

## Workshop Manual

Karoq 2018 ➤

Electrical system

Edition 10.2017



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## List of Workshop Manual Repair Groups

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- 00 - Technical data
- 27 - Starter, current supply, CCS
- 90 - Gauges, instruments
- 92 - Windscreen wash/wipe system
- 94 - Lights, bulbs, switches - exterior
- 96 - Lights, bulbs, switches - interior
- 97 - Wiring

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Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.

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## 00 – Technical data

### 1 Safety instructions

(SRL001126; Edition 10.2017)

⇒ [“1.1 Safety precautions for working on vehicles with start-stop system”, page 1](#)

⇒ [“1.2 Safety precautions during road tests in which testing and measuring equipment is used”, page 1](#)

#### 1.1 Safety precautions for working on vehicles with start-stop system

When working on vehicles with start/stop system, please observe the following:



##### WARNING

*Risk of injury from automatic engine start.*

- ◆ *On vehicles with activated start-stop system (recognizable by a message in the dash panel insert) there is a risk that the engine can start automatically.*
- ◆ *It is therefore necessary to ensure that the start-stop system is deactivated when carrying out work on the vehicle (switch ignition off, if required switch ignition on again).*

#### 1.2 Safety precautions during road tests in which testing and measuring equipment is used

Note the following if testers and measuring instruments are used during road tests:



##### WARNING

*There is a risk of accident from insufficient securing of testers and measuring instruments.*

*There is a hazard from the release of the passenger airbag in the event of an accident.*

- *Drivers operating testing and measuring equipment while driving can lead to an accident.*
- *Increased risk of accident due to unsecured test and measuring devices.*

*Always secure the testing and measuring equipment with a belt on the rear seat and have a second person operate them there.*

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## 2 Repair instructions

⇒ "2.1 Contact corrosion", page 2

⇒ "2.2 Cable routing and securing", page 2

### 2.1 Contact corrosion

The use of unsuitable connection elements (screws, nuts, washers, etc.) causes contact corrosion.

This is why only connection elements with a special surface coatings are fitted.

Therefore, the rubber or plastic parts and the adhesives are made from electrically non-conductive materials.

In case of doubt regarding the re-use of certain parts, the use of new parts is recommended.



#### Caution

- ◆ *It is recommended to use only original connection material as well as spare parts which are tested and compatible with aluminium, see ⇒ Electronic Catalogue of Original Parts "ETKA".*
- ◆ *It is recommended to use only Škoda accessories.*
- ◆ *Any damage resulting from contact corrosion is not covered by the terms of the warranty.*

### 2.2 Cable routing and securing



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***Risk of damage to cables, risk of fire and failure of onboard electrical system!***

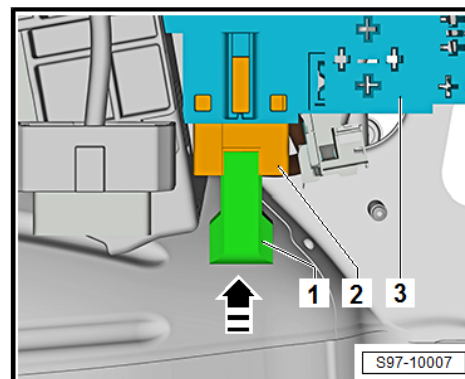
- ◆ *To rule out mix ups and ensure the original fitting position, mark the lines before disassembly. This includes lines for fuel, hydraulics, underpressure, activated charcoal filter, or electric cables. Make photos or sketches where necessary.*
- ◆ *To prevent damage to lines, sufficient clearance from all moving or hot components must be ensured in the engine compartment due to its cramped construction.*
- ◆ *All plug connections must be locked using catches, if necessary with special securing clips, to prevent them disconnecting unintentionally. When connecting, the catches must engage audibly; for plug connections with catch, lock the plug connection by pushing in the catch. Check correct locking if required, by lightly pulling on the plug connection, then press the plug connection again up to the stop.*

Example of a connector catch with special securing clip -1-.

Primary voltage supply in the relay and fuse carrier under the dash panel:

**Note**

*After inserting the plug up to the stop -2- to terminal 30+ on the relay and fuse carrier -3-, secure the plug connection by pushing the securing clip -1- in -direction of arrow- up to the stop!*



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## 3 Battery

⇒ [“3.1 Battery types”, page 4](#)

⇒ [“3.2 Basic topics”, page 4](#)

### 3.1 Battery types



#### WARNING

*When working on the battery wear proper protection and observe safety precautions (see “Electrical System - General notes” ⇒ Electrical System - General notes; Rep. gr. 27 Section “27”). If a note cannot be accessed, open the Workshop Manual “Electrical System - General Notes” manually in “ELSA”.*

Batteries with a magic eye and plugs covered in adhesive tape are factory-installed in all vehicles (except vehicles with start-stop system).

In vehicles with start/stop system, (depending on types of engines see ⇒ Electronic Catalogue of Original Parts “ETKA” ), a fleece battery (AGM) or a battery with magic eye with EFB technology (Enhanced Flooded Battery) is installed.

The AGM battery is also installed in vehicles with auxiliary heating and additional heating.

Description of the function, test and maintenance of the previous batteries see “Electrical System – General notes” ⇒ Electrical System – General notes; Rep. gr. 27 . If a note cannot be accessed, open the Workshop Manual “Electrical System - General Notes” manually in “ELSA”.

### 3.2 Basic topics

#### Warning instructions and safety precautions when working on the battery

All the notes and comments for this chapter can be found in the Workshop Manual ⇒ Electrical System - General notes; Rep. gr. 27 . If a note cannot be accessed, open the Workshop Manual “Electrical System - General Notes” manually in “ELSA”, Section “27”.

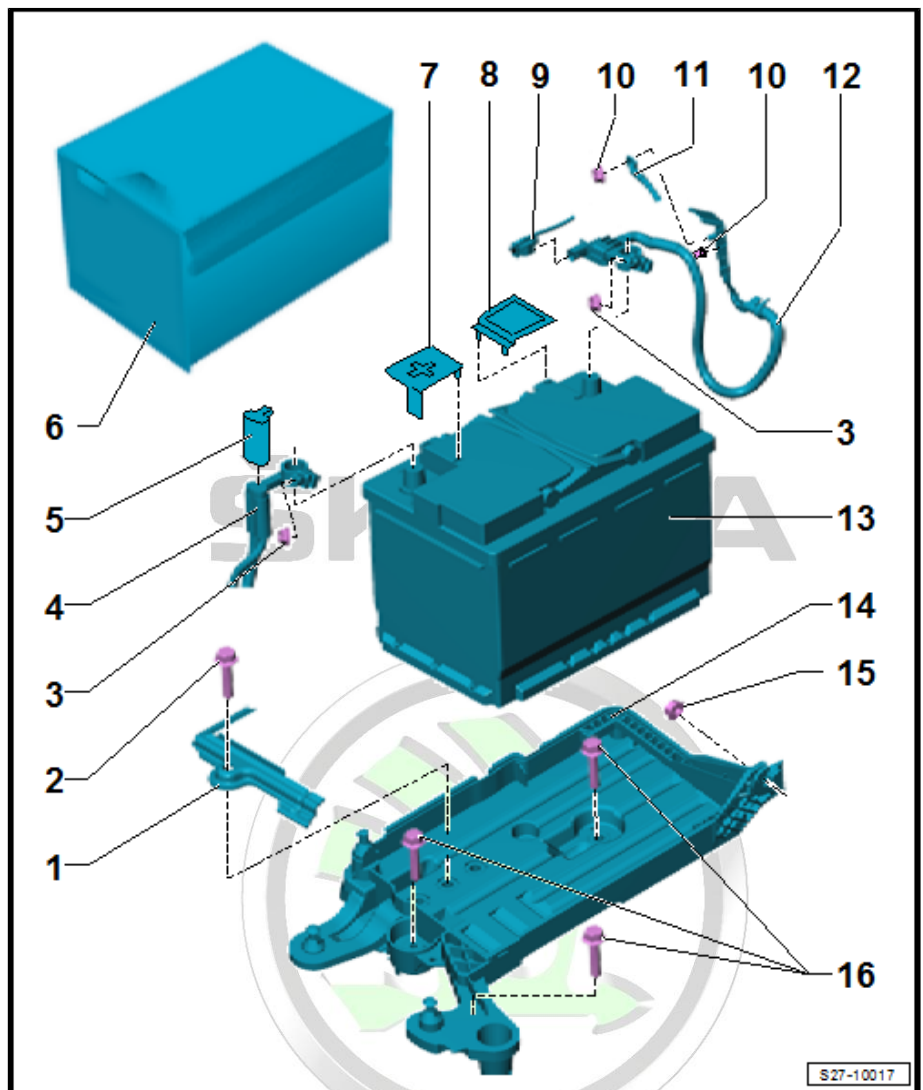
## 27 – Starter, current supply, CCS

### 1 Battery

- ⇒ [“1.1 Assembly overview - battery”, page 5](#)
- ⇒ [“1.2 Removing and installing battery”, page 6](#)
- ⇒ [“1.3 Disconnecting and reconnecting battery”, page 8](#)
- ⇒ [“1.4 Removing and installing battery tray”, page 10](#)
- ⇒ [“1.5 Checking battery”, page 10](#)
- ⇒ [“1.6 Charging battery”, page 10](#)
- ⇒ [“1.7 Removing and installing earth lead with battery monitoring control unit J367”, page 11](#)
- ⇒ [“1.8 Adapt the battery monitoring control unit J367”, page 12](#)

#### 1.1 Assembly overview - battery

- 1 - Adjustment link
- 2 - Screw
  - 15 Nm
- 3 - Nut
  - 6 Nm
- 4 - Plus terminal
  - with battery-cable terminal
  - disconnect and fit on ⇒ [“1.3 Disconnecting and reconnecting battery”, page 8](#)
- 5 - Cap
  - for plus terminal
- 6 - Heat shield collar
- 7 - Cover
  - for positive pole
- 8 - Cover
  - for negative pole
- 9 - Electrical plug connection
  - Battery monitor control unit - J367-
  - Follow the work procedure when connecting the earth cable ⇒ [“1.3 Disconnecting and reconnecting battery”, page 8](#)
- 10 - Nut
  - 9 Nm





## 11 - Earth cable

## 12 - Earth cable

- with battery-cable terminal and battery monitoring control unit - J367-
- Removing and installing  
⇒ ["1.7 Removing and installing earth lead with battery monitoring control unit J367"](#), page 11
- disconnect and fit on ⇒ ["1.3 Disconnecting and reconnecting battery"](#), page 8
- Adapt the battery monitoring control unit - J367-  
⇒ ["1.8 Adapt the battery monitoring control unit J367"](#), page 12

## 13 - Battery - A-

- Removing and installing ⇒ ["1.2 Removing and installing battery"](#), page 6
- disconnect and fit on ⇒ ["1.3 Disconnecting and reconnecting battery"](#), page 8

## 14 - Battery carrier

- Removing and installing ⇒ ["1.4 Removing and installing battery tray"](#), page 10

## 15 - Nut

- 9 Nm

## 16 - Screw

- 3 units
- 9 Nm

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## 1.2 Removing and installing battery

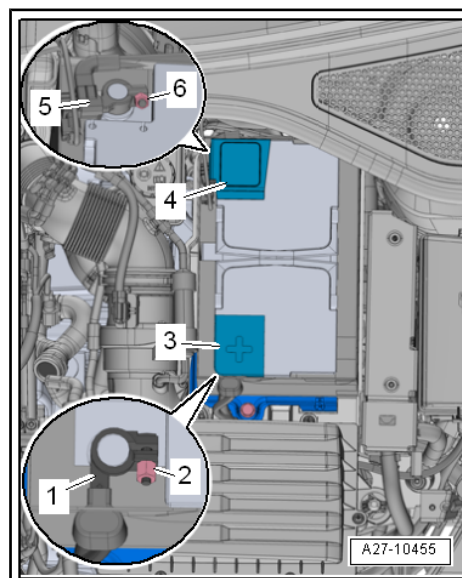


### WARNING

*Observe the instructions for handling the battery, warning information and safety instructions for lead-acid batteries "Electrical System- General Notes" ⇒ Electrical System- General Notes; Rep. gr. 27. If a note cannot be accessed, open the Workshop Manual "Electrical System - General Notes" manually in "ELSA".*

### Removing

- Switch off all electrical components and ignition, take out the ignition key.
- Open the cover of the heat protection sleeve.
- Open cover -4-, loosen nut -6- and disconnect battery earth strap -5-.
- Open cover -3-, loosen nut -2- and connect positive cable to the battery -1-.

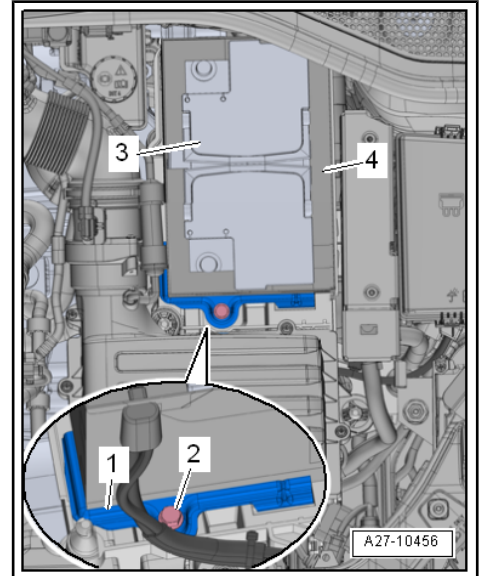




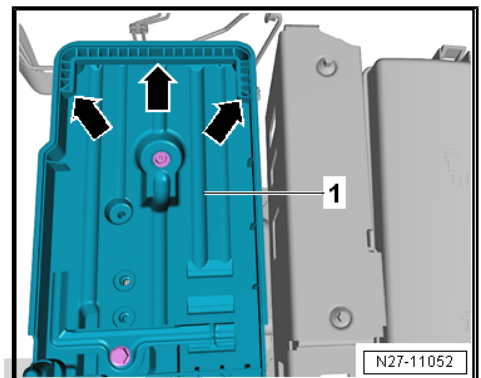
- Pull out heat protection sleeve -4-.
- Unscrew screw -2- and remove securing bracket for battery -1-.
- Slide the battery out of the battery tray and remove it upwards.

**Installing**

Installation is performed in the reverse order, pay attention to the following points:

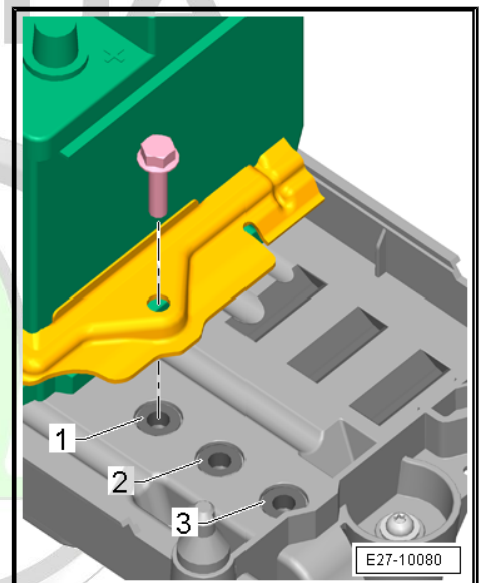


- Insert battery into the battery tray -1- so that the battery base is resting against the rear and the sides -arrows- up to the stop.
- The nose -arrow- on the securing bracket -1- must enter the recess in the battery base.



**i Note**

*The mounting bracket has three mounting positions depending on the size of the battery to be installed -1-, -2- and -3-.*



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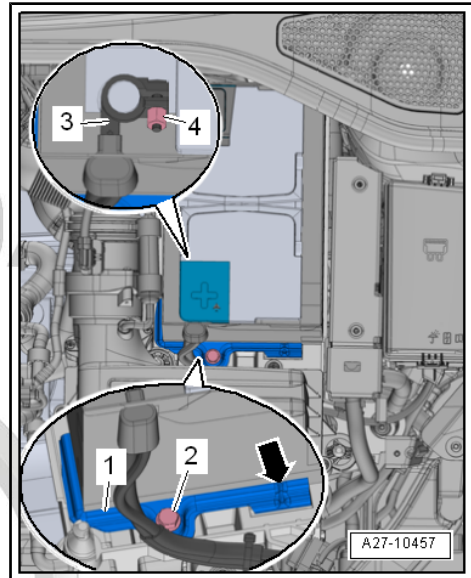


- Attach the fixing bracket -1- to the battery and tighten the fixing screw -2-.
- With the ignition and electrical components switched off, connect the positive terminal of the battery -3- and tighten the nut -4-.
- Note the work sequence when connecting the negative terminal and note the measures after reconnecting the battery  
⇒ ["1.3.2 Reconnecting battery", page 9](#).

**Caution**

*There are certain dangers if the battery is incorrectly mounted or mounted loosely:*

- ◆ *Shortened service life due to damage from vibration (danger of explosion)*
- ◆ *Damage to the grid plates of the battery.*
- ◆ *Damage to battery housing by securing bracket (possibility of acid leaking, with high consequential costs)*
- ◆ *Poor crash safety*

**Specified torques**

- ◆ ⇒ ["1.1 Assembly overview - battery", page 5](#)

### 1.3 Disconnecting and reconnecting battery

⇒ ["1.3.1 Disconnect battery", page 8](#)

⇒ ["1.3.2 Reconnecting battery", page 9](#)

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#### 1.3.1 Disconnect battery

**WARNING**

*Observe safety instructions and safety precautions when working with pyrotechnic modules:*

*If work is carried out on pyrotechnic modules (eg airbag, belt tensioner), the battery must be disconnected, with the ignition switched on, as described in the following description, see ⇒ Body - assembly work inside; Rep. gr. 69 ; Airbag system; General safety instructions .*

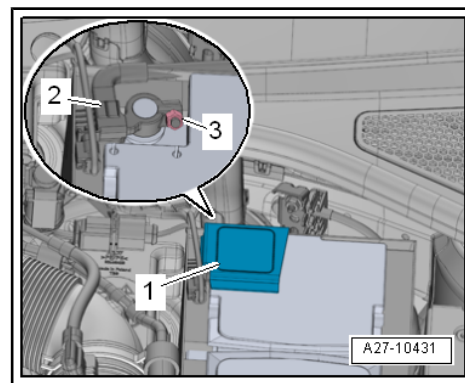
- Switch off all electrical components and ignition, take out the ignition key.
- Open the cover of the heat protection sleeve.



- Open cover -1-, loosen nut -3- and disconnect battery earth strap -2- only.

**i** Note

- ◆ Only disconnect the positive lead of the battery when the battery is removed.
- ◆ If both terminals are disconnected, only then disconnect pole terminal (-) from battery earth.



### 1.3.2 Reconnecting battery



**WARNING**

*Observe safety instructions and safety precautions when working with pyrotechnic modules:*

*If work has been carried out on pyrotechnic modules (eg air-bag, belt tensioner), the battery must be connected, with the ignition switched on, as described in the following description, see => Body - assembly work inside; Rep. gr. 69 ; Airbag system; General safety instructions .*

**i** Note

- ◆ Neither grease nor oil the battery terminals.
  - ◆ The battery pole terminals must only be fitted by hand without using any force in order to avoid damaging the battery housing.
  - ◆ Install the battery pole terminals in such a way that the battery poles are flush with the terminals or protrude.
  - ◆ If both terminals are disconnected, only then disconnect the battery positive pole terminal (+).
  - ◆ After connecting the battery and switching on the ignition, the warning light for the stability programme TCS/ESC and the warning light for the power-assisted steering remain lit. The warning lights go out automatically after driving a few metres forward. Thereby the steering angle sender - G85- is activated again.
- Switch off all electrical components and take out the ignition key.



- Disconnect the plug -2- from the control unit -3- before connecting to the battery.
- Fit pole terminal (-) with control unit onto the “-” pole of the battery, see fig., and tighten the fixing nut -1-.
- Fit the plug -3- again onto the control unit.

When the battery is reconnected, perform the following operations depending on the vehicle equipment:

- ◆ Set clock.
- ◆ Check the power windows ⇒ Maintenance ; Booklet Karoq .
- ◆ Connect the ⇒ Vehicle diagnostic tester, query the event memory and delete any event memory entries.

#### Specified torques

- ◆ ⇒ [“1.1 Assembly overview - battery”, page 5](#)

## 1.4 Removing and installing battery tray

### Removing

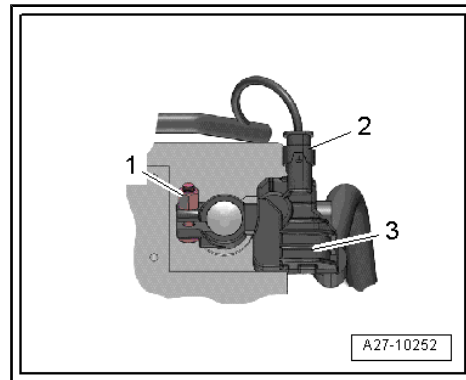
- Remove air filter housing in front of the battery (does not apply to 1.0, 1.5 TSI engine) ⇒ Rep. gr. 23 ; Air filter diesel engines or ⇒ Rep. gr. 24 ; air filter petrol engines.
- Remove the battery ⇒ [“1.2 Removing and installing battery”, page 6](#) .
- Unscrews screws -3- and nuts -2- and remove battery tray -1-.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

#### Specified torques

- ◆ ⇒ [“1.1 Assembly overview - battery”, page 5](#)

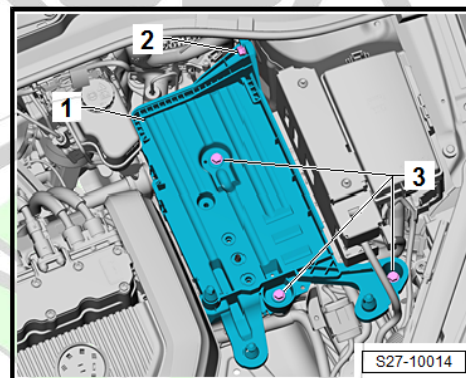


## 1.5 Checking battery

All the notes and comments to the work procedure for checking the battery can be found in the Workshop Manual “Electrical System – General notes” ⇒ Electrical System – General notes; Rep. gr. 27 . If a note cannot be accessed, open the Workshop Manual “Electrical System - General Notes” manually in “ELSA”.

## 1.6 Charging battery

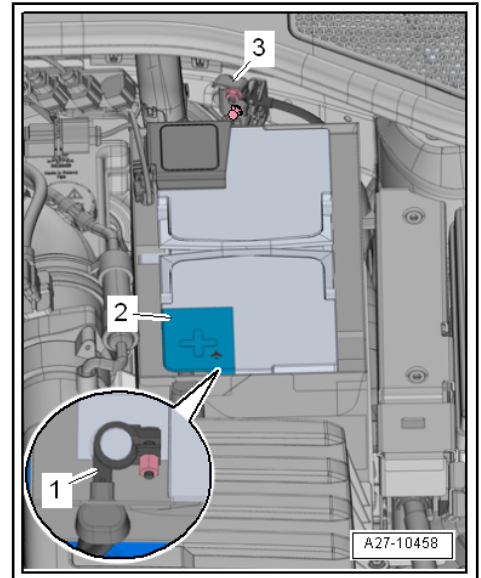
- Open the cover of the heat protection sleeve.



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- If fitted, open the cover -2- and connect the red charging terminal to the battery positive (+) terminal -1-.
- On vehicles with a battery monitoring control unit - J367- , connect the black terminal of the charger to earthing point -3-.

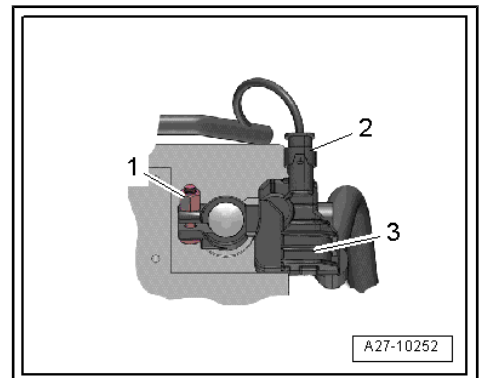
All other notes and comments to this chapter can be found in the Workshop Manual "Electrical system - General notes" => Electrical system - General notes; Rep. gr. 27. . If a note cannot be accessed, open the Workshop Manual "Electrical System - General Notes" manually in "ELSA".



## 1.7 Removing and installing earth lead with battery monitoring control unit - J367-

### Removing

- Remove the battery  
=> "1.2 Removing and installing battery", page 6 .
- Undo nuts -1- and remove the pole terminal with the control unit -3- from the battery-cable terminal.
- Disconnect connector -2-.

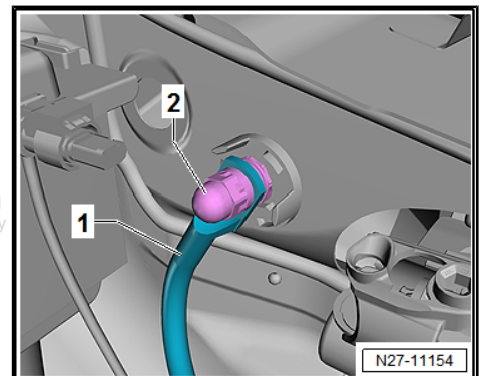


- Unscrew the nuts -2- and remove the earth cable -1- with battery monitoring control unit - J367- .

### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Follow the work procedure when connecting the battery  
=> "1.3.2 Reconnecting battery", page 9 .
- Adapt the battery monitoring control unit - J367-  
=> "1.8 Adapt the battery monitoring control unit J367", page 12 .



### Specified torques

- ◆ => "1.1 Assembly overview - battery", page 5



## 1.8 Adapt the battery monitoring control unit - J367-

This is performed only on vehicles with a battery monitoring control unit - J367- when replacing the battery with a new one of another type or with higher capacity.

After a new start battery is installed and the battery has been parameterised, the technical data of the new battery are sent to the battery monitoring control unit - J367- .

- ⇒ Vehicle diagnostic tester connect and select the operating mode "Targeted fault-finding".
- Select the "Selected Functions/Components" and subsequently the following menu points using the button "Skip":
  - ◆ Systems capable of diagnostics
  - ◆ 0019 - Data bus diagnostic interface - J533-
  - ◆ 0019 - Data bus diagnostic interface - J533- function
  - ◆ 19 - Adapt battery

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## 2 Alternator

- ⇒ [“2.1 Assembly overview - generator”, page 13](#)
- ⇒ [“2.2 Removing and installing alternator”, page 14](#)
- ⇒ [“2.3 Checking generator”, page 16](#)
- ⇒ [“2.4 Removing and installing V-ribbed belt pulley”, page 17](#)
- ⇒ [“2.5 Removing and installing voltage regulator”, page 22](#)

### 2.1 Assembly overview - generator

- ⇒ [“2.1.1 Summary of components - AC generator attached from front”, page 13](#)
- ⇒ [“2.1.2 Summary of components - AC generator attached at side”, page 14](#)

#### 2.1.1 Summary of components - AC generator attached from front

##### 1 - Alternator - C-

- Removing and installing  
⇒ [“2.2 Removing and installing alternator”, page 14](#)
- Check  
⇒ [“2.3 Checking generator”, page 16](#)
- Removing and installing V-ribbed belt pulley  
⇒ [“2.4 Removing and installing V-ribbed belt pulley”, page 17](#)
- Removing and installing voltage regulator  
⇒ [“2.5 Removing and installing voltage regulator”, page 22](#)

##### 2 - Screw

- 2 units
- 23 Nm

##### 3 - Slide bush

- 2 units

##### 4 - Electrical plug connection

##### 5 - Cap

##### 6 - Nut

- 20 Nm

##### 7 - Terminal 30/B+

##### 8 - Nut

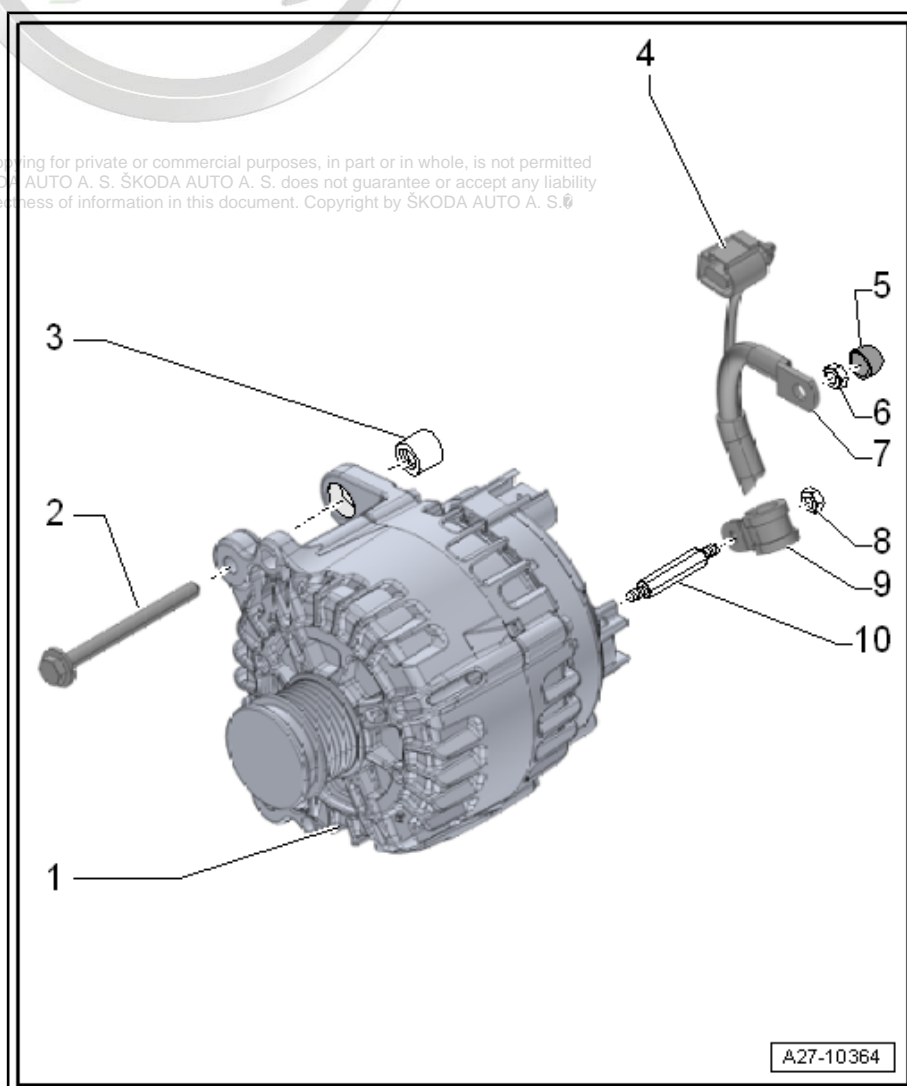
- is not fitted on all vehicles
- 3.2 Nm

##### 9 - Cable clamp

- is not fitted on all vehicles

##### 10 - Bolt

- is not fitted on all vehicles





- 3.2 Nm

## 2.1.2 Summary of components - AC generator attached at side

### 1 - Screw

- 4 units
- 23 Nm

### 2 - Alternator - C-

- Removing and installing  
⇒ [“2.2 Removing and installing alternator”, page 14](#)
- Check  
⇒ [“2.3 Checking generator”, page 16](#)
- Removing and installing V-ribbed belt pulley  
⇒ [“2.4 Removing and installing V-ribbed belt pulley”, page 17](#)
- Removing and installing voltage regulator  
⇒ [“2.5 Removing and installing voltage regulator”, page 22](#)

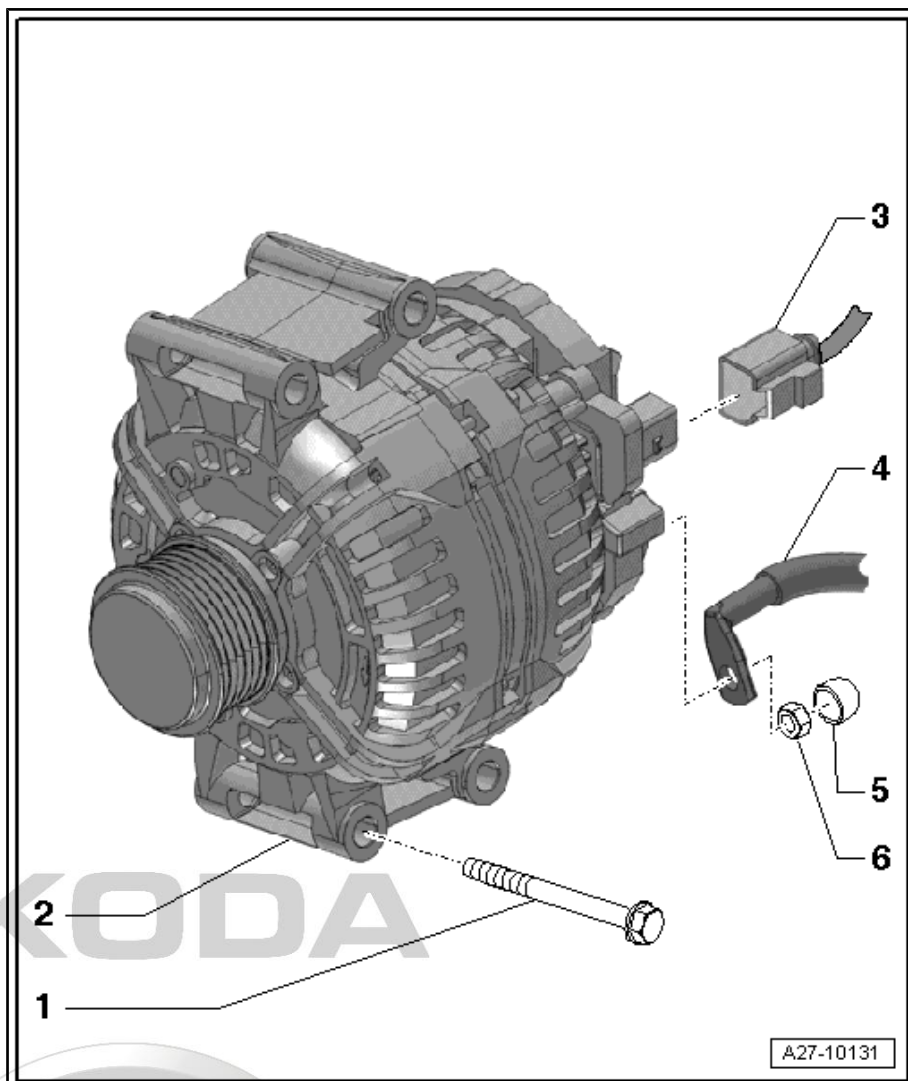
### 3 - Electrical plug connection

### 4 - Terminal 30/B+

### 5 - Cap

### 6 - Nut

- 20 Nm

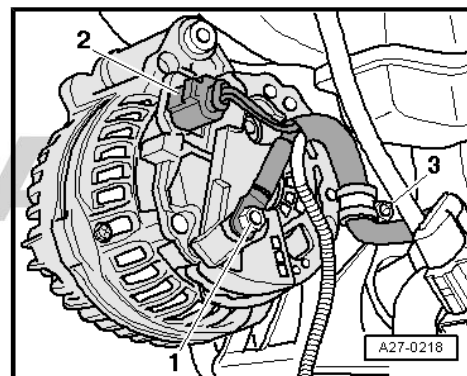


## 2.2 Removing and installing alternator

### Removing

- Disconnect battery earth strap  
⇒ [“1.3 Disconnecting and reconnecting battery”, page 8](#) .
- Remove the sound dampening system ⇒ General body repairs, exterior ; Rep. gr. 66 ; Noise insulation .
- Remove V-ribbed belt ⇒ Rep. gr. 13 ; Cylinder block (pulley end); Removing and installing V-ribbed belt .
- Remove V-tension roller ⇒ Rep. gr. 13 ; Cylinder block (pulley end); Removing and installing tension belt .
- Remove AC compressor (do not open the refrigerant circuit) and secure to the side so that the intake hoses are not excessively strained ⇒ Heating, Air Conditioning; Rep. gr. 87; AC compressor, removing and installing AC compressor .

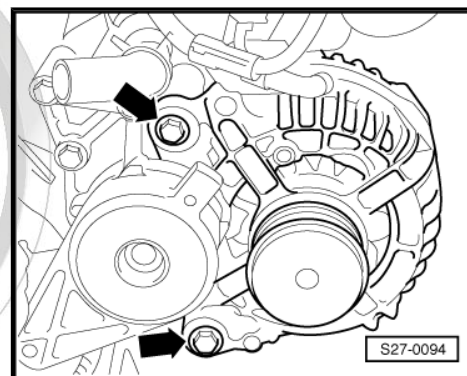
- Remove the screen cap from the fixing nut of the B+ cable -1- and unscrew the nut.
- Disconnect plug connection -2-.
- Unscrew the fixing nut for line holder -3- or unclip the line (engine-dependent), and lay the line to the side.



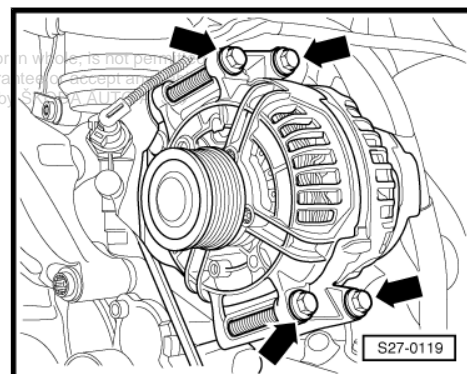
- Vehicles with AC generator secured from the front side - unscrew screws -arrows-.

 **Note**

- ◆ *If the AC generator is jammed in the holder, screw the screws back in, then loosen them in two turns.*
- ◆ *Tap the screw heads gently with the flat side of the hammer. This will loosen the bushings that are used for securing the AC generator.*




- Vehicles with AC generator secured from the side - screw out screws -arrows-.
- Remove AC generator downwards.



**Installing**

Installation is performed in the reverse order, pay attention to the following points:

 **Caution**

*Observe the mounting sequence of the poly V-belt ⇒ Rep. gr. 13 ; Cylinder block on belt pulley side; removing and installing poly V-belt .*

*Fix the B+ wire correctly to the AC generator ⇒ [page 16](#) .*



- Vehicles with AC generator secured from the front side – for easier mounting move the threaded bushes -A- approx 3 mm -arrows-.
- Observe the tightening torque for fastening the B+ wire see ⇒ [page 16](#) .
- Follow the work procedure when connecting the battery ⇒ [“1.3 Disconnecting and reconnecting battery”, page 8](#) .
- After work has been carried out, always start the engine and check that the belt is running correctly.

#### Fixing the B+ wire to the AC generator



#### Caution

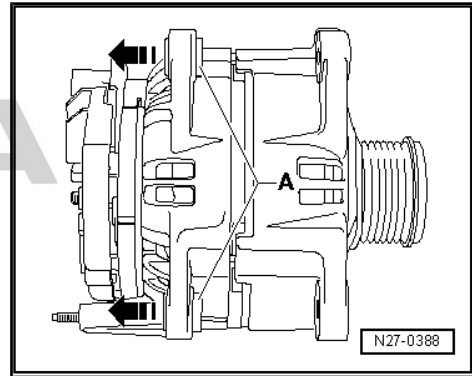
**The screw connection for the B+ cable at the generator is identified with B1+!**

**If the B+ cable is not tightened to the specified tightening torque, this may result in the following risks:**

- ◆ **The battery will not charge fully.**
- ◆ **Complete failure of vehicle electronics**
- ◆ **Spark formation may cause a fire**
- ◆ **Damage resulting from overvoltage on electronic components and control units**

**The cable to terminal B+ must be laid and attached so that it does not come into contact with rotating or moving parts of the assembly (e.g. with the shift mechanism, with rotating parts of the assembly etc.)!**

**In an incorrect cable/cable attachment to terminal B+ can cause cable damage, a short-circuit and a vehicle fire!**

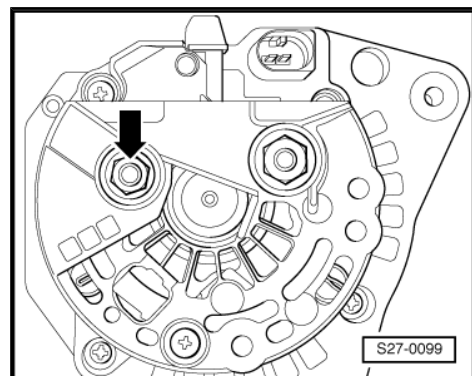


#### Note

Always use a new self-locking nut for attaching the B+ cable -arrow-, see ⇒ *Electronic Catalogue of Original Parts “ETKA”*.

#### Specified torques

- ◆ ⇒ [“2.1 Assembly overview - generator”, page 13](#)



## 2.3 Checking generator

The three - phase generator can be used with the ⇒ Vehicle diagnostic tester in the “targeted fault finding” function, Check 0019 to C AC generator address.

## 2.4 Removing and installing V-ribbed belt pulley

⇒ [“2.4.1 Removing and installing the poly-V belt pulley on the AC generator without freewheel”, page 17](#)

⇒ [“2.4.2 Removing and installing the V-ribbed belt pulley with free wheel, manufacturer: Bosch”, page 17](#)

⇒ [“2.4.3 Removing and installing the V-ribbed belt pulley with free wheel, manufacturer: Valeo”, page 19](#)

⇒ [“2.4.4 Removing and installing the decoupler pulley with free wheel”, page 20](#)

### 2.4.1 Removing and installing the poly-V belt pulley on the AC generator without free-wheel

Special tools and workshop equipment required

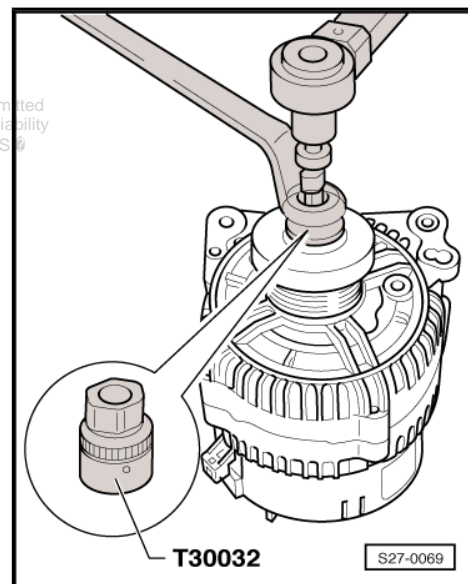
- ◆ Socket insert - T30032 (3310)-
- Remove V-ribbed belt and/or generator  
 ⇒ [“2.2 Removing and installing alternator”, page 14](#) .
- Remove the V-ribbed belt pulley using the socket insert - T30032 (3310)- .

Removal - turn the alternator shaft to the right.

Installation - turn the alternator shaft to the left.

Specified torques

Component	Tightening torque
Fixing nuts of V-ribbed belt	65 Nm



### 2.4.2 Removing and installing the V-ribbed belt pulley with free wheel, manufacturer: Bosch

Special tools and workshop equipment required

- ◆ Polygon-head adapter - MP 1-309 (3400)-

Removing

- Remove AC generator - C-  
 ⇒ [“2.2 Removing and installing alternator”, page 14](#) .
- Clamp the AC generator - C- in a vice at the attachment points.
- Lever cap off the V-ribbed belt pulley.

- Insert polygon-head adapter - MP 1-309 (3400)- with ring spanner (width across flats 17) into the V-ribbed belt pulley.
- Insert polygon-head socket insert M10 -1- into the alternator shaft.
- Hold alternator shaft and detach V-ribbed belt pulley with ring spanner by rotating to the left.
- Hold V-ribbed belt pulley by hand.
- Turn alternator shaft until the V-ribbed belt pulley can be removed.

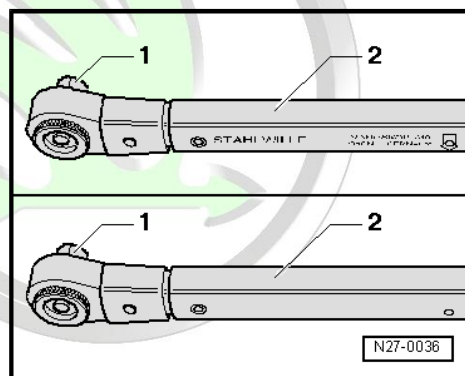
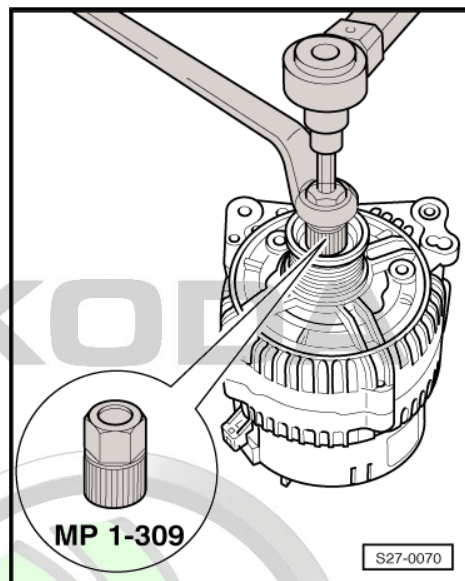
### Installing

Installation is performed in the reverse order, while paying attention to the following:

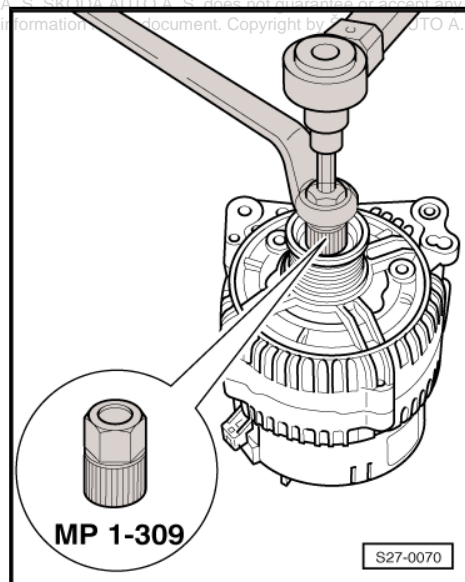
- Screw V-ribbed belt pulley onto the alternator shaft by hand as far as possible.

The torque wrench must be modified as follows for assembly of the V-ribbed belt:

- Release socket drive -1- and pull off grip -2-.
- Turn the handle piece -2- by 180° and fit socket insert -1- again.
- Set turning direction of torque wrench to anti-clockwise at socket insert.



- Insert polygon-head socket insert M10 into the alternator shaft.
- Counterhold polygon-head adapter - MP 1-309 (3400)- with ring spanner (width across flats 17).
- Tighten V-ribbed belt pulley by rotating the alternator shaft to the left with torque wrench .



### Specified torques

Component	Tightening torque
V-ribbed belt pulley to alternator shaft	80 Nm

### 2.4.3 Removing and installing the V-ribbed belt pulley with free wheel, manufacturer: Valeo

#### Special tools and workshop equipment required

- ◆ Polygon-head adapter - MP 1-309 (3400)-

#### Removing

- Remove AC generator - C-  
⇒ ["2.2 Removing and installing alternator", page 14](#) .
- Clamp the AC generator - C- in a vice at the attachment points.
- Lever cap off the V-ribbed belt pulley.
- Insert polygon-head adapter - MP 1-309 (3400)- with ring spanner (width across flats 17) into the V-ribbed belt pulley.
- Insert Torx screwdriver socket into the alternator shaft.
- Hold alternator shaft and detach V-ribbed belt pulley with ring spanner by rotating to the left.
- Hold V-ribbed belt pulley by hand.
- Turn alternator shaft until the V-ribbed belt pulley can be removed.

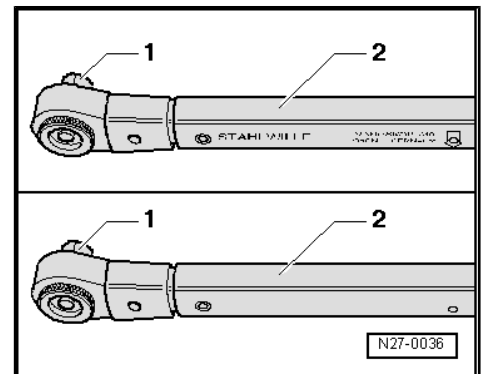
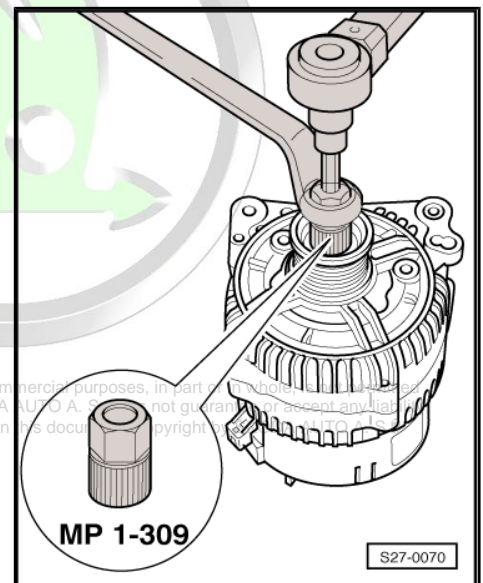
#### Installing

Installation is performed in the reverse order, while paying attention to the following:

- Screw V-ribbed belt pulley onto the alternator shaft by hand as far as possible.

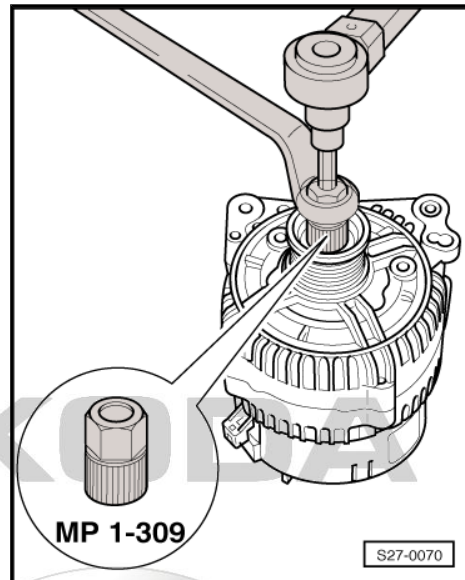
The torque wrench must be modified as follows for assembly of the V-ribbed belt:

- Release socket drive -1- and pull off grip -2-.
- Turn the handle piece -2- by 180° and fit socket insert -1- again.
- Set turning direction of torque wrench to anti-clockwise at socket insert.





- Insert Torx screwdriver socket into the alternator shaft.
- Counterhold polygon-head adapter - MP 1-309 (3400)- with ring spanner (width across flats 17).
- Tighten V-ribbed belt pulley by rotating the alternator shaft to the left with torque wrench .



**Specified torques**

Component	Tightening torque
V-ribbed belt pulley to alternator shaft	80 Nm

**2.4.4 Removing and installing the decoupler pulley with free wheel**

**General description**

Depending on equipment, different decoupler pulleys with free-wheel are installed.

Before removing, you must check which special tool to use to remove the installed decoupler pulley with freewheel.

**Differentiating the decoupler pulleys with free wheel** by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability for the correctness of information in this document. Copyright by ŠKODA AUTO A. S.

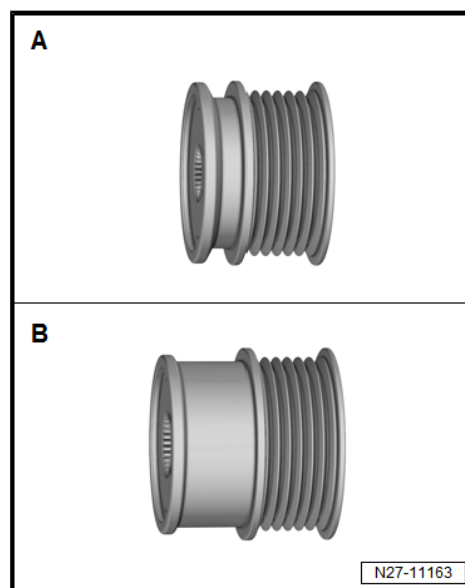
-A- Small decoupler pulley with freewheel – as special tool, use the polygon-head adapter - T10474-

-A- Large decoupler pulley with freewheel – as special tool, use the polygon-head adapter - MP 1-309 (3400)-



**Note**

- ◆ *The length of the V-ribbed belt is different, depending on the installed decoupler pulley with freewheel.*
- ◆ *The diameter of the decoupler pulley with freewheel is different for vehicles with and without air conditioning system.*
- ◆ *Check which decoupler pulley with freewheel is installed and ensure that a V-ribbed belt of the right length is installed. Correct assignment of the V-ribbed belt → Electronic Catalogue of Original Parts “ETKA”.*



**Special tools and workshop equipment required**

- ◆ Polygon-head adapter - T10474-
- ◆ Polygon-head adapter - MP1-309 (3400)-

### Removing

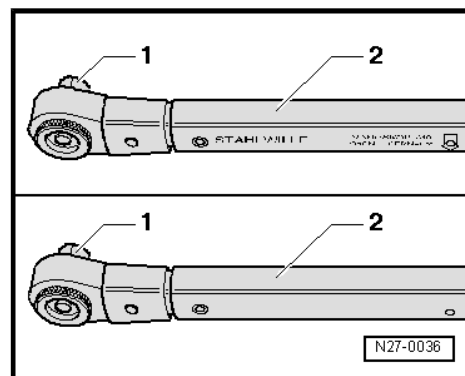
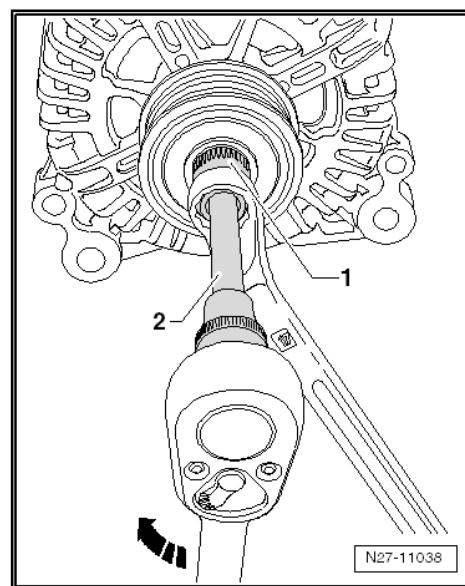
- Remove AC generator - C-  
 => "2.2 Removing and installing alternator", page 14 .
- Clamp the AC generator - C- in a vice at the attachment points.
- Remove protective cap (where there is one) from decoupler pulley with freewheel.
- Insert polygon-head adapter - T10474- or polygon-head adapter - MP 1-309 (3400)- Pos. -1- into the V-ribbed belt pulley and fit a ring spanner.
- Insert a suitable tool -2- into the alternator shaft.
- Turn alternator shaft clockwise to loosen it, counterholding with the ring spanner.
- Hold decoupler pulley with freewheel stationary with your hand and turn alternator shaft until decoupler pulley with freewheel can be removed.

### Installing

Installation is performed in a similar way in the reverse order. Pay attention to the following points:

The torque wrench must be modified for assembly of the decoupler pulley with freewheel as follows:

- Release socket drive -1- and pull off grip -2-.
- Turn torque wrench grip -2- 180° and reinsert socket drive.
- Set turning direction of torque wrench to anti-clockwise at socket drive.
- First screw V-ribbed belt pulley with freewheel onto alternator shaft by hand as far as possible.
- Insert polygon-head adapter - T10474- -1- into the decoupler pulley with freewheel and fit a ring spanner.

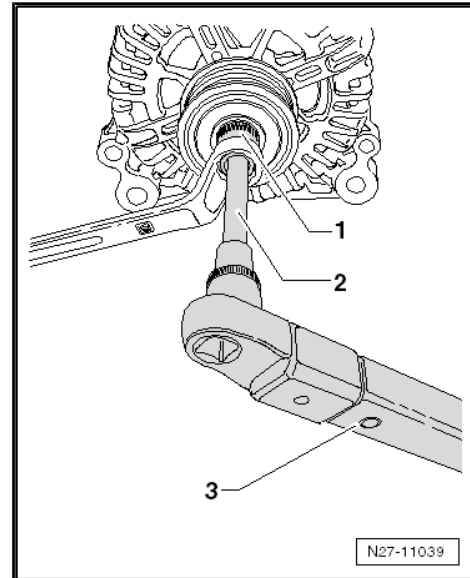


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- Insert a suitable tool -2- into the alternator shaft.
- Turn alternator shaft anti-clockwise using the torque wrench -3- to tighten the decoupler pulley with freewheel.

**Specified torques**

Component	Tightening torque
Decoupler pulley with free wheel to alternator shaft	80 Nm



**2.5 Removing and installing voltage regulator**

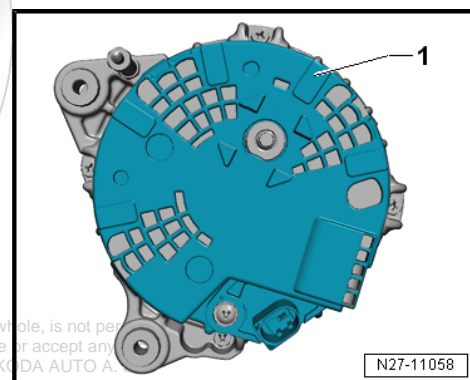
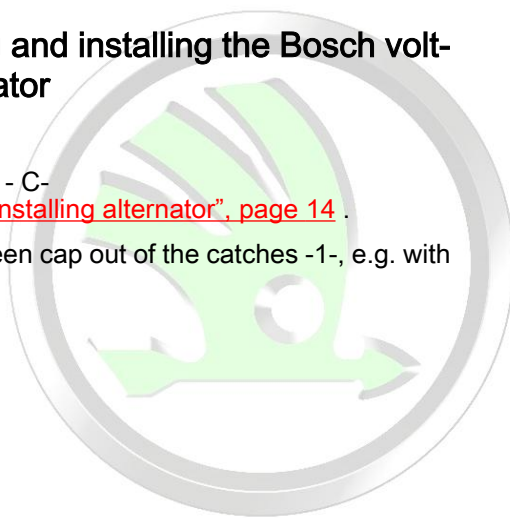
⇒ [“2.5.1 Removing and installing the Bosch voltage regulator”, page 22](#)

⇒ [“2.5.2 Removing and installing the Valeo voltage regulator”, page 23](#)

**2.5.1 Removing and installing the Bosch voltage regulator**

**Removing**

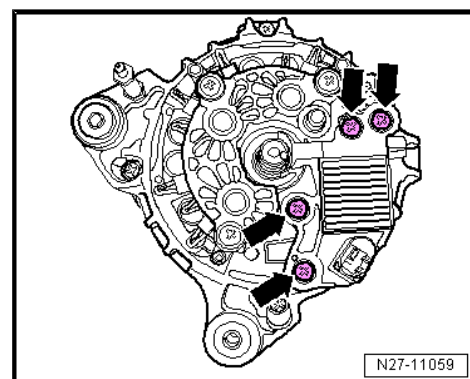
- Remove AC generator - C- ➔ [“2.2 Removing and installing alternator”, page 14](#) .
- Carefully lever the screen cap out of the catches -1-, e.g. with offset screwdriver.



- Unscrew screws -arrows- of the voltage regulator - C1- .
- Remove voltage regulator - C1- from AC generator - C- .

