries.

- Always follow the activities in the checklist.
- Observe the generally valid safety precautions.

### Sealing and inflating tyres

📖 Please refer to **⚠** and **⚠** at the start of the chapter on page 571.

#### Sealing a tyre



**Fig. 225** Contents of the breakdown set (illustration).

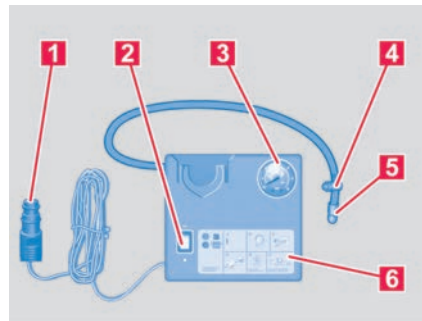
- 1** Sticker with the maximum permitted speed “max. 80 km/h” or “max. 50 mph”.
- 2** Filler hose with plug.
- 3** Tyre filler bottle.
- 4** Spare valve core.
- 5** Valve core extractor.

⚠ There is a slot for the valve core on the lower end of the valve core extractor → Fig. 225 5. This is required for extracting and fitting the tyre valve core. This also applies to the spare valve core 4.

1. Take the sticker from the breakdown set → Fig. 225 1 and stick it on the dash panel within the driver's field of vision.
2. Unscrew the cap from the tyre valve.
3. Use the valve core extractor → Fig. 225 5 to unscrew the valve core from the tyre valve. Place the core on a clean surface.
4. Shake the tyre filler bottle → Fig. 225 3 vigorously to and fro several times.
5. Screw the tyre sealant tube → Fig. 225 2 tightly onto the tyre filler bottle in a clockwise direction. The plastic foil on the plug is pierced automatically.

6. Remove the plug from the filler hose → Fig. 225 2 and place the open end fully on the tyre valve.
7. Hold the bottle upside down and fill the entire contents of the tyre filler bottle into the tyre.
8. Remove the empty tyre filler bottle from the valve.
9. Use the valve core extractor → Fig. 225 5 to screw the valve core back into the tyre valve.

### Inflating a tyre




**Fig. 226** Compressor in the breakdown set (illustration).

- 1 12-volt plug.
- 2 ON/OFF switch.
- 3 Tyre pressure display.
- 4 Air bleed screw.
- 5 Tyre filler hose.
- 6 Compressor.

⚠ There may also be a button on the compressor instead of the air bleed screw.



⚠ The compressor from the breakdown set may be operated from the 12-volt socket, even if the power stated on the type plate of the compressor exceeds the maximum power of the socket.

1. Screw the tyre filler hose → Fig. 226 5 of the compressor tightly onto the tyre valve.
2. Make sure that the air bleed screw → Fig. 226 4 is closed.
3. Start the engine and let it run.

4. Insert the 12-volt plug  
→ **Fig. 226 1** into one of the vehicle's 12-volt sockets  
→ page 292.
5. Switch on the compressor with the ON/OFF switch  
→ **Fig. 226 2**.
6. Run the compressor until the tyre pressure has reached 3.0 bar (44 psi/300 kPa). **Maximum run time: 10 minutes** → .
7. Switch off the compressor.

**If an inflation pressure of 3.0 bar (44 psi /300 kPa) cannot be achieved:**

1. Unscrew the tyre filler hose from the tyre valve.
2. Drive or reverse the vehicle approximately 10 m (around 33 ft) so that the sealing compound is evenly distributed in the tyre.
3. Screw the tyre filler hose of the compressor firmly onto the tyre valve again and repeat the inflation process.

4. If the required pressure still cannot be reached, the tyre is too badly damaged. The tyre cannot be sealed with the breakdown set.  Do not drive on → . Seek assistance from a suitably qualified workshop.



**Continuing your journey**

1. Disconnect the compressor and unscrew the tyre filler hose from the tyre valve.
2. Immediately drive on at a speed of no more than 80 km/h (50 mph) if a tyre pressure of 3.0 bar (44 psi/300 kPa) was reached.
3. Check the tyre pressure after driving for 10 minutes.

**Check after driving for 10 minutes**

1. Park the vehicle on a firm and level surface at the next safe opportunity, e.g. a car park.
2. Reconnect the tyre filler hose → **Fig. 226 5** and read the tyre pressure on the tyre pressure display → **Fig. 226**.

**2.9 bar (42 psi / 290 kPa) and lower:**

1.  **Do not drive on!** The tyre cannot be sealed adequately with the breakdown set → . Seek assistance from a suitably qualified workshop.

**3.0 bar (44 psi / 300 kPa) and higher:**

1. Adjust the tyre pressure back to the correct value.
2. Drive carefully to the nearest suitably qualified workshop. Do not exceed a maximum speed of 80 km/h (50 mph).
3. Have the damaged tyres replaced by a suitably qualified workshop.

 **WARNING**

The tyre filler hose and compressor can become hot during the inflation process and cause burns if touched.

- Protect your hands and skin from hot components.

- Do not place the hot tyre filler hose and the hot compressor on any flammable materials.
- Allow the tyre filler hose and the compressor to cool down before stowing them.

#### **WARNING**

If the defective tyre cannot be sealed adequately with the breakdown set, the tyre will lose air when driving.

This can lead to tyre failure, loss of control of the vehicle, accidents, serious injuries and death.

- If the tyre will not inflate to at least 3.0 bar (44 psi/300 kPa), the tyre is too damaged. The sealant is unable to seal the tyre. Do not drive on; seek assistance from a suitably qualified workshop instead.
- Do not carry on driving if the tyre pressure is 2.9 bar (42 psi/290 kPa) or lower after driving for 10 minutes. Instead, seek assistance from a suitably qualified workshop.

#### **NOTICE**

The compressor can overheat and be damaged as a result of extended operation.

- Switch the compressor off after a maximum of 10 minutes.
- Allow the compressor to cool down for several minutes before switching it back on again.

## Tyre lettering and tyre type

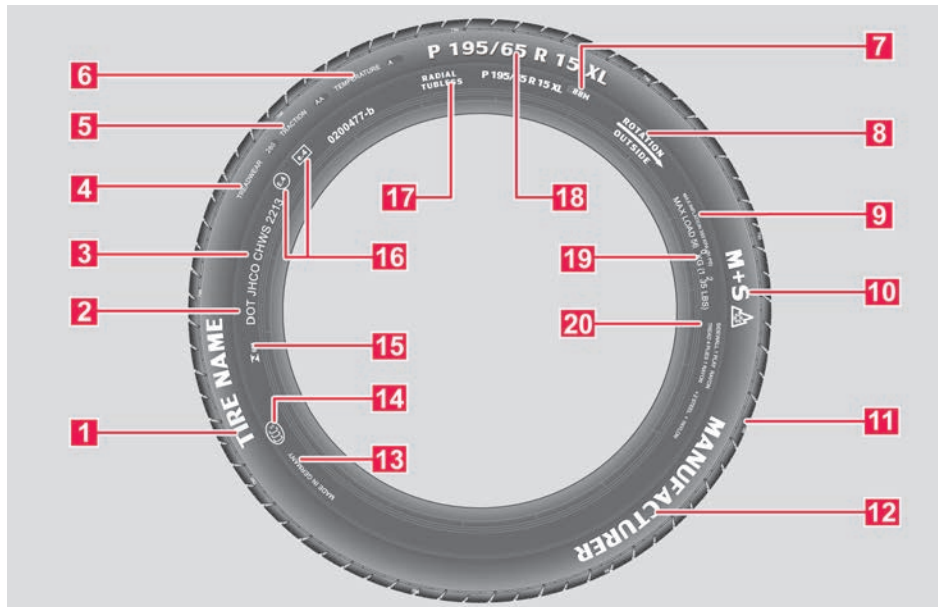




Fig. 227 International tyre lettering

### Tyre lettering (example), meaning

|          |                     |   |
|----------|---------------------|---|
| <b>1</b> | <i>Product name</i> | Individual tyre lettering from manufacturer.  |
| <b>2</b> | DOT                 | The tyre complies with the legal requirements of the USA Department of Transportation, responsible for tyre safety standards. |

### Tyre lettering (example), meaning

|  |  |  |           |  |      |                                       |
|--|--|--|-----------|--|------|---------------------------------------|
|  |  | Tyre ID number (TIN – sometimes only on inside of wheel) and date of manufacture:  |           |  |      |                                       |
| <b>3</b>   | JHCO CHWS 2213   | <table border="1"> <tr> <td>JHCO CHWS</td> <td>Identifier of producing plant and specifications of the tyre manufacturer on size and characteristics.</td> </tr> <tr> <td>2213</td> <td>Date of manufacture: week 22 of 2013.</td> </tr> </table>  | JHCO CHWS | Identifier of producing plant and specifications of the tyre manufacturer on size and characteristics. | 2213 | Date of manufacture: week 22 of 2013. |
| JHCO CHWS  | Identifier of producing plant and specifications of the tyre manufacturer on size and characteristics. |  |           |  |      |                                       |
| 2213   | Date of manufacture: week 22 of 2013.  |  |           |  |      |                                       |
| Information for the end user concerning comparative values for specified basic tyres (standardised test procedure) → page 603: |  |  |           |  |      |                                       |
| <b>4</b>   | TREADWEAR 280  | Relative life expectancy for the tyre, with reference to a US-specific standard test. A tyre with the specification 280 wears at a rate of 2.8 times more slowly than standard tyres that have a treadwear value of 100. The performance of tyres is determined by how they are used and can notably deviate from norm values due to driving style, maintenance, road surface and climatic conditions. |           |  |      |                                       |
| <b>5</b>   | TRACTION AA  | Wet braking performance of the tyre (AA, A, B or C). The wet braking performance is tested under controlled conditions on certified test tracks. Tyres marked C have a low traction performance. The traction value assigned to the tyres is based on linear traction tests and does not include acceleration, lateral stability, or aquaplaning and traction under maximum load.                      |           |  |      |                                       |
| <b>6</b>   | TEMPERATURE A  | Temperature stability of the tyre at higher test speeds (A, B or C). A and B tyres exceed legal requirements. The temperature evaluation is based on tyres with correct pressure and does not allow for excess pressure. Excessive speed, incorrect tyre pressure or excess pressure can cause heat build-up or tyre damage. This applies to one or a combination of these factors.                    |           |  |      |                                       |
| <b>7</b>   | 88 H   | Load index → page 580 and speed index → page 581.  |           |  |      |                                       |
| <b>8</b>   | Rotation and arrow   | Denotes direction of rotation → page 580.  |           |  |      |                                       |
|  | Or: Outside  | Denotes outside of tyres → page 580.   |           |  |      |                                       |

| Tyre lettering (example), meaning |   |   |                                       |
|-----------------------------------|---|---|---------------------------------------|
| <b>9</b>                          | MAX INFLATION 350 KPA<br>(51 psi / 3.51 bar)  | US limitation for the maximum tyre pressure.  |                                       |
| <b>10</b>                         | M+S or M/S or  | Denotes winter tyres (mud and snow tyres) → page 539. Studded snow tyres are labelled with an E after the S.  |                                       |
| <b>11</b>                         | TWI   | Indicates the position of the tread wear indicator → page 537.  |                                       |
| <b>12</b>                         | <i>Brand name, logo</i>   | Manufacturer.   |                                       |
| <b>13</b>                         | Made in Germany   | Country of manufacture.   |                                       |
| <b>14</b>                         | ©   | Country-specific denotation for China (China Compulsory Certification).   |                                       |
| <b>15</b>                         |  023           | Country-specific denotation for Brazil.   |                                       |
| <b>16</b>                         | E4 e4 0200477-b   | Certification of conformity with international regulations. The next number is the code number of the country that granted approval. Approved tyres which comply with ECE regulations are denoted with E, tyres which comply with EC regulations are denoted with e. This is followed by the number of the type approval certificate. |                                       |
| <b>17</b>                         | RADIAL TUBELESS   | Tubeless radial tyres.  |                                       |
| <b>18</b>                         | P 195 / 65 R 15 XL  | Size designation:   |                                       |
|                                   |   | P   | Identification for passenger vehicle. |
|                                   |   | 195   | Tyre width from wall to wall in mm.   |
|                                   |   | 65  | Height/width ratio in %.              |
|                                   |   | R   | Tyre construction: radial.            |
|                                   |   | 15  | Rim diameter in inches.               |
|                                   |   | XL  | Heavy-duty tyres (extra load tyres).  |
| <b>19</b>                         | MAX LOAD 615 KG<br>(1235 LBS)   | US load data for the maximum load per wheel.  |                                       |

### Tyre lettering (example), meaning

|           |   |   |
|-----------|---|---|
|           | SIDEWALL 1 PLY RAYON                            | Data on the tyre carcass components:<br>1 layer of rayon (artificial silk).   |
| <b>20</b> | TREAD 4 PLIES<br>1 RAYON + 2 STEEL<br>+ 1 NYLON | Data on the tread surface components:<br>In this example there are 4 layers under the tread surface: 1 layer of rayon (artificial silk), 2 layers of steel belt and 1 layer of nylon. |

The tyre label is located on both sides. Certain labels may only be found on one side of the tyre, e.g. tyre identification number and manufacturing date.

Any further numbers and letters are internal codes used by the tyre manufacturer or country-specific denotations.

#### Low-profile tyres

Low-profile tyres have a wider tread surface, larger rim diameter and lower sidewalls than conventional wheel/tyre combinations → page 531. Low-profile tyres can improve the vehicle's handling and precision. They may however result in a less comfortable ride on uneven road surfaces and tracks.

#### Tyres with directional tread pattern

An arrow on the tyre sidewall indicates the direction of rotation on tyres with directional tread. The direction of rotation must be observed in all cases. This makes sure they run as smoothly as possible.

If, however, the tyre is fitted in the opposite direction to the tread pattern, you must take more care when driving as the tyre is now no longer being used according to its designation. The tyres must be replaced as quickly as possible or be fitted with the tread in the correct direction.

#### Asymmetrical tyres

Asymmetrical tyres take into account the differing behaviour of the

inner and outer areas of the tread pattern. The sidewalls of asymmetrical tyres are marked to indicate "inside" or "outside". Maintain the correct tyre positioning on the wheel rim.

#### Mobility tyres

The word "Seal" is on the outer wall of the tyre if your vehicle is fitted with mobility tyres.

A sealant applied to the inner side of the tread encloses foreign bodies penetrating the mobility tyre and seals the tyre temporarily.

#### Tyre load

The load capacity index indicates how many kilograms can be loaded onto an individual tyre (tyre load).

Examples:

|            |                   |
|------------|-------------------|
| <b>78</b>  | 425 kg (936 lbs)  |
| <b>81</b>  | 462 kg (1018 lbs) |
| <b>83</b>  | 487 kg (1073 lbs) |
| <b>85</b>  | 515 kg (1135 lbs) |
| <b>87</b>  | 545 kg (1201 lbs) |
| <b>88</b>  | 560 kg (1234 lbs) |
| <b>91</b>  | 615 kg (1355 lbs) |
| <b>92</b>  | 630 kg (1388 lbs) |
| <b>93</b>  | 650 kg (1433 lbs) |
| <b>95</b>  | 690 kg (1521 lbs) |
| <b>97</b>  | 730 kg (1609 lbs) |
| <b>99</b>  | 775 kg (1708 lbs) |
| <b>100</b> | 800 kg (1763 lbs) |
| <b>101</b> | 825 kg (1818 lbs) |
| <b>102</b> | 850 kg (1873 lbs) |
| <b>103</b> | 875 kg (1929 lbs) |
| <b>104</b> | 900 kg (1984 lbs) |

|            |                    |
|------------|--------------------|
| <b>105</b> | 925 kg (2039 lbs)  |
| <b>106</b> | 950 kg (2094 lbs)  |
| <b>107</b> | 975 kg (2149 lbs)  |
| <b>108</b> | 1000 kg (2204 lbs) |
| <b>109</b> | 1030 kg (2270 lbs) |
| <b>110</b> | 1060 kg (2337 lbs) |
| <b>112</b> | 1120 kg (2469 lbs) |
| <b>114</b> | 1180 kg (2601 lbs) |
| <b>116</b> | 1250 kg (2755 lbs) |
| <b>118</b> | 1320 kg (2910 lbs) |
| <b>120</b> | 1400 kg (3086 lbs) |

### Speed index

The speed index indicates the maximum permitted speed that may be driven when particular wheels are fitted.

|          |                         |
|----------|-------------------------|
| <b>P</b> | max. 150 km/h (93 mph)  |
| <b>Q</b> | max. 160 km/h (99 mph)  |
| <b>R</b> | max. 170 km/h (106 mph) |
| <b>S</b> | max. 180 km/h (112 mph) |
| <b>T</b> | max. 190 km/h (118 mph) |
| <b>U</b> | max. 200 km/h (125 mph) |
| <b>H</b> | max. 210 km/h (130 mph) |
| <b>V</b> | max. 240 km/h (149 mph) |
| <b>W</b> | max. 270 km/h (168 mph) |
| <b>Y</b> | max. 300 km/h (186 mph) |
| <b>Z</b> | over 240 km/h (149 mph) |

Some tyre manufacturers use the code "ZR" for tyres with a highest permitted speed of over 240 km/h (149 mph).

### Maximum load and speed range for tyres

Vehicles registered within the EU and the EU "user countries" are issued an EC certificate of conformity. This contains details for the size, diameter and speed range of

all tyres approved by MAN for the relevant vehicle type.

The type plate shows whether there is an EC Certificate of Conformity for this particular vehicle → page 670.

- If the type plate has a row marked "Permit" then the vehicle has an EC certificate of conformity.
- If there is no type plate, or no row marked "Permit", the vehicle does not have an EC certificate of conformity.

### Service work and maintenance record

The service work is documented in the maintenance record by a suitably qualified workshop or by your MAN service outlet. This transparent documentation of the service history allows the service operations performed to be reproduced at any time.

#### Service work

Your MAN service point or another qualified workshop will document the following information in your maintenance record:

- Which service was carried out and when.
- Whether any repairs are recommended, such as replacement of the brake pads in the near future.
- Whether you had any special requests before or during the maintenance work. Your service advisor will note these on the order.

- Which components and service fluids were changed.
- When your next service is scheduled for.


The MAN mobility guarantee is valid until the next inspection is due. Documentation takes place at every scheduled inspection.


The type and scope of service work may differ from vehicle to vehicle. Information on specific work for your vehicle can be requested from a qualified workshop.

#### WARNING

Inadequate servicing and failure to adhere to service intervals can result in breakdowns, accidents and serious or fatal injuries.

- Have service work carried out by an authorised qualified workshop.

 MAN is not responsible for any vehicle damage caused by inadequate servicing work or delays in the supply of parts.

 Regular servicing of your vehicle not only maintains its value, it also ensures that your vehicle remains roadworthy and in working order. You should therefore have your vehicle serviced according to the MAN guidelines.

#### Fixed service or flexible service

There are two types of service event: **oil change service** and **inspection**. The service interval display in the display of the instrument cluster serves as a reminder of when the next service event is due.

Your vehicle will receive either **fixed service** or **flexible service** during the oil change service, depending on the level of equipment, the engine type and the operating conditions.

The engine codes can be read on the type plate or queried in the service menu → page 50.

### How do I know which type of service my vehicle needs?

Information on the service type that applies to the vehicle can be obtained from a suitably qualified workshop.

#### Features of the flexible service

With the **flexible service**, you only need to have an oil change service carried out if your vehicle requires one. Individual operating conditions and personal driving style are taken into account in order to determine this point in time. An important feature of the flexible service is the use of LongLife engine oil instead of conventional oil.

Observe and follow the information on the motor oil specification according to the VW standard → page 502.

**If you do not wish to have the flexible service, you can opt for the fixed service instead. However, a fixed service can affect your service costs.** Your service advisor will be pleased to advise you.

#### Service interval display

Service dates are shown in the service interval display in the instrument cluster → page 50. This service interval display provides information on services that include an oil change or inspection. When an individual service is due, additional work that is due can also be carried out, e.g. changing brake fluid.

#### Information on operating conditions

The specified service intervals and scope of service always apply to vehicles used under normal operating conditions.

If the vehicle is operated under severe conditions, some work will have to be performed before the next service is due or at shorter intervals than those specified.

Extreme conditions include:

- Fuels containing sulphur.
- Regular short trips.

- Long periods of engine idling, e.g. taxis.
- Use of the vehicle on rough terrain.
- Use in areas with high levels of dust
- Frequent trailer towing (with some equipment levels).
- Primarily stop-and-go mode, e.g. in the city.
- Driving mainly in winter conditions

This applies particularly to the following components (depending on the vehicle equipment):


- Enhanced air filter with activated carbon.
- Air Care enhanced air filter with activated carbon.
- Air filter.
- Toothed belt.
- Particulate filter.
- Engine oil.
- Additional equipment.

The service advisor at a suitably qualified workshop will be pleased to advise you on whether your vehicle requires more frequent servicing due to the conditions under which it is used.

### **WARNING**

Inadequate or no servicing and failure to adhere to service intervals can result in breakdowns, accidents and serious or fatal injuries.

- Have service work carried out by a suitably qualified workshop.

 MAN is not responsible for any vehicle damage caused by inadequate servicing work or delays in the supply of parts.

### **Scope of service**

The scope of service includes all **inspection work** and **maintenance work** that is necessary in order to keep your vehicle road-worthy (**depending on the operat-**

**ing conditions and vehicle equipment**, e.g. engine, gearbox or service fluids). You can find out the details of the work required for your vehicle from any suitably qualified workshop. Or check on the MAN service portal → page 598.

### **Inspection work**

The systems listed below may be checked, for example.

#### **Electrics**

- 12-volt vehicle battery: replace if necessary.
- Lighting.
- Horn.
- Headlight setting.
- Service interval display: reset.

#### **Engine and gearbox**

- Exhaust system.
- Gearbox and final drive.
- Poly V-belt.
- Cooling system.
- Engine and components in the engine compartment.
- Engine oil level.

### **Running gear**

- Swivel joints and track rods.
- Tyres.
- Brake system.
- Brake pads and brake discs.
- Brake fluid level.
- Drive shaft boots.
- Coupling rod and stabiliser mountings.
- Breakdown set.
- Tyre pressure on all wheels.
- Power steering.
- Shock absorbers and coil springs.

### **Body**

- Windscreen.
- Corrosion on the body.
- Wiper blades.
- Window washer system.
- Door arrester: lubricate.
- Underbody.

1. Road test: perform.

## Servicing work

In addition to the inspection work, further servicing work may need to be performed on your vehicle **depending on the operating conditions and vehicle equipment**, e.g. engine, gearbox or service fluids. This work is dependent either on *time* and *mileage* or only *time* or *mileage*.

The service fluids or components listed below may be changed, for example.

- Final drive and differential: change oil.
- Additives.
- Enhanced air filter with activated carbon
- Brake fluid.
- Diesel fuel filter: change or drain.
- Gearbox oil and, if required, gearbox oil filter.
- Gearbox mounting.
- Belt status display for the rear seats: change the battery.
- Air filter.

- Engine oil and, if required, engine oil filter.
- Particulate filter.
- Toothed belt and tensioning roller.

It is also possible to have servicing work carried out in between the scheduled service events.

The scope of service is subject to change for technical reasons, e.g. continuous further development of components. Your suitably qualified workshop always has the latest information about any changes.

### Notes on vehicle care

Regular and expert care helps to preserve your vehicle → .

The longer that soiling is left on the surface of vehicle components and upholstery fabrics, the more difficult it can become to clean and treat them. Extended exposure may mean that it is no longer possible to remove soiling.

Consult a suitably qualified workshop if you have any questions about care products or if components are not listed. Suitable accessories are available from a qualified workshop. Follow the instructions for use on the packaging.

### WARNING

Improper care and cleaning of components can irreparably damage the safety features of the vehicle, e.g. the airbag units, and prevent them from functioning properly. This can lead to serious injuries in the event of an accident.

- Vehicle parts must be cleaned according to the manufacturer's instructions.
- Always use approved or recommended cleaning products.
- Do not use cleaning agents that contain solvents.

### WARNING

Improper cleaning of the vehicle can cause serious injuries.

- Protect your hands and arms against parts with sharp edges, e.g. when cleaning the insides of the wheel housings.
- Use cleaning agents only in accordance with the manufacturer's instructions.

### WARNING

Dirty, misted-up or iced-up windows reduce visibility and can prevent the safety features of the vehicle from functioning properly. Water-repellent window coating agents can cause increased glare in unfavourable visibility conditions.

This can result in accidents and serious or even fatal injuries. This can result in accidents and serious or even fatal injuries.

- Drive only when you have a clear view through all windows.
- Do not treat the windscreen with water-repellent window coating agents.

### WARNING

Care products may be toxic, highly flammable and caustic. Improper use of care products or the use of unsuitable care products can cause burns and poisoning and can lead to accidents and serious or fatal injuries.

- Observe the manufacturer's instructions.
- Store care products only in the closed original container.
- Keep all care products out of reach of children.
- Use care products only outside or in well-ventilated rooms so

that you do not breathe in any toxic vapours.

- Never use fuel, turpentine, engine oil, nail varnish remover or other volatile fluids for vehicle care.

### NOTICE

Contamination with aggressive and solvent-based ingredients can cause irreparable damage to the vehicle equipment, e.g. even if left for only a short time on seat covers or trim parts.

- Do not let contamination or dirt dry.
- Have stubborn stains removed by a suitably qualified workshop.

### Washing the vehicle

Washing the vehicle regularly prevents effects of soiling that can damage the paint.

Please observe the following information to wash your vehicle correctly and properly.

### ⚠ WARNING

After a car wash, the braking action may be delayed as the brake discs and brake pads will be wet, or iced up in winter. The braking distance will increase as a result. This can cause you to lose control of the vehicle, which can lead to accidents and serious or fatal injuries.

- Carry out a few careful braking operations to dry the brakes and remove any coating of ice when visibility, weather, road and traffic conditions permit.

### NOTICE

Serious vehicle damage can be caused if the vehicle is not washed correctly.

- Always observe the described tasks for vehicle care and cleaning.
- Always follow the manufacturer's instructions.
- Do not wash the vehicle in direct sunlight.

### NOTICE

Wet components can freeze in cold weather and this may prevent them from functioning properly.

- Never aim a water jet directly at doors or the boot lid in cold weather.

### Automatic car washes

- Do not select a washing programme with hot wax for vehicles with decorative and protective films.
- Car washes without brushes are to be preferred.
- Regularly have the bottom of the vehicle thoroughly cleaned to remove residue.
- Please observe any information provided by the car wash operator, especially where add-on parts are concerned.
- ✓ All windows must be closed and the exterior mirrors must be folded in.
- ✓ The roof aerial must be unscrewed and removed.

- ✓ *Vehicles with steering column lock:* If the vehicle is mechanically pulled through the car wash (wash tunnel), the steering column must not unlock → page 186.
- ✓ The windscreen wipers → page 149 and the rain and light sensor → page 151 are switched off.

### NOTICE

Car washes that scan the contours mechanically can damage the vehicle and add-on parts, e.g. spoilers.

- Observe the information of the car wash operator, particularly if there are add-on parts on the vehicle.

### High-pressure cleaner

- Never use rotary nozzles. Observe the manufacturer's instructions.
- Use water only up to a maximum temperature of +60°C (+140°F).
- Move the jet of water uniformly so that the nozzle is at least

50 cm (20 inches) away from the vehicle components.

- Do not point the water jet at the same location for too long.
- Aim the water jet indirectly at sensitive vehicle components if possible, e.g. rubber seals, side windows, gloss strips, tyres, sensors, camera lenses, decorative and protective films.
- Never use a high-pressure cleaner to clean windows that are iced up or covered in snow.

### Washing by hand

Isolated soiling on the paint can be removed with cleaning clay.

1. Clean the vehicle with plenty of water to remove dust and coarse soiling.
2. Clean with a soft sponge, a wash mitt or a brush applying only light pressure. Start with the roof and work from the top to the bottom. Use a cleaning shampoo for very stubborn dirt only.

3. Clean wheels and side members with a clean sponge.
4. Rinse off with plenty of water.
5. Allow the vehicle to dry in the air. Remove water residue with a chamois leather.

### NOTICE

The drains in the plenum chamber could become blocked with leaves or dirt. Water that does not drain off could get into the vehicle interior. Water that has entered the plenum chamber via a manual process (e.g. from a high-pressure cleaner) can cause considerable damage to the vehicle.


- Remove leaves and other loose objects with a vacuum cleaner or by hand.
- Have the area under the perforated cover cleaned at regular intervals by a qualified workshop.

### NOTICE

Unpainted plastic parts, headlight lenses and tail light clusters can be

damaged if the vehicle is not washed correctly.

- Do not use hard or abrasive brushes.

 Wash the vehicle only in specially designated washing bays. This prevents waste water that is possibly contaminated with oil from entering the sewerage system.

### Cleaning and caring for the vehicle exterior

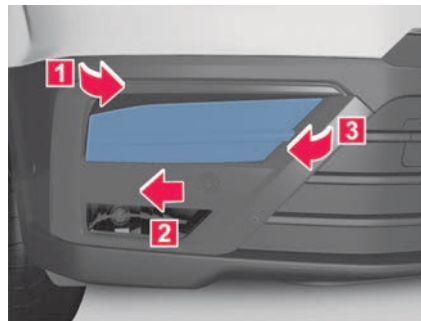
The following overview contains recommendations for cleaning and care of individual vehicle components.

#### NOTICE

Incorrect cleaning and care can damage the vehicle.

- Always follow the manufacturer's instructions.
- Do not use excessively hard or abrasive cleaning tools.

### Using the step



**Fig. 228** In the front bumper: step (illustration).

The installed step → Fig. 228 can be used for easier access to parts of the vehicle located high up at the front, e.g. to clean the windows or change the wiper blades. To do this, you will need to remove the cover in front of the step:

1. Release the cover from the outside and pull forward → Fig. 228 **1**.
2. Push the cover out of the inner holder **2**.

3. Swivel the cover forward and remove **3**.

To fit it, follow the steps for removing in reverse order. When doing this, the cover must first be inserted at the outside.

### Windows, glass surfaces

- Remove wax residue, e.g. from care products, using a suitable glass cleaner.
- Remove snow with a brush.
- Remove ice with a plastic scraper. Move the scraper in one direction only.
- Remove any ice with a suitable de-icing agent.
- Wiper blades → page 464.

### Paint

Always treat surfaces carefully in order to prevent damage to the paint coat.

- Use a clean, soft cloth and a mild soap solution consisting of a maximum of two table-spoons of neutral soap diluted in one litre of water to remove any

light dirt immediately, e.g. deposits, insect residue, or cosmetics. Alternatively you can use cleaning clay.



- Clean up spilled service fluids immediately.
- Moisten flash rust deposits with a soap solution. Then remove any deposits with cleaning clay.
- Have corrosion removed by a suitably qualified workshop.
- In the event of paint damage, go to a suitably qualified workshop and have the paint damage repaired.

Waxing protects the paintwork. At the latest when water no longer clearly forms small drops and runs off the paintwork when the vehicle is *clean*, the vehicle should be protected again using a preservative wax.

- Even if a wax solution is used regularly in the car wash, we recommend protecting the paint with a coat of suitable hard wax at least twice a year.

- Polishing is only necessary if the paint has lost its shine, and the gloss cannot be brought back by applying wax.

### Bonnet space, plenum chamber

- Remove leaves and other loose objects with a vacuum cleaner or by hand → .
- Always have cleaning of the bonnet space performed by a correspondingly qualified workshop → .

### WARNING

There is a risk of accident and fire when working on the engine or in the bonnet space. Serious injuries may occur.

- Note the operations required and the necessary safety precautions before performing any work in the bonnet space → page 492.
- If you are not familiar with the work, have the work carried out by a suitably qualified workshop.

### NOTICE

The drains in the plenum chamber could become blocked with leaves or dirt. Water that does not drain off can get into the vehicle interior and cause damage.

- Have the area under the perforated cover of the plenum chamber cleaned regularly by a suitably qualified workshop.

