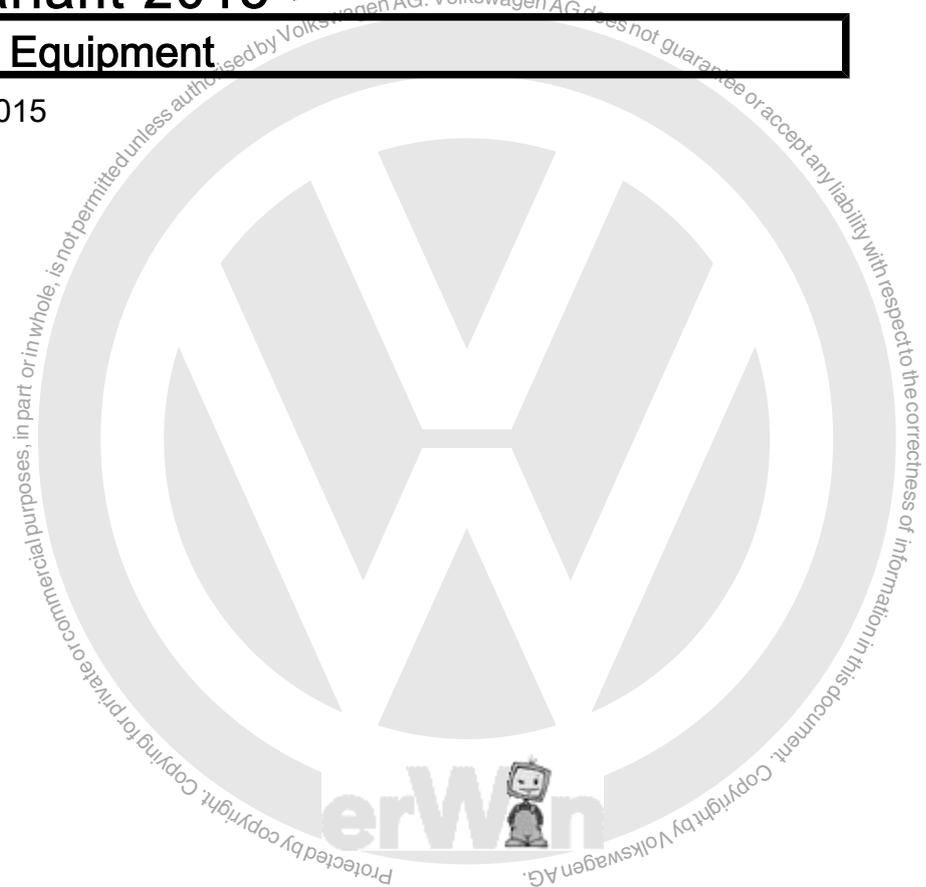




Repair Manual Golf 2015 > Golf Variant 2015 > **Electrical Equipment**

Edition 12.2015

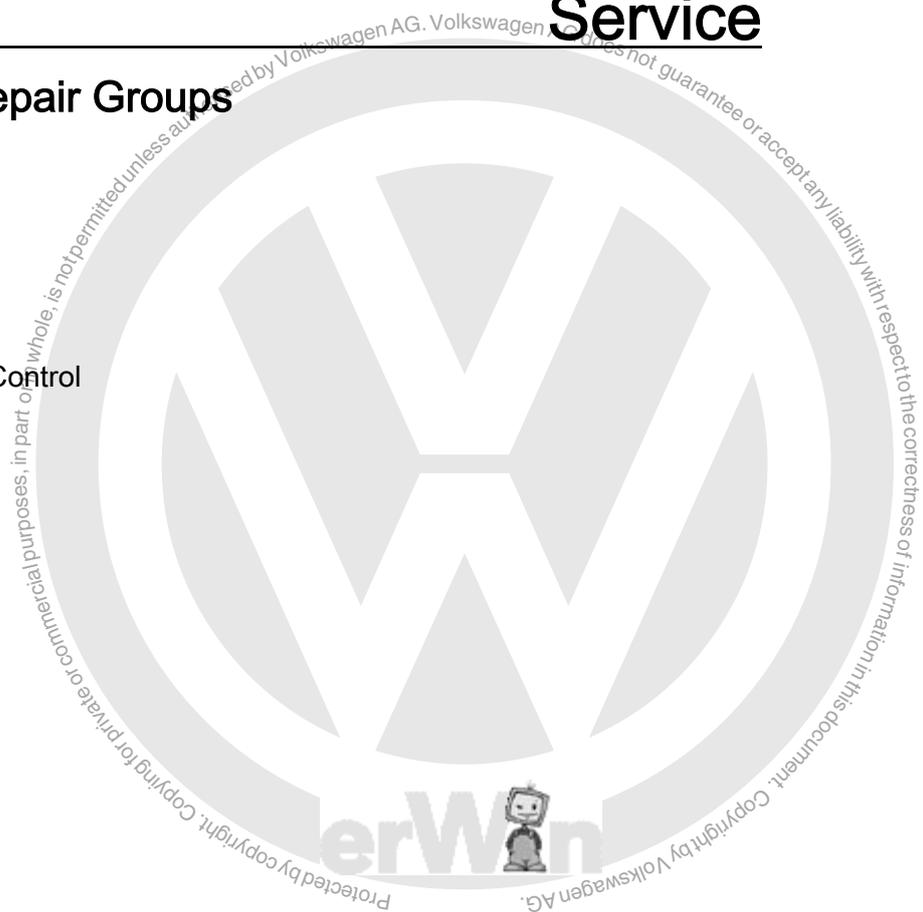




List of Workshop Manual Repair Groups

Repair Group

- 00 - General, Technical Data
- 27 - Battery, Starter, Generator, Cruise Control
- 90 - Instruments
- 92 - Wiper/Washer Systems
- 94 - Exterior Lights, Switches
- 96 - Interior Lights, Switches
- 97 - Wiring



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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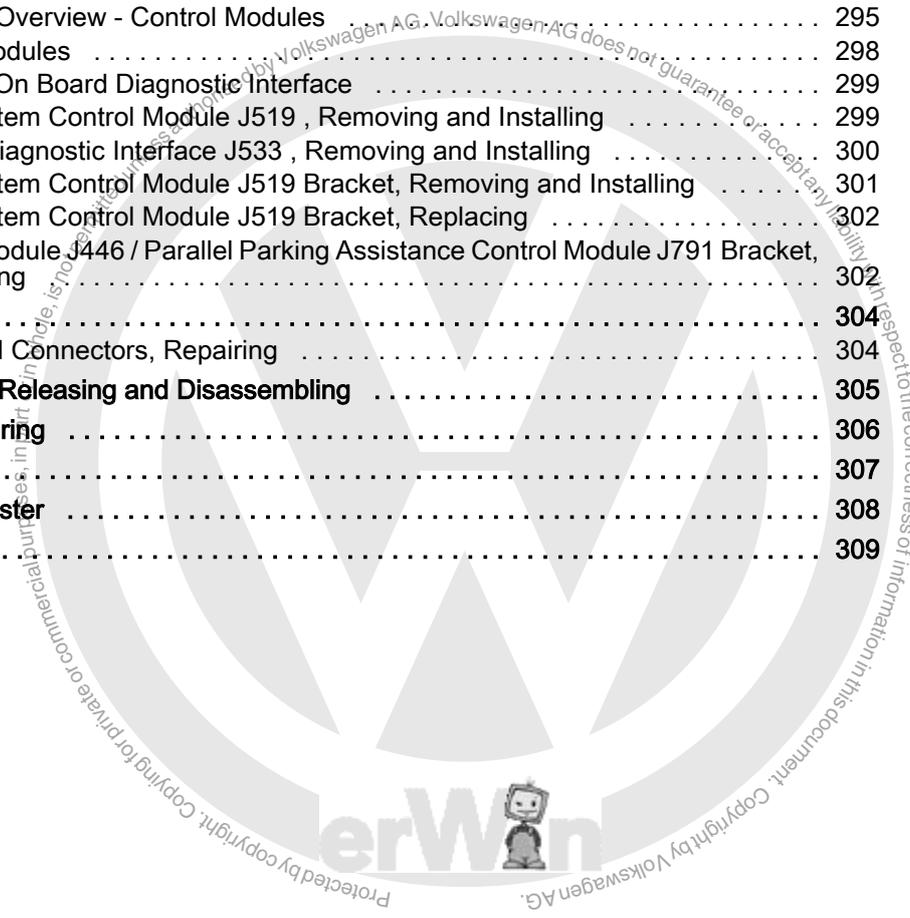
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00 – General, Technical Data

1 Safety Precautions

(Edition 12.2015)

⇒ [“1.1 Start/Stop System Safety Precautions”, page 1](#)

⇒ [“1.2 Safety Precautions, Road Test with Testing Equipment”, page 1](#)

⇒ [“1.3 HID Headlamps Usage and Safety Precautions”, page 2](#)

1.1 Start/Stop System Safety Precautions

Pay Attention to the following When Working on Vehicles with a Start/Stop System:

	WARNING
<p><i>Danger of personal injury because the engine can start automatically on vehicles with Stop/Start System.</i></p>	
<ul style="list-style-type: none">◆ <i>If necessary, the engine can be started automatically on vehicles with an activated Start/Stop System. A message will appear in the instrument cluster.</i>◆ <i>Make sure that the Start/Stop System is deactivated when operating on the vehicle (turn off ignition, turn on ignition again if necessary).</i>	

1.2 Safety Precautions, Road Test with Testing Equipment

If Measuring Equipment Are Required during a Test Drive, Observe the Following:

	WARNING
<p><i>Distraction and inadequately secured measuring equipment poses an accident risk.</i></p>	
<p><i>There is a risk due to deployment of the front passenger airbag in an accident.</i></p>	
<ul style="list-style-type: none">• <i>Operating measuring equipment while driving creates a distraction.</i>• <i>Unsecured measuring equipment can cause injuries.</i>◆ <i>Always secure measuring equipment with a strap on the rear seat and have a second person in the rear seat operate it.</i>	



1.3 HID Headlamps Usage and Safety Precautions

Never Change a Headlamp Bulb If You Are Not Familiar with the Corresponding Steps, Safety Precautions and the Tool.



WARNING

Life-threatening danger due to high voltage.

- ◆ *It is necessary to disconnect the battery wire strap before working on HID headlamp components. These parts are marked with yellow high voltage symbols.*
- ◆ *Then switch the low beams on and back off. This removes any possible residual voltage.*
- ◆ *Turn off the ignition and all electrical equipment and remove the ignition key.*
- ◆ *The HID lamp control module should never be operated without an HID headlamp bulb.*
- ◆ *Due to the high voltage, the HID headlamp bulb can only be operated inside the headlamp housing. When ignited, a HID headlamp bulb operates at over 28000 V).*



WARNING

Risk of injury from burning, UV rays, blinding and explosion.

- ◆ *Due the high temperatures, absorption of UV rays, and the risk of blinding, the HID headlamp bulb should only be operated inside the headlamp housing.*
- ◆ *Do not look into the beam of light. It may interfere with the ability to see for a significant period of time.*
- ◆ *HID headlamp bulbs are under pressure and can crack when bulbs are replaced.*
- ◆ *Always wear safety glasses and gloves when removing and installing HID bulbs.*



WARNING

Pollution risk.

- ◆ *HID headlamp bulbs are hazardous waste. They contain metallic mercury (Hg) and traces of thallium.*
- ◆ *Do not destroy HID headlamp bulbs and avoid contact with burst glass bulbs.*
- ◆ *Observe disposal regulations.*
- ◆ *Dispose of HID headlamp bulbs in suitable containers at an authorized collection site.*



Caution

- ◆ *Do not touch HID headlamp bulb glass cones with bare hands. The remaining fingerprint would evaporate due to the heat of the operated bulb and condense on the reflector which would impair headlamp luminosity. Use clean cloth gloves to insert the HID headlamp bulb.*
- ◆ *Only replace faulty HID headlamp bulbs with the same version of lamp. Bulb identification can be found on bulb socket or on the glass cone.*
- ◆ *Connectors must engage correctly when installed and must be checked for proper connection.*





2 Repair Information

⇒ ["2.1 Contact Corrosion", page 4](#)

⇒ ["2.2 Wire Routing and Securing", page 4](#)

2.1 Contact Corrosion

Contact corrosion can occur if incorrect fasteners (bolts, nuts, washers) are used.

For this reason, only fasteners with a special surface coating are used.

In addition, rubber or plastic parts and adhesive are made of material that does not conduct electricity.

If there are doubts as to whether parts are suitable or not, use new parts. Refer to Parts Catalog.

Observe:

- ◆ Use only original replacement parts that have been tested and are compatible with aluminum.
- ◆ Use only Volkswagen accessories.
- ◆ Damage resulting from contact corrosion is not covered by warranty.

2.2 Wire Routing and Securing

Wires should be marked before they are removed to prevent confusing them and to guarantee the installation position. This also includes fuel lines, hydraulic lines, vacuum lines, EVAP systems and electrical lines. Make sketches or take photos if necessary.

Due to the restricted space in the engine compartment, make sure to allow for sufficient clearance to all moving or hot components to avoid damaging the wires.



3 Battery

⇒ [“3.1 Battery, General Information”, page 5](#)

⇒ [“3.2 Battery Types”, page 5](#)

3.1 Battery, General Information

All instructions and information on this chapter. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 27 ; Battery; Battery - General Information .

3.2 Battery Types

All instructions and information on this chapter. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 27 ; Battery; Battery Types .





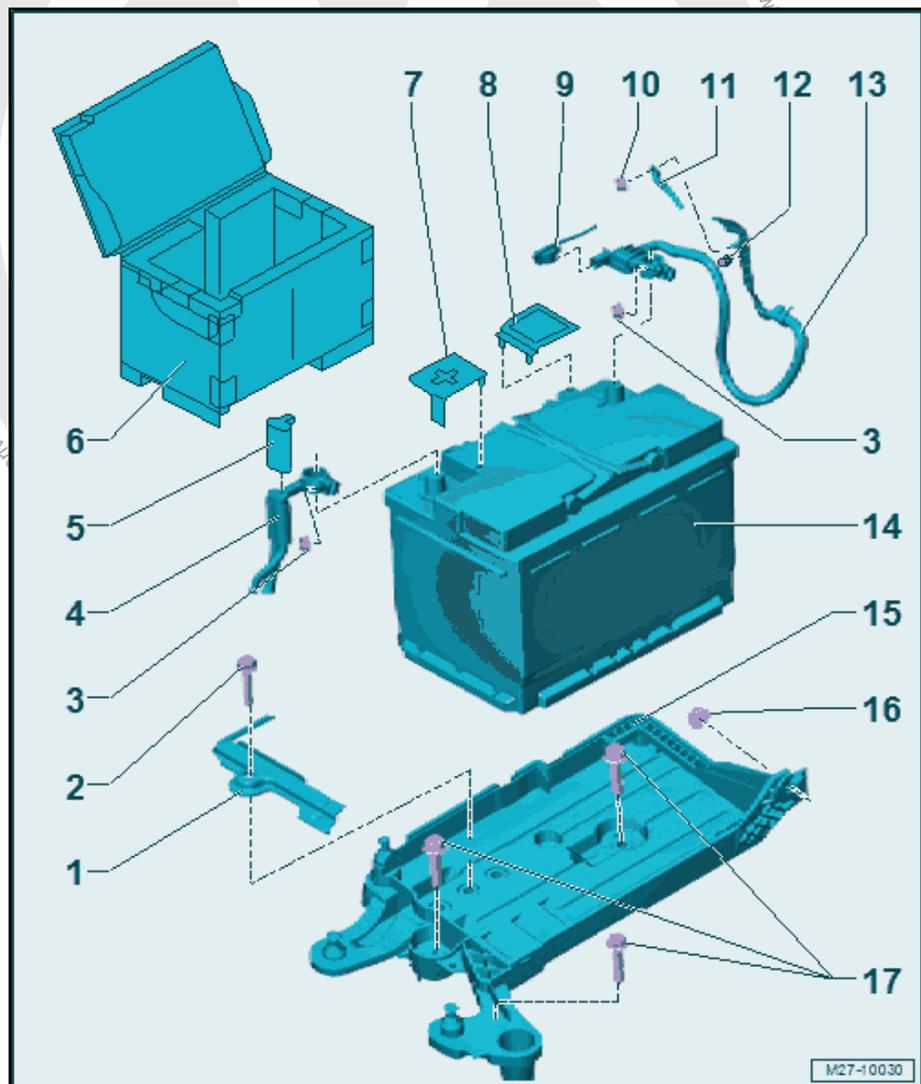
27 – Battery, Starter, Generator, Cruise Control

1 Battery

- ⇒ [“1.1 Overview - Battery”, page 6](#)
- ⇒ [“1.2 Battery, Removing and Installing”, page 7](#)
- ⇒ [“1.3 Battery, Disconnecting and Connecting”, page 9](#)
- ⇒ [“1.4 Battery Tray, Removing and Installing”, page 10](#)
- ⇒ [“1.5 Battery, Checking”, page 11](#)
- ⇒ [“1.6 Battery, Charging”, page 11](#)
- ⇒ [“1.7 Ground Cable with Battery Monitoring Control Module J367, Removing and Installing”, page 11](#)
- ⇒ [“1.8 Battery Monitoring Control Module J367, Adapting”, page 12](#)

1.1 Overview - Battery

- 1 - Bracket**
- 2 - Bolt**
 - Tightening specification: 15 Nm
- 3 - Nut**
 - Tightening specification: 6 Nm
- 4 - Positive Cable**
 - With battery terminal
 - Disconnecting and connecting. Refer to ⇒ [“1.3 Battery, Disconnecting and Connecting”, page 9](#).
- 5 - Cap**
 - For positive wire
- 6 - Heat Shield**
- 7 - Cover**
 - For positive terminal
- 8 - Cover**
 - For negative terminal
- 9 - Connector**
 - For Battery Monitoring Control Module - J367-
 - Follow the sequence when connecting the ground cable. Refer to ⇒ [“1.3 Battery, Disconnecting and Connecting”, page 9](#).
- 10 - Nut**
 - Tightening specification: 9 Nm.





11 - Ground Wire

12 - Nut

- Tightening specification: 20 Nm

13 - Ground Wire

- With battery terminal and Battery Monitoring Control Module - J367-
- Removing and installing. Refer to [⇒ "1.7 Ground Cable with Battery Monitoring Control Module J367 , Removing and Installing", page 11](#) .
- Disconnecting and connecting. Refer to [⇒ "1.3 Battery, Disconnecting and Connecting", page 9](#) .
- Adapt the Battery Monitoring Control Module - J367- . Refer to [⇒ "1.8 Battery Monitoring Control Module J367 , Adapting", page 12](#)

14 - Battery - A

- Removing and installing. Refer to [⇒ "1.2 Battery, Removing and Installing", page 7](#) .
- Disconnecting and connecting. Refer to [⇒ "1.3 Battery, Disconnecting and Connecting", page 9](#) .
- Replacing on a vehicle with the Start/Stop System [⇒ page 8](#)

15 - Battery Tray

- Removing and installing. Refer to [⇒ "1.4 Battery Tray, Removing and Installing", page 10](#) .

16 - Nut

- Tightening specification: 9 Nm.

17 - Bolt

- Tightening specification: 9 Nm.
- Quantity: 3

1.2 Battery, Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Torque Wrench 1783 - 2-10Nm - VAG1783-



WARNING

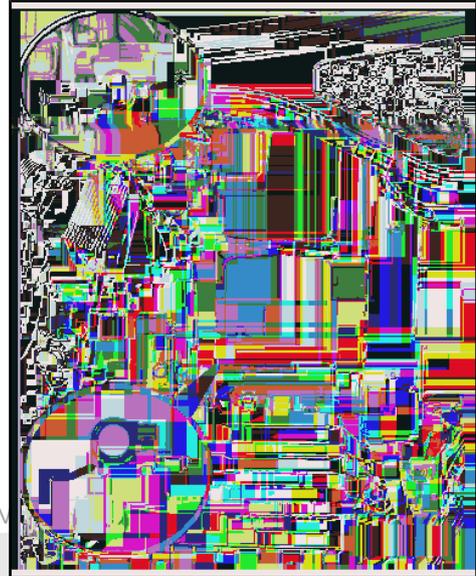
Pay attentions when working on the battery to the warning messages and safety precautions. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 27 ; Battery .

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Open the heat protection sleeve cover.



- Open the cover -4- over the battery negative terminal.
- Loosen the nut -6- a few turns and disconnect the battery ground cable terminal clamp -5- from the battery negative terminal.
- Open the cover -3- over the battery positive terminal.
- Loosen the nut -2- several turns and remove the battery positive cable terminal -1- from the battery positive terminal.
- Pull the heat protection sleeve -4- slightly upward.
- Remove the bolt -2- from the bracket -1-.
- Remove the bracket -1-.



- Remove the Battery - A- -3- in the direction of travel from the battery tray and lift it upward out of the engine compartment.

Installing

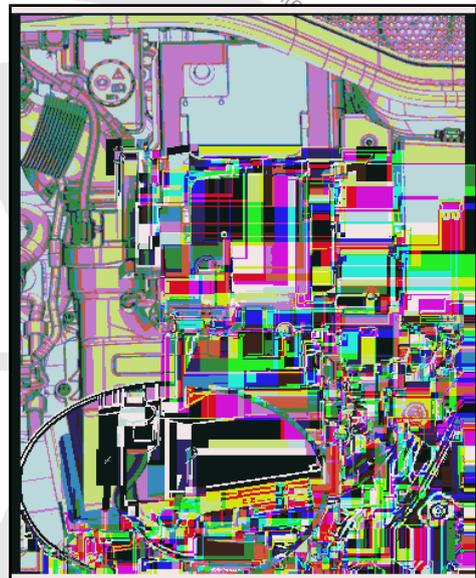
Install in the reverse order of removal while paying attention to the following:



Caution

If the battery is not secured properly, the following risks can occur:

- ◆ *Shortened service life due to vibration damage (explosion hazard).*
- ◆ *If the battery is not secured properly, the plates within the battery can be damaged.*
- ◆ *Damage to the battery housing caused by bracket (possible electrolyte leakage, high subsequent costs).*
- ◆ *Inadequate crash safety.*



Only maintenance-free batteries conforming to standards "TL82506" (from December 1997) and "VW75073" (from August 2001) may be installed. Refer to the Parts Catalog.

Batteries from the replacement parts program have a base strip adapter for adapting to different clamping strips. Information on whether and how to use the base strip adapter. Refer to the Battery Owner's Manual.

Vehicles with Start/Stop System

Vehicles with the Start/Stop System have a special Battery - A- due to the increased load on the cycles.

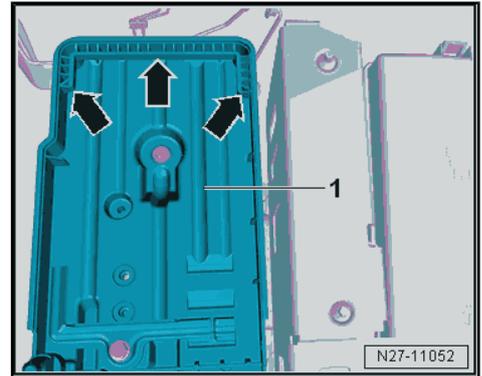
When replacing the Battery - A- , pay attention to the replacement part identification. Refer to the Parts Catalog.

Batteries for vehicles with the Start/Stop System have "AGM" (Absorbent Glass Mat) or "EFB" (Enhanced Flooded Battery) marked on them.

Continuation for All Vehicles



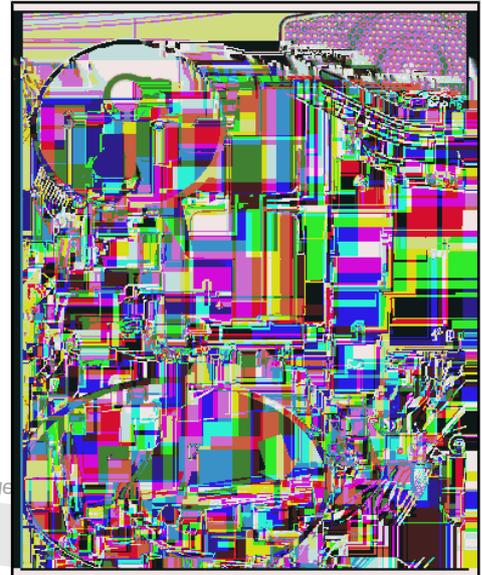
- Insert the Battery - A- into the battery tray -1- so that the battery base strip touches the rear and side stop -arrows-.
- It must not be possible to slide the Battery - A- rearward or to the side.



- Install the bracket -1-.
- The tab -arrow- on the bracket -1- must fit into the opening on the battery clamping strip.
- Tighten the bolt -2- for the bracket -1-.
- Checking the Battery - A- for secure seating.

Turn off the Ignition and All Electrical Consumers, and Connect the Battery - A- in the Following Sequence:

- Install the battery positive cable terminal -3- on the battery positive terminal "+".
- Tighten the nut -4-.
- Connect the Battery - A- . Refer to [⇒ "1.3 Battery, Disconnecting and Connecting", page 9](#) .



When the battery is replaced the Battery Monitoring Control Module - J367- must be adapted. Refer to [⇒ "1.8 Battery Monitoring Control Module J367, Adapting", page 12](#) .

Tightening Specifications

- ◆ Refer to [⇒ "1.1 Overview - Battery", page 6](#)

1.3 Battery, Disconnecting and Connecting

Special tools and workshop equipment required

- ◆ Torque Wrench 1783 - 2-10Nm - VAG1783-

 **Caution**

Follow all safety precautions when working on pyrotechnic components:

- ◆ *When working on pyrotechnic components (airbag, belt tensioner), it is necessary to disconnect the battery with the ignition turned on, contrary to the following description . Refer to ⇒ Body Interior; Rep. Gr. 00 ; Safety Precautions; Pyrotechnic Components Safety Precautions .*

Disconnecting

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Open the heat protection sleeve cover.
- Open the cover -1- over the battery negative terminal.



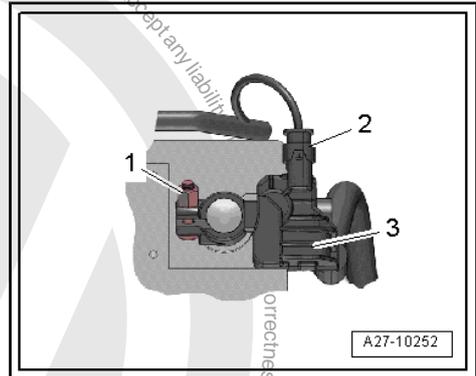
- Loosen the nut -3- several turns and remove the battery ground cable terminal clamp -2- from the battery terminal.

Connecting

Pay attention to the following when disconnecting the Battery - A- .



- Release and disconnect the connector -2- from the Battery Monitoring Control Module - J367- -3-.
- Install the battery ground cable terminal clamp by hand on the battery negative terminal “-”.
- Tighten the nut, 1- to the tightening specification.
- Reconnect the connector -2- to the Battery Monitoring Control Module - J367- .
- Turn on the ignition.
- Check the time and if necessary adjust.
- Window, open and close all the way.
- Then, with the windows closed, pull the power window switch until the relay audibly switches.
- Check the window regulator convenience switch.



While comfort switching is operated, window must close without holding the power window switch.



Note

After connecting the power supply, the ASR/ESP Indicator Lamp - K155- may only go out after the vehicle has been driven a few yards.

Tightening Specifications

- ◆ Refer to ⇒ [“1.1 Overview - Battery”, page 6](#)

1.4 Battery Tray, Removing and Installing

Special tools and workshop equipment required

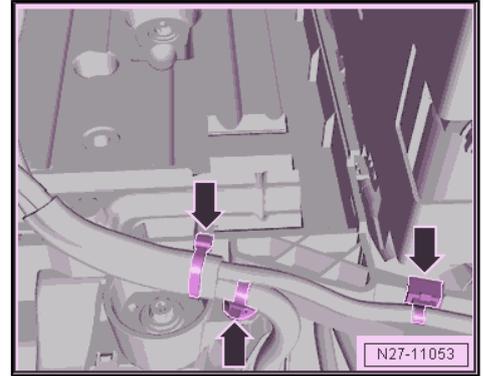
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

Removing

- If necessary, remove the air filter housing. Refer to ⇒ Rep. Gr. 23 ; Air Filter; Air Filter Housing, Removing and Installing or ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Remove the Battery - A- . Refer to ⇒ [“1.2 Battery, Removing and Installing”, page 7](#) .



- Free up the wiring harness from the battery tray -arrows-.



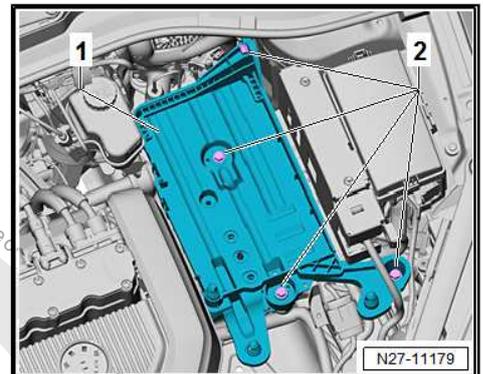
- Remove the bolts and nut -2-.
- Remove the battery tray -1-.

Installing

Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to ⇒ [“1.1 Overview - Battery”, page 6](#)



1.5 Battery, Checking

Checking the battery. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 27 ; Battery, Checking .

The Battery - A- is checked in the Data Bus On Board Diagnostic Interface - J533- OBD using the Vehicle Diagnostic Tester in “Guided Fault Finding” mode.

1.6 Battery, Charging

Battery charging. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 27 ; Battery, Charging .

1.7 Ground Cable with Battery Monitoring Control Module - J367- , Removing and Installing

Special tools and workshop equipment required

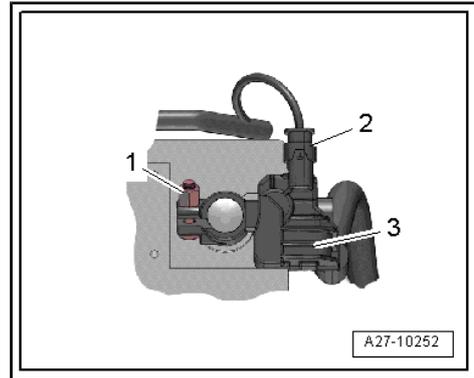
- ◆ Torque Wrench 13315-50Nm - VAG1331-

Removing

- Remove the Battery - A- . Refer to ⇒ [“1.2 Battery, Removing and Installing”, page 7](#) .



- Release and disconnect the connector -2- from the Battery Monitoring Control Module - J367- -3-.



- Remove the nut -1- for the ground cable -2-.
- Remove the nut -3- and remove the ground cable with Battery Monitoring Control Module - J367- -4-.

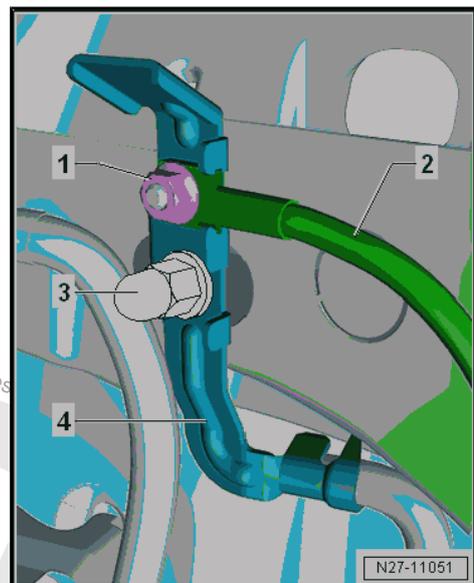
Installing

Install in the reverse order of removal while paying attention to the following:

- Adapt the Battery Monitoring Control Module - J367- . Refer to [⇒ "1.8 Battery Monitoring Control Module J367 , Adapting", page 12](#) .

Tightening Specifications

- ◆ Refer to [⇒ "1.1 Overview - Battery", page 6](#)



1.8 Battery Monitoring Control Module - J367- , Adapting

After installing a new start battery or a new Battery Monitoring Control Module - J367- the Battery Monitoring Control Module - J367- must be adapted.

- Adapt the Battery Monitoring Control Module - J367- using the Vehicle Diagnostic Tester .



2 Generator

⇒ [“2.1 Overview - Generator”, page 13](#)

⇒ [“2.2 Generator, Removing and Installing”, page 15](#)

⇒ [“2.3 Generator, Checking”, page 22](#)

⇒ [“2.4 Ribbed Belt Pulley, Removing and Installing”, page 22](#)

⇒ [“2.5 Voltage Regulator, Removing and Installing”, page 27](#)

2.1 Overview - Generator

⇒ [“2.1.1 Overview - Generator without Bushings”, page 13](#)

⇒ [“2.1.2 Overview - Generator with Bushings”, page 14](#)

2.1.1 Overview - Generator without Bushings

1 - Bolt

- 23 Nm
- Quantity: 4

2 - Generator - C

- Removing and installing. Refer to ⇒ [“2.2 Generator, Removing and Installing”, page 15](#).
- Checking. Refer to ⇒ [“2.3 Generator, Checking”, page 22](#).
- Ribbed belt pulley, removing and installing. Refer to ⇒ [“2.4 Ribbed Belt Pulley, Removing and Installing”, page 22](#).
- Voltage Regulator - C1-, removing and installing. Refer to ⇒ [“2.5 Voltage Regulator, Removing and Installing”, page 27](#).

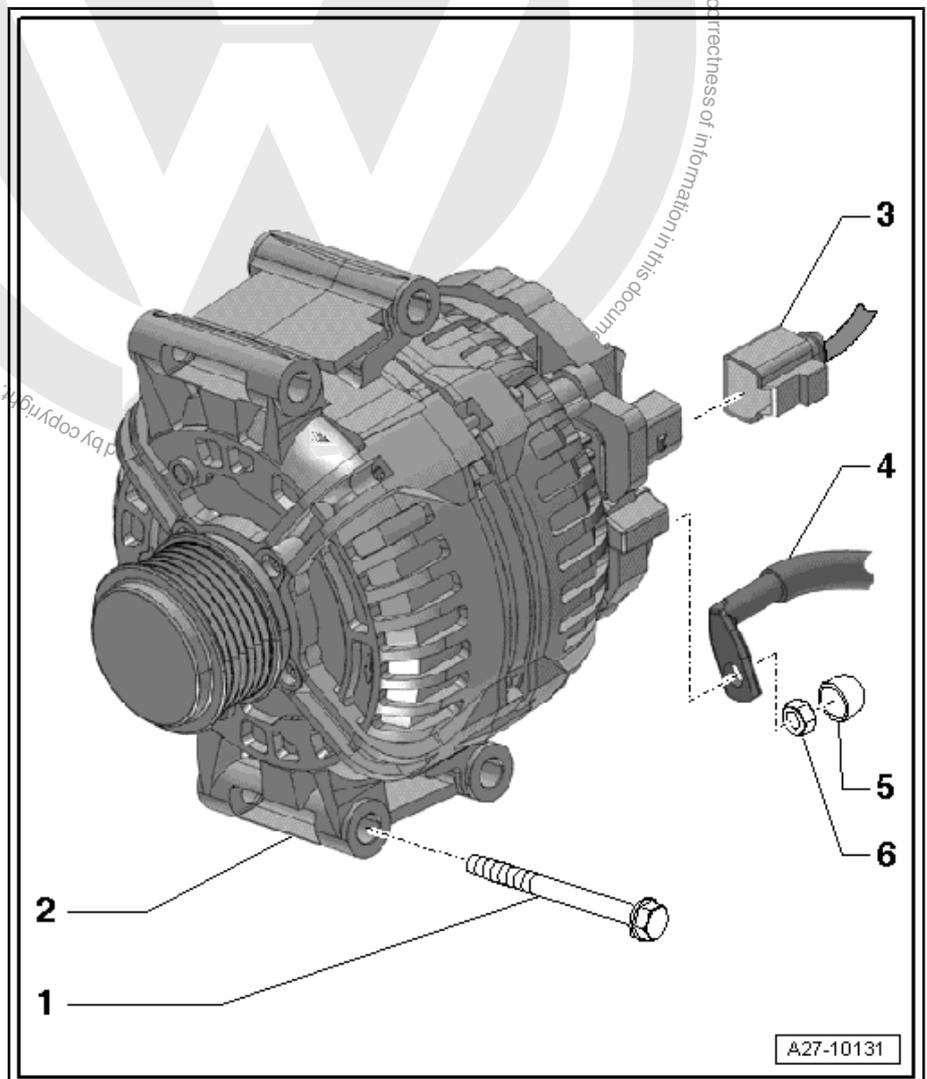
3 - Connector

4 - Terminal 30/B+

5 - Cap

6 - Nut

- 20 Nm





2.1.2 Overview - Generator with Bushings

1 - Generator - C-

- Removing and installing. Refer to
⇒ [“2.2 Generator, Removing and Installing”, page 15](#) .
- Checking. Refer to
⇒ [“2.3 Generator, Checking”, page 22](#) .
- Ribbed belt pulley, removing and installing. Refer to
⇒ [“2.4 Ribbed Belt Pulley, Removing and Installing”, page 22](#) .
- Voltage Regulator - C1- , Removing and installing. Refer to
⇒ [“2.5 Voltage Regulator, Removing and Installing”, page 27](#) .

2 - Bolt

- 23 Nm
- Quantity: 2

3 - Bushing

- Quantity: 2
- Because the clamping force of a tight bushing is too low despite the correct torque, loosen the bushings

4 - Connector

5 - Cap

6 - Nut

- 20 Nm

7 - Terminal 30/B+

8 - Nut

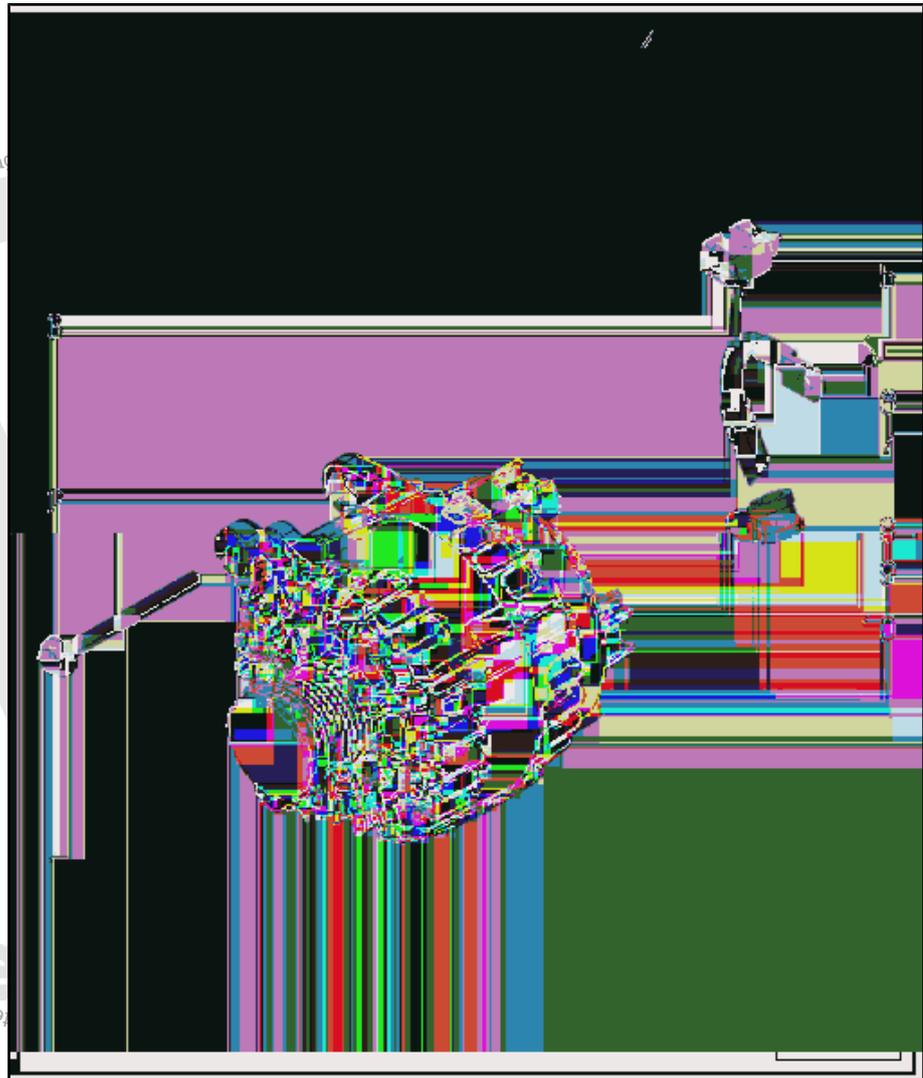
- 3.2 Nm
- Not installed in all vehicles

9 - Wire Clamp

- Not installed in all vehicles

10 - Threaded Pin

- 3.2 Nm
- Not installed in all vehicles





2.2 Generator, Removing and Installing

⇒ ["2.2.2 Generator, Removing and Installing, Vehicles with 2.0L TSI Engine", page 16](#)

⇒ ["2.2.3 Generator, Removing and Installing, Vehicles with 1.8L TSI-Engine", page 18](#)

⇒ ["2.2.5 Generator, Removing and Installing, Vehicles with TDI Engine", page 20](#)

2.2.1 Generator, Removing and Installing, 1.4L TSI Engine

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

Removing

- Disconnect the Battery - A- . Refer to ⇒ ["1.3 Battery, Disconnecting and Connecting", page 9](#) .
- Remove the ribbed belt. Refer to ⇒ Rep. Gr. 13 ; Cylinder Block, Belt Pulley Side; Ribbed Belt, Removing and Installing .
- Remove the ribbed belt tensioner. Refer to ⇒ Rep. Gr. 13 ; Cylinder Block, Belt Pulley Side; Ribbed Belt Tensioner, Removing and Installing .

Vehicles with A/C System

 **Caution**

Danger of damaging the A/C compressor, the refrigerant line and hoses.

- ◆ *Do not stretch, bend or kink the refrigerant lines and hoses.*

- Remove the A/C compressor from the bracket. Refer to Heating and Air Conditioning; Rep. Gr. 87 ; A/C Compressor; A/C Compressor, Removing and Installing on Bracket .
- Secure the A/C compressor on the lock carrier so that the refrigerant lines are not under tension.

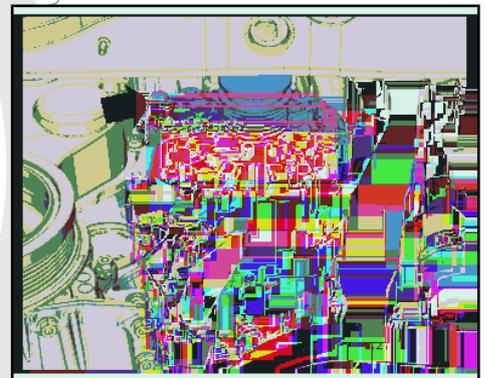
Continuation for All Vehicles

- Remove the bolts -arrows-.

If the Generator - C- -1- sticks in the bracket, install screw again down as far as the last two turns.

Carefully strike on bolt heads using flat side of hammer - doing this loosens the generator mount bushings.

- Remove the Generator - C- -1- with the wires still attached from the bracket.
- Disconnect the connector -3-.
- Pry off the cap -2-.
- Remove the nut and remove the terminal 30/B+ -4-.





- Remove the Generator - C- -1- downward and to the right.

Installing

Install in the reverse order of removal while paying attention to the following:

- Move the bolt sleeves slightly to the rear to make it easier to install the Generator - C- .

Tight bushings for generator mount must be made smooth-running, otherwise clamping force of bushing is too little despite correct torque.

- Connect the Battery - A- . Refer to [⇒ "1.3 Battery, Disconnecting and Connecting", page 9](#) .
- After completing work always start the engine and check the belt routing.

Tightening Specifications

- ◆ Refer to [⇒ "2.1.2 Overview - Generator with Bushings", page 14](#)

2.2.2 Generator, Removing and Installing, Vehicles with 2.0L TSI Engine

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Engine Bung Set - VAS6122-

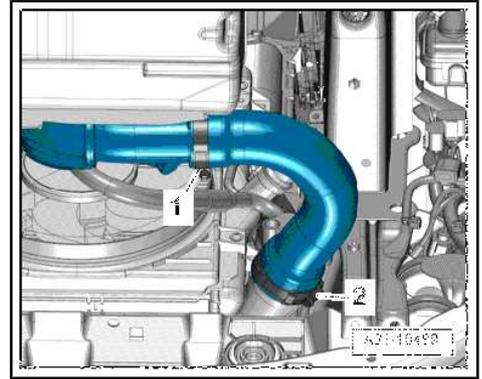
Removing

- Disconnect the Battery - A- . Refer to [⇒ "1.3 Battery, Disconnecting and Connecting", page 9](#) .
- Remove fan shroud. Refer to ⇒ Rep. Gr. 19 ; Radiator/Coolant Fan; Fan Shroud, Removing and Installing .
- Remove the ribbed belt. Refer to ⇒ Rep. Gr. 13 ; Cylinder Block, Belt Pulley Side; Ribbed Belt, Removing and Installing .
- Remove the bolts -1- and 2-.





- Detach the hose clamps -1 and 2- and remove the air hose.
- Seal the open lines and connections with clean plugs from the -VAS6122- .



- Free up the coolant hose -3-.
- Loosen the hose clamp -2-.
- Remove the bolts -arrows-.
- Release and disconnect the connector -1-.
- Remove the right air pipe.

Vehicles with A/C System



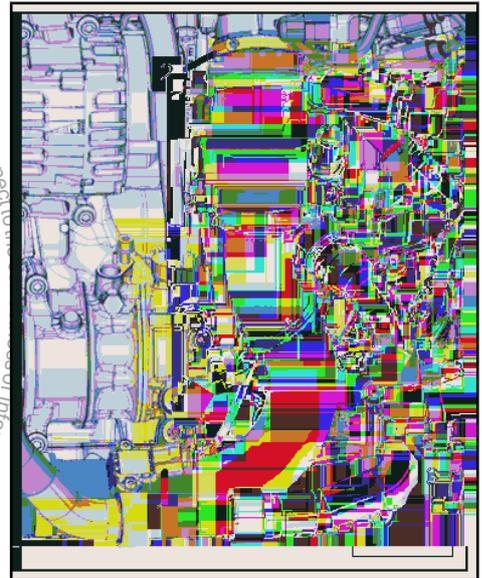
Caution

Danger of damaging the A/C compressor, the refrigerant line and hoses.

- ◆ ***Do not stretch, bend or kink the refrigerant lines and hoses.***

- Remove the A/C compressor from the bracket. Refer to ⇒ Heating and Air Conditioning; Rep. Gr. 87 ; A/C Compressor; A/C Compressor, Removing and Installing on Bracket .
- Secure the A/C compressor on the lock carrier so that the refrigerant lines are not under tension.

Continuation for All Vehicles





- Free up the wiring harness -arrow-.
- Remove the bolts -5 and 6- and bring the Generator - C- -4- forward.
- Disconnect the connector -3-.
- Pry off the cap -2-.
- Remove the nut and remove the terminal 30/B+ -1-.
- Remove the Generator - C- -4- downward to the center of the vehicle.

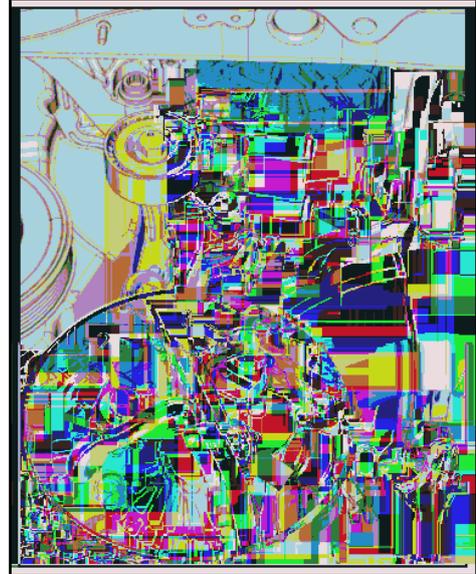
Installing

Install in the reverse order of removal while paying attention to the following:

- Connect the Battery - A- . Refer to [⇒ "1.3 Battery, Disconnecting and Connecting", page 9](#) .
- After completing work always start the engine and check the belt routing.

Tightening Specifications

- ◆ Refer to [⇒ "2.1.1 Overview - Generator without Bushings", page 13](#)



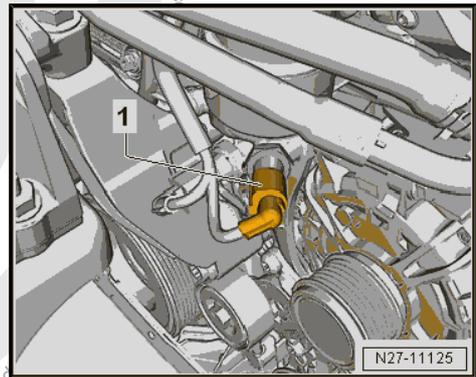
2.2.3 Generator, Removing and Installing, Vehicles with 1.8L TSI-Engine

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

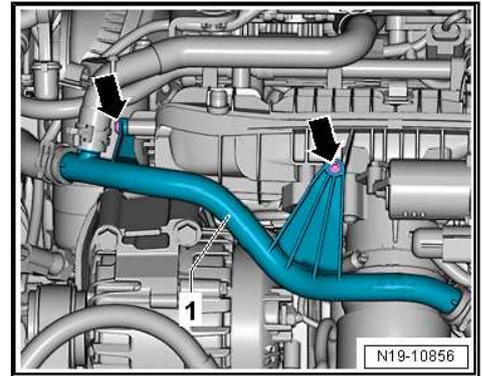
Removing

- Disconnect the Battery - A- . Refer to [⇒ "1.3 Battery, Disconnecting and Connecting", page 9](#) .
- Remove the ribbed belt. Refer to ⇒ Rep. Gr. 13 ; Cylinder Block, Belt Pulley Side; Ribbed Belt, Removing and Installing .
- Release and disconnect the connector -1-.

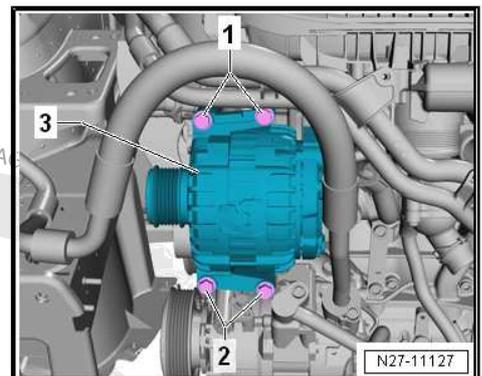




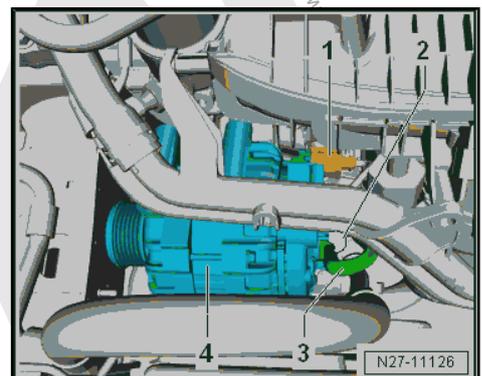
- Remove the bolts -arrows-.
- Move aside the coolant pipe -1-.



- Remove the bolts -1 and 2-.
- Pivot the Generator - C- -3- in the direction of travel.



- Release and disconnect the connector -1-.
- Pry off the cap -2- and remove the underlying nuts.
- Remove the terminal 30/B+ -3-.
- Remove the Generator - C- -4- upward from the vehicle.



Installing

Install in the reverse order of removal while paying attention to the following:

- Connect the Battery -A- . Refer to ["1.3 Battery, Disconnecting and Connecting", page 9](#) .

Tightening Specifications

- ◆ Refer to ["2.1.1 Overview - Generator without Bushings", page 13](#)

2.2.4 Generator, Removing and Installing, Vehicles with 1.6L MPI Engine

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

Removing

- Disconnect the Battery - A- . Refer to ["1.3 Battery, Disconnecting and Connecting", page 9](#) .
- Remove the ribbed belt. Refer to ⇒ Rep. Gr. 13 ; Cylinder Block, Belt Pulley Side; Ribbed Belt, Removing and Installing .
- Remove the ribbed belt tensioner. Refer to ⇒ Rep. Gr. 13 ; Cylinder Block, Belt Pulley Side; Ribbed Belt Tensioner, Removing and Installing .



Vehicles with A/C system



Caution

Danger of damaging the A/C compressor, the refrigerant line and hoses.

- ◆ **Do not stretch, bend or kink the refrigerant lines and hoses.**

- Remove the A/C compressor from the bracket. Refer to ⇒ Heating and Air Conditioning; Rep. Gr. 87 ; A/C Compressor; A/C Compressor, Removing and Installing on Bracket .
- Secure the A/C compressor on the lock carrier so that the refrigerant lines are not under tension.

Continuation for all vehicles

- Remove the bolts -arrows-.

If the Generator - C- -1- sticks in the bracket, install screw again down as far as the last two turns.

Carefully strike on bolt heads using flat side of hammer - doing this loosens the generator mount bushings.

- Remove the Generator - C- -1- with the wires still attached from the bracket.
- Disconnect the connector -3-.
- Pry off the cap -2-.
- Remove the nut and remove the terminal 30/B+ -4-.
- Remove the Generator - C- -1- downward and to the right.

Installing

Install in the reverse order of removal while paying attention to the following:

- Move the bolt sleeves slightly to the rear to make it easier to install the Generator - C- .

Tight bushings for generator mount must be made smooth-running, otherwise clamping force of bushing is too little despite correct torque.

- Connect the Battery - A- . Refer to ⇒ [“1.3 Battery, Disconnecting and Connecting”, page 9](#) .
- After completing work always start the engine and check the belt routing.

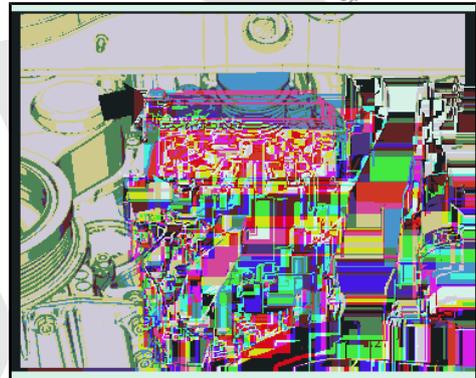
Tightening Specifications

- ◆ Refer to ⇒ [“2.1.2 Overview - Generator with Bushings”, page 14](#)

2.2.5 Generator, Removing and Installing, Vehicles with TDI Engine

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Torque Wrench 1783 - 2-10Nm - VAG1783-





Removing

- Disconnect the Battery - A- . Refer to [⇒ "1.3 Battery, Disconnecting and Connecting", page 9](#).
- Remove the ribbed belt. Refer to ⇒ Rep. Gr. 13 ; Cylinder Block, Belt Pulley Side; Ribbed Belt, Removing and Installing.
- Remove the ribbed belt tensioner. Refer to ⇒ Rep. Gr. 13 ; Cylinder Block, Belt Pulley Side; Ribbed Belt Tensioner, Removing and Installing .

Vehicles with A/C System



Caution

Danger of damaging the A/C compressor, the refrigerant line and hoses.

- ◆ ***Do not stretch, bend or kink the refrigerant lines and hoses.***

- Remove the A/C compressor from the bracket. Refer to ⇒ Heating and Air Conditioning; Rep. Gr. 87 ; A/C Compressor, A/C Compressor, Removing and Installing on Bracket .
- Secure the A/C compressor on the lock carrier so that the refrigerant lines are not under tension.

Continuation for All Vehicles

- Remove the bolts .

If the Generator - C- -1- sticks in the bracket, install screw again down as far as the last two turns.

Carefully strike on bolt heads using flat side of hammer - doing this loosens the generator mount bushings.

- Remove the Generator - C- -1- with the wires still attached from the bracket.
- Disconnect the connector -5-.
- Pry off the cap -4-.
- Remove the nut and remove the terminal 30/B+ -3-.
- Remove the nut -6- and remove the wire clamp -2-.
- Remove the Generator - C- -1- downward and to the right.

Installing

Install in the reverse order of removal while paying attention to the following:

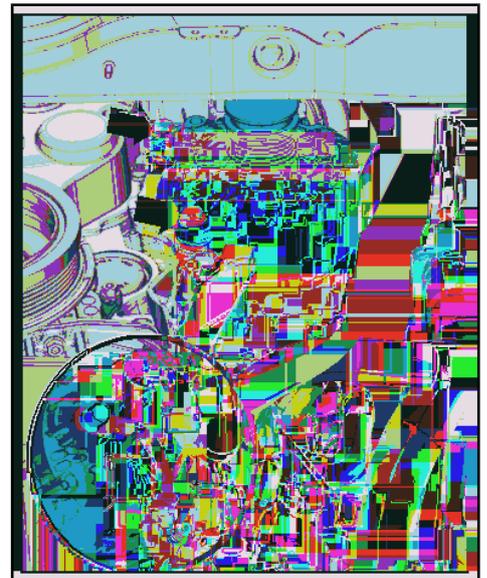
- Move the bolt sleeves slightly to the rear to make it easier to install the Generator - C- .

Tight bushings for generator mount must be made smooth-running, otherwise clamping force of bushing is too little despite correct torque.

- Connect the Battery - A- . Refer to [⇒ "1.3 Battery, Disconnecting and Connecting", page 9](#) .
- After completing work always start the engine and check the belt routing.

Tightening Specifications

- ◆ Refer to [⇒ "2.1.2 Overview - Generator with Bushings", page 14](#)





2.3 Generator, Checking

- Check the Generator - C- using the Vehicle Diagnostic Tester .

2.4 Ribbed Belt Pulley, Removing and Installing

⇒ [“2.4.1 Ribbed Belt Pulley without Freewheel, Removing and Installing”, page 22](#)

⇒ [“2.4.2 Ribbed Belt Pulley with Freewheel, Removing and Installing, Bosch”, page 22](#)

⇒ [“2.4.3 Ribbed Belt Pulley with Freewheel, Removing and Installing, Valeo”, page 24](#)

⇒ [“2.4.4 Decoupling Belt Pulley with Freewheel, Removing and Installing”, page 25](#)

2.4.1 Ribbed Belt Pulley without Freewheel, Removing and Installing

Special tools and workshop equipment required

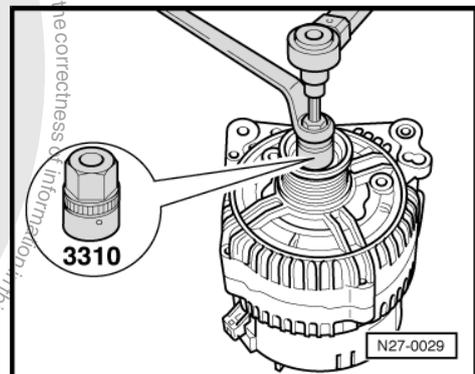
- ◆ Generator Belt Socket - 3310-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-

Removing

- Remove the Generator - C- . Refer to [⇒ “2.2 Generator, Removing and Installing”, page 15](#) .
- Secure the Generator - C- in a vise by the mounting points.
- Remove the ribbed belt pulley nut using -3310- from the generator shaft.
- Remove the ribbed belt pulley from the generator shaft.

Installing

Install in the reverse order of removal while paying attention to the following:



Tightening Specifications

Component	Tightening Specification
Ribbed belt pulley nut	65 Nm

2.4.2 Ribbed Belt Pulley with Freewheel, Removing and Installing, Bosch

Special tools and workshop equipment required

- ◆ Multi-Tooth Adapter - 3400-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-

Removing

- Remove the Generator - C- . Refer to [⇒ “2.2 Generator, Removing and Installing”, page 15](#) .
- Secure the Generator - C- in a vise by the mounting points.



- Pry up the cap from the ribbed belt pulley.
- Install the -3400- with the wrench (SW 17) in the ribbed belt pulley.
- Install the multi-point socket M10 -1- in the generator shaft.
- Hold the generator secure and loosen the ribbed belt pulley with the wrench by turning left.
- Hold the ribbed belt pulley securely by hand.
- Turn the generator shaft until the ribbed belt pulley can be removed.

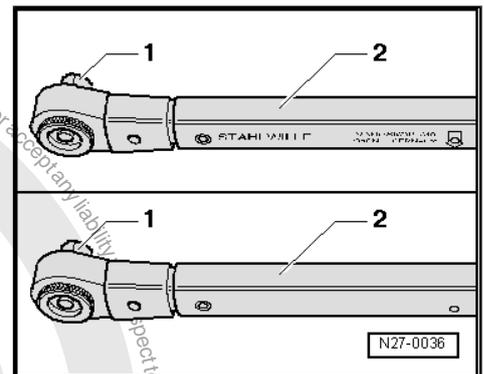
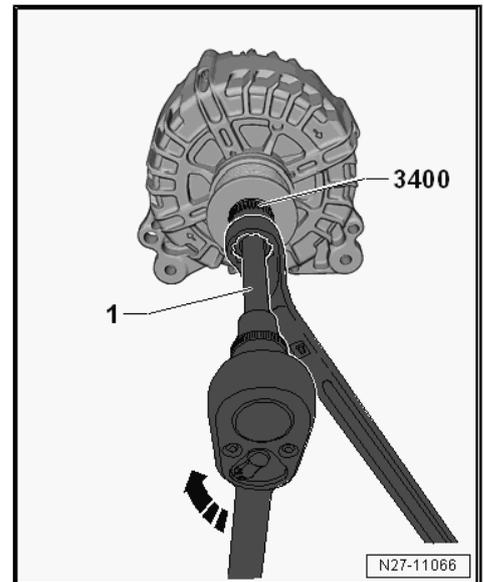
Installing

Install in the reverse order of removal while paying attention to the following:

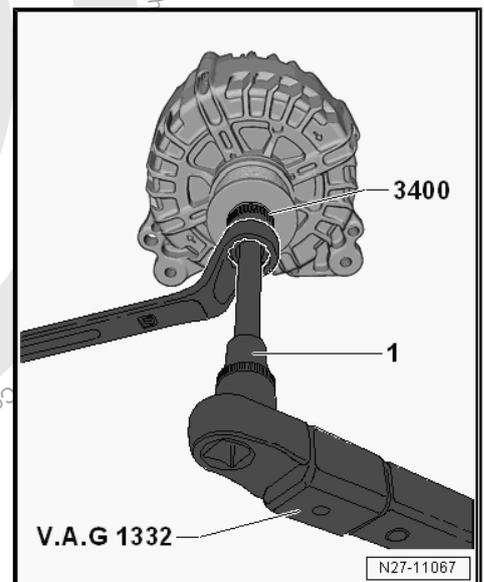
- Install the ribbed belt pulley by hand until stop on the generator shaft.

The -VAG1332- must be rearranged for installing ribbed belt pulley as follows:

- Release the insert -1- and remove it from the handle part -2-.
- Turn the handle part -2- 180° and install the socket -1- again.
- Set the rotation direction of the -VAG1332- bit to the left.



- Install the multi-point socket M10 -1- in the generator shaft.
- Counterhold the -3400- with a wrench (SW 17).
- Tighten the ribbed belt pulley by turning the generator shaft to the left using -VAG1332- .



Tightening Specifications

Component	Tightening Specification
Ribbed belt pulley nut	80 Nm



2.4.3 Ribbed Belt Pulley with Freewheel, Removing and Installing, Valeo

Special tools and workshop equipment required

- ◆ Multi-Tooth Adapter - 3400-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-
- ◆ Torx Key Socket Set - VAG1603A/1-

Removing

- Remove the Generator - C- . Refer to ["2.2 Generator, Removing and Installing", page 15](#) .
- Secure the Generator - C- in a vise by the mounting points.
- Pry up the cap from the ribbed belt pulley.
- Install the -3400- with the wrench (SW 17) in the ribbed belt pulley.
- Install the -VAG1603A/1- in the generator shaft.
- Hold the generator secure and loosen the ribbed belt pulley with the wrench by turning left.
- Hold the ribbed belt pulley securely by hand.
- Turn the generator shaft until the ribbed belt pulley can be removed.

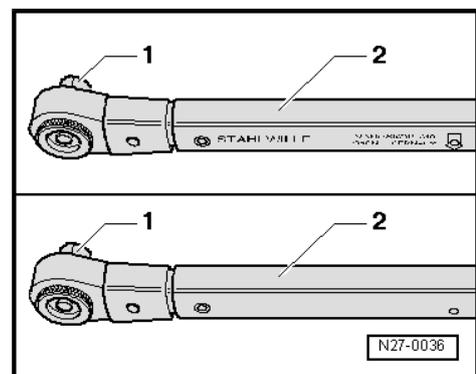
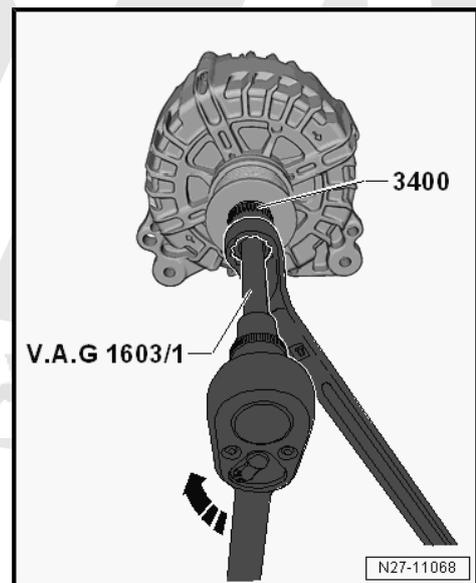
Installing

Install in the reverse order of removal while paying attention to the following:

- Install the ribbed belt pulley by hand until stop on the generator shaft.

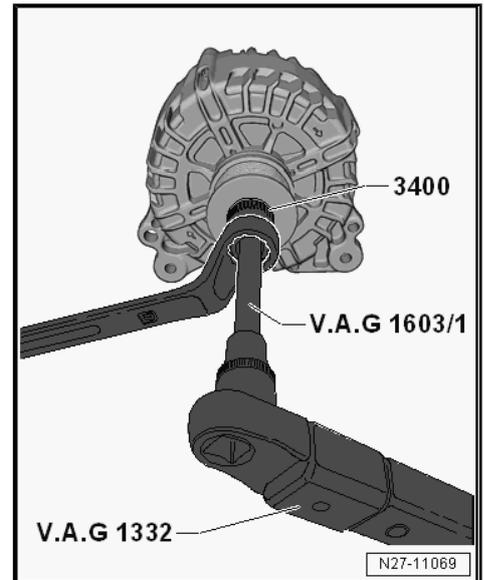
The -VAG1332- must be rearranged for installing ribbed belt pulley as follows:

- Release the insert -1- and remove it from the handle part -2-.
- Turn the handle part -2- 180° and install the socket -1- again.
- Set the rotation direction of the -VAG1332- bit to the left.





- Install the -VAG1603A/1- in the generator shaft.
- Counterhold the -3400- with a wrench (SW 17).
- Tighten the ribbed belt pulley by turning the generator shaft to the left using -VAG1332- .



Tightening Specifications

Component	Tightening specification
Ribbed belt pulley nut	80 Nm

2.4.4 Decoupling Belt Pulley with Freewheel, Removing and Installing

Special tools and workshop equipment required

- ◆ Adapter - T10474-
- ◆ Multi-Tooth Adapter - 3400-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-
- ◆ Torx Key Socket Set - VAG1603A/1-

General Information

There are different decoupling belt pulley with freewheel.

Before removing check which special tool must be used for the removal of the decoupling belt pulley with freewheel.



Caution

The length of the ribbed belt is different depending on the decoupling belt pulley with freewheel installed.

Check which decoupling belt pulley with freewheel is installed and make sure that the correct ribbed belt will be installed. Ribbed belt allocation. Refer to the Parts Catalog.

Decoupler Differences

-A- small decoupling belt pulley with freewheel, special tool to be used -T10474-



-B- large decoupling belt pulley with freewheel, special tool to be used -3400-



Note

The ribbed belt for the large decoupling belt pulley with freewheel must be longer, because the decoupling belt pulley with freewheel has a larger diameter and it is different for vehicles with and without an A/C system.

Removing

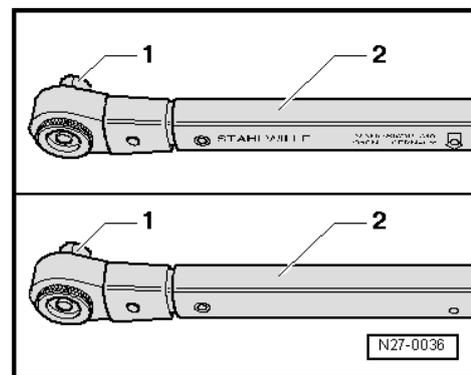
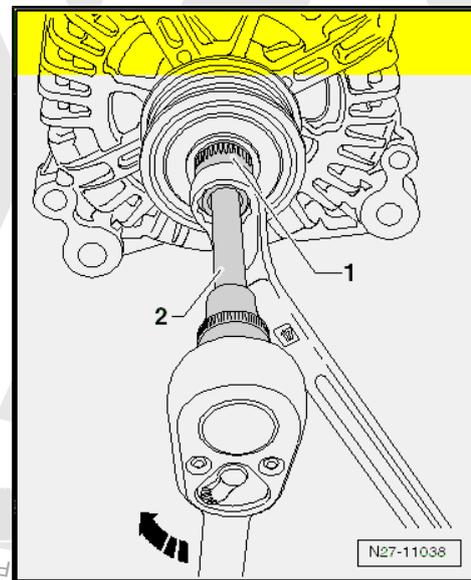
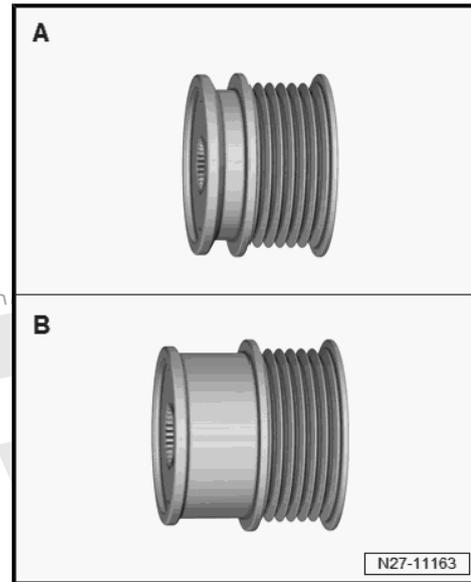
- Remove the Generator - C- . Refer to [⇒ "2.2 Generator, Removing and Installing", page 15](#) .
- Secure the Generator - C- in a vise by the mounting points.
- If equipped, remove the protective cap from the decoupling belt pulley with freewheel.
- Install the -T10474- or -3400- -1- in the belt pulley and attach a wrench (SW 17).
- Install the -VAG1603A/1- -2- in the generator shaft.
- Turn the generator shaft clockwise to loosen and while doing so counterhold with the wrench.
- Hold the decoupling belt pulley with freewheel in place by hand and turn it at the generator shaft until the decoupling belt pulley with freewheel can be removed.

Installing

Install in reverse order of removal. Note the following:

The -VAG1332- must be rearranged for installing the decoupling belt pulley with freewheel as follows:

- Release the insert -1- and remove it from the handle part -2-.
- Turn the handle part -2- of the torque wrench 180° and reinsert the socket.
- Set the rotation direction of the torque wrench socket to "left".
- Next, screw the ribbed belt pulley with freewheel by hand onto the generator shaft until stop.

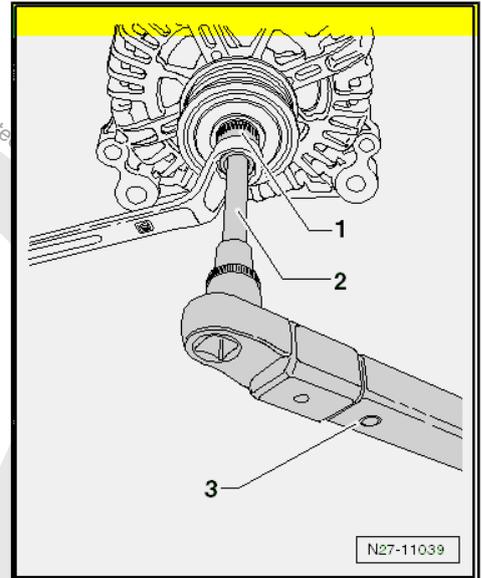




- Insert the -T10474- or the -3400- -1- into the decoupling belt pulley with freewheel and attach a wrench.
- Install the -VAG1603A/1- -2- in the generator shaft.
- Turn the generator shaft using the -VAG1332- -3- counter clockwise to tighten the decoupling belt pulley with freewheel.

Tightening Specifications

Component	Tightening Specification
Decoupling belt pulley nut	80 Nm



2.5 Voltage Regulator, Removing and Installing

⇒ ["2.5.1 Voltage Regulator, Removing and Installing, Bosch", page 27](#)

⇒ ["2.5.2 Voltage Regulator, Removing and Installing, Valeo", page 28](#)

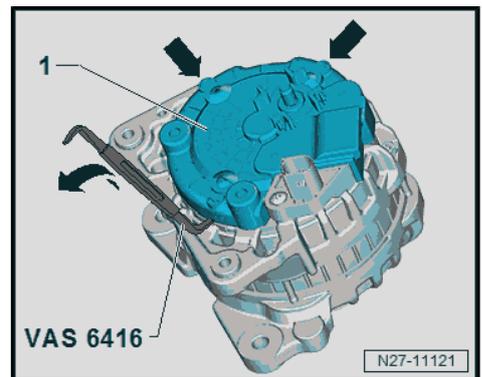
2.5.1 Voltage Regulator, Removing and Installing, Bosch

Special tools and workshop equipment required

- ◆ Angled Screwdriver - VAS6416-
- ◆ Torque Screwdriver - VAG1624-

Removing

- Remove the Generator - C- . Refer to ["2.2 Generator, Removing and Installing", page 15](#) .
- Carefully pry out the cap -1- from the retainers in direction of -arrows- using the -VAS6416- .
- Remove the screws -arrows- for the Voltage Regulator - C1- .

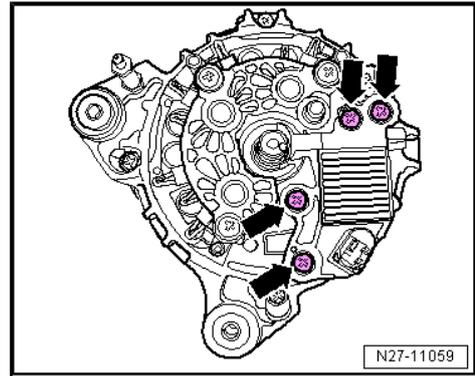




- Remove the Voltage Regulator - C1- from the Generator - C- .

Installing

Install in the reverse order of removal while paying attention to the following:



Tightening Specifications

Component	Tightening Specification
Voltage Regulator - C1- screws	2 Nm

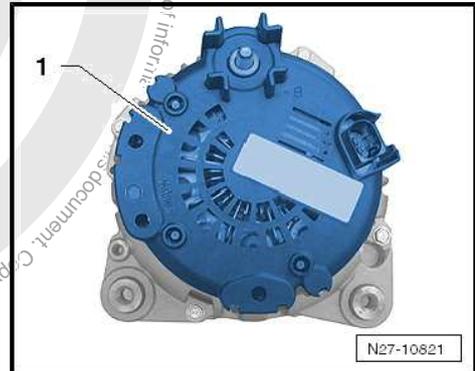
2.5.2 Voltage Regulator, Removing and Installing, Valeo

Special tools and workshop equipment required

- ◆ Torque Wrench 1783 - 2-10Nm - VAG1783-

Removing

- Remove the Generator - C- . Refer to ["2.2 Generator, Removing and Installing", page 15](#) .
- Carefully pry the cap -1- off of the Generator - C- .

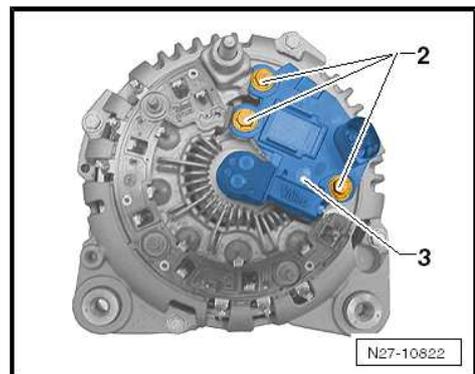


- Remove the screws -2- for the Voltage Regulator - C1- -3-.
- Remove the Voltage Regulator - C1- -3- from the Generator - C- .

Installing

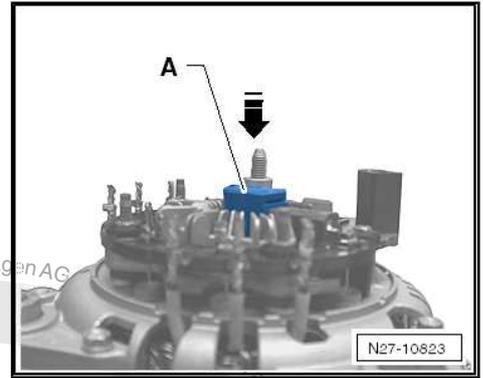
Install in the reverse order of removal while paying attention to the following:

- Install the Voltage Regulator - C1- .

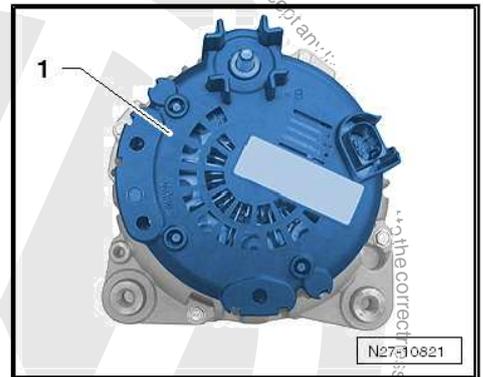




- Press the cap on the carbon brushes -A- down in direction of -arrow- until it is flush with the voltage regulator housing.



- Install new cap -1- on the Generator - C- .



Tightening Specifications

Component	Tightening Specification
Voltage Regulator - C1- screws	4 Nm



3 Starter

⇒ [“3.1 Overview - Starter”, page 30](#)

⇒ [“3.2 Starter, Removing and Installing”, page 33](#)

3.1 Overview - Starter

⇒ [“3.1.1 Overview - Starter, Vehicles with Manual Transmission”, page 30](#)

⇒ [“3.1.2 Overview - Starter, Vehicles with DSG Transmission DQ200-7F”, page 31](#)

⇒ [“3.1.3 Overview - Starter, Vehicles with DSG Transmission DQ250-6F”, page 32](#)

⇒ [“3.1.4 Overview - Starter, Vehicles with Automatic Transmission”, page 33](#)

3.1.1 Overview - Starter, Vehicles with Manual Transmission

1 - Starter - B-

- ❑ Removing and installing. Refer to ⇒ [“3.2.1 Starter, Removing and Installing, Vehicles with Manual Transmission”, page 33](#).

2 - Double Bolt

- ❑ 80 Nm

3 - Ground Cable

- ❑ Depending on the vehicle equipment level

4 - Nut

- ❑ 20 Nm
- ❑ Depending on the vehicle equipment level

5 - Connector

6 - Nut

- ❑ 20 Nm

7 - Cap

8 - Terminal 30/B+

9 - Nut

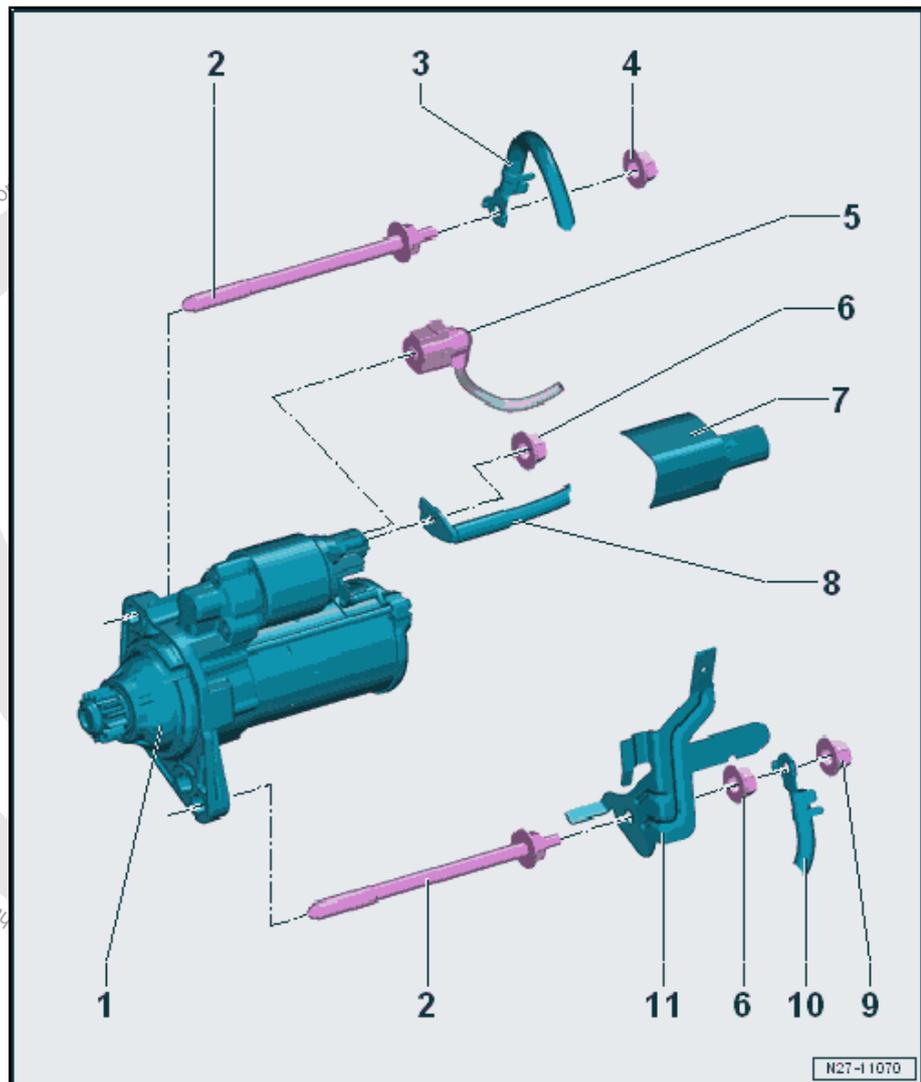
- ❑ 20 Nm
- ❑ Depending on the vehicle equipment level

10 - Ground Cable

- ❑ Depending on the vehicle equipment level

11 - Bracket

- ❑ For the wiring harness





3.1.2 Overview - Starter, Vehicles with DSG Transmission DQ200-7F

1 - Starter - B-

- ❑ Removing and installing. Refer to
⇒ ["3.2.2 Starter, Removing and Installing, Vehicles with DSG Transmission DQ200-7F", page 35](#) .

2 - Double Bolt

- ❑ 80 Nm

3 - Ground Cable

4 - Nut

- ❑ 20 Nm

5 - Connector

6 - Nut

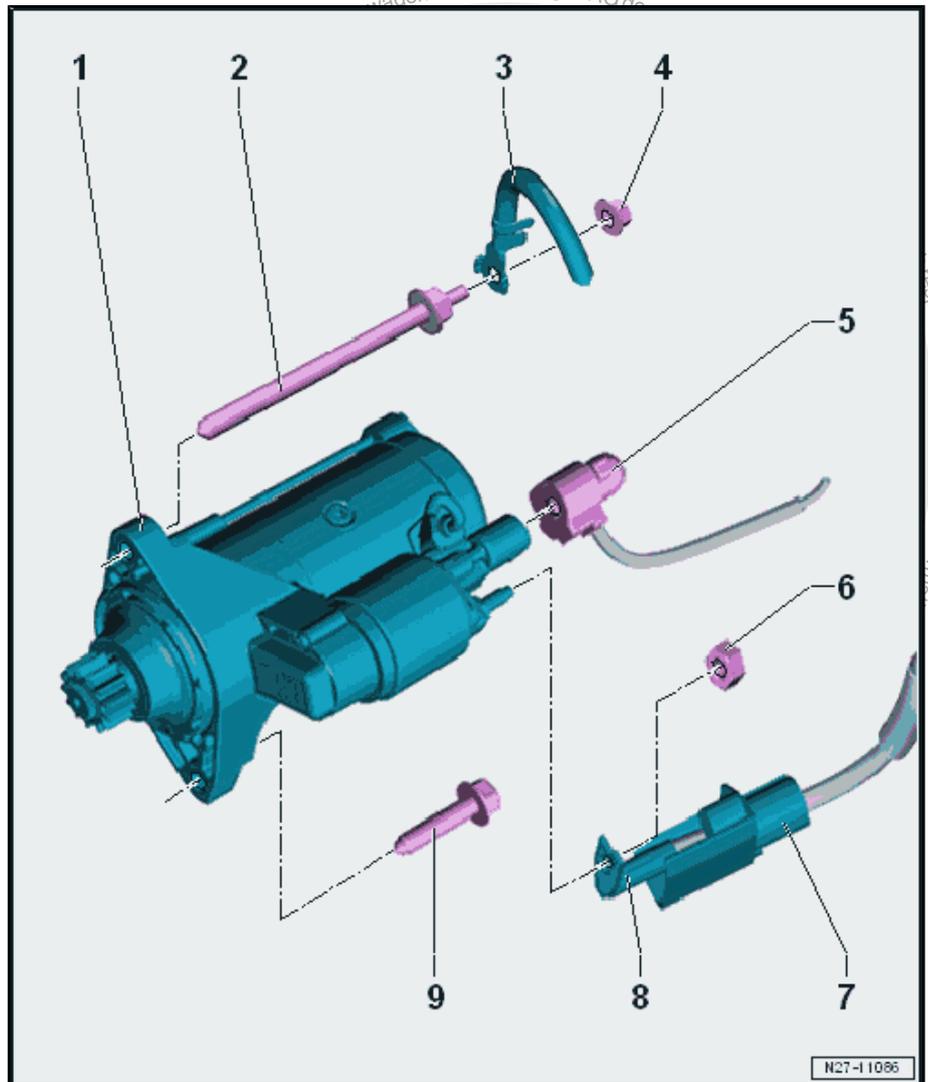
- ❑ 20 Nm

7 - Cap

8 - Terminal 30/B+

9 - Bolt

- ❑ 80 Nm





3.1.3 Overview - Starter, Vehicles with DSG Transmission DQ250-6F

1 - Starter - B-

- ❑ Removing and installing. Refer to
⇒ ["3.2.3 Starter, Removing and Installing, Vehicles with DSG Transmission DQ250-6F"](#), page 36 .

2 - Bolt

- ❑ 40 Nm

3 - Connector

4 - Nut

- ❑ 20 Nm

5 - Cap

6 - Terminal 30/B+

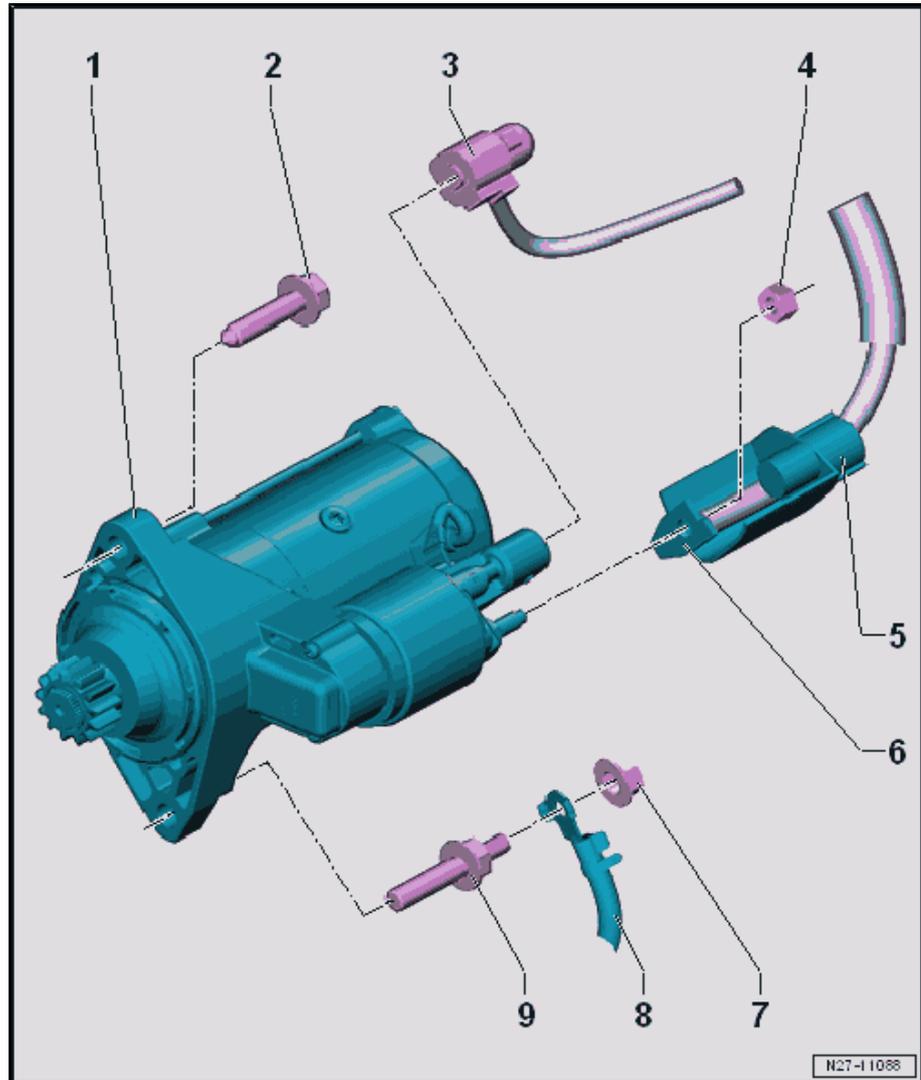
7 - Nut

- ❑ 20 Nm

8 - Ground Cable

9 - Double bolt

- ❑ 40 Nm



With respect to the correctness of information.



3.1.4 Overview - Starter, Vehicles with Automatic Transmission

1 - Starter - B-

- ❑ Removing and installing. Refer to
⇒ [“3.2.4 Starter, Removing and Installing, Vehicles with Automatic Transmission”, page 37](#).

2 - Double Bolt

- ❑ 80 Nm
- ❑ Quantity: 2

3 - Bracket

- ❑ For the wiring harness

4 - Connector

5 - Nut

- ❑ 20 Nm
- ❑ Quantity: 2

6 - Nut

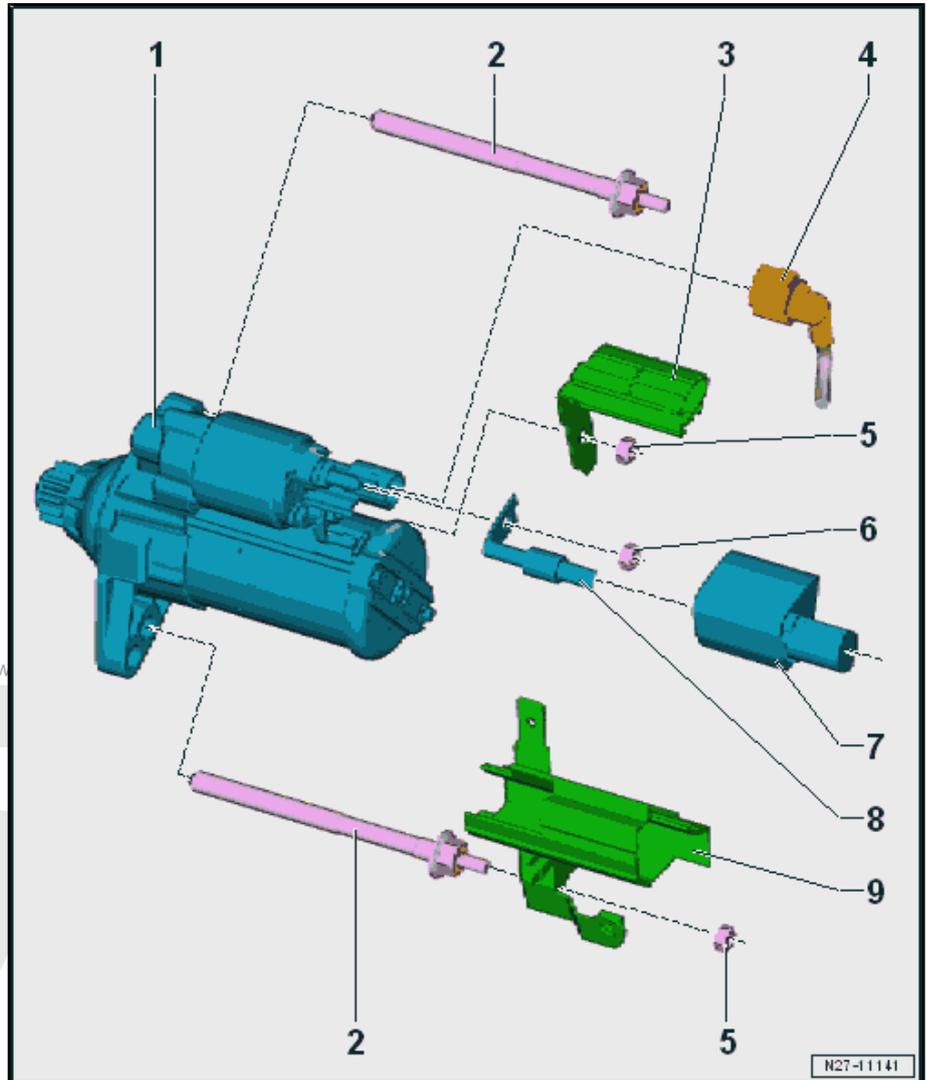
- ❑ 20 Nm

7 - Cap

8 - Terminal 30/B+

9 - Bracket

- ❑ For the wiring harness



3.2 Starter, Removing and Installing

⇒ [“3.2.1 Starter, Removing and Installing, Vehicles with Manual Transmission”, page 33](#)

⇒ [“3.2.2 Starter, Removing and Installing, Vehicles with DSG Transmission DQ200-7F”, page 35](#)

⇒ [“3.2.3 Starter, Removing and Installing, Vehicles with DSG Transmission DQ250-6F”, page 36](#)

⇒ [“3.2.4 Starter, Removing and Installing, Vehicles with Automatic Transmission”, page 37](#)

3.2.1 Starter, Removing and Installing, Vehicles with Manual Transmission

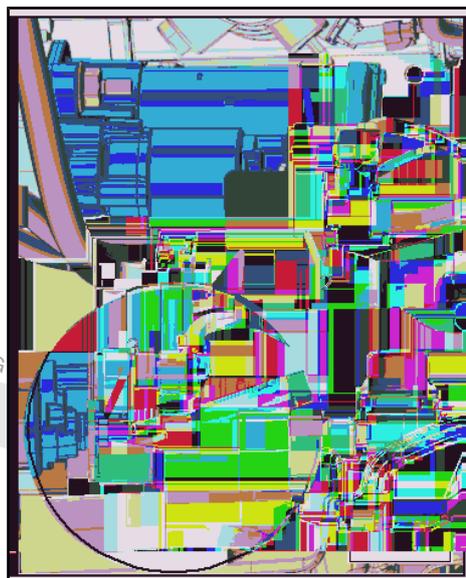
Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-

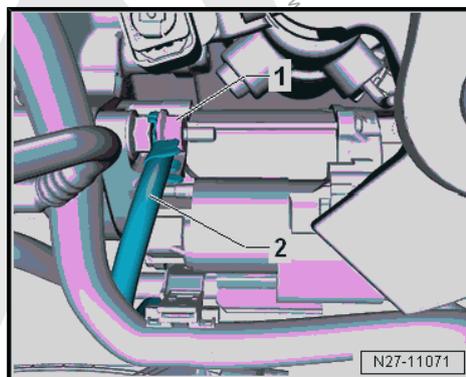


Removing

- Disconnect the Battery - A- . Refer to ⇒ ["1.3 Battery, Disconnecting and Connecting", page 9](#) .
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Noise Insulation; Overview - Noise Insulation .
- If necessary, remove the air filter housing. Refer to ⇒ Rep. Gr. 23 ; Air Filter; Air Filter Housing, Removing and Installing or ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Release and disconnect the connector -1-.
- Remove the cap -2-.
- Remove the nuts -3-, and terminal 30/B+.