**Installing**

Installation is performed in the reverse order, while paying attention to the following:



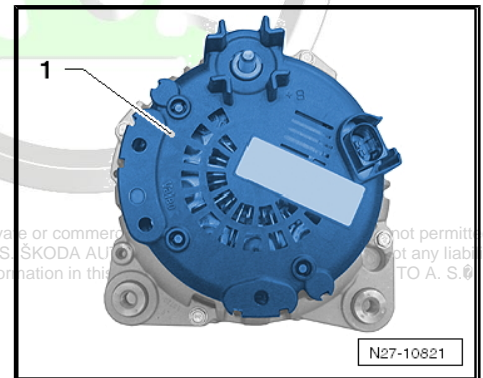
### Specified torques

Component	Tightening torque
Screws of the voltage regulator - C1-	2 Nm

## 2.5.2 Removing and installing the Valeo voltage regulator

### Removing

- Remove AC generator - C-  
⇒ [“2.2 Removing and installing alternator”, page 14](#) .
- Carefully lever screen cap -1- off the AC generator - C- .

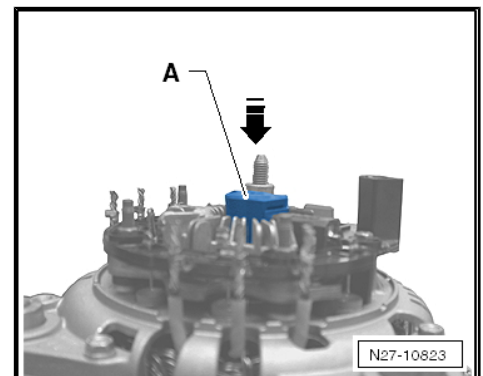
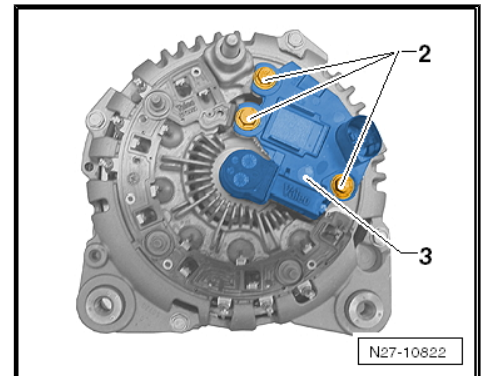


- Unscrew screws -2- of voltage regulator - C1- -3-.
- Remove voltage regulator - C1- -3- from AC generator - C- .

### Installing

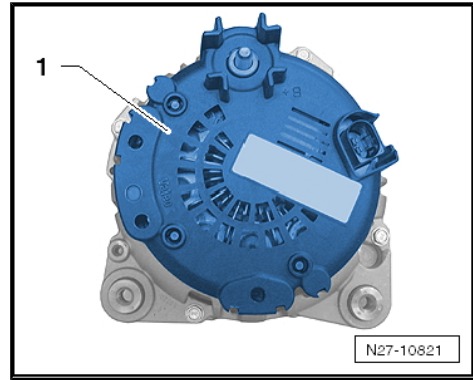
Installation is performed in the reverse order, while paying attention to the following:

- Install voltage regulator - C1- .
- Press the screen cap of the carbon brushes -A- down -arrow- until it is flush with the voltage regulator housing.





- Attach new screen cap -1- of the AC generator - C- .



**Specified torques**

Component	Tightening torque
Screws of the voltage regulator - C1-	4 Nm

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### 3 Starter

⇒ [“3.1 Assembly overview - starter”, page 25](#)

⇒ [“3.2 Removing and installing starter”, page 26](#)

#### 3.1 Assembly overview - starter

⇒ [“3.1.1 Assembly overview - starter, vehicles with manual gear-box”, page 25](#)

⇒ [“3.1.2 Assembly overview - starter, vehicles with 7-speed dual clutch gearbox 0CW”, page 26](#)

##### 3.1.1 Assembly overview - starter, vehicles with manual gearbox

###### 1 - Starter - B-

- ❑ Removing and installing  
⇒ [“3.2.1 Removing and installing the starter - vehicles with manual gear-box”, page 26](#)

###### 2 - Double screw

- ❑ 80 Nm

###### 3 - Earth cable

- ❑ Depends on equipment

###### 4 - Nut

- ❑ Depends on equipment
- ❑ 20 Nm

###### 5 - Electrical plug connection

###### 6 - Nut

- ❑ 20 Nm

###### 7 - Cap

###### 8 - Terminal 30/B+

###### 9 - Nut

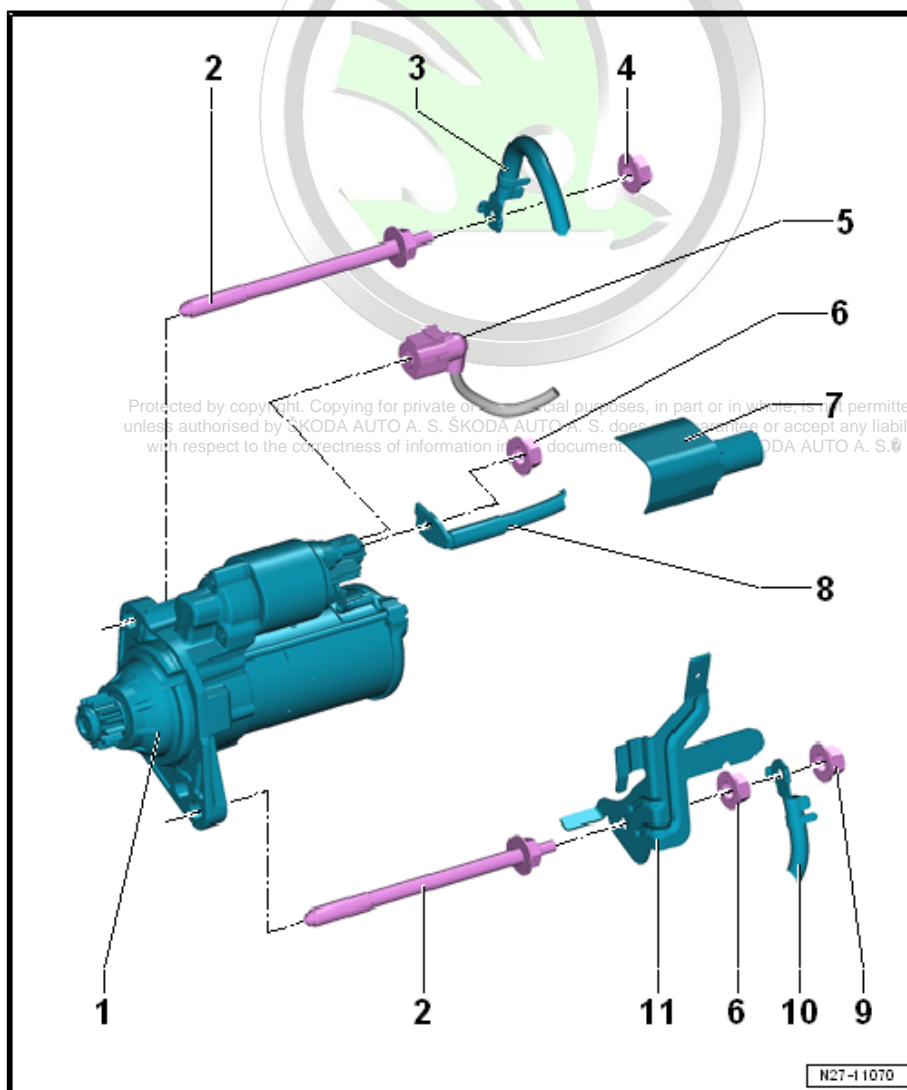
- ❑ Depends on equipment
- ❑ 20 Nm

###### 10 - Earth cable

- ❑ Depends on equipment

###### 11 - Mounting bracket

- ❑ for wiring loom



### 3.1.2 Assembly overview - starter, vehicles with 7-speed dual clutch gearbox 0CW

#### 1 - Starter - B-

- ❑ Removing and installing  
⇒ [“3.2.2 Removing and installing the starter - vehicles with 7-speed dual clutch gearbox 0CW”](#), page 28

#### 2 - Double screw

- ❑ 80 Nm

#### 3 - Earth cable

- ❑ Depends on equipment

#### 4 - Nut

- ❑ Depends on equipment
- ❑ 20 Nm

#### 5 - Electrical plug connection

#### 6 - Nut

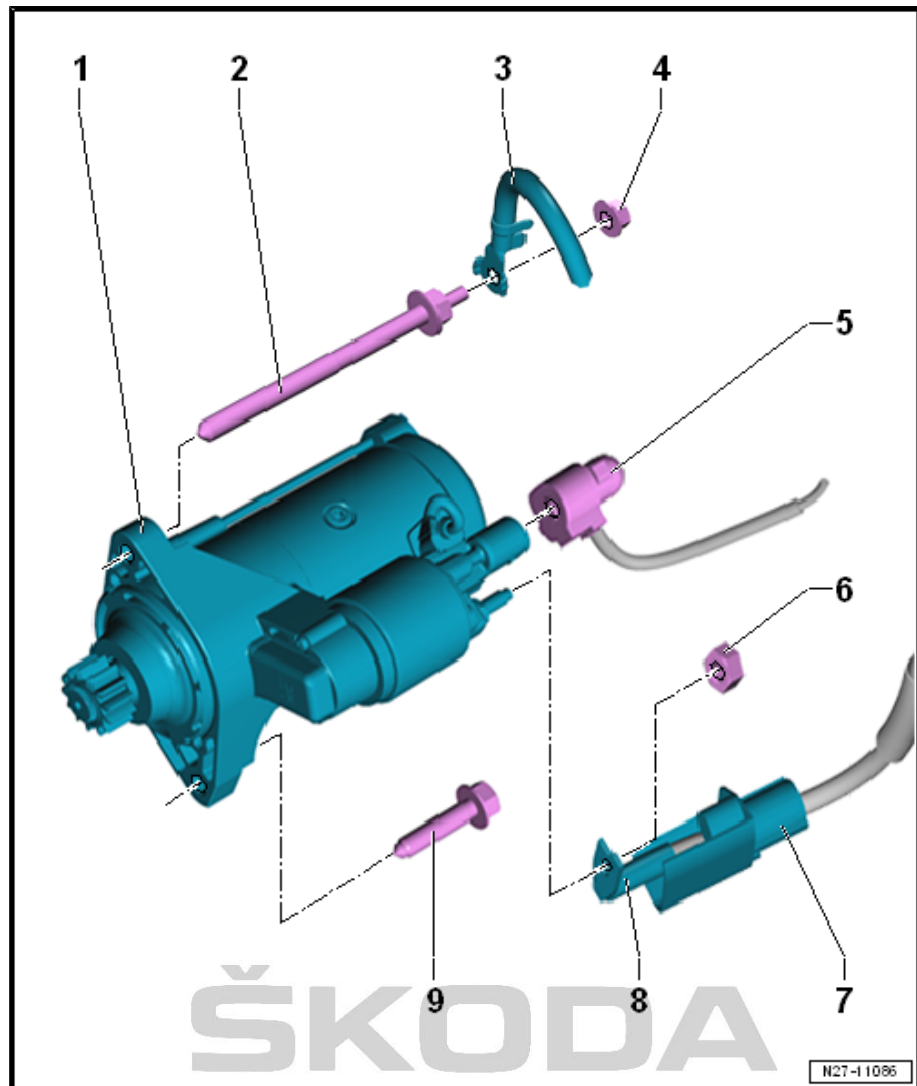
- ❑ 20 Nm

#### 7 - Cap

#### 8 - Terminal 30/B+

#### 9 - Screw

- ❑ 80 Nm



## 3.2 Removing and installing starter

⇒ [“3.2.1 Removing and installing the starter - vehicles with manual gearbox”](#), page 26

⇒ [“3.2.2 Removing and installing the starter - vehicles with 7-speed dual clutch gearbox 0CW”](#), page 28

### 3.2.1 Removing and installing the starter - vehicles with manual gearbox

#### Removing

- Disconnect battery earth strap  
⇒ [“1.3.1 Disconnect battery”](#), page 8 .
- Remove the noise insulation ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Summary of components - noise insulation .

Vehicles with air filter housing above the starter:

- Remove air filter housing

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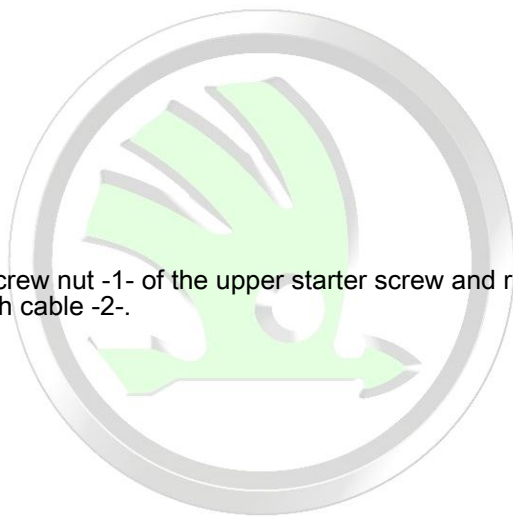
⇒ Rep. gr. 23 ; Air filter; removing and installing air filter housing Diesel engines and/or

⇒ Rep. gr. 24 ; Air filter; removing and installing air filter housing Petrol engines.

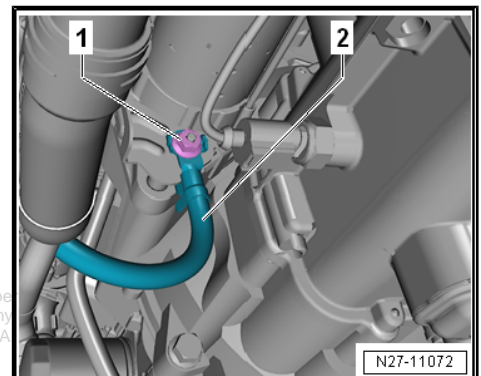
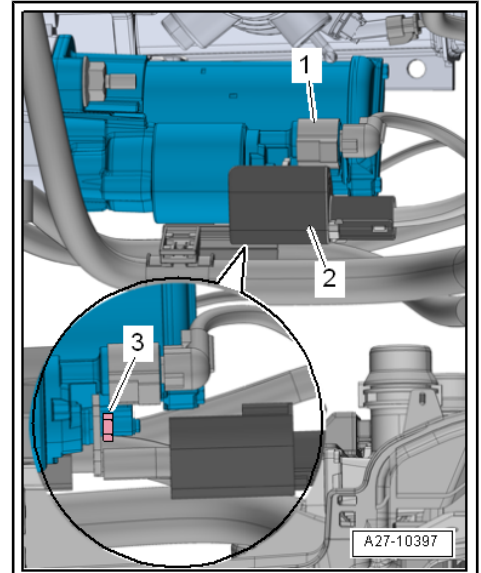
Continued for all vehicles:

- Disconnect connector -1- and push off cap -2-.
- Unscrew nut -3- and detach terminal 30/B+.

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- If built-in, unscrew nut -1- of the upper starter screw and remove the earth cable -2-.



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- Unscrew nuts -4- and remove bracket -1- for wiring harness.



**Note**

*The electric cables remain connected.*

- Unscrew bolts -2- and -5- and remove the starter by moving it downwards.

**Installing**

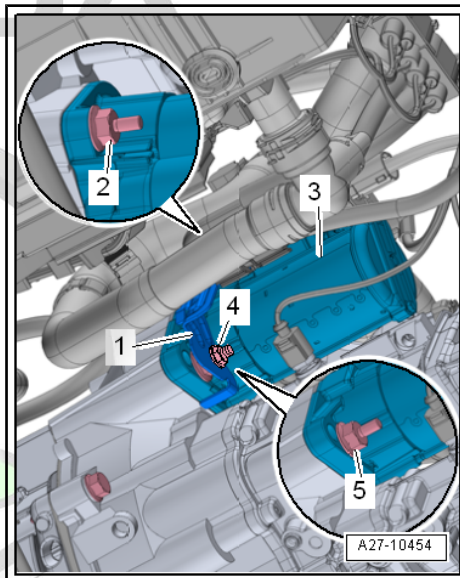
Installation is performed in the reverse order, pay attention to the following points:



**Caution**

**Risk of damaging lines, short-circuit and fire.**

**The cable to terminal B+ must be laid and attached so that it does not come into contact with rotating or moving parts of the assembly (e.g. with the shift mechanism, with rotating parts of the assembly etc.)!**



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- Follow the work procedure when connecting the battery ⇒ [“1.3 Disconnecting and reconnecting battery”, page 8](#).

**Specified torques**

- ♦ ⇒ [“3.1.1 Assembly overview - starter, vehicles with manual gearbox”, page 25](#)

### 3.2.2 Removing and installing the starter - vehicles with 7-speed dual clutch gearbox 0CW

**Removing**

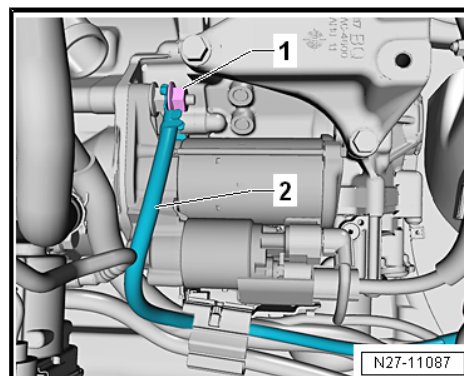
- Disconnect battery earth strap ⇒ [“1.3.1 Disconnect battery”, page 8](#).

Vehicles with air filter housing above the starter

- Remove air filter housing
  - ⇒ Rep. gr. 23 ; Air filter; removing and installing air filter housing Diesel engines and/or
  - ⇒ Rep. gr. 24 ; Air filter; removing and installing air filter housing Petrol engines.

Continued for all vehicles

- Unscrew nut -1- of the upper starter screw and remove the cable -2-.






- Disconnect plug connection -4-.
- Press off cap -5-.
- Unscrew nut -6- and detach terminal 30/B+.
- Unscrew bolts -1- and -2- and remove the starter -3- by moving it upwards.

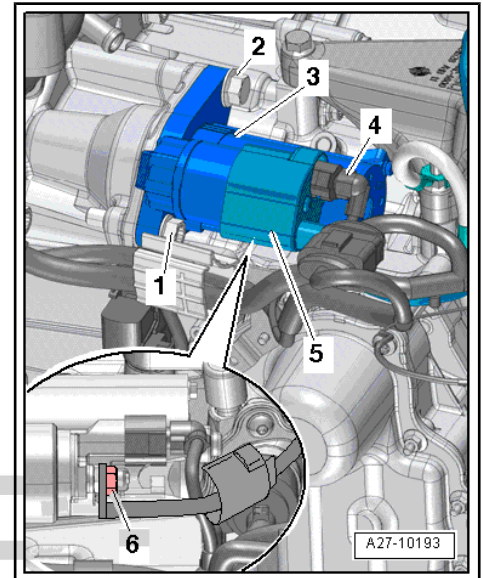
### Installing

Installation is performed in the reverse order, pay attention to the following points:

 **Caution**

*Risk of damaging lines, short-circuit and fire.*

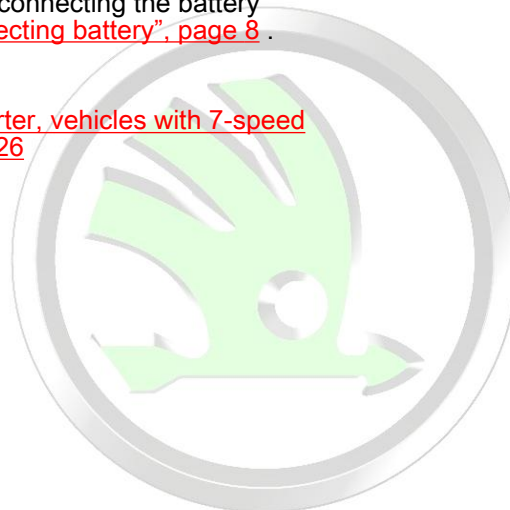
*The cable to terminal B+ must be laid and attached so that it does not come into contact with rotating or moving parts of the assembly (e.g. with the shift mechanism, with rotating parts of the assembly etc.)!*



- Follow the work procedure when connecting the battery  
⇒ [“1.3 Disconnecting and reconnecting battery”, page 8](#).

### Specified torques

- ◆ ⇒ [“3.1.2 Assembly overview - starter, vehicles with 7-speed dual clutch gearbox 0CW”, page 26](#)



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## 4 Cruise control system (CCS)

⇒ **"4.1 CCS design", page 30**

### 4.1 CCS design

The engine control unit controls the function of the CC on vehicles which have a cruise control.

#### Fault recognition and fault display

Faults from the Cruise control system are transmitted via the engine control unit.

Detailed description of the function ⇒ Karoq Owner's manual .

For fault finding use:

- ◆ ⇒ Vehicle diagnostic tester in the function "Targeted fault finding".
- ◆ ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.

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## 5 start-stop system

⇒ **“5.1 General description - Start-stop system”, page 31**

### 5.1 General description - Start-stop system

Detailed description of the function as well as conditions for the operation of the start-stop system see:

- ◆ ⇒ Self-study programme No. 86 ; Start-stop system in Škoda vehicles
- ◆ ⇒ Karoq Owner’s Manual

Connection diagram of the start-stop system ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.

#### Note

- ◆ *The components adapted for the start-stop system are not specifically designated and differ only slightly from the usual components (e.g. starter, generator).*
- ◆ *When carrying out repairs, pay attention to the correct designation of the spare parts see ⇒ Electronic Catalogue of Original Parts“ETKA”.*

#### Fault recognition and fault display

For fault finding use the ⇒ Vehicle diagnostic tester in the function “Targeted fault finding”.

#### When recharging or jump start on vehicles with start/stop system, observe the following:

Do not disconnect the earth strap of the battery when recharging.

First of all connect to the positive terminals using the charge or jump leads; then connect to the body mass (do not connect to the negative terminal of the battery).

#### Note

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*Test and charging procedure for the battery “Electrical System General notes” ⇒ Electrical System - General notes; Rep. gr. 27. If a note cannot be accessed, open the Workshop Manual “Electrical System - General Notes” manually in “ELSA”.*

#### Replacing the battery on vehicles with battery monitoring control unit - J367-

Owing to their greater cycle stability during cold starting, a fleece battery (AGM) or a battery with magic eyes with EFB technology (Enhanced Flooded Battery) is used as a start battery in place of the usual lead-acid batteries.

#### Note

*When replacing the battery, only install a fleece battery (AGM) or a battery with EFB technology with the same capacity (see ⇒ Electronic Catalogue of Original Parts“ETKA”).*

## 6 Adaptive Cruise Control

⇒ [“6.1 Removing and installing adaptive cruise control unit”, page 32](#)

⇒ [“6.2 Removing and installing the switch for ACC”, page 32](#)

⇒ [“6.3 Calibrate automatic distance control”, page 33](#)

### 6.1 Removing and installing adaptive cruise control unit

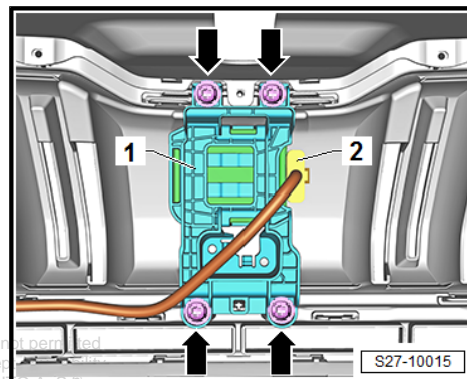


Note

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When replacing the control unit for clearance control - J428-, connect ⇒ Vehicle diagnostic tester and, in the operating mode “Targeted fault finding” or “Targeted functions”, select the function “Replace relevant control unit”.

- Switch off the ignition and all electrical components.
- Remove the front bumper ⇒ General body repairs, exterior; Rep. gr. 63 ; Front bumper; removing and installing bumper .
- Unscrew screws -2- and remove control unit -1- with retaining plate.



- Undo control unit -1- from the catch pegs, arrows -A-, swivel out in direction of arrow -B- and remove from the retaining plate -2-.
- Unlock and pull off connector -3-.

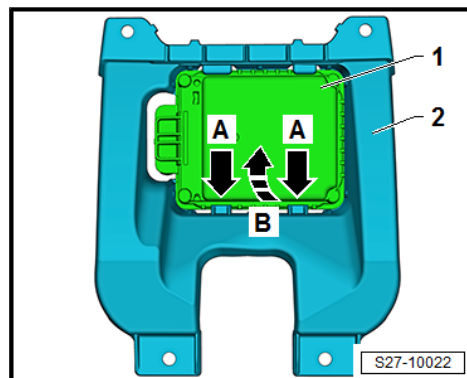
#### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Calibrate automatic distance control  
⇒ [“6.3 Calibrate automatic distance control”, page 33](#) .

#### Specified torques

Component	Tightening torque
Fixing screws for control unit for clearance control - J428-	8 Nm



### 6.2 Removing and installing the switch for ACC

The control of automatic distance control is a component part of the switch unit on the steering column and cannot be replaced separately

⇒ [“8.2 Removing and installing switch unit on the steering column”, page 109](#) .

## 6.3 Calibrate automatic distance control

### Calibration conditions

The control unit for clearance control - J428- must be calibrated for the following reasons:

- ◆ The control unit for clearance control - J428- was removed and installed/replaced.
- ◆ If there is impact on the distance regulation control module - J428- during careless assembly of the front bumper.
- ◆ If there was a damage to the front bumper caused by an accident or similar.
- ◆ The axle geometry of the rear axle was adjusted.



### Note

- ◆ *Overly horizontal adjustment of the Clearance control unit - J428- leads to the ACC/Front Assist function switching off permanently. This is indicated by the message ACC/Front Assist not available in the dash panel insert.*
- ◆ *Restricted sensor light due to sensor contamination or weather influence, Such as heavy rain, snowfall, sensor dispersion, etc., leads to temporary non-availability of ACC / Front Assist functions. This is indicated by the ACC / Front Assist: no sensor view message in the dash panel insert.*

**Work procedure for calibrating automatic distance control → Chassis, axles, steering; Rep. gr. 44 ; Automatic distance control .**

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## 90 – Gauges, instruments

### 1 Dash panel insert

⇒ [“1.1 Removing and installing dash panel insert KX2”, page 34](#)

⇒ [“1.2 Contact assignment to multi-pin connectors of dash panel insert”, page 35](#)

#### 1.1 Removing and installing dash panel insert - KX2-

##### Special tools and workshop equipment required

- ◆ Assembly device - T10389- or -3370-

##### Adjust/replace dash panel insert

⇒ Vehicle diagnostic tester connect online.

If the dash panel insert is replaced, the ⇒ Vehicle diagnostic tester must be connected before the removal of the original dash panel insert and must be confirmed in the “Replace control unit” Guided Functions of the applicable control unit. Thereby, the required values are read into the diagnostic unit from the original dash panel insert. If the original dash panel insert is not available or does not communicate with the diagnostic unit, then proceed according to the information in the ⇒ Vehicle diagnostic tester

After fitting the new dash panel insert, adapt all ignition keys.

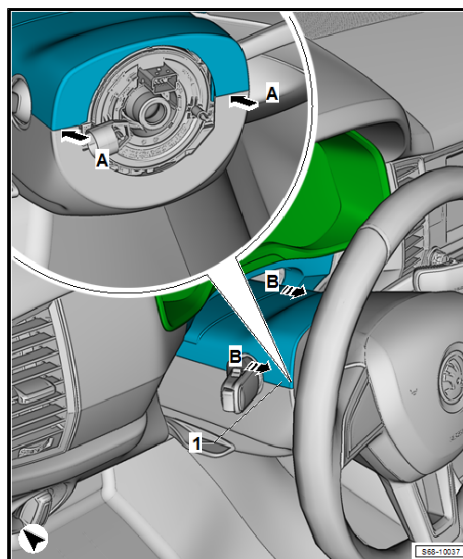


##### Note


*Vehicles with interface for access and start system (keyless start authorisation) - when teaching the keys according to the instructions in the ⇒ Vehicle diagnostic tester process.*

##### Removing

- Switch off the ignition and all electrical components.
- Pull steering wheel out fully and lock it in its lowest position.
- Lever out the top cover in the area of the arrows -A- and then remove the cover in the direction of the arrow -B-.



- Remove screws -3-.

 **Caution**

*Risk of damaging the dash panel insert.*

*Do not pull on the plate when removing the dash panel insert.*

- Insert the assembly tool - T10389- or. -3370- pos -2- into the support tabs of the dash panel insert one by one (see Fig.) and unclip the dash panel insert -1- step by step, while holding it in line for removal -arrows- (press down).
- Press the catch -5- and unlock and disconnect the plug connection -4- by tilting out the clamp -6-.

**Installing**

 **Note**

*There is one catch each on the left and right on the back of the dash panel insert. Do not add any others!*

- Attach the plug and slide in the dash panel insert until it locks into the assembly opening.
- Screw in screws -2- and install the bottom cover.

**The self-diagnostic function of the dash panel insert**

The dash panel insert is controlled by a microprocessor and features a comprehensive self-diagnosis. If faults occur in the system components, fault codes are stored in the event memory of the dash panel insert.

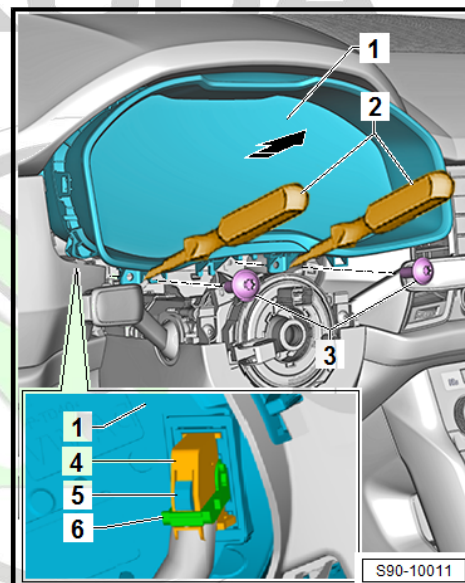
Carry out "self-diagnosis" with the => Vehicle diagnostic tester in the function "Targeted fault finding".

**Specified torques**

Component	Tightening torque
Fixing screws for dash panel insert	1.5 Nm

**1.2 Contact assignment to multi-pin connectors of dash panel insert**

For contact assignment in the connector, see => Current flow diagrams, Electrical fault finding and Fitting locations.



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## 2 Horn

⇒ "2.1 Summary of components - horn", page 36

⇒ "2.2 Removing and installing treble horn H2 / and low-tone horn H7", page 37

### 2.1 Summary of components - horn



Note

Also versions with a horn.

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1 - Mounting bracket

2 - Nut

18 Nm

3 - Nut

□ 10 Nm

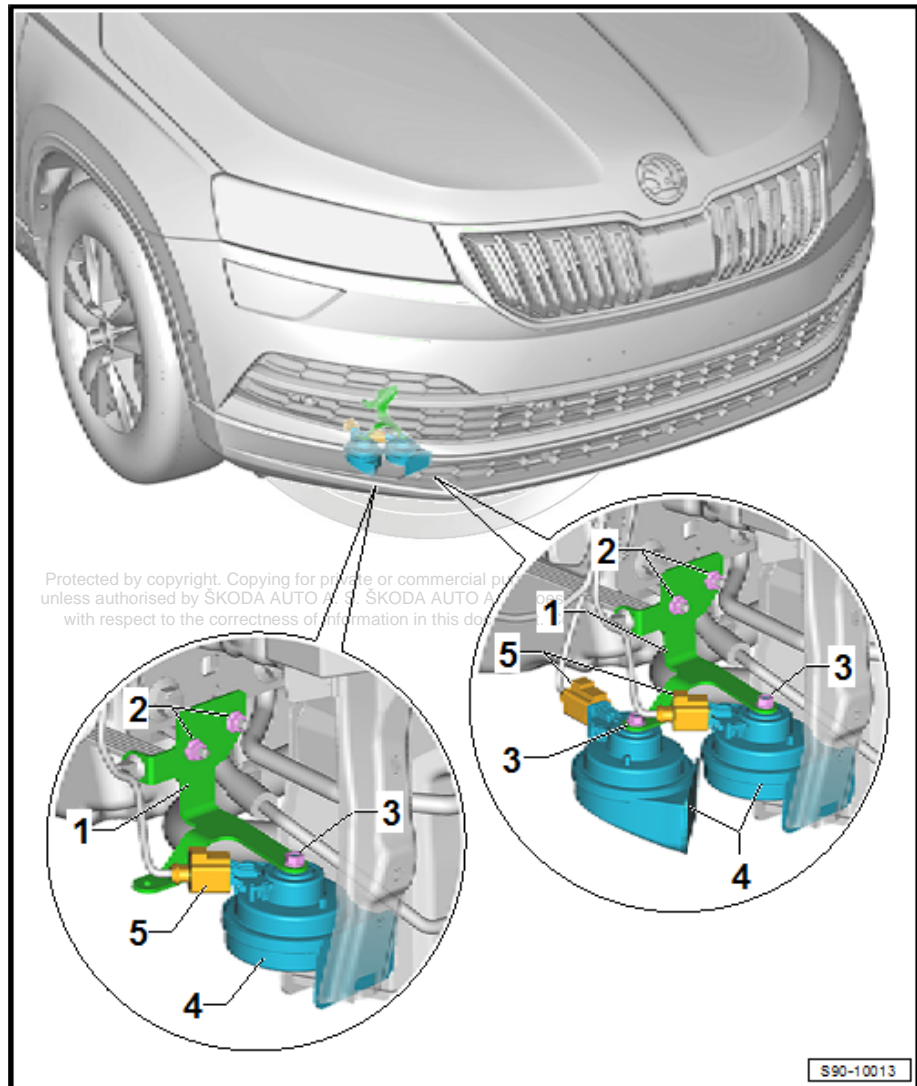
4 - Horns

□ Treble horn - H2-

□ Bass horn - H7-

□ Removing and installing  
⇒ "2.2 Removing and  
installing treble horn  
H2 / and low-tone horn  
H7", page 37

5 - Connector



## 2.2 Removing and installing treble horn - H2- / and low-tone horn - H7-



### Caution

*The tone pitch of the horn is set at the factory. It is prohibited to change this setting or to adjust the control screw!*

*If it is noticed that a screw is adjusted, the guarantee is no longer valid.*

### Removing

- Switch off the ignition and all electrical components.
- Remove the front right wheelhouse liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheelhouse liner; Removing and installing the front wheelhouse liner .

Version with two horns:

- Unscrew fixing nuts-1- and remove horn with mounting bracket, taking into account the lengths of attached wires.
- Unlock and pull off connector -2-.
- Remove nut if required, and remove alarm horn from holder.

Versions with a horn:

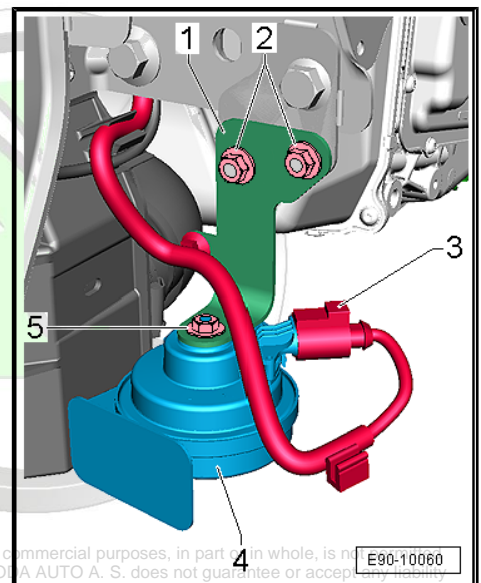
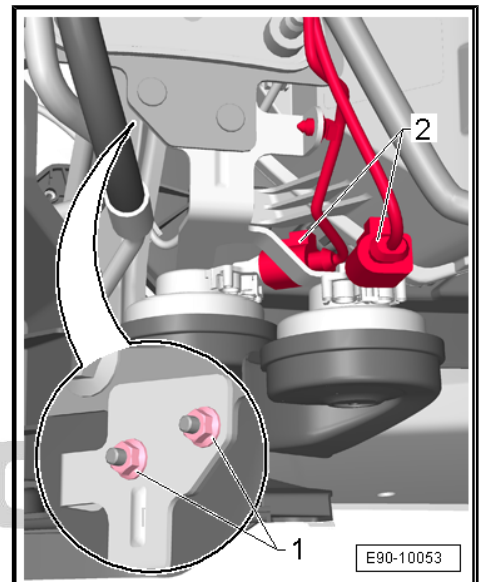
- Unscrew fixing nuts-2- and remove horn -4- with mounting bracket -1-, taking into account the lengths of attached wires.
- Remove nut if required -5-, and remove horn from holder.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

### Tightening torques and installation position of horns

- ◆ ⇒ ["2.1 Summary of components - horn", page 36](#)





## 92 – Windscreen wash/wipe system

### 1 Windscreen wiper and washer system

⇒ [“1.1 Assembly overview - windscreen wiper system”, page 38](#)

⇒ [“1.2 Set windscreen wipers to the service position”, page 40](#)

⇒ [“1.3 Removing and installing wiper blade”, page 40](#)

⇒ [“1.4 Removing and installing windscreen wiper arms”, page 41](#)

⇒ [“1.5 Adjusting windscreen wiper arms”, page 43](#)

⇒ [“1.6 Removing and installing windscreen wiper motor V”, page 44](#)

⇒ [“1.7 Removing and installing Sensor for rain and light detection”, page 45](#)

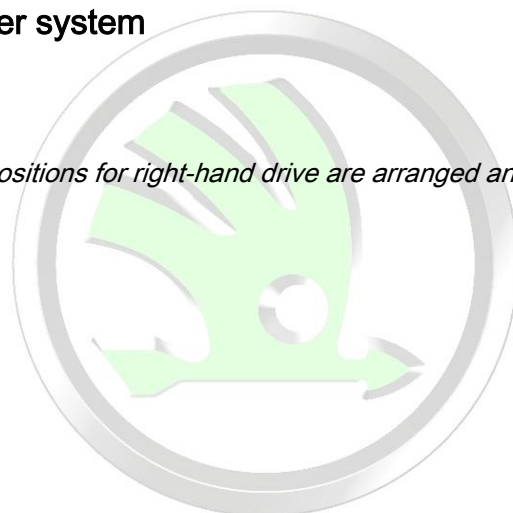
#### 1.1 Assembly overview - windscreen wiper system



##### Note

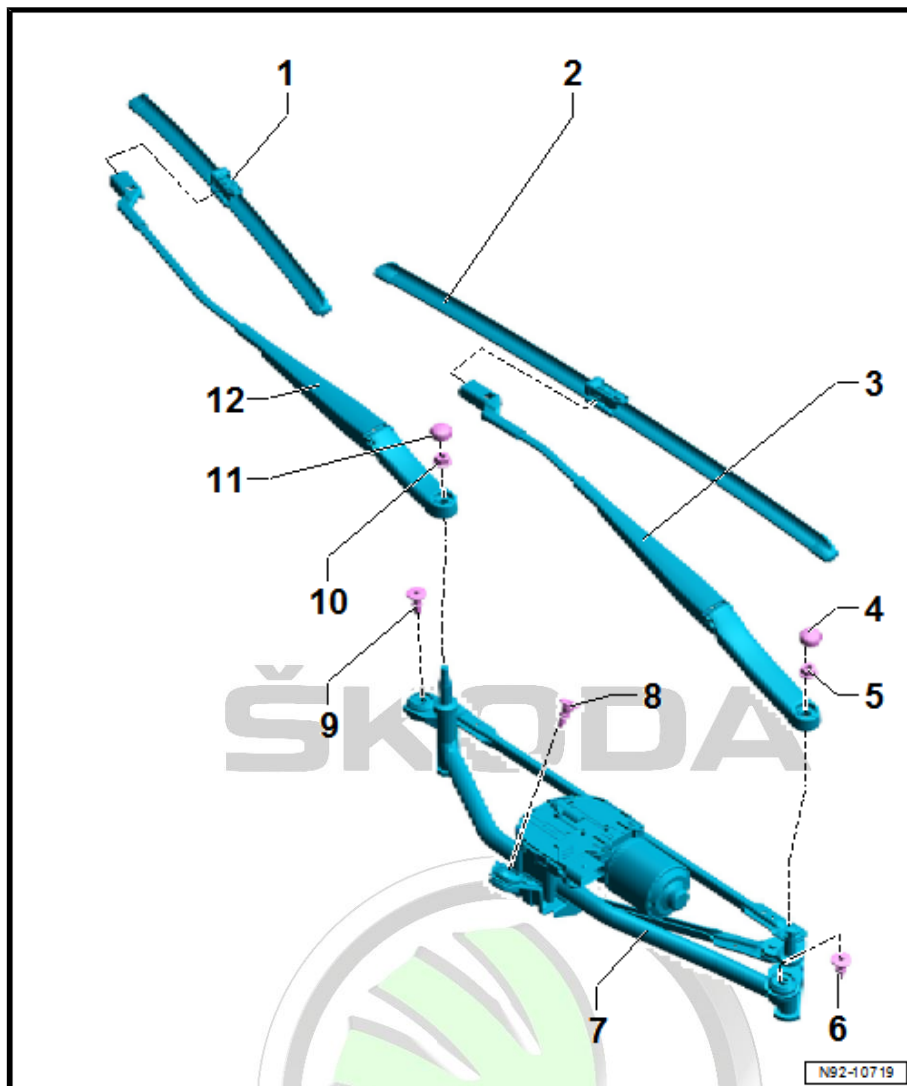
*The fitting position for left-hand drive are shown. The fitting positions for right-hand drive are arranged analogously.*

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- 1 - Wiper blade front passenger side
- 2 - Wiper blade driver's side
- 3 - Windscreen wiper arm driver's side
- 4 - Cap
- 5 - Nut
- 18 Nm
- 6 - Screw
- Tightening torque and order <sup>1)</sup>
- 7 - Wiper frame
- with windscreen wiper motor - V-
- 8 - Screw
- Tightening torque and order <sup>1)</sup>
- 9 - Screw
- Tightening torque and order <sup>1)</sup>
- 10 - Nut
- 21 Nm
- 11 - Cap
- 12 - Windscreen wiper arm front passenger side

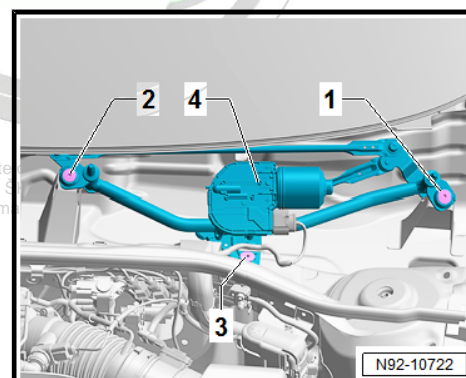


1)

#### Wiper frame- tightening torque and tightening order

– Tighten screws of the wiper frame -4- in the order as follows:

Stage	Screws	Tightening torque
1.	-1-3-	Tighten the screws by hand as far as the stop
2.	-1-3-	8 Nm





## 1.2 Set windscreen wipers to the service position



### Caution

*Risk of damage to front flap when retracting the windscreen wipers into the Basic setting.*

- ◆ *Do not move the vehicle while the windscreen wiper arms are open.*
- ◆ *When actuating the switch for the windscreen wipers or when driving above 6 km/h, the windscreen wipers automatically go back to the home position.*



### Caution

*Risk of damage to wiper blades through icing.*

*In case of frost, check whether the wiper blades are not frozen.*



### Note

*If it is necessary to switch on the wiper motor in the work instruction, the front flap must be closed completely, otherwise the voltage supply of the wiper motor is interrupted.*

- Switch on ignition and then switch off again briefly.
- Press “flick wipe” within 10 secs.
- The windscreen wipers move into the service position.

## 1.3 Removing and installing wiper blade

- Bring windscreen wipers into the service position  
⇒ [“1.2 Set windscreen wipers to the service position”, page 40](#).



### Caution

*Risk of damage to wiper blade.*


*The joint-free wipers are very flexible. When opening up the windscreen wiper blades from the windscreen, only touch them at the mounting point of the windscreen wiper blades.*

- Raise the windscreen wiper arm from the windscreen.

- Press clamp in direction of arrow -A- and unscrew wiper blade -1- from the windscreen wiper arm -2- in direction of arrow -B-.

### Installing

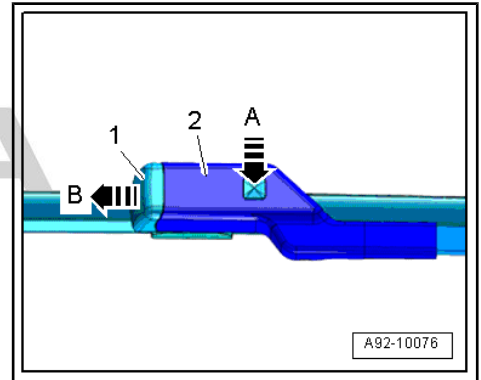
Installation is performed in the reverse order, pay attention to the following points:



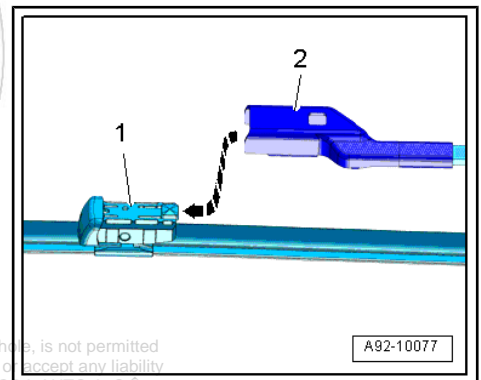
**Caution**

*Risk of damage to the bodyshell.*

*Windscreen wiper blades have different lengths on driver's and front passenger side.*



- Slide in windscreen wiper arm -1- in parallel in the windscreen wiper arm -2- until it audibly locks into place in the catch in the windscreen wiper arm -arrow-.



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## 1.4 Removing and installing windscreen wiper arms

### Note

*If the wiper motor is switched on during work, the front flap must be closed and the ignition must be switched on, otherwise the voltage supply of the wiper motor is interrupted.*

### Special tools and workshop equipment required

- ◆ Extractor for wiper arms - T10369/1-



**Caution**

*Risk of damage to the wiper arm shafts.*

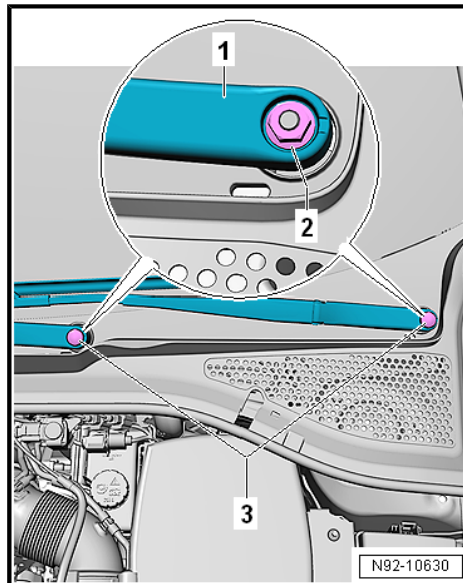
*When not using the extractor for wiper arms - T10369/1- if there is a risk of damage to windscreen wiper arms when undoing the windscreen wiper arms.*

### Removing

- Switch off the ignition and all electrical components.
- Lever off caps -3- using screwdriver.



- Unscrew the nuts -2- by a few turns.



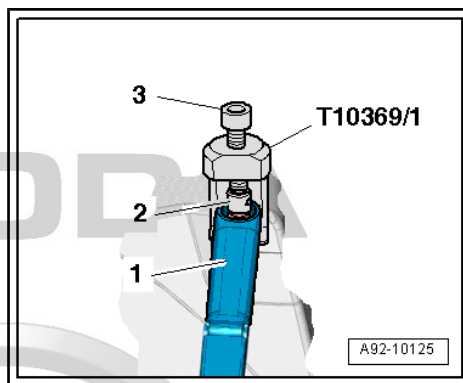
- Push the extractor for wiper arms -T10369/1-, as shown, onto the arm.



**Note**

*To release the wiper arm, always use the thrust piece -2- in order to avoid damage to the thread of the wiper motor shaft.*

- Release the wiper arm -1- from the shaft by turning the pressure screw -3-.
- Unscrew nuts and remove arms.



**Installing**

Installation is performed in the reverse order, pay attention to the following points:



**Caution**

***Risk of damage to the bodyshell!***

***The windscreen wiper arms have different lengths on driver's and front passenger side.***

- Configure wiper arms  
⇒ ["1.5 Adjusting windscreen wiper arms", page 43](#) .

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## 1.5 Adjusting windscreen wiper arms

### Note

- ◆ *When switching off for the second time, the wiper motor overruns in the offset final setting so that the wiper blade lip is controlled in the other direction.*
- ◆ *The wiper motor runs downwards and then again a little upwards. This offset final setting cannot be used to compensate for the windscreen wiper crank.*
- ◆ *The final setting must be used in which the wiper motor runs directly and without overrun in the lower final setting. If the wiper motor runs in the offset final setting, wiping must be switched on again.*
- ◆ *The function of the displaced end position can be switched off with ⇒ Vehicle diagnostic tester.*
- ◆ *The function of the offset final setting is enabled after 100 wiper cycles after switching off the end position or installing a new wiper motor. If this function is already activated, it can be determined by switching on and off the wiper motor repeatedly.*

Windscreen wiper arms removed.

- Switch on the ignition.
- Switch wiper motor on and off and run until it is in park position for setting the windscreen wiper arms.
- Switch off ignition.
- Insert windscreen wiper arms with windscreen wiper blade on to shafts.
- Adjust the windscreen wiper arms with the windscreen wiper blade mounted as follows:

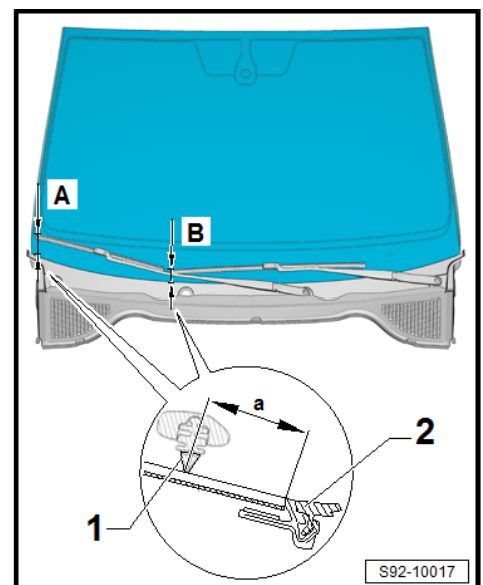
The distance -a- between the tip of the wiper blade -1- and the top edge of the water box cover -2- must be as follows:

- ◆ Driver's side, dimension -B- = 30 mm
- ◆ Passenger side, dimension -A- = 56 mm

### Note

*The tolerance of the specified values -A- and -B- is 4 mm.*

- Slightly tighten fixing nuts.
- Operate the flick wipe and check again or correct the setting of the wiper arms.
- Tighten securing nuts.

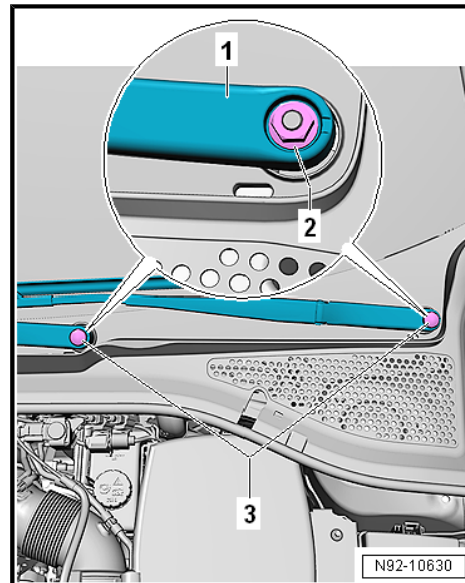




- Press the caps-3- onto the nuts -2-.

**Specified torques**

- ◆ ⇒ [“1.1 Assembly overview - windscreen wiper system”, page 38](#)



**1.6 Removing and installing windscreen wiper motor - V-**



**Note**

When replacing the windscreen wiper motor - V- with wiper motor control unit - J400- , connect the ⇒ Vehicle diagnostic tester and, in the “Targeted fault finding” operating mode, select the function “Replace control unit” for the corresponding control unit.

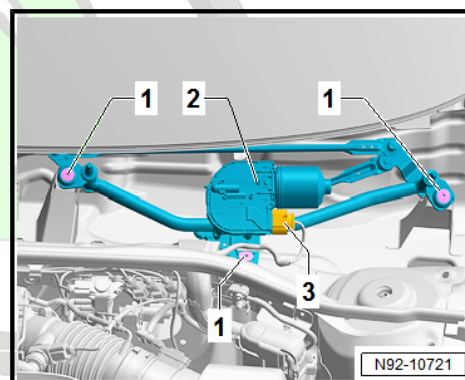
**Removing**

- Switch off the ignition and all electrical components.
- Remove wiper arms with wiper blades  
⇒ [“1.4 Removing and installing windscreen wiper arms”, page 41](#) .
- Remove plenum chamber cover on driver's side ⇒ General body repairs, exterior; Rep. gr. 50 ; Bulkhead; Removing and installing plenum chamber cover .
- Remove screws -1-.
- Insert wiper motor with linkage -2-into the plenum chamber.
- Disconnect plug connection -3-.

**Installing**

Installation is performed in the reverse order, pay attention to the following points:

- Configure wiper arms  
⇒ [“1.5 Adjusting windscreen wiper arms”, page 43](#) .



**Specified torques**

- ◆ Wiper frame- tightening torque and tightening order  
⇒ [page 39](#) .

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## 1.7 Removing and installing Sensor for rain and light detection

⇒ [“1.7.1 Removing and installing Sensor for rain and light detection”, page 45](#)

⇒ [“1.7.2 Repairing the humidity, rain and light detection sensor - made by TRW”, page 47](#)

⇒ [“1.7.3 Repairing the humidity, rain and light detection sensor - made by Valeo”, page 48](#)

### 1.7.1 Removing and installing Sensor for rain and light detection

Different sensor variants are installed for different versions (see ⇒ ETKA - “Electronic Catalogue of Original Parts” )

- ◆ Air humidity, rain and light detector sensor - G823-
- ◆ Humidity sender - G355-

#### Removing



#### Note

*To facilitate removal, turn the mirror as necessary.*

- Switch off the ignition and all electrical components.
- Remove sensor covers and interior mirror ⇒ General body repairs, interior; Rep. gr. 68 ; Interior mirror; Removing and installing interior mirror .
- Release retaining clip -1- -arrow-.



#### Note

*Observe a waiting time of at least 1 minute after releasing the retaining clip. This slackens the silicone layer.*

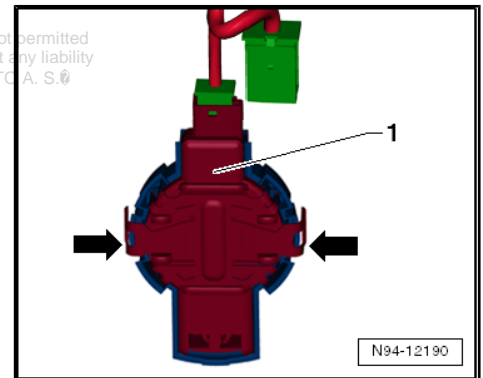


#### Caution

*If the air humidity, rain and light detection sensor can be removed from the retaining plate on the windscreen (e.g. when changing the windscreen) without damaging the coupling cushion, it can be installed again subsequently. Store the removed sensor dust-free until it is installed again and make sure that the silicone coupling cushion does not get dirty.*

*In most cases, the sensor cannot be removed without damaging the coupling cushion. The coupling cushion must then be replaced before reinstallation*

⇒ [“1.7.2 Repairing the humidity, rain and light detection sensor - made by TRW”, page 47](#) or  
⇒ [“1.7.3 Repairing the humidity, rain and light detection sensor - made by Valeo”, page 48](#) .





- Carefully lever the humidity, rain and light detection sensor Pos. -2- out of the retaining frame from above starting at the front windscreen.
- Unlock and pull off connector -1-.

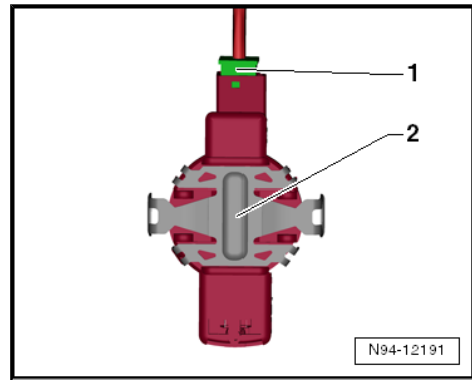
### Installing

Installation is performed in the reverse order, pay attention to the following points:



#### Caution

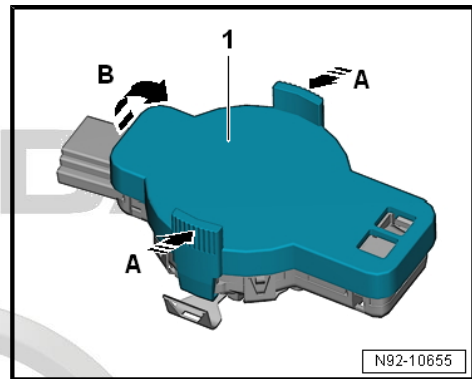
- ◆ **Thoroughly clean the windscreen inside the retaining plate with e.g. isopropyl (technical alcohol).**
- ◆ **The surface (coupling cushion) of the sensor must not get dirty or damaged when installing. If damaged, repair the sensor see**  
 ⇒ ***“1.7.2 Repairing the humidity, rain and light detection sensor - made by TRW”, page 47*** or  
 ⇒ ***“1.7.3 Repairing the humidity, rain and light detection sensor - made by Valeo”, page 48*** .
- ◆ **There are several variants of sensors (depending on equipment). Ensure that the correct component is used for replacement, see ⇒ Electronic Catalogue of Original Parts “ETKA”.**



#### Note

*If the surface (coupling cushion) of the sensor is dirty, it can be cleaned, if necessary, by sticking on one or several adhesive tapes and then pulling them off again.*

- When installing, a new sensor, press the catch pegs in the direction of the arrows -A- and remove cover -1- in direction of arrow -B-.
- Mount plug.
- Insert the sensor into the retaining frame on the windscreen.



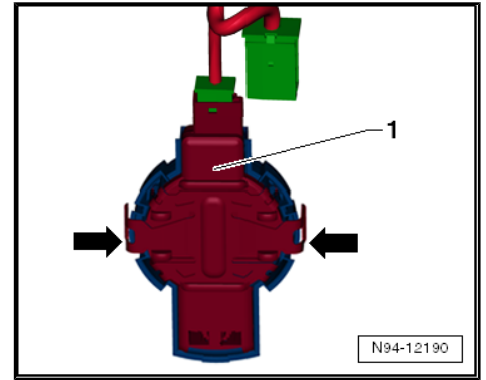


- Press retaining clip -1- on until the catches -arrows- audibly click into place.



**Note**

- ◆ *Even after correct installation of the sensor, smaller air bubbles can be present initially between the windscreen and the coupling cushion. The contact surface must be free of bubbles after approx. 10 minutes.*
  - ◆ *If the contact surface is not free of bubbles after 10 minutes, the sensor must be removed and re-installed.*
  - ◆ *Air bubbles between the windscreen and the coupling cushion cause sensor malfunctions.*
- When replacing, the new sensor must be coded with the ⇒ Vehicle diagnostic tester.



## 1.7.2 Repairing the humidity, rain and light detection sensor - made by TRW

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There are various sleeves for sensors, see ⇒ Electronic Catalogue of Original Parts "ETKA".

The sensor bushing with optical unit is also supplied with retaining clips as a spare part. These must be removed for vehicles that do not require retaining clips.

**Work procedure:**

- Remove the sensor ⇒ ["1.7 Removing and installing Sensor for rain and light detection", page 45](#).