### NOTICE

Water that has entered the plenum chamber via a manual process, e.g. from a high-pressure cleaner, can cause considerable damage to the vehicle.

- Remove leaves and other loose objects with a vacuum cleaner or by hand.
- Always have cleaning of the bonnet space performed by a suitably qualified workshop.

### Sensors, camera lenses

Observe the installation locations of the components on the vehicle → page 12.

- Clean the area in front of the sensors or camera with a soft cloth and solvent-free cleaning agent.
- Use the same method to clean sensitive surfaces on the rain and light sensor and the camera window on the windscreen as used for glass surfaces.
- Remove snow with a brush.
- Never use warm or hot water.
- Remove any ice with a suitable de-icing agent.

### Decorative films, protective films

- Remove soiling as for **paint**. Use a suitable plastic cleaner for decorative films.
- Treat the vehicle with liquid hard wax every three months after washing and removing dust. Only use clean, soft microfibre

cloths to apply it. **Do not use hot wax**, even in car washes.

- Remove stubborn impurities carefully using white spirits, and then rinse using warm water.



The durability and colour of decorative and protective films are affected by environmental factors such as sunshine, moisture, air pollution, stone chips, etc. Decorative films can show signs of wear and ageing after approximately one to three years and protective films after approximately two to three years. In very hot climates, decorative films may start to fade within one year and protective films within two years.

### Trim parts, trim strips made of chrome, aluminium or stainless steel

- Clean the surface with a suitable chrome and aluminium care product.
- Chrome trim can be protected with a suitable hard wax.

### Headlights, tail light clusters

- Remove soiling using a soft sponge soaked with a mild soap solution consisting of a maximum of two tablespoons of neutral soap diluted in one litre of water. Do not use any cleaning agents that contain alcohol or solvents.
- Remove stubborn dirt with a suitable chrome and aluminium care product.

### Wheels

- Remove dirt and gritting salt deposits with plenty of water.
- Treat dirty alloy wheels with a suitable wheel rim cleaner. Treat the wheel rims with a suitable hard wax every three months.
- Repair any damage to the protective paint coating immediately with a touch-up pen. If necessary, go to a suitably qualified workshop.
- Remove brake dust with a suitable wheel rim cleaner.

### Door lock cylinders

1. Remove any ice from the door lock cylinders with a suitable de-icing agent.

Do not use door lock de-icers containing grease solvents.

### Cleaning and care of the vehicle interior

The following overview contains recommendations for cleaning and care of individual vehicle components.

#### NOTICE

Improper cleaning and care may damage the vehicle.

- Always observe the described tasks for vehicle care and cleaning.
- Do not use a steam cleaner, brushes or hard sponges etc.
- Have stubborn stains removed by a suitably qualified workshop.

### Windows

1. Clean windows with a glass cleaner.
2. Wipe the windows dry with a clean chamois leather or a lint-free cloth.

### Textiles, microfibre cloth and leatherette

- Remove dirt particles which adhere to the surface regularly with a vacuum cleaner so that the material is not permanently damaged by abrasion.
- Remove any dirt with a suitable interior cleaning agent.
- In the case of soiling caused by grease such as oil, use a suitable interior cleaner. Dab off dissolved grease and colour particles with an absorbent cloth. Then treat with water if necessary.
- In the case of soiling caused by ballpoint pens or nail varnish, for example, use a suitable interior cleaner. If necessary, treat subsequently with a mild soap solu-

tion consisting of a maximum of two tablespoons of neutral soap diluted in one litre of water.

- Never use leather care agents, solvents, wax polish, shoe cream, stain removers or similar.
- Never use high-pressure cleaners, steam cleaners and coolant spray.

### Natural leather

- Remove fresh dirt with a cotton cloth moistened with a mild soap solution made from a maximum of two tablespoons of neutral soap to one litre of water. Do not allow fluids to seep into the seams.
- In the case of soiling caused by ballpoint pens or nail varnish, for example, use a suitable leather cleaner.
- Treat dry stains with a suitable leather cleaner.
- In the case of grease-based soiling, e.g. with oil, remove the fresh stains with an absorbent cloth.

- Apply a leather treatment agent to seats regularly, and after each clean. If the vehicle is parked outdoors for long periods, you should cover the leather to protect it from direct sunlight.

Never treat leather with solvents, wax polish, shoe cream, stain removers or similar.

### Plastic parts


- Clean with a soft, moist cloth.
- If stubborn soiling cannot be removed with mild soap solution consisting of a maximum of two tablespoons of neutral soap diluted in one litre of water, use a solvent-free plastic cleaning agent.

### Trim parts, trim strips made of chrome, aluminium or stainless steel

- Clean with a clean, soft cloth and a mild soap solution made with a maximum of two tablespoons of neutral soap to one litre of water in a dust-free environment.

- Clean anodised surfaces with a suitable chrome and aluminium care product.

### Controls

1. Remove coarse dirt and other dirt that is difficult to reach using a soft brush.
2. Use a clean, soft cloth with some mild soap solution consisting of a maximum of two tablespoons of neutral soap diluted in one litre of water. Do not allow liquids to enter the controls → .

### Displays and screens

Do not clean the instrument cluster display or Infotainment system screen with a dry cloth.

1. Switch off the Infotainment system temporarily before cleaning.
2. Use a suitable cleaning cloth with a little water, a suitable glass cleaner or LCD cleaner.

### Rubber seals

- Clean with a soft and lint-free cloth as well as plenty of water.
- Treat with a suitable rubber care product on a regular basis.

### Seat belts

1. Carefully pull the seat belt right out and leave it out.
2. Remove coarse dirt with a soft brush.
3. If necessary, clean the seat belt with a mild soap solution consisting of a maximum of two tablespoons of neutral soap diluted in one litre of water.
4. Leave the belt fabric to dry completely and then allow it to roll up.


### WARNING

Improper cleaning of the seat belts, their anchorages and the belt retractors can cause damage and prevent them from functioning properly. This can result in serious or fatal injuries in the event of an accident.


- Never carry out any modifications on the seat belts for cleaning.
- Never clean the seat belts and their components with chemical agents.
- Do not use any caustic liquids, solvents or sharp objects.
- Protect the belt buckles against the ingress of liquids and foreign bodies.
- Let the cleaned seat belt to dry completely before allowing it to retract.

### Cleaning seat covers

If clothing that is not sufficiently colour-fast, e.g. denim, leaves stains on the seat cushions, this does not mean that the upholstery is defective. The seat padding may contain components for the airbag system and electrical connections. Seat padding that is damaged, incorrectly cleaned or treated, or that becomes wet, may cause damage to the vehicle electrical system or

trigger a fault in the airbag system → .


Depending on the equipment, seat cushions with seat heating feature electrical components and connectors that may be damaged in the event of incorrect cleaning or treatment. This can also result in damage to other parts of the vehicle electrics.

- Clean the surfaces of the seats with a slightly moistened cloth → .
- Ask a suitably qualified workshop about special cleaning agents for treating coarse dirt.
- Never use high-pressure cleaners, steam cleaners and coolant spray.
- Never soak seat covers.
- Never switch on the seat heating to dry the seats.
- Do not use washing paste or fine detergent solutions.
- If in doubt, go to a suitably qualified workshop.

### WARNING

Improper care and cleaning of components can irreparably damage the safety features of the vehicle, e.g. the airbag units, and prevent them from functioning properly. This can lead to serious injuries in the event of an accident.

- Avoid excessive use of water, e.g. water hose, high-pressure cleaner or steam cleaner.
- Always use approved or recommended cleaning products.
- Do not use cleaning agents that contain solvents.
- Vehicle parts must be cleaned according to the manufacturer's instructions.

 The signs of wear and soiling visible due to normal use are naturally more easily visible in the case of light-coloured materials in the vehicle interior. These signs of use cannot be prevented and also represent unavoidable ageing due to

normal use. Please observe the  
corresponding care instructions.

---

#### Accessories and parts

Seek advice from a suitably qualified workshop before purchasing accessories, replacement parts or service fluids, for example if the vehicle is to be retrofitted with accessories or if parts have to be renewed. The suitably qualified workshop can provide information on legal requirements and also recommend accessories, parts and service fluids.

MAN recommends using **MAN Genuine Replacement Parts** and **MAN Original Accessories**, which are available from MAN service outlets. These parts and accessories have been specially tested by MAN for suitability, reliability and safety. And MAN service outlets are qualified to install them correctly.

Although the market is constantly scrutinised, MAN cannot assume responsibility for the reliability, safety and suitability of products that **MAN has not approved**. MAN can therefore assume no responsi-

bility for these parts, even if they have been approved by an official testing agency or are covered by an official approval certificate.

Any **retrofitted equipment** which has a direct effect on the control of the vehicle must be approved by MAN for use in your vehicle and bear the **e** mark (the European Union's approval symbol). These devices include cruise control systems or electronically controlled suspension systems, for example.

Any **additional electrical components** connected that do not serve to control the vehicle itself must bear the **CE** mark (manufacturer conformity declaration in the European Union). Such devices include refrigerator boxes, computers and ventilator fans.

#### **WARNING**

Use of unsuitable replacement parts and accessories can lead to vehicle malfunctions. This also applies to work, modifications and repairs that are not performed cor-

rectly. This can lead to vehicle damage and accidents with serious or fatal injuries.

- Have repairs and modifications to your vehicle carried out only by a suitably qualified workshop. Qualified workshops have the necessary tools, diagnostic equipment, repair information and qualified personnel.
- Never fit parts to your vehicle that differ in their design or characteristics from the factory-fitted parts.
- Use only wheel rim/tyre combinations that MAN has approved for your vehicle type.

#### **WARNING**

Objects in the deployment zone of the airbags can be flung through the vehicle interior if the airbags are triggered. This can cause severe or fatal injuries.


- Never secure or position objects in the deployment zones of the airbags.

**NOTICE**

With some engines, retrofitting an engine preheating system can lead to malfunctions and vehicle damage.

- Consult a suitably qualified workshop about retrofitting an engine preheating system.

**Sensors and cameras**

Incorrectly performed repairs, structural changes to the vehicle, e.g. lowering the suspension, retrofitted add-on parts or changes to the trim can lead to sensors and cameras being displaced or damaged. This can interfere with important functions of driver assist systems → .

- Observe the positions of sensors and cameras in the vehicle overview when performing repairs or modifications.

**Add-on parts or modifications in the area of sensors and cameras**** WARNING**

If the area in front of and around sensors and cameras is covered, e.g. by number plates, number plate holders with trim frames, additionally applied films or paintwork on the sensors and similar, this may prevent correct functioning of the driver assist systems. Failure of the driver assist systems can lead to accidents and cause serious or fatal injuries.

- Always ask a suitably qualified workshop whether installation of a number plate or number plate holder with trim frame is possible for your vehicle.
- When installing, ensure that there is a sufficient distance from sensors and cameras.
- Make sure that the number plate or the number plate holder with trim frame is installed only in the specified position.

- Do not apply any additional films in front of or around sensors.

**NOTICE**

Incorrect installation of number plates and number plate holders with trim frames can damage components, e.g. cables or sensors.

- Always ask a suitably qualified workshop whether installation of a number plate or number plate holder with trim frame is possible for your vehicle.

A number plate holder with trim frame is used for mounting an official number plate.

In some vehicle versions, the front radar cover can affect the radar sensor's view to the front. You should therefore only operate the vehicle with the original cover or another cover approved by the manufacturer.

#### Damage in the area of sensors and cameras

##### WARNING

If the area around sensor and cameras is damaged, e.g. by stone chips or impacts when parking, this can prevent the driver assist systems from functioning correctly. Failure of the driver assist systems can lead to accidents and cause serious or fatal injuries.

- Have the component replaced by a suitably qualified workshop in the event of damage in the area of the sensors and cameras.

After replacement of components, the sensors and cameras may have to be adjusted and calibrated by a suitably qualified workshop.

If the windscreen has been damaged in the area of the sensor and camera window, e.g. by stone chips, the windscreen must be replaced. Repair of the stone chip damage can lead to malfunctions or functional faults in the driver as-

ist systems. After replacing the windscreen, the camera and sensors must be adjusted and calibrated by a suitably qualified workshop.

##### Repairs and technical modifications

**Repairs and modifications must always be carried out according to MAN specifications → .**

Unauthorised modifications to the electronic components or software in the vehicle may cause faults. As the electronic components are linked together in networks, these faults may indirectly affect the working of other systems. This can seriously impair safety, lead to excessive wear of components, and also invalidate the type approval for the vehicle.

The MAN service point cannot be held liable for any damage caused by technical modifications and/or work performed incorrectly.

The MAN service point is not responsible for damage caused by technical modifications and/or work performed incorrectly. Such damage is not covered by the MAN guarantee.

Have all repairs and technical modifications carried out by a suitably qualified workshop.

##### MAN repair information

MAN service information and official MAN repair information can be purchased for a fee.

**Customers in Europe, Asia, Australia, Africa, Central and South America:** Please contact a suitably qualified workshop. Or register on the MAN service portal:

**<https://manserviceportal.eu>**

MAN repair information is available in a range of languages.

##### Load compartment floor

The factory-installed wood or synthetic floor in the load compartment of your vehicle is an integral part of the vehicle's structure and

should therefore not be removed or substantially altered.

### CAUTION

Damage can be caused to the vehicle body when the load compartment floor is removed. The ability to secure a load then becomes impaired and the maximum load of the fastening points is no longer guaranteed. Removing the load compartment floor can cause accidents and injuries.

- Do not remove the load compartment floor.

### Diagnostic connection (OBD)

There is a diagnostic connection (OBD) in the vehicle interior for reading the event memories. Event memories document any faults that have occurred and any deviations from the nominal values in the electronic control units.

The diagnostic connection (OBD) is located in the footwell on the driver side underneath the dash panel, or

behind a cover next to the bonnet release lever.

The event memory should only be read and reset by a suitably qualified workshop. Additional information on the stored data is available from suitably qualified workshops.

After a fault has been rectified, the information in the event memory relating to the fault is deleted. Other memory content is overwritten on an ongoing basis.

### Vehicles with special auxiliary equipment or body parts

The manufacturer of these components must ensure that these parts (fittings) adhere to the stipulated environmental laws and regulations, particularly the EU directive 2000/53/EC concerning end-of-life vehicles and EU directive 2003/11/EC concerning the restriction on the marketing and use of certain dangerous substances and preparations.

The vehicle owner should keep all assembly documentation for these

auxiliary fittings, and pass it on to any scrapping company later engaged. This is to facilitate environmentally responsible disposal for all vehicles, including refitted vehicles.

### Engine and transmission guard

An engine and transmission guard can reduce the risk of damage to the vehicle's underbody and sump, for example when driving over kerbs, drive entrances or unsurfaced roads.

Have retrofitting carried out by a suitably qualified workshop.

An engine and transmission guard may not be available in all countries.

### WARNING

Repairs and modifications to the vehicle performed improperly may impair the effectiveness of the driver assist systems and triggered airbags. This can cause malfunctions and lead to accidents and serious or fatal injuries.

- Have repairs and modifications to your vehicle carried out only by a suitably qualified workshop.

#### WARNING

Unsuitable spare parts and accessories and incorrectly carried out work, modifications and repairs can cause damage to the vehicle, accidents as well as serious or fatal injuries.

- Never fit parts to your vehicle that differ in their design or characteristics from the factory-fitted parts.
- Use only wheel rim/tyre combinations that MAN has approved for your vehicle type.
- Have repairs and modifications to your vehicle carried out only by a suitably qualified workshop. Qualified workshops have the necessary tools, diagnostic equipment, repair information and qualified personnel.
- MAN recommends the user of MAN Genuine replacement

parts and MAN Genuine accessories.

#### WARNING

Use of the diagnostic connection for other than its intended purpose can cause malfunctions and lead to accidents and serious or fatal injuries.

- Never read out the event memory using the diagnostic interface yourself.
- Never upload data to the vehicle yourself using the diagnostic connection.
- The event memory should be read only by a suitably qualified workshop using the diagnostic connection.

#### Repairs and faults in the airbag system

**Repairs and modifications must always be carried out according to MAN specifications** → .

Modifications and repairs to the front bumper, the doors, the front seats, the headliner or the bodywork should be carried out only by a suitably qualified workshop. System components and airbag system sensors can be located on these vehicle components.

If you work on the airbag system or remove and install parts of the system when performing other repair work, parts of the airbag system may be damaged. The consequence may be that, in the event of an accident, the airbag inflates incorrectly or does not inflate at all.

Regulations must be observed to ensure that the effectiveness of the airbags is not reduced and that removed parts do not cause any injuries or environmental pollution. Suitably qualified workshops are familiar with these requirements.

Any modifications to the vehicle's suspension could prevent the airbag system from working properly during a collision. For example, using wheel rim/tyre combinations

that have not been approved by MAN, lowering the vehicle or making modifications to the suspension rate including work on the springs, struts and shock absorbers etc., could change the forces that are measured by the airbag sensors and sent to the electronic control unit. Some changes to the suspension could cause the forces measured by the sensors to increase, for example. This can lead to the airbag system being triggered in collision scenarios where it normally would not be triggered if modifications to the suspension had not been made. Other modifications can cause the forces measured by the sensors to decrease, therefore preventing the airbag system from being triggered when it should have been.

### WARNING

Use of unsuitable replacement parts and accessories can cause malfunctions and damage to the vehicle and impair the effectiveness of the airbag system. This al-

so applies to work, modifications and repairs that are not performed correctly. This can lead to vehicle damage and accidents with serious or fatal injuries.

- Have repairs and modifications to your vehicle carried out only by a suitably qualified workshop. Qualified workshops have the necessary tools, diagnostic equipment, repair information and qualified personnel.
- Please note that the airbag unit cannot be repaired, but must be replaced.
- Never install recycled airbag components or components that have been taken from end-of-life vehicles in your vehicle.
- Never fit parts to your vehicle that differ in their design or characteristics from the factory-fitted parts.

### WARNING


Modification of the vehicle suspension, including the use of non-approved wheel rim and tyre combi-

nations, can change how the airbag functions. This can result in serious or fatal injuries in the event of an accident.

- Never install components in the suspension system which do not have the same characteristics as the original factory-fitted components.
- Never use wheel rim/tyre combinations that have not been approved by MAN.


## Mobile communication in the vehicle

### Electromagnetic radiation

If a mobile telephone or radio device is used without being connected to the external aerial, the electromagnetic radiation will not be optimally directed to the outside of the vehicle. Increased levels of radiation in the vehicle interior can occur in particular in the event of poor reception, e.g. in rural areas. This could constitute a health hazard → .

Depending on the vehicle's equipment level, a suitable mobile phone interface can be used to connect the mobile telephone to the external aerial. The connection quality is improved and the range is increased.

#### Using a telephone

Many countries require a hands-free system to be used when using a telephone inside the vehicle, e.g. via a Bluetooth<sup>®</sup> connection. Before use, secure the mobile telephone to a suitable bracket →  or stow it in a stowage compartment so that it cannot slip around, e.g. in the centre console.

#### Two-way radios

Observe legal regulations and the manufacturer's operating instructions for operation of two-way radios. Approval is required for retrofitting two-way radio systems.

Ask a suitably qualified workshop for further information on installing a two-way radio.

#### WARNING

Mobile telephones which are loosely placed in the vehicle or not properly secured could be flung through the vehicle interior and cause injuries during a sudden driving or braking manoeuvre, or in the event of an accident.

- Secure a mobile telephone and accessories outside the deployment zone of the airbags, or stow them safely.

#### WARNING

If a mobile telephone or two-way radio that is not connected to an external aerial is used, electromagnetic radiation in the vehicle could exceed limit values. This also applies to external aerials which have not been correctly installed. This can endanger the health of the driver and the vehicle occupants.

- Keep a distance of at least 20 cm (approx. 8 in) between a device's aerial and an active medical implant, e.g. a pacemaker.

- Do not carry an operational device close to or directly above an active medical implant, e.g. in a breast pocket.
  - Switch off the device immediately if you suspect it may be interfering with an active medical implant or any other medical device.
-

**Liability for material defects**

Your vehicle is subject to regulations on the liability for material defects and optional extensions. The details on liability and extended liability for material defects are governed in corresponding contracts and the General Terms and Conditions of Business.

The vehicle may be covered by a mobility guarantee provided by the importer. The scope of cover depends on the conditions of the importer concerned.

The corresponding manufacturer hereby declares that the components listed below were compliant with the basic requirements and any other relevant regulations and laws at the time the vehicle was produced.

#### Parts

- 12-volt socket.
- Depending on the vehicle equipment and country, additional sockets with a voltage of 100 to 230 volts.

#### UKCA (UK Conformity Assessed) Components:

**UK  
CA** The UKCA (UK Conformity Assessed) marking is a UK product marking that is used for certain goods being placed on the market in Great Britain (England, Wales and Scotland).

#### UK Product Safety and Metrology Regulations

This vehicle has various devices installed that are subject to UKCA

product regulations. The following acts as the importer of these devices for the United Kingdom market within the meaning of the Product Safety and Metrology Regulations: MAN Truck & Bus UK Ltd.

Frankland Road Blagrove

Swindon Wiltshire, SN5 8YU

United Kingdom

#### Data processing in the vehicle

Your vehicle is fitted with electronic control units. Control units process data that they receive, e.g. from vehicle sensors, generate themselves or exchange between each other. Some control units are required for the safe functioning of your vehicle. Other control units support you when driving (driver assist systems), while others enable convenience features or additional functions of the Infotainment system.

#### Operating data in the vehicle

Control units process data for a specific purpose for vehicle operation.

This includes, for example:

- Vehicle status information, e.g. deceleration, deactivation times of the speed warning function and display of fastened seat belts.
- Ambient conditions, e.g. temperature, data from sensors for Adaptive Cruise Control.

As a rule, this application-specific data is volatile and is not stored beyond the operating time and is only processed in the vehicle itself.

Control units often contain data storage devices. They are used to allow information regarding the vehicle status, component load levels, servicing requirements, technical events and faults to be recorded on a temporary or permanent basis.

The following are stored according to the technical equipment:

- Operating states of system components, e.g. fill levels, tyre pressure, status of the 12-volt vehicle battery.
- Faults or malfunctions in important system components, e.g. lights, brakes.
- System reactions to specific driving situations, e.g. triggering of an airbag, intervention of the stability control systems.

- Information on events during which the vehicle sustained damage.

In special cases, e.g. when the vehicle has detected a malfunction, it may be necessary to store data that would normally only be volatile.

If you make use of services, e.g. repairs or maintenance work, the stored operating data can, if necessary, be read and used together with the vehicle identification number. The data can be read from the vehicle by staff in the service network, e.g. workshops, or third parties, e.g. breakdown services. The same applies to warranty cases and quality assurance measures.

The data is read via the legally prescribed OBD connection (“on-board diagnosis”) in the vehicle. The read operating data provides a record of technical states of the vehicle or individual components and helps to diagnose faults, meet warranty obligations and improve quality. This data, in particular in-

formation on component load levels, technical events, operating errors and other faults, is transmitted to MAN together with the vehicle identification number in cases where this is expedient. In addition, the manufacturer may use the data for reasons related to product liability and product safety, e.g. for recall campaigns. MAN also uses operating data from vehicles for this purpose, e.g. for recall campaigns. This data can also be used to check warranty and guarantee claims made by customers.

Event memories in the vehicle can be reset by a service workshop as part of repair or service work or if you request this.

#### **Personal reference**

*Valid for EU countries where the General Data Protection Regulation of the European Union applies:*

Each vehicle is identified by a unique vehicle identification number. This vehicle identification number can be traced back to the current and former holders of a vehicle

through information at the responsible authorities. There are also other ways to trace the holder or driver using data acquired from the vehicle, e.g. via the registration number.

The data generated or processed by control units may therefore contain personal data or be supplemented with personal data under certain circumstances. Depending on the vehicle data that is available, it may be possible to draw conclusions about your driving behaviour, your location or route and on the usage pattern, for example.

#### **Your rights regarding data protection**

*Valid for EU countries where the General Data Protection Regulation of the European Union applies:*

In accordance with current data protection legislation, you have certain rights towards MAN when your personal data is processed.

You therefore have a free and comprehensive right to information from MAN and third parties, e.g.

assigned breakdown services or qualified workshops or providers of online services in the vehicle, if these parties have stored your personal data. If you wish, you may request information on which data about yourself has been stored for which purpose and from where the data originates. Your entitlement to information also covers the transfer of data to other authorities.

Data that is only stored locally in the vehicle can be read out with expert assistance, for example at a suitably qualified workshop. This service may be subject to a fee.

Further information on your legal rights, for example your right to deletion or correction of the data, can be found in the applicable data protection information on the MAN website, including contact details and information about the data protection officer.

You can find detailed information on data processing in the Privacy Policy in your Infotainment system

Menu ► Legal information or Home ► Legal information.

#### **Legal requirements for the disclosure of data**

*Valid for EU countries where the General Data Protection Regulation of the European Union applies:*

Insofar as legal requirements exist, MAN Truck & Bus SE is obliged to disclose data stored at MAN Truck & Bus SE at the request of state authorities and to the extent required in individual cases, e.g. as part of an investigation into a criminal offence.

As the vehicle manufacturer, MAN Truck & Bus SE is legally obliged to transmit the following information relating to the use of driver assist systems, e.g. ACC, to the responsible authority:

- Relationships of the times or distances covered with driver assist systems switched on and off.
- Relationships of the times and distances covered in compliance

with and in violation of the detected speed limits.

- Where appropriate, average time between the driver switching the driver assist system on and off.

When vehicles visit a qualified workshop, the qualified workshop reads the specified data out of the vehicles and transmits this data to MAN Truck & Bus SE. MAN Truck & Bus SE processes this data so that there is no longer any direct link to you, your vehicle or the vehicle identification number of your vehicle. MAN Truck & Bus SE forwards the information processed in this way to the responsible authority, which processes the data in order to fulfil legal tasks. Insofar as legal requirements exist, MAN Truck & Bus SE is obliged to disclose data stored at MAN Truck & Bus SE at the request of state authorities and to the extent required in individual cases, e.g. as part of an investigation into a criminal offence.

Public authorities also have the power within the framework of ap-

plicable laws to read data from vehicles themselves in individual cases. They can read information, for instance, from the airbag control unit in the case of an accident, to help investigate the accident.

#### **Reprogramming control units**

*Valid for EU countries where the General Data Protection Regulation of the European Union applies:*

All data for the control of components is stored in the control units. Some convenience functions can be reprogrammed using special workshop equipment. If the convenience functions are reprogrammed, the specifications and descriptions in this owner's manual will no longer match the original functions. The reprogramming can be entered into the digital service schedule by a suitably qualified workshop.

Suitably qualified workshops are informed about this type of reprogramming.

### Convenience and Infotainment functions

*Valid for EU countries where the General Data Protection Regulation of the European Union applies:*

You can store convenience settings (e.g. personalisation) in the vehicle and change or reset them at any time.

Depending on the equipment in the vehicle, this includes, for example:

- Settings for seat and steering wheel positions
- Running gear and air conditioning system settings
- Customised settings such as mirror adjustment or background lighting.

### Infotainment system

*Valid for EU countries where the General Data Protection Regulation of the European Union applies:*

Depending on the equipment installed, you may be able to store

your own data in the vehicle's Infotainment system.

Depending on the equipment in the vehicle, this includes, for example:

- Media files for playback of music, films or photos in an Infotainment system.
- Address book data for use with a hands-free system or navigation system.
- Navigation destinations you have entered.
- Data regarding the use of online services.

This data can be stored locally in the vehicle or located on a device that you have connected to the vehicle (e.g. mobile telephone, USB stick or MP3 player). If this data is stored in the vehicle, you can delete it at any time.

This data is transmitted to third parties only at your request, in particular in relation to the use of online services and in accordance with your personal settings.

### Mobile telephone integration

*Valid for EU countries where the General Data Protection Regulation of the European Union applies:*

If your vehicle contains the necessary equipment, you can connect your mobile telephone or any other mobile end device to your vehicle so that you can control this device via the controls integrated in the vehicle, provided the corresponding functions are available. For example, images and sounds from the mobile telephone can be output through the Infotainment system. At the same time, certain information is sent to your mobile telephone. This includes location data and additional general vehicle information, depending on the type of integration. For more details, refer to the information about display of apps in the Infotainment system.

This enables selected apps on the mobile telephone to be used in the vehicle, e.g. navigation or music player. The mobile telephone and vehicle do not interact in any other

ways than those described here, in particular the device does not actively access vehicle data. The type of further data processing depends on the app provider. Whether or not you can adjust settings in this regard depends on the app in question and the operating system of your mobile telephone.

#### **Online services**

*Valid for EU countries where the General Data Protection Regulation of the European Union applies:*

If your vehicle is equipped with a connection to a mobile network, your vehicle will be able to exchange data with other systems. The connection to a mobile network is made possible by a transmitter and receiver unit in the vehicle. This mobile network connection enables you to use online functions. This includes online services and applications (apps) that you obtain from MAN or other providers.

#### **Manufacturer services**

*Valid for EU countries where the General Data Protection Regulation of the European Union applies:*

In the case of MAN online services, MAN describes the respective functions in a suitable place, for example in a separate service description or on a website, and also provides the associated privacy information. Personal data may be used to perform online services. To this end, data is exchanged over a secure connection, e.g. using the designated IT systems of the manufacturer. Any collection, processing and use of personal data that goes beyond the provision of the service takes place exclusively according to legal regulations, contractual agreements or the necessary permission.

You can activate and deactivate the partly fee-based services and functions and in some cases also the vehicle's entire data connection. This does not apply to any

functions and services required by law, e.g. emergency call systems.

#### **Third-party services**

*Valid for EU countries where the General Data Protection Regulation of the European Union applies:*

If you are able to use online services provided by a party other than the manufacturer, these services are the sole responsibility of the provider in question and are subject to this provider's privacy policy and terms and conditions of use. MAN has no influence over the content exchanged in these services.

Please refer to the provider in question for information about the type, scope and purpose of the collection and use of personal data related to third-party services.

This vehicle is equipped with an event data recorder. The event data recorder's main job is to record data in accidents or situations similar to an accident, e.g. when an airbag is triggered or when the vehicle collides with an obstacle on the road, which then supports analysis of how a vehicle system behaved. The event data recorder is intended to record data relating to driving dynamics and the restraint system for a short period of 30 seconds or less. The event data recorder of this vehicle is intended to record the following data, amongst other things:

- How various systems in your vehicle have functioned.
- Whether the driver and front passenger seat belts were fastened/secured.
- The extent to which the driver pressed the brake or accelerator (if at all).
- How fast the vehicle was travelling.

This data helps to obtain a better understanding of the circumstances in the situations where accidents and injuries have occurred. Data from driver assist systems is also recorded. In addition to information about whether the systems were switched on or off, available only to a restricted extent or inactive, it is also possible to determine whether these functions steered, accelerated or braked the vehicle in the above-described situations. Depending on the vehicle equipment, these systems include the following:

- Adaptive Cruise Control (ACC).
- Lane keeping system (Lane Assist).
- Park Assist.
- Autonomous Emergency Braking (Front Assist).

The data of the event data recorder is recorded by your vehicle only if an unusual situation similar to an accident occurs. No data is recorded by the event data recorder under normal driving conditions. In

addition, no personal data, e.g. name, gender, age or accident location, is recorded. However, third parties such as law enforcement agencies can use appropriate means to link the content of the event data recorder with other sources of data and thus establish a reference to persons as part of an accident investigation.

Special equipment and access to the vehicle or event data recorder are necessary in order to read data from the event data recorder. In addition to the vehicle manufacturer, third parties such as law enforcement agencies that have the corresponding equipment can read out the information if they have access to the vehicle or event data recorder.

MAN will not access the data in the event data recorder, read or process them unless the vehicle owner (or in the case of leasing, the lessee) gives their permission. Exceptions to this are contractual or legal provisions.