- If equipped remove the nut -1- from the Starter - B- upper bolt.
- If equipped remove the ground cable -2-.
- If equipped remove the nut -1- from the Starter - B- lower bolt.



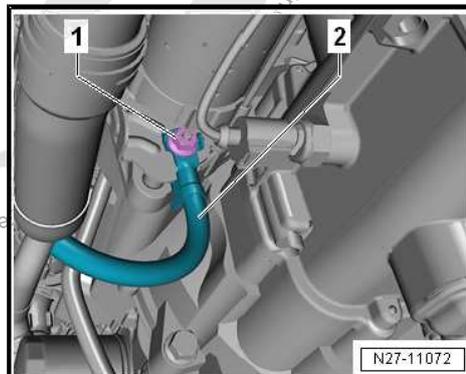
- If equipped remove the ground cable -2-.



Note

The wires remain connected.

- Remove the nut -4- and remove the wiring harness bracket -1-.
- Remove the Starter - B- -3- bolts -2 and 5- .





- Remove the Starter - B- -3- downward.

Installing

Install in the reverse order of removal while paying attention to the following:

- Connect the Battery - A- . Refer to
⇒ ["1.3 Battery, Disconnecting and Connecting", page 9](#) .

Tightening Specifications

- ◆ Refer to
⇒ ["3.1.1 Overview - Starter, Vehicles with Manual Transmission", page 30](#)



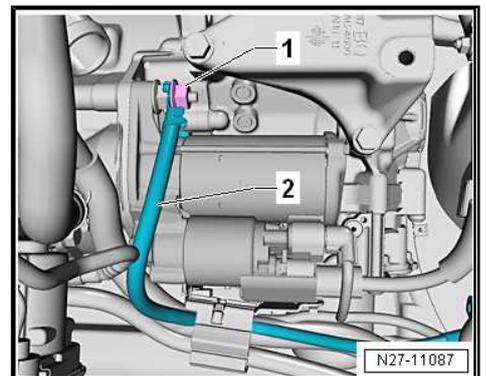
3.2.2 Starter, Removing and Installing, Vehicles with DSG Transmission DQ200-7F

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332

Removing

- Disconnect the Battery - A- . Refer to
⇒ ["1.3 Battery, Disconnecting and Connecting", page 9](#) .
- If necessary, remove the air filter housing. Refer to ⇒ Rep. Gr. 23 ; Air Filter; Air Filter Housing, Removing and Installing or ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Remove the nut -1- from the upper bolt of the Starter - B- .
- Remove the ground cable -2-.
- Disconnect the connector -4-.
- Remove the cap -5-.
- Remove the nut -6- and terminal 30/B+.
- Remove the Starter - B- -3- bolts -1 and 2-.





- Remove the Starter - B- -3- upward.

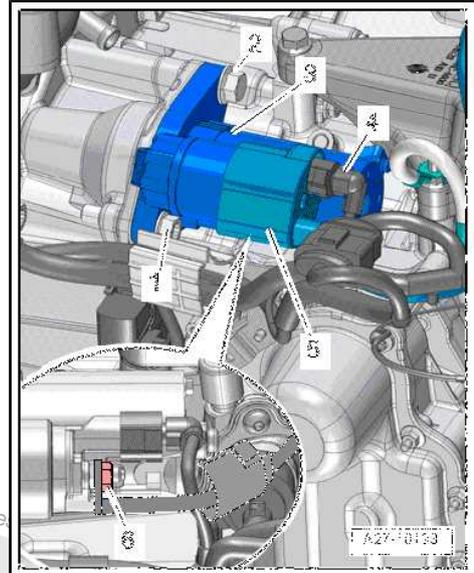
Installing

Install in the reverse order of removal while paying attention to the following:

- Connect the Battery - A- . Refer to
⇒ ["1.3 Battery, Disconnecting and Connecting", page 9](#) .

Tightening Specifications

- ◆ Refer to
⇒ ["3.1.2 Overview - Starter, Vehicles with DSG Transmission DQ200-7F", page 31](#)



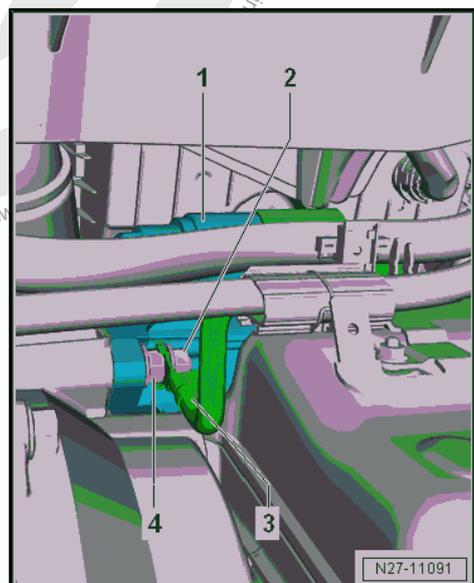
3.2.3 Starter, Removing and Installing, Vehicles with DSG Transmission DQ250-6F

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-

Removing

- Disconnect the Battery - A- . Refer to
⇒ ["1.3 Battery, Disconnecting and Connecting", page 9](#) .
- If necessary, remove the air filter housing. Refer to ⇒ Rep. Gr. 23 ; Air Filter; Air Filter Housing, Removing and Installing or ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Noise Insulation; Overview - Noise Insulation .
- Remove the nut -2- from the lower bolt for the Starter - B- -1-.
- Remove the ground cable -3-.
- Remove the Starter - B- -1- bolt -4-.
- Disconnect the connector -3-.
- Remove the cap -4-.
- Remove the nut -5- and terminal 30/B+.
- Remove the bolt -1- for the Starter - B- -2-.





- Remove the Starter - B- -2- upward.

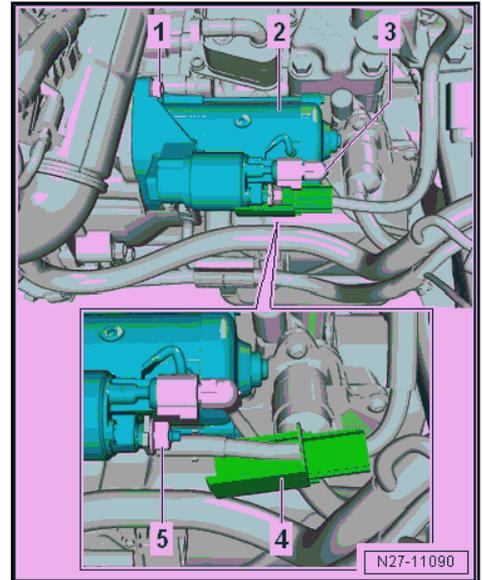
Installing

Install in the reverse order of removal while paying attention to the following:

- Connect the Battery - A- . Refer to
⇒ [“1.3 Battery, Disconnecting and Connecting”, page 9](#) .

Tightening Specifications

- ◆ Refer to
⇒ [“3.1.3 Overview - Starter, Vehicles with DSG Transmission DQ250-6F”, page 32](#)



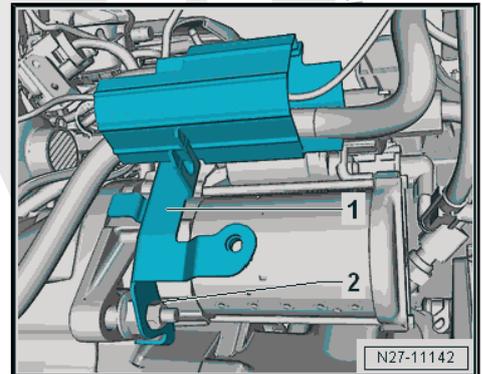
3.2.4 Starter, Removing and Installing, Vehicles with Automatic Transmission

Special tools and workshop equipment required

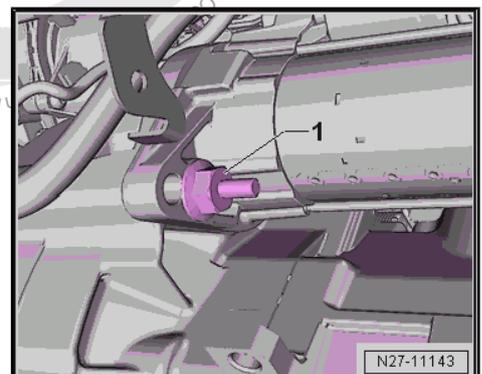
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Torque Wrench 1332 40-200Nm - VAG1332-

Removing

- Disconnect the Battery - A- . Refer to
⇒ [“1.3 Battery, Disconnecting and Connecting”, page 9](#) .
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Noise Insulation; Overview - Noise Insulation .
- Remove the nut -2-.
- Remove the bracket -1- for the wiring harness.

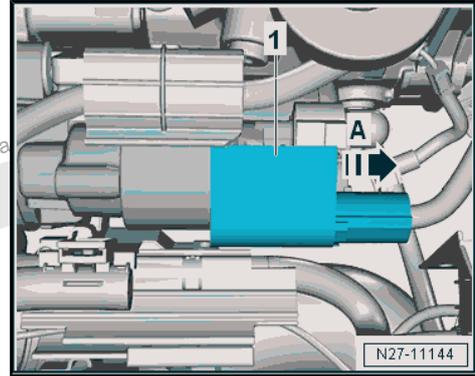


- Remove the bolt -1-.
- If necessary, remove the air filter housing. Refer to ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .

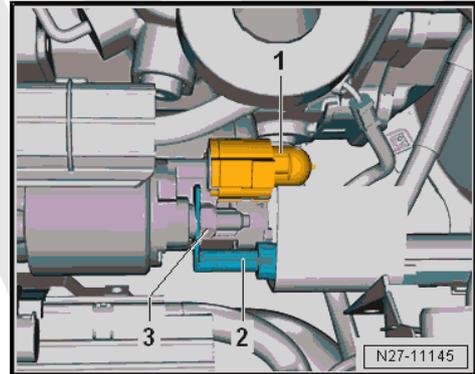




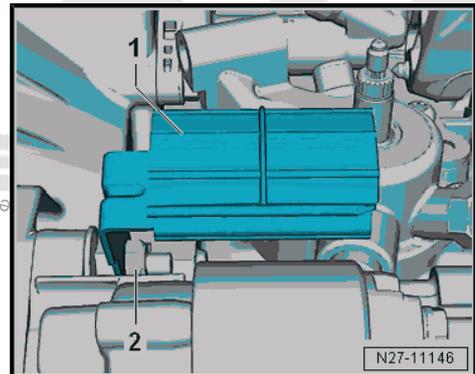
- Slide the cap -1- in the direction of the arrow in direction of -A-.



- Release and disconnect the connector -1-.
- Remove the nut -3- and remove terminal 30/B+ -2-.
- Remove the nut -2-.



- Remove the bracket -1- for the wiring harness.
- Remove the bolt -1-.



- Remove the Starter - B- -2- upward from the vehicle.

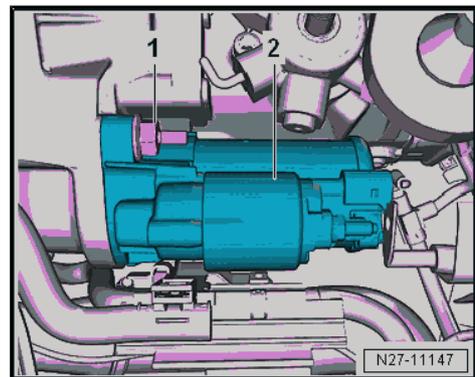
Installing

Install in the reverse order of removal while paying attention to the following:

- Connect the Battery - A- . Refer to [⇒ "1.3 Battery, Disconnecting and Connecting", page 9](#) .

Tightening Specifications

- ◆ Refer to [⇒ "3.1.4 Overview - Starter, Vehicles with Automatic Transmission", page 33](#)





4 Cruise Control System

All instructions and information on this chapter. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 27 ; Cruise Control System .





5 Start/Stop System

⇒ [“5.1 General Description for Start/Stop System”, page 40](#)

⇒ [“5.2 Component Location Overview - Start/Stop System”, page 40](#)

5.1 General Description for Start/Stop System

The Start/Stop System reduces fuel consumption by turning off the engine when the vehicle is at a standstill and turning the engine back on when the driver starts to drive. The Stop/Start System works automatically. As soon as the vehicle is driven for approximately four seconds at a minimum of 3 km/h (2 mph).

5.2 Component Location Overview - Start/Stop System

Pay attention to the safety precautions. Refer to [“1.1 Start/Stop System Safety Precautions”, page 1](#).

1 - Start/Stop Mode Button - E693-

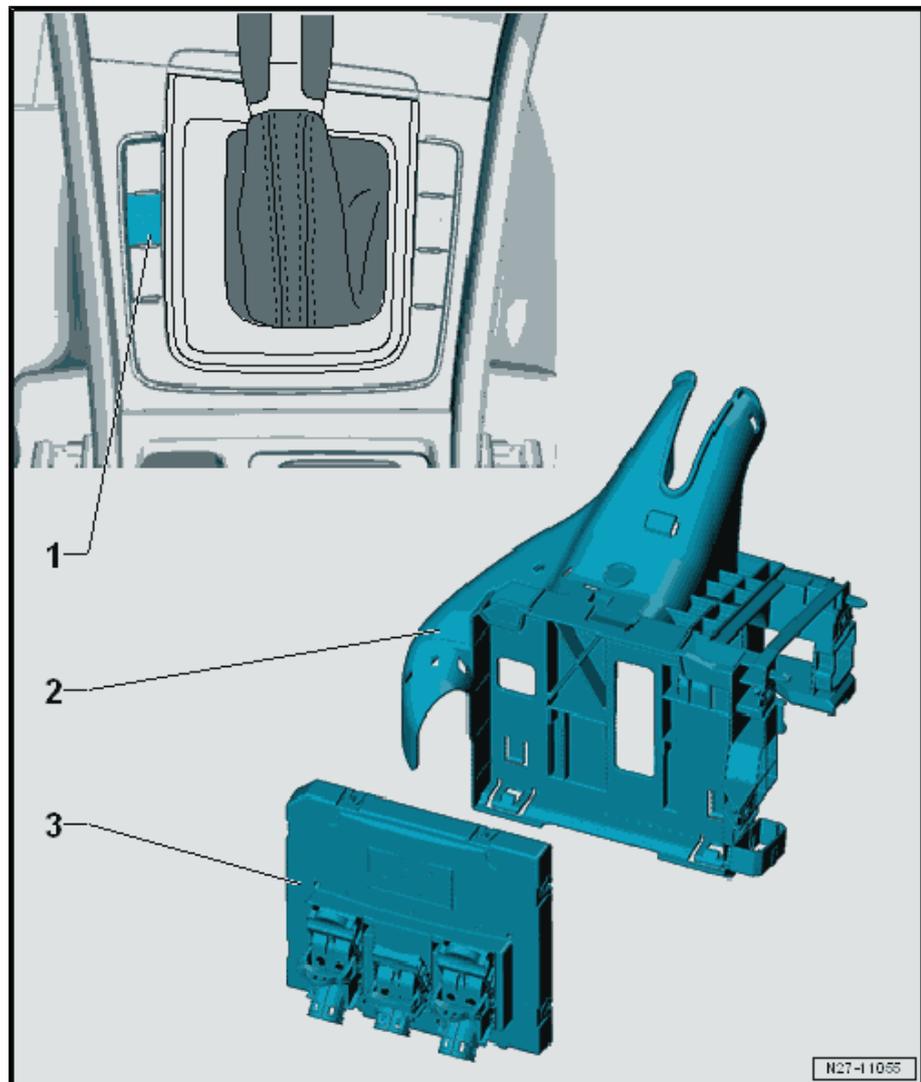
- ❑ Removing and installing. Refer to [“2.10 Start/Stop Mode Button E693, Removing and Installing”, page 266](#).

2 - Bracket

- ❑ For Vehicle Electrical System Control Module - J519-

3 - Vehicle Electrical System Control Module - J519-

- ❑ Overview. Refer to [“2.2 Overview - Control Modules”, page 298](#).





6 Adaptive Cruise Control

⇒ [“6.1 Component Location Overview - Adaptive Cruise Control \(ACC\)”, page 41](#)

⇒ [“6.2 Control Module for Adaptive Cruise Control, Removing and Installing”, page 42](#)

⇒ [“6.3 Adaptive Cruise Control, Calibrating”, page 45](#)

6.1 Component Location Overview - Adaptive Cruise Control (ACC)

1 - Instrument Cluster - KX2-

- ❑ With Instrument Cluster Control Module - J285-
- ❑ Removing and installing. Refer to ⇒ [“1.2 Instrument Cluster KX2, Removing and Installing”, page 49](#) .

2 - Front Bumper Carrier

3 - Retaining Plate

- ❑ Removing and installing. Refer to ⇒ [“6.2.2 Adaptive Cruise Control Module, Removing and Installing, from the Retaining Plate”, page 43](#) .

4 - Quick Release

- ❑ Quantity: 3
- ❑ Replace after removal

5 - Adapter Frame

- ❑ Serves as the mount for the Distance Regulation Control Module - J428-
- ❑ With Distance Regulation Control Module - J428- adjusting screw
- ❑ Measure the adjustment dimension and adjust if necessary. Refer to ⇒ [Fig. “Adjusting Screws, Adjusting”, page 44](#) .

6 - Distance Regulation Control Module - J428-

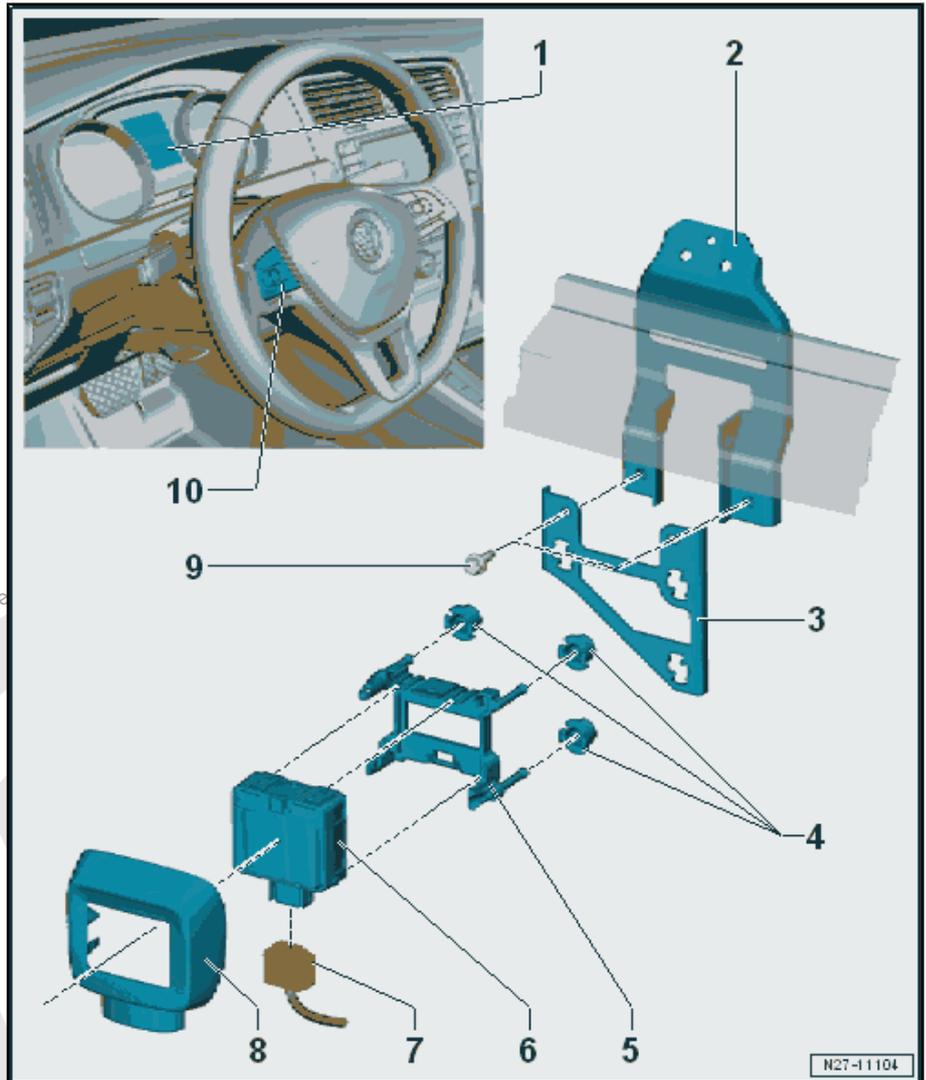
- ❑ Removing and installing. Refer to ⇒ [“6.2.1 Adaptive Cruise Control Module, Removing and Installing, with Retaining Plate”, page 42](#) .
- ❑ Calibrating. Refer to ⇒ [“6.3 Adaptive Cruise Control, Calibrating”, page 45](#)

7 - Connector

8 - Radar Sensor Trim

9 - Bolt

- ❑ 8 Nm
- ❑ Quantity: 2





10 - Adaptive Cruise Control Button - E357-

- Is integrated in the multifunction steering wheel.
- Removing and installing. Refer to ⇒ Communication; Rep. Gr. 91 ; Multifunction Steering Wheel; Right and Left Multifunction Buttons on Steering Wheel - E441- / - E440- , Removing and Installing .

6.2 Control Module for Adaptive Cruise Control, Removing and Installing

⇒ [“6.2.1 Adaptive Cruise Control Module, Removing and Installing, with Retaining Plate”, page 42](#)

⇒ [“6.2.2 Adaptive Cruise Control Module, Removing and Installing, from the Retaining Plate”, page 43](#)

⇒ [“6.2.3 Control Module for Adaptive Cruise Control, Removing and Installing at Adapter Frame”, page 44](#)

6.2.1 Adaptive Cruise Control Module, Removing and Installing, with Retaining Plate

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-



Caution

This procedure contains mandatory replaceable parts. Refer to component overview and parts catalog prior to starting procedure.

Mandatory Replacement Parts

- ◆ Quick Release - Adapter Frame to Distance Regulation Control Module

If the control module is being replaced, use the Vehicle Diagnostic Tester and select the “Replacing” function for the respective control module in “Guided Fault Finding”.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the front bumper cover. Refer to ⇒ Body Exterior; Rep. Gr. 63 ; Front Bumper; Bumper Cover, Removing and Installing .
- Remove the screws -1-.
- Remove the Distance Regulation Control Module - J428- with retaining plate -3-.



- Release and disconnect the connector -2-.

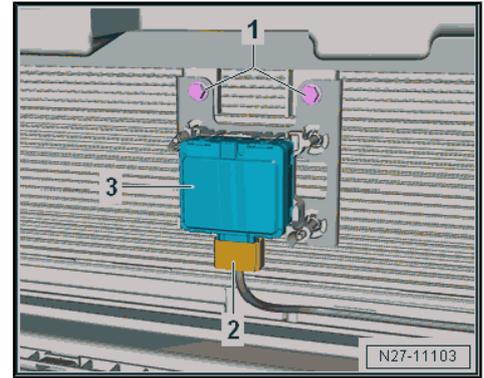
Installing

Install in the reverse order of removal while paying attention to the following:

- Calibrate the adaptive cruise control. Refer to
⇒ [“6.3 Adaptive Cruise Control, Calibrating”](#), page 45 .

Tightening Specifications

- ◆ Refer to
⇒ [“6.1 Component Location Overview - Adaptive Cruise Control \(ACC\)”](#), page 41



6.2.2 Adaptive Cruise Control Module, Removing and Installing, from the Retaining Plate

Special tools and workshop equipment required

- ◆ Digital Caliper - VAS6335-



Caution

This procedure contains mandatory replaceable parts. Refer to component overview prior to starting procedure.

Mandatory Replacement Parts

- ◆ Quick Release - ACC adapter frame to retaining plate

Removing

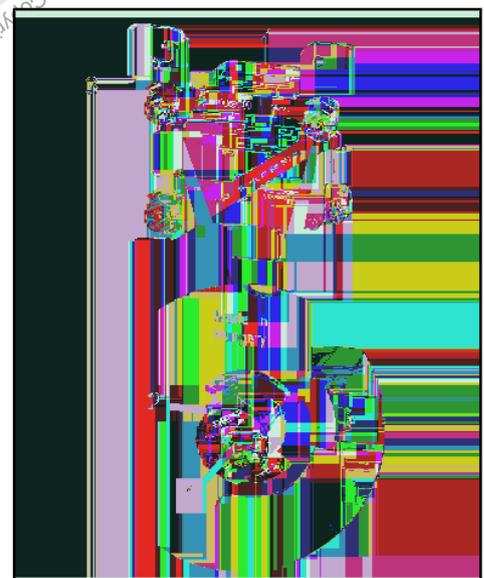
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the Distance Regulation Control Module - J428- . Refer to
⇒ [“6.2.1 Adaptive Cruise Control Module, Removing and Installing, with Retaining Plate”](#), page 42 .
- Turn the quick-release fasteners -2- in direction of -arrow-.
- Remove the retaining plate -3- from the Distance Regulation Control Module - J428- -4-.
- Remove the quick-release fasteners -2- from the adjusting screws -1-.

Installing

Install in the reverse order of removal while paying attention to the following:

- Replace the quick-release fasteners -2-.

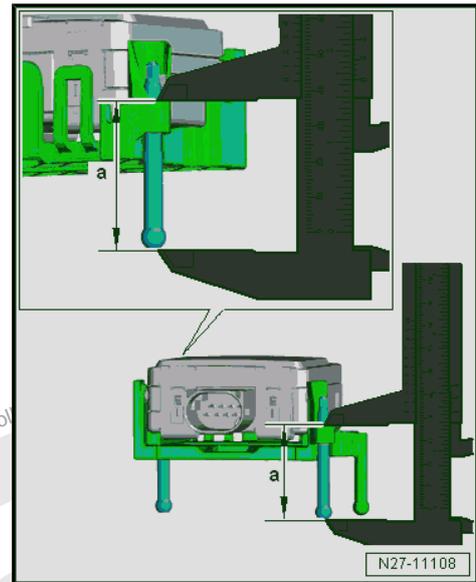
The adjusting screws -1- in the adapter frame are pre-set. If necessary, correct the setting. Refer to
⇒ [Fig. “Adjusting Screws, Adjusting”](#), page 44 .



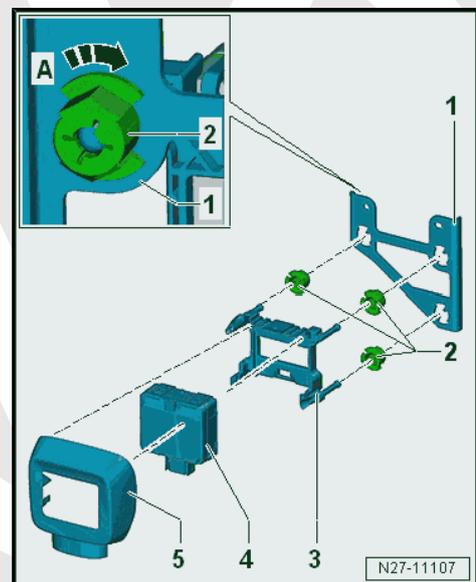


Adjusting Screws, Adjusting

- Using the -VAS6335- measure the adjustment dimension -a- on all adjusting screws and adjust where necessary.
- ◆ Dimension -a- = 40.3 mm ± 0.5 mm



- Push in new quick-release fasteners -2- on the adjusting screws and fixed bearing on the adapter frame -3-.
- Install the retaining plate -1- on the quick-release fasteners -2-.
- Turn the quick-release fasteners -2- on the back of the retaining plate -1- in the direction of the -arrow A- until stop.
- Install the Distance Regulation Control Module - J428- . Refer to
⇒ ["6.2.1 Adaptive Cruise Control Module, Removing and Installing, with Retaining Plate", page 42](#) .
- Calibrate the adaptive cruise control. Refer to
⇒ ["6.3 Adaptive Cruise Control, Calibrating", page 45](#) .



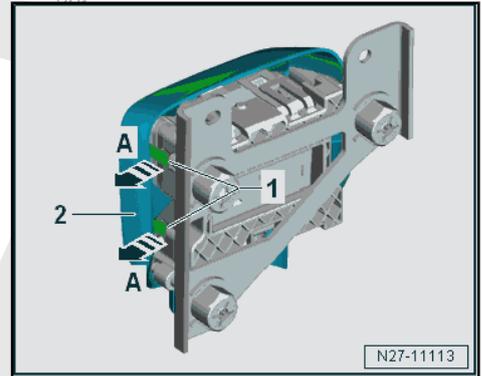
6.2.3 Control Module for Adaptive Cruise Control, Removing and Installing at Adapter Frame

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the Distance Regulation Control Module - J428- . Refer to
⇒ ["6.2.1 Adaptive Cruise Control Module, Removing and Installing, with Retaining Plate", page 42](#) .



- Loosen the catches -1- on both sides in the direction of the -arrow A-.
- Remove the rain sensor trim -2-.
- Loosen the locking mechanisms -1- in the direction of the -arrow A-.
- Fold out the Distance Regulation Control Module - J428- -3- in the direction of the -arrow B-.

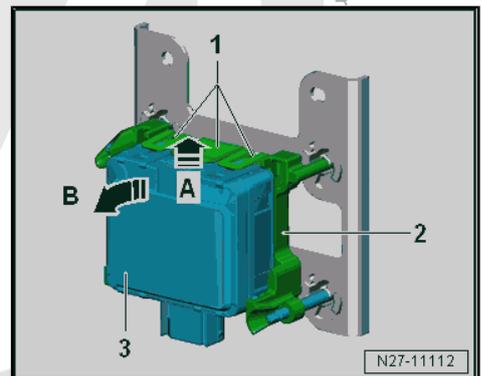


- Remove the Distance Regulation Control Module - J428- -3- from the adapter frame -2-.

Installing

Install in the reverse order of removal while paying attention to the following:

- Calibrate the adaptive cruise control. Refer to [⇒ "6.3 Adaptive Cruise Control, Calibrating", page 45](#) .



6.3 Adaptive Cruise Control, Calibrating

Conditions

- The Distance Regulation Control Module - J428- must be calibrated during the following conditions:
 - ◆ Distance Regulation Control Module - J428- was removed and installed or replaced.
 - ◆ Bumping into the Distance Regulation Control Module - J428- when not cautiously assembling the front bumper cover.
 - ◆ Damage to the front bumper cover due to an accident or something similar.
 - ◆ The front bumper carrier was removed and installed or replaced.
 - ◆ Rear axle toe was adjusted.

Too great of a horizontal adjustment of the Distance Regulation Control Module - J428- causes the ACC/Front Assist functions to remain switched off. This will show the following message in the Instrument Cluster - KX2- : ACC/Front Assist not available.

A limited sensor view due to a dirty sensor or inclement weather conditions such as heavy rain, snowfall or iced-over sensor causes the ACC/Front Assist functions to be temporarily unavailable. This is indicated by the following message in the Instrument Cluster - KX2- : ACC/Front Assist: No sensor view.

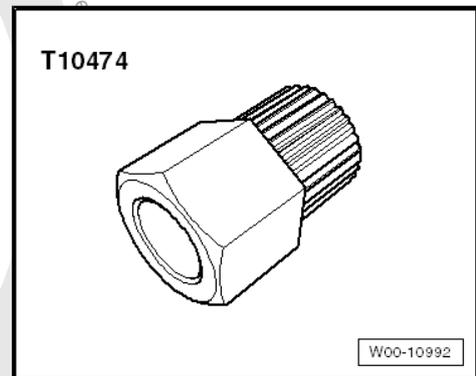
- Calibrate the adaptive cruise control. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 44 ; Adaptive Cruise Control (ACC); Adaptive Cruise Control (ACC), Calibrating .



7 Special Tools

Special tools and workshop equipment required

- ◆ Adapter - T10474-



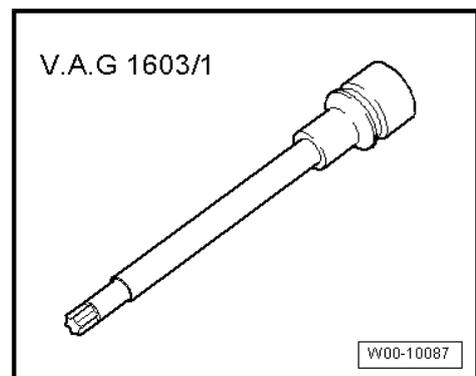
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-



- ◆ Torque Wrench 1332 40-200Nm - VAG1332-

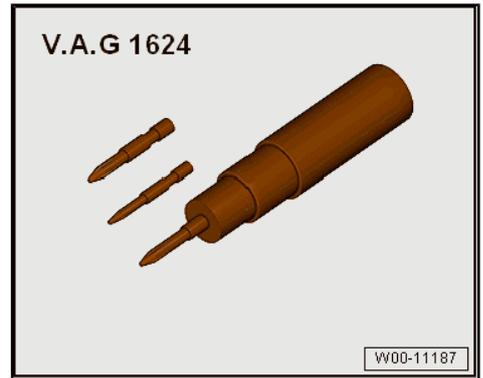


- ◆ Torx Key Socket Set - VAG1603A/1-





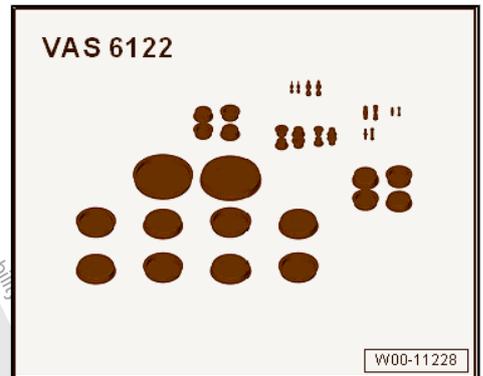
◆ Torque Screwdriver - VAG1624-



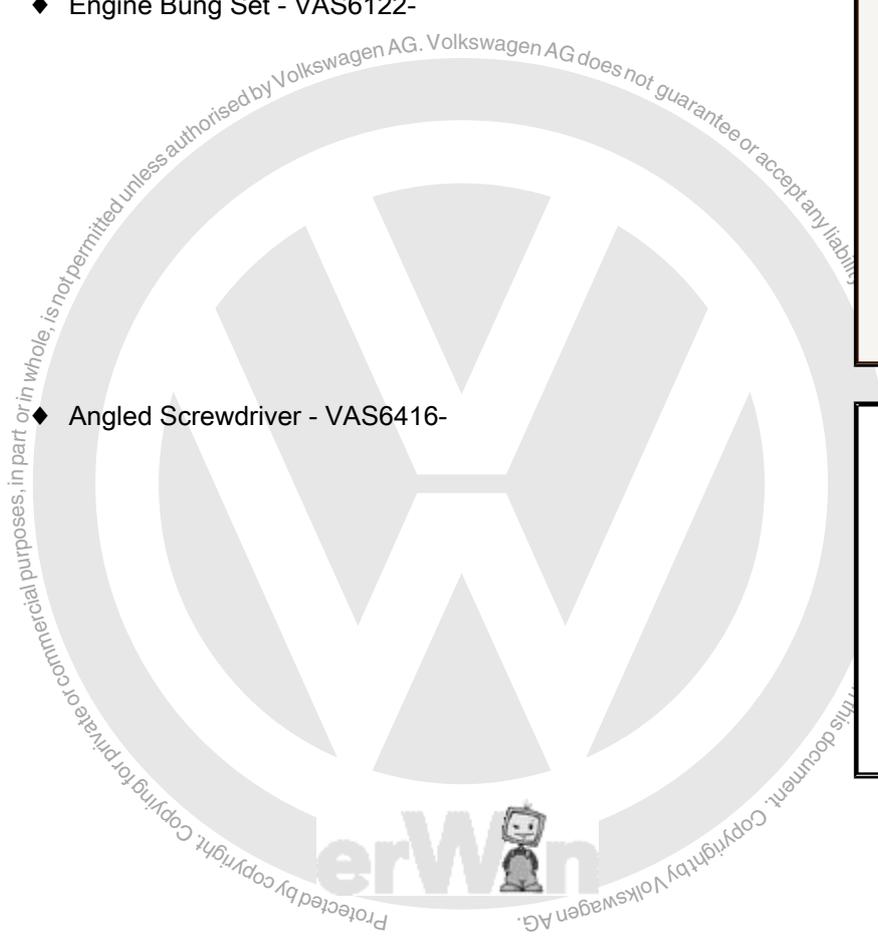
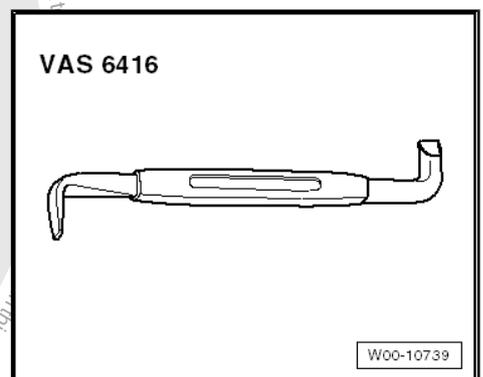
◆ Torque Wrench 1783 - 2-10Nm - VAG1783-



◆ Engine Bung Set - VAS6122-

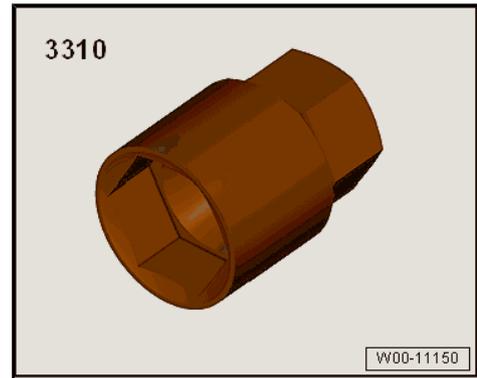


◆ Angled Screwdriver - VAS6416-

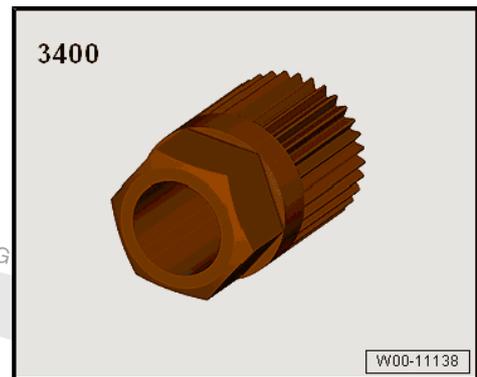




◆ Generator Belt Socket - 3310-



◆ Multi-Tooth Adapter - 3400-



◆ Digital Caliper - VAS6335-





90 – Instruments

1 Instrument Cluster

⇒ [“1.1 Overview - Instrument Cluster”, page 49](#)

⇒ [“1.2 Instrument Cluster KX2 , Removing and Installing”, page 49](#)

1.1 Overview - Instrument Cluster

1 - Connector

- For the instrument cluster

2 - Instrument Cluster - KX2-

- With Instrument Cluster Control Module - J285-
- If a LED indicator lamp or instrument cluster illumination is faulty, the instrument cluster must be replaced
- Removing and installing. Refer to ⇒ [“1.2 Instrument Cluster KX2 , Removing and Installing”, page 49](#) .

3 - Instrument Cluster Trim

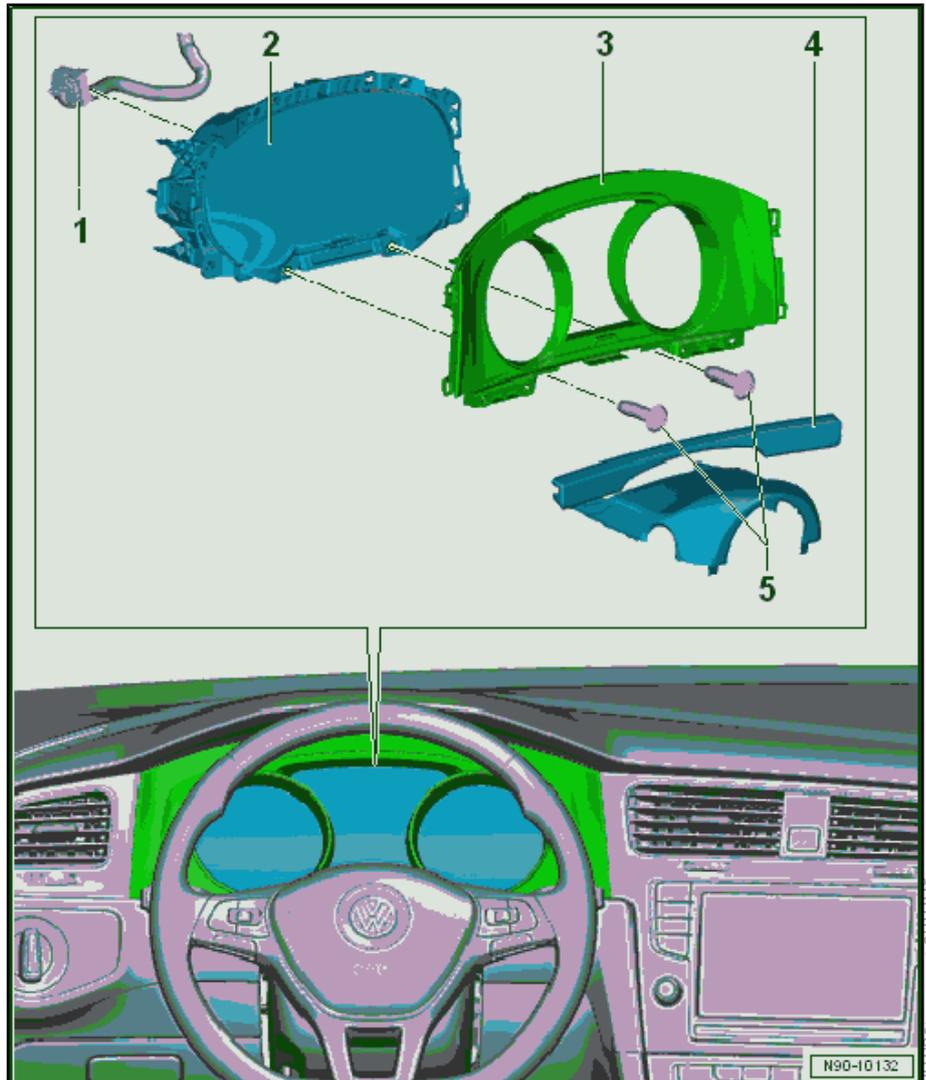
- Removing and installing. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Instrument Cluster Trim, Removing and Installing .

4 - Upper Steering Column Trim Panel

- Overview. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Overview - Steering Column Trim Panel .

5 - Screw

- 3 Nm
- Quantity: 2



1.2 Instrument Cluster - KX2- , Removing and Installing

General Information

All indicator lamps in the Instrument Cluster - KX2- have LEDs. LEDs cannot be replaced separately if faulty. The Instrument Cluster - KX2- must be replaced.

The following components are integrated inside the Instrument Cluster - KX2- :



- ◆ Instrument Cluster Control Module - J285-
- ◆ Fuel Gauge - G1-
- ◆ Speedometer - G21-
- ◆ Engine Coolant Temperature Gauge - G3-
- ◆ Tachometer - G5-
- ◆ Indicator lamps

Do not disassemble the Instrument Cluster - KX2- .

If the control module is being replaced, use the Vehicle Diagnostic Tester and select the "Replacing" function for the respective control module in "Guided Fault Finding".

Removing

For better illustration the steering wheel is not shown. It is not necessary to remove the steering wheel in order to remove the Instrument Cluster - KX2- .

- Position the steering wheel as far back as possible. Use the entire adjustment range of the steering column adjustment for this.
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the upper steering column trim panel. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Upper Steering Column Trim Panel, Removing and Installing .
- Remove the instrument cluster trim -1-. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Instrument Cluster Trim, Removing and Installing .
- Remove the screws -3-.

Note

The Instrument Cluster - KX2- is engaged in the instrument panel. For removal greater force is necessary.

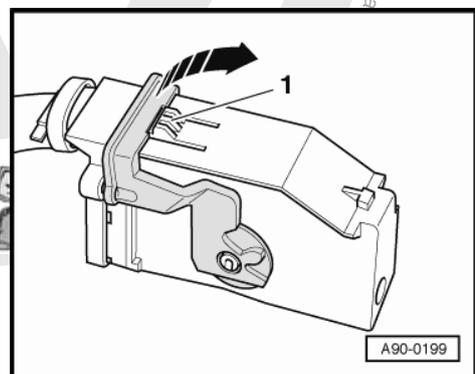
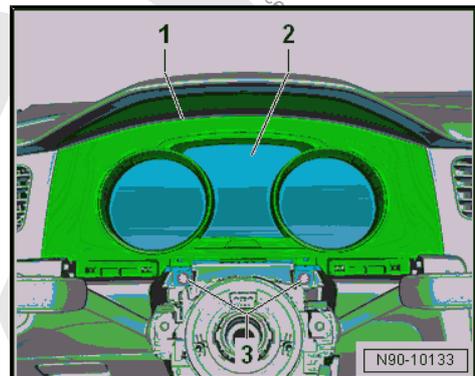
- Remove the Instrument Cluster - KX2- -2- until it contacts the steering wheel.
- Disengage the connector and disconnect.
- To disconnect push the circlip -1- on the connector.
- Pivot the retaining bracket in the direction of -arrow- and remove from the connector.
- Remove the Instrument Cluster - KX2- on the front passenger side between the steering wheel and the instrument panel.

Installing

Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to ⇒ ["1.1 Overview - Instrument Cluster", page 49](#)





2 Horn

⇒ [“2.1 Overview - Horn”, page 51](#)

⇒ [“2.2 High Tone Horn H2 / Low Tone Horn H7, Removing and Installing”, page 51](#)

2.1 Overview - Horn



Note

The Sedan is shown. The Wagon is identical.

1 - Bracket

- For the horn
- Removing and installing. Refer to
 ⇒ [“2.2 High Tone Horn H2 / Low Tone Horn H7, Removing and Installing”, page 51](#) .

2 - Bolt

- 18 Nm

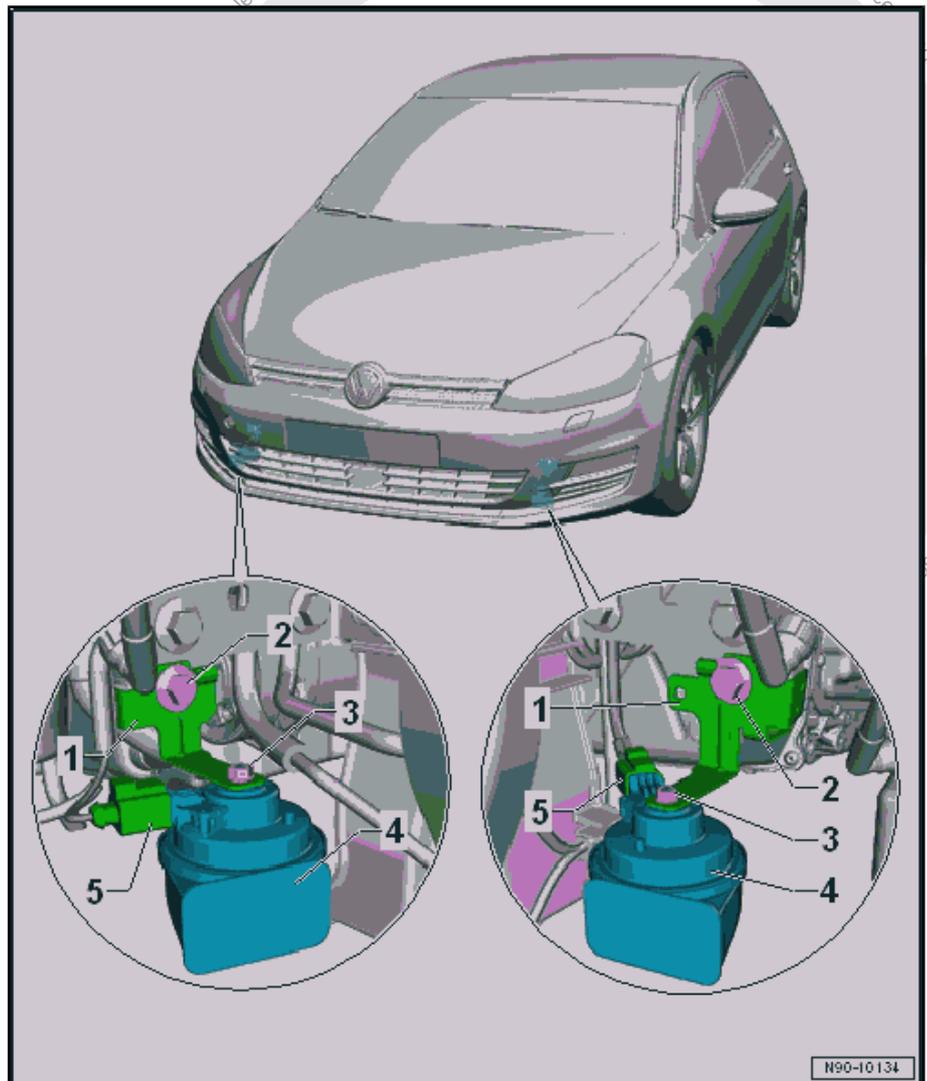
3 - Nut

- 9 Nm

4 - Horn

- High Tone Horn - H2- is installed on the left
- Low Tone Horn - H7- in installed on the right
- Removing and installing. Refer to
 ⇒ [“2.2 High Tone Horn H2 / Low Tone Horn H7, Removing and Installing”, page 51](#) .

5 - Connector



2.2 High Tone Horn - H2- / Low Tone Horn - H7- , Removing and Installing

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.



- Remove the ignition key, if equipped.
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Noise Insulation; Overview - Noise Insulation .
- Remove the nut -1-.
- Remove the horn -3- from the bracket.
- Release and disconnect the connector -2-.

Installing

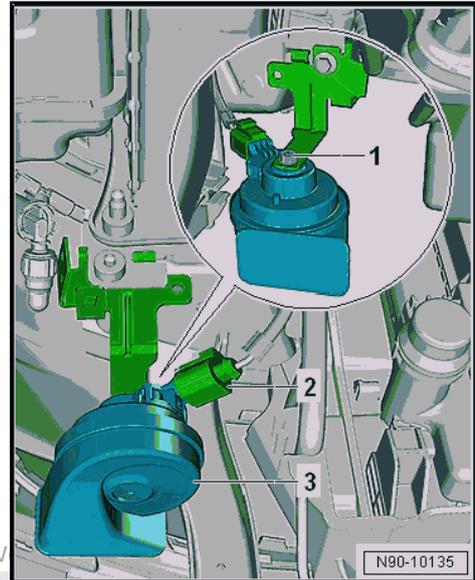
Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to ⇒ ["2.1 Overview - Horn", page 51](#)

Bracket with Horn, Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Noise Insulation; Overview - Noise Insulation .
- Remove the bolt -1-.
- Remove the bracket with the horn -3-.



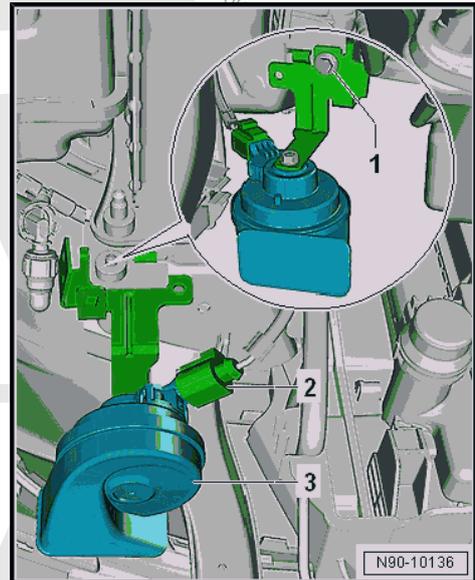
- Release and disconnect the connector -2-.

Install the Bracket and Horn.

Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to ⇒ ["2.1 Overview - Horn", page 51](#)





92 – Wiper/Washer Systems

1 Windshield Wiper System

- ⇒ [“1.1 Overview - Windshield Wiper System”, page 53](#)
- ⇒ [“1.2 Wiper, Moving Into Service Position”, page 56](#)
- ⇒ [“1.3 Wiper Blade, Removing and Installing”, page 56](#)
- ⇒ [“1.4 Windshield Wiper Arms, Removing and Installing”, page 57](#)
- ⇒ [“1.5 Windshield Wiper Arms, Adjusting”, page 58](#)
- ⇒ [“1.6 Windshield Wiper Motor V , Removing and Installing”, page 59](#)
- ⇒ [“1.7 Windshield Wiper Motor, Replacing”, page 60](#)
- ⇒ [“1.8 Windshield Wiper Motor, Deactivating Alternating Park Position Function”, page 61](#)
- ⇒ [“1.9 Rain/Light Recognition Sensor, Removing and Installing”, page 62](#)
- ⇒ [“1.10 Rain/Light Recognition Sensor, Servicing”, page 66](#)

1.1 Overview - Windshield Wiper System

- ⇒ [“1.1.1 Overview - Windshield Wiper System”, page 53](#)
- ⇒ [“1.1.2 Overview - Windshield Wiper Motor and Windshield Wiper Frame”, page 55](#)

1.1.1 Overview - Windshield Wiper System



1 - Front Passenger Side Wiper Blade

- Different lengths. Refer to the Parts Catalog.
- Removing and installing. Refer to [⇒ "1.3 Wiper Blade, Removing and Installing", page 56](#).

2 - Driver Side Windshield Wiper Blade

- Different lengths. Refer to the Parts Catalog.
- Removing and installing. Refer to [⇒ "1.3 Wiper Blade, Removing and Installing", page 56](#).

3 - Driver Side Wiper Arm

- Different lengths. Refer to the Parts Catalog.
- Removing and installing. Refer to [⇒ "1.4 Windshield Wiper Arms, Removing and Installing", page 57](#).
- Adjusting. Refer to [⇒ "1.5 Windshield Wiper Arms, Adjusting", page 58](#).

4 - Cap

5 - Nut

- 20 Nm

6 - Bolt

- Tightening specification and sequence. Refer to [⇒ Fig. "Tightening Specifications and Sequence for the Windshield Wiper Motor -V- ", page 55](#)

7 - Bolt

- Tightening specification and sequence. Refer to [⇒ Fig. "Tightening Specifications and Sequence for the Windshield Wiper Motor -V- ", page 55](#)

8 - Windshield Wiper Frame

- With Windshield Wiper Motor - V-
- With Wiper Motor Control Module - J400-
- Removing and installing. Refer to [⇒ "1.6 Windshield Wiper Motor V , Removing and Installing", page 59](#).

9 - Bolt

- Tightening specification and sequence. Refer to [⇒ Fig. "Tightening Specifications and Sequence for the Windshield Wiper Motor -V- ", page 55](#)

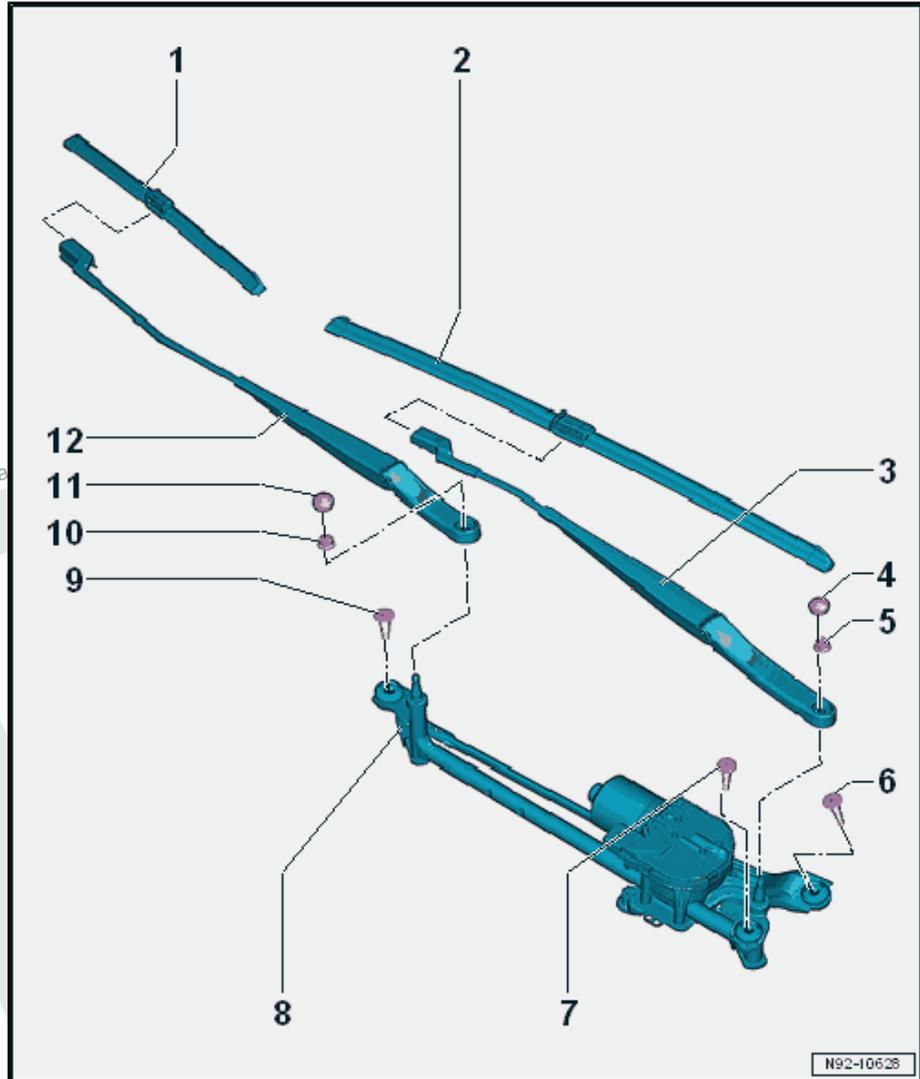
10 - Nut

- 20 Nm

11 - Cap

12 - Front Passenger Side Windshield Wiper Arm

- Different lengths. Refer to the Parts Catalog.
- Removing and installing. Refer to [⇒ "1.4 Windshield Wiper Arms, Removing and Installing", page 57](#).
- Adjusting. Refer to [⇒ "1.5 Windshield Wiper Arms, Adjusting", page 58](#).

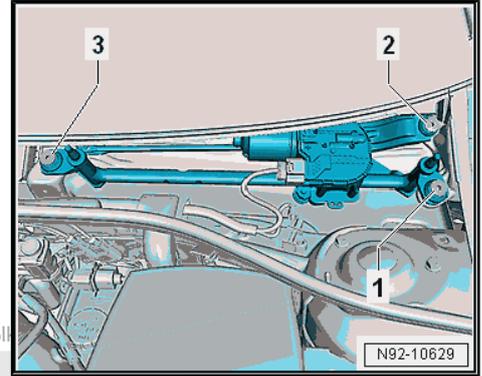




Tightening Specifications and Sequence for the Windshield Wiper Motor - V-

– Tighten the bolts in steps according to the sequence shown:

Step	Bolts	Tightening Specification
1.	-1 to 3-	Install by hand until it stops
2.	-1 to 3-	8 Nm



1.1.2 Overview - Windshield Wiper Motor and Windshield Wiper Frame

1 - Windshield Wiper Motor - V-

- ❑ Removing and installing. Refer to ⇒ ["1.7 Windshield Wiper Motor, Replacing", page 60](#) .

2 - Bolts

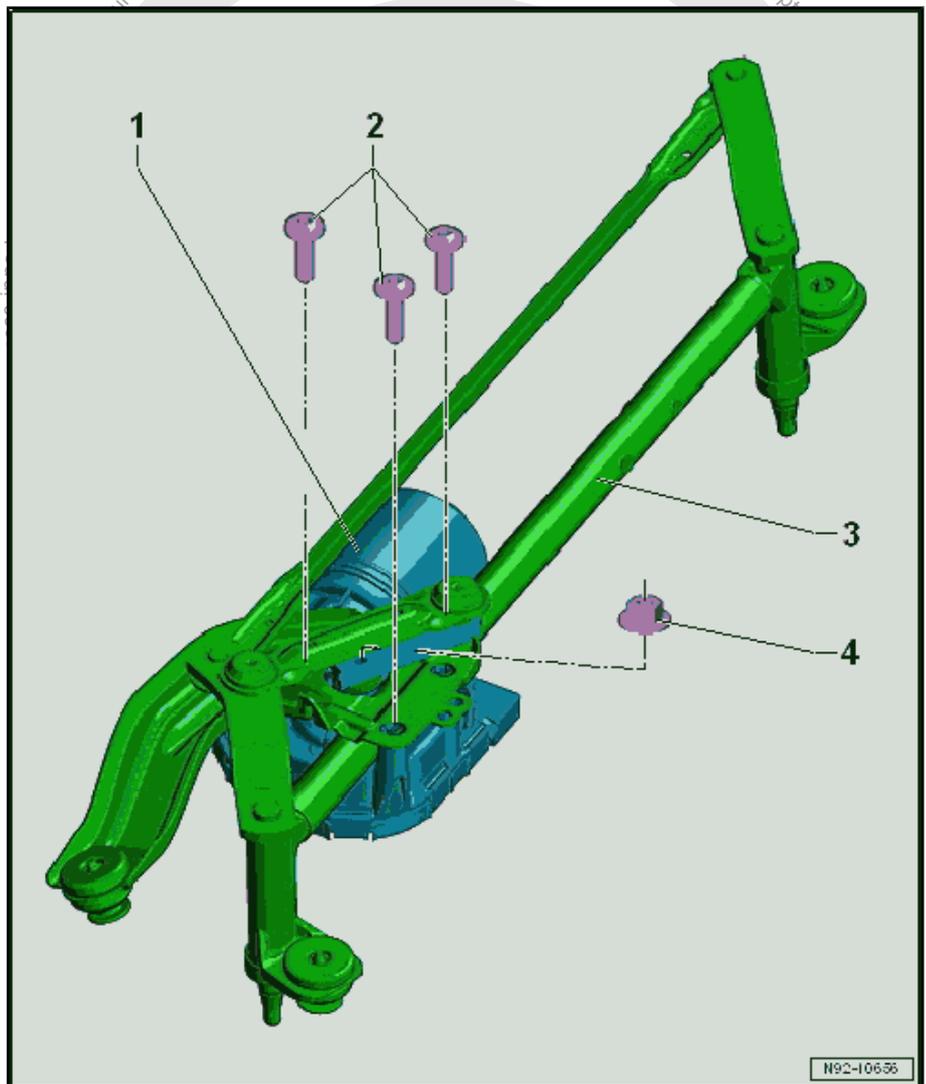
- ❑ 9 Nm
- ❑ Quantity: 3

3 - Windshield Wiper Frame

- ❑ Removing and installing. Refer to ⇒ ["1.6 Windshield Wiper Motor V, Removing and Installing", page 59](#) .

4 - Nut

- ❑ 25 Nm





1.2 Wiper, Moving Into Service Position



Caution

Risk of damaging the hood by putting the wipers back in basic setting.

- ◆ **Do not drive a vehicle with windshield wiper arms folded up.**
- ◆ **The windshield wipers automatically go back into their rest position when the wiper switch is activated or when driving faster than 6 km/h (4 mph).**



Caution

Danger of windshield wiper blade damage due to freezing.

- ◆ **If frost is present, check to see if the windshield wiper blades are frozen.**

If the Windshield Wiper Motor - V- is to be run during the work procedure, the hood must be completely closed, otherwise the voltage supply of the Windshield Wiper Motor - V- will be interrupted.

- Quickly turn on the ignition and then turn it off again.
- Turn the windshield wiper lever in the "one-touch wiping position" within 10 seconds.
- The windshield wipers run in "service position".

1.3 Wiper Blade, Removing and Installing

Removing

- Bring the windshield wiper into service position. Refer to [⇒ "1.2 Wiper, Moving Into Service Position", page 56](#).



Caution

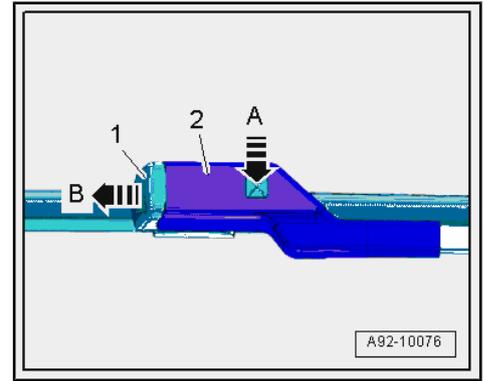
Risk of damaging the wiper blade.

- ◆ **Joint-free windshield wipers are very flexible. Only grasp the wiper blades in the area for the wiper blade mount to lift them away from the windshield.**

- Lift the windshield wiper arm off the windshield.



- Press the clip in direction of -arrow A- and remove the wiper blade -1- from the windshield wiper arm -2- in direction of -arrow B-.
- Remove the wiper blade -1-.



Installing



Caution

There is a risk of damaging the body.

- ◆ *The driver and passenger side wiper blades are different lengths.*

Install in the reverse order of removal while paying attention to the following:

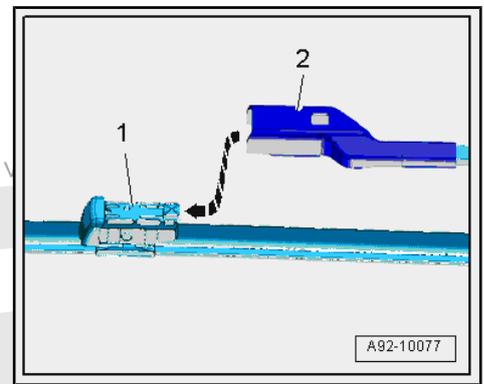
- Guide the wiper blade -1- parallel into the windshield wiper arm -2- in direction of -arrow-. Make sure to slide the wiper blade -1- on until the retaining clips audibly lock in the wiper arm -2-.

To leave the "service position:"

- Operate the windshield wiper switch.

Or

- Drive the vehicle faster than 6 km/h (4 mph).



1.4 Windshield Wiper Arms, Removing and Installing

Special tools and workshop equipment required

- ◆ Puller - Wiper Arm Kit - T10369-
- ◆ Puller - Wiper Arm Kit - Puller † - T10369/1-

Removing



Caution

Risk of damaging the wiper arm shaft.

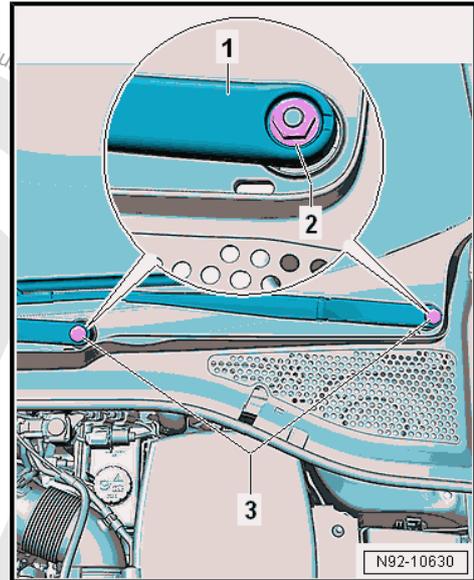
- ◆ *The wiper arm shaft can get damaged when removing the windshield wiper arms without using the -T10369/1- .*

If the Windshield Wiper Motor - V- is to be run during the work procedure, the hood must be closed, otherwise the voltage supply of the Windshield Wiper Motor - V- will be interrupted.

- Bring the windshield wiper into service position. Refer to [⇒ "1.2 Wiper, Moving Into Service Position", page 56](#) .



- Pry the caps -3- off of the windshield wiper arms -1- with a screwdriver.
- Loosen the nuts -2- several turns.
- Position the -T10369/1- on the wiper arm -1- as illustrated.
- Position the thrust piece -2- on the wiper arm shaft.
- Rotate the bolt -3- clockwise until the wiper arm -1- is removed from the wiper arm shaft.



- Remove the nut completely and remove the windshield wiper arm -1-.

Installing

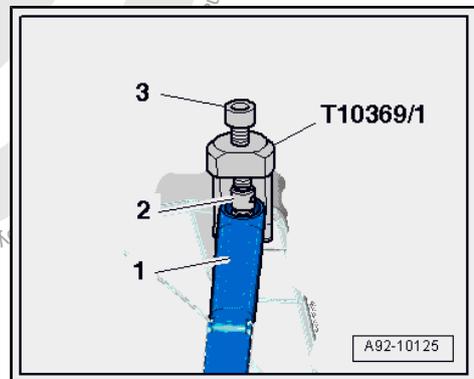
Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the body.

- ◆ *The driver and front passenger side wiper arms are different lengths.*



- Adjust the windshield wiper arms. Refer to [⇒ "1.5 Windshield Wiper Arms, Adjusting", page 58](#) .

1.5 Windshield Wiper Arms, Adjusting

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

If the Windshield Wiper Motor - V- is to be run during the work procedure, the hood must be closed, otherwise the voltage supply of the Windshield Wiper Motor - V- will be interrupted.

Procedure

- Deactivate the APP function. Refer to [⇒ "1.8 Windshield Wiper Motor, Deactivating Alternating Park Position Function", page 61](#) .
- Remove the windshield wiper arms. Refer to [⇒ "1.4 Windshield Wiper Arms, Removing and Installing", page 57](#) .
- Turn on the ignition.
- Activate "one-tap wiping" and let the Windshield Wiper Motor - V- run into its end position.
- Turn off the ignition.
- Position the wiper arm with wiper blade installed at the wiper arm shaft.



- Align the wiper blade as follows on the windshield.

The dimensions give the distance of the wiper blade tips to the plenum chamber cover on the lower edge of the windshield.

- ◆ Dimension -a- + 10 mm ± 5 mm.
- ◆ Dimension -b- + 10 mm ± 5 mm.

- Tighten the nuts -2- on the windshield wiper arms -1-.

Turn on the ignition.

- Activate "one-touch wiping" and let the windshield wiper arms run into their end position.

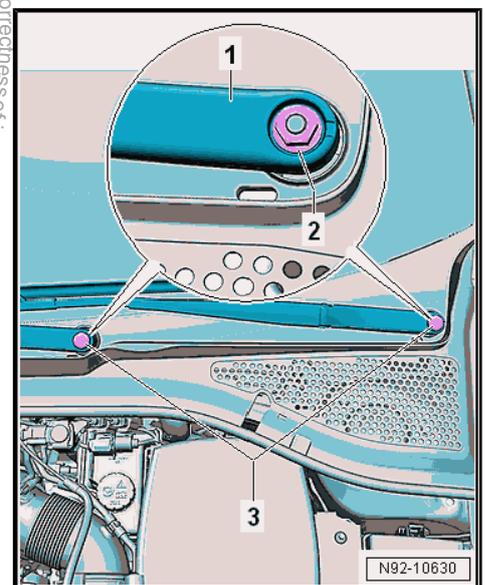
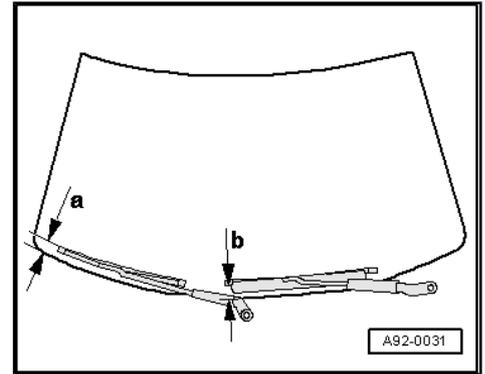
- Turn off the ignition.

- Check the wiper arm adjustment again and if necessary adjust.

- Press the caps -3- onto the wiper arms.

Tightening Specifications

- ◆ Refer to
⇒ ["1.1 Overview - Windshield Wiper System", page 53](#)



1.6 Windshield Wiper Motor - V- , Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Wrench 1410 - VAG1410-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

If the control module is being replaced, use the Vehicle Diagnostic Tester and select the "Replacing" function for the respective control module in "Guided Fault Finding".

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the windshield wiper arms. Refer to ⇒ ["1.4 Windshield Wiper Arms, Removing and Installing", page 57](#).
- Remove the left plenum chamber cover. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Bulkhead; Plenum Chamber Cover, Removing and Installing .
- Remove the bolts -1, 3 and 4-.
- Disconnect the connector -5-.



- When necessary disconnect the damping regulation connector.
- Remove the wiper frame -2- with linkage and the Windshield Wiper Motor - V- from the plenum chamber.

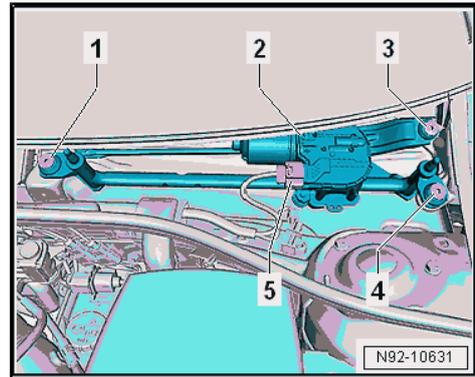
Installing

Install in the reverse order of removal while paying attention to the following:

- Adjust the windshield wiper arms. Refer to [⇒ "1.5 Windshield Wiper Arms, Adjusting", page 58](#) .

Tightening Specifications

- ◆ Refer to [⇒ Fig. "Tightening Specifications and Sequence for the Windshield Wiper Motor -V- ", page 55](#)



1.7 Windshield Wiper Motor, Replacing

Special tools and workshop equipment required

- ◆ Pry Lever - 80-200-
- ◆ Torque Wrench 1410 - VAG1410-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-



WARNING

Risk of injury.

- ◆ *When operating an uncovered windshield wiper system there is a risk of pinching.*
- ◆ *The windshield wiper system can only be operated when installed.*



Caution

There is a risk of damaging the hood and the windshield wiper arm.

- ◆ *By operating the windshield wiper system with the hood open, pay attention that there is enough clearance to moving components.*

So that the windshield wiper system can be operated with the front lid open, the latch must be engaged in the »closed« position.

Removing

- Deactivate the wiper motor alternating park position. Refer to [⇒ "1.8 Windshield Wiper Motor, Deactivating Alternating Park Position Function", page 61](#) .
- Remove the windshield wiper frame. Refer to [⇒ "1.6 Windshield Wiper Motor V , Removing and Installing", page 59](#) .



- Pry the operating rod -4- on the ball joint from the motor crank -2- using the -80-200- .
- Remove the nut -1-.
- Remove the motor crank -2- from the windshield wiper motor shaft.
- Remove the bolts -3-.
- Remove the Windshield Wiper Motor - V- from the windshield wiper frame.

Installing

Install in the reverse order of removal while paying attention to the following:

- Connect the connector to the Windshield Wiper Motor - V- .
- Turn on the ignition.
- Activate "one-tap wiping" and let the Windshield Wiper Motor - V- run into its end position.
- Turn off the ignition.
- Disengage the connector and disconnect.
- Install the Windshield Wiper Motor - V- on the windshield wiper frame.
- Install the bolts -3-.
- Install the motor crank -2- on the windshield wiper motor shaft.
- Remove the nut -1-.
- Align the operating rod -4- parallel on the motor crank -2-.
- Tighten the nut -1-.
- Connect the operating rod -4- and motor crank -2- on the ball joint.
- Install the windshield wiper frame. Refer to ["1.6 Windshield Wiper Motor V , Removing and Installing", page 59](#) .

Tightening Specifications

- ◆ Refer to ["1.1.2 Overview - Windshield Wiper Motor and Windshield Wiper Frame", page 55](#)

1.8 Windshield Wiper Motor, Deactivating Alternating Park Position Function

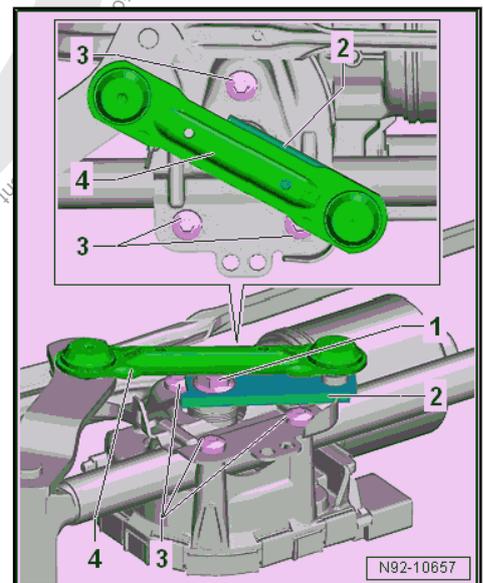
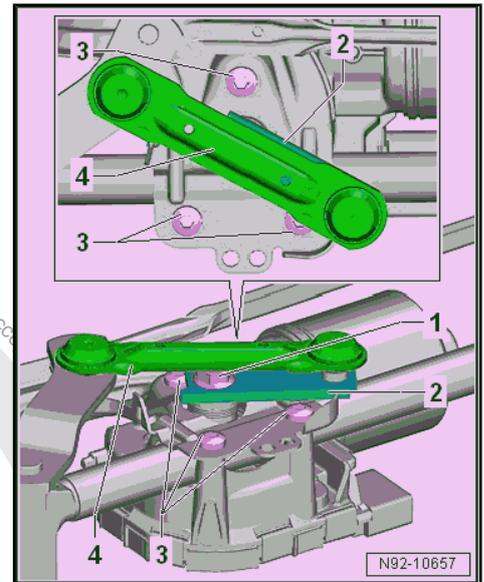
Windshield wiper system is equipped with APP function (alternating park position).

The APP function causes the wiper at every second wiper shut off to move upward slightly after reaching the lowest position.

To install the motor crank on the Windshield Wiper Motor - V- , it is necessary to shut off the Windshield Wiper Motor - V- in the lowest park position. APP function must be deactivated to ensure this.

An activation of APP function is not possible.

APP function is automatically activated after 100 wiping cycles. This applies to Windshield Wiper Motor - V- in which the APP





function was deactivated as well as new Windshield Wiper Motor - V- .

- Deactivate the wiper motor alternating park position using the Vehicle Diagnostic Tester .

After successfully completing coding/deactivating of the APP function, Windshield Wiper Motor - V- is located in the lower park position after the next wiper cycle.

1.9 Rain/Light Recognition Sensor, Removing and Installing

⇒ [“1.9.1 Rain/Light Recognition Sensor, Removing and Installing, Vehicles with Front Camera for Assistance Systems”, page 62](#)

⇒ [“1.9.2 Rain/Light Recognition Sensor, Removing and Installing, Vehicles without Front Camera for Assistance Systems”, page 64](#)

1.9.1 Rain/Light Recognition Sensor, Removing and Installing, Vehicles with Front Camera for Assistance Systems

The Rain/Light Recognition Sensor - G397- has a silicone layer as a contact surface to the windshield.

The Rain/Light Recognition Sensor - G397- is designed so that it can be used again. The only requirement to use it again is that the connecting pad must not be damaged or dirty.

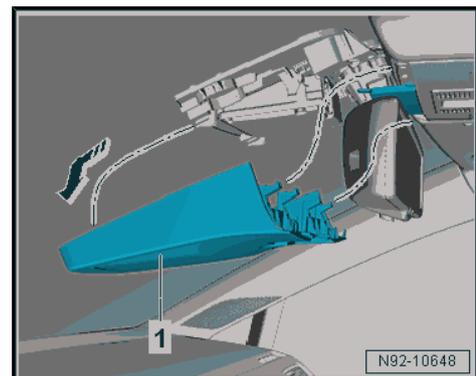
If a Rain/Light Recognition Sensor - G397- is replaced with a Rain/Light Recognition Sensor - G397- with a different part number, the new Rain/Light Recognition Sensor - G397- must be adapted using the Vehicle Diagnostic Tester .

Rain/Light Recognition Sensor - G397- cannot be optionally installed. For the correct Rain/Light Recognition Sensor - G397- Refer to the Parts Catalog.

Removing

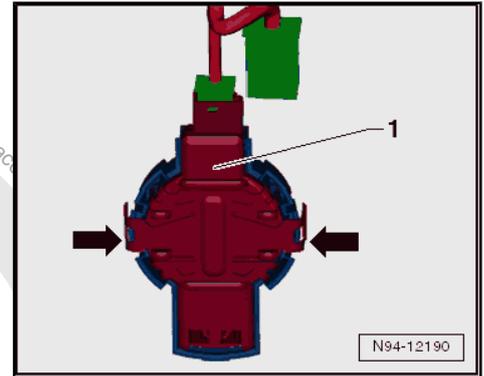
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the cover -1- in the direction of the arrow -A-.

After loosening the wire retainer wait at least one minute. So that the silicone layer can release the tension and is not damaged while removing.





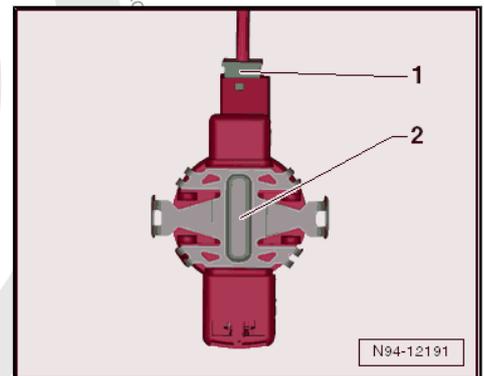
- Release the left and right wire retainer -arrows-.
- Pry the Rain/Light Recognition Sensor - G397- -1- starting at the top carefully from the frame on the windshield.



- Release the connection -1- and remove and remove the Rain/Light Recognition Sensor - G397- -2-.

Caution

Lay the removed Rain/Light Recognition Sensor - G397- until it is reinstalled so that the connecting pad is not contaminated with dust or other deposits.



Installing

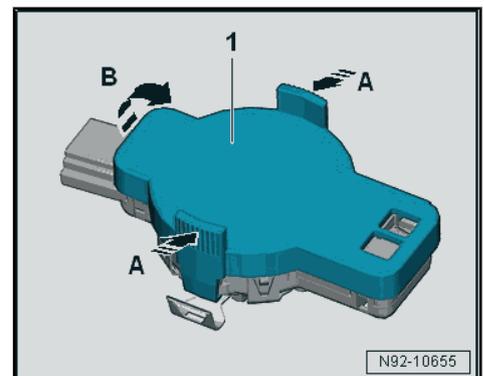
Install in the reverse order of removal while paying attention to the following:

Caution

- ◆ *Always clean the windshield surface inside the Rain/Light Recognition Sensor - G397- frame before installing. Remove any traces of the connecting pad still remaining on the windshield.*
- ◆ *Surface (connecting pads) of Rain/Light Recognition Sensor - G397- must not be contaminated or damaged when installing. Always replace a sensor that has a damaged connecting pad. Refer to **⇒ "1.10 Rain/Light Recognition Sensor, Servicing", page 66**.*

If the connecting pads surface of the Rain/Light Recognition Sensor - G397- is soiled, it can be potentially cleaned by "applying" and then "pulling off" one or more adhesive strips.

- Always clean the windshield inside the retaining plate.
- If necessity remove the protective cap -1- on the new Rain/Light Recognition Sensor - G397- .
- Push the handle in the direction of -arrow A-.
- Remove the protective cap -1- in the direction of -arrow B-.
- Connect connector.

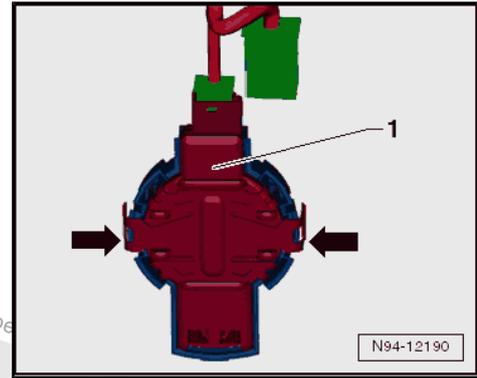




- Install the Rain/Light Recognition Sensor - G397- -1- in the frame on the windshield.
- Engage the wire retainer audibly on both sides -arrow-.

Even if the sensor is installed correctly, small air bubbles can form between the windshield and the connecting pad. The contact surface must be free-of-bubbles after approximately 10 minutes. If the contact surface is not free of bubbles after 10 minutes, the Rain/Light Recognition Sensor - G397- must be removed and installed again. Air bubbles between the windshield and the connecting pad cause Rain/Light Recognition Sensor - G397- malfunctions.

- If the Rain/Light Recognition Sensor - G397- was replaced it must be adapted using the Vehicle Diagnostic Tester .



1.9.2 Rain/Light Recognition Sensor, Removing and Installing, Vehicles without Front Camera for Assistance Systems

The Rain/Light Recognition Sensor - G397- has a silicone layer as a contact surface to the windshield.

The Rain/Light Recognition Sensor - G397- is designed so that it can be used again. The only requirement to use it again is that the connecting pad must not be damaged or dirty.

If a Rain/Light Recognition Sensor - G397- is replaced with a Rain/Light Recognition Sensor - G397- with a different part number, the new Rain/Light Recognition Sensor - G397- must be adapted using the Vehicle Diagnostic Tester .

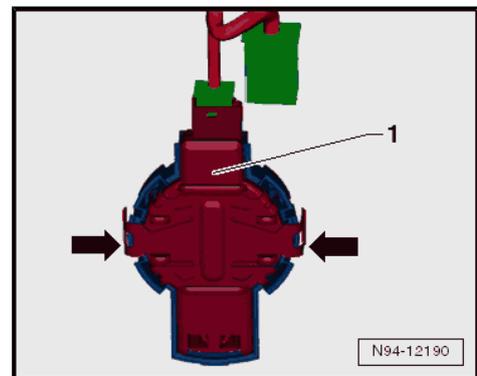
Rain/Light Recognition Sensor - G397- cannot be optionally installed. For the correct Rain/Light Recognition Sensor - G397- . Refer to the Parts Catalog.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the interior rearview mirror. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Rearview Mirror; Rearview Mirror, Removing and Installing .

After loosening the wire retainer wait at least one minute. So that the silicone layer can release the tension and is not damaged while removing.

- Release the left and right wire retainer -arrows-.
- Pry the Rain/Light Recognition Sensor - G397- -1- starting at the top carefully from the frame on the windshield.

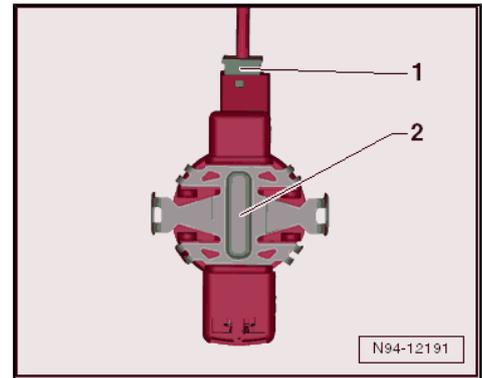




- Release the connection -1- and remove and remove the Rain/Light Recognition Sensor - G397- -2-.

Caution

Lay the removed Rain/Light Recognition Sensor - G397- until it is reinstalled so that the connecting pad is not contaminated with dust or other deposits.



Installing

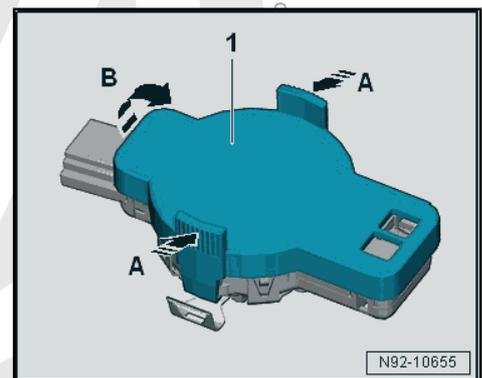
Install in the reverse order of removal while paying attention to the following:

Caution

- ◆ *Always clean the windshield surface inside the Rain/Light Recognition Sensor - G397- frame before installing. Remove any traces of the connecting pad still remaining on the windshield.*
- ◆ *Surface (connecting pads) of Rain/Light Recognition Sensor - G397- must not be contaminated or damaged when installing. Always replace a sensor that has a damaged connecting pad. Refer to ⇒ "1.10 Rain/Light Recognition Sensor, Servicing", page 66 .*

If the connecting pads surface of the Rain/Light Recognition Sensor - G397- is soiled, it can be potentially cleaned by "applying" and then "pulling off" one or more adhesive strips.

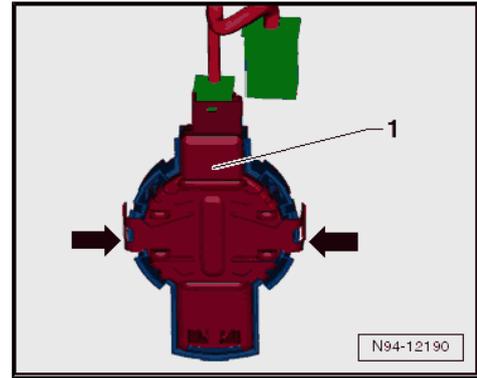
- Always clean the windshield inside the retaining plate.
- If necessity remove the protective cap -1- on the new Rain/Light Recognition Sensor - G397- .
- Push the handle in the direction of -arrow A-.
- Remove the protective cap -1- in the direction of -arrow B-.
- Connect connector.
- Install the Rain/Light Recognition Sensor - G397- -1- in the frame on the windshield.
- Engage the wire retainer audibly on both sides -arrow-.



Even if the sensor is installed correctly, small air bubbles can form between the windshield and the connecting pad. The contact surface must be free-of-bubbles after approximately 10 minutes. If the contact surface is not free of bubbles after 10 minutes, the Rain/Light Recognition Sensor - G397- must be removed and installed again. Air bubbles between the windshield and the connecting pad cause Rain/Light Recognition Sensor - G397- malfunctions.



- If the Rain/Light Recognition Sensor - G397- was replaced it must be adapted using the Vehicle Diagnostic Tester .



1.10 Rain/Light Recognition Sensor, Servicing

⇒ ["1.10.1 Rain/Light Recognition Sensor, Servicing, TRW", page 66](#)

⇒ ["1.10.2 Rain/Light Recognition Sensor, Servicing, Valeo", page 67](#)

1.10.1 Rain/Light Recognition Sensor, Servicing, TRW

There are different housings for the Rain/Light Recognition Sensor - G397- from different manufacturers.

The sensor housing and optical unit are always delivered as a replacement part in individual parts with retaining clamps. Remove these clamps if they are not needed.

Procedure

- Remove the Rain/Light Recognition Sensor - G397- . Refer to ⇒ ["1.9 Rain/Light Recognition Sensor, Removing and Installing", page 62](#) .

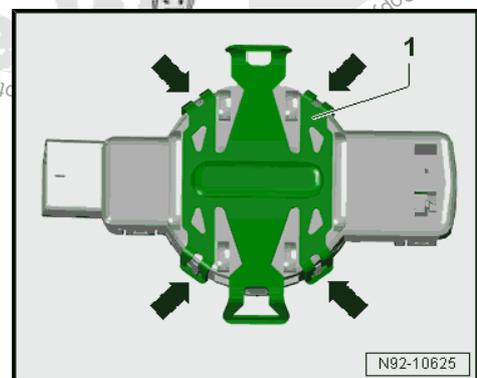


Caution

The sensor electronics may be damaged.

- ◆ *Be careful not to insert the screwdriver all the way through the housing up to the sensor electronics.*
- ◆ *Do not touch the sensor electronics.*

- Loosen the clip -1- on the four retaining tabs -arrows- with a suitable screwdriver and remove.





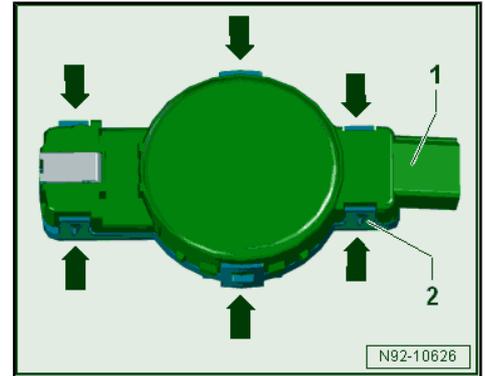
- Release the tab -arrows- on both sides and separate the housing upper section -1- with optical unit from the housing lower section -2-.



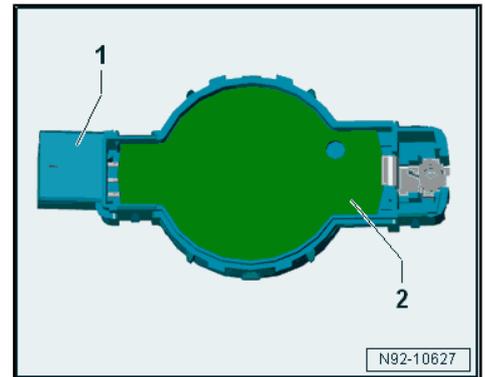
Caution

The sensor electronics may be damaged.

◆ *Do not touch the optical unit.*



- Remove the sensor electronics -2- from the upper section -1- install the new electronics the exact same way.
- Assemble the new housing upper section with optical unit and protective cover with the housing lower section.
- Install the Rain/Light Recognition Sensor - G397- . Refer to [⇒ "1.9 Rain/Light Recognition Sensor, Removing and Installing", page 62](#) .



1.10.2 Rain/Light Recognition Sensor, Servicing, Valeo

- Remove the Rain/Light Recognition Sensor - G397- . Refer to [⇒ "1.9 Rain/Light Recognition Sensor, Removing and Installing", page 62](#) .
- Carefully remove the sensor film -2- or remaining sensor film carefully from the Rain/Light Recognition Sensor - G397- -1-.