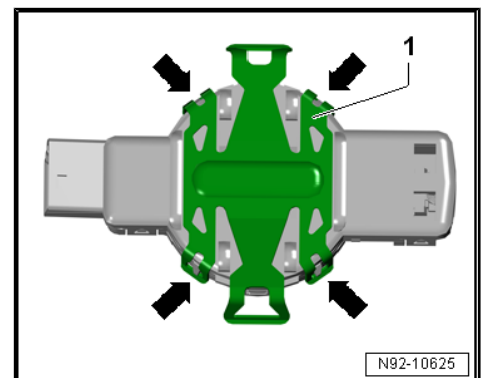


**Caution**

*Risk of damaging the sensor for rain and light detection electronics.*

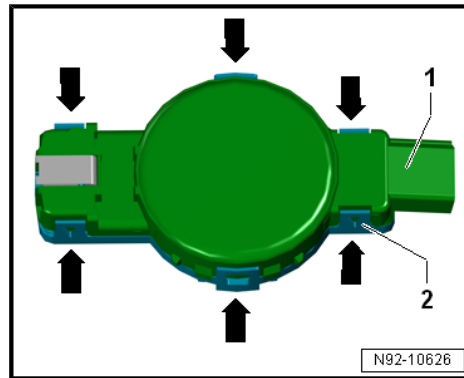
- ◆ *When disconnecting the sleeve parts, do not insert the screwdriver until the electronics of the sensor for rain and light detection.*
- ◆ *Do not touch the electronics of the sensor for rain and light detection.*

- Undo retaining tabs -arrows- with a suitable screwdriver and remove clamps -1-.

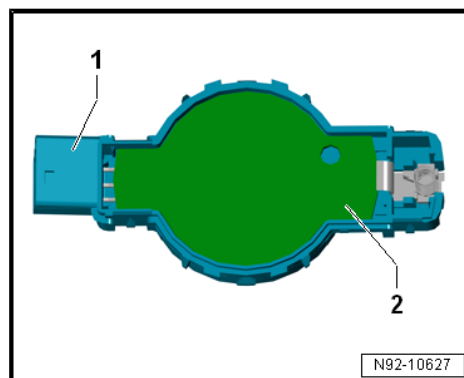




- Disconnect the upper part of the sleeve with an optical unit -1- by unlocking the retaining lugs -arrows- from the bottom part -2-.



- Remove the electronics of the sensor -2- from the old upper part -1- and insert into the new upper part.
- Lock the upper part of the sleeve with the optical unit and the protective cap to the bottom part of the sleeve.
- Install the sensor  
⇒ [“1.7 Removing and installing Sensor for rain and light detection”, page 45](#) .



### 1.7.3 Repairing the humidity, rain and light detection sensor - made by Valeo



**Note**

*The sensor bushing with optical unit is also supplied with retaining clips as a spare part. These must be removed for vehicles that do not require retaining clips.*

**Work procedure**

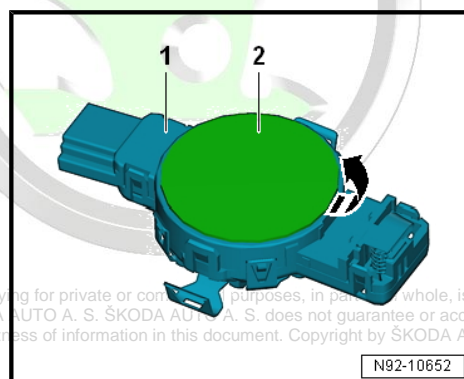
- Remove the sensor  
⇒ [“1.7 Removing and installing Sensor for rain and light detection”, page 45](#) .
- Carefully remove the silicone cushion -2- or the residues from the sensor -1-.



**Caution**

**The surface of the sensor must be completely free of foil residues.**

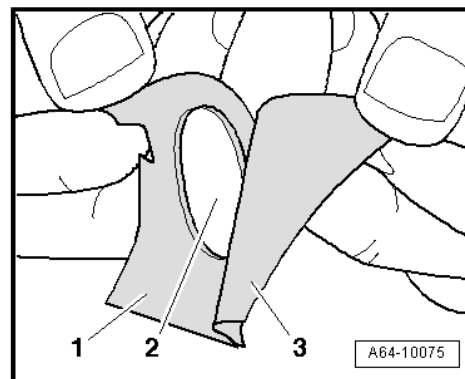
- Clean the sensor surface with cleaning solution.



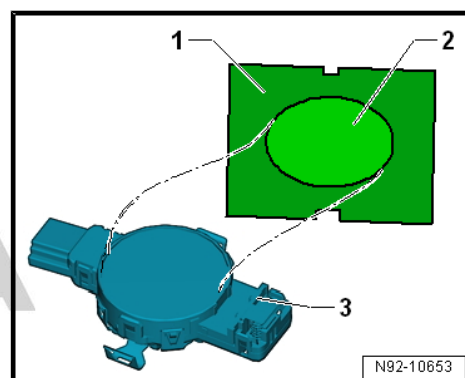
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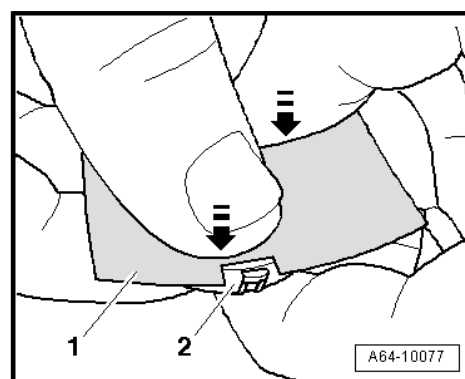
- Remove the silicone paper -3- from the cushion -2-.
- Transparent protective foil -1- stays on the cushion -2- to begin with as assembly film.



- Attach cushion -2- with the protective foil -1- on the sensor -3-.



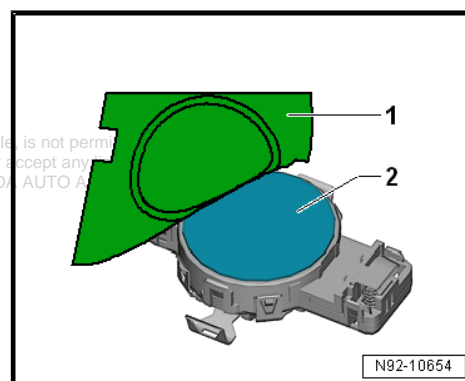
- Press the cushion onto the sensor -2- through the transparent foil -1-, so that there are no bubbles between the foil and sensor.



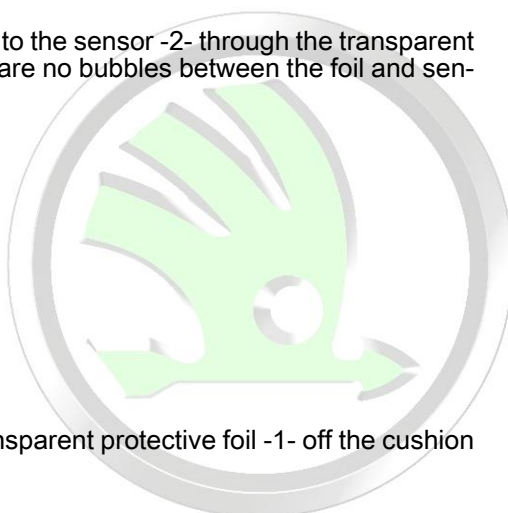
- Carefully pull the transparent protective foil -1- off the cushion -2-.

- Install the sensor

⇒ ["1.7 Removing and installing Sensor for rain and light detection", page 45](#)



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## 2 Windscreen washer system

⇒ [“2.1 Assembly overview - windscreen washer system”, page 50](#)

⇒ [“2.2 Removing and installing the washer fluid reservoir”, page 53](#)

⇒ [“2.3 Removing and installing windscreen washer fluid level sender”, page 54](#)

⇒ [“2.4 Removing and installing windscreen washer pump”, page 55](#)

⇒ [“2.5 Removing and installing washer jets”, page 55](#)

⇒ [“2.6 Adjusting spray jets”, page 56](#)

### 2.1 Assembly overview - windscreen washer system

⇒ [“2.1.1 Summary of components - windscreen washer system, washer fluid reservoir in front left wheel housing, with headlight washer system”, page 50](#)

⇒ [“2.1.2 Summary of components - windscreen washer system, washer fluid reservoir in front left wheel housing, without headlight washer system”, page 52](#)

#### 2.1.1 Summary of components - windscreen washer system, washer fluid reservoir in front left wheel housing, with headlight washer system

**1 - Spray nozzle right**

- Removing and installing  
⇒ [“2.5 Removing and installing washer jets”, page 55](#)
- Adjust  
⇒ [“2.6 Adjusting spray jets”, page 56](#)

**2 - Spray nozzle left**

- Removing and installing  
⇒ [“2.5 Removing and installing washer jets”, page 55](#)
- Adjust  
⇒ [“2.6 Adjusting spray jets”, page 56](#)

**3 - Grommet**

**4 - Water hose**

**5 - Windscreen and rear window washer pump - V59-**

- Removing and installing  
⇒ [“2.4 Removing and installing windscreen washer pump”, page 55](#)

**6 - Sealing grommet**

**7 - Nut**

- 3 units
- 8 Nm

**8 - The washer fluid reservoir**

- with windscreen washer fluid level sender - G33- , cannot be replaced individually
- Removing and installing ⇒ [“2.2 Removing and installing the washer fluid reservoir”, page 53](#)

**9 - Filler tube of the washer fluid reservoir**

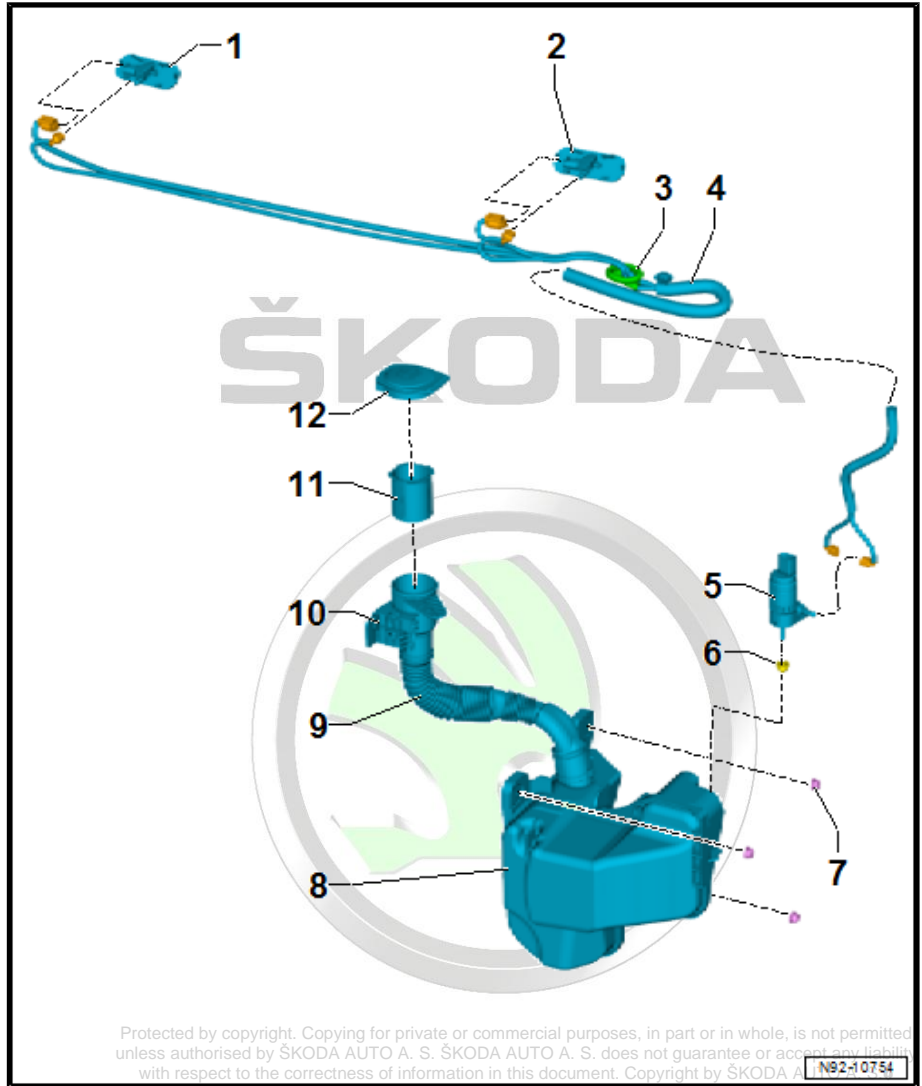
**Caution**  
*Risk of leakage.*

*May not be separated from the washer fluid reservoir.*

**10 - Filler tube of the washer fluid reservoir**

**Caution**  
*Risk of leakage.*

*May not be separated from the filler tube of the washer fluid reservoir.*





- 11 - Strainer
- 12 - Screw cap

## 2.1.2 Summary of components - windscreen washer system, washer fluid reservoir in front left wheel housing, without headlight washer system

### 1 - The washer fluid reservoir

- ❑ Removing and installing ⇒ [“2.2 Removing and installing the washer fluid reservoir”, page 53](#)

### 2 - Nut

- ❑ 3 units
- ❑ 8 Nm

### 3 - Filler tube of the washer fluid reservoir

**⚠ Caution**  
*Risk of leakage.*

*May not be separated from the washer fluid reservoir.*

### 4 - Filler tube of the washer fluid reservoir

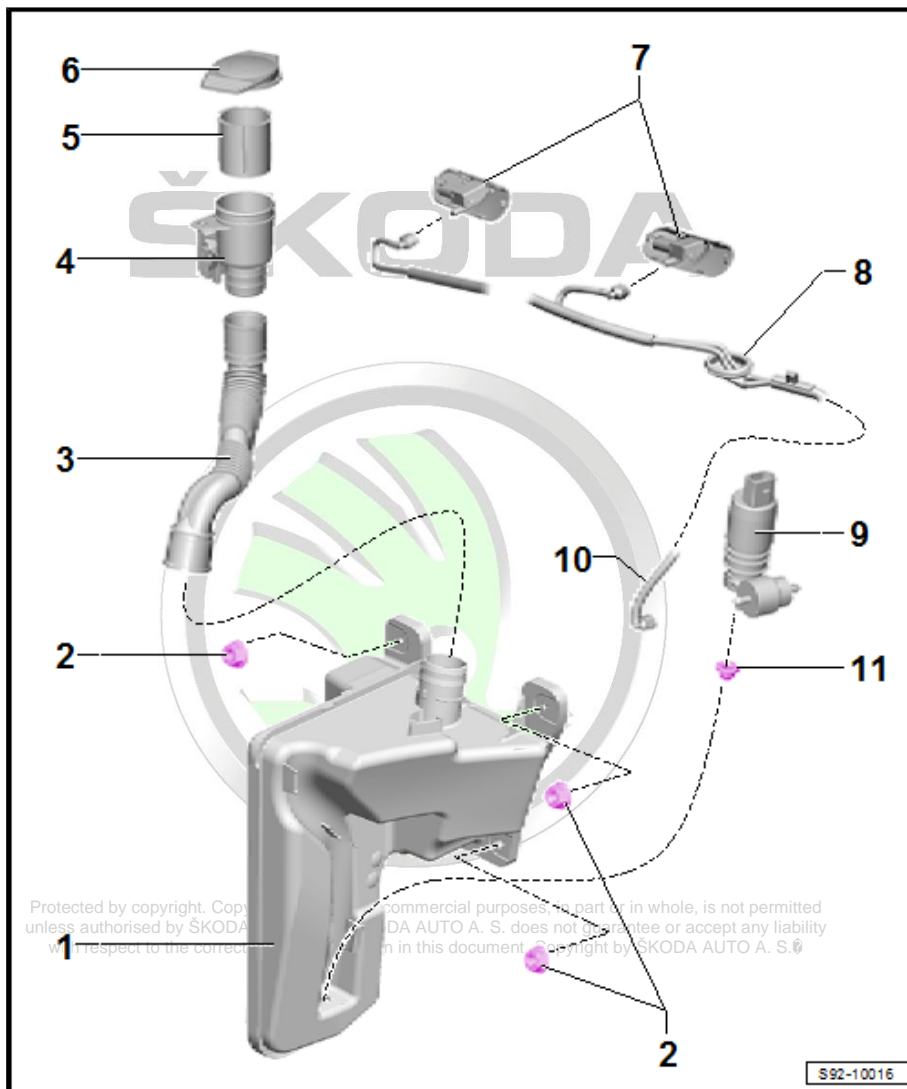
**⚠ Caution**  
*Risk of leakage.*

*May not be separated from the filler tube of the washer fluid reservoir.*

### 5 - Strainer

### 6 - Screw cap

Summary of components - windscreen washer system, washer fluid reservoir in front left wheel housing, without headlight washer system



### 7 - Spray nozzles

- ❑ Removing and installing ⇒ [“2.5 Removing and installing washer jets”, page 55](#)
- ❑ Adjust ⇒ [“2.6 Adjusting spray jets”, page 56](#)

### 8 - Sealing grommet

### 9 - Windscreen and rear window washer pump - V59-

- ❑ Removing and installing ⇒ [“2.4 Removing and installing windscreen washer pump”, page 55](#)

### 10 - Water hose

### 11 - Grommet

## 2.2 Removing and installing the washer fluid reservoir

### Removing

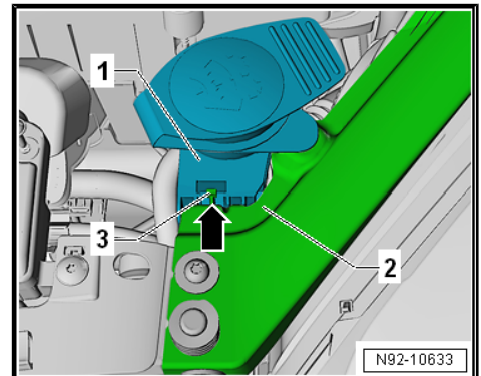


#### Note

*Depending on the version, the positions and the shape of the individual components and the hose connection can differ from the version in the illustrations. The removal and installation procedure is similar.*

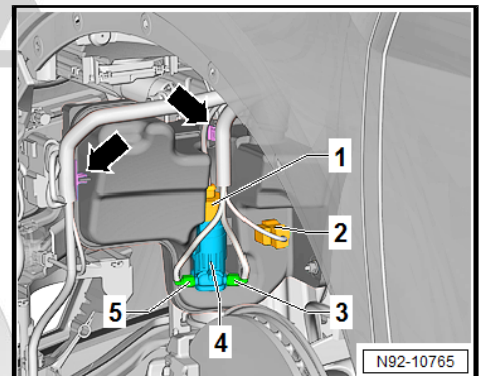
- Switch off the ignition and all electrical components.
- Remove the front left wheelhouse liner => General body repairs, exterior; Rep. gr. 66 ; Wheelhouse liner; removing and installing front wheelhouse liner .
- Place the catch pan underneath the washer fluid reservoir.
- Raise the filler neck of the reservoir -1- slightly and detach from the bearing -3- on the mounting bracket -2-.

#### Vehicles without headlight cleaning system

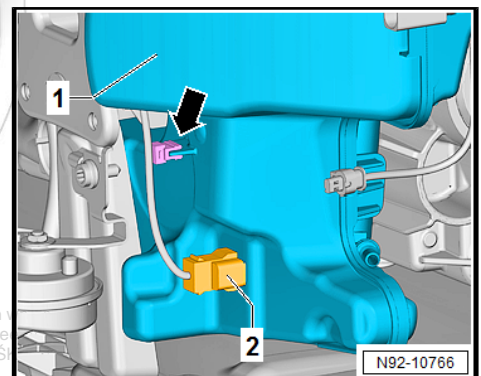


- Unlock and disconnect connectors -1- and -2-.
- Release the washer fluid lines -3- and -5- and disconnect from the pump -4-.
- Detach wiring loom from reservoir -arrows-.

#### Vehicles with headlight washer system



- Unlock and disconnect plug connection -2-.
- Disconnect wiring loom -arrow- from reservoir -1-.

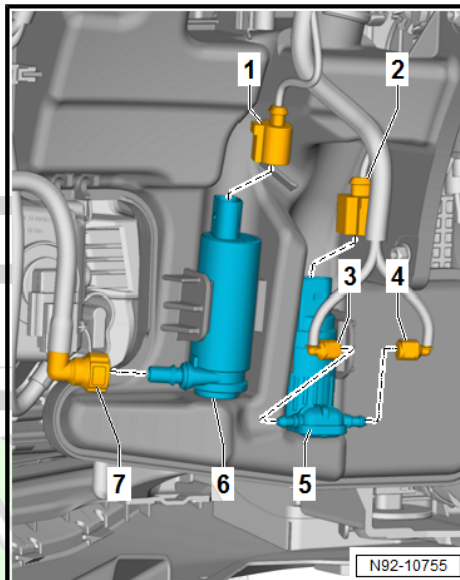


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- Unlock and disconnect connectors -1- and -2-.
- Release the washer fluid lines -3- and -4- and disconnect from the pump -5-.
- Release the washer fluid line -7- and disconnect from the pump -6-.

Continued for all vehicles



- Unscrew nuts -2- and remove washer fluid reservoir -1-. When removing, carefully guide the filler neck through the opening in the body.

**Installing**

Installation is performed in the reverse order, pay attention to the following points:

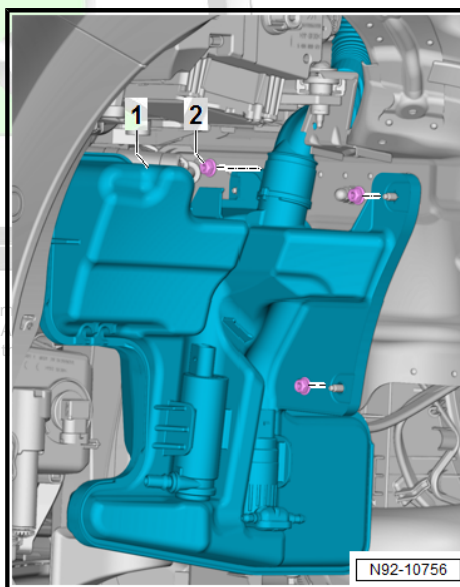
- Hoses with angled pieces must click audibly into the connections on the washer fluid pumps.



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*The connections to the pump and hose lines are colour-coded in order to prevent the washer fluid lines being incorrectly connected to the washer pump. The hose connections are always to be connected to the correspond colour-coded pump connection when installing.*



**Specified torques**

- ◆ ⇒ [“2.1 Assembly overview - windscreen washer system”, page 50](#)

**2.3 Removing and installing windscreen washer fluid level sender**



**Note**

*The windscreen washer fluid level sender - G33- can only be replaced together with the reservoir.*

Removing and installing the washer fluid reservoir  
⇒ [“2.2 Removing and installing the washer fluid reservoir”, page 53](#) .

## 2.4 Removing and installing windscreen washer pump

### Removing

- Remove the front left wheelhouse liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheelhouse liner; removing and installing front wheelhouse liner .
- Place the catch pan underneath the washer fluid reservoir.
- Unlock and pull off connector -1-.
- Release the washer fluid lines -3- and -5- and disconnect from the pump -4-.
- Push the pump -4- upwards out of the washer fluid reservoir.

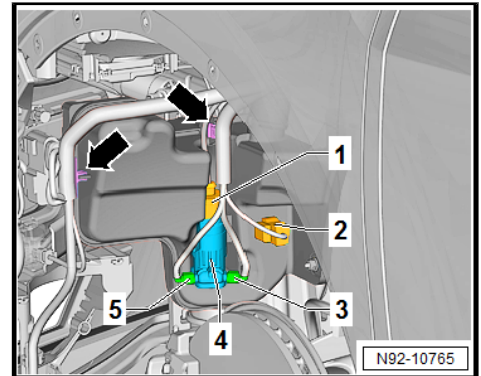
### Installing

Installation is performed in the reverse order, pay attention to the following points:

**i** Note

*The connections to the pump and hose lines are colour-coded in order to prevent the washer fluid lines being incorrectly connected to the washer pump -5-. The hose connections are always to be connected to the correspond colour-coded pump connection when installing.*

- Check sealing grommet for damage.



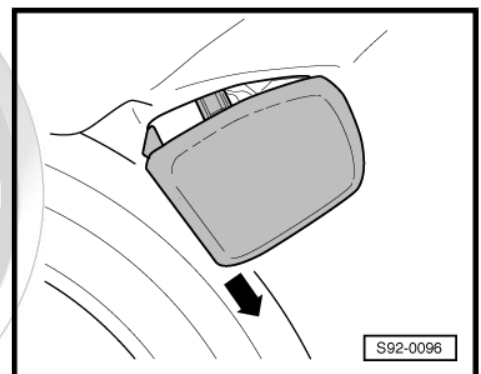
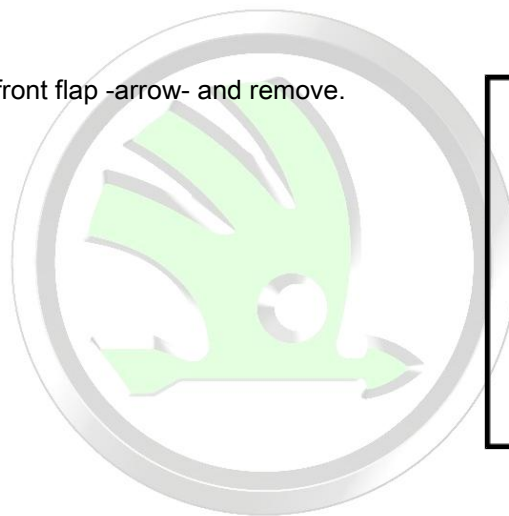
## 2.5 Removing and installing washer jets

**i** Note

*Do not use any objects for cleaning the spray nozzles. It is possible to rinse out the nozzle and then blow through it with compressed air against the direction of the spray.*

### Removing

- Tilt the nozzle out of the front flap -arrow- and remove.



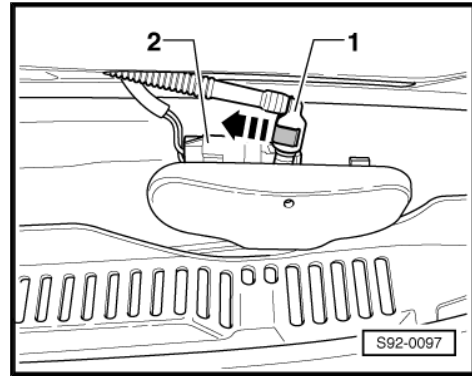


- Unplug the connector from the heated spray nozzle -2-.
- Pull out the locking clip -arrow- and separate hose with angular piece -1-.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Hoses with angled pieces must click audibly into the connections on the spray nozzles.
- Perform a functional check or adjust nozzles  
⇒ "2.6 Adjusting spray jets", page 56 .



## 2.6 Adjusting spray jets



### Caution

**Risk of damage!**

**Do not use any objects for cleaning the spray nozzles.**



### Note

*If the spray field is uneven due to impurities inside the spray nozzle, remove the spray nozzle and clean it with water against the spraying direction. Purging with compressed air against the spraying direction is then permitted. Do not use any objects for cleaning spray jets!*

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- Adjust the spray nozzles ⇒ Maintenance ; Booklet Karoq .



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### 3 Rear window wiper system

⇒ [“3.1 Assembly overview - rear window wiper system”, page 57](#)

⇒ [“3.2 Removing and installing wiper blade”, page 58](#)

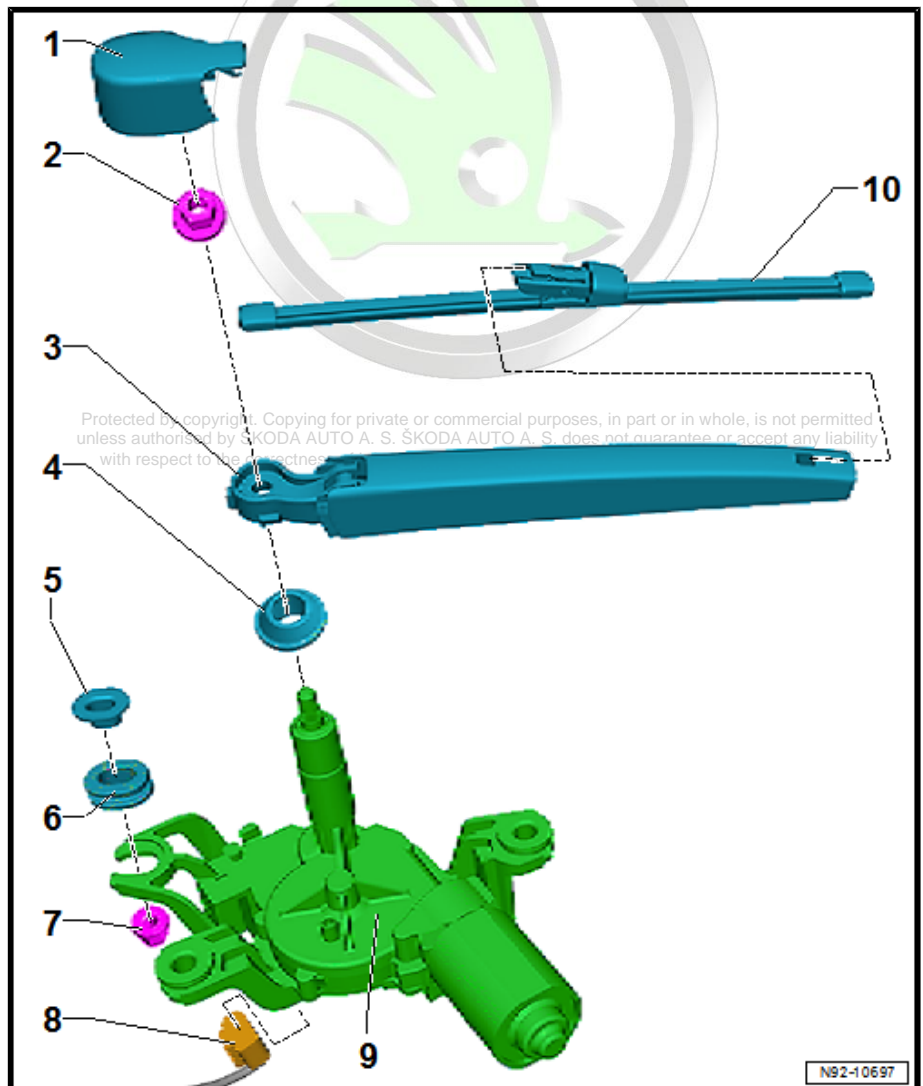
⇒ [“3.3 Removing and installing windscreen wiper arm”, page 58](#)

⇒ [“3.4 Adjusting windscreen wiper arm”, page 59](#)

⇒ [“3.5 Removing and installing rear window wiper motor V12”, page 59](#)

#### 3.1 Assembly overview - rear window wiper system

- 1 - Cap
- 2 - Nut
  - 12 Nm
- 3 - Wiper arm
  - Removing and installing, setting end position  
⇒ [“3.3 Removing and installing windscreen wiper arm”, page 58](#)
- 4 - Gasket
  - Fitting position  
⇒ [“3.4 Adjusting windscreen wiper arm”, page 59](#)
- 5 - Spacer
- 6 - Rubber ring
- 7 - M6 nut with washer
  - 8 Nm
- 8 - Connector
- 9 - Rear window wiper motor - V12-
  - Removing and installing  
⇒ [“3.5 Removing and installing rear window wiper motor V12”, page 59](#)
- 10 - Wiper blade
  - Removing and installing  
⇒ [“3.2 Removing and installing wiper blade”, page 58](#)



## 3.2 Removing and installing wiper blade

### Removing



#### Caution

**Risk of damaging the windscreen wiper blade!**

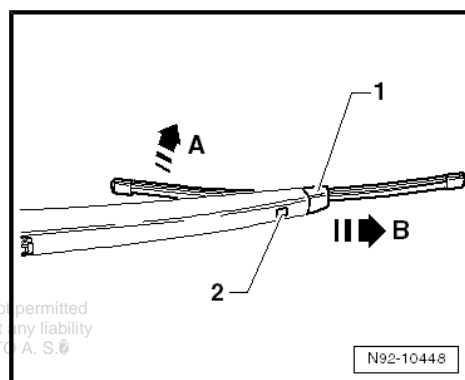
*The joint-free wipers are very flexible. When opening up the windscreen wiper blade from the rear window, only touch it at the mounting point of the windscreen wiper blade.*

- Raise the windscreen wiper arm from the rear window.
- Turn windscreen wiper blade in direction of arrow -A- from the windscreen wiper arm.
- Press the catch -2- and move the wiper blade -1- in direction of arrow -B- out of the windscreen wiper arm.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Slide in wiper blade -1- into the windscreen wiper arm until the catch audibly locks into place -2-.

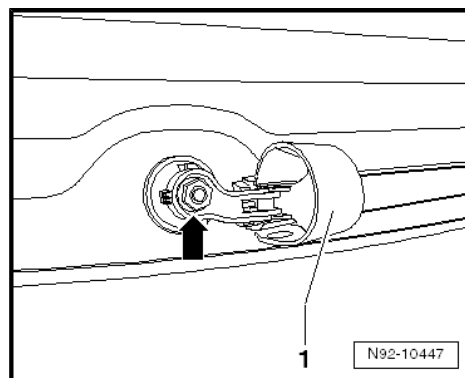


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## 3.3 Removing and installing windscreen wiper arm

### Removing

- Switch off the ignition and all electrical components.
- Unclip the cap -1- from the locking lugs and fold down.
- Screw out the nuts -arrow- a few turns so that it is in a line with the upper edge of the shaft.



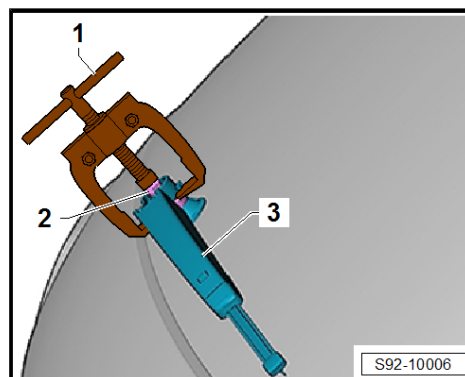
- Using a standard commercially available small two-arm extractor -1-, undo the wiper arm -2- from the shaft.
- Unscrew nut and remove wiper arm.

### Installing

Install the windscreen wiper arm and set it in the park position ⇒ [“3.4 Adjusting windscreen wiper arm”, page 59](#).

### Specified torques

- ◆ ⇒ [“3.1 Assembly overview - rear window wiper system”, page 57](#)



### 3.4 Adjusting wiper arm

#### Installing and adjusting the wiper arm

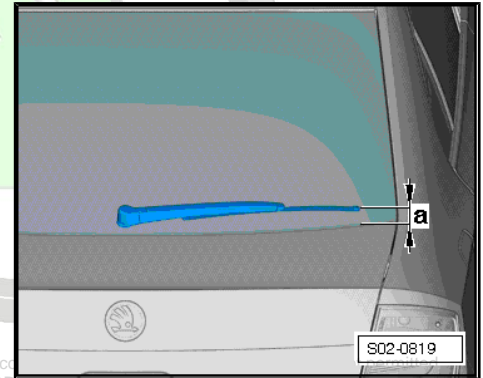
- When the ignition is switched on, switch wiper motor on and off and run until it is in park position.
- Switch off ignition.
- Position wiper arm with wiper blade and loosely secure with nuts.
- Set final position of wiper arm in accordance with the figure.

The value -a- is  $30 \pm 2$  mm.

- Tighten the fixing nuts.
- Perform a functional and setting check.

#### Specified torques

- ◆ [⇒ "3.1 Assembly overview - rear window wiper system", page 57](#)



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### 3.5 Removing and installing rear window wiper motor - V12-

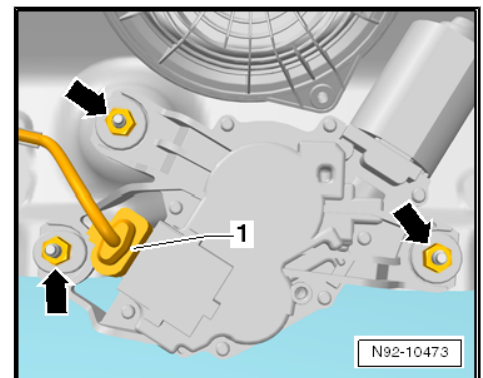
#### Removing

- Switch off the ignition and all electrical components.
- Remove wiper arm with wiper blade  
[⇒ "3.3 Removing and installing windscreen wiper arm", page 58](#).
- Remove tailgate lock ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panel .
- Unplug connector -1- at wiper motor.
- Unscrew nuts -arrows- and remove wiper motor.

#### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Take fitting position of implementation into account:

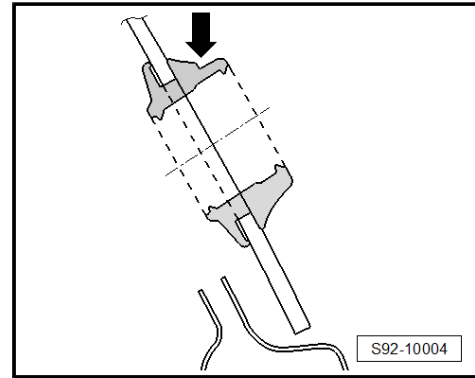




- ◆ The recess in the rear window implementation -arrow- is located at the top, from the outside.
- Set end position of wiper arm with wiper blade  
⇒ [“3.4 Adjusting windscreen wiper arm”, page 59](#) .

#### Specified torques

- ◆ ⇒ [“3.1 Assembly overview - rear window wiper system”, page 57](#)



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## 4 Rear window washer system

⇒ [“4.1 Assembly overview - rear window washer system”, page 61](#)

⇒ [“4.2 Removing and installing the washer fluid reservoir”, page 62](#)

⇒ [“4.3 Removing and installing window washer pump”, page 62](#)

⇒ [“4.4 Removing and installing washer jet”, page 62](#)

⇒ [“4.5 Removing and installing the rear view camera spray nozzle”, page 62](#)

⇒ [“4.6 Adjusting spray jet”, page 63](#)

### 4.1 Assembly overview - rear window washer system



Note

*Depending on the equipment, another container shape is possible, as illustrated.*

#### 1 - The washer fluid reservoir

- ❑ Removing and installing  
⇒ [“2.2 Removing and installing the washer fluid reservoir”, page 53](#)

#### 2 - Handle for tailgate release

- ❑ Removing and installing  
⇒ General body repairs, exterior; Rep. gr. 55 ; Rear lid; Removing and installing control .

#### 3 - Spray nozzle for reversing camera

- ❑ Removing and installing  
⇒ [“4.5 Removing and installing the rear view camera spray nozzle”, page 62](#)

#### 4 - Additional brake light

- ❑ Removing and installing  
⇒ [“5.1 Removing and installing high level brake light”, page 97](#)

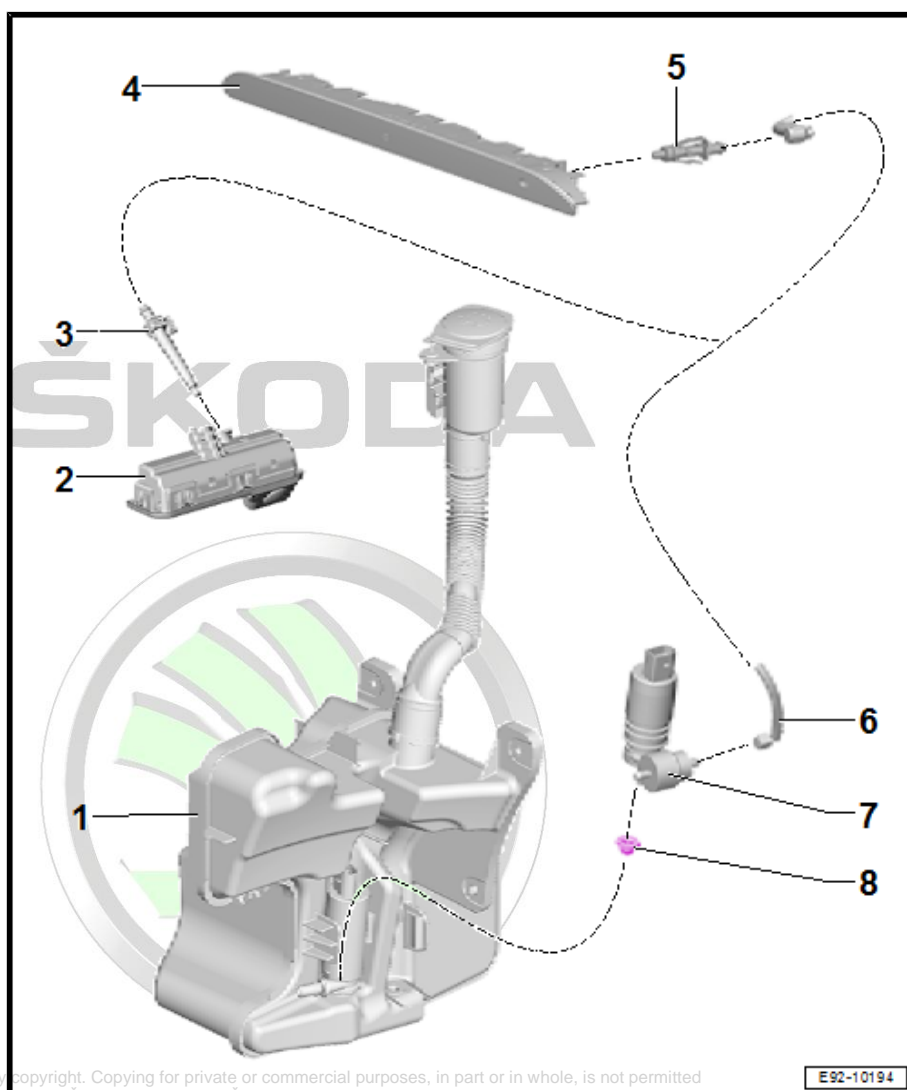
#### 5 - Spray nozzle for rear window

- ❑ Removing and installing  
⇒ [“4.4 Removing and installing washer jet”, page 62](#)

#### 6 - Washer fluid lines

#### 7 - Windscreen and rear window washer pump - V59-

- ❑ Removing and installing  
⇒ [“2.4 Removing and installing windscreen washer pump”, page 55](#)



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## 8 - Sealing grommet

- Replace if damaged.

## 4.2 Removing and installing the washer fluid reservoir



### Note

*The common container for the front and rear window wiper system is in the front left wheel arch.*

### Work procedure

- ⇒ [“2.2 Removing and installing the washer fluid reservoir”](#), page 53

## 4.3 Removing and installing window washer pump



### Note

*The joint front and rear window washer pump can be found on the washer fluid reservoir in the left right wheel arch.*

### Work procedure

- ⇒ [“2.4 Removing and installing windscreen washer pump”](#), page 55

## 4.4 Removing and installing washer jet

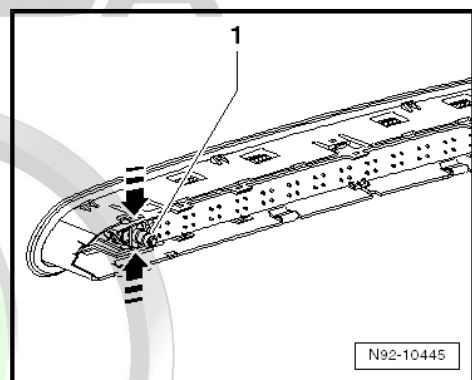
### Removing

- Remove lamp for high level brake light  
⇒ [“5.1 Removing and installing high level brake light”](#), page 97 .
- Unlock the latches -arrows- and remove the spray nozzle -1- out of the light towards the rear.

### Installing

Installation is carried out in the reverse order.

After installation, test function and adjust nozzles⇒ Maintenance ; Booklet Karoq .



## 4.5 Removing and installing the rear view camera spray nozzle

### Removing

- Removing the handle of the rear lid release device ⇒ General body repairs, exterior; Rep. gr. 55 ; Rear lid; Removing and installing control .

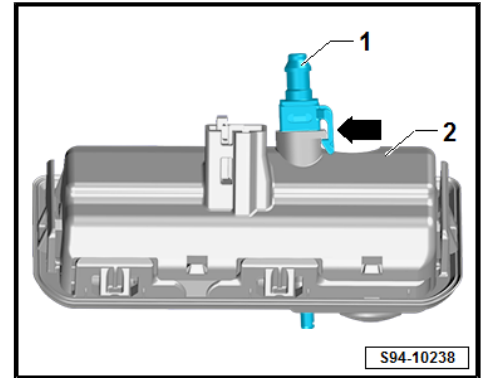
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- Unlock spray nozzle -1- -arrow-.
- Pull spray nozzle -1- out of the rear view camera -2-.

#### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Perform a functional test.



## 4.6 Adjusting spray jet



#### Caution

*Risk of damage.*

*Do not use any objects for cleaning the spray nozzles.*



#### Note

*If the spray field is uneven due to impurities inside the spray nozzle, remove the spray nozzle and clean it with water against the spraying direction. Purging with compressed air against the spraying direction is then permitted. Do not use any objects for cleaning spray jets!*

- Adjust the spray nozzles ⇒ Maintenance ; Booklet Karoq .

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## 5 Headlamp cleaning system

⇒ [“5.1 Assembly overview - Headlight washer system pump”, page 64](#)

⇒ [“5.2 Removing and installing the washer fluid reservoir”, page 65](#)

⇒ [“5.3 Removing and installing headlight cleaning system pump V11”, page 65](#)

⇒ [“5.4 Removing and installing washer jets”, page 65](#)

⇒ [“5.5 Adjusting spray jets”, page 65](#)

⇒ [“5.6 Removing and installing the lift cylinder for the spray nozzles”, page 66](#)

⇒ [“5.7 Bleed the headlamp cleaning system”, page 67](#)

### 5.1 Assembly overview - Headlight washer system pump

#### 1 - The washer fluid reservoir

- ❑ Removing and installing  
⇒ [“2.2 Removing and installing the washer fluid reservoir”, page 53](#)

#### 2 - Nut

- ❑ 8 Nm

#### 3 - Headlight washer system pump - V11-

- ❑ Removing and installing  
⇒ [“5.3 Removing and installing headlight cleaning system pump V11”, page 65](#)

#### 4 - Sealing grommet

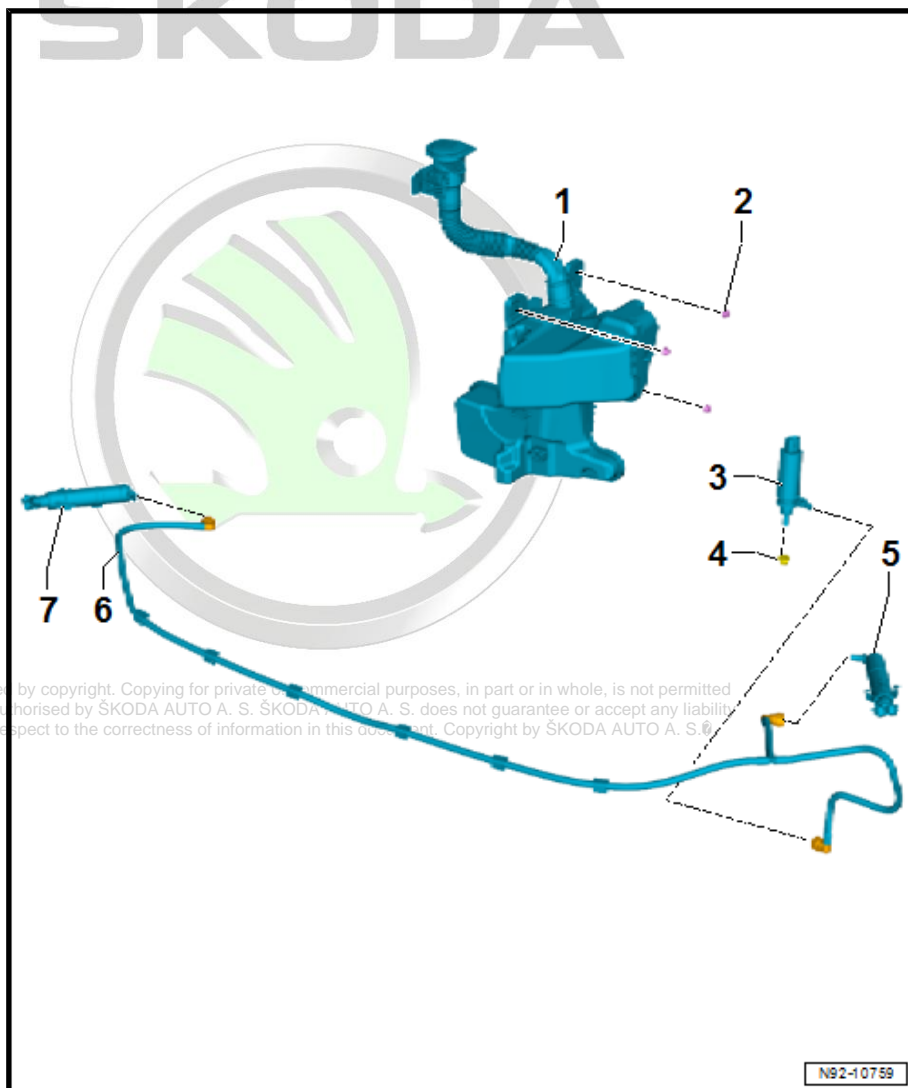
#### 5 - Lift cylinder with spray nozzle on left

- ❑ Removing and installing  
⇒ [“5.6 Removing and installing the lift cylinder for the spray nozzles”, page 66](#)

#### 6 - Hose

#### 7 - Lift cylinder with spray nozzle on right

- ❑ Removing and installing  
⇒ [“5.6 Removing and installing the lift cylinder for the spray nozzles”, page 66](#)



## 5.2 Removing and installing the washer fluid reservoir

Removing and installing the washer fluid reservoir  
 ⇒ [“2.2 Removing and installing the washer fluid reservoir”, page 53](#) .

## 5.3 Removing and installing headlight cleaning system pump - V11-

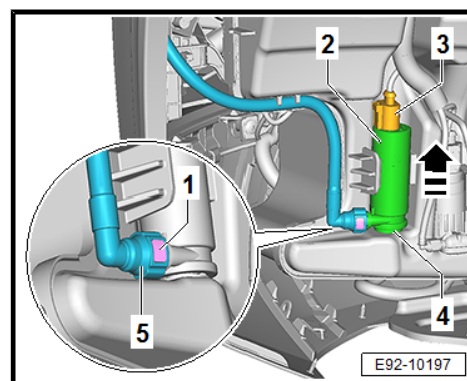
### Removing

- Remove the front left wheelhouse liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheelhouse liner; removing and installing front wheelhouse liner .
- Disconnect plug connection -3-.
- Place the catch pan underneath the washer fluid reservoir.
- Press the locking lug -1- and remove the feed hose -5-.
- Slide pump -2- out of the container -arrow-.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Check execution -4- in the reservoir for damage.
- Fit connection fitting -5- onto pump until it audibly locks into place with the catch -1-.
- Check for proper operation.



## 5.4 Removing and installing washer jets

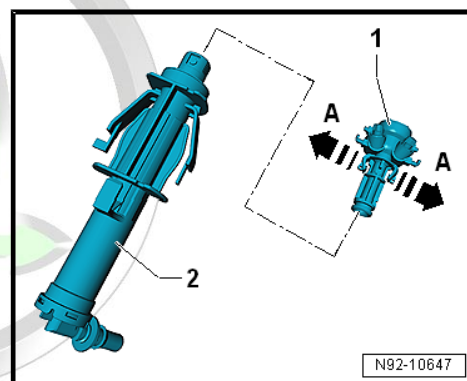
### Removing

- Remove lifting cylinder  
 ⇒ [“5.6 Removing and installing the lift cylinder for the spray nozzles”, page 66](#) .
- Release the detents in direction of arrow -A-.
- Remove the spray nozzles -1- from the lifting cylinder -2-

### Installing

Installation is performed in the reverse order, pay attention to the following points:

Push the nozzles back into the lifting cylinder until you hear them click into place.



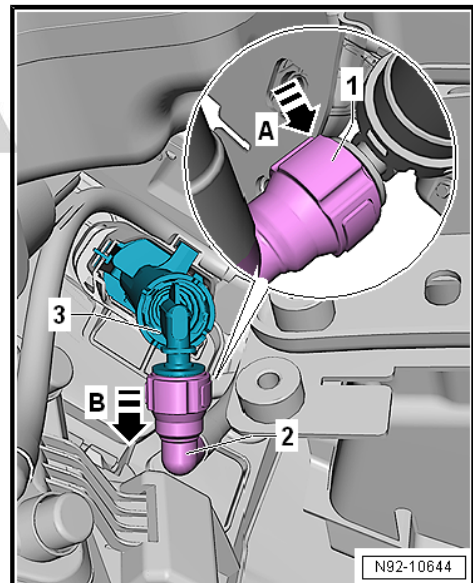
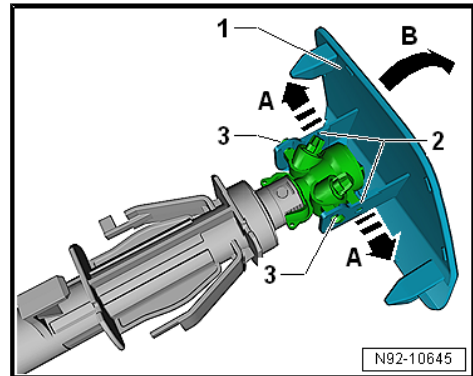
## 5.5 Adjusting spray jets

### Note

*The spray nozzles are delivered pre-adjusted by the manufacturer and do not need not be adjusted after installation.*

## 5.6 Removing and installing the lift cylinder for the spray nozzles

- Remove the front bumper ⇒ General body repairs, exterior; Rep. gr. 63 ; Front bumper; removing and installing bumper .
- Place catch pan under the lift cylinder with spray nozzle.
- Press out the spray nozzles with the cover from the bumper from the inside so that the cover can be grabbed.
- Remove the cover a little, then grab the spray nozzles and pull out as far as the stop.
- Press the cover -1- on both sides out of the upper bearings -2- in the direction of the arrows -A-.
- Turn the cover -1- in direction of arrow -B- and unhook it from the upper bearings -3-.
- Press the fuse holder in direction of arrow -A- and disconnect connection -2- in direction of arrow -B- away from the lift cylinder -3-.



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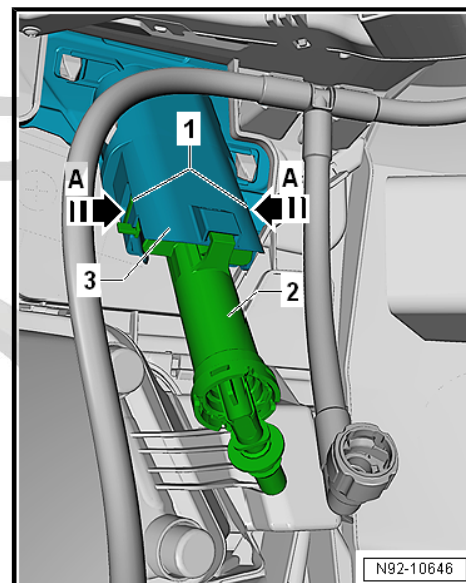


- Press catches -1- in direction of arrow -A- and slide the lift cylinder -2- out of the mounting bracket -3-.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Push the lift cylinder into the brackets in the bumper until it clicks audibly into place.
- Hoses with angled pieces must click audibly into the connections on the lift cylinders for spray nozzles.
- After completing the assembly work bleed the headlamp cleaning system  
⇒ [“5.7 Bleed the headlamp cleaning system”, page 67](#) and perform a functional test.



## 5.7 Bleed the headlamp cleaning system

After assembly or initial run, the headlight washer system must be bled to ensure it is functioning correctly.

- Fill up the washer fluid reservoir.
- Start the engine.
- Switch headlights to “ON”.
- Actuate the headlight washer system several times (3-5 impulses for 3 seconds each) (see ⇒ [Karoq Owner's Manual](#) ).
- If necessary repeat this bleeding procedure until a perfect functioning of the lift cylinders for headlamp cleaning system and for spray nozzles is achieved.

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## 6 Washer fluid lines

⇒ ["6.1 Repairing washer fluid lines", page 68](#)

### 6.1 Repairing washer fluid lines

All other notes and comments to this chapter can be found in the Workshop Manual "Electrical System- General Notes" ⇒ Electrical System- General Notes; Rep. gr. 27 Chapter "92". If a note cannot be accessed, open the Workshop Manual "Electrical System - General Notes" manually in "ELSA".