Due to its statutory product monitoring obligations, MAN is entitled to use the data for field monitoring and also for research purposes and to improve the quality of the vehicle's safety systems. For research purposes, MAN makes the data available to third parties in anonymous form, in other words without any reference to the individual vehicle, vehicle owner or lessee.

Depending on the equipment level, your vehicle may be equipped with assistance systems, e.g. Adaptive Cruise Control (ACC) that use radar sensors.

Observe the legal regulations when driving into certain zones where entry of vehicles with radar sensors is prohibited. Pay attention to any relevant traffic signs. If you want to drive into one of these regions, inform yourself in advance whether radar sensors are installed in your vehicle.

### **WARNING**

Sensors are subject to physical system limits. External sources of interference, e.g. from other vehicles, can impair functioning of the sensors and restrict the functions of the assistance systems. If the system does not function as expected, this can lead to accidents and serious or fatal injuries.

- Always pay attention to the traffic situation and the area around the vehicle.

- Ensure that your speed and driving style are always appropriate for the current visibility, weather and road/traffic conditions.

The aerials for the Infotainment system are installed at different points in the vehicle:

- In the exterior mirrors.
- On the roof of the vehicle.
- On the inside of the rear window.
- On the inside of the rear side windows.

Aerials on the interior of the windows can be identified by thin wires.

If the vehicle equipment includes aerials installed in the exterior mirrors, subsequent metal chrome-plating of the exterior mirrors, e.g. with chrome-plated design caps, can cause significant interference or loss of the reception and transmission properties of radio, mobile communications and navigation services.

#### ***NOTICE***

Aerials located on the inside of the windows could be damaged by corrosive or acidic substances or if

hard objects rub against the window.

- Never affix stickers over metal wires.
- Never clean the aerials with corrosive or acidic agents.

#### ***NOTICE***

A retrofitted Infotainment system that is not compatible with the aerial amplifier installed as standard equipment can damage the aerial amplifier.

- Consult a suitably qualified workshop before retrofitting an Infotainment system.

Some electronic components and control units are fitted with component protection as standard, e.g. the Infotainment system.

The component protection permits a suitably qualified workshop to legitimately install or replace components and control units.

The component protection prevents the factory-supplied components from being operated without restrictions outside the vehicle in the following situations:

- Installation in other vehicles, e.g. after theft.
- Operation of components outside the vehicle.

If a text message about component protection appears in the display of the instrument cluster or the screen of the Infotainment system, go to a suitably qualified workshop.

Some of the products installed in the vehicle contain software components which are subject to open source licences.

The source code for certain open source software components can be requested from the vehicle manufacturer. The manufacturer will make the source code available to you in accordance with the relevant licence conditions. You will only be charged the actual costs of provision (e.g. postage costs). For further information, please contact technical support, for example via the MAN service portal:

**<https://manserviceportal.eu>**

Stickers and plates showing important information for vehicle operation are factory-fitted in the bonnet space and on certain vehicle parts.

- Never remove stickers or signs. They must remain legible at all times.
- If vehicle parts bearing stickers or plates are removed from the vehicle, replacement stickers or plates with the same information must be applied properly to the new parts by a suitably qualified workshop.

### Safety certificate

There is a safety certificate on the door pillar which states that all necessary safety standards and specifications from the transport safety authorities of the particular country were met at the time of production. The month and year of production and the vehicle identification number may also be listed. Observe notes in the owner's manual.

### WARNING

Removal of stickers and signs reduces the amount of information about sources of danger and can result in less attention being paid when working on the vehicle. This can lead to serious accidents and fatal injuries.

- Never remove stickers or signs or make them illegible.
- Observe legal requirements.
- Observe the owner's manual.

### NOTICE

Removal of stickers and signs increases the risk of incorrect operation and can result in damage to the vehicle.

- Never remove stickers or signs or make them illegible.
- Observe legal requirements.
- Carry out servicing work in accordance with the specifications.

#### Refrigerant in the air conditioning system

The sticker in the bonnet space contains information regarding the type and quantity of refrigerant used in the vehicle's air conditioning system. The sticker is located at the front of the bonnet space, close to the refrigerant filler neck

→ .

#### Refrigerant oil in the air conditioning system

The air conditioning system is filled with refrigerant oil. Consult a suitably qualified workshop for information about the type and quantity of the refrigerant oil used → page 598.



Warning: The air conditioning system must be serviced only by qualified personnel.



Type of refrigerant.



Type of refrigerant oil.



See workshop information (available only for MAN service centres).



The air conditioning system must be serviced only by qualified personnel.



Flammable refrigerant.



Ensure correct disposal of all components and never install components removed from end-of-life vehicles or recycled components in the vehicle.

#### DANGER

Maintenance of the air conditioning system by unqualified personnel may jeopardise operating processes and cause serious and fatal injuries.

- Have the air conditioning system serviced only by qualified personnel who are trained according to the nationally required standards, e.g. SAE standard J2845.

#### DANGER

The refrigerant is flammable and can lead to serious and fatal injuries if maintenance is not performed correctly.

- Have maintenance on the air conditioning system performed only by suitably qualified personnel.
- Keep the vehicle away from naked flames, sparks and other sources of ignition.

#### DANGER

The refrigerant is pressurised and can explode if heated. This can lead to serious accidents and fatal injuries.

- Have maintenance on the air conditioning system performed only by suitably qualified personnel.

- Keep the vehicle away from naked flames, sparks and other sources of ignition.

** DANGER**

The refrigerant can form toxic vapours if it comes into contact with hot surfaces. If these are breathed in, this can result in poisoning or even death.

- Have maintenance on the air conditioning system performed only by suitably qualified personnel.

***NOTICE***


Repair or replacement of the evaporator with replacement parts from end-of-life vehicles or from recycling sources can result in damage to the air conditioning system.

- Never have repairs to the evaporator performed with replacement parts from end-of-life vehicles or recycling sources.

Due to the European regulation on chemicals, REACH, MAN would like to inform you about substances that may be contained in your vehicle.

You can find information online at:  
**[https://secured.man.eu/portal/asp/de/support\\_5/kundeninformationen/customerinformation](https://secured.man.eu/portal/asp/de/support_5/kundeninformationen/customerinformation)**

## Disposal of used batteries

Used batteries must be collected separately and recycled by the end user. This is indicated by the symbol with the crossed-through waste bin . As the end user, you are required by law to return used batteries.

- In EU member states and other states, device batteries and vehicle batteries can be returned to your MAN service outlet or approved return systems.

Your MAN service outlet can provide further information on return and recycling.

### WARNING

If batteries containing lithium are damaged, gaseous or liquid substances may escape, posing a significant risk to health and the environment. A short circuit of the terminals can also cause a fire or explosion. This can result in serious injury or death.


- Handle batteries containing lithium with special care.
- Never heat batteries containing lithium.
- Never damage batteries containing lithium.
- Never short-circuit the battery poles.



Batteries containing heavy metals are marked with the chemical symbols Hg (mercury), Cd (cadmium) and/or Pb (lead). Heavy metals can be harmful to human and animal health and tend to accumulate in the environment.

- To avoid this, please ensure that your used batteries are collected separately and returned properly.

## Old electrical/electronic devices

The vehicle contains electrical/electronic devices such as remote controls. The electrical/electronic devices are marked with the crossed-out bin symbol .

Legislation stipulates that old devices with this marking must be collected and disposed of separately from normal household waste. You can hand in these electrical/electronic devices at local collection points or to any approved national return systems.

In Germany, stores with a sales area from 400 m<sup>2</sup> that sell electronic devices and food stores with a total sales area from 800 m<sup>2</sup> that sell new electrical devices are obliged to take back these devices free of charge. When purchasing a new device, the end user may return an equivalent old device. This also applies to deliveries to private households and when selling over the Internet. Small old devices may generally be handed in at retail stores without purchasing a new one. Your MAN service outlet is also obliged to take back up to three old devices with an edge length of less than 25 cm free of charge.

- Batteries, rechargeable batteries or lamps that are not a fixed part

of the device must be removed first and disposed of accordingly.

- You must delete all stored personal data before disposing of the old devices.

Your MAN service outlet can provide further information on avoiding waste, and on how to return and recycle old devices.

### Recycling information for France

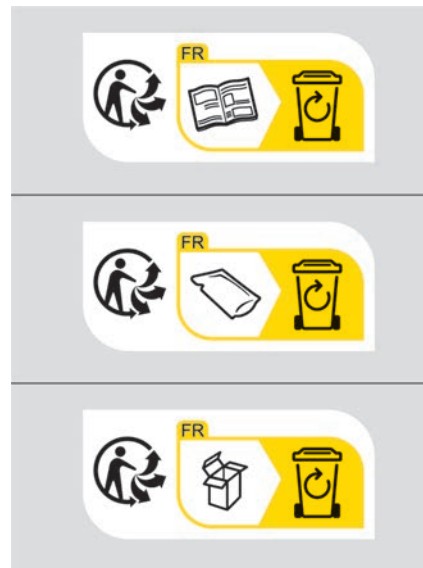


**Fig. 229** Recycling information for France.

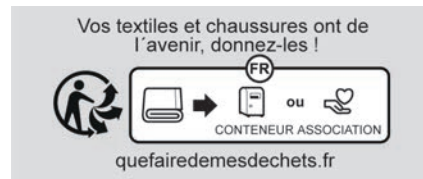
Observe the recycling information → Fig. 229, which includes the following items:

- Vehicle key.

- Remote control for the auxiliary heater and auxiliary ventilation.
- Tyre Pressure Monitoring System.
- Valet keycard.
- SD card.
- Compressor.
- Torch.
- Portable warning lamp.



**Fig. 230** Recycling information for France.



**Fig. 231** Recycling information for France.

Observe the recycling information for accompanying documentation and packaging or bags → Fig. 230 and → Fig. 231. This recycling information includes the following items:

- Vehicle wallet.
- High-visibility waistcoats.
- Curtains.
- Mattress.



The Triman logo and Info-tri symbol contain important sorting information for the end user.

---

#### **Recycling end-of-life vehicles**

MAN has already made provision for you to recycle your vehicle in an environmentally responsible manner. The recycling system operating in many European countries will take back your vehicle at the end of its useful life. Once the vehicle has been returned, a Certificate of Destruction will be issued to show that the vehicle has been disposed of correctly and in an environmentally responsible way.

End-of-life vehicles can be returned free of charge, provided that national legislation is complied with. You can find the authorised collection points at:

**<https://mantruckandbus.com>**

Select the link for “end-of-life vehicle recycling” in the footer under the heading “Transporter”.

Contact any suitably qualified workshop for information on certified return centres.

Depending on the equipment, the vehicle may have large plastic components that can produce a plastic-like odour due to evaporation when exposed to warm temperatures over a prolonged period of time. The odour fades over time as the vehicle is used. The process can be supported and accelerated by regularly ventilating the vehicle.

### CAUTION

Strong odours can be emitted from the interior equipment due to evaporation. This can temporarily lead to a feeling of being unwell.

- Park the vehicle safely and ventilate the vehicle.
- Get plenty of fresh air until the feeling of unwellness subsides.

### Vehicle operation

If it has become very hot inside the vehicle, all the doors should be left open for a short period before starting the journey.


1. Open all the doors and ventilate the vehicle thoroughly.

### *Climatronic:*

While driving, sufficient ventilation of the vehicle is provided by the air conditioning system in automatic mode. If possible, drive while using the air conditioning system in automatic mode.

1. Press the **AUTO** button and switch on automatic mode.

### *Heating and fresh air system or manual air conditioning system:*

1. Set the blower speed to at least level 3.
2. Direct air to the upper body and footwell .

If possible, do not use the heating and fresh air system or the air conditioning system in air recirculation mode and do not switch off the system.

### Spending time in the vehicle and body/load compartment

When spending time or sleeping in the vehicle, always ensure sufficient ventilation. Even at cold outside temperatures, a sufficient sup-

ply of fresh air should be ensured when using the heating.

1. Open installed roof hatches if necessary.
2. Open installed windows if necessary.
3. Switch on installed heaters (vehicle or camping equipment) if necessary. Observe the manufacturer's instructions.

### Ensuring that the vapours disappear as quickly as possible

Stop the vehicle in a warm location, e.g. in the sun, ensure sufficient ventilation through side windows or roof hatches and leave the vehicle if possible.

Information about repairs and maintenance on MAN vehicles is available for a fee.

#### **Customers in Europe, Asia, Australia, Africa, Central and South America**

Please contact a MAN service point or another authorised workshop or visit the MAN service portal at:

**<https://manserviceportal.eu>**

#### **WARNING**

Repairs and modifications to the vehicle performed improperly may impair the effectiveness of the driver assist systems and triggered airbags. This can cause malfunctions and lead to accidents and serious or fatal injuries.

- Have repairs and modifications to your vehicle carried out only by a suitably qualified workshop.
-

## Simplified declaration of conformity

### EU

Your vehicle is equipped with a range of radio equipment. The manufacturers of this radio equipment declare that this equipment complies with Directive 2014/53/EU where required by law.

The full text of the EU declaration of conformity is available at the following internet address:

[https://secured.man.eu/portal/asp/de/support\\_5/kundeninformationen/konformitaetserklaerungen/f\\_1](https://secured.man.eu/portal/asp/de/support_5/kundeninformationen/konformitaetserklaerungen/f_1)

### United Kingdom

Your vehicle is equipped with a range of radio equipment. The manufacturers of these radio systems declare that this equipment complies with the relevant legal requirements.

The full text of the declarations of conformity is available at the following internet address:

[https://secured.man.eu/portal/asp/de/support\\_5/kundeninformationen/konformitaetserklaerungen/f\\_1](https://secured.man.eu/portal/asp/de/support_5/kundeninformationen/konformitaetserklaerungen/f_1)

| Importer                | Address   |
|-------------------------|---|
| MAN Truck & Bus UK Ltd. | Frankland Road Blagrove<br>Swindon Wiltshire, SN5 8YU<br>United Kingdom |

### Turkey

Your vehicle is equipped with a range of radio equipment. The manufacturers of this radio equipment declare that this equipment complies with Directive 2014/53/EU where required by law.

The full text of the declarations of conformity is available at the following internet address:

[https://secured.man.eu/portal/asp/de/support\\_5/kundeninformationen/konformitaetserklaerungen/f\\_1](https://secured.man.eu/portal/asp/de/support_5/kundeninformationen/konformitaetserklaerungen/f_1)

| ithalatçı                      | Adres  |
|--------------------------------|--|
| MAN Kamyon ve Otobüs Tic. A.Ş. | Balıkhisar Mahallesi Özal Bulvarı No: 576/1<br>06750 Akyurt / ANKARA – TÜRKİYE |

#### Ukraine

Your vehicle is equipped with a range of radio equipment. The manufacturers of these radio systems declare that this equipment complies with Directive TR-355 where required by law.

The full text of the declarations of conformity is available at the following internet address:

[https://secured.man.eu/portal/asp/de/support\\_5/kundeninformationen/konformitaetserklaerungen/f\\_1](https://secured.man.eu/portal/asp/de/support_5/kundeninformationen/konformitaetserklaerungen/f_1)

| імпортёр                      | Адреса  |
|-------------------------------|---|
| «МАН Трак енд Бас Юкрейн» ТОВ | с. Чайки, вул. В. Чайки, 16,<br>БЦ «ЮТА Сервіс», 8-й поверх,<br>08135, Києво-Святошинський р-н, Київська обл.,<br>Україна |



Radio systems marked with this symbol must be collected and disposed of separately from your normal domestic waste. You can hand them in at a local waste management company or return them as part of a national take-back system  
→ page 621, *Product recycling*.



Marking for the restricted use of certain hazardous substances in electrical and electronic equipment in accordance with the RoHS Directive.

#### Information on radio systems

The tables below show the radio equipment used, the frequency

bands on which it operates, the maximum transmitting power of the equipment, and the associated manufacturers. Each table contains one component assembly. The manufacturer's details, the frequency bands and maximum transmission powers are assigned a reference number and shown in separate tables.

| Connection to the external aerial |  |   |                                      |              |
|-----------------------------------|--|---|--------------------------------------|--------------|
| Component                         | Designation/<br>Product Type Designation<br>EU/UK    | Designation/<br>Product Type Designation<br>Ukraine | Frequency<br>+ transmitting<br>power | Manufacturer |
| 5G Kompensator EU                 | 5G-NRC-EU  |   | CG                                   | 36           |
| LTE Kompensator                   | LTE-MBC-EU2  | LTE-MBC-EU2   | AA                                   | 14           |
| Transceiver module                | CM01TN-VWW   | CM01TN-VWW  | BN                                   | 26           |
| Transceiver module                | CM01TN-VWW additional<br>model names: CM01XN-<br>VWE |   | CB                                   | 26           |

| Aerials   |   |   |                                      |              |
|---|---|---|--------------------------------------|--------------|
| Component   | Designation/<br>Product Type Designation<br>EU/UK | Designation/<br>Product Type Designation<br>Ukraine | Frequency<br>+ transmitting<br>power | Manufacturer |
| Roof aerial base for taxis,<br>2 m/70 cm, GPS, UMTS | AM/FM, DAB+ DVBT, GPS,<br>FAKRAnBHC 3789.01       |   | AI                                   | 01           |
| Exterior mirror aerial system<br>for AM, FM         | 920639A   | 920639A   | AD                                   | 02           |
| Exterior mirror aerial system<br>for AM, FM, DAB    | 920639A   | 920639A   | AF                                   | 02           |

| Component  | Designation/<br>Product Type Designation<br>EU/UK                                  | Designation/<br>Product Type Designation<br>Ukraine | Frequen-<br>cy<br>+ trans-<br>mitting<br>power | Manufac-<br>turer |
|--|--|---|--|-------------------|
| Exterior mirror aerial system for FM                               | 920639A  | 920639A   | AB   | 02                |
| Exterior mirror aerial system for FM, DAB                          | 920639A  | 920639A   | AC   | 02                |
| Aerial module in exterior mirrors, GNSS                            | 920336A  | 920336A   | AH   | 02                |
| Exterior mirror aerial for navigation system [short bracket], GNSS | 7E0.035.510  | 7E0.035.510   | AH   | 23                |
| Exterior mirror aerial for navigation system [long bracket], GNSS  | 7E0.035.510.A  | 7E0.035.510.A                                       | AH   | 23                |
| Roof aerial base for AM, FM  | Receiving antenna amplifier AM/FM, DAB, LTE,NAV<br>6C0.035.501.Q/<br>6C0.035.501.A | 7C0.035.501   | AD   | 22                |
| Roof aerial base for AM, FM, LTE, GNSS                             | Receiving antenna amplifier AM/FM, DAB, LTE,NAV<br>6C0.035.501.Q/<br>6C0.035.501.A | 7C0.035.501.F                                       | AE   | 22                |
| Roof aerial base for AM, FM, LTE, DAB, GNSS                        | Receiving antenna amplifier AM/FM, DAB, LTE,NAV<br>6C0.035.501.Q/<br>6C0.035.501.A | 7C0.035.501.G                                       | AG   | 22                |

| Component   | Designation/<br>Product Type Designation<br>EU/UK | Designation/<br>Product Type Designation<br>Ukraine | Frequen-<br>cy<br>+ trans-<br>mitting<br>power | Manufac-<br>turer |
|---|---|---|--|-------------------|
| Aerial module in exterior mirrors [standard] for FM       | 920481A   | 920481A   | AB   | 02                |
| Aerial module in exterior mirrors [bracket] for FM        | 920481A   | 920481A   | AB   | 02                |
| Aerial module in exterior mirrors [standard] for GNSS     | 920336A   | 920336A   | AH   | 02                |
| Aerial module in exterior mirrors [bracket] for GNSS      | 920336A   | 920336A   | AH   | 02                |
| Aerial amplifier in exterior mirrors for AM, FM           | 920301A   | 920301A   | AD   | 02                |
| Aerial amplifier in exterior mirrors for FM               | 920301A   | 920301A   | AB   | 02                |
| Aerial amplifier in exterior mirrors for FM, DAB          | 920304A   | 920304A   | AC   | 02                |
| Exterior mirror aerial system [short bracket] for AM, FM  | 920611A   | 920611A   | AD   | 02                |
| Exterior mirror aerial system [short bracket] for FM      | 920611A   | 920611A   | AB   | 02                |
| Exterior mirror aerial system [short bracket] for FM, DAB | 920611A   | 920611A   | AC   | 02                |
| Exterior mirror aerial system [long bracket] for AM, FM   | 920611A   | 920611A   | AD   | 02                |
| Exterior mirror aerial system [long bracket] for FM       | 920611A   | 920611A   | AB   | 02                |

## Customer information

### Information on radio systems

| Component   | Designation/<br>Product Type Designation<br>EU/UK                                  | Designation/<br>Product Type Designation<br>Ukraine | Frequen-<br>cy<br>+ trans-<br>mitting<br>power | Manufac-<br>turer |
|---|--|---|--|-------------------|
| Exterior mirror aerial system<br>[long bracket] for FM, DAB | 920611A  | 920611A   | AC   | 02                |
| Exterior mirror aerial system<br>FM1                        | 920639A  | 920639A   | AB   | 02                |
| Exterior mirror aerial system<br>FM1, DAB2                  | 920639A  | 920639A   | AC   | 02                |
| Roof aerial for LTE, GNSS                                   | Product name:<br>5WA.035.507.A Type:<br>5WA.035.507.A                              | 5WA.035.507.A                                       | AH   | 04                |
| Roof aerial for LTE, GNSS,<br>Telestart                     | Product name:<br>5WA.035.507.B Type:<br>5WA.035.507.A                              | 5WA.035.507.B                                       | AH   | 04                |
| DSRC module   | DSRC CAN Module/EFAS-4<br>DU (200046-8) DSRC CAN<br>Module/EFAS-4 DU<br>(200046-9) |   | BF   | 25                |
| Impedance converter FM                                      | FAM012   |   | AB   | 03                |
| Impedance converter FM1                                     | 7T0.035.577.C (FAM012)   |   | AB   | 03                |
| Impedance converter FM2                                     | 7T0.035.577.A (FAM012)   |   | AB   | 03                |
| Impedance converter FM,<br>DAB                              | FAM012   |   | AC   | 03                |
| Impedance converter FM2,<br>DAB1                            | 7T0.035.577.B (FAM012)   |   | AC   | 03                |

| Component   | Designation/<br>Product Type Designation<br>EU/UK | Designation/<br>Product Type Designation<br>Ukraine | Frequen-<br>cy<br>+ trans-<br>mitting<br>power | Manufac-<br>turer |
|---|---|---|--|-------------------|
| Impedance converter FM1,<br>DAB2                          | 7T0.035.577.D (FAM012)                            |   | AC   | 03                |
| Roof aerial for LTE, GNSS,<br>Telestart                   | 7T0.035.507.B (FAM016)                            |   | AH   | 03                |
| Roof aerial for LTE, GNSS,<br>Telestart, Wi-Fi p standard | 7T0.035.507.F (FAM016)                            |   | AH   | 03                |
| Roof aerial for LTE, GNSS                                 | 7T0.035.507.A (FAM016)                            |   | AH   | 03                |
| Roof aerial for LTE, GNSS,<br>Wi-Fi p standard            | 7T0.035.507.E (FAM016)                            |   | AH   | 03                |
| Wi-Fi p standard auxiliary<br>aerial                      | 7T0.035.510 (FAM027)                              |   | BM   | 03                |
| Aerial TEL+BLTE+Wi-Fi<br>+GNSS                            | 5WA.035.507.E                                     |   | BZ   | 04                |
| Aerial C2C auxiliary aerial                               | CSA-1   |   | CA   | 04                |
| DSCR aerial   | Quad DSRC Detached An-<br>tenna                   |   | CI   | 25                |

| <b>Vehicle key</b> |  |  |   |                           |
|--------------------|--|--|---|---------------------------|
| <b>Component</b>   | <b>Designation/<br/>Product Type Designation<br/>EU/UK</b> | <b>Designation/<br/>Product Type Designation<br/>Ukraine</b> | <b>Frequen-<br/>cy<br/>+ trans-<br/>mitting<br/>power</b> | <b>Manufac-<br/>turer</b> |
| Vehicle key FKS09  | FS94   | FS94   | BG  | 05                        |
| Vehicle key FKS12  | FS125C   | FS125C   | BG  | 05                        |
| Vehicle key FKS12  | FS12P  | FS12P  | BG  | 05                        |
| Vehicle key FS191S | FS191S   | FS191S   | BH  | 05                        |
| Vehicle key FS19S  | FS19S  |  | BQ  | 05                        |
| Vehicle key FS19R  | FS19R  |  | CH  | 05                        |

| <b>Infotainment systems</b> |  |  |   |                           |
|-----------------------------|--|--|---|---------------------------|
| <b>Component</b>            | <b>Designation/<br/>Product Type Designation<br/>EU/UK</b> | <b>Designation/<br/>Product Type Designation<br/>Ukraine</b> | <b>Frequen-<br/>cy<br/>+ trans-<br/>mitting<br/>power</b> | <b>Manufac-<br/>turer</b> |
| MIB3 EI                     | MIB3E_MQB37w_BT  | Panasonic<br>MIB3E_MQB37w_BT                                 | AO  | 06                        |
| MIB3 OI EU1 MQB             | MIB3 OI  | MIB3 OI  | AP  | 07                        |
| MIB3 OI EU1 MQB             | MIB3 OI  | MIB3 OI  | AP  | 08                        |
| MIB3 OI EU2 MQB             | MIB3 OI  | MIB3 OI  | AP  | 07                        |
| MIB3 OI EU2 MQB             | MIB3 OI  | MIB3 OI  | AP  | 08                        |
| MIB3 OI RdW1 MQB            | MIB3 OI  | MIB3 OI  | AP  | 07                        |

| Component            | Designation/<br>Product Type Designation<br>EU/UK  | Designation/<br>Product Type Designation<br>Ukraine | Frequen-<br>cy<br>+ trans-<br>mitting<br>power | Manufac-<br>turer |
|----------------------|--|---|--|-------------------|
| MIB3 OI RdW2 MQB     | MIB3 OI  | MIB3 OI   | AP   | 07                |
| MIB3 OI RdW2 MQB     | MIB3 OI  | MIB3 OI   | AP   | 08                |
| MIB3 OI RdW2 DAB MQB | MIB3 OI  | MIB3 OI   | AP   | 07                |
| MIB3 OI EU1 37W      | MIB3 OI  | MIB3 OI   | AP   | 08                |
| MIB3 OI EU2 37W      | MIB3 OI  | MIB3 OI   | AP   | 08                |
| MIB3 OI RdW1 37W     | MIB3 OI  | MIB3 OI   | AP   | 08                |
| MIB3 OI RdW2 37W     | MIB3 OI  | MIB3 OI   | AP   | 08                |
| MIB3 OI RdW2 DAB 37W | MIB3 OI  | MIB3 OI   | AP   | 08                |
| MIB2 Entry GP2       | MIB2 GP, L64SK2, L60SK2,<br>L62VW2, L73SK2, L72SK2,<br>L77VW2, L73VW2, L81SE2,<br>L81SK2, L82SE2 | MIB2 GP   | AO   | 08                |
| MIB2 Entry GP2 DAB   | MIB2 GP, L64SK2, L60SK2,<br>L62VW2, L73SK2, L72SK2,<br>L77VW2, L73VW2, L81SE2,<br>L81SK2, L82SE2 | MIB2 GP   | AO   | 08                |
| MIB2 Std NAV         | MIB2STD  | MIB2STD   | BJ   | 28                |
| NRUL-Crafter         | New Radio Ultra Low SBT  | New Radio Ultra Low SBT                             | AN   | 10                |
| NRUL-T6PA            | New Radio Ultra Low SBB  | New Radio Ultra Low SBB                             | AN   | 10                |
| NRUL-DAB-T6PA        | New Radio Ultra Low SBB<br>DAB   | New Radio Ultra Low SBB<br>DAB                      | BK   | 10                |
| RULT-Caddy5          | Radio Ultra Low Touch  | Radio Ultra Low Touch                               | AN   | 10                |
| RULT-DAB-Caddy5      | Radio Ultra Low Touch DAB  | Radio Ultra Low Touch DAB                           | BK   | 10                |
| ICAS3                | MEB ICAS3  |   | BY   | 32                |

## Customer information

Information on radio systems

| <b>Component</b>   | <b>Designation/<br/>Product Type Designation<br/>EU/UK</b> | <b>Designation/<br/>Product Type Designation<br/>Ukraine</b> | <b>Frequen-<br/>cy<br/>+ trans-<br/>mitting<br/>power</b> | <b>Manufac-<br/>turer</b> |
|--------------------|--|--|---|---------------------------|
| ICAS3 (from UNECE) | MEB ICAS3  |  | BY  | 32                        |

### Wireless seat belt warning system

| <b>Component</b>  | <b>Designation/<br/>Product Type Designation<br/>EU/UK</b> | <b>Designation/<br/>Product Type Designation<br/>Ukraine</b> | <b>Frequen-<br/>cy<br/>+ trans-<br/>mit pow-<br/>er</b> | <b>Manufac-<br/>turer</b> |
|---|--|--|---|---------------------------|
| wSBR F-SG (wireless Seat Belt Reminder vehicle-side control unit) | wSBR F-SG (wireless Seat Belt Reminder - car unit)         | wSBR F-SG (wireless Seat Belt Reminder - car unit)           | AQ  | 24                        |
| wSBR S-SG (wireless Seat Belt Reminder seat-side control unit)    | wSBR S-SG (wireless Seat Belt Reminder - seat unit)        | wSBR S-SG (wireless Seat Belt Reminder - seat unit)          | AQ  | 24                        |

**Wireless charging function**

| <b>Component</b>                          | <b>Designation/<br/>Product Type Designation<br/>EU/UK</b> | <b>Designation/<br/>Product Type Designation<br/>Ukraine</b> | <b>Frequen-<br/>cy<br/>+ trans-<br/>mitting<br/>power</b> | <b>Manufac-<br/>turer</b> |
|---|--|--|---|---------------------------|
| Coupling aerial, 2nd generation           | WCH-185  | WCH-185  | AR  | 14                        |
| 5W Wireless Charging Module TX Controller | WPC003-1<br>WPC003-5                                       | WPC003-1<br>WPC003-5   | CE  | 33                        |