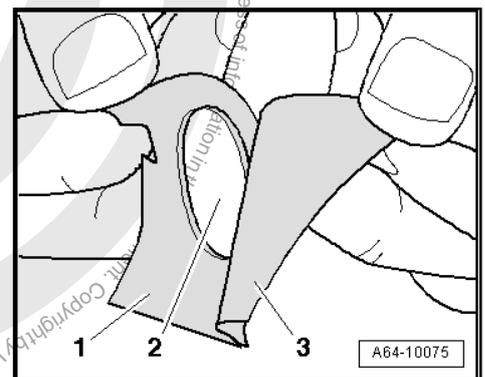
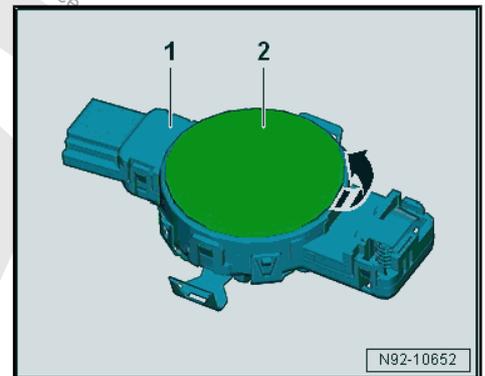


Caution

The Rain/Light Recognition Sensor - G397- surface must be completely free of any remaining film.

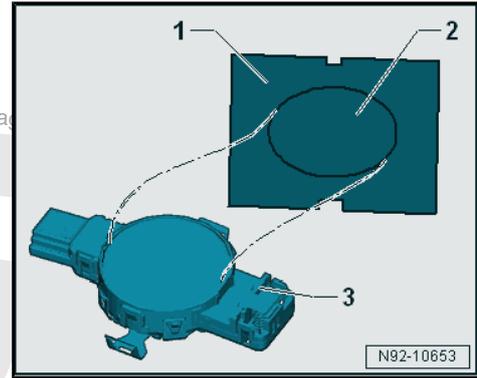
- Clean the sensor surface with cleaning solution D 009 401 04.
- Remove the silicone paper -3- from the sensor film -2-.

The see-through protective film -1- serves as an assembly aid and remains on the sensor film.

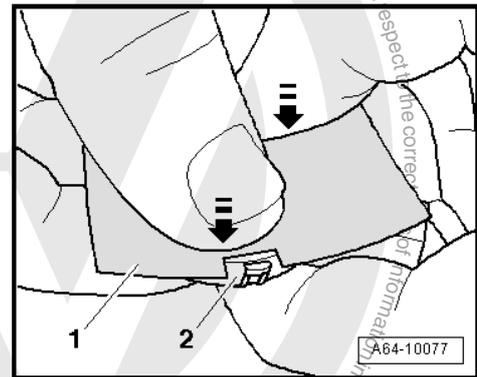




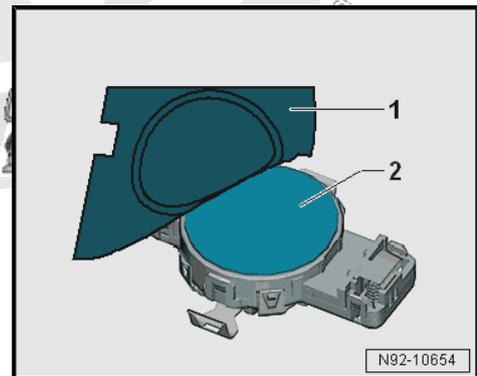
- Place the sensor film -2- using the clear protective film -1- on the Rain/Light Recognition Sensor - G397- -3-.



- Press the sensor film through the protective film -1- free of bubbles on the Rain/Light Recognition Sensor - G397- -2-.



- Remove the clear protective film -1- from the sensor film -2-.
- Install the Rain/Light Recognition Sensor - G397- . Refer to ["1.9 Rain/Light Recognition Sensor, Removing and Installing", page 62](#) .





2 Windshield Washer System

⇒ [“2.1 Overview - Windshield Washer System”, page 69](#)

⇒ [“2.2 Washer Fluid Reservoir, Removing and Installing”, page 72](#)

⇒ [“2.3 Windshield Washer Fluid Level Sensor, Removing and Installing”, page 73](#)

⇒ [“2.4 Windshield Washer Pump, Removing and Installing”, page 74](#)

⇒ [“2.5 Spray Nozzles, Removing and Installing”, page 74](#)

⇒ [“2.6 Spray Nozzles, Adjusting”, page 75](#)

2.1 Overview - Windshield Washer System

⇒ [“2.1.1 Overview - Windshield Washer System, with Headlamp Washer System”, page 69](#)

⇒ [“2.1.2 Overview - Windshield Washer System, without Headlamp Washer System”, page 71](#)

2.1.1 Overview - Windshield Washer System, with Headlamp Washer System

1 - Right Spray Nozzle

- Vehicle equipment version with Right Washer Nozzle Heater - Z21-
- Removing and installing. Refer to ⇒ [“2.5 Spray Nozzles, Removing and Installing”, page 74](#) .
- Adjusting. Refer to ⇒ [“2.6 Spray Nozzles, Adjusting”, page 75](#) .

2 - Left Spray Nozzle

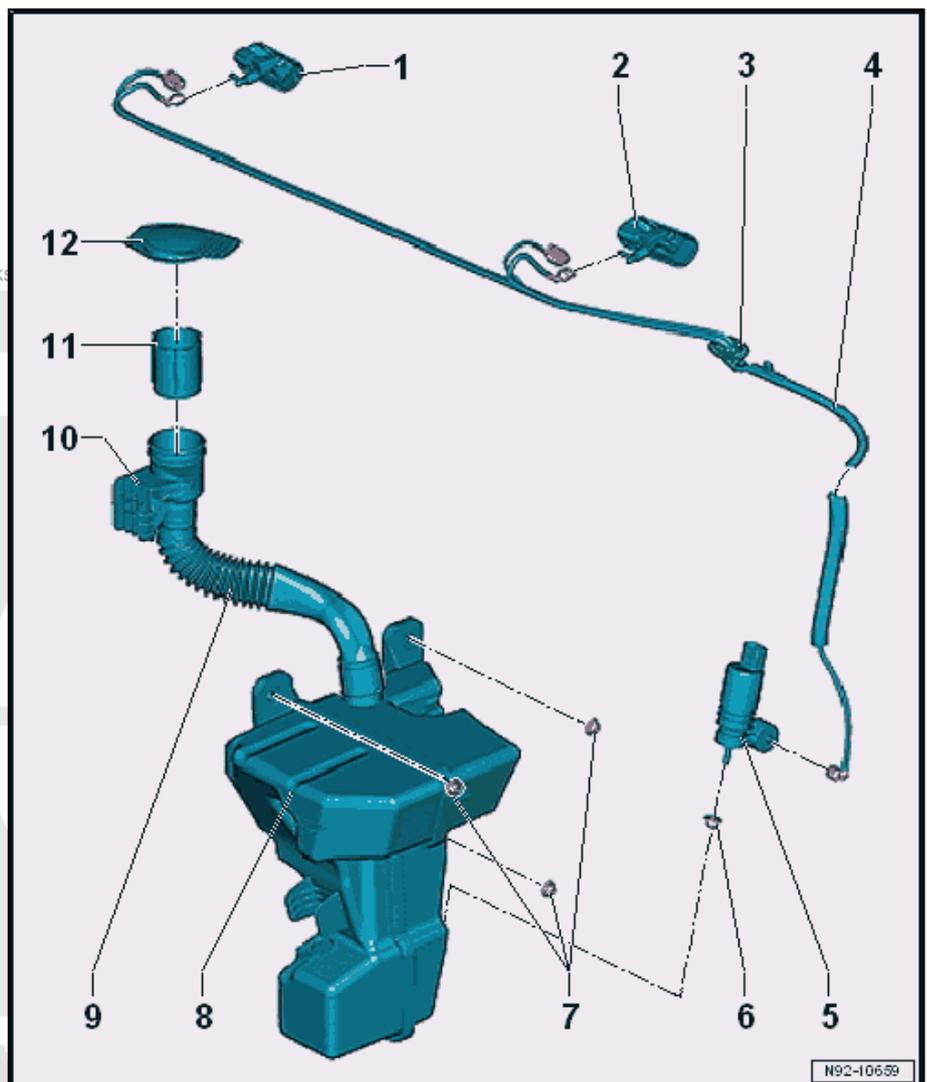
- Vehicle equipment version with Left Washer Nozzle Heater - Z20-
- Removing and installing. Refer to ⇒ [“2.5 Spray Nozzles, Removing and Installing”, page 74](#) .
- Adjusting. Refer to ⇒ [“2.6 Spray Nozzles, Adjusting”, page 75](#) .

3 - Grommet

- For the windshield washer fluid hose inside the hood

4 - Washer Fluid Hose

- For the windshield washer system
- Black color identification





5 - Windshield and Rear Window Washer Pump - V59-

- Removing and installing. Refer to
⇒ [“2.4 Windshield Washer Pump, Removing and Installing”, page 74](#) .

6 - Grommet

- Replace if damaged.

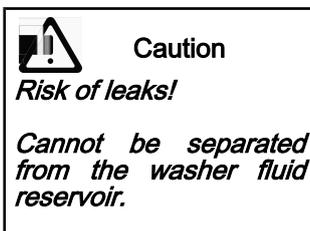
7 - Nut

- 8 Nm
- Quantity: 3

8 - Washer Fluid Reservoir

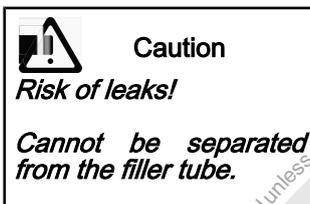
- For vehicles with a headlamp washer system
- With Windshield Washer Fluid Level Sensor - G33- Cannot be replaced separately if faulty.
- Removing and installing. Refer to ⇒ [“2.2 Washer Fluid Reservoir, Removing and Installing”, page 72](#) .

9 - Filler Tube



- For the washer fluid reservoir

10 - Filler Tube

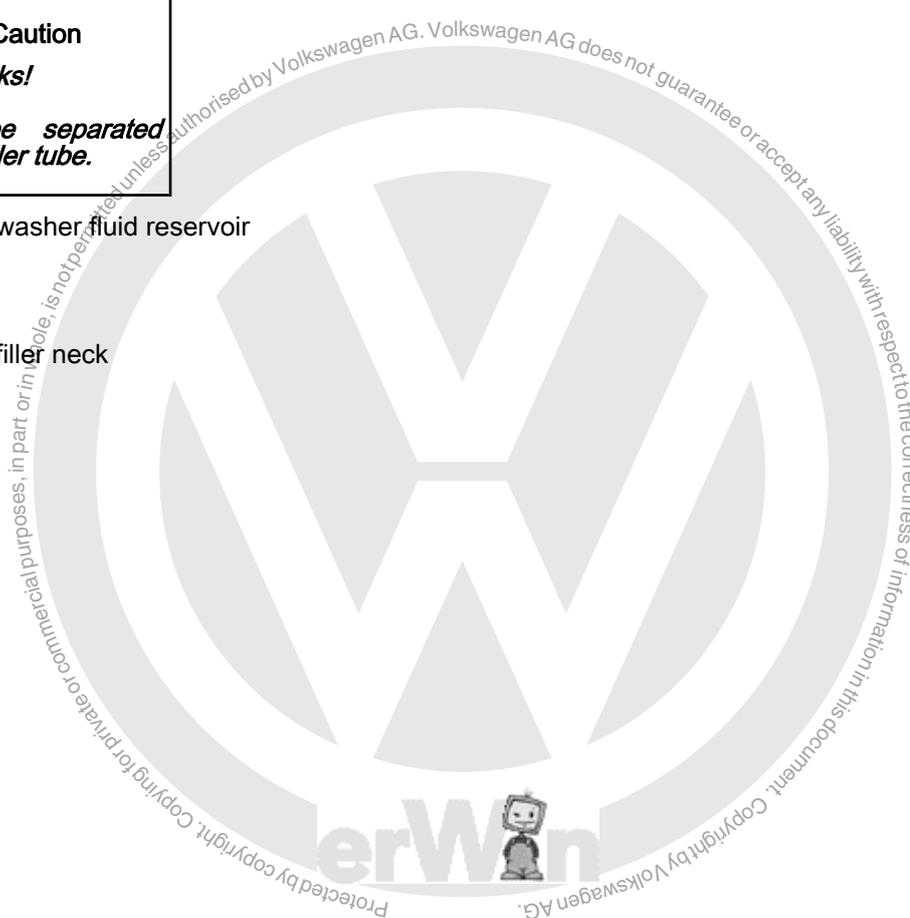


- For the washer fluid reservoir

11 - Screen

12 - Cap

- For the filler neck





2.1.2 Overview - Windshield Washer System, without Headlamp Washer System

1 - Right Spray Nozzle

- Vehicle equipment version with Right Washer Nozzle Heater - Z21-
- Removing and installing. Refer to ⇒ ["2.5 Spray Nozzles, Removing and Installing", page 74](#) .
- Adjusting. Refer to ⇒ ["2.6 Spray Nozzles, Adjusting", page 75](#) .

2 - Left Spray Nozzle

- Vehicle equipment version with Left Washer Nozzle Heater - Z20-
- Removing and installing. Refer to ⇒ ["2.5 Spray Nozzles, Removing and Installing", page 74](#) .
- Adjusting. Refer to ⇒ ["2.6 Spray Nozzles, Adjusting", page 75](#) .

3 - Grommet

- For the windshield washer fluid hose inside the hood

4 - Washer Fluid Hose

- For the windshield washer system
- Black color identification

5 - Windshield and Rear Window Washer Pump - V59-

- Removing and installing. Refer to ⇒ ["2.4 Windshield Washer Pump, Removing and Installing", page 74](#) .

6 - Grommet

- Replace if damaged.

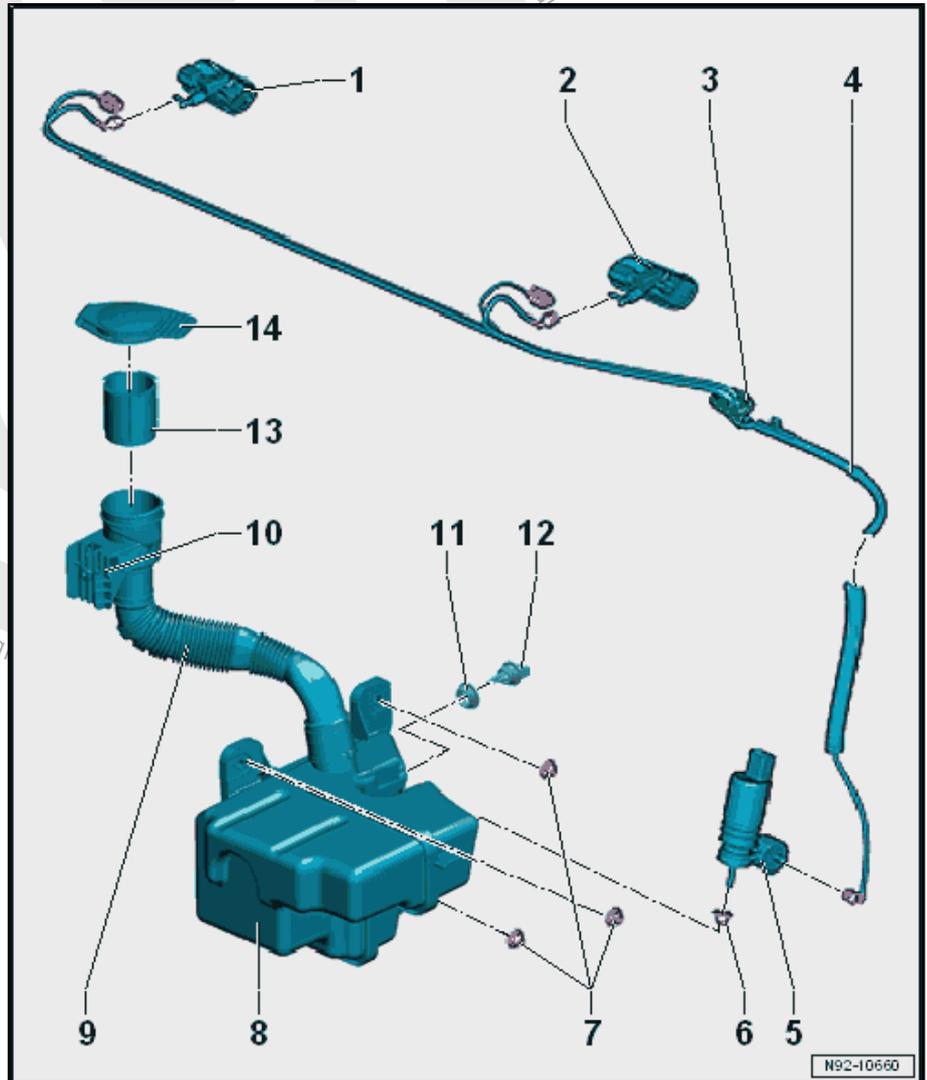
7 - Nut

- 8 Nm
- Quantity: 3

8 - Washer Fluid Reservoir

- For vehicles without a headlamp washer system
- Removing and installing. Refer to ⇒ ["2.2 Washer Fluid Reservoir, Removing and Installing", page 72](#) .

9 - Filler Tube



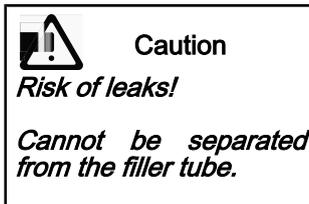
Caution
Risk of leaks!

Cannot be separated from the washer fluid reservoir.



- For the washer fluid reservoir

10 - Filler Tube



- For the washer fluid reservoir

11 - Seal

12 - Windshield Washer Fluid Level Sensor - G33-

- Removing and installing. Refer to [⇒ "2.3 Windshield Washer Fluid Level Sensor, Removing and Installing", page 73](#) .

13 - Screen

14 - Cap

- For the filler neck

2.2 Washer Fluid Reservoir, Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-
- ◆ Drip Tray

The removal and installation of the washer fluid reservoir with headlamp washer system is described. Removing and installing a washer fluid reservoir without a headlamp washer system is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the front bumper cover. Refer to ⇒ Body Exterior; Rep. Gr. 63 ; Front Bumper; Bumper Cover, Removing and Installing .
- Remove the left headlamp. Refer to [⇒ "1.2 Headlamp, Removing and Installing", page 101](#) .
- Place a drip tray under the washer fluid reservoir.
- If necessity remove the Headlamp Washer Pump - V11- . Refer to [⇒ "5.3 Headlamp Washer Pump V11 , Removing and Installing", page 86](#) .

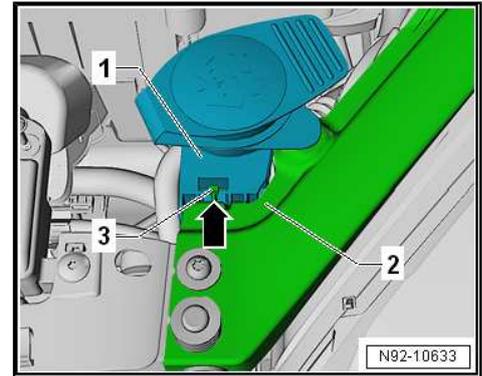


- Retainer the retaining tabs -3-.

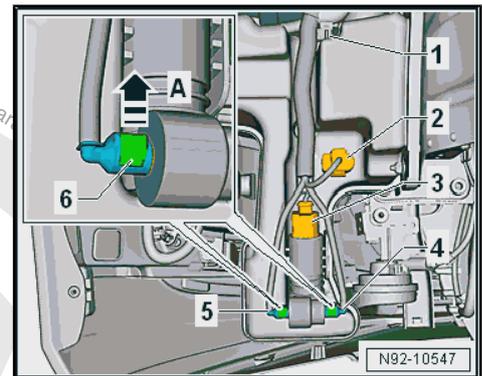
 **Caution**

There is a danger of leaks.

◆ *The windshield washer fluid reservoir is one part. Separating between the washer fluid reservoir, filler tube and filler neck is not possible. If the components are separated nevertheless the connection can leak.*



- Remove the filler neck -1- upward from the lock carrier -2- bracket.
- Release and disconnect the connectors -2 and 3-.
- Release the clips -6- in the direction of the arrow -A-.
- Remove the washer fluid hoses -4 and 5- from the Windshield and Rear Window Washer Pump - V59- .
- Loosen the wiring harness from the washer fluid reservoir -1-.



- Remove the nuts -1, 2 and 3-.
- Remove the washer fluid reservoir -4- from the threaded pins.

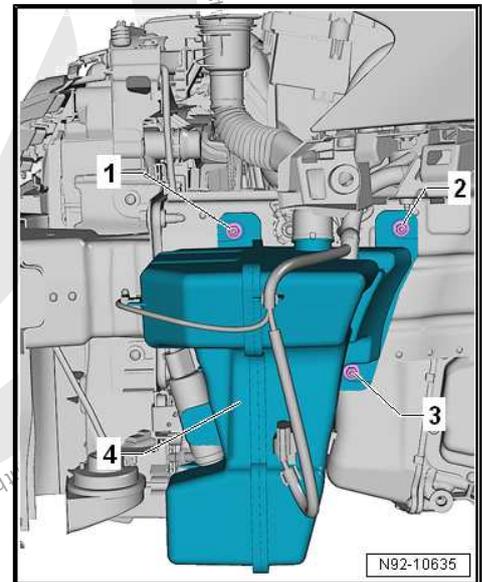
Installing

Install in the reverse order of removal while paying attention to the following

In order to prevent interchanging washer fluid line connections at Windshield and Rear Window Washer Pump - V59- , connections at pump and hose lines are marked with colors. Hose connector pieces must be connected to the corresponding colored pump connections during installation.

Tightening Specifications

- ◆ Refer to
⇒ ["2.1 Overview - Windshield Washer System", page 69](#)



2.3 Windshield Washer Fluid Level Sensor, Removing and Installing

Special tools and workshop equipment required

- ◆ Drip Tray

The Windshield Washer Fluid Level Sensor - G33- can depending on version be replaced individually or only with the entire container.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.

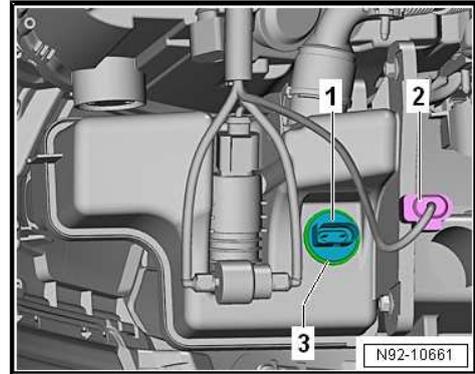


- Remove the left front wheel housing liner. Refer to => Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .
- Place a drip tray under the washer fluid reservoir.
- Release and disconnect the connector -2-.
- Remove the Windshield Washer Fluid Level Sensor - G33- -1- from the washer fluid reservoir.
- When necessary remove the seal -3- from the washer fluid reservoir.

Installing

Install in the reverse order of removal while paying attention to the following:

- Install the seal correctly in the opening in the washer fluid reservoir.
- Coat the seal with washer fluid, so that the Windshield Washer Fluid Level Sensor - G33- can be easily pushed in.



2.4 Windshield Washer Pump, Removing and Installing

Special tools and workshop equipment required

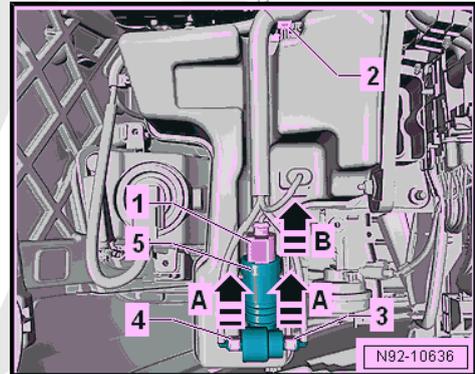
- ◆ Drip Tray

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the left front wheel housing liner. Refer to => Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .
- Release and disconnect the connector -1-.

The wiring harness -2- remains in the washer fluid reservoir.

- Place a drip tray under the washer fluid reservoir.
- Release the clamps -3 and 4- in the direction of -arrow A-.
- Remove the washer fluid hose from the Windshield and Rear Window Washer Pump - V59- -5-.
- Remove the Windshield and Rear Window Washer Pump - V59- -5- upward in the direction of -arrow B- from the washer fluid reservoir.



Installing

Install in the reverse order of removal while paying attention to the following:

In order to prevent interchanging washer fluid line connections at Windshield and Rear Window Washer Pump - V59- , connections at pump and hose lines are marked with colors. Hose connector pieces must be connected to the corresponding colored pump connections during installation.

- Check the sealing grommet for damage.

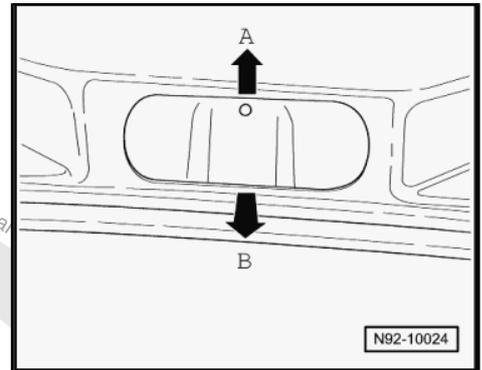
2.5 Spray Nozzles, Removing and Installing

The removal and installation is described for the left side. Removing and installing on the right side is identical.



Removing

- Open the hood.
- Push the spray nozzle upward -arrow A- and tilt it out from under the flap -arrow B-.
- Release the hose clip -1- in the direction of -arrow- and remove the hose connection -2- from the spray nozzle -4-.



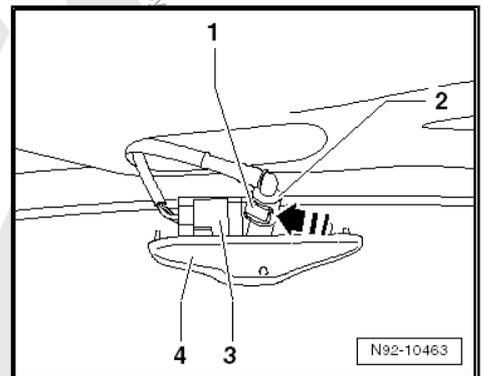
- Disconnect the connector -3- and remove the spray nozzle -4-.

Installing

Install in the reverse order of removal while paying attention to the following:

When connecting the washer fluid line, ensure that the securing clip engages audibly into the connection.

- Starting at the top, slide the spray nozzle into the installation opening until it engages audibly.
- Adjust the spray nozzles. Refer to ["2.6 Spray Nozzles, Adjusting", page 75](#).



2.6 Spray Nozzles, Adjusting

Caution
Risk of damage.
 ♦ **Do not use any objects to clean the spray nozzles!**

Remove the spray nozzles if the spraying field is uneven due to dirt in the nozzle, and flush out in the opposite direction of the spray. It is permissible to further blow through in opposite direction of spray with compressed air. Do not use any objects to clean the spray nozzles!

- Adjusting washer nozzles for front windshield washer system. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .



3 Rear Window Wiper System

⇒ [“3.1 Overview - Rear Window Wiper System”, page 76](#)

⇒ [“3.2 Wiper Blade, Removing and Installing”, page 77](#)

⇒ [“3.3 Windshield Wiper Arm, Removing and Installing”, page 77](#)

⇒ [“3.4 Wiper Arm, Adjusting”, page 78](#)

⇒ [“3.5 Rear Window Wiper Motor V12 , Removing and Installing”, page 78](#)

3.1 Overview - Rear Window Wiper System

1 - Cap

2 - Nut

- 12 Nm

3 - Wiper Arm with Joint-Free Windshield Wiper

- Removing and installing. Refer to [⇒ “3.3 Windshield Wiper Arm, Removing and Installing”, page 77](#) .
- Park position, adjusting. Refer to [⇒ “3.4 Wiper Arm, Adjusting”, page 78](#) .
- Joint-free windshield wiper, removing and installing. Refer to [⇒ “3.2 Wiper Blade, Removing and Installing”, page 77](#) .

4 - Seal

- Inside the rear window
- Replace if damaged. Refer to [⇒ “3.5 Rear Window Wiper Motor V12 , Removing and Installing”, page 78](#) .
- Removing and installing. Refer to [⇒ “3.5 Rear Window Wiper Motor V12 , Removing and Installing”, page 78](#) .

5 - Rear Window Wiper Motor - V12-

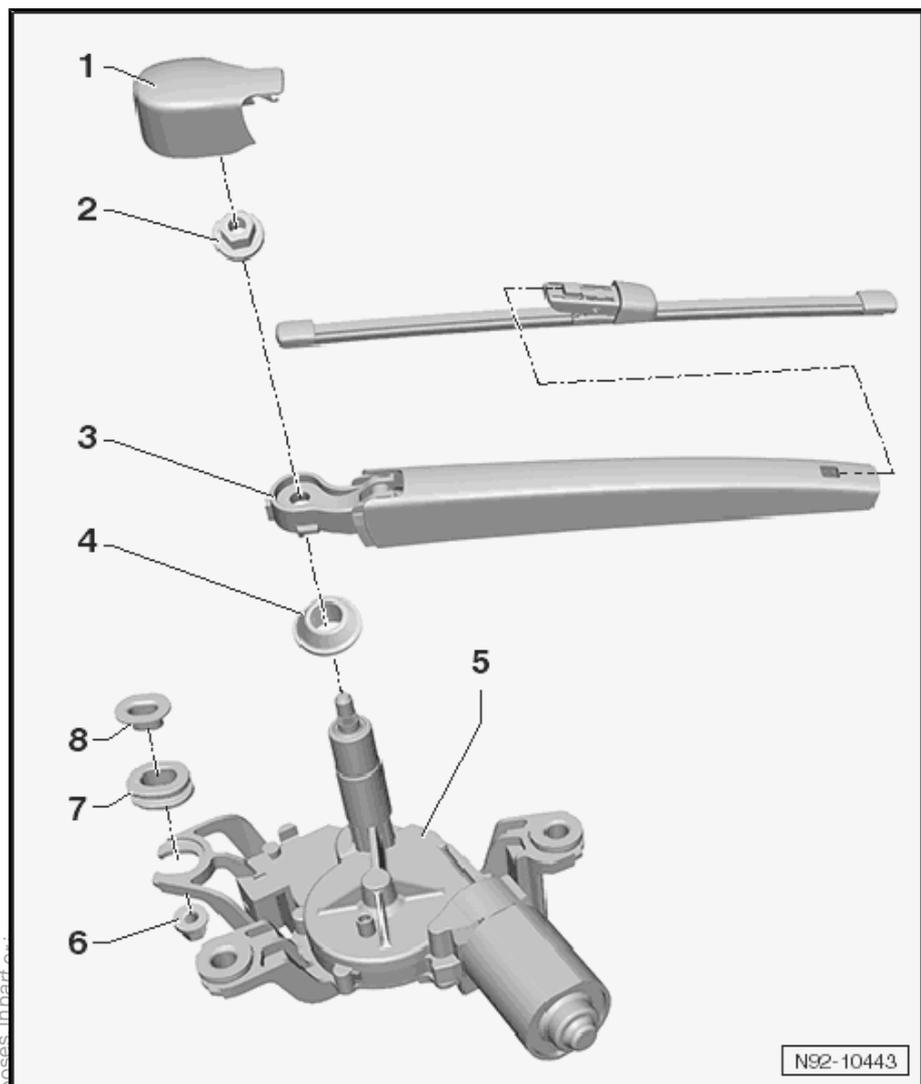
- Removing and installing. Refer to [⇒ “3.5 Rear Window Wiper Motor V12 , Removing and Installing”, page 78](#) .

6 - Nut

- 8 Nm
- Quantity: 3

7 - Rubber Ring

- Quantity: 3





8 - Spacer

- Quantity: 3

3.2 Wiper Blade, Removing and Installing



Caution

Risk of damaging the wiper blade.

◆ *Joint-free windshield wipers are very flexible. Only take hold of the wiper blades in the wiper blade mounting area in order to lift them away from the rear window.*

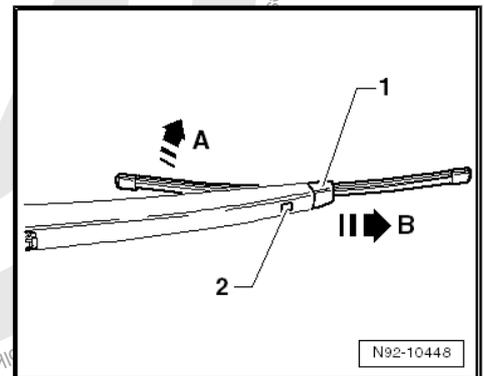
Removing

- Remove the wiper arm from the rear window.
- Pivot the wiper blade in the direction of -arrow A- from the windshield wiper arm.
- Push the release button -2-.
- Remove the wiper blade on the wiper blade mount -1- in the direction of - arrow B- from the windshield wiper arm.

Installing

Install in the reverse order of removal while paying attention to the following:

The wiper blade must audibly engage in the wiper arm.



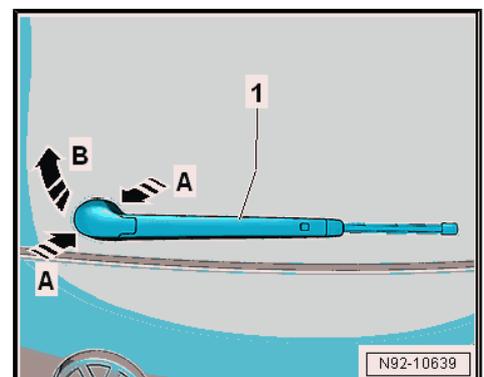
3.3 Windshield Wiper Arm, Removing and Installing

Special tools and workshop equipment required

- ◆ Puller - Wiper Arm Kit - T10369-
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

Removing

- Turn on the ignition.
- Activate "rear wiper" and let the wiper arm run to end position.
- Switch off the ignition and remove the ignition key, if equipped.
- Push together the rear window wiper cap -1- in the direction of -arrow A-.
- Fold the cap in the direction of -arrow B- and unclip.
- Loosen the nut but do not remove it.
- Install the -T10369/5- on the windshield wiper arm -2-.
- Position the thrust piece -3- on the wiper arm shaft.
- Rotate the bolt -1- clockwise until the wiper arm is removed from the wiper arm shaft.



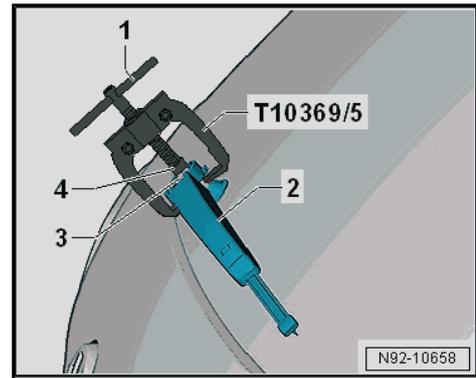


- Completely remove the nut -4- and remove the windshield wiper arm.

Installing

Install in the reverse order of removal while paying attention to the following:

- Adjust the wiper arm. Refer to
⇒ ["3.4 Wiper Arm, Adjusting", page 78](#) .



3.4 Wiper Arm, Adjusting

Special tools and workshop equipment required

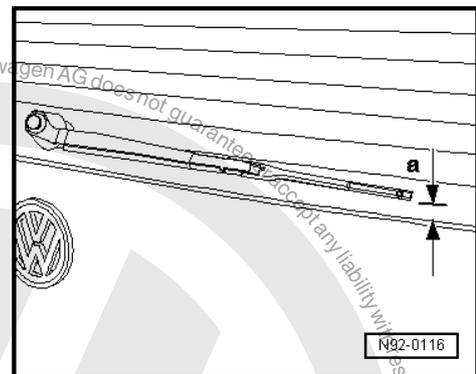
- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

Procedure

- Remove the wiper arm. Refer to
⇒ ["3.3 Windshield Wiper Arm, Removing and Installing", page 77](#) .
- Turn on the ignition.
- Activate "rear wiper" and let wiper arm shaft run to end position.
- Turn off the ignition.
- Position the wiper arm with wiper blade installed at the wiper arm shaft.
- Align the wiper blade on the rear window as follows.

The dimension is the gap between tip of wiper blade and lower edge of window.

- ◆ Dimension -a- = 33 + 5 mm.
- Tighten the wiper arm nut.
- Turn on the ignition.
- Activate "rear wiper" and let the wiper arm run to end position.
- Check the wiper arm adjustment again and correct if necessary.



Tightening Specifications

- ◆ Refer to
⇒ ["3.1 Overview - Rear Window Wiper System", page 76](#)

3.5 Rear Window Wiper Motor - V12- , Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Wrench 1331 5-50Nm - VAG1331-

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the wiper arm. Refer to
⇒ ["3.3 Windshield Wiper Arm, Removing and Installing", page 77](#) .

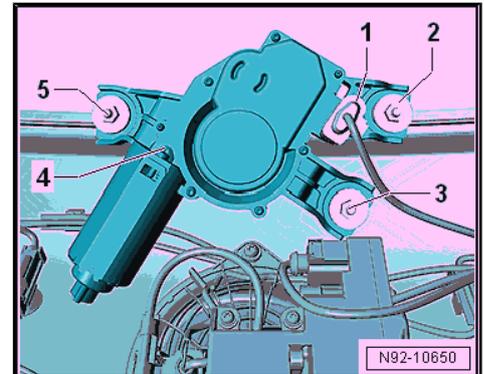


- Remove the lower rear lid trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Luggage Compartment Trim Panels; Rear Lid Lower Trim Panel, Removing and Installing .
- Release and disconnect the connector -1-.
- Remove the nuts -2, 3, and 5-.
- Remove the Rear Window Wiper Motor - V12- -4-.

Installing

Install in the reverse order of removal while paying attention to the following:

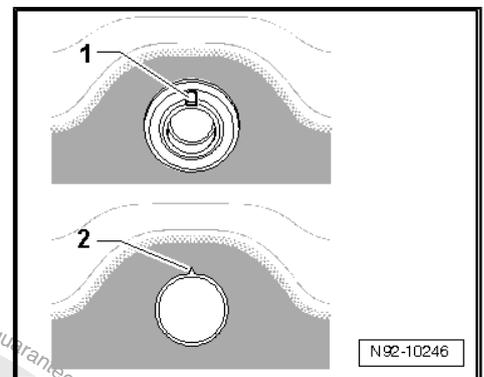
- Coat the inside of the seal in the rear window with a rubber- and plastic-compatible lubricant (polyethylene glycol).



- Make sure the seal fits correctly in the rear window opening. Marking -1- of seal must align with marking -2- on rear window.
- Adjust the wiper arm. Refer to ⇒ ["3.4 Wiper Arm, Adjusting"](#), page 78 .

Tightening Specifications

- ◆ Refer to ⇒ ["3.1 Overview - Rear Window Wiper System"](#), page 76





4 Rear Window Washer System

⇒ [“4.1 Overview - Rear Window Washer System”, page 80](#)

⇒ [“4.2 Washer Fluid Reservoir, Removing and Installing”, page 82](#)

⇒ [“4.3 Rear Window Washer Pump, Removing and Installing”, page 82](#)

⇒ [“4.4 Spray Nozzle, Removing and Installing”, page 83](#)

⇒ [“4.5 Spray Nozzle, Adjusting”, page 84](#)

4.1 Overview - Rear Window Washer System

⇒ [“4.1.1 Overview - Rear Window Washer System, Sedan, Except GTI”, page 80](#)

⇒ [“4.1.2 Overview - Rear Window Washer System, Sedan, GTI”, page 81](#)

⇒ [“4.1.3 Overview - Rear Window Washer System, Wagon”, page 82](#)

4.1.1 Overview - Rear Window Washer System, Sedan, Except GTI

1 - High-Mounted Brake Lamp

2 - Washer Hose Connection

- For the rear window washer system

3 - Spray Nozzle

- Removing and installing. Refer to ⇒ [“4.4.1 Spray Nozzle, Removing and Installing, Except GTI”, page 83](#).
- Adjusting. Refer to ⇒ [“4.5 Spray Nozzle, Adjusting”, page 84](#).

4 - Washer Fluid Hose

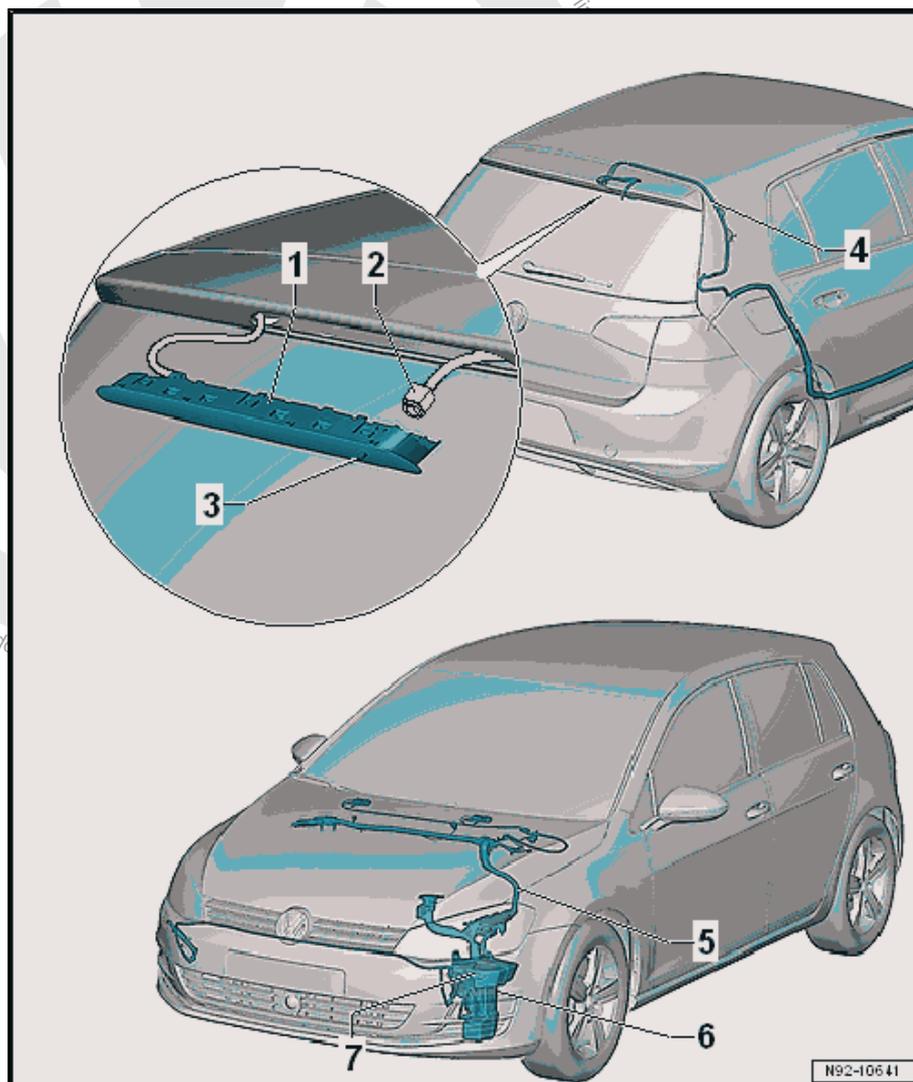
- In the right side panel to the rear window washer system spray nozzle

5 - Washer Fluid Hose

- In the engine compartment to the rear window washer system spray nozzle

6 - Windshield and Rear Window Washer Pump - V59-

- Removing and installing. Refer to ⇒ [“4.3 Rear Window Washer Pump, Removing and Installing”, page 82](#).
- With grommet, replace if damaged.





7 - Washer Fluid Reservoir

- ❑ Removing and installing. Refer to ⇒ [“4.2 Washer Fluid Reservoir, Removing and Installing”, page 82](#) .

4.1.2 Overview - Rear Window Washer System, Sedan, GTI

1 - High-Mounted Brake Lamp Connection

2 - Washer Hose Connection

- ❑ For the rear window washer system

3 - Washer Fluid Hose

- ❑ In the right side panel to the rear window washer system spray nozzle

4 - Washer Fluid Hose

- ❑ In the engine compartment to the rear window washer system spray nozzle

5 - Washer Fluid Reservoir

- ❑ Removing and installing. Refer to ⇒ [“4.2 Washer Fluid Reservoir, Removing and Installing”, page 82](#) .

6 - Windshield and Rear Window Washer Pump - V59-

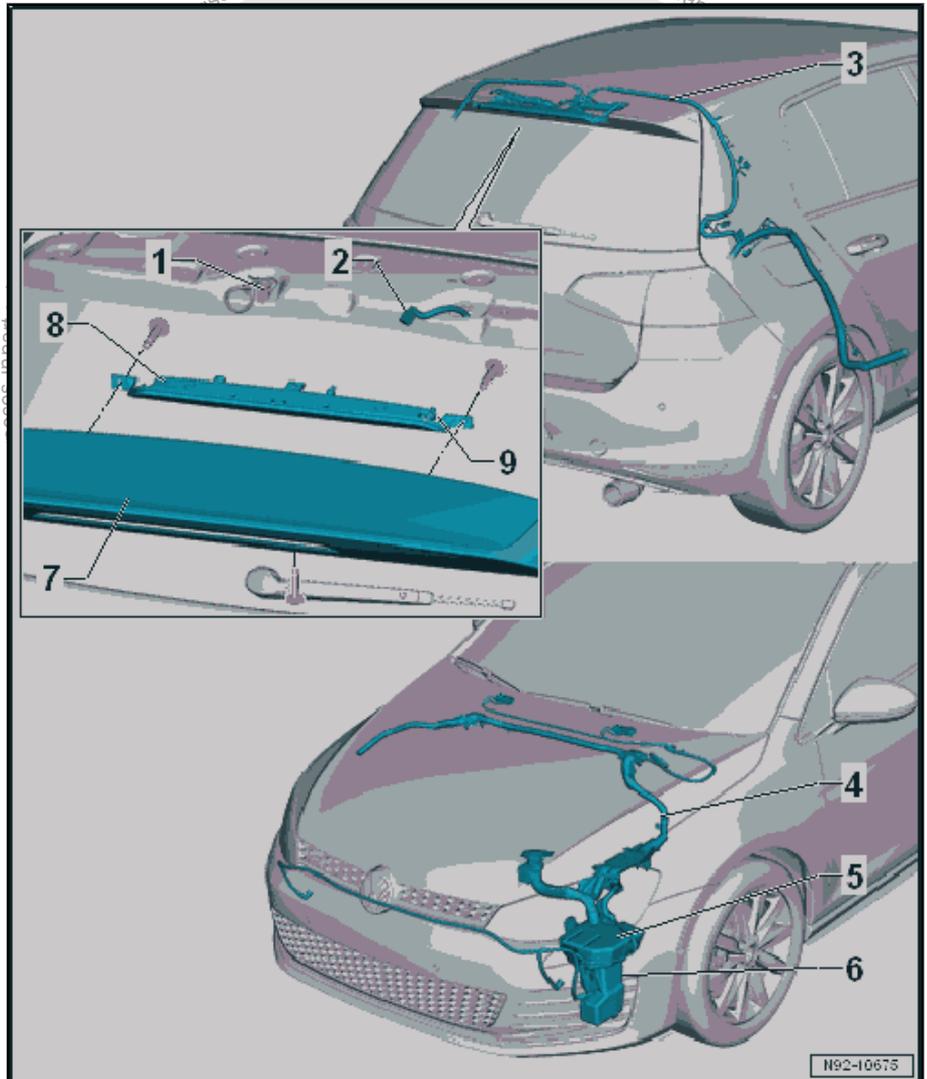
- ❑ Removing and installing. Refer to ⇒ [“4.3 Rear Window Washer Pump, Removing and Installing”, page 82](#) .
- ❑ With grommet, replace if damaged.

7 - Roof Edge Spoiler

8 - High-Mounted Brake Lamp

9 - Spray Nozzle

- ❑ Removing and installing. Refer to ⇒ [“4.4.2 Spray Nozzle, Removing and Installing, Only GTI”, page 83](#) .
- ❑ Adjusting. Refer to ⇒ [“4.5 Spray Nozzle, Adjusting”, page 84](#) .





4.1.3 Overview - Rear Window Washer System, Wagon

1 - High-Mounted Brake Lamp

2 - Washer Hose Connection

- ❑ For the rear window washer system

3 - Spray Nozzle

- ❑ Removing and installing. Refer to ⇒ ["4.4 Spray Nozzle, Removing and Installing", page 83](#) .
- ❑ Adjusting. Refer to ⇒ ["4.5 Spray Nozzle, Adjusting", page 84](#) .

4 - Washer Fluid Hose

- ❑ In the right side panel to the rear window washer system spray nozzle

5 - Washer Fluid Hose

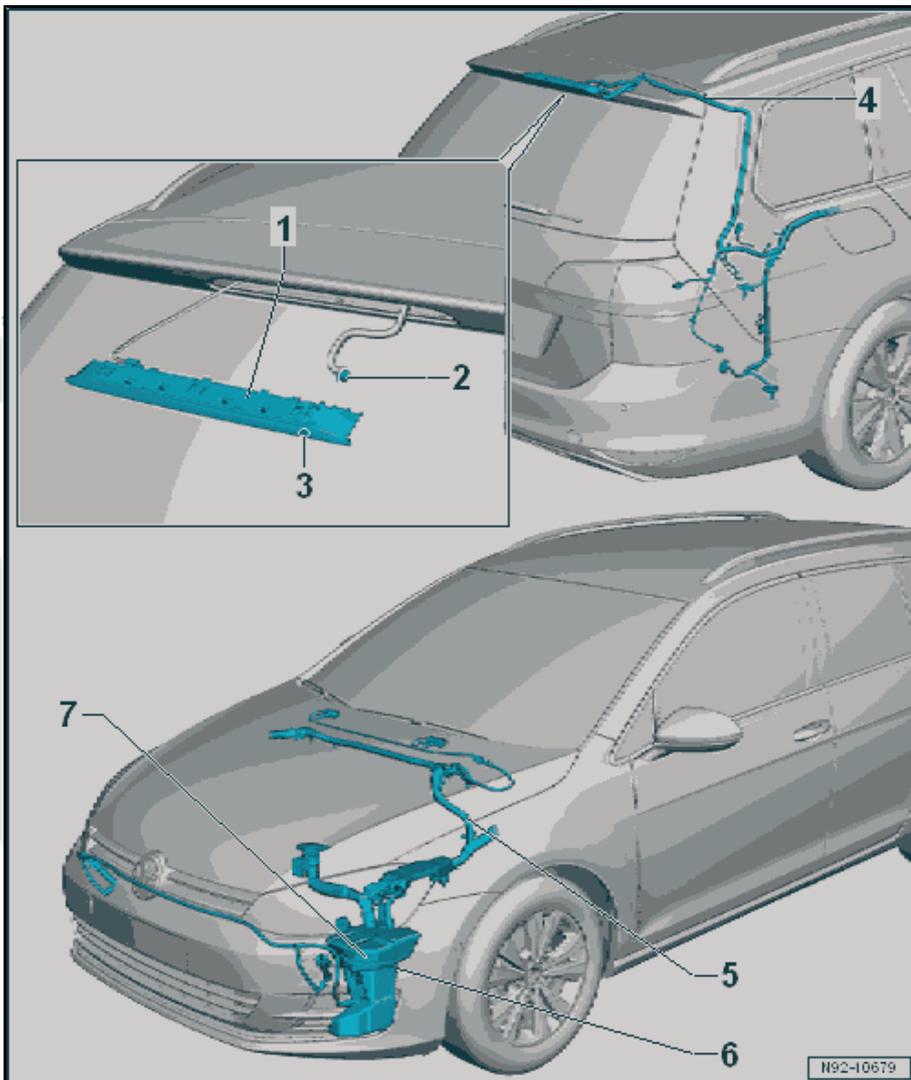
- ❑ In the engine compartment to the rear window washer system spray nozzle

6 - Windshield and Rear Window Washer Pump - V59-

- ❑ Removing and installing. Refer to ⇒ ["4.3 Rear Window Washer Pump, Removing and Installing", page 82](#) .
- ❑ With grommet, replace if damaged.

7 - Washer Fluid Reservoir

- ❑ Removing and installing. Refer to ⇒ ["4.2 Washer Fluid Reservoir, Removing and Installing", page 82](#) .



4.2 Washer Fluid Reservoir, Removing and Installing

The combined washer fluid reservoir for the front and back windshield washer systems is located in the front left wheel housing.

- Washer Fluid Reservoir, Removing and installing. Refer to ⇒ ["2.2 Washer Fluid Reservoir, Removing and Installing", page 72](#) .

4.3 Rear Window Washer Pump, Removing and Installing

The washer pump for the windshield and the rear window washer system is located inside the windshield washer fluid reservoir in the left front wheel housing.

- Removing and installing the Windshield and Rear Window Washer Pump - V59- . Refer to



⇒ [“2.4 Windshield Washer Pump, Removing and Installing”, page 74](#).

4.4 Spray Nozzle, Removing and Installing

⇒ [“4.4.1 Spray Nozzle, Removing and Installing, Except GTI”, page 83](#).

⇒ [“4.4.2 Spray Nozzle, Removing and Installing, Only GTI”, page 83](#).

4.4.1 Spray Nozzle, Removing and Installing, Except GTI

The spray nozzle is installed in the high-mounted brake lamp.

Removing

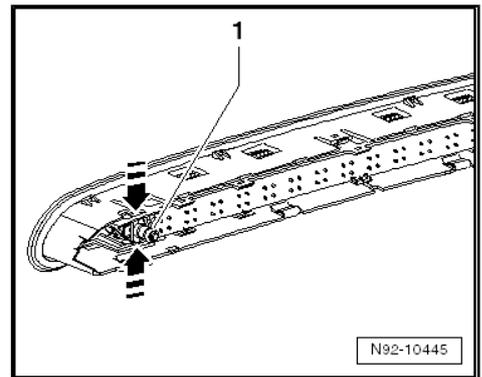
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the high-mounted brake lamp. Refer to ⇒ [“5.2 High-Mounted Brake Lamp, Removing and Installing”, page 158](#).
- Release both catches in direction of -arrows-.
- Remove the spray nozzle -1- toward the rear from the high-mounted brake lamp.

Installing

Install in the reverse order of removal while paying attention to the following:

When connecting the washer fluid line, ensure that the securing clip engages audibly into the connection.

- Adjust the rear window washer system spray nozzles. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .



4.4.2 Spray Nozzle, Removing and Installing, Only GTI

The spray nozzle is installed in the high-mounted brake lamp.

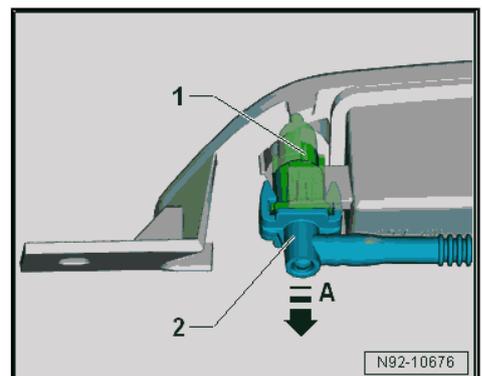
Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the high-mounted brake lamp. Refer to ⇒ [“5.2 High-Mounted Brake Lamp, Removing and Installing”, page 158](#).
- Remove the spray nozzle -1- with the hose -2- in the direction of -arrow A- from the high-mounted brake lamp.

Installing

Install in the reverse order of removal while paying attention to the following:

Pay attention that the spray nozzle is pushed in the mount until it stop.





4.5 Spray Nozzle, Adjusting

The spray nozzle on a GTI cannot be adjusted.

- Adjust the rear window washer system spray nozzles. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .



5 Headlamp Washer System

⇒ [“5.1 Overview - Headlamp Washer System”, page 85](#)

⇒ [“5.2 Washer Fluid Reservoir, Removing and Installing”, page 85](#)

⇒ [“5.3 Headlamp Washer Pump V11 , Removing and Installing”, page 86](#)

⇒ [“5.4 Spray Nozzles, Removing and Installing”, page 86](#)

⇒ [“5.5 Spray Nozzles, Adjusting”, page 87](#)

⇒ [“5.6 Lift Cylinder, Removing and Installing”, page 87](#)

5.1 Overview - Headlamp Washer System

1 - Headlamp Washer Pump - V11-

- ❑ Removing and installing. Refer to
 ⇒ [“5.3 Headlamp Washer Pump V11 , Removing and Installing”, page 86](#) .

2 - Grommet

- ❑ Replace if damaged.

3 - Washer Fluid Reservoir

- ❑ Removing and installing. Refer to
 ⇒ [“5.2 Washer Fluid Reservoir, Removing and Installing”, page 85](#) .

4 - Nut

- ❑ 8 Nm
- ❑ Quantity: 3

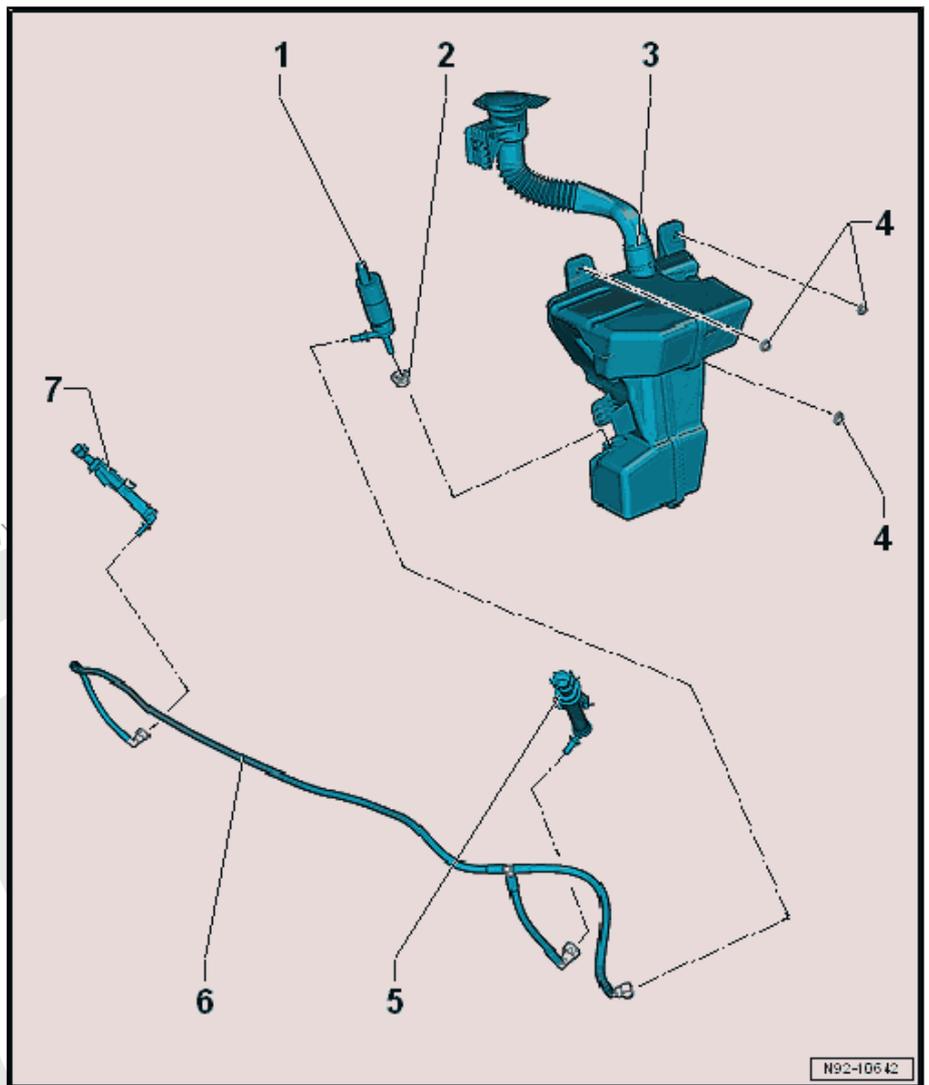
5 - Left Spray Nozzle

- ❑ Removing and installing. Refer to
 ⇒ [“5.4 Spray Nozzles, Removing and Installing”, page 86](#) .

6 - Washer Fluid Hose

7 - Right Spray Nozzle

- ❑ Removing and installing. Refer to
 ⇒ [“5.4 Spray Nozzles, Removing and Installing”, page 86](#) .



5.2 Washer Fluid Reservoir, Removing and Installing

The combined washer fluid reservoir for the windshield and rear window washer systems, as well as the headlamp washer system, is located in the left front wheel housing.



- Washer Fluid Reservoir, Removing and installing. Refer to ⇒ ["2.2 Washer Fluid Reservoir, Removing and Installing"](#), page 72 .

5.3 Headlamp Washer Pump - V11- , Removing and Installing

Special tools and workshop equipment required

- ◆ Drip Tray

Removing

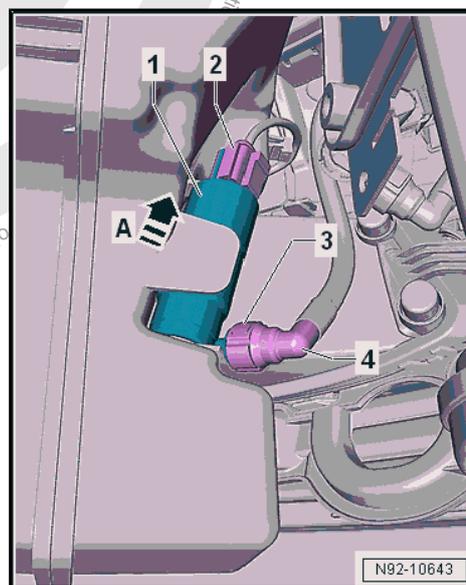
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Noise Insulation; Overview - Noise Insulation .
- Release and disconnect the connector -2-.
- Place a drip tray under the washer fluid reservoir.
- Push the release button -3-.
- Remove the washer fluid hose -4- from the Headlamp Washer Pump - V11- -1-.
- Remove the Headlamp Washer Pump - V11- -1- in the direction of the -arrow A- upward out of the washer fluid reservoir.

Installing

Install in the reverse order of removal while paying attention to the following:

When connecting the washer fluid line, ensure that the securing clip engages audibly into the connection.

- Check the sealing grommet for damage.



5.4 Spray Nozzles, Removing and Installing

The removal and installation is described for the left side. Removing and installing on the right side is identical.

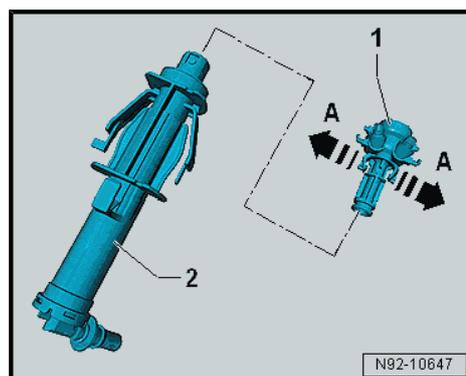
Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the lift cylinder. Refer to ⇒ ["5.6 Lift Cylinder, Removing and Installing"](#), page 87 .
- Push the catch in the direction of -arrow A-.
- Remove the spray nozzle -1- from the lift cylinder -2-.

Installing

Install in the reverse order of removal while paying attention to the following:

The spray nozzle must engage audibly when pushed in the lift cylinder.





5.5 Spray Nozzles, Adjusting

The nozzles are already adjusted by the manufacturer and must not be adjusted after installation.

- Check the adjustment of the spray nozzle. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .

5.6 Lift Cylinder, Removing and Installing

Special tools and workshop equipment required

- ◆ Drip Tray

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

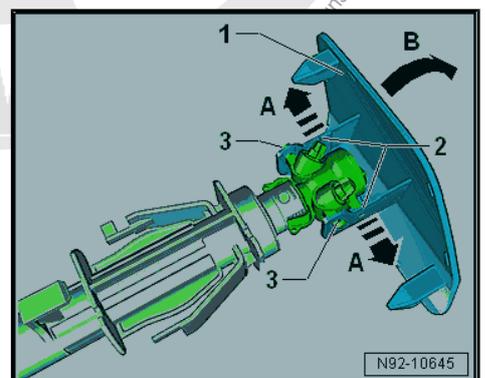
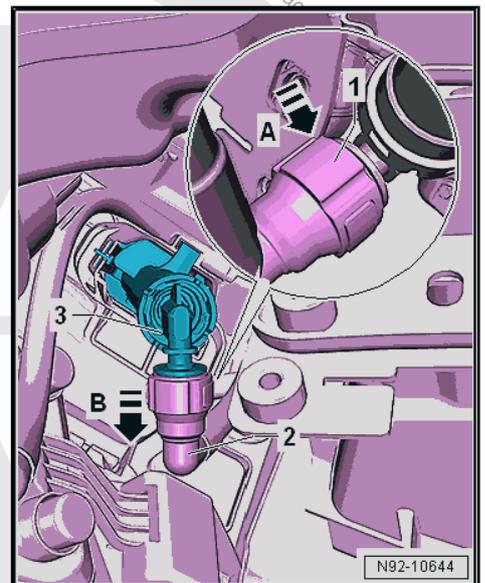
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the front wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .
- Remove the noise insulation. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Noise Insulation; Overview - Noise Insulation .
- Place a drip tray under the lift cylinder.
- Push the release button -1- in the direction of the -arrow A-.
- Remove the washer fluid hose -2- in the direction of the arrow -B- from the lift cylinder -3-.



Note

A second technician is required for removing the cap.

- Move the lift cylinder with the cap -1- out of the bumper cover using pressurized air and hold.
- Push the cap -1- on both sides out of the upper mounting -2- in the direction of the -arrow A-.
- Pivot the cap -1- in the direction of the -arrow B- and unclip from the lower mounting -3-.
- Push the release buttons -1- in the direction of the -arrow A-.





- Remove the lift cylinder -2- downward from the bracket -3-.

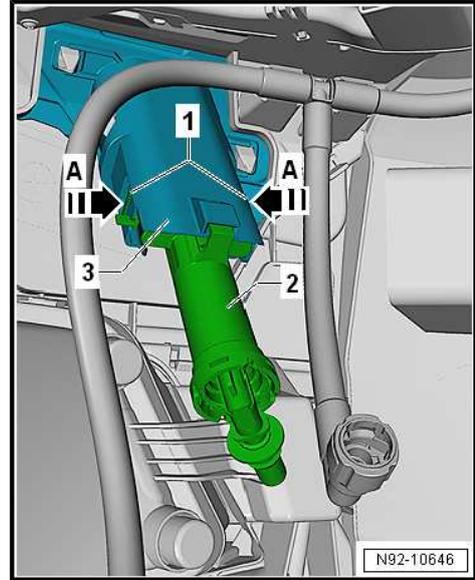
Installing

Install in the reverse order of removal while paying attention to the following:

Pay attention to the markings on the lift cylinder for the left and right.

The lift cylinder must engage audibly when pushing in the mount.

When connecting the washer fluid line, ensure that the securing clip engages audibly into the connection.



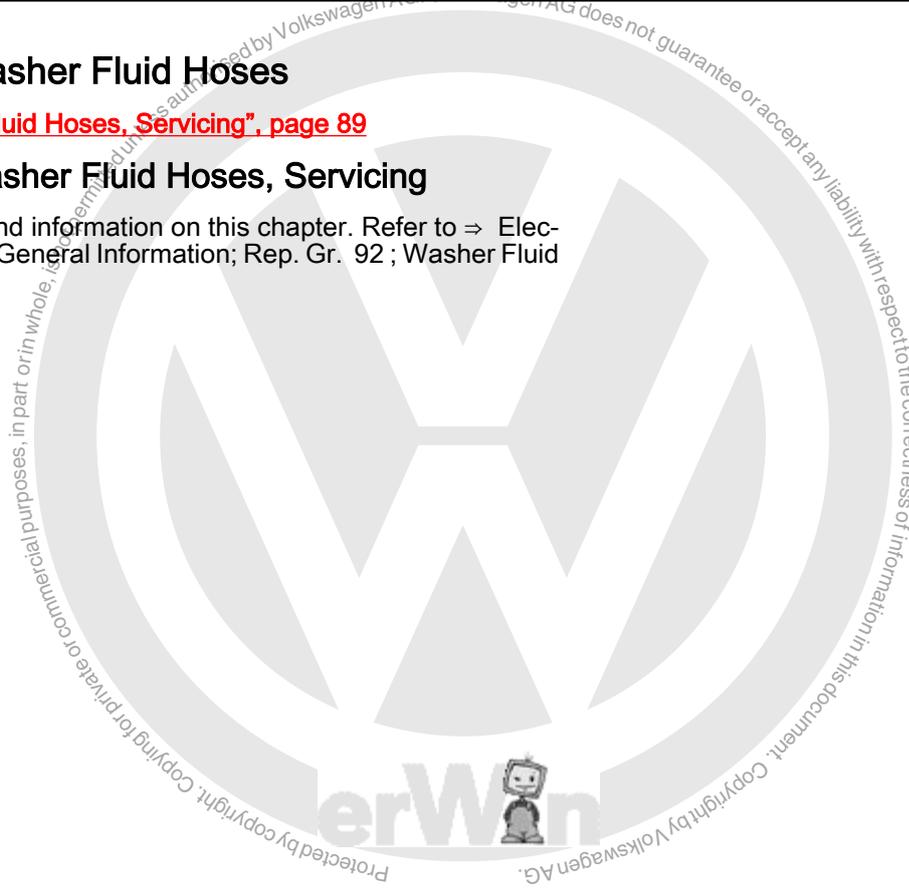


6 Washer Fluid Hoses

⇒ **“6.1 Washer Fluid Hoses, Servicing”, page 89**

6.1 Washer Fluid Hoses, Servicing

All instructions and information on this chapter. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 92 ; Washer Fluid Hoses .

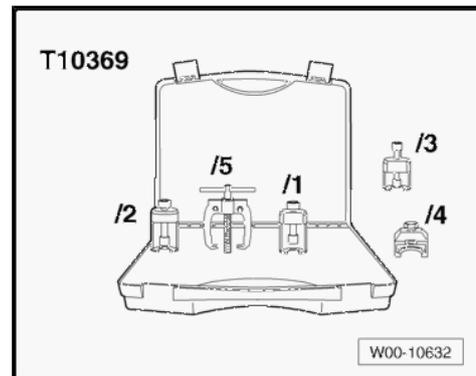




7 Special Tools

Special tools and workshop equipment required

- ◆ Puller - Wiper Arm Kit - T10369-



- ◆ Torque Wrench 1331 5-50Nm - VAG1331-



- ◆ Torque Wrench 1410 - VAG1410-



- ◆ Pry Lever - 80-200-





94 – Exterior Lights, Switches





1 Headlamp

- ⇒ [“1.1 Overview - Headlamp”, page 92](#)
- ⇒ [“1.2 Headlamp, Removing and Installing”, page 101](#)
- ⇒ [“1.3 Headlamp, Adjusting”, page 105](#)
- ⇒ [“1.4 Headlamp Installation Position, Correcting”, page 105](#)
- ⇒ [“1.5 Left/Right Front Turn Signal Bulb M5 / M7 , Removing and Installing”, page 107](#)
- ⇒ [“1.6 Headlamp Housing Repair Kit, Installing”, page 109](#)
- ⇒ [“1.7 Headlamp, Changing from LHD to RHD”, page 110](#)
- ⇒ [“1.8 Left/Right Headlamp Beam Adjustment Motor V48 / V49 , Removing and Installing”, page 111](#)
- ⇒ [“1.9 Low Beam Headlamp Bulb, Removing and Installing”, page 113](#)
- ⇒ [“1.10 Left/Right High Beam Headlamp Bulb M30 / M32 , Removing and Installing”, page 114](#)
- ⇒ [“1.11 Left/Right HID Headlamp Bulb L13 / L14 , Removing and Installing”, page 115](#)
- ⇒ [“1.12 Left/Right Position Lamp Bulb M1 / M3 , Removing and Installing”, page 117](#)
- ⇒ [“1.13 Left/Right Daytime Running Lamp Bulb L174 / L175 , Removing and Installing”, page 118](#)
- ⇒ [“1.14 Left/Right Daytime Running Lamp and Position Lamp LED Module L176 / L177 , Removing and Installing”, page 119](#)
- ⇒ [“1.15 Left/Right Low Beam Headlamp Reflector Motor V294 / V295 , Removing and Installing”, page 119](#)
- ⇒ [“1.16 Left/Right Cornering Lamp Bulb L148 / L149 , Removing and Installing”, page 119](#)
- ⇒ [“1.17 Left/Right HID Headlamp Control Module J343 / J344 , Removing and Installing”, page 120](#)
- ⇒ [“1.18 Left/Right Headlamp Power Output Stage J667 / J668 , Removing and Installing”, page 121](#)
- ⇒ [“1.19 Left/Right Daytime Running Lamp and Position Lamp Control Module J860 / J861 , Removing and Installing”, page 122](#)
- ⇒ [“1.20 Sensor for Left/Right Variable Headlamp Positioning Motor G695 / G696 , Removing and Installing”, page 123](#)
- ⇒ [“1.21 Left/Right Variable Headlamp Positioning Motor V446 / V447 , Removing and Installing”, page 123](#)
- ⇒ [“1.22 Left/Right Swivel Module Position Sensor G474 / G475 , Removing and Installing”, page 123](#)
- ⇒ [“1.23 Left/Right Adaptive Cornering Lamp Motor V318 / V319 , Removing and Installing”, page 124](#)

1.1 Overview - Headlamp

- ⇒ [“1.1.1 Overview - Halogen Dual Headlamp”, page 93](#)
- ⇒ [“1.1.2 Overview - HID Headlamp”, page 95](#)
- ⇒ [“1.1.3 Overview - HID Headlamp for Cornering Lamp and LED Daytime Running Lamp”, page 97](#)
- ⇒ [“1.1.4 Overview - HID Headlamp with Dynamic High Beam Control and LED-Daytime Running Lamps”, page 99](#)



⇒ [“1.1.5 Overview - Headlamp Housing Repair Set”, page 101](#)

1.1.1 Overview - Halogen Dual Headlamp

1 - Bulb for Position Lamp/Daytime Running Lamp/High Beam Headlamp

- ❑ The lamp has three functions:
- ❑ Left Position Lamp Bulb - M1- / Right Position Lamp Bulb - M3-
- ❑ Left Daytime Running Lamp Bulb - L174- / Right Daytime Running Lamp Bulb - L175-
- ❑ Left High Beam Headlamp Bulb - M30- / Right High Beam Headlamp Bulb - M32-
- ❑ Removing and installing. Refer to
⇒ [“1.10 Left/Right High Beam Headlamp Bulb M30 / M32 , Removing and Installing”, page 114](#) .

2 - Socket

- ❑ For bulb for position lamp/daytime running lamp/high beam headlamp

3 - Housing Cover

4 - Housing Cover

5 - Headlamp Beam Adjustment Motor

- ❑ Left Headlamp Beam Adjustment Motor - V48-
- ❑ Right Headlamp Beam Adjustment Motor - V49-
- ❑ Removing and installing. Refer to
⇒ [“1.8.1 Left/Right Headlamp Beam Adjustment Motor V48 / V49 , Removing and Installing, Halogen Dual Headlamps”, page 111](#) .

6 - Housing Cover

7 - Housing Cover

8 - Bulb Socket

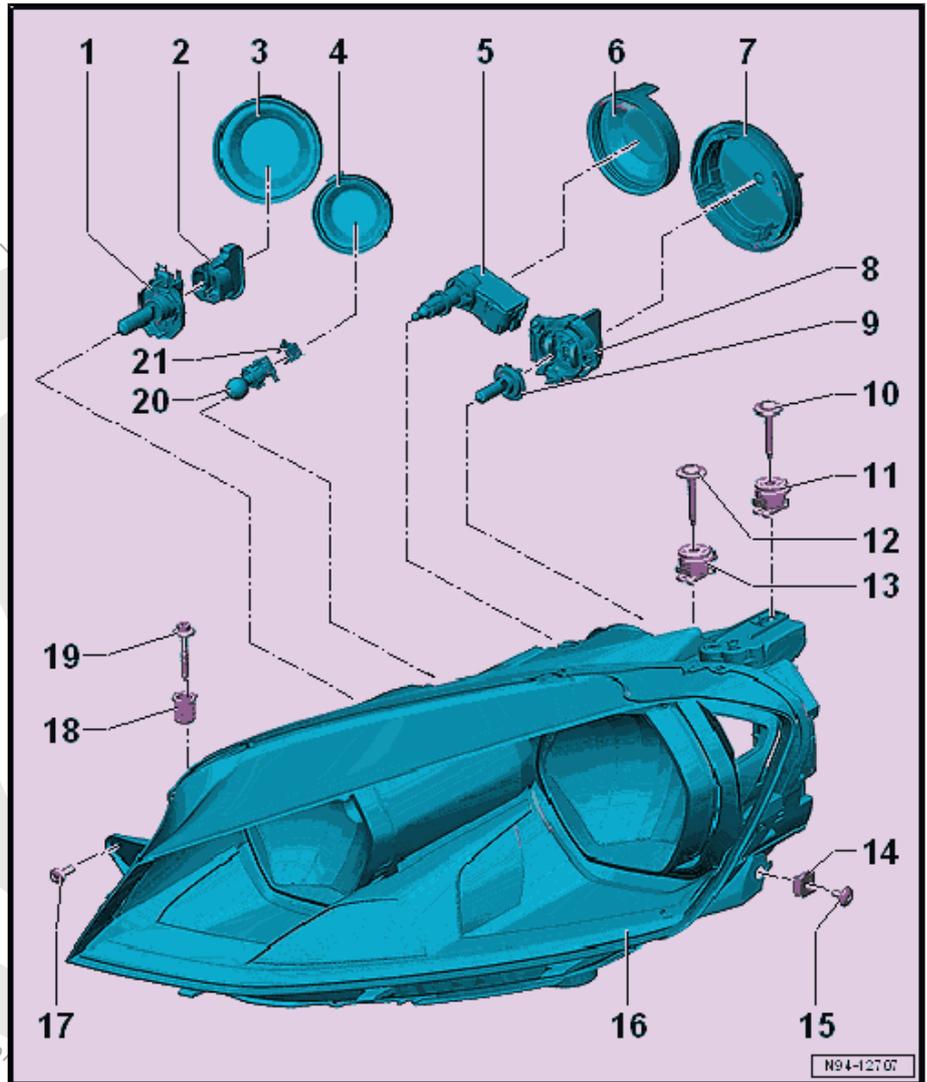
- ❑ To the low beam headlamp bulb mount

9 - Low Beam Headlamp Bulb

- ❑ Left Low Beam Headlamp Bulb - M29-
- ❑ Right Low Beam Headlamp Bulb - M31-
- ❑ Removing and installing. Refer to
⇒ [“1.9 Low Beam Headlamp Bulb, Removing and Installing”, page 113](#) .

10 - Bolt

- ❑ 8 Nm
- ❑ For attaching on the upper longitudinal member





11 - Adjusting Element

12 - Bolt

- 4 Nm
- Only loosen
- For attaching to the headlamp mount

13 - Balancing Element

14 - Spring Nut

15 - Bolt

- 4 Nm
- For attaching the bumper guide

16 - Headlamp

- Removing and installing. Refer to ⇒ [“1.2 Headlamp, Removing and Installing”, page 101](#) .

17 - Impact Screw

- For adjusting the headlamp parallel to the hood edge

18 - Banjo Bolt

- For the headlamp height adjustment

19 - Bolt

- 4 Nm
- For attaching to the lock carrier

20 - Front Turn Signal Bulb

- Left Front Turn Signal Bulb - M5-
- Right Front Turn Signal Bulb - M7-
- Removing and installing. Refer to ⇒ [“1.5.1 Left/Right Front Turn Signal Bulb M5 / M7 , Removing and Installing, Halogen Dual Headlamp”, page 107](#) .

21 - Socket

- For the front turn signal lamp



1.1.2 Overview - HID Headlamp

1 - Headlamp

- Removing and installing. Refer to
⇒ ["1.2 Headlamp, Removing and Installing", page 101](#) .

2 - Front Turn Signal Bulb

- Left Front Turn Signal Bulb - M5-
- Right Front Turn Signal Bulb - M7-
- Removing and installing. Refer to
⇒ ["1.5.2 Left/Right Front Turn Signal Bulb M5 / M7, Removing and Installing, HID Headlamps", page 108](#) .

3 - Cornering Lamp Bulb

- Left Cornering Lamp Bulb - L148-
- Right Cornering Lamp Bulb - L149-
- Removing and installing. Refer to
⇒ ["1.16 Left/Right Cornering Lamp Bulb L148 / L149, Removing and Installing", page 119](#) .

4 - Housing Cover

5 - HID Headlamp Bulb

- With integrated ignition coil
- Left HID Headlamp Bulb - L13-
- Right HID Headlamp Bulb - L14-
- Removing and installing. Refer to
⇒ ["1.11 Left/Right HID Headlamp Bulb L13 / L14, Removing and Installing", page 115](#) .

6 - Headlamp Beam Adjustment Motor

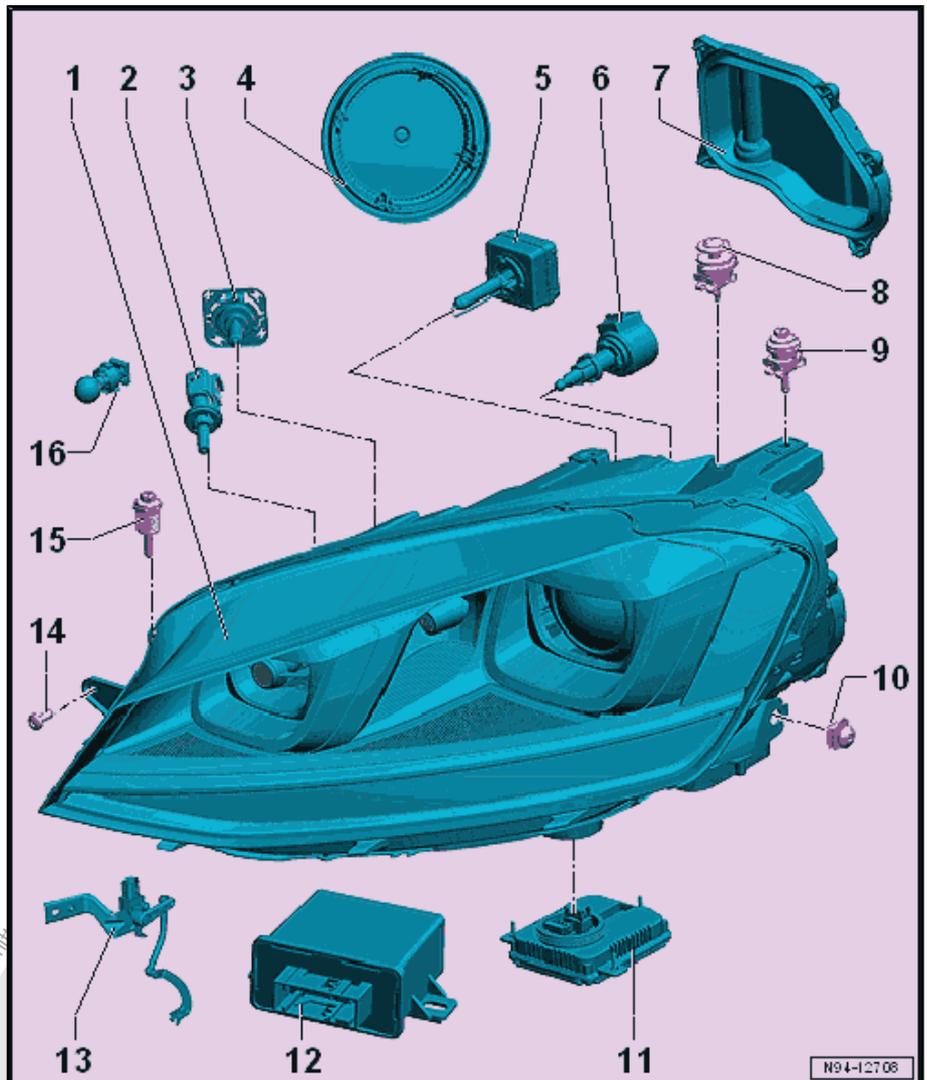
- Left Headlamp Beam Adjustment Motor - V48-
- Right Headlamp Beam Adjustment Motor - V49-
- Removing and installing. Refer to
⇒ ["1.8.2 Left/Right Headlamp Beam Adjustment Motor V48 / V49, Removing and Installing, HID Headlamps", page 112](#) .

7 - Housing Cover

- 2 Nm
- With screws
- Quantity: 5

8 - Bolt

- 4 Nm
- With balancing element





9 - Bolt

- 8 Nm
- With balancing element

10 - Bolt

- 4 Nm

11 - HID Headlamp Control Module

- Left HID Headlamp Control Module - J343-
- Right HID Headlamp Control Module - J344-
- Removing and installing. Refer to
[⇒ "1.17 Left/Right HID Headlamp Control Module J343 / J344 , Removing and Installing" page 120 .](#)
- Screws: 2 Nm

12 - Headlamp Range Control Module - J431-

- Removing and installing. Refer to
[⇒ "11.2 Control Module for Headlamp Range/Cornering Lamp and Headlamp Range, Removing and Installing", page 211 .](#)

13 - Level Control System Sensor

- Removing and installing. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 43 ; Level Control System Sensor .

14 - Impact Screw

- For adjusting the headlamp parallel to the hood edge

15 - Bolt

- 4 Nm
- With banjo bolt
- For the headlamp height adjustment

16 - Daytime Running Lamp Bulb

- Left Daytime Running Lamp Bulb - L174-
- Right Daytime Running Lamp Bulb - L175-
- Removing and installing. Refer to
[⇒ "1.13.2 Left/Right Daytime Running Lamp Bulb L174 / L175 , Removing and Installing, HID Headlamp", page 118 .](#)



1.1.3 Overview - HID Headlamp for Cornering Lamp and LED Daytime Running Lamp

1 - Headlamp

- Removing and installing. Refer to
 ⇒ ["1.2 Headlamp, Removing and Installing", page 101](#) .

2 - Front Turn Signal Bulb

- Left Front Turn Signal Bulb - M5-
- Right Front Turn Signal Bulb - M7-
- Removing and installing. Refer to
 ⇒ ["1.5.2 Left/Right Front Turn Signal Bulb M5 / M7 , Removing and Installing, HID Headlamps", page 108](#)

3 - Cornering Lamp Bulb

- Left Cornering Lamp Bulb - L148-
- Right Cornering Lamp Bulb - L149-
- Removing and installing. Refer to
 ⇒ ["1.16 Left/Right Cornering Lamp Bulb L148 / L149, Removing and Installing", page 119](#) .

4 - Housing Cover

5 - HID Headlamp Bulb

- With integrated ignition coil
- Left HID Headlamp Bulb - L13-
- Right HID Headlamp Bulb - L14-
- Removing and installing. Refer to
 ⇒ ["1.11 Left/Right HID Headlamp Bulb L13 / L14 , Removing and Installing", page 115](#) .

6 - Headlamp Beam Adjustment Motor

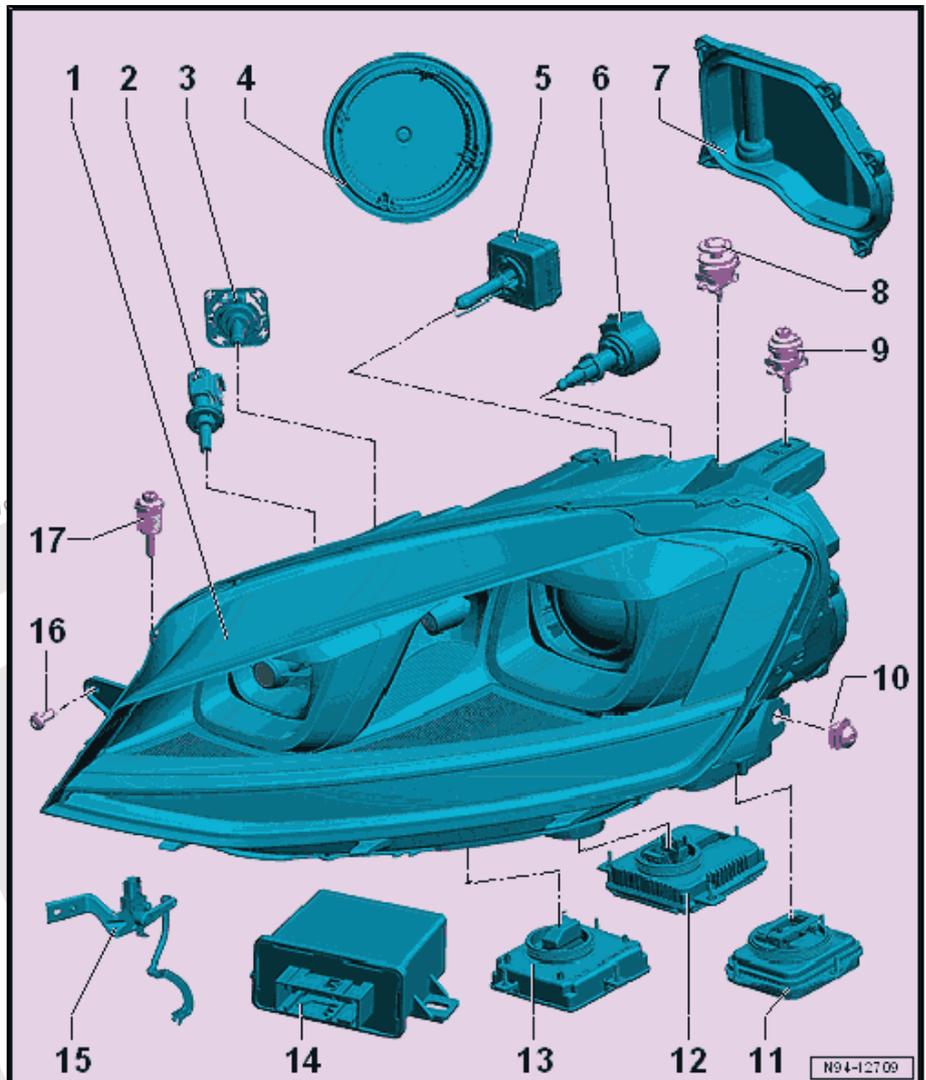
- Left Headlamp Beam Adjustment Motor - V48-
- Right Headlamp Beam Adjustment Motor - V49-
- Removing and installing. Refer to
 ⇒ ["1.8.2 Left/Right Headlamp Beam Adjustment Motor V48 / V49 , Removing and Installing, HID Headlamps", page 112](#) .

7 - Housing Cover

- 2 Nm
- With screws
- Quantity: 5

8 - Bolt

- 4 Nm
- With balancing element





9 - Bolt

- 8 Nm
- With balancing element

10 - Bolt

- 4 Nm

11 - Headlamp Power Output Stage

- Screws: 2 Nm
- Left Headlamp Power Output Stage - J667-
- Right Headlamp Power Output Stage - J668-
- Removing and installing. Refer to
⇒ ["1.18 Left/Right Headlamp Power Output Stage J667 / J668 , Removing and Installing", page 121 .](#)

12 - HID Headlamp Control Module

- Screws: 2 Nm
- Left HID Headlamp Control Module - J343-
- Right HID Headlamp Control Module - J344-
- Removing and installing. Refer to
⇒ ["1.17 Left/Right HID Headlamp Control Module J343 / J344 , Removing and Installing", page 120 .](#)

13 - Daytime Running Lamp and Position Lamp Control Module

- Screws: 2 Nm
- Left Daytime Running Lamp and Position Lamp Control Module - J860-
- Right Daytime Running Lamp and Position Lamp Control Module - J861-
- Removing and installing. Refer to
⇒ ["1.19 Left/Right Daytime Running Lamp and Position Lamp Control Module J860 / J861 , Removing and Installing", page 122 .](#)

14 - Cornering Lamp and Headlamp Range Control Module - J745-

- Removing and installing. Refer to
⇒ ["11.2 Control Module for Headlamp Range/Cornering Lamp and Headlamp Range, Removing and Installing", page 211 .](#)

15 - Level Control System Sensor

- Removing and installing. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 43 ; Level Control System Sensor .

16 - Impact Screw

- For adjusting the headlamp parallel to the hood edge

17 - Bolt

- 4 Nm
- With banjo bolt
- For the headlamp height adjustment



1.1.4 Overview - HID Headlamp with Dynamic High Beam Control and LED-Day-time Running Lamps

1 - Headlamp

- Removing and installing. Refer to
 ⇒ ["1.2 Headlamp, Removing and Installing", page 101](#) .

2 - Front Turn Signal Bulb

- Left Front Turn Signal Bulb - M5-
- Right Front Turn Signal Bulb - M7-
- Removing and installing. Refer to
 ⇒ ["1.5.2 Left/Right Front Turn Signal Bulb M5 / M7, Removing and Installing, HID Headlamps", page 108](#) .

3 - Cornering Lamp Bulb

- Left Cornering Lamp Bulb - L148-
- Right Cornering Lamp Bulb - L149-
- Removing and installing. Refer to
 ⇒ ["1.16 Left/Right Cornering Lamp Bulb L148 / L149, Removing and Installing", page 119](#) .

4 - Housing Cover

5 - HID Headlamp Bulb

- With integrated ignition coil
- Left HID Headlamp Bulb - L13-
- Right HID Headlamp Bulb - L14-
- Removing and installing. Refer to
 ⇒ ["1.11 Left/Right HID Headlamp Bulb L13 / L14, Removing and Installing", page 115](#) .

6 - Headlamp Beam Adjustment Motor

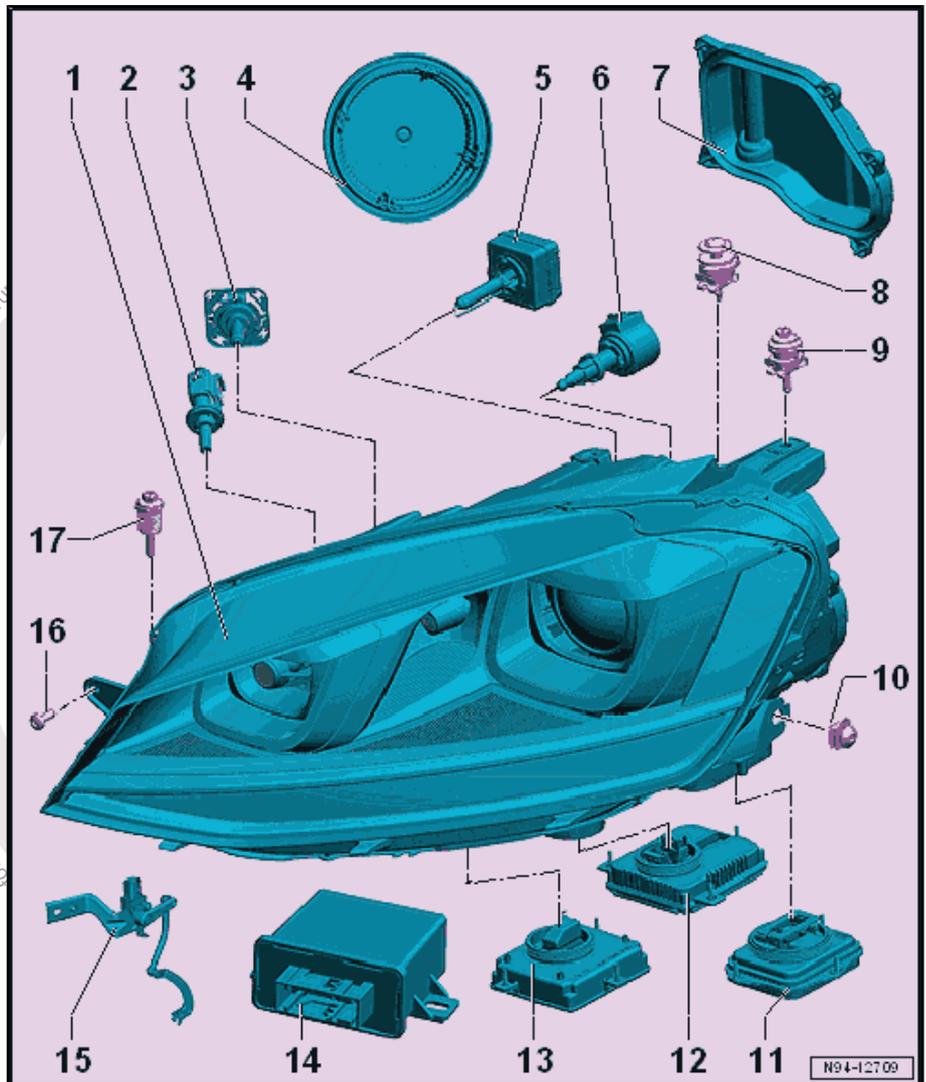
- Left Headlamp Beam Adjustment Motor - V48-
- Right Headlamp Beam Adjustment Motor - V49-
- Removing and installing. Refer to
 ⇒ ["1.8.2 Left/Right Headlamp Beam Adjustment Motor V48 / V49, Removing and Installing, HID Headlamps", page 112](#) .