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## 94 – Lights, bulbs, switches - exterior

### 1 Headlight

- ⇒ [“1.1 Assembly overview - headlight”, page 69](#)
- ⇒ [“1.2 Removing and installing headlight”, page 72](#)
- ⇒ [“1.3 Setting the headlight beam”, page 73](#)
- ⇒ [“1.4 Removing and installing the front left turn signal bulb M5 / M7”, page 73](#)
- ⇒ [“1.5 Installing repair kit for headlight housing”, page 74](#)
- ⇒ [“1.6 Changing headlights over from driving on right to driving on left”, page 74](#)
- ⇒ [“1.7 Changing headlights over from driving on left to driving on right”, page 75](#)
- ⇒ [“1.8 Removing and installing the control motor for headlamp range control V48 / V49”, page 75](#)
- ⇒ [“1.9 Removing and installing the light bulb for the low beam light”, page 77](#)
- ⇒ [“1.10 Removing and installing bulb for number plate light M30 / M32”, page 78](#)
- ⇒ [“1.11 Removing and installing the side light bulb M1 / M3”, page 79](#)
- ⇒ [“1.12 Removing and installing fog light bulb L22 / L23”, page 80](#)
- ⇒ [“1.13 Removing and installing the power output module for headlight”, page 81](#)
- ⇒ [“1.14 Removing and installing LED module for fog light and cornering light”, page 82](#)
- ⇒ [“1.15 Removing and installing the LED module for daylight driving light”, page 83](#)

#### 1.1 Assembly overview - headlight

- ⇒ [“1.1.1 Summary of components - Halogen headlight”, page 69](#)
- ⇒ [“1.1.2 Summary of components - FULL-LED headlights”, page 71](#)

##### 1.1.1 Summary of components - Halogen headlight

Further information and description of function of headlight:

- ◆ ⇒ Karoq Owner's Manual

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**1 - Screw**

- 3.5 + 0.5 Nm

**2 - Hollow screw**

- Adjusting element for exact position adjustment of the headlight in the body

**3 - Headlight housing**

- Removing and installing ⇒ [“1.2 Removing and installing headlight”, page 72](#)
- Adjust ⇒ [“1.3 Setting the headlight beam”, page 73](#)

**4 - Screw**

- 2 units
- 1.5 Nm

**5 - LED module daytime running light**

- for the daytime running light function
- Removing and installing ⇒ [“1.15 Removing and installing the LED module for daylight driving light”, page 83](#)

**6 - Light bulb for main beam**

- H7
- Replace ⇒ [“1.10 Removing and installing bulb for number plate light M30 / M32”, page 78](#)

**7 - LED module cover and holder for daytime running lights**

**8 - Screws**

- 3 units
- 1.5 Nm

**9 - Light bulb for the turn signal light**

- PWY24W
- Replace ⇒ [“1.4 Removing and installing the front left turn signal bulb M5 / M7”, page 73](#)

**10 - Light bulb for the parking light**

- W5WBV (blue)
- Replace ⇒ [“1.11 Removing and installing the side light bulb M1 / M3”, page 79](#)

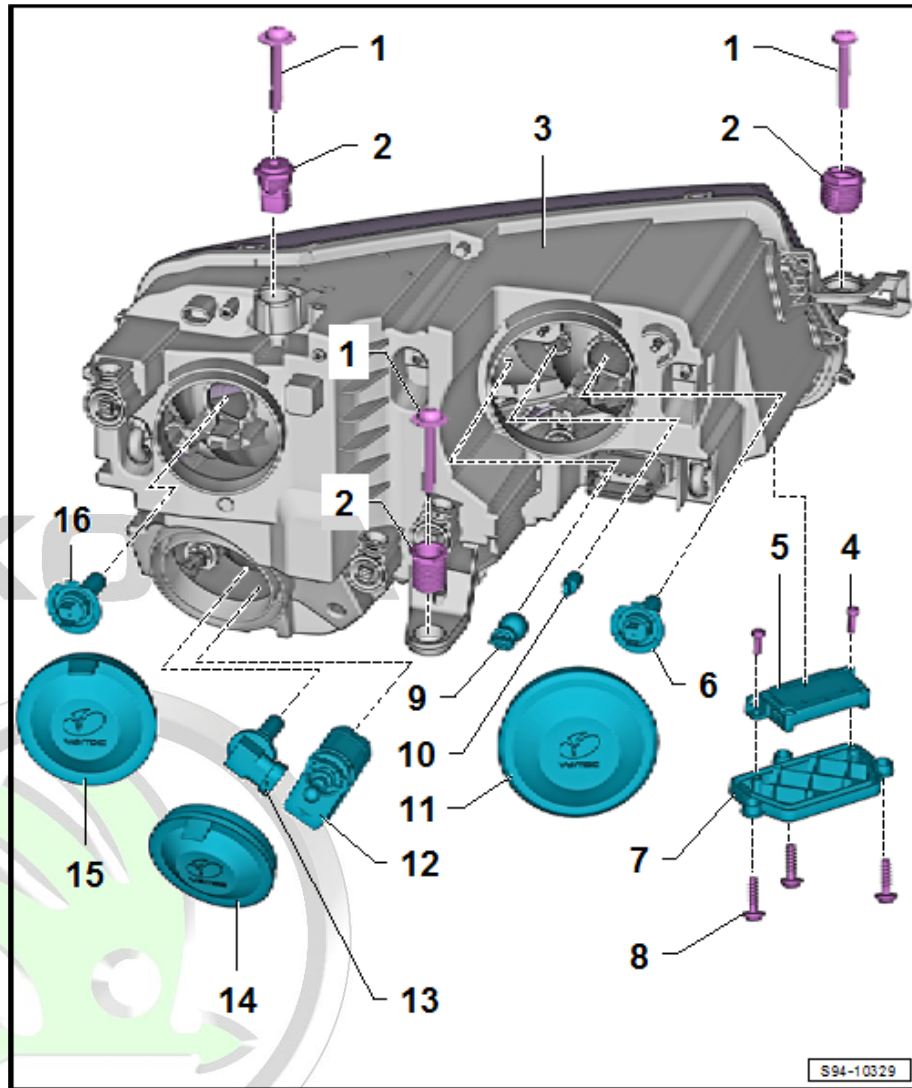
**11 - Cover**

**12 - Headlight range control motor**

- Removing and installing ⇒ [“1.8.1 Removing and installing the control motor for headlamp range control V48 / V49 - halogen heads”, page 75](#)

**13 - Light bulb for rear fog light**

- H8
- Replace ⇒ [“1.12 Removing and installing fog light bulb L22 / L23”, page 80](#)



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- 14 - Cover
- 15 - Cover
- 16 - Light bulb for low beam light

- H7 LL
- Replace ⇒ [“1.9 Removing and installing the light bulb for the low beam light”, page 77](#)

**i** Note

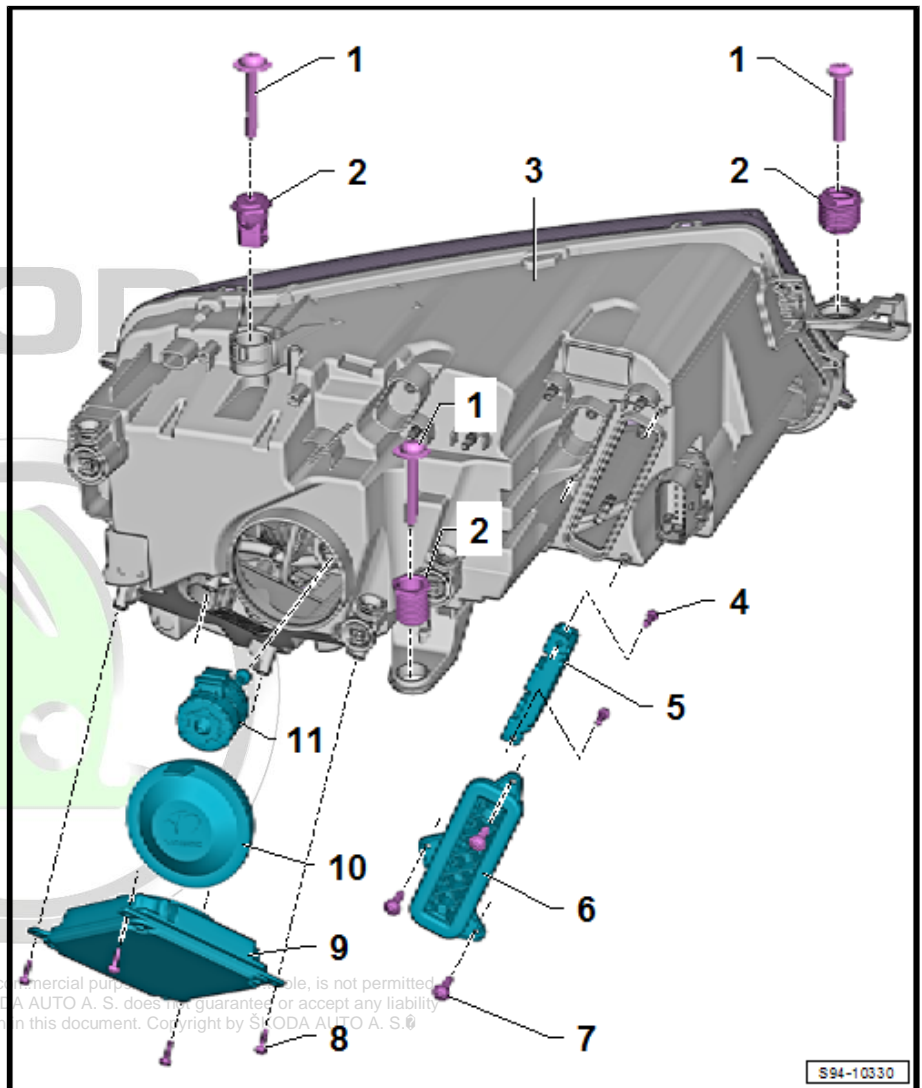
The headlight wiring loom spare part is only used as a source for spare parts (e.g. connector, fitting etc.). It therefore cannot be replaced completely in the headlight.

### 1.1.2 Summary of components - FULL-LED headlights

Further information and description of function of headlight:

- ◆ ⇒ Karoq Owner’s Manual
- ◆ ⇒ Electronic Catalogue of Original Parts “ETKA”

- 1 - Screw**
  - 3 units
  - 3.5 + 0.5 Nm
- 2 - Hollow screw**
  - Adjusting element for exact position adjustment of the headlight in the body
- 3 - Headlight housing**
  - Removing and installing ⇒ [“1.2 Removing and installing headlight”, page 72](#)
  - Adjust ⇒ [“1.3 Setting the headlight beam”, page 73](#)
- 4 - Screw**
  - 2 units
  - 1.5 Nm
- 5 - LED module for fog light and cornering light**
  - Removing and installing ⇒ [“1.14 Removing and installing LED module for fog light and cornering light”, page 82](#)
- 6 - Cover**
  - Servicing solution when replacing the LED module for fog lamps and cornering light
- 7 - Screw**
  - 3 units
  - 1.5 Nm



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S94-10330

## 8 - Screw

- 4 units
- 1.5 Nm

## 9 - Power output module 1 for left LED headlight - A31-

- or power output module 1 for right LED headlight - A27-
- to control the LED dipped beam, full beam and daytime running light functions
- Removing and installing  
⇒ ["1.13 Removing and installing the power output module for headlight", page 81](#)

## 10 - Cover

- Service solution when replacing the control motor for headlight range control

## 11 - Headlight range control motor

- Removing and installing  
⇒ ["1.8.2 Removing and installing headlight range control motor V48 / V49 FULL-LED headlights", page 76](#)

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### Note

The headlight wiring loom spare part is only used as a source for spare parts (e.g. connector, fitting etc.). It therefore cannot be replaced completely in the headlight.

## 1.2 Removing and installing headlight

### Removing



### Note

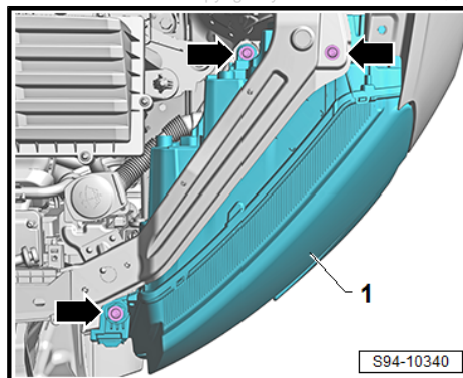
The removal and installation will be demonstrated using the example of the left-hand headlight. The removal and installation of the right headlight follows the same principle.

- Switch off the ignition and all electrical components.
- Remove the front bumper ⇒ General body repairs, exterior; Rep. gr. 63 ; Front bumper; removing and installing bumper
- Remove screws -arrows-.
- Carefully push the headlight -1- towards the front, unlocking and disconnecting the plug as you do so.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Align the headlight according to the contours of the vehicle body (maintain the gap size ⇒ Body Repairs; Rep. gr. 00 ) and loosely tighten with screws.
- Install the front bumper ⇒ General body repairs, exterior; Rep. gr. 63 ; Front bumper; removing and installing bumper .

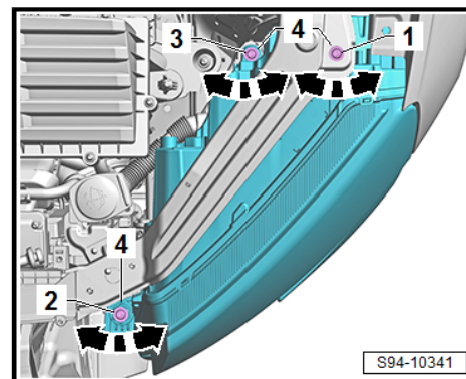


### Note

The setting element is set automatically when tightening the screw -1- -4-.



- By turning -arrow- the setting elements -4- (Does not apply to the element with screw -1-) the headlamp is moved and is also fitted to the surrounding body parts as a result.
- Then tighten fixing screws -1- and -2-.
- Swivel the bottom part of the headlight as far forward in the direction of the bumper as possible and tighten screw -3-.
- Set up the headlight  
=> "1.3 Setting the headlight beam", page 73 .



#### Specified torques

Component	Tightening torque
Headlight fixing screws	3.5 + 0.5 Nm

### 1.3 Setting the headlight beam

Use a headlight beam setting device for setting the headlight beam. Specified values, setting elements, conditions and measurement => Maintenance ; Booklet Karoq .

### 1.4 Removing and installing the front left turn signal bulb -M5- / -M7-

Applies for the Halogen headlight.



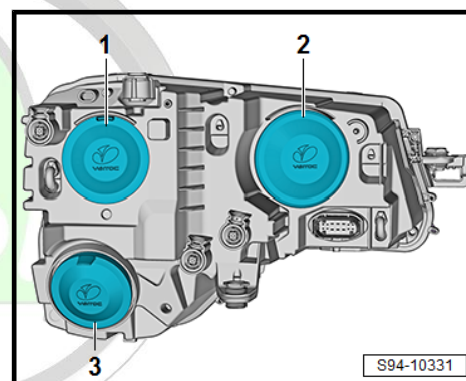
#### Caution

*Do not touch the glass when installing the light bulb. Your fingers will leave traces of grease on the glass which then evaporate when the bulb is switched on causing it to cloud.*

*When installing the cover, pay attention to the correct fitting. Water ingress destroys the headlight.*

#### Removing

- Remove cover for headlight -2-.



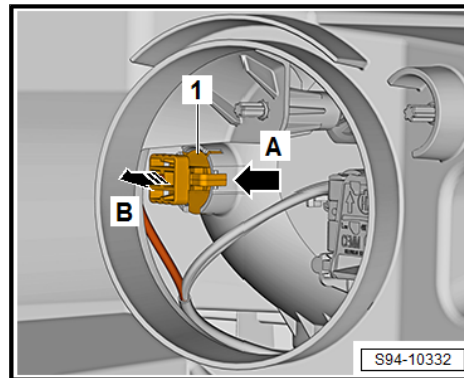
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by ŠKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by ŠKODA AUTO A. S. ©



- Detach the mount with lamp from the detents by pulling in the direction of arrow -B- -1-, arrow -A-.
- Remove defective light bulb from the socket and replace.

**Installing**

Installation is carried out in the reverse order.



**1.5 Installing repair kit for headlight housing**

If the headlight fixing brackets are broken or damaged, they can be replaced by installing the repair kit. The complete headlight must not be replaced.

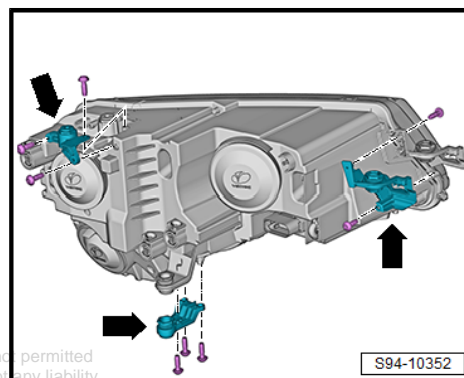
**i Note**

- ◆ Before repairs check if the headlight has no other damage, as the repair would be senseless.
- ◆ The replacement brackets can be ordered separately see → *Electronic Catalogue of Original Parts "ETKA"*.
- ◆ Before repairs the headlight must be removed → *"1.2 Removing and installing headlight", page 72*.
- ◆ After installing the headlight, adjust the headlight → *"1.3 Setting the headlight beam", page 73*.

- Remove the remains of the original crate.
- Change the contact surface (grind off, remove by file) to allow a new bracket to be inserted properly.
- Install a new bracket -arrows- with adjusting screw already screwed in flush to the profile.
- Screw on the new bracket with self-tapping screws.

**Specified torques**

Component	Tightening torque
Fixing screws for new bracket	1.5 Nm



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**1.6 Changing headlights over from driving on right to driving on left**

**Adjusting halogen headlights:**

Luminous flux of a halogen headlight is not adjusted when travelling in countries with traffic on the left-hand side.

**Adjusting FULL-LED headlights**

Adjusting the luminous flux of a FULL-LED headlight when driving in countries where vehicles drive on the left-hand side is done by making a change to the software setting in the vehicle.

The travel mode (outward journey) can be set by infotainment, see => Karoq Owner's Manual .

## 1.7 Changing headlights over from driving on left to driving on right

### Adjusting halogen headlights:

Luminous flux of a halogen headlight is not adjusted when travelling in countries with traffic on the right-hand side.

### Adjusting FULL-LED headlights

Adjusting the luminous flux of a Xenon headlight when driving in countries where vehicles drive on the right-hand side is done by making a change to the software setting in the vehicle.

The travel mode (outward journey) can be set by infotainment, see => Karoq Owner's Manual .

## 1.8 Removing and installing the control motor for headlamp range control -V48- / -V49-

=> ["1.8.1 Removing and installing the control motor for headlamp range control V48 / V49 - halogen heads", page 75](#)

=> ["1.8.2 Removing and installing headlight range control motor V48 / V49 FULL-LED headlights", page 76](#)

### 1.8.1 Removing and installing the control motor for headlamp range control -V48- / -V49- - halogen heads

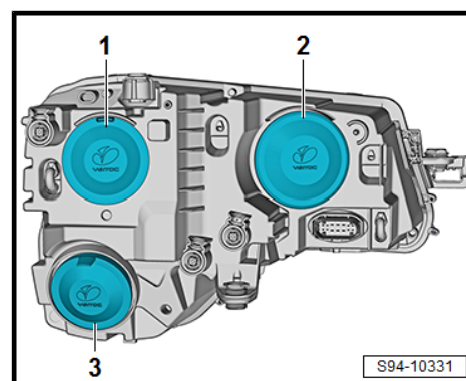
#### Removing

- Remove headlight with defective control motor  
=> ["1.2 Removing and installing headlight", page 72](#) .

Vehicles with fog lamps:

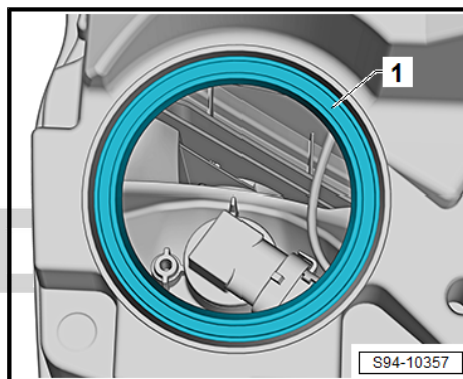
- Remove cover for headlight -3-.

All vehicles:

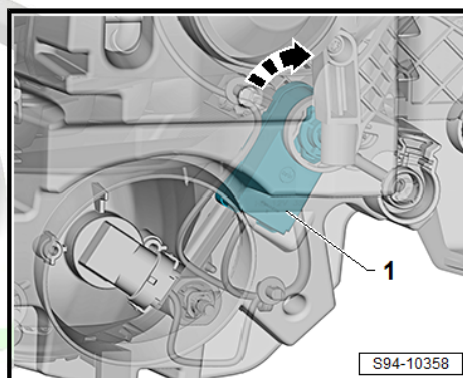




- Cut/ knock out the circular ring from the headlight housing -1-.
- For better access, the lamp for fog lamps can be removed ⇒ ["1.12 Removing and installing fog light bulb L22 / L23"](#), page 80

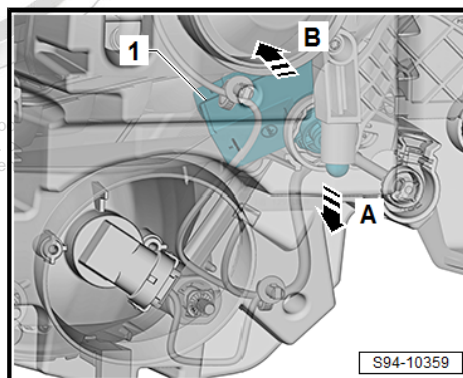


- Detach the actuator -1- by turning in the direction of -arrow- from the bearing.



By pivoting the actuator in the direction of the arrow -A- push the pressure element of the actuator out of the bearing.

- Then, push out the actuator -1- in the direction of the arrow -B- and remove it from the headlight housing.



### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Close the assembly opening with rubber cover ⇒ Electronic Catalogue of Original Parts "ETKA" .



### Caution

*When installing the cover, pay attention to the correct fitting. Water ingress destroys the headlight.*

- Inspect proper operation.
- Adjust headlight ⇒ Maintenance ; Booklet Karoq .

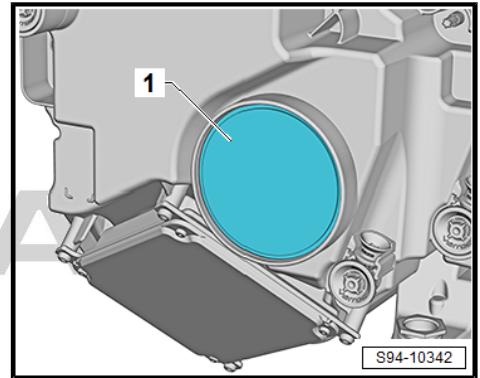
## 1.8.2 Removing and installing headlight range control motor -V48- / -V49- FULL-LED headlights

### Removing

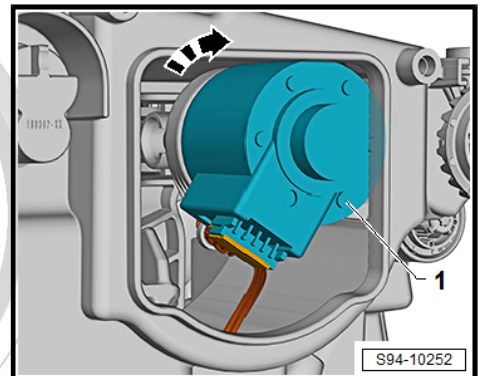
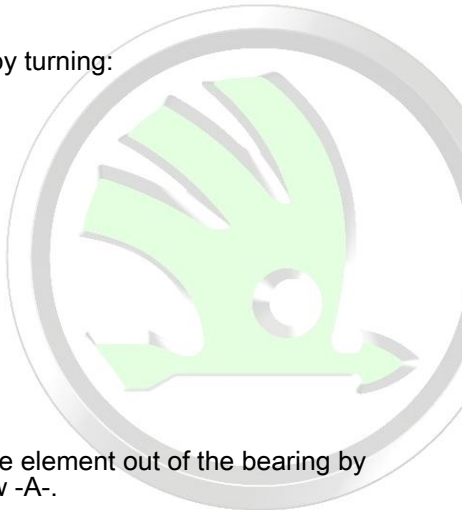
- Remove headlight with defective control motor ⇒ ["1.2 Removing and installing headlight"](#), page 72 .



- Knock out the cover of the control motor -1-.



- Loosen control motor -1- by turning:
  - Left headlight - to right
  - Right headlight - to left



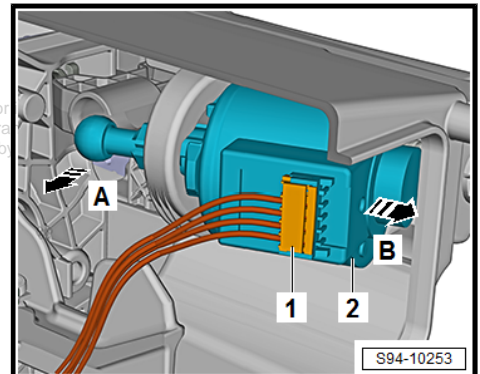
Loosen and push the pressure element out of the bearing by swivelling in direction of arrow -A-.

- Disconnect plug connection -1-.
- Next, swivel out and remove control motor -2- in direction of arrow -B-.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Close the assembly opening with rubber cover => Electronic Catalogue of Original Parts "ETKA" .



### Caution

*When installing the cover, pay attention to the correct fitting. Water ingress destroys the headlight.*

- Inspect proper operation.
- Adjust headlight => Maintenance ; Booklet Karoq .

## 1.9 Removing and installing the light bulb for the low beam light

Applies for the Halogen headlight.



### WARNING

*The H7 light bulb is pressurized and can burst when changing the bulb.*

*Wear gloves and glasses when changing the lamps.*

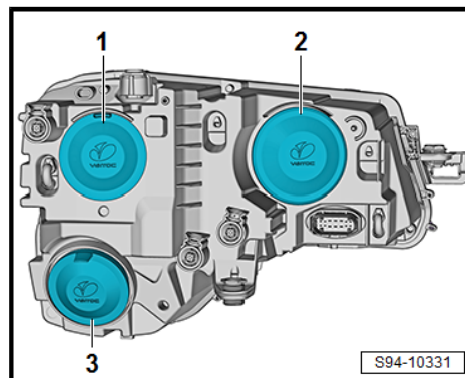
**Caution**

*Do not touch the glass when installing the light bulb. Your fingers will leave traces of grease on the glass which then evaporate when the bulb is switched on causing it to cloud.*

*When installing the cover, pay attention to the correct fitting. Water ingress destroys the headlight.*

**Removing**

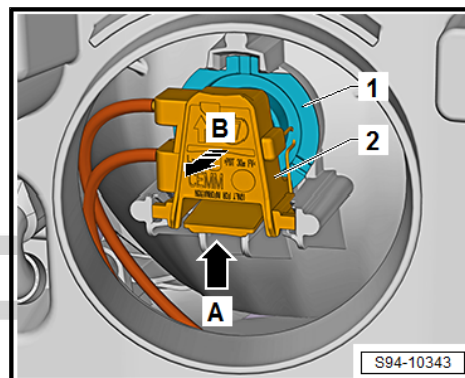
- Remove cover -1-.



- Press catch in direction of arrow -A- and unscrew mount -2- with the lamp -1- in direction of arrow -B-.
- Remove bulb -1- from holder -2-.

**Installing**

Installation is carried out in the reverse order.



## 1.10 Removing and installing bulb for number plate light -M30- / -M32-

Applies for the Halogen headlight.

**WARNING**

*The H7 light bulb is pressurized and can burst when changing the bulb.*

*It is recommended to wear gloves and safety glasses when changing bulbs.*

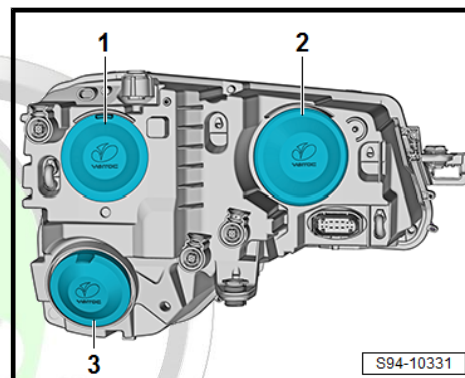
**Caution**

*Do not touch the glass when installing the light bulb. Your fingers will leave traces of grease on the glass which then evaporate when the bulb is switched on causing it to cloud.*

*When installing the cover, pay attention to the correct fitting. Water ingress destroys the headlight.*

## Removing

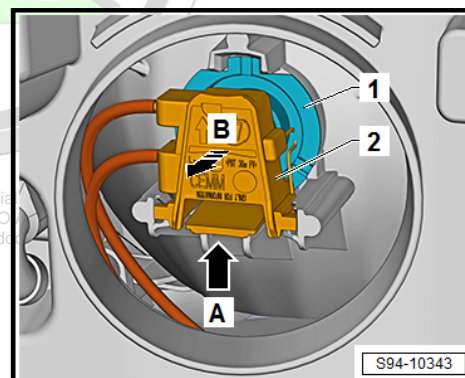
- Remove cover -2-.



- Press catch in direction of arrow -A- and unscrew mount -2- with the lamp -1- in direction of arrow -B-.
- Remove bulb -1- from holder -2-.

## Installing

Installation is carried out in the reverse order.



## 1.11 Removing and installing the side light bulb -M1- / -M3-

Applies for the Halogen headlight.



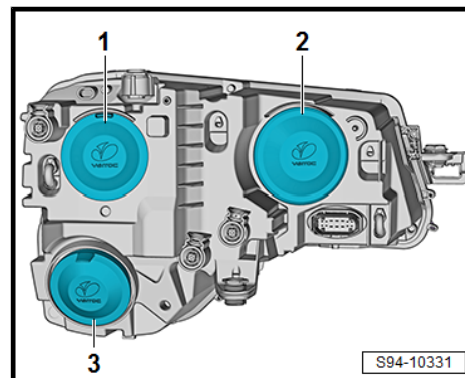
### Caution

*Do not touch the glass when installing the light bulb. Your fingers will leave traces of grease on the glass which then evaporate when the bulb is switched on causing it to cloud.*

*When installing the cover, pay attention to the correct fitting. Water ingress destroys the headlight.*

## Removing

- Remove cover -2-.

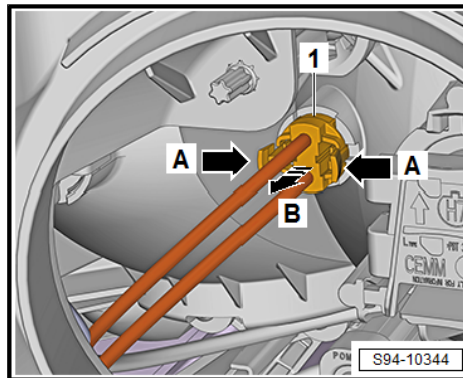




- Press catches in direction of arrow -A- and remove the mount with lamp -1- in direction of arrow -B-.
- Remove the bulb from the socket.

**Installing**

Installation is carried out in the reverse order.



**1.12 Removing and installing fog light bulb - L22- / -L23-**



**WARNING**

*These H8 bulbs are pressurised and can explode when changing the bulb - risk of injury!*

*Wear gloves and safety spectacles when changing the lamps.*



**Caution**

*Do not touch the glass when installing the light bulb. Your fingers will leave traces of grease on the glass which then evaporate when the bulb is switched on causing it to cloud.*

*When installing the cover, pay attention to the correct fitting. Water ingress destroys the headlight.*

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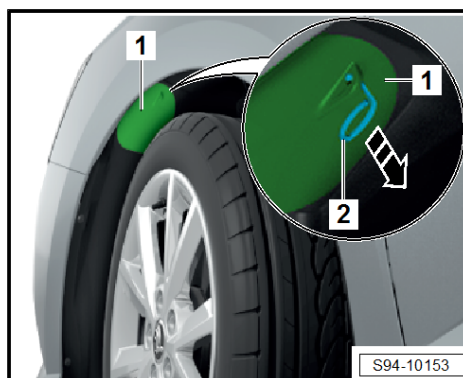


**Note**

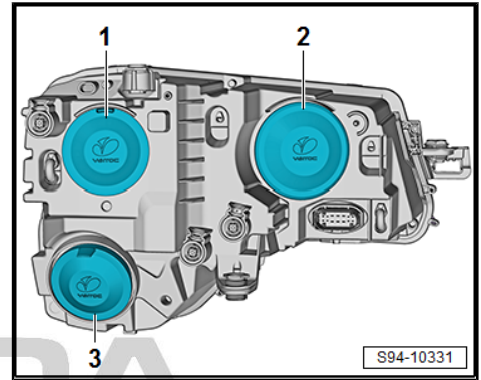
*Do not touch the glass when installing the light bulb. Your fingers will leave traces of grease on the glass which then evaporate when the bulb is switched on causing it to cloud.*

**Removing**

- Switch off the ignition and all electrical components.
- Use the wire strap -2- (e.g. from vehicle equipment) to remove the cover -1- of the plastic wheelhouse liner.



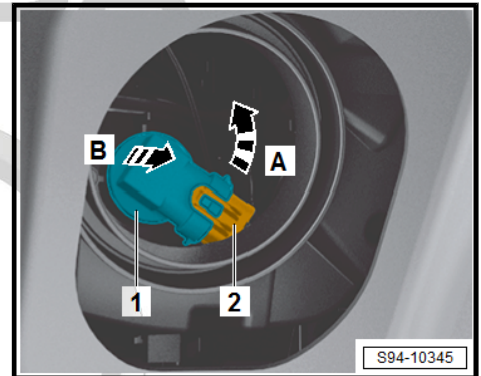
- Remove cover -3-.



- Turn light bulb -1- in the direction of the arrow A- and remove in the direction of the arrow -B-.
- Disconnect plug connection -2-.

#### Installing

Installation is carried out in the reverse order.



### 1.13 Removing and installing the power output module for headlight

Applies to FULL-LED headlights.



*Power output module 1 - A31- left or power output module 1 - A27- right.*

#### Removing

- Remove the front wheelhouse liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheelhouse liner; removing and installing front wheelhouse liner .



- Unscrew the screws -arrows- and remove the module -1-.
- Release connector and remove it.

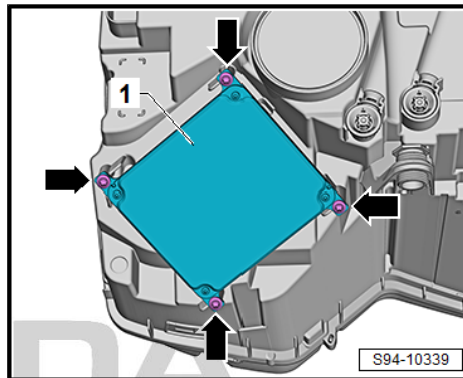
**Installing**

Installation is performed in the reverse order, pay attention to the following points:



**Note**

- ◆ *Correctly install the seal when installing the module. Water ingress destroys the headlight.*
- ◆ *If the LED module is replaced, connect the ⇒ Vehicle diagnostic tester and, in the "Targeted fault finding" operating mode, select the "Program configuration" function of the relevant LED module.*



**Specified torques**

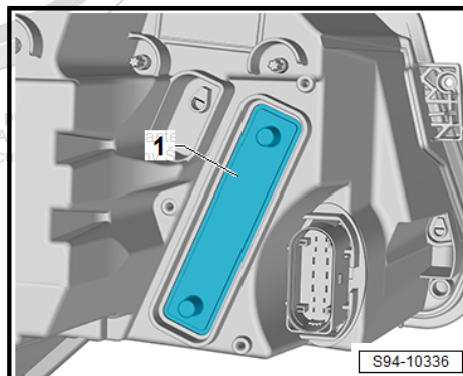
- ◆ ⇒ ["1.1.2 Summary of components - FULL-LED headlights", page 71](#)

**1.14 Removing and installing LED module for fog light and cornering light**

Applies to FULL-LED headlights.

**Removing**

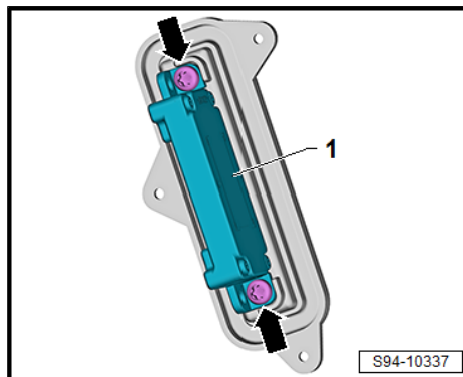
- Remove headlight  
⇒ ["1.2 Removing and installing headlight", page 72](#) .
- Knock out the module support -1- with a module screwed on, from the headlight housing.
- Release and remove plug connections.
- Remove the screws and detach the module from the support -1-.



**Installing**

Installation is performed in the reverse order, pay attention to the following points:

- Screw the new module -1- with screws -arrows- onto the new support, see ⇒ Electronic catalogue of original parts "ETKA" .





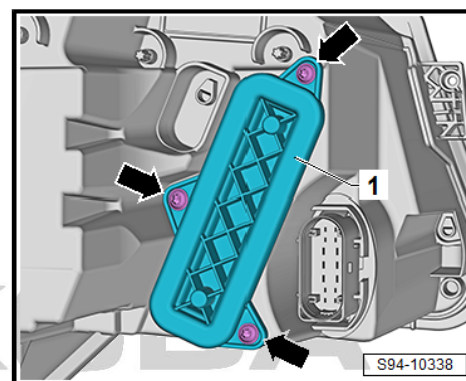
- Insert module with support -1- into the headlight and screw on -arrows-.

### **i** Note

*Correctly install the seal when installing the module. Water ingress destroys the headlight.*

### Specified torques

- ◆ => [“1.1.2 Summary of components - FULL-LED headlights”, page 71](#)



## 1.15 Removing and installing the LED module for daylight driving light

Applies for the Halogen headlight.

### Removing

- Remove headlight  
=> [“1.2 Removing and installing headlight”, page 72](#).
- Knock out the module support -1- with a module screwed on, from the headlight housing.
- Release and remove plug connections.
- Remove the screws and detach the module from the support.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Screw the new module -1- with screws -arrows- onto the new support, see => Electronic catalogue of original parts “ETKA”.

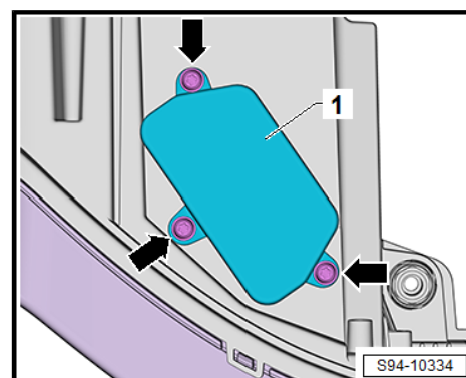
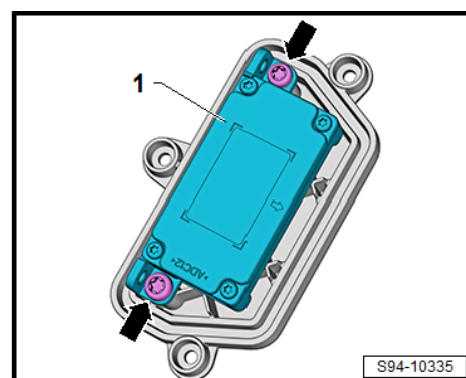
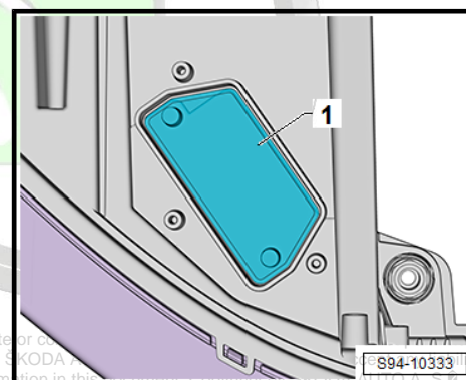
- Insert module with support -1- into the headlight and screw on -arrows-.

### **i** Note

*Correctly install the seal when installing the module. Water ingress destroys the headlight.*

### Specified torques

- ◆ => [“1.1.1 Summary of components - Halogen headlight”, page 69](#)



## 2 Automatic headlight range control

⇒ "2.1 Vehicle level sensor", page 84

⇒ "2.2 Removing and installing the headlamp range control unit", page 84

### 2.1 Vehicle level sensor

The vehicle level senders are an integral part of the headlight range.

Vehicles with adaptive shock absorbers have three senders, two on the front axle and one on the rear. Vehicles without adaptive shock absorbers have a sender on the rear axle.

Installing and removing senders ⇒ Chassis, axles, steering; Rep. gr. 43 ; Vehicle level sender .

### 2.2 Removing and installing the headlamp range control unit

⇒ "2.2.1 Removing and installing the cornering light and headlight range control unit J745 ", page 84

⇒ "2.2.2 Removing and installing the cornering light and headlight range control unit J745 - right-hand drive vehicles", page 86

#### 2.2.1 Removing and installing the cornering light and headlight range control unit - J745-

The control unit is located above the brake pedal.

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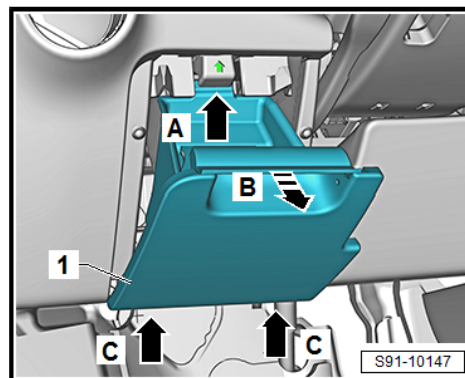


#### Note

*If the control unit is replaced, connect the ⇒ Vehicle diagnostic tester and, in the "Targeted fault finding" operating mode, select the "Configure software" function from the functions of the relevant control unit.*

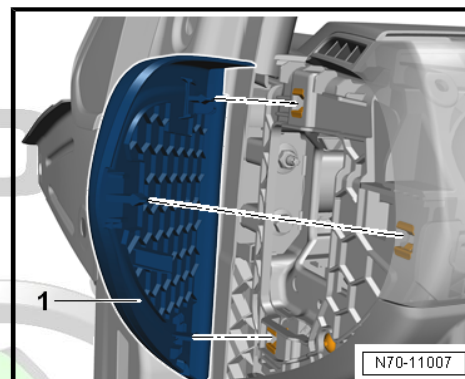
#### Removing

- Switch off the ignition and all electrical components.
- Push the retaining tab in direction of arrow -A-, swivel out the storage compartment -1- in direction of arrow -B- and unhook from the mounting, arrows -C-.
- Remove light switch ⇒ Electrical system; Rep. gr. 96 ; Controls; Removing and installing rotary light switch - EX1- .

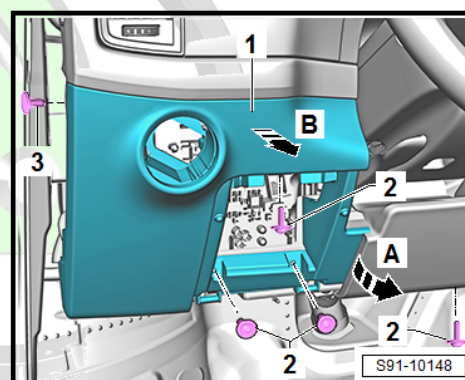




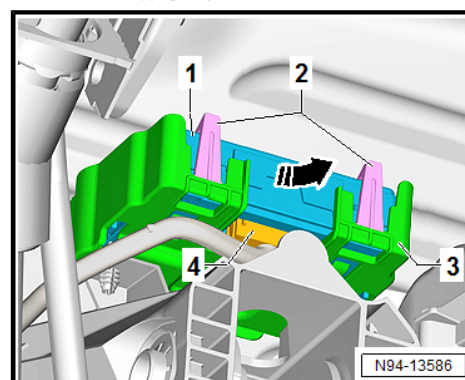
- Remove the lateral dash panel covers -1- e.g. using the dis-assembly wedge -3409- .



- Remove screws -2- and -3-.
- Partially pull off the bottom section of the dash panel in direction of arrow -A-.
- Unclip bottom section of dash panel -1- and remove in direction of arrow -B-.
- Remove knee airbag ⇒ Interior body work; Rep. gr. 69 ; Knee airbags; removing and installing knee airbag with ignition .
- Remove the driver side footwell vent ⇒ Heating system, air conditioning system; Rep. gr. 87 ; Air duct; Remove and install driver side footwell vent .
- To provide a clearer illustration, remove bottom steering column trim panel ⇒ General body repairs, interior; Rep. gr. 68 ; Installing and removing bottom steering column trim panel



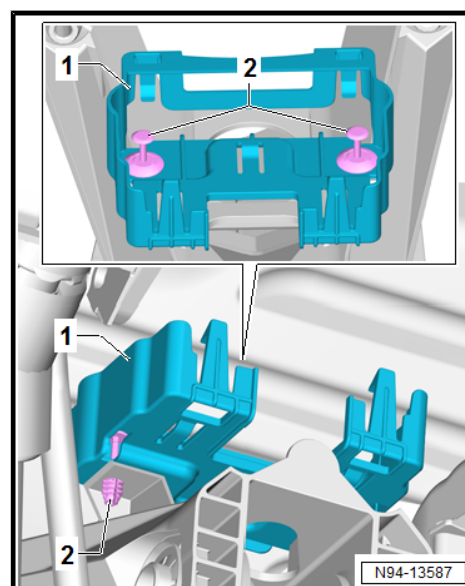
- Release control unit -1- from the retaining tabs -2- and take out of the bracket -3- -arrow-.
- Unlock and pull off connector -4-.



- Remove the expanding rivets -2- and remove control unit mounting bracket -1-.

**Installing**

Installation is carried out in the reverse order.





## 2.2.2 Removing and installing the cornering light and headlight range control unit - J745- - right-hand drive vehicles

The control unit is located on the right side of the brake pedal.

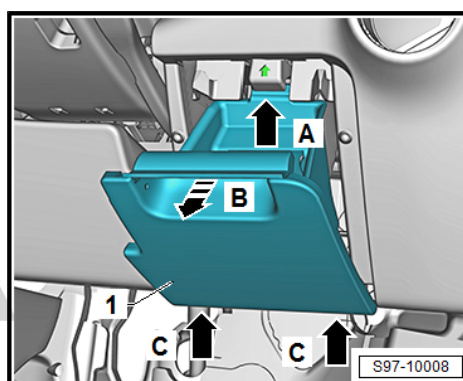


### Note

*If the control unit is replaced, connect the ⇒ Vehicle diagnostic tester and, in the "Targeted fault finding" operating mode, select the "Configure software" function from the functions of the relevant control unit.*

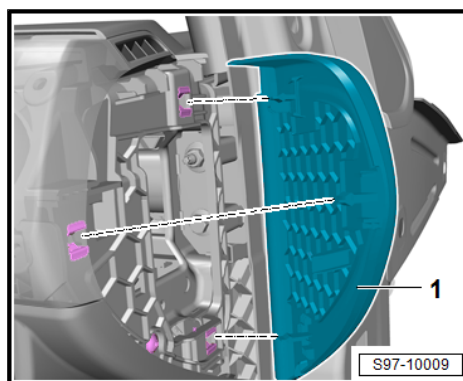
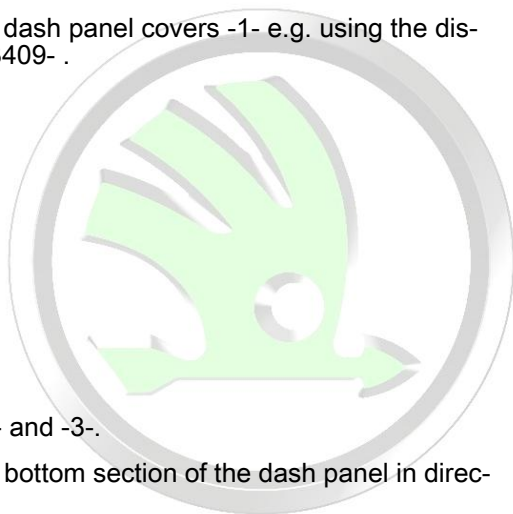
### Removing

- Switch off the ignition and all electrical components.
- Push the retaining tab in direction of arrow -A-, swivel out the storage compartment -1- in direction of arrow -B- and unhook from the mounting, arrows -C-.
- Remove light switch ⇒ Electrical system; Rep. gr. 96 ; Controls; Removing and installing rotary light switch - EX1- .

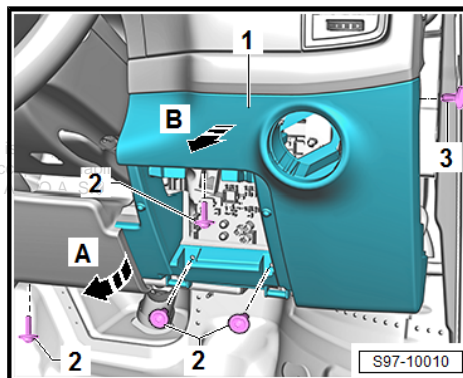


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- Remove the lateral dash panel covers -1- e.g. using the disassembly wedge -3409- .

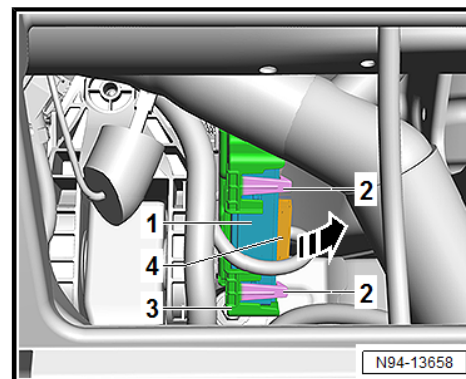


- Remove screws -2- and -3-.
- Partially pull off the bottom section of the dash panel in direction of arrow -A-.
- Unclip bottom section of dash panel -1- and remove in direction of arrow -B-.





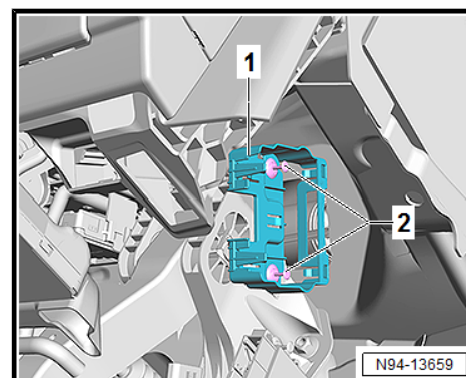
- Release control unit -1- from the retaining tabs -2- and take out of the bracket -3- -arrow-.
- Unlock and pull off connector -4-.



- Remove the expanding rivets -2- and remove control unit mounting bracket -1-.

### Installing

Installation is carried out in the reverse order.



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### 3 Lights in the exterior mirror

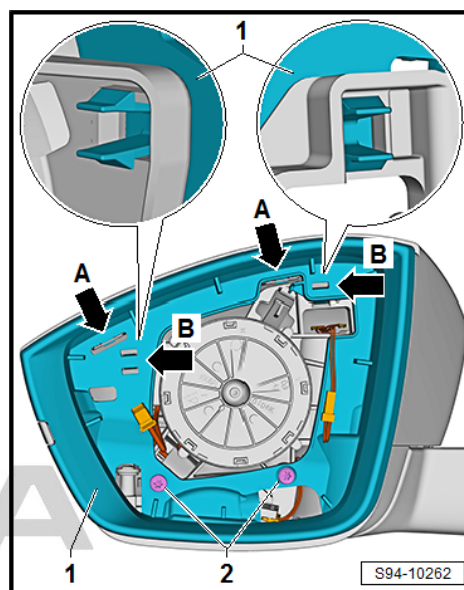
⇒ [“3.1 Removing and installing turn signal”, page 88](#)

⇒ [“3.2 Removing and installing the entry lighting in the exterior mirror”, page 89](#)

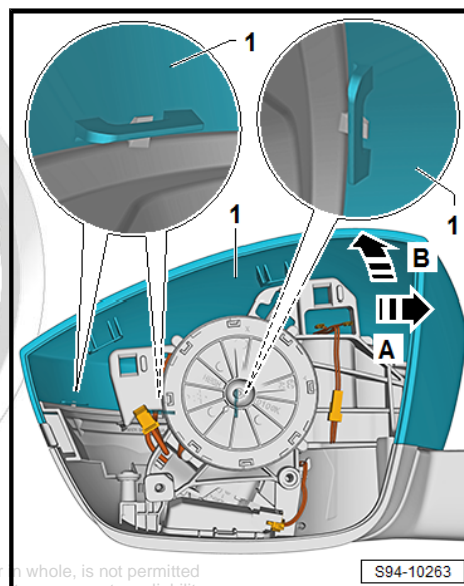
#### 3.1 Removing and installing turn signal

##### Removing

- Switch off the ignition and all electrical components.
- Remove mirror glass ⇒ General body repairs, exterior; Rep. gr. 66 ; Exterior mirror; installing and removing mirror glass .
- Remove screws -2-.
- Detach and remove cover -1- from the retaining tabs, arrows -A- and -B-.



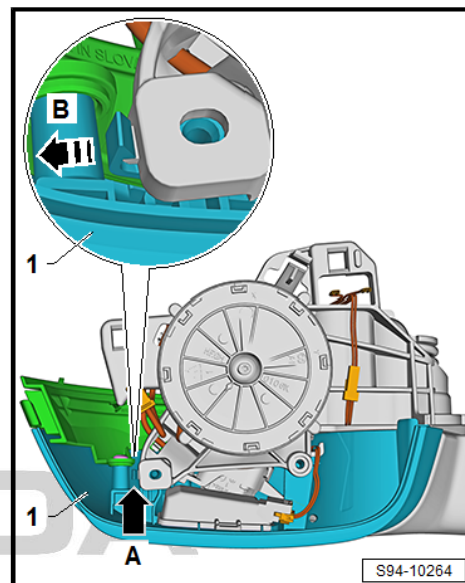
- Move the cover -1- in the direction of arrow -A- lightly and then remove in the direction of arrow -B-.



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- Press off the retaining tabs arrow -A- in direction of arrow -B- and lower cover -1- slightly.



- Disconnect plug connection -2-.
- Unscrew screw -3- and remove turn signal -1- by sliding it out -arrow-.

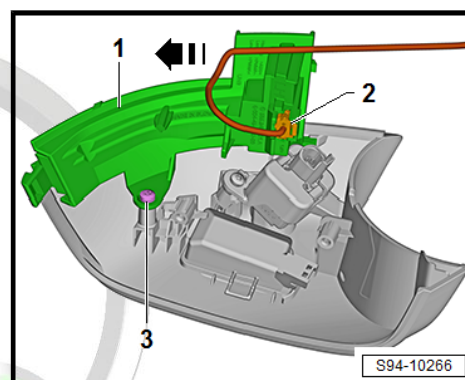
**Installing**

Installation is performed in the reverse order, pay attention to the following points:

- Performing functional tests of all functions.

**Specified torques**

Component	Tightening torque
Fixing screws for mirror cover	1 Nm
Fixing screw for turn signal	1 Nm



**3.2 Removing and installing the entry lighting in the exterior mirror**

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**i Note**

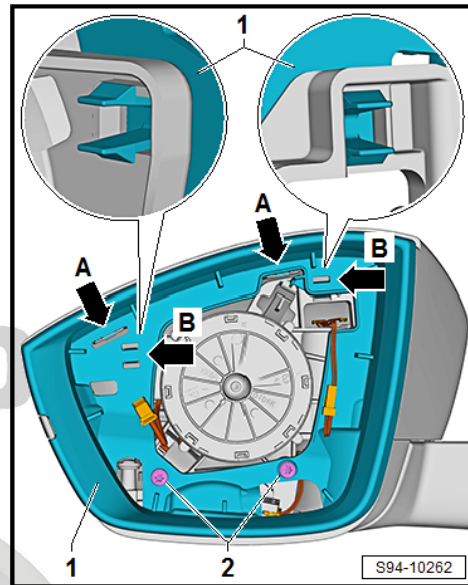
*Depending on equipment, the lighting consists of one light bulb or of LEDs. LEDs cannot be replaced separately.*

**Removing**

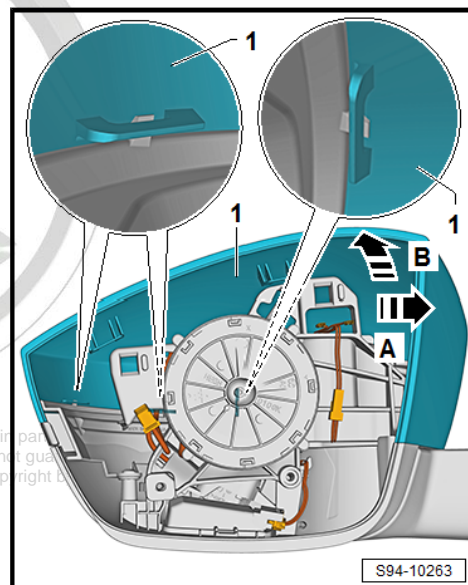
- Switch off the ignition and all electrical components.
- Remove mirror glass => General body repairs, exterior; Rep. gr. 66 ; Exterior mirror; installing and removing mirror glass .



- Remove screws -2-.
- Detach and remove cover -1- from the retaining tabs, arrows -A- and -B-.



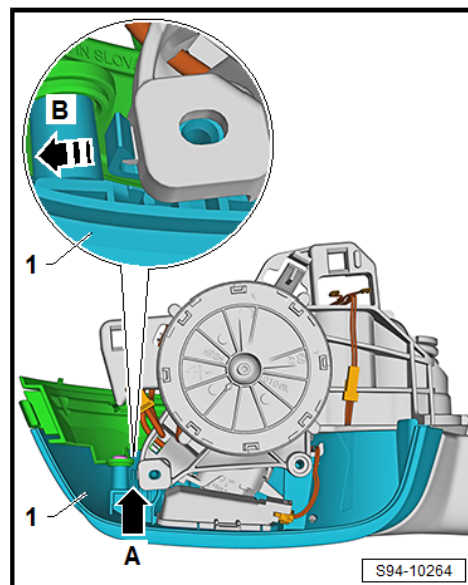
- Move the cover -1- in the direction of arrow -A- lightly and then remove in the direction of arrow -B-.



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- Press off the retaining tabs arrow -A- in direction of arrow -B- and lower cover -1- slightly.

Lighting with LEDs:



- Swivel out the lighting -1- slightly and remove -arrow-.
- Disconnect plug connection -2-.

Lighting with light bulb:

- Remove and replace the defective light bulb.

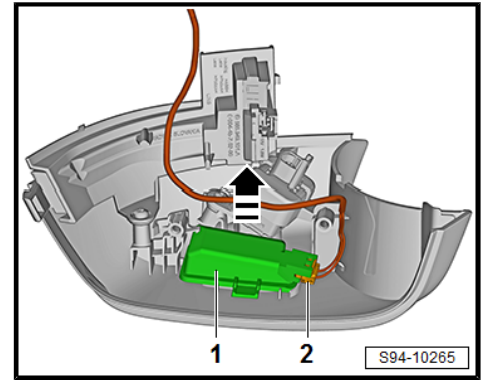
**Installing**

Installation is performed in the reverse order, pay attention to the following points:

- Performing functional tests of all functions.

**Specified torques**

Component	Tightening torque
Fixing screws for mirror cover	1 Nm



ŠKODA



## 4 Tail light

⇒ [“4.1 Installation overview - tail lamps”, page 92](#)

⇒ [“4.2 Removing and installing tail light”, page 93](#)

⇒ [“4.3 Removing and installing the tail light in the tailgate”, page 94](#)

⇒ [“4.4 Removing and installing fog tail light”, page 94](#)

⇒ [“4.5 Removing and installing reversing light bulb”, page 95](#)

⇒ [“4.6 Removing and installing the light bulb for the turn signal light”, page 96](#)

### 4.1 Installation overview - tail lamps

#### 1 - Screw

- 2 Nm

#### 2 - Lamp holder

#### 3 - Light bulb for the turn signal light

- WY16W
- Removing and installing  
⇒ [“4.6 Removing and installing the light bulb for the turn signal light”, page 96](#)

#### 4 - Light bulb for reversing light

- W16W
- Removing and installing  
⇒ [“4.5 Removing and installing reversing light bulb”, page 95](#)

#### 5 - Tail light

- Removing and installing  
⇒ [“4.2 Removing and installing tail light”, page 93](#)

#### 6 - Screws

- 3 Nm

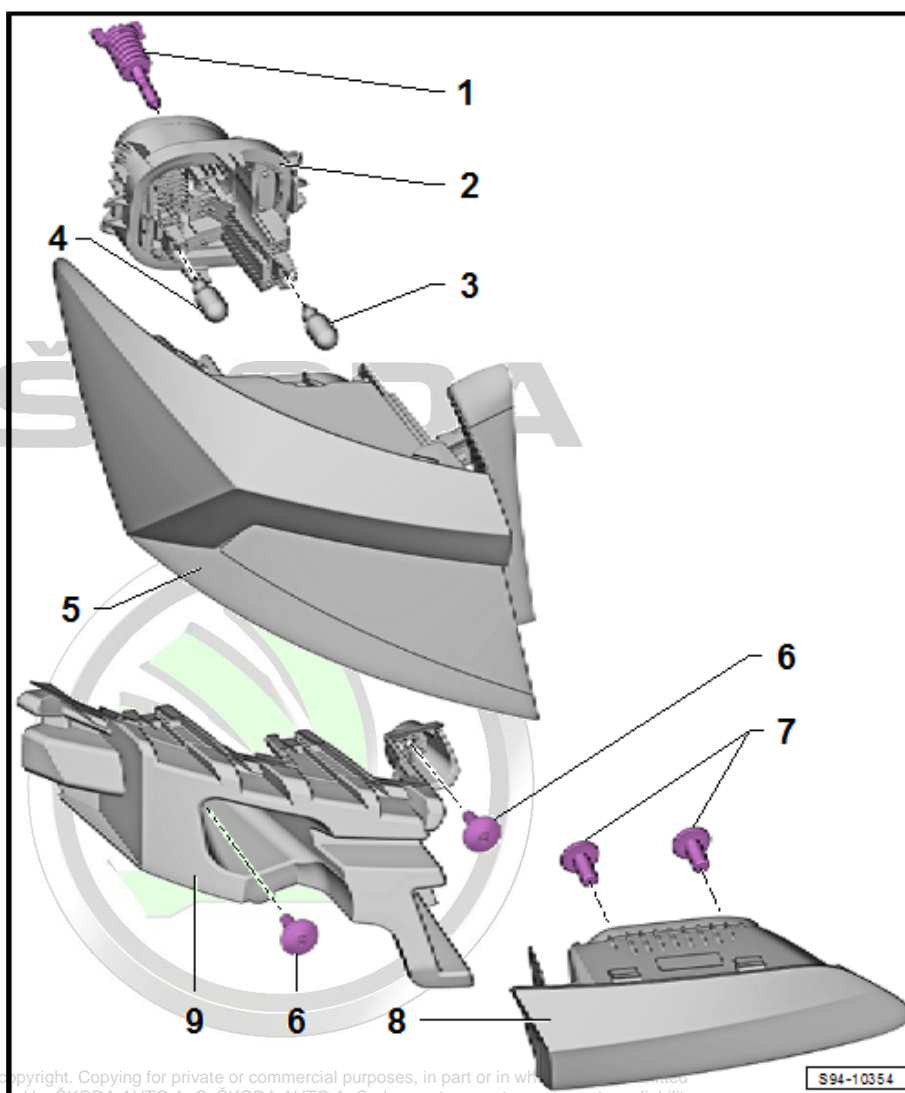
#### 7 - Screws

- 3 Nm

#### 8 - Tail light in tailgate

- Removing and installing  
⇒ [“4.3 Removing and installing the tail light in the tailgate”, page 94](#)

#### 9 - Guide section



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## 4.2 Removing and installing tail light

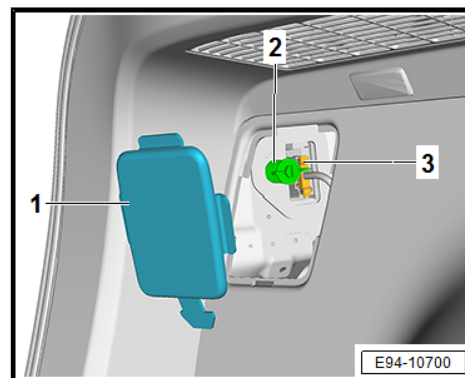
### Removing



#### Caution

*The black side cover of the light can not be dismantled.*

- Switch off the ignition and all electrical components.
- Remove cover -1- and screw -2- (Screw remains in the body, it is provided with a safety device against falling).