**Keyless Access**

| <b>Component</b>   | <b>Designation/<br/>Product Type Designation<br/>EU/UK</b> | <b>Designation/<br/>Product Type Designation<br/>Ukraine</b> | <b>Frequen-<br/>cy<br/>+ trans-<br/>mitting<br/>power</b> | <b>Manufac-<br/>turer</b> |
|--|--|--|---|---------------------------|
| Keyless locking and starting system Keyless Access, IO Box Basic | 013854   | 013854   | AS  | 05                        |
| Keyless locking and starting system Keyless Access IO Box High   | 013854   | 013854   | AS  | 05                        |
| RSAD Box   | RSB19  | RSB19  | AT  | 05                        |

| <b>Instrument cluster / electronic immobiliser</b> |  |  |   |                           |  |
|--|--|--|---|---------------------------|--|
| <b>Component</b>                                   | <b>Designation/<br/>Product Type Designation<br/>EU/UK</b>   | <b>Designation/<br/>Product Type Designation<br/>Ukraine</b> | <b>Frequen-<br/>cy<br/>+ trans-<br/>mitting<br/>power</b> | <b>Manufac-<br/>turer</b> |  |
| Analogue medium instru-<br>ment cluster            | VW MQBAB2020 Instrument<br>Cluster and Immobilizer Sys-<br>tem   | Medium 5c  | BS  | 16                        |  |
| Lowline instrument cluster                         | "Immobilizer integrated in<br>dashboard module instru-<br>ment cluster / Wegfahr-<br>sperre im Schalttafeleinsatz<br>Kombi-Instrument" | 17101055   | BV  | 17                        |  |
| Highline instrument cluster                        | "Immobilizer integrated in<br>dashboard module instru-<br>ment cluster / Wegfahr-<br>sperre im Schalttafeleinsatz<br>Kombi-Instrument" | 17101056   | BV  | 17                        |  |
| Premiumline instrument<br>cluster                  | "Immobilizer integrated in<br>dashboard module instru-<br>ment cluster / Wegfahr-<br>sperre im Schalttafeleinsatz<br>Kombi-Instrument" | 17101057   | BV  | 17                        |  |

| Component                          | Designation/<br>Product Type Designation<br>EU/UK   | Designation/<br>Product Type Designation<br>Ukraine | Frequen-<br>cy<br>+ trans-<br>mitting<br>power | Manufac-<br>turer |
|------------------------------------|---|---|--|-------------------|
| Premiumline instrument cluster     | "Immobilizer integrated in dashboard module instrument cluster / Wegfahr-sperre im Schalttafeleinsatz Kombi-Instrument" | 17101055  | BV   | 17                |
| Premiumline instrument cluster     | "Immobilizer integrated in dashboard module instrument cluster / Wegfahr-sperre im Schalttafeleinsatz Kombi-Instrument" | 17101056  | BV   | 17                |
| FPK-Entry instrument cluster       | "Immobilizer integrated in dashboard module instrument cluster / Wegfahr-sperre im Schalttafeleinsatz Kombi-Instrument" | 17101002  | BU   | 17                |
| FPK-Basic instrument cluster       | VW MQBAB2020 Instrument Cluster and Immobilizer System  | Medium 5c   | CJ   | 35                |
| Analogue medium instrument cluster | "Immobilizer integrated in dashboard module instrument cluster / Wegfahr-sperre im Schalttafeleinsatz Kombi-Instrument" | 18020532  | BT   | 17                |

| Component  | Designation/<br>Product Type Designation<br>EU/UK  | Designation/<br>Product Type Designation<br>Ukraine | Frequen-<br>cy<br>+ trans-<br>mitting<br>power | Manufac-<br>turer |
|--|--|---|--|-------------------|
| Analogue medium instru-<br>ment cluster                        | "Immobilizer integrated in<br>dashboard module instru-<br>ment cluster / Wegfahr-<br>sperre im Schalttafeleinsatz<br>Kombi-Instrument" |   | BT   | 17                |
| Colour Medium instrument<br>cluster                            | "Immobilizer integrated in<br>dashboard module instru-<br>ment cluster / Wegfahr-<br>sperre im Schalttafeleinsatz<br>Kombi-Instrument" | 18100931  | BT   | 17                |
| Colour Medium instrument<br>cluster                            | "Immobilizer integrated in<br>dashboard module instru-<br>ment cluster / Wegfahr-<br>sperre im Schalttafeleinsatz<br>Kombi-Instrument" |   | BT   | 17                |
| Analogue medium instru-<br>ment cluster without chrome<br>ring | "Immobilizer integrated in<br>dashboard module instru-<br>ment cluster / Wegfahr-<br>sperre im Schalttafeleinsatz<br>Kombi-Instrument" | 18020532  | BT   | 17                |

| Component  | Designation/<br>Product Type Designation<br>EU/UK  | Designation/<br>Product Type Designation<br>Ukraine | Frequen-<br>cy<br>+ trans-<br>mitting<br>power | Manufac-<br>turer |
|--|--|---|--|-------------------|
| Analogue medium instru-<br>ment cluster without chrome<br>ring | "Immobilizer integrated in<br>dashboard module instru-<br>ment cluster / Wegfahr-<br>sperre im Schalttafeleinsatz<br>Kombi-Instrument" |   | BT   | 17                |
| i.ID Cluster   | LCW05-VWE5<br>LCW05-VWE1<br>LCW05-SEE5   |   | CC   | 08                |
| Tachograph (DTCO) with as-<br>sociated DSRC module             | EFAS 4.10  |   | BI   | 27                |
| DTCO4.1  | DTCO 1381 Rel.4.1  |   | CF   | 34                |

### Mobile online services

| Component   | Designation/<br>Product Type Designation<br>EU/UK               | Designation/<br>Product Type Designation<br>Ukraine             | Frequen-<br>cy<br>+ trans-<br>mitting<br>power | Manufac-<br>turer |
|---|---|---|--|-------------------|
| OCU3 communication box<br>(Online Services – Security<br>& Service) | Telematics TLVHM3IU-E,<br>TLAHW3IU-E, TLVHM3IU-R,<br>TLAHW3IU-R | Telematics TLVHM3IU-E,<br>TLAHW3IU-E, TLVHM3IU-R,<br>TLAHW3IU-R | AY   | 26                |

## Customer information

### Information on radio systems

| Component   | Designation/<br>Product Type Designation<br>EU/UK | Designation/<br>Product Type Designation<br>Ukraine | Frequen-<br>cy<br>+ trans-<br>mitting<br>power | Manufac-<br>turer |
|---|---|---|--|-------------------|
| OCU3 communication box<br>(Online Services – Security<br>& Service) | Telematics TLVHW3IU-E,<br>TLVHW3IU-R, TLVHE4IU-E  | Telematics TLVHW3IU-E,<br>TLVHW3IU-R, TLVHE4IU-E    | BR   | 26                |
| OCU3 communication box<br>(Online Services – Security<br>& Service) | Telematics TLVLM3IU-E,<br>TLVLM3IU-R              | Telematics TLVLM3IU-E                               | CD   | 26                |
| OCU4 communication box<br>(Online Services – Security<br>& Service) | Telematics TLVHW3IU-E,<br>TLVHW3IU-R, TLVHE4IU-E  |   | BR   | 26                |

### Radar sensors for assist systems

| Component                                     | Designation/<br>Product Type Designation<br>EU/UK | Designation/<br>Product Type Designation<br>Ukraine | Frequen-<br>cy<br>+ trans-<br>mitting<br>power | Manufac-<br>turer |
|---|---|---|--|-------------------|
| Lane change system, Entry,<br>3rd generation  | RS4   | RS4   | AZ   | 05                |
| Lane change system, Entry,<br>1st generation  | BSD3.0  | BSD3.0  | AZ   | 05                |
| Front radar control unit (Mid-<br>RangeRadar) | ARS4-B  | ARS4-B  | BA   | 11                |

| <b>Component</b>                          | <b>Designation/<br/>Product Type Designation<br/>EU/UK</b> | <b>Designation/<br/>Product Type Designation<br/>Ukraine</b> | <b>Frequen-<br/>cy<br/>+ trans-<br/>mitting<br/>power</b> | <b>Manufac-<br/>turer</b> |
|---|--|--|---|---------------------------|
| Front radar control unit (Mid-RangeRadar) | FR5CPEC  | FR5CPEC  | BB  | 21                        |
| Front radar control unit (Mid-RangeRadar) | ARS5-B   | ARS5-B   | BX  | 11                        |
| Front radar control unit (Mid-RangeRadar) | F5CP42   | F5CP42   | CL  | 21                        |

### **Tyre Pressure Monitoring System**

| <b>Component</b>           | <b>Designation/<br/>Product Type Designation<br/>EU/UK</b> | <b>Designation/<br/>Product Type Designation<br/>Ukraine</b> | <b>Frequen-<br/>cy<br/>+ trans-<br/>mitting<br/>power</b> | <b>Manufac-<br/>turer</b> |
|----------------------------|--|--|---|---------------------------|
| TPMS control unit          | Reifendruckkontrolle<br>TSSSG4G5b - H06                    | Reifendruckkontrolle<br>TSSSG4G5b - H06                      | BC  | 18                        |
| Wheel electronics assembly | AG2FW4   | AG2FW4   | BD  | 19                        |

| <b>Auxiliary heater</b>                      |  |  |   |                           |
|--|--|--|---|---------------------------|
| <b>Component</b>                             | <b>Designation/<br/>Product Type Designation<br/>EU/UK</b> | <b>Designation/<br/>Product Type Designation<br/>Ukraine</b> | <b>Frequen-<br/>cy<br/>+ trans-<br/>mitting<br/>power</b> | <b>Manufac-<br/>turer</b> |
| Remote control receiver for auxiliary heater | Funkempfänger STH<br>Model Name: D208L VW                  |  | AJ  | 12                        |
| Remote control receiver for auxiliary heater | Funkempfänger STH  |  | BP  | 30                        |
| <b>Component</b>                             | <b>Designation/<br/>Product Type Designation<br/>EU/UK</b> | <b>Designation/<br/>Product Type Designation<br/>Ukraine</b> | <b>Frequen-<br/>cy<br/>+ trans-<br/>mitting<br/>power</b> | <b>Manufac-<br/>turer</b> |
| Remote control for auxiliary heater          | Sender STH<br>Model Name: RTSH                             |  | AJ  | 12                        |
| Remote control for auxiliary heater          | Funkfernbedienung  |  | BP  | 30                        |

| <b>Wi-Fi hotspot</b> |   |   |   |                           |
|----------------------|---|---|---|---------------------------|
| <b>Component</b>     | <b>Designation/<br/>Product Type Designation<br/>EU/UK</b>    | <b>Designation/<br/>Product Type Designation<br/>Ukraine</b>  | <b>Frequen-<br/>cy<br/>+ trans-<br/>mitting<br/>power</b> | <b>Manufac-<br/>turer</b> |
| LTE router           | "Volkswagen Wireless Inter-<br>net Access LTE Model:<br>CCU4" | "Volkswagen Wireless Inter-<br>net Access LTE Model:<br>CCU4" | BE  | 15                        |

| <b>Central control unit</b>          |  |  |   |                           |
|--------------------------------------|--|--|---|---------------------------|
| <b>Component</b>                     | <b>Designation/<br/>Product Type Designation<br/>EU/UK</b> | <b>Designation/<br/>Product Type Designation<br/>Ukraine</b> | <b>Frequen-<br/>cy<br/>+ trans-<br/>mitting<br/>power</b> | <b>Manufac-<br/>turer</b> |
| KFG Max                              | Kundenspezifisches Funk-<br>tionssteuer Gerät KFG          |  | BL  | 09                        |
| BCM37w (Body Control<br>Module) Med  | BCM MQB37W   | MQB37W   | BO  | 31                        |
| BCM37w (Body Control<br>Module) Med+ | BCM MQB37W   | MQB37W   | BO  | 31                        |
| BCM37w (Body Control<br>Module) Max  | BCM MQB37W   | MQB37W   | BO  | 31                        |
| BCM37H (Body Control<br>Module)      | BCM PQ37H  | 5WK50254   | AK  | 13                        |

| Component | Designation/<br>Product Type Designation<br>EU/UK | Designation/<br>Product Type Designation<br>Ukraine | Frequen-<br>cy<br>+ trans-<br>mitting<br>power | Manufac-<br>turer |
|-----------|---|---|--|-------------------|
| BCM MQB27 | BCM MQB27   | 5WK50254  | AK   | 13                |
| SAM       | BCM MQB37W  | MQB37W  | AK   | 13                |

### Reference frequency bands and maximum transmitting power

| Frequen-<br>cy | Frequency band   | Maximum transmitting power   |
|----------------|--|--|
| AA             | GSM900: (uplink: 880 MHz – 915 MHz / downlink: 925 MHz – 960 MHz)<br>GSM1800: (uplink: 1710 MHz – 1785 MHz / downlink: 1805 MHz – 1880 MHz)<br>WCDMA FDDI: (uplink: 1920 MHz – 1980 MHz / downlink: 2110 MHz – 2170 MHz)<br>WCDMA FDDIII: (uplink: 1710 MHz – 1785 MHz / downlink: 1805 MHz – 1880 MHz)<br>WCDMA FDDVIII: (uplink: 880 MHz – 915 MHz / downlink: 925 MHz – 960 MHz)<br>LTE FDD1: (uplink: 1920 MHz – 1980 MHz / downlink: 2110 MHz – 2170 MHz)<br>LTE FDD3: (uplink: 1710 MHz – 1785 MHz / downlink: 1805 MHz – 1880 MHz)<br>LTE FDD7: (uplink: 2500 MHz – 2570 MHz / downlink: 2620 MHz – 2690 MHz) | GSM 900: 33 dBm (2 W)<br>GSM 1800: 30 dBm (1 W)<br>UMTS: 21 dBm (0.125 W)<br>LTE: 23 dBm (0.2 W) |

| Frequency | Frequency band  | Maximum transmitting power |
|-----------|---|----------------------------|
|           | LTE FDD8: (uplink: 880 MHz – 915 MHz / downlink: 925 MHz – 960 MHz)<br>LTE FDD20: (uplink: 832 MHz – 862 MHz / downlink: 791 MHz – 821 MHz) |                            |
| AB        | 87 MHz – 108 MHz  | reception only             |
| AC        | 87 MHz – 108 MHz<br>174 MHz – 240 MHz   | reception only             |
| AD        | 520 kHz – 1710 kHz<br>87 MHz – 108 MHz  | reception only             |
| AE        | 520 kHz – 1710 kHz<br>87 MHz – 108 MHz<br>1570 MHz – 1614 MHz   | reception only             |
| AF        | 520 kHz – 1710 kHz<br>87 MHz – 108 MHz<br>174 MHz – 240 MHz   | reception only             |
| AG        | 520 kHz – 1710 kHz<br>87 MHz – 108 MHz<br>174 MHz – 240 MHz<br>1570 MHz – 1614 MHz  | reception only             |
| AH        | 1570 MHz – 1614 MHz   | reception only             |
| AI        | 1575.42 MHz   | reception only             |
| AJ        | 868.70 MHz – 869.20 MHz (Band N)  | 14 dBm (25 mW)             |
| AK        | 434 MHz   | reception only             |
| AN        | Bluetooth®: 2402 MHz – 2480 MHz<br>FM: 87.5 MHz – 108 MHz<br>AM: 526.5 kHz – 1606.5 kHz   | 4.3 dBm                    |
| AO        | Bluetooth®: 2402 MHz – 2480 MHz   | 2.5 mW                     |

| Frequency | Frequency band  | Maximum transmitting power   |
|-----------|---|--|
| AP        | Bluetooth®: 2402 MHz – 2480 MHz<br>Wi-Fi 2.4 GHz: 2410 MHz – 2480 MHz<br>Wi-Fi 5 GHz: 5150 MHz – 5250 MHz and 5725 MHz – 5850 MHz | Bluetooth®: -2.43 dBm (0.57 mW) EIRP<br>Wi-Fi 2.4 GHz: 5.26 dBm (3.36 mW) EIRP<br>Wi-Fi 5 GHz: -3.25 dBm (0.47 mW) EIRP and -2.68 dBm (0.54 mW) EIRP |
| AQ        | Bluetooth® LE: 2400 MHz – 2483.5 MHz  | - 9.8 dBm  |
| AR        | 105 kHz – 115 kHz   | 105 kHz – 115 kHz: 6 W<br>111 kHz: 42 dB $\mu$ A/m   |
| AS        | 125 kHz   | The magnetic field strength:<br>IMMO mode is 19.48 dB $\mu$ A/m<br>LF Scan mode is 17.81 dB $\mu$ A/m  |
| AT        | 6.52 GHz<br>7.04 GHz<br>7.56 GHz  | Highest Peak Emission Power<br>at 6.52 GHz: -9.1 dBm<br>at 7.04 GHz: -7.8 dBm<br>at 7.56 GHz: -6.2 dBm   |
| AU        | 125 kHz   | 82.05 dB $\mu$ V/m @3 m $\pm$ 5%   |
| AV        | 125 kHz   | -2.5 dBuV/m @ 3 m  |
| AW        | 125 kHz   | < 20 mW  |
| AX        | 125 kHz   | 42 dB $\mu$ A/m  |

| Frequency                     | Frequency band                    | Maximum transmitting power      |
|-------------------------------|-----------------------------------|---------------------------------|
| AY                            | WCDMA Band 1: 1920 MHz – 1980 MHz | WCDMA Band 1: 22.51 dBm         |
|                               | WCDMA Band 3: 1710 MHz – 1785 MHz | WCDMA Band 3: 22.88 dBm         |
|                               | WCDMA Band 8: 880 MHz – 915 MHz   | WCDMA Band 8: 23.32 dBm         |
|                               | LTE Band 1: 1920 MHz – 1980 MHz   | LTE Band 1: 22.04 dBm           |
|                               | LTE Band 3: 1710 MHz – 1785 MHz   | LTE Band 3: 21.72 dBm           |
|                               | LTE Band 7: 2500 MHz – 2570 MHz   | LTE Band 7: 21.59 dBm           |
|                               | LTE Band 8: 880 MHz – 915 MHz     | LTE Band 8: 21.83 dBm           |
|                               | LTE Band 20: 832 MHz – 862 MHz    | LTE Band 20: 22.44 dBm          |
|                               | LTE Band 28A: 703 MHz – 718 MHz   | LTE Band 28A: 21.99 dBm         |
|                               | LTE Band 32: 1452 MHz – 1496 MHz  | LTE Band 32: -                  |
|                               | GSM 900: 880 MHz – 915 MHz        | GSM 900: 31.93 dBm              |
| DCS 1800: 1710 MHz – 1785 MHz | DCS 1800: 29.95 dBm               |                                 |
| GNSS: 1559 MHz – 1610 MHz     | GNSS: -                           |                                 |
| AZ                            | 24050 MHz – 24250 MHz             | < +20 dbmW peak                 |
| BA                            | 76.0 GHz – 77.0 GHz               | 3.16 W (35 dBm RMS EIRP)        |
| BB                            | 76.0 GHz – 77.0 GHz               | 31.7 dBm (peak), 23.4 dBm (RMS) |
| BC                            | 433.92 MHz                        | reception only                  |
| BD                            | 433.92 MHz                        | < 10 mW                         |

| Frequency | Frequency band   | Maximum transmitting power  |
|-----------|--|---|
| BE        | Wi-Fi IEEE 802.11 b/g/n: 2412 MHz – 2472 MHz<br>GSM/GPRS/E GPRS 900: 880.2 MHz – 914.8 MHz<br>GSM/GPRS/E GPRS 1800: 1710.2 MHz – 1784.8 MHz<br>UMTS FDDI: 1922.4 MHz – 1977.6 MHz<br>UMTS FDDVIII: 882.4 MHz – 912.6 MHz<br>LTE FDD1: 1920 MHz – 1980 MHz<br>LTE FDD3: 1710 MHz – 1784.9 MHz<br>LTE FDD7: 2500 MHz – 2569.9 MHz<br>LTE FDD8: 880 MHz – 914.9 MHz<br>LTE FDD20: 832 MHz – 861.9 MHz | Wi-Fi IEEE 802.11 b/g/n: 18.4 dBm<br>GSM/GPRS/E GPRS 900: 37.64 dBm<br>GSM/GPRS/E GPRS 1800: 37.64 dBm<br>UMTS FDDI: 27.84 dBm<br>UMTS FDDVIII: 27.84 dBm<br>LTE FDD1: 27.84 dBm<br>LTE FDD3: 27.84 dBm<br>LTE FDD7: 27.84 dBm<br>LTE FDD8: 27.84 dBm<br>LTE FDD20: 27.84 dBm |
| BF        | 5795 MHz – 5815 MHz (DSRC)   | -14 dBm EIRP  |
| BG        | 125 kHz<br>433.05 MHz – 434.79 MHz   | 125 kHz: reception only<br>433.05 MHz – 434.79 MHz:<br>0.5 mW [ERP] / -3 dBm [ERP]  |
| BH        | 125 kHz<br>433.05 MHz – 434.79 MHz   | 125 kHz: reception only<br>433.05 MHz – 434.79 MHz:<br>0.1 mW [ERP] / -10 dBm [ERP]   |
| BI        | 1575.42 MHz +/- 1.023 MHz (GPS/Galileo)<br>1602.00 MHz +/- 5.00 MHz (Glonass)  | reception only  |
| BJ        | Bluetooth®: 2402 MHz – 2480 MHz<br>Wi-Fi 2.4 GHz: 2410 MHz – 2480 MHz  | Bluetooth®: 2.5 mW<br>Wi-Fi: 100 mW   |
| BK        | Bluetooth®: 2402 MHz – 2480 MHz<br>FM: 87.5 MHz – 108 MHz<br>AM: 526.5 kHz – 1606.5 kHz<br>DAB: 174 MHz – 240 MHz  | 4.3 dBm   |

| Frequency | Frequency band  | Maximum transmitting power  |
|-----------|---|---|
| BL        | Bluetooth®: 2402 MHz – 2480 MHz<br>Wi-Fi 2.4 GHz: 2412 MHz – 2472 MHz   | Bluetooth®: 5 dBm (max)<br>Transceiver power: 3 dBm<br>Wi-Fi: 20 dBm (max)<br>Transceiver power: 18 dBm   |
| BM        | 5.85 GHz – 5.925 GHz  | 24 dBm  |
| BN        | 5.9 GHz   | 2 W   |
| BO        | Channel A: 433.46 MHz<br>Channel B: 433.92 MHz<br>Channel C: 434.36 MHz | 10 dBm  |
| BP        | 868.7 MHz – 869.2 MHz   | 10 dBm (10 mW)  |
| BQ        | 125 kHz<br>433.05 MHz – 434.79 MHz<br>6.52 GHz<br>7.04 GHz<br>7.56 GHz  | 125 kHz: reception only<br>433.05 MHz – 434.79 MHz:<br>0.1 mW [ERP] / -10 dBm [ERP]<br>6.52 GHz, 7.04 GHz, 7.56 GHz:<br>Peak Power: 1.0 mW [EIRP] / 0 dBm [EIRP],<br>Mean power spectral density:<br>-41.3 dBm/MHz [EIRP] |

| Frequency | Frequency band   | Maximum transmitting power   |
|-----------|--|--|
| BR        | WCDMA Band 1: 1920 MHz – 1980 MHz<br>WCDMA Band 3: 1710 MHz – 1785 MHz<br>WCDMA Band 8: 880 MHz – 915 MHz<br>LTE Band 1: 1920 MHz – 1980 MHz<br>LTE Band 3: 1710 MHz – 1785 MHz<br>LTE Band 7: 2500 MHz – 2570 MHz<br>LTE Band 8: 880 MHz – 915 MHz<br>LTE Band 20: 832 MHz – 862 MHz<br>LTE Band 28A: 703 MHz – 718 MHz<br>LTE Band 32: 1452 MHz – 1496 MHz<br>GSM 900: 880 MHz – 915 MHz<br>DCS 1800: 1710 MHz – 1785 MHz<br>GNSS: 1559 MHz – 1610 MHz | WCDMA Band 1: 22.64 dBm<br>WCDMA Band 3: 22.89 dBm<br>WCDMA Band 8: 23.35 dBm<br>LTE Band 1: 22.15 dBm<br>LTE Band 3: 21.82 dBm<br>LTE Band 7: 21.63 dBm<br>LTE Band 8: 21.98 dBm<br>LTE Band 20: 22.47 dBm<br>LTE Band 28A: 22.03 dBm<br>LTE Band 32: -<br>GSM 900: 31.99 dBm<br>DCS 1800: 29.98 dBm<br>GNSS: - |
| BS        | 125 kHz  | 30.55 dB $\mu$ A/m (@ 3 m)   |
| BT        | 125.3 kHz  | -10.46 dB $\mu$ A/m (@ 10 m)   |
| BU        | 124.9 kHz  | -10.6 dB $\mu$ A/m (@ 10 m)  |
| BV        | 125 kHz  | -12.25 dB $\mu$ A/m (@ 10 m)   |
| BW        | 125 kHz  | -8.43 dB $\mu$ A/m @ 10 m  |
| BX        | 76.0 GHz – 77.0 GHz  | 2.0W (33 dBm RMS EIRP)   |
| BY        | Bluetooth®: 2402 – 2480 MHz<br>Wi-Fi 2.4: 2412 – 2472 MHz<br>Wi-Fi 5: 5150 – 5250 MHz, 5725 – 5850 MHz<br>VHF II: 87.5 – 108 MHz<br>VHF III: 174 – 240 MHz   | Bluetooth®: max. 1.20 dBm<br>Wi-Fi 2.4: max. 16.40 dBm<br>Wi-Fi 5.2: max. 13.46 dBm<br>Wi-Fi 5.2: max. 13.77 dBm   |
| BZ        | GNSS: 1570 MHz – 1614 MHz<br>Wi-Fi p standard: 5.85 GHz – 5.925 GHz  | GNSS: reception only<br>Wi-Fi p standard: 20 dBm   |
| CA        | 5.85 GHz – 5.925 GHz   | 20 dBm   |

| Frequency | Frequency band   | Maximum transmitting power  |
|-----------|--|---|
| CB        | 5.9 GHz (802.11p)  | Roof aerial: 20±3 dBm<br>Front aerial: -16±3 dBm  |
| CC        | 125 kHz ± 10 kHz   | 5.4 dBµA/m  |
| CD        | WCDMA Band 1: 1920 MHz – 1980 MHz<br>WCDMA Band 3: 1710 MHz – 1785 MHz<br>WCDMA Band 8: 880 MHz – 915 MHz<br>LTE Band 1: 1920 MHz – 1980 MHz<br>LTE Band 3: 1710 MHz – 1785 MHz<br>LTE Band 7: 2500 MHz – 2570 MHz<br>LTE Band 8: 880 MHz – 915 MHz<br>LTE Band 20: 832 MHz – 862 MHz<br>LTE Band 28A: 703 MHz – 718 MHz<br>GSM 900: 880 MHz – 915 MHz<br>DCS 1800: 1710 MHz – 1785 MHz<br>GNSS: 1559 MHz – 1610 MHz | WCDMA Band 1: 22.47 dBm<br>WCDMA Band 3: 22.81 dBm<br>WCDMA Band 8: 23.31 dBm<br>LTE Band 1: 22.02 dBm<br>LTE Band 3: 21.68 dBm<br>LTE Band 7: 21.54 dBm<br>LTE Band 8: 21.8 dBm<br>LTE Band 20: 22.37 dBm<br>LTE Band 28A: 21.94 dBm<br>GSM 900: 31.91 dBm<br>DCS 1800: 29.93 dBm<br>GNSS: - |
| CE        | 110 kHz ± 5 kHz  | 5 W<br>93.05 dBµA/m @ 12 cm   |
| CF        | 1575.42 +/- 1.023 MHz (GPS / Galileo)<br>1602.00 +/- 5.00 MHz (Glonass)  | reception only  |

| Frequency | Frequency band  | Maximum transmitting power   |
|-----------|---|--|
| CG        | LTE FDD1 (uplink: 1920 – 1980 MHz / downlink: 2110 – 2170 MHz)<br>LTE FDD3 (uplink: 1710 – 1785 MHz / downlink: 1805 – 1880 MHz)<br>LTE FDD8 (uplink: 880 – 915 MHz / downlink: 925 – 960 MHz)<br>LTE FDD20 (uplink: 832 – 862 MHz / downlink: 791 – 821 MHz)<br>NR FDD1 (uplink: 1920 – 1980 MHz / downlink: 2110 – 2170 MHz)<br>NR FDD3 (uplink: 1710 – 1785 MHz / downlink: 1805 – 1880 MHz)<br>NR FDD8 (uplink: 880 – 915 MHz / downlink: 925 – 960 MHz)<br>NR FDD20 (uplink: 832 – 862 MHz / downlink: 791 – 821 MHz)<br>NR TDD78 (uplink: 3400 – 3800 MHz) / downlink: 3400 – 3800 MHz) | Maximum radio-frequency power:<br>5G: 23 dBm / 0.2 W<br>NR: 23 dBm / 0.2 W   |
| CH        | 125 kHz<br>433.05 MHz – 434.79 MHz<br>6988.8 MHz<br>7488.0 MHz  | 125 kHz: reception only<br>433.05 MHz – 434.79 MHz: 0.1 mW [ERP] / -10 dBm [ERP]<br>6988.8 MHz, 7488.0 MHz:<br>Peak Power: 1.0 mW [EIRP] / 0 dBm [EIRP],<br>Mean power spectral density:<br>-41.3 dBm/MHz [EIRP] |
| CI        | 5795 MHz – 5815 MHz (DSRC)  | -14 dBm EIRP   |

| Frequency | Frequency band                  | Maximum transmitting power       |
|-----------|---------------------------------|----------------------------------|
| CJ        | 125 kHz                         | 97.2 dBμA/m (@ 3 m)              |
| CK        | Bluetooth®: 2402 MHz - 2480 MHz |                                  |
| CL        | 76.0 GHz - 77.0 GHz             | 30.49 dBm (peak), 21.4 dBm (RMS) |

### Manufacturer reference numbers

| Manufacturer | Manufacturer name                        | Manufacturer's address                                      |
|--------------|--|---|
| 01           | Desay SV Automotive Europe GmbH          | In der Buttergrube 3-7<br>99428 Weimar<br>Germany           |
| 02           | Hirschmann Car Communication GmbH        | Stuttgarter Str. 45-51<br>72654 Neckartenzlingen<br>Germany |
| 03           | FUBA Automotive Electronics GmbH         | TecCenter<br>31162 Bad Salzdetfurth<br>Germany              |
| 04           | Molex Hildesheim                         | Daimlerring 31<br>31135 Hildesheim<br>Germany               |
| 05           | Hella GmbH & Co. KGaA                    | Rixbecker Str. 75<br>59552 Lippstadt<br>Germany             |
| 06           | Panasonic Automotive Systems Europe GmbH | Robert Bosch Str. 27-29<br>63225 Langen<br>Germany          |

## Customer information

### Information on radio systems

| Manufacturer | Manufacturer name  | Manufacturer's address  |
|--------------|--|---|
| 07           | Joynext Dresden  | Gewerbepark Merbitz 5<br>01156 Dresden<br>Germany   |
| 08           | LG   | Manufacturer:<br>LG Electronics Inc<br>LG Twin Towers<br>128 Yeoui-daero, Yeongdeungpo-gu<br>Seoul 150-721, Republic of Korea<br>Importer:<br>LG Electronics European Shared Service Center B.V.<br>Krijgsman1<br>1186 DM Amstelveen<br>The Netherlands |
| 09           | Flextronics International Kft. 8900 Zalaegerszeg (HUN) Zrinyi Miklos utca 38 | Flex Automotive GmbH<br>Arthur-B.-Modine-Str. 1<br>70794 Filderstadt<br>Germany   |

| Manufacturer | Manufacturer name                            | Manufacturer's address   |
|--------------|--|--|
| 10           | DESAY SV Automotive                          | <p>Manufacturer:<br/> Huizhou Desay SV Automotive Co., Ltd. NO. 103<br/> Hechang 5th Road West, Zhongkai National Hi-tech Industrial Development Zone, Huizhou, Guangdong 516006<br/> People's Republic of China</p> <p>Importer:<br/> Desay SV Automotive Europe GmbH<br/> In der Buttergrube 3-7<br/> 99428 Weimar-Legefild<br/> Germany</p> |
| 11           | ADC Automotive Distance Control Systems GmbH | Peter-Dornier-Strasse 10<br>88131 Lindau<br>Germany  |
| 12           | Digades GmbH Zittau                          | Äußere Weberstr. 20<br>02763 Zittau<br>Germany   |
| 13           | Continental Automotive GmbH                  | Siemensstrasse 12<br>93055 Regensburg<br>Germany   |
| 14           | Molex CVS Dabendorf GmbH                     | Märkische Straße 72<br>15806 Zossen<br>Germany   |

## Customer information

### Information on radio systems

| <b>Manufacturer</b> | <b>Manufacturer name</b>             | <b>Manufacturer's address</b>  |
|---------------------|--------------------------------------|--|
| 15                  | Lesswire GmbH                        | Rudower Chaussee 30<br>12489 Berlin<br>Germany                             |
| 16                  | Visteon Electronics Slovakia         | Odstepny zavod Namestovo<br>02901 Namestovo<br>Slovakia                    |
| 17                  | Continental Automotive GmbH          | VDO Straße 1<br>64832 Babenhausen<br>Germany                               |
| 18                  | Huf Baolong Electronics Bretten GmbH | Gewerbestr. 40<br>75015 Bretten<br>Germany                                 |
| 19                  | Sensata / Schrader Electronics       | 11 Technology Park, Belfast Road<br>Antrim, Northern Ireland, BT41 1QS, UK |
| 20                  | Huf Hülsbeck & Fürst GmbH & Co. KG   | Steegerstr. 17<br>42551 Velbert<br>Germany                                 |
| 21                  | Robert Bosch GmbH XC-DA/ECR          | Postfach 1661<br>71226 Leonberg<br>Germany                                 |
| 22                  | ASK Industries S.p.A                 | Via dell'Industria n.12/14/16<br>60037 Monte San Vito<br>Italy             |
| 23                  | Ficosa                               | P.I. Can Mitjans s/n<br>E08232 Viladecavalls (Barcelona)<br>Spain          |

| Manufacturer | Manufacturer name               | Manufacturer's address  |
|--------------|---------------------------------|---|
| 24           | AEV spol. s r.o.                | Jozky Silneho 2783<br>76701 Kromeriz<br>Czech Republic  |
| 25           | Norbit ITS AS                   | Stiklestadv. 1<br>7041 Trondheim<br>Norway  |
| 26           | LG ELECTRONICS INC              | Manufacturer:<br>LG ELECTRONICS INC. 10<br>Magokjungang 10-ro,<br>Gangseo-gu,<br>Seoul, Republic of Korea<br>Importer:<br>LG Electronics European Shared Service Center B.V.<br>Krijgsman1<br>1186 DM Amstelveen<br>The Netherlands |
| 27           | Intellic                        | Fernitzer Straße 5<br>8071 Hausmannstätten<br>Austria   |
| 28           | Aptiv Services Deutschland GmbH | Am Technologiepark 1<br>42111 Wuppertal<br>Germany  |
| 30           | BURY Sp. z o. o.                | ul. Wojska Polskiego 4<br>39-300 Mielec<br>Poland   |

## Customer information

Information on radio systems

| <b>Manufacturer</b> | <b>Manufacturer name</b>                  | <b>Manufacturer's address</b>   |
|---------------------|---|---|
| 31                  | Robert Bosch GmbH                         | Daimlerstrasse 6<br>71229 Leonberg<br>Germany   |
| 32                  | LG ELECTRONICS INC                        | Ul. LG Electronics 7<br>06-500 Mlawa<br>Poland  |
| 33                  | BCS Automotive Interface Solutions s.r.o. | Jana Nohy 2048<br>256 01 Benesov<br>Czech Republic  |
| 34                  | Continental AG                            | Vahrenwalder Str. 9<br>30165 Hannover<br>Germany  |
| 35                  | Visteon                                   | Visteon Portuguesa Ltd.<br>2950-503 Palmela(PRT)<br>Estrada Nacional 252<br>KM12 Parque das Carrascas<br>Portugal |
| 36                  | Molex Technologies GmbH                   | Mizarstrasse 3<br>12529 Schönefeld<br>Germany   |



Type approval symbol for radio systems in Australia or in Australia and New Zealand.