7 - Housing Cover

- 2 Nm
- With screws
- Quantity: 5

8 - Bolt

- 4 Nm
- With balancing element





9 - Bolt

- 8 Nm
- With balancing element

10 - Bolt

- 4 Nm

11 - Headlamp Power Output Stage

- Screws: 2 Nm
- Left Headlamp Power Output Stage - J667
- Right Headlamp Power Output Stage - J668-
- Removing and installing. Refer to
⇒ ["1.18 Left/Right Headlamp Power Output Stage J667 / J668 , Removing and Installing", page 121](#) .

12 - HID Headlamp Control Module

- Screws: 2 Nm
- Left HID Headlamp Control Module - J343-
- Right HID Headlamp Control Module - J344-
- Removing and installing. Refer to
⇒ ["1.17 Left/Right HID Headlamp Control Module J343 / J344 , Removing and Installing", page 120](#) .

13 - Daytime Running Lamp and Position Lamp Control Module

- Screws: 2 Nm
- Left Daytime Running Lamp and Position Lamp Control Module - J860-
- Right Daytime Running Lamp and Position Lamp Control Module - J861-
- Removing and installing. Refer to
⇒ ["1.19 Left/Right Daytime Running Lamp and Position Lamp Control Module J860 / J861 , Removing and Installing", page 122](#) .

14 - Cornering Lamp and Headlamp Range Control Module - J745-

- Removing and installing. Refer to
⇒ ["11.2 Control Module for Headlamp Range/Cornering Lamp and Headlamp Range, Removing and Installing", page 211](#) .

15 - Level Control System Sensor

- Removing and installing. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 43 ; Level Control System Sensor .

16 - Impact Screw

- For adjusting the headlamp parallel to the hood edge

17 - Bolt

- 4 Nm
- With banjo bolt
- For the headlamp height adjustment



1.1.5 Overview - Headlamp Housing Repair Set

1 - Headlamp

2 - Inner Mounting Tab

- ❑ Removing and installing. Refer to [⇒ "1.6 Headlamp Housing Repair Kit, Installing", page 109](#) .

3 - Screw

- ❑ 2 Nm
- ❑ Quantity: 1

4 - Rear Mounting Tab

- ❑ Removing and installing. Refer to [⇒ "1.6 Headlamp Housing Repair Kit, Installing", page 109](#) .

5 - Screw

- ❑ 2 Nm
- ❑ Quantity: 3

6 - Screw

- ❑ 2 Nm
- ❑ Quantity: 1

7 - Upper Mounting Tab

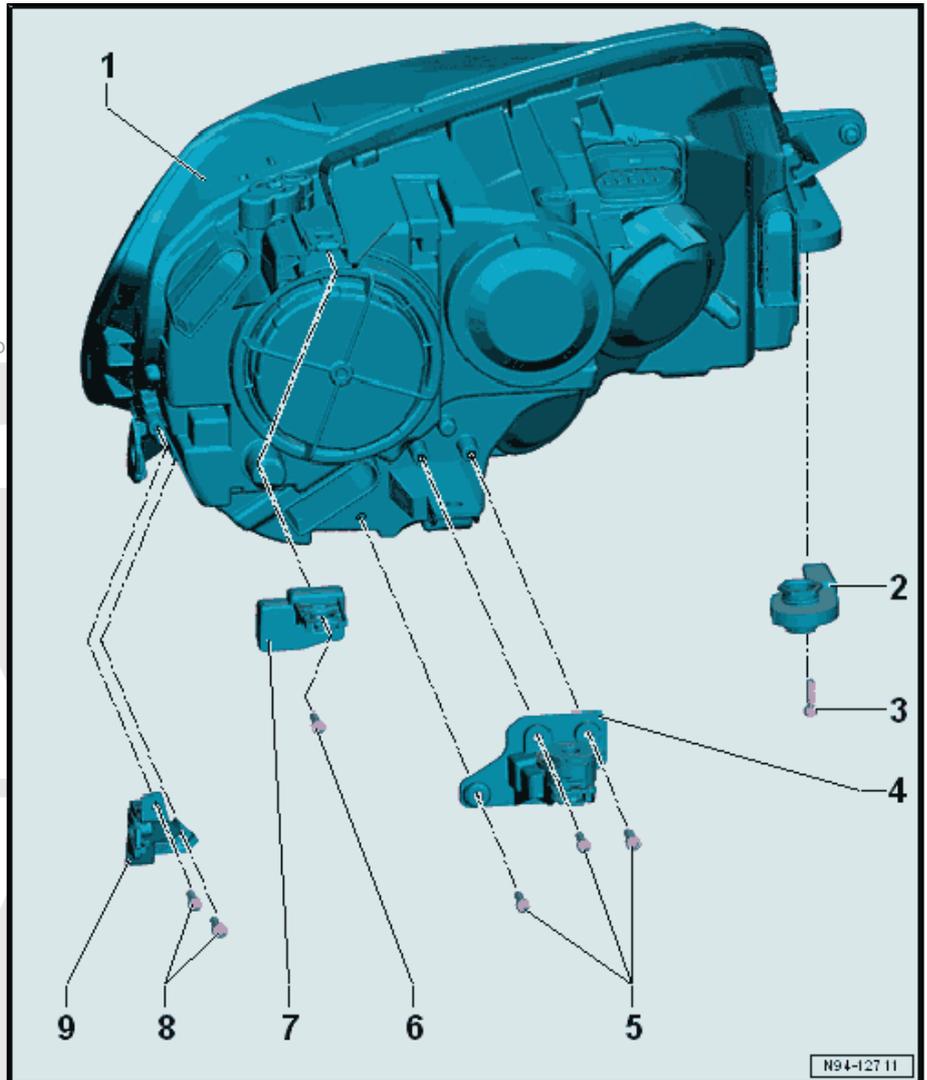
- ❑ Removing and installing. Refer to [⇒ "1.6 Headlamp Housing Repair Kit, Installing", page 109](#) .

8 - Screw

- ❑ 2 Nm
- ❑ Quantity: 2

9 - Outer Mounting Tab

- ❑ Removing and installing. Refer to [⇒ "1.6 Headlamp Housing Repair Kit, Installing", page 109](#) .



1.2 Headlamp, Removing and Installing



WARNING

Life-threatening danger due to high voltage.

- ◆ *Pay attention to usage and safety information for HID headlamps. Refer to [⇒ "1.3 HID Headlamps Usage and Safety Precautions", page 2](#) .*



Note

- ◆ *If only one headlamp was removed, then the front bumper cover must be loosened only on the respective side.*
- ◆ *If both headlamps are removed, then the front bumper must be completely removed. Refer to ⇒ Body Exterior; Rep. Gr. 63 ; Front Bumper; Bumper Cover, Removing and Installing .*

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the radiator grille. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Radiator Grille/Front Trim; Radiator Grille, Removing and Installing .

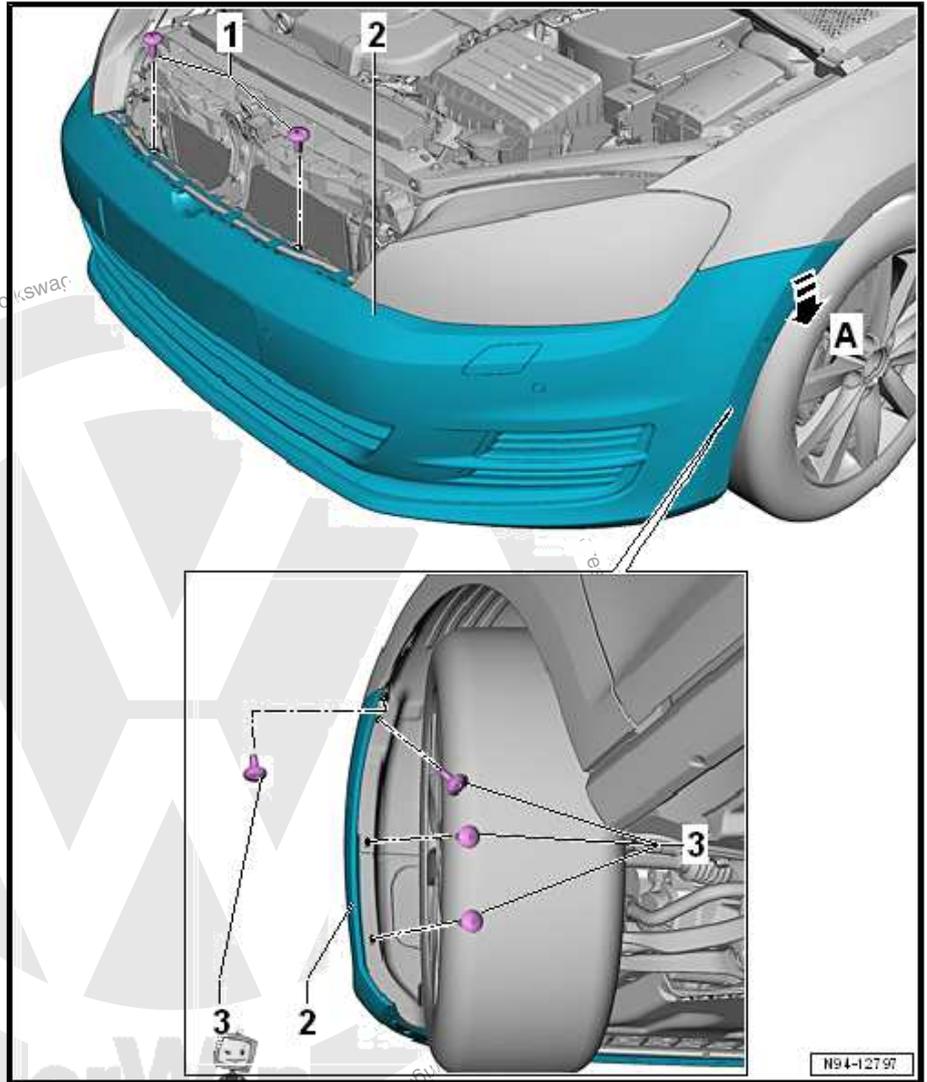


Caution

There is a risk of damaging the components.

- ◆ ***Carefully remove the bumper cover. Make sure that the bumper cover is not deformed or ripped.***
- ◆ ***When removing the headlamp the surface can be scratched. Tape up those components which could be damaged.***

- Remove the bolts -3- from the front wheel housing liner.



- Remove the bolts between the bumper cover and lock carrier from below.
- If equipped, remove the bolts -1-.
- Detach the bumper cover -2- from the fender and remove in the direction of the -arrow A-.

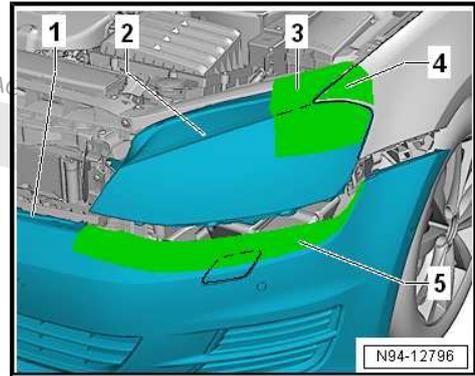


Note

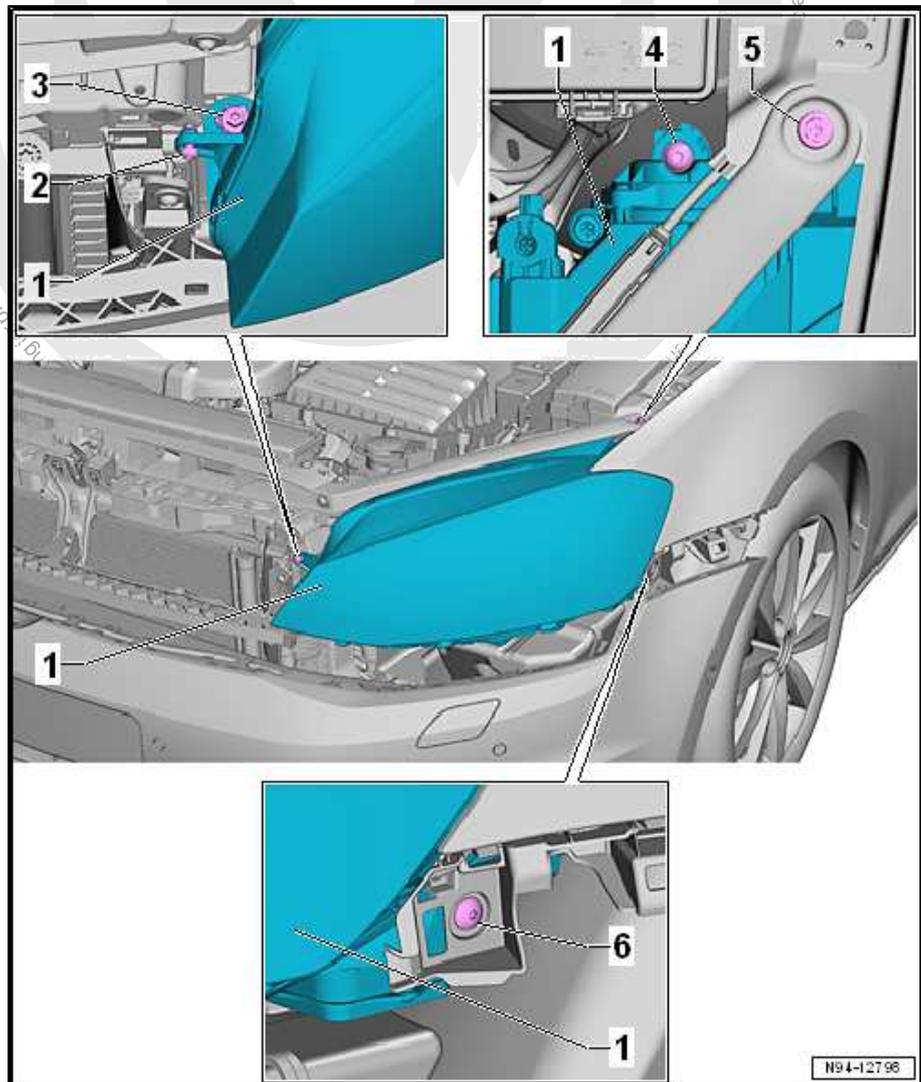
The front bumper cover requires complete removal only when removal and installation of both headlamps are performed. Refer to ⇒ Body Exterior; Rep. Gr. 63 ; Front Bumper; Bumper Cover, Removing and Installing .



- Tape off the marked areas -3- on the headlamp -2-.
- Tape off the bottom of the fender brace -4-.
- Tape off the marked area -5- on the bumper cover -1-.



- Remove the bolts -3, 5 and 6-.



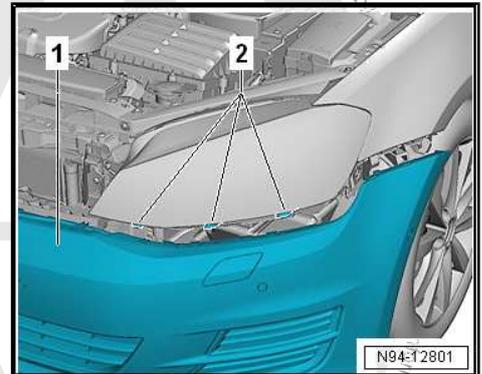
- Loosen the bolt -4-.
- Disengage the connector and disconnect.
- Remove the headlamp -1- forward.

Installing

Install in the reverse order of removal while paying attention to the following:



- Slide the headlamp into the bumper cover guide.
- Uniformly adjust the headlamp gap distribution. Refer to ⇒ [“1.4 Headlamp Installation Position, Correcting”, page 105](#) .
- Push on the bumper cover -1-; Pay attention that it is pushed in the mounts -2- under the headlamp.
- Perform a function test.
- Check and correct headlamp adjustment, if necessary. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .



Tightening Specifications

- ◆ Refer to ⇒ [“1.1 Overview Headlamp”, page 92](#)

1.3 Headlamp, Adjusting

⇒ [“1.3.1 Halogen Twin Headlamp, Adjusting”, page 105](#)

⇒ [“1.3.2 HID Headlamp, Adjusting”, page 105](#)

⇒ [“1.3.3 Fog Lamp, Adjusting”, page 105](#)

⇒ [“1.3.4 Auxiliary Headlamps, Adjusting”, page 105](#)

1.3.1 Halogen Twin Headlamp, Adjusting

Adjusting the halogen twin headlamp. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .

1.3.2 HID Headlamp, Adjusting

HID headlamp, adjusting. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .

1.3.3 Fog Lamp, Adjusting

Adjusting the fog lamps. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .

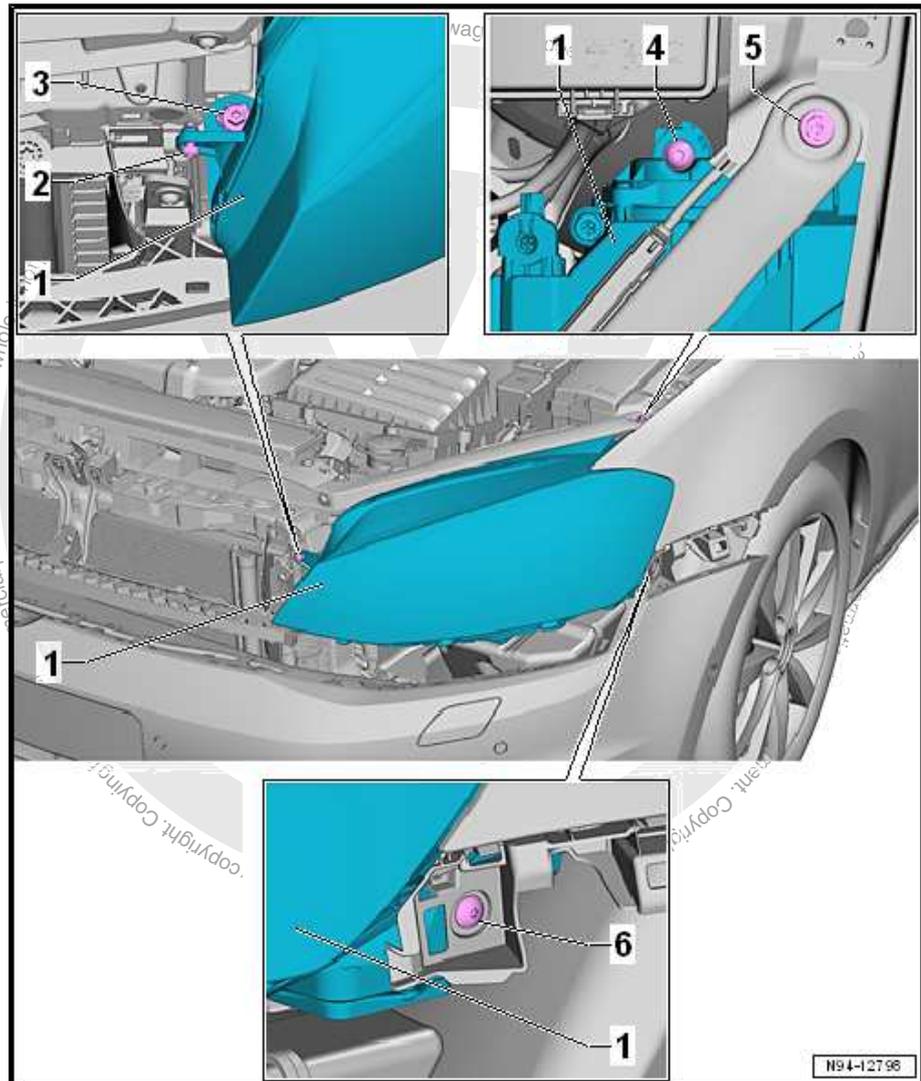
1.3.4 Auxiliary Headlamps, Adjusting

Retrofitted auxiliary headlamps must be checked and adjusted according to the guidelines used for other systems.

1.4 Headlamp Installation Position, Correcting

Procedure

- Loosen the bolts -3 through 6-



- Uniformly adjust the gap distribution of the headlamp -1- to the fender.
- Tighten the bolts -5 and 6-.
- Close the hood.
- Uniformly adjust the gap distribution of the banjo bolt for the bolt -3- and the impact screw -2-.
- Open the hood.
- Tighten the bolt -3- in the bolt.
- Tighten the bolt -4-.
- Perform a function test.
- Check and correct headlamp adjustment, if necessary. Refer to => Maintenance ; Booklet 36.1 ; Procedure Descriptions .



Tightening Specifications

1.5 Left/Right Front Turn Signal Bulb -M5- / -M7- , Removing and Installing

⇒ [“1.5.1 Left/Right Front Turn Signal Bulb M5 / M7 , Removing and Installing, Halogen Dual Headlamp”, page 107](#)

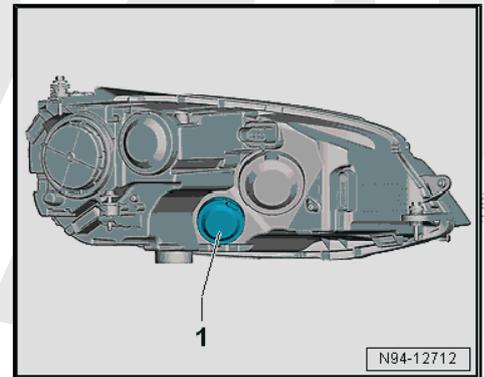
⇒ [“1.5.2 Left/Right Front Turn Signal Bulb M5 / M7 , Removing and Installing, HID Headlamps”, page 108](#)

1.5.1 Left/Right Front Turn Signal Bulb -M5- / -M7- , Removing and Installing, Halogen Dual Headlamp

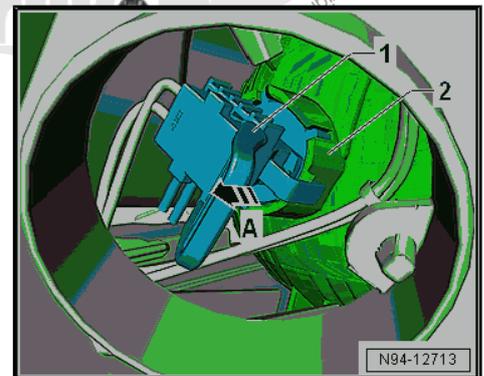
The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the housing cover -1- from the headlamp.



- Remove the socket with bulb socket -1- from the reflector -2- in the direction of the -arrow A-.





- Remove the Left Front Turn Signal Bulb - M5- -2- from the socket -1-.

Installing

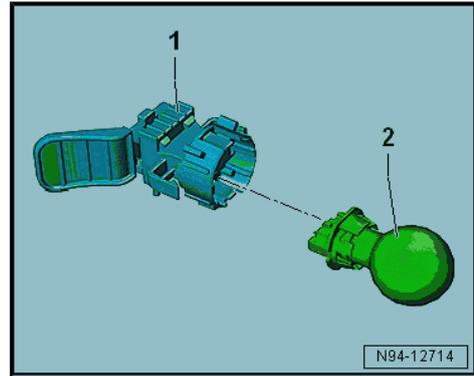
Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the headlamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean cloth gloves to insert the bulbs.*
- ◆ *During installation, ensure proper seating of the housing cover. Water getting in the headlamp will cause damage.*



- Perform a function test.
- Check and correct headlamp adjustment, if necessary. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .

1.5.2 Left/Right Front Turn Signal Bulb -M5- / -M7- , Removing and Installing, HID Headlamps

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.

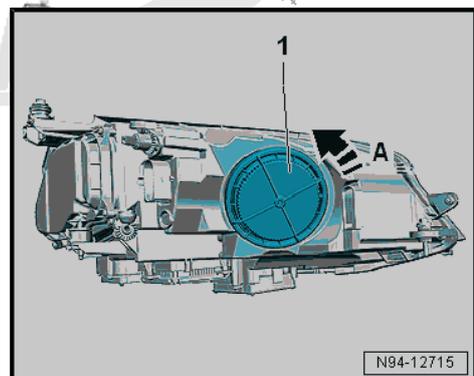
If the left turn signal bulb cannot be removed as described, then the air filter housing must be removed. Refer to ⇒ Rep. Gr. 23 ; Air Filter; Air Filter Housing, Removing and Installing or ⇒ Rep. Gr. 24 ; Air Filter; Air Filter Housing, Removing and Installing .

Vehicles with TDI Engine

If the right turn signal bulb cannot be removed as described, then the fuel filter must be loosened. The fuel filter is set aside with the wires connected. Refer to ⇒ Rep. Gr. 20 ; Fuel Filter; Fuel Filter, Removing and Installing .

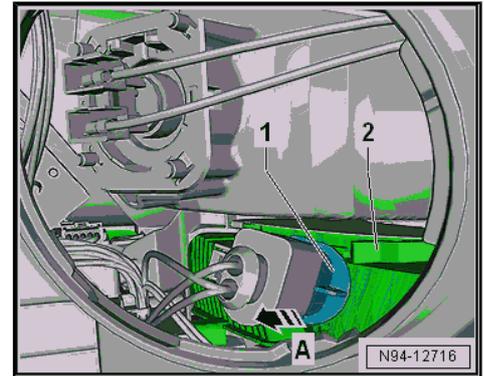
All Vehicles

- Turn the housing cover -1- in the direction of -arrow A- and remove from the headlamp.





- Turn the bulb socket -1- counter-clockwise until stop.
- Remove the bulb socket -1- in the direction of -arrow A- out of the reflector -2-.



- Release and disconnect the connector -1- on the Left Front Turn Signal Bulb - M5- with the bulb socket -2-.

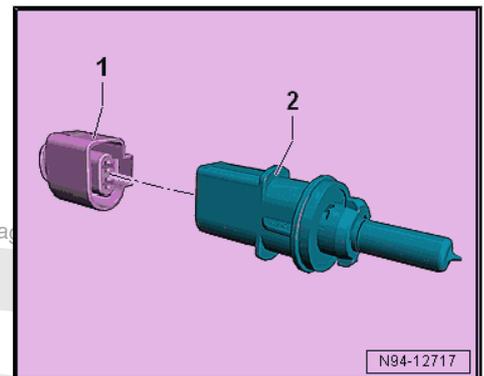
Installing

Install in the reverse order of removal while paying attention to the following:

 **Caution**

There is a risk of damaging the headlamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean cloth gloves to insert the bulbs.*
- ◆ *During installation, ensure proper seating of the housing cover. Water getting in the headlamp will cause damage.*



- Perform a function test.
- Check and correct headlamp adjustment, if necessary. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .

1.6 Headlamp Housing Repair Kit, Installing

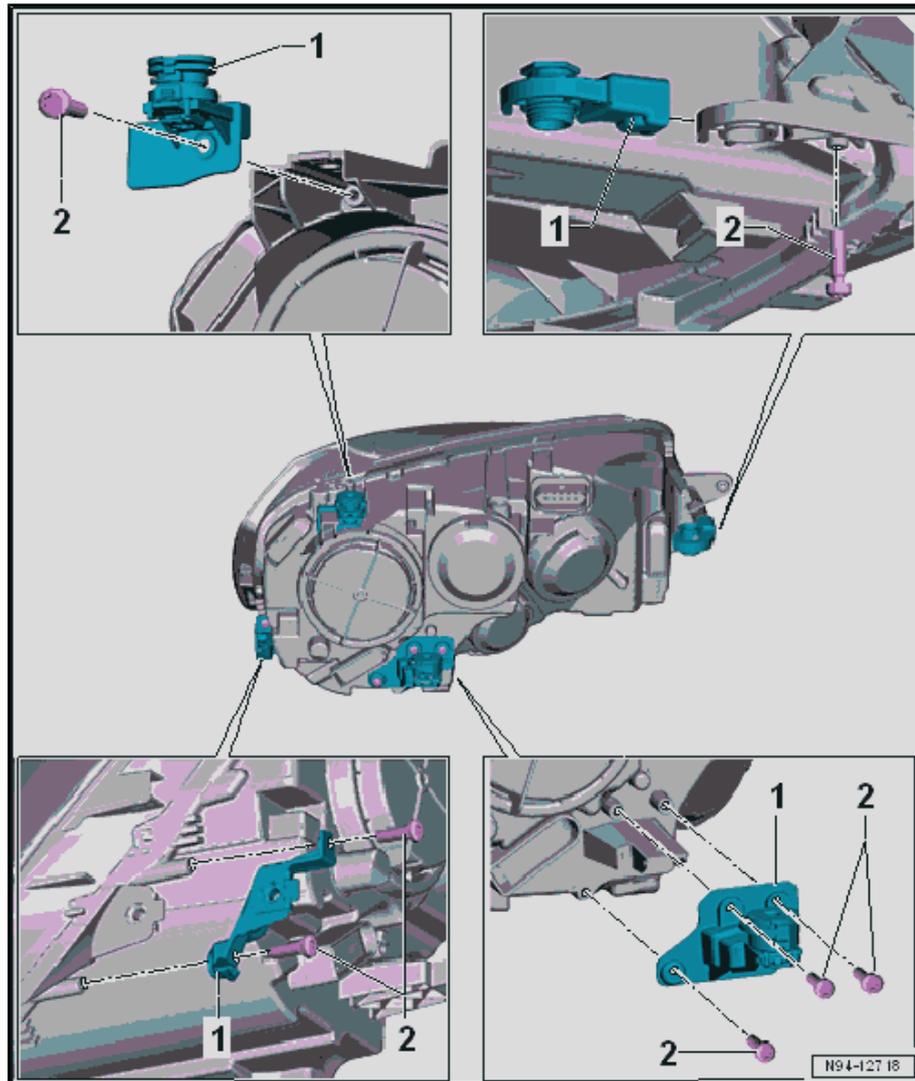
The removal and installation is described for the left side. Removing and installing on the right side is identical.

Headlamp mounting tabs that have broken off can be replaced by installing the repair set. Completely replacing the headlamp is not necessary.

There are different repair kits for left and right headlamps. Refer to Parts Catalog.

Procedure

- Remove the headlamp with the broken tabs. Refer to ⇒ ["1.2 Headlamp, Removing and Installing", page 101](#)
- Remove the rest of the broken tab on the headlamp housing.
- Place the mounting tabs -1- from the repair kit on the headlamp and secure them with the bolts -2-.



- Install the headlamp and align to the body contour.
- Perform a function test.
- Check and correct headlamp adjustment, if necessary. Refer to → Maintenance ; Booklet 36.1 ; Procedure Descriptions .

Tightening Specifications

1.7 Headlamp, Changing from LHD to RHD

⇒ [“1.7.1 Headlamp, Changing from LHD to RHD, Halogen Dual Headlamp”, page 110](#)

⇒ [“1.7.2 Headlamp, Changing from LHD to RHD, Except Halogen Dual Headlamp”, page 111](#)

1.7.1 Headlamp, Changing from LHD to RHD, Halogen Dual Headlamp

If the vehicle is driven in countries where the traffic drives on the other side of the road (either right-hand or left-hand traffic) than where it is normally driven, no actions whatsoever must be performed.



1.7.2 Headlamp, Changing from LHD to RHD, Except Halogen Dual Headlamp

If the vehicle is driven in countries where the traffic drives on the other side of the road (either right-hand or left-hand traffic) than where it is normally driven, both headlamps must be adjusted. To prevent the asymmetrical low beam from blinding.

Converting between left and right hand traffic and vice-versa takes place via the Infotainment system.

The use of travel mode is only permitted, when it is used only short period of time. For longer use country-specific headlamps must be installed.

- Push the button **CAR** on the Front Information Display Control Head - J685- .
- Push the functional surface **Setup** and **Lamp**.
- Enter the adaptation in the "Lamp Settings" menu.

1.8 Left/Right Headlamp Beam Adjustment Motor - V48- / -V49- , Removing and Installing

⇒ ["1.8.1 Left/Right Headlamp Beam Adjustment Motor V48 / V49, Removing and Installing, Halogen Dual Headlamps"](#), page 111

⇒ ["1.8.2 Left/Right Headlamp Beam Adjustment Motor V48 / V49, Removing and Installing, HID Headlamps"](#), page 112

1.8.1 Left/Right Headlamp Beam Adjustment Motor - V48- / -V49- , Removing and Installing, Halogen Dual Headlamps

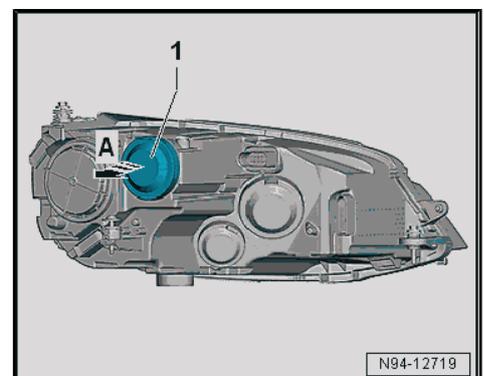
The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.

If the Left Headlamp Beam Adjustment Motor - V48- cannot be removed as described, then the headlamp must be removed. Refer to ⇒ ["1.2 Headlamp, Removing and Installing"](#), page 101 .

- Remove the housing cover -1- from the headlamp in the direction of -arrow A-.
- Release the Left Headlamp Beam Adjustment Motor - V48- -1-:
- ◆ Turn the led headlamp left opposite the direction of the -arrow A-.
- ◆ Turn the headlamp right in the direction of the -arrow A-.





- Pull the Left Headlamp Beam Adjustment Motor - V48- -1- in the direction of the -arrow C-.
- Turn the height adjustment -2- in the direction of the -arrow B- (lower the reflector). While doing so hold the Left Headlamp Beam Adjustment Motor - V48- -1- tensioned.
- Remove the Left Headlamp Beam Adjustment Motor - V48- -1- from the headlamp height adjustment in the direction of the -arrow C-.
- Disengage the connector and disconnect.

Installing

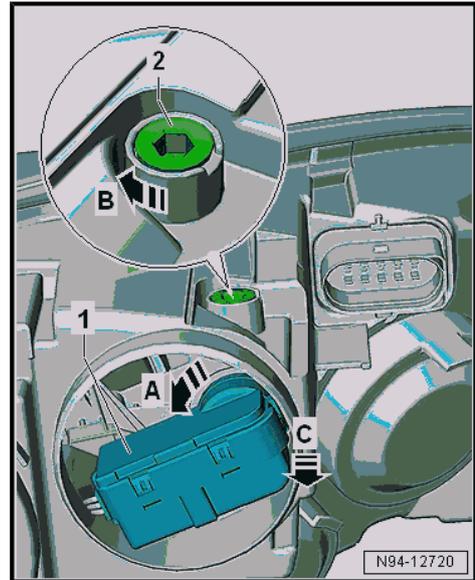
Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the headlamp.

- ◆ *During installation, ensure proper seating of the housing cover. Water getting in the headlamp will cause damage.*



- Connect the connector when pushing in the Left Headlamp Beam Adjustment Motor - V48- .
- Pull the reflector rearward and push the Left Headlamp Beam Adjustment Motor - V48- in the headlamp-height adjustment, until it engages audibly.
- Secure the Left Headlamp Beam Adjustment Motor - V48- -1- in the direction of the arrow -A-.
- Turn the height adjustment -2- opposite of the direction of the arrow -B-. The reflector must be moveable.
- Perform a function test.
- Check and correct headlamp adjustment, if necessary. Refer to => Maintenance ; Booklet 36.1 ; Procedure Descriptions .

1.8.2 Left/Right Headlamp Beam Adjustment Motor - V48- / -V49- , Removing and Installing, HID Headlamps

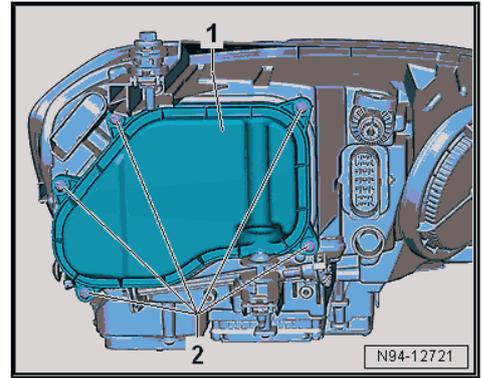
The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Remove the headlamp. Refer to [=> "1.2 Headlamp, Removing and Installing", page 101 .](#)



- Remove the housing cover -1- bolts -2-.
- Remove the housing cover -1-.
- Release the Left Headlamp Beam Adjustment Motor - V48- -1-:
- ◆ Turn the headlamp left in the direction of the -arrow A-.
- ◆ Turn the headlamp right opposite the direction of the -arrow A-.
- Pull the Left Headlamp Beam Adjustment Motor - V48- -1- in the direction of the -arrow C-.
- Turn the height adjustment -2- in the direction of the -arrow B- (lower the reflector). While doing so hold the Left Headlamp Beam Adjustment Motor - V48- -1- tensioned.
- Remove the Left Headlamp Beam Adjustment Motor - V48- -1- from the headlamp height adjustment in the direction of the -arrow C-.
- Disengage the connector and disconnect.



Installing

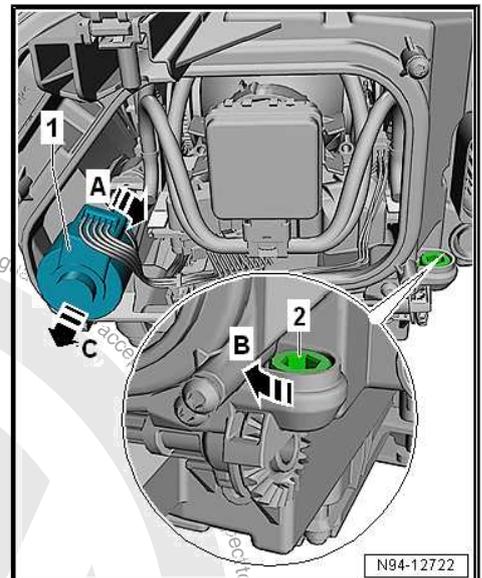
Install in the reverse order of removal while paying attention to the following:

 **Caution**

There is a risk of damaging the headlamp.

◆ *During installation, ensure proper seating of the housing cover. Water getting in the headlamp will cause damage.*

- Connect the connector when pushing in the Left Headlamp Beam Adjustment Motor - V48- .
- Pull the reflector rearward and push the Left Headlamp Beam Adjustment Motor - V48- in the headlamp-height adjustment, until it engages audibly.
- Secure the Left Headlamp Beam Adjustment Motor - V48- -1- opposite the direction of the -arrow A-.
- Turn the height adjustment -2- opposite of the direction of the -arrow B-. The reflector must be moveable.
- Perform a function test.
- Check and correct headlamp adjustment, if necessary. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .



Tightening Specifications

- ◆ Refer to ⇒ ["1.1 Overview - Headlamp", page 92](#)

1.9 Low Beam Headlamp Bulb, Removing and Installing

The removal and installation is described for the left side. Removing and installing on the right side is identical.

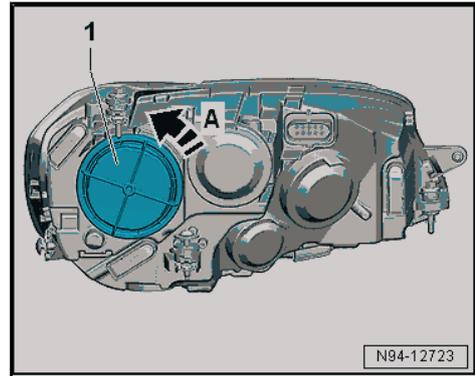
The Left Low Beam Headlamp Bulb - M29- / Right Low Beam Headlamp Bulb - M31- is only installed with halogen twin headlamps.

Removing

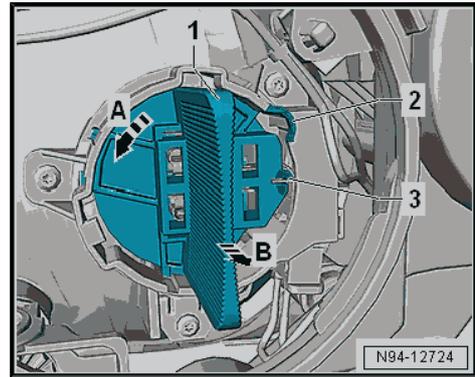
- Turn off the ignition and all electrical equipment.



- Remove the ignition key, if equipped.
- Turn the housing cover -1- in the direction of the -arrow A-.
- Remove the housing cover -1-.



- Turn the bulb socket -1- in the direction of the -arrow A-, until the retaining tab -3- is in the opening -2-.
- Remove the bulb socket -1- in the direction of the -arrow B-.



- Remove bulb -1- from socket -2-.

Installing

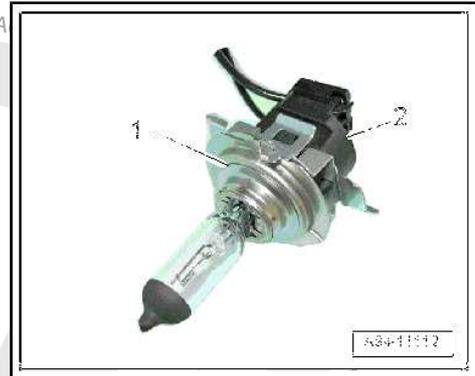
Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the headlamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean cloth gloves to insert the bulbs.*
- ◆ *During installation, ensure proper seating of the housing cover. Water getting in the headlamp will cause damage.*



- Install new bulb in the bulb socket.
- Install the bulb socket in the reflector do that the retaining tab points upward and fits in the opening.
- Perform a function test.
- Check and correct headlamp adjustment, if necessary. Refer to => Maintenance ; Booklet 36.1 ; Procedure Descriptions .

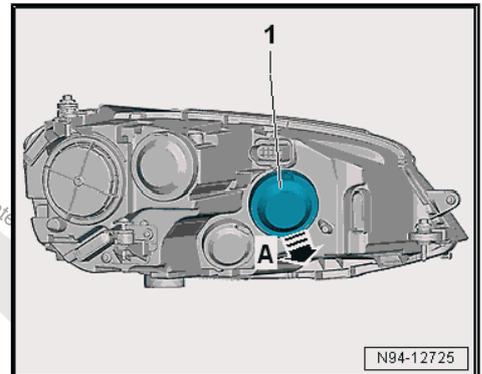
1.10 Left/Right High Beam Headlamp Bulb - M30- / -M32- , Removing and Installing

The removal and installation is described for the left side. Removing and installing on the right side is identical.

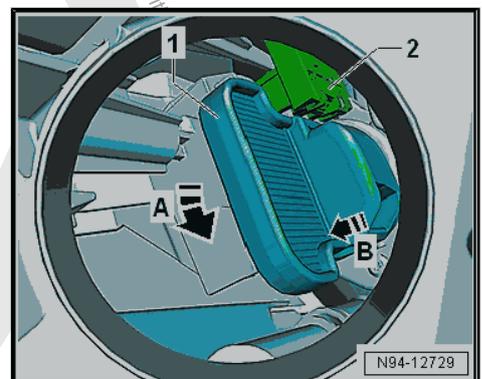


Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the housing cover -1- in the direction of the -arrow A-.



- Turn the socket -1- in the direction of the -arrow A-, until the contacts are turned out of the contact housing -2-.
- Remove the socket -1- in the direction of the -arrow B-.



- Remove the lamp -2- from the socket -1-.

Installing

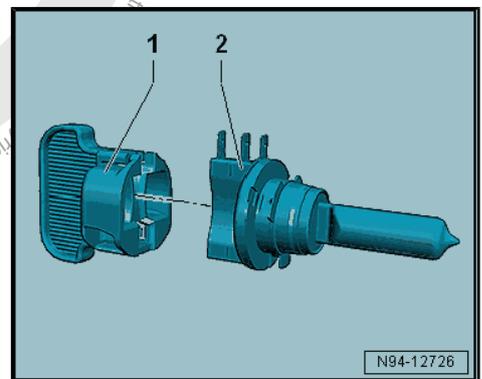
Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the headlamp.

- ◆ ***Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.***
- ◆ ***Use clean cloth gloves to insert the bulbs.***
- ◆ ***During installation, ensure proper seating of the housing cover. Water getting in the headlamp will cause damage.***



- Perform a function test.
- Check and correct headlamp adjustment, if necessary. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .

1.11 Left/Right HID Headlamp Bulb - L13- / - L14- , Removing and Installing

The removal and installation is described for the left side. Removing and installing on the right side is identical.



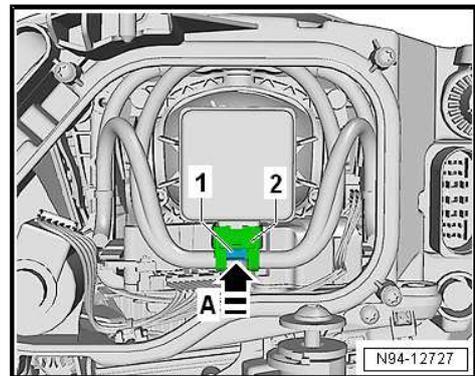
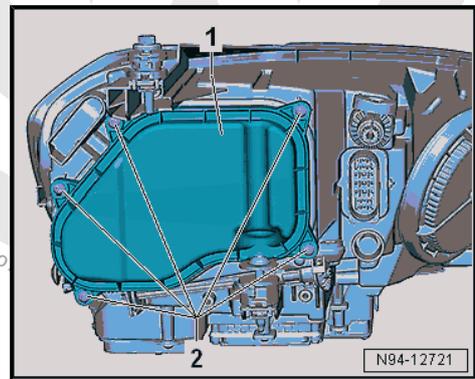
WARNING

High voltage poses a life-endangering risk, injury risk and environmental hazard.

- ◆ *Pay attention to usage and safety information for HID headlamps. Refer to ⇒ **"1.3 HID Headlamps Usage and Safety Precautions"**, page 2 .*

Removing

- Turn off the ignition and all electrical equipment.
 - Remove the ignition key, if equipped.
 - Remove the headlamp. Refer to ⇒ **"1.2 Headlamp, Removing and Installing"**, page 101 .
 - Remove the housing cover -1 bolts 2-.
 - Remove the housing cover -1-.
-
- Turn the securing tab -1- in the direction of the -arrow A- to disconnect the connector -2-.

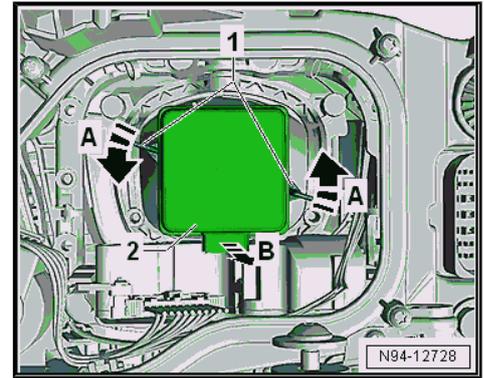




- Turn the locking mechanism -1- in the direction of the -arrow A-.
- Remove the HID headlamp bulb -2- in the direction of the -arrow B- from the housing.

Installing

Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the headlamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean cloth gloves to insert the bulbs.*
- ◆ *During installation, ensure proper seating of the housing cover. Water getting in the headlamp will cause damage.*



Note

Installation position: the electrical connection faces down.

- Perform a function test.
- Check and correct headlamp adjustment, if necessary. Refer to ⇒ Maintenance : Booklet 36.1 ; Procedure Descriptions .

Tightening Specifications

- ◆ Refer to ⇒ [“1.1 Overview - Headlamp”, page 92](#)

1.12 Left/Right Position Lamp Bulb - M1- / - M3- , Removing and Installing

⇒ [“1.12.1 Left/Right Position Lamp Bulb M1 / M3 , Removing and Installing, Halogen Dual Headlamp”, page 117](#)

⇒ [“1.12.2 Left/Right Position Lamp Bulb M1 / M3 , Removing and Installing, HID Headlamp”, page 118](#)

1.12.1 Left/Right Position Lamp Bulb - M1- / - M3- , Removing and Installing, Halogen Dual Headlamp

The Left Position Lamp Bulb - M1- and the Right Position Lamp Bulb - M3- is integrated in the Left High Beam Headlamp Bulb - M30- and in the Right High Beam Headlamp Bulb - M32- .

- Left/Right High Beam Headlamp Bulb -M30- / -M32- , Removing and installing. Refer to ⇒ [“1.10 Left/Right High Beam Headlamp Bulb M30 / M32 , Removing and Installing”, page 114](#) .



1.12.2 Left/Right Position Lamp Bulb - M1- / -M3- , Removing and Installing, HID Headlamp

The Left Position Lamp Bulb - M1- and the Right Position Lamp Bulb - M3- is integrated in the Left Daytime Running Lamp Bulb - L174- and in the Right Daytime Running Lamp Bulb - L175- .

- Daytime Running Lamp Bulb -L174- / -L175- , Removing and installing. Refer to
⇒ ["1.13.2 Left/Right Daytime Running Lamp Bulb L174 / L175, Removing and Installing, HID Headlamp", page 118](#) .

1.13 Left/Right Daytime Running Lamp Bulb - L174- / -L175- , Removing and Installing

⇒ ["1.13.1 Left/Right Daytime Running Lamp Bulb L174 / L175, Removing and Installing, Halogen Dual Headlamp", page 118](#) .

⇒ ["1.13.2 Left/Right Daytime Running Lamp Bulb L174 / L175, Removing and Installing, HID Headlamp", page 118](#) .

1.13.1 Left/Right Daytime Running Lamp Bulb - L174- / -L175- , Removing and Installing, Halogen Dual Headlamp

The Left Daytime Running Lamp Bulb - L174- and the Right Daytime Running Lamp Bulb - L175- is integrated in the Left High Beam Headlamp Bulb - M30- and in the Right High Beam Headlamp Bulb - M32- .

- Left/Right High Beam Headlamp Bulb -M30- / -M32- , Removing and installing. Refer to
⇒ ["1.10 Left/Right High Beam Headlamp Bulb M30 / M32, Removing and Installing", page 114](#) .

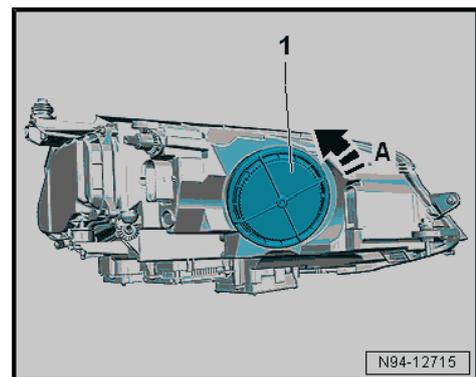
1.13.2 Left/Right Daytime Running Lamp Bulb -L174- / -L175- , Removing and Installing, HID Headlamp

The removal and installation is described for the left side. Removing and installing on the right side is identical.

The Left Daytime Running Lamp Bulb - L174- and the Right Daytime Running Lamp Bulb - L175- has the function of the Left Position Lamp Bulb - M1- and the Right Position Lamp Bulb - M3- .

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Turn the housing cover -1- in the direction of the -arrow A- and remove from the headlamp.
- Remove the Left Daytime Running Lamp Bulb - L174- on the handle -1- in the direction of the -arrow A- rearward from the reflector.





- Remove the Left Daytime Running Lamp Bulb - L174- from the handle.

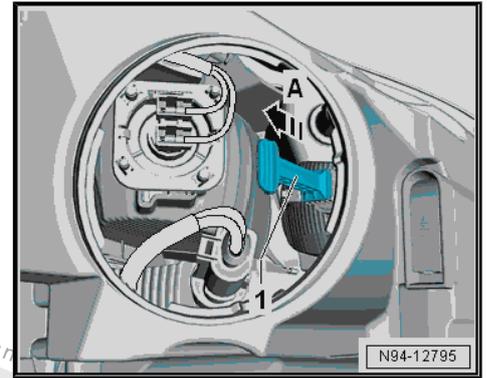
Installing

Install in the reverse order of removal while paying attention to the following:

 **Caution**

There is a risk of damaging the headlamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean cloth gloves to insert the bulbs.*
- ◆ *During installation, ensure proper seating of the housing cover. Water getting in the headlamp will cause damage.*



- Perform a function test.
- Check and correct headlamp adjustment, if necessary. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .

1.14 Left/Right Daytime Running Lamp and Position Lamp LED Module - L176- / - L177- , Removing and Installing

The Left Daytime Running Lamp and Position Lamp LED Module - L176- / Right Daytime Running Lamp and Position Lamp LED Module - L177- is only installed with HID headlamps.

The daytime running lamp and position lamp bulbs are LED lamps and are integrated in the headlamp. Changing the LEDs is not possible. The headlamp must be completely replaced.

- Headlamps, Removing and installing. Refer to ⇒ ["1.2 Headlamp, Removing and Installing", page 101](#) .

1.15 Left/Right Low Beam Headlamp Reflector Motor -V294- / -V295- Removing and Installing

The Left Low Beam Headlamp Reflector Motor - V294- / Right Low Beam Headlamp Reflector Motor - V295- is only installed with HID headlamps without cornering lamps.

The low beam headlamp reflector motor sits in the headlamp and cannot be replaced separately if it is faulty.

- Headlamps, Removing and installing. Refer to ⇒ ["1.2 Headlamp, Removing and Installing", page 101](#) .

1.16 Left/Right Cornering Lamp Bulb - L148- / -L149- , Removing and Installing

The Left Cornering Lamp Bulb - L148- / Right Cornering Lamp Bulb - L149- is only installed with HID headlamps.

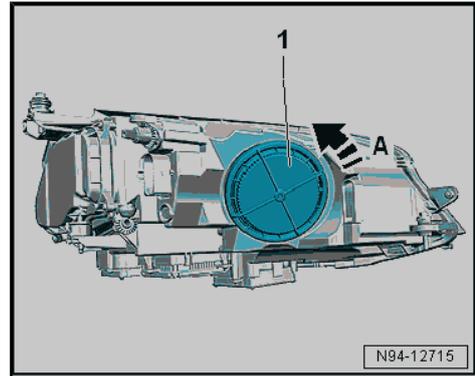
The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.



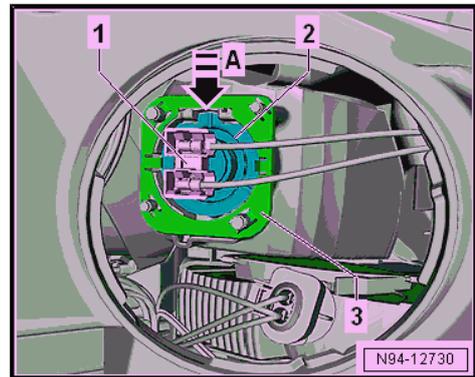
- Turn the housing cover -1- in the direction of the -arrow A- and remove from the headlamp.
- Push upward in the direction of the -arrow A- on the bulb socket -1-.
- Remove the bulb socket -1- from the reflector -2-.



- Disconnect the connector.

Installing

Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the headlamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean cloth gloves to insert the bulbs.*
- ◆ *During installation, ensure proper seating of the housing cover. Water getting in the headlamp will cause damage.*

Perform a function test.

Check and correct headlamp adjustment, if necessary. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .

1.17 Left/Right HID Headlamp Control Module - J343- / -J344- , Removing and Installing

The removal and installation is described for the left side. Removing and installing on the right side is identical.



WARNING

High voltage poses a life-endangering risk, injury risk and environmental hazard.

- ◆ *Pay attention to usage and safety information for HID headlamps. Refer to ⇒ **"1.3 HID Headlamps Usage and Safety Precautions", page 2** .*
- ◆ *It is necessary to disconnect the battery wire strap before working on HID headlamp components. These parts are marked with yellow high voltage symbols.*

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.



- Remove the headlamp. Refer to [⇒ "1.2 Headlamp, Removing and Installing", page 101](#).
- Remove the screws -2-.
- Remove the Left Hid Headlamp Control Module - J343- -1- from the headlamp.
- Push the release buttons -4 and 6-.
- Disconnect the connectors -3 and 5-.

Installing

Install in the reverse order of removal while paying attention to the following:

 **Caution**

Make sure the seal fits correctly when installing the HID headlamp control module. Water getting in the headlamp will cause damage.

- Make sure the seal between the control module and the headlamp is not damaged.

Tightening Specifications

- ◆ Refer to [⇒ "1.1 Overview - Headlamp", page 92](#)

1.18 Left/Right Headlamp Power Output Stage -J667- / -J668- , Removing and Installing

The removal and installation is described for the left side. Removing and installing on the right side is identical.

The Left Headlamp Power Output Stage - J667- / Right Headlamp Power Output Stage - J668- is only installed with HID headlamps with cornering lamps.

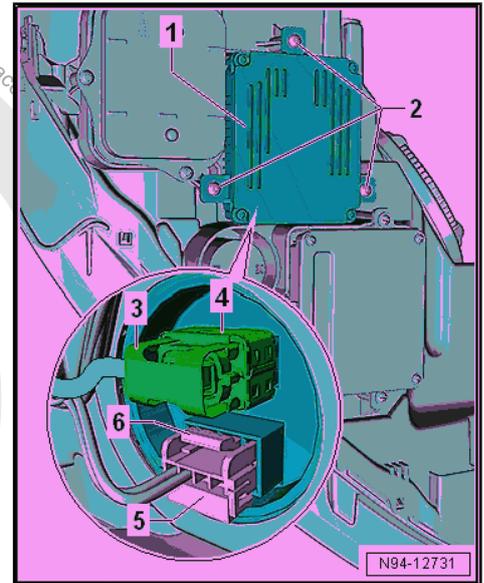
 **WARNING**

High voltage poses a life-endangering risk, injury risk and environmental hazard.

- ◆ *Pay attention to usage and safety information for HID headlamps. Refer to [⇒ "1.3 HID Headlamps Usage and Safety Precautions", page 2](#).*
- ◆ *It is necessary to disconnect the battery wire strap before working on HID headlamp components. These parts are marked with yellow high voltage symbols.*

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the headlamp. Refer to [⇒ "1.2 Headlamp, Removing and Installing", page 101](#).
- Remove the screws -2-.
- Remove the Left Headlamp Power Output Stage - J667- -1- from the headlamp.





- Press the release button -4-.
- Disconnect the connector -3-.

Installing

Install in the reverse order of removal while paying attention to the following:



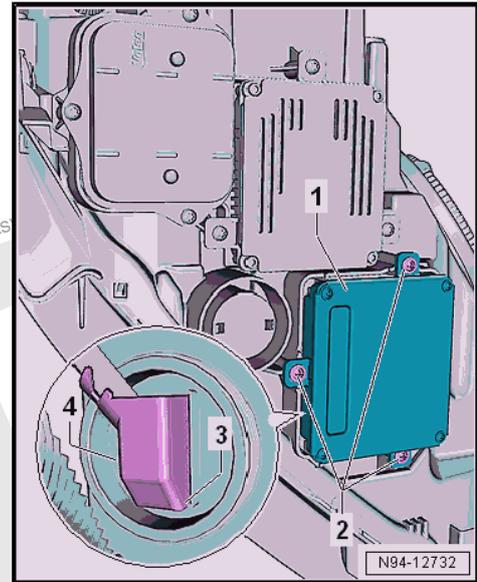
Caution

Make sure the seal fits correctly when installing the HID headlamp control module. Water getting in the headlamp will cause damage.

- Make sure the seal between the control module and the headlamp is not damaged.

Tightening Specifications

- ◆ Refer to ⇒ ["1.1 Overview - Headlamp", page 92](#)



1.19 Left/Right Daytime Running Lamp and Position Lamp Control Module - J860- / -J861- , Removing and Installing

The removal and installation is described for the left side. Removing and installing on the right side is identical.

The Left Daytime Running Lamp and Position Lamp Control Module - J860- / Right Daytime Running Lamp and Position Lamp Control Module - J861- is only installed with HID headlamps.



WARNING

High voltage poses a life-endangering risk, injury risk and environmental hazard.

- ◆ **Pay attention to usage and safety information for HID headlamps. Refer to ⇒ ["1.3 HID Headlamps Usage and Safety Precautions", page 2](#).**
- ◆ **It is necessary to disconnect the battery wire strap before working on HID headlamp components. These parts are marked with yellow high voltage symbols.**

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the headlamp. Refer to ⇒ ["1.2 Headlamp, Removing and Installing", page 101](#).
- Remove the screws -2-.
- Remove the Left Daytime Running Lamp and Position Lamp Control Module - J860- -1- from the headlamp.
- Disconnect the connector -3-.



- Remove the control module.

Installing

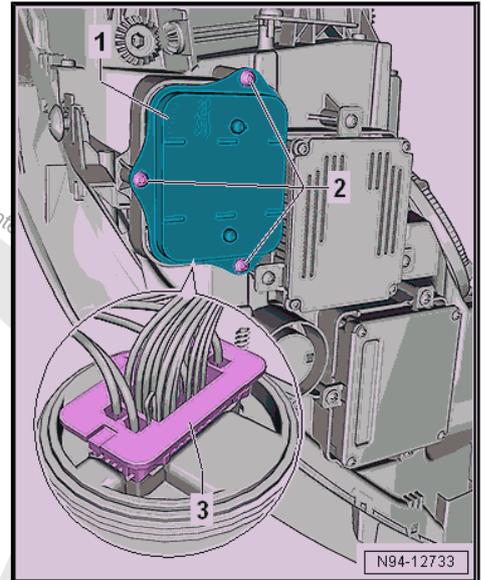
Install in the reverse order of removal while paying attention to the following:

**Caution**
Make sure the seal fits correctly when installing the HID headlamp control module. Water getting in the headlamp will cause damage.

- Make sure the seal between the control module and the headlamp is not damaged.

Tightening Specifications

- ◆ Refer to ⇒ [“1.1 Overview - Headlamp”, page 92](#)



1.20 Sensor for Left/Right Variable Headlamp Positioning Motor - G695- / - G696- , Removing and Installing

The Sensor for Left Variable Headlamp Positioning Motor - G695- / Sensor for Right Variable Headlamp Positioning Motor - G696- is only installed with HID headlamps.

The sensor for variable headlamp positioning motor is inside the headlamp housing and cannot be replaced separately if it is faulty.

- Headlamps, Removing and installing. Refer to ⇒ [“1.2 Headlamp, Removing and Installing”, page 101](#) .

1.21 Left/Right Variable Headlamp Positioning Motor -V446- / -V447- , Removing and Installing

The Left Variable Headlamp Positioning Motor - V446- / Right Variable Headlamp Positioning Motor - V447- is only installed with HID headlamps.

The variable headlamp positioning motor sits in the headlamp housing and cannot be replaced separately if it is faulty.

- Headlamps, Removing and installing. Refer to ⇒ [“1.2 Headlamp, Removing and Installing”, page 101](#) .

1.22 Left/Right Swivel Module Position Sensor -G474- / -G475- , Removing and Installing

The Left Swivel Module Position Sensor - G474- / Right Swivel Module Position Sensor - G475- is only installed with HID headlamps.

The swivel module position sensor sits in the headlamp housing and cannot be replaced separately if it is faulty.

- Headlamps, Removing and installing. Refer to ⇒ [“1.2 Headlamp, Removing and Installing”, page 101](#) .



1.23 Left/Right Adaptive Cornering Lamp Motor - V318- / -V319- , Removing and Installing

The Left Adaptive Cornering Lamp Motor - V318- / Right Adaptive Cornering Lamp Motor - V319- is installed only with HID headlamps.

The adaptive cornering lamp motor sits in the headlamp housing and cannot be replaced separately if it is faulty.

- Headlamps, Removing and installing. Refer to [⇒ "1.2 Headlamp, Removing and Installing", page 101](#) .





2 Fog Lamps

⇒ ["2.1 Overview - Fog Lamps", page 125](#)

⇒ ["2.2 Fog Lamp, Removing and Installing", page 126](#)

⇒ ["2.3 Left/Right Front Fog Lamp Bulb L22 / L23 , Removing and Installing", page 127](#)

2.1 Overview - Fog Lamps

⇒ ["2.1.1 Overview - Fog Lamps, Except GTI", page 125](#)

⇒ ["2.1.2 Overview - Fog Lamps, GTI", page 126](#)

2.1.1 Overview - Fog Lamps, Except GTI

1 - Fog Lamp

- ❑ There are different versions. Refer to the Parts Catalog.
- ❑ Removing and installing. Refer to
⇒ ["2.2.1 Fog Lamp, Removing and Installing, Except GTI", page 126](#) .

2 - Cap

3 - Fog Lamp Bulb

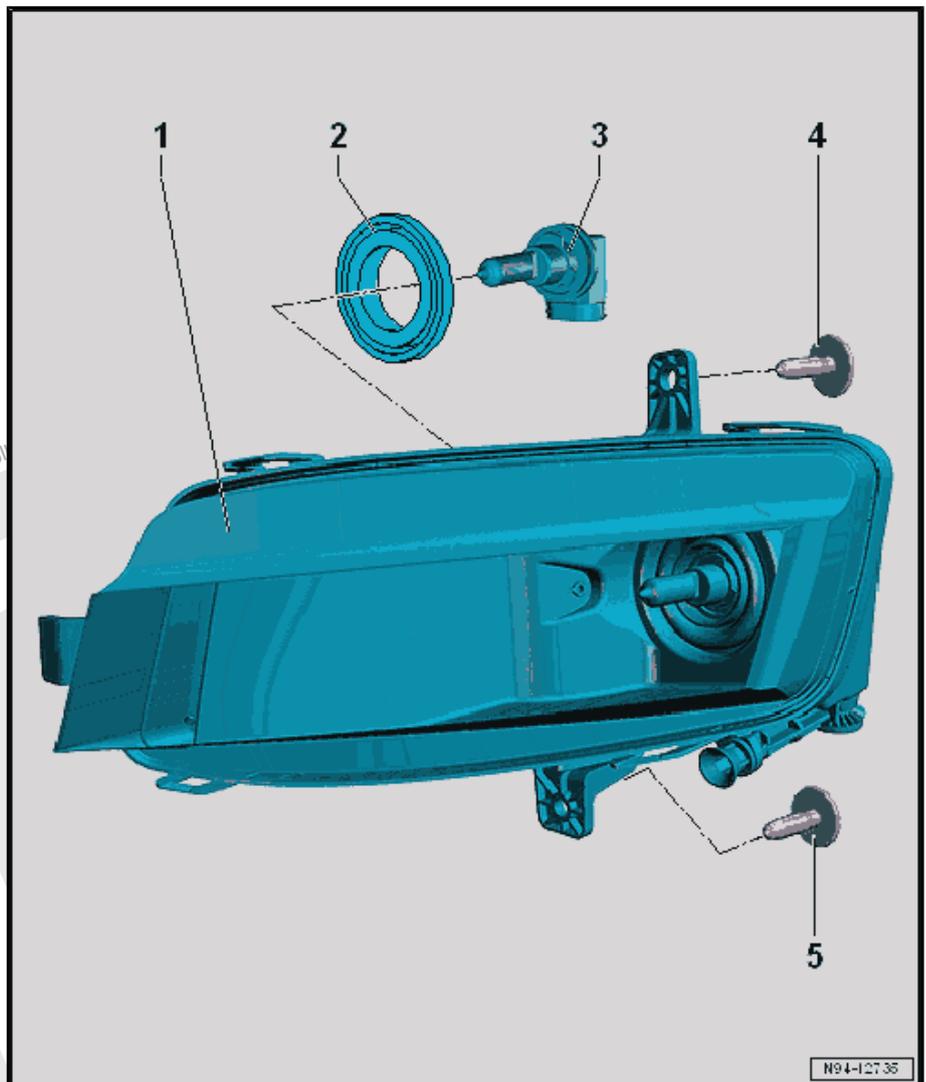
- ❑ Left Front Fog Lamp Bulb - L22-
- ❑ Right Front Fog Lamp Bulb - L23-
- ❑ Removing and installing. Refer to
⇒ ["2.3 Left/Right Front Fog Lamp Bulb L22 / L23 , Removing and Installing", page 127](#) .

4 - Screw

- ❑ 2 Nm

5 - Screw

- ❑ 2 Nm



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2.1.2 Overview - Fog Lamps, GTI

1 - Screw

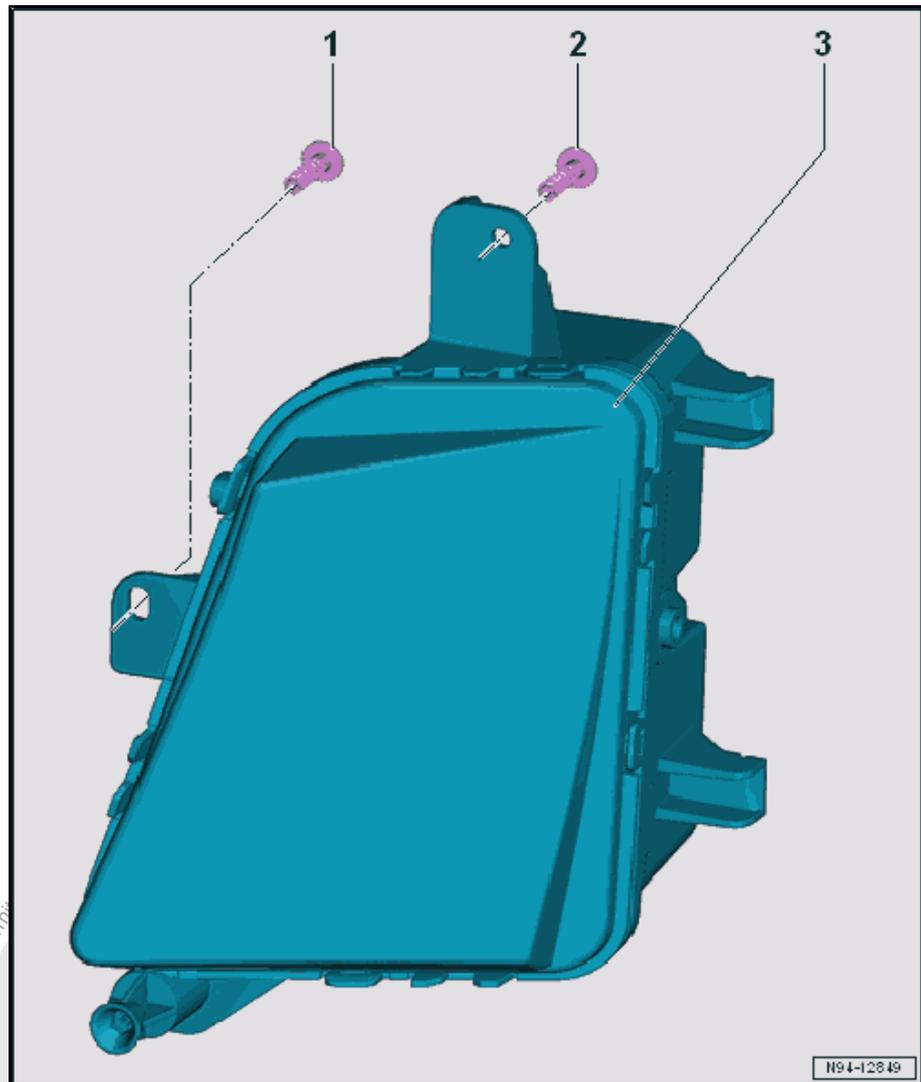
- 2 Nm

2 - Screw

- 2 Nm

3 - Fog Lamp

- Changing the LEDs is not possible. The fog lamp must be completely replaced.
- Removing and installing. Refer to ⇒ ["2.2.2 Fog Lamp, Removing and Installing, GTI", page 127](#) .



2.2 Fog Lamp, Removing and Installing

⇒ ["2.2.1 Fog Lamp, Removing and Installing, Except GTI", page 126](#)

⇒ ["2.2.2 Fog Lamp, Removing and Installing, GTI", page 127](#)

2.2.1 Fog Lamp, Removing and Installing, Except GTI

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .



- Remove the screws -1-.
- Pivot the fog lamp -2- in the direction of the -arrow A-.
- Remove the fog lamp -2- in the direction of the -arrow B- from the bumper cover.
- Disengage the connector and disconnect.

Installing

Install in the reverse order of removal while paying attention to the following:

- Adjusting the fog lamps. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .

Tightening Specifications

- ◆ Refer to ⇒ ["2.1.1 Overview - Fog Lamps, Except GTI", page 125](#)

2.2.2 Fog Lamp, Removing and Installing, GTI

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .
- Remove the bolts -1- and -3-.
- Lift the fog lamp -4- in the direction of the -arrow A-.
- Remove the fog lamp -4- from the bumper cover.
- Release and disconnect the connector -2-.

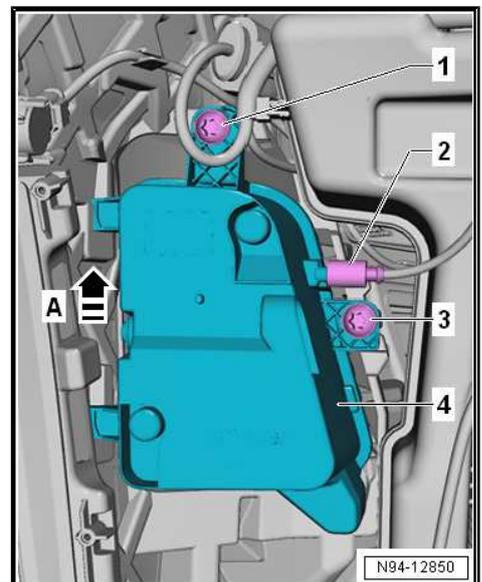
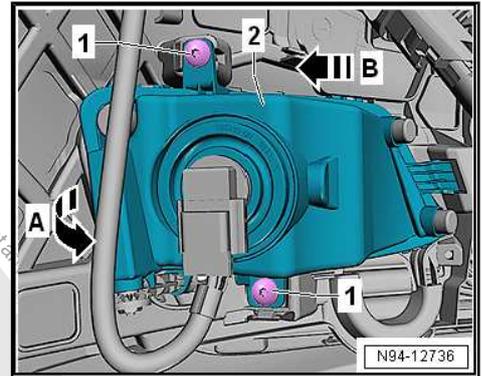
Installing

Install in the reverse order of removal while paying attention to the following:

- Adjusting the fog lamps. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .

Tightening Specifications

- ◆ Refer to ⇒ ["2.1.2 Overview - Fog Lamps, GTI", page 126](#)



2.3 Left/Right Front Fog Lamp Bulb - L22- / -L23- , Removing and Installing

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.



- Turn the steering to the right.
- Pry the cover -1- in the wheel housing liner in the direction of the -arrow A-.
- Disconnect the connector -4-.
- Remove the cap -3- from the fog lamp housing -5-.
- Turn the Left Front Fog Lamp Bulb - L22- -2- in the direction of the -arrow B- and remove from the fog lamp housing -5-.
- Remove the cap -3- from the Left Front Fog Lamp Bulb - L22- -2-.

Installing

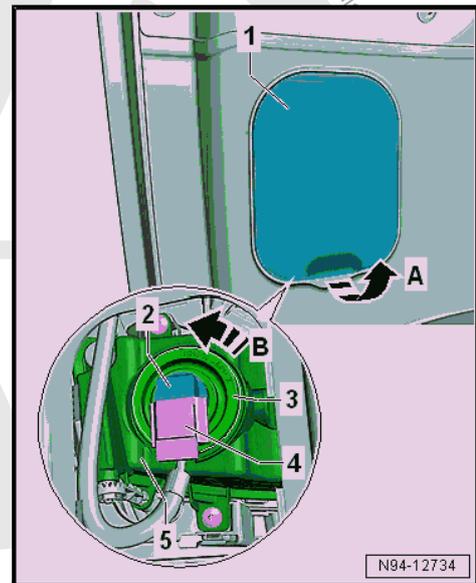
Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the headlamp.

- ◆ ***Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.***
- ◆ ***Use clean cloth gloves to insert the bulbs.***
- ◆ ***During installation, ensure proper seating of the cap. Water getting in the headlamp will cause damage.***



- Push the cap -3- on the Left Front Fog Lamp Bulb - L22- -2-.
- Push the Left Front Fog Lamp Bulb - L22- -2- in the fog lamp housing.
- Turn the Left Front Fog Lamp Bulb - L22- -2- clockwise until stop.
- Perform a function test.
- Check the fog lamp adjustment and adjust it if necessary. Refer to ⇒ Maintenance ; Booklet 36.1 ; Procedure Descriptions .



3 Lamps in Exterior Rearview Mirror

⇒ [“3.1 Overview - Lamps in Exterior Rearview Mirror”, page 129](#)

⇒ [“3.2 Turn Signal, Removing and Installing”, page 130](#)

⇒ [“3.3 Exterior Rearview Mirror Entry Lamp, Removing and Installing”, page 132](#)

3.1 Overview - Lamps in Exterior Rearview Mirror

1 - Mirror Cap

- ❑ Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Mirror Cap, Removing and Installing .

2 - Screw

- ❑ 1 Nm
- ❑ Quantity: 2

3 - Turn Signal

- ❑ Removing and installing. Refer to ⇒ [“3.2 Turn Signal, Removing and Installing”, page 130](#) .

4 - Bolt

- ❑ 9 Nm

5 - Bolt

- ❑ 9 Nm

6 - Clip

7 - Cap

8 - Mirror Glass

- ❑ Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Mirror Glass, Removing and Installing .

9 - Bolt

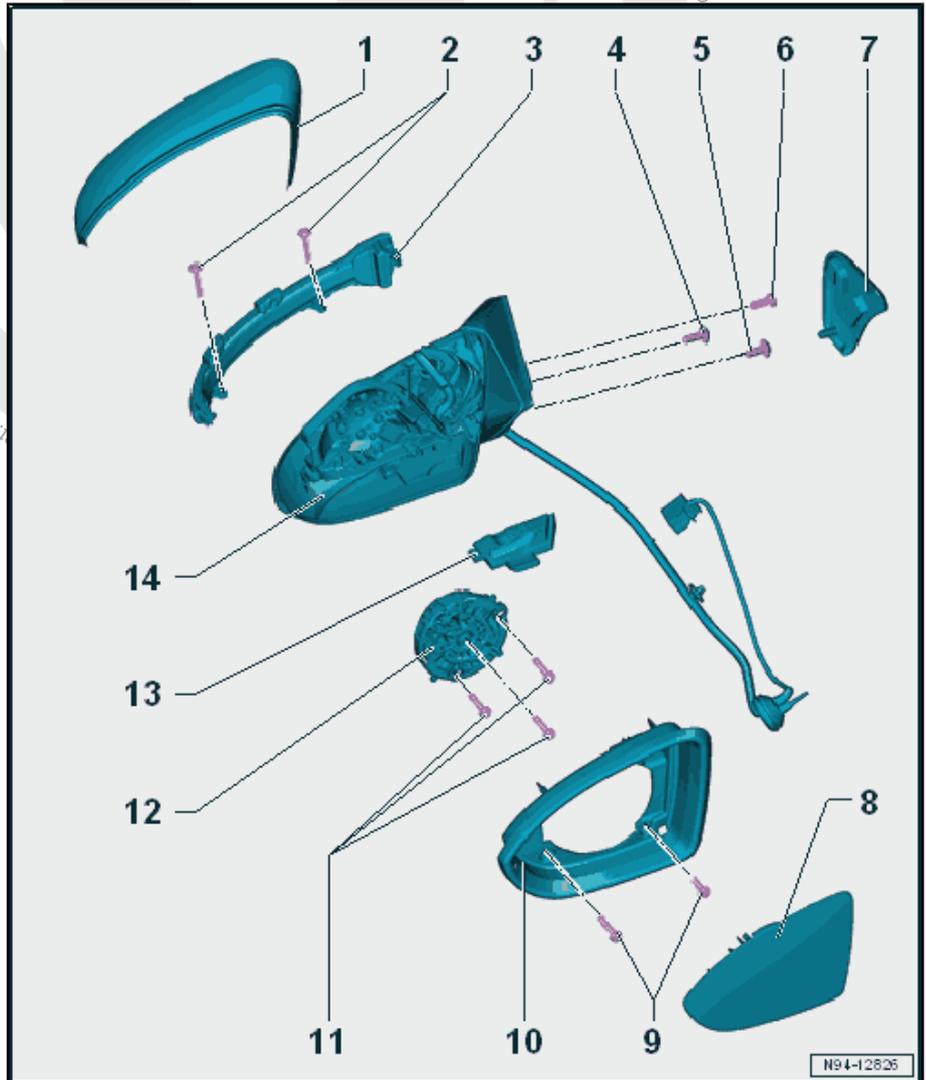
- ❑ Quantity: 2
- ❑ Tightening specification. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Overview - Exterior Rearview Mirror .

10 - Mirror Trim

- ❑ Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Mirror Trim, Removing and Installing .

11 - Bolt

- ❑ Quantity: 3
- ❑ Tightening specification. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Overview - Exterior Rearview Mirror .





12 - Adjusting Unit

- Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Mirror Adjusting Unit, Removing and Installing .

13 - Exterior Rearview Mirror Entry Lamp

- Driver Entry Lamp in Exterior Rearview Mirror - W52-
- Front Passenger Entry Lamp in Exterior Rearview Mirror - W53-
- Exterior rearview mirror entry lamp, removing and installing. Refer to ⇒ ["3.3 Exterior Rearview Mirror Entry Lamp, Removing and Installing", page 132](#) .

14 - Mirror Base

- Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Exterior Rearview Mirror, Removing and Installing .

3.2 Turn Signal, Removing and Installing

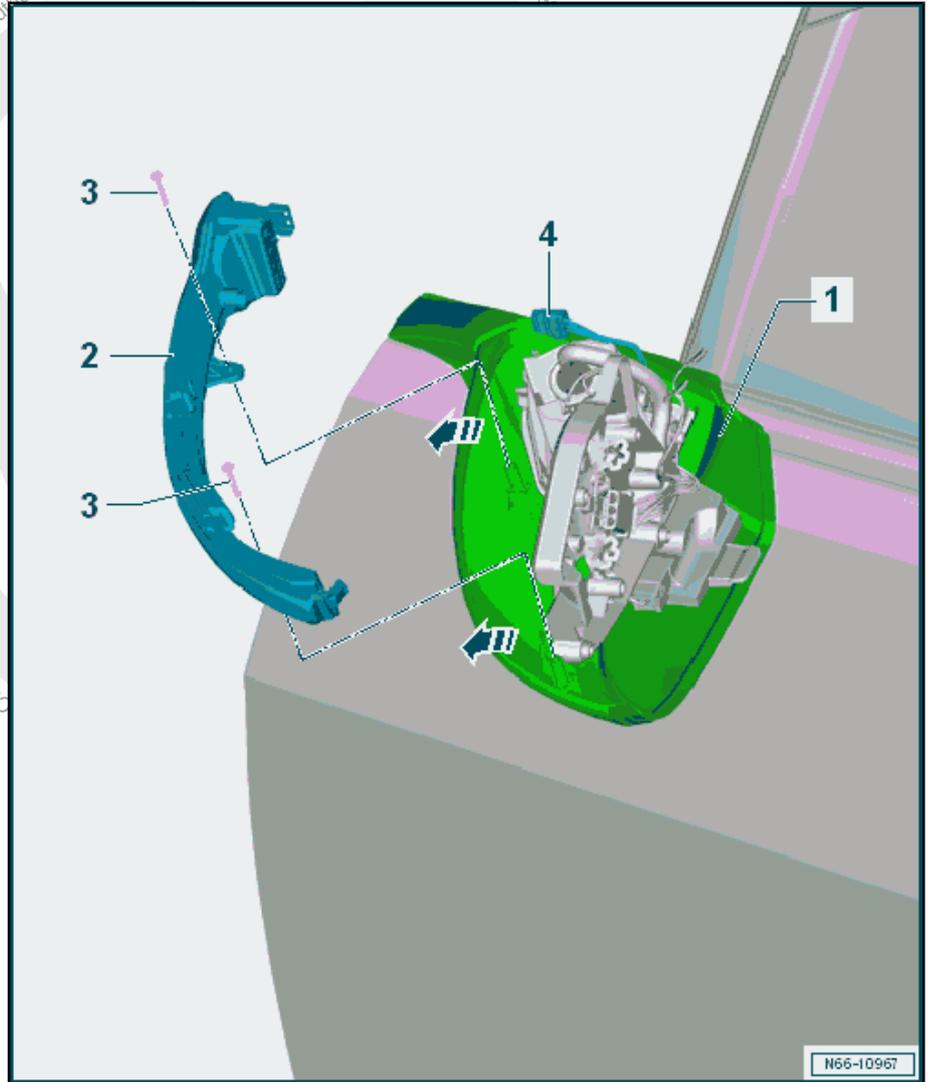
Special tools and workshop equipment required

- ◆ Torque Wrench 1783 - 2-10Nm - VAG1783-

The removal and installation is described for the left side. Removing and installing on the right side is identical.

The entire exterior mirror turn signal must be replaced if an LED is faulty.





Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the mirror trim. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Mirror Trim, Removing and Installing .
- Disconnect the connector -4-.
- Remove the bolts -3-.
- Release the mounting tab if necessary.
- Remove the turn signal -2- from the mirror base -1- upward.

Installing

Install in the reverse order of removal while paying attention to the following:

- Perform a function test.

Tightening Specifications

- ◆ Refer to
 ⇒ [“3.1 Overview - Lamps in Exterior Rearview Mirror”](#),
[page 129](#)



3.3 Exterior Rearview Mirror Entry Lamp, Removing and Installing

Special tools and workshop equipment required

- ◆ Torque Wrench 1783 - 2-10Nm - VAG1783-

The removal and installation is described for the left side. Removing and installing on the right side is identical.

The entire exterior rearview mirror entry lamp must be replaced if the LED is faulty.

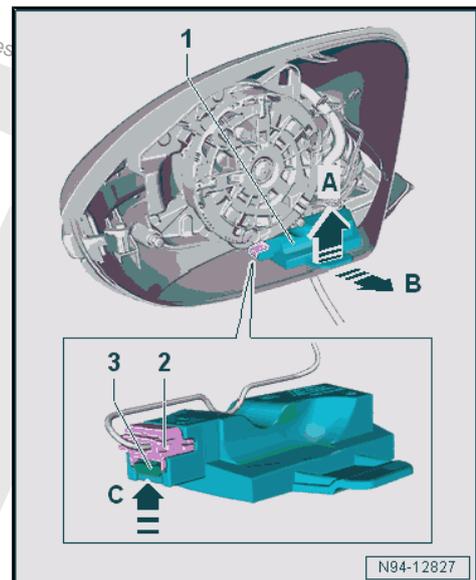
Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Mirror trim removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Mirror Trim, Removing and Installing .
- Pry the Driver Entry Lamp in Exterior Rearview Mirror -W52- -1- in the direction of the -arrow A-.
- Remove the Driver Entry Lamp in Exterior Rearview Mirror -W52- -1- in the direction of the -arrow B- from the mirror housing.
- Push the catches -3- in the direction of the -arrow C-.
- Release and disconnect the connector -2-.

Installing

Install in the reverse order of removal while paying attention to the following:

- Perform a function test.





4 Tail Lamps

⇒ [“4.1 Overview - Body Tail Lamps”, page 133](#)

⇒ [“4.2 Overview - Rear Lid Tail Lamps”, page 137](#)

⇒ [“4.3 Rear Lid Tail Lamp, Removing and Installing”, page 140](#)

⇒ [“4.4 Tail Lamp, Correcting Installed Position”, page 142](#)

⇒ [“4.5 Tail Lamp, Removing and Installing”, page 144](#)

⇒ [“4.6 Right and Left Tail Lamp Bulb M2 / M4 , Removing and Installing”, page 145](#)

⇒ [“4.7 Left/Right Rear Fog Lamp Bulb L46 / L47 , Removing and Installing”, page 148](#)

⇒ [“4.8 Left/Right Brake/Tail Lamp Bulb M21 / M22 , Removing and Installing”, page 150](#)

⇒ [“4.9 Back-Up Lamp, Removing and Installing”, page 152](#)

⇒ [“4.10 Turn Signal Bulb, Removing and Installing”, page 154](#)

4.1 Overview - Body Tail Lamps

⇒ [“4.1.1 Overview - Body Tail Lamps, Sedan, with Bulbs”, page 133](#)

⇒ [“4.1.2 Overview - Body Tail Lamps, Sedan, with LED”, page 135](#)

⇒ [“4.1.3 Overview - Body Tail Lamps, Wagon”, page 136](#)

4.1.1 Overview - Body Tail Lamps, Sedan, with Bulbs





1 - Tail Lamp

- Left Tail Lamp - MX3-
- Right Tail Lamp - MX4-
- Body Tail Lamps
- Removing and installing. Refer to [⇒ "4.5 Tail Lamp, Removing and Installing", page 144](#) .

2 - Brake and Tail Lamp Bulb

- Left Brake/Tail Lamp Bulb - M21-
- Right Brake/Tail Lamp Bulb - M22-
- Removing and installing. Refer to [⇒ "4.8 Left/Right Brake/Tail Lamp Bulb M21 / M22 , Removing and Installing", page 150](#) .

3 - Bulb Socket

4 - Cover with Seal

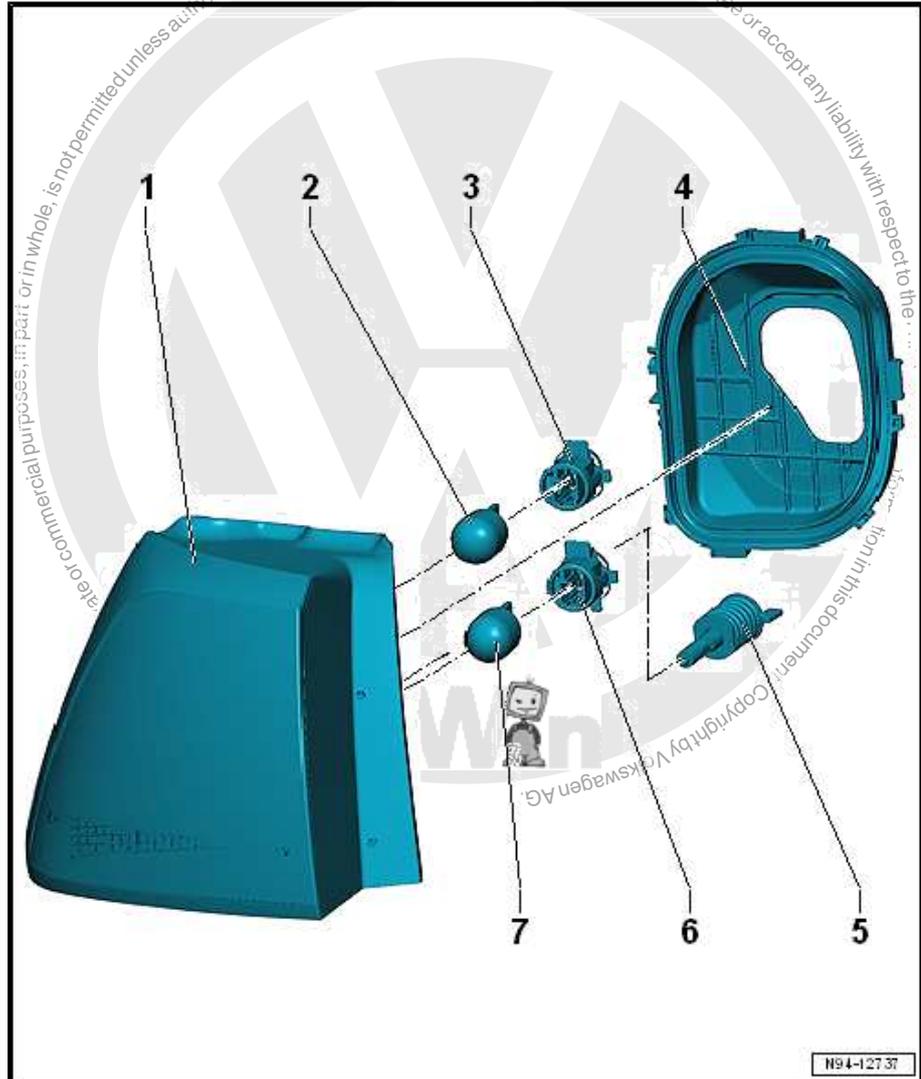
5 - Fastening Element

- 2 Nm

6 - Bulb Socket

7 - Rear Turn Signal Bulb

- Left Rear Turn Signal Bulb - M6-
- Right Rear Turn Signal Bulb - M8-
- Removing and installing. Refer to [⇒ "4.10 Turn Signal Bulb, Removing and Installing", page 154](#) .