- Remove light -1-, taking into account the lengths of attached wires -arrow-.
- Release connector and remove it.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

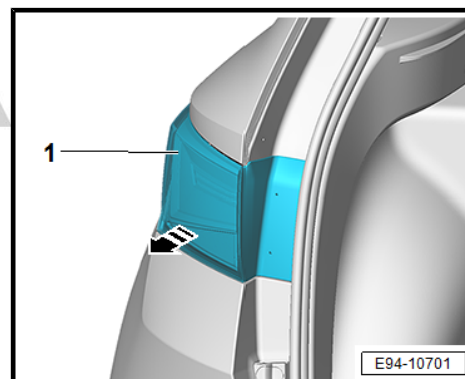


#### Caution

*Hazard caused by water ingress and functional faults of the light.*

*When inserting the lights into the assembly opening, ensure that the connection wiring loom is inserted into the vehicle cockpit.*

*Crushed cables between the body and lights causes significant leakage of rainwater and electrical installation damage.*



- Insert the light into the guide grooves in the guide profile under the light.



#### Note

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- ◆ *Pay attention to the correct fitting and undamaged seals.*
- ◆ *There are two adjusting elements under the inner side to adjust the light in the body.*
- The tail light can be adjusted ⇒ Body Repairs; Rep. gr. 00 ; Body gap dimensions ,

### Specified torques

- ◆ ⇒ ["4.1 Installation overview - tail lamps", page 92](#)

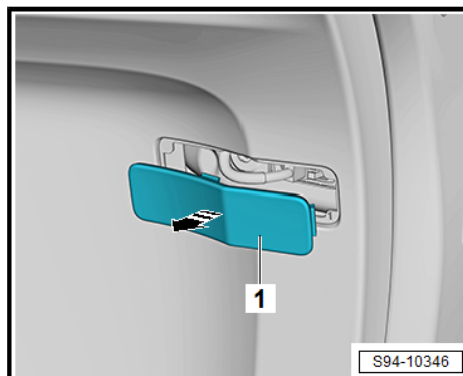
## 4.3 Removing and installing the tail light in the tailgate

### Note

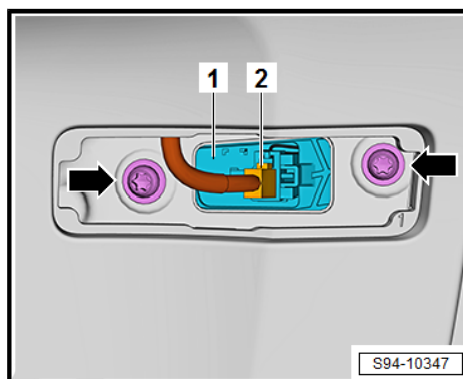
- ◆ *The lights are fitted with LEDs.*
- ◆ *LEDs cannot be replaced separately.*

### Removing

- Lever cap -1- out of the tailgate trim panel behind the tail light -arrow-.



- Remove screws -arrows-.



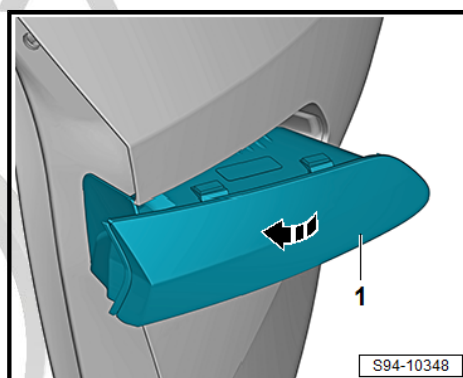
- Swivel out light -1- swing out -arrow- and remove from the assembly opening while taking the connected cable lengths into account.
- Unlock and pull off connector -2-.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

### Specified torques

- ◆ => ["4.1 Installation overview - tail lamps", page 92](#)



## 4.4 Removing and installing fog tail light

Rear fog light is located in the rear bumper on the driver's side.  
In the event of a fault, the fog light must be replaced completely.

### Removing

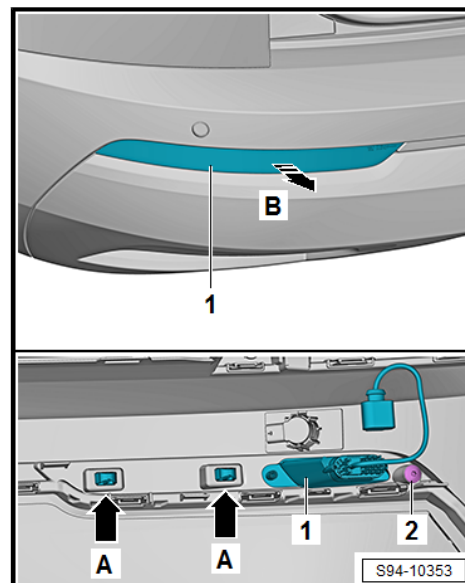
- Remove the rear bumper => General body repairs, exterior;  
Rep. gr. 63 ; Rear bumper; Removing and installing bumper.
- Disconnect the plug connection.



- Unscrew fixing screw -2-.
- Release the light -1- out of the catches arrows -A-.
- Remove the light in the direction of the arrow -B-.

**Installing**

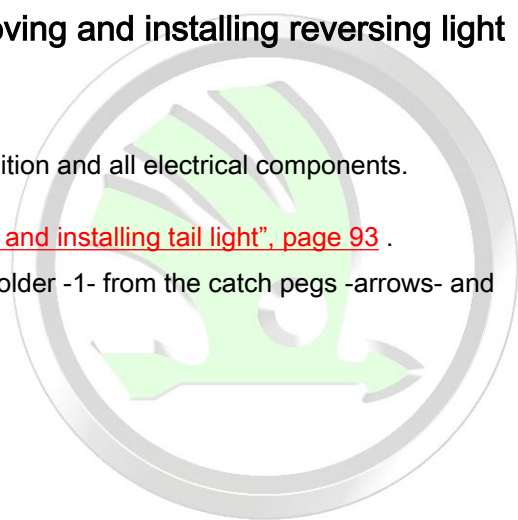
Installation is carried out in the reverse order.



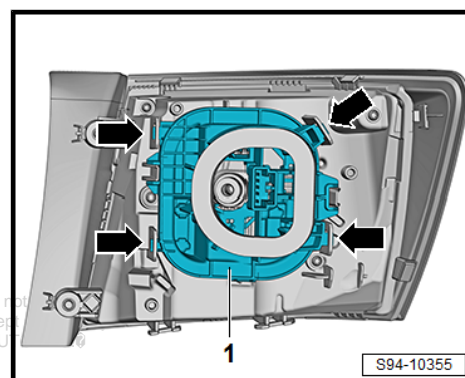
**4.5 Removing and installing reversing light bulb**

**Removing**

- Switch off the ignition and all electrical components.
- Remove tail light  
=> "4.2 Removing and installing tail light", page 93 .
- Unclip the bulb holder -1- from the catch pegs -arrows- and remove.



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- Remove defective light bulb -1- (W16W) from the socket and replace.

**Installing**

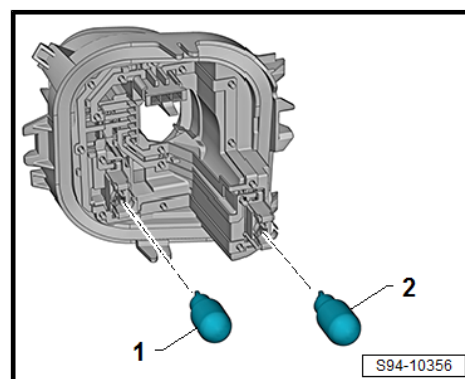
Installation is performed in the reverse order, pay attention to the following points:

**Caution**

*Hazard caused by water ingress and functional faults of the light.*

*When inserting the lights into the assembly opening, ensure that the connection wiring loom is inserted into the vehicle cockpit.*

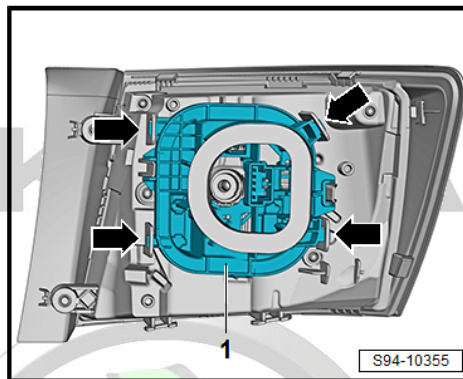
*Crushed cables between the body and lights causes significant leakage of rainwater and light malfunctions.*



## 4.6 Removing and installing the light bulb for the turn signal light

### Removing

- Switch off the ignition and all electrical components.
- Remove tail light  
⇒ [“4.2 Removing and installing tail light”, page 93](#) .
- Unclip the bulb holder -1- from the catch pegs -arrows- and remove.



- Remove defective light bulb -2- (WY16W) from the socket and replace.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

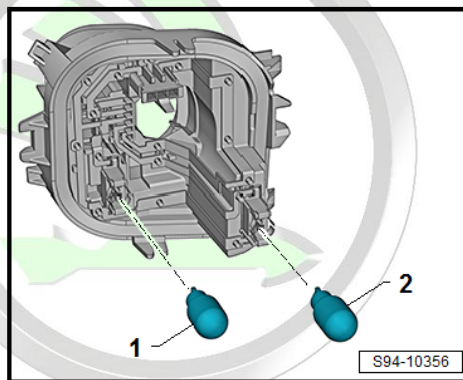


#### Caution

**Hazard caused by water ingress and functional faults of the light.**

**When inserting the lights into the assembly opening, ensure that the connection wiring loom is inserted into the vehicle cockpit.**

**Crushed cables between the body and lights causes significant leakage of rainwater and light malfunctions.**



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## 5 Additional brake light

⇒ ["5.1 Removing and installing high level brake light", page 97](#)

### 5.1 Removing and installing high level brake light



Note

*The high level brake light is fitted with LEDs which cannot be replaced individually.*



Caution

*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*

#### Special tools and workshop equipment required

- ◆ Wedge - T10383-

#### Removing

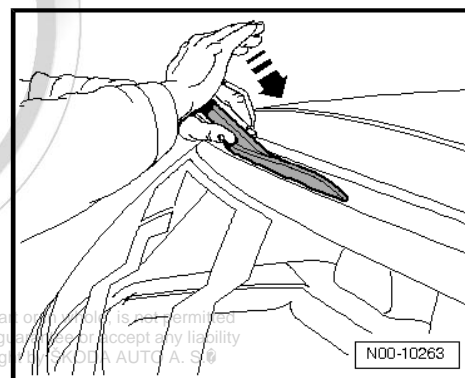
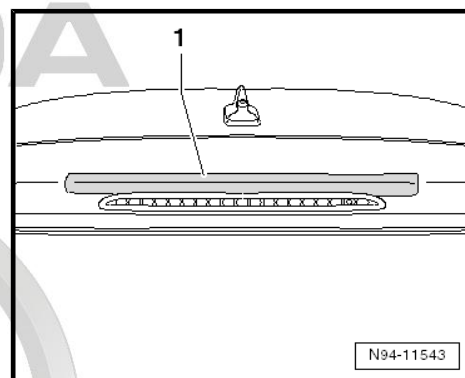
- Switch off the ignition and all electrical components.
- Attach a strip of commercially available adhesive tape -1- to the area of the rear lid above the bulb for the additional brake light.



Note

*During removal, move from the right to the left-hand side of the light.*

- Release the detents of the high-set brake light - M25- by pressing the assembly wedge - T10383- in the direction of travel between the body and the light.
- Pull light out of tailgate, taking connected wire lengths into account.



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- Unlock and disconnect hose connection -1-.
- Unlock and disconnect plug connection -2- and remove light.

### Installing

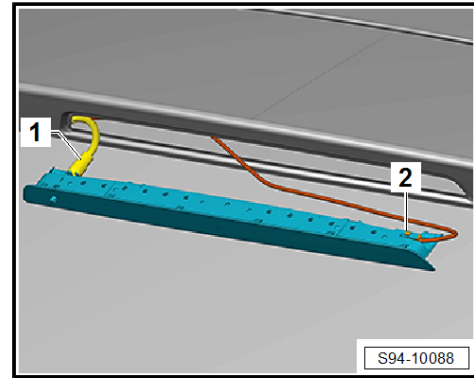
Installation is performed in the reverse order, pay attention to the following points:



### Note

*When installing the additional brake light bulb - M25- , ensure the seal is seated correctly. Make sure that the seal is undamaged and that no loops are formed.*

- Mount plug.
- Connect hose connection for spray jet. Ensure correct locking by pulling slightly on the connection.
- Press lamp for high level brake light, starting from the bottom edge, into the assembly opening until it audibly locks into place.
- Check the function of the lamp for high level brake light - M25- and of the rear window spray nozzle.



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## 6 Registration number lighting

⇒ **"6.1 Removing and installing licence plate carrier X4 / X5", page 99**

### 6.1 Removing and installing licence plate carrier - X4- / -X5-

 **Note**

*The light is fitted with LEDs. Replace the entire light in the event of a defect.*

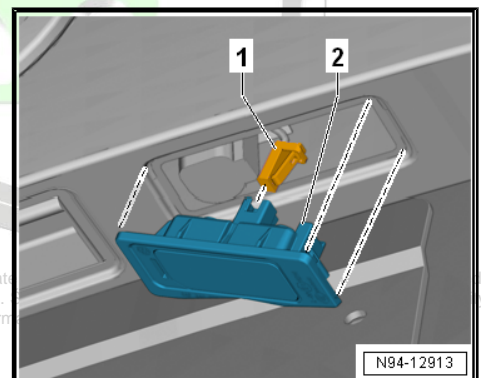
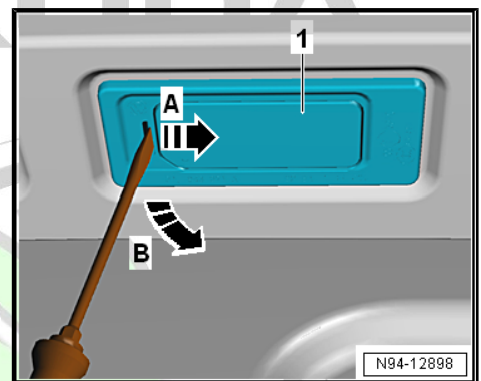
#### Removing

- Move the lamp -1- e.g. manually or using a screwdriver in direction of arrow -A- slightly.
- Swivel out lamp in direction of arrow -B- and remove.
- Disconnect plug.

#### Installing

- Reconnect connector -1-.

Carry out lamp Installation -2- in the reverse order to removal, see fig.



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## 7 Entry and start authorisation

⇒ [“7.1 Installation overview - entry and start authorisation”, page 100](#)

⇒ [“7.2 Removing and installing the interface for entry and start system J965”, page 102](#)

⇒ [“7.3 Install and remove interior aerial 1 for entry and start system R138”, page 103](#)

⇒ [“7.4 Install and remove aerial in luggage compartment for entry and start system R137”, page 103](#)

⇒ [“7.5 Install and remove aerial in rear bumper for entry and start system R136”, page 104](#)

⇒ [“7.6 Removing and installing control unit for tailgate opening J938”, page 104](#)

⇒ [“7.7 Removing and installing sender for tailgate opening G750 / G760”, page 105](#)

### 7.1 Installation overview - entry and start authorisation

⇒ [“7.1.1 Installation overview - keyless entry authorisation”, page 100](#)

⇒ [“7.1.2 Installation overview - keyless start authorisation”, page 102](#)

#### 7.1.1 Installation overview - keyless entry authorisation

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**1 - Aerial and sensors**

- in the outer door handle on the front passenger side
- not replaceable individually
- In the event of a fault, replace the outer door handle completely ⇒ General body repairs, exterior; Rep. gr. 57 ; Door internal parts; installing and removing door handle .

**2 - Interface for entry and start system - J965-**

- on the support of the heating and air conditioning unit on the driver's side
- Removing and installing ⇒ [“7.2 Removing and installing the interface for entry and start system J965”, page 102](#)

**3 - Aerial**

- under the centre console in the centre
- Removing and installing ⇒ [“7.3 Install and remove interior aerial 1 for entry and start system R138”, page 103](#)

**4 - Aerial**

- on the longitudinal beam in the centre behind the rear bench seat
- Removing and installing ⇒ [“7.4 Install and remove aerial in luggage compartment for entry and start system R137”, page 103](#)

**5 - Rear lid control unit - J938-**

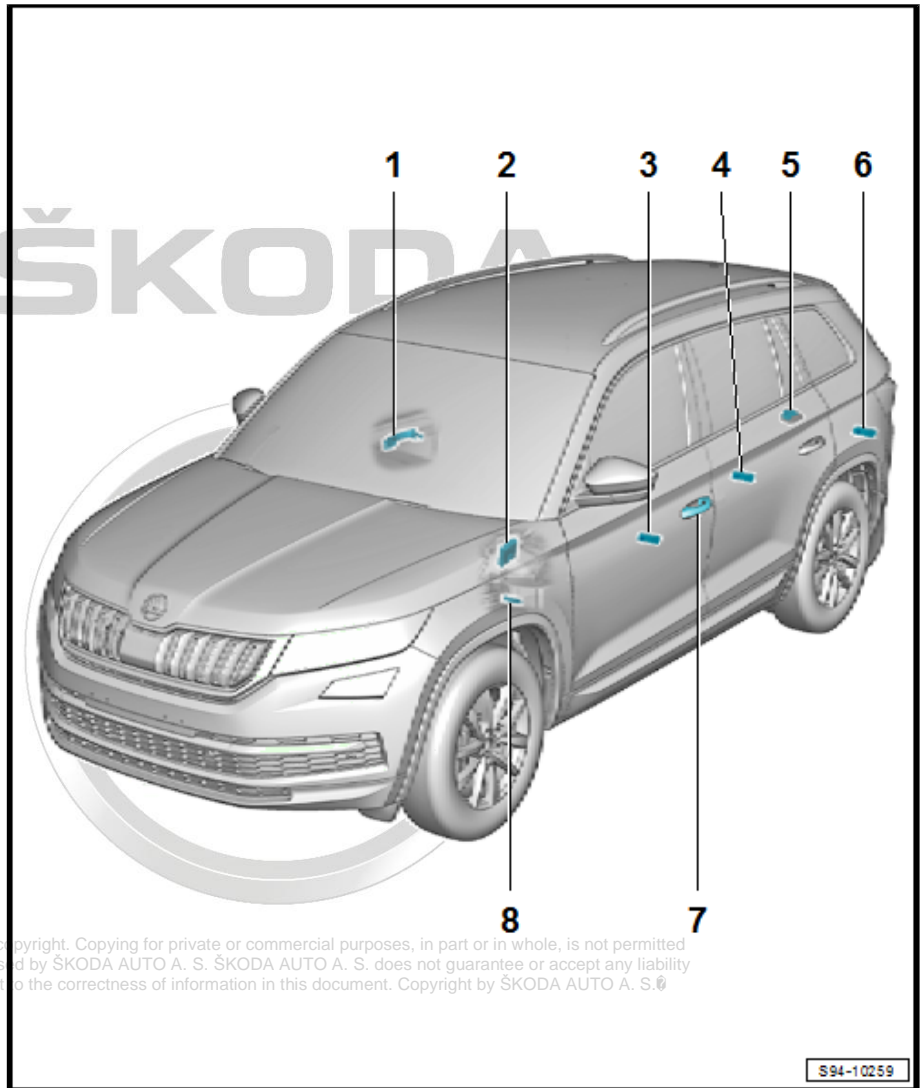
- Removing and installing ⇒ [“7.6 Removing and installing control unit for tailgate opening J938”, page 104](#)

**6 - Aerial**

- under the rear bumper
- Removing and installing ⇒ [“7.5 Install and remove aerial in rear bumper for entry and start system R136”, page 104](#)

**7 - Aerial and sensors**

- in the outer door handle on the driver's side
- not replaceable individually
- In the event of a fault, replace the outer door handle completely ⇒ General body repairs, exterior; Rep. gr. 57 ; Door internal parts; installing and removing door handle .



**Other components with which the interface for entry and start system communicates via the CAN bus**

- ◆ Onboard supply control unit - J519-
- ◆ Gateway data bus diagnostic interface - J533-



- ◆ Dash panel insert
- ◆ Selector lever of the automatic gearbox (vehicles with automatic gearbox)
- ◆ Engine control unit
- ◆ Control unit for ABS/ESC

## 7.1.2 Installation overview - keyless start authorisation

### 1 - Start/stop button

- ❑ Removing and installing  
⇒ ["2.4 Removing and installing start-stop mode switch E693"](#), page 143

### 2 - Immobiliser reader coil for emergency start

- ❑ Removing and installing  
⇒ ["4.1 Removing and installing immobiliser reading coil"](#), page 158

### 3 - Electronic steering column lock control unit - J764-

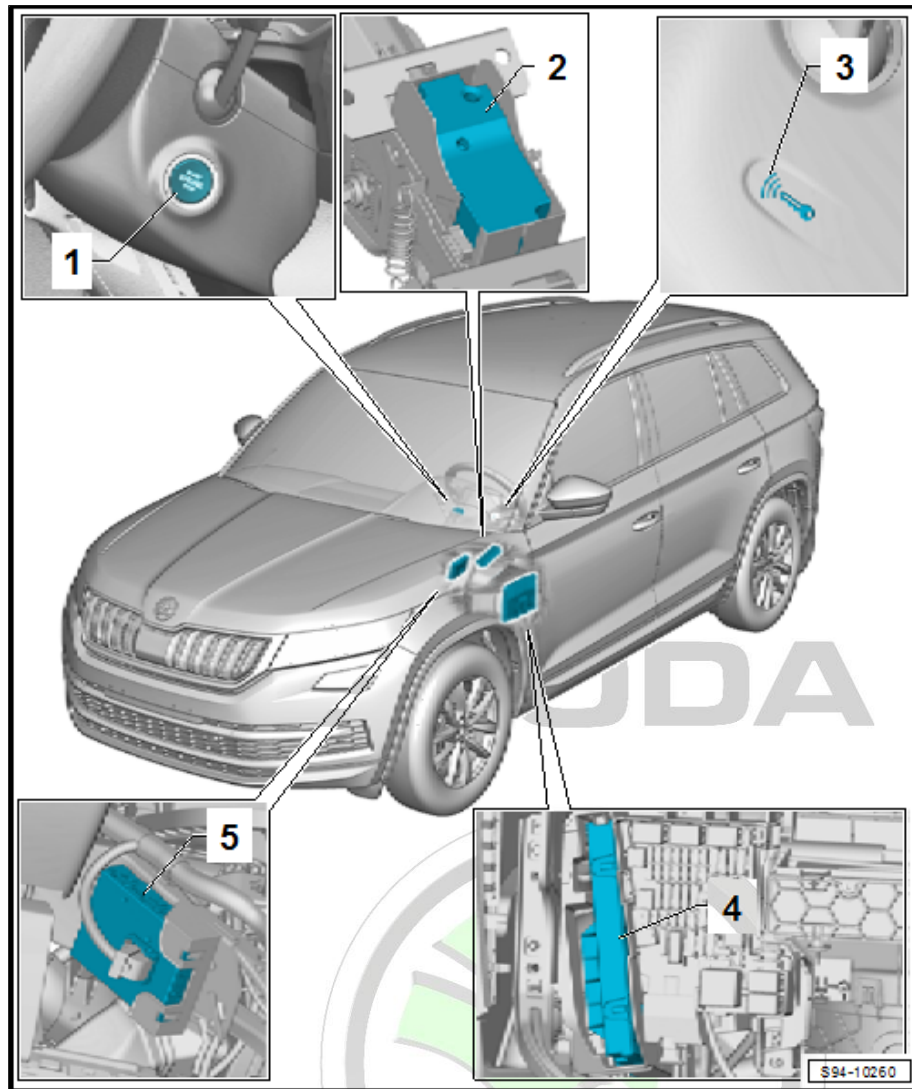
- ❑ Removing and installing  
⇒ Chassis, axles, steering; Rep. gr. 48 ; Steering column; Removing and installing the electronic steering column lock control unit - J764-

### 4 - Onboard supply control unit - J519-

- ❑ Removing and installing  
⇒ ["2.2 Removing and installing the vehicle voltage control unit J519"](#), page 174

### 5 - Interface for entry and start system - J965-

- ❑ on the support of the heating and air conditioning unit on the driver's side
- ❑ Removing and installing  
⇒ ["7.2 Removing and installing the interface for entry and start system J965"](#), page 102



## 7.2 Removing and installing the interface for entry and start system - J965-

On vehicles with left-hand and right hand drive, the control unit is located in the driver side heating and air conditioning unit.

### Removing

- Remove knee airbag ⇒ Interior body work; Rep. gr. 69 ; Knee airbags; removing and installing knee airbag with ignition .
- Remove the driver side footwell vent ⇒ Heating system, air conditioning system; Rep. gr. 87 ; Air duct; Remove and install driver side footwell vent .

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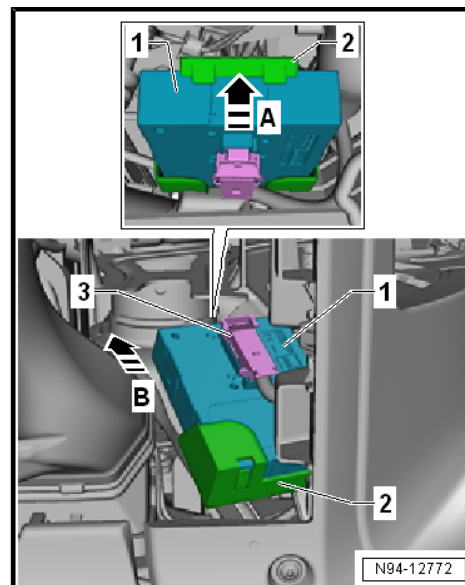


- Remove bottom steering column trim panel ⇒ General body repairs, interior; Rep. gr. 68 ; Installing and removing bottom steering column trim panel .
- Push off the locking lugs in direction of arrow -A- and move control unit -1- in direction of arrow -B- away from the holder -2-.
- Disconnect plug connection -3- by unlocking and tilting out the clamp.

#### Installing

Installation is performed in the reverse order, pay attention to the following points:

- If the control unit has been replaced, code using ⇒ Vehicle diagnostic tester. The ⇒ Vehicle diagnostic tester must be connected and online.
- Test the complete system for proper operation.



### 7.3 Install and remove interior aerial 1 for entry and start system - R138-

The aerial is located at the holder in front of the control lever.

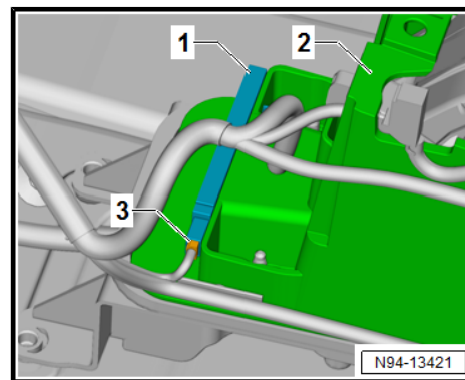
#### Removing

- Switch off the ignition and all electrical components.
- Remove centre console ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Removing and installing centre console .
- Detach and raise air guide duct under centre console ⇒ Heating, Air Conditioning; Rep. gr. 87 ; Air guide; removing and install air guide ducts .
- Using the lever (e.g. -MP8-602/1-), lever out the aerial -1- from the holder -2- and disconnect the connector -3-.

#### Installing

- Connect plug and press the aerial back into the holder.

Further installation occurs in reverse order.



### 7.4 Install and remove aerial in luggage compartment for entry and start system - R137-

#### Removing

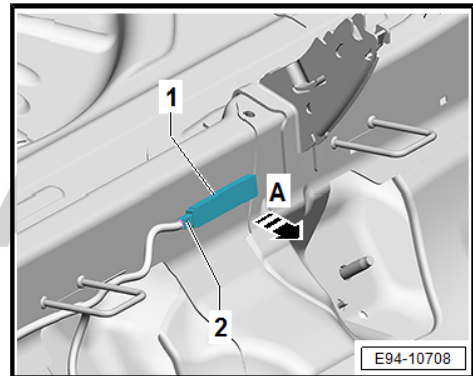
- Switch off the ignition and all electrical components.
- Remove rear seats/ folding forwards and backwards (depending on equipment fitted) ⇒ General body repairs, interior; Rep.

gr. 72 ; Rear seat; Removing and installing bench seat / individual seats .

- Detach and raise floor covering between spare wheel well and the second seat row.
- Using the lever (e.g. -MP8-602/1- ), remove the aerial -1- in direction of arrow -A- and remove the connector -2-.

#### Installing

Installation is carried out in the reverse order.



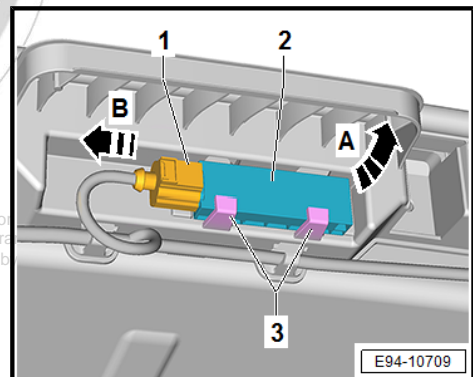
### 7.5 Install and remove aerial in rear bumper for entry and start system - R136-

#### Removing

- Switch off the ignition and all electrical components.
- Remove the rear bumper ⇒ General body repairs, exterior; Rep. gr. 63 ; Rear bumper; Removing and installing bumper .
- Swivel out antenna -2- in the direction of arrow -A- slightly swing out and then put it out of the supports in the direction of the arrow -B- -3-.
- Disconnect plug connection -1-.

#### Installing

Installation is carried out in the reverse order.



### 7.6 Removing and installing control unit for tailgate opening - J938-

#### Removing

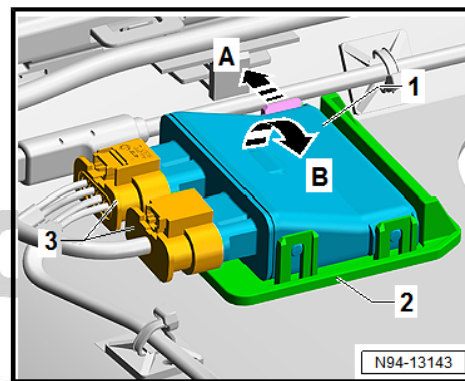
- Switch off the ignition and all electrical components.
- Remove the rear bumper ⇒ General body repairs, exterior; Rep. gr. 63 ; Rear bumper; Removing and installing bumper .
- Unlock and pull off connector -3-.

- Push off the retaining tab in direction of arrow -A-.
- Swivel out control unit -1- in the direction of the arrow -B- and remove from mounting bracket -2-.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Check proper function, where necessary connect the ⇒ Vehicle diagnostic tester, query the event memory and delete any event memory entries.
- When replacing the control unit, connect the ⇒ Vehicle diagnostic tester and code/parameterise the interface for entry and start system - J965- .



## 7.7 Removing and installing sender for tailgate opening -G750- / -G760-

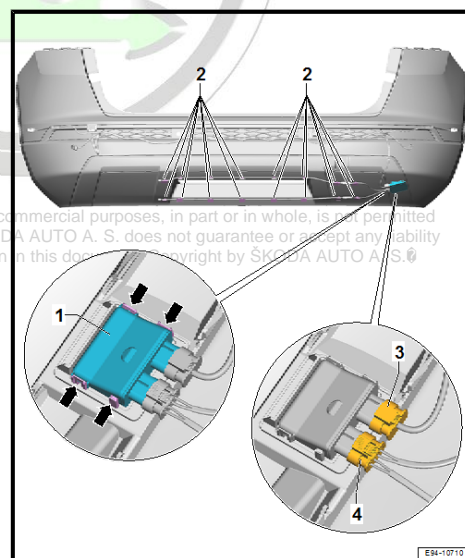
### Removing

- Switch off the ignition and all electrical components.
- Remove the rear bumper ⇒ General body repairs, exterior; Rep. gr. 63 ; Rear bumper; Removing and installing bumper .
- Release plug -3- and remove from the control unit for tailgate opening - J938- .
- Loosen and remove the encoder for tailgate opening -G750- / -G760- from the cable ties -2-.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Replace cable ties -2- if required.





## 8 Switch unit on the steering column

⇒ [“8.1 Summary of components - switch unit on the steering column”, page 106](#)

⇒ [“8.2 Removing and installing switch unit on the steering column”, page 109](#)

⇒ [“8.3 Removing and installing steering column electronics control unit J527”, page 111](#)

⇒ [“8.4 Removing and installing base holder for steering column combination switch”, page 113](#)

⇒ [“8.5 Contact assignment on the steering column electronics control unit”, page 114](#)

⇒ [“8.6 Removing and installing ignition/starter switch”, page 114](#)

⇒ [“8.7 Removing and installing lock cylinder”, page 115](#)

⇒ [“8.8 Removing and installing steering lock housing”, page 116](#)

⇒ [“8.9 Removing and installing ignition key anti-removal lock solenoid N376”, page 117](#)

### 8.1 Summary of components - switch unit on the steering column

⇒ [“8.1.1 Summary of components - steering column switch with mechanical ignition/starter switch”, page 106](#)

⇒ [“8.1.2 Summary of components of steering column switch with control unit for electronic steering column lock J764”, page 108](#)

#### 8.1.1 Summary of components - steering column switch with mechanical ignition/starter switch



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**1 - Pull-off screws**

- 2 units
- Tighten until the screw heads are torn off.

**2 - Steering column**

**3 - Switch unit on the steering column**

- with turn signal light switch - E2- and wiper switch for intermittent operation - E22-
- Equipment variant with CCS: with CCS switch - E45-
- Removing and installing ⇒ ["8.2 Removing and installing switch unit on the steering column"](#), page 109

**4 - Base holder for steering column combination switch**

- Removing and installing ⇒ ["8.4 Removing and installing base holder for steering column combination switch"](#), page 113

**5 - Lock cylinder**

- Removing and installing ⇒ ["8.7 Removing and installing lock cylinder"](#), page 115

**6 - Ignition key**

**7 - Screw**

- 1.1 Nm

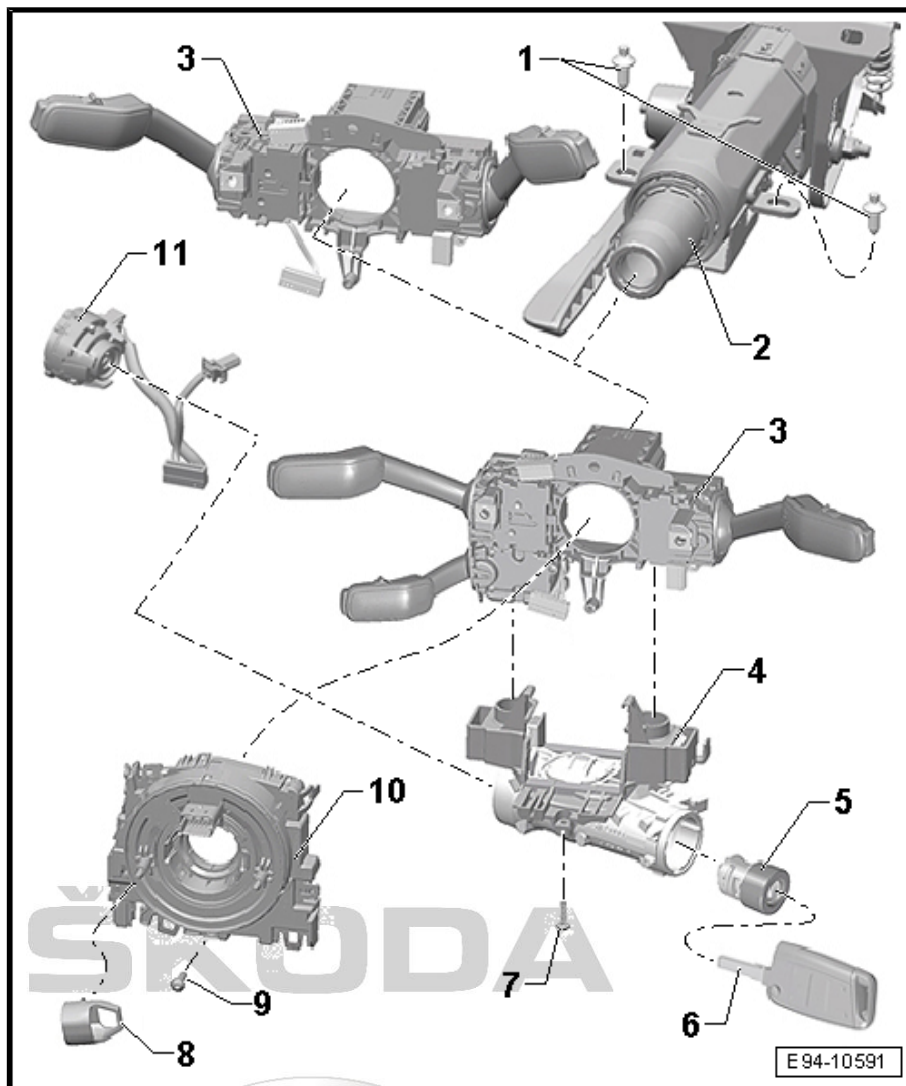
**8 - Transport security**

**9 - Screw**

- 1.1 Nm

**10 - Steering column electronics control unit - J527-**

- with airbag coil connector and return spring with slip ring - F138-
- Removing and installing ⇒ ["8.3 Removing and installing steering column electronics control unit J527"](#), page 111



**Caution**

*Risk of damaging the restoring ring.*

*The restoring ring and slip ring must not be rotated against each other while they are dismantled.*

**11 - Ignition starter switch - D-**

- Removing and installing ⇒ ["8.6 Removing and installing ignition/starter switch"](#), page 114

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## 8.1.2 Summary of components of steering column switch with control unit for electronic steering column lock - J764-

### 1 - Start/stop operation switch - E693-

- Removing and installing ⇒ ["2.4 Removing and installing start-stop mode switch E693"](#), page 143

### 2 - Steering column electronics control unit - J527-

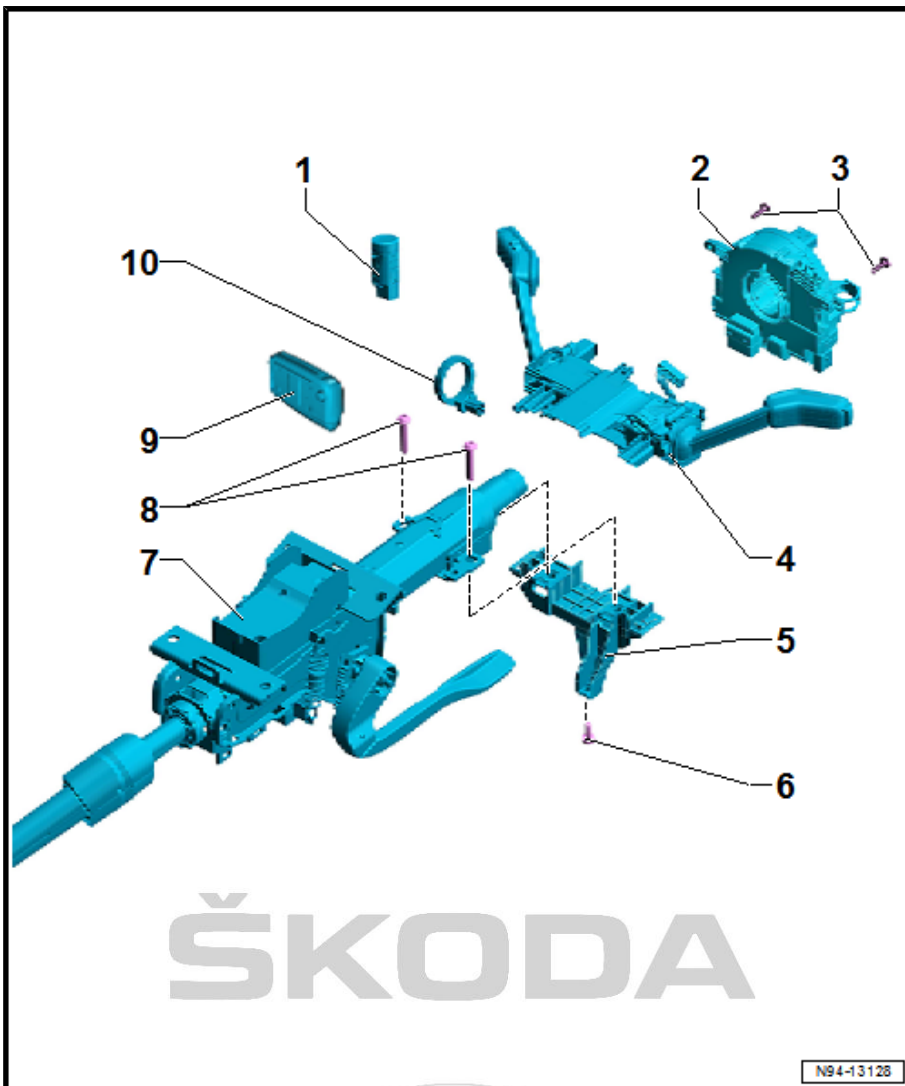
- with airbag coil connector and return spring with slip ring - F138-
- Removing and installing ⇒ ["8.3 Removing and installing steering column electronics control unit J527"](#), page 111



#### Caution

*Risk of damaging the restoring ring.*

*The restoring ring and slip ring must not be rotated against each other while they are dismantled.*



### 3 - Screw

- 3 units
- 1.1 Nm

### 4 - Switch unit on the steering column

- with turn signal light switch - E2- and wiper switch for intermittent operation - E22-
- Equipment variant with CCS: with CCS switch - E45-
- Removing and installing ⇒ ["8.2 Removing and installing switch unit on the steering column"](#), page 109

### 5 - Switch carrier on the steering column

- Removing and installing ⇒ ["8.2 Removing and installing switch unit on the steering column"](#), page 109

### 6 - Screw

- 1.1 Nm

### 7 - Electronic steering column lock control unit - J764-

- Removing and installing ⇒ Chassis, axles, steering; Rep. gr. 48 ; Steering column; Removing and installing the electronic steering column lock control unit - J764-

### 8 - Screw

- 2 units
- 9 Nm



## 9 - Ignition key

### 10 - Immobiliser reader coil - D2-

- ❑ Removing and installing ⇒ [“4.1 Removing and installing immobiliser reading coil”, page 158](#)

## 8.2 Removing and installing switch unit on the steering column

### Note

- ◆ *The indicator light switch - E2- , switch for GRA - E45- and wiper switch for intermittent operation - E22- together make up the switch unit on the steering column.*
- ◆ *If one of the switches fail, the switches on the steering column will need to be replaced as a single unit.*

### Removing

### Note

*Before the steering wheel is removed from the steering column, the wheels must be in the straight ahead position.*

- Lock the steering wheel moved out to the lower position as far as possible.
- Remove steering wheel ⇒ Chassis, axles, steering; Rep. gr. 48 ; Steering wheel; removing and installing steering wheel .

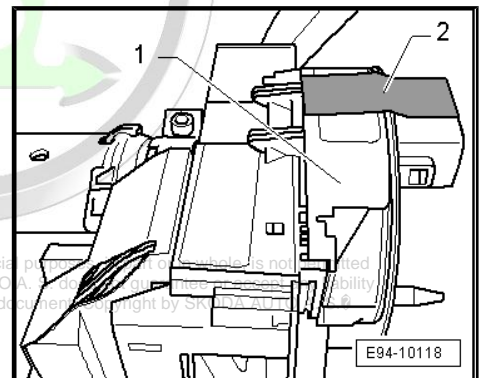


### Caution

***Risk of damaging the restoring ring.***

***The restoring ring and slip ring must not be rotated against each other while they are dismantled and after removal of the steering wheel.***

***Prevent the restoring ring -1- from turning in the centre position with a transport safety device or adhesive tape -2-.***



- Removing top and bottom steering column trim ⇒ General body repairs, interior; Rep. gr. 68 ; Compartments/covers .

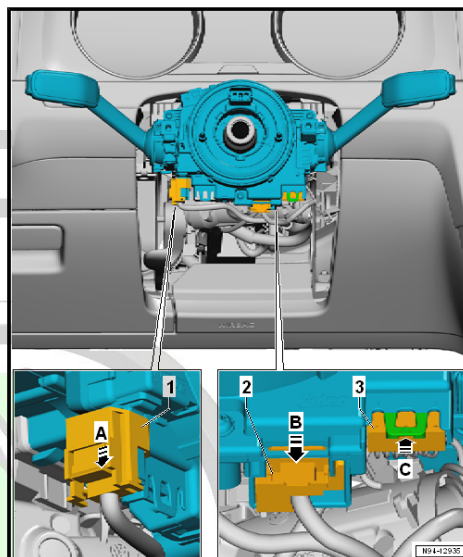


### Caution

***Risk of destruction of electronic components by static discharge.***

***Prior to disconnecting the electrical plug connection the mechanic must discharge electrostatic, for example by briefly touching the door closure strut.***

- Push out connector locks in direction of arrow -A- and -B-.
- Disconnect connectors -1- and -2-.
- Press connector lock in direction of arrow -C- and remove connector -3-.



- Press catches -1- on both sides in direction of arrow -A-.
- Pull off the switch unit from the steering column -2- slightly.
- Push off lower catch -3- in direction of arrow -B- and push out switch unit from steering column.

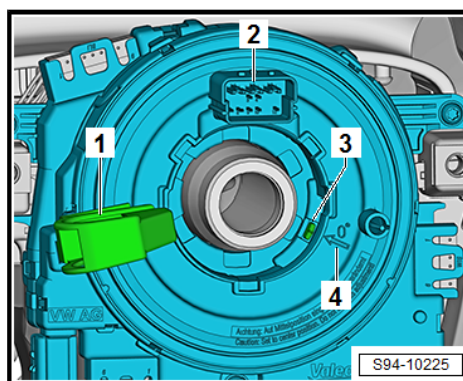
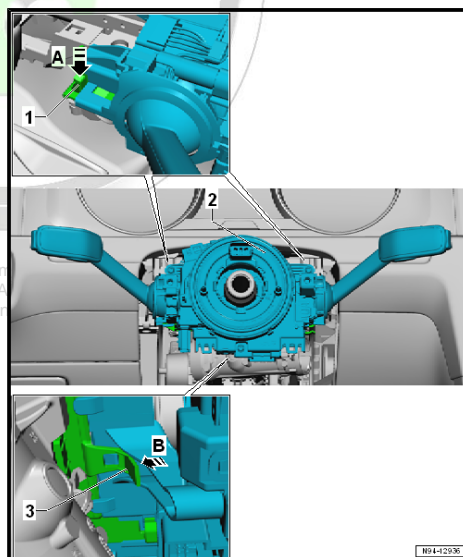
### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Make sure that all the retaining lugs and plug connections lock in place correctly.
- Before pushing out the control unit on the switch unit the indicator lever must be in the 0 position and the ring rotor must be set to 0° position.

In case of doubt whether the rotor for the steering column electronics control unit - J527- is at 0° position, the correct position can be checked as follows:

- Put the wheels in straight-ahead position.
- The plug -2- on the rotor of the control unit is at top centre.
- A rectangular section is visible in the inspection hole -3- and the arrow -4- is pointing to it.
- If the section cannot be seen, then carefully and gently turn to the left with the rotor for steering column electronics control unit - J527- until there is moderate contact.
- Then turn the plug approx. 2 turns to the right so that the plug -2- is at top centre and the rectangular section can be seen in the inspection hole -3-.
- Before installing the steering wheel, remove the transport protection -1-, if applicable the adhesive tape, with which the rotor -2- has been locked in centre position.



## 8.3 Removing and installing steering column electronics control unit - J527-

### Note

- ◆ *The airbag coil connector and return spring with slip ring - J527- are integrated into the steering column electronics control unit - F138- .*
- ◆ *If the control unit is replaced, select the "replace control unit" function of the respective control unit⇒ Vehicle diagnostic tester.*

### Removing

### Note

*Before the steering wheel is removed from the steering column, the wheels must be in the straight ahead position.*

- Lock the steering wheel moved out to the lower position as far as possible.
- Remove steering wheel ⇒ Chassis, axles, steering; Rep. gr. 48 ; Steering wheel; removing and installing steering wheel .



### Caution

***Risk of damaging the restoring ring.***

***The restoring ring and slip ring must not be rotated against each other while they are dismantled and after removal of the steering wheel.***

***Prevent the restoring ring from turning in the centre position with a transport security or piece of tape.***

- Removing top and bottom steering column trim ⇒ General body repairs, interior; Rep. gr. 68 ; Compartments/covers .

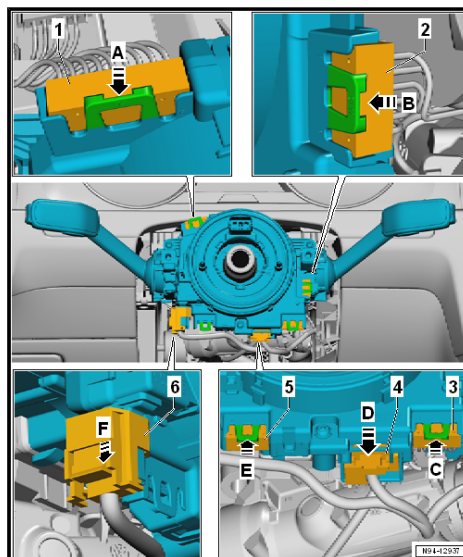


### Caution

***Risk of destruction of electronic components by static discharge.***

***Prior to disconnecting the electrical plug connection the mechanic must discharge electrostatic, for example by briefly touching the door closure strut.***

- Press locking elements in direction of arrows -A-, -B-, -C- and -E- in sequence, and remove connector -1-, -2-, -3- and -5-.
- Push out locking elements in sequence in direction of arrow -D- and -F- and remove connectors -4- and -6-.



- Unscrew screws -1- and remove control unit -2- from switch unit.

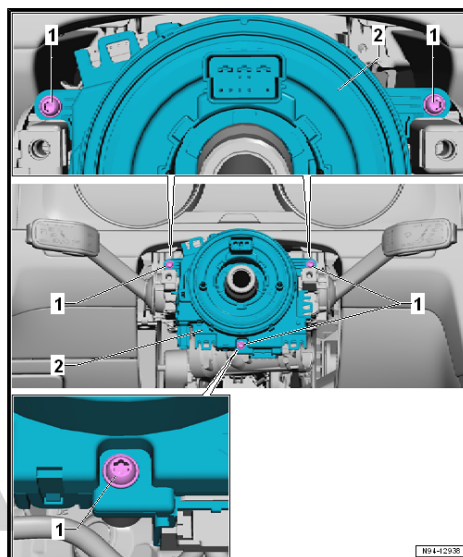
### Installing

Installation is performed in the reverse order, pay attention to the following points:

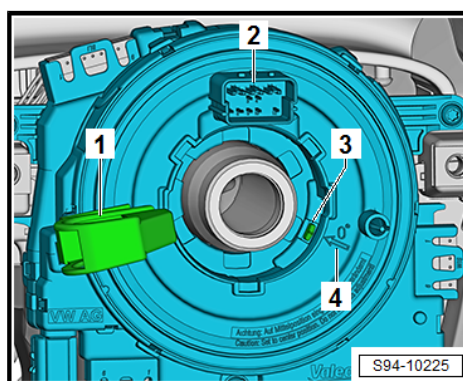
- Make sure that all the retaining lugs and plug connections lock in place correctly.
- Before pushing out the control unit on the switch unit the indicator lever must be in the 0 position and the ring rotor must be set to 0° position.

In case of doubt whether the rotor for the steering column electronics control unit - J527- is at 0° position, the correct position can be checked as follows:

- Put the wheels in straight-ahead position.



- The plug -2- on the rotor of the control unit is at top centre.
- A rectangular section is visible in the inspection hole -3- and the arrow -4- is pointing to it.
- If the section cannot be seen, then carefully and gently turn to the left with the rotor for steering column electronics control unit - J527- until there is moderate contact.
- Then turn the plug approx. 2 turns to the right so that the plug -2- is at top centre and the rectangular section can be seen in the inspection hole -3-.
- Before installing the steering wheel, remove the transport protection -1-, if applicable the adhesive tape, with which the rotor -2- has been locked in centre position.



### Specified torques

- ◆ ⇒ ["8.1 Summary of components - switch unit on the steering column", page 106](#)

## 8.4 Removing and installing base holder for steering column combination switch

⇒ [“8.4.1 Removing and installing base holder for steering column combination switch - Vehicles with mechanical ignition starter switch”, page 113](#)

⇒ [“8.4.2 Removing and installing base holder for steering column combination switch - Vehicles with electronic steering column lock control unit J764”, page 113](#)

### 8.4.1 Removing and installing base holder for steering column combination switch - Vehicles with mechanical ignition starter switch

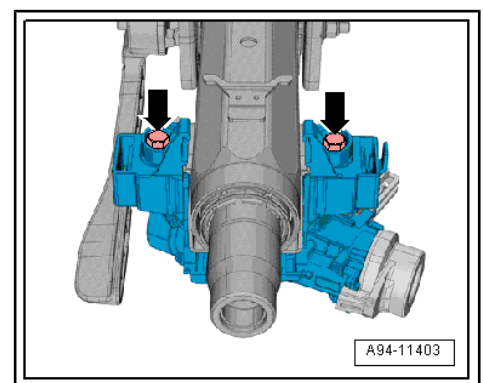
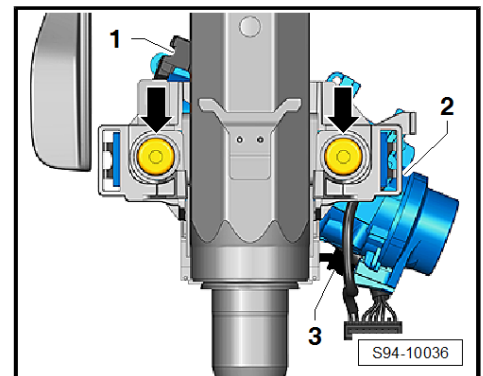
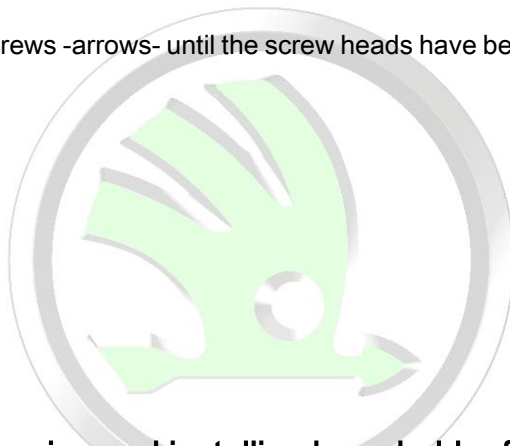
#### Removing

- Remove steering wheel ⇒ Chassis, axles, steering; Rep. gr. 48 ; Steering wheel; removing and installing steering wheel .
- Removing top and bottom steering column trim ⇒ General body repairs, interior; Rep. gr. 68 ; Compartments/covers .
- Remove the switch unit on the steering column  
⇒ [“8.2 Removing and installing switch unit on the steering column”, page 109](#) .
- Disconnect plug connections -1- and -3-.
- Drill off screws -arrows- with angle drill with a drill bit of  $\varnothing$  8.5 mm.
- Remove steering lock housing -2- with ignition/starter switch and lock cylinder.

#### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Tighten new screws -arrows- until the screw heads have been broken off.



### 8.4.2 Removing and installing base holder for steering column combination switch - Vehicles with electronic steering column lock control unit - J764-

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#### Removing

- Remove steering wheel ⇒ Chassis, axles, steering; Rep. gr. 48 ; Steering wheel; removing and installing steering wheel .

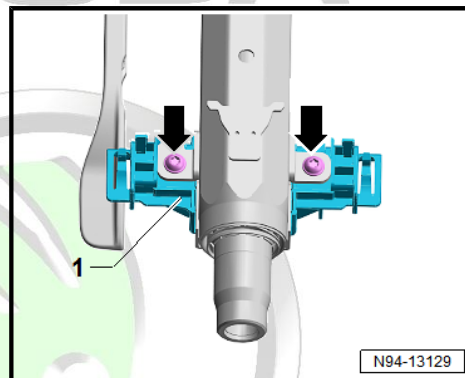
- Removing top and bottom steering column trim ⇒ General body repairs, interior; Rep. gr. 68 ; Compartments/covers .
- Remove the switch unit on the steering column  
⇒ [“8.2 Removing and installing switch unit on the steering column”, page 109](#) .
- Screw out the screws -arrows- and remove the control unit -1-.

### Installing

Installation is carried out in the reverse order.

### Specified torques

- ◆ ⇒ [“8.1.2 Summary of components of steering column switch with control unit for electronic steering column lock J764”](#), page 108



## 8.5 Contact assignment on the steering column electronics control unit

You can find the exact contact assignment in ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.