Approval symbol for Europe and countries where radio systems are approved and permitted according to European Directives.



Approval symbol for England, Wales and Scotland.



Approval symbol for radio systems in Mexico.



Approval symbol for Moldova.



Approval symbol for New Zealand.



Approval symbol for Paraguay.



Approval symbol for the Philippines.



Approval symbol for Russia and countries where radio systems are approved and

permitted according to EAC Directives.



Approval symbol for Serbia.



Approval symbol for South Africa.



Approval symbol for Taiwan.



Approval symbol for Thailand.



Approval symbol for Ukraine.



Approval symbol for radio systems in the USA and countries where radio systems are approved and permitted according to the US FCC Directive.



Approval symbol for radio systems in the United Arab

Emirates.



Approval symbol for Belarus.

The corresponding manufacturer hereby declares that the radio equipment listed below was compliant with the basic requirements and any other relevant regulations and laws at the time the vehicle was produced.

The following radio systems are not available in every market and are not present in every vehicle.

- Connection to the external aerial.
- Aerial.
- Aerial amplifier.
- Bluetooth®.
- Car-Net Security & Service.
- Remote control (auxiliary heater).
- Vehicle key.
- Infotainment system.
- Wireless seat belt warning system.
- Wireless charging function.
- Keyless Access.

### Declaration of conformity for radio systems in countries outside the European Union (EU)

- Instrument cluster, electronic immobiliser.
- Radar sensors for assist systems.
- Tyre pressure monitoring system.
- Auxiliary heater (transmitter/receiver unit).
- Control units with embedded eSIM card.
- Mobile phone interface.
- Door control unit.
- Wi-Fi hotspot.
- Central control unit.

Further information on declarations of conformity: → page 627.



Radio systems marked with this symbol must be collected and disposed of separately from your normal domestic waste. You can hand them in at a local waste management company or return them as part of a national take-back system

→ page 621, *Product recycling*.



Marking for the restricted use of certain hazardous substances in electrical and electronic equipment in accordance with the RoHS Directive.

#### United Kingdom

Further information on the importer and declarations of conformity: → page 627.

#### Turkey

Further information on the importer and declarations of conformity: → page 627.

#### Ukraine

Further information on the importer and declarations of conformity: → page 627.

## Approval numbers

### England, Wales and Scotland

Further information on radio systems → page 627

10385, 10440.

LO476ADC1.AMK, T818399F-02-TEC (0682).  
Further information on radio systems → page 627

10385, 10440.

LO476ADC1.AMK, T818399F-02-TEC (0682)

### Europe and countries that certify radio equipment based on European directives:

See EU declarations of conformity under → page 627.

T818363F-03-TEC, T818399F-02-TEC (0682), T.2021.09.0007T.2021.04.0014.

A. - Informations relatives à la sécurité des personnes utilisatrices ou non

Respect des restrictions d'usage spécifiques à certains lieux (hôpitaux, avions, stations-service, établissements scolaires...).

## Declaration of conformity for radio systems in countries outside the European Union (EU)

Pour les téléphones mobiles, rappel de l'interdiction de l'usage d'un téléphone tenu en main par le conducteur d'un véhicule en circulation.

Précautions à prendre par les porteurs d'implants électroniques (stimulateurs cardiaques, pompes à insuline, neurostimulateurs...) concernant notamment la distance entre l'équipement radioélectrique et l'implant (15 centimètres dans le cas des sources d'exposition les plus fortes comme les téléphones mobiles).

B. - Informations sur les comportements à adopter pour réduire l'exposition aux rayonnements émis par les équipements radioélectriques.

Utiliser l'équipement radioélectrique dans de bonnes conditions de réception pour diminuer la quantité de rayonnements reçus.

Utiliser un kit mains-libres ou un haut-parleur, si adapté à l'équipement radioélectrique.

Faire un usage raisonné des équipements radioélectriques comme le téléphone mobile, par les enfants et les adolescents, par exemple en évitant les communications nocturnes et en limitant la fréquence et la durée des appels.

Eloigner les équipements radioélectriques du ventre des femmes enceintes.

Eloigner les équipements radioélectriques du bas-ventre des adolescents.

### Hong Kong

HKCA 1035, HKTA 1035, HK0011902060, HK0011902061, HK0022000048, US0031800001, US0031900024.

### Israel

11-11252.

51-15282, 51-41889, 51-42830, 51-42841, 51-43949, 51-46980, 51-54730, 51-55347, 51-63653, 51-65839, 51-69416, 51-69417, 51-73720, 51-77882, 51-88548, 51-88746, 51-88751, 51-92318, 51-92728.

54-37173

55-02626, 55-07477, 55-07480, 55-07924, 55-09135, 55-09893, 55-10408, 55-11679, 55-12036, 55-12037, 55-12193, 55-12628.

63-63304, 63-66687, 63-66961, 63-73362, No. 7052352267, No. 9872340205.

HCTIMP\_SIG2368.42656,  
HCTIMP\_SIG2368.42673.

LT-0083880B, LT-0066086.

הוראות בטיחות

להתקנה על ידי אנשי שירות מוסמכים  
1. לבד

אין לבצע שינויים כלשהם במוצר זה.  
לשינויים אלו יכולה להיות השפעה שלילית על ביצועי המוצר, בטיחותו ועמידותו ובנוסף, יש בהם כדי לחרוג מתנאי האחריות.

מספר אישור התאמה מטעם משרד התקשורת חל איסור לבצע פעולות במכשיר שיש בהן כדי לשנות את תכונותיו האלחוטיות של המכשיר, ובכלל זה שינויי תוכנה, החלפת אנטנה מקורית או הוספת אפשרות לחיבור לאנטנה חיצונית, בלא קבלת אישור משרד התקשורת, בשל החשש להפרעות אלחוטיות

## Declaration of conformity for radio systems in countries outside the European Union (EU)

### Qatar

CRA/SA/2015/R-4714, CRA/SA/2015/R-7689,  
CRA/SA/2016/R-5808, CRA/SA/2017/R-6720,  
CRA/SA/2017/R-6722, CRA/SA/2018/R-6820.

CRA/SM/2018/R-7422, CRA/SM/2018/R-7447.

CRA/SM/2019/R-7761, CRA/SM/2019/R-8053,  
CRA/SM/2019/R-8054.

CRA/SM/2020/S-0005129, CRA/SM/2020/  
S-0005662.

CRA/SM/2021/S-0008566.

CRA/SM/2022/S-0011867, CRA/SM/2022/  
S-009342.

CRA/SM/2023/S-0013173, CRA/SM/2023/  
S-0013179.

ICTQATAR/RT/2010/R-1978.

### Morocco

**AGREE PAR L'ANRT MAROC : Nu-  
méro d'agrément, Date d'agrément.**

MR0005835ANRT2010 28.08.2020,  
MR7906ANRT2013 06.03.2013.

MR9102ANRT2014,  
MR9107ANRT2014 18.03.2014,

MR9778ANRT2014 11.11.2014,  
MR9918ANRT2014 22.12.2014.

MR11030ANRT2015.

MR12089ANRT2016 15.06.2016,  
MR12123ANRT2016 22.06.2016,  
MR12623ANRT2016 11.10.2016,  
MR12901ANRT2016 30.11.2016.

MR13255ANRT2017 09.02.2017,  
MR13576ANRT2017,  
MR13900ANRT2017 04.05.2017,  
MR14830ANRT2017 28.09.2017.

ANRT/DTEC/DAA/SAG/BD/  
1391/2018 14.09.2018,

ANRT/DTEC/DAA/SAG/BD/  
1480/2018 09.10.2018,

MR15669ANRT2018 31.01.2018,  
MR15674ANRT2018 31.01.2018,  
MR15675ANRT2018 31.01.2018,  
MR16263ANRT2018 06.04.2018,  
MR16606ANRT2018 17.05.2018,  
MR16657ANRT2018 23.05.2018,  
MR16726ANRT2018 30.05.2018,  
MR16794ANRT2018 05.06.2018,  
MR16860ANRT2018 18.06.2018,  
MR16861ANRT2018 18.06.2018,  
MR16905ANRT2018 21.06.2018,

MR16906ANRT2018 21.06.2018,  
MR16907ANRT2018 21.06.2018,  
MR16908ANRT2018 21.06.2018,  
MR17015ANRT2018 03.07.2018,  
MR17016ANRT2018 03.07.2018,  
MR17079ANRT2018 11.07.2018,  
MR17080ANRT2018 11.07.2018,  
MR17201ANRT2018 06.08.2018,  
MR17202ANRT2018 06.08.2018,  
MR17203ANRT2018 06.08.2018,  
MR17204ANRT2018 06.08.2018,  
MR17505ANRT2018 14.09.2018,  
MR17528ANRT2018 27.10.2022,  
MR17576ANRT2018 26.09.2018,  
MR17678ANRT2018 11.10.2018,  
MR17679ANRT2018 11.10.2018,  
MR18103ANRT2018 30.11.2018.

ANRT/  
DTEC/DAA/SAG/OR/802/2019 26.11.2019,

MR18928ANRT2019 25.02.2019,  
MR19106ANRT2019 14.03.2019,  
MR19108ANRT2019 14.03.2019,  
MR19315ANRT2019 04.04.2019,  
MR19338ANRT2019 09.04.2019,  
MR19339ANRT2019 09.04.2019,  
MR19767ANRT2019 15.05.2019,  
MR19768ANRT2019 15.05.2019,  
MR19769ANRT2019 15.05.2019,

MR20233ANRT2019 27.06.2019,  
 MR20859ANRT2019 11.09.2019,  
 MR21473ANRT2019 28.11.2019,  
 MR21807ANRT2019 23.12.2019.

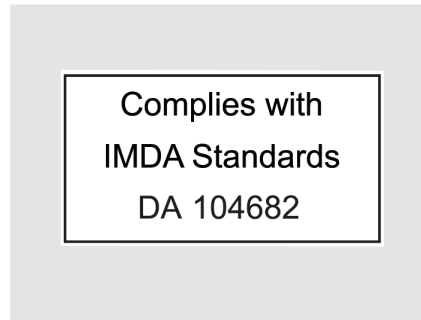
MR00026333ANRT2020 12.11.2020,  
 MR00026081ANRT2020 22.10.2020,  
 MR23231ANRT2020 26.05.2020,  
 MR25982ANRT2020 14.10.2020,  
 MR31772ANRT2020 17.02.2022.

MR00027808ANRT2021 17.03.2021,  
 MR00030377ANRT2021 20.10.2021,  
 MR00030406ANRT2021 24.10.2021,  
 MR00030494ANRT2021 28.10.2021.

MR00035351ANRT2022 17.11.2022,  
 MR00035350ANRT2022 17.11.2022.

MR00037442ANRT2023,  
 MR00037357ANRT2023,  
 MR00039161ANRT2023.

## Singapore



**Fig. 232** Marking in accordance with radio communications regulations (illustration).

### Complies with IMDA Standards:

DA103787, DA104328, DA104682, DA105282,  
 DA107248, DA107974.

DB103858, DB106879, DB107220.

### Registration Number:

G1231-23, G1594-19, N0452-23, N0688-15,  
 N0722-19, N1233-23, N1599-19, N2152-20,  
 N2404-19, N2405-19, N2941-22, N3083-18,  
 N3333-13, N3688-18, N4334-20, N4975-17,  
 N5856-20, N5963-21.

S3262-23, S3262-23.

## Turkey

See EU declarations of conformity under → page 627.

**Countries outside of the USA that certify and approve radio equipment based on the USA's FCC guidelines:**

### FCC ID:

2AOUZ17101001, 2AOUZ17101002,  
 2AOUZ17101010, 2AOUZ17101022,  
 2AOUZ17101023, 2AOUZ17101031,  
 2AOUZ17101032, 2AOUZ17101033,  
 2AOUZ17101034, 2AOUZ17101041,  
 2AOUZ17101042, 2AOUZ17101043,  
 2AOUZ17101051, 2AOUZ17101052,  
 2AOUZ17101053, 2AOUZ17101054,  
 2AOUZ17101055, 2AOUZ17101056,  
 2AOUZ17101057, 2AOUZ17101071,  
 2AOUZ17101072, 2AOUZ18020531,  
 2AOUZ18020532, 2AOUZ18020533,  
 2AOUZ18020534, 2AOUZ18100931.

2AVXWWSBRC001, 2AVXWWSBRS001.

2AXPS-WPC003-1, 2AXPS-WPC003-5.

2AA98, 2AA98A, 2AA98-COLOUR5C, 2AA98-MEDIUM5C, 772C-LB1FD.

### Declaration of conformity for radio systems in countries outside the European Union (EU)

BEJTLVLM3IU-NBEJTLVUV3IU-WBEJTLVUV3IU-NBEJTLVUM3IU-WBEJTLVUM3IU-NBEJTLVUM3IU-E.

BEJLCW05-VWE5, BEJMIB2, BEJMIB2PQ, BEJ-MEBICAS3, BEJ-MIBPQMIN, BEJ-MIB30I, CWTUGZZF1, CWTUGZZF2, IYZVK2, KR5-BCME-VOC, LTQR3TR, NBG013854, NBG01RS4, NBG-BCMEVO, NBGFS12PM, NBGFS12P01M, NBGFS125C, NBGFS125C1, NBGFS125C5, NBGFS173NP, NBGFS173NPM, NBGFS173NR, NBGFS1744M, NBGFS19, NBGFS191, NBGFS19S, NBGFS191S, NBGFS93N, NBGMQBBB, NBGMQBBH, NBGRSB19, NBG011719A, NBG013854, NF3-F5CP42, NF3-FR5CPEC, NF3-MRR1PLUS, NF3MRREV014F, NF3-LRR3SCU, NF3-LRR4, NT8-VWMIBREGIO, OAYARS4B, OAYARS5B, QIPALAS6A-US, RK7MBC-NAR, RX2BNFHL, RX2BNFLL, VPYLB1KD.

NT8-FPK8IMMO5D, RK7185-00, QZ9-KA3.

#### Interference statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

**CAUTION TO USERS:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

#### Wireless notice

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This transmitter must not be colocated or operating in conjunction with any other antenna or transmitter. The antenna should be installed and operated with minimum distance of 20 cm between the radiator and your body.

#### FCC Class A digital device notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 (and to Part 18) of

the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

#### FCC Class B digital device notice

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However,

## Declaration of conformity for radio systems in countries outside the European Union (EU)

there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**Ukraine**

0754, 0781, 0816, 0826, 0848, 0849, 0869, 0870, 0871, 0872, 0874, 0880, 0911, 0912, 0942, 0978, 0992, 0993, 1004, 1033.

1APTIV R3TR, 1BOSCO001.

UA.TR.109.0009-18, UA.TR.109.R.0389-18, UA.TR.109.R.0394-18, UA.TR.109.R.0425-18, UA.TR.028.

UA 1.001.018968-19-TE, UA.TR.109.R.0021-19, UA.TR.109.R.0133-19, UA.TR.109.R.0336-19, UA.TR.109.R.0337-19, 10094.007280-19.

UA.R.TR.052.081-20.

UA.TR.109.R.0340-21.

UA.032.CT.0187-22, UA.032.CT.0280-22.

UA.R.TR.052.089-19, UA.R.TR.052.091-23, UA.R.TR.052.044-23, UA.R.TR.052.090-23, UA.R.TR.052.204-22.

629.60-CET, UA 1.001.021441-20-TE.

RTS.UKR.355-20/20 629.60-CET.

**United Arab Emirates**

**TRA, REGISTERED No\_DEALER No**

VJ20180914-012356.

ER0109760/13\_DA0043253/10, ER34947/14\_DA0043252/10, ER35423/14\_DA35176/14, ER37807/15\_DA38660/15, ER450/20, ER45520\_DA44932,

ER46672/16\_DA38660/15, ER48223\_DA44932, ER49378/16\_DA38660/15, ER49719/16\_DA0062437/11, ER49796/16\_DA35176/14, ER51643/17, ER53878/17\_DA44932/15, ER54754/17\_DA0043253/10, ER58504/17, ER61136/18\_DA40068, ER61137/18\_DA0089862/12, ER62570\_DA44932, ER63911\_DA44932, ER66801/18\_DA77281/18, ER68006/18\_DA40068/15, ER68006/18 TIC-D01-DS01, ER69987/19\_DA44932/15.

ER70046/19\_DA44932, ER70554/19\_DA0043253/10, ER71148/19\_DA0043253/10, ER71355/19\_DA38660/15, ER71413/19\_DA0089862/12, ER71414/19, ER73393/19, ER74095/19ER76324/19\_DA56674/16, ER76326/19\_DA56674/16.

ER77956/20\_DA76153/18, ER89638/20\_DA36975/14, ER90294/20\_DA0043253/10.

ER97243/21\_DA0043253/10, ER06372/22\_DA0043253/10, ER15318/22, ER15319/22.

ER22617/23.

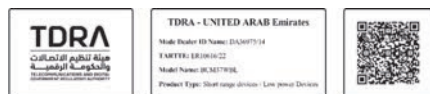
VU20190312-003278, VU20190412-004940.



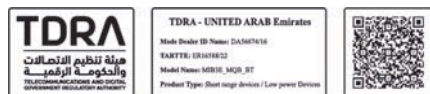
**Fig. 233** ER0126849/14\_DA0127935/14



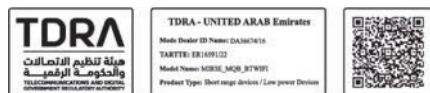
**Fig. 234** ER02529/21\_DA36758/14.



**Fig. 235** ER10616/22\_DA36975/14.



**Fig. 236** ER16588/22\_DA56674/16.



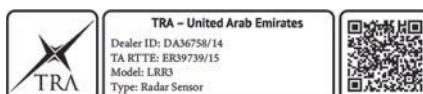
**Fig. 237** ER16591/22\_DA56674/16.



**Fig. 238** ER36213/14\_DA36758/14.



**Fig. 239** ER39135/15\_DA36758/14.



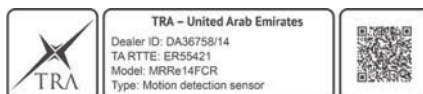
**Fig. 240** ER39739/15\_DA36758/14.



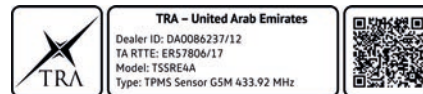
**Fig. 241** ER43831/16\_DA36758/14.



**Fig. 242** ER50430/16.



**Fig. 243** ER55421/17\_DA36758/14.



**Fig. 244** ER57806/17\_DA0086237/12.



**Fig. 245** ER66310/18.



**Fig. 246** ER66978/18\_DA36758/14.



**Fig. 247** ER70009/19\_DA44932/15.



**Fig. 248** ER70659/19\_DA44932/15.

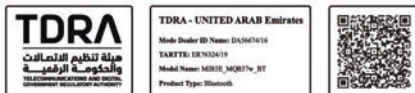


Fig. 249 ER76324/19\_DA56674/16.

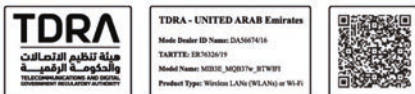


Fig. 250 ER76326/19\_DA56674/16.

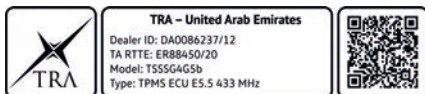


Fig. 251 ER88450/20\_DA0086237/12.

Unless otherwise indicated or listed separately, the technical data for the basic model applies. Optional equipment, different model designs, custom vehicles and country-specific vehicle equipment levels can result in different values. The data in the official vehicle documents always has precedence.

The official vehicle documents show which drive and which power output your vehicle has.

#### **Weight**

The values for the kerb weight in the following tables apply to the road-ready vehicle with a driver weight of 75 kg (approx. 165 lbs), service fluids including fuel tank carrying 90% of its capacity and, where applicable, tools and spare tyre. Additional equipment and retrofitted accessories increase the stated kerb weight and reduce the maximum permitted load accordingly.

The load comprises the weights of the following:

- Passengers.
- Overall load inside and outside the vehicle.
- Add-on parts.
- Drawbar load when towing a trailer.

The permitted gross vehicle weight rating and gross axle weight rating must never be exceeded. The permitted values are provided on the safety certificate (“safety compliance label”) or on the type plate on the B-pillar.

#### **Performance figures**

The performance figures were measured without equipment which may influence performance, such as add-on parts.

The power output and performance figures may differ for reasons of vehicle registration or vehicle taxation.

The maximum speed may be limited and may therefore be lower for

some engine versions in vehicles equipped with heavy-duty running gear.

#### **Maximum trailer weight and drawbar load values**

The figures for maximum trailer weight and drawbar load that are given on the type plate of the towing bracket are for certification purposes of the towing bracket only. The correct values for your specific model, which are often lower than these figures, are given in the vehicle documents. The values in the official vehicle documents, on the type plate of the vehicle or on the safety certificate always have priority.

#### **Gross combination weight rating**

The gross combination weight ratings listed apply only to altitudes up to around 1,000 m (approx. 3,000 ft) above sea level. The maximum gross combination weight rating must be reduced by approximately 10% for every further started 1,000 m (approx. 3,000 ft) in altitude.

## Explanation of the tables

Abbreviations used for the gearboxes:

- DSG®  
= dual clutch gearbox DSG®.
- MG6 = 6-speed manual gearbox.
- AG8 = 8-speed automatic gearbox.

Abbreviations for body height:

**NR** Normal roof.

**HR** High roof.

**SHR** Super high roof.

### Structure of the vehicle identification number

The vehicle identification number VIN comprises 17 characters.

These characters are categorised into seven groups.

These examples of a vehicle identification number are used to explain the structure.

| Group     | 1 |   |   | 2 |   |   | 3 |   | 4 | 5  | 6  | 7  |    |    |    |    |    |
|-----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|
| Position: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Example   | W | M | A | 0 | 3 | V | U | Y | 5 | R  | 9  | 0  | 0  | 9  | 6  | 0  | 9  |
|           | W | M | A | 3 | 5 | V | U | Y | 2 | R  | 9  | 0  | 1  | 1  | 0  | 5  | 1  |

**1** Vehicle manufacturer identifier:

**WMA** MAN

**2** Type number:

**3** Vehicle type:

**UY** TGE, eTGE

Depending on manufacturer, the places 7 to 9 can also contain information on the fuel type (7) and vehicle class (8 and 9).

**4** Test mark: The test mark is used to identify errors in the VIN.

**5** VIN index per model year:

**P** 2023

**R** 2024

**S** 2025

**T** 2026

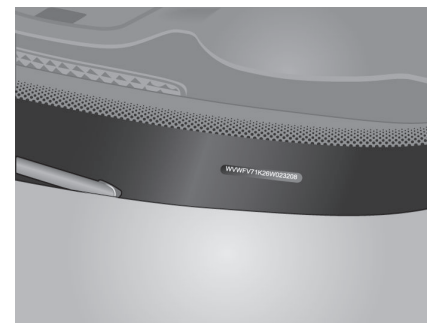
**6** Production location, manufacturing plant:

**9** Września factory

The assignment of the production location can differ depending on the vehicle, or it can be assigned twice.

**7** Sequential production number in a model year.

### Position of the vehicle identification number

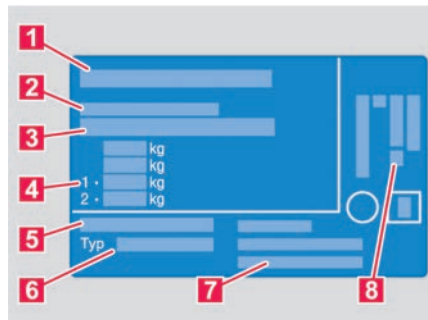


**Fig. 252** Inside the windscreen: Vehicle identification number.

The vehicle identification number can be read from outside the vehicle through a viewer in the wind-

screen. The viewer is located in the lower corner of the windscreen.

In some models and depending on the Infotainment system version, the vehicle identification number can be displayed in the *Service* menu or in the vehicle settings. The vehicle identification number can also be found on the type plate.



**Fig. 253** On the B-pillar in the front door: type plate.

The type plate contains the following data:

- 1** Manufacturer code.
- 2** EU Type Approval Number.
- 3** Vehicle identification number.
- 4** Gross vehicle weight rating  
Gross combination weight rating (vehicle plus trailer).  
Gross front axle weight rating  
Gross rear axle weight rating

- 5** Type approval number, country-dependent.
- 6** Official type designation.
- 7** Manufacturer's address.
- 8** Engine code.

Depending on country, the number of the type approval, e.g. EC type approval number, may be specified.

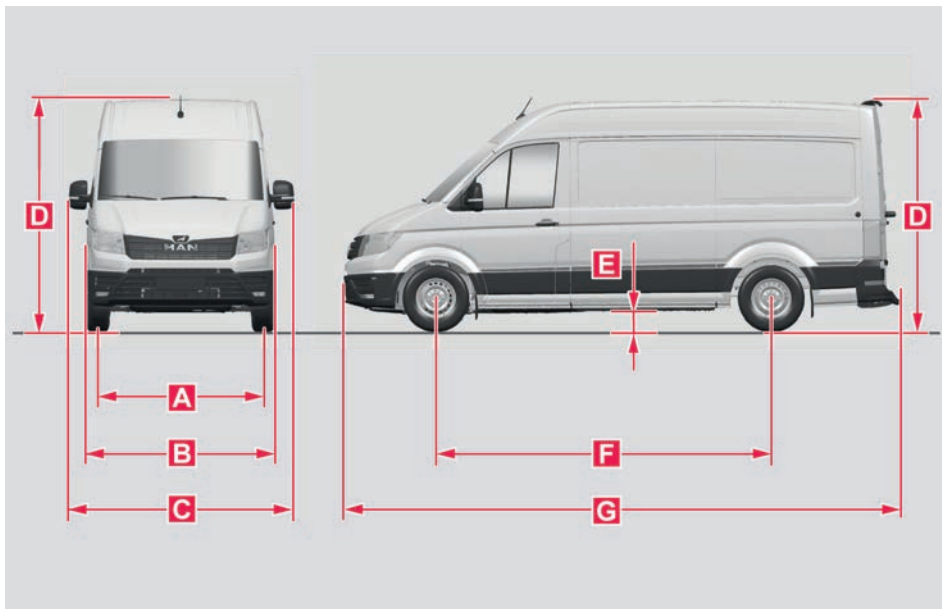
Depending on country and model, the type plate is visible in the lower area of the door pillar after opening the driver or front passenger door. Vehicles for certain export countries do not have a type plate.

| VEHICLE TYPE  | MANUFACTURE    | DATE OF MANUFACTURE |
|---|----------------|---------------------|
|   |                |                     |
| This vehicle complies with all GSO and National Motor Vehicle Technical Regulations in effect up to the date of manufacture |                |                     |
| COUNTRY OF MANUFACTURE  | CHASSIS NUMBER |                     |
|   |                |                     |
| Gross vehicle weight rating:  |                |                     |
| Permissible axle load in front:   |                |                     |
| Permissible axle load in behind:  |                |                     |

**Fig. 254** Safety certificate (illustration).

A safety certificate on the door pillar in the driver door shows the following information:

- Vehicle type.
- Manufacturer.
- Date of manufacture.
- Country of manufacture.
- Vehicle identification number.



**Fig. 255** Panel van dimensions.

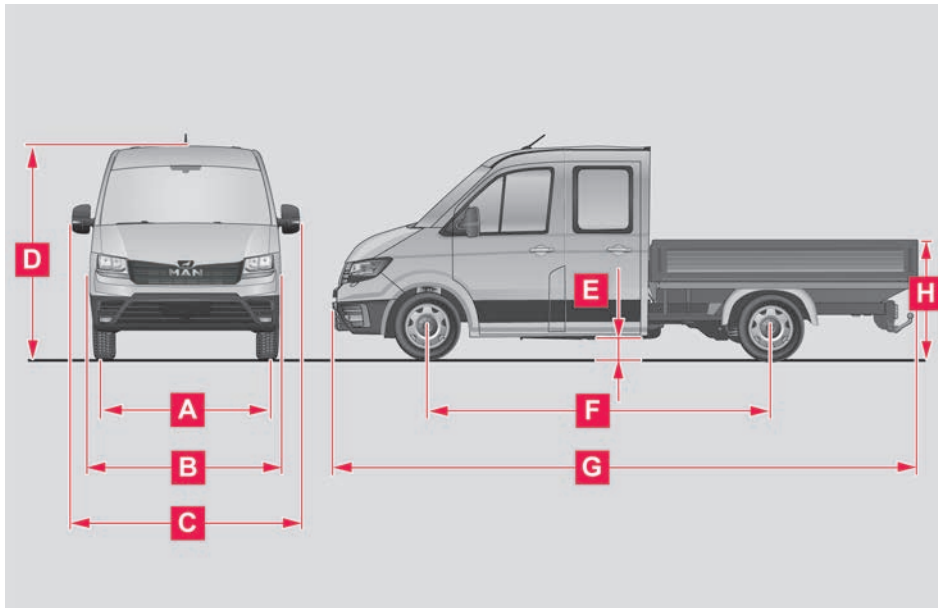
The data in the table applies to the most basic model.