4.1.2 Overview – Body Tail Lamps, Sedan, with LED

1 - Fastening Element

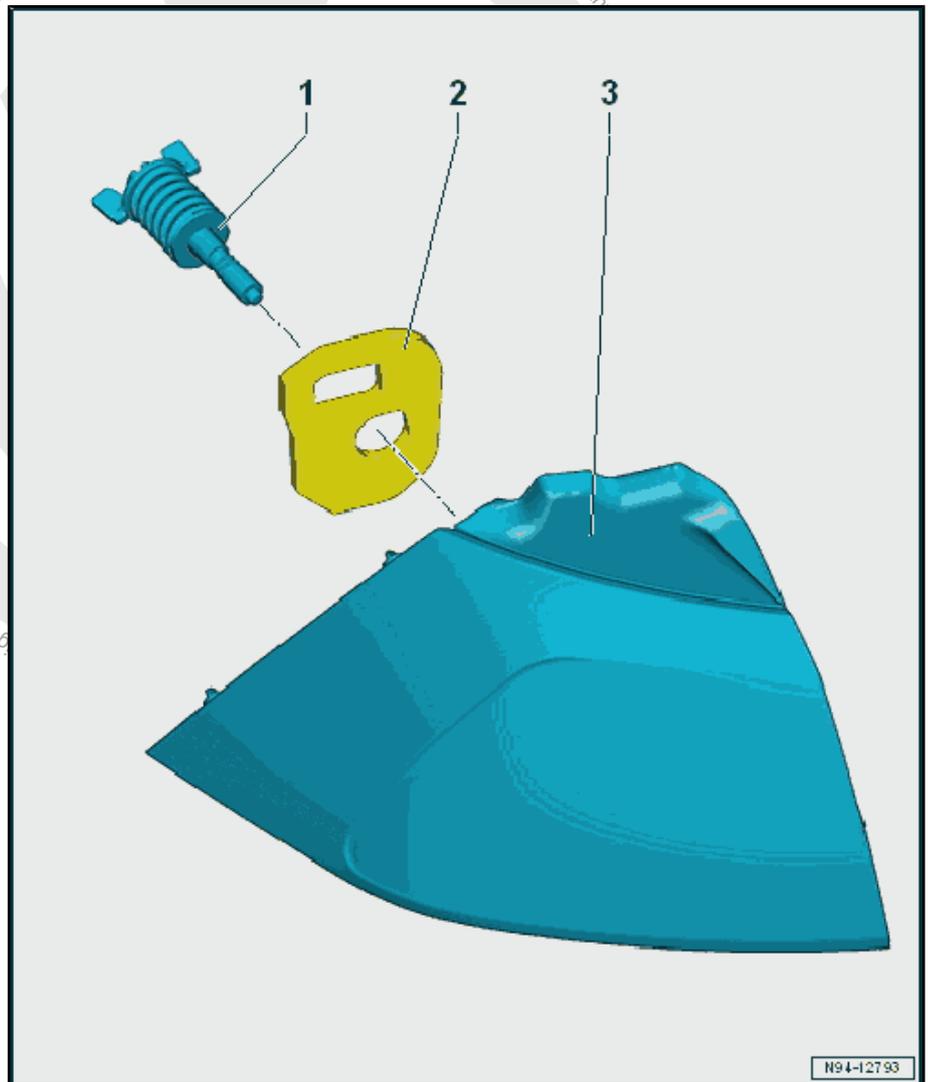
- 2 Nm

2 - Seal

- Self-adhesive
- Replace if damaged.

3 - Tail Lamp

- Left Tail Lamp - MX3-
- Right Tail Lamp - MX4-
- Body tail lamps
- Removing and installing. Refer to
⇒ ["4.5 Tail Lamp, Removing and Installing", page 144](#).





4.1.3 Overview - Body Tail Lamps, Wagon

1 - Tail Lamp

- Left Tail Lamp - MX3-
- Right Tail Lamp - MX4-
- Body tail lamps
- Removing and installing. Refer to
⇒ ["4.5.2 Tail Lamp, Removing and Installing, Wagon", page 145](#) .

2 - Rear Turn Signal Bulb

- Left Rear Turn Signal Bulb - M6-
- Right Rear Turn Signal Bulb - M8-
- Removing and installing. Refer to
⇒ ["4.10.2 Turn Signal Bulb, Removing and Installing, Wagon", page 155](#) .

3 - Bulb Holder

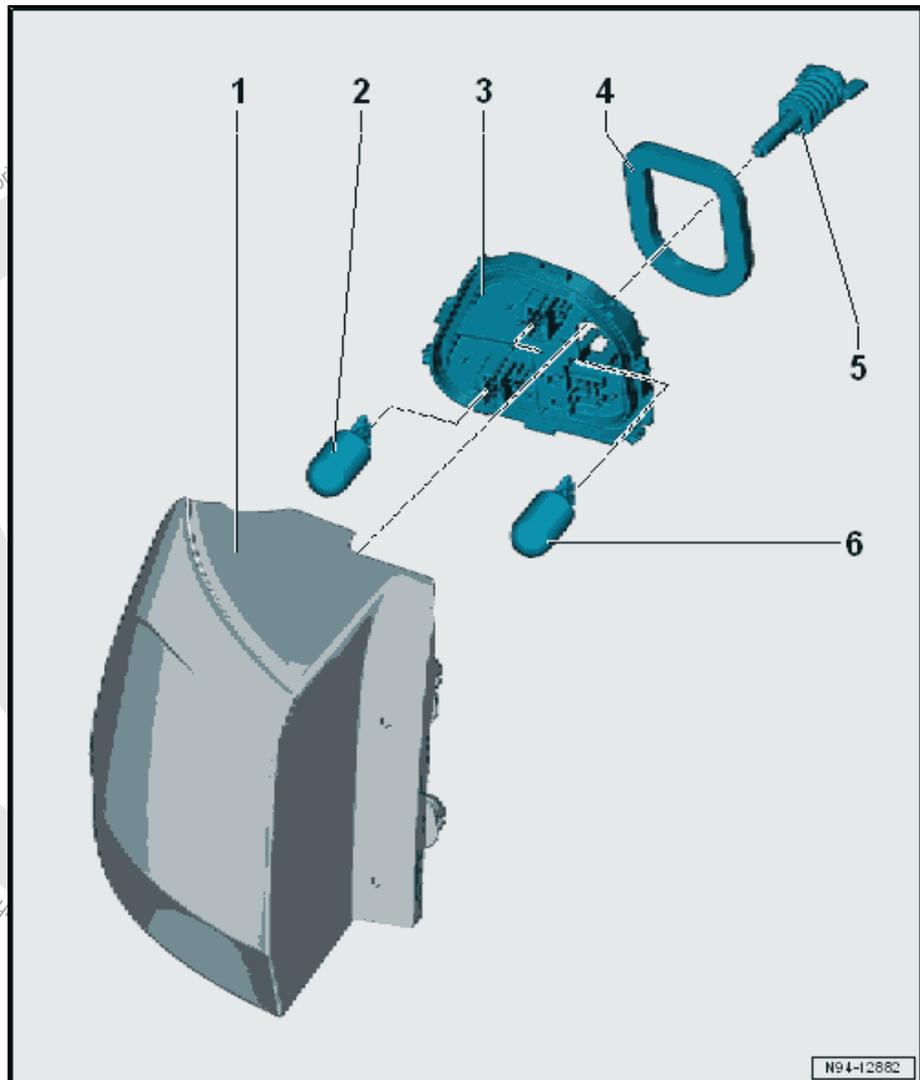
4 - Seal

5 - Fastening Element

- 2 Nm

6 - Brake and Tail Lamp Bulb

- Left Brake/Tail Lamp Bulb - M21-
- Right Brake/Tail Lamp Bulb - M22-
- Removing and installing. Refer to
⇒ ["4.8.2 Left/Right Brake/Tail Lamp Bulb M21 / M22 , Removing and Installing, Wagon", page 151](#) .





4.2 Overview - Rear Lid Tail Lamps

⇒ [“4.2.1 Overview - Rear Lid Tail Lamps, Sedan, with Bulbs”, page 137](#)

⇒ [“4.2.2 Overview - Rear Lid Tail Lamps, Sedan, with LED”, page 138](#)

⇒ [“4.2.3 Overview - Rear Lid Tail Lamps, Wagon”, page 139](#)

4.2.1 Overview - Rear Lid Tail Lamps, Sedan, with Bulbs

1 - Bulb Socket

- For Left Back-Up Lamp Bulb - M16- / Right Back-Up Lamp Bulb - M17-
- Removing and installing. Refer to ⇒ [“4.9 Back-Up Lamp, Removing and Installing”, page 152](#) .

2 - Bulb Holder

3 - Rear Fog Lamp Bulb

- Left Rear Fog Lamp Bulb - L46-
- Right Rear Fog Lamp Bulb - L47-
- Removing and installing. Refer to ⇒ [“4.7 Left/Right Rear Fog Lamp Bulb L46 / L47, Removing and Installing”, page 148](#) .

4 - Tail Lamp

- Left Tail Lamp 2 - MX5-
- Right Tail Lamp 2 - MX6-
- Tail lamp assembly inside the rear lid
- Removing and installing. Refer to ⇒ [“4.3 Rear Lid Tail Lamp, Removing and Installing”, page 140](#) .

5 - Seal

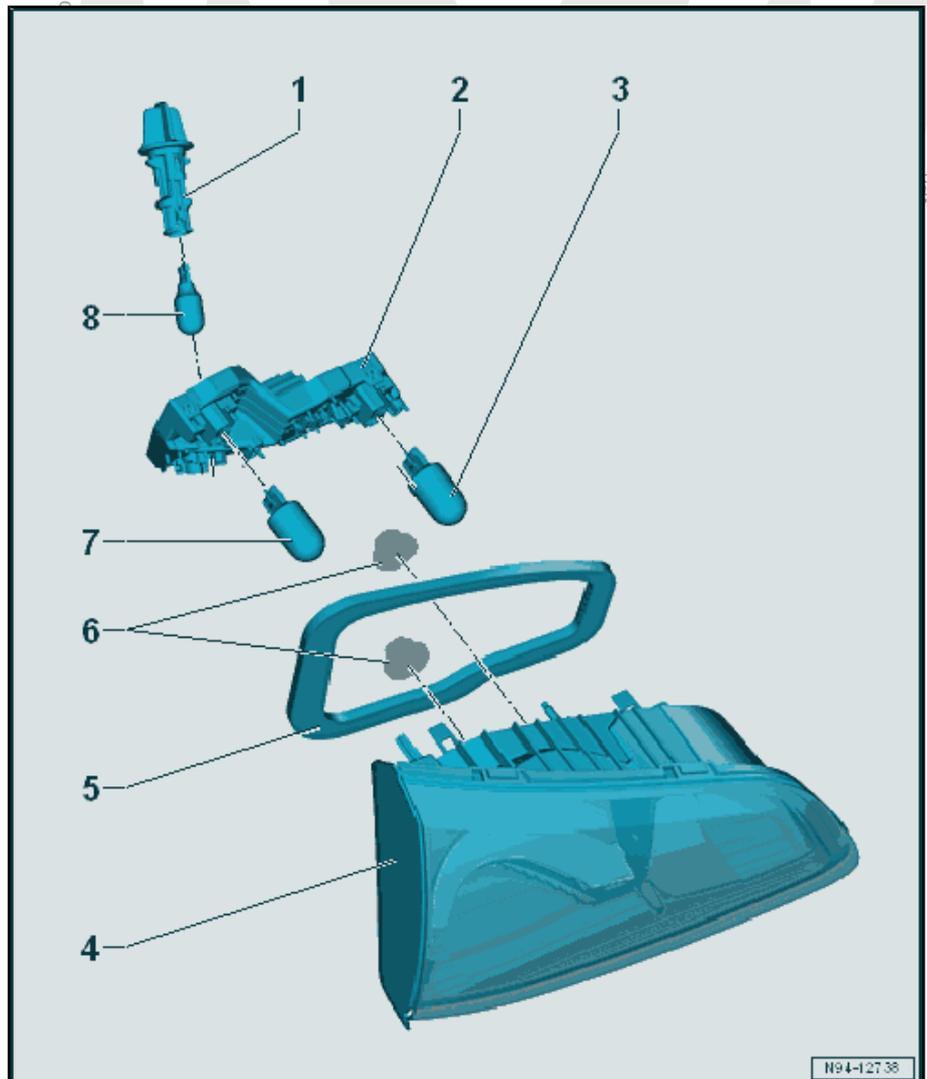
- Self-adhesive
- Replace if damaged.

6 - Nut

- 3 Nm
- Quantity: 2

7 - Tail Lamp Bulb

- Right Tail Lamp Bulb - M2-
- Left Tail Lamp Bulb - M4-
- Removing and installing. Refer to ⇒ [“4.6 Right and Left Tail Lamp Bulb M2 / M4, Removing and Installing”, page 145](#) .





8 - Back-Up Lamp Bulb

- Left Back-Up Lamp Bulb - M16-
- Right Back-Up Lamp Bulb - M17-
- Removing and installing. Refer to ⇒ ["4.9 Back-Up Lamp, Removing and Installing", page 152](#) .

4.2.2 Overview - Rear Lid Tail Lamps, Sedan, with LED

1 - Bulb Socket

- For Left Back-Up Lamp Bulb - M16- / Right Back-Up Lamp Bulb - M17-
- Removing and installing. Refer to ⇒ ["4.9 Back-Up Lamp, Removing and Installing", page 152](#) .

2 - Back-Up Lamp Bulb

- Left Back-Up Lamp Bulb - M16-
- Right Back-Up Lamp Bulb - M17-
- Removing and installing. Refer to ⇒ ["4.9 Back-Up Lamp, Removing and Installing", page 152](#) .

3 - Seal

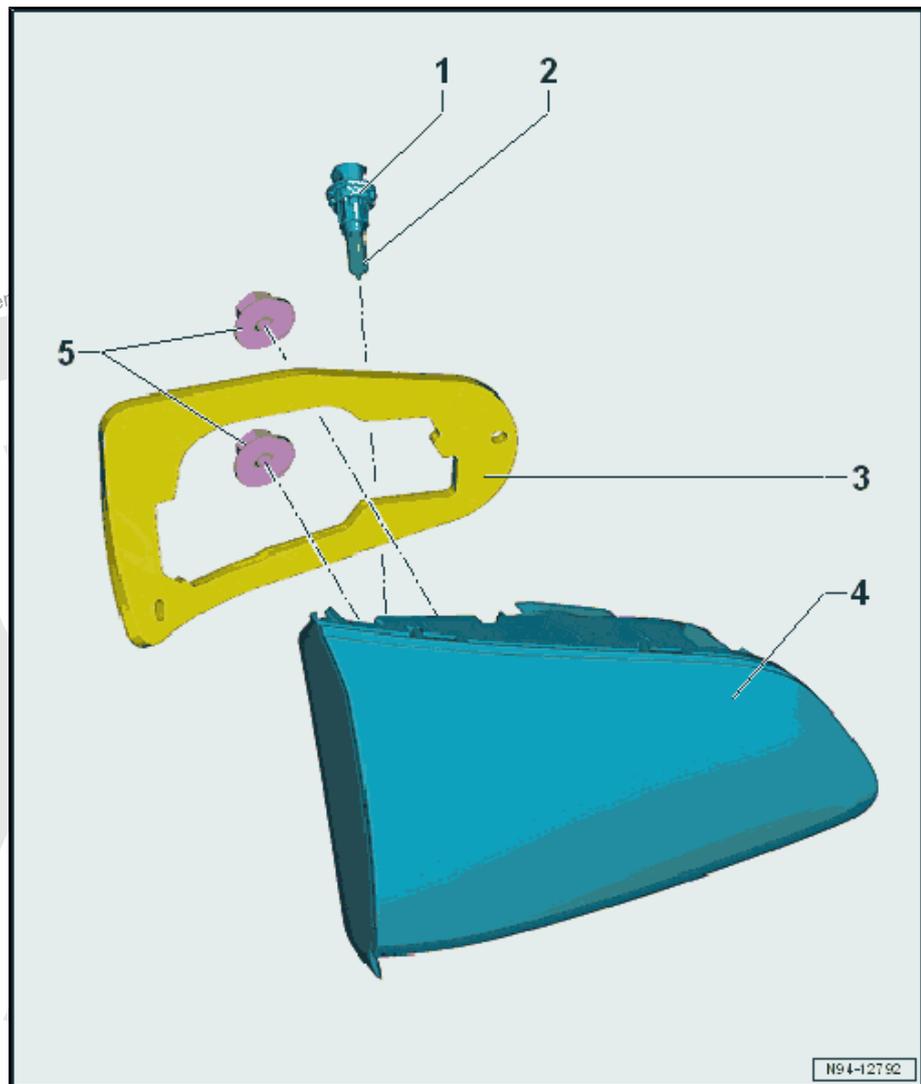
- Self-adhesive
- Replace if damaged.

4 - Tail Lamp

- Left Tail Lamp 2 - MX5-
- Right Tail Lamp 2 - MX6-
- Tail lamp assembly inside the rear lid
- Removing and installing. Refer to ⇒ ["4.3 Rear Lid Tail Lamp, Removing and Installing", page 140](#) .

5 - Nut

- 3 Nm
- Quantity: 2





4.2.3 Overview - Rear Lid Tail Lamps, Wagon

1 - Bulb Socket

- For Left Back-Up Lamp Bulb - M16- / Right Back-Up Lamp Bulb - M17-
- Removing and installing. Refer to [⇒ "4.9 Back-Up Lamp, Removing and Installing", page 152](#) .

2 - Bulb Holder

3 - Rear Fog Lamp Bulb

- Left Rear Fog Lamp Bulb - L46-
- Right Rear Fog Lamp Bulb - L47-
- Removing and installing. Refer to [⇒ "4.7.2 Left/Right Rear Fog Lamp Bulb L46 / L47 , Removing and Installing, Wagon", page 149](#) .

4 - Tail Lamp

- Left Tail Lamp 2 - MX5-
- Right Tail Lamp 2 - MX6-
- Tail lamp assembly inside the rear lid
- Removing and installing. Refer to [⇒ "4.3.2 Rear Lid Tail Lamp, Removing and Installing, Wagon", page 141](#) .

5 - Nut

- 3 Nm
- Quantity: 2

6 - Seal

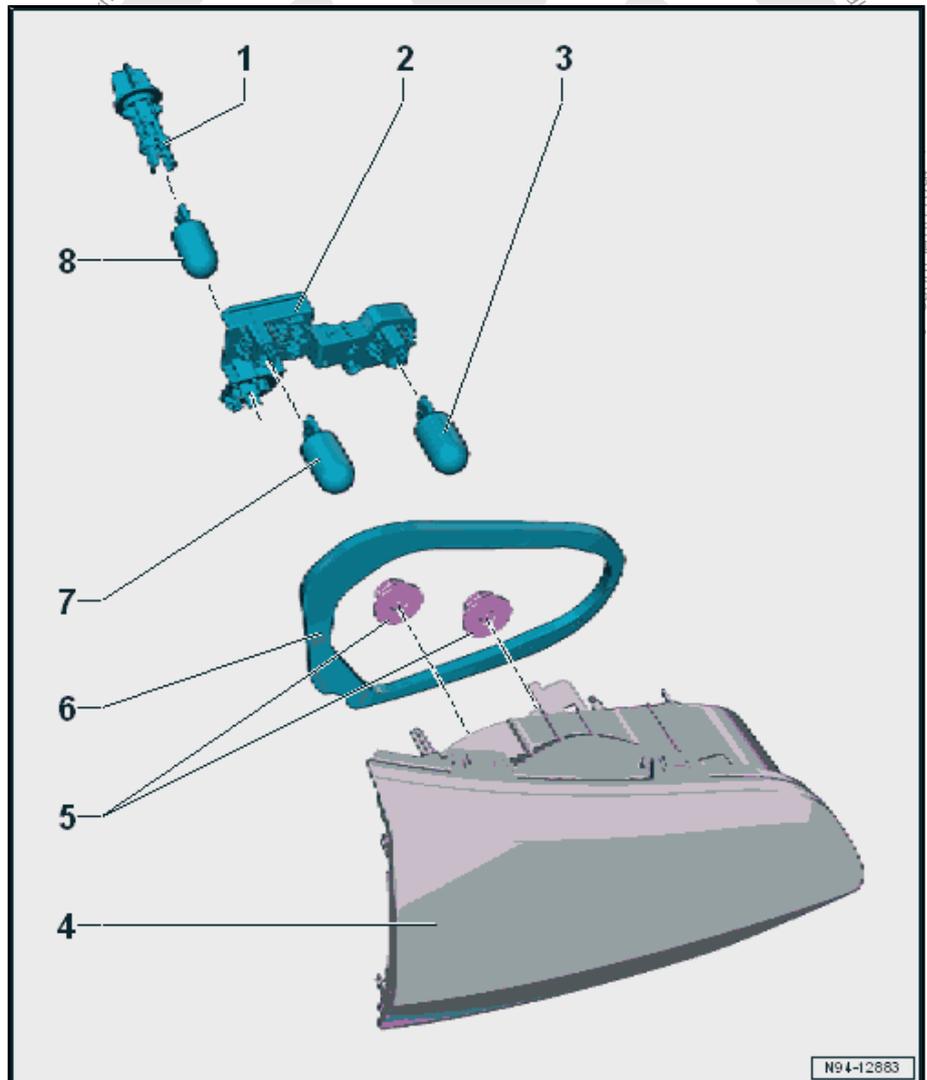
- Self-adhesive
- Replace if damaged.

7 - Tail Lamp Bulb

- Right Tail Lamp Bulb - M2-
- Left Tail Lamp Bulb - M4-
- Removing and installing. Refer to [⇒ "4.6.2 Right and Left Tail Lamp Bulb M2 / M4 , Removing and Installing, Wagon", page 146](#) .

8 - Back-Up Lamp Bulb

- Left Back-Up Lamp Bulb - M16-
- Right Back-Up Lamp Bulb - M17-
- Removing and installing. Refer to [⇒ "4.9.2 Back-Up Lamp Bulb, Removing and Installing, Wagon", page 153](#) .





4.3 Rear Lid Tail Lamp, Removing and Installing

⇒ [“4.3.1 Rear Lid Tail Lamp, Removing and Installing, Sedan”, page 140](#)

⇒ [“4.3.2 Rear Lid Tail Lamp, Removing and Installing, Wagon”, page 141](#)

4.3.1 Rear Lid Tail Lamp, Removing and Installing, Sedan

The removal and installation is described for the left side. Removing and installing on the right side is identical.

IF the LED is faulty, the tail lamp must be completely replaced.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.

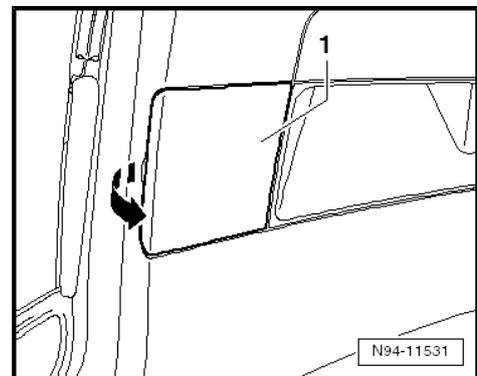


Caution

Risk of damaging the component surfaces.

- ◆ **When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.**

- If necessity insert a narrow screwdriver in the opening on the side.
- Pry up the cover -1- in the direction of -arrow-.
- Release and disconnect the connector -2-.
- Remove the nuts -1-.





- Remove the Left Tail Lamp 2 - MX5- -3- outward.

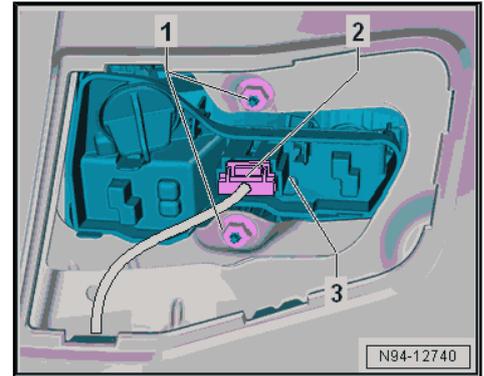
Installing

Install in the reverse order of removal while paying attention to the following:

Make sure seal between body and tail lamp housing seals properly.

The connector must lock into place.

- Pivot the Left Tail Lamp 2 - MX5- from the outside in the rear lid opening.
- Align at the top and center.
- Starting at the top and then the bottom install the nuts on the Left Tail Lamp 2 - MX5- and tighten.
- Perform a function test.



Tightening Specifications

- ◆ Refer to ⇒ [“4.2 Overview - Rear Lid Tail Lamps”, page 137](#)

4.3.2 Rear Lid Tail Lamp, Removing and Installing, Wagon

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

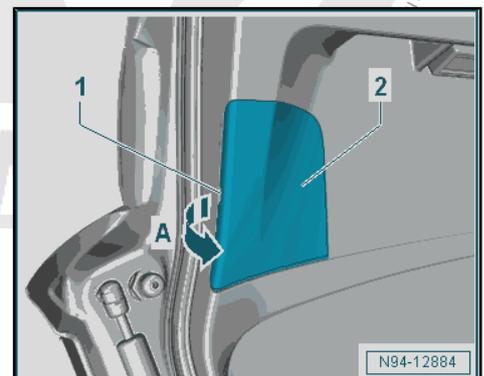
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.

 **Caution**

Risk of damaging the component surfaces.

◆ ***When positioning a prying tool, put for example commercially available adhesive tape over the component in the visible area.***

- If necessary insert a narrow screwdriver in the opening on the side -1-.
- Remove the cover -2- in the direction of the -arrow A-.
- Disconnect the connector -2-.
- Remove the nuts -1-.





- Remove the Left Tail Lamp 2 - MX5- -3- outward.

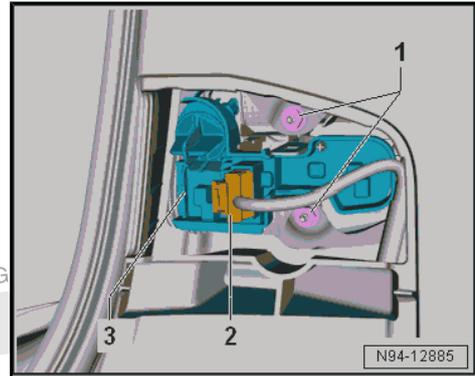
Installing

Install in the reverse order of removal while paying attention to the following:



Note

- ◆ *Make sure seal between body and tail lamp housing seals properly.*
- ◆ *The connector must lock into place.*



- Pivot the Left Tail Lamp 2 - MX5- from the outside in the rear lid opening.
- Align at the top and center.
- Starting at the top and then the bottom install the nuts on the Left Tail Lamp 2 - MX5- and tighten.
- Perform a function test.

Tightening Specifications

- ◆ Refer to
⇒ ["4.2.3 Overview - Rear Lid Tail Lamps, Wagon", page 139](#)

4.4 Tail Lamp, Correcting Installed Position

⇒ ["4.4.1 Tail Lamp, Correcting Installed Position, Sedan", page 142](#)

⇒ ["4.4.2 Tail Lamp, Correcting Installed Position, Wagon", page 143](#)

4.4.1 Tail Lamp, Correcting Installed Position, Sedan

The removal and installation is described for the left side. Removing and installing on the right side is identical.

The installed position can only be corrected on the body tail lamp.

Procedure

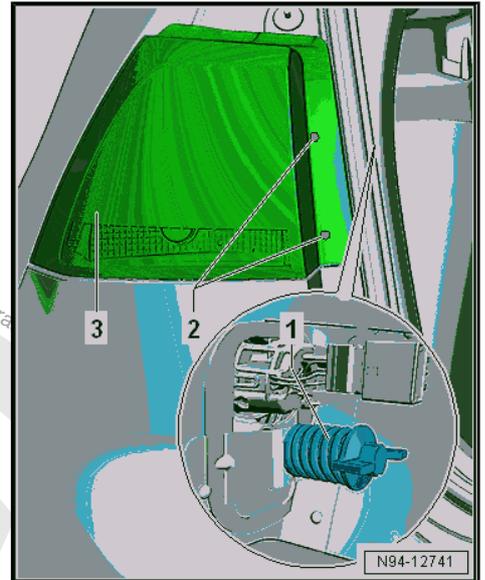
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Open the cover in the luggage compartment side trim panel.



- Loosen the fastening element -1- two turns.
 - Insert a suitable screwdriver in the trim openings -2-.
- The tail lamp -3- must be flush with the neighboring components.
- Adjust the installation position of the tail lamp by tightening and loosening the adjuster.
 - Tighten the fastening element -1-.
 - Close the cover in the luggage compartment side trim panel.

Tightening Specifications

- ◆ Refer to ⇒ [“4.1 Overview - Body Tail Lamps”, page 133](#)



4.4.2 Tail Lamp, Correcting Installed Position, Wagon

The removal and installation is described for the left side. Removing and installing on the right side is identical.

The installed position can only be corrected on the body tail lamp.

Procedure

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the cover in the luggage compartment side trim panel.
- Loosen the fastening element -1- two turns.
- Insert a T10 screwdriver in the trim openings -2-.

The tail lamp -3- must be flush with the neighboring components.

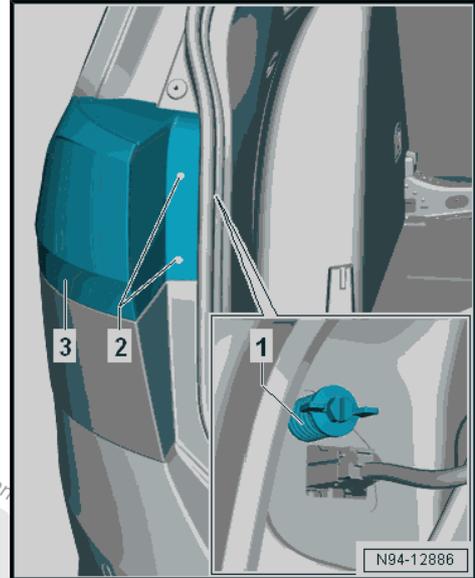
- Adjust the installation position of the tail lamp by tightening or loosening the adjuster.
- Tighten the fastening element -1-.



- Install the cover in the luggage compartment side trim panel.

Tightening Specifications

- ◆ Refer to [⇒ "4.1.3 Overview - Body Tail Lamps, Wagon", page 136](#)



4.5 Tail Lamp, Removing and Installing

⇒ ["4.5.1 Tail Lamp, Removing and Installing, Sedan", page 144](#)

⇒ ["4.5.2 Tail Lamp, Removing and Installing, Wagon", page 145](#)

4.5.1 Tail Lamp, Removing and Installing, Sedan

The removal and installation is described for the left side. Removing and installing on the right side is identical.

IF the LED is faulty, the tail lamp must be completely replaced.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Open the cover in the luggage compartment side trim panel.
- Disengage the connector and disconnect.
- Remove the fastening element -1-.
- Remove the tail lamp -2- in the direction of the -arrow A-.

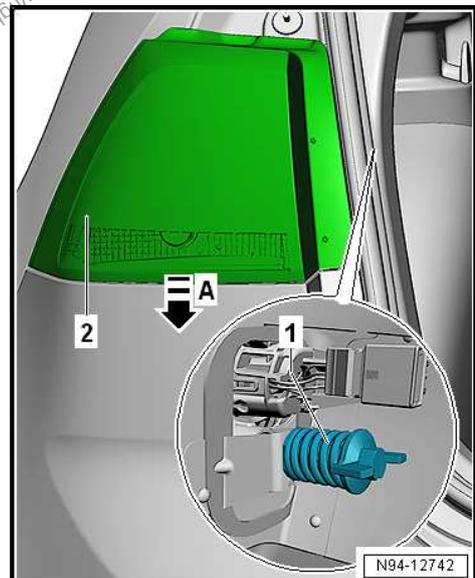
Installing

Install in the reverse order of removal while paying attention to the following:

- Perform a function test.

Tightening Specifications

- ◆ Refer to [⇒ "4.1 Overview - Body Tail Lamps", page 133](#)





4.5.2 Tail Lamp, Removing and Installing, Wagon

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Open the cover in the luggage compartment side trim panel.
- Disconnect the connector.
- Remove the fastening element -1-.
- Remove the tail lamp -2- in the direction of the -arrow A-.

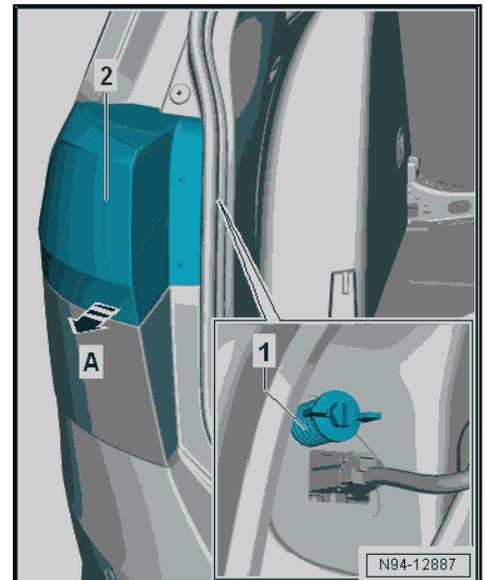
Installing

Install in the reverse order of removal while paying attention to the following:

- Perform a function test.

Tightening Specifications

- ◆ Refer to
 ⇒ ["4.1.3 Overview - Body Tail Lamps, Wagon", page 136](#)



4.6 Right and Left Tail Lamp Bulb - M2- / - M4- , Removing and Installing

⇒ ["4.6.1 Right and Left Tail Lamp Bulb M2 / M4 , Removing and Installing, Sedan", page 145](#)

⇒ ["4.6.2 Right and Left Tail Lamp Bulb M2 / M4 , Removing and Installing, Wagon", page 146](#)

4.6.1 Right and Left Tail Lamp Bulb - M2- / - M4- , Removing and Installing, Sedan

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.

 **Caution**

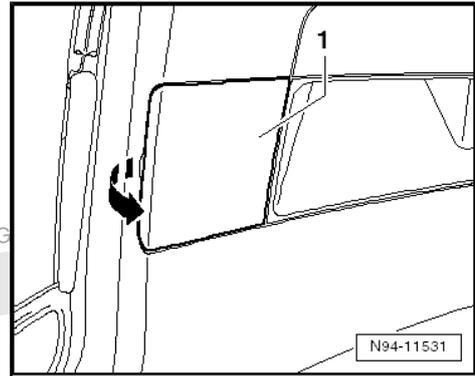
Risk of damaging the component surfaces.

◆ *When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.*

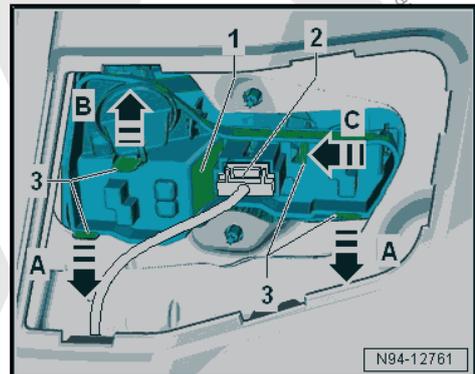
- If necessity insert a narrow screwdriver in the opening on the side.



- Pry up the cover -1- in the direction of -arrow-.



- Release and disconnect the connector -2-.
- Push the locking mechanisms -3- in the direction of the -arrows A, B, and C-.
- Remove the bulb holder -1- from the tail lamp.



- Remove the tail lamp bulb -1- from the bulb holder -2-.

Installing

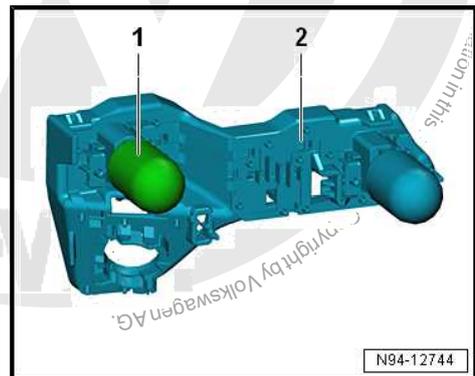
Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the lamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean cloth gloves to insert the bulbs.*



- Perform a function test.

4.6.2 Right and Left Tail Lamp Bulb - M2- / - M4- , Removing and Installing, Wagon

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.

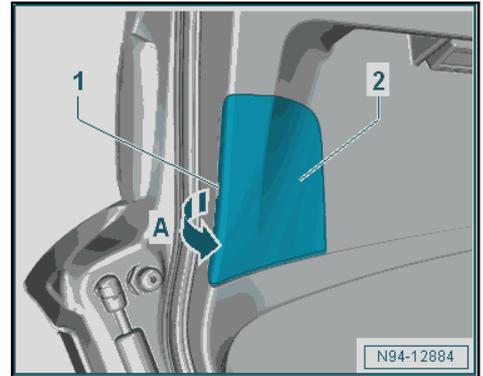


Caution

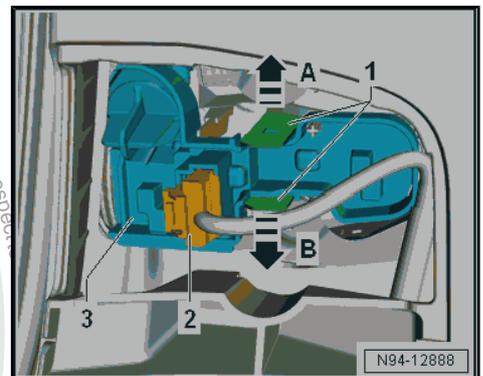
Risk of damaging the component surfaces.

◆ *When positioning a prying tool, put for example commercially available adhesive tape over the component in the visible area.*

- If necessary insert a narrow screwdriver in the opening on the side -1-.
- Remove the cover -2- in the direction of the -arrow A-.



- Disconnect the connector -2-.
- Push the locking mechanisms -1- in the direction of the -arrows A and B-.
- Remove the bulb holder -3- from the tail lamp.



- Remove the tail lamp bulb -1- from the bulb holder -2-.

Installing

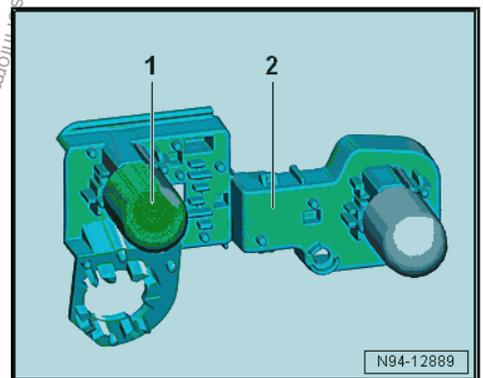
Install in the reverse order of removal while paying attention to the following:

Caution

There is a risk of damaging the lamp.

◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*

◆ *Use clean gloves for example to insert the bulbs.*



- Perform a function test.



4.7 Left/Right Rear Fog Lamp Bulb - L46- / -L47- , Removing and Installing

⇒ [“4.7.1 Left/Right Rear Fog Lamp Bulb L46 / L47 , Removing and Installing, Sedan”, page 148](#)

⇒ [“4.7.2 Left/Right Rear Fog Lamp Bulb L46 / L47 , Removing and Installing, Wagon”, page 149](#)

4.7.1 Left/Right Rear Fog Lamp Bulb - L46- / -L47- , Removing and Installing, Sedan

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.

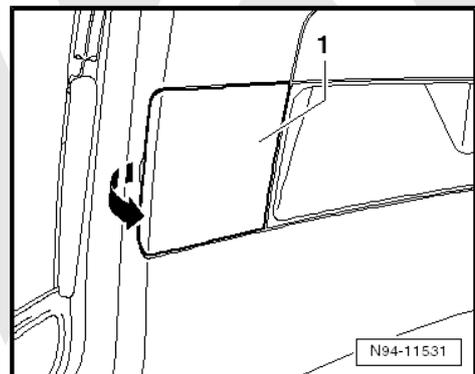


Caution

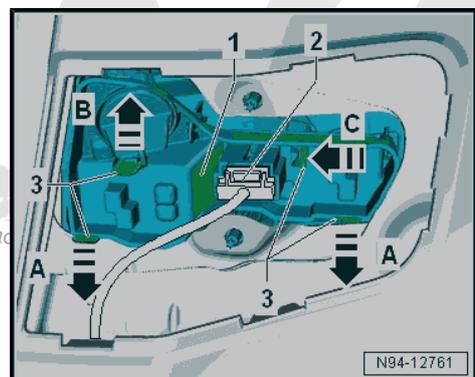
Risk of damaging the component surfaces.

- ◆ **When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.**

- If necessary insert a narrow screwdriver in the opening on the side.
- Pry up the cover -1- in the direction of -.



- Release and disconnect the connector -2-
- Push the locking mechanisms -3- in the direction of the -.
- Remove the bulb holder -1- from the tail lamp.





- Remove the rear fog lamp bulb -2- from the bulb holder -1-.

Installing

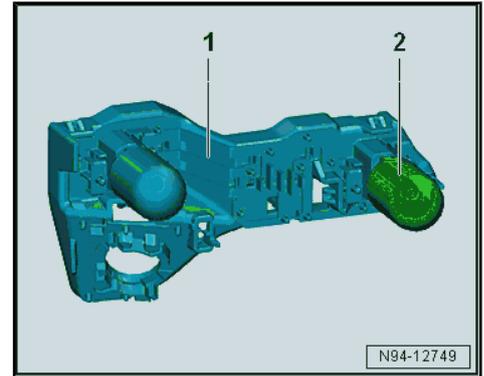
Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the lamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean cloth gloves to insert the bulbs.*



- Perform a function test.

4.7.2 Left/Right Rear Fog Lamp Bulb -L46- / -L47- , Removing and Installing, Wagon

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.

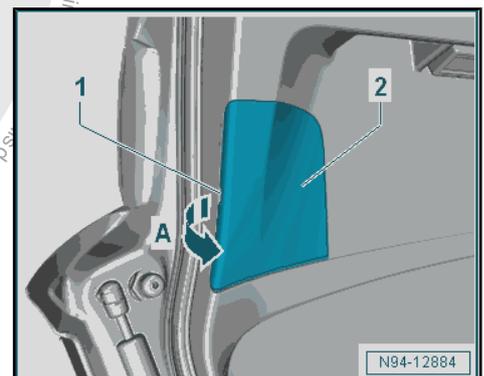


Caution

Risk of damaging the component surfaces.

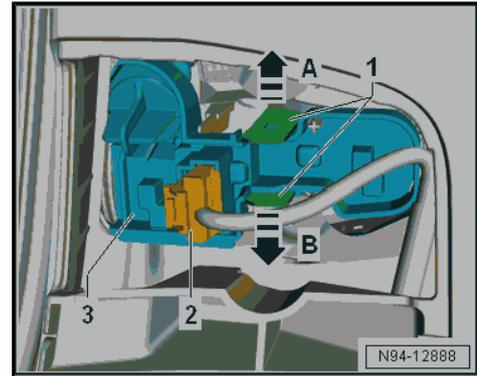
- ◆ *When positioning a prying tool, put for example commercially available adhesive tape over the component in the visible area.*

- If necessary insert a narrow screwdriver in the opening on the side -1-.
- Remove the cover -2- in the direction of the arrow -A-.





- Disconnect the connector -2-.
- Push the locking mechanisms -1- in the direction of the -arrows A and B-.
- Remove the bulb holder -3- from the tail lamp.



- Remove the rear fog lamp bulb -2- from the bulb holder -1-.

Installing

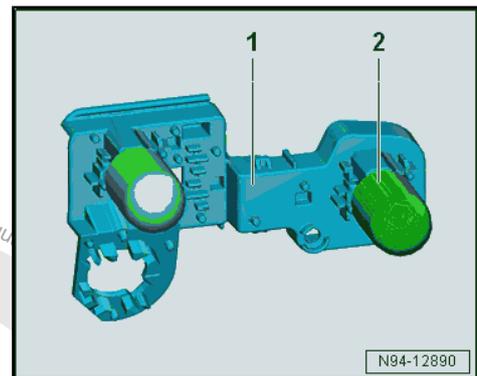
Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the lamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean gloves for example to insert the bulbs.*



- Perform a function test.

4.8 Left/Right Brake/Tail Lamp Bulb -M21- / -M22- , Removing and Installing

⇒ ["4.8.1 Left/Right Brake/Tail Lamp Bulb M21 / M22 , Removing and Installing Sedan", page 150](#)

⇒ ["4.8.2 Left/Right Brake/Tail Lamp Bulb M21 / M22 , Removing and Installing, Wagon", page 151](#)

4.8.1 Left/Right Brake/Tail Lamp Bulb - M21- / -M22- , Removing and Installing, Sedan

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the tail lamp from the body. Refer to ⇒ ["4.5 Tail Lamp, Removing and Installing", page 144](#) .



Caution

Do not turn the bulb socket.

Otherwise the bulb socket will be damaged.

Pull the bulb socket straight rearward, if necessary carefully release the retaining tab with a suitable screwdriver.



- Pull the bulb socket -1- straight in the direction of the -arrow A- out of the housing.
- Remove the brake/tail lamp bulb from the bulb socket.

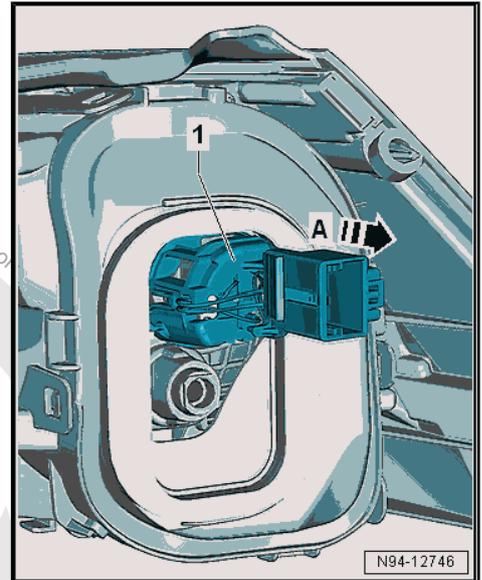
Installing

Install in the reverse order of removal while paying attention to the following:

 **Caution**

There is a risk of damaging the lamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean cloth gloves to insert the bulbs.*



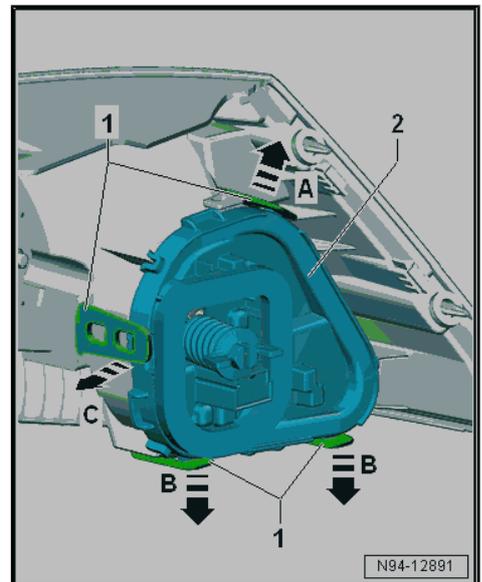
- Perform a function test.

4.8.2 Left/Right Brake/Tail Lamp Bulb - M21- / -M22- , Removing and Installing, Wagon

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the tail lamp from the body. Refer to ["4.5.2 Tail Lamp, Removing and Installing, Wagon", page 145](#).
- Push the mounting tabs -1- in the direction of the -arrows A, B, and C-.
- Remove the bulb holder -2-.





- Remove the brake and tail lamp bulb -1- in the direction of the -arrow A- from the bulb holder.

Installing

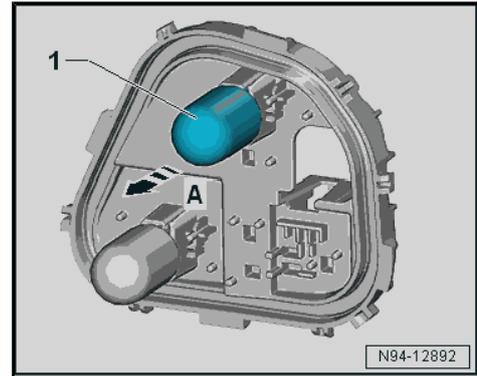
Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the lamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean gloves for example to insert the bulbs.*



- Perform a function test.

4.9 Back-Up Lamp, Removing and Installing

⇒ ["4.9.1 Back-Up Lamp Bulb, Removing and Installing, Sedan", page 152](#)

⇒ ["4.9.2 Back-Up Lamp Bulb, Removing and Installing, Wagon", page 153](#)

4.9.1 Back-Up Lamp Bulb, Removing and Installing, Sedan

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.

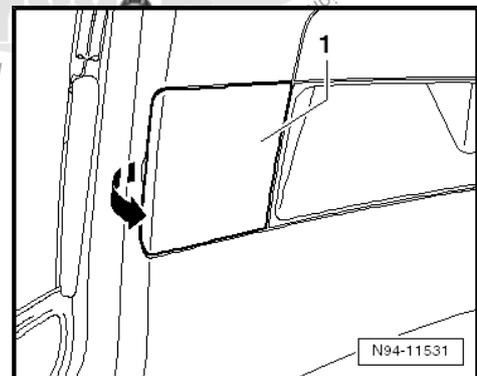


Caution

Risk of damaging the component surfaces.

- ◆ *When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.*

- If necessity insert a narrow screwdriver in the opening on the side.
- Pry up the cover -1- in the direction of -arrow-.





- Turn the bulb socket -1- in the direction of the -arrow A-.
- Remove the bulb socket in the direction of the -arrow B- from the tail lamp.
- Remove the bulb for the back-up lamp.

Installing

Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the lamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean cloth gloves to insert the bulbs.*

- Perform a function test.

4.9.2 Back-Up Lamp Bulb, Removing and Installing, Wagon

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.

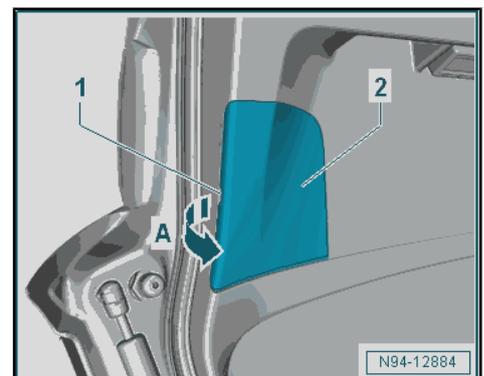
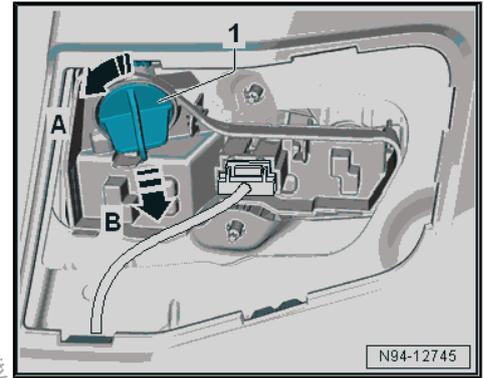


Caution

Risk of damaging the component surfaces.

- ◆ *When positioning a prying tool, put for example commercially available adhesive tape over the component in the visible area.*

- If necessary insert a narrow screwdriver in the opening on the side -1-.
- Remove the cover -2- in the direction of the -arrow A-.





- Turn the bulb socket -1- in the direction of the -arrow A-.
- Remove the bulb socket in the direction of the -arrow B- from the tail lamp.
- Remove the bulb for the back-up lamp.

Installing

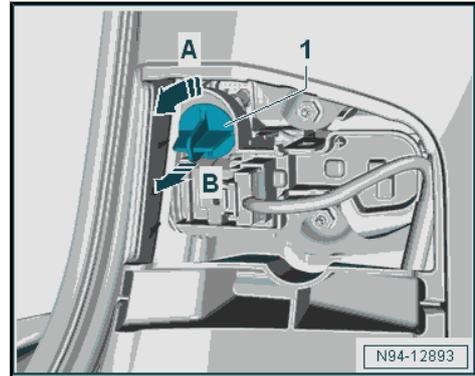
Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the lamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean gloves for example to insert the bulbs.*



- Perform a function test.

4.10 Turn Signal Bulb, Removing and Installing

⇒ ["4.10.1 Turn Signal Bulb, Removing and Installing, Sedan", page 154](#)

⇒ ["4.10.2 Turn Signal Bulb, Removing and Installing, Wagon", page 155](#)

4.10.1 Turn Signal Bulb, Removing and Installing, Sedan

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the tail lamp from the body. Refer to ["4.5 Tail Lamp, Removing and Installing", page 144](#).



- Push the mounting tabs -2, 3 and 4- in the direction of the - arrows A-.
- Remove the cover -1- from the tail lamp.

 **Caution**

Do not turn the bulb socket.

Otherwise the bulb socket will be damaged.

Pull the bulb socket straight rearward, if necessary carefully release the retaining tab with a suitable screwdriver.

- Pull the bulb socket -5- straight in the direction of the -arrow B- out of the housing.
- Remove the turn signal bulb from the bulb socket.

Installing

Install in the reverse order of removal while paying attention to the following:

 **Caution**

There is a risk of damaging the lamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean cloth gloves to insert the bulbs.*

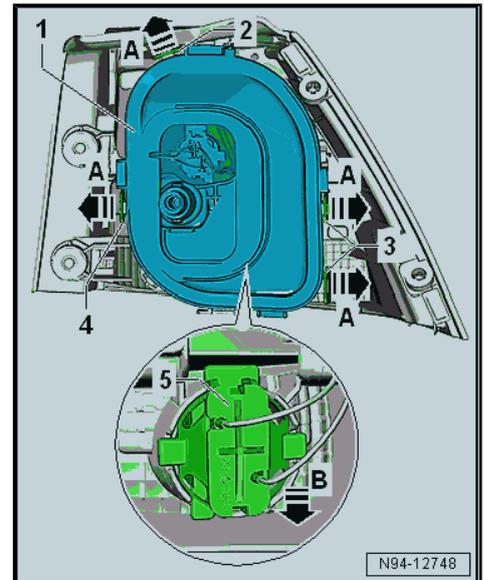
- Perform a function test.

4.10.2 Turn Signal Bulb, Removing and Installing, Wagon

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

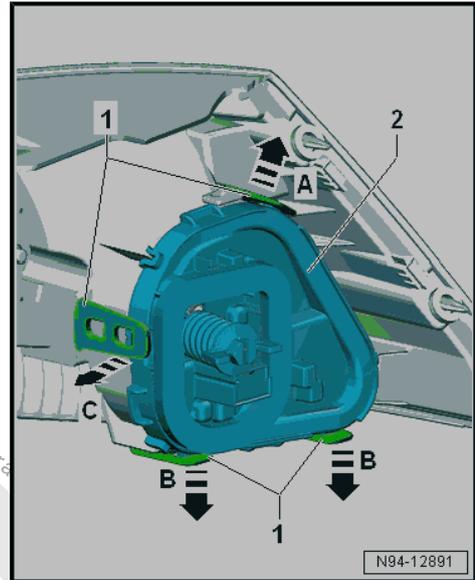
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the tail lamp from the body. Refer to ["4.5.2 Tail Lamp, Removing and Installing, Wagon"](#), page 145 .



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- Push the mounting tabs -1- in the direction of the -arrows A, B, and C-.
- Remove the bulb holder -2-.



- Remove the rear turn signal bulb -1- in the direction of the -arrow A- from the bulb holder.

Installing

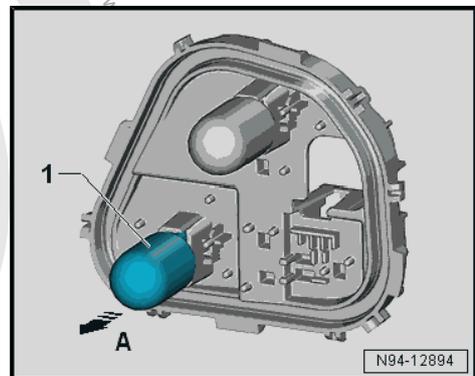
Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the lamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean gloves for example to insert the bulbs.*



- Perform a function test.



5 High-Mounted Brake Lamp

⇒ ["5.1 Overview - High-Mounted Brake Lamp", page 157](#)

⇒ ["5.2 High-Mounted Brake Lamp, Removing and Installing", page 158](#)

5.1 Overview - High-Mounted Brake Lamp

⇒ ["5.1.1 Overview - High-Mounted Brake Lamp, Except GTI", page 157](#)

⇒ ["5.1.2 Overview - High-Mounted Brake Lamp, GTI", page 158](#)

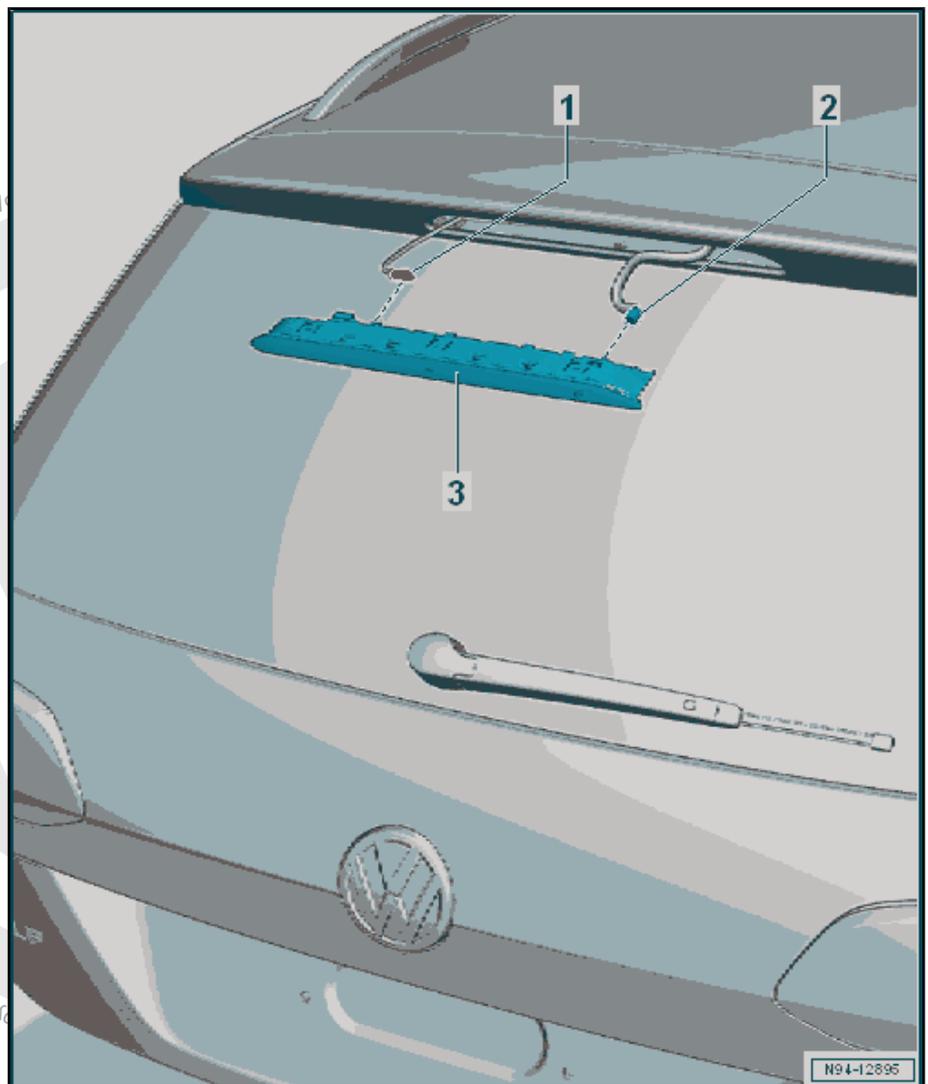
5.1.1 Overview - High-Mounted Brake Lamp, Except GTI

1 - Connector

2 - Washer Fluid Hose

3 - High-Mounted Brake Lamp

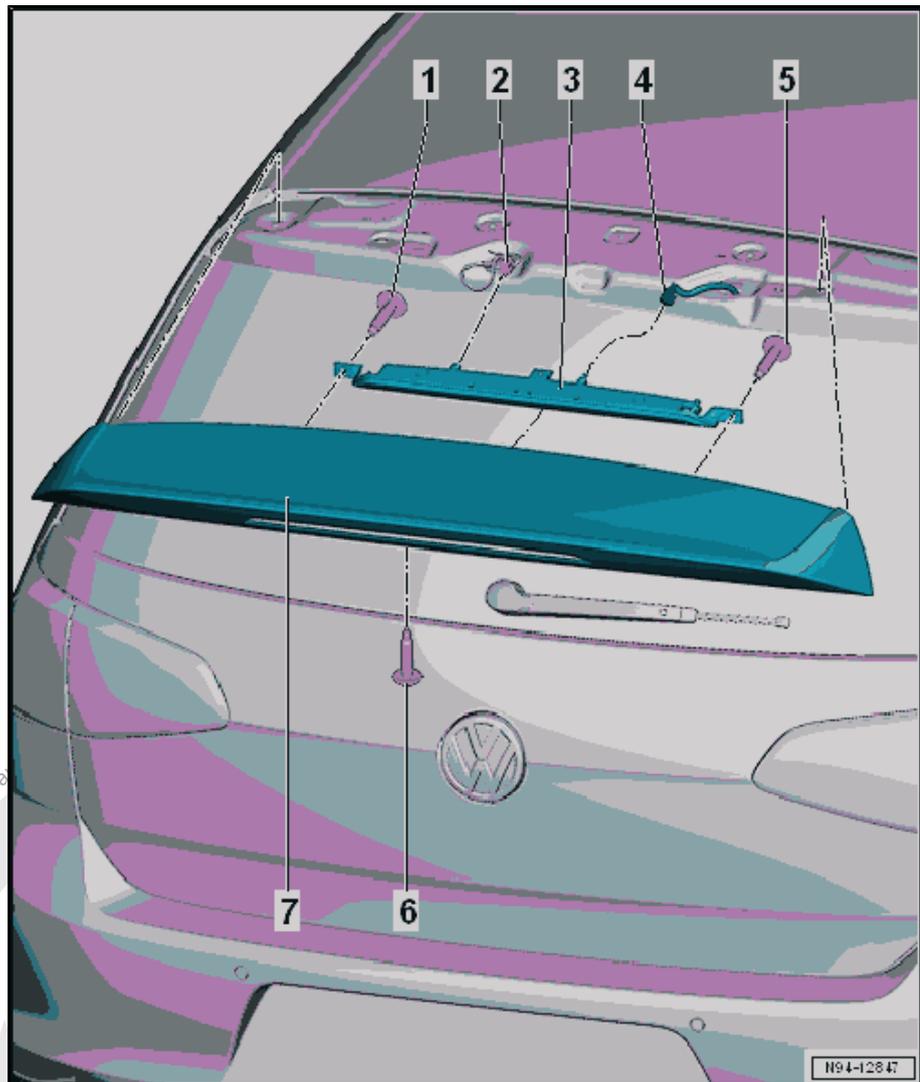
- With High-Mounted Brake Lamp Bulb - M25-
- Removing and installing. Refer to
⇒ ["5.2.1 High-Mounted Brake Lamp, Removing and Installing, Except GTI", page 158](#).





5.1.2 Overview - High-Mounted Brake Lamp, GTI

- 1 - Screw
 - 2 Nm
- 2 - Connector
- 3 - High-Mounted Brake Lamp
 - With High-Mounted Brake Lamp Bulb - M25-
 - Removing and installing. Refer to [⇒ "5.2.2 High-Mounted Brake Lamp, Removing and Installing, GTI", page 159](#).
- 4 - Washer Fluid Hose Connection
- 5 - Screw
 - 2 Nm
- 6 - Screw
 - 2 Nm
- 7 - Roof Edge Spoiler
 - Roof Edge Spoiler, Removing and installing. Refer to [⇒ Body Exterior; Rep. Gr. 66 ; Roof Bars/Roof Rails](#).



5.2 High-Mounted Brake Lamp, Removing and Installing

[⇒ "5.2.1 High-Mounted Brake Lamp, Removing and Installing, Except GTI", page 158](#)

[⇒ "5.2.2 High-Mounted Brake Lamp, Removing and Installing, GTI", page 159](#)

5.2.1 High-Mounted Brake Lamp, Removing and Installing, Except GTI

Special tools and workshop equipment required

- ◆ Trim Release Lever - Wedge - T10039/1-

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.



 **Caution**

Risk of damaging the component surfaces.

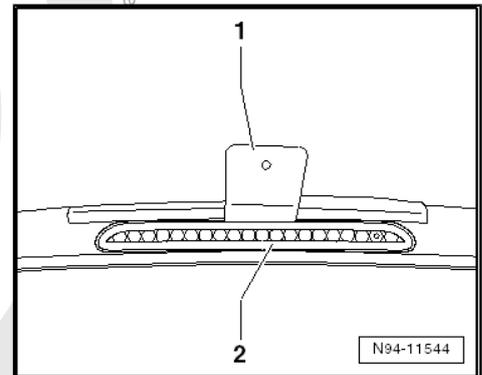
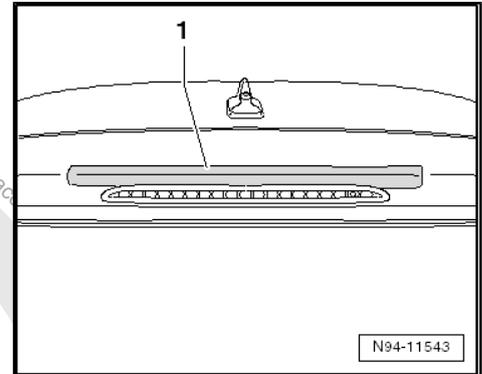
◆ *When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.*

- Cover the area of the rear lid above the brake light with a strip of adhesive tape -1-.

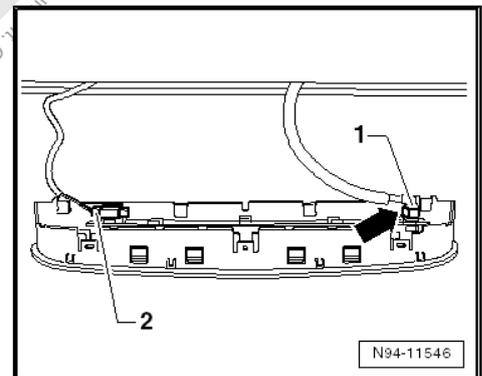
 **Caution**

When removing the high-mounted brake lamp, ensure seal is not damaged.

- Install the -T10039/1- -1- on top between the high-mounted brake lamp -2- and the rear lid.
- Push the high-mounted brake lamp -2- downward using the -T10039/1- -1-.
- Pivot out the high-mounted brake lamp -2- from the rear lid.



- Remove the hose clip -arrow-.
- Remove the hose connection -1- from the high-mounted brake lamp.
- Release and disconnect the connector -2-.
- Remove the high-mounted brake lamp.



Installing

During installation of the high-mounted brake lamp, ensure proper seating of the seal. Seal must not have any bulges and must not be damaged.

- Install the hose and connectors.
- Push the high-mounted brake lamp in the rear lid.
- Engage the upper hook.
- Engage the lower springs.
- Make sure the High-Mounted Brake Lamp Bulb - M25- and the rear window washer system are working correctly.

5.2.2 High-Mounted Brake Lamp, Removing and Installing, GTI

Removing

- Turn off the ignition and all electrical equipment.



- Remove the ignition key, if equipped.
- Remove the spoiler on the edge of the roof. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Roof Bars/Roof Rails .
- Remove the bolts -1, 5 and 6- from the high-mounted brake lamp -7-.
- Lift up the catches -2 and 4- to carefully loosen.
- Slightly lift the support bracket -3-.
- Remove the high-mounted brake lamp -7- from the spoiler on the edge of the roof.

Installing

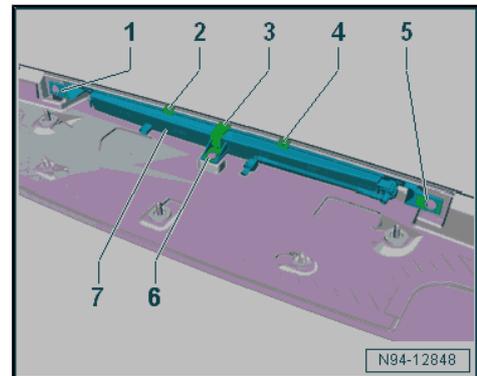
Installation is performed in the reverse order of removal, noting the following:

During installation of the high-mounted brake lamp, ensure proper seating of the seal. Seal must not have any bulges and must not be damaged.

- Make sure the High-Mounted Brake Lamp Bulb -M25- and the rear window washer system are working correctly.

Tightening Specifications

- ◆ Refer to
⇒ ["5.1.2 Overview - High-Mounted Brake Lamp, GTI", page 158](#)





6 License Plate Lamp

⇒ [“6.1 Left/Right License Plate Lamp X4 / X5 , Removing and Installing”, page 161](#)

⇒ [“6.2 Left/Right License Plate Lamp Bulb X4 / X5 , Removing and Installing”, page 163](#)

6.1 Left/Right License Plate Lamp - X4- / - X5- , Removing and Installing

⇒ [“6.1.1 Left/Right License Plate Lamp X4 / X5 , Removing and Installing, Sedan”, page 161](#)

⇒ [“6.1.2 Left/Right License Plate Lamp X4 / X5 , Removing and Installing, Wagon with LED”, page 161](#)

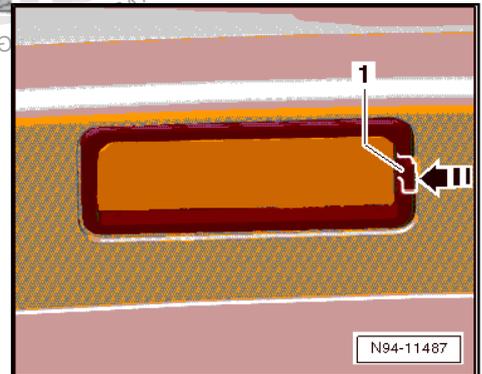
⇒ [“6.1.3 Left/Right License Plate Lamp X4 / X5 , Removing and Installing, Wagon with Bulb”, page 162](#)

6.1.1 Left/Right License Plate Lamp -X4- / - X5- , Removing and Installing, Sedan

The entire license plate lamp must be replaced if a license plate lamp LED is faulty.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Press the tab in the direction of -arrow- and remove the license plate lamp downward from the bumper cover.



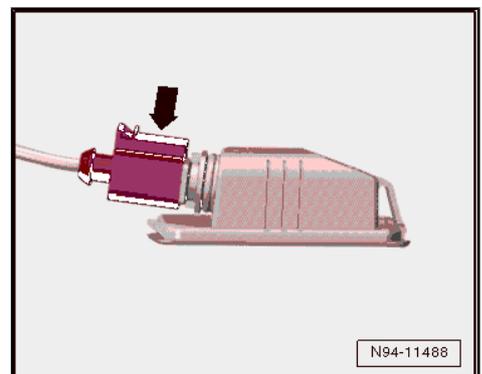
- Disconnect the connector -arrow-.

Installing

Install in the reverse order of removal while paying attention to the following:

Insert the license plate lamp into the bumper cover so that the connector is facing toward the left side of the vehicle.

- Perform a function test.



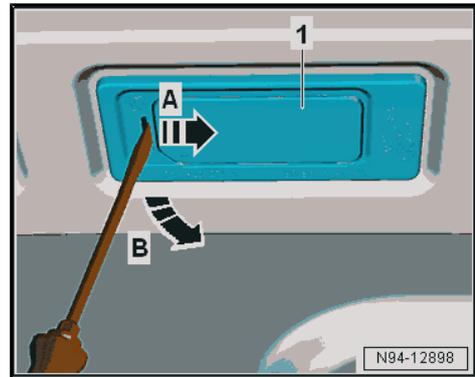
6.1.2 Left/Right License Plate Lamp -X4- / - X5- , Removing and Installing, Wagon with LED

The entire license plate lamp must be replaced if a license plate lamp LED is faulty.



Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Press the Left License Plate Lamp - X4- in the direction of the -arrow A- using a suitable tool.
- Fold the Left License Plate Lamp - X4- in the direction of the -arrow B- out of the rear lid.
- Release and disconnect the connector -1-.



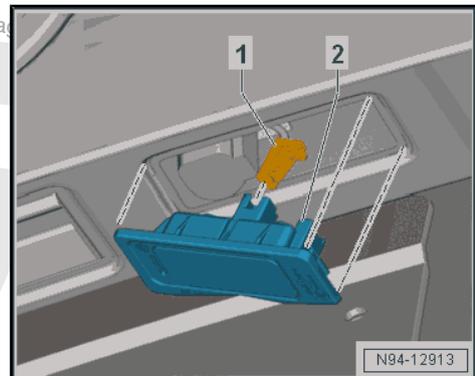
- Remove the Left License Plate Lamp - X4- -2-.

Installing

Install in the reverse order of removal while paying attention to the following:

Insert the license plate lamp into the rear lid so that the clip is facing toward the right side of the vehicle.

- Perform a function test.

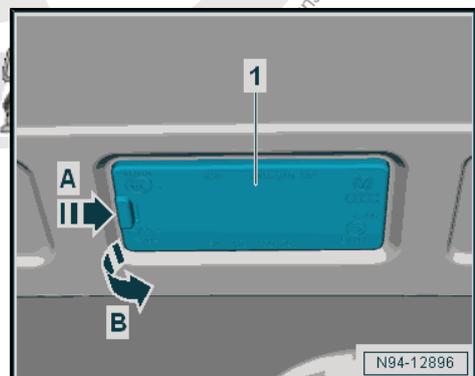


6.1.3 Left/Right License Plate Lamp -X4- / -X5- , Removing and Installing, Wagon with Bulb

The entire license plate lamp must be replaced if a license plate lamp LED is faulty.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Press the Left License Plate Lamp - X4- in the direction of the -arrow A- using a suitable tool.
- Fold the Left License Plate Lamp - X4- in the direction of the -arrow B- out of the rear lid.
- Press the connector safety catch -1- in the direction of the -arrow A-.



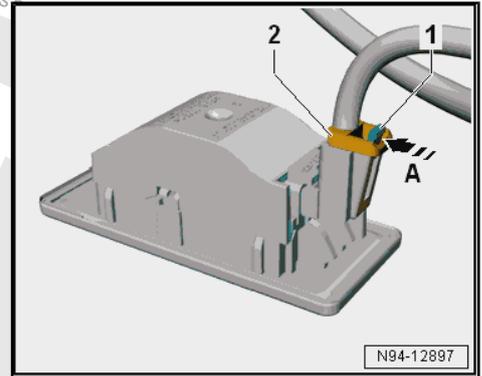


- Disconnect the connector -2-.

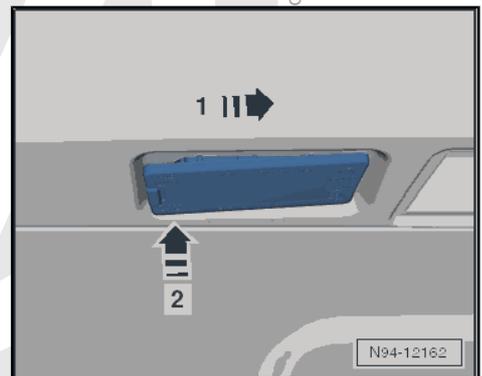
Installing

Install in the reverse order of removal while paying attention to the following:

Insert the Left License Plate Lamp - X4- into the rear lid so that the connector is facing toward the right side of the vehicle.



- Insert the Left License Plate Lamp - X4- in the direction of the -arrow 1- into the rear lid.
- Press the Left License Plate Lamp - X4- in the direction of the -arrow 2- until it locks into place.
- Perform a function test.



6.2 Left/Right License Plate Lamp Bulb - X4- / -X5- , Removing and Installing

⇒ [“6.2.1 Left/Right License Plate Lamp Bulb X4 / X5 , Removing and Installing, Sedan”, page 163](#)

⇒ [“6.2.2 Left/Right License Plate Lamp Bulb X4 / X5 , Removing and Installing, Wagon”, page 164](#)

6.2.1 Left/Right License Plate Lamp Bulb - X4- / -X5- , Removing and Installing, Sedan

The entire license plate lamp must be replaced if a license plate lamp LED is faulty.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the license plate lamp. Refer to [⇒ “6.1.1 Left/Right License Plate Lamp X4 / X5 , Removing and Installing, Sedan”, page 161](#) .



- Turn the lamp socket -1- in the direction of -arrow- to release it and pull it out of the license plate lamp.

Installing

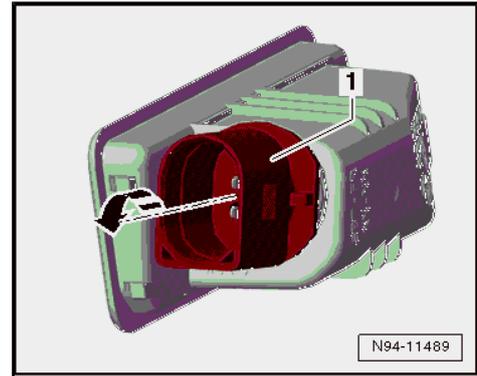
Installation is performed in the reverse order of removal, noting the following:



Caution

There is a risk of damaging the lamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean gloves for example to insert the bulbs.*



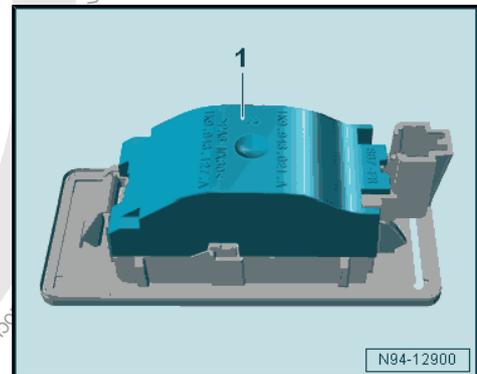
- Perform a function test.

6.2.2 Left/Right License Plate Lamp Bulb - X4- / -X5- , Removing and Installing, Wagon

The entire license plate lamp must be replaced if a license plate lamp LED is faulty.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the license plate lamp. Refer to ["6.1.3 Left/Right License Plate Lamp X4 / X5 , Removing and Installing, Wagon with Bulb", page 162](#) .
- If equipped, unclip the glass base bulb cover -1- from the license plate lamp.





- Remove the glass base bulb -1- from the bulb socket.

Installing

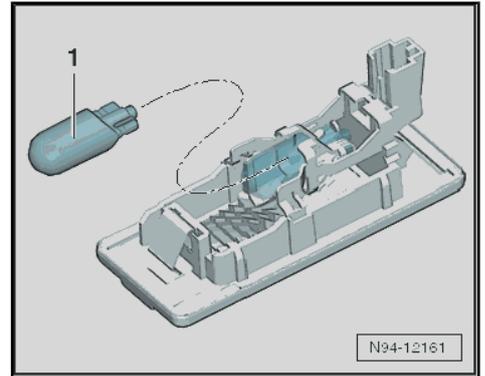
Install in reverse order of removal. Note the following:



Caution

There is a risk of damaging the lamp.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean gloves for example to insert the bulbs.*



- Perform a function test.





7 Access/Start Authorization

⇒ [“7.1 Component Location Overview - Access/Start Authorization System”, page 166](#)

⇒ [“7.2 Component Location Overview - Keyless Access Authorization System”, page 168](#)

⇒ [“7.3 Access/Start System Interface J965 , Removing and Installing”, page 170](#)

⇒ [“7.4 Driver Exterior and Front Passenger Exterior Door Handle Touch Sensor G415 / G416 , Removing and Installing”, page 172](#)

⇒ [“7.5 Access/Start System Antenna 1 in Vehicle Interior R138 , Removing and Installing”, page 173](#)

⇒ [“7.6 Driver Access/Start System Antenna R134 , Removing and Installing”, page 173](#)

⇒ [“7.7 Front Passenger Access/Start System Antenna R135 , Removing and Installing”, page 173](#)

⇒ [“7.8 Access/Start System Antenna in Luggage Compartment R137 , Removing and Installing”, page 174](#)

⇒ [“7.9 Access/Start System Antenna in Rear Bumper R136 , Removing and Installing”, page 175](#)

7.1 Component Location Overview - Access/Start Authorization System



Note

The component locations for the Sedan are shown. The component locations for the Wagon are identical.



1 - Anti-Theft Immobilizer Reader Coil - D2-

- ❑ Removing and installing. Refer to ⇒ [“8.10.2 Anti-Theft Immobilizer Reader Coil D2 , Removing and Installing, Vehicles with Keyless Access”](#), page 194 .

2 - Electronic Steering Column Lock Control Module - J764-

- ❑ Removing and installing. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 48 ; Steering Column; Electronic Steering Column Lock Control Module - J764- , Removing and Installing

3 - Start System Button - E378-

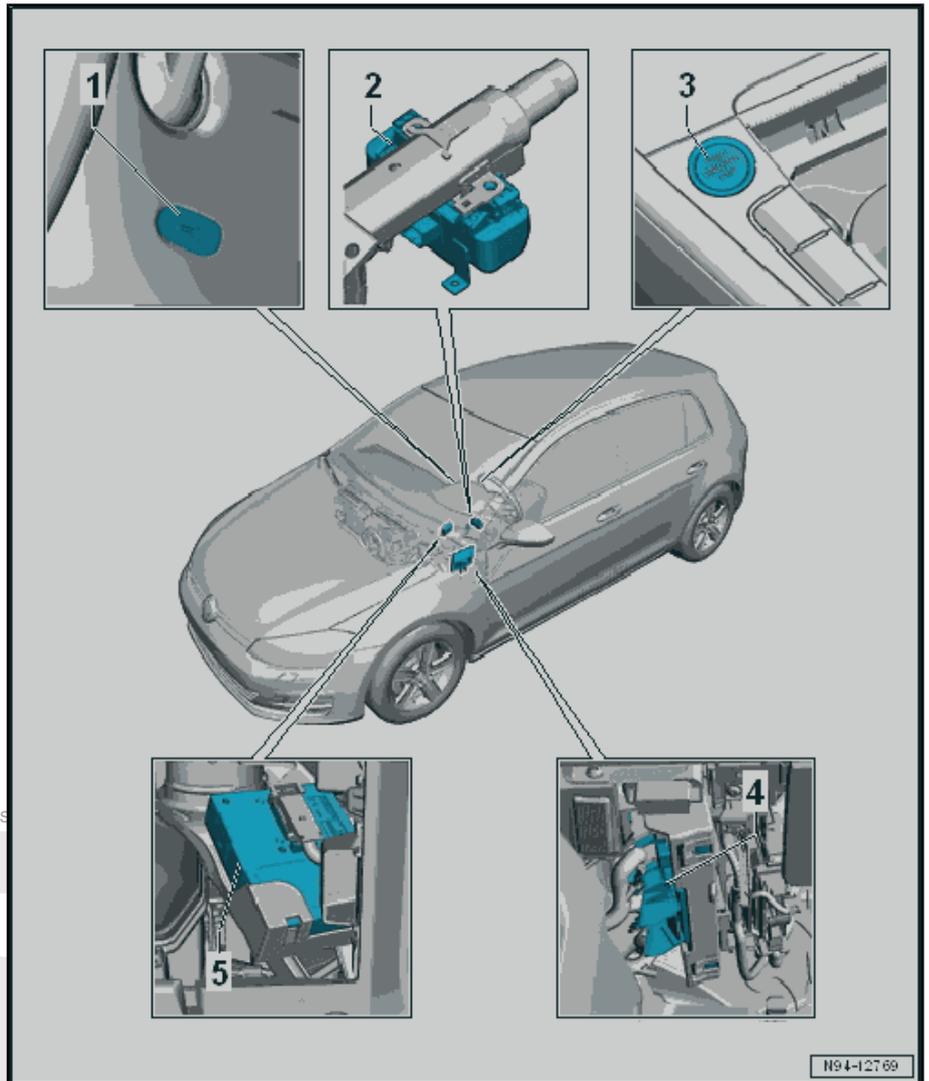
- ❑ Removing and installing. Refer to ⇒ [“2.26 Start System Button E378 , Removing and Installing”](#), page 273 .

4 - Vehicle Electrical System Control Module - J519-

- ❑ With Central Locking and Anti-Theft Alarm System Antenna - R47-
- ❑ Overview. Refer to ⇒ [“2.2 Overview - Control Modules”](#), page 298 .

5 - Access/Start System Interface - J965-

- ❑ Removing and installing. Refer to ⇒ [“7.3 Access/Start System Interface J965 , Removing and Installing”](#), page 170 .
- ❑ Bracket screws (only for NAR): 2 Nm



N94-127 69

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7.2 Component Location Overview - Keyless Access Authorization System

⇒ [“7.2.1 Component Location Overview - Front Keyless Access Authorization System”, page 168](#)

⇒ [“7.2.2 Component Location Overview - Rear Keyless Access Authorization System, Sedan”, page 169](#)

⇒ [“7.2.3 Component Location Overview - Rear Keyless Access Authorization System, Wagon”, page 170](#)

7.2.1 Component Location Overview - Front Keyless Access Authorization System



Note

The component locations for the Sedan are shown. The component locations for the Wagon are identical.

1 - Front Passenger Exterior Door Handle

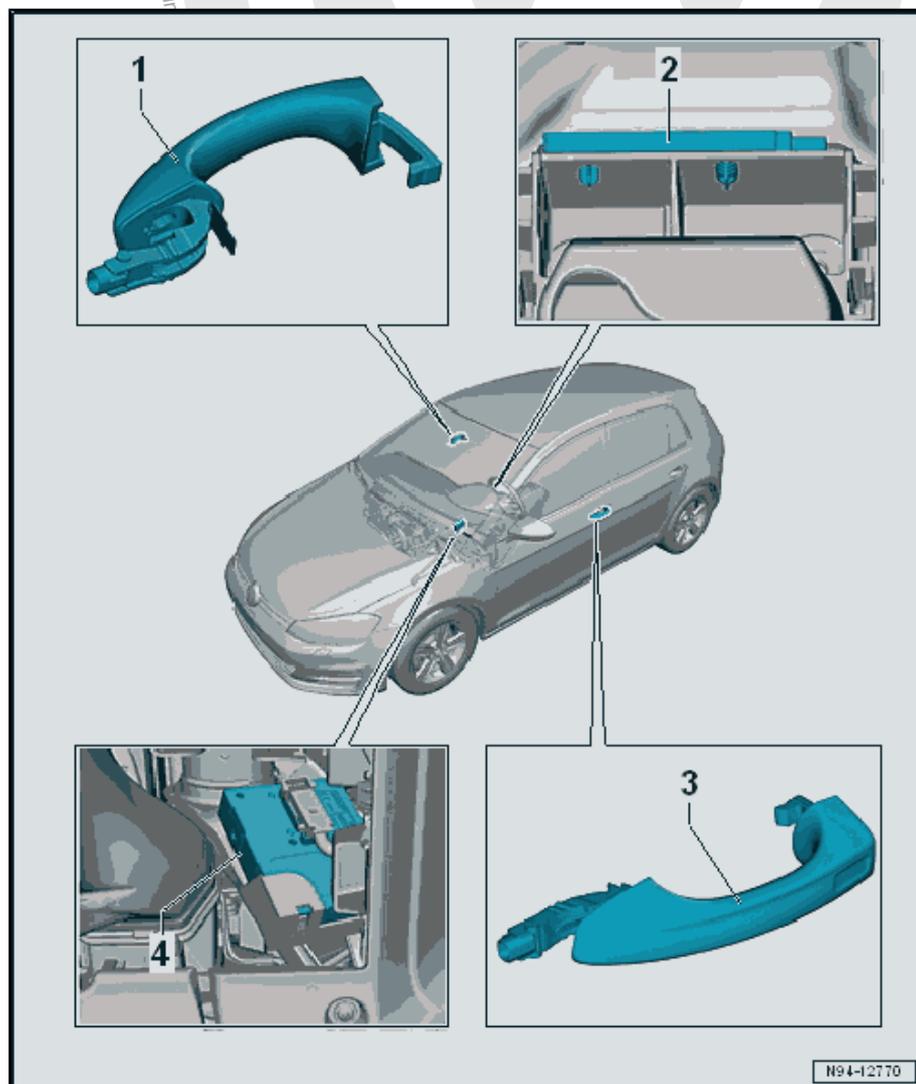
- ❑ With Front Passenger Exterior Door Handle Touch Sensor - G416- removing and installing. Refer to ⇒ [“7.4 Driver Exterior and Front Passenger Exterior Door Handle Touch Sensor G415 / G416 , Removing and Installing”, page 172](#) .
- ❑ With Front Passenger Access/Start System Antenna - R135- , removing and installing. Refer to ⇒ [“7.7 Front Passenger Access/Start System Antenna R135 , Removing and Installing”, page 173](#) .

2 - Access/Start System Antenna 1 in Vehicle Interior - R138-

- ❑ Removing and installing. Refer to ⇒ [“7.5 Access/Start System Antenna 1 in Vehicle Interior R138 , Removing and Installing”, page 173](#) .

3 - Driver Side Exterior Door Handle

- ❑ With Driver Exterior Door Handle Touch Sensor - G415- removing and installing. Refer to ⇒ [“7.4 Driver Exterior and Front Passenger Exterior Door Handle Touch Sensor G415 / G416 , Removing and Installing”, page 172](#) .
- ❑ With Driver Access/Start System Antenna - R134- , removing and installing. Refer to ⇒ [“7.6 Driver Access/Start System Antenna R134 , Removing and Installing”, page 173](#) .





4 - Access/Start System Interface - J965-

- ❑ Bracket screws (only for NAR): 2 Nm
- ❑ Removing and installing. Refer to
⇒ ["7.3 Access/Start System Interface J965: Removing and Installing", page 170](#) .

7.2.2 Component Location Overview - Rear Keyless Access Authorization System, Sedan

1 - Access/Start System Antenna In Luggage Compartment - R137-

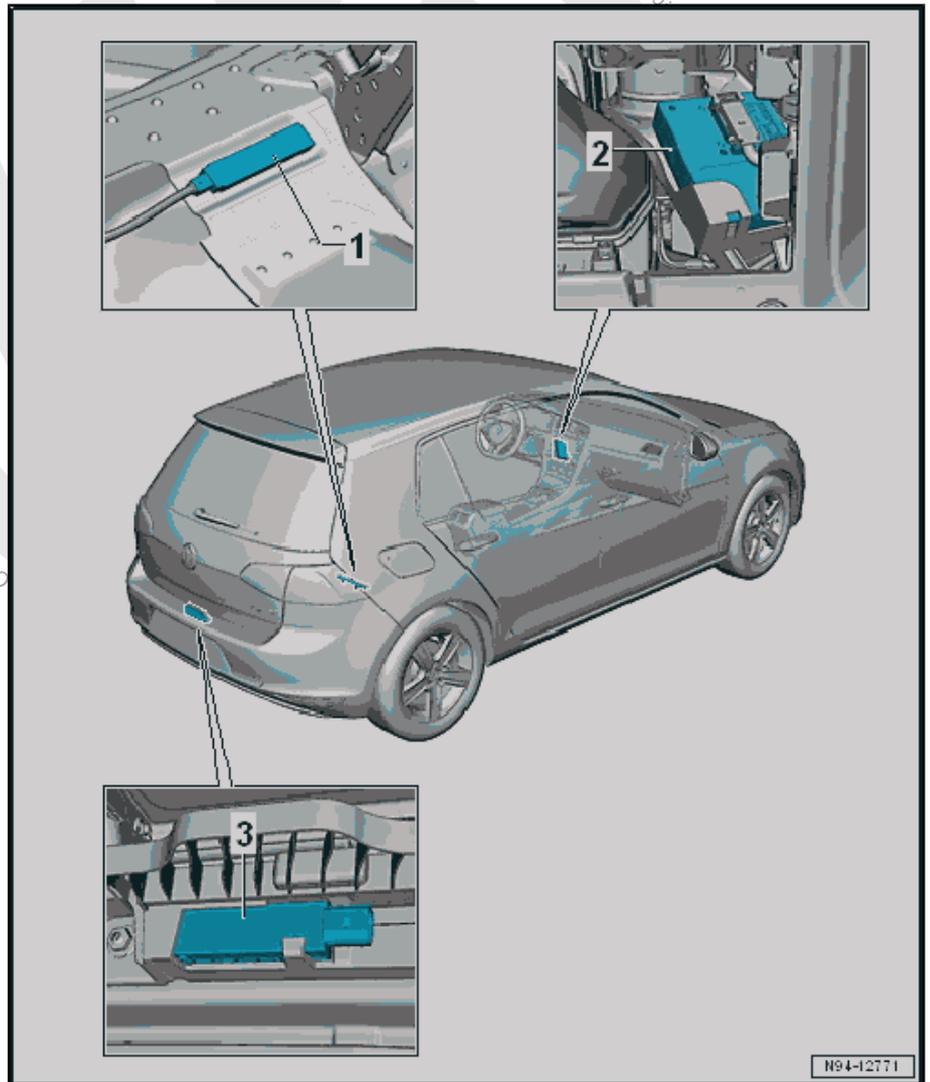
- ❑ Removing and installing. Refer to
⇒ ["7.8.1 Access/Start System Antenna in Luggage Compartment R137, Removing and Installing, Sedan", page 174](#) .

2 - Access/Start System Interface - J965-

- ❑ Bracket screws (only for NAR): 2 Nm
- ❑ Removing and installing. Refer to
⇒ ["7.3 Access/Start System Interface J965: Removing and Installing", page 170](#) .

3 - Access/Start System Antenna in Rear Bumper - R136-

- ❑ Removing and installing. Refer to
⇒ ["7.9 Access/Start System Antenna in Rear Bumper R136, Removing and Installing", page 175](#) .





7.2.3 Component Location Overview - Rear Keyless Access Authorization System, Wagon

1 - Access/Start System Antenna in Rear Bumper - R136-

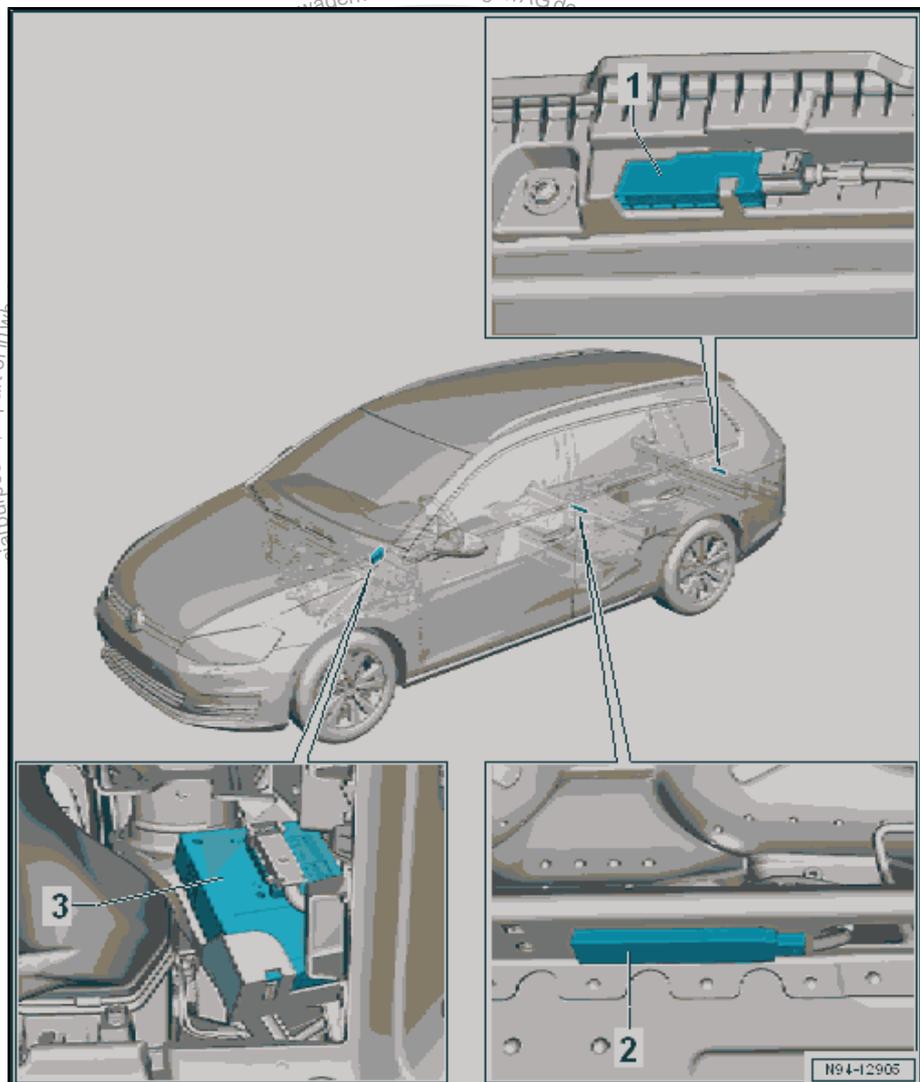
- ❑ Removing and installing. Refer to [⇒ "7.9 Access/Start System Antenna in Rear Bumper R136 , Removing and Installing", page 175 .](#)

2 - Access/Start System Antenna In Luggage Compartment - R137-

- ❑ Removing and installing. Refer to [⇒ "7.8.2 Access/Start System Antenna in Luggage Compartment R137 , Removing and Installing, Wagon", page 174 .](#)

3 - Access/Start System Interface - J965-

- ❑ Bracket screws (only for NAR): 2 Nm
- ❑ Removing and installing. Refer to [⇒ "7.3 Access/Start System Interface J965 , Removing and Installing", page 170 .](#)



7.3 Access/Start System Interface - J965- , Removing and Installing

[⇒ "7.3.2 Access/Start System Interface J965 , Removing and Installing", page 171](#)

7.3.1 Access/Start System Interface - J965- , Removing and Installing, Except North America

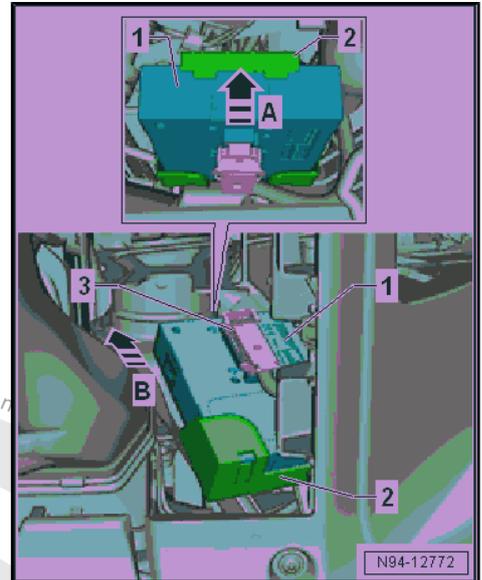
If the control module is being replaced, use the Vehicle Diagnostic Tester and select the "Replacing" function for the respective control module in "Guided Fault Finding".