## 8.6 Removing and installing ignition/starter switch

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### Removing

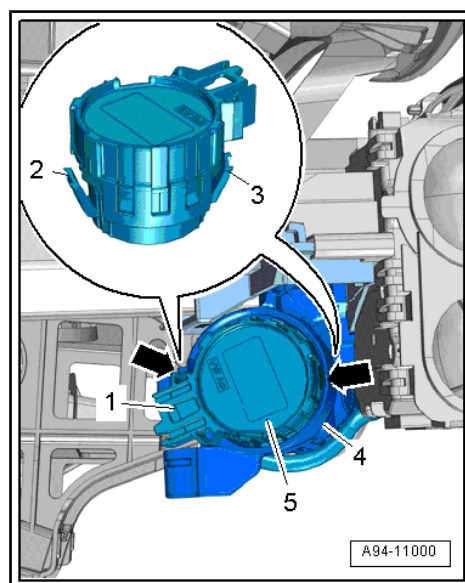


### Note

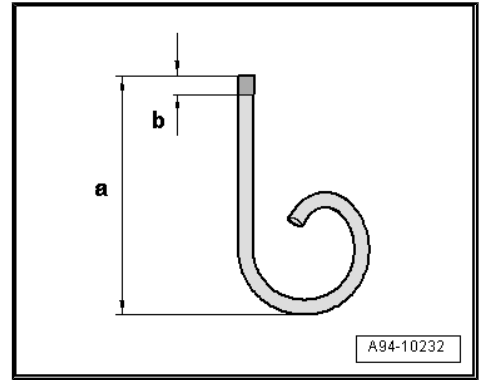
*The steering wheel must not be removed. For installing the fixing screws of the bottom trim panel for steering column, turn the steering wheel to the left by 90° and subsequently turn it to the right.*

- Removing top and bottom steering column trim ⇒ General body repairs, interior; Rep. gr. 68 ; Compartments/covers .
- Disconnect electrical plug connection -1-.
- On the cavities -arrows- in the steering lock housing -4-, unlock the holding clamps -2- and -3- by inserting watchmaker's screwdriver.

If this method is not possible for space reasons, make an auxiliary tool, as described below.



- At one end of a  $\varnothing$  1 mm welding wire, bend a loop and cut off a length -a-.
- Dimension -a- = approx. 50 mm
- File the end of the wire hook into a point.
- Dimension -b- = 5 mm.
- Pull the ignition/starter switch out of the steering lock housing
  - the watchmaker's screwdriver/wire hook must remain inserted while the housing is being removed.



### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Slide the ignition/starter switch into the steering lock housing until there is an audible click.

## 8.7 Removing and installing lock cylinder

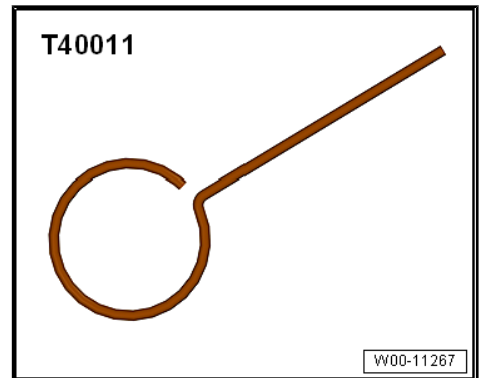


### Caution

*The steering lock must not be moved without the lock cylinder, otherwise it would block completely. The blocked steering lock must be replaced*

### Special tools and workshop equipment required

- ◆ Rig pin - T40011-



# ŠKODA

### Removing



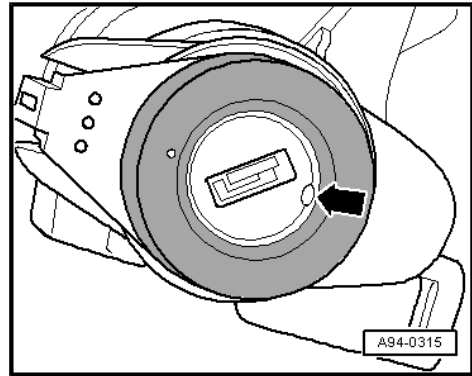
### Note

*The steering wheel must not be removed. For installing the fixing screws of the bottom trim panel for steering column, turn the steering wheel to the left by 90° and subsequently turn it to the right.*

- Removing top and bottom steering column trim ⇒ General body repairs, interior; Rep. gr. 68 ; Compartments/covers .



- Place the ignition key in the lock cylinder and turn to position “Ignition on”. The recess in the opening -arrow- of the drilled hole in the ignition lock acts as a cover .



- Insert a locking pin - T40011- -2- (or a wire about 1.2 mm in diameter) through the hole in the ignition key -arrow-.
- This unlocks the fuse -3- and the lock cylinder -1- can be pulled out of the steering lock.
- When pulling out the lock cylinder, carefully loosen the immobiliser reader coil cable.
- Separate plug connection for immobiliser -1-.

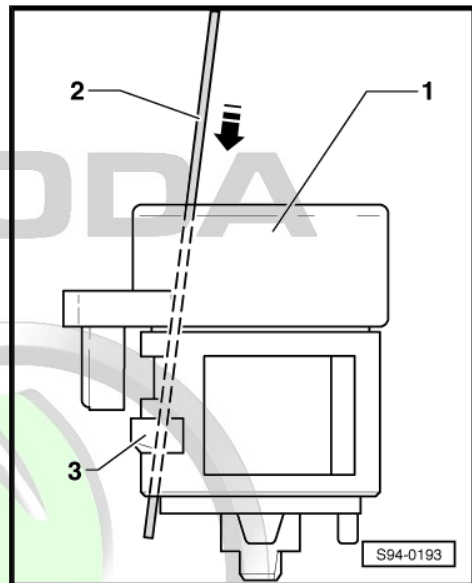
**Note**

*The reader coil for the vehicle immobiliser is fixed to the lock cylinder and cannot be replaced separately.*

**Installing**

Installation is performed in the reverse order, pay attention to the following points:

- Place the ignition key in the lock cylinder and turn to position “Ignition on”.
- Insert the locking pin - T40011- -2- (or wire) into the front bore -arrow-.
- Push lock cylinder with reader coil into the steering lock housing.
- Remove the locking pin - T40011- (wire) and lock cylinder until there is an audible click.
- Fit the connector together on the reading coil for immobiliser.

**Note**

*Pay attention to the correct position of the cable to the reader coil of the vehicle immobiliser when inserting the lock cylinder.*

## 8.8 Removing and installing steering lock housing

**Removing**

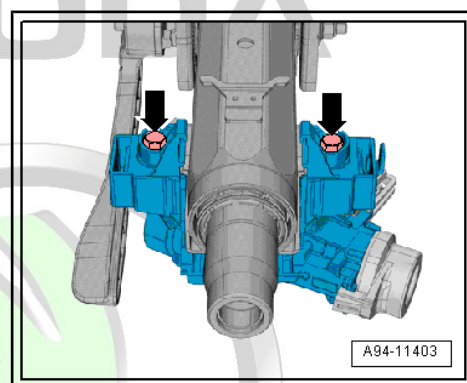
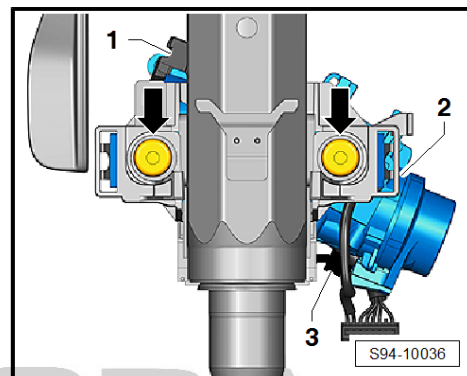
- Remove steering wheel ⇒ Chassis, axles, steering; Rep. gr. 48 ; Steering wheel; removing and installing steering wheel .
- Removing top and bottom steering column trim ⇒ General body repairs, interior; Rep. gr. 68 ; Compartments/covers .

- Remove the switch unit on the steering column  
 ⇒ ["8.2 Removing and installing switch unit on the steering column", page 109](#) .
- Disconnect plug connections -1- and -3-.
- Drill off screws -arrows- with angle drill with a drill bit of  $\varnothing$  8.5 mm.
- Remove steering lock housing -2- with ignition/starter switch and lock cylinder.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Tighten new screws -arrows- until the screw heads have been broken off.



## 8.9 Removing and installing ignition key anti-removal lock solenoid - N376-

only on some vehicles with automatic gearbox.

### Removing



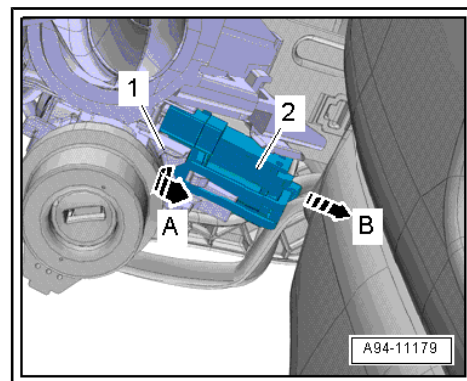
#### Note

*The steering wheel must not be removed. For installing the fixing screws of the bottom trim panel for steering column, turn the steering wheel to the left by 90° and subsequently turn it to the right.*

- Removing top and bottom steering column trim ⇒ General body repairs, interior; Rep. gr. 68 ; Compartments/covers .
- Unlock catch in direction of arrow -A- and remove ignition key anti-removal lock solenoid -2- in direction of arrow -B-.
- To do so unplug the connector simultaneously.

### Installing

Installation is carried out in the reverse order.





## 9 Parking aid

⇒ ["9.1 Assembly overview - parking aid", page 118](#)

⇒ ["9.2 Removing and installing the parking aid control unit J446", page 120](#)

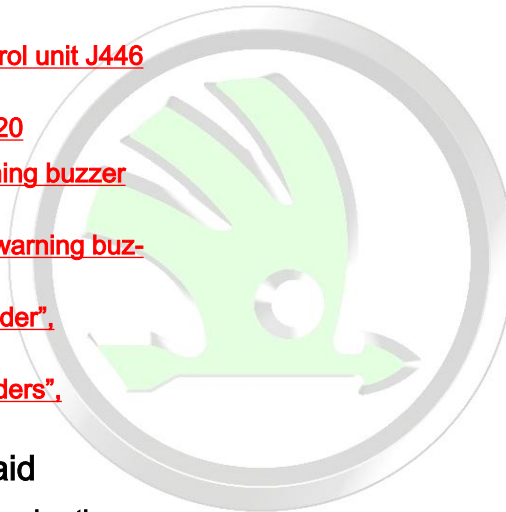
⇒ ["9.3 Removing and installing control unit", page 120](#)

⇒ ["9.4 Remove and install the front parking aid warning buzzer H22", page 121](#)

⇒ ["9.5 Removing and installing the rear parking aid warning buzzer H15", page 122](#)

⇒ ["9.6 Removing and installing front parking aid sender", page 122](#)

⇒ ["9.7 Removing and installing rear parking aid senders", page 123](#)



### 9.1 Assembly overview - parking aid

Component parts of the summary of components are also the sender of the park steering assistant.

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Equipment versions:

- ◆ Rear parking aid
- ◆ Rear parking aid and front
- ◆ Rear and front parking aid and parking aid



#### Note

- ◆ *When handling a fault it is absolutely essential to know the exact function of the parking aid and the park steering assistant.*
- ◆ *Description of system and function ⇒ Karoq Owner's Manual .*
- ◆ *Contact assignment on the control unit as well as connection of components of parking aid and park steering assistant can be found in the ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*
- ◆ *Summary of details for the components ⇒ Electronic Catalogue of Original Parts "ETKA" .*



**1 - Park steering assistant button - E581-**

- ❑ Removing and installing ⇒ [“2.6 Removing and installing buttons in the dash panel”, page 143](#)

**2 - Button for parking aid - E266-**

- ❑ Removing and installing ⇒ [“2.6 Removing and installing buttons in the dash panel”, page 143](#)

**3 - The warning buzzer for the front parking aid - H22-**

- ❑ Removing and installing ⇒ [“9.4 Remove and install the front parking aid warning buzzer H22”, page 121](#)

**4 - Parking aid control unit - J446- or parking aid and park steering assistant control unit - J791-**

- ❑ Left-hand drive - on the relay and fuse holder
- ❑ Right-hand drive - on the bearing bracket/ brake pedal right
- ❑ Removing and installing ⇒ [“9.2 Removing and installing the parking aid control unit J446”, page 120](#)

**5 - Front left sender for park steering assistant**

- ❑ Removing and installing ⇒ [“10.3 Removing and installing the front sender”, page 124](#)

**6 - Front parking aid sender**

- ❑ Removing and installing ⇒ [“9.6 Removing and installing front parking aid sender”, page 122](#)

**7 - Front right sender for park steering assistant**

- ❑ Removing and installing ⇒ [“10.3 Removing and installing the front sender”, page 124](#)

**8 - Rear right sender for park steering assistant**

- ❑ Removing and installing ⇒ [“10.4 Removing and installing rear sender”, page 125](#)

**9 - Rear parking aid sender**

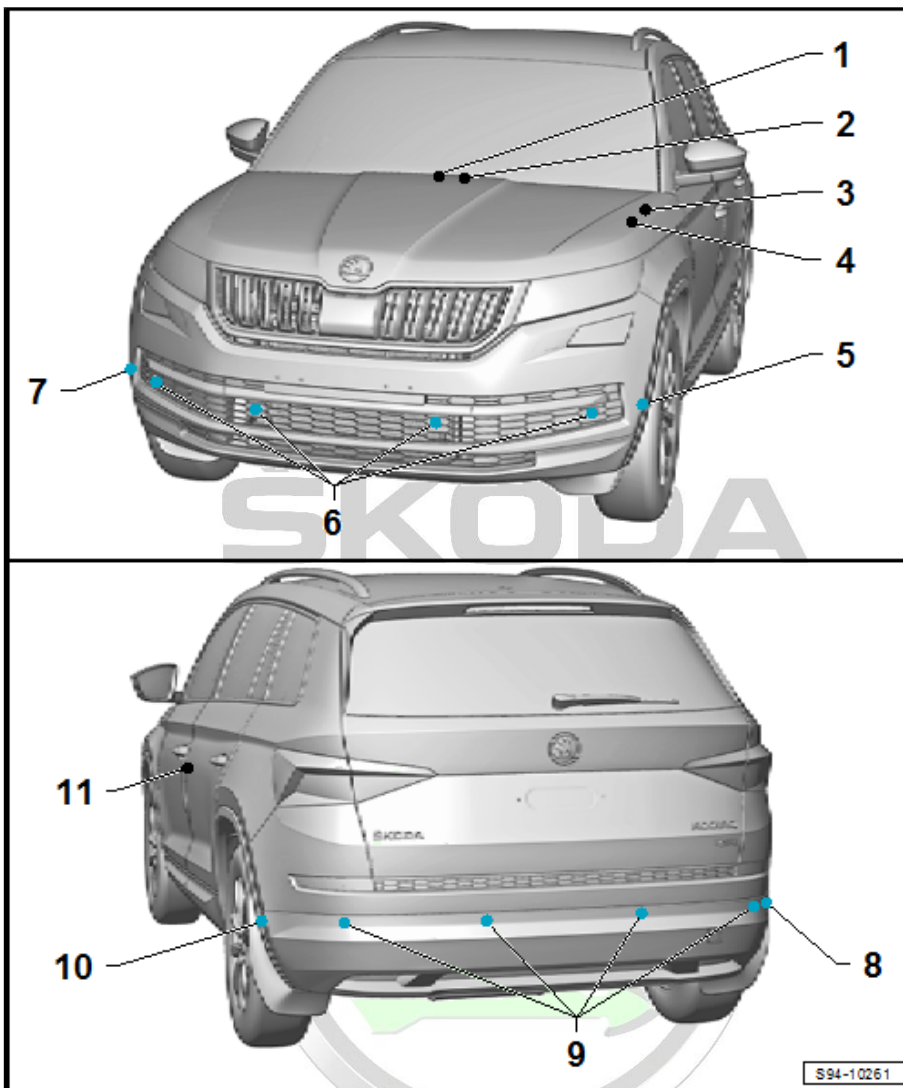
- ❑ Removing and installing ⇒ [“9.6 Removing and installing front parking aid sender”, page 122](#)

**10 - Rear left sender for park steering assistant**

- ❑ Removing and installing ⇒ [“10.4 Removing and installing rear sender”, page 125](#)

**11 - Rear parking aid warning buzzer - H15-**

- ❑ Removing and installing ⇒ [“9.5 Removing and installing the rear parking aid warning buzzer H15”, page 122](#)



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## 9.2 Removing and installing the parking aid control unit - J446-

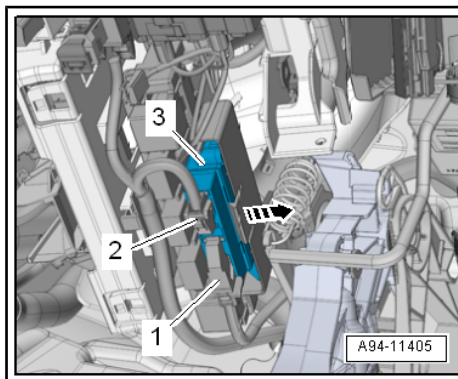
### Removing

- Switch off the ignition and all electrical components.

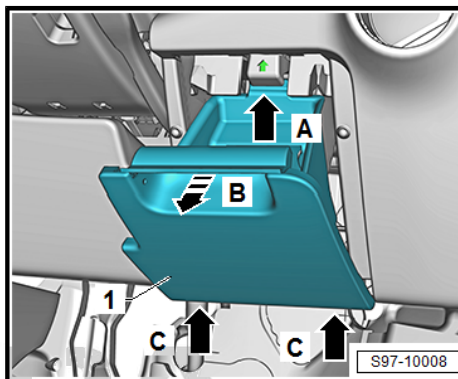
Left-hand drive - the control unit is found on the relay and fuse holder:

- Unlock and disconnect the plug connectors -1- and -2- by tilting out the clamp.
- Press of catch peg -arrow- and pull the control unit -3- out of the holder.

Right-hand drive - the control unit is at the bearing bracket/brake pedal right:



- Push the retaining tab in direction of arrow -A-, swivel out the storage compartment -1- in direction of arrow -B- and unhook from the mounting, arrows -C-.



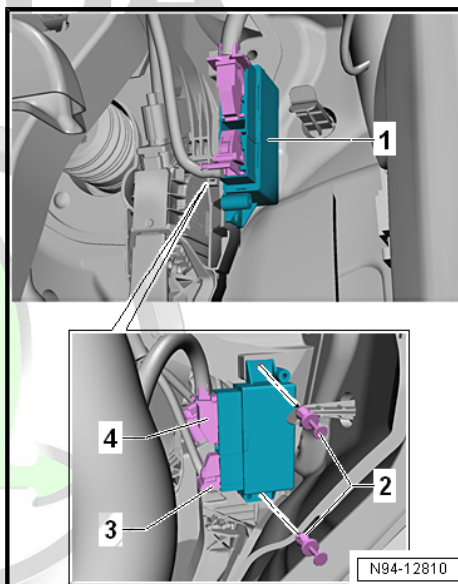
- Remove expanding rivets -2- and remove control unit -1-.
- Unlock and disconnect the plug connectors -3- and -4- by tilting out the clamp.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

If the control unit for the parking aid - J446- is replaced:

- Code the control unit ⇒ Vehicle diagnostic tester



## 9.3 Removing and installing control unit

- Park steering assistant control unit - J791- is removed and installed in a similar way to parking aid control unit - J446- ⇒ ["9.2 Removing and installing the parking aid control unit J446", page 120](#) .

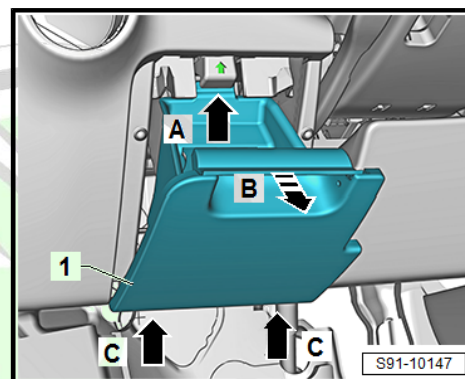
## 9.4 Remove and install the front parking aid warning buzzer - H22-

### Removing

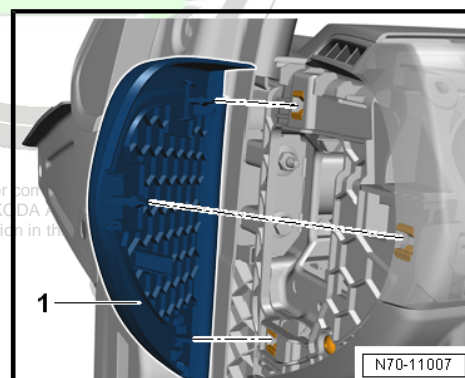
- Switch off the ignition and all electrical components.

### Left-hand drive:

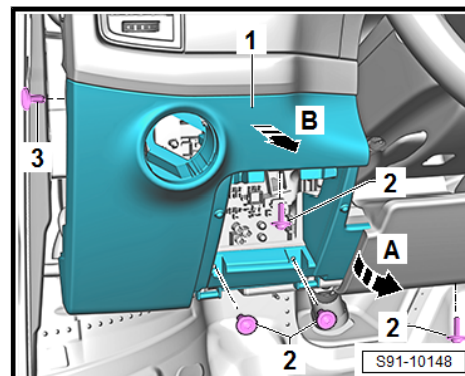
- Push the retaining tab in direction of arrow -A-, swivel out the storage compartment -1- in direction of arrow -B- and unhook from the mounting, arrows -C-.
- Remove light switch ⇒ Electrical system; Rep. gr. 96 ; Controls; Removing and installing rotary light switch - EX1- .



- Remove the lateral dash panel covers -1- e.g. using the disassembly wedge -3409- .



- Remove screws -2- and -3-.
- Partially pull off the bottom section of the dash panel in direction of arrow -A-.
- Unclip bottom section of dash panel -1- and remove in direction of arrow -B-.

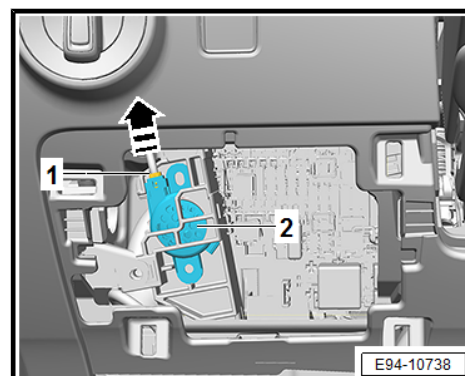


- Use a small screwdriver to push the warning buzzer -2- out of the support -arrow-.
- Disconnect plug connection -1-.

### Right-hand drive:

Warning buzzer -1- is located above the fuse holder.

- Remove glove compartment and glove compartment frame from the dash panel on the front passenger side ⇒ General body repairs, interior; Rep. gr. 68 ; Compartments/covers; Removing and installing glove compartment .

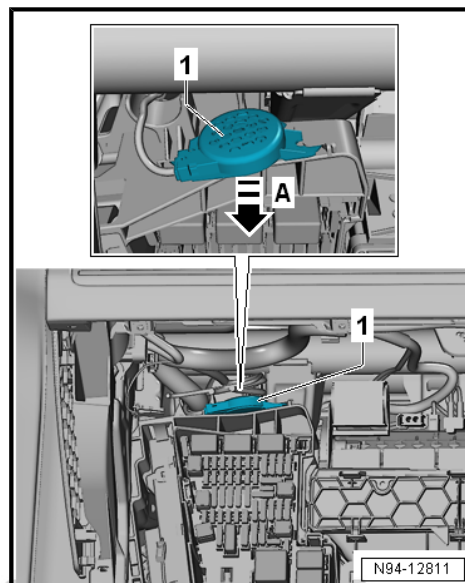




- Using a small screwdriver, press out the warning buzzer -1- from the bearing bracket at the fuse holder -arrow A- in direction of arrow.
- Disconnect plug.

### Installing

Installation is carried out in the reverse order.



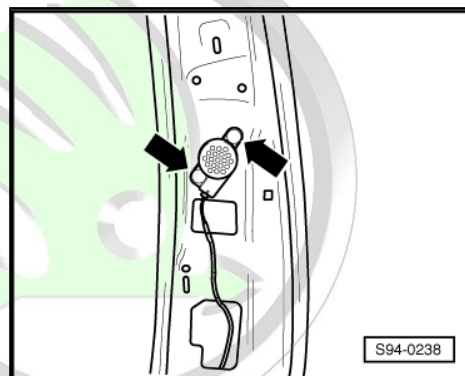
## 9.5 Removing and installing the rear parking aid warning buzzer - H15-

### Removing

- Switch off all electrical components and take out the ignition key.
- Remove B-pillar trim on the driver's side ⇒ Body work; Rep. gr. 70 ; Interior trim panels .
- Loosen and remove expanding rivets -arrows-.
- Disconnect plug and remove warning buzzer.

### Installing

Installation is carried out in the reverse order.



## 9.6 Removing and installing front parking aid sender

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### Note

- ◆ *Senders fitted in painted areas – the visible area of a new sender must be painted in the colour of the bumper before installing.*
- ◆ *The parking aid senders must only be painted with a max. 100 µm thick layer of paint. Before painting the sender, the rear parts of the sender (terminal connection) must be affixed.*
- ◆ *Only the upper part (visible part) of the sender membrane is painted.*
- ◆ *To make it easier to remove the retaining tabs arrows -A-, you can use a larger pair of pliers for Seeger rings with bent jaws.*

### Removing

- Switch off the ignition and all electrical components.

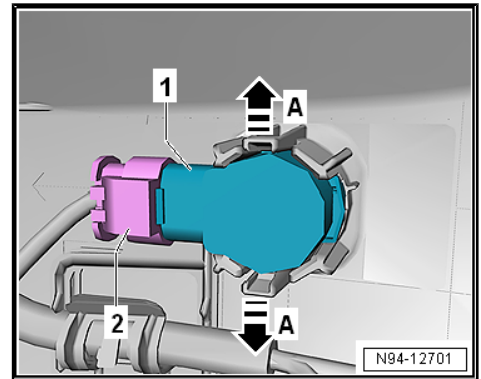
- Remove the front bumper ⇒ General body repairs, exterior; Rep. gr. 63 ; Front bumper; removing and installing bumper .
- Remove retaining lugs in direction of arrows -A-.
- Press out the sender -1- on the outer side of the shock absorber inwards.
- Disconnect plug connection -2-.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

#### Note

- ◆ *Displace the black silicone separation ring correctly onto the sender head.*
- ◆ *Both catch clamps must click audibly in place when installing.*



## 9.7 Removing and installing rear parking aid senders

#### Note

- ◆ *Senders fitted in painted areas – the visible area of a new sender must be painted in the colour of the bumper before installing.*
- ◆ *The parking aid senders must only be painted with a max. 100 µm thick layer of paint. Before painting the sender, the rear parts of the sender (terminal connection) must be affixed.*
- ◆ *Only the upper part (visible part) of the sender membrane is painted.*
- ◆ *To make it easier to remove the retaining tabs arrows -A-, you can use a larger pair of pliers for Seeger rings with bent jaws.*

### Removing

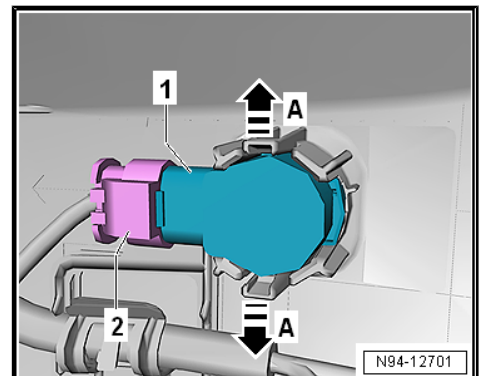
- Switch off the ignition and all electrical components.
- Remove the rear bumper ⇒ General body repairs, exterior; Rep. gr. 63 ; Rear bumper; Removing and installing bumper .
- Remove retaining lugs in direction of arrows -A-.
- Press out the sender -1- on the outer side of the shock absorber inwards.
- Disconnect plug connection -2-.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

#### Note

- ◆ *Displace the black silicone separation ring correctly onto the sender head.*
- ◆ *Both catch clamps must click audibly in place when installing.*





## 10 Park steering assistant

⇒ ["10.1 Summary of components - Park steering assistant", page 124](#)

⇒ ["10.2 Removing and installing control unit", page 124](#)

⇒ ["10.3 Removing and installing the front sender", page 124](#)

⇒ ["10.4 Removing and installing rear sender", page 125](#)

⇒ ["10.5 Removing and installing the front warning buzzer", page 126](#)

⇒ ["10.6 Removing and installing the rear warning buzzer", page 126](#)

### 10.1 Summary of components - Park steering assistant

The component parts of the park steering assistant are contained in the summary of components for the parking aid

⇒ ["9.1 Assembly overview - parking aid", page 118](#) .

### 10.2 Removing and installing control unit

The control unit is a single unit with the parking aid control unit. The work procedure is identical

⇒ ["9.2 Removing and installing the parking aid control unit J446", page 120](#) .

### 10.3 Removing and installing the front sender



#### Note

- ◆ *Senders fitted in painted areas – the visible area of a new sender must be painted in the colour of the bumper before installing.*
- ◆ *The parking aid senders must only be painted with a max. 100 µm thick layer of paint. Before painting the sender, the rear parts of the sender (terminal connection) must be affixed.*
- ◆ *Only the upper part (visible part) of the sender membrane is painted.*
- ◆ *To make it easier to remove the retaining tabs arrows -A-, you can use a larger pair of pliers for Seeger rings with bent jaws.*

#### Removing

- Switch off the ignition and all electrical components.
- Remove wheelhouse liners ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheelhouse liner; removing and installing front wheelhouse liner .

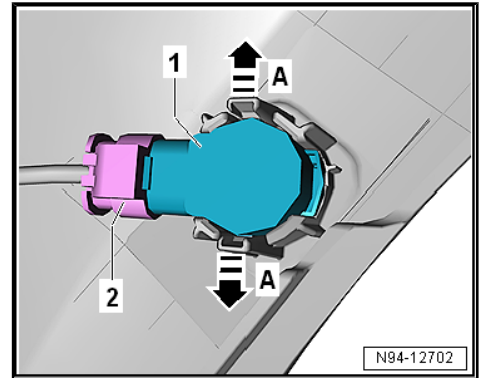
- Remove retaining lugs in direction of arrows -A-.
- Press out the sender -1- on the outer side of the shock absorber inwards.
- Disconnect plug connection -2-.

#### Installing

Installation is performed in the reverse order, pay attention to the following points:

#### Note

- ◆ Displace the black silicone separation ring correctly onto the sender head.
- ◆ Both catch clamps must click audibly in place when installing.



## 10.4 Removing and installing rear sender

#### Note

- ◆ Senders fitted in painted areas – the visible area of a new sender must be painted in the colour of the bumper before installing.
- ◆ The parking aid senders must only be painted with a max. 100 µm thick layer of paint. Before painting the sender, the rear parts of the sender (terminal connection) must be affixed.
- ◆ Only the upper part (visible part) of the sender membrane is painted.
- ◆ To make it easier to remove the retaining tabs arrows -A-, you can use a larger pair of pliers for Seeger rings with bent jaws.

#### Removing

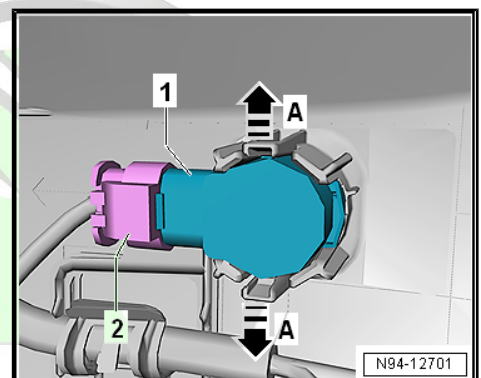
- Switch off the ignition and all electrical components.
- Remove the rear bumper ⇒ General body repairs, exterior; Rep. gr. 63 ; Rear bumper; Removing and installing bumper .
- Remove retaining lugs in direction of arrows -A-.
- Press out the sender -1- on the outer side of the shock absorber inwards.
- Disconnect plug connection -2-.

#### Installing

Installation is performed in the reverse order, pay attention to the following points:

#### Note

- ◆ Displace the black silicone separation ring correctly onto the sender head.
- ◆ Both catch clamps must click audibly in place when installing.



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## 10.5 Removing and installing the front warning buzzer

The warning buzzer for park steering assistant is a single unit with the warning buzzer for parking aid.

Remove and install the warning buzzer for front parking aid - H22-  
⇒ ["9.4 Remove and install the front parking aid warning buzzer H22", page 121](#) .

## 10.6 Removing and installing the rear warning buzzer

The warning buzzer for park steering assistant is a single unit with the warning buzzer for parking aid.

Removing and installing  
⇒ ["9.5 Removing and installing the rear parking aid warning buzzer H15", page 122](#) .

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## 11 Trailer coupling

⇒ [“11.1 Summary of components - Connection, control unit for trailer detection”, page 127](#)

⇒ [“11.2 Removing and installing the control unit for trailer detection J345”, page 127](#)

### 11.1 Summary of components - Connection, control unit for trailer detection

#### 1 - Control unit for trailer detection - J345-

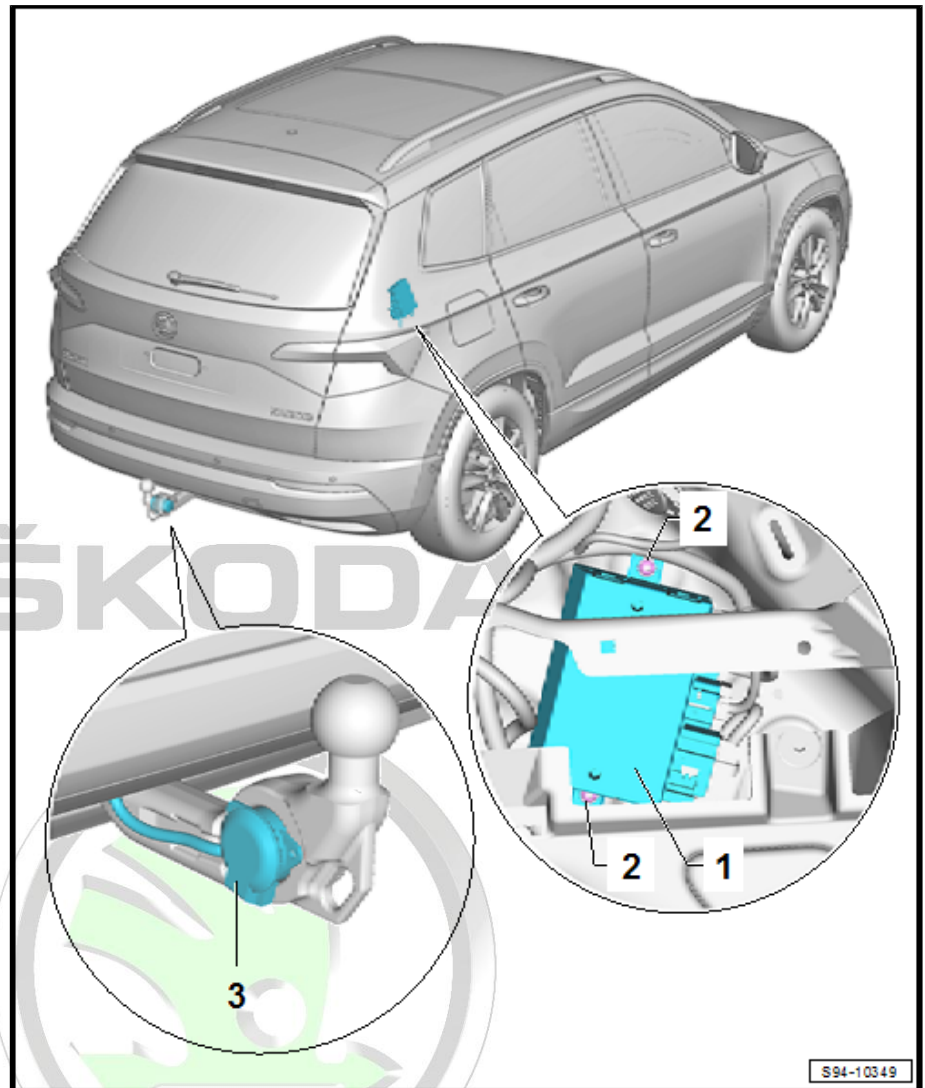
- ❑ Removing and installing  
⇒ [“11.2 Removing and installing the control unit for trailer detection J345”, page 127](#)

#### 2 - Screws

- ❑ 1.5 Nm

#### 3 - Socket for trailer operation - U10-

- ❑ accurate pin assignment ⇒ Current flow diagrams, Electrical fault finding and Fitting locations



### 11.2 Removing and installing the control unit for trailer detection - J345-

#### Removing

- Switch off the ignition and all electrical components.
- Remove right side panel trim in luggage compartment ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trims; Removing and installing side panel trim for luggage compartment .

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- Unscrew nuts -2- and remove control unit -1-.
- Unlock and pull off connector -3-.

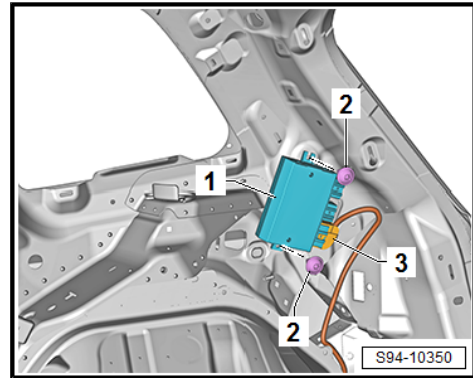
### Installing

Installation is performed in the reverse order, pay attention to the following points:



### Note

*When replacing, an adjustment must be carried out ⇒ Vehicle diagnostic tester.*



### Specified torques

- ◆ ⇒ [“11.1 Summary of components - Connection, control unit for trailer detection”, page 127](#)

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## 96 – Lights, bulbs, switches - interior

### 1 Lamps

⇒ [“1.1 Removing and installing glove box light W6 ”, page 129](#)

⇒ [“1.2 Replace light bulb for glovebox light W6 ”, page 130](#)

⇒ [“1.3 Removing and installing footwell light W9 / W10 ”, page 130](#)

⇒ [“1.4 Removing and installing front footwell light L151 / L152 ”, page 131](#)

⇒ [“1.5 Removing and installing indicator lamp for central locking SAFELOCK function K133 ”, page 131](#)

⇒ [“1.6 Removing and installing light 1 for front door ambient lighting L199 / L200 ”, page 131](#)

⇒ [“1.7 Removing and installing the light for dash panel ambient lighting L229 / L230 ”, page 132](#)

⇒ [“1.8 Removing and installing luggage compartment light W3 ”, page 133](#)

⇒ [“1.9 Installing and removing lit make-up mirror W20 / W14 ”, page 135](#)

⇒ [“1.10 Replace front light bulbs for interior light W1 / W13 / W19 ”, page 135](#)

⇒ [“1.11 Replace light bulb for rear interior light W47 / W48 ”, page 137](#)

#### 1.1 Removing and installing glove box light - W6-



##### Caution

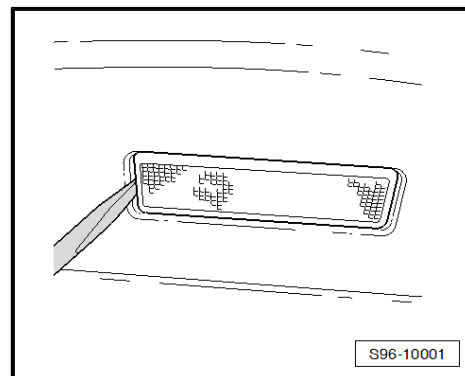
*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*

##### Removing

- Switch off the ignition and all electrical components.
- Place a cross-head screwdriver under the lens and carefully lever out the light.
- If necessary disconnect the plug and remove the light.

##### Installing

Installation is carried out in the reverse order.



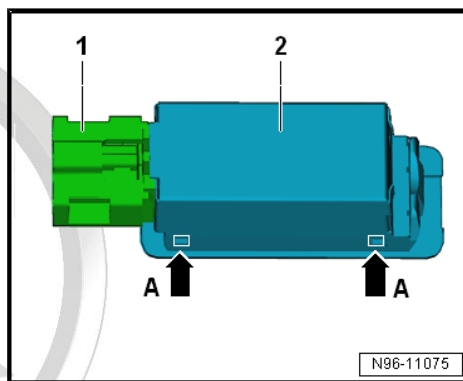
## 1.2 Replace light bulb for glovebox light - W6-

**i** Note

*Do not touch the glass when installing the light bulb. Your fingers will leave traces of grease on the glass which then evaporate when the bulb is switched on causing it to cloud.*

### Removing

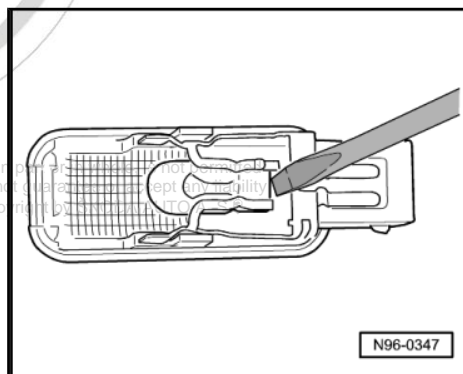
- Remove glovebox light  
=> ["1.1 Removing and installing glove box light W6", page 129](#).
- Lighting with cover- in area of arrows -A- unclip and remove cover -2- from lighting -1-.



- Push out the defective light bulb (W5W) and replace it.

### Installing

Installation is carried out in the reverse order.



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## 1.3 Removing and installing footwell light - W9- / -W10-

**i** Note

*When removing and installing the footwell lighting on the front passenger side, the work procedure is identical to the one on the driver side.*

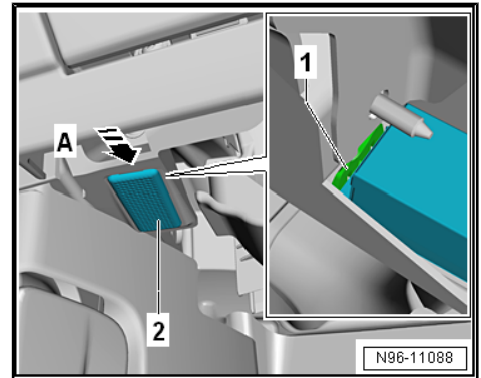


## Removing

- Press the latch -1- with a slotted screwdriver in area of the arrow -A- and carefully release the lamp -2-.
- Disconnect the plug connection.

## Installing

Installation is carried out in the reverse order.



## 1.4 Removing and installing front footwell light -L151- / -L152-

The lighting is fitted with LEDs. Replace the entire lighting system in the event of a defect

⇒ [“1.3 Removing and installing footwell light W9 / W10”, page 130](#) .

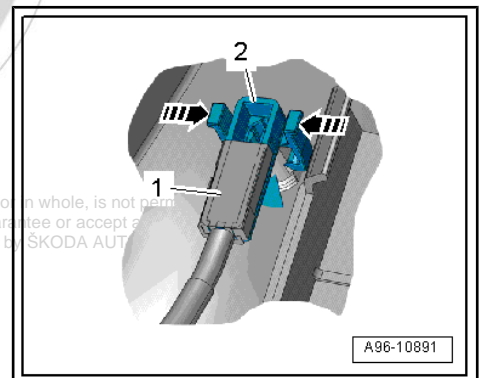
## 1.5 Removing and installing indicator lamp for central locking SAFELOCK function - K133-

### Removing

- Remove front door trim ⇒ General body repairs, interior; Rep. gr. 70 ; Inner lining of the door panel front; removing and installing front door trim .
- Press together the retaining tabs -arrows- and push the warning light -2- out of the door trim with the cable -1-.
- Disconnect plug.

### Installing

Installation is carried out in the reverse order.



## 1.6 Removing and installing light 1 for front door ambient lighting - L199- / -L200-

### Removing

- Remove the door trim panel from which you are removing the strip with ambient lighting ⇒ General body repairs, interior; Rep. gr. 70 ; Front door trim panels; Removing and installing front door trim .



- Detach and remove housing for interior door handle from the catches.
- Drill out hot-worked rivet heads -1- with a suitable drill.
- Remove the strip with ambient lighting and wiring loom -2- from the door trim -3-.

**Installing**

Installation is performed in the reverse order, pay attention to the following points:



**Note**

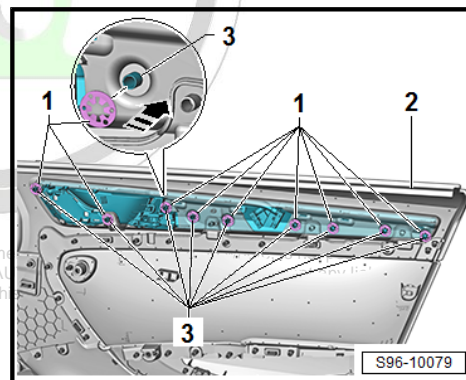
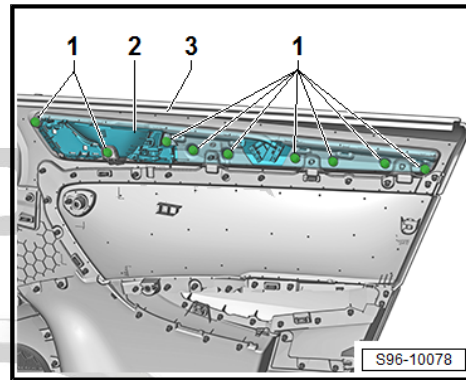
- ◆ Check that the new strip is correctly assigned to the ambient lighting (see ⇒ *Electronic Catalogue of Original Parts "ETKA"*).
- ◆ The new strip is attached using metal clamps ⇒ *Electronic Catalogue of Original Parts "ETKA"*.
- Insert the new strip with ambient lighting into the assembly opening in the door trim -2-.



**Note**

*When driving in the metal clamps, support and protect the strip so that it is not damaged/scratched.*

- Lock the strip in initial position by driving in -arrow- the metal clamps -1- at the plastic pins -3-.
- Cut back plastic pins -3- that protrude approx. 2mm over the metal clamp -1-, e.g. with electric cutting tool - V.A.G. 1561/ A- .
- After installing, perform a functional test.



**1.7 Removing and installing the light for dash panel ambient lighting - L229- / - L230-**



**Caution**

*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*

**Removing**

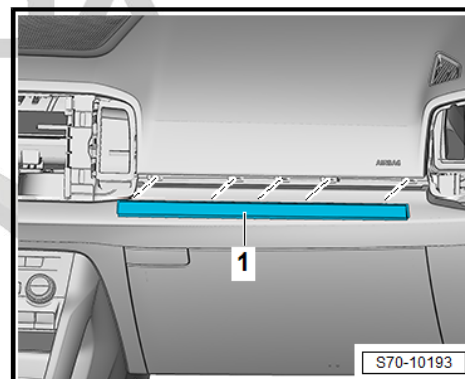
- Switch off the ignition and all electrical components.
- Remove the side vents of the background lighting to be removed ⇒ Body - assembly work inside; Rep. gr. 70 ; Switch-board; Removing and installing the diffuser in the dash panel .

Ambient lighting on the front passenger's side



- Prise out the decorative cover with background lighting -1- from the disassembly wedge supports -3409- , taking into account the connected cable lengths.

Ambient lighting on the driver's side:



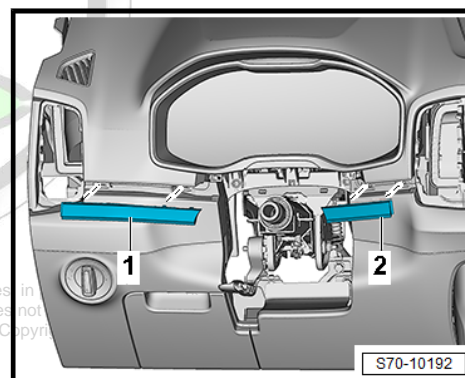
- Carefully remove the decorative cover-1- and -2- with background lighting from the supports,e.g. with the disassembly wedge -3409- , taking into account the connected cable lengths.

Both sides:

- Pull and disconnect the connectors through the dash panel openings.

### Installing

Installation is carried out in the reverse order.



## 1.8 Removing and installing luggage compartment light - W3-

⇒ [“1.8.1 Removing and installing luggage compartment light”, page 133](#)

⇒ [“1.8.2 Removing and installing luggage compartment light - removable lamp”, page 134](#)

### 1.8.1 Removing and installing luggage compartment light



#### Caution

*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*



#### Note

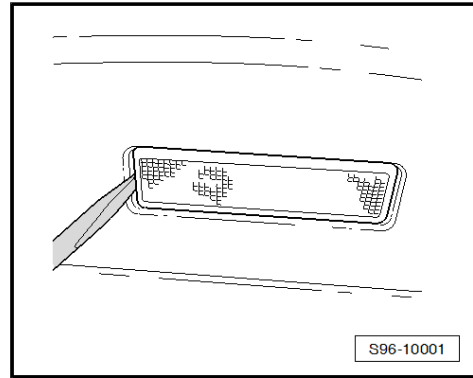
- ◆ *Lighting variant with LED diode - In the event of a defect, replace the entire lighting.*
- ◆ *Do not touch the glass when installing the light bulb. Your fingers will leave traces of grease on the glass which then evaporate when the bulb is switched on causing it to cloud.*

### Removing

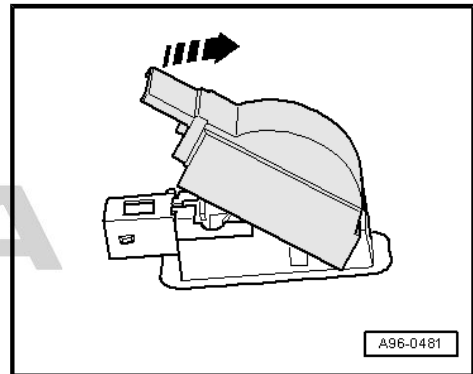
- Switch off the ignition and all electrical components.



- Place a cross-head screwdriver under the lens and carefully lever out the light.



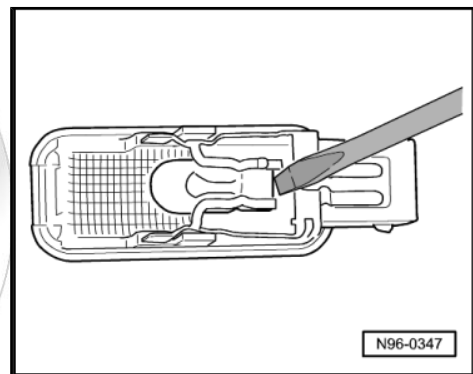
- Tilt out the cover of the light -arrow-.



- Push out the defective light bulb (W5W) and replace it.
- If necessary disconnect the plug and remove the light.

**Installing**

Installation is carried out in the reverse order.



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**1.8.2 Removing and installing luggage compartment light - removable lamp**



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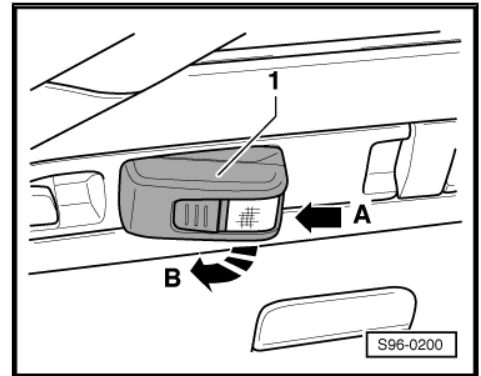
- ◆ *After being removed the lamp can also be used outside the vehicle cockpit.*
- ◆ *Replace description of function and battery, see ⇒ Karoq Owner's Manual .*

**Removing**

- Press lamp in direction of arrow -A- and remove lamp -1- in direction of arrow -B-.

**Installing**

Installation is carried out in the reverse order.



**1.9 Installing and removing lit make-up mirror -W20- / -W14-**

 **Note**

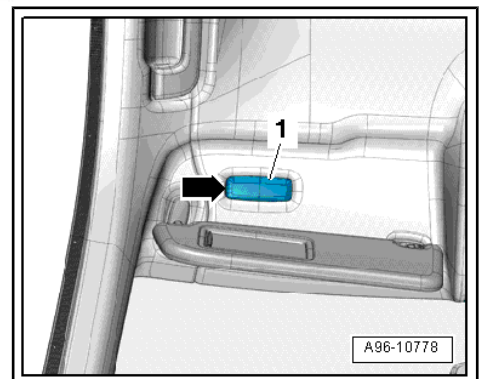
*Lighting variant with LED diode - In the event of a defect, replace the entire lighting.*

**Removing**

- Place a cross-head screwdriver under the cover -arrow- and carefully lever out the lamp -1-.
- Disconnect the plug connection.

**Installing**

Installation is carried out in the reverse order.




**1.10 Replace front light bulbs for interior light -W1- / -W13- / -W19-**

⇒ [“1.10.1 Replace bulb for interior lighting in vehicles with a panoramic roof”, page 135](#)

⇒ [“1.10.2 Replace bulb for interior lighting in vehicles without a panoramic roof”, page 136](#)

**1.10.1 Replace bulb for interior lighting in vehicles with a panoramic roof**

 **Caution**

*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*

**Note**

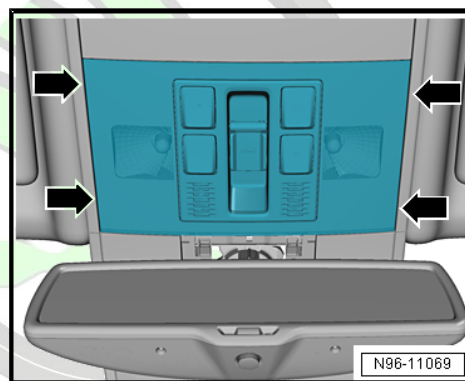
*Do not touch the glass when installing the light bulb. Your fingers will leave traces of grease on the glass which then evaporate when the bulb is switched on causing it to cloud.*

**Removing**

- Switch off the ignition and all electrical components.
- Carefully prise off lens in the marked areas -arrows-.
- Remove the defective light bulb (W5W) and replace it.

**Installing**

Installation is carried out in the reverse order.



### 1.10.2 Replace bulb for interior lighting in vehicles without a panoramic roof

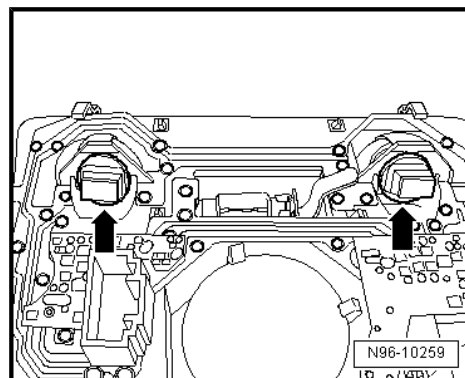
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**Note**

*Do not touch the glass when installing the light bulb. Your fingers will leave traces of grease on the glass which then evaporate when the bulb is switched on causing it to cloud.*

**Removing**

- Switch off the ignition and all electrical components.
- Remove front interior light  
⇒ ["2.21.2 Removing and installing front interior light/reading light, vehicles without panoramic sunroof", page 151](#) .
- Turn the socket with the bulb -arrows- and remove.

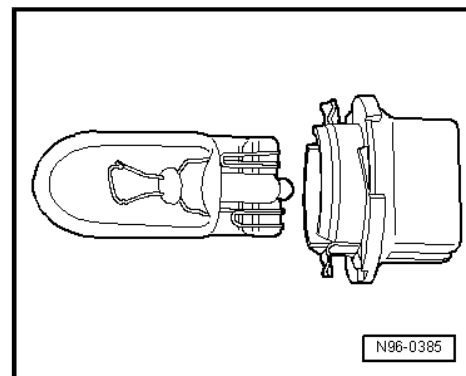




- Remove defective light bulb from the socket and replace.

### Installing

Installation is carried out in the reverse order.



## 1.11 Replace light bulb for rear interior light - W47- / -W48-

⇒ [“1.11.1 Replacing the light bulb for the rear centre interior light”, page 137](#)

⇒ [“1.11.2 Replacing light bulb for rear interior light - vehicles with panoramic sunroof”, page 138](#)

### 1.11.1 Replacing the light bulb for the rear centre interior light



#### Caution

*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*

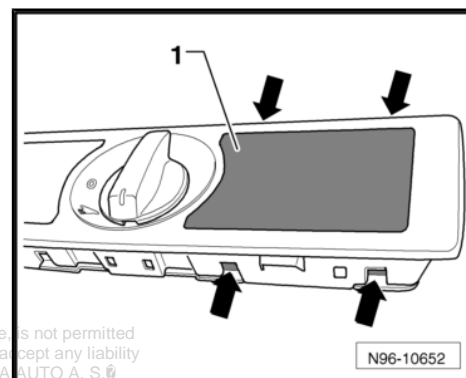


#### Note

*Do not touch the glass when installing the light bulb. Your fingers will leave traces of grease on the glass which then evaporate when the bulb is switched on causing it to cloud.*

### Removing

- Remove rear centre light  
⇒ [“2.22.1 Removing and installing the rear centre interior light/reading light”, page 152](#) .
- Prise off lens -1- -arrows- and remove.



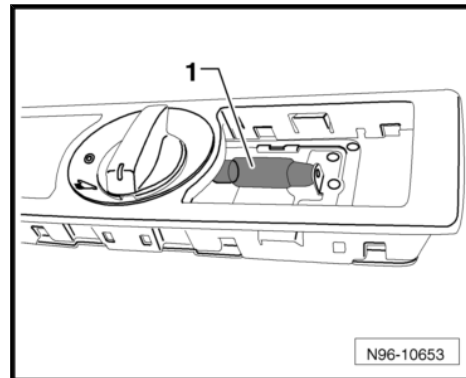
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- Remove the defective light bulb -1- and replace it.

### Installing

Installation is carried out in the reverse order.



## 1.11.2 Replacing light bulb for rear interior light - vehicles with panoramic sunroof



### Caution

*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*



### Note

- ◆ *Do not touch the glass when installing the light bulb. Your fingers will leave traces of grease on the glass which then evaporate when the bulb is switched on causing it to cloud.*
- ◆ *Lighting variant with LED diode - In the event of a defect, replace the entire lighting.*

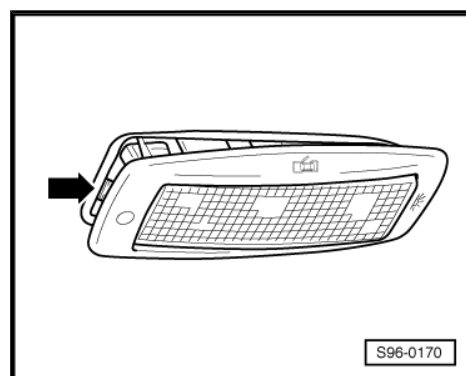
### Removing



### Note

*The assembly opening for the light is reinforced with sheet metal in the headlining. Before inserting the screwdriver as a wedge, slightly lever out the light and then wedge the screwdriver between the metal reinforcement and light.*

- Carefully release the retaining tab -arrow- by wedging and pushing in the cross-head screwdriver (version with LEDs - wedge in the screwdriver on the switch side), tilt out the interior light and remove.
- Disconnect plug.





- Variant with light bulb – push out bulb cover -arrow- and replace bulb (C5W).