The specified values can vary due to different tyre and wheel sizes, if

additional equipment is fitted, for different model versions, for retrofitted accessories, and for special vehicles. They can also vary in ve-

hicles that have been manufactured for other countries.

| Dimensions |  |    |             |
|------------|--|----|-------------|
| <b>A</b>   | Front track.   | mm | 1,773       |
|            | Rear track with front-wheel drive.   | mm | 1,788       |
|            | Rear track with rear-wheel and all-wheel drive.  | mm | 1,770       |
|            | Rear track with super single tyres.  | mm | 1,769       |
|            | Rear track with twin tyres.  | mm | 1,607–1,769 |
| <b>B</b>   | Width excluding exterior mirrors.  | mm | 2,040–2,069 |
| <b>C</b>   | Width from exterior mirror to exterior mirror.   | mm | 2,427       |
| <b>D</b>   | Height at kerb weight, normal roof.  | mm | 2,355–2,390 |
|            | Height at kerb weight, high roof.  | mm | 2,590–2,637 |
|            | Height at kerb weight, super high roof.  | mm | 2,798–2,835 |
| <b>E</b>   | Ground clearance between the axles when vehicle is ready to drive with single tyres.       | mm | 210         |
|            | Ground clearance between the axles when vehicle is ready to drive with twin tyres.         | mm | 214         |
|            | Ground clearance between the axles when vehicle is ready to drive with super single tyres. | mm | 211         |
| <b>F</b>   | Standard wheelbase.  | mm | 3,640       |
|            | Long wheelbase.  | mm | 4,490       |
|            | Extra-long wheelbase.  | mm | 4,490       |
| <b>G</b>   | Standard length (from bumper to bumper).   | mm | 5,986       |
|            | Standard length with factory-fitted towing bracket.  | mm | 6,204       |
|            | Long length (from bumper to bumper).   | mm | 6,836       |
|            | Long vehicle length with factory-fitted towing bracket.                                    | mm | 7,054       |
|            | Extra-long length (from bumper to bumper).   | mm | 7,391       |
|            | Extra-long length with factory-fitted towing bracket.                                      | mm | 7,609       |
| -          | Minimum turning circle diameter – standard wheelbase.                                      | mm | 13.6–14.2   |
|            | Minimum turning circle diameter – long and extra-long wheelbase.                           | mm | 16.9        |



**Fig. 256** Dropside dimensions.

The data in the table applies to the most basic model.

The specified values can vary due to different tyre and wheel sizes, if

additional equipment is fitted, for different model versions, for retrofitted accessories, and for special vehicles. They can also vary in ve-

hicles that have been manufactured for other countries.

| Dimensions |   |    |             |
|------------|---|----|-------------|
|            | Front track.  | mm | 1,773       |
| <b>A</b>   | Rear track with front-wheel drive.                      | mm | 1,601–1,784 |
|            | Rear track with rear-wheel and all-wheel drive.         | mm | 1,601–1,766 |
| <b>B</b>   | Width excluding exterior mirrors.                       | mm | 2,040       |
| <b>C</b>   | Width from exterior mirror to exterior mirror.          | mm | 2,427       |
| <b>D</b>   | Height at kerb weight                                   | mm | 2,305–2,352 |
| <b>E</b>   | Ground clearance between the axles when ready to drive. | mm | 212–214     |
| <b>F</b>   | Standard wheelbase.                                     | mm | 3,640       |
|            | Long wheelbase.   | mm | 4,490       |
| <b>G</b>   | Standard length (from bumper to bumper).                | mm | 5,968–6,144 |
|            | Long length (from bumper to bumper).                    | mm | 6,818–6,884 |
|            | Extra-long length (from bumper to bumper).              | mm | 7,211–7,387 |
| <b>H</b>   | Load sill above ground at kerb weight.                  | mm | 1,000–1,050 |
| -          | Turning circle diameter.                                | m  | 13.9–16.9   |


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**Fuel tank capacity:**

Approx. 69 l

**Or:** approx. 78 l.

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 The fuel tank capacity includes an unspecified reserve quantity which remains in the tank when the fuel gauge indicates that the tank is empty. The reserve quantity is variable and cannot be reliably used to increase the remaining range.

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**Capacity of the AdBlue<sup>®</sup> tank:**

approx. 18 l

**Or:** approximately 30 litres.

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 If refill bottles are used to refill the system, the AdBlue fill level could be slightly higher for technical reasons. For technical reasons, the filling quantity may be lower in cold climatic conditions.

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**Washer fluid reservoir capacity:**

Without headlight washer system:

4.6 l.

With headlight washer system:

6.9 l.

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**2.0 I, 4-cylinder TDI® (75 kW)**

|  |                  |                           |             |
|--|------------------|---------------------------|-------------|
| Power output   |                  | 75 kW at 3,000–3,500 rpm  |             |
| Engine code  |                  | DAUB                      |             |
| Maximum torque                                       |                  | 300 Nm at 1,400–2,250 rpm |             |
| Gearbox  |                  | <b>MG6</b>                |             |
| Maximum speed <sup>a)</sup>                          | <b>NR</b>        | km/h                      | 143         |
|  | <b>HR</b>        | km/h                      | 141         |
| Kerb weight <sup>b)</sup>                            | <b>Panel van</b> | kg                        | 1,962–2,888 |
|  | <b>Drop-side</b> | kg                        | 2,007–2,733 |
| Gross vehicle weight rating                          |                  | kg                        | 2,800–4,000 |
| Gross front axle weight rating                       |                  | kg                        | 1,800–2,100 |
| Gross rear axle weight rating                        |                  | kg                        | 2,100–2,380 |
| Maximum trailer weight, braked, gradients up to 12 % |                  | kg                        | 2,000–2,500 |
| Maximum trailer weight, unbraked                     |                  | kg                        | 750         |
| Maximum permissible drawbar load                     |                  | kg                        | 100–140     |
| Maximum permitted gross combination weight           |                  | kg                        | 5500        |

<sup>a)</sup> Maximum speed is reached in the highest gear.

<sup>b)</sup> You can find the exact weight on the type plate → page 674 or safety certificate → page 675 on the vehicle.

**2.0 I, 4-cylinder TDI® (75 kW)**

|              |                          |
|--------------|--------------------------|
| Power output | 75 kW at 2,500–4,250 rpm |
|--------------|--------------------------|

## Technical data

### Diesel engines

|  |            |                           |             |
|--|------------|---------------------------|-------------|
| Engine code  |            | DNAD                      |             |
| Maximum torque                                       |            | 300 Nm at 1,500–2,250 rpm |             |
| Gearbox  |            |                           | <b>MG6</b>  |
| Maximum speed  | <b>NR</b>  | km/h                      | 143         |
|  | <b>HR</b>  | km/h                      | 141         |
|  | <b>SHR</b> | km/h                      | 138         |
| Kerb weight <sup>a)</sup>                            |            | kg                        | 1,833–2,727 |
| Gross vehicle weight rating                          |            | kg                        | 3,500       |
| Gross front axle weight rating                       |            | kg                        | 1,800–2,100 |
| Gross rear axle weight rating                        |            | kg                        | 2,100       |
| Maximum trailer weight, braked, gradients up to 12 % |            | kg                        | 2,500       |
| Maximum trailer weight, unbraked                     |            | kg                        | 750         |
| Maximum permissible drawbar load                     |            | kg                        | 100–140     |
| Maximum permitted gross combination weight           |            | kg                        | 5,300–5,500 |

<sup>a)</sup> You can find the exact weight on the type plate → page 674 or safety certificate → page 675 on the vehicle.

### 2.0 l, 4-cylinder TDI® (90 kW)

|                             |            |                           |            |
|-----------------------------|------------|---------------------------|------------|
| Power output                |            | 90 kW at 3,500 rpm        |            |
| Engine code                 |            | DASA                      |            |
| Maximum torque              |            | 300 Nm at 1,400–2,250 rpm |            |
| Gearbox                     |            |                           | <b>MG6</b> |
| Maximum speed <sup>a)</sup> | <b>NR</b>  | km/h                      | 147        |
|                             | <b>HR</b>  | km/h                      | 145        |
|                             | <b>SHR</b> | km/h                      | 143        |

|  |                  |    |             |
|--|------------------|----|-------------|
| Kerb weight <sup>b)</sup>                            | <b>Panel van</b> | kg | 2,276–3,532 |
|  | <b>Drop-side</b> | kg | 2,280–3,116 |
| Gross vehicle weight rating                          |                  | kg | 3,880–5,500 |
| Gross front axle weight rating                       |                  | kg | 1,800–2,200 |
| Gross rear axle weight rating                        |                  | kg | 2,250–4,000 |
| Maximum trailer weight, braked, gradients up to 12 % |                  | kg | 3,000–3,500 |
| Maximum trailer weight, unbraked                     |                  | kg | 750         |
| Maximum permissible drawbar load                     |                  | kg | 100–140     |
| Maximum permitted gross combination weight           |                  | kg | 7,000–8,000 |

<sup>a)</sup> Maximum speed is reached in the highest gear.

<sup>b)</sup> You can find the exact weight on the type plate → page 674 or safety certificate → page 675 on the vehicle.

## 2.0 l, 4-cylinder TDI® (103 kW)

|                             |                 |                           |            |            |
|-----------------------------|-----------------|---------------------------|------------|------------|
| Power output                |                 | 103 kW at 3,500–3,600 rpm |            |            |
| Engine code                 |                 | DASB                      |            |            |
| Maximum torque              |                 | 340 Nm at 1,600–2,250 rpm |            |            |
| Gearbox                     |                 |                           | <b>MG6</b> | <b>AG8</b> |
| Maximum speed <sup>a)</sup> | <b>NR</b>       | km/h                      | 157–160    | 157–159    |
|                             | <b>HR</b>       | km/h                      | 155–158    | 155–157    |
|                             | <b>Dropside</b> | km/h                      | 135        | 135        |

## Technical data

### Diesel engines

|  |                  |    |             |             |
|--|------------------|----|-------------|-------------|
| Kerb weight <sup>b)</sup>                            | <b>Panel van</b> | kg | 1,971–3,238 | 2,003–3,213 |
|  | <b>Dropside</b>  | kg | 2,013–2,944 | 2,045–2,765 |
| Gross vehicle weight rating                          |                  | kg | 2,800–4,000 | 2,800–4,000 |
| Gross front axle weight rating                       |                  | kg | 1,800–2,100 | 1,800–2,100 |
| Gross rear axle weight rating                        |                  | kg | 2,100–2,380 | 2,100–2,380 |
| Maximum trailer weight, braked, gradients up to 12 % |                  | kg | 2,800–3,000 | 2,800–3,000 |
| Maximum trailer weight, unbraked                     |                  | kg | 750         | 750         |
| Maximum permissible drawbar load                     |                  | kg | 100–140     | 100–140     |
| Maximum permitted gross combination weight           |                  | kg | 5,600–6,500 | 5,600–6,000 |

a) Maximum speed is reached in the highest gear.

b) You can find the exact weight on the type plate → page 674 or safety certificate → page 675 on the vehicle.

### 2.0 l, 4-cylinder TDI® (103 kW)

|                             |                 |                           |            |            |
|-----------------------------|-----------------|---------------------------|------------|------------|
| Power output                |                 | 103 kW at 3,500–3,600 rpm |            |            |
| Engine code                 |                 | DAUA                      |            |            |
| Maximum torque              |                 | 340 Nm at 1,600–2,250 rpm |            |            |
| Gearbox                     |                 |                           | <b>MG6</b> | <b>AG8</b> |
| Maximum speed <sup>a)</sup> | <b>NR</b>       | km/h                      | 157–160    | 154–159    |
|                             | <b>HR</b>       | km/h                      | 157–162    | 152–157    |
|                             | <b>SHR</b>      | km/h                      | 152–155    | 149–152    |
|                             | <b>Dropside</b> | km/h                      | 135        | 135        |

|  |                  |    |             |             |
|--|------------------|----|-------------|-------------|
| Kerb weight <sup>b)</sup>                            | <b>Panel van</b> | kg | 1,971–3,238 | 2,003–3,213 |
|  | <b>Dropside</b>  | kg | 2,013–2,944 | 2,045–2,765 |
| Gross vehicle weight rating                          |                  | kg | 2,800–4,000 | 2,800–4,000 |
| Gross front axle weight rating                       |                  | kg | 1,800–2,100 | 1,800–2,100 |
| Gross rear axle weight rating                        |                  | kg | 2,100–2,380 | 2,100–2,380 |
| Maximum trailer weight, braked, gradients up to 12 % |                  | kg | 2,800–3,000 | 2,800–3,000 |
| Maximum trailer weight, unbraked                     |                  | kg | 750         | 750         |
| Maximum permissible drawbar load                     |                  | kg | 100–140     | 100–140     |
| Maximum permitted gross combination weight           |                  | kg | 5,600–6,500 | 5,600–6,000 |

<sup>a)</sup> Maximum speed is reached in the highest gear.

<sup>b)</sup> You can find the exact weight on the type plate → page 674 or safety certificate → page 675 on the vehicle.

## 2.0 l, 4-cylinder TDI® (103 kW)

|                                |                 |                           |             |            |
|--------------------------------|-----------------|---------------------------|-------------|------------|
| Power output                   |                 | 103 kW at 3,000–4,000 rpm |             |            |
| Engine code                    |                 | DNAE                      |             |            |
| Maximum torque                 |                 | 360 Nm at 1,500–2,500 rpm |             |            |
| Gearbox                        |                 |                           | <b>MG6</b>  | <b>AG8</b> |
| Maximum speed                  | <b>NR</b>       | km/h                      | 157–160     | 154–159    |
|                                | <b>HR</b>       | km/h                      | 157–162     | 152–157    |
|                                | <b>SHR</b>      | km/h                      | 152–155     | 149–152    |
|                                | <b>Dropside</b> | km/h                      | 135         | 135        |
| Kerb weight <sup>a)</sup>      |                 | kg                        | 1,839–2,849 |            |
| Gross vehicle weight rating    |                 | kg                        | 3,000–3,500 |            |
| Gross front axle weight rating |                 | kg                        | 1,800–2,100 |            |
| Gross rear axle weight rating  |                 | kg                        | 2,100       |            |

## Technical data

### Diesel engines

|  |    |             |
|--|----|-------------|
| Maximum trailer weight, braked, gradients up to 12 % | kg | 2,800–3,000 |
| Maximum trailer weight, unbraked                     | kg | 750         |
| Maximum permissible drawbar load                     | kg | 100–140     |
| Maximum permitted gross combination weight           | kg | 5,600–6,000 |

a) You can find the exact weight on the type plate → page 674 or safety certificate → page 675 on the vehicle.

### 2.0 l, 4-cylinder TDI® (130 kW)

|  |                  |                           |             |             |
|--|------------------|---------------------------|-------------|-------------|
| Power output   |                  | 130 kW at 3,600 rpm       |             |             |
| Engine code  |                  | DAWA                      |             |             |
| Maximum torque                                       |                  | 410 Nm at 1,500–2,000 rpm |             |             |
| Gearbox  |                  |                           | <b>MG6</b>  | <b>AG8</b>  |
| Maximum speed <sup>a)</sup>                          | <b>NR</b>        | km/h                      | 165         | 165         |
|  | <b>HR</b>        | km/h                      | 165         | 163–165     |
|  | <b>SHR</b>       | km/h                      | 162–164     | 159–165     |
| Kerb weight <sup>b)</sup>                            | <b>Panel van</b> | kg                        | 1,980–3,307 | 2,012–3,339 |
|  | <b>Drop-side</b> | kg                        | 2,022–2,954 | 2,054–2,849 |
| Gross vehicle weight rating                          |                  | kg                        | 2,800–4,000 | 2,800–4,000 |
| Gross front axle weight rating                       |                  | kg                        | 1,800–2,100 | 1,800–2,100 |
| Gross rear axle weight rating                        |                  | kg                        | 2,100–2,380 | 2,100–2,380 |
| Maximum trailer weight, braked, gradients up to 12 % |                  | kg                        | 2,500–3,500 | 2,500–3,000 |
| Maximum trailer weight, unbraked                     |                  | kg                        | 750         | 750         |
| Maximum permissible drawbar load                     |                  | kg                        | 100–140     | 100–140     |
| Maximum permitted gross combination weight           |                  | kg                        | 5,300–7,000 | 5,600–6,000 |

- a) Maximum speed is reached in the highest gear.  
 b) You can find the exact weight on the type plate → page 674 or safety certificate → page 675 on the vehicle.

**2.0 l, 4-cylinder TDI® (130 kW)**

|  |                  |                           |             |             |
|--|------------------|---------------------------|-------------|-------------|
| Power output   |                  | 130 kW at 3,600 rpm       |             |             |
| Engine code  |                  | DMZB                      |             |             |
| Maximum torque                                       |                  | 410 Nm at 1,500–2,000 rpm |             |             |
| Gearbox  |                  |                           | <b>MG6</b>  | <b>AG8</b>  |
| Maximum speed  | <b>NR</b>        | km/h                      | 165         | 165         |
|  | <b>HR</b>        | km/h                      | 165         | 163–165     |
|  | <b>SHR</b>       | km/h                      | 162–164     | 159–162     |
| Kerb weight <sup>a)</sup>                            | <b>Panel van</b> | kg                        | 2,070–3,470 | 2,107–3,488 |
|  | <b>Drop-side</b> | kg                        | 2,586–3,127 | 2,586–3,157 |
| Gross vehicle weight rating                          |                  | kg                        | 3,880–5,500 | 3,880–5,500 |
| Gross front axle weight rating                       |                  | kg                        | 1,800–2,200 | 1,800–2,200 |
| Gross rear axle weight rating                        |                  | kg                        | 2,380–3,500 | 2,380–3,500 |
| Maximum trailer weight, braked, gradients up to 12 % |                  | kg                        | 2,500–3,500 | 2,500–3,500 |
| Maximum trailer weight, unbraked                     |                  | kg                        | 750         | 750         |
| Maximum permissible drawbar load                     |                  | kg                        | 100–140     | 100–140     |
| Maximum permitted gross combination weight           |                  | kg                        | 6,000–8,000 | 6,000–8,000 |

- a) You can find the exact weight on the type plate → page 674 or safety certificate → page 675 on the vehicle.

**2.0 l, 4-cylinder TDI® (130 kW)**

|  |                  |                           |             |             |
|--|------------------|---------------------------|-------------|-------------|
| Power output   |                  | 130 kW at 3,600 rpm       |             |             |
| Engine code  |                  | DAVA                      |             |             |
| Maximum torque                                       |                  | 410 Nm at 1,500–2,000 rpm |             |             |
| Gearbox  |                  |                           | <b>MG6</b>  | <b>AG8</b>  |
| Maximum speed <sup>a)</sup>                          | <b>NR</b>        | km/h                      | 165         | 165         |
|  | <b>HR</b>        | km/h                      | 165         | 163–165     |
|  | <b>SHR</b>       | km/h                      | 162–164     | 159–162     |
| Kerb weight <sup>b)</sup>                            | <b>Panel van</b> | kg                        | 1,980–3,307 | 2,012–3,339 |
|  | <b>Drop-side</b> | kg                        | 2,022–2,954 | 2,054–2,849 |
| Gross vehicle weight rating                          |                  | kg                        | 2,800–4,000 | 2,800–4,000 |
| Gross front axle weight rating                       |                  | kg                        | 1,800–2,100 | 1,800–2,100 |
| Gross rear axle weight rating                        |                  | kg                        | 2,100–2,380 | 2,100–2,380 |
| Maximum trailer weight, braked, gradients up to 12 % |                  | kg                        | 2,500–3,500 | 2,500–3,000 |
| Maximum trailer weight, unbraked                     |                  | kg                        | 750         | 750         |
| Maximum permissible drawbar load                     |                  | kg                        | 100–140     | 100–140     |
| Maximum permitted gross combination weight           |                  | kg                        | 5,300–7,000 | 5,600–6,000 |

<sup>a)</sup> Maximum speed is reached in the highest gear.

<sup>b)</sup> You can find the exact weight on the type plate → page 674 or safety certificate → page 675 on the vehicle.

| <b>Contact data:</b> |            |
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| Company:             | Telephone: |
| Street:              | E-mail:    |
| Location:            | Website:   |
| Country:             |            |

| <b>Superstructures and modifications carried out:</b>  |  |
|--|--|
| <input type="checkbox"/> An electronic copy of the documentation is available on the MAN service portal. |  |
| <input type="checkbox"/> A printed copy of the documentation is available in the vehicle.                |  |
|  | Stamp of the body builder<br><br>Date: |
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## Information for second stage manufacturers

📖 Second stage manufacturers

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| Company:      | Telephone: |
| Street:       | E-mail:    |
| Location:     | Website:   |
| Country:      |            |

| Superstructures and modifications carried out:   |  |
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| <input type="checkbox"/> An electronic copy of the documentation is available on the MAN service portal. |  |
| <input type="checkbox"/> A printed copy of the documentation is available in the vehicle.                |  |
|  | Stamp of the body builder<br><br>Date: |
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| Street:              | E-mail:    |
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| Country:             |            |

| <b>Superstructures and modifications carried out:</b>  |  |
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| <input type="checkbox"/> An electronic copy of the documentation is available on the MAN service portal. |  |
| <input type="checkbox"/> A printed copy of the documentation is available in the vehicle.                |  |
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## Information for second stage manufacturers

📖 Second stage manufacturers

| Contact data: |            |
|---------------|------------|
| Company:      | Telephone: |
| Street:       | E-mail:    |
| Location:     | Website:   |
| Country:      |            |

| Superstructures and modifications carried out:   |  |
|--|--|
| <input type="checkbox"/> An electronic copy of the documentation is available on the MAN service portal. |  |
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|------|--|-------|---|------|--|
| A2DP | Advanced Audio Distribution Profile: manufacturer-independent technology for audio signal transmission via Bluetooth®. | APE   | Monkey's Audio:Format for compressing audio files   | DSG® | dual clutch gearbox DSG®.  |
|      |  | AVI   | Audio Video Interleave: format for playback of video and audio files.   | EC   | Engine code.   |
| AAC  | Advanced Audio Coding: format for compressing audio files.   | AVRCP | Audio Video Remote Control Profile: manufacturer-independent technology for remote control of audio sources via Bluetooth®. | EDGE | Enhanced Data Rates for GSM Evolution: technology for enhancing conventional GSM and GPRS mobile networks. |
| ABS  | anti-lock brake system   |       |   | EDL  | electronic differential lock   |
| ACC  | Adaptive Cruise Control: adaptive cruise control.  | BAS   | Brake assist system.  | EON  | Enhanced Other Network:Enhanced Other Network.   |
| ACT® | Active Cylinder Management.  | BTL   | Biomass To Liquid: synthetic fuel made from liquid biomass.   | ESC  | Electronic Stability Control:Electronic Stability Control.   |
| AF   | Automatic station tracking   | DAB   | Digital Audio Broadcasting.   | eSIM | Embedded Subscriber Identity Module: Fixed, non-replaceable SIM card.                                      |
| AG8  | 8-speed automatic gearbox.   | DAB+  | Digital Audio Broadcasting Plus: Enhanced DAB in optimised digital audio compression.                                       | FLAC | Free Lossless Audio Codec: format for compressing audio files.   |
| ALAC | Apple Lossless Audio Codec: format for compressing audio files.  |       |   |      |  |
| AM   | (amplitude modulation): Medium wave.   | DIN   | German Institute for Standardization.   |      |  |

## List of abbreviations

|      |  |      |   |         |  |
|------|--|------|---|---------|--|
| FM   | (frequency modulation): very high frequency, VHF.  | LED  | Light Emitting Diode: light-emitting diode.                                     |         | dependent technology for transmission of mobile telephone phone book data.   |
| GPRS | General Packet Radio Service: packet-oriented service for transmitting data in GSM networks. | LTE  | Long Term Evolution.  |         |  |
|      |  | MAP  | Message Access Profile: protocol for transmission of text messages and e-mails. | PIN     | Personal Identification Number.  |
| GPS  | Global Positioning System: global navigation satellite system for position determination.    | MG6  | 6-speed manual gear-box.  | POI     | Point of Interest.   |
|      |  | MP2  | Format for compressing audio files.   | QR Code | Quick Response Code: binary representation of coded data.  |
| GTL  | Gas To Liquid: synthetic fuel made from natural gas.   | MP3  | Format for compressing audio files.   | RDS     | Radio Data System: Radio data system for additional services.  |
|      |  | MP4  | Format for compressing audio files.   | REACH   | Registration, Evaluation, Authorisation and Restriction of Chemicals: Registration, Evaluation, Authorisation and Restriction of Chemicals, regulation EC No 1907/2006 (REACH regulation). |
| HF   | High frequency   | MPEG | Moving Picture Experts Group.   |         |  |
| HFP  | Hands-free Profile: wireless telephony.  | MTP  | Media Transfer Protocol   |         |  |
| HVO  | Hydrotreated Vegetable Oils: synthetic fuel made from hydrogenated vegetable oil.            | OBD  | On-Board Diagnostic System.   |         |  |
|      |  | OPUS | Format for compressing audio files.   | RoHS    | Restriction of Certain Hazardous Substances: Directive on the restriction of hazardous sub-  |
| ISO  | International Organization for Standardization.  | PBAP | Phone Book Access Profile: manufacturer-in-                                     |         |  |

|      |  |       |   |      |   |
|------|--|-------|---|------|---|
|      | stances in electrical and electronic equipment.  | TPM   | Tyre Pressure Monitoring System   | WMA  | Format for compressing audio files.   |
| SAE  | Society of Automotive Engineers: Society of Automotive Engineers.                              | UMTS  | Universal Mobile Telecommunications System: mobile communications standard that enables Internet access and other multimedia functions. | WPA2 | Wi-Fi Protected Access 2: Encryption method for a wireless network.                                 |
| SD   | Secure Digital (Memory Card): digital memory card  |       |   | WPS  | Wi-Fi Protected Setup: Standard for simple set-up of a wireless local area network with encryption. |
| SDHC | Secure Digital High Capacity : Enhancement of the SD card.                                     | UPnP  | Universal Plug and Play: Standard for cross-manufacturer activation of devices.   | XDS  | Extension of the electronic differential lock.  |
| SIM  | Subscriber Identity Module   | USB   | Universal Serial Bus. Serial bus system for connecting external devices.  |      |   |
| SMS  | Short Message Service: text messaging service.   |       |   |      |   |
| SPP  | Serial Port Profile: serial data transmission via Bluetooth®.                                  | VIN   | vehicle identification number, 17-digit code.   |      |   |
| TCS  | Traction control system  | WAV   | Waveform audio file format.   |      |   |
| TP   | Traffic Programme: Traffic Programme identification. Traffic Programme function in radio mode. | Wi-Fi | Wireless Fidelity: Wireless networking technology.  |      |   |

## Numbers and Symbols

|  |     |
|--|-----|
| 230-volt electrical feed               | 294 |
| 230-volt feed                          |     |
| Residual current circuit breaker       | 296 |
| 230-volt sockets with earthing contact | 295 |

## A

|                                  |     |
|----------------------------------|-----|
| Abroad                           |     |
| Extended trips with your vehicle | 220 |
| Selling the vehicle              | 220 |
| ABS                              |     |
| see Brake support systems        | 283 |
| ACC                              | 300 |
| Accessing service schedules      | 50  |
| Accessories                      | 596 |
| Acoustic warnings                |     |
| Seat belt not fastened           | 65  |
| Activating functions             | 309 |
| Adaptive Cruise Control (ACC)    | 242 |
| Driving situations               | 243 |

|                                      |          |
|--------------------------------------|----------|
| Overtaking assistance                | 243      |
| Radar sensor                         | 243      |
| Setting                              | 245      |
| Switching on and off                 | 244      |
| System limits                        | 243      |
| Troubleshooting                      | 246      |
| Adaptive engine speed control        | 300      |
| AdBlue                               | 451      |
| Refilling                            | 453      |
| Additional charging                  |          |
| see Maximum battery charge           | 301      |
| Additional equipment                 | 299      |
| Address                              |          |
| Importer                             | 627, 628 |
| Adjusting                            |          |
| Correct sitting position             | 61       |
| Electrical lumbar support adjustment | 122      |
| Electrically adjustable front seat   | 122      |
| Head restraints                      | 129      |
| Headlight range                      | 139      |
| Mechanical front seat                | 121      |

|  |     |
|--|-----|
| Steering wheel                             | 119 |
| Adjusting the volume                       | 325 |
| Aerial                                     |     |
| Location                                   | 614 |
| Air conditioning system                    |     |
| Adjusting the temperature                  | 162 |
| Air distribution                           | 164 |
| Air recirculation mode                     | 167 |
| Automatic mode                             | 158 |
| Auxiliary heater and auxiliary ventilation | 175 |
| Blower speed                               | 164 |
| Cooling mode                               | 162 |
| Defrost function                           | 166 |
| For rear seats                             | 162 |
| Manual air conditioning system             | 159 |
| Maximum cooling output                     | 162 |
| REAR LOCK function                         | 162 |
| Refrigerant oil                            | 618 |
| Roof ventilator                            | 168 |
| see Climatic                               | 157 |
| Service fluids                             | 618 |

|  |          |  |          |   |          |
|--|----------|--|----------|---|----------|
| Supplementary heating system                   | 174      | Anti-tow alarm                                   | 110      | Anti-theft wheel bolts                  | 560, 564 |
| Switching off                                  | 158, 160 | Interior monitoring                              | 110      | Apple CarPlay                           | 403      |
| SYNC function                                  | 162      | All-year tyres                                   | 539      | Area monitoring system (Front Assist)   |          |
| Temperature control                            | 162      | AM   | 329      | see Front Assist                        | 248      |
| Troubleshooting                                | 184      | Analogue clock                                   | 52       | Areas where special regulations apply   | 340, 380 |
| Air pressure                                   |          | Analogue fuel gauge                              | 45       | Assist systems                          |          |
| see Tyre pressure                              | 535      | Analogue instrument cluster                      |          | Adaptive Cruise Control (ACC)           | 242      |
| Air recirculation mode                         | 167      | Display  | 38       | Anti-lock brake system (ABS)            | 283      |
| Airbag system                                  | 72       | Information displays                             | 40       | Area monitoring system (Front Assist)   | 248      |
| Curtain airbags                                | 80       | Instruments                                      | 38       | Automatic Post-Collision Braking System | 283      |
| Different front passenger front airbag systems | 73       | Operation using the multifunction steering wheel | 39       | Blind Spot Monitor                      | 257      |
| Faults   | 600      | Operation with the wiper lever                   | 39       | Brake Assist system                     | 283      |
| Front airbags                                  | 75       | Service interval display                         | 50       | Cruise control system                   | 234      |
| Indicator lamp                                 | 74       | Android Auto                                     | 405      | Driver Alert System                     | 54       |
| Repairs  | 600      | Anti-freeze                                      | 508      | Dynamic Road Sign Display               | 57       |
| Side airbags                                   | 79       | Anti-lock brake system (ABS)                     | 283      | Electronic differential lock (EDL)      | 283      |
| Switching off the front passenger front airbag | 76       | Anti-theft alarm                                 |          | Electronic Stability Control (ESC)      | 283      |
| Switching off with key-operated switch         | 76       | Trailer  | 432, 433 | Hill Descent Control                    | 222      |
| Using child seats                              | 76       | Anti-theft alarm system                          |          |   |          |
| Alarm system                                   |          | False alarm risks                                | 110      |   |          |
| Anti-theft warning system                      | 109      | Anti-theft code                                  |          |   |          |
|  |          | see Security code                                | 326      |   |          |