Removing

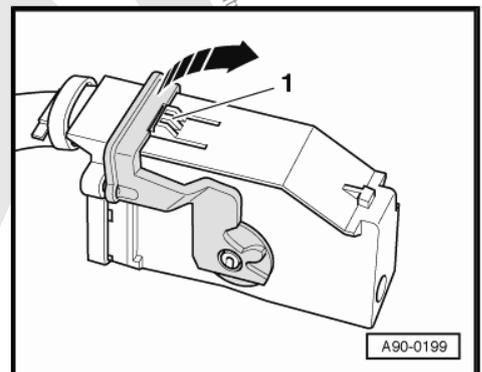
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.



- Remove the footwell cover on the driver side. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Driver Side Footwell Cover, Removing and Installing .
- Remove the knee airbag with igniter. Refer to ⇒ Body Interior; Rep. Gr. 69 ; Knee Airbags; Overview - Knee Airbag .
- Push the bracket -2- upward in the direction of the -arrow A- from the Access/Start System Interface - J965- -1-.
- Remove the Access/Start System Interface - J965- -1- in the direction of the -arrow B- from the bracket -2-.
- Disconnect the connector -3-.



- To disconnect push the circlip -1- on the connector.
- Pivot the retaining bracket in the direction of -arrow- and remove from the connector.
- Pry up the catch -1- using a small screwdriver in the direction of the -arrow A- if necessary.

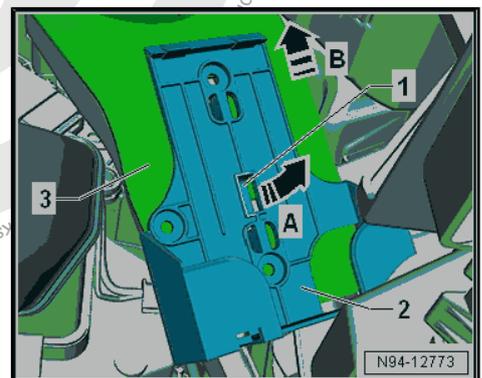


- Remove the bracket -2- in the direction of the -arrow B- from the brace -3-.

Installing

Install in the reverse order of removal while paying attention to the following:

- The bracket for the Access/Start System Interface - J965- must engage audibly.
- The Access/Start System Interface - J965- must engage audibly in the bracket.



7.3.2 Access/Start System Interface - J965- , Removing and Installing

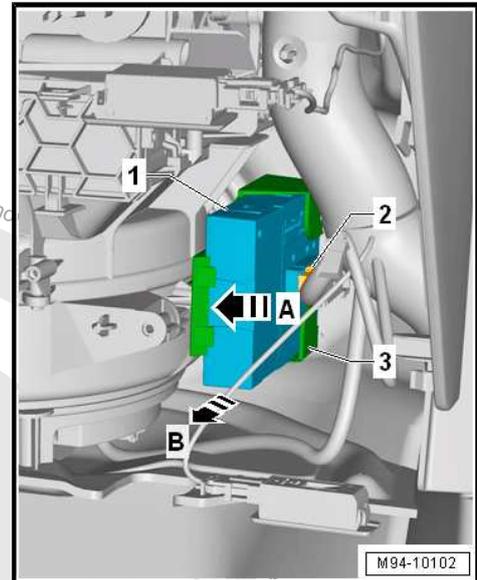
If the control module is being replaced, use the Vehicle Diagnostic Tester and select the “Replacing” function for the respective control module in “Guided Fault Finding”.

Removing

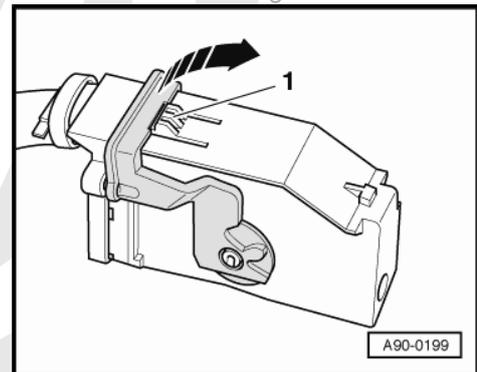
- Turn off the ignition and all electrical equipment.



- Remove the ignition key, if equipped.
- Remove the glove compartment. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Glove Compartment, Removing and Installing .
- Push the bracket -3- rearward in the direction of the -arrow A- from the Access/Start System Interface - J965- -1-.
- Remove the Access/Start System Interface - J965- -1- in the direction of the -arrow B- from the bracket -3-.
- Release and disconnect the connector -2-.



- To disconnect the connector press the circlip -1-.
- Pivot the retaining bracket in the direction of -arrow- and remove from the connector.
- Remove the bolts -arrows- from the bracket -1-.



- Remove the bracket -1- from the heater and A/C unit.

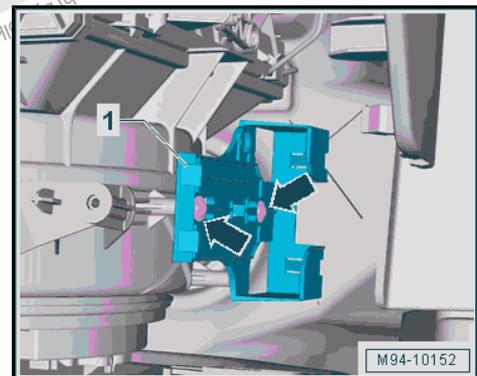
Installing

Install in the reverse order of removal while paying attention to the following:

- The Access/Start System Interface - J965- must engage audibly in the bracket.

Tightening Specifications

- ◆ Refer to ⇒ ["7.1 Component Location Overview - Access/Start Authorization System", page 166](#)



7.4 Driver Exterior and Front Passenger Exterior Door Handle Touch Sensor - G415- / -G416- , Removing and Installing

The Driver Exterior Door Handle Touch Sensor - G415- and the Front Passenger Exterior Door Handle Touch Sensor - G416- is



integrated in the exterior door handle and cannot be replaced individually if faulty.

- Door handle removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 57 ; Door Components; Door Handle, Removing and Installing .

7.5 Access/Start System Antenna 1 in Vehicle Interior - R138- , Removing and Installing

Special tools and workshop equipment required

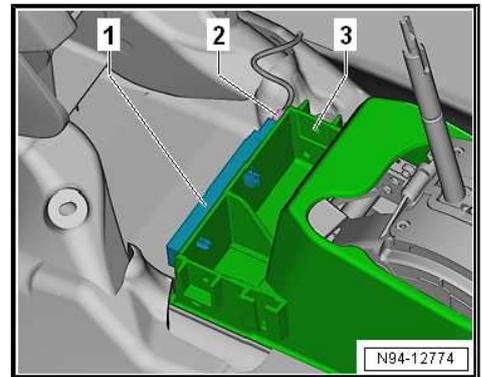
- ◆ Pry Lever - 80-200-

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the center console insert. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Center Console; Center Console Insert, Removing and Installing .
- Pry the Access/Start System Antenna 1 in Vehicle Interior - R138- -1- using the -80-200- from the bracket -3-.
- Release and disconnect the connector -2-.

Installing

Install in reverse order of removal.



7.6 Driver Access/Start System Antenna - R134- , Removing and Installing

The Driver Access/Start System Antenna - R134- is integrated into the exterior door handle and cannot be replaced separately if faulty.

Door handle removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 57 ; Door Components; Door Handle, Removing and Installing .

7.7 Front Passenger Access/Start System Antenna - R135- , Removing and Installing

The Front Passenger Access/Start System Antenna - R135- is integrated into the exterior door handle and cannot be replaced separately if faulty.

Door handle removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 57 ; Door Components; Door Handle, Removing and Installing .



7.8 Access/Start System Antenna in Luggage Compartment - R137- , Removing and Installing

⇒ ["7.8.1 Access/Start System Antenna in Luggage Compartment R137 , Removing and Installing, Sedan", page 174](#)

⇒ ["7.8.2 Access/Start System Antenna in Luggage Compartment R137 , Removing and Installing, Wagon", page 174](#)

7.8.1 Access/Start System Antenna in Luggage Compartment - R137- , Removing and Installing, Sedan

Special tools and workshop equipment required

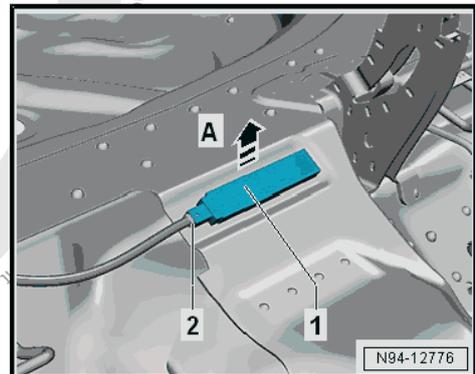
- ◆ Pry Lever - 80-200-

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the rear bench seat. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Rear Seats; Bench Seat/Single Seat, Removing and Installing .
- Fold back the carpet.
- Pry the Access/Start System Antenna in Luggage Compartment - R137- -1- using the -80-200- in the direction of the -arrow A- from the body.
- Release and disconnect the connector -2-.

Installing

Install in reverse order of removal.



7.8.2 Access/Start System Antenna in Luggage Compartment - R137- , Removing and Installing, Wagon

Special tools and workshop equipment required

- ◆ Pry Lever - 80-200-

Removing

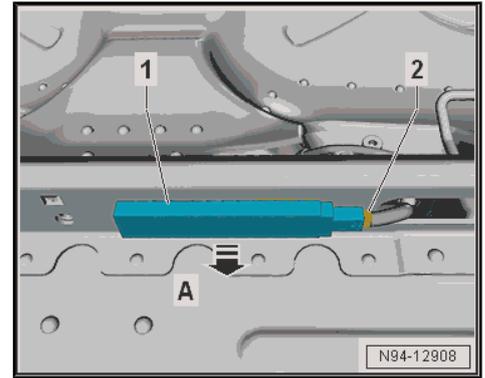
- Remove the luggage compartment floor covering. Refer to ⇒ Rep. Gr. 70 ; Luggage Compartment Trim Panels; Overview - Luggage Compartment Floor .



- Pry out the antenna -1- with the -80-200- in the direction of the -arrow A- from the body.
- Disconnect the connector -2-.

Installing

Install in reverse order of removal.



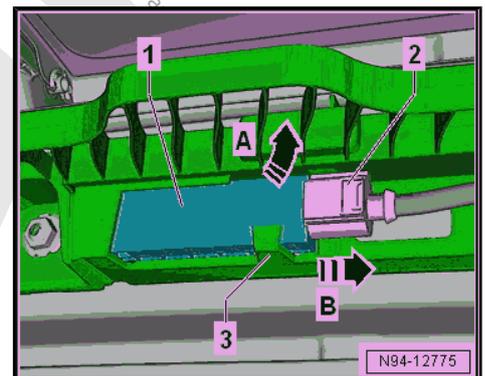
7.9 Access/Start System Antenna in Rear Bumper - R136- , Removing and Installing

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the rear bumper cover. Refer to => Body Exterior; Rep. Gr. 63 ; Rear Bumper; Bumper Cover, Removing and Installing .
- Pry the Access/Start System Antenna in Rear Bumper - R136- -1- slightly in the direction of the -arrow A-.
- Remove the Access/Start System Antenna in Rear Bumper - R136- -1- in the direction of the -arrow B- from the mount -3-.
- Release and disconnect the connector -2-.

Installing

Install in reverse order of removal.





8 Steering Column Switch Module

- ⇒ ["8.1 Overview - Steering Column Switch Module", page 176](#)
- ⇒ ["8.2 Lock Cylinder, Removing and Installing", page 179](#)
- ⇒ ["8.3 Ignition Switch Key Lock Solenoid N376 , Removing and Installing", page 180](#)
- ⇒ ["8.4 Ignition/Starter Switch, Removing and Installing", page 181](#)
- ⇒ ["8.5 Steering Column Switch Module, Removing and Installing", page 182](#)
- ⇒ ["8.6 Steering Column Electronics Control Module J527 , Removing and Installing", page 187](#)
- ⇒ ["8.7 Turn Signal Switch E2 , Removing and Installing", page 192](#)
- ⇒ ["8.8 Cruise Control Switch E45 , Removing and Installing", page 194](#)
- ⇒ ["8.9 Windshield Wiper Intermittent Mode Switch E22 , Removing and Installing", page 194](#)
- ⇒ ["8.10 Anti-Theft Immobilizer Reader Coil D2 , Removing and Installing", page 194](#)
- ⇒ ["8.11 Steering Lock Housing, Removing and Installing", page 195](#)

8.1 Overview - Steering Column Switch Module

- ⇒ ["8.1.1 Overview - Steering Column Switch Module with Mechanical Ignition Switch", page 176](#)
- ⇒ ["8.1.2 Overview - Steering Column Switch Module and Electronic Ignition Switch", page 178](#)

8.1.1 Overview - Steering Column Switch Module with Mechanical Ignition Switch



1 - Ignition Key

2 - Lock Cylinder

- Removing and installing. Refer to [⇒ "8.2 Lock Cylinder, Removing and Installing", page 179](#) .

3 - Anti-Theft Immobilizer Reader Coil - D2-

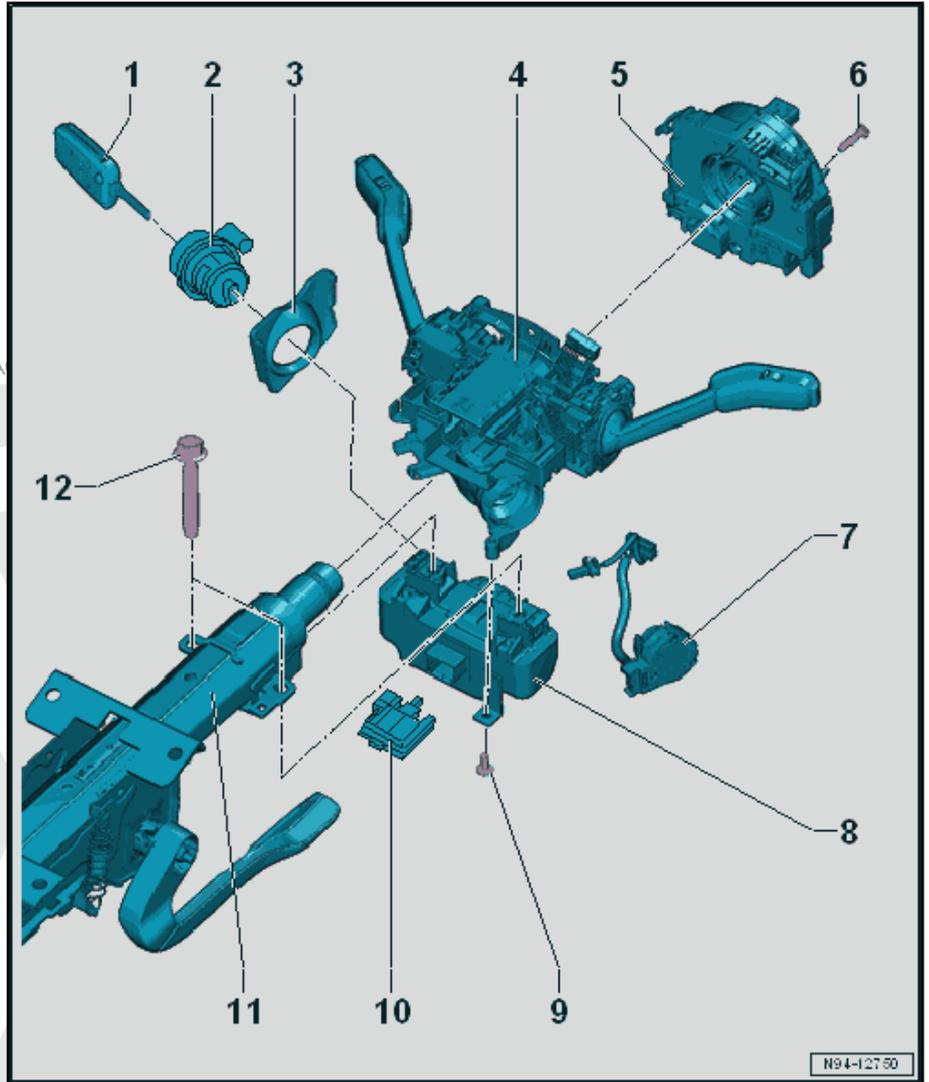
- Removing and installing. Refer to [⇒ "8.10.1 Anti-Theft Immobilizer Reader Coil D2, Removing and Installing, Vehicles with Ignition Key", page 194](#) .

4 - Mount

- With Turn Signal Switch - E2- / Windshield Wiper Intermittent Mode Switch - E22-
- With cruise control: with Cruise Control Switch - E45-
- Removing and installing. Refer to [⇒ "8.7 Turn Signal Switch E2, Removing and Installing", page 192](#) .

5 - Steering Column Electronics Control Module - J527-

- With Airbag Spiral Spring/Return Spring with Slip Ring - F138-
- Removing and installing. Refer to [⇒ "8.6 Steering Column Electronics Control Module J527, Removing and Installing", page 187](#) .



Caution

*Risk of damaging the return ring.
The return spring with slip ring must not be turned after removing.*

6 - Screw

- 1 Nm
- Quantity: 3

7 - Ignition/Starter Switch - D-

- Removing and installing. Refer to [⇒ "8.4 Ignition/Starter Switch, Removing and Installing", page 181](#) .

8 - Steering Lock Housing

- Removing and installing. Refer to [⇒ "8.11 Steering Lock Housing, Removing and Installing", page 195](#) .

9 - Screw

- 1 Nm



10 - Ignition Switch Key Lock Solenoid - N376-

- For DSG transmission
- Removing and installing. Refer to
⇒ ["8.3 Ignition Switch Key Lock Solenoid N376 , Removing and Installing"](#), page 180 .

11 - Steering Column

12 - Bolt

- Quantity: 2
- For steering lock housing (shear bolt)

8.1.2 Overview - Steering Column Switch Module and Electronic Ignition Switch

1 - Start System Button - E378

- Removing and installing. Refer to
⇒ ["2.26 Start System Button E378 , Removing and Installing"](#), page 273 .

2 - Steering Column Electronics Control Module - J527-

- With Airbag Spiral Spring/Return Spring with Slip Ring - F138-
- Removing and installing. Refer to
⇒ ["8.6 Steering Column Electronics Control Module J527 , Removing and Installing"](#), page 187 .



3 - Screw

- 1 Nm
- Quantity: 3

4 - Mount

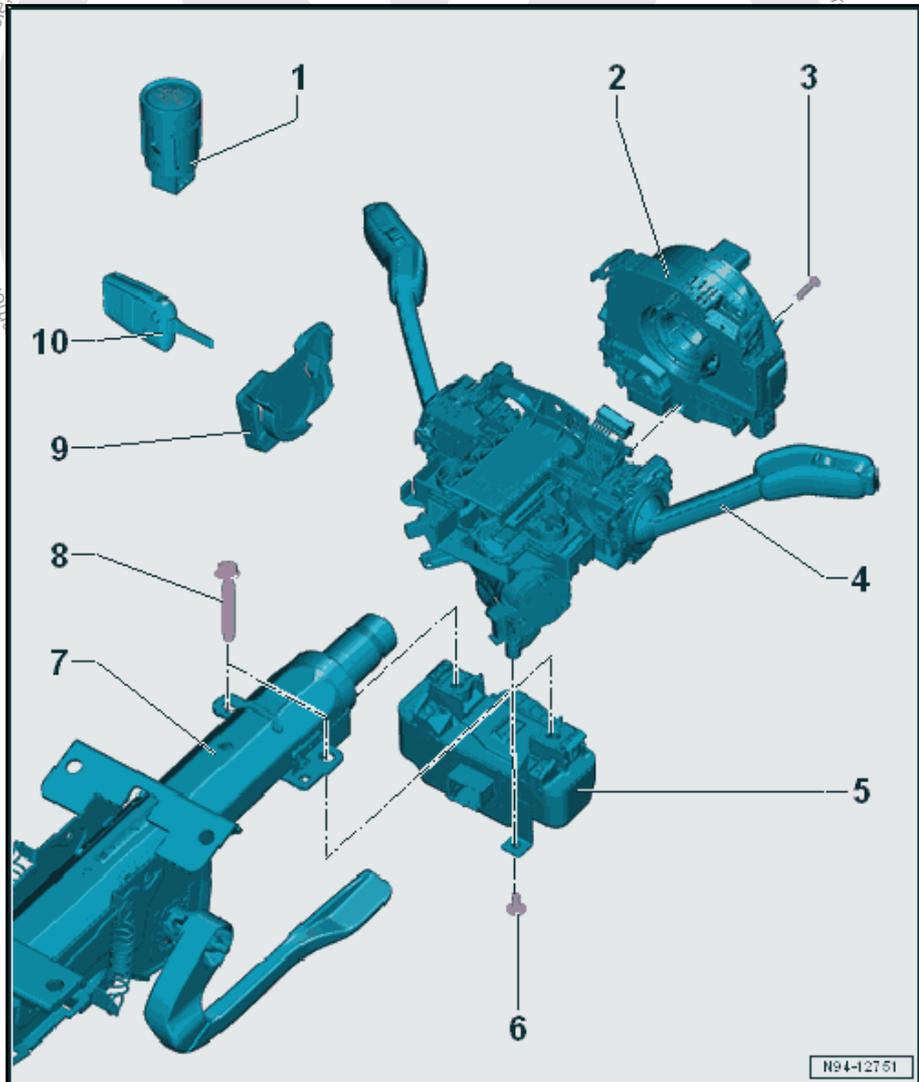
- With Turn Signal Switch - E2- , Windshield Wiper Intermittent Mode Switch - E22-
- With cruise control: with Cruise Control Switch - E45-
- Removing and installing. Refer to ⇒ ["8.7 Turn Signal Switch E2 , Removing and Installing"](#), page 192 .

5 - Electronic Steering Column Lock Control Module - J764-

- Removing and installing. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 48 ; Steering Column; Electronic Steering Column Lock Control Module - J764- , Removing and Installing

6 - Screw

- 1 Nm





7 - Steering Column

8 - Bolt

- Quantity: 2
- For Electronic Steering Column Lock Control Module - J764- (shear bolt)

9 - Anti-Theft Immobilizer Reader Coil - D2-

- Removing and installing. Refer to
⇒ ["8.10.2 Anti-Theft Immobilizer Reader Coil D2 , Removing and Installing, Vehicles with Keyless Access", page 194](#) .

10 - Ignition Key

8.2 Lock Cylinder, Removing and Installing

Special tools and workshop equipment required

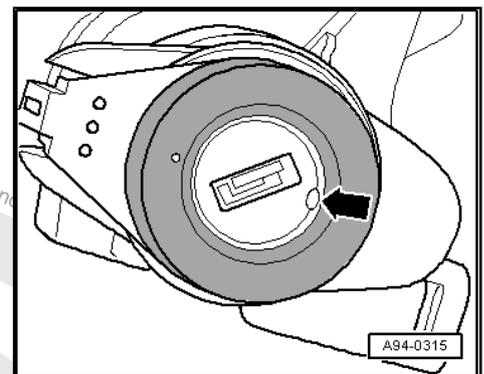
- ◆ Locking Pin (3 pc.) - T40011- or
- ◆ Suitable welding wire

For removing the lock cylinder, it may be necessary to fold in the ignition key.

Removing

Right lock position is shown without ignition lock to provide a better illustration.

- Remove the lower steering column trim panel. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Lower Steering Column Trim Panel, Removing and Installing .
- Turn the ignition key in the ignition "on" position. While doing so the cut out in the trim -arrow- aligns with the hole in the ignition lock.
- Fold the ignition key as far as it possible.





- Push in -T40011- or a suitable welding wire until stop in the hole -2-.
- Remove the lock cylinder -1- from the steering lock housing.



WARNING

Risk of steering lock seizing.

- ◆ **Steering lock must not be operated without a lock cylinder.**

A blocked steering lock must be replaced.

The Anti-Theft Immobilizer Reader Coil - D2- is integrated in the lock cylinder and cannot be replaced separately. If the Anti-Theft Immobilizer Reader Coil - D2- is faulty, the complete lock cylinder must be replaced.

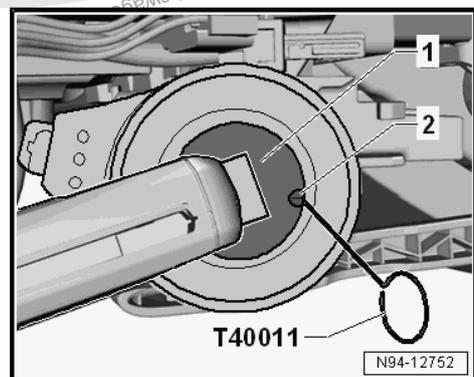
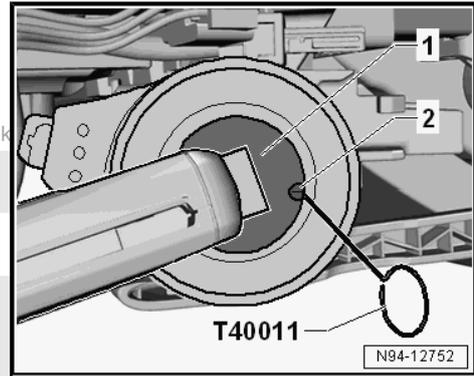
With the vehicle-specific lock number, a new lock cylinder is ordered through the distributor or importer using the VIN.

- Release and disconnect the connector from the Anti-Theft Immobilizer Reader Coil - D2-.

Installing

Install in the reverse order of removal while paying attention to the following:

- Insert the ignition key into the lock cylinder and turn it to the ignition "on" position.
- Push the -T40011- or a suitable welding wire back in the front side hole until stop.
- Connect the connector to the Anti-Theft Immobilizer Reader Coil - D2- .
- Push in the lock cylinder -1- with the Anti-Theft Immobilizer Reader Coil - D2- in the steering lock housing -3-.
- Remove the -T40011- from the hole -2-.
- Push the lock cylinder in securely until the locking mechanism engages audibly.



8.3 Ignition Switch Key Lock Solenoid - N376- , Removing and Installing

Removing

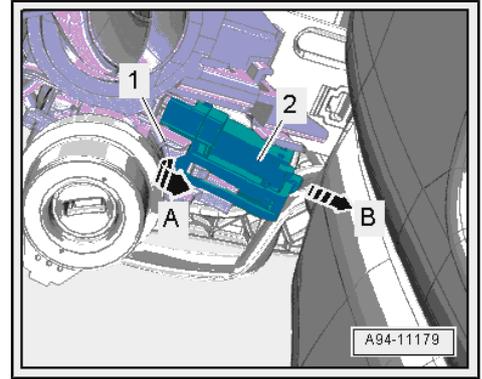
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the lower steering column trim panel. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Lower Steering Column Trim Panel, Removing and Installing .



- Release the retainer in direction of -arrow A- and remove the Ignition Switch Key Lock Solenoid - N376- -2- from the steering lock housing -1- in direction of -arrow B-.

Installing

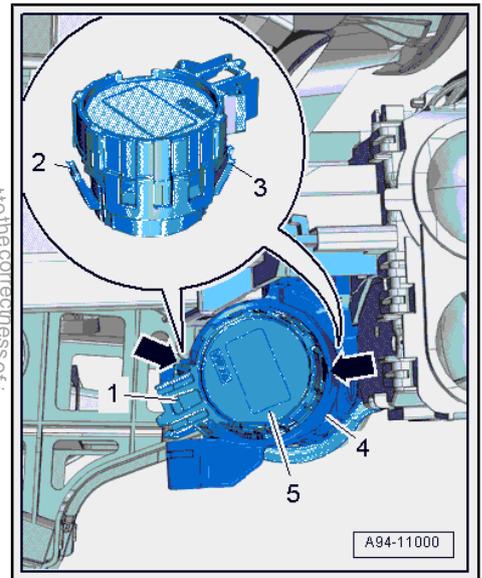
Install in reverse order of removal.



8.4 Ignition/Starter Switch, Removing and Installing

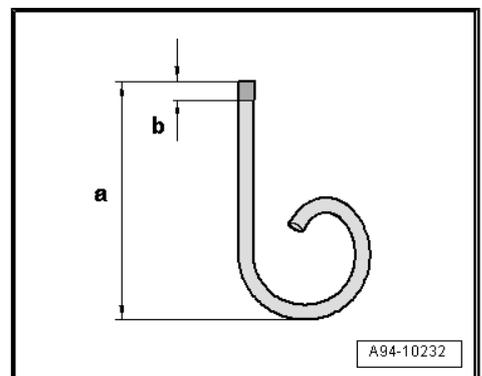
Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the lower steering column trim panel. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Lower Steering Column Trim Panel, Removing and Installing .
- Release and disconnect the connector -1-.
- Release the clips -2 and 3- by inserting a suitable screwdriver in the openings -arrows- in the steering lock housing -4-.



If the procedure is not possible because there is not enough space, create a tool from two wire hooks as follows:

- Bend the one end of a welding wire to form a 1 mm eye.
- Cut the welding wire down to the length -a-.
- ◆ Dimension -a- = approximately 50 mm
- File the end of the wire hook into a point.
- ◆ Dimension -b- = 5 mm



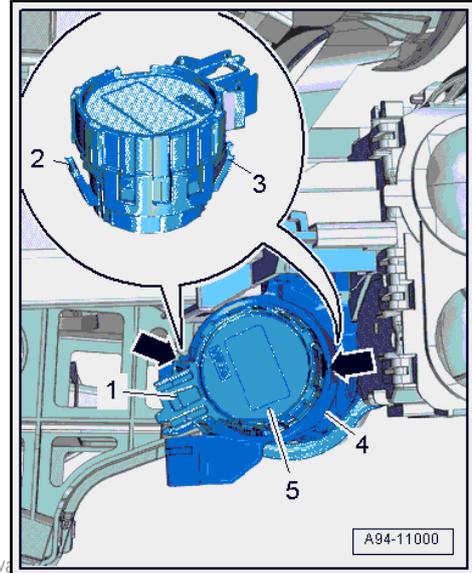


- Remove the Ignition/Starter Switch - D- -5- from the steering lock housing. The jeweler's screwdriver or wire hooks must remain inserted.

Installing

Install in the reverse order of removal while paying attention to the following:

- Insert the Ignition/Starter Switch - D- into the steering lock housing until it audibly engages.



8.5 Steering Column Switch Module, Removing and Installing

⇒ ["8.5.1 Steering Column Switch Module, Removing and Installing, Kostal"](#), page 182

⇒ ["8.5.2 Steering Column Switch Module, Removing and Installing, Valeo"](#), page 184

8.5.1 Steering Column Switch Module, Removing and Installing, Kostal

Removing

- Position the steering wheel as far back as possible. Use the entire adjustment range of the steering column adjustment for this.
- Remove the steering wheel. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 48 ; Steering Wheel; Steering Wheel, Removing and Installing .
- Remove the lower steering column trim panel. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Lower Steering Column Trim Panel, Removing and Installing .

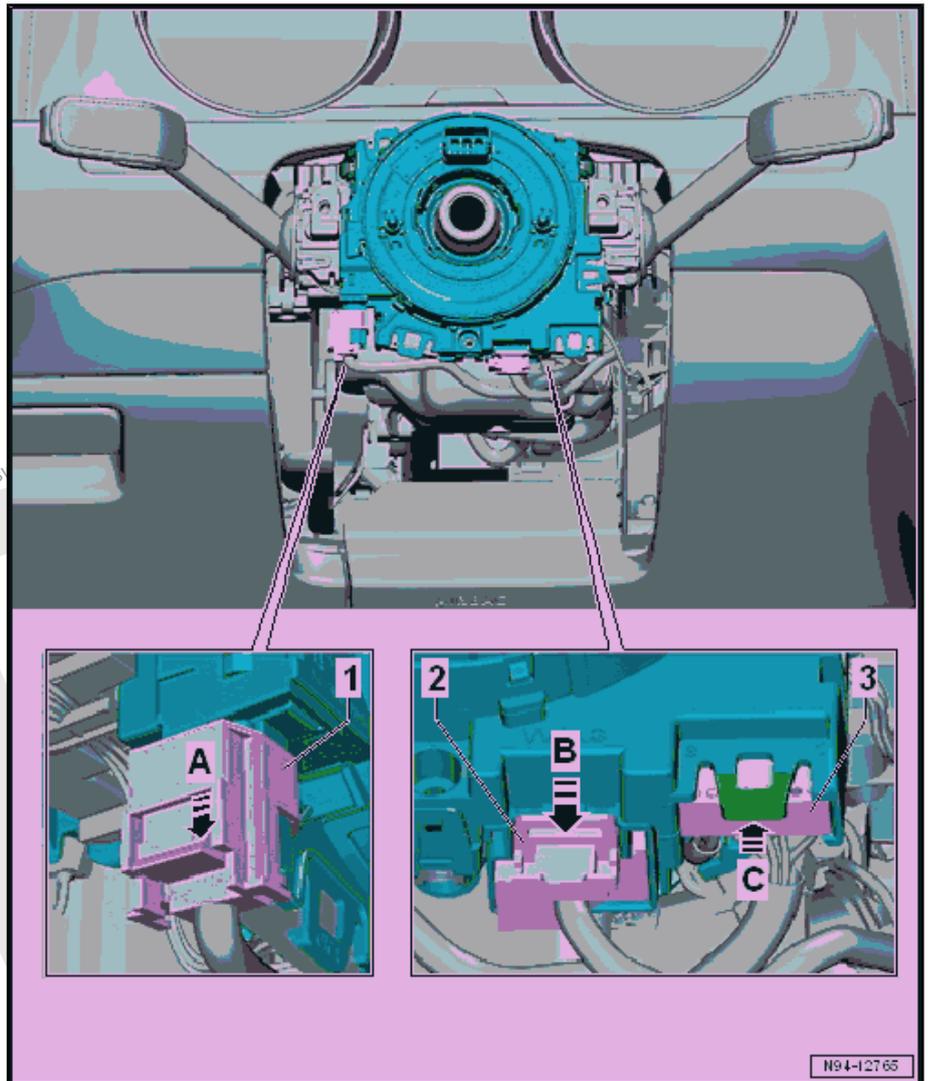


WARNING

Risk of destroying electronic components with static discharge.

- ◆ **Before disconnecting the connector, discharge static electricity from your body by touching a grounded vehicle component such as the door striker pin.**

- Remove the connector lock in the direction of the -arrow A- and press down.



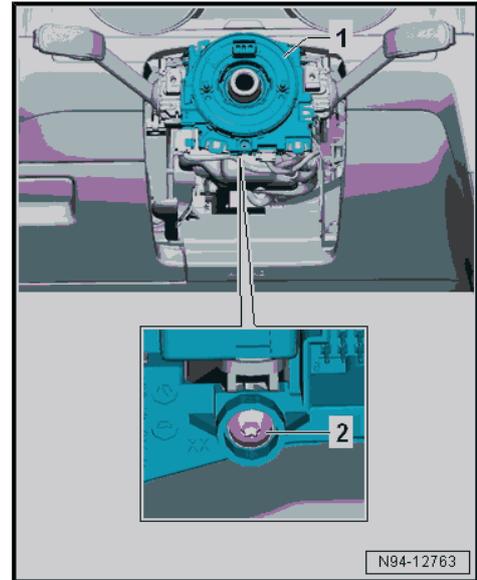
- Disconnect the connector -1-.
- Remove the connector lock in the direction of the -arrow B- and press down.
- Disconnect the connector -2-.
- Push the connector lock in the direction of the -arrow C- and disconnect the connector -3-.



- Remove the bolt -2- on the bottom.
- Remove the steering column switch module -1-.

Installing

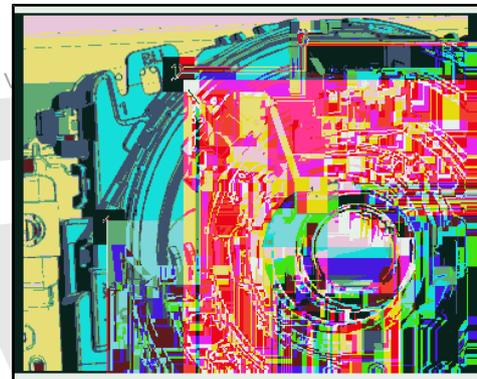
Install in the reverse order of removal while paying attention to the following:



- The following must be checked on the Steering Column Electronics Control Module - J527- -3- before sliding on the steering column switch module:
 - ◆ The “arrows” -1- must align.
 - ◆ The spiral spring -2- must be seen in the window between the “arrows” -4-.

Tightening Specifications

- ◆ Refer to
⇒ [“8.1 Overview - Steering Column Switch Module”, page 176](#)



8.5.2 Steering Column Switch Module, Removing and Installing, Valeo

Removing

- Position the steering wheel as far back as possible. Use the entire adjustment range of the steering column adjustment for this.
- Remove the steering wheel. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 48 ; Steering Wheel; Steering Wheel, Removing and Installing .
- Remove the lower steering column trim panel. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Lower Steering Column Trim Panel, Removing and Installing .

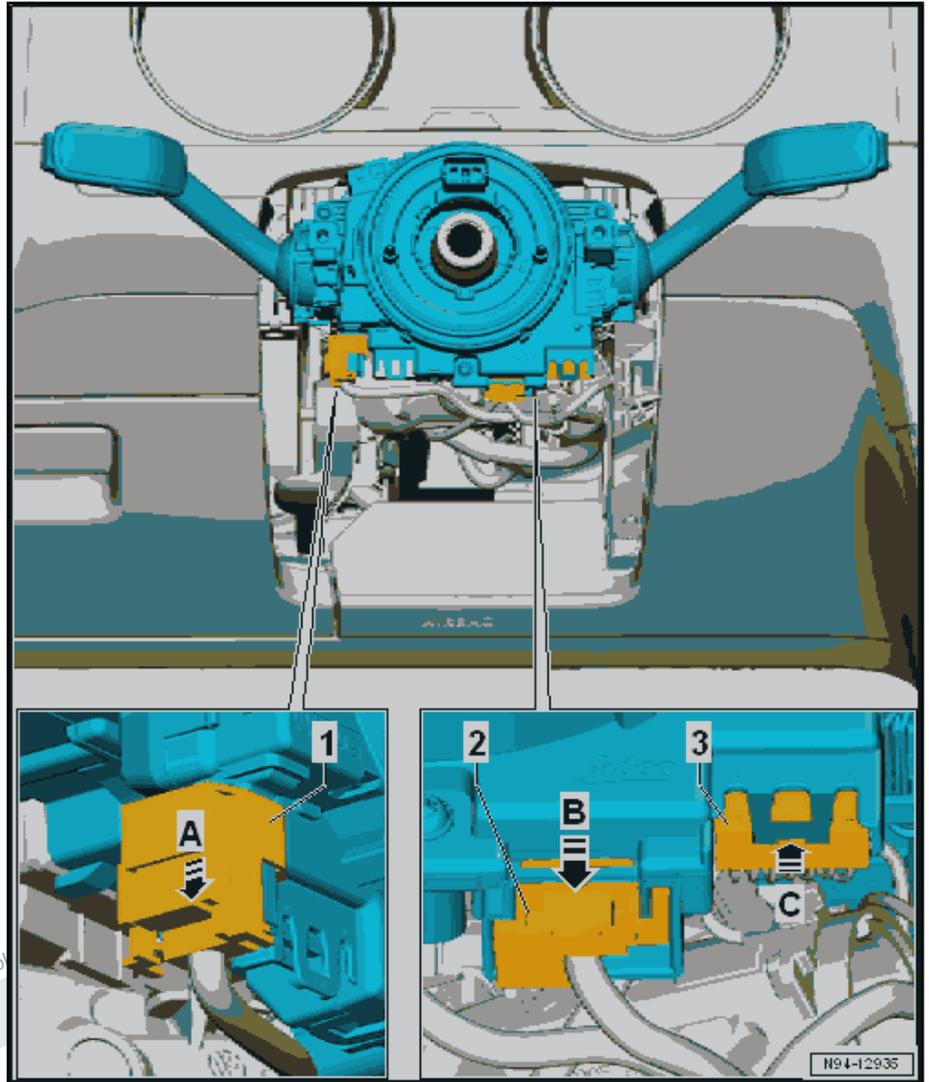


WARNING

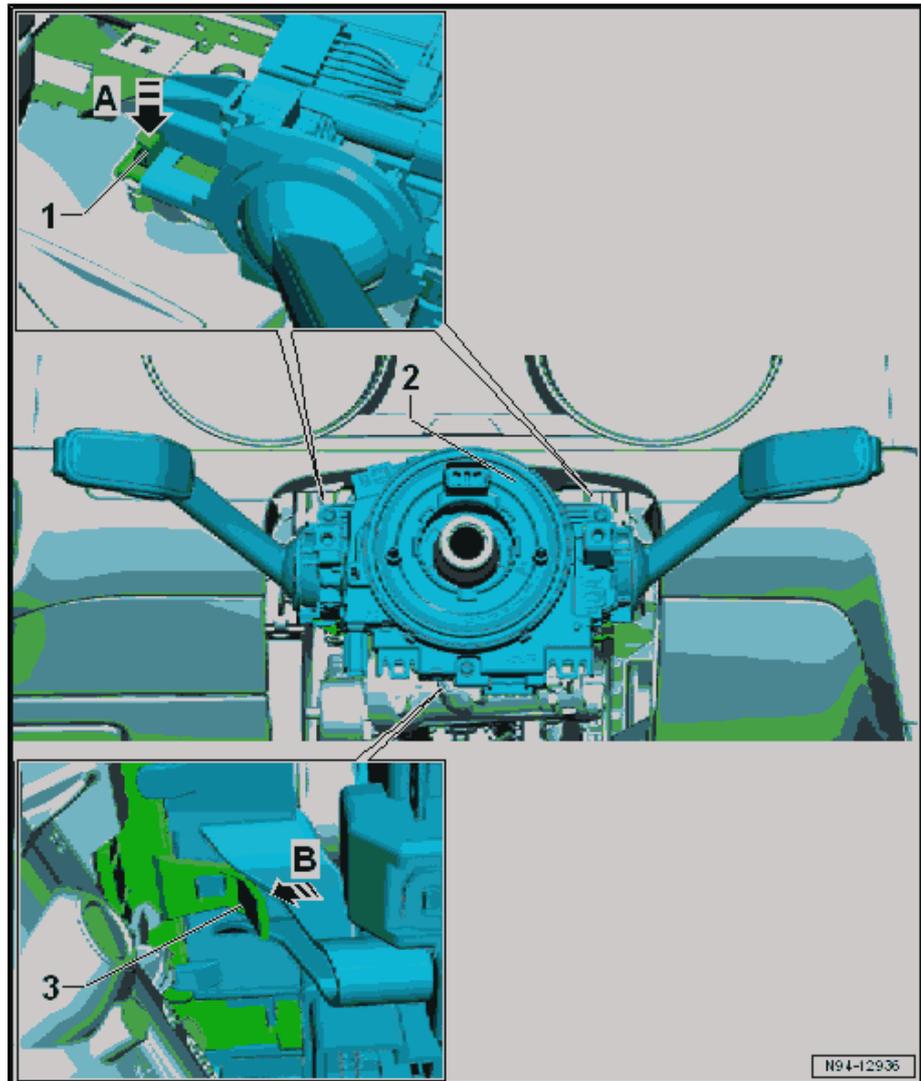
Risk of destroying electronic components with static discharge.

- ◆ **Before disconnecting the connector, discharge static electricity from your body by touching a grounded vehicle component such as the door striker pin.**

- Remove the connector lock in the direction of the -arrow A- and press down.



- Disconnect the connector -1-.
- Remove the connector lock in the direction of the -arrow B- and press down.
- Disconnect the connector -2-.
- Push the connector lock in the direction of the -arrow C- and disconnect the connector -3-.
- Push the release -1- on both sides in the direction of the -arrow A-.

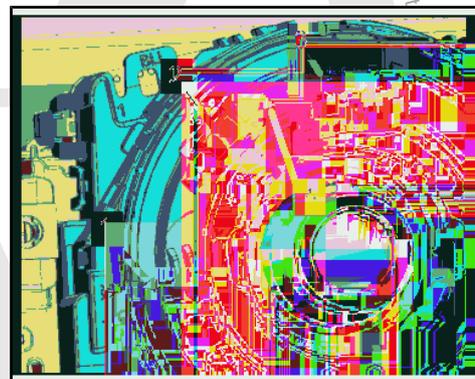


- Slightly remove the steering column switch module -2-.
- Push the release -3- in the direction of the -arrow B-.
- Remove the steering column switch module -2-.

Installing

Install in the reverse order of removal while paying attention to the following:

- The following must be checked on the Steering Column Electronics Control Module - J527- -3- before sliding on the steering column switch module:
 - ◆ The "arrows" -1- must align.
 - ◆ The spiral spring -2- must be seen in the window between the "arrows" -4-.





8.6 Steering Column Electronics Control Module - J527- , Removing and Installing

⇒ [“8.6.1 Steering Column Electronics Control Module J527 , Removing and Installing, Kostal”, page 187](#)

⇒ [“8.6.2 Steering Column Electronics Control Module J527 , Removing and Installing, Valeo”, page 189](#)

8.6.1 Steering Column Electronics Control Module - J527- , Removing and Installing, Kostal

The Airbag Spiral Spring/Return Spring with Slip Ring - F138- is integrated into the Steering Column Electronics Control Module - J527- .

If the control module is being replaced, use the Vehicle Diagnostic Tester and select the “Replacing” function for the respective control module in “Guided Fault Finding”.

Removing

- Position the front wheels straight-ahead. The steering wheel is located in the neutral position.
- Position the steering wheel as far back as possible. Use the entire adjustment range of the steering column adjustment for this.
- Remove the steering wheel. Refer to ⇒ Suspension, Wheels Steering; Rep. Gr. 48 ; Steering Wheel; Steering Wheel, Removing and Installing .
- Remove the lower steering column trim panel. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Lower Steering Column Trim Panel, Removing and Installing .

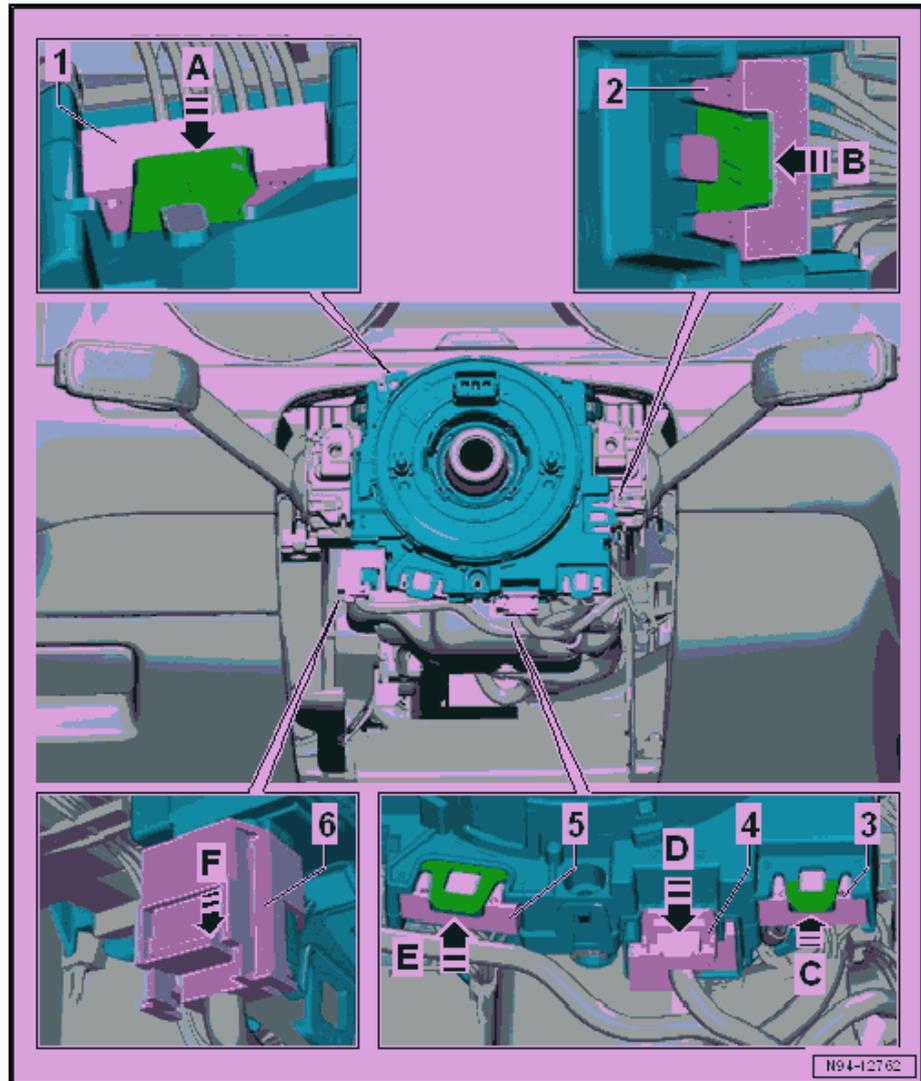


WARNING

Risk of destroying electronic components with static discharge.

- ◆ ***Before disconnecting the connector, discharge static electricity from your body by touching a grounded vehicle component such as the door striker pin.***

- Push the connector lock in the direction of the -arrow A- and disconnect the connector -1-.



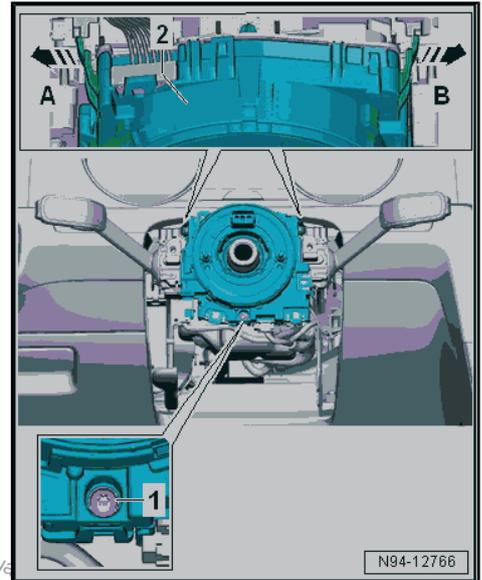
- Push the connector lock in the direction of the -arrow B- and disconnect the connector -2-.
- Push the connector lock in the direction of the -arrow C- and disconnect the connector -3-.
- Remove the connector lock in the direction of the -arrow D- and press down.
- Disconnect the connector -4-.
- Push the connector lock in the direction of the -arrow E- and disconnect the connector -5-.
- Remove the connector lock in the direction of the -arrow F- and press down.
- Disconnect the connector -6-.
- Remove the bolt -1-.
- Release the mounting tabs in the direction of the -arrows A and B-.



- Remove the Steering Column Electronics Control Module - J527- -2- from the Steering Column Combination Switch - E595- .

Installing

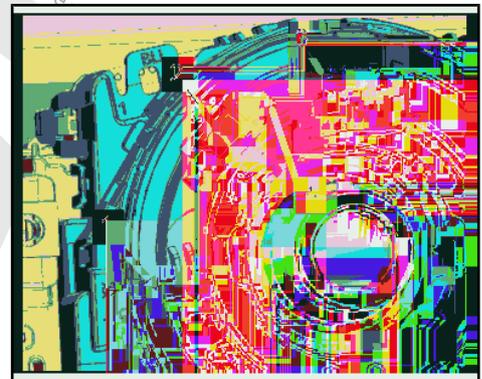
Install in the reverse order of removal while paying attention to the following:



- Before sliding the Steering Column Electronics Control Module - J527- -3- the following must be checked.
 - ◆ The “arrows” -1- must align.
 - ◆ The spiral spring -2- must be seen in the window between the “arrows” -4-.
- Make sure that all connectors are installed securely.

Tightening Specifications

- ◆ Refer to [⇒ “8.1 Overview - Steering Column Switch Module”, page 176](#).



8.6.2 Steering Column Electronics Control Module - J527- , Removing and Installing, Valeo

The Airbag Spiral Spring/Return Spring with Slip Ring - F138- is integrated into the Steering Column Electronics Control Module - J527- .

If the control module is being replaced, use the Vehicle Diagnostic Tester and select the “Replacing” function for the respective control module in “Guided Fault Finding”.

Removing

- Position the front wheels straight-ahead. The steering wheel is located in the neutral position.
- Position the steering wheel as far back as possible. Use the entire adjustment range of the steering column adjustment for this.
- Remove the steering wheel. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 48 ; Steering Wheel; Steering Wheel, Removing and Installing .
- Remove the lower steering column trim panel. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Lower Steering Column Trim Panel, Removing and Installing .

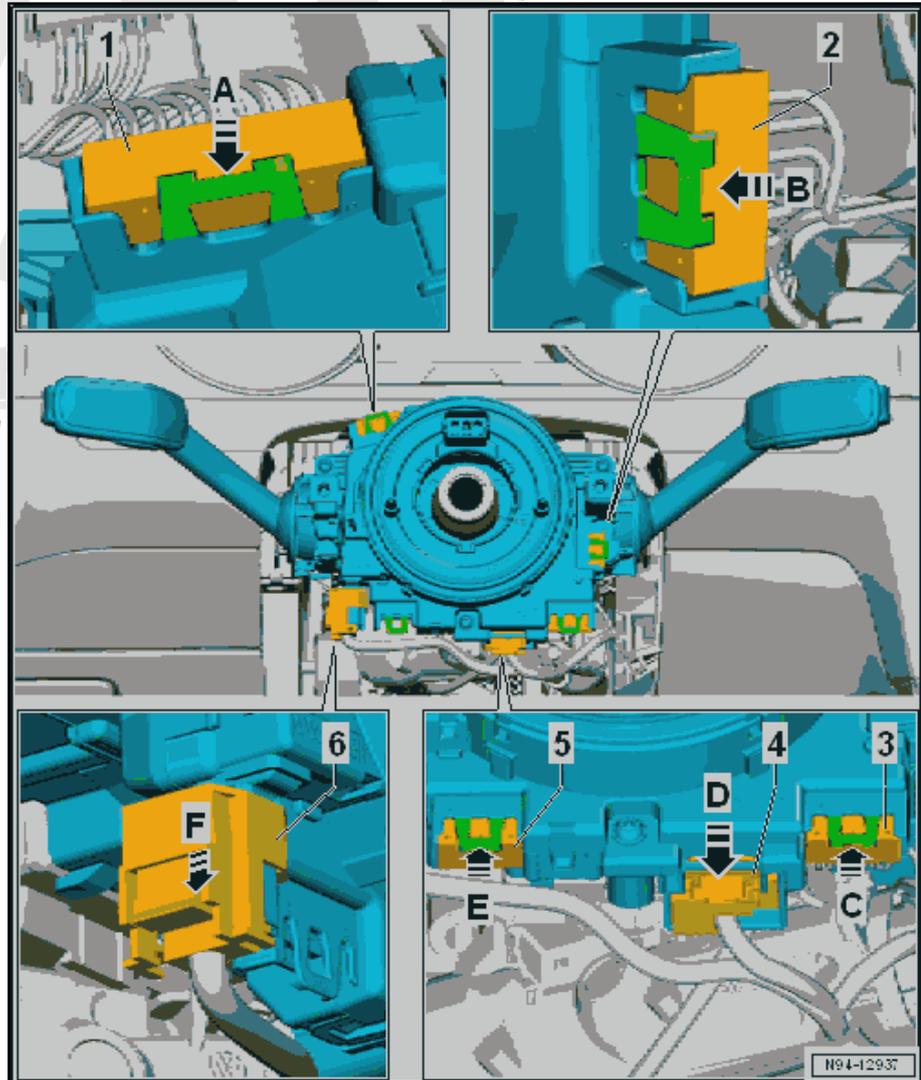


WARNING

Risk of destroying electronic components with static discharge.

- ◆ **Before disconnecting the connector, discharge static electricity from your body by touching a grounded vehicle component such as the door striker pin.**

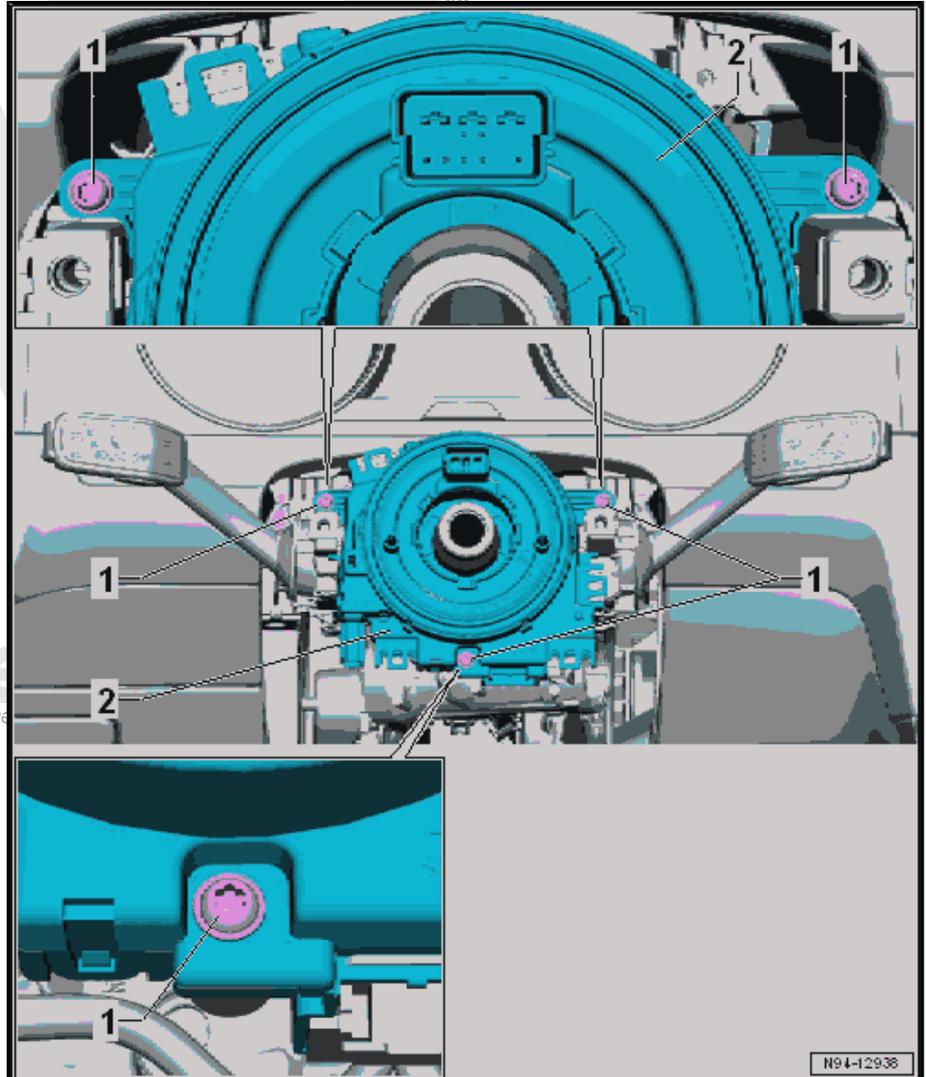
Push the connector lock in the direction of the -arrow A- and disconnect the connector -1-.



- Push the connector lock in the direction of the -arrow B- and disconnect the connector -2-.
- Push the connector lock in the direction of the -arrow C- and disconnect the connector -3-.
- Remove the connector lock in the direction of the -arrow D- and press down.
- Disconnect the connector -4-.
- Push the connector lock in the direction of the -arrow E- and disconnect the connector -5-.



- Remove the connector lock in the direction of the -arrow F- and press down.
- Disconnect the connector -6-.
- Remove the screws -1-.



- Remove the Steering Column Electronics Control Module - J527- -2- from the Steering Column Combination Switch - E595- .

Installing

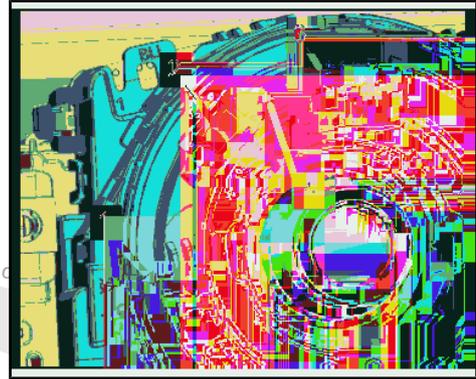
Install in the reverse order of removal while paying attention to the following:



- Before sliding the Steering Column Electronics Control Module - J527- -3- the following must be checked.
- ◆ The “arrows” -1- must align.
- ◆ The spiral spring -2- must be seen in the window between the “arrows” -4-.
- Make sure that all connectors are installed securely.

Tightening Specifications

- ◆ Refer to
⇒ [“8.1 Overview - Steering Column Switch Module”, page 176](#)



8.7 Turn Signal Switch - E2- , Removing and Installing

⇒ [“8.7.1 Turn Signal Switch E2 , Removing and Installing, Kostal”, page 192](#)

⇒ [“8.7.2 Turn Signal Switch E2 , Removing and Installing, Valeo”, page 193](#)

8.7.1 Turn Signal Switch - E2- , Removing and Installing, Kostal

Turn Signal Switch - E2- , Cruise Control Switch - E45- and the Windshield Wiper Intermittent Mode Switch - E22- together make up the Steering Column Combination Switch - E595- .

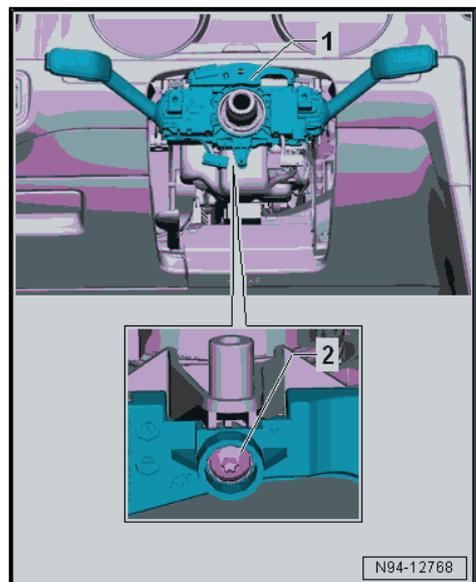
The switch cannot be separated. If an individual switch is faulty the Steering Column Combination Switch - E595- must be replaced.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the Steering Column Electronics Control Module - J527- . Refer to
⇒ [“8.6 Steering Column Electronics Control Module J527 , Removing and Installing”, page 187](#) .
- Remove the bolt -2- on the bottom.
- Remove the Steering Column Combination Switch - E595- -1-.

Installing

Install in reverse order of removal.





8.7.2 Turn Signal Switch - E2- , Removing and Installing, Valeo

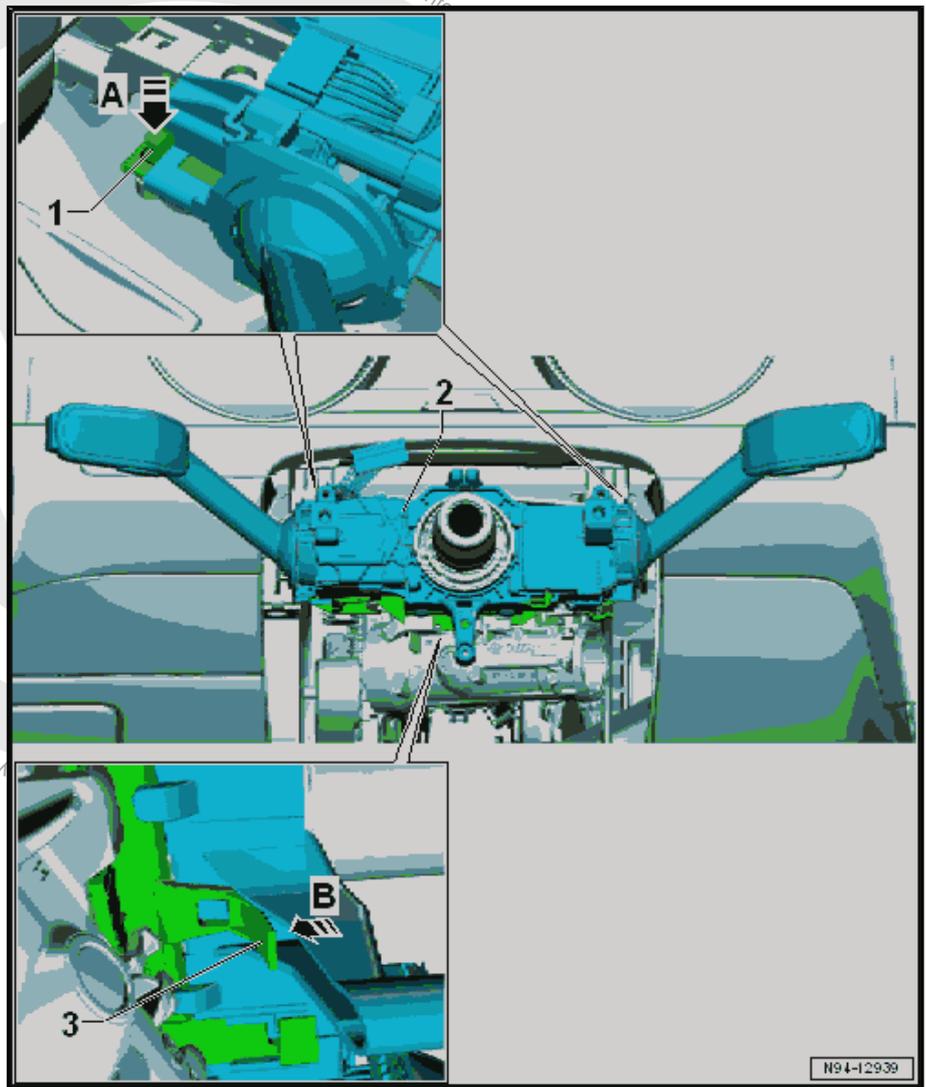
Turn Signal Switch - E2- , Cruise Control Switch - E45- and the Windshield Wiper Intermittent Mode Switch - E22- together make up the Steering Column Combination Switch - E595- .

The switch cannot be separated. If an individual switch is faulty the Steering Column Combination Switch - E595- must be replaced.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the Steering Column Electronics Control Module - J527- . Refer to ["8.6 Steering Column Electronics Control Module J527, Removing and Installing", page 187](#) .
- Push the release -1- on both sides in the direction of the -arrow A-.

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- Slightly remove the Steering Column Combination Switch - E595- -2-.



- Push the release -3- in the direction of the -arrow B-.
- Remove the Steering Column Combination Switch - E595-2-.

Installing

Install in reverse order of removal.

8.8 Cruise Control Switch - E45- , Removing and Installing

Turn Signal Switch - E2- , Cruise Control Switch - E45- and the Windshield Wiper Intermittent Mode Switch - E22- together make up the Steering Column Combination Switch - E595- .

The switch cannot be separated. If an individual switch is faulty the Steering Column Combination Switch - E595- must be replaced.

- Turn Signal Switch - E2- , Removing and installing. Refer to [⇒ "8.7 Turn Signal Switch E2 , Removing and Installing", page 192](#) .

8.9 Windshield Wiper Intermittent Mode Switch - E22- , Removing and Installing

Turn Signal Switch - E2- , Cruise Control Switch - E45- and the Windshield Wiper Intermittent Mode Switch - E22- together make up the Steering Column Combination Switch - E595- .

The switch cannot be separated. If an individual switch is faulty the Steering Column Combination Switch - E595- must be replaced.

- Turn Signal Switch - E2- , Removing and installing. Refer to [⇒ "8.7 Turn Signal Switch E2 , Removing and Installing", page 192](#) .

8.10 Anti-Theft Immobilizer Reader Coil - D2- , Removing and Installing

[⇒ "8.10.1 Anti-Theft Immobilizer Reader Coil D2 , Removing and Installing, Vehicles with Ignition Key", page 194](#)

[⇒ "8.10.2 Anti-Theft Immobilizer Reader Coil D2 , Removing and Installing, Vehicles with Keyless Access", page 194](#)

8.10.1 Anti-Theft Immobilizer Reader Coil - D2- , Removing and Installing, Vehicles with Ignition Key

The Anti-Theft Immobilizer Reader Coil - D2- is integrated in the lock cylinder and cannot be replaced separately.

- Lock cylinder, removing and installing. Refer to [⇒ "8.2 Lock Cylinder, Removing and Installing", page 179](#) .

8.10.2 Anti-Theft Immobilizer Reader Coil - D2- , Removing and Installing, Vehicles with Keyless Access

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.

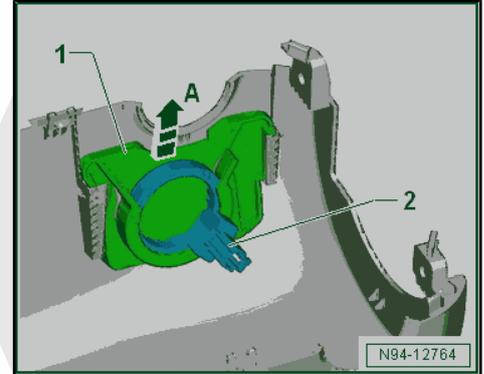


- Position the steering wheel as far back as possible. Use the entire adjustment range of the steering column adjustment for this.
- Remove the lower steering column trim panel. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Lower Steering Column Trim Panel, Removing and Installing .
- Remove the Anti-Theft Immobilizer Reader Coil - D2- -2- in the direction of the -arrow A- from the mount -1-.

Installing

Install in the reverse order of removal while paying attention to the following:

- Push in the Anti-Theft Immobilizer Reader Coil - D2- until it engages audibly in the mount.



8.11 Steering Lock Housing, Removing and Installing

Special tools and workshop equipment required

- ◆ 7/16 Inch Extractor - T10424US

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the steering column switch module. Refer to ⇒ ["8.5 Steering Column Switch Module, Removing and Installing"](#), page 182 .
- Disconnect the connectors -1 and 4-.

If the shear bolt cannot be removed using the -T10424US- , use an angled hand drill and 8.5 mm diameter bit to drill it out.

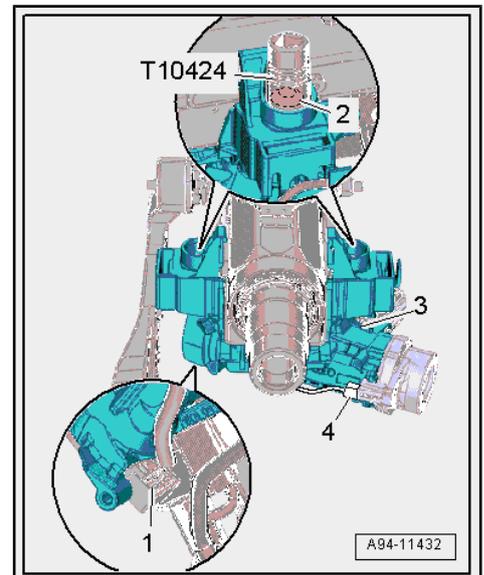
- Remove the shear bolt -2- using the -T10424US- .
- Remove the steering lock housing -3-.

To replace the steering lock housing, the Ignition/Starter Switch - D- and lock cylinder must be removed.

- Remove the Ignition/Starter Switch - D- . Refer to ⇒ ["8.4 Ignition/Starter Switch, Removing and Installing"](#), page 181 .
- Remove lock cylinder. Refer to ⇒ ["8.2 Lock Cylinder, Removing and Installing"](#), page 179 .

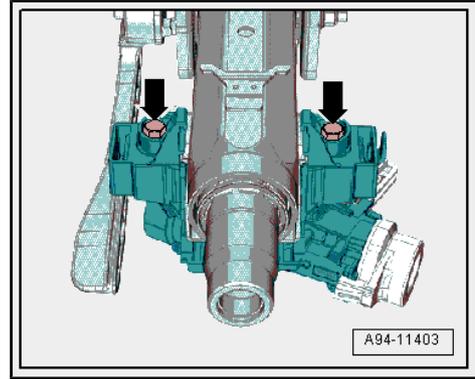
Installing

Install in the reverse order of removal while paying attention to the following:





- Tighten the new bolts -arrows- until the head shears off.





9 Parking Aid

⇒ [“9.1 Overview - Parking Aid”, page 197](#)

⇒ [“9.2 Parking Aid Control Module J446 , Removing and Installing”, page 200](#)

⇒ [“9.3 Front Parking Aid Warning Buzzer H22 , Removing and Installing”, page 201](#)

⇒ [“9.4 Rear Parking Aid Warning Buzzer H15 , Removing and Installing”, page 202](#)

⇒ [“9.5 Front Parking Aid Sensor, Removing and Installing”, page 203](#)

⇒ [“9.6 Rear Parking Aid Sensor, Removing and Installing”, page 205](#)

9.1 Overview - Parking Aid

⇒ [“9.1.1 Overview - Front Parking Aid”, page 197](#)

⇒ [“9.1.2 Overview - Rear Parking Aid, Sedan”, page 199](#)

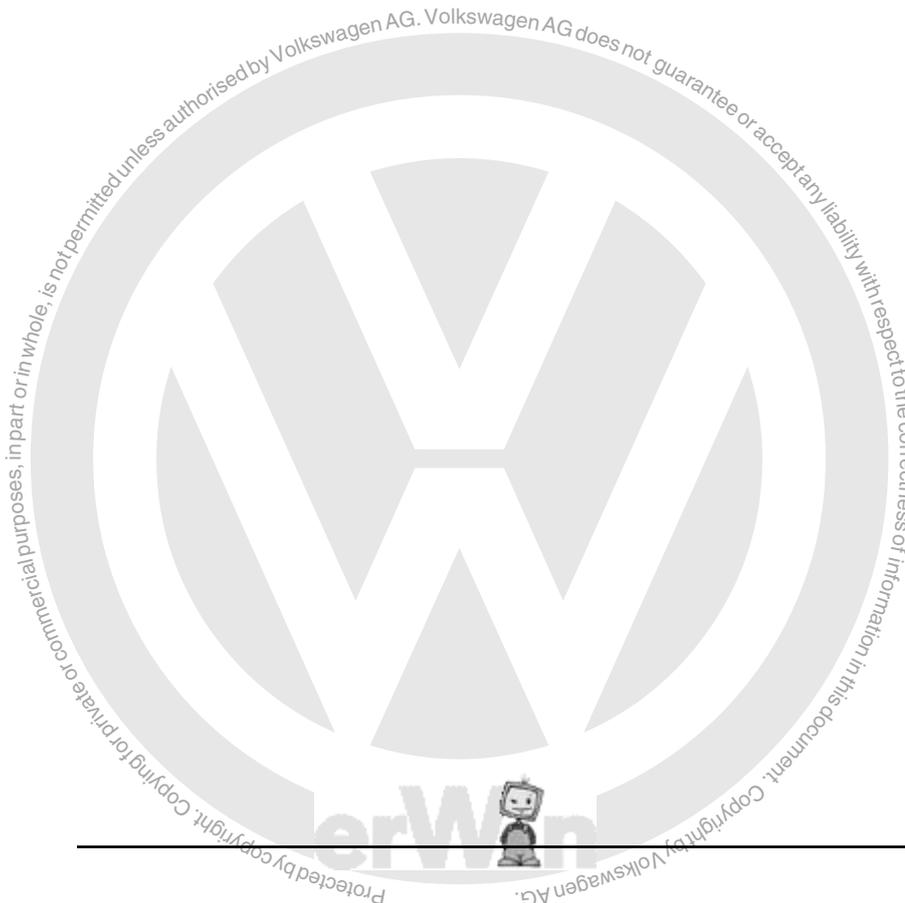
⇒ [“9.1.3 Overview - Rear Parking Aid, Wagon”, page 200](#)

9.1.1 Overview - Front Parking Aid



Note

The Sedan is shown. The Wagon is identical.





1 - Front Parking Aid Warning Buzzer - H22-

- ❑ Removing and installing. Refer to [⇒ "9.3 Front Parking Aid Warning Buzzer H22, Removing and Installing", page 201](#) .

2 - Parking Aid Button - E266-

- ❑ Removing and installing. Refer to [⇒ "2.12 Parking Aid Button E266, Removing and Installing", page 266](#) .

3 - Bracket

- ❑ For the Parking Aid Control Module - J446-
- ❑ Removing and installing. Refer to [⇒ "2.8 Parking Aid Control Module J446 / Parallel Parking Assistance Control Module J791 Bracket, Removing and Installing", page 302](#) .

4 - Parking Aid Control Module - J446-

- ❑ Removing and installing. Refer to [⇒ "9.2 Parking Aid Control Module J446, Removing and Installing", page 200](#) .

5 - Left Front Parking Aid Sensor - G255-

- ❑ Removing and installing. Refer to [⇒ "9.5 Front Parking Aid Sensor, Removing and Installing", page 203](#) .

6 - Left Front Center Parking Aid Sensor - G254-

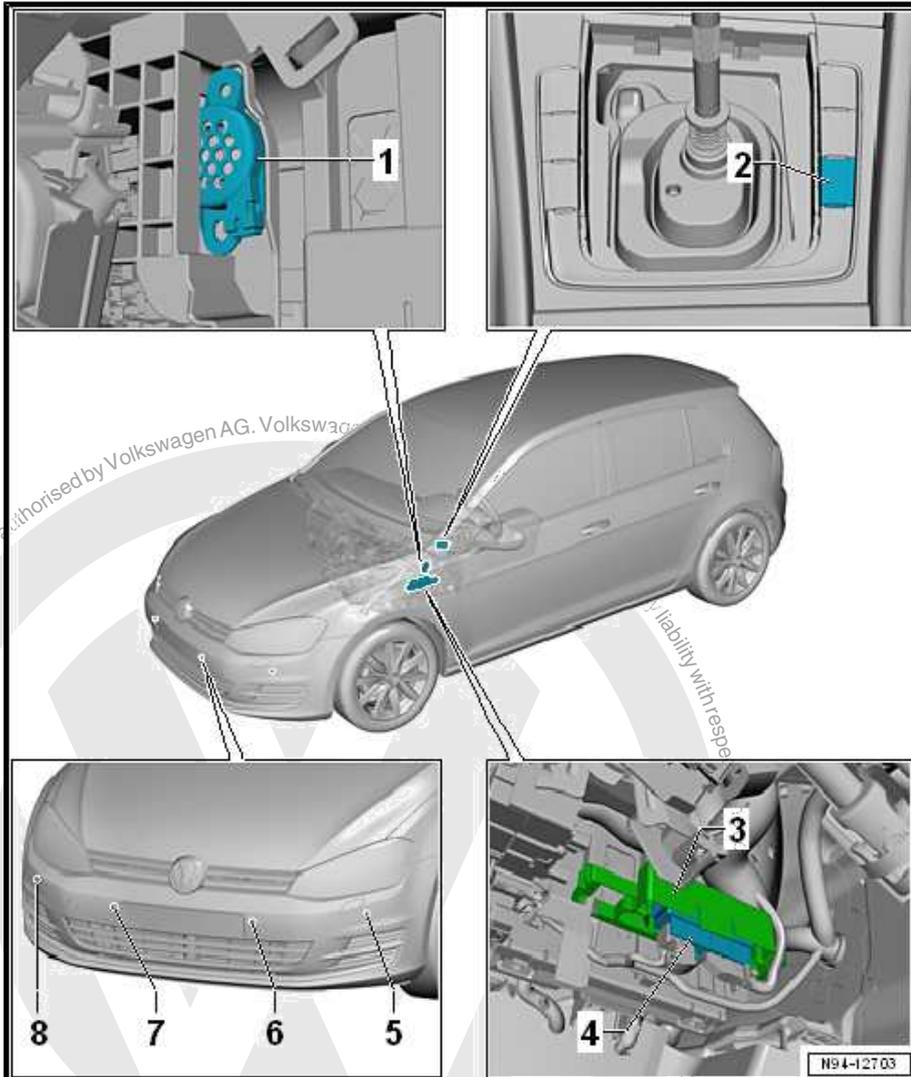
- ❑ Removing and installing. Refer to [⇒ "9.5 Front Parking Aid Sensor, Removing and Installing", page 203](#) .

7 - Right Front Center Parking Aid Sensor - G253-

- ❑ Removing and installing. Refer to [⇒ "9.5 Front Parking Aid Sensor, Removing and Installing", page 203](#) .

8 - Right Front Parking Aid Sensor - G252-

- ❑ Removing and installing. Refer to [⇒ "9.5 Front Parking Aid Sensor, Removing and Installing", page 203](#) .





9.1.2 Overview - Rear Parking Aid, Sedan

1 - Connector

2 - Expanding Clip

3 - Rear Parking Aid Warning Buzzer - H15-

- ❑ Removing and installing. Refer to
 ⇒ ["9.4.1 Rear Parking Aid Warning Buzzer H15-, Removing and Installing, Sedan", page 202](#) .

4 - Expanding Clip

5 - Right Rear Parking Aid Sensor - G206-

- ❑ Removing and installing. Refer to
 ⇒ ["9.6 Rear Parking Aid Sensor, Removing and Installing", page 205](#) .

6 - Right Rear Center Parking Aid Sensor - G205-

- ❑ Removing and installing. Refer to
 ⇒ ["9.6 Rear Parking Aid Sensor, Removing and Installing", page 205](#) .

7 - Left Rear Center Parking Aid Sensor - G204-

- ❑ Removing and installing. Refer to
 ⇒ ["9.6 Rear Parking Aid Sensor, Removing and Installing", page 205](#) .

8 - Left Rear Parking Aid Sensor - G203-

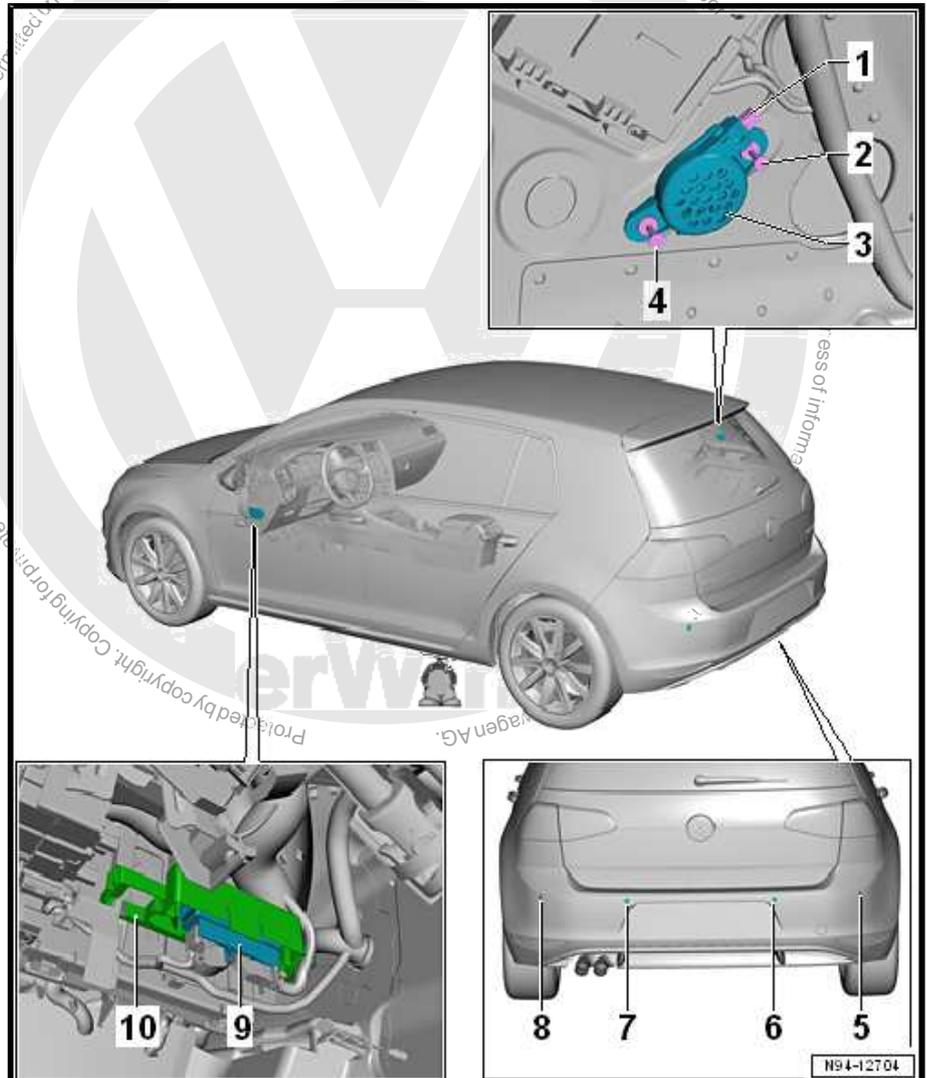
- ❑ Removing and installing. Refer to
 ⇒ ["9.6 Rear Parking Aid Sensor, Removing and Installing", page 205](#) .

9 - Parking Aid Control Module - J446-

- ❑ Removing and installing. Refer to
 ⇒ ["9.2 Parking Aid Control Module J446, Removing and Installing", page 200](#) .

10 - Bracket

- ❑ For the Parking Aid Control Module - J446-
- ❑ Removing and installing. Refer to
 ⇒ ["2.8 Parking Aid Control Module J446 / Parallel Parking Assistance Control Module J791 Bracket, Removing and Installing", page 302](#) .





9.1.3 Overview - Rear Parking Aid, Wagon

- 1 - Expanding Clip
- 2 - Connector
- 3 - Expanding Clip
- 4 - Rear Parking Aid Warning Buzzer - H15-

- Removing and installing. Refer to [⇒ "9.4.2 Rear Parking Aid Warning Buzzer H15 , Removing and Installing, Wagon", page 202](#) .

- 5 - Right Rear Parking Aid Sensor - G206-

- Removing and installing. Refer to [⇒ "9.6 Rear Parking Aid Sensor, Removing and Installing", page 205](#) .

- 6 - Right Rear Center Parking Aid Sensor - G205-

- Removing and installing. Refer to [⇒ "9.6 Rear Parking Aid Sensor, Removing and Installing", page 205](#) .

- 7 - Left Rear Center Parking Aid Sensor - G204-

- Removing and installing. Refer to [⇒ "9.6 Rear Parking Aid Sensor, Removing and Installing", page 205](#) .

- 8 - Left Rear Parking Aid Sensor - G203-

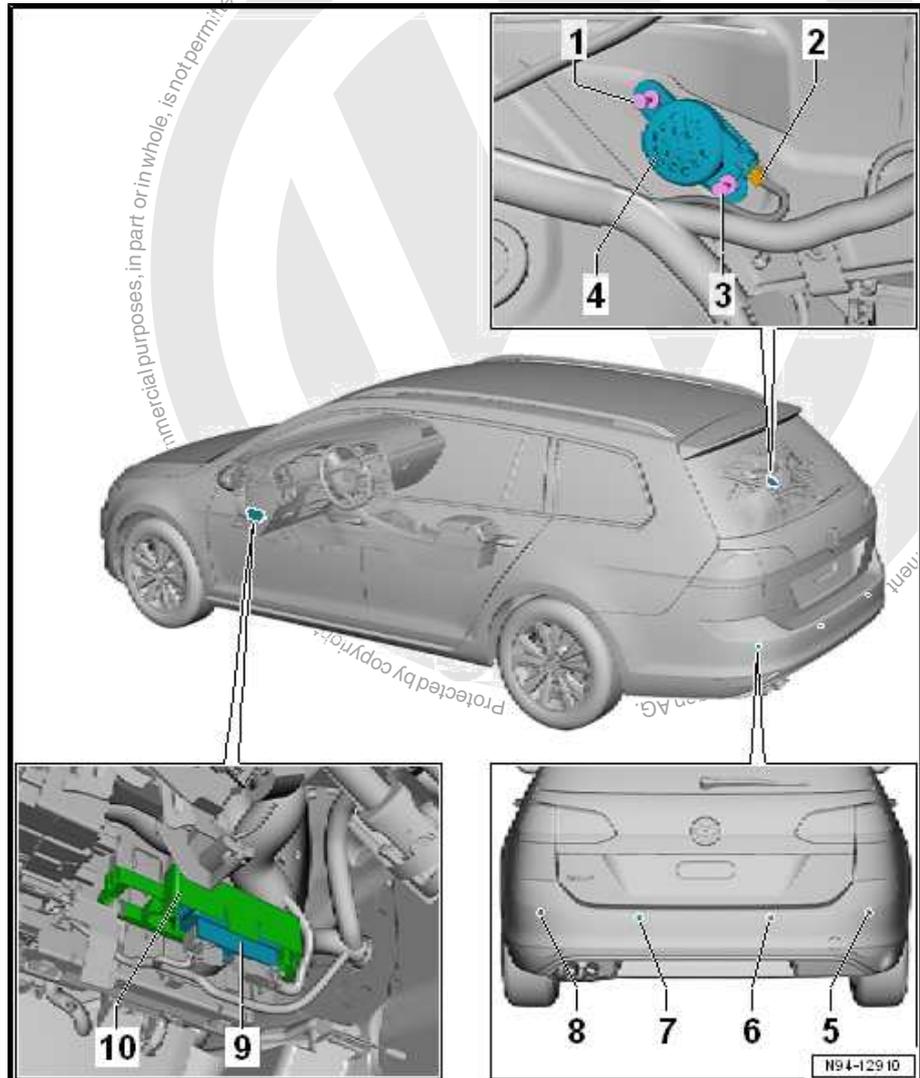
- Removing and installing. Refer to [⇒ "9.6 Rear Parking Aid Sensor, Removing and Installing", page 205](#) .

- 9 - Parking Aid Control Module - J446-

- Removing and installing. Refer to [⇒ "9.2 Parking Aid Control Module J446 , Removing and Installing", page 200](#) .

- 10 - Bracket

- For the Parking Aid Control Module - J446-
- Removing and installing. Refer to [⇒ "2.8 Parking Aid Control Module J446 / Parallel Parking Assistance Control Module J791 Bracket, Removing and Installing", page 302](#) .



9.2 Parking Aid Control Module - J446- , Removing and Installing

If the control module is being replaced, use the Vehicle Diagnostic Tester and select the "Replacing" function for the respective control module in "Guided Fault Finding".



Removing

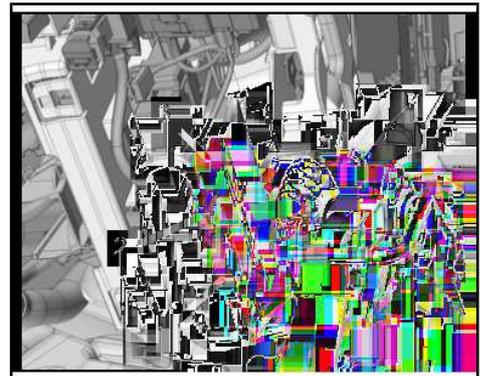
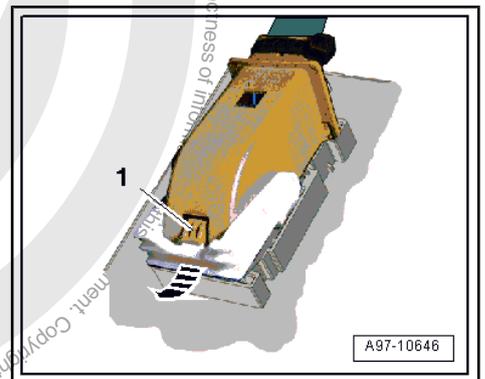
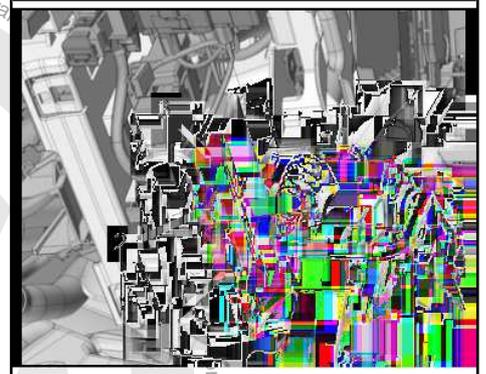
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the trim panel under the instrument panel. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Driver Side Instrument Panel Cover, Removing and Installing .
- Disconnect the connectors -1 and 2-

- To do this push the tab -1-, pivot the retaining bracket in the direction of -arrow- and remove the connector.

- Release the tab in direction of -arrow- and remove the Parking Aid Control Module - J446- -3- downward from the bracket.

Installing

Install in reverse order of removal.