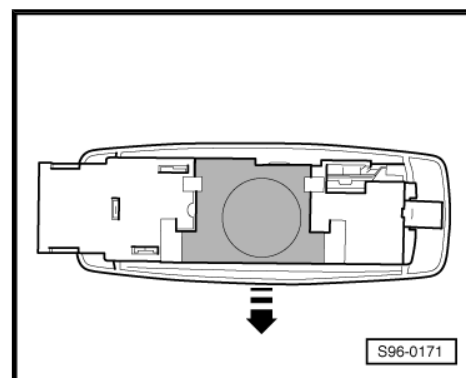
### Installing

Installation is performed in the reverse order, pay attention to the following points:



#### Note

*Fitting position of the interior light - the light connector points to the tail end of the vehicle.*



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## 2 Controls

- ⇒ [“2.1 Installation overview - controls in the dash panel”, page 140](#)
- ⇒ [“2.2 Installation overview - controls in the centre console”, page 142](#)
- ⇒ [“2.3 Removing and installing light switches EX1”, page 142](#)
- ⇒ [“2.4 Removing and installing start-stop mode switch E693”, page 143](#)
- ⇒ [“2.5 Removing and installing airbag warning light on front passenger side K145”, page 143](#)
- ⇒ [“2.6 Removing and installing buttons in the dash panel”, page 143](#)
- ⇒ [“2.7 Removing and installing hazard warning lights button E229”, page 144](#)
- ⇒ [“2.8 Removing and installing button for seat heating E653 / E654”, page 144](#)
- ⇒ [“2.9 Removing and installing the glove box light switch E26”, page 144](#)
- ⇒ [“2.10 Removing and installing mirror adjuster switch E43 / E168”, page 144](#)
- ⇒ [“2.11 Removing and installing the controls for the electric windows in the driver's door E512”, page 145](#)
- ⇒ [“2.12 Removing and installing window regulator switch in front passenger door E107”, page 145](#)
- ⇒ [“2.13 Installing and removing buttons for rear electric windows in rear door E700 / E705”, page 146](#)
- ⇒ [“2.14 Removing and installing buttons for electro-mechanical handbrake E538 / Buttons for AUTO HOLD E540”, page 146](#)
- ⇒ [“2.15 Removing and installing starter button E378”, page 147](#)
- ⇒ [“2.16 Removing and installing switch with control of the heated rear seat E128 / E129”, page 147](#)
- ⇒ [“2.17 Removing and installing the buttons on the tailgate in the luggage compartment E406”, page 148](#)
- ⇒ [“2.18 Removing and installing the warning buzzer for tailgate H32”, page 149](#)
- ⇒ [“2.19 Removing and installing the contact switch for makeup mirror F147 / F148”, page 149](#)
- ⇒ [“2.20 Removing and installing buttons for sunroof E325”, page 149](#)
- ⇒ [“2.21 Removing and installing the front interior light/reading light”, page 150](#)
- ⇒ [“2.22 Removing and installing the rear interior light/reading light”, page 152](#)
- ⇒ [“2.23 Removing and installing mounting bracket for VarioFlex rear seat connectors”, page 154](#)

### 2.1 Installation overview - controls in the dash panel

**1 - Rotary light switch - EX1-**

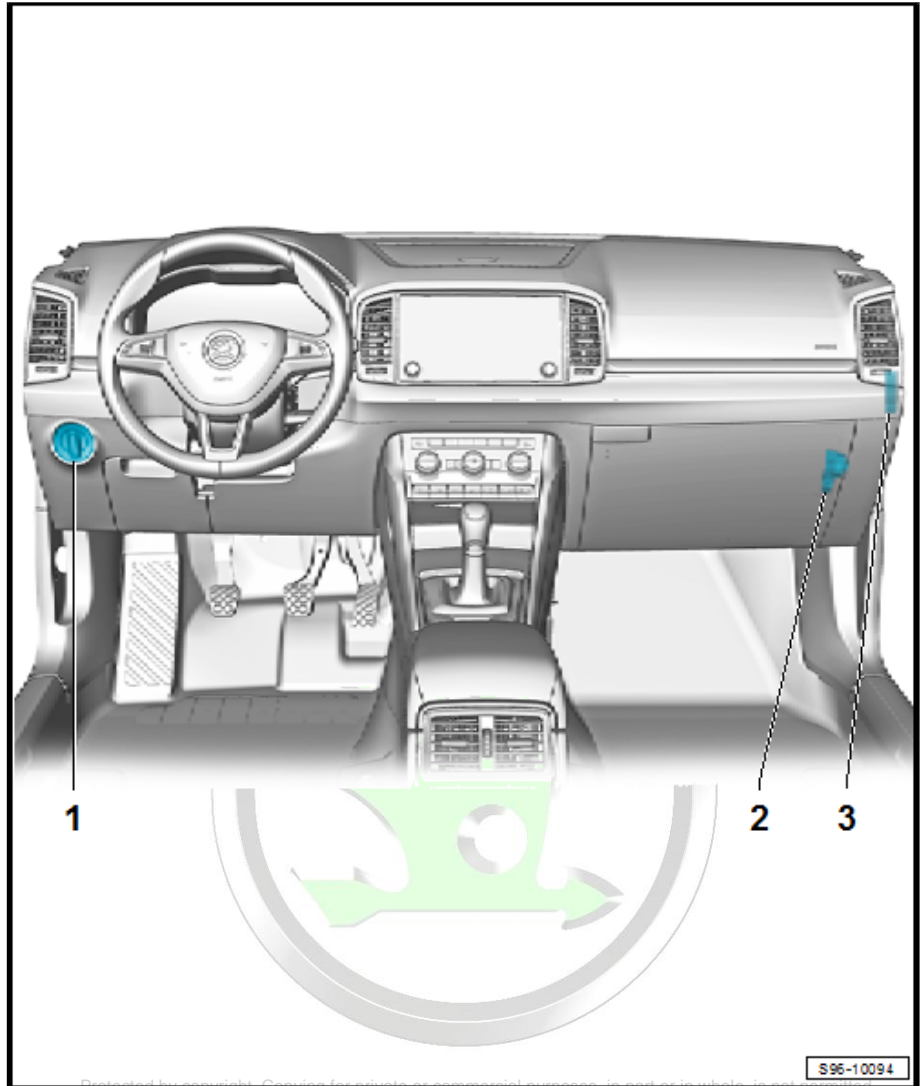
- ❑ Removing and installing  
 ⇒ [“2.3 Removing and installing light switches EX1”](#), page 142

**2 - Glove box light switch - E26-**

- ❑ Removing and installing  
 ⇒ [“2.9 Removing and installing the glove box light switch E26”](#), page 144

**3 - Key-operated switch for deactivating the front passenger side airbag**

- ❑ Removing and installing  
 ⇒ General body repairs, interior; Rep. gr. 69 ; Front passenger side airbag; Removing and installing key-operated switch for deactivating the front passenger side airbag



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## 2.2 Installation overview - controls in the centre console

### 1 - Switch unit

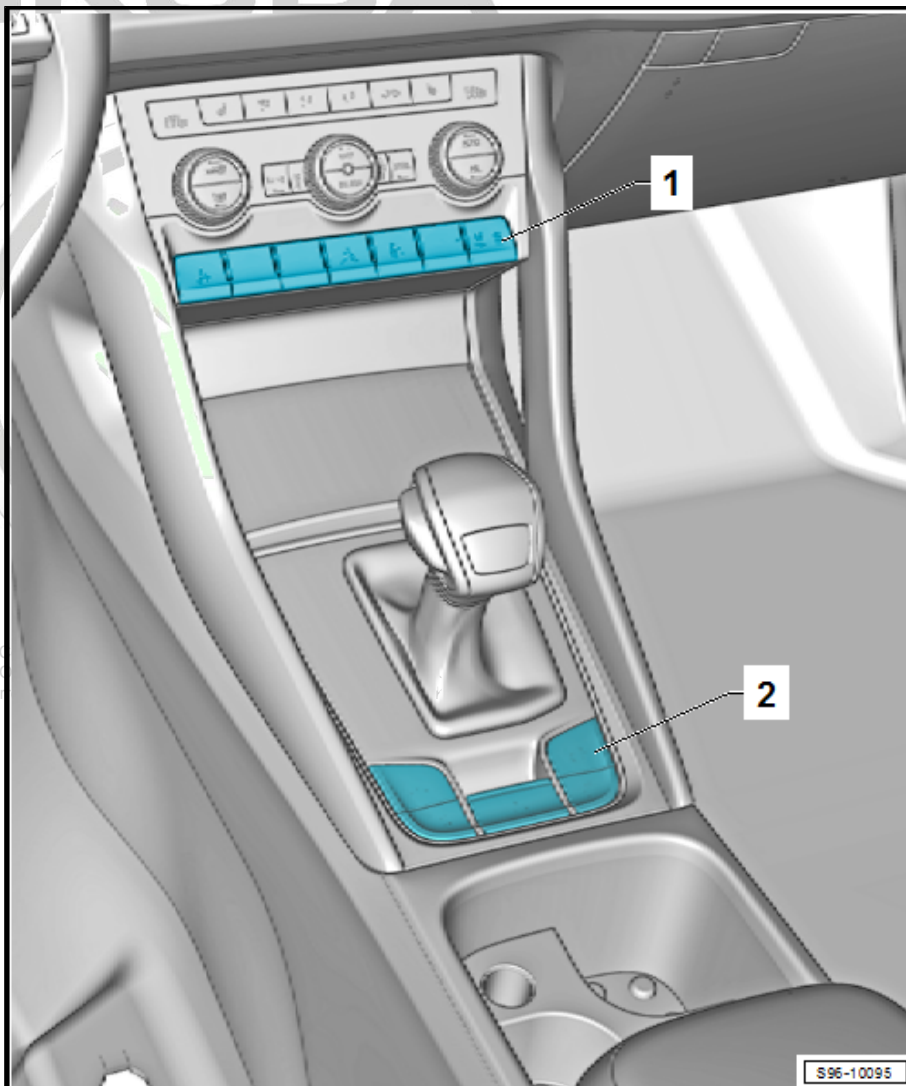
The following switches may be installed the switch unit, depending on the scope of equipment:

- ◆ Start-stop
- ◆ Park steering assistant
- ◆ Parking aid
- ◆ Area view
- ◆ Hazard warning light system
- ◆ Warning lights for the front airbag on the front passenger side (OFF/ON)
  - Removing and installing ⇒ [“2.6 Removing and installing buttons in the dash panel”, page 143](#)

### 2 - Switch module 1 in centre console - EX23-

The following switches may be installed the switch unit, depending on the scope of equipment:

- ◆ Drive mode selector
- ◆ Auto Hold
- ◆ Electric handbrake
- ◆ Stability control ESC / traction control ASR
- ◆ OFF ROAD mode
  - Removing and installing ⇒ [“2.14 Removing and installing buttons for electro-mechanical handbrake E538 / Buttons for AUTO HOLD E540”, page 146](#)



## 2.3 Removing and installing light switches - EX1-

### Removing

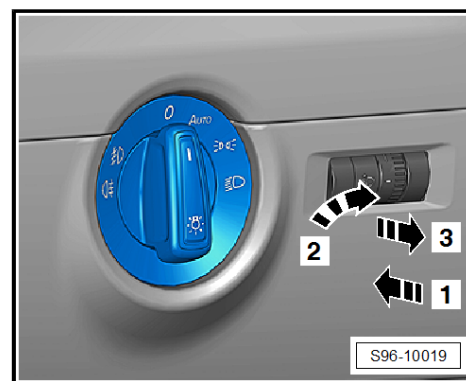
- Switch off the ignition and all electrical components.
- Turn the turning handle of the light switch to position “0”.



- Press in the handle of the light switch firmly in direction of arrow -1- and turn to the right in direction of arrow -2-.
- Hold the handle in this position and pull out the light switch in direction of arrow -3-.
- Release connector and remove it.

#### Installing

- Mount plug.
- Switch the switch back to 0 position.
- Carefully push the light switch into the assembly opening until it audibly locks into place.



## 2.4 Removing and installing start-stop mode switch - E693-

This switch is a component part of the switch unit and cannot be replaced separately

⇒ [“2.6 Removing and installing buttons in the dash panel”](#), page 143 .

## 2.5 Removing and installing airbag warning light on front passenger side - K145-

The front passenger side airbag warning light - K145- is integrated into the switch unit and cannot be replaced separately.

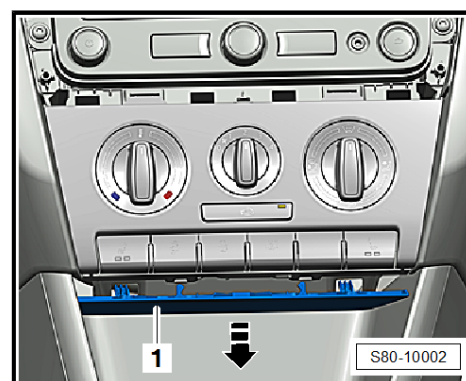
Removing and installing the switch unit

⇒ [“2.6 Removing and installing buttons in the dash panel”](#), page 143

## 2.6 Removing and installing buttons in the dash panel

#### Removing

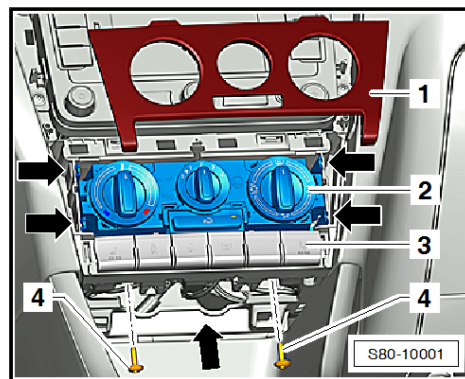
- Switch off the ignition and all electrical components.
- Lever off the cover at the front using the disassembly wedge - 3409- -1-and remove -arrow-.



- Remove panel -1- and heating and air conditioning system -2- ⇒ Heating, Air Conditioning; Rep. gr. 87 ; Control and display unit; Removing and installing control and display unit .
- Unclip and remove the switch unit -3- by levering upwards and downwards and with pressure from the rear, top and bottom.
- Release and remove plug connections.

### Installing

Installation is carried out in the reverse order.



## 2.7 Removing and installing hazard warning lights button - E229-

The warning light switch - E229- is integrated into the switch unit with the other switches

⇒ ["2.6 Removing and installing buttons in the dash panel", page 143](#)

## 2.8 Removing and installing button for seat heating -E653- / -E654-

The buttons for the front seat heating are integrated in the controls for the heating and air conditioning system ⇒ Heating, Air Conditioning; Rep. gr. 87 ; Control and display unit; installing and removing control and display unit .

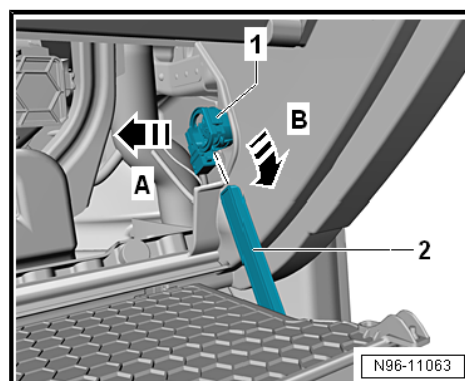
## 2.9 Removing and installing the glove box light switch - E26-

### Removing

- Open the glove compartment in the dash panel on the front passenger side.
- Push to release tabs on the sides of the glove compartment and tip the glove compartment out of the dash panel on the front passenger's side.
- Completely open the cover of the glove compartment in direction of arrow -B- so that the gear rack -2- moves out of the damper part-1-.
- Remove switch -1- with damper part from the mount in the direction of arrow -A-.

### Installing

Installation is carried out in the reverse order.



## 2.10 Removing and installing mirror adjuster switch -E43- / -E168-

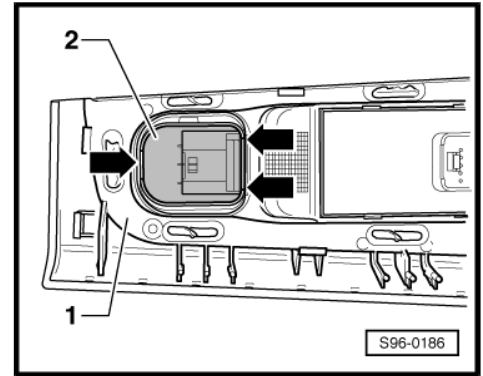
### Removing

- remove handle recess from door trim Commercial purposes, in part or in whole, is not permitted  
⇒ ["2.11 Removing and installing the controls for the electric windows in the driver's door E512", page 145](#) . AUTO A. S. does not guarantee or accept any liability


- Unclip switch -2- -arrows- and take it out of the handle recess -1-.
- Disconnect plug.

**Installing**

Installation is carried out in the reverse order.

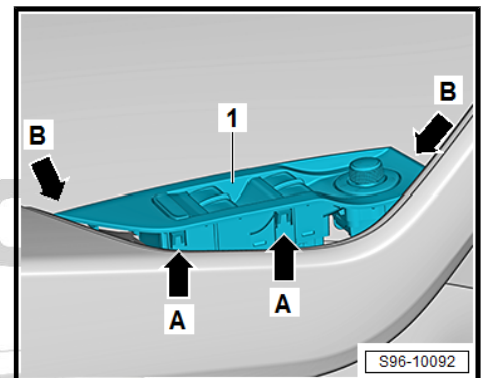


## 2.11 Removing and installing the controls for the electric windows in the driver's door - E512-

 **Caution**

*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*

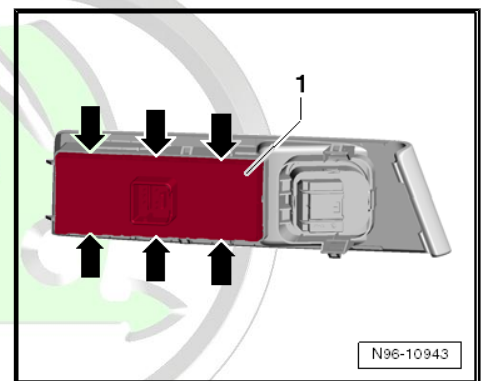
- Attach disassembly wedge - 3409- In the arrow area -A-, unclip the handle recess -1- -B- and remove.
- Release and remove plug connections.



- Slacken the control element -1- out of the catch pegs -arrows- and remove from the recessed handle.

**Installing**

Installation is carried out in the reverse order.



## 2.12 Removing and installing window regulator switch in front passenger door - E107-

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The assembly work is identical as on the driver's side  
 ⇒ ["2.11 Removing and installing the controls for the electric windows in the driver's door E512", page 145](#) .

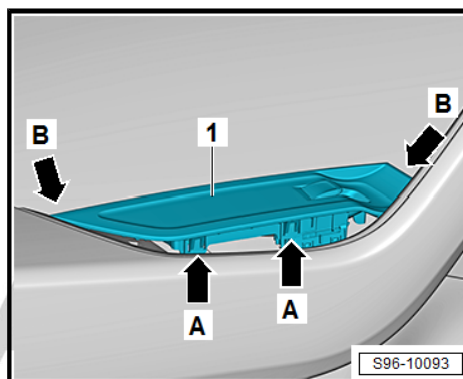
## 2.13 Installing and removing buttons for rear electric windows in rear door -E700- / -E705-



### Caution

*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*

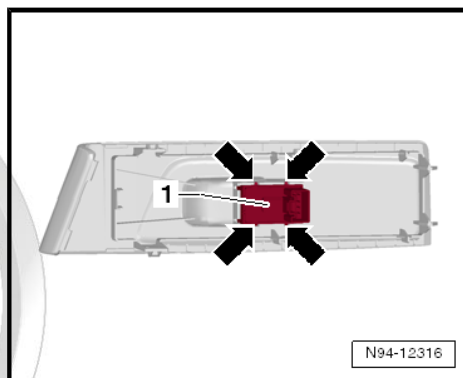
- Attach disassembly wedge - 3409- in the arrow area -A-, unclip the handle recess -1- -B- and remove.



- Release connector and remove it.
- Slacken the control element -1- out of the catch pegs -arrows- and remove.

### Installing

Installation is carried out in the reverse order.



## 2.14 Removing and installing buttons for electro-mechanical handbrake - E538- / Buttons for AUTO HOLD - E540-

### Special tools and workshop equipment required

- ◆ Disassembly wedge - 3409-



### Caution

*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*

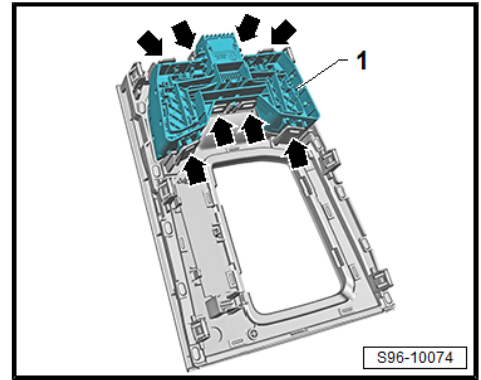
### Removing

- Switch off the ignition and all electrical components.
- Remove trim of the centre console all around the shift lever ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Removing and installing centre console .

- Unclip switch unit -1- -arrows- and take it out of the trim.
- Release connector and remove it.

**Installing**

Installation is carried out in the reverse order.



## 2.15 Removing and installing starter button - E378-

**Removing**

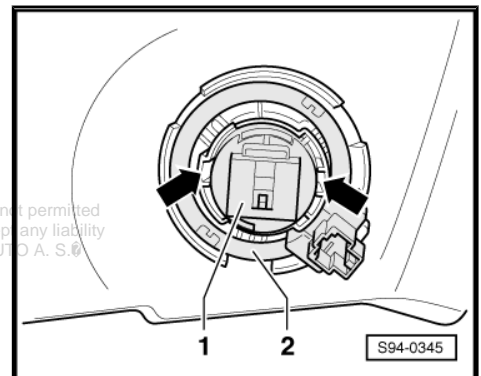


*The steering wheel must not be removed. For installing the fixing screws of the bottom trim panel for steering column, turn the steering wheel to the left by 90° and subsequently turn it to the right.*

- Removing top and bottom steering column trim => General body repairs, interior; Rep. gr. 68 ; Compartments/covers .
- Disconnect the plug from the button -1- and from the reader coil -2-.
- Insert two small cross-head screwdrivers (e.g watch-and-clock screwdrivers) into the openings -arrows- and press the sheet pegs.
- Grip the bottom part of the button -1- and press it towards the outside from the bottom trim panel for steering column.
- When removing the reader coil -2-, start by removing the button, then carefully unclip the reader coil with the removal wedge - 3409- .

**Installing**

- If removed, first of all insert the immobiliser reader coil -2- and lock in place.
- Then insert the button -1- into the bottom trim panel and press until the interlocking lugs lock into place.
- Mount plug and install the bottom and top steering column trim panel.



## 2.16 Removing and installing switch with control of the heated rear seat -E128- / -E129-

**Removing**

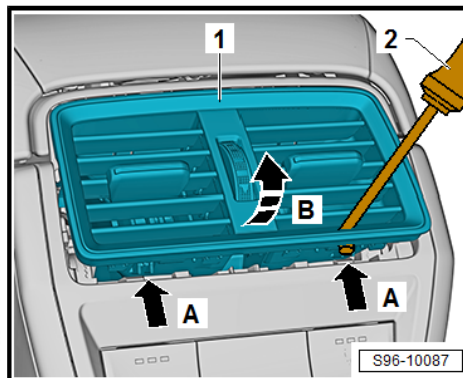
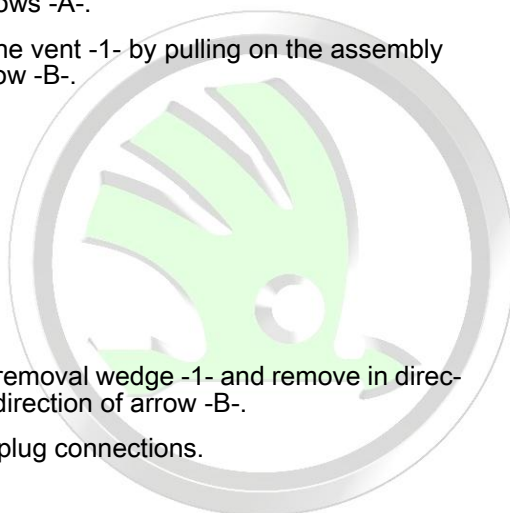
- Switch off the ignition and all electrical components.



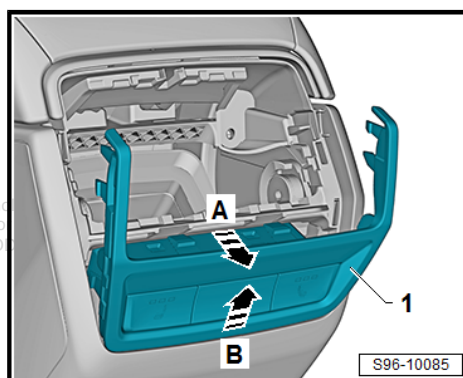
**Caution**

*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*

- Hook the assembly tool - T10389- Pos. -2- into the holes one by one in the vent arrows -A-.
- Loosen and remove the vent -1- by pulling on the assembly tool in direction of arrow -B-.



- Unclip cover with the removal wedge -1- and remove in direction of arrow -A- and direction of arrow -B-.
- Release and remove plug connections.

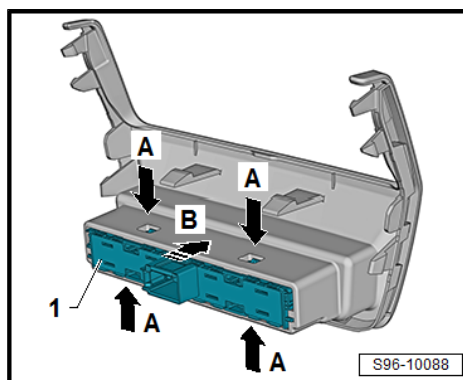


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- Unclip switch unit -1- arrows -A- and take it out of the cover in direction of arrow -B-.

**Installing**

Installation is carried out in the reverse order.



## 2.17 Removing and installing the buttons on the tailgate in the luggage compartment - E406-

Description of the function ⇒ Karoq Owner's manual .

**Removing**

- Switch off the ignition and all electrical components.



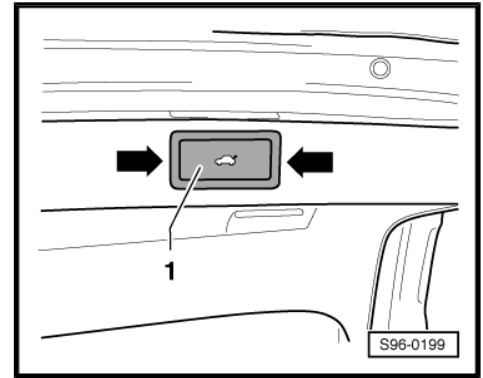
**Caution**

*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*

- Slacken the switch -1- out of the tailgate trim panel using a small cross-head screwdriver and disconnect the plug.

**Installing**

- Mount the plug and clip the switch back into the assembly opening.
- Check for proper operation.



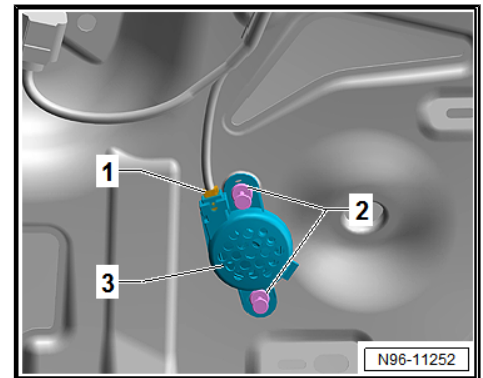
**2.18 Removing and installing the warning buzzer for tailgate - H32-**

**Removing**

- Switch off the ignition and all electrical components.
- Remove the lower rear lid trim => General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim; Remove and install lower rear lid trim .
- Remove expanding rivets -2- and remove warning buzzer -3-.
- Unlock and disconnect plug connection -1-.

**Installing**

Installation is carried out in the reverse order.



**2.19 Removing and installing the contact switch for makeup mirror -F147- / -F148-**



*The contact switches for the make-up mirror lamp are integrated into the sun visors. If the contact switch has a fault, the sun visor will need to be replaced completely => General body repairs, interior; Rep. gr. 68 ; Equipment; removing and installing sun visor .*

**2.20 Removing and installing buttons for sunroof - E325-**

**Removing**

- Switch off the ignition and all electrical components.
- Remove front interior light

=> ["2.21.1 Removing and installing front interior light/reading light, vehicles with panoramic sunroof", page 150](#)

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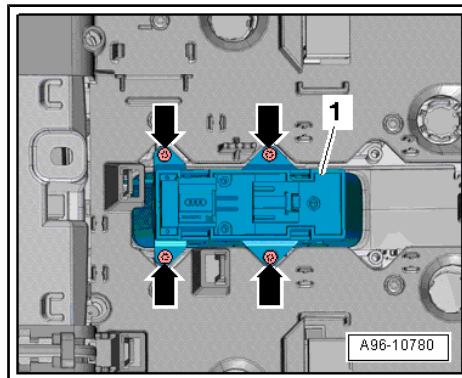
- Unscrew screws -arrows- and take button -1- out of the interior light.

**Installing**

Installation is performed in the reverse order, pay attention to the following points:

**Specified torques**

Component	Tightening torque
Fixing screws for sunroof buttons - E325-	0.8 Nm



**2.21 Removing and installing the front interior light/reading light**

⇒ [“2.21.1 Removing and installing front interior light/reading light, vehicles with panoramic sunroof”, page 150](#)

⇒ [“2.21.2 Removing and installing front interior light/reading light, vehicles without panoramic sunroof”, page 151](#)

**2.21.1 Removing and installing front interior light/reading light, vehicles with panoramic sunroof**



**Note**

*The switch unit is a component part of the front interior light and cannot be replaced separately.*

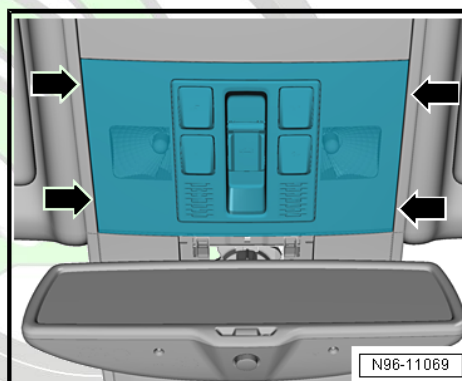
**Removing**



**Caution**

*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*

- Switch off the ignition and all electrical components.
- Carefully prise off lens in the marked areas -arrows-.



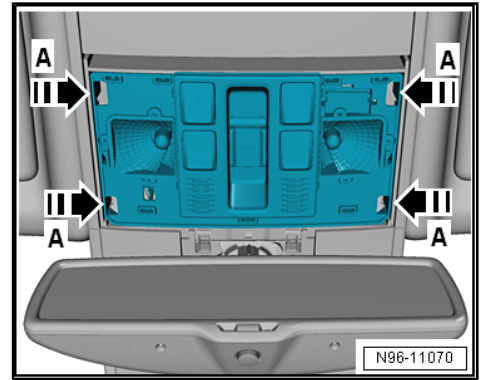
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- Unclip light in direction of arrows -A- and remove.
- Release and remove plug connections.

**Installing**


Installation is performed in the reverse order, pay attention to the following points:

- Press the lamp into the assembly opening until it audibly locks into place.
- Insert lens.



**2.21.2 Removing and installing front interior light/reading light, vehicles without panoramic sunroof**

**Removing**

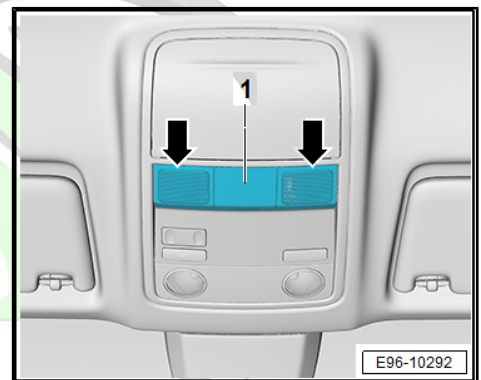


**Caution**

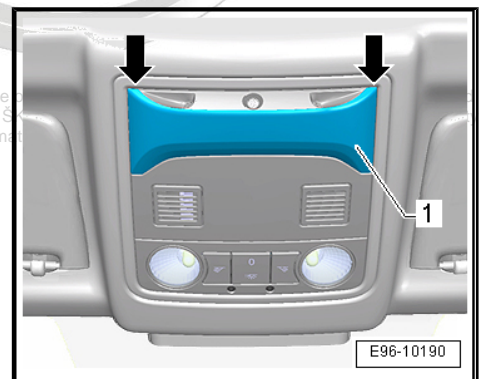
*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*

- Switch off the ignition and all electrical components.
- Carefully prise off lens -1- in the marked areas -arrows-.

Version with no theft warning system:



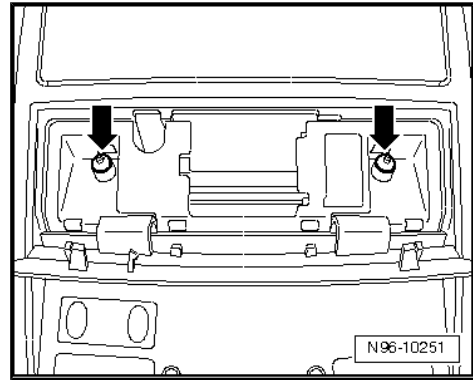
Version with theft warning system:



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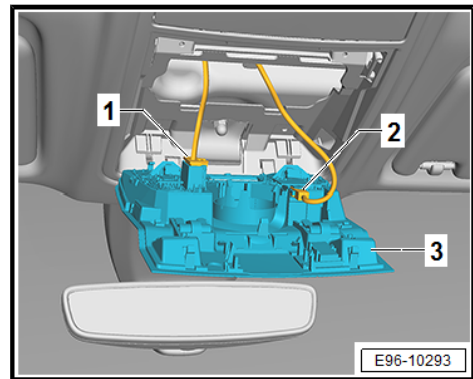
- Remove screws -arrows-.



- Lever out roof light -3- from the installation frame.
- Release and remove plug connections.

**Installing**

Installation is carried out in the reverse order.



**2.22 Removing and installing the rear interior light/reading light**


⇒ [“2.22.1 Removing and installing the rear centre interior light/reading light”, page 152](#)

⇒ [“2.22.2 Removing and installing rear interior light/reading light - vehicles with panoramic sunroof”, page 153](#)

**2.22.1 Removing and installing the rear centre interior light/reading light**



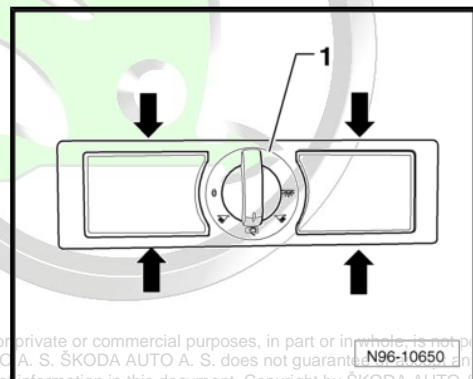
**Removing**



**Caution**

*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*

- Switch off the ignition and all electrical components.
- Unclip the lighting with the disassembly wedge - 3409- -1- unclip -arrows- and remove from the assembly opening.



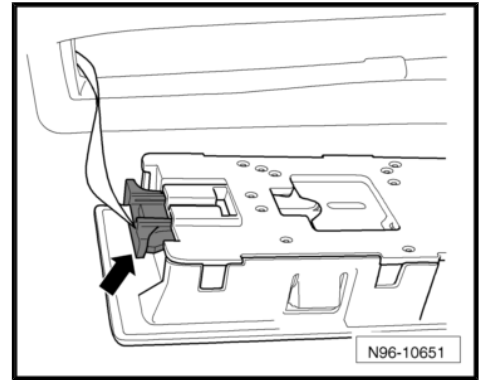
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- Release connector -arrow- and remove.

### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Press the lamp into the assembly opening until it audibly locks into place.



## 2.22.2 Removing and installing rear interior light/reading light - vehicles with panoramic sunroof



### Caution

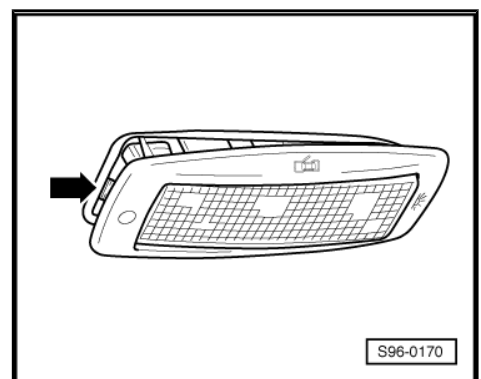
*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*

### Removing



### Note

- ◆ *The assembly opening for the light is reinforced with sheet metal in the headlining. Before inserting the screwdriver as a wedge, slightly lever out the light and then wedge the screwdriver between the metal reinforcement and light.*
- ◆ *For lighting with LEDs, wedge the screwdriver on the switch side and, in the event of a defect, replace the entire lighting.*
- Switch off the ignition and all electrical components.
- Carefully release the retaining tab -arrow- by wedging and pushing in the cross-head screwdriver (version with LEDs - wedge in the screwdriver on the switch side), tilt out the interior light and remove.
- Disconnect plug.



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- Push out lens -arrow- and replace light bulb (C5W).

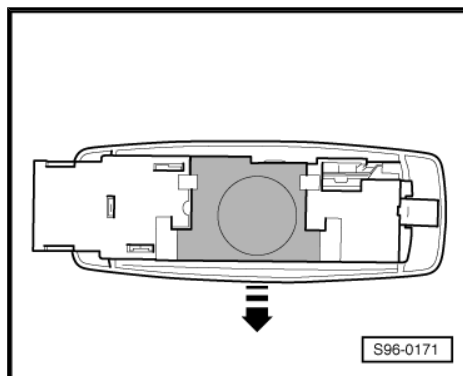
### Installing

Installation is performed in the reverse order, pay attention to the following points:



#### Note

*Fitting position of the interior light - the light connector points to the tail end of the vehicle.*



## 2.23 Removing and installing mounting bracket for VarioFlex rear seat connectors



### Caution

#### Risk of damaging the connectors!

- ◆ *The plug holder is fastened in a position specified by the manufacturer with a special tool.*
- ◆ *The mounting bracket nut must not be loosened before exact marking of the bracket position is carried out.*
- ◆ *If the bracket is fastened in a position other than that specified by the manufacturer, there is a risk of damage to the connectors!*

### Removing

- Switch off the ignition and all electrical components.
- Remove rear seats ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seat; Removing and installing bench seat / individual seats .
- Unfasten the rear floor panel and lift up to reach the connector holder.

Mark the exact position of the bracket for connectors -2- according to the figure e.g. with a water-resistant felt tip pen -arrows-.

- Unscrew nuts -3- and remove the holder for the connectors -2-.

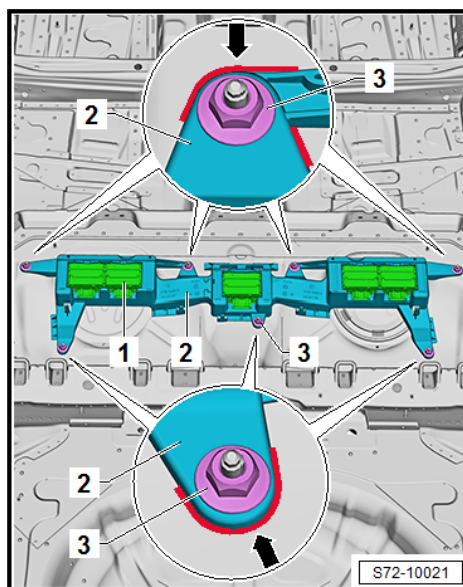
### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Carefully place the bracket with connectors precisely in the previously marked position.
- Tighten fixing nuts.
- Carefully check that the connectors click into each other when the seats are folded over.

### Specified torques

Component	Tightening torque
Fixing nuts for connector mounting bracket, -Pos. 3-	5 Nm



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### 3 Anti-theft warning system

⇒ [“3.1 Summary of components - interior monitoring switch”, page 155](#)

⇒ [“3.2 Removing and installing the horn H12”, page 156](#)

⇒ [“3.3 Removing and installing G578 sensor for anti-theft alarm system”, page 157](#)

#### 3.1 Summary of components - interior monitoring switch

The functions of the anti-theft warning system are integrated in the onboard supply control unit - J519- .

After replacing the vehicle voltage control unit - J519- , the anti-theft warning system must be adapted with ⇒ Vehicle diagnostic tester.

##### 1 - Sensor for anti-theft warning system - G578-

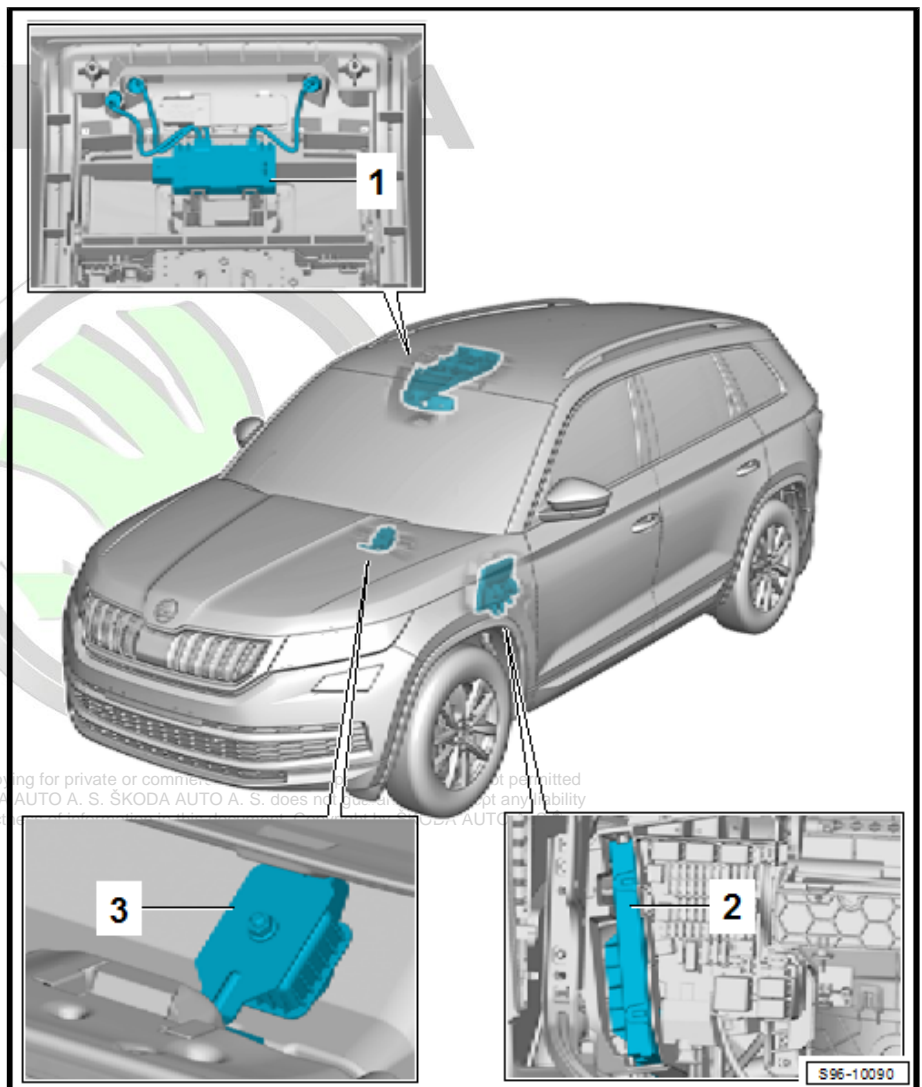
- ❑ Removing and installing  
⇒ [“3.3 Removing and installing G578 sensor for anti-theft alarm system”, page 157](#)

##### 2 - Onboard supply control unit - J519-

- ❑ Removing and installing  
⇒ [“2.2 Removing and installing the vehicle voltage control unit J519”, page 174](#)

##### 3 - Alarm horn - H12-

- ❑ Removing and installing  
⇒ [“3.2 Removing and installing the horn H12”, page 156](#)



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Further information and description of function:

- ◆ ⇒ Karoq Owner's Manual



### Fault recognition and fault display

The anti-theft warning system is equipped with self-diagnosis, which facilitates the troubleshooting.

For fault finding use the → Vehicle diagnostic tester in the function "Targeted fault finding".



**Note**

- ◆ After triggering the anti-theft warning system, the alarm source which is stored in the onboard supply control unit - J519- is output.
- ◆ To determine the alarm source, use the → Vehicle diagnostic tester in the function "Targeted functions" - "Measured value blocks".
- ◆ Before assembly, the vehicle must be unlocked with the release button of the radio control receiver.

### 3.2 Removing and installing the horn - H12-



**Note**

The horn - H12- has an emergency battery which cannot be replaced as a separate item.

#### Removing

- Switch off the ignition and all electrical components. The vehicle must not be locked via the radio control receiver of the central locking.
- Remove plenum chamber cover → General body repairs, exterior; Rep. gr. 50 ; Dash panel; installing and removing plenum chamber cover .
- Unscrew nuts -3- and remove alarm horn -1- with mounting bracket -4-.
- Unlock and pull off connector -5-.
- If necessary, unscrew nut -2- and remove horn from mounting bracket -4-.

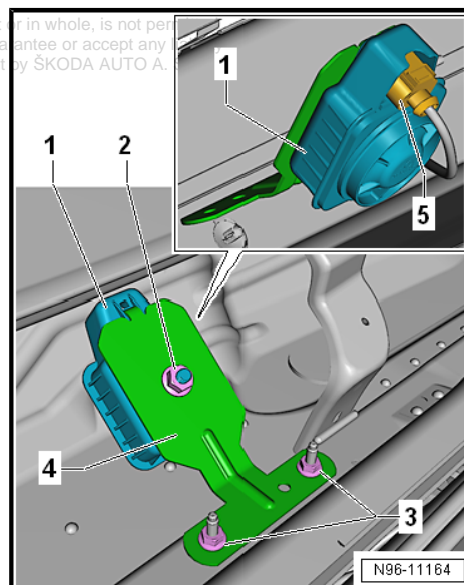
#### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Perform a functional test.

#### Specified torques

Component	Tightening torque
Fixing nuts for mounting bracket of the alarm horn - H12- , Pos. -3-	10 Nm
Fixing nuts for alarm horn to mounting bracket, Pos. -2-	6 Nm



### 3.3 Removing and installing - G578- sensor for anti-theft alarm system



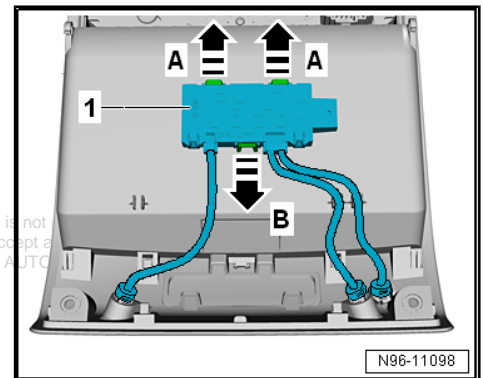
Note

Depending on the equipment, the location of components may differ from those shown in the figure. The assembly work is identical.

#### Removing

- Switch off the ignition and all electrical components.
- Remove front interior light  
⇒ ["2.21 Removing and installing the front interior light/reading light", page 150](#) .
- Remove storage compartment in moulded headliner ⇒ General body repairs, interior; Rep. gr. 70 ; Moulded headliner; removing and installing moulded headliner .
- Unlatch catch pegs in direction of arrows -A- and unlatch -B- and remove unit -1-.

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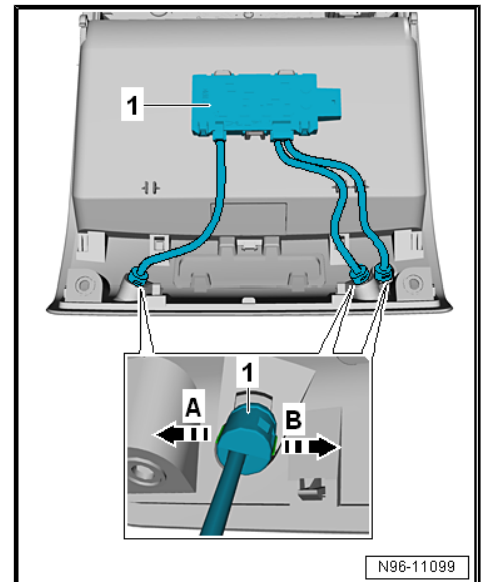


- Unlatch catch pegs in direction of arrows -A- and unlatch -B- and remove sensors -1-.

#### Installing

Installation is performed in the reverse order, pay attention to the following points:

- After replacing the sensor, you must carry out an online adjustment (parameterisation) with ⇒ Vehicle diagnostic tester.





## 4 Immobiliser

⇒ "4.1 Removing and installing immobiliser reading coil",  
page 158

### 4.1 Removing and installing immobiliser reading coil

#### Removing



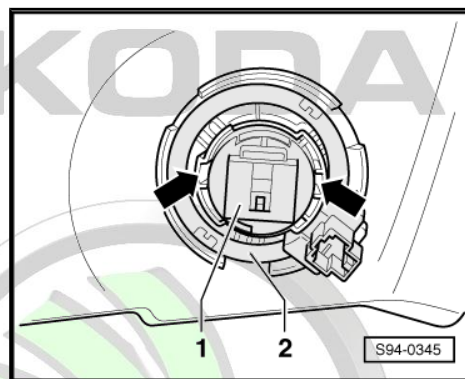
#### Note

*The steering wheel must not be removed. For installing the fixing screws of the bottom trim panel for steering column, turn the steering wheel to the left by 90° and subsequently turn it to the right.*

- Switch off the ignition and all electrical components.
- Removing top and bottom steering column trim ⇒ General body repairs, interior; Rep. gr. 68 ; Compartments/covers .
- Disconnect the plug from the button -1- and from the reader coil -2-.
- Insert two small cross-head screwdrivers (e.g watch-and-clock screwdrivers) into the openings -arrows- and press the sheet pegs.
- Grip the bottom part of the button -1- and press it towards the outside from the bottom trim panel for steering column.
- When removing the reader coil -2-, start by removing the button, then carefully unclip the reader coil with the removal wedge - 3409- .

#### Installing

- Insert the immobiliser reader coil -2- and lock in place.
- Then insert the button -1- into the bottom trim panel and press until the interlocking lugs lock into place.
- Mount plug and install the bottom and top steering column trim panel.



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## 5 Lane change assist

⇒ [“5.1 Summary of components - lane change assist”, page 159](#)

⇒ [“5.2 Removing and installing the warning light for lane change assist in the exterior mirror K233 / K234 ”, page 159](#)

⇒ [“5.3 Removing and installing lane change assist control unit J769 / J770 ”, page 160](#)

⇒ [“5.4 Calibration of lane change assist”, page 160](#)

### 5.1 Summary of components - lane change assist

#### 1 - Warning light for lane change assist in the exterior mirror, left - K312-

- ❑ Warning light for lane change assist in the exterior mirror, right - K311-
- ❑ Removing and installing ⇒ [“5.2 Removing and installing the warning light for lane change assist in the exterior mirror K233 / K234 ”, page 159](#)

#### 2 - Right holder

#### 3 - Nut

- ❑ 2 units
- ❑ 3.5 Nm

#### 4 - Connector

#### 5 - Control unit 2 for lane change assist - J770-

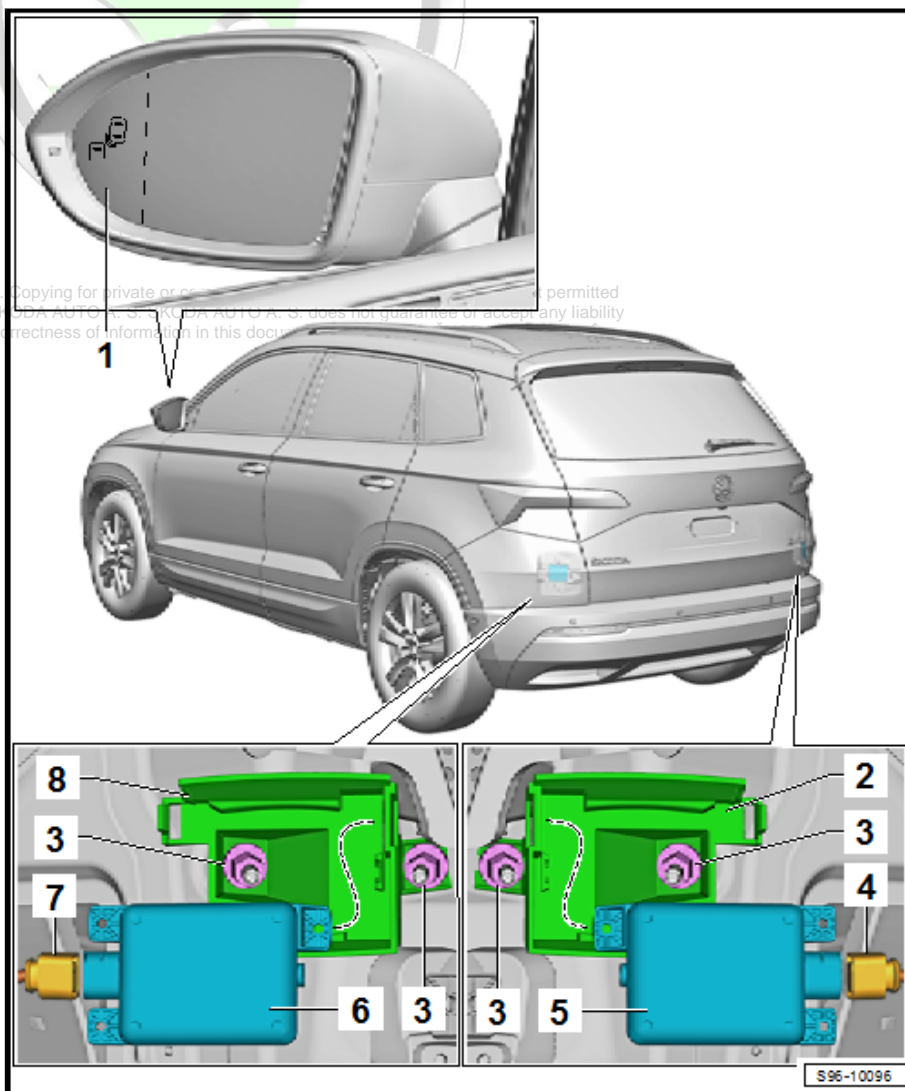
- ❑ Removing and installing ⇒ [“5.3 Removing and installing lane change assist control unit J769 / J770 ”, page 160](#)

#### 6 - Control unit for lane change assist - J769-

- ❑ Removing and installing ⇒ [“5.3 Removing and installing lane change assist control unit J769 / J770 ”, page 160](#)

#### 7 - Connector

#### 8 - Left bracket



### 5.2 Removing and installing the warning light for lane change assist in the exterior mirror -K233- / -K234-

The warning lamp is housed in the exterior mirror glass and cannot be replaced separately



- Removing and installing mirror glass ⇒ General body repairs, exterior; Rep. gr. 66 ; Exterior mirror; installing and removing mirror glass .

### 5.3 Removing and installing lane change assist control unit -J769- / -J770-

#### Removing

- Switch off the ignition and all electrical components.
- Remove the rear bumper ⇒ General body repairs, exterior; Rep. gr. 63 ; Rear bumper; Removing and installing bumper .
- Disconnect connector and remove from control unit.
- Push off the retaining tabs -arrow- and pull the control unit -3- out of the holder -4-.
- If necessary, release the nuts -1- and remove the mounting bracket for the control unit -4-.

#### Installing

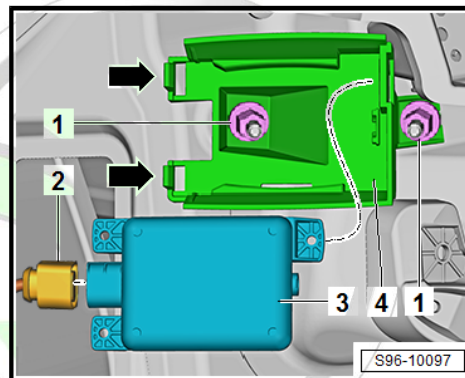
Installation is performed in the reverse order, pay attention to the following points:

When replacing, adapt and code the new control unit with the ⇒ Vehicle diagnostic tester.



#### Note

*Lane change assist is calibrated dynamically (automatically) after having drive a few kilometres.*



#### Specified torques

- ◆ ⇒ [“5.1 Summary of components - lane change assist”, page 159](#)

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### 5.4 Calibration of lane change assist



#### Note

*Lane change assist is calibrated dynamically (automatically) after having drive a few kilometres.*

## 6 Front camera for driver assistance systems

⇒ [“6.1 Removing and installing front camera for driver assistance system”, page 161](#)

⇒ [“6.2 Removing and installing heating plate for windscreen”, page 161](#)

### 6.1 Removing and installing front camera for driver assistance system

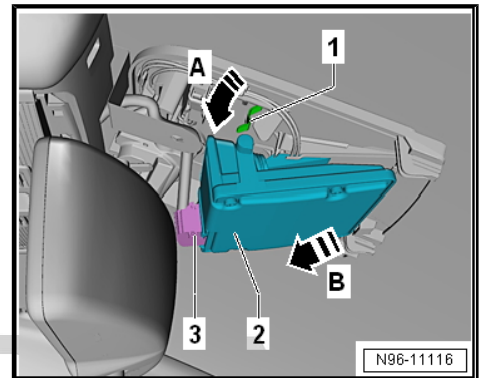
#### Removing

- Switch off the ignition and all electrical components.
- Remove covers of retaining plate for the interior rear-view mirror ⇒ General body repairs, interior; Rep. gr. 68 ; Interior mirror .
- Move camera -2- in direction of arrow -B- somewhat.
- Level off the catches -1- and simultaneously loosen the camera carefully from the mount in direction of arrow -A-.
- Unlock and pull off connector -3-.

#### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Carry out front camera calibration for driver assistance systems - R242- ⇒ Chassis, axles, steering; Rep. gr. 44 ; Front camera for driver assistance systems; calibrating the front camera for driver assistance systems .



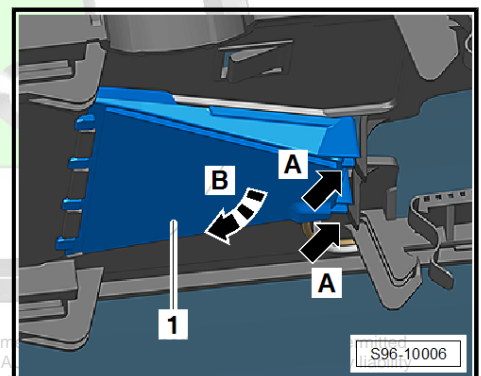
### 6.2 Removing and installing heating plate for windscreen

#### Removing

- Switch off the ignition and all electrical components.
- Remove front camera for driver assistance systems - R242- ⇒ [“6.1 Removing and installing front camera for driver assistance system”, page 161](#) .
- Press off locking lug -arrows A-, unclip plate -1- and remove in direction of arrow -B-.
- Disconnect plug.

#### Installing

Installation is carried out in the reverse order.



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## 7 Cigarette lighter, socket

⇒ "7.1 Removing and installing cigarette lighter U1", page 162

⇒ "7.2 Removing and installing 12-V socket 3 U19", page 162

⇒ "7.3 Removing and installing inverter with socket, 12 V-230 V U13", page 162

### 7.1 Removing and installing cigarette lighter - U1-

All notes and comments to this chapter can be found in the Workshop Manual ⇒ Electrical system - General notes ⇒ Electrical system - General notes; Rep. gr. 96 . If a note cannot be accessed, open the Workshop Manual "Electrical System - General Notes" manually in "ELSA".

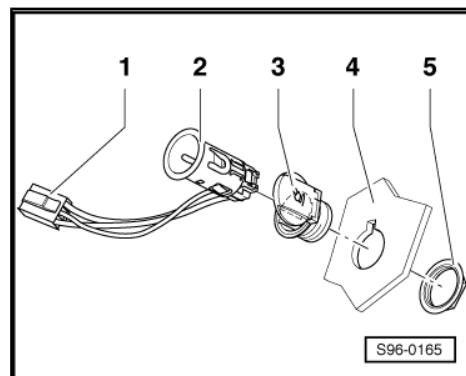
### 7.2 Removing and installing 12-V socket 3 - U19-

#### Removing

- Switch off the ignition and all electrical components.
- Remove the cover above the socket from the boot side panel.
- Disconnect electrical plug connection -1-.
- Unscrew nut -5-.
- Pull power socket -2- with socket -3- out of the trim panel -4-.