|                                   |          |   |     |  |     |
|-----------------------------------|----------|---|-----|--|-----|
| Hill Start Assist                 | 221      | Stopping on uphill gradients                  | 205 | Auxiliary heater and auxiliary ventilation |     |
| Lane keeping system (Lane Assist) | 253      | Automatic lighting control (AUTO)             |     | Remote control                             | 181 |
| Park Assist                       | 273      | Switching on and off                          | 139 | Remote control range                       | 181 |
| Park Distance Control             | 267      | Automatic mode                                |     | Auxiliary heater and ventilation           | 175 |
| Reverse warning system            | 270      | see Air conditioning system                   | 158 |  |     |
| Speed limiter                     | 238      | Automatic Post-Collision Braking System       | 283 | <b>B</b>                                   |     |
| Traction control system (TCS)     | 283, 284 | Automatic switch-off for electrical consumers | 524 | Ball coupling                              |     |
| Tyre Pressure Monitoring System   | 544      | Automatic transmission                        |     | Attaching                                  | 423 |
| Asymmetrical tyres                | 580      | Launch Control programme                      | 205 | Fitting                                    | 423 |
| AUTO function                     |          | Auxiliary equipment or body parts             | 598 | Fitting a bicycle carrier                  | 438 |
| see Air conditioning system       | 158      | Auxiliary heater                              |     | Pre-tensioning                             | 423 |
| Automatic belt retractor          | 69       | Activating                                    | 177 | Removing                                   | 423 |
| Automatic gearbox                 | 203      | Continuous mode                               | 177 | Ball head                                  |     |
| Changing gear                     | 203      | Programming                                   | 177 | see Ball coupling                          | 423 |
| Driving                           | 205      | Supplementary heater                          | 179 | BAS  |     |
| Kickdown function                 | 205, 206 | Switching off                                 | 176 | see Brake support systems                  | 283 |
| Malfunction                       | 208      | Switching on                                  | 176 | Battery                                    |     |
| Overheating                       | 207      | Vents   | 179 | Disposal of used batteries                 | 621 |
| Pulling away on uphill gradients  | 205      |   |     | Replacing in the remote control            | 182 |
|                                   |          |   |     | see Vehicle battery (12-volt)              | 483 |

|                              |               |                                |     |                          |          |
|------------------------------|---------------|--------------------------------|-----|--------------------------|----------|
| Battery master switch        | 527           | Bluetooth audio                |     | Troubleshooting          | 518      |
| Switching on or off          | 527           | Selecting                      | 336 | Brake servo              | 282      |
| Before driving offroad       |               | Bluetooth audio mode           | 392 | Brake support systems    | 282      |
| Checklist                    | 228           | Bluetooth interface            | 392 | ABS                      | 282      |
| Belt status display          |               | Bonnet                         |     | BAS                      | 282      |
| see Seat belt prompt         | 65            | Closing                        | 494 | EDL                      | 282      |
| Belt tension limiter         | 69            | Display                        | 496 | ESC                      | 282      |
| Belt tensioner               |               | Opening                        | 494 | TCS                      | 282      |
| Disposal                     | 70            | Warning lamp                   | 496 | XDS                      | 282      |
| Service and disposal         | 70            | Bonnet space                   |     | Brake system             |          |
| Belt tensioners              | 69            | Cleaning and care              | 590 | Malfunction              | 191      |
| Bicycle carrier              |               | Engine oil                     | 501 | Brakes                   | 282      |
| Fitting on the ball coupling | 438           | Plenum chamber                 | 590 | Brake fluid              | 516      |
| Blind Spot Monitor           | 257           | Preparations                   | 494 | Brake pads               | 189, 191 |
| Displays                     | 258           | Safety notes                   | 492 | Brake support systems    | 282      |
| Speed range                  | 257           | Brake                          |     | Handbrake                | 261      |
| Switching on and off         | 258           | Noises                         | 191 | Running in brake pads    | 189      |
| System limits                | 257           | Brake assist system (BAS)      | 283 | Brands                   | 318      |
| Troubleshooting              | 259           | Brake fluid                    | 516 | Break recommendation     |          |
| Blower speed                 |               | Brake fluid level too low      | 518 | see Driver Alert System  | 54       |
| see Air conditioning system  | 164           | Changing                       | 517 | Breakaway cable          |          |
| Bluetooth                    | 349           | Checking the brake fluid level | 517 | see Safety cable         | 432      |
| Profile                      | 341, 349, 392 | Specification                  | 516 | Breakdown                |          |
|                              |               |                                |     | Making your vehicle safe | 91       |

|                                    |     |                                   |          |   |          |
|------------------------------------|-----|-----------------------------------|----------|---|----------|
| Breakdown Call                     | 93  | Cleaning and care                 | 591      | With Tiptronic                              | 205      |
| Breakdown set                      | 571 | Capacities                        |          | Charging boost                              |          |
| Check after driving for 10 minutes | 575 | AdBlue                            | 680      | see Maximum battery charge                  | 301      |
| Components                         | 573 | Fuel tank                         | 680      | Chassis number                              |          |
| Compressor                         | 573 | Car washes                        | 587      | see Vehicle identification number           | 672      |
| Inflating a tyre                   | 573 | Central locking                   | 100      | Check list                                  |          |
| Preparations                       | 572 | Central locking button            | 103      | In an emergency                             | 91       |
| Sealing a tyre                     | 573 | Central locking system            |          | Checking the oil level                      | 504      |
| Stowage                            | 572 | SAFELOCK                          | 106      | Checklist                                   |          |
| When not to use                    | 571 | Changing a wheel                  | 564      | Before driving offroad                      | 228      |
| Brightness                         | 326 | Lifting the vehicle               | 561, 563 | Before driving offroad for the first time   | 224      |
| Bulb failure                       |     | Wheel bolts                       | 560      | Breakdown                                   | 91       |
| see Changing lights                | 467 | Changing bulbs                    |          | Breakdown set                               | 572      |
| Button cell                        |     | see Changing lights               | 467      | Lifting the vehicle with the jack           | 562, 563 |
| In the vehicle key                 | 98  | Side marker lights                | 476      | Preparation for changing a wheel            | 553      |
| Replacing in the remote control    | 182 | Changing gear                     | 200      | Replacing bulbs                             | 468      |
|                                    |     | Automatic gearbox                 | 203      | Trailer manoeuvring system (Trailer Assist) | 277      |
|                                    |     | Gear-change indicator             | 215      | Child seat                                  | 81       |
|                                    |     | Manual gearbox                    | 200      | Airbag sticker                              | 84       |
|                                    |     | Selecting a gear                  | 203      |   |          |
|                                    |     | Selecting a gear (manual gearbox) | 200      |   |          |
|                                    |     | Warning and indicator lamps       | 207      |   |          |
| <b>C</b>                           |     |                                   |          |   |          |
| Call lists                         | 345 |                                   |          |   |          |
| Camera                             |     |                                   |          |   |          |
| Limits                             | 232 |                                   |          |   |          |
| Camera lenses                      |     |                                   |          |   |          |

|  |     |                                     |                    |   |          |
|--|-----|-------------------------------------|--------------------|---|----------|
| Approval categories                            | 83  | see Security code                   | 326                | Conversions                                   | 598, 617 |
| Securing systems                               | 86  | Code of conduct for offroad driving | 228                | Coolant                                       |          |
| Securing with a lockable seat belt             | 89  | Coming Home function                | 137                | Checking the coolant level and adding coolant | 509      |
| Securing with a seat belt                      | 89  | Complete emergency wheel            |                    | Coolant level too low                         | 512      |
| Securing with ISOFIX                           | 88  | Mounting                            | 567                | Coolant temperature too high                  | 512      |
| Standards                                      | 82  | Component protection                | 615                | Filler opening                                | 509      |
| Switching off the front passenger front airbag | 76  | Connection                          | 347                | Specification                                 | 508      |
| Weight classes                                 | 82  | Bluetooth                           | 349, 392           | Troubleshooting                               | 512      |
| Childproof lock                                |     | Cable                               | 347, 391           | Cooling                                       |          |
| Electrical                                     | 105 | USB                                 | 297, 347           | see Air conditioning system                   | 162      |
| Childproof locks                               | 105 | Wireless                            | 347, 349, 391, 392 | Cooling system                                |          |
| Chocks   | 462 | Connectivity components             | 302                | Emergency filling                             | 512, 514 |
| Cigarette lighter                              | 290 | Constant engine speed               | 300                | Copyright law                                 | 318      |
| Circuit breaker                                | 296 | Control units                       |                    | Cruise control system                         | 234      |
| Climatronic                                    |     | Reprogramming                       | 608                | Displays                                      | 234      |
| see Air conditioning system                    | 157 | Controls                            | 321                | Operating                                     | 235, 236 |
| Clock  | 52  | Cleaning and care                   | 593                | Troubleshooting                               | 237      |
| Closing  |     | Convenience functions               |                    | Curtain airbags                               |          |
| Sliding window                                 | 117 | Reprogramming                       | 608                | see Airbag system                             | 80       |
| Cockpit  | 24  | Convenience opening and closing     |                    | Customer information                          | 603      |
| Code number                                    |     | Windows                             | 114                | Cyber security                                |          |
|  |     | Convenience radio code              |                    |   |          |
|  |     | see Security code                   | 326                |   |          |

|  |          |                               |          |  |     |
|--|----------|-------------------------------|----------|--|-----|
| Connectivity components                | 302      | Online services               | 610      | see Electronic differential lock (EDL) | 283 |
| Minimising risks                       | 302      | Operating data in the vehicle | 606      | see Offroad driving situations         | 229 |
| Security mechanisms                    | 302      | Personal reference            | 607      | Switching off                          | 229 |
|  |          | Rights                        | 607      | Switching on                           | 229 |
| <b>D</b>                               |          | Data transfer                 |          | Digital clock                          | 52  |
| Dash panel                             | 24       | USB port                      | 391      | Dimension                              | 9   |
| Airbag system                          | 72       | Data transmission             | 302      | Directions                             | 9   |
| Data connection                        |          | Daytime running lights        | 131      | Directive 2014/53/EU                   | 627 |
| see Wi-Fi hotspot                      | 396, 397 | De-icing                      |          | Directive TR-355                       | 628 |
| Data Link Connector (DLC)              | 606      | Defrost function              | 166      | Display and control unit               | 321 |
| Data memory                            |          | Windscreen heating            | 172      | Displays                               |     |
| Data services                          | 606      | De-icing door lock cylinders  | 592      | Bonnet                                 | 496 |
| Data storage                           |          | Declaration of conformity     | 605, 627 | Compass display                        | 42  |
| Control units                          | 606      | Radio systems                 | 661      | Cruise control system                  | 234 |
| Convenience and Infotainment functions | 609      | Decorative films              |          | Eco                                    | 43  |
| Disclosure of data                     | 608      | Cleaning and care             | 591      | Engine code                            | 43  |
| Event data recorder                    | 611      | Defrost function              | 166      | Gear-change indicator                  | 42  |
| Event memory                           | 606      | Diagnostic connection         | 606      | Lane Assist                            | 255 |
| Infotainment system                    | 609      | Diesel                        | 446      | Maximum speed limiter                  | 42  |
| Integration of mobile telephones       | 609      | Ageing                        | 447      | Mileage displays                       | 42  |
| On-board diagnostic system (OBD)       | 606      | Draining the fuel filter      | 448      | Outside temperature display            | 41  |
|  |          | Differential lock             |          |  |     |
|  |          | How it works                  | 229      |  |     |

|                                 |     |                                  |     |  |     |
|---------------------------------|-----|----------------------------------|-----|--|-----|
| Radiator fan after-run          | 42  | Operation                        | 55  | Spare wheel                              | 555 |
| Selector lever positions        | 43  | Switching on and off             | 55  | Temporary spare wheel                    | 555 |
| Speed limiter                   | 238 | Driver door                      |     | Driving with respect for the environment | 216 |
| Speed warning                   | 42  | Indicator lamp                   | 101 | Dropside                                 |     |
| Telephone                       | 43  | Driving                          |     | Fastening rings                          | 420 |
| Time                            | 52  | A loaded vehicle                 | 418 | Opening or closing the tail-board        | 419 |
| Displays, screens               |     | Economically                     | 216 | Stowage box                              | 421 |
| Cleaning and care               | 593 | General notes on driving         | 214 | Dropside dimensions                      | 678 |
| Disposal                        |     | Pulling away on uphill gradients | 205 | Dynamic Road Sign Display                | 57  |
| Airbag system                   | 624 | Stopping on uphill gradients     | 205 | Error message                            | 58  |
| Belt tensioner                  | 70  | Water on the roads               | 219 | Function                                 | 57  |
| Electronic devices              | 621 | With a trailer                   | 435 | Function limitations                     | 58  |
| End-of-life vehicle             | 624 | With an automatic gear-box       | 205 | Speed warning                            | 59  |
| Used batteries                  | 621 | With respect for the environment | 216 | Switching on and off                     | 59  |
| Doors                           | 100 | Driving data display             | 47  | System limits                            | 59  |
| Automatic locking and unlocking | 102 | Driving economically             | 216 | Towing a trailer                         | 59  |
| Locking and unlocking manually  | 102 | Driving out of a parking space   |     | Using                                    | 59  |
| Drawbar load                    |     | Park Assist                      | 276 | <b>E</b>                                 |     |
| Explanation of values           | 670 | With Rear Traffic Alert          | 280 | Earth connection                         | 482 |
| Loading a trailer               | 433 | Driving through water            | 219 | EDL                                      |     |
| Driver Alert System             | 54  | Driving tips                     | 214 |  |     |
| Function limitations            | 55  |                                  |     |  |     |

- see Brake support systems 283
- Electrical consumers 292
- Electrical lumbar support adjustment 122
- Electromagnetic radiation 601
- Electromechanical steering 186
- Electronic differential lock (EDL) 283
- Electronic immobiliser 193
- Electronic Stability Control (ESC) 283
- Emergency 91
  - Fire extinguisher 92
  - First-aid box 92
  - First-aid pack 92
  - Warning triangle 92
- Emergency Call 93
- Emergency filling
  - Cooling system 512, 514
- Emergency filling of cooling system
  - Requirements 512, 514
- Emission control 451
  - AdBlue 451
  - Particulate filter 457
- Energy management 325
- Engine 215
  - Running in 215
- Engine and ignition
  - Ignition lock 192
  - Immobiliser 193
  - Preheating 194
  - Starting the engine 194
  - Switching off the engine 198
  - Unauthorised vehicle key 193
- Engine code 674
  - Displaying 43
- Engine compartment
  - see Bonnet space 494, 501
- Engine oil 501
  - Changing 503
  - Checking the engine oil level 504
  - Consumption 504
  - Filler opening 504
  - Oil dipstick 504
  - Refilling 504
  - Standards 502
- Engine speed
  - see Rev counter 44
- Engine speed control function 300
- Error message
  - Dynamic Road Sign Display 58
- EU Chemicals Regulation 620
- Event data recorder 611
- Event memory
  - Connector 606
  - Reading 606
- Expert assistance 9
- Explanations 9
- Exterior mirrors 154
  - Driving with a trailer 428, 431
  - Synchronous mirror adjustment 154
- External audio source
  - Bluetooth audio 349, 392
  - SD card 323
  - Volume 360
  - Wi-Fi audio 394
- External audio sources
  - Adjusting the output volume 327
- External data medium

|                          |     |                              |     |  |     |
|--------------------------|-----|------------------------------|-----|--|-----|
| SD card                  | 323 | Folding seat                 | 123 | Switching off with key-operated switch | 76  |
| External socket          |     | Folding down                 | 123 | Front seats                            | 120 |
| 230-volt electrical feed | 294 | Folding up                   | 123 | Mechanically adjusting                 | 121 |
| <b>F</b>                 |     | Frequency band               | 361 | Swivelling                             | 122 |
| Fabrics                  |     | AM                           | 330 | Fuel                                   | 444 |
| Cleaning and care        | 592 | Changing                     | 330 | Analogue fuel gauge                    | 45  |
| Factory settings         | 326 | FM                           | 330 | Diesel                                 | 446 |
| Fastening rails          | 412 | Selecting                    | 330 | Diesel ageing                          | 447 |
| Fastening rings          | 411 | Frequency bands              | 362 | Draining the fuel filter               | 448 |
| Dropside                 | 420 | Front airbags                |     | Fuel standards                         | 445 |
| Fault memory             |     | see Airbag system            | 75  | Identification                         | 445 |
| see Event memory         | 606 | Front Assist                 | 248 | Refuelling                             | 447 |
| Filling the tank         |     | Advance warning              | 249 | Fuel consumption                       |     |
| Fuel gauge               | 45  | Distance warning             | 249 | Driving economically                   | 216 |
| First-aid box            |     | Operating                    | 250 | Fuel gauge                             |     |
| see First-aid kit        | 92  | Problem solving              | 251 | Analogue                               | 45  |
| First-aid kit            | 92  | Speed ranges                 | 248 | Troubleshooting                        | 45  |
| Storage location         | 92  | Switching on and off         | 251 | Fuel types                             | 445 |
| First-aid pack           |     | System limits                | 249 | Fuelling                               | 445 |
| see First-aid kit        | 92  | Front passenger 2-seat bench |     | Function limitations                   |     |
| Floor mats               | 188 | Stowage areas                | 288 | Driver Alert System                    | 55  |
| FM                       | 329 | Front passenger front airbag |     | Dynamic Road Sign Display              | 58  |
|                          |     | see Airbag system            | 72  | Fuses                                  | 478 |

|                                    |     |  |     |                                   |          |
|------------------------------------|-----|--|-----|-----------------------------------|----------|
| Colour coding of fuses             | 480 | Hazard warning lights                      | 91  | Wheel cover                       | 559      |
| Detecting a blown fuse             | 480 | Head restraints                            | 129 |                                   |          |
| In the dash panel                  | 479 | Headlight range control                    | 139 |                                   |          |
| In the vehicle                     | 479 | Headlights                                 |     | Identification number             |          |
| Replacing                          | 480 | Cleaning and care                          | 591 | see Vehicle identification number | 672      |
| Types                              | 480 | Washer system                              | 150 | Idling speed                      |          |
|                                    |     | Heating                                    |     | Increased                         | 524      |
|                                    |     | Auxiliary heater and auxiliary ventilation | 175 | If and when                       | 461      |
|                                    |     | Rear window heating                        | 173 | Ignition bypass circuit           | 193      |
|                                    |     | Seat heating                               | 169 | Ignition lock                     | 192      |
|                                    |     | see Air conditioning system                | 162 | Unauthorised vehicle key          | 192      |
|                                    |     | Steering wheel heating                     | 171 | Illustrations                     | 9        |
|                                    |     | Windscreen heating                         | 172 | Immobilizer                       | 193      |
|                                    |     | Heating and fresh air system               | 161 | Importer                          |          |
|                                    |     | Switching off                              | 161 | Address                           | 627, 628 |
|                                    |     | High-pressure cleaner                      | 588 | In an emergency                   |          |
|                                    |     | High-visibility waistcoat                  | 92  | Breakdown                         | 91       |
|                                    |     | Hill Descent Control                       | 222 | Check list                        | 91       |
|                                    |     | Hill Start Assist                          | 221 | Hazard warning lights             | 91       |
|                                    |     | Hood                                       |     | Making you and your vehicle safe  | 91       |
|                                    |     | see Bonnet                                 | 494 | Indicator lamp                    |          |
|                                    |     | Hubcaps                                    |     | Driver door                       | 101      |
| <b>G</b>                           |     |  |     |                                   |          |
| GALA                               |     |  |     |                                   |          |
| see Speed-dependent volume control | 327 |  |     |                                   |          |
| Gear display                       |     |  |     |                                   |          |
| see Gear-change indicator          | 215 |  |     |                                   |          |
| Gear-change indicator              | 215 |  |     |                                   |          |
| General rules and driving tips     |     |  |     |                                   |          |
| See Offroad driving                | 228 |  |     |                                   |          |
| Getting started                    | 321 |  |     |                                   |          |
| Gross combination weight           |     |  |     |                                   |          |
| Explanation of values              | 670 |  |     |                                   |          |
| <b>H</b>                           |     |  |     |                                   |          |
| Handbrake                          | 261 |  |     |                                   |          |
| Hands-free function                | 385 |  |     |                                   |          |

|   |                    |                                   |               |                            |                    |
|---|--------------------|-----------------------------------|---------------|----------------------------|--------------------|
| Steering lock                                       | 186                | Cleaning                          | 320           | Notes on use               | 316                |
| Tyre monitoring system                              | 549                | Control centre                    | 352, 359      | Operating                  | 324, 351, 356      |
| Indicator lamps                                     |                    | Controls                          | 321, 354      | Other applicable documents | 309                |
| ABS   | 284                | Energy management                 | 325           | Overview                   | 321, 351, 354      |
| Airbag system                                       | 74                 | External audio source             | 360           | Pages                      | 353, 358           |
| Brake support systems                               | 284                | Factory settings                  | 356           | Performing functions       | 324                |
| Central locking                                     | 101                | Function button for main menu     | 352, 355      | Personalising              | 358                |
| Changing gear                                       | 207                | Function buttons                  | 351, 354, 355 | Quick guide                | 357                |
| ESC   | 284                | Hardkeys                          | 321           | Radio                      | 328, 361           |
| Seat belts  | 65                 | Infotainment buttons              | 321           | Radio mode                 | 328                |
| Start/stop system                                   | 210                | Internet use                      | 396           | Restarting                 | 357                |
| Information Call                                    | 93                 | Introduction                      | 309           | Rotary pushbutton          | 321, 352, 354, 355 |
| Information on Directive 2014/53/AB                 | 627                | Main menus                        | 357           | Safety information         | 311                |
| Information on the Radio Equipment Regulations 2017 | 627                | MAN Media Van/Business/Navigation | 351           | Screen                     | 321, 351, 352, 354 |
| Infotainment system                                 | 351                | Media                             | 333, 366      | Security code              | 326                |
| Activating functions                                | 309                | Media drive                       | 323, 355      | Sensor fields              | 351, 352           |
| Adjusting the volume                                | 325                | Media mode                        | 333           | Settings                   | 359                |
| Aerial  | 614                | Menu control                      | 321, 353–355  | Sound settings             | 359, 360           |
| App overview  | 352, 355, 357, 358 | Mobile phone interface            | 338, 380      | Switch-off delay           | 325                |
| Before using for the first time                     | 309                | Muting                            | 325           | Switching off              | 321                |
| Buttons   | 321                | Navigation                        | 370           | Switching on               | 321                |

|  |               |                                     |               |  |          |
|--|---------------|-------------------------------------|---------------|--|----------|
| Switching on or off                        | 324, 352, 357 | Interior mirror                     | 153           | Procedure                                  | 483      |
| System settings                            | 359           | Internal roof rack                  | 415           |  |          |
| Tiles                                      | 358           | Internet                            |               | <b>K</b>                                   |          |
| Using the Wi-Fi hotspot of a mobile device | 397           | Data plans                          | 398           | Key-operated switch                        |          |
| Vehicle settings                           | 53            | Internet connection                 |               | Switching off front passenger front airbag | 76       |
| Vehicle status                             | 53            | Quick connection (WPS)              | 399           | Kickdown function                          | 205, 206 |
| Voice control                              | 387           | Internet use                        |               |  |          |
| Volume                                     | 325, 352, 360 | eSIM                                | 398           |  |          |
| Volume adjustment                          | 325           | Mobile device                       | 397           | <b>L</b>                                   |          |
| Wi-Fi hotspot                              | 396–398       | see Wi-Fi hotspot                   | 396, 397      | Lane Assist                                | 253      |
| Infotainment-System                        |               | ISOFIX                              | 88            | Displays                                   | 255      |
| SD card slot                               | 323, 354, 355 | see Child seat                      | 81            | Sensors                                    | 253      |
| Inspection                                 | 582           | <b>J</b>                            |               | Switching on and off                       | 254      |
| see Service interval display               | 50            | Jack                                | 561, 563, 564 | System limits                              | 253      |
| Instrument cluster                         |               | Jacking points                      | 561, 563      | Troubleshooting                            | 256      |
| see Analogue instrument cluster            | 38            | Jump starting                       | 482           | Lane change flash                          | 130      |
| Symbols                                    | 32            | Earth connection                    | 482           | Lane keeping system (Lane Assist)          |          |
| Warning and indicator lamps                | 32            | Jump leads                          | 483           | see Lane Assist                            | 253      |
| Warning and information messages           | 36            | Jump-start connection point (earth) | 482           | Launch Control programme                   | 205      |
| Instruments                                | 38            | Jump-start connection point (plus)  | 483           | Leatherette                                |          |
| Interior lights                            | 148           | Plus                                | 483           | Cleaning and care                          | 592      |

|  |          |                                |          |                                  |     |
|--|----------|--------------------------------|----------|----------------------------------|-----|
| Licences   | 318      | Headlight range control        | 139      | Tensioning rods                  | 415 |
| Lifting the vehicle                              |          | Instrument and switch lighting | 148      | Trailer                          | 433 |
| Checklist  | 562, 563 | Interior and reading lights    | 148      | Looking for a parking space      | 274 |
| Dropside   | 561      | Leaving Home                   | 137      | LOW BATTERY                      |     |
| Jack   | 561, 563 | Rear fog light                 | 136      | see Energy management            | 325 |
| Panel van  | 563      | Side lights                    | 137      | Luggage compartment              | 407 |
| Light  |          | Switching on and off           | 130      | Lumbar support adjustment        | 122 |
| Interior lighting                                | 148      | Vehicle lighting               | 130      |                                  |     |
| Main-beam control (Light Assist)                 | 133      | Load bed equipment             | 418      | <b>M</b>                         |     |
| Light Assist                                     |          | Load compartment               |          | Main menu                        |     |
| see Main-beam control                            | 133      | see Luggage compartment        | 407      | MEDIA                            | 333 |
| Lights   | 130      | Load compartment equipment     | 411      | PHONE                            | 339 |
| Acoustic warnings if lights are not switched off | 147      | Load compartment ventilation   | 417      | RADIO                            | 328 |
| Automatic lighting control (AUTO)                | 139      | Loading                        |          | Main-beam control (Light Assist) |     |
| Automatic switching off of side lights           | 137      | Driving with open wing doors   | 218      | Switching on and off             | 133 |
| Coming Home                                      | 137      | Fastening rails                | 412      | System limits                    | 133 |
| Cornering light                                  | 139      | Fastening rings                | 411      | Maintenance                      | 582 |
| Daytime running lights                           | 131      | General information            | 407, 418 | see Service                      | 582 |
| Dynamic headlight range control                  | 147      | Load compartment               | 407      | Malfunction                      |     |
| Front fog lights                                 | 136      | Loadbed                        | 407      | Automatic gearbox                | 208 |
|  |          | Shelves                        | 416      | Component protection             | 615 |
|  |          |                                |          | Park Assist                      | 273 |
|  |          |                                |          | Park Distance Control            | 267 |

|                                    |     |   |               |                       |          |
|------------------------------------|-----|---|---------------|-----------------------|----------|
| Rain and light sensor              | 152 | Settings                                | 402           | Folder structure      | 368, 369 |
| MAN Connect                        | 304 | Symbols                                 | 402           | Function              | 368      |
| Interference                       | 305 | Wireless                                | 402           | My media              | 368, 369 |
| Legal information                  | 305 | Manoeuvring                             | 260           | Playing media         | 366      |
| Legal requirements                 | 305 | Manoeuvring the vehicle and trailer     | 278           | Symbols               | 335, 368 |
| Prerequisites                      | 305 | Manual air conditioning system          |               | Video mode            | 367      |
| Privacy                            | 306 | see Air conditioning system             | 159           | Wi-Fi audio           | 394      |
| Service portfolio                  | 304 | Manual gearbox                          | 200           | MEDIA                 |          |
| Symbols in the Infotainment system | 306 | see Changing gear                       | 200           | Audio data structure  | 334      |
| MAN DigitalServices                | 308 | Warning and indicator lamps             | 201           | Back                  | 336      |
| Creating a fleet                   | 308 | Maximum battery charge                  | 301           | Bitrate               | 334      |
| Managing a fleet                   | 308 | Maximum speed limiter                   | 42            | Bluetooth audio       | 349      |
| Registering                        | 308 | Maximum trailer weight                  |               | Display modes         | 337      |
| Registering as a fleet manager     | 308 | Explanation of values                   | 670           | Displays              | 333      |
| Service portfolio                  | 304 | Loading a trailer                       | 433           | Forward               | 336      |
| MAN Media Van/Business/Navigation  | 351 | Media                                   | 333, 335, 366 | Main menu             | 333      |
| MAN Radio Van                      | 321 | Connecting and selecting a media source | 366           | MP3 files             | 334      |
| MAN service outlet                 | 9   | Entertainment playback                  | 367           | Playback modes        | 337      |
| MAN SmartLink                      | 401 | Equipment                               | 335           | Playing order         | 334      |
| Android Auto                       | 405 | Equipment features                      | 335           | Playlists             | 333      |
| Apple CarPlay                      | 403 | Favourites                              | 367           | Random playback (Mix) | 337      |
|                                    |     |   |               | Repeat function       | 337      |
|                                    |     |   |               | Requirements          | 334      |
|                                    |     |   |               | Restrictions          | 333      |

|                     |          |   |          |  |          |
|---------------------|----------|---|----------|--|----------|
| Selecting a track   | 335      | Apple CarPlay                           | 403      | Before using for the first time                | 338      |
| Settings            | 333      | Microfibre fabrics                      |          | Comfort  | 381      |
| Suitable data media | 323      | Cleaning and care                       | 592      | Connecting                                     | 342      |
| Track change        | 336      | Mirrors                                 |          | Connection types                               | 382      |
| Track information   | 337      | Electrically adjusting exterior mirrors | 154      | Contacts                                       | 383      |
| Track list          | 335      | Folding in the exterior mirrors         | 154      | Deleting favourites from the speed dial button | 384      |
| WMA files           | 334      | Interior mirror                         | 153      | Explosion hazard areas                         | 340      |
| Media connections   | 391      | Manually adjusting exterior mirrors     | 154      | Favourites                                     | 384      |
| Media drive         |          | Synchronous mirror adjustment           | 154      | Function                                       | 382, 385 |
| SD card slot        | 323, 355 | Mobile                                  |          | Hands-free function                            | 385      |
| Media drives        | 323, 355 | see Mobile telephone                    | 601      | Making phone calls                             | 344, 383 |
| Media mode          |          | Mobile online services                  | 304      | Managing                                       | 342      |
| Equipment           | 335      | Mobile phone                            |          | Pairing  | 342, 381 |
| Symbols             | 335      | Connecting                              | 381      | Phone book                                     | 383      |
| Media source        | 336      | Pairing                                 | 381      | Sending a text message                         | 385      |
| Bluetooth audio     | 336      | Mobile phone interface                  | 338, 380 | Sending an email                               | 385      |
| SD card             | 336      | Active and passive connection           | 382      | Sending text messages                          | 385      |
| Selecting           | 336      | Areas where special regulations apply   | 340      | Speed dial button                              | 384      |
| USB                 | 336      | Basic                                   | 381      | Switching off                                  | 380      |
| Memory card         | 323      |   |          | Symbols  | 340, 385 |
| Not readable        | 324      |   |          | User profile                                   | 344, 382 |
| Memory levels       |          |   |          | Using  | 344      |
| Changing            | 330      |   |          |  |          |
| Menu                |          |   |          |  |          |

|   |          |                                |          |                                     |     |
|---|----------|--------------------------------|----------|-------------------------------------|-----|
| Mobile telephone                            |          | Natural leather                |          | Restrictions                        | 370 |
| Charging                                    | 291      | Cleaning and care              | 592      | Rotating the map view               | 372 |
| Connecting                                  | 342      | Navigation                     | 370      | Route plan                          | 372 |
| Pairing                                     | 342      | Adapting the map view          | 371      | Saved data                          | 373 |
| Switching off                               | 340, 380 | Additional window              | 372      | Saving a destination                | 376 |
| Use without external aerial                 | 601      | Customising the navigation map | 371      | Saving a destination as a favourite | 376 |
| Modifications to the vehicle                | 596, 598 | Destination input              | 375      | Selecting a destination on the map  | 377 |
| Plates                                      | 617      | Edit route                     | 372      | Starting route guidance             | 375 |
| Stickers                                    | 617      | Entering a destination         | 375      | Stored destinations                 | 376 |
| Multicollision brake                        |          | Entering an address            | 376      | Suggested destinations              | 376 |
| see Automatic Post-Collision Braking System | 283      | Favourite destinations         | 376      | Symbol                              | 374 |
| Multifunction camera                        |          | Favourites                     | 376      | Tilting the map view                | 371 |
| Limits                                      | 232      | Function                       | 370, 374 | Traffic disruptions                 | 378 |
| Multifunction display                       | 47       | Last destinations              | 376      | Traffic information                 | 378 |
| Deleting driving data memories              | 47       | Learn usage patterns           | 373      | Updating navigation data            | 377 |
| Selecting Infotainment system displays      | 48       | Learned destinations           | 376      | Using contact data                  | 377 |
| Multifunction steering wheel                |          | Moving the navigation map      | 371      | Using the map for destination input | 377 |
| VIEW button                                 | 39       | Navigation announcements       | 370      | Zooming into the map view           | 371 |
|   |          | Offroad navigation             | 377      | Zooming out of the map view         | 371 |
|   |          | POIs                           | 372      | New engine                          | 215 |
|   |          | Quick start                    | 375      |                                     |     |