9.3 Front Parking Aid Warning Buzzer - H22- , Removing and Installing

Removing

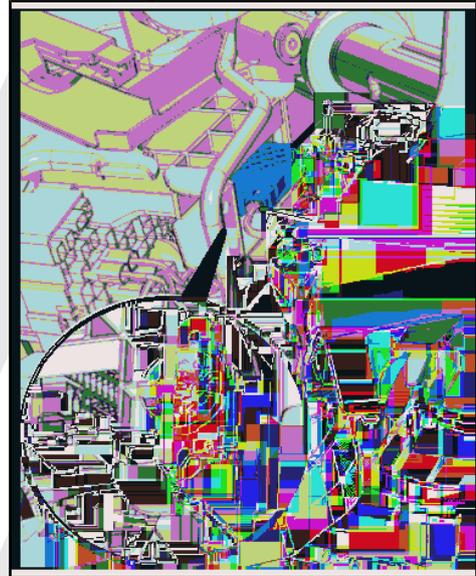
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the trim panel under the instrument panel. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Driver Side Instrument Panel Cover, Removing and Installing .



- Remove the Front Parking Aid Warning Buzzer - H22- -3- with a narrow screwdriver -1- from the mount -2- in direction of -arrows-.
- Remove the Front Parking Aid Warning Buzzer - H22- .
- Disconnect the connector -4-.

Installing

Install in reverse order of removal.



9.4 Rear Parking Aid Warning Buzzer - H15- , Removing and Installing

⇒ ["9.4.1 Rear Parking Aid Warning Buzzer H15 , Removing and Installing, Sedan", page 202](#)

⇒ ["9.4.2 Rear Parking Aid Warning Buzzer H15 , Removing and Installing, Wagon", page 202](#)

9.4.1 Rear Parking Aid Warning Buzzer - H15- , Removing and Installing, Sedan

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the C-pillar trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Passenger Compartment Trim; C-Pillar Trim Panel, Removing and Installing .
- Pry off the expanding clip -1 and 3-.
- Remove the Rear Parking Aid Warning Buzzer - H15- -2-.
- Disconnect the connector -4-.

Installing

Install in reverse order of removal.



9.4.2 Rear Parking Aid Warning Buzzer - H15- , Removing and Installing, Wagon

Removing

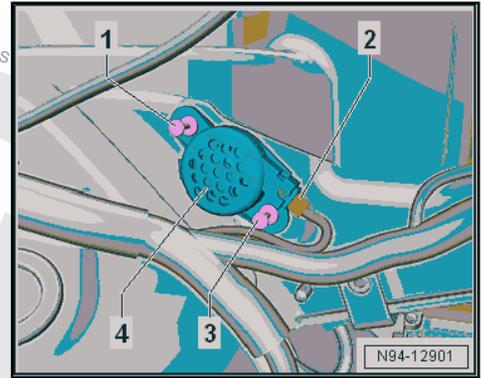
- Remove the luggage compartment side trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Luggage Compartment Trim Panels; Luggage Compartment Side Trim Panel, Removing and Installing .



- Pry of the expanding clip -1 and 3-
- Remove the Rear Parking Aid Warning Buzzer - H15- -4-.
- Disconnect the connector -2-

Installing

Install in reverse order of removal.



9.5 Front Parking Aid Sensor, Removing and Installing

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the radiator grille. Refer to => Body Exterior; Rep. Gr. 66 ; Radiator Grille/Front Trim; Radiator Grille, Removing and Installing .



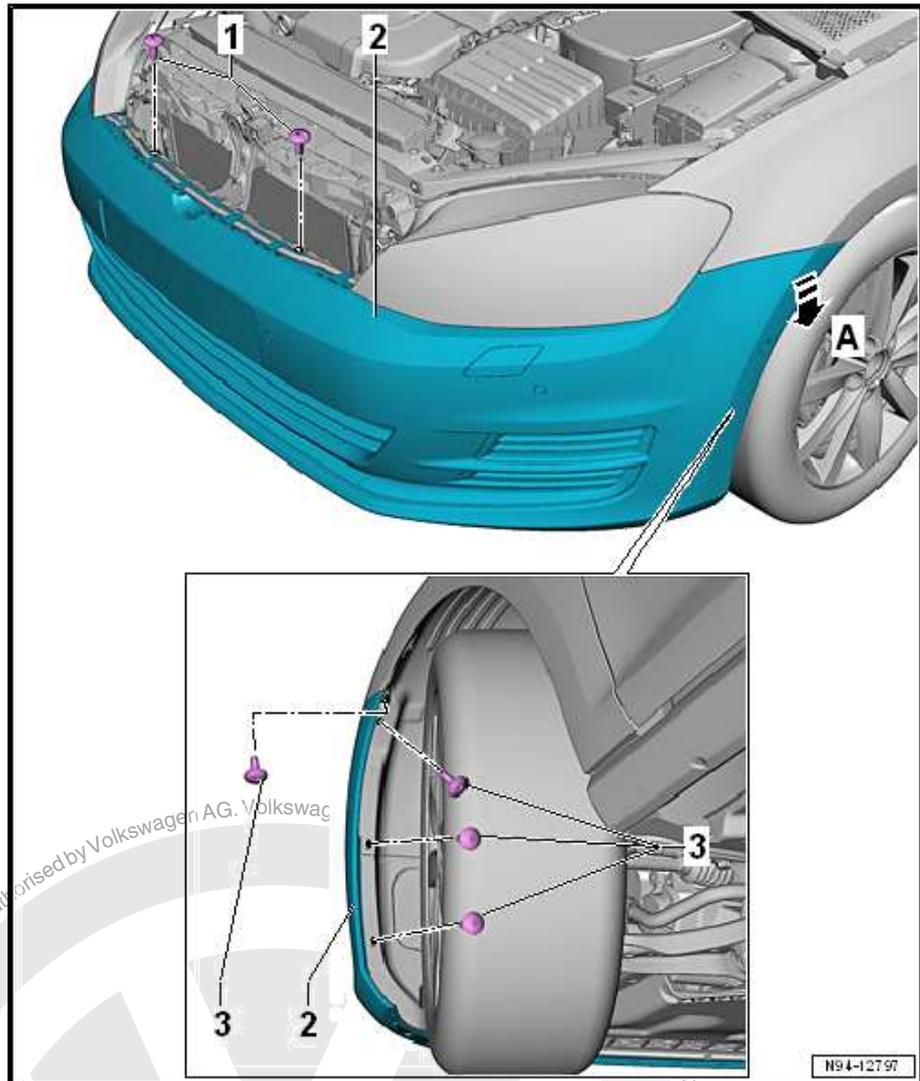
Caution

There is a risk of damaging the components.

- ◆ *Carefully remove the bumper. Pay attention that the bumper is not deformed or ripped.*
- ◆ *When removing the headlamp the surface can be scratched. Tape up those components which could be damaged.*



- Remove the bolts -3- from the front wheel housing liner.



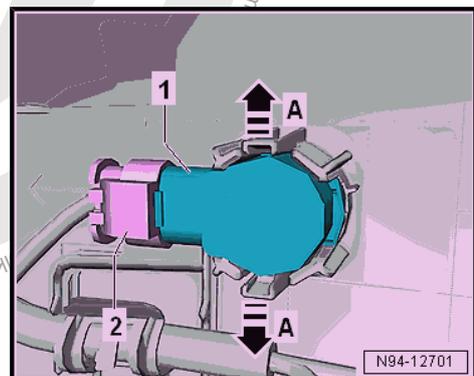
- Remove the bolts between the bumper cover and lock carrier from below.
- If equipped, remove the bolts -1-.
- Detach the bumper cover -2- from the fender and remove in the direction of the -arrow A-.
- Press both catches in the direction of the -arrow A- and at the same time press sensor -1- inward from outside.
- Release and disconnect the connector -2-.

Installing

Install in the reverse order of removal while paying attention to the following:

When inserting sensor into sensor bracket, make sure that decoupling ring (black silicone ring) has proper fit on the sensor head.

Both sensor mount retaining clips must engage audibly when installing the sensor.





9.6 Rear Parking Aid Sensor, Removing and Installing

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.

Outer Sensors

The outer rear parking aid sensor can be removed and installed without removing the rear bumper.

- Press both catches in the direction of the -arrow A- and at the same time press sensor -1- inward from outside.
- Release and disconnect the connector -2-.

Interior Sensor

- Remove the rear bumper cover. Refer to ⇒ Body Exterior; Rep. Gr. 63 ; Rear Bumper; Bumper Cover, Removing and Installing .
- Press both catches in the direction of the -arrow A- and at the same time press sensor -1- inward from outside.

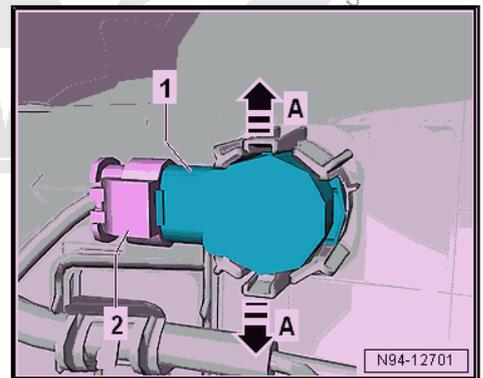
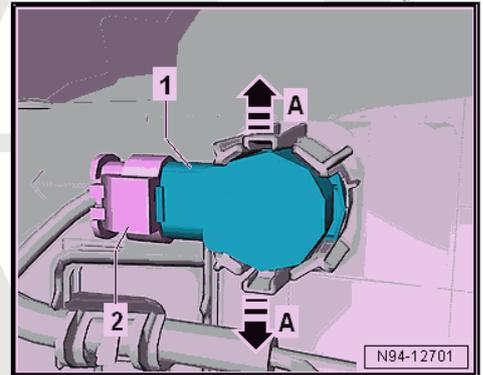
- Release and disconnect the connector -2-.

Installing

Install in the reverse order of removal while paying attention to the following:

When inserting sensor into sensor bracket, make sure that decoupling ring (black silicone ring) has proper fit on the sensor head.

Both sensor mount retaining clips must engage audibly when installing the sensor.





10 Parallel Parking Assist

⇒ [“10.1 Overview - Parallel Parking Assist”, page 206](#)

⇒ [“10.2 Control Module, Removing and Installing”, page 207](#)

⇒ [“10.3 Front Sensor, Removing and Installing”, page 208](#)

⇒ [“10.4 Rear Sensor, Removing and Installing”, page 208](#)

10.1 Overview - Parallel Parking Assist

⇒ [“10.1.1 Overview - Parallel Parking Assist, Sedan”, page 206](#)

⇒ [“10.1.2 Overview - Parallel Parking Assist, Wagon”, page 207](#)

10.1.1 Overview - Parallel Parking Assist, Sedan

1 - Parallel Parking Assistance Button - E581-

- ❑ Removing and installing. Refer to ⇒ [“2.13 Parallel Parking Assistance Button E581, Removing and Installing”, page 266](#) .

2 - Rear Parallel Parking Assist Sensor

- ❑ Left Rear Parallel Parking Assistance Sensor - G716-
- ❑ Right Rear Parallel Parking Assistance Sensor - G717-
- ❑ Removing and installing. Refer to ⇒ [“10.4 Rear Sensor, Removing and Installing”, page 208](#) .

3 - Bracket

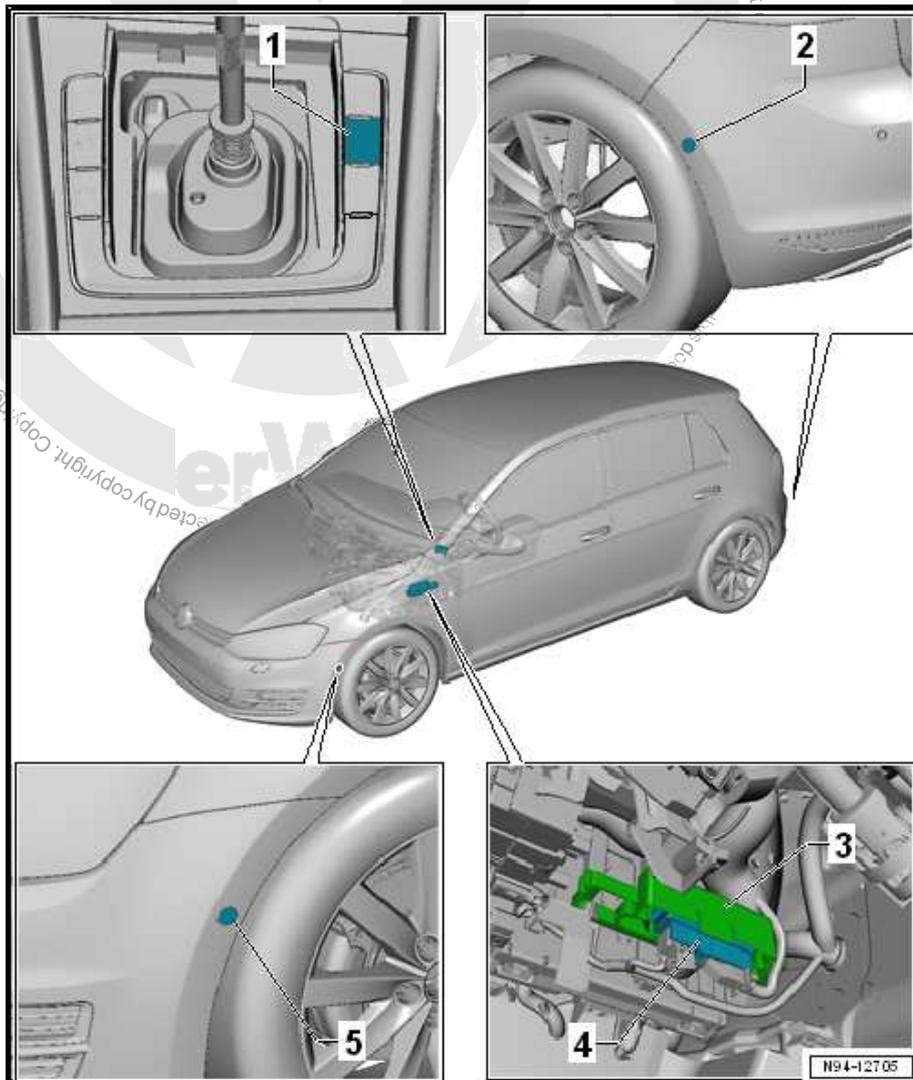
- ❑ For Parallel Parking Assistance Control Module - J791-
- ❑ Removing and installing. Refer to ⇒ [“2.8 Parking Aid Control Module J446 / Parallel Parking Assistance Control Module J791 Bracket, Removing and Installing”, page 302](#) .

4 - Parallel Parking Assistance Control Module - J791-

- ❑ Removing and installing. Refer to ⇒ [“10.2 Control Module, Removing and Installing”, page 207](#) .

5 - Parallel Parking Assist Front Sensor

- ❑ Left Front Parallel Parking Assistance Sensor - G568-
- ❑ Right Front Parallel Parking Assistance Sensor - G569-
- ❑ Removing and installing. Refer to ⇒ [“10.3 Front Sensor, Removing and Installing”, page 208](#) .





10.1.2 Overview - Parallel Parking Assist, Wagon

1 - Parallel Parking Assistance Button - E581-

- ❑ Removing and installing. Refer to ⇒ ["2.13 Parallel Parking Assistance Button E581, Removing and Installing", page 266](#) .

2 - Rear Parallel Parking Assist Sensor

- ❑ Left Rear Parallel Parking Assistance Sensor - G716-
- ❑ Right Rear Parallel Parking Assistance Sensor - G717-
- ❑ Removing and installing. Refer to ⇒ ["10.4 Rear Sensor, Removing and Installing", page 208](#) .

3 - Bracket

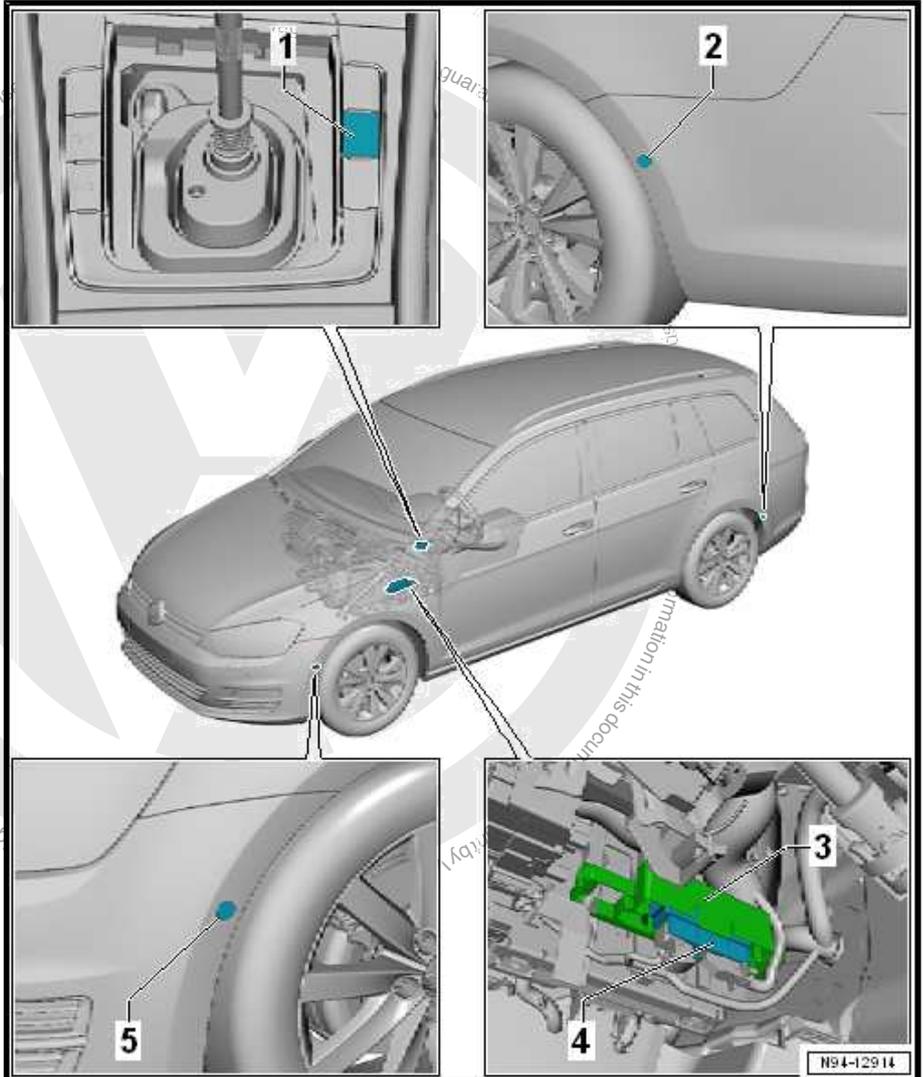
- ❑ For Parallel Parking Assistance Control Module - J791-
- ❑ Removing and installing. Refer to ⇒ ["2.8 Parking Aid Control Module J446 / Parallel Parking Assistance Control Module J791 Bracket, Removing and Installing", page 302](#) .

4 - Parallel Parking Assistance Control Module - J791-

- ❑ Removing and installing. Refer to ⇒ ["10.2 Control Module, Removing and Installing", page 207](#) .

5 - Parallel Parking Assist Front Sensor

- ❑ Left Front Parallel Parking Assistance Sensor - G568-
- ❑ Right Front Parallel Parking Assistance Sensor - G569-
- ❑ Removing and installing. Refer to ⇒ ["10.3 Front Sensor, Removing and Installing", page 208](#) .



10.2 Control Module, Removing and Installing

The removal and installation of the Parallel Parking Assistance Control Module - J791- is identical to the removal and installation of the Parking Aid Control Module - J446- .

- Parking Aid Control Module - J446- , Removing and installing. Refer to ⇒ ["9.2 Parking Aid Control Module J446, Removing and Installing", page 200](#) .



10.3 Front Sensor, Removing and Installing

Removing

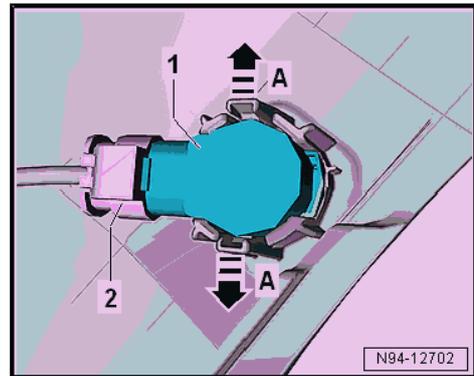
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the wheel housing liner. Refer to => Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Front Wheel Housing Liner, Removing and Installing .
- Press both catches in the direction of the -arrows A- and at the same time press sensor -1- inward from outside.
- Release and disconnect the connector -2-.

Installing

Install in the reverse order of removal while paying attention to the following:

When inserting sensor into sensor bracket, make sure that decoupling ring (black silicone ring) has proper fit on the sensor head.

Both sensor mount retaining clips must engage audibly when installing the sensor.



10.4 Rear Sensor, Removing and Installing

Removing

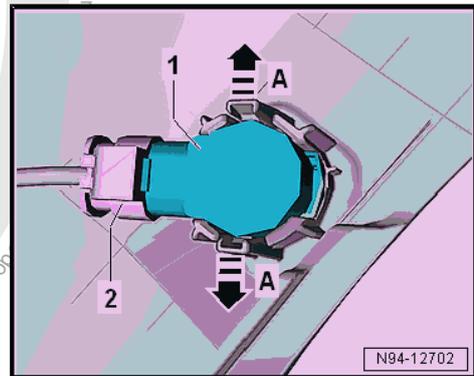
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the rear wheel housing liner. Refer to => Body Exterior; Rep. Gr. 66 ; Wheel Housing Liner; Rear Wheel Housing Liner, Removing and Installing .
- Press both catches in the direction of the -arrows A- and at the same time press sensor -1- inward from outside.
- Release and disconnect the connector -2-.

Installing

Install in the reverse order of removal while paying attention to the following:

When inserting sensor into sensor bracket, make sure that decoupling ring (black silicone ring) has proper fit on the sensor head.

Both sensor mount retaining clips must engage audibly when installing the sensor.





11 Automatic Headlamp Range Control

⇒ [“11.1 Overview - Automatic Headlamp Range Control”, page 209](#)

⇒ [“11.1.2 Overview - Automatic Headlamp Range Control, Wagon”, page 210](#)

⇒ [“11.2 Control Module for Headlamp Range/Cornering Lamp and Headlamp Range, Removing and Installing”, page 211](#)

11.1 Overview - Automatic Headlamp Range Control

⇒ [“11.1.1 Overview - Automatic Headlamp Range Control, Sedan”, page 209](#)

⇒ [“11.1.2 Overview - Automatic Headlamp Range Control, Wagon”, page 210](#)

11.1.1 Overview - Automatic Headlamp Range Control, Sedan

1 - Expanding Clip

- Quantity: 2

2 - Control Module

- Without cornering lamps: Headlamp Range Control Module - J431-
- With cornering lamps: Cornering Lamp and Headlamp Range Control Module - J745-
- Removing and installing. Refer to ⇒ [“11.2 Control Module for Headlamp Range/Cornering Lamp and Headlamp Range, Removing and Installing”, page 211](#) .

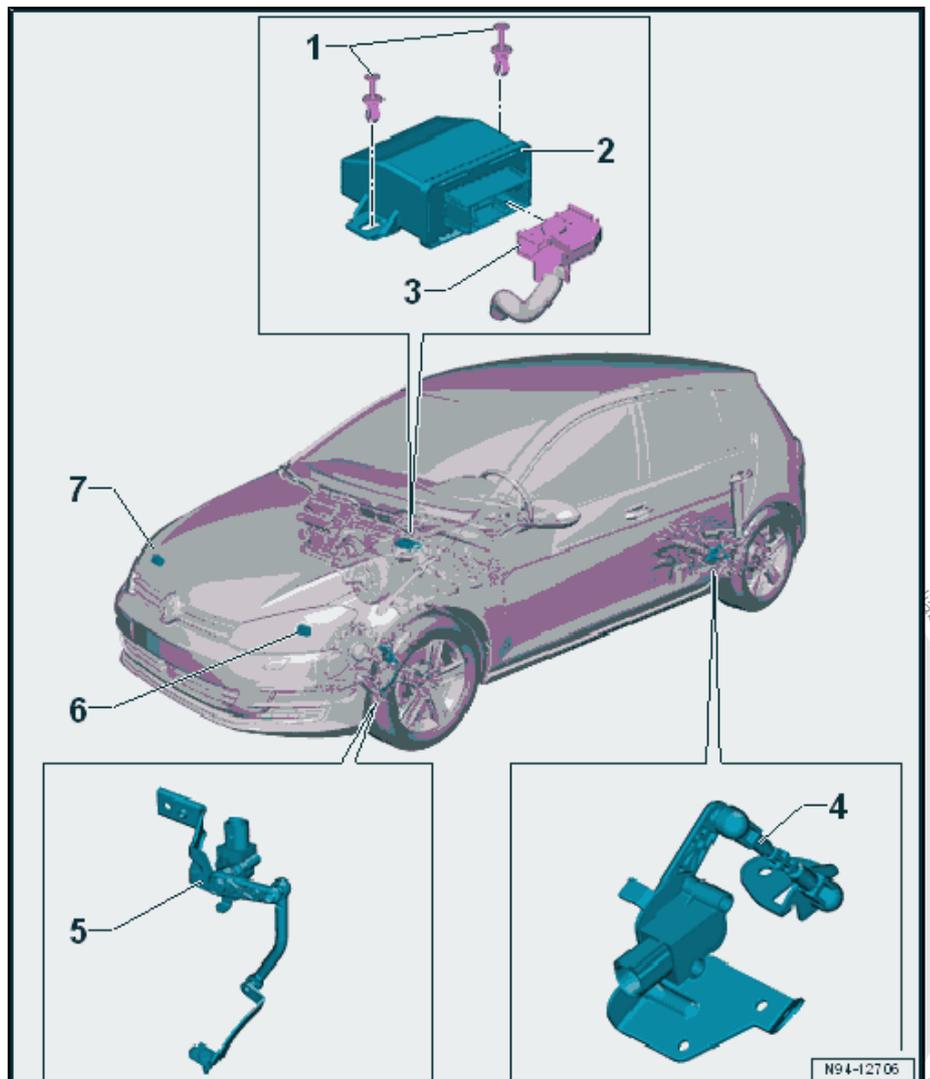
3 - Connector

4 - Left Rear Level Control System Sensor - G76-

- On the rear control arm
- Overview. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 43 ; Level Control System Sensor; Overview - Rear Level Control System Sensor .

5 - Left Front Level Control System Sensor - G78-

- On the control arm in the front
- For HID headlamp with cornering lamp
- Overview. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 43 ; Level Control System Sensor; Overview - Front Level Control System Sensor .





6 - Left Headlamp Beam Adjustment Motor - V48-

- ❑ Removing and installing. Refer to ["1.8 Left/Right Headlamp Beam Adjustment Motor V48 / V49 , Removing and Installing", page 111 .](#)

7 - Right Headlamp Beam Adjustment Motor - V49-

- ❑ Removing and installing. Refer to ["1.8 Left/Right Headlamp Beam Adjustment Motor V48 / V49 , Removing and Installing", page 111 .](#)

11.1.2 Overview - Automatic Headlamp Range Control, Wagon

1 - Expanding Clip

- ❑ Quantity: 2

2 - Control Module

- ❑ Without cornering lamps: Headlamp Range Control Module - J431-
- ❑ With cornering lamps: Cornering Lamp and Headlamp Range Control Module - J745-

- ❑ Removing and installing. Refer to ["11.2 Control Module for Headlamp Range/ Cornering Lamp and Headlamp Range, Removing and Installing", page 211 .](#)

3 - Connector

4 - Left Rear Level Control System Sensor - G76-

- ❑ On the rear control arm
- ❑ Overview. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 43 ; Level Control System Sensor; Overview - Rear Level Control System Sensor .

5 - Left Front Level Control System Sensor - G78-

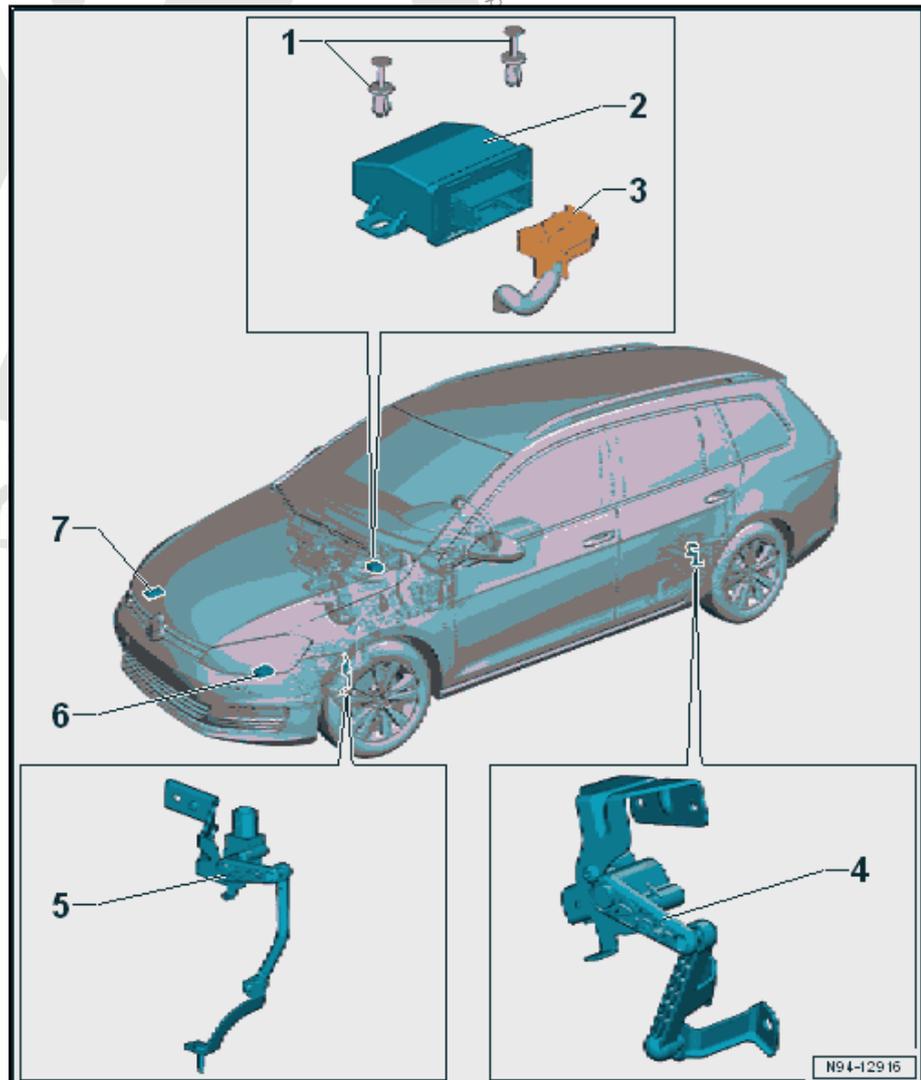
- ❑ On the control arm in the front
- ❑ For HID headlamp with cornering lamp
- ❑ Overview. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 43 ; Level Control System Sensor; Overview - Front Level Control System Sensor .

6 - Left Headlamp Beam Adjustment Motor - V48-

- ❑ Removing and installing. Refer to ["1.8 Left/Right Headlamp Beam Adjustment Motor V48 / V49 , Removing and Installing", page 111 .](#)

7 - Right Headlamp Beam Adjustment Motor - V49-

- ❑ Removing and installing. Refer to ["1.8 Left/Right Headlamp Beam Adjustment Motor V48 / V49 , Removing and Installing", page 111 .](#)



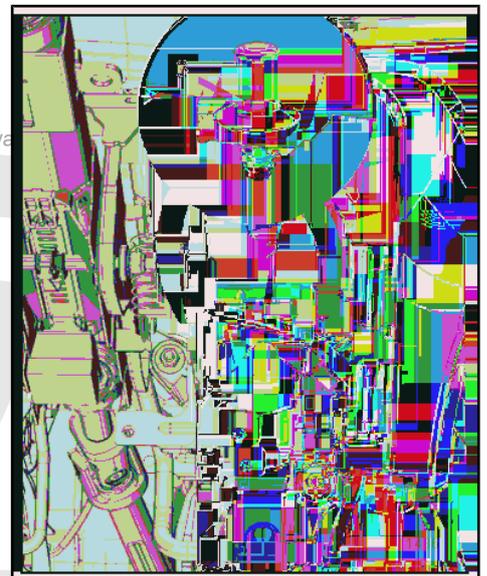


11.2 Control Module for Headlamp Range/ Cornering Lamp and Headlamp Range, Removing and Installing

If the control module is being replaced, use the Vehicle Diagnostic Tester and select the "Replacing" function for the respective control module in "Guided Fault Finding".

Removing

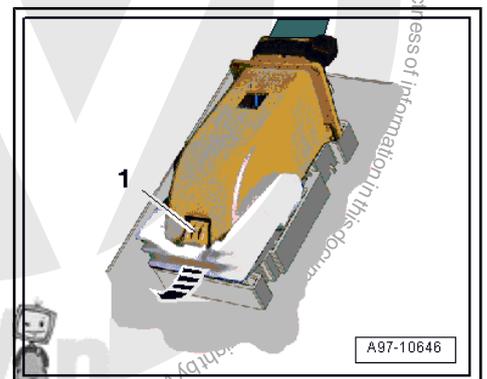
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the driver side instrument panel cover. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Driver Side Instrument Panel Cover, Removing and Installing .
- If installed, remove the driver side knee airbag. Refer to ⇒ Body Interior; Rep. Gr. 69 ; Knee Airbags; Overview - Knee Airbag .
- Release and remove the expanding clip -3-.
- Remove the control module -1- rearward.
- Release and disconnect the connector -2-.



- To do this push the tab -1-, pivot the retaining bracket in the direction of -arrow- and remove the connector.

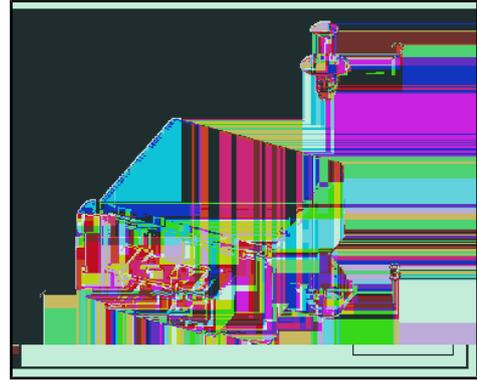
Installing

Install in the reverse order of removal while paying attention to the following:





- Push the expanding clip -2- in the opening -3- on the control module -1-.
- Lock the expanding clip by turning 90° in direction of -arrow-.





12 Trailer Hitch

⇒ [“12.1 Overview - Trailer Hitch Socket”, page 213](#)

⇒ [“12.2 Trailer Socket U10”, page 214](#)

⇒ [“12.3 Towing Recognition Control Module J345, Removing and Installing”, page 215](#)

12.1 Overview - Trailer Hitch Socket

⇒ [“12.1.1 Overview - Trailer Hitch Socket, Sedan”, page 213](#)

⇒ [“12.1.2 Overview - Trailer Hitch Socket, Wagon”, page 214](#)

12.1.1 Overview - Trailer Hitch Socket, Sedan

1 - Towing Recognition Control Module - J345-

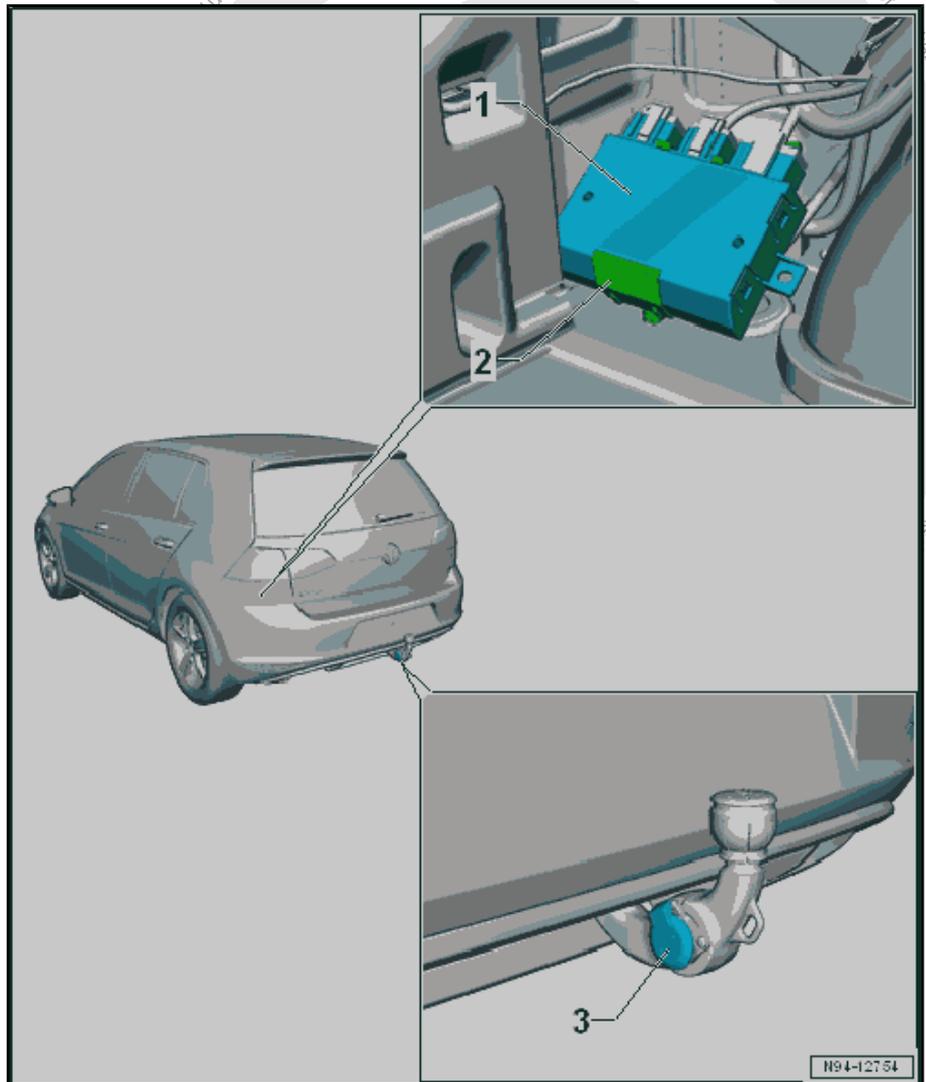
- ❑ Removing and installing. Refer to
⇒ [“12.3.1 Towing Recognition Control Module J345, Removing and Installing, Sedan”, page 215](#).

2 - Frame

- ❑ For Towing Recognition Control Module - J345-

3 - Trailer Socket - U10-

- ❑ Connector assignment. Refer to
⇒ [“12.2 Trailer Socket U10”, page 214](#).





12.1.2 Overview - Trailer Hitch Socket, Wagon

1 - Trailer Socket - U10-

- ❑ Connector assignment. Refer to
⇒ ["12.2 Trailer Socket U10", page 214](#) .

2 - Bolt

- ❑ 9 Nm

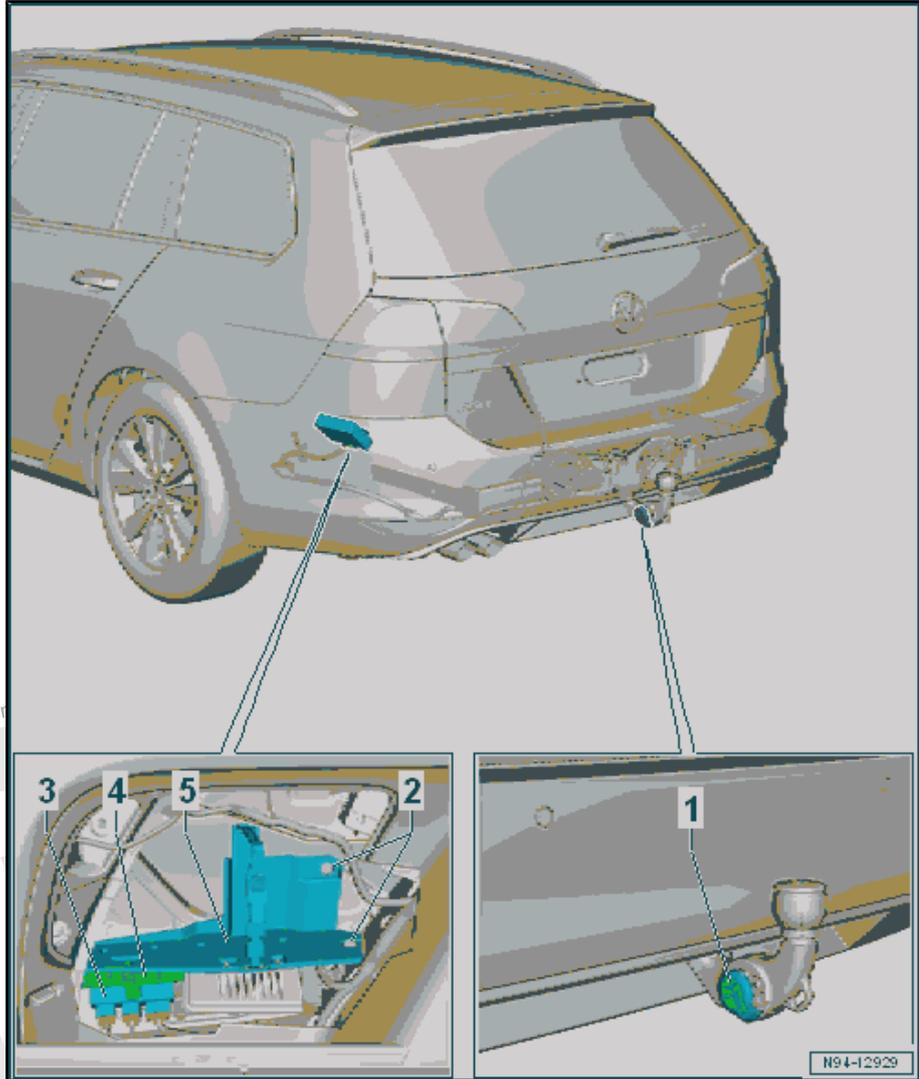
3 - Towing Recognition Control Module - J345-

- ❑ Removing and installing. Refer to
⇒ ["12.3.2 Towing Recognition Control Module J345, Removing and Installing, Wagon", page 215](#) .

4 - Control Module Bracket

- ❑ For Towing Recognition Control Module - J345-
- ❑ Removing and installing. Refer to
⇒ ["12.3.2 Towing Recognition Control Module J345, Removing and Installing, Wagon", page 215](#) .

5 - Vehicle Tools Bracket



12.2 Trailer Socket - U10-

Characteristics of pin 9.

- ◆ Pin 9, continuous positive, supplies the trailer with positive from the Battery - A- .
- ◆ The continuous positive is always connected directly with the Battery - A- .
- ◆ Only low current is permitted, approximately 7.5 - 10 A.

Trailer Socket - U10- Connector Assignment.

The exact connector assignment can be found the applicable wiring diagram. Refer to ⇒ [Wiring diagrams, Troubleshooting & Component locations](#).



12.3 Towing Recognition Control Module - J345- , Removing and Installing

⇒ [“12.3.1 Towing Recognition Control Module J345 , Removing and Installing, Sedan”, page 215](#)

⇒ [“12.3.2 Towing Recognition Control Module J345 , Removing and Installing, Wagon”, page 215](#)

12.3.1 Towing Recognition Control Module - J345- , Removing and Installing, Sedan

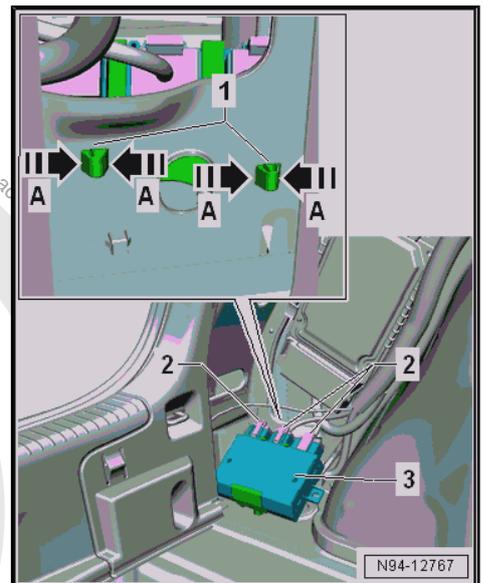
If the control module is being replaced, use the Vehicle Diagnostic Tester and select the “Replacing” function for the respective control module in “Guided Fault Finding”.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the luggage compartment left trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Luggage Compartment Trim Panels; Luggage Compartment Side Trim Panel, Removing and Installing .
- Push the clips -1- together in the direction of the -arrows A-.
- Remove the Towing Recognition Control Module - J345- -3-.
- Disconnect the connectors -2-.

Installing

Install in reverse order of removal.



12.3.2 Towing Recognition Control Module - J345- , Removing and Installing, Wagon

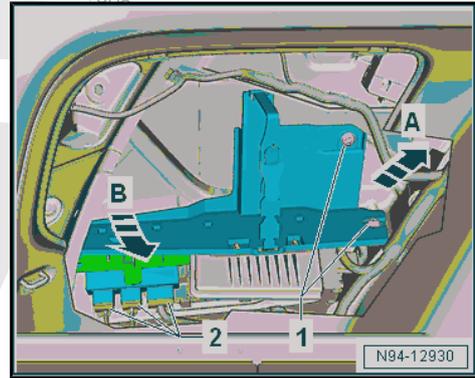
If the control module is being replaced, use the Vehicle Diagnostic Tester and select the “Replacing” function for the respective control module in “Guided Fault Finding”.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the lid in the left luggage compartment side trim panel.
- Remove the vehicle tool kit.



- Remove the screws -1-.
- Pull the vehicle tools bracket in the direction of -arrow A-.
- Disconnect the connectors -2-.
- Remove the vehicle tools bracket in the direction of -arrow B- from the side panel.
- Push the catch -1- in the direction of the -arrow A-.



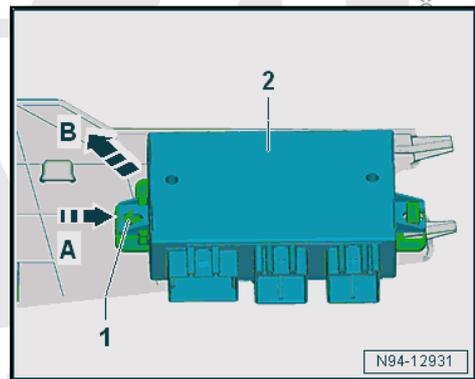
- Lift up the Towing Recognition Control Module - J345- -2- and remove in the direction of the arrow -B-.

Installing

Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to
⇒ ["12.1.2 Overview - Trailer Hitch Socket, Wagon", page 214](#)





13 Blind Spot Detection

⇒ ["13.1 Overview - Blind Spot Detection", page 217](#)

⇒ ["13.2 Blind Spot Detection Warning Lamp in Left/Right Exterior Mirror K303 / K304 , Removing and Installing", page 219](#)

⇒ ["13.3 Blind Spot Detection Control Module J1086 / Blind Spot Detection Control Module 2 J1087 , Removing and Installing", page 220](#)

⇒ ["13.4 Blind Spot Detection, Calibrating", page 222](#)

13.1 Overview - Blind Spot Detection

⇒ ["13.1.1 Overview - Blind Spot Detection, Sedan", page 217](#)

⇒ ["13.1.2 Overview - Blind Spot Detection, Wagon", page 218](#)

13.1.1 Overview - Blind Spot Detection, Sedan

1 - Blind Spot Detection Warning Lamp in Left Exterior Mirror - K303-

- Removing and installing. Refer to
 ⇒ ["13.2 Blind Spot Detection Warning Lamp in Left/Right Exterior Mirror K303 / K304 , Removing and Installing", page 219](#) .

2 - Blind Spot Detection Warning Lamp in Right Exterior Mirror - K304-

- Removing and installing. Refer to
 ⇒ ["13.2 Blind Spot Detection Warning Lamp in Left/Right Exterior Mirror K303 / K304 , Removing and Installing", page 219](#) .

3 - Bracket

4 - Nut

- 6 Nm

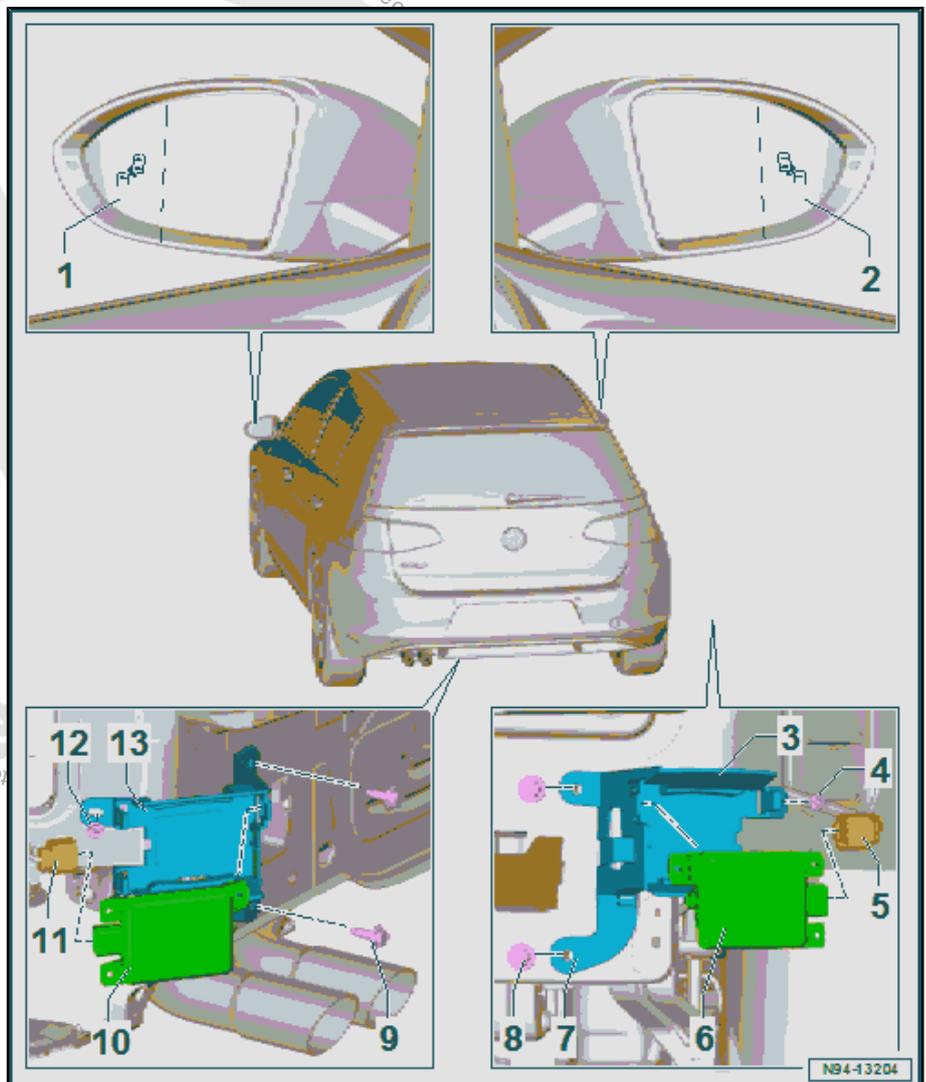
5 - Connector

6 - Blind Spot Detection Control Module - J1086-

- Master
- Removing and installing. Refer to
 ⇒ ["13.3.1 Blind Spot Detection Control Module J1086 / Blind Spot Detection Control Module 2 J1087 , Removing and Installing, Sedan", page 220](#) .

7 - Bracket

- Lower attachment point





8 - Screw

- 2 Nm

9 - Screw

- 2 Nm

10 - Blind Spot Detection Control Module 2 - J1087-

- Slave
- Removing and installing. Refer to [⇒ "13.3.1 Blind Spot Detection Control Module J1086 / Blind Spot Detection Control Module 2 J1087, Removing and Installing, Sedan", page 220](#) .

11 - Connector

12 - Nut

- 2 Nm

13 - Bracket

13.1.2 Overview - Blind Spot Detection, Wagon

1 - Blind Spot Detection Warning Lamp in Left Exterior Mirror - K303-

- Removing and installing. Refer to [⇒ "13.2 Blind Spot Detection Warning Lamp in Left/Right Exterior Mirror K303 / K304, Removing and Installing", page 219](#) .

2 - Blind Spot Detection Warning Lamp in Right Exterior Mirror - K304-

- Removing and installing. Refer to [⇒ "13.2 Blind Spot Detection Warning Lamp in Left/Right Exterior Mirror K303 / K304, Removing and Installing", page 219](#) .

3 - Bracket

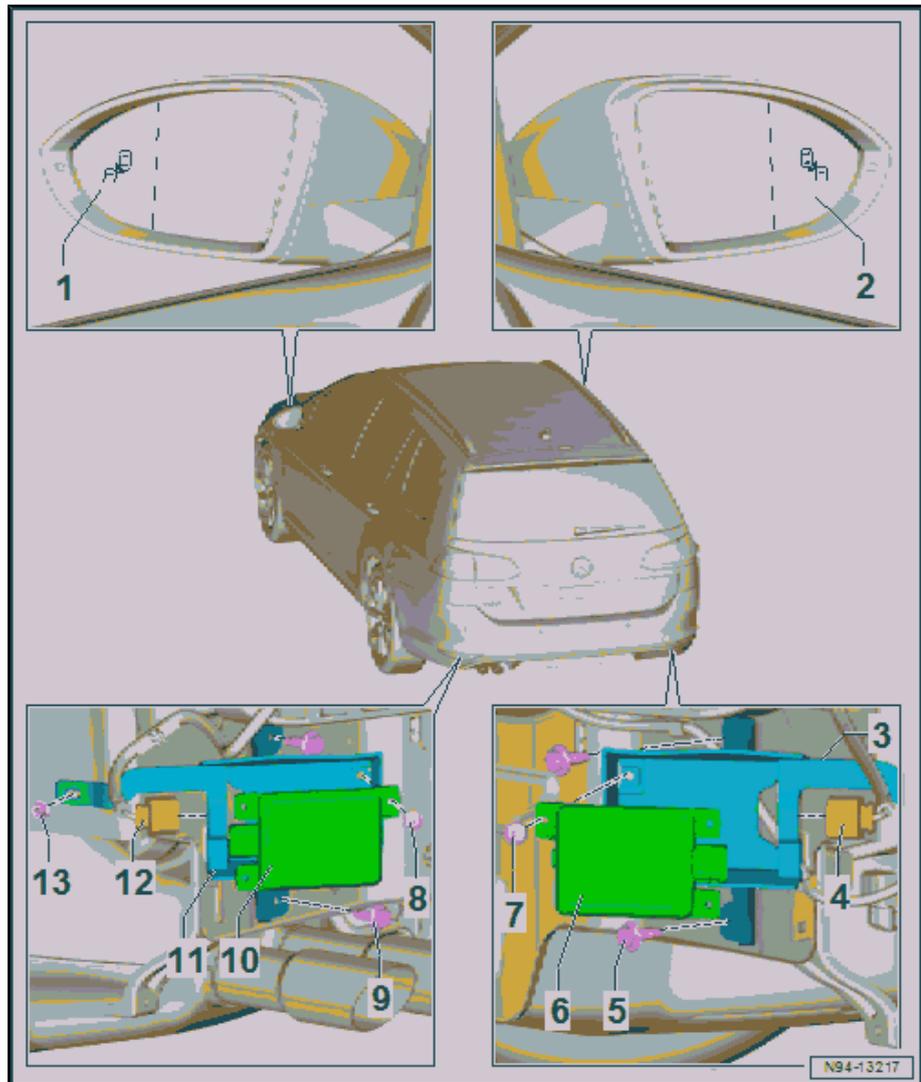
4 - Connector

5 - Bolt

- 2 Nm

6 - Blind Spot Detection Control Module - J1086-

- Master
- Removing and installing. Refer to [⇒ "13.3.2 Blind Spot Detection Control Module J1086 / Blind Spot Detection Control Module 2 J1087, Removing and Installing, Wagon", page 221](#) .



We accept any liability with respect to the correctness of information in this document.



7 - Nut

- 6 Nm

8 - Nut

- 6 Nm

9 - Bolt

- 2 Nm

10 - Blind Spot Detection Control Module 2 - J1087-

- Slave
- Removing and installing. Refer to
⇒ [“13.3.2 Blind Spot Detection Control Module J1086 / Blind Spot Detection Control Module 2 J1087 ,
Removing and Installing, Wagon”, page 221](#) .

11 - Bracket

12 - Connector

13 - Nut

- 6 Nm

**13.2 Blind Spot Detection Warning Lamp in
Left/Right Exterior Mirror - K303- / -
K304- , Removing and Installing**

The Blind Spot Detection Warning Lamp in Left Exterior Mirror - K303- / Blind Spot Detection Warning Lamp in Right Exterior Mirror - K304- is located in the mirror glass and cannot be replaced separately.

- Removing and installing the mirror glass. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Exterior Rearview Mirror; Mirror Glass, Removing and Installing .





13.3 Blind Spot Detection Control Module - J1086- / Blind Spot Detection Control Module 2 - J1087- , Removing and Installing

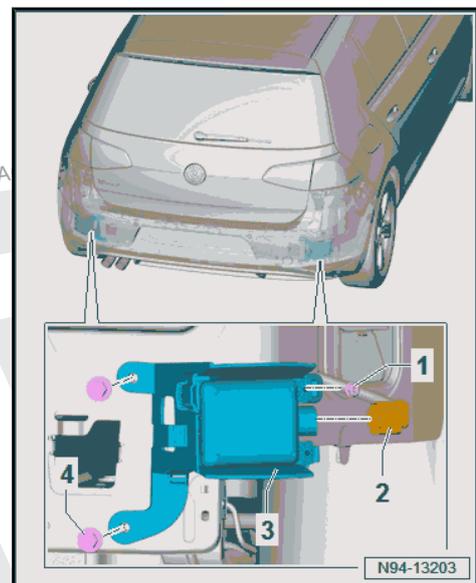
⇒ ["13.3.1 Blind Spot Detection Control Module J1086 / Blind Spot Detection Control Module 2 J1087 , Removing and Installing, Sedan", page 220](#)

⇒ ["13.3.2 Blind Spot Detection Control Module J1086 / Blind Spot Detection Control Module 2 J1087 , Removing and Installing, Wagon", page 221](#)

13.3.1 Blind Spot Detection Control Module - J1086- / Blind Spot Detection Control Module 2 - J1087- , Removing and Installing, Sedan

Removing

- Disconnect the connector -2-.
- Remove the nut -1- and the screws -4- for the bracket.





- Remove the Blind Spot Detection Control Module - J1086- / Blind Spot Detection Control Module 2 - J1087- with the bracket -1-.
- Remove the Blind Spot Detection Control Module - J1086- / Blind Spot Detection Control Module 2 - J1087- -2- from the bracket -1-.

Installing

Install in the reverse order of removal while paying attention to the following:



Note

- ◆ *The blind spot detection calibration normally occurs automatically.*
- ◆ *Static calibration is only required when there is a DTC memory entry.*

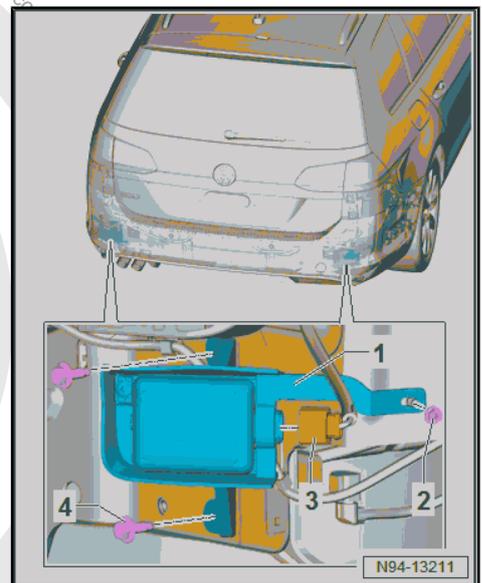
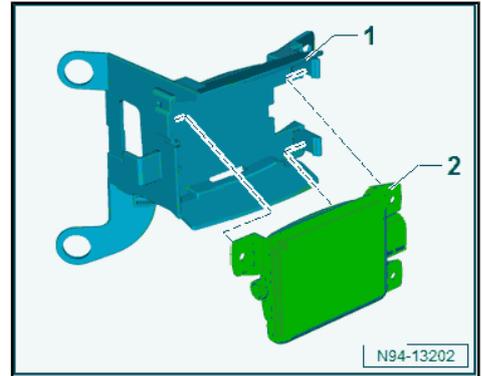
Tightening Specifications

- ◆ Refer to ["13.1.1 Overview - Blind Spot Detection, Sedan", page 217](#)

13.3.2 Blind Spot Detection Control Module - J1086- / Blind Spot Detection Control Module 2 - J1087-, Removing and Installing, Wagon

Removing

- Disconnect the connector -3-.
- Remove the nuts -2- and bolts -4-.
- Remove the Blind Spot Detection Control Module - J1086- / Blind Spot Detection Control Module 2 - J1087- with the bracket -1-.





- Remove the bolt -3-.
- Remove the Blind Spot Detection Control Module - J1086- / Blind Spot Detection Control Module 2 - J1087- -2- from the bracket -1-.

Installing

Install in the reverse order of removal while paying attention to the following:



Note

- ◆ *The blind spot detection calibration normally occurs automatically.*
- ◆ *Static calibration is only required when there is a DTC memory entry.*

Tightening Specifications

- ◆ Refer to ⇒ ["13.1 Overview - Blind Spot Detection", page 217](#)

13.4 Blind Spot Detection, Calibrating

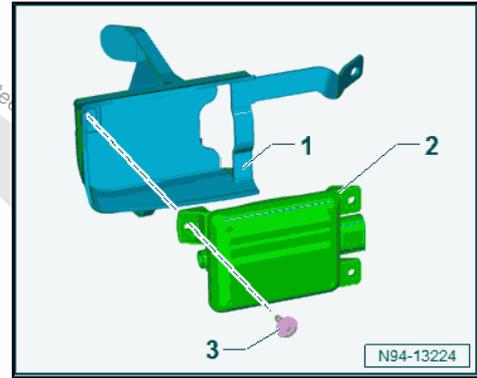
⇒ ["13.4.1 Preparing for Calibration", page 222](#)

13.4.1 Preparing for Calibration



Note

The vehicle in the illustration is only a basic outline.





1 - Volkswagen Logo

- The laser pointer is aligned on the center of the Volkswagen logo

2 - Calibration Tool - Wheel Center Mountings - VAS6350/1-

- With 17 mm wheel bolt adapter and measure paddle

3 - Calibration Tool - Lane Change Calibration Tool - VAS6350/4-

- Is moved from the left to the right side of measuring field during calibration
- When installed correctly, vehicle electrical system voltage line must be connected at bottom left of calibration device (as seen in direction of travel)
- Height of the upper edge of the calibration device to the floor

◆ Sedan: 606 mm

◆ Wagon: 618 mm

4 - Calibration Unit - VAS6350A-

5 - Calibration Tool - Linear Laser - VAS6350/3-

- With "laser protective eyewear"
- On the Calibration Unit - VAS6350A-
- Turning on and off. Refer to the Operating Instructions.

6 - Plastic Foot

- Quantity: 3
- Can be adjusted when setting the horizontal position of the Calibration Unit - VAS6350A-

7 - Calibration Tool - Spacing Laser - VAS6350/2-

- For distance measurement
- Usage information. Refer to the Operating Instructions.

8 - Measuring Scale

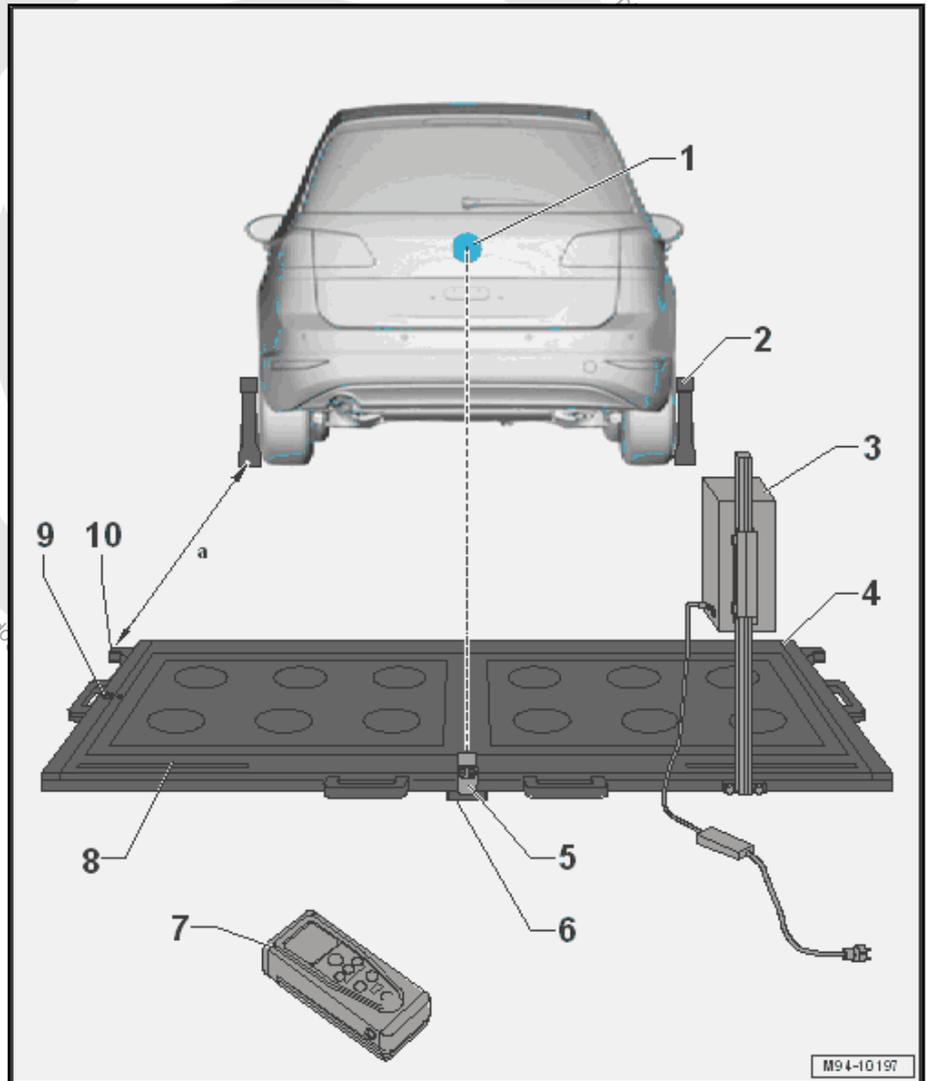
- For positioning the Calibration Tool - Lane Change Calibration Tool - Lane Change Calibration Tool - VAS6350/4- .
- Dimension to be adjusted measuring point on steel ruler

◆ Sedan: 621 mm

◆ Wagon: 678 mm

9 - Level

- On the Calibration Unit - VAS6350A-
- To check the horizontal position of the Calibration Unit - VAS6350A-





10 - Catch Bracket

- To mount the Calibration Tool - Spacing Laser - VAS6350/2- for the distance measurement
- Distance to the Calibration Tool - Wheel Center Mountings - VAS6350/1- on the rear wheels: dimension -a- = 1700 ± 2 mm

13.4.2 Calibration Preparation Work

Special tools and workshop equipment required

- ◆ Calibration Unit - VAS6350A-
- ◆ Calibration Tool - Wheel Center Mountings - VAS6350/1-
- ◆ Calibration Tool - Spacing Laser - VAS6350/2-
- ◆ Calibration Tool - Lane Change Calibration Tool - VAS6350/4-
- ◆ Vehicle Diagnostic Tester

Various preparation work procedures must be performed before the actual calibration procedure using the Vehicle Diagnostic Tester .

Requirements

- Move the vehicle onto a secure flat surface.
- Apply the parking brake - the vehicle must not move during the measurement.
- Place the front wheels in a straight-ahead position - steering wheel neutral position.
- No persons may be in the vehicle interior during the measurement.
- Do not open and close the vehicle doors during calibration.

Procedure

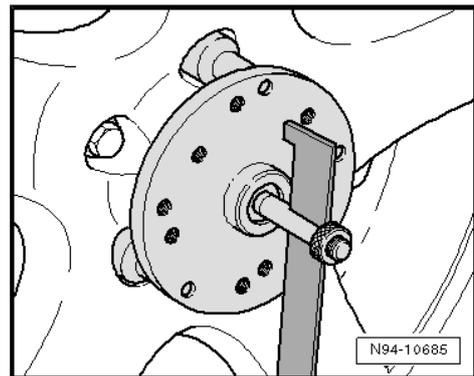
- Connect the Vehicle Diagnostic Tester .
- Turn on the ignition.
- Tighten three wheel bolt adapters (17 mm) for the wheel bolts on each -VAS6350/1- .
- Insert the measuring paddle on both -VAS6350/1- and secure it with the locking nut.
- Place the -VAS6350/1- onto the wheel bolts on both rear wheels.
- The wheel center sensor rotation center must be in wheel rotation center.



Note

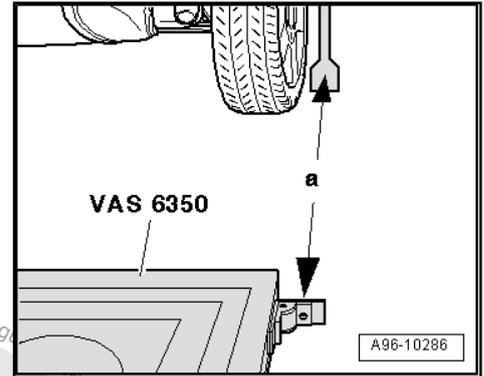
Place the -VAS6350/1- on the wheels so that the "anti-theft wheel bolts" are not connected with wheel center mounting.

- Adjust the measuring paddle using the lock nuts so that they move freely just above the floor.
- The measuring paddles must move easily.
- The measuring paddles must be vertical.





- Position the -VAS6350A- at distance -a- to the rear wheels.
- Dimension -a- = 1700 ± 2 mm



- Switch on the -VAS6350/2- with the **ON** button.

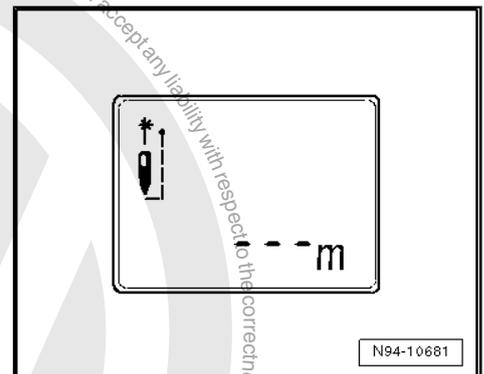
Display on the -VAS6350/2- :

- “- - - m”

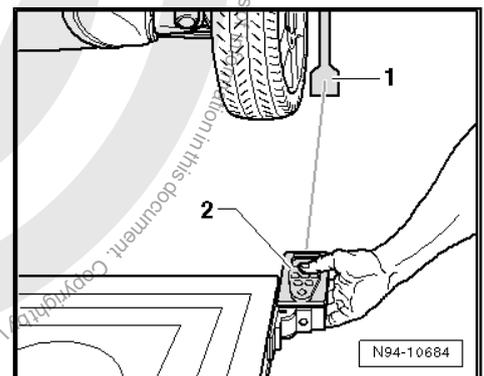


Note

The laser is switched on at same time.



- Hold the -VAS6350/2- flush against the catch bracket, as shown in the illustration, for the distance measurement.
- The -VAS6350/2- must lie firmly against the catch bracket.
- Make sure the “laser beam” for the distance measurement contacts the paddle on lower enlarged part -1-.



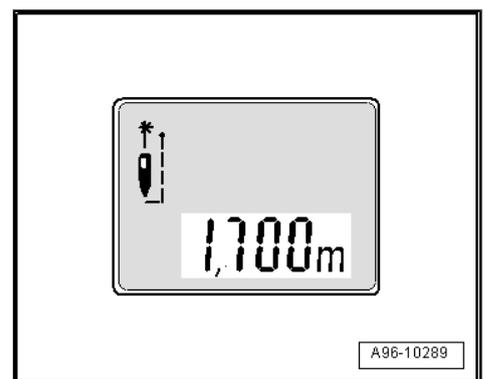
If that is not the case, correct the measuring paddle height using the locking nuts on the -VAS6350/1- .

- Briefly press the **ON** button for distance measurement.

Display on the -VAS6350/2- :

- “1,700 m” (specified value: 1700 ± 2 mm).
- Repeat the measurement procedure from the left catch bracket to measuring paddle on left rear wheel.
- The distance value must be the same on both sides.

If both measured values are not the same, adjust the -VAS6350A- accordingly.

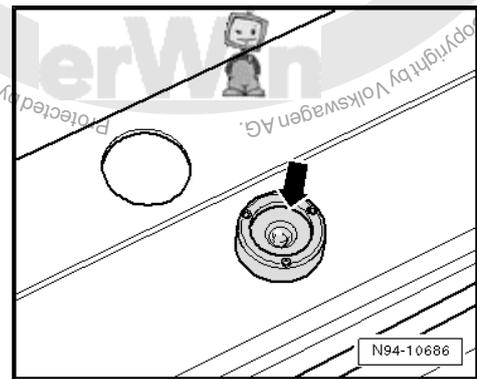
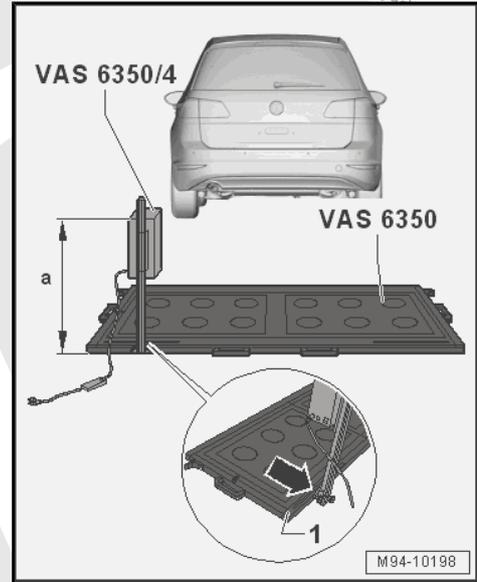


Note

The vehicle in the illustration is only a basic outline.



- Secure the Calibration Tool - Lane Change Calibration Tool VAS6350/4- to the Calibration Unit - VAS6350A- mount on the rear left side.
- When installed correctly, the vehicle electrical system voltage line must be connected at bottom left of calibration device (as seen in direction of travel).
- Sedan dimension -a- = 606 mm (measured from the upper edge of the calibration device to workshop floor).
- Wagon dimension -a- = 618 mm (measured from the upper edge of the calibration device to workshop floor).
- The adjustment dimension is set with the measuring point -arrow- on the base of the calibration device on the scale of the steel ruler -1-.
- Left adjustment dimension for Sedan = 621 mm (read on measuring scale -1-).
- Left adjustment dimension for Wagon = 678 mm (read on measuring scale -1-).
- Connect the Calibration Tool - Lane Change Calibration Tool Calibration Tool - Lane Change Calibration Tool - VAS6350/4- to the vehicle electrical system voltage.
- Using the bubble level (level indicator) -arrow-, bring the Calibration Unit - VAS6350A- into a horizontal position by turning the plastic bases.



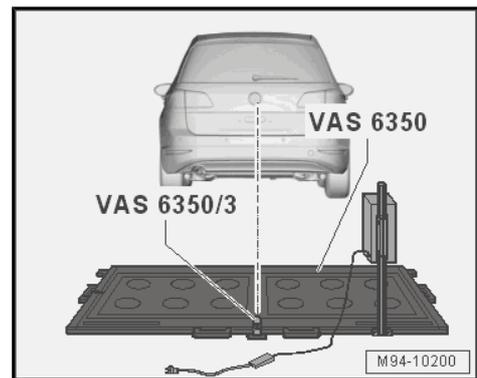
- Wear laser protective eyewear.



Note

The vehicle in the illustration is only a basic outline.

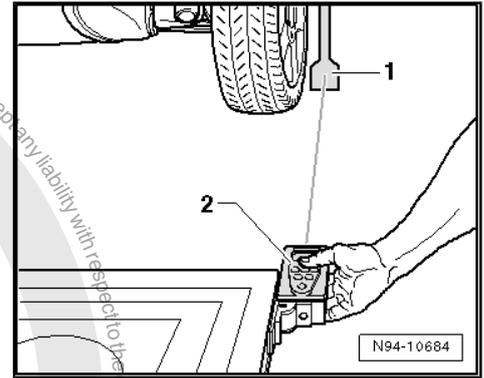
- Turn on the Calibration Laser - VAS6350/3A- on the Calibration Unit - VAS6350A- .
- Align the entire Calibration Unit - VAS6350A- so that the laser beam shines on the center of the vehicle rear above the VW logo.





- Check right and left distance between catch bracket on the Calibration Unit - VAS6350A- and measuring paddle -1- on wheel mountings again.
- Specified value: 1700 ± 2 mm

Blind Spot Detection Control Module, Calibrating. Refer to
⇒ ["13.4.3 Blind Spot Detection Control Module J1086 / Blind Spot Detection Control Module 2 J1087 , Calibrating"](#), page 227 .



13.4.3 Blind Spot Detection Control Module - J1086- / Blind Spot Detection Control Module 2 - J1087- , Calibrating

Special tools and workshop equipment required

- ◆ Calibration Unit - VAS6350A-
- ◆ Vehicle Diagnostic Tester



Note

Before the actual calibration procedure for the control modules, the Calibration Unit - VAS6350A- must be set up as described in the chapter.

The following should not occur during the calibration procedure:

- Vehicle doors must not be opened or closed.
- People must not sit in the vehicle.
- People must not go between the vehicle and the Calibration Tool - Lane Change Calibration Tool - VAS6350/4- .

Procedure:

- Turn on the Calibration Tool - Lane Change Calibration Tool - VAS6350/4- at the power switch -3-.
- The green LED -1- must turn on.



Note

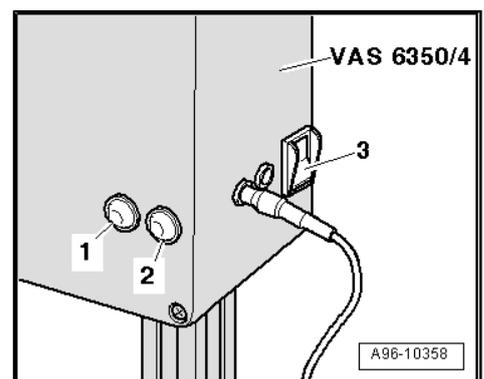
If the red LED -2- lights up: Check the Calibration Tool - Lane Change Calibration Tool - Lane Change Calibration Tool - VAS6350/4- .

- Connect the Vehicle Diagnostic Tester .
- Select calibration.
- Follow the instructions in the Vehicle Diagnostic Tester display.



Note

The vehicle in the illustration is only a basic outline.

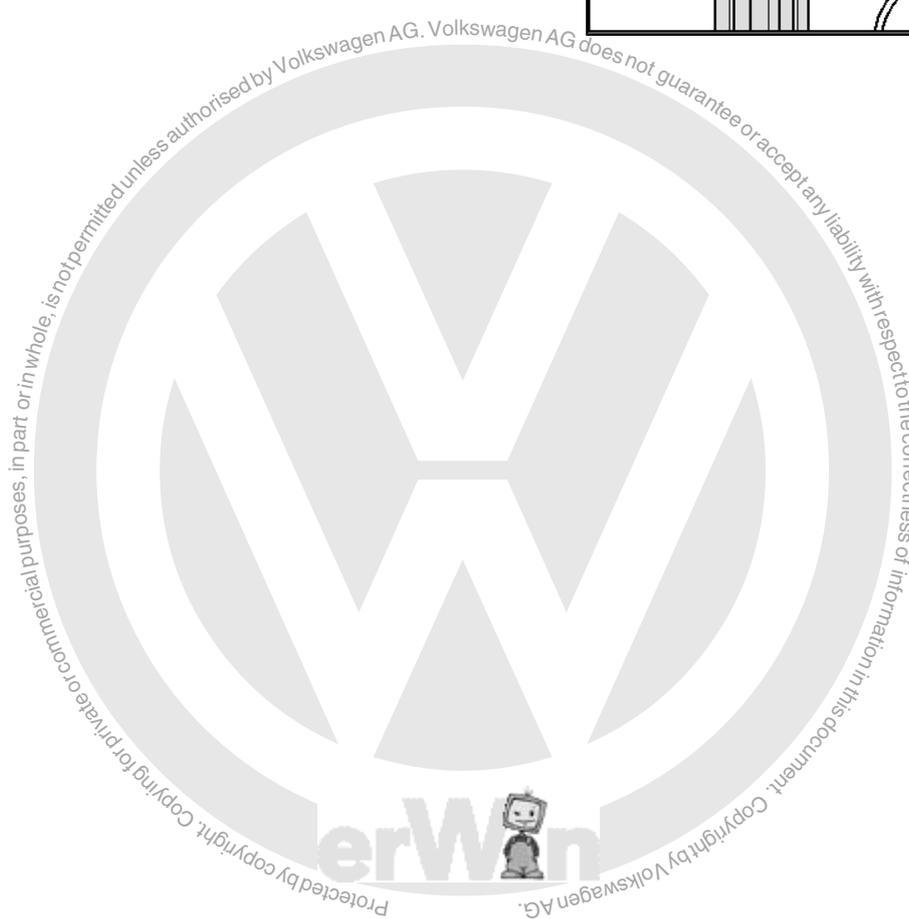
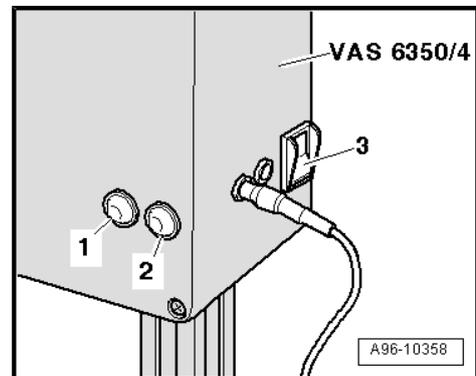
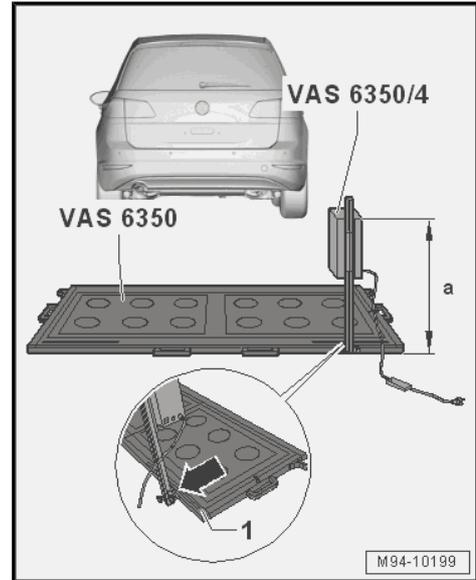




During the program sequence, there is a prompt to switch the Calibration Tool - Lane Change Calibration Tool - VAS6350/4- from the left to the right side of the Calibration Tool - VAS6350- .

- Turn off the Calibration Tool - Lane Change Calibration Tool - VAS6350/4- and remove the calibration tool.
 - When installed correctly, the vehicle electrical system voltage line must be connected at bottom left of calibration device (as seen in direction of travel).
 - Sedan dimension -a- = 606 mm (measured from the upper edge of the calibration device to workshop floor).
 - Wagon dimension -a- = 618 mm (measured from the upper edge of the calibration device to workshop floor).
 - Right adjustment dimension for Sedan = 621 mm (read on measuring scale -1-).
 - Right adjustment dimension for Wagon = 678 mm (read on measuring scale -1-).
-
- Turn on the -VAS6350/4- at the power switch -3-.
 - The green LED -1- must turn on.
 - Follow the instructions in the Vehicle Diagnostic Tester display.

After a successful blind spot detection calibration, switch off the ignition and disconnect the diagnostic connector.

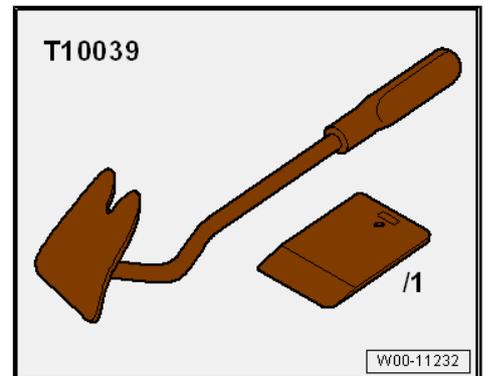




14 Special Tools

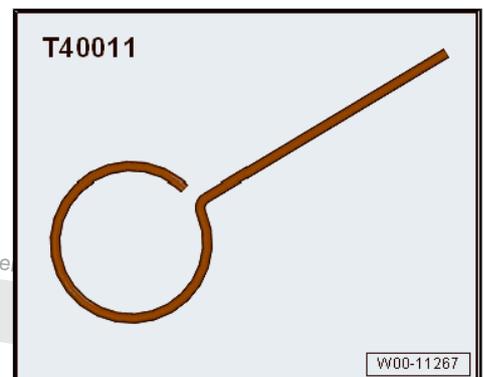
Special tools and workshop equipment required

- ◆ Trim Release Lever - Wedge - T10039/1-



- ◆ 7/16 Inch Extractor - T10424US-

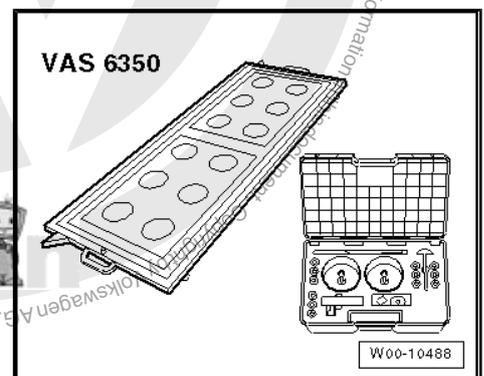
- ◆ Locking Pin (3 pc.) - T40011- or



- ◆ Torque Wrench 1783 - 2-10Nm - VAG1783-

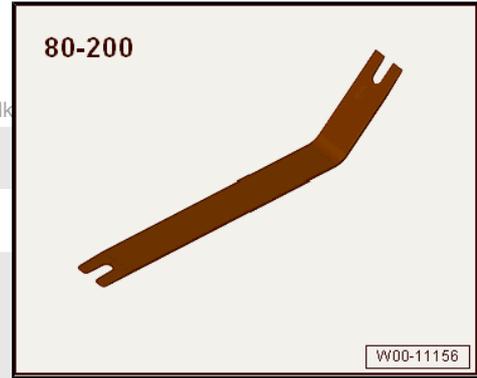


- ◆ Calibration Unit - VAS6350A-





◆ Pry Lever - 80-200-





96 – Interior Lights, Switches





1 Lamps

- ⇒ [“1.1 Component Location Overview - Instrument Panel Lamps”, page 233](#)
- ⇒ [“1.2 Component Location Overview - Front Door Lamps”, page 234](#)
- ⇒ [“1.3 Component Location Overview - Rear Door Lamps”, page 235](#)
- ⇒ [“1.4 Component Location Overview - Center Console Lamps”, page 236](#)
- ⇒ [“1.5 Component Location Overview - Luggage Compartment Lamps”, page 237](#)
- ⇒ [“1.6 Component Location Overview - Roof Trim Panel Lamps”, page 239](#)
- ⇒ [“1.7 Glove Compartment Lamp W6 , Removing and Installing”, page 241](#)
- ⇒ [“1.8 Bulb for Glove Compartment Lamp W6 , Replacing”, page 242](#)
- ⇒ [“1.9 Left/Right Front Footwell Lamp K268 / K269 , Removing and Installing”, page 243](#)
- ⇒ [“1.10 Left/Right Front Footwell Illumination Bulb L151 / L152 , Removing and Installing”, page 244](#)
- ⇒ [“1.11 Central Locking - Safe- Indicator Lamp K133 , Removing and Installing”, page 244](#)
- ⇒ [“1.12 Left/Right Front Entry Lamp W31 / W32 , Removing and Installing”, page 245](#)
- ⇒ [“1.13 Entry Lamp Bulb, Removing and Installing”, page 246](#)
- ⇒ [“1.14 Driver/Front Passenger Door Warning Lamp W30 / W36 , Removing and Installing”, page 246](#)
- ⇒ [“1.15 Driver/Front Passenger Door Opener Illumination Bulb L108 / L109 , Removing and Installing”, page 246](#)
- ⇒ [“1.16 Left/Right Front Door Ambient Lighting Bulb 2 L203 / L204 , Removing and Installing”, page 247](#)
- ⇒ [“1.17 Left/Right Rear Entry Lamp W33 / W34 , Removing and Installing”, page 247](#)
- ⇒ [“1.18 Left/Right Rear Door Warning Lamp W37 / W38 , Removing and Installing”, page 248](#)
- ⇒ [“1.19 Selector Lever Transmission Range Position Display Unit Y26 , Removing and Installing”, page 248](#)
- ⇒ [“1.20 Luggage Compartment Lamp W3 , Removing and Installing”, page 248](#)
- ⇒ [“1.21 Bulb for Luggage Compartment Lamp W3 , Removing and Installing”, page 249](#)
- ⇒ [“1.22 Driver/Front Passenger Vanity Mirror Lamp W20 / W14 , Removing and Installing”, page 250](#)
- ⇒ [“1.23 Driver/Front Passenger Vanity Mirror Lamp W20 / W14 Bulb, Removing and Installing”, page 251](#)
- ⇒ [“1.24 Front Interior Lamp W1 Bulb, Removing and Installing”, page 252](#)
- ⇒ [“1.25 Rear Interior Lamp W43 Bulb, Removing and Installing”, page 253](#)



⇒ [“1.26 Left/Right Rear Reading Lamp W11 / W12 , Removing and Installing”, page 254](#)

⇒ [“1.27 Left/Right Rear Interior Lamp W47 / W48 , Replacing”, page 254](#)

1.1 Component Location Overview - Instrument Panel Lamps

1 - Passenger Airbag Indicator Lamp - K145-

- ❑ Is removed together with the Emergency Flasher Switch - EX3- .
- ❑ Emergency Flasher Switch - EX3- removing. Refer to
 ⇒ [“2.15 Emergency Flasher Switch EX3 , Removing and Installing”, page 268](#) .

2 - Glove Compartment Lamp - W6-

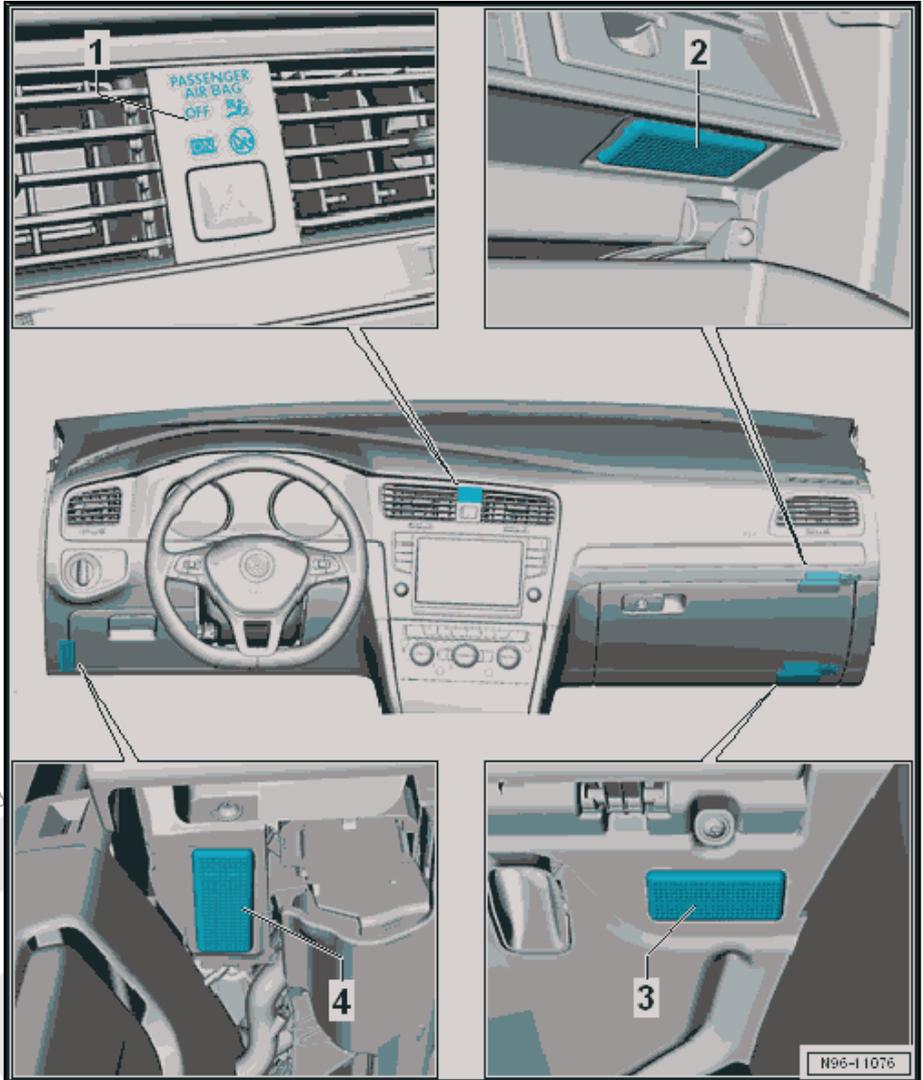
- ❑ Removing and installing. Refer to
 ⇒ [“1.7 Glove Compartment Lamp W6 , Removing and Installing”, page 241](#) .

3 - Right Front Footwell Lamp - K269-

- ❑ Removing and installing. Refer to
 ⇒ [“1.9 Left/Right Front Footwell Lamp K268 / K269 , Removing and Installing”, page 243](#)

4 - Left Front Footwell Lamp - K268-

- ❑ Removing and installing. Refer to
 ⇒ [“1.9 Left/Right Front Footwell Lamp K268 / K269 , Removing and Installing”, page 243](#) .