#### Installing

Installation is carried out in the reverse order.




### 7.3 Removing and installing inverter with socket, 12 V-230 V - U13-



#### Note

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*Before working on the power socket it is essential to be familiar with the description of function, basic safety rules and potential uses of the power socket ⇒ Karoq Owner's Manual .*

 **WARNING**

- ◆ *There are capacitors in the inverter housing with 12 V / 230 V power socket that could still have a residual voltage charge.*
- ◆ *There is a risk of accidents caused by electric shock.*
- ◆ *Inverter housing with 12 V / 230 V power socket must not be opened in any circumstances.*
- ◆ *The plug, cables and 230 V power socket must not be repaired.*
- ◆ *In the case of a fault on the plug, cable or power socket the entire unit must be replaced.*

**Special tools and workshop equipment required**

- ◆ Disassembly wedge - 3409-

 **Caution**

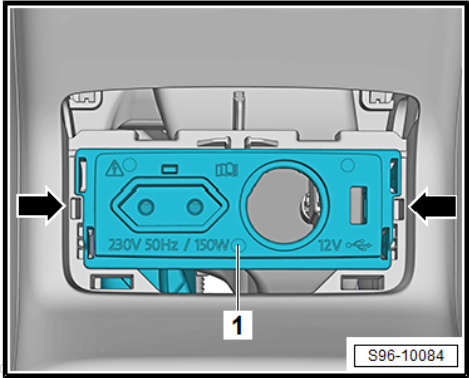
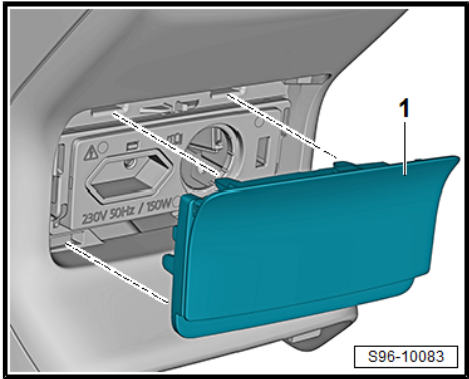
*When using the lever tool, mask points where the lever tool is applied using commercially available adhesive tape.*

**Removing**

- Switch off the ignition and all electrical components.
- Remove rear trim of centre console => General body repairs, interior; Rep. gr. 68 ; Centre console; Summary of components - centre console .
- Release from catches with disassembly wedge and remove the cover -1-.



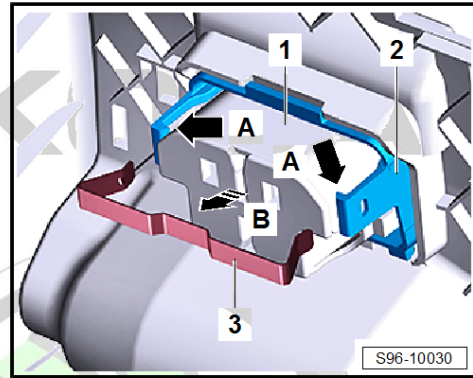
- Unclip the mounting bracket -1- by pressing -arrows-.



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- Remove retaining spring -3-.
- Push off locking lugs -arrows A- and remove socket -1- in direction of arrow -B- out of the sleeve -2-.
- Remove centre console ⇒ General body repairs, interior; Rep. gr. 68 ; Centre console; Removing and installing centre console .
- Unscrew fixing nuts for inverter and remove inverter with socket.
- Release connector and remove it.



**Installing**

Installation is carried out in the reverse order.

**Specified torques**

Component	Tightening torque
Fixing nuts for inverter	12 Nm

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## 97 – Wiring

### 1 Relay carrier, fuse holder, E-boxes

⇒ “1.1 Installation overview, relay carrier, fuse holder, E-boxes”, page 165

⇒ “1.2 Removing and installing electronics box (E-box)”, page 166

⇒ “1.3 Removing and installing relay and fuse holder in E-box”, page 167

⇒ “1.4 Removing and installing relay and fuse holder behind dash panel”, page 169

#### 1.1 Installation overview, relay carrier, fuse holder, E-boxes

⇒ “1.1.1 Relay carrier, fuse carrier, e-box in the engine compartment”, page 165

##### 1.1.1 Relay carrier, fuse carrier, e-box in the engine compartment

###### 1 - E-box cover front

###### 2 - Nut

- 9 Nm

###### 3 - Nut

- 9 Nm

###### 4 - Line

- for radiator fan
- 4.5 Nm

###### 5 - Line

- for Terminal 30
- 4.5 Nm

###### 6 - Line

- for electro/mechanical power steering
- 4.5 Nm

###### 7 - Line

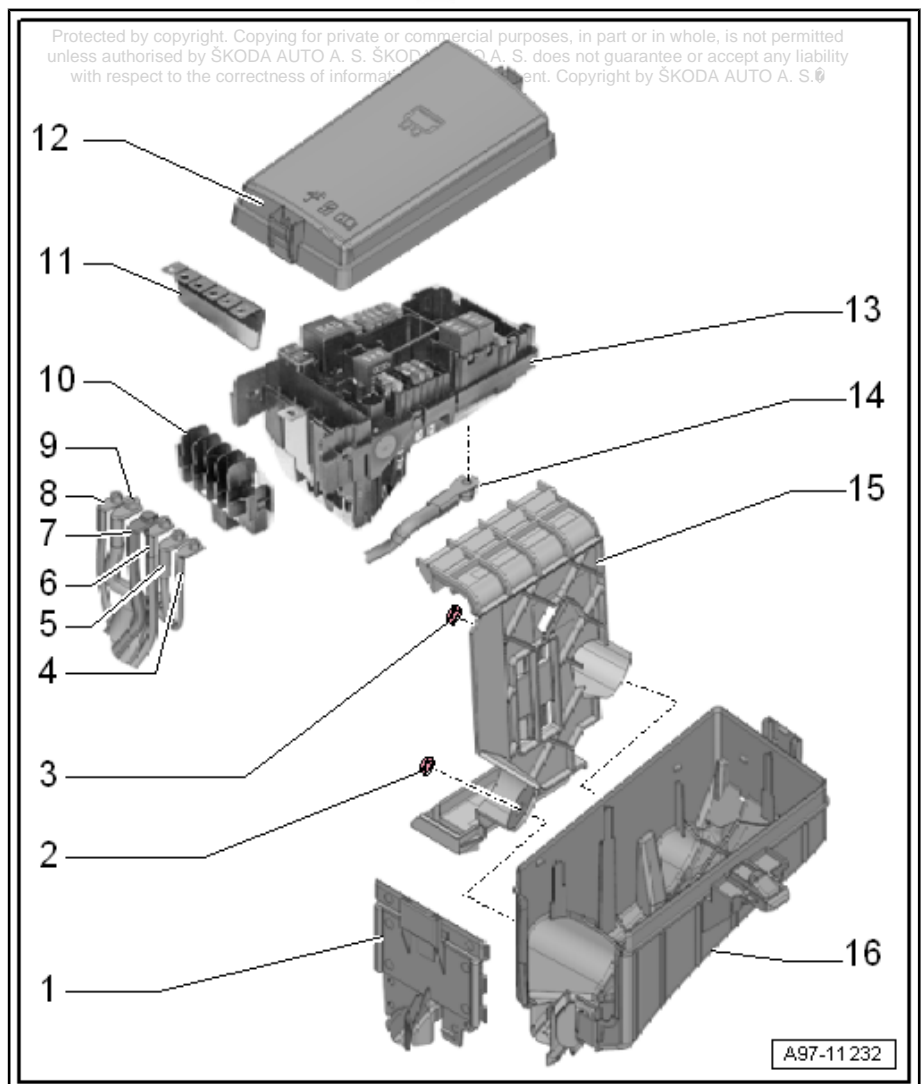
- for battery B+
- 6 Nm

###### 8 - Line

- for Terminal 30
- 4.5 Nm

###### 9 - Line

- for alternator
- 6 Nm





## 10 - Fuse carrier

## 11 - Multiple fuse

## 12 - E-box cover

## 13 - Relay and fuse carrier

- ❑ Removing and installing ⇒ [“1.3 Removing and installing relay and fuse holder in E-box”, page 167](#)

## 14 - Line

- ❑ 6 Nm

## 15 - Engine control unit bracket

## 16 - E-box in the engine compartment

- ❑ Removing and installing ⇒ [“1.2 Removing and installing electronics box \(E-box\)”, page 166](#)

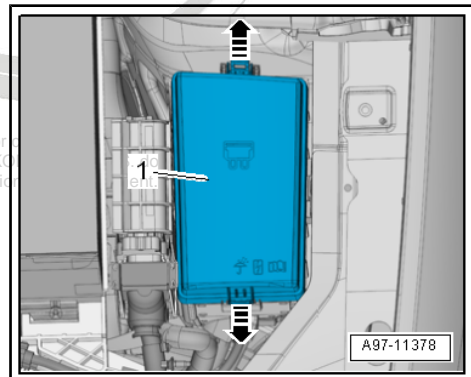
# ŠKODA

## 1.2 Removing and installing electronics box (E-box)

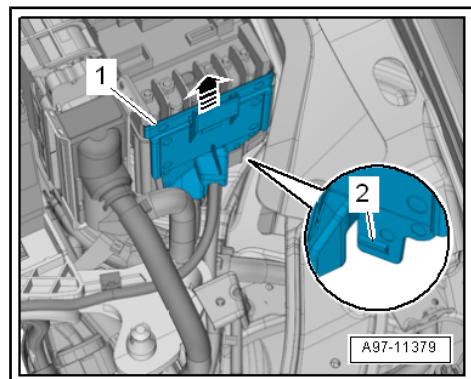
### Removing

- Remove the battery  
⇒ [“1.2 Removing and installing battery”, page 6](#).
- Remove engine control unit and lay it to the side with connected cables:
  - Diesel engine ⇒ Rep. gr. 23 ; Engine control unit
  - Petrol engine ⇒ Rep. gr. 24 ; Engine control unit
- Press latches -arrows- and remove e-box cover -1-.

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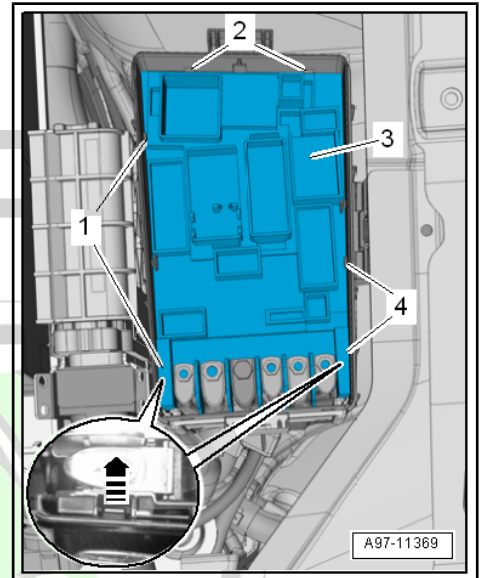


- Use a screwdriver to unlock the catch -2- and push out the front cover -1- upwards -arrow-.





- Unlock catches -1-, -2- and -4- -arrow-.
- Remove relay and fuse carrier -3- and place to one side.



- Unscrew the nuts -arrows- and remove engine control unit mounting bracket -1-.
- Loosen E-Box housing -2- from the catch -3- and remove it upwards from the threaded bolts.

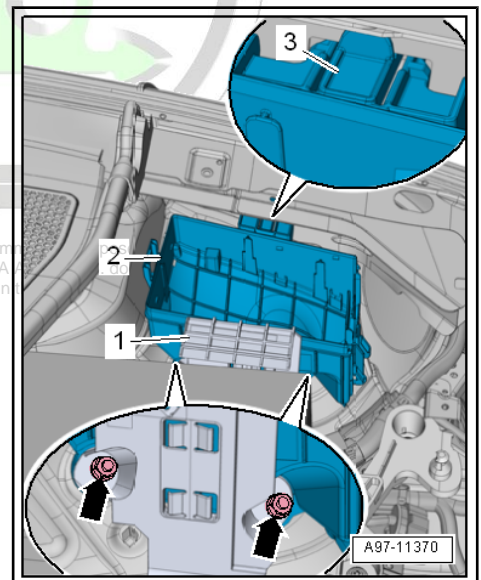
#### Installing

Installation is performed in the reverse order, pay attention to the following points:

- Follow the work procedure when connecting the battery ⇒ [“1.3 Disconnecting and reconnecting battery”, page 8](#).

#### Specified torques

- ◆ ⇒ [“1.1.1 Relay carrier, fuse carrier, e-box in the engine compartment”, page 165](#)



## 1.3 Removing and installing relay and fuse holder in E-box



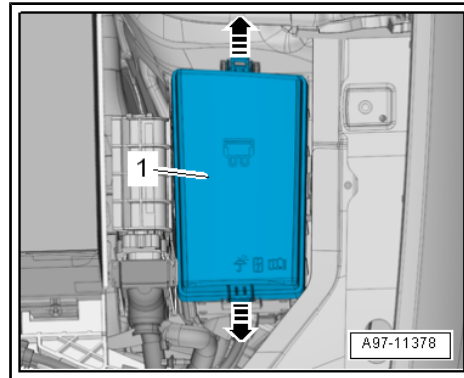
#### Note

You will find the exact assignment of electric cables and the arrangement of fuses and relays in ⇒ *Current flow diagrams, Electrical fault finding and Fitting locations.*

#### Removing

- Disconnect battery earth strap ⇒ [“1.3.1 Disconnect battery”, page 8](#).

- Press latches -arrows- and remove e-box cover -1-.

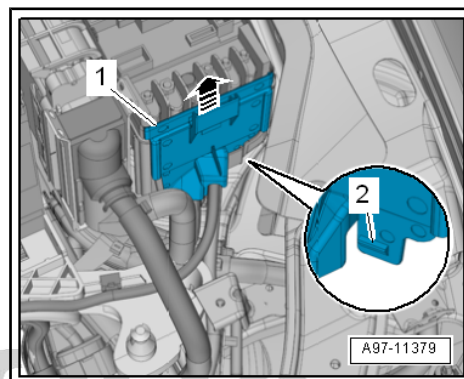


- Use a screwdriver to unlock the catch -2- and push out the front cover -1- upwards -arrow-.

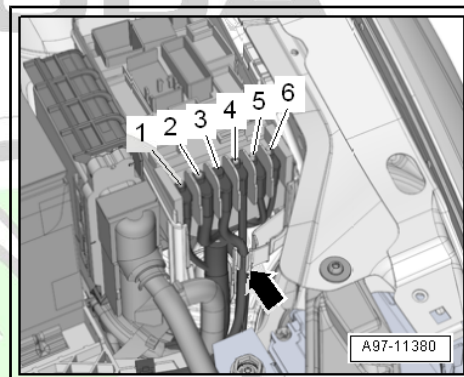


**Note**

Mark screw connections for re-installation of the electric cables.



- Unscrew nuts -1-, -2-, -4-, -5-, -6- and unscrew screw -3-.
- Expose electric cables -arrow-.



- Unlock catches -1-, -2- and -4- -arrow-.
- Remove relay and fuse carrier -3- and place to one side.

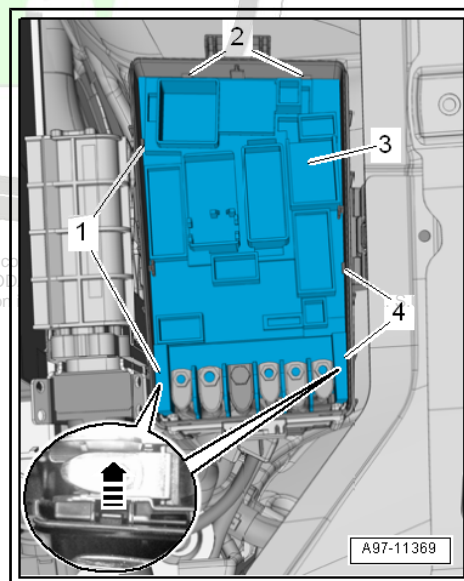
**Installing**

Installation is performed in the reverse order, pay attention to the following points:

- Follow the work procedure when connecting the battery  
⇒ ["1.3 Disconnecting and reconnecting battery", page 8](#)

**Specified torques**

- ◆ ⇒ ["1.1.1 Relay carrier, fuse carrier, e-box in the engine compartment", page 165](#)



## 1.4 Removing and installing relay and fuse holder behind dash panel

⇒ [“1.4.1 Removing and installing relay and fuse holder behind dash panel, left-hand drive”, page 169](#)

⇒ [“1.4.2 Removing and installing relay and fuse holder behind dash panel, right-hand drive”, page 171](#)

### 1.4.1 Removing and installing relay and fuse holder behind dash panel, left-hand drive

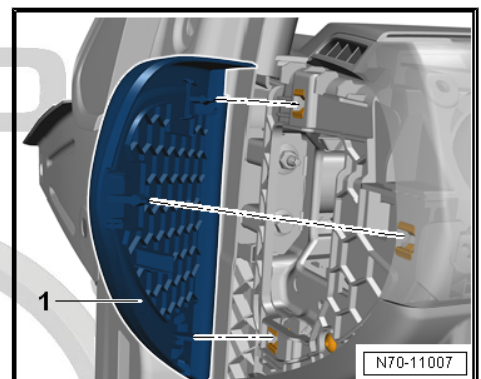
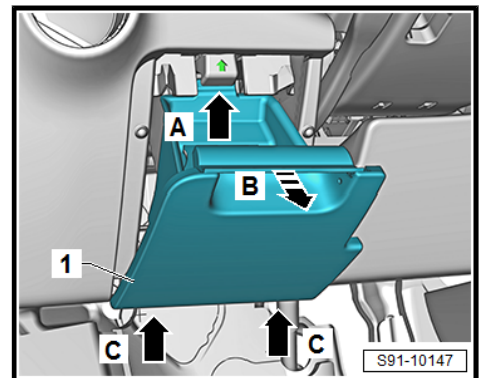


#### Note

You will find the exact assignment of electric cables and the arrangement of fuses and relays in ⇒ *Current flow diagrams, Electrical fault finding and Fitting locations.*

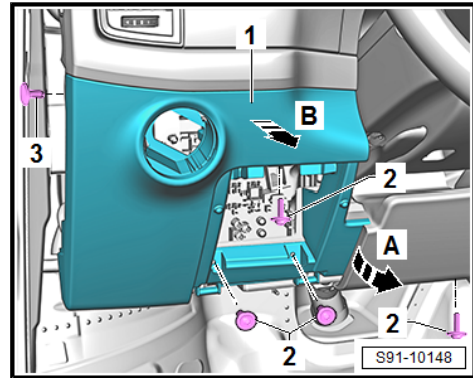
#### Removing

- Disconnect battery earth strap  
⇒ [“1.3.1 Disconnect battery”, page 8](#) .
- Push the retaining tab in direction of arrow -A-, swivel out the storage compartment -1- in direction of arrow -B- and unhook from the mounting, arrows -C-.
- Remove light switch ⇒ Electrical system; Rep. gr. 96 ; Controls; Removing and installing rotary light switch - EX1- .
- Remove the lateral dash panel covers -1- e.g. using the disassembly wedge -3409- .

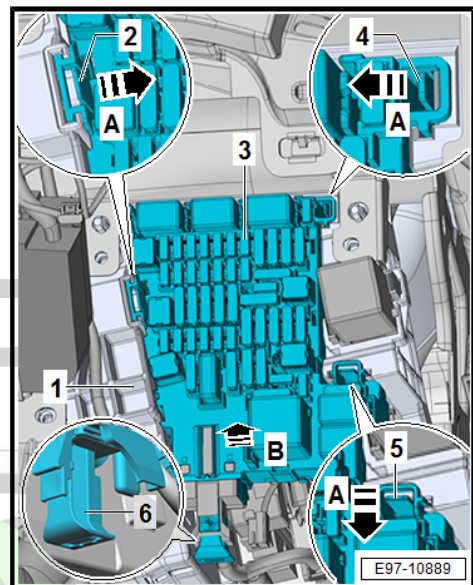




- Remove screws -2- and -3-.
- Partially pull off the bottom section of the dash panel in direction of arrow -A-.
- Unclip bottom section of dash panel -1- and remove in direction of arrow -B-.



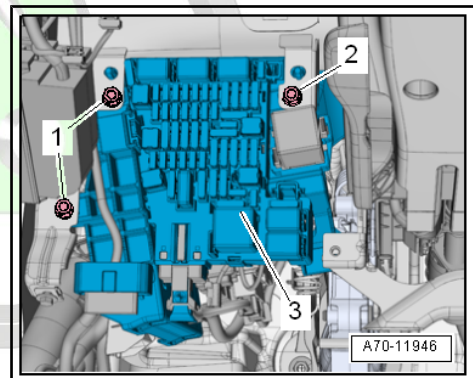
- Unlock and pull off connector -6-.
- Unlock catches -2- and -4- -arrows A-.
- Push relay and fuse carrier -3- towards itself in direction of arrow -B- and allow to hang down.
- Expose electric cables.



- When the cross member for the dashboard is removed, remove the relay and fuse carrier -3- and then unscrew screws -1- and -2-.

**Installing**

Installation is performed in the reverse order, pay attention to the following points:



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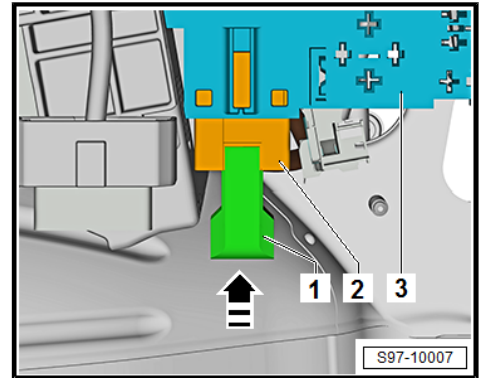
**i Note**

After inserting the plug up to the stop -2- to terminal 30+ on the relay and fuse carrier -3-, secure the plug connection by pushing the securing clip -1- in -direction of arrow- up to the stop!

- Follow the work procedure when connecting the battery => "1.3 Disconnecting and reconnecting battery", page 8 .

**Specified torques**

Component	Tightening torque
Fixing screws for the relay and fuse holder	3 Nm



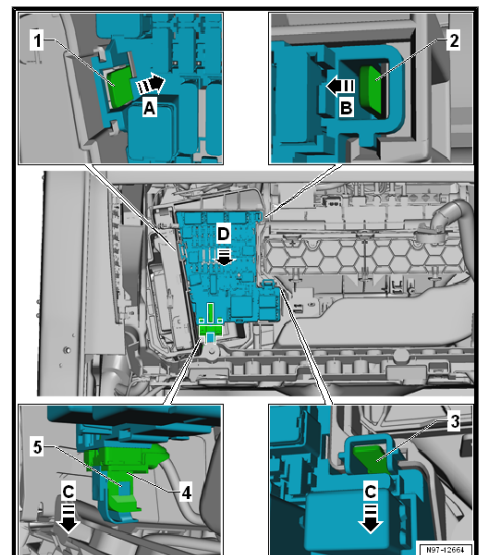
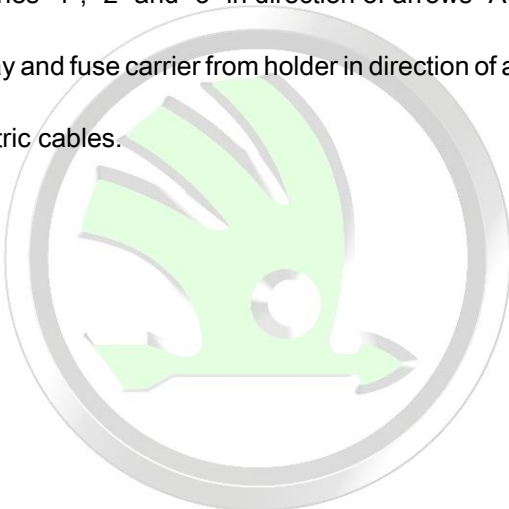
### 1.4.2 Removing and installing relay and fuse holder behind dash panel, right-hand drive

**i Note**

You will find the exact assignment of electric cables and the arrangement of fuses and relays in => Current flow diagrams, Electrical fault finding and Fitting locations.

**Removing**

- Disconnect battery earth strap => "1.3.1 Disconnect battery", page 8 .
- Remove glove compartment and glove compartment frame from the dash panel on the front passenger side => General body repairs, interior; Rep. gr. 68 ; Compartments/covers; Removing and installing glove compartment .
- Press the catch -5- and remove in direction of arrow -C-.
- Disconnect plug connection -4-.
- Release latches -1-, -2- and -3- in direction of arrows -A-, -B- and -C-.
- Push out relay and fuse carrier from holder in direction of arrow -D-.
- Expose electric cables.



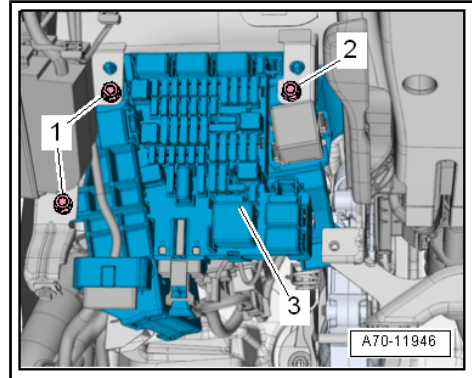
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- When the cross member for the dashboard is removed, remove the relay and fuse carrier -3- and then unscrew screws -1- and -2-.

**Installing**

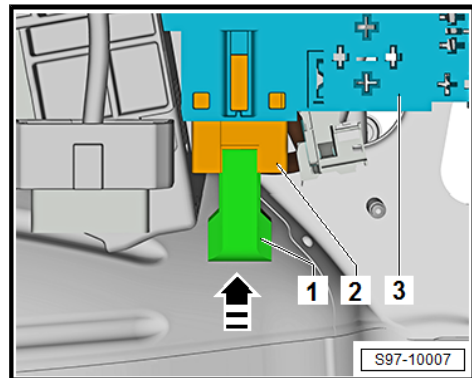
Installation is performed in the reverse order, pay attention to the following points:



**Note**

After inserting the plug up to the stop -2- to terminal 30+ on the relay and fuse carrier -3-, secure the plug connection by pushing the securing clip -1- in -direction of arrow- up to the stop!

- Follow the work procedure when connecting the battery => "1.3 Disconnecting and reconnecting battery", page 8 .



**Specified torques**

Component	Tightening torque
Fixing screws for the relay and fuse holder	3 Nm

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## 2 Control units

⇒ [“2.1 Installation overview - Control units”, page 173](#)

⇒ [“2.2 Removing and installing the vehicle voltage control unit J519”, page 174](#)

⇒ [“2.3 Summary of components - data bus diagnostic interface”, page 176](#)

⇒ [“2.4 Removing and installing data bus diagnostic interface J533”, page 178](#)

### 2.1 Installation overview - Control units

⇒ [“2.1.1 Summary of components Onboard control unit J519 - Left-hand drive”, page 173](#)

⇒ [“2.1.2 Summary of components Onboard control unit J519 - Right-hand drive”, page 174](#)

#### 2.1.1 Summary of components Onboard control unit - J519- - Left-hand drive

1 - Parking aid control unit - J446- or parking aid and park steering assistant control unit - J791-

- Equipment variants with parking aid or parking aid and park steering assistant
- Removing and installing  
⇒ [“9.2 Removing and installing the parking aid control unit J446”, page 120](#)

2 - Control unit holder Pos. 1.

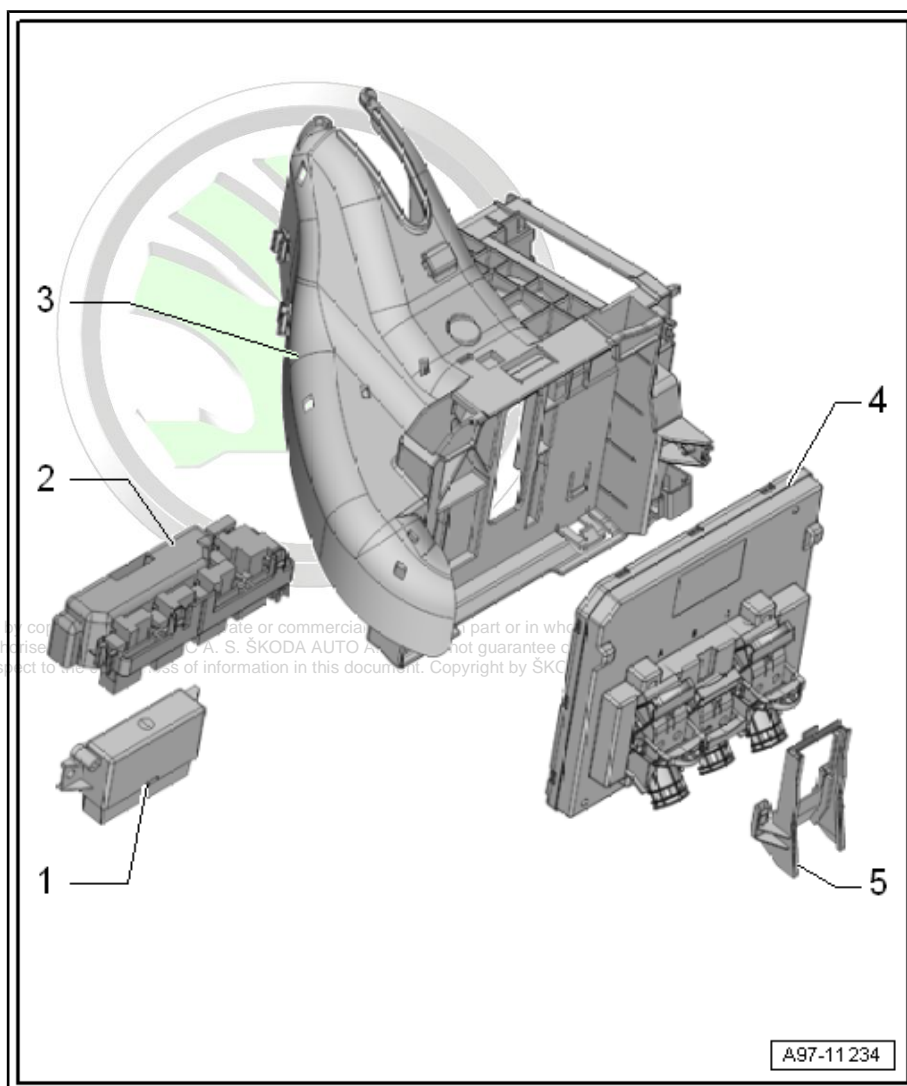
3 - Vehicle voltage control unit holder - J519-

4 - Onboard supply control unit - J519-

- Removing and installing  
⇒ [“2.2 Removing and installing the vehicle voltage control unit J519”, page 174](#)

5 - Guide for connection of central electric plug

- for the insertion of the connector when connecting



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## 2.1.2 Summary of components Onboard control unit - J519- - Right-hand drive

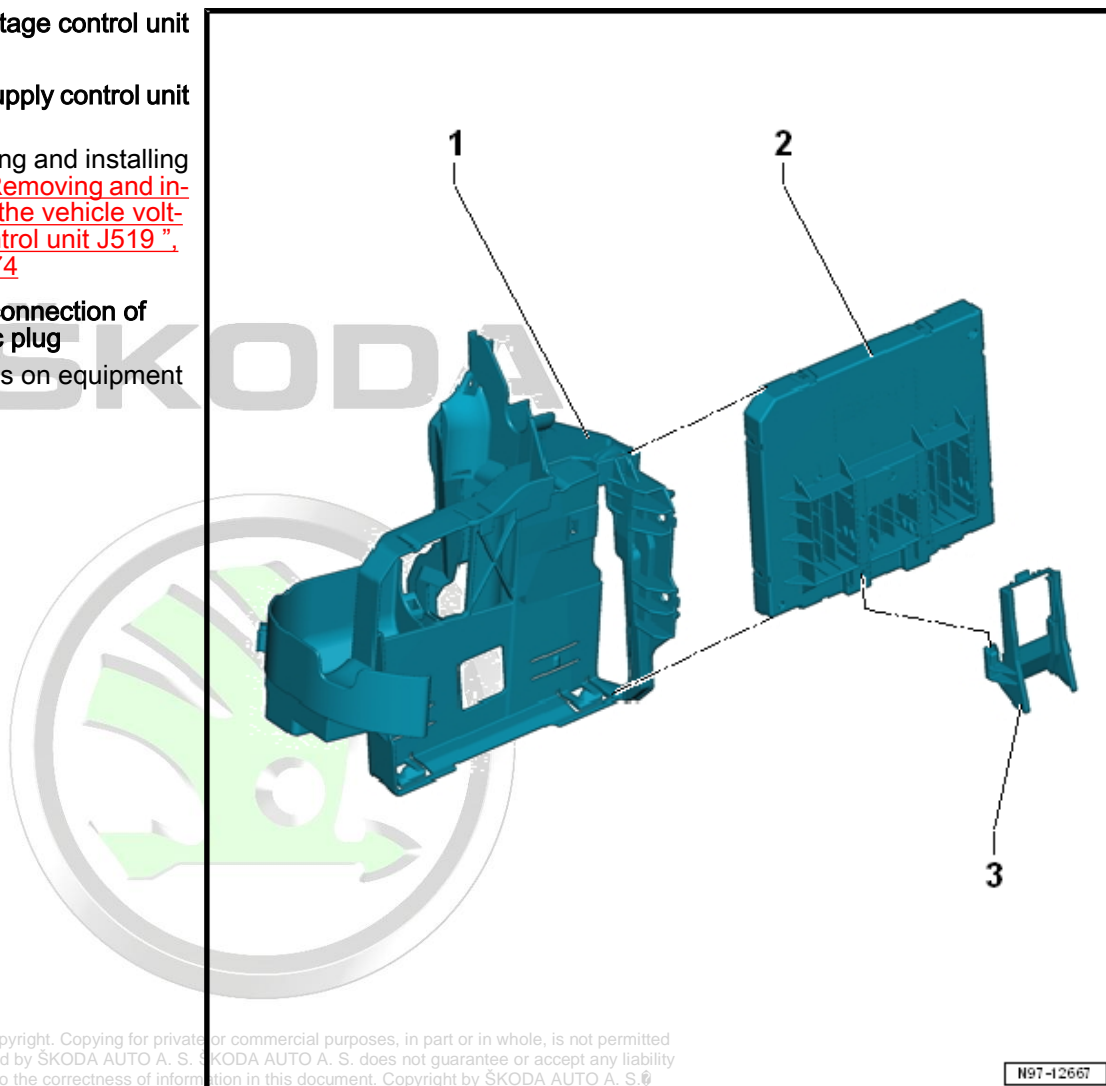
1 - Vehicle voltage control unit holder - J519-

2 - Onboard supply control unit - J519-

- ❑ Removing and installing  
⇒ [“2.2 Removing and installing the vehicle voltage control unit J519”](#),  
[page 174](#)

3 - Guide for connection of central electric plug

- ❑ Depends on equipment



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## 2.2 Removing and installing the vehicle voltage control unit - J519-

### Removing

- Disconnect battery earth strap  
⇒ [“1.3 Disconnecting and reconnecting battery”](#), [page 8](#) .
- Remove any protective cladding below the left dash panel where installed.
- “Remove bottom left”A-pillar trim ⇒ General body repairs, interior; Rep. gr. 70 ; Interior trim panels; removing and installing A-pillar trim .

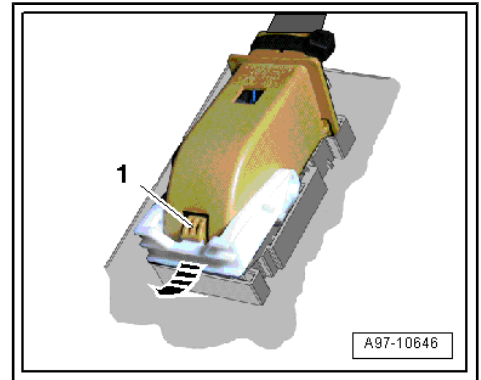
### Right-hand drive:

- Remove glove compartment and glove compartment frame from the dash panel on the front passenger side ⇒ General body repairs, interior; Rep. gr. 68 ; Compartments/covers; Removing and installing glove compartment .

### All vehicles:



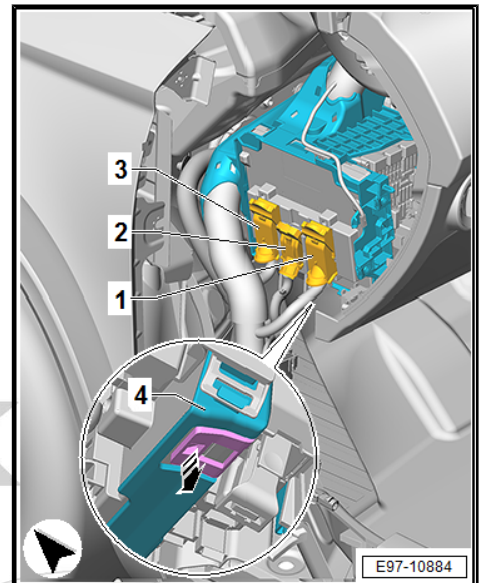
- To disconnect the plugs,, successively press together the catches on the plug connections -1- and disconnect the connectors from the control unit by swivelling out the bracket -arrow-.



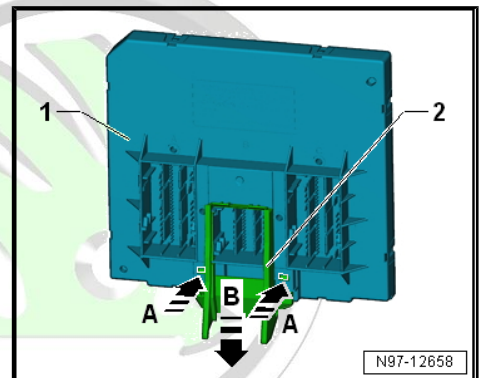
- Disconnect plug connections -1-, -2- and -3-.

**i** Note

*After unlocking from the guide, push the middle plug connection downwards (if installed).*



- To make removal easier, grab the guide -2- (where installed) with a pair of pliers, press the latches together arrows -A- and by pulling it downwards arrow -B- slide the guide out of the control unit -1-.



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- Unlock catches -arrow-, tilt control unit -4- out of the holder -5- and remove downwards and towards you.

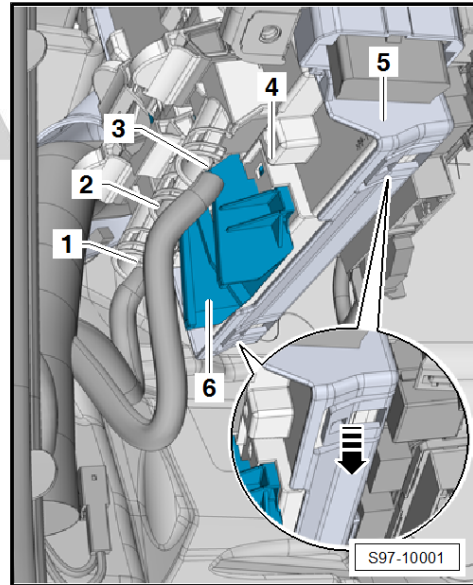
### Installing

Installation is performed in the reverse order, pay attention to the following points:



#### Note

*If the onboard control unit - J519- is replaced, code the new control unit and adjust ⇒ Vehicle diagnostic tester.*



## 2.3 Summary of components - data bus diagnostic interface

⇒ ["2.3.1 Summary of components - data bus diagnostic interface, left-hand drive vehicles", page 176](#)

⇒ ["2.3.2 Summary of components - data bus diagnostic interface, right-hand drive vehicles", page 178](#)

### 2.3.1 Summary of components - data bus diagnostic interface, left-hand drive vehicles



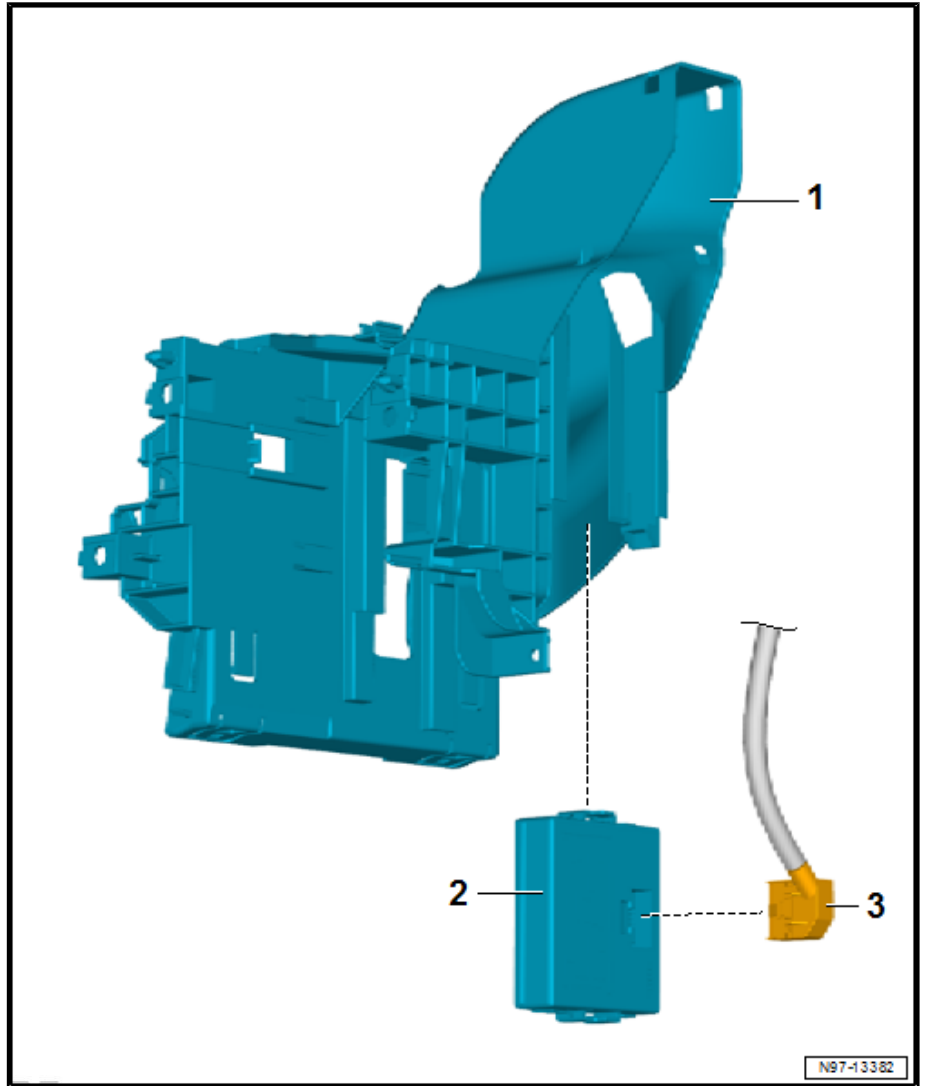
1 - Mounting bracket

2 - Data bus diagnostic interface Gateway - J533-

- ❑ Removing and installing  
⇒ [“2.4 Removing and installing data bus diagnostic interface J533”](#),  
[page 178](#)

3 - Connector

- ❑ Exact contact assignment⇒ Current flow diagrams, Electrical fault finding and Fitting locations



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## 2.3.2 Summary of components - data bus diagnostic interface, right-hand drive vehicles

### 1 - Nut

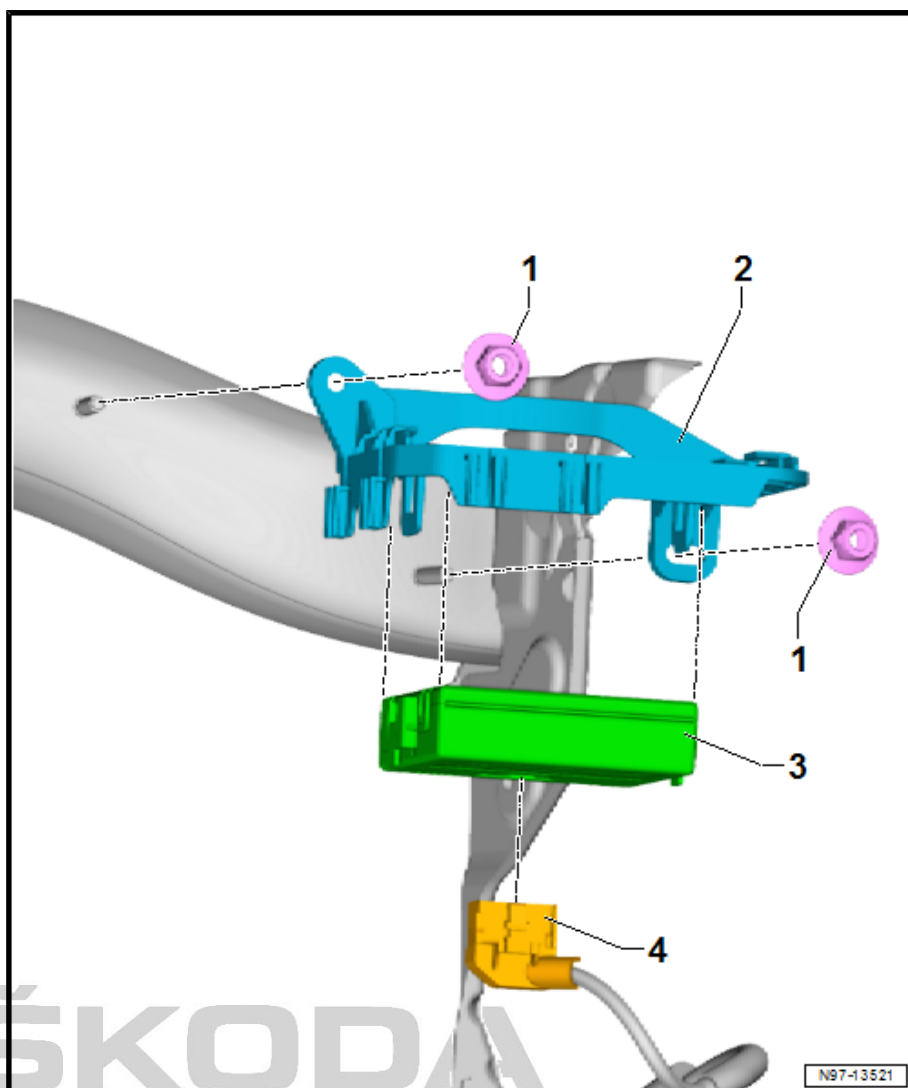
- 2 units
- 2.5 Nm

### 2 - Mounting bracket

### 3 - Data bus diagnostic interface Gateway - J533-

### 4 - Connector

- Exact contact assignment ⇒ Current flow diagrams, Electrical fault finding and Fitting locations



## 2.4 Removing and installing data bus diagnostic interface - J533-

⇒ [“2.4.1 Removing and installing data bus diagnostic interface J533 , left-hand drive”, page 178](#)

⇒ [“2.4.2 Removing and installing data bus diagnostic interface J533 , right-hand drive”, page 180](#)

### 2.4.1 Removing and installing data bus diagnostic interface - J533- , left-hand drive



#### Note

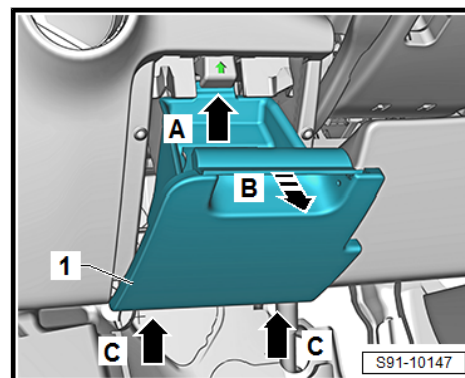
*If the data bus diagnostic interface Gateway - J533- is replaced, select the “replace control unit” function of the respective control unit in operating mode “Targeted fault finding” or “Guided Functions” ⇒ Vehicle diagnostic tester.*

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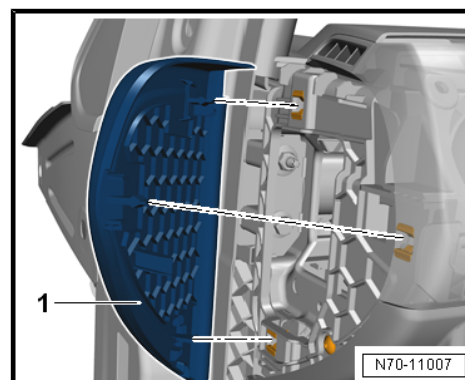


## Removing

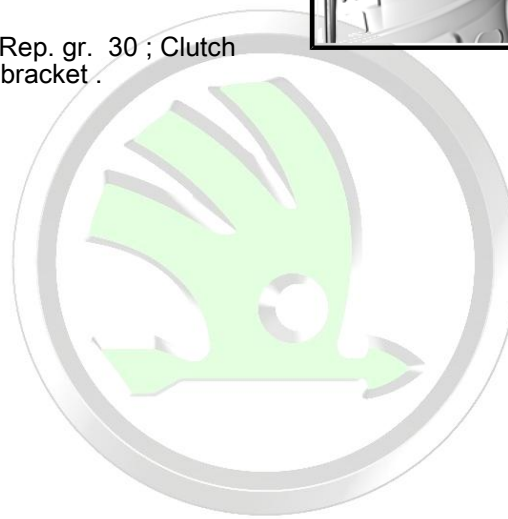
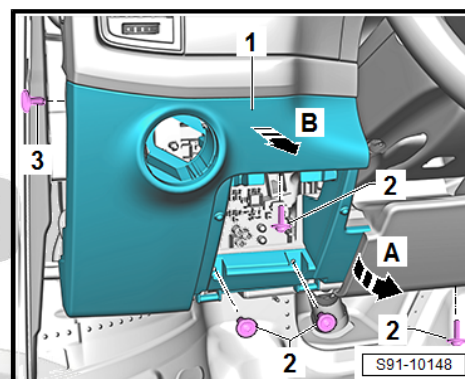
- Push the retaining tab in direction of arrow -A-, swivel out the storage compartment -1- in direction of arrow -B- and unhook from the mounting, arrows -C-.



- Remove the lateral dash panel covers -1- e.g. using the disassembly wedge -3409- .



- Unscrew screws -2- and remove the plastic button rivets -3-.
- Partially pull off the bottom section of the dash panel in direction of arrow -A-.
- Unclip bottom section of dash panel -1- and remove in direction of arrow -B-.
- Remove knee airbag ⇒ Interior body work; Rep. gr. 69 ; Knee airbags; removing and installing knee airbag with ignition .
- Remove the driver side footwell vent ⇒ Heating system, air conditioning system; Rep. gr. 87 ; Air duct; Remove and install driver side footwell vent .
- Removing bearing block/clutch pedal⇒ Rep. gr. 30 ; Clutch control; removing and installing bearing bracket .



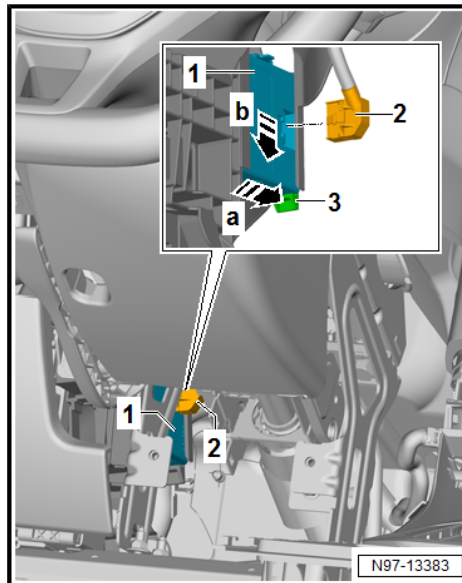
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- Unlock and disconnect plug connection -2-.
- Push off the locking lug -3- in direction of arrow -A- and slide the control unit -1- in direction of arrow -B- out of the holder.

**Installing**

Installation is carried out in the reverse order.



**2.4.2 Removing and installing data bus diagnostic interface - J533- , right-hand drive**

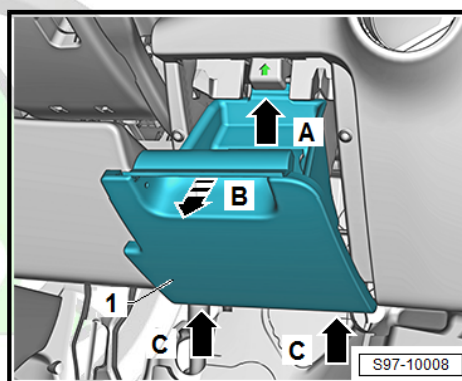


**Note**

*If the data bus diagnostic interface Gateway - J533- is replaced, select the "replace control unit" function of the respective control unit in operating mode "Targeted fault finding" or "Guided Functions" => Vehicle diagnostic tester.*

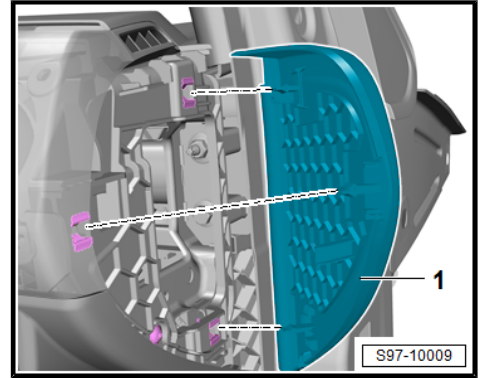
**Removing**

- Switch off the ignition and all electrical components.
- Removing and installing the exhaust vents from the driver's control panel => Body - assembly work inside; Rep. gr. 70 ; Dash panel; Removing and installing the diffuser in the dash panel .
- Push the retaining tab in direction of arrow -A-, swivel out the storage compartment -1- in direction of arrow -B- and unhook from the mounting, arrows -C-.
- Remove light switch => Electrical system; Rep. gr. 96 ; Controls; Removing and installing rotary light switch - EX1- .

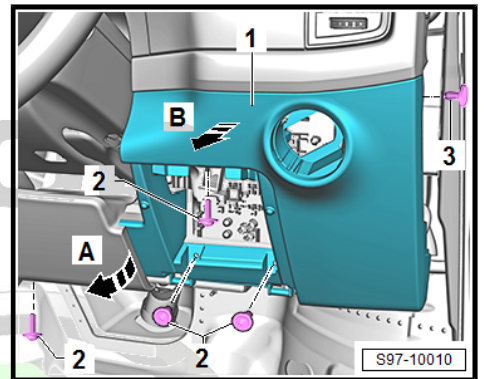


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- Remove the lateral dash panel covers -1- e.g. using the dis-assembly wedge -3409- .



- Remove screws -2- and -3-.
- Partially pull off the bottom section of the dash panel in direction of arrow -A-.
- Unclip bottom section of dash panel -1- and remove in direction of arrow -B-.



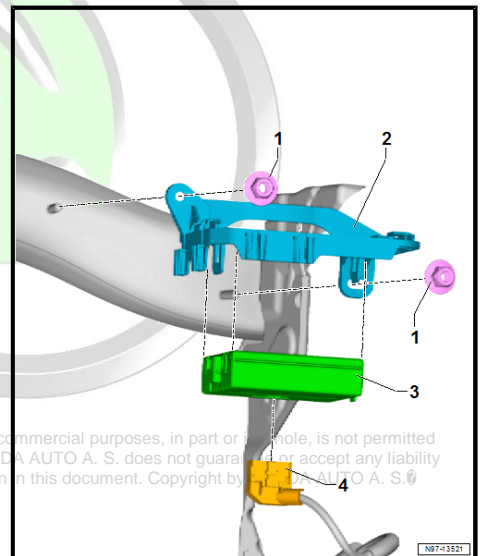
- Unclip the diagnostics interface -3- from the detents on the left and right and remove them downwards.
- Unlock and pull off connector -4-.
- If necessary, release the nuts -1- and remove the mounting bracket -2-.

### Installing

Installation is carried out in the reverse order.

### Specified torques

- ◆ ⇒ ["2.3.2 Summary of components - data bus diagnostic interface, right-hand drive vehicles", page 178](#)



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### 3 Connectors

⇒ ["3.1 Repair the electric wiring harness and connectors", page 182](#)

#### 3.1 Repair the electric wiring harness and connectors

All the notes and comments for this chapter can be found under "Electrical System - General notes" ⇒ Electrical System - General notes; Rep. gr. 97 . If a note cannot be accessed, open the Workshop Manual "Electrical System - General Notes" manually in "ELSA".

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## 4 Unlocking and disassembling the socket housing

All notes and comments to this chapter can be found in the Workshop Manual "Electrical system - General notes" ⇒ Electrical system - General notes; Rep. gr. 97 . If a note cannot be accessed, open the Workshop Manual "Electrical System - General Notes" manually in "ELSA".

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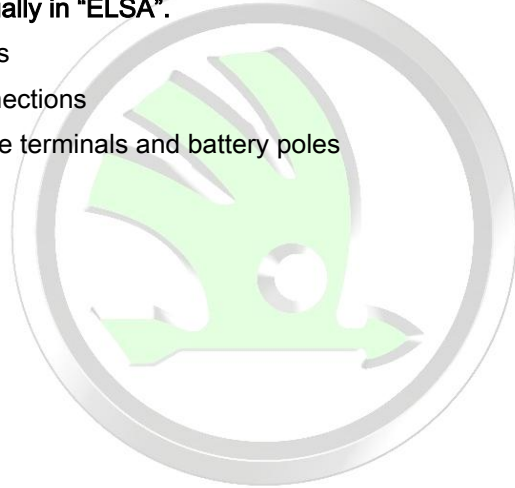
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## 5 Clean the contact surfaces

All the notes and comments to the following chapters can be found in the Workshop Manual "Electrical System - General notes" ⇒ Electrical System - General notes; Rep. gr. 97 . If a note cannot be accessed, open the Workshop Manual "Electrical System - General Notes" manually in "ELSA".

- ◆ Repairing the cable eyes
- ◆ Repairing screwed connections
- ◆ Cleaning the battery pole terminals and battery poles
- ◆ Preserving



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## 6 Optical fibre

The following descriptions can be found in the Workshop Manual "Electrical System – General notes" ⇒ Electrical System – General notes; Rep. gr. 97 . If a note cannot be accessed, open the Workshop Manual "Electrical System - General Notes" manually in "ELSA".

- ◆ General points
- ◆ Preparing optical fibres
- ◆ Removing and installing optical fibre in the housing

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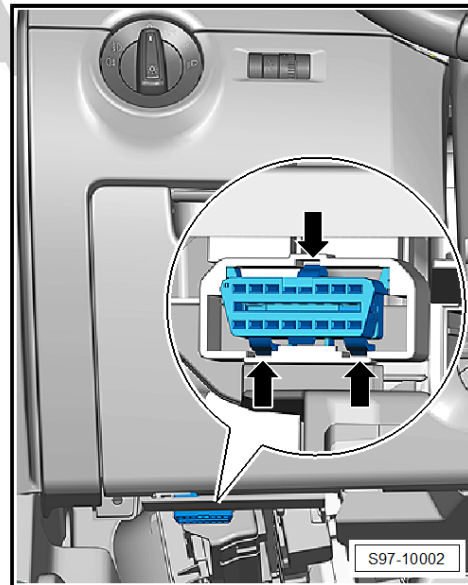
## 7 Vehicle diagnosis, testing and information systems

The following descriptions can be found in the Workshop Manual "Electrical System – General notes" ➔ Electrical System – General notes; Rep. gr. 97 . If a note cannot be accessed, open the Workshop Manual "Electrical System - General Notes" manually in "ELSA".

- ◆ Use and safety instructions
- ◆ Connect ➔ Vehicle diagnostic tester

### Fitting location and removal of the diagnostic connection

- To remove the diagnostic connection, press the catches -arrows- together, and push out the diagnosis connection from the assembly opening.



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