## N

|   |     |                                       |                              |     |
|---|-----|---------------------------------------|------------------------------|-----|
| New tyres                                 | 531 | Oil service                           | Instruments                  | 38  |
| Noises                                    |     | Refer to the service interval display | Rear view of dropside        | 20  |
| Brake support systems                     | 285 | play                                  | Rear view of panel van       | 18  |
| Number of seats                           | 61  | On-board diagnostic system (OBD)      | Roof                         | 31  |
|   |     |                                       | Side view of dropside        | 16  |
| <b>O</b>                                  |     | Online services                       | Side view of panel van       | 14  |
|   |     | See mobile online services            | Vehicle                      | 12  |
| Odometer                                  | 38  | Opening                               | Overview of indicator lamps  | 32  |
| Odometer/trip meter                       | 38  | Sliding window                        | Overview of warning lamps    | 32  |
| Odours in the vehicle                     | 625 | Opening or closing the tail-board     |                              |     |
| Off-road driving situations               | 224 |                                       |                              |     |
| Offroad driving                           |     | Operation                             | <b>P</b>                     |     |
| Code of conduct                           | 228 | MEDIA                                 | Paintwork                    |     |
| Driving tips                              | 228 | RADIO                                 | Cleaning and care            | 589 |
| Explanation of technical terms            | 227 | Original condition                    | Panel van dimensions         | 676 |
| Offroad driving situations                |     | Other applicable documents            | Park Assist                  | 273 |
| Before driving offroad                    | 228 | Outside temperature display           | Cancellation                 | 266 |
| Before driving offroad for the first time | 224 | Overview                              | Driving into a parking space | 274 |
| Differential lock                         | 229 | Centre console                        | Looking for a parking space  | 274 |
| Oil                                       |     | Driver door                           | Malfunction                  | 273 |
| see Engine oil                            | 501 | Driver side                           | Parking parallel to the road | 274 |
| Oil change service                        | 582 | Front passenger side                  |                              |     |
| Oil dipstick                              | 504 | Front view                            |                              |     |
|   |     | Infotainment system                   |                              |     |

|                                   |     |  |         |                                   |          |
|-----------------------------------|-----|--|---------|-----------------------------------|----------|
| Parking perpendicular to the road | 274 | Pedals                                   | 62, 188 | Potentially explosive atmospheres | 340, 380 |
| Premature termination             | 266 | Performance figures                      |         | Power connection                  |          |
| Requirements for parking          | 274 | Explanation of values                    | 670     | 230-volt electrical feed          | 294      |
| Park Distance Control             |     | PHONE                                    |         | Power take-off                    |          |
| Malfunction                       | 267 | A2DP                                     | 341     | Switching on and off              | 299      |
| Menu                              | 267 | Accepting or rejecting a call            | 344     | Power take-off system             |          |
| Park Distance Control menu        | 269 | Bluetooth profile                        | 341     | Troubleshooting                   | 300      |
| Switching on and off              | 268 | Call lists                               | 345     | Preheating                        | 194      |
| Parking                           |     | Description of functions                 | 341     | Preparations                      |          |
| Park Assist                       | 274 | HFP                                      | 341     | Breakdown set                     | 572      |
| Prerequisites                     | 264 | Main menu                                | 339     | Checking the engine oil level     | 504      |
| Parking systems                   |     | Mobile phone interface                   | 339     | Refilling engine oil              | 504      |
| Troubleshooting                   | 265 | Phone book                               | 345     | Vehicle battery (12-volt)         | 520      |
| Parking the vehicle               | 260 | Redialling                               | 345     | Working in the bonnet space       | 494      |
| ParkPilot                         |     | Switching off the mobile phone interface | 345     | Prerequisites                     |          |
| see Park Distance Control         | 267 | Voice control mode                       | 346     | Parking systems                   | 264      |
| Particulate filter                | 457 | Phone book                               | 345     | Protective films                  |          |
| Gear-change indicator             | 215 | Plastic parts                            |         | Cleaning and care                 | 591      |
| Regeneration                      | 457 | Cleaning and care                        | 593     |                                   |          |
| Parts                             | 596 | Plates                                   | 617     |                                   |          |
| PDC                               |     | Playback                                 |         | <b>Q</b>                          |          |
| see Park Distance Control         | 267 | MEDIA                                    | 333     | Qualified workshop                | 9        |

- Quick connection (WPS) 399
- R**
- Radar sensor 243, 613  
Limits 231
- Radio 321, 328, 329, 361  
Activating or deactivating the combined station list 362  
Display of station logos and DAB slideshow 362  
Equipment features 329  
Frequency band 361, 362  
Function 361–363  
Multifunction steering wheel 361  
Reception mode 361  
Selecting a station 361  
Station logos 331, 363  
Storing a station as a favourite 362  
Symbol 363  
TP (Traffic Programme) 331  
TP function 362  
Traffic Programme function (TP function) 362
- RADIO  
Changing frequency band 330  
Frequency bands 330  
Main menu 328  
Memory levels 330  
SCAN 332  
Setting station frequency 329  
Station list 329, 331  
Switching memory levels 330  
TP (Traffic Programme) 331  
Tuning, selecting, storing stations 329
- Radio and Infotainment system 309  
General information 309
- Radio code  
see Security code 326
- Radio mode  
Special functions 331  
Symbol 329
- Radio reception  
Aerial 614
- Radio remote control  
see Remote control 181
- Rain and light sensor  
Malfunction 152
- Rain/light sensor 151
- Random playback (Mix) 337
- Reading lights 148
- Rear bench seat 126
- REAR LOCK function  
see Air conditioning system 162
- Rear seats 125
- Rear Traffic Alert  
Operating 280
- Rear view mirror 153
- Rear window heating 173
- Recycling 621  
Recycling end-of-life vehicles 624
- Reduction of engine power  
Brake support systems 285
- Refuelling  
Analogue fuel gauge 45
- Refuse utilisation 622
- Remote control  
Button cell 182  
Using 181
- Removing ice

|  |          |                                  |     |                                  |                    |
|--|----------|----------------------------------|-----|----------------------------------|--------------------|
| Door lock cylinders                      | 592      | For SD cards                     | 334 | Safety certificate               | 675                |
| Removing snow and ice                    | 589      | For USB data media               | 334 | Safety information               |                    |
| Removing wax residue                     | 589      | Residual current circuit breaker | 296 | Infotainment system              | 311                |
| Repairs                                  | 596, 598 | Retrofitting a towing bracket    | 431 | Safety notes                     |                    |
| Airbag system                            | 600      | Returning end-of life vehicles   | 624 | Offroad driving situations       | 224                |
| Plates                                   | 617      | Rev counter                      | 44  | SCAN                             |                    |
| Stickers                                 | 617      | Reverse warning system           | 270 | see Scan function (SCAN)         | 332                |
| Repeat                                   | 337      | Roll-back function               |     | Scan function (SCAN)             |                    |
| Replacement wheel                        |          | Electric windows                 | 115 | RADIO                            | 332                |
| see Spare wheel                          | 554      | Roof console                     | 287 | Scrapping                        | 624                |
| Replacing bulbs                          |          | Roof load carrier                | 440 | Screen                           | 321, 351, 352, 354 |
| Additional turn signal                   | 477      | Loading                          | 442 | Cleaning                         | 320                |
| Checklist                                | 468      | Rotating beacon                  | 131 | SD card                          | 323                |
| Fog lights                               | 471      | Rubber seals                     |     | Compatibility and technical data | 334                |
| Headlights                               | 469      | Cleaning and care                | 593 | Requirements                     | 334                |
| In the front bumper                      | 471      | Running in                       |     | Selecting                        | 336                |
| Number plate light                       | 474, 476 | Engine                           | 215 | Supported SD cards               | 334                |
| Preparations                             | 468      | The first kilometres             | 215 | SD card slot                     | 323, 355           |
| Tail light clusters (panel van or Kombi) | 472      | Tyres                            | 532 | Seat belt height adjuster        | 69                 |
| Tail light clusters on drop-side         | 474      | <b>S</b>                         |     | Seat belt prompt                 |                    |
| Requirements                             |          | Safety                           | 61  | Seat belts                       | 65                 |
| For data media and files                 | 334      | Safety cable                     | 432 | Seat belt routing                | 67                 |
|  |          |                                  |     | Seat belts                       | 64                 |

|                                       |         |                                      |     |                             |         |
|---------------------------------------|---------|--------------------------------------|-----|-----------------------------|---------|
| Belt retractor                        | 69      | Electrical lumbar support adjustment | 122 | Inspection                  | 582     |
| Belt tension limiter                  | 69      | Electrically adjustable front seat   | 122 | Maintenance record          | 582     |
| Belt tensioner                        | 69      | Mechanical front seat                | 121 | Oil change service          | 582     |
| Cleaning and care                     | 593     | Number of seats                      | 61  | Operating conditions        | 583     |
| Fastening                             | 66      | Retrofitting                         | 61  | Scope of service            | 584     |
| Seat belt height adjuster             | 69      | Sitting position                     | 61  | Service events              | 582     |
| Seat belt routing                     | 67      | Swivelling front seats               | 122 | Service repairs             | 582     |
| Seat belt warning system              | 65      | Seats with airbag components         |     | Service interval display    | 50, 583 |
| Unfastening                           | 66      | Cleaning and care                    | 594 | Inspection                  | 50      |
| Seat covers                           |         | Security code                        | 326 | Oil change service          | 50      |
| Cleaning and care                     | 594     | Selecting a gear                     | 203 | Oil service                 | 50      |
| Seat cushion                          |         | Manual gearbox                       | 200 | Service position            |         |
| Folding down                          | 126     | Selector lever lock                  | 203 | Windscreen wipers           | 464     |
| Folding up                            | 126     | Selling the vehicle                  | 305 | Services                    |         |
| Seat cushions with seat heating       |         | In other countries/continents        | 220 | See mobile online services  | 304     |
| Cleaning and care                     | 594     | Sensors                              | 231 | Setting the time            | 52      |
| Seat heating                          | 169     | Cleaning and care                    | 591 | Settings                    |         |
| Seats                                 | 61, 120 | Limits                               | 231 | Adjusting the output volume | 327     |
| Adjusting the head restraints         | 129     | Service                              |     | Bluetooth                   | 326     |
| Adjusting the steering wheel position | 119     | Fixed service                        | 582 | Brightness                  | 326     |
| Correct sitting position              | 61      | Flexible service                     | 582 | Date                        | 326     |
|                                       |         |                                      |     | Device language             | 326     |
|                                       |         |                                      |     | Language                    | 326     |

|                                   |          |                                     |          |                                 |     |
|-----------------------------------|----------|-------------------------------------|----------|---------------------------------|-----|
| MAN Connect                       | 326      | 230-volt                            | 292, 295 | Station list                    |     |
| Media                             | 326, 333 | External socket                     | 294      | Opening and closing             | 331 |
| Privacy                           | 326      | Sound settings                      | 326      | Station search                  |     |
| Radio                             | 326, 328 | Balance, fader                      | 327      | see Scan function (SCAN)        | 332 |
| Screen                            | 326      | Spanner symbol                      | 50       | Stations                        |     |
| Settings                          | 326      | Spare wheel                         | 554      | Scan function (SCAN)            | 332 |
| Sound                             | 326, 327 | Cranking down                       | 554      | Selecting                       | 329 |
| System                            | 326      | Driving tips                        | 555      | Storing                         | 329 |
| Time                              | 52, 326  | Removing the wheel hold-<br>er      | 555      | Tuning                          | 329 |
| Units                             | 326      | Stowing                             | 557      | Steering                        |     |
| Volume                            | 327      | Spares                              | 596      | Electromechanical               | 186 |
| Shelves                           | 416      | Speed limiter                       | 238      | Indicator lamp                  | 186 |
| Side airbags                      |          | Displays                            | 238      | Power steering                  | 186 |
| see Airbag system                 | 79       | Operating                           | 239, 240 | Steering lock                   | 186 |
| Side lights                       | 137      | Troubleshooting                     | 241      | Warning lamp                    | 186 |
| Sliding doors                     |          | Speed rating letter                 | 581      | Steering wheel                  | 119 |
| Opening and closing manual-<br>ly | 104      | Speed warning function              | 47       | Adjusting                       | 119 |
| Sliding window                    |          | Speed-dependent volume con-<br>trol | 327      | Steering wheel heating          | 171 |
| Closing                           | 117      | Speeds                              | 9        | Sticker                         | 617 |
| Opening                           | 117      | Start/stop system                   | 210      | Storage box                     | 421 |
| Snow chains                       | 540      | Indicator lamp                      | 210      | Stowage                         | 286 |
| Sockets                           | 291      | When towing a trailer               | 428      | Stowage areas                   |     |
| 12-volt                           | 292      |                                     |          | Front passenger 2-seat<br>bench | 288 |

|  |     |                                    |     |                           |          |
|--|-----|------------------------------------|-----|---------------------------|----------|
| Roof console                                   | 287 | see Warning lamp overview          | 32  | Buffer battery            | 298      |
| Stowing  |     | SYNC function                      |     | Checking                  | 298      |
| Centre console                                 | 287 | see Air conditioning system        | 162 | Legal requirements        | 298      |
| Stowing a load                                 | 407 | System settings                    | 326 | Location                  | 298      |
| Sun visors                                     | 156 | Systems                            |     | Time                      | 298      |
| Supplementary heating system                   |     | ABS                                | 283 | Tachometer                |          |
| see Auxiliary heater and auxiliary ventilation | 175 | Anti-lock brake system (ABS)       | 283 | see Rev counter           | 44       |
| Switching main beam on and off                 | 132 | BAS                                | 283 | Tail light clusters       |          |
| Switching off                                  |     | Brake Assist system (BAS)          | 283 | Cleaning and care         | 591      |
| Mobile phone interface                         | 340 | EDL                                | 283 | TCS                       |          |
| Mobile telephone                               | 340 | Electronic differential lock (EDL) | 283 | see Brake support systems | 283, 284 |
| Switching off electrical consumers             | 524 | Hill Descent Control               | 222 | Switching on and off      | 284      |
| Switching turn signals on and off              | 130 | Hill Start Assist                  | 221 | Technical data            |          |
| Swivelling front seats                         | 122 | Reverse warning system             | 270 | Capacities                | 680      |
| Symbols  | 340 | TCS                                | 283 | Drawbar load              | 670      |
| Media  | 368 | Traction control system (TCS)      | 283 | Dropside dimensions       | 678      |
| Media mode                                     | 335 | XDS                                | 283 | Engine code               | 674      |
| Mobile phone interface                         | 385 |                                    |     | Engine oil standards      | 502      |
| Navigation                                     | 374 |                                    |     | Factory plate             | 675      |
| Radio  | 363 |                                    |     | Gross combination weight  | 670      |
| Radio mode                                     | 329 |                                    |     | Information on weights    | 670      |
|  |     | <b>T</b>                           |     | Maximum trailer weight    | 670      |
|  |     | Tachograph                         | 298 | Panel van dimensions      | 676      |

|                         |          |  |               |  |          |
|-------------------------|----------|--|---------------|--|----------|
| Performance figures     | 670      | see Screen                                   | 351, 352, 354 | Traction control system (TCS)            | 283, 284 |
| Safety certificate      | 675      | Tow starting                                 | 482           | Traffic disruptions                      | 378      |
| Type plate              | 674, 675 | Towing                                       |               | Traffic information                      | 378      |
| Tyre pressure           | 535      | Front towing eye                             | 490           | Traffic Programme                        |          |
| Technical modifications | 598      | Gearbox                                      | 487           | see TP (Traffic Programme)               | 331      |
| Plates                  | 617      | Manual gearbox                               | 488           | Traffic Programme function (TP function) | 362      |
| Stickers                | 617      | Own vehicle                                  | 487           | EON                                      | 362      |
| Temperature control     | 162      | Rear towing eye                              | 490           | Trailer                                  |          |
| Temperature display     |          | Things to note                               | 488           | Anti-theft alarm                         | 432, 433 |
| Outside temperature     | 41       | Tow-bar                                      | 488           | Drawbar load                             | 433      |
| Temporary spare wheel   |          | Tow-rope                                     | 488           | Driving                                  | 435      |
| Driving tips            | 555      | When not to tow                              | 488           | Exterior mirrors                         | 428, 431 |
| Tensioning rods         | 415      | Towing bracket                               |               | Fitting the ball coupling                | 423      |
| Things to note          |          | Fitting                                      | 423           | Headlight adjustment                     | 435      |
| Towing                  | 435      | Retrofitting                                 | 425           | LED tail light clusters                  | 429, 431 |
| Tightening torque       |          | see Trailer towing                           | 428           | Loading                                  | 433      |
| Checking                | 536      | TP (Traffic Programme)                       |               | Maximum trailer weight                   | 433      |
| Wheel bolts             | 536, 566 | EON  | 331           | Removable ball coupling                  | 423      |
| Tiptronic               | 205      | Switching on/off                             | 331           | Removing the ball coupling               | 423      |
| Tools                   |          | TP function                                  |               | Retrofitting a towing bracket            | 425      |
| see Vehicle toolkit     | 461      | see Traffic Programme function (TP function) | 362           |  |          |
| Top tether              |          | Track list                                   |               |  |          |
| see Child seat          | 81       | see MEDIA                                    | 335           |  |          |
| Touchscreen             |          |  |               |  |          |

|   |          |                               |          |   |          |
|---|----------|-------------------------------|----------|---|----------|
| Safety cable                                | 432      | Driving with open wing doors  | 218      | Brake support systems                   | 284      |
| see Trailer towing                          | 428      | Fastening rings               | 411      | Brake system                            | 191      |
| Tail light clusters                         | 429, 431 | Fold-down shelves             | 416      | Clutch                                  | 201, 202 |
| Technical requirements                      | 430      | Internal roof rack            | 415      | Driving instructions                    | 191      |
| Towing                                      | 435      | Load compartment ventilation  | 417      | eCall Emergency System                  | 96       |
| Trailer stabilisation                       | 436      | Loading a trailer             | 433      | Emergency programme                     | 208      |
| Trailer manoeuvring system (Trailer Assist) |          | Loading the roof load carrier | 442      | Emissions-relevant fault                | 459      |
| Automatic braking intervention              | 278      | Storage box                   | 421      | Engine management system                | 195, 196 |
| Checklist                                   | 277      | Tensioning rods               | 415      | Engine oil: Engine oil level is too low | 506      |
| Manoeuvring                                 | 278      | Tread depth                   | 537      | Engine oil: Engine oil level too high   | 506      |
| Operating                                   | 278      | Tread wear indicators         | 538      | Engine oil: Engine oil pressure too low | 506      |
| Trailer stabilisation                       | 436      | Trim parts                    |          | Engine oil: Engine oil sensor fault     | 506      |
| Trailer towing                              | 428      | Cleaning and care             | 591, 593 | Engine overheating                      | 196      |
| Transportation                              |          | Trim strips                   |          | Engine speed limitation                 | 196      |
| Fastening rails                             | 412      | Cleaning and care             | 593      | Exterior lighting                       | 134      |
| see Trailer towing                          | 428      | Triman                        | 622      | Glow plug system                        | 196      |
| Stowing a load                              | 407      | Troubleshooting               |          | Ignition lock                           | 195      |
| Transporting                                |          | AdBlue level low              | 455      | Immobiliser                             | 195, 197 |
| Roof load carrier                           | 440      | Airbag triggering             | 108      | Irregular engine running                | 450      |
| Transporting items                          | 407      | Automatic gearbox             | 207      | Lights                                  | 134      |
| Driving tips                                | 218      | Brake pedal indicator lamp    | 207      |   |          |
| Driving with a trailer                      | 435      |                               |          |   |          |

|   |          |  |          |                                 |     |
|---|----------|--|----------|---------------------------------|-----|
| Limited power   | 196      | The vehicle cannot be locked or unlocked     | 99       | Troubleshooting                 | 549 |
| Manual gearbox  | 201, 202 | The windows do not close                     | 117      | Tyre Pressure Monitoring System | 544 |
| Misfiring   | 459      | Trailer turn signals                         | 134      | Tyre pressure                   |     |
| One-touch opening and closing is not working          | 117      | Turn signals                                 | 134      | Checking                        | 535 |
| Parking systems                                       | 265      | Turn signals do not flash when locking       | 108      | Tyre pressure sticker           | 535 |
| Particulate filter clogged                            | 459      | Vehicle battery (12-volt) indicator lamp     | 526      | Tyre Pressure Monitoring System |     |
| Particulate filter clogged with soot                  | 458      | Vehicle battery (12-volt) warning lamp       | 526      | Adjusting                       | 548 |
| Rain and light sensor                                 | 135, 152 | Vehicle battery (12-volt): Poor charge level | 526      | Adjusting the tyre pressure     | 548 |
| Red LED in the driver door lights up continuously     | 108      | Vision                                       | 151      | Display of tyre pressures       | 545 |
| Releasing the selector lever lock manually            | 208      | Washer fluid level                           | 151      | Function                        | 544 |
| Releasing the selector lever manually                 | 208      | Water in the diesel                          | 450      | Indicator lamp                  | 549 |
| Removing the vehicle key                              | 196      | Wipers                                       | 152      | Limits                          | 548 |
| Selective catalytic reduction system fault            | 455      | Two-way radio                                |          | Load level                      | 548 |
| Selector lever lock                                   | 208      | Use without external aerial                  | 601      | Malfunction                     | 549 |
| Start/stop mode                                       | 213      | Type plate                                   | 674, 675 | Replacing tyres                 | 532 |
| Steering  | 186      | Tyre damage                                  | 542      | Selecting the tyre type         | 549 |
| Steering column                                       | 186      | Tyre load                                    | 580      | Spare wheel                     | 549 |
| The indicator lamp in the vehicle key is not flashing | 99       | Tyre monitoring system                       |          | System limits                   | 548 |
|   |          | Indicator lamp                               | 549      | Troubleshooting                 | 549 |
|   |          | Malfunction                                  | 549      | Tyre types                      | 548 |
|   |          |  |          | Tyre wear                       | 538 |
|   |          |  |          | Tyres                           |     |

|                                       |               |   |     |                                 |     |
|---------------------------------------|---------------|---|-----|---------------------------------|-----|
| Troubleshooting                       | 542           | Automatic switch-off for electrical consumers | 524 | Exterior                        | 589 |
| Tyres with directional tread pattern  | 580           | Charging                                      | 523 | Fabrics                         | 592 |
| <b>U</b>                              |               |   |     |                                 |     |
| USB                                   |               | Checking the electrolyte level                | 520 | Glass surfaces                  | 589 |
| Selecting                             | 336           | Connecting                                    | 523 | Headlights                      | 591 |
| Supported USB data media              | 334           | Discharge                                     | 524 | Interior                        | 592 |
| USB port                              | 297, 347      | Disconnecting                                 | 523 | Leatherette                     | 592 |
| Data transfer                         | 391           | Earth connection for jump starting            | 482 | Microfibre fabrics              | 592 |
| Using a telephone                     | 344, 383, 601 | Explanation of symbols                        | 519 | Natural leather                 | 592 |
| Using the internet in the vehicle     | 396           | Jump starting                                 | 483 | Notes                           | 586 |
| <b>V</b>                              |               |   |     |                                 |     |
| Vehicle                               |               | Jump-start connection point (plus)            | 483 | Notes on care products          | 586 |
| Lending or selling                    | 305           | Preparations                                  | 520 | Paintwork                       | 589 |
| Loading                               | 418           | Removing the cover                            | 522 | Plastic parts                   | 593 |
| Making safe in the event of breakdown | 91            | Replacing                                     | 523 | Polish paint                    | 589 |
| Recycling                             | 624           | Vehicle care                                  |     | Preserve paint                  | 589 |
| Returning                             | 624           | Bonnet space                                  | 590 | Protective films                | 591 |
| Vehicle battery (12-volt)             |               | Camera lenses                                 | 591 | Rubber seals                    | 593 |
|                                       |               | Controls                                      | 593 | Seat belts                      | 593 |
|                                       |               | Decorative films                              | 591 | Seat covers                     | 594 |
|                                       |               | Displays, screens                             | 593 | Seat cushions with seat heating | 594 |
|                                       |               | Electrically adjustable seats                 | 594 | Seats with airbag components    | 594 |
|                                       |               |   |     | Sensors                         | 591 |

|  |          |   |     |                                  |     |
|--|----------|---|-----|----------------------------------|-----|
| Service position for windscreen wipers | 464      | Roof  | 31  | Activation word                  | 389 |
| Step                                   | 589      | Side view of droopside                          | 16  | Ending                           | 389 |
| Tail light clusters                    | 591      | Side view of panel van                          | 14  | Starting                         | 388 |
| Trim parts                             | 591, 593 | Vehicle settings                                | 53  | Symbols                          | 387 |
| Trim strips                            | 591, 593 | Vehicle status                                  | 53  | Troubleshooting                  | 390 |
| Wheels                                 | 591      | Vehicle toolkit                                 |     | Voice commands                   | 388 |
| Windows                                | 592      | Contents  | 461 | Voice control (Siri)             |     |
| Winter conditions                      | 587      | Stowage   | 461 | Apple CarPlay                    | 404 |
| Wiper blades                           | 465, 589 | Vent windows                                    |     | Voice control mode               | 346 |
| Vehicle identification number          | 672      | Opening and closing                             | 116 | Volume                           |     |
| Vehicle key                            | 97       | Ventilation                                     | 164 | Adjusting                        | 325 |
| Functions                              | 97       | Air distribution                                | 164 | Adjusting external audio sources | 360 |
| Replacing the button cell              | 98       | Air recirculation mode                          | 167 | Adjusting the output volume      | 327 |
| Synchronising                          | 98       | Blower  | 164 | Bluetooth audio                  | 327 |
| Vehicle overview                       |          | Defrost function                                | 166 | Defining external audio sources  | 327 |
| Driver side                            | 24       | Vents   | 179 | Maximum switch-on volume         | 327 |
| Vehicle overviews                      |          | Visibility                                      |     | Volume control                   | 321 |
| Centre console                         | 27       | Mirrors   | 153 |                                  |     |
| Driver door                            | 22       | Sun blind                                       | 156 |                                  |     |
| Front passenger side                   | 30       | Wipers  | 149 |                                  |     |
| Front view                             | 12       | Vision  | 149 |                                  |     |
| Rear view of droopside                 | 20       | Voice control                                   | 387 |                                  |     |
| Rear view of panel van                 | 18       | Activating and deactivating the activation word | 389 | <b>W</b>                         |     |
|  |          |   |     | Warning and indicator lamps      |     |

|                        |          |                            |          |                                      |     |
|------------------------|----------|----------------------------|----------|--------------------------------------|-----|
| Brakes                 | 191      | Tightening torque          | 536, 566 | Handling wheels and tyres            | 531 |
| Manual gearbox         | 201      | Wheel change               |          | Identification                       | 577 |
| Warning lamp           |          | Preparations               | 553      | Low-profile tyres                    | 580 |
| Brake support systems  | 284      | Procedure                  | 552      | Mobility tyres                       | 580 |
| Brake system           | 284      | Wheel cover                |          | New tyres                            | 532 |
| Steering lock          | 186      | Fitting                    | 559      | Old tyres                            | 531 |
| Warning lamps          |          | Removing                   | 559      | Replacing tyres                      | 532 |
| Changing gear          | 207      | Wheel lock                 |          | Rotating wheels                      | 537 |
| Warning triangle       | 92       | see Anti-theft wheel bolts | 560      | Running in                           | 532 |
| Warranty and guarantee | 603      | Wheel rims                 |          | Snow chains                          | 540 |
| Washer fluid           |          | Bolted-on rim rings        | 534      | Spare wheel                          | 554 |
| Checking               | 499      | Bolted-on trim elements    | 534      | Speed index                          | 581 |
| Refilling              | 499      | Identification             | 534      | Storing tyres                        | 531 |
| Washing by hand        | 588      | Wheels                     |          | Technical data                       | 577 |
| Washing the vehicle    |          | Cleaning and care          | 591      | Tread depth                          | 537 |
| Automatic car washes   | 587      | Maintenance                | 537      | Tread wear indicators                | 538 |
| Hand wash              | 588      | Rotating                   | 537      | Troubleshooting                      | 542 |
| High-pressure cleaner  | 588      | Troubleshooting            | 542      | Tyre damage                          | 542 |
| Sensors                | 267, 273 | Wheels and tyres           |          | Tyre lettering                       | 577 |
| Water in fuel          |          | All-year tyres             | 539      | Tyre load                            | 580 |
| Warning lamp           | 45       | Asymmetrical tyres         | 580      | Tyre type                            | 577 |
| Weight                 |          | Avoiding damage            | 531      | Tyre wear                            | 538 |
| Explanation of values  | 670      | Changing a wheel           | 564      | Tyres with directional tread pattern | 580 |
| Wheel bolts            | 560, 564 | Embedded foreign bodies    | 542      |                                      |     |

|                                      |          |                                 |     |                            |     |
|--------------------------------------|----------|---------------------------------|-----|----------------------------|-----|
| Wheel change                         | 552      | Wi-Fi settings                  | 396 | Speed limitation           | 539 |
| Winter tyres                         | 539      | Windows                         | 114 | Wiper blades               | 464 |
| Wi-Fi                                |          | Cleaning and care               | 592 | Changing                   | 465 |
| QR-Code                              | 400      | Convenience opening and closing | 114 | Cleaning and care          | 465 |
| Quick connection (WPS)               | 399      | Defrost function                | 166 | Wipers                     |     |
| Wi-Fi client                         |          | Opening and closing             | 114 | Cleaning wiper blades      | 589 |
| see Wi-Fi hotspot                    | 397      | Roll-back function              | 115 | Folding back wiper arm     | 464 |
| Wi-Fi connection                     |          | Vent windows                    | 116 | Function                   | 150 |
| Connecting an external audio source  | 394      | Windscreen                      |     | Headlight washer system    | 150 |
| Wi-Fi hotspot                        | 396      | Defrost function                | 166 | Heated washer jets         | 150 |
| Configuring                          | 398      | Windscreen heating              | 172 | Lifting wiper arm          | 464 |
| Data connection                      | 396, 397 | Windscreen heating              | 172 | Rain and light sensor      | 151 |
| Deactivating                         | 399      | Windshield                      |     | Service position           | 464 |
| eSIM                                 | 397      | Defrost function                | 166 | Wiper lever                | 149 |
| Infotainment system as hotspot       | 396      | Wing doors                      |     | Wireless MAN SmartLink     | 402 |
| Infotainment system as Wi-Fi hotspot | 398      | Door arrester                   | 113 | WPS                        |     |
| Internet use                         | 396      | Driving with open doors         | 218 | see Quick connection (WPS) | 399 |
| Mobile device                        | 397      | Opening and closing             | 113 |                            |     |
| Setting up a Wi-Fi client            | 397      | Winter conditions               |     | <b>X</b>                   |     |
| Technical specifications             | 396      | Snow chains                     | 540 | XDL                        |     |
| Using a mobile device                | 397      | Vehicle care                    | 587 | see Brake support systems  | 283 |
|                                      |          | Winter tyres                    | 539 |                            |     |
|                                      |          | Winter tyres                    | 539 |                            |     |