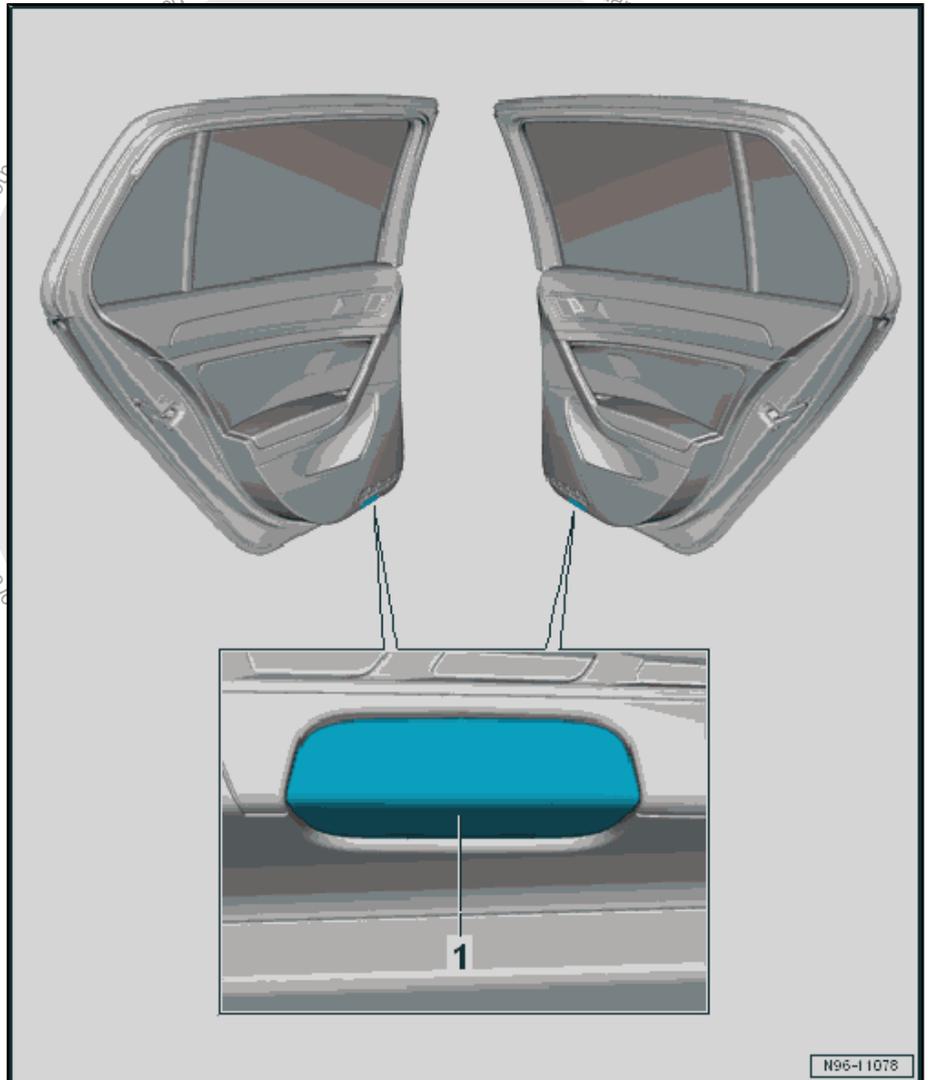




1.3 Component Location Overview - Rear Door Lamps

1 - Door Warning Lamp and Entry Lamp

- ❑ Left Rear Door Warning Lamp - W37- / Driver Side Rear Entry Lamp - W83-
- ❑ Right Rear Door Warning Lamp - W38- / Passenger Side Rear Entry Lamp - W84-
- ❑ Removing and installing. Refer to ⇒ ["1.18 Left/Right Rear Door Warning Lamp W37 / W38 , Removing and Installing", page 248](#) .

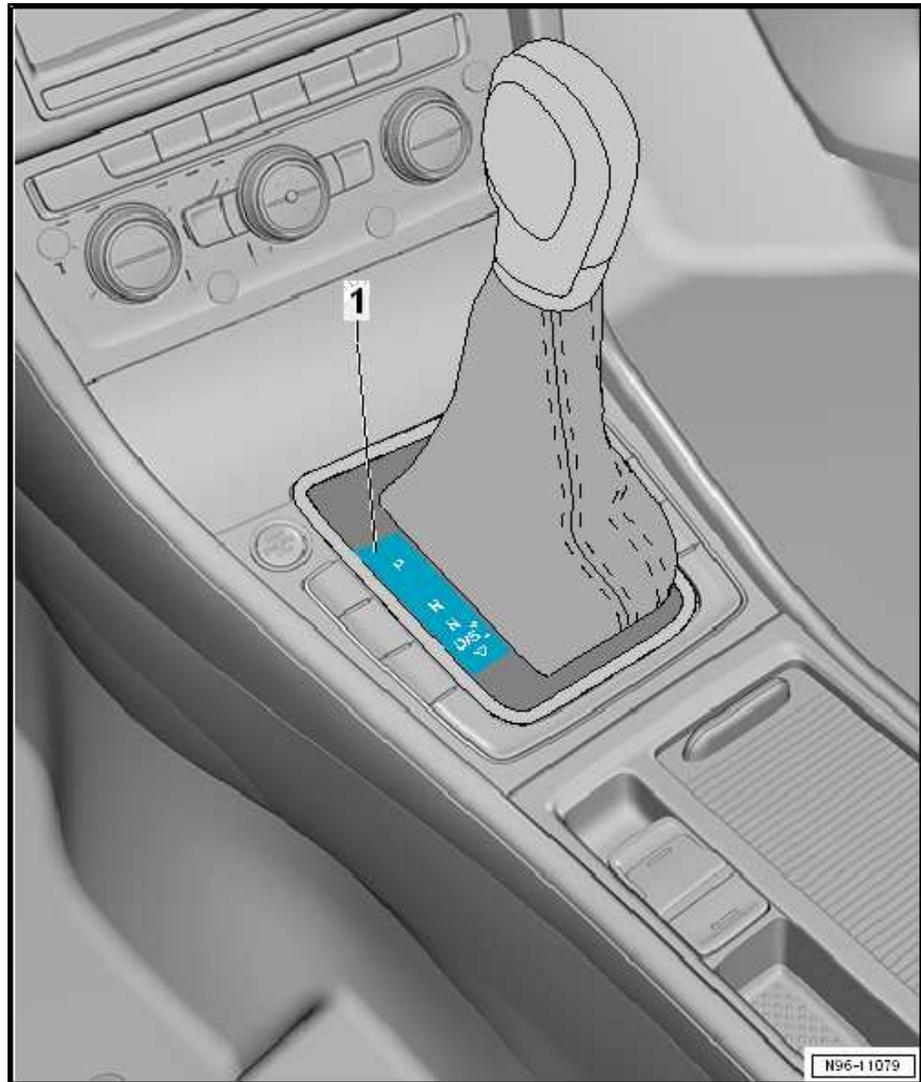




1.4 Component Location Overview - Center Console Lamps

1 - Selector Lever Transmission Range Position Display Unit - Y26-

- ❑ Removing and installing. Refer to [⇒ "1.19 Selector Lever Transmission Range Position Display Unit Y26 , Removing and Installing", page 248](#) .





1.5 Component Location Overview - Luggage Compartment Lamps

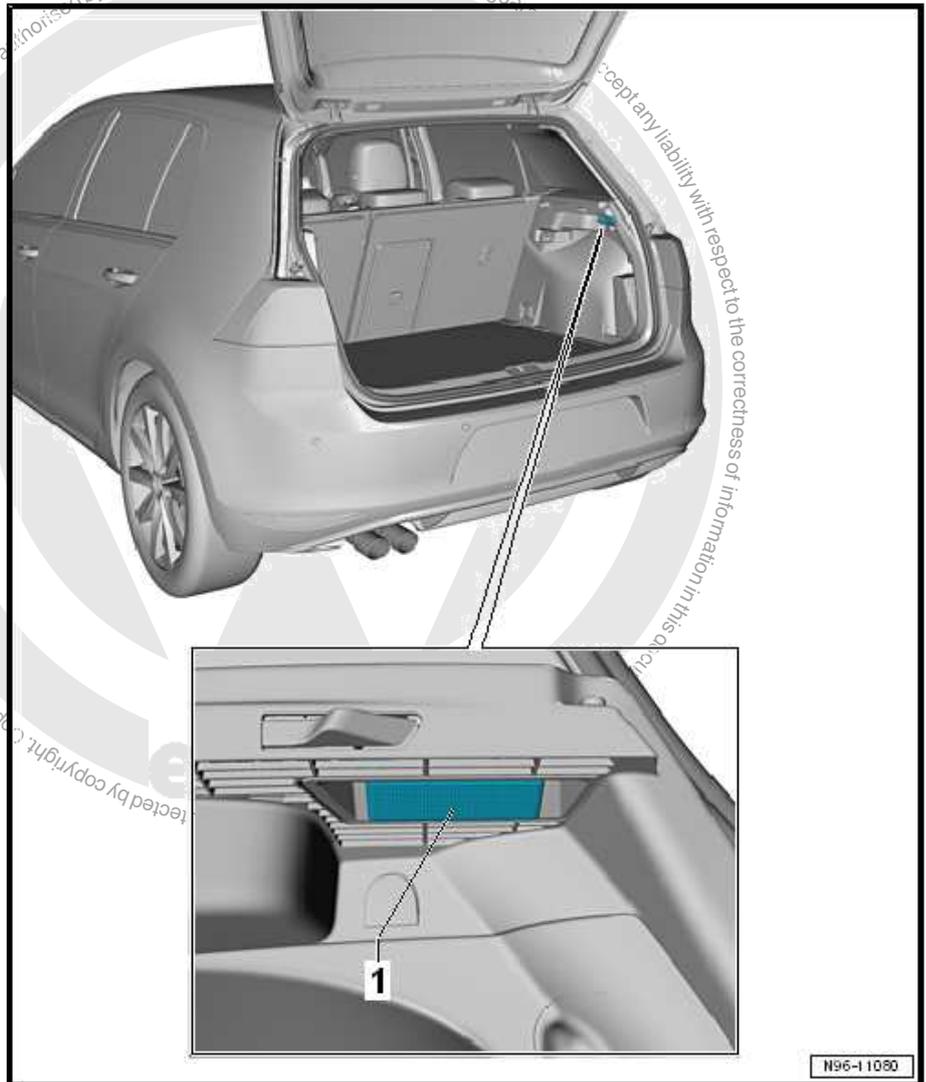
⇒ ["1.5.1 Component Location Overview - Luggage Compartment Lamps, Sedan", page 237](#)

⇒ ["1.5.2 Component Location Overview - Luggage Compartment Lamps, Wagon", page 238](#)

1.5.1 Component Location Overview - Luggage Compartment Lamps, Sedan

1 - Luggage Compartment Lamp - W3-

- Removing and installing. Refer to
⇒ ["1.20.1 Luggage Compartment Lamp W3, Removing and Installing, Sedan", page 248](#).

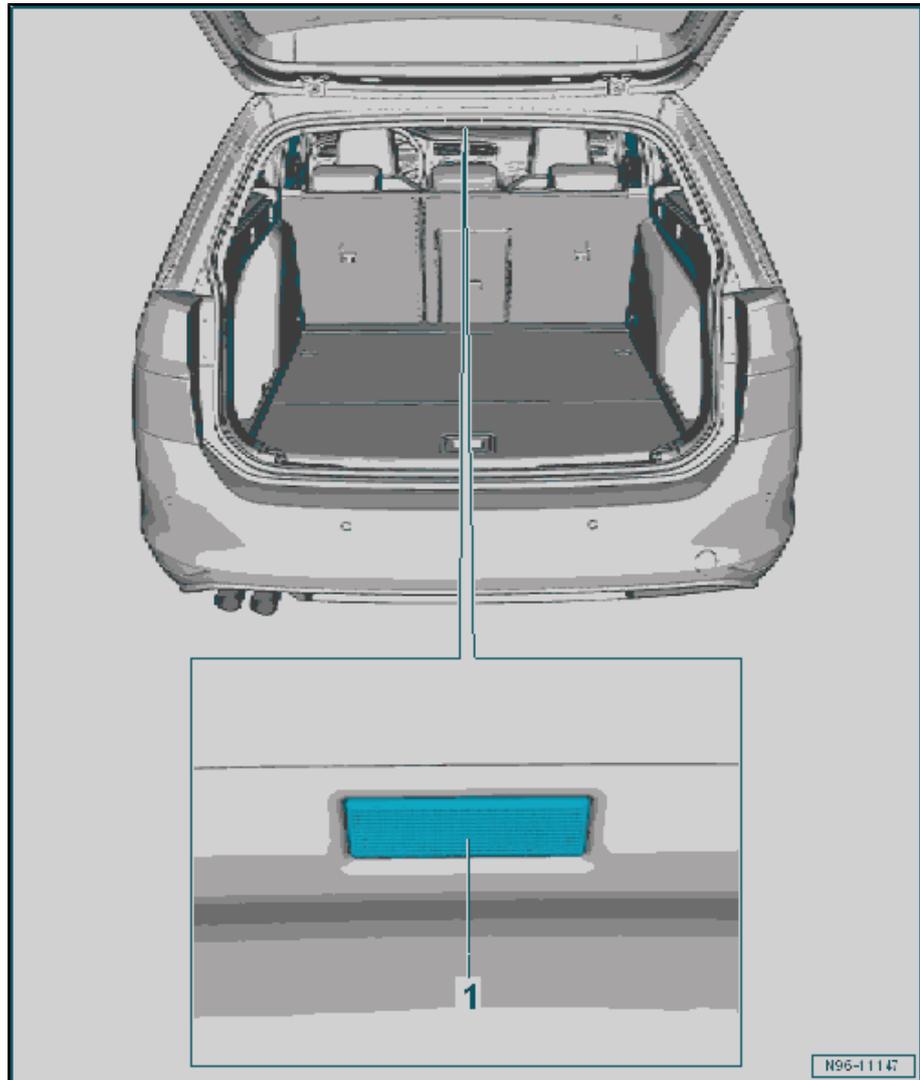




1.5.2 Component Location Overview - Luggage Compartment Lamps, Wagon

1 - Luggage Compartment Lamp - W3-

- ❑ Removing and installing. Refer to [⇒ "1.20.2 Luggage Compartment Lamp W3, Removing and Installing, Wagon", page 249](#).



acceptany liability with respect to the correctness of information in this document.



1.6 Component Location Overview - Roof Trim Panel Lamps

⇒ [“1.6.1 Component Location Overview - Roof Trim Panel Lamps, Sedan”, page 239](#)

⇒ [“1.6.2 Component Location Overview - Roof Trim Panel Lamps, Wagon, without Panorama Roof”, page 240](#)

⇒ [“1.6.3 Component Location Overview - Roof Trim Panel Lamps, Wagon, with Panorama Roof”, page 241](#)

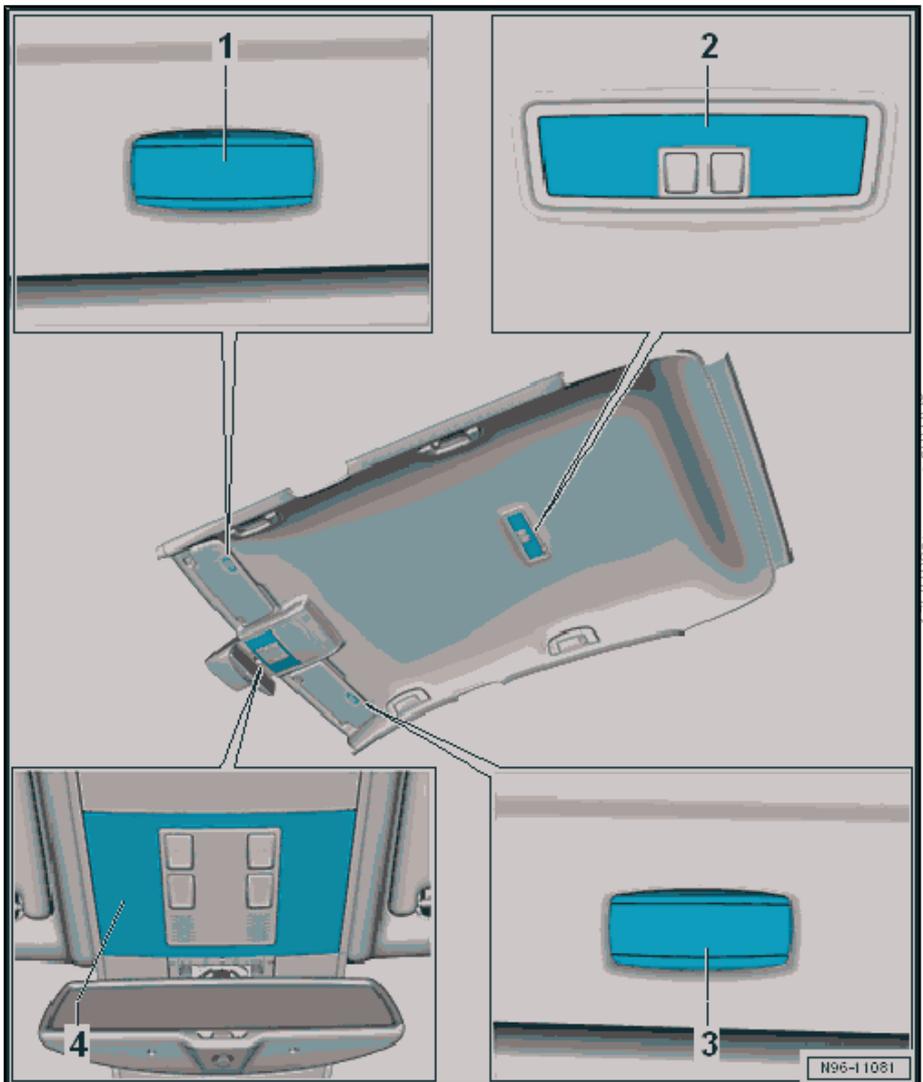
1.6.1 Component Location Overview - Roof Trim Panel Lamps, Sedan

1 - Driver Vanity Mirror Lamp - W20-

- ❑ Removing and installing. Refer to ⇒ [“1.22 Driver/Front Passenger Vanity Mirror Lamp W20 / W14 , Removing and Installing”, page 250](#) .

2 - Rear Interior Lamp - WX2-

- ❑ With Left Rear Reading Lamp - W11- / Right Rear Reading Lamp - W12-
- ❑ Removing and installing. Refer to ⇒ [“2.31 Rear Interior Lamp/Reading Lamp, Removing and Installing”, page 275](#) .
- ❑ Bulb for Rear Interior Lamp - W43- , Removing and installing. Refer to ⇒ [“1.25 Rear Interior Lamp W43 Bulb, Removing and Installing”, page 253](#) .
- ❑ Bulb for Left Rear Reading Lamp - W11- / Right Rear Reading Lamp - W12- , Removing and installing. Refer to ⇒ [“1.25 Rear Interior Lamp W43 Bulb, Removing and Installing”, page 253](#) .



3 - Front Passenger Vanity Mirror Lamp - W14-

- ❑ Removing and installing. Refer to ⇒ [“1.22 Driver/Front Passenger Vanity Mirror Lamp W20 / W14 , Removing and Installing”, page 250](#) .

4 - Front Interior Lamp - WX1-

- ❑ With Driver Reading Lamp - W19- and Front Passenger Reading Lamp - W13-
- ❑ Removing and installing. Refer to ⇒ [“2.30 Front Interior Lamp/Reading Lamp, Removing and Installing”, page 275](#) .
- ❑ Bulb for Front Interior Lamp - WX1- , Removing and installing. Refer to ⇒ [“1.24 Front Interior Lamp W1 Bulb, Removing and Installing”, page 252](#) .



- ❑ Bulb for Driver Reading Lamp - W19- / Front Passenger Reading Lamp - W13- , Removing and installing. Refer to ⇒ [“1.24 Front Interior Lamp W1 Bulb, Removing and Installing”, page 252](#) .

1.6.2 Component Location Overview - Roof Trim Panel Lamps, Wagon, without Panorama Roof

1 - Driver Vanity Mirror Lamp - W20-

- ❑ Removing and installing. Refer to ⇒ [“1.22 Driver/Front Passenger Vanity Mirror Lamp W20 / W14 , Removing and Installing”, page 250](#) .

2 - Front Passenger Vanity Mirror Lamp - W14-

- ❑ Removing and installing. Refer to ⇒ [“1.22 Driver/Front Passenger Vanity Mirror Lamp W20 / W14 , Removing and Installing”, page 250](#) .

3 - Rear Interior Lamp - WX2-

- ❑ With Left Rear Reading Lamp - W11- / Right Rear Reading Lamp - W12-
- ❑ Removing and installing. Refer to ⇒ [“2.31 Rear Interior Lamp/Reading Lamp, Removing and Installing”, page 275](#) .
- ❑ Bulb for Rear Interior Lamp - W43- , Removing and installing. Refer to ⇒ [“1.25 Rear Interior Lamp W43 Bulb, Removing and Installing”, page 253](#) .

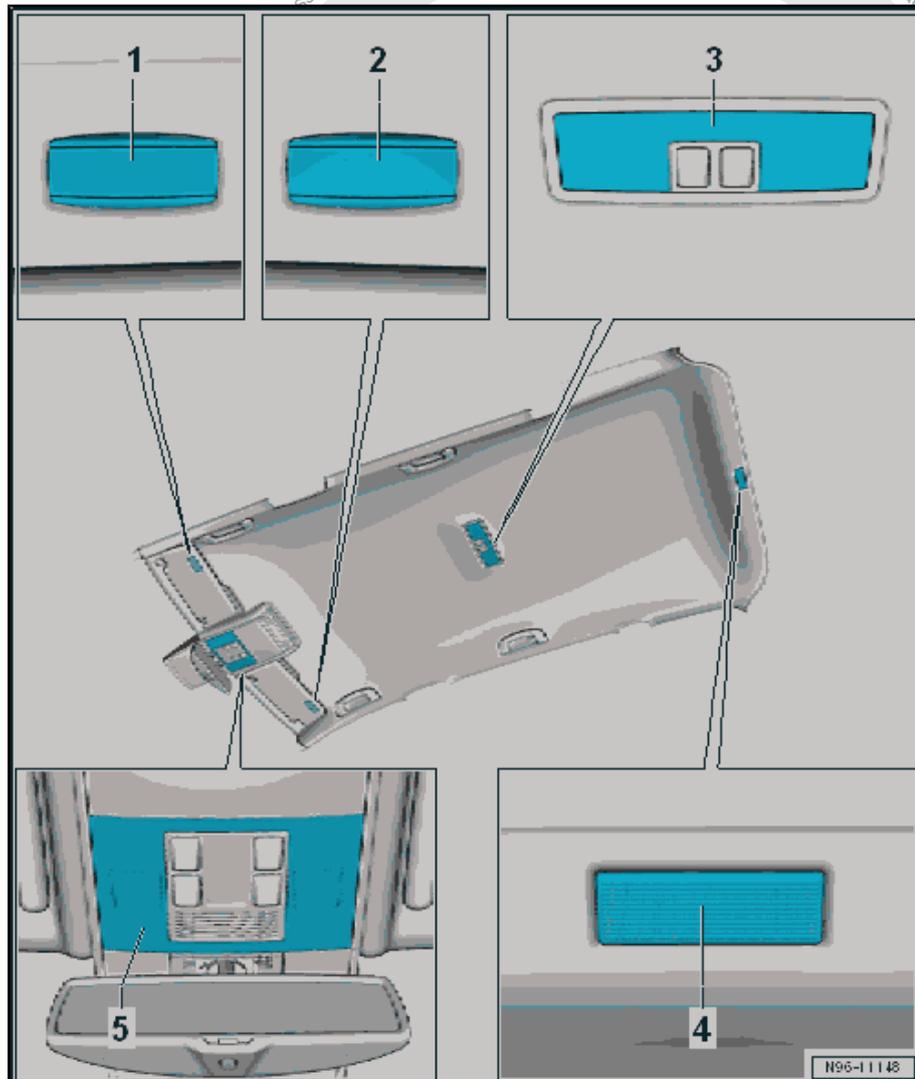
- ❑ Bulb for Left Rear Reading Lamp - W11- / Right Rear Reading Lamp - W12- , Removing and installing. Refer to ⇒ [“1.25 Rear Interior Lamp W43 Bulb, Removing and Installing”, page 253](#) .

4 - Luggage Compartment Lamp - W3-

- ❑ Removing and installing. Refer to ⇒ [“1.20.2 Luggage Compartment Lamp W3 , Removing and Installing, Wagon”, page 249](#) .

5 - Front Interior Lamp - WX1-

- ❑ With Driver Reading Lamp - W19- and Front Passenger Reading Lamp - W13-
- ❑ Removing and installing. Refer to ⇒ [“1.24 Front Interior Lamp W1 Bulb, Removing and Installing”, page 252](#) .
- ❑ Bulb for Front Interior Lamp - WX1- , Removing and installing. Refer to ⇒ [“1.24 Front Interior Lamp W1 Bulb, Removing and Installing”, page 252](#) .
- ❑ Bulb for Driver Reading Lamp - W19- / Front Passenger Reading Lamp - W13- , Removing and installing. Refer to ⇒ [“1.24 Front Interior Lamp W1 Bulb, Removing and Installing”, page 252](#) .





1.6.3 Component Location Overview - Roof Trim Panel Lamps, Wagon, with Panorama Roof

1 - Driver Vanity Mirror Lamp - W20-

- ❑ Removing and installing. Refer to ⇒ ["1.22 Driver/Front Passenger Vanity Mirror Lamp W20 / W14 , Removing and Installing", page 250](#) .

2 - Left Rear Interior Lamp - W47-

- ❑ Removing and installing. Refer to ⇒ ["1.27 Left/Right Rear Interior Lamp W47 / W48 , Replacing", page 254](#) .

3 - Luggage Compartment Lamp - W3-

- ❑ Removing and installing. Refer to ⇒ ["1.20.2 Luggage Compartment Lamp W3 , Removing and Installing, Wagon", page 249](#) .

4 - Right Rear Interior Lamp - W48-

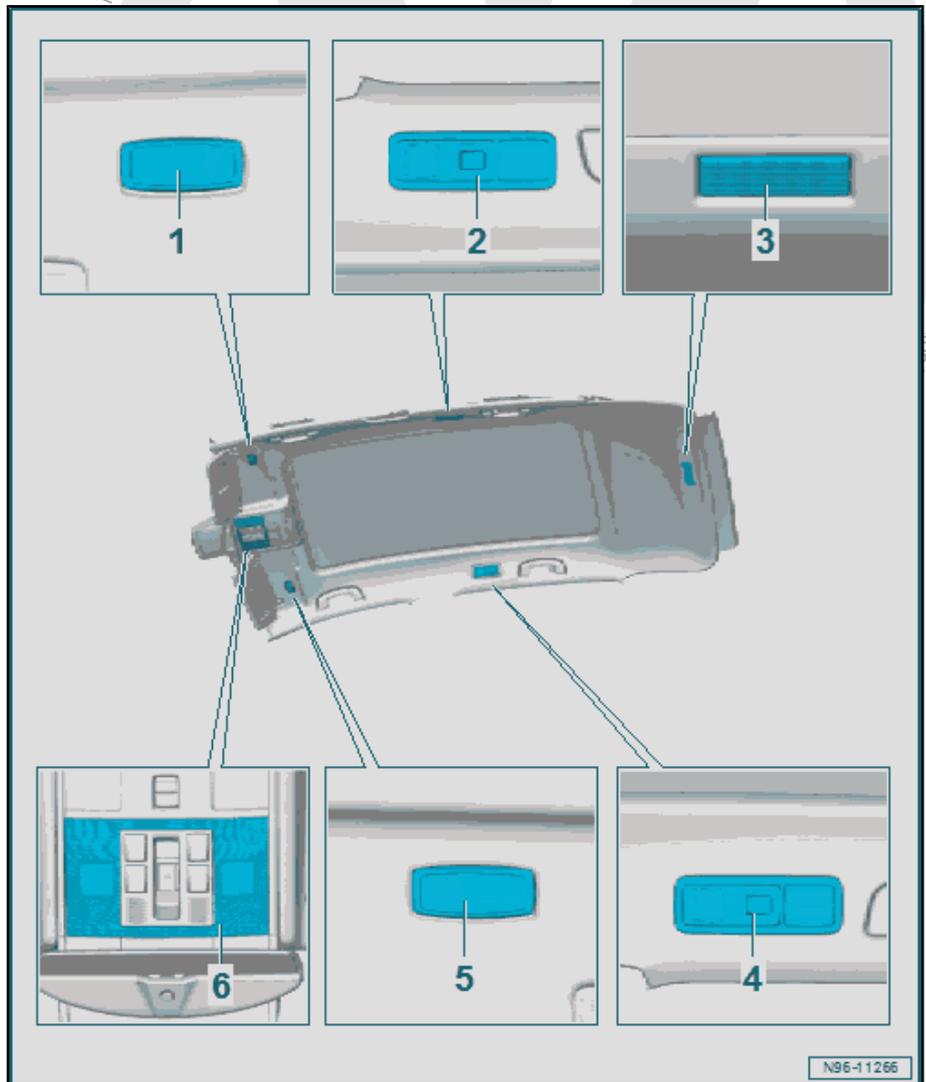
- ❑ Removing and installing. Refer to ⇒ ["1.27 Left/Right Rear Interior Lamp W47 / W48 , Replacing", page 254](#) .

5 - Front Passenger Vanity Mirror Lamp - W14-

- ❑ Removing and installing. Refer to ⇒ ["1.22 Driver/Front Passenger Vanity Mirror Lamp W20 / W14 , Removing and Installing", page 250](#) .

6 - Front Interior Lamp - WX1-

- ❑ With Driver Reading Lamp - W19- and Front Passenger Reading Lamp - W13-
- ❑ Removing and installing. Refer to ⇒ ["1.24 Front Interior Lamp W1 Bulb, Removing and Installing", page 252](#) .
- ❑ Bulb for Front Interior Lamp - WX1- , Removing and installing. Refer to ⇒ ["1.24 Front Interior Lamp W1 Bulb, Removing and Installing", page 252](#) .
- ❑ Bulb for Driver Reading Lamp - W19- / Front Passenger Reading Lamp - W13- , Removing and installing. Refer to ⇒ ["1.24 Front Interior Lamp W1 Bulb, Removing and Installing", page 252](#) .



1.7 Glove Compartment Lamp - W6- , Removing and Installing

For a Glove Compartment Lamp - W6- the lamp must be replaced if there is a faulty LED



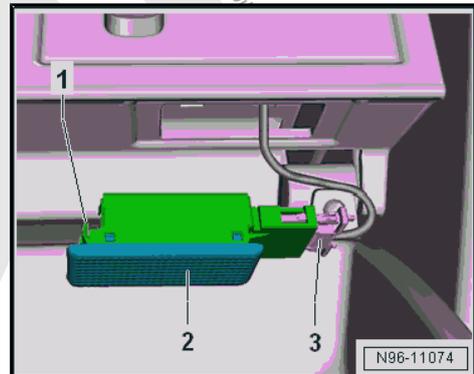
Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Push the retaining tab -1- with a flat-head screwdriver and pry up the glove compartment lamp -2-.
- Disconnect the connector -3-.

Installing

Install in the reverse order of removal while paying attention to the following:

- Insert the glove compartment lamp into the opening and engage on the opposite side.
- Perform a function test.

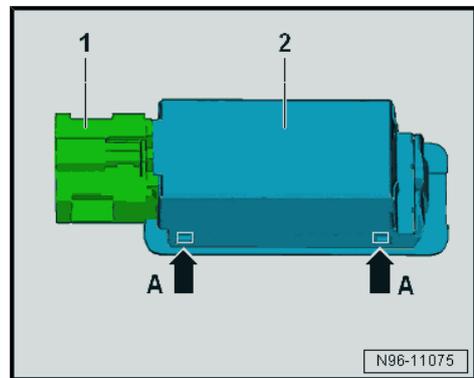


1.8 Bulb for Glove Compartment Lamp - W6- , Replacing

For a Glove Compartment Lamp - W6- the lamp must be replaced if there is a faulty LED

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the Glove Compartment Lamp - W6- . Refer to [⇒ "1.7 Glove Compartment Lamp W6 , Removing and Installing", page 241](#) .
- Pry up the heat shield -2- when necessary on both sides arrows -A-.
- Remove the heat shield -2- from the Glove Compartment Lamp - W6- -1-.

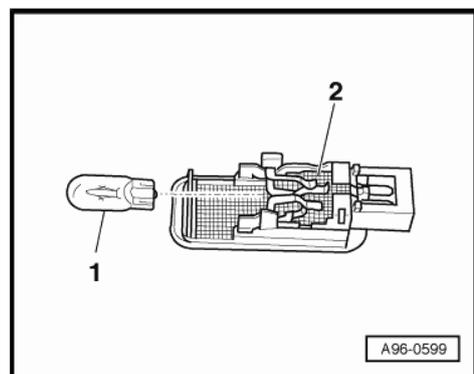


- Remove the bulb -1- from the bulb socket -2- on the back of the glove compartment lamp.

Installing

Install in reverse order of removal.

- Perform a function test.





1.9 Left/Right Front Footwell Lamp -K268- / -K269- , Removing and Installing

⇒ [“1.9.1 Left Front Footwell Lamp K268 , Removing and Installing, Driver Side”, page 243](#)

⇒ [“1.9.2 Right Front Footwell Lamp K269 , Removing and Installing, Front Passenger Side”, page 243](#)

1.9.1 Left Front Footwell Lamp - K268- , Removing and Installing, Driver Side

For a footwell lamp the lamp must be replaced if there is a faulty LED.

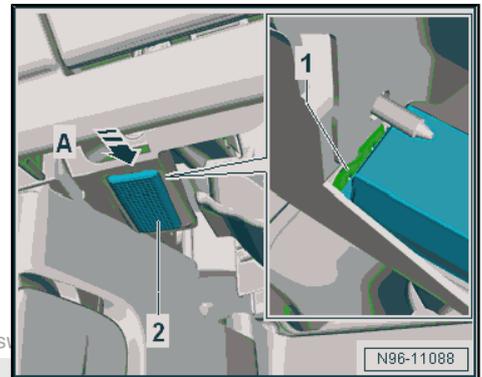
Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Press the retaining tab -1- in the area of the -arrow A- with a flat-head screwdriver.
- Pry up the footwell lamp -2-.
- Disengage the connector and disconnect.

Installing

Install in reverse order of removal.

- Perform a function test.



1.9.2 Right Front Footwell Lamp - K269- , Removing and Installing, Front Passenger Side

For a footwell lamp the lamp must be replaced if there is a faulty LED.

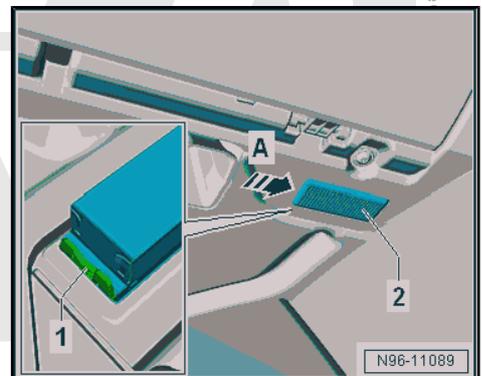
Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Press the retaining tab -1- in the area of the -arrow A- with a flat-head screwdriver.
- Pry up the footwell lamp -2-.
- Disengage the connector and disconnect.

Installing

Install in reverse order of removal.

- Perform a function test.



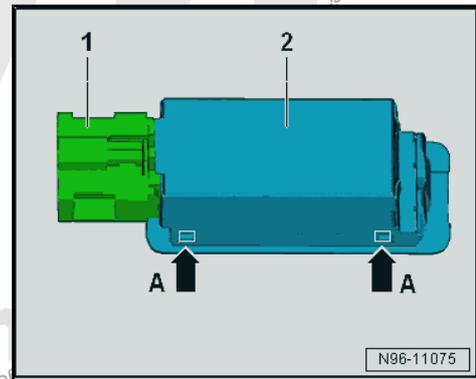


1.10 Left/Right Front Footwell Illumination Bulb -L151- / -L152- , Removing and Installing

For a front footwell lamp the lamp must be replaced if there is a faulty LED.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the Left/Right Front Footwell Lamp -K268- / -K269- . Refer to [⇒ "1.9 Left/Right Front Footwell Lamp K268 / K269 , Removing and Installing", page 243](#) .
- Pry up the heat shield -2- when necessary on both sides arrows -A-.
- Remove the heat shield -2- from the footwell lamp -1-.

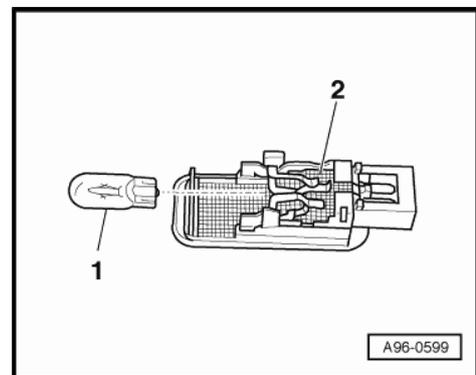


- Remove the bulb -1- from the bulb socket -2- on the back of the glove compartment lamp.

Installing

Install in reverse order of removal.

- Perform a function test.



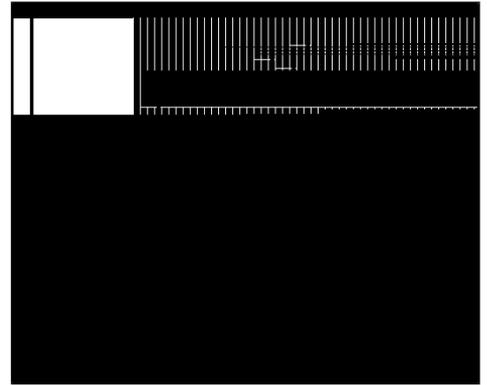
1.11 Central Locking -Safe- Indicator Lamp - K133- , Removing and Installing

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the front door trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Front Door Trim Panels; Front Door Trim Panel, Removing and Installing .



- Press the tabs -arrows- and remove the Central Locking -Safe- Indicator Lamp - K133- -1- from the door trim panel.

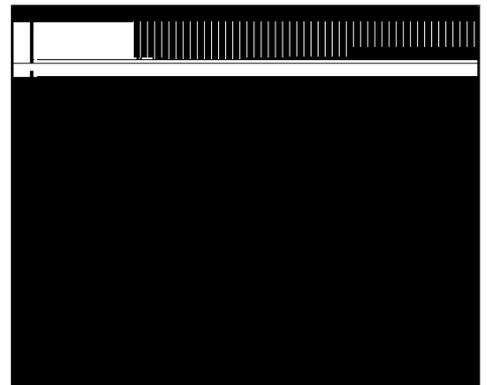


- Release and disconnect the connector -1- from the Central Locking -Safe- Indicator Lamp - K133- -2-.

Installing

Install in reverse order of removal.

- Perform a function test.



1.12 Left/Right Front Entry Lamp -W31- / -W32- , Removing and Installing

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-

Removal and installation for all entry lamps is performed in the same way and is only described for one lamp.

- ◆ Left Front Entry Lamp - W31-
- ◆ Right Front Entry Lamp - W32-
- ◆ Left Rear Entry Lamp - W33-
- ◆ Right Rear Entry Lamp - W34-

Check the entry lamps using the output diagnostic test mode on each door control module.



Caution

Risk of damaging the component surfaces.

- ◆ ***When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.***

Removing

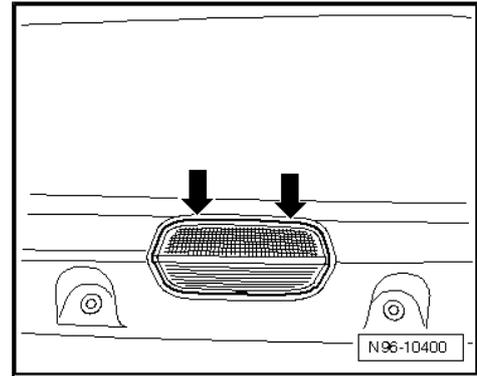
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Pry out the lamp carefully using -3409- or a screwdriver.



- Disconnect the connector and remove the lamp.

Installing

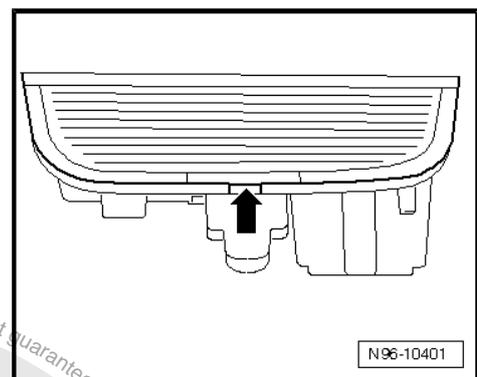
Install in reverse order of removal.



1.13 Entry Lamp Bulb, Removing and Installing

Removing

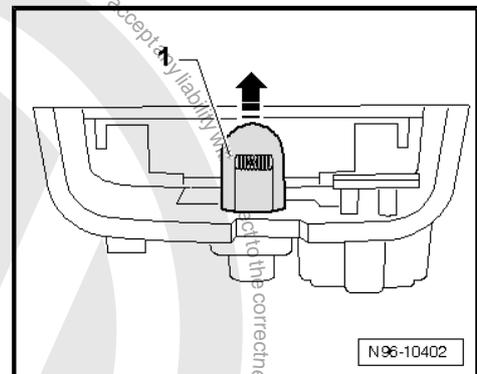
- Remove the front entry lamp. Refer to [⇒ "1.12 Left/Right Front Entry Lamp W31 / W32 , Removing and Installing", page 245](#) .
- Pry the diffusion lens carefully out of the housing in direction of -arrow-.



- Remove the bulb -1- straight out of the socket.

Installing

Install in reverse order of removal.



1.14 Driver/Front Passenger Door Warning Lamp -W30- / -W36- , Removing and Installing

The door warning lamp and the entry lamp make up one component. The can be remove and installed together.

- Entry Lamp, Removing and installing. Refer to [⇒ "1.12 Left/Right Front Entry Lamp W31 / W32 , Removing and Installing", page 245](#)

1.15 Driver/Front Passenger Door Opener Illumination Bulb -L108- / -L109- , Removing and Installing

The removal and installation is described for the left side. Removing and installing on the right side is identical.



 **Caution**

There is a risk of damaging the fiber-optic cable.

◆ *Only touch the fiber-optic cable on the light fittings in the area of the interior door mechanism.*

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the front door trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Front Door Trim Panels; Front Door Trim Panel, Removing and Installing .

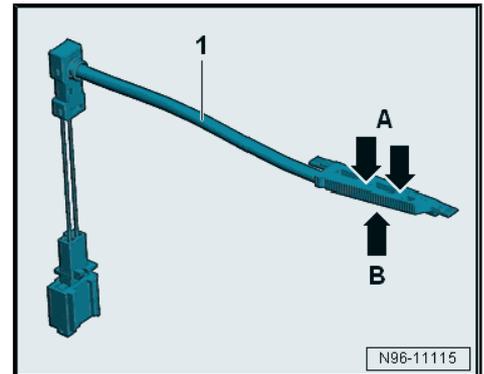
Finger Position on the Fiber-Optic Cable

1 - Fiber-optic cable

A - Index and middle fingers

B - Thumb

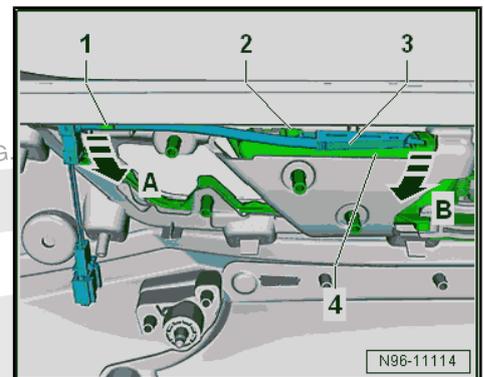
- Disengage the connector and disconnect.
- Disengage the fiber-optic cable on the front bracket -1- in the direction of the arrow -A-.
- Carefully lift the fiber-optic cable -3- in the direction of the arrow -B- and pivot from the interior door mechanism -4-.
- Remove the fiber-optic cable from the mount -2-.



Installing

Install in reverse order of removal.

- Perform a function test.



1.16 Left/Right Front Door Ambient Lighting Bulb 2 - L203- / -L204- , Removing and Installing

The Left Front Door Ambient Lighting Bulb 2 - L203- and the Right Front Door Ambient Lighting Bulb 2 - L204- are integrated in the door trim panel decorative strip and cannot be replaced individually.

- Remove the front door trim panel decorative strip. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Front Door Trim Panels; Overview - Front Door Trim Panel .

1.17 Left/Right Rear Entry Lamp -W33- / -W34- , Removing and Installing

Removal and installation for all entry lamps is performed in the same way and is only described for one lamp.



- Entry Lamp, Removing and installing. Refer to [⇒ "1.12 Left/Right Front Entry Lamp W31 / W32 , Removing and Installing", page 245](#) .

1.18 Left/Right Rear Door Warning Lamp - W37- / -W38- , Removing and Installing

The door warning lamp and the entry lamp make up one component. The can be remove and installed together.

- Entry Lamp, Removing and installing. Refer to [⇒ "1.12 Left/Right Front Entry Lamp W31 / W32 , Removing and Installing", page 245](#) .

1.19 Selector Lever Transmission Range Position Display Unit - Y26- , Removing and Installing

The Selector Lever Transmission Range Position Display Unit - Y26- -1- is integrated in the selector lever boot and cannot be replaced individually.

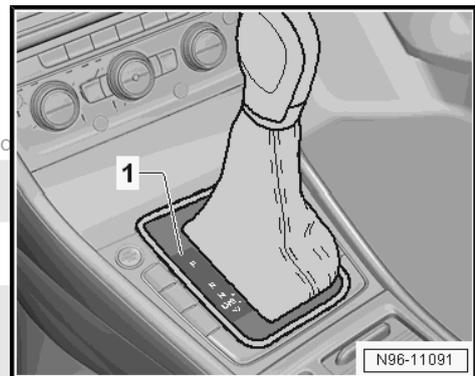
Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the selector lever boot. Refer to [Rep. Gr. 34 ; Selector Mechanism; Selector Lever Handle, Removing and Installing](#) .

Installing

Install in reverse order of removal.

- Perform a function test.



1.20 Luggage Compartment Lamp - W3- , Removing and Installing

⇒ ["1.20.1 Luggage Compartment Lamp W3 , Removing and Installing, Sedan", page 248](#)

⇒ ["1.20.2 Luggage Compartment Lamp W3 , Removing and Installing, Wagon", page 249](#)

1.20.1 Luggage Compartment Lamp - W3- , Removing and Installing, Sedan



Caution

Risk of damaging the component surfaces.

- ◆ **When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.**

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.

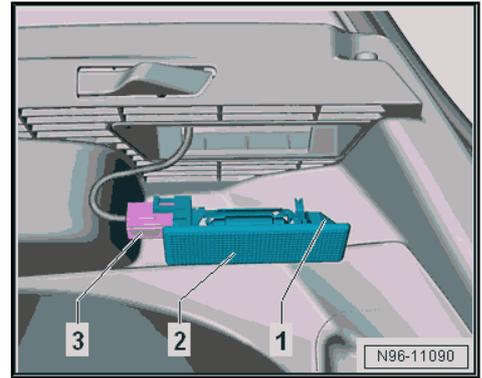


- Push the retaining tab -1- with a flat-head screwdriver and pry up the Luggage Compartment Lamp - W3- -2-.
- Disconnect the connector -3-.

Installing

Install in the reverse order of removal while paying attention to the following:

- Insert the luggage compartment lamp into the opening and engage on the opposite side.
- Perform a function test.



1.20.2 Luggage Compartment Lamp - W3- Removing and Installing, Wagon

Removing

 **Caution**

Risk of damaging the component surfaces.

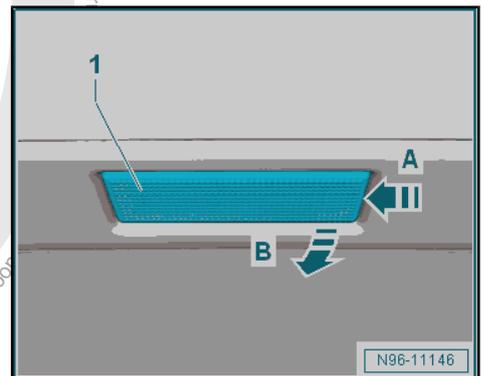
◆ *When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.*

- Push the Luggage Compartment Lamp - W3- -1- in the direction of the -arrow A- with a flat-head screwdriver.
- Fold the Luggage Compartment Lamp - W3- in the direction of the -arrow B- out of the roof trim panel.
- Release and disconnect the connector -3-.

Installing

Install in the reverse order of removal while paying attention to the following:

- Insert the luggage compartment lamp into the opening and engage on the opposite side.
- Perform a function test.



1.21 Bulb for Luggage Compartment Lamp - W3- , Removing and Installing

⇒ [“1.21.1 Bulb for Luggage Compartment Lamp W3 , Removing and Installing, Sedan”, page 249](#)

⇒ [“1.21.2 Bulb for Luggage Compartment Lamp W3 , Removing and Installing, Wagon”, page 250](#)

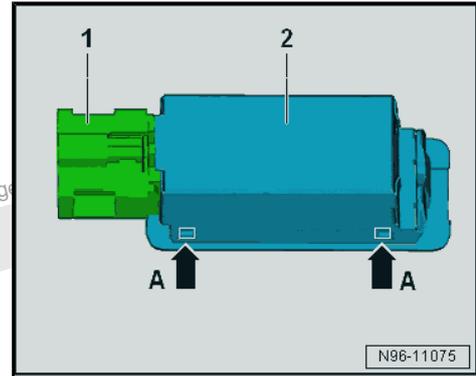
1.21.1 Bulb for Luggage Compartment Lamp - W3- , Removing and Installing, Sedan

Removing

- Remove the Luggage Compartment Lamp - W3- . Refer to ⇒ [“1.20.1 Luggage Compartment Lamp W3 , Removing and Installing, Sedan”, page 248](#) .



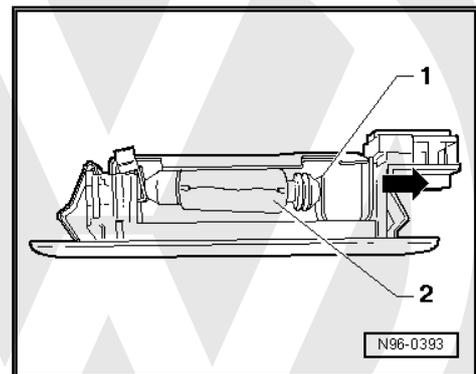
- Pry up the heat shield -2- when necessary on both sides at both arrows -A-.
- Remove the heat shield -2- from the Luggage Compartment Lamp - W3- -1-.
- Push the contact plate -1- for the lamp in the direction of -arrow-.



- Remove the tubular bulb -2- out of the bulb socket.

Installing

Install in reverse order of removal.



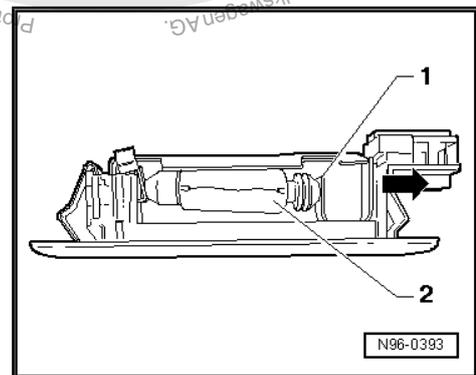
1.21.2 Bulb for Luggage Compartment Lamp - W3- , Removing and Installing, Wagon

Removing

- Remove the Luggage Compartment Lamp - W3- . Refer to => ["1.20.2 Luggage Compartment Lamp W3 , Removing and Installing, Wagon"](#) , page 249 .
- Push the contact plate -1- for the lamp in the direction of -arrow-.
- Remove the tubular bulb -2- out of the bulb socket.

Installing

Install in reverse order of removal.



1.22 Driver/Front Passenger Vanity Mirror Lamp -W20- / -W14- , Removing and Installing

The removal and installation is described for the left side. Removing and installing on the right side is identical.

For the vanity mirror illumination the lamp must be completely replaced if there is a faulty LED.



 **Caution**

Risk of damaging the component surfaces.

◆ *When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.*

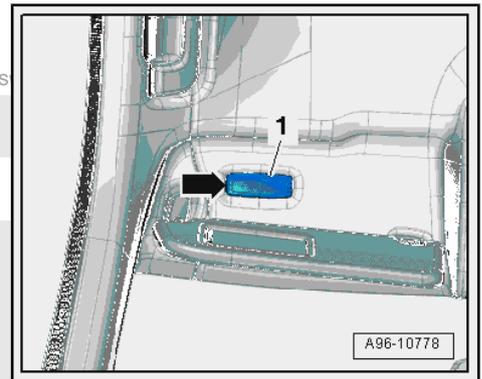
Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Swivel the sun visor forward.
- Pry out the vanity mirror illumination -1- at the cut-out -arrow B- using a flat-blade screwdriver.
- Disengage the connector and disconnect.

Installing

Install in the reverse order of removal while paying attention to the following:

- Insert the vanity mirror lamp into the opening and latch it on the opposite side.
- Perform a function test.



1.23 Driver/Front Passenger Vanity Mirror Lamp -W20- / -W14- Bulb, Removing and Installing

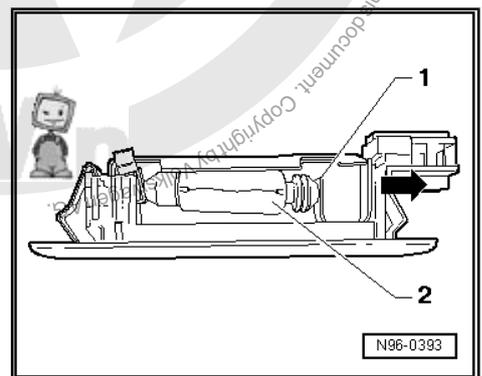
For the vanity mirror illumination the lamp must be completely replaced if there is a faulty LED.

Removing

- Remove the illuminated vanity mirror. Refer to ⇒ ["1.22 Driver/Front Passenger Vanity Mirror Lamp W20 / W14 , Removing and Installing", page 250](#) .
- Push the contact plate -1- for the lamp in the direction of -arrow-.
- Remove the tubular bulb -2- out of the bulb socket.

Installing

Install in reverse order of removal.





1.24 Front Interior Lamp - W1- Bulb, Removing and Installing

⇒ "1.24.1 Front Interior Lamp W1 Bulb, Removing and Installing, LED", page 252

⇒ "1.24.2 Front Interior Lamp W1 Bulb, Removing and Installing, with Bulbs", page 252

1.24.1 Front Interior Lamp - W1- Bulb, Removing and Installing, LED

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-

The bulb for the Front Interior Lamp - WX1- and the bulb for the Driver Reading Lamp - W19- / Front Passenger Reading Lamp - W13- are the same component.

If the Front Interior Lamp - WX1- and Driver Reading Lamp - W19- / Front Passenger Reading Lamp - W13- is faulty, the diffusion lens must be replaced.



Caution

Risk of damaging the component surfaces.

- ◆ *When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.*

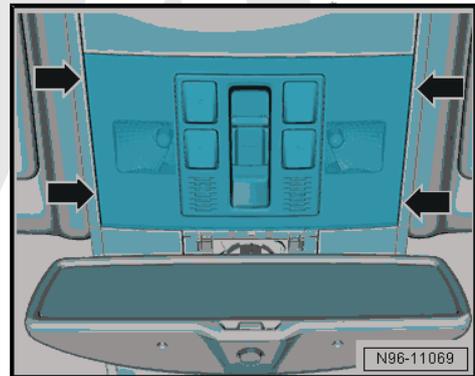
Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Pry the diffusion lens in the marked areas -arrows- using the -3409- from the Front Interior Lamp - W1- .
- Release and disconnect the connectors.

Installing

Install in reverse order of removal.

- Perform a function test.



1.24.2 Front Interior Lamp - W1- Bulb, Removing and Installing, with Bulbs

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-

The bulb for the Front Interior Lamp - WX1- and the bulb for the Driver Reading Lamp - W19- / Front Passenger Reading Lamp - W13- are the same component.



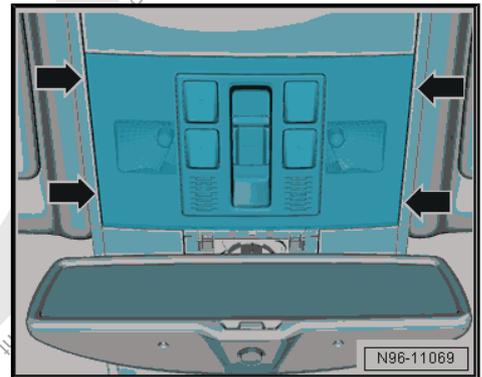
Caution

Risk of damaging the component surfaces.

◆ *When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.*

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Pry the diffusion lens in the marked areas -arrows- using the -3409- from the Front Interior Lamp - W1- .



- Remove the bulb -1- in the direction of the -arrow A- from the bulb socket.

Installing

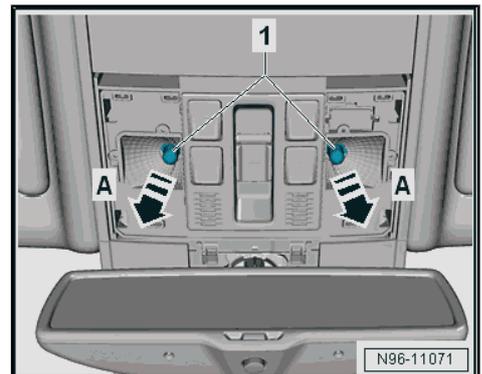
Install in the reverse order of removal while paying attention to the following:

Caution

There is a risk of damaging the bulb.

◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*

◆ *Use clean cloth gloves to insert the bulbs.*



- Perform a function test.

1.25 Rear Interior Lamp - W43- Bulb, Removing and Installing

⇒ [“1.25.1 Rear Interior Lamp W43 Bulb, Removing and Installing, with Bulbs”, page 253](#)

⇒ [“1.25.2 Rear Interior Lamp W43 Bulb, Removing and Installing, LED”, page 254](#)

1.25.1 Rear Interior Lamp - W43- Bulb, Removing and Installing, with Bulbs

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-

The Rear Interior Lamp - W43- bulb and the Left Rear Reading Lamp - W11- and Right Rear Reading Lamp - W12- bulb are one component.



Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Pry up the diffusion lens -3- for the Rear Interior Lamp - W43- using the -3409- .
- Remove the bulb -1- in the direction of the -arrow A- from the bulb socket -2-.

Installing

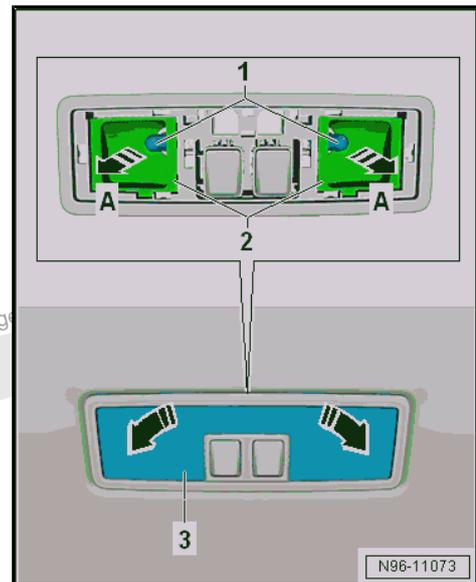
Install in the reverse order of removal while paying attention to the following:



Caution

There is a risk of damaging the bulb.

- ◆ *Do not touch glass cone of bulb with bare fingers. Fingers will leave traces of grease on the glass which, when the bulb is switched on, will evaporate and cloud the glass.*
- ◆ *Use clean cloth gloves to insert the bulbs.*



- Perform a function test.

1.25.2 Rear Interior Lamp - W43- Bulb, Removing and Installing, LED

The Rear Interior Lamp - W43- bulb and the Left Rear Reading Lamp - W11- and Right Rear Reading Lamp - W12- bulb are one component.

The entire interior lamp must be replaced if the Rear Interior Lamp - W43- is faulty.

- Rear Interior Lamp - W43- removing and installing. Refer to ⇒ ["2.31 Rear Interior Lamp/Reading Lamp, Removing and Installing", page 275](#) .
- Perform a function test.

1.26 Left/Right Rear Reading Lamp - W11- / - W12- , Removing and Installing

The Left Rear Reading Lamp - W11- bulb and the Rear Interior Lamp - W43- bulb are the same component.

- Left Rear Reading Lamp - W11- / Right Rear Reading Lamp - W12- bulb removing and installing. Refer to ⇒ ["1.25 Rear Interior Lamp W43 Bulb, Removing and Installing", page 253](#) .

1.27 Left/Right Rear Interior Lamp -W47- / - W48- , Replacing

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-

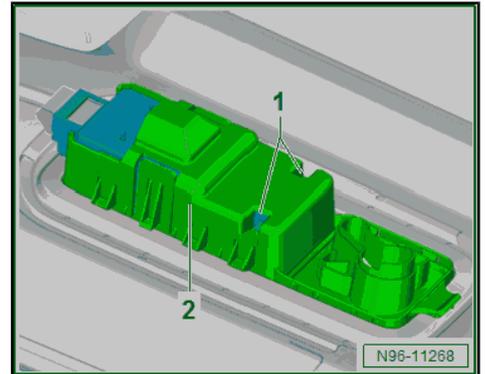


Note

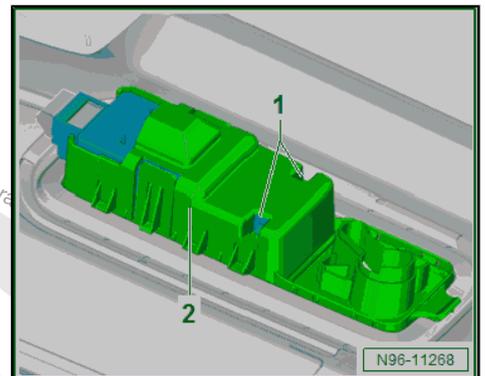
The entire interior lamp must be replaced if there is a defective bulb in the Left Rear Interior Lamp - W47- / Right Rear Interior Lamp - W48- .

Removing

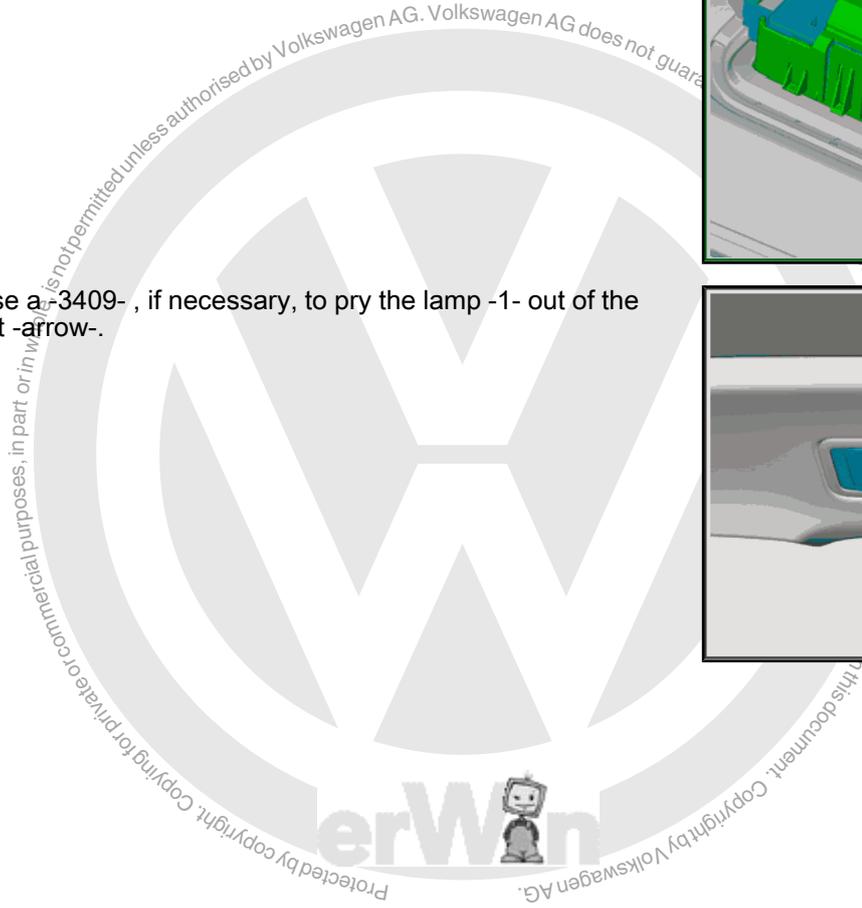
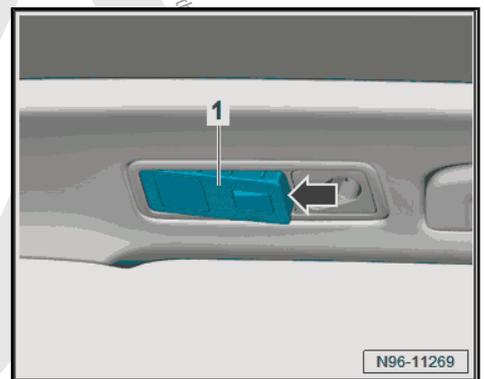
- Remove the headliner. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Roof Trim Panels; Headliner, Removing and Installing .
- Handle the headliner carefully and lay it on a clean surface.
- If equipped, remove adhesive on the catches -1- with a suitable tool.



- Press the catches -1- and tilt the interior lamp out of the bracket -2-.



- Also use a -3409- , if necessary, to pry the lamp -1- out of the bracket -arrow-.

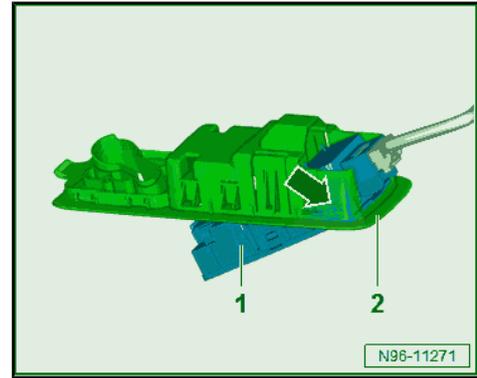


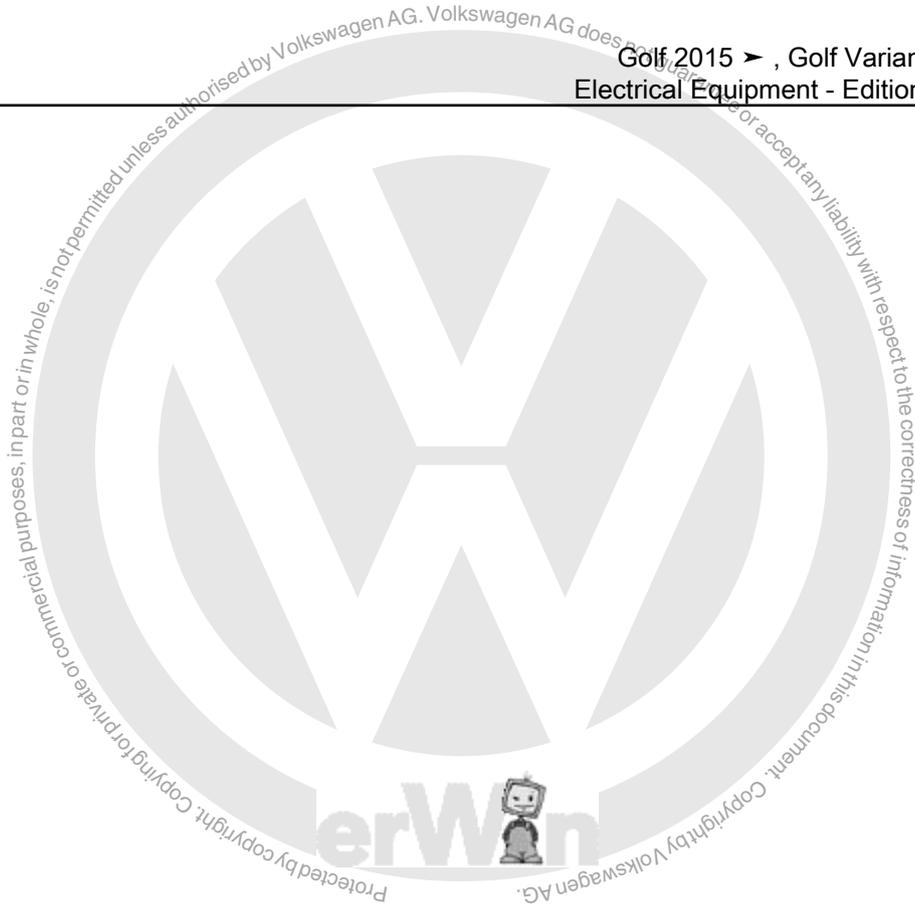


- Unclip the interior lamp -1- at the pivot points -arrow- on both sides of the lamp out of the bracket -2- using the -3409- .
- Disconnect the connector from the interior lamp.

Installing

Install in reverse order of removal.







2 Controls

- ⇒ [“2.1 Component Location Overview - Instrument Panel Controls”, page 259](#)
- ⇒ [“2.2 Component Location Overview - Controls in Front Doors”, page 260](#)
- ⇒ [“2.3 Component Location Overview - Controls in Rear Doors”, page 261](#)
- ⇒ [“2.4 Component Location Overview - Controls in Center Console”, page 262](#)
- ⇒ [“2.5 Component Location Overview - Controls in Luggage Compartment”, page 263](#)
- ⇒ [“2.6 Component Location Overview - Controls in Roof Trim Panel”, page 264](#)
- ⇒ [“2.7 Rotary Light Switch EX1 , Removing and Installing”, page 265](#)
- ⇒ [“2.8 Headlamp Range Control Adjuster E102 , Removing and Installing”, page 265](#)
- ⇒ [“2.9 Driving Profile Selection Button E735 , Removing and Installing”, page 266](#)
- ⇒ [“2.10 Start/Stop Mode Button E693 , Removing and Installing”, page 266](#)
- ⇒ [“2.11 ASR/ESP Button E256 , Removing and Installing”, page 266](#)
- ⇒ [“2.12 Parking Aid Button E266 , Removing and Installing”, page 266](#)
- ⇒ [“2.13 Parallel Parking Assistance Button E581 , Removing and Installing”, page 266](#)
- ⇒ [“2.14 Center Console Switch Module 1 and 2 EX23 / EX30 , Removing and Installing”, page 267](#)
- ⇒ [“2.15 Emergency Flasher Switch EX3 , Removing and Installing”, page 268](#)
- ⇒ [“2.16 Left/Right Seat Heating Button E653 / E654 , Removing and Installing”, page 269](#)
- ⇒ [“2.17 Glove Compartment Lamp Switch E26 , Removing and Installing”, page 269](#)
- ⇒ [“2.18 Exterior Rearview Mirror Adjuster EX11 , Removing and Installing”, page 269](#)
- ⇒ [“2.19 Power Window Control Head in Driver Door E512 , Removing and Installing”, page 270](#)
- ⇒ [“2.20 Front Passenger Power Window Button E716 , Removing and Installing”, page 271](#)
- ⇒ [“2.21 Driver Interior Locking Button E308 , Removing and Installing”, page 271](#)
- ⇒ [“2.22 Interior Monitoring And Vehicle Inclination Deactivation Button E616 , Removing and Installing”, page 272](#)
- ⇒ [“2.23 Driver and Front Passenger Door Contact Switch F2 / F3 , Removing and Installing”, page 273](#)
- ⇒ [“2.24 Driver and Passenger Side Rear Power Window Button E711 / E713 , Removing and Installing”, page 273](#)
- ⇒ [“2.25 Left/Right Rear Door Contact Switch F10 / F11 , Removing and Installing”, page 273](#)



⇒ [“2.26 Start System Button E378 , Removing and Installing”](#), page 273

⇒ [“2.27 Rear Lid Contact Switch, Removing and Installing”](#), page 274

⇒ [“2.28 Driver and Front Passenger Vanity Mirror Lamp Contact Switch F147 / F148 , Removing and Installing”](#), page 274

⇒ [“2.29 Sunroof Button E325 , Removing and Installing”](#), page 274

⇒ [“2.30 Front Interior Lamp/Reading Lamp, Removing and Installing”](#), page 275

⇒ [“2.31 Rear Interior Lamp/Reading Lamp, Removing and Installing”](#), page 275

⇒ [“2.32 Left/Right Front Reading Lamp Button E633 / E634 , Removing and Installing”](#), page 277

2.1 Component Location Overview - Instrument Panel Controls

1 - Emergency Flasher Switch - EX3-

- ❑ Removing and installing. Refer to ⇒ [“2.15 Emergency Flasher Switch EX3, Removing and Installing”](#), page 268 .

2 - Glove Compartment Lamp Switch - E26-

- ❑ Removing and installing. Refer to ⇒ [“2.17 Glove Compartment Lamp Switch E26, Removing and Installing”](#), page 269 .

3 - Front Passenger Airbag Deactivation Key Switch - E224-

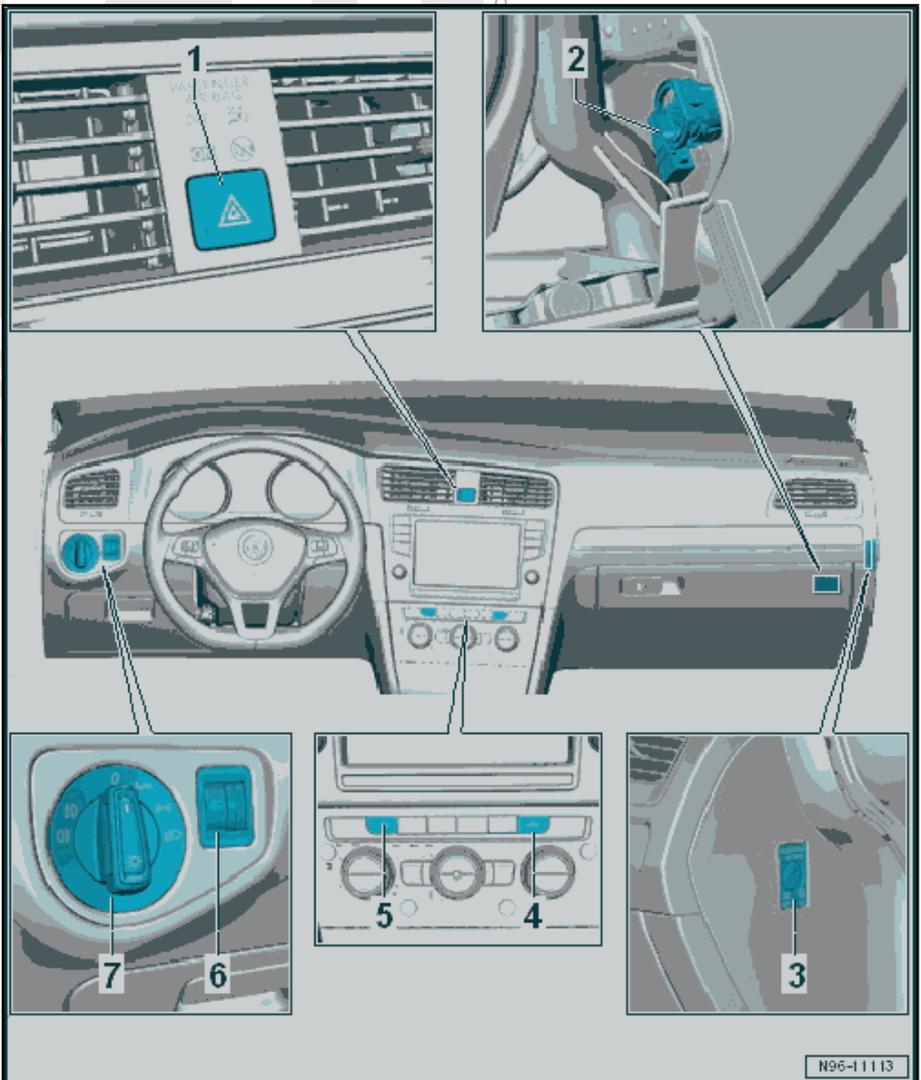
- ❑ Removing and installing. Refer to ⇒ Body Interior; Rep. Gr. 69 ; Front Passenger Airbag; Front Passenger Airbag Deactivation Key Switch, Removing and Installing .

4 - Right Seat Heating Button - E654-

- ❑ Integrated in the display control head:
- ◆ Heater Control Module - J65- or
- ◆ A/C Control Module - J301- or
- ◆ Climatronic Control Module - J255-

- ❑ Cannot be replaced separately if faulty.

- ❑ Heater Control Module - J65- / A/C Control Module - J301- / Climatronic Control Module - J255- removing and installing. Refer to ⇒ Heating, Ventilation, and Air Conditioning; Rep. Gr. 87 ; Component Location Overview - Display And Control Unit .





5 - Left Seat Heating Button - E653-

- ❑ Integrated in the display control head:
- ◆ Heater Control Module - J65- or
- ◆ A/C Control Module - J301- or
- ◆ Climatronic Control Module - J255-
 - ❑ Cannot be replaced separately if faulty.
 - ❑ Heater Control Module - J65- / A/C Control Module - J301- / Climatronic Control Module - J255- removing and installing. Refer to ⇒ Heating, Ventilation, and Air Conditioning; Rep. Gr. 87 ; Component Location Overview - Display And Control Unit .

6 - Headlamp Range Control Adjuster - E102-

- ❑ Removing and installing. Refer to ⇒ ["2.8 Headlamp Range Control Adjuster E102 , Removing and Installing", page 265](#)

7 - Rotary Light Switch - EX1-

- ❑ Removing and installing. Refer to ⇒ ["2.7 Rotary Light Switch EX1 , Removing and Installing", page 265](#) .

2.2 Component Location Overview - Controls in Front Doors

1 - Driver Interior Locking Button - E308-

- ❑ Removing and installing. Refer to ⇒ ["2.21 Driver Interior Locking Button E308 , Removing and Installing", page 271](#) .

2 - Exterior Rearview Mirror Adjuster - EX11-

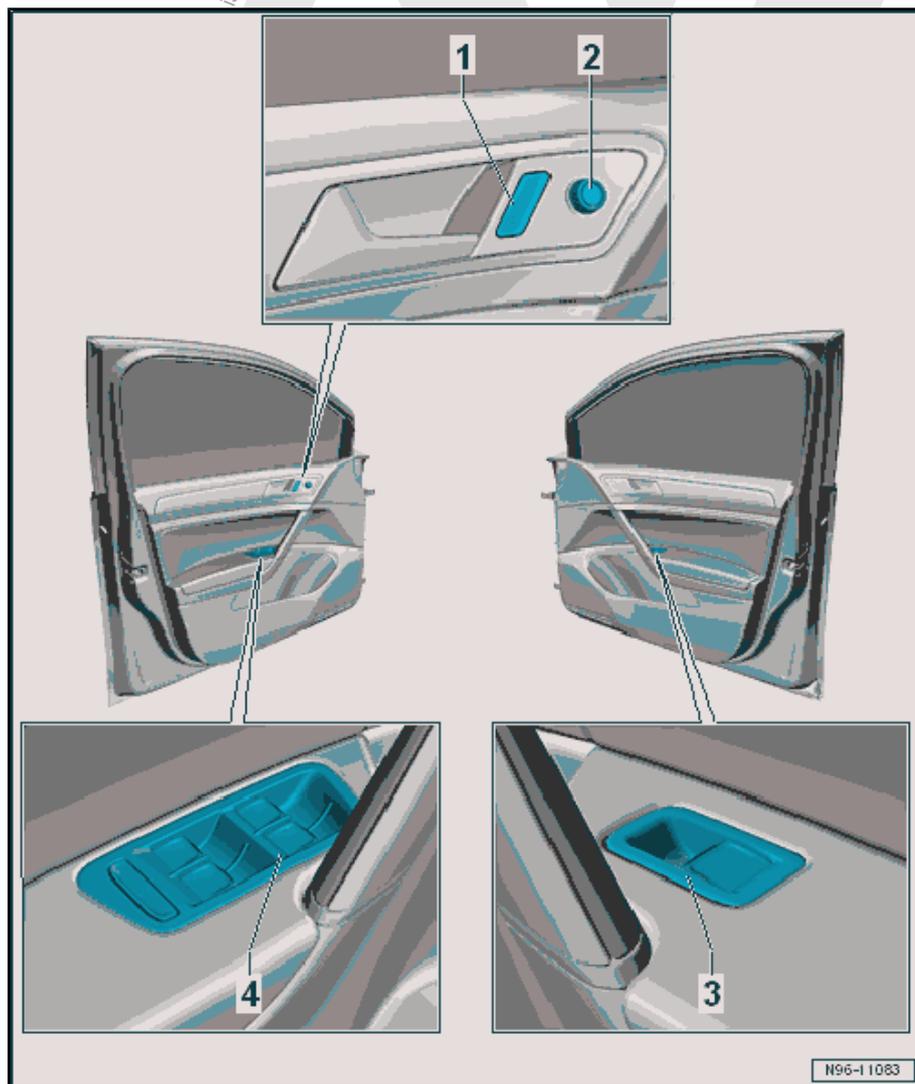
- ❑ Removing and installing. Refer to ⇒ ["2.18 Exterior Rearview Mirror Adjuster EX11 , Removing and Installing", page 269](#) .

3 - Front Passenger Power Window Button - E716-

- ❑ Removing and installing. Refer to ⇒ ["2.20 Front Passenger Power Window Button E716 , Removing and Installing", page 271](#) .

4 - Power Window Control Head In Driver Door - E512-

- ❑ With:
- ◆ Driver Power Window Button - E710-
- ◆ Front Passenger Power Window Button - E716-
- ◆ Driver Side Rear Power Window Button - E711-
- ◆ Passenger Side Rear Power Window Button - E713-



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- ◆ Child Safety Lock Button - E318-
 - Removing and installing. Refer to
⇒ ["2.19 Power Window Control Head in Driver Door E512 , Removing and Installing", page 270](#) .

No Illustration

- ◆ Interior Monitoring and Vehicle Inclination Deactivation Button - E616- . Refer to
⇒ ["2.22 Interior Monitoring And Vehicle Inclination Deactivation Button E616 , Removing and Installing", page 272](#) .
- ◆ Driver Door Contact Switch - F2- and Front Passenger Door Contact Switch - F3- . Refer to
⇒ ["2.23 Driver and Front Passenger Door Contact Switch F2 / F3 , Removing and Installing", page 273](#) .

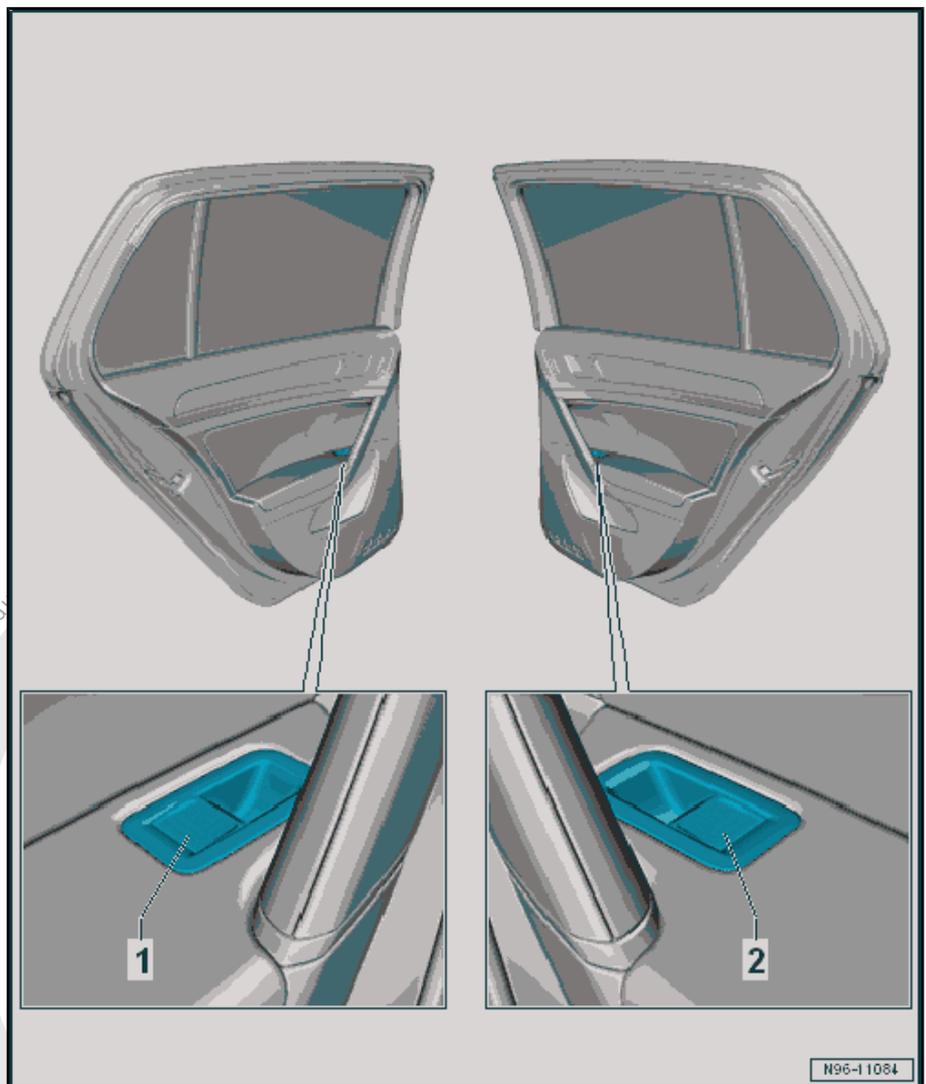
2.3 Component Location Overview - Controls in Rear Doors

1 - Driver Side Rear Power Window Button - E711-

- Removing and installing. Refer to
⇒ ["2.24 Driver and Passenger Side Rear Power Window Button E711 / E713 , Removing and Installing", page 273](#) .

2 - Passenger Side Rear Power Window Button - E713-

- Removing and installing. Refer to
⇒ ["2.24 Driver and Passenger Side Rear Power Window Button E711 / E713 , Removing and Installing", page 273](#) .



No Illustration

- ◆ Left Rear Door Contact Switch - F10- and Right Rear Door Contact Switch - F11- . Refer to
⇒ ["2.25 Left/Right Rear Door Contact Switch F10 / F11 , Removing and Installing", page 273](#) .



2.4 Component Location Overview - Controls in Center Console

1 - Start System Button - E378-

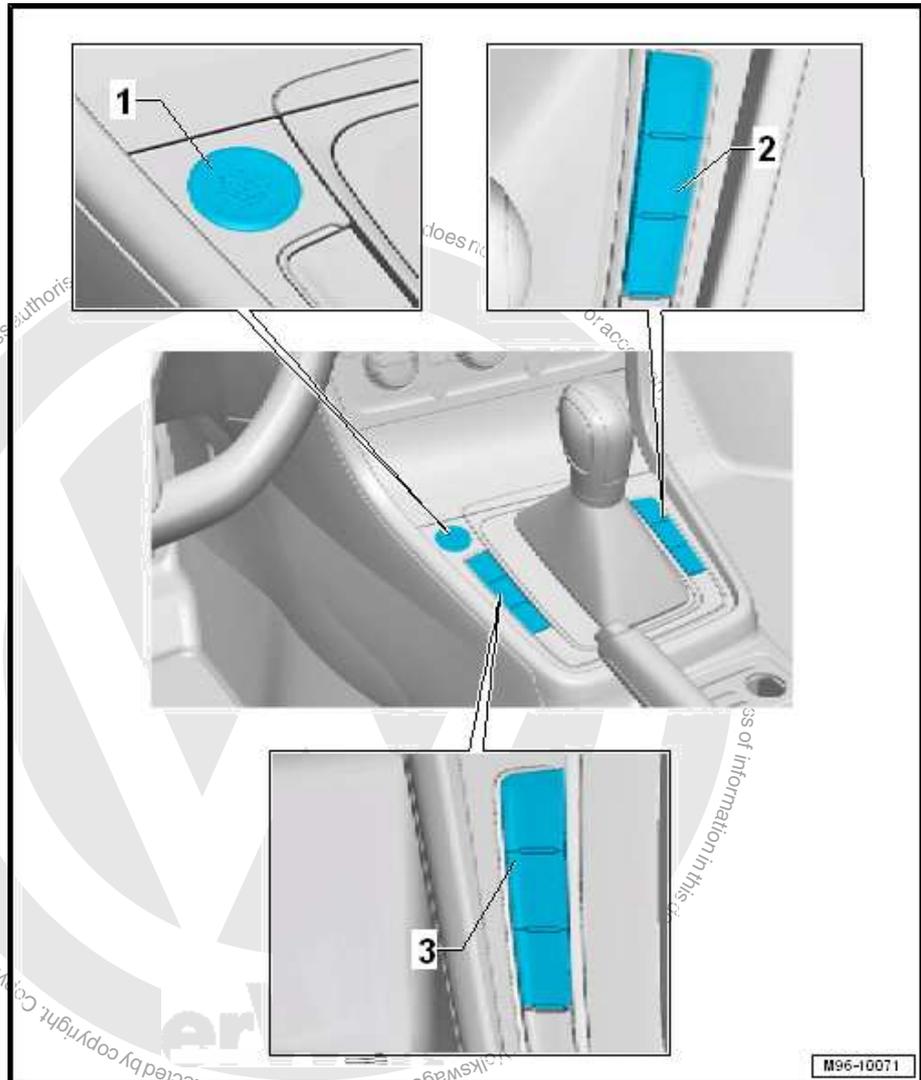
- ❑ Removing and installing. Refer to
⇒ ["2.26 Start System Button E378, Removing and Installing"](#), page 273 .

2 - Center Console Switch Module 2 - EX30-

- ◆ Parking Aid Button - E266-
- ◆ Parallel Parking Assistance Button - E581-
- ❑ The individual buttons are installed in the switch module and cannot be replaced separately.
- ❑ Removing and installing. Refer to
⇒ ["2.14 Center Console Switch Module 1 and 2 EX23 / EX30, Removing and Installing"](#), page 267 .

3 - Center Console Switch Module 1 - EX23-

- ◆ ASR/ESP Button - E256-
- ◆ Driving Program Button - E598-
- ◆ Start/Stop Mode Button - E693-
- ❑ The individual buttons are installed in the switch module and cannot be replaced separately.
- ❑ Removing and installing. Refer to
⇒ ["2.14 Center Console Switch Module 1 and 2 EX23 / EX30, Removing and Installing"](#), page 267 .

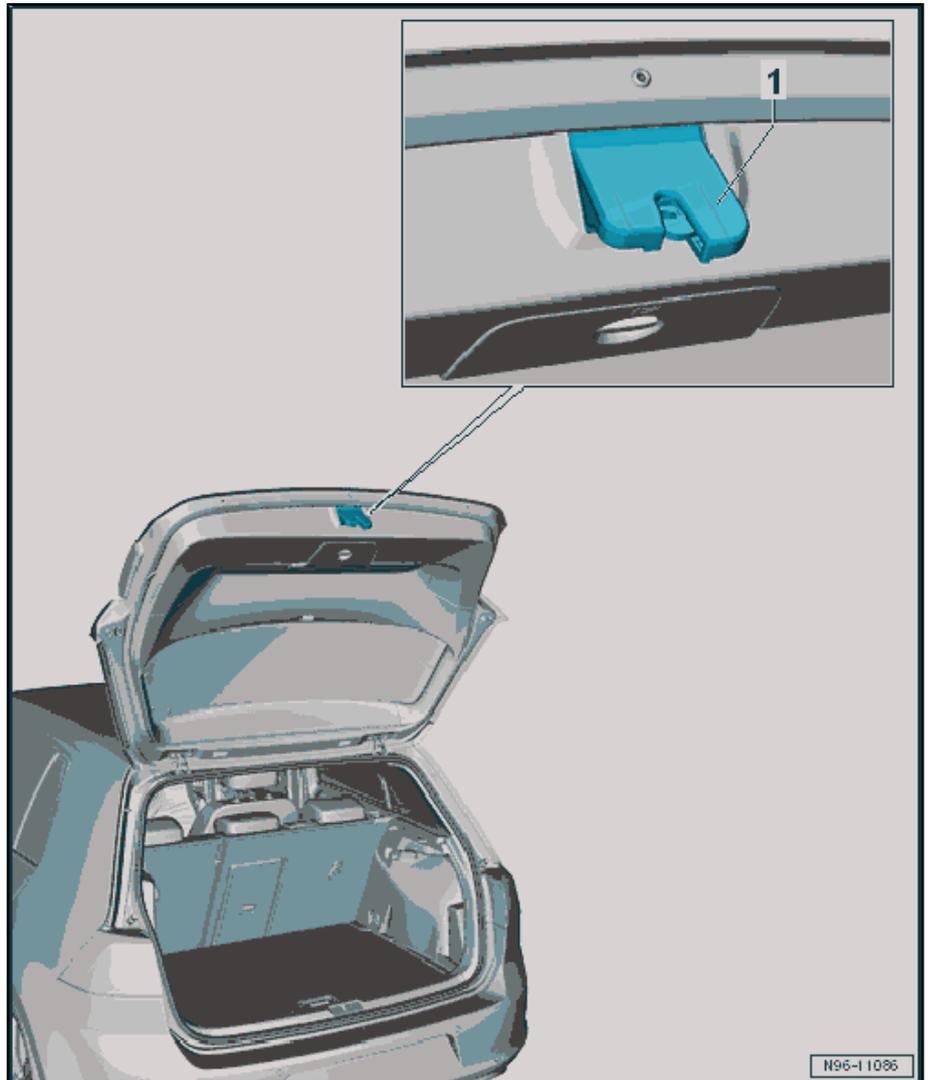




2.5 Component Location Overview - Controls in Luggage Compartment

1 - Rear Lid Contact Switch

- ❑ Rear Lid Alarm Switch - F123-
- ❑ Removing and installing. Refer to [⇒ "2.27 Rear Lid Contact Switch, Removing and Installing", page 274](#) .





2.6 Component Location Overview - Controls in Roof Trim Panel

1 - Driver Vanity Mirror Lamp Contact Switch - F147-

- ❑ Cannot be replaced separately if faulty.
- ❑ Removing and installing. Refer to ⇒ ["2.28 Driver and Front Passenger Vanity Mirror Lamp Contact Switch F147 / F148 , Removing and Installing"](#), page 274 .

2 - Rear Interior Lamp - W43-Button

- ❑ In the Rear Interior Lamp - WX2-
- ❑ Removing and installing. Refer to ⇒ ["2.31 Rear Interior Lamp/Reading Lamp, Removing and Installing"](#), page 275 .

3 - Front Passenger Vanity Mirror Lamp Contact Switch - F148-

- ❑ Cannot be replaced separately if faulty.
- ❑ Removing and installing. Refer to ⇒ ["2.28 Driver and Front Passenger Vanity Mirror Lamp Contact Switch F147 / F148 , Removing and Installing"](#), page 274 .

4 - Rear Interior Lamp - W43-Button

- ❑ In the Front Interior Lamp - WX1-
- ❑ Removing and installing. Refer to ⇒ ["2.30 Front Interior Lamp/Reading Lamp, Removing and Installing"](#), page 275 .

5 - Right Front Reading Lamp Button - E634-

- ❑ In the Front Interior Lamp - WX1-
- ❑ Removing and installing. Refer to ⇒ ["2.32 Left/Right Front Reading Lamp Button E633 / E634 , Removing and Installing"](#), page 277 .

6 - Left Front Reading Lamp Button - E633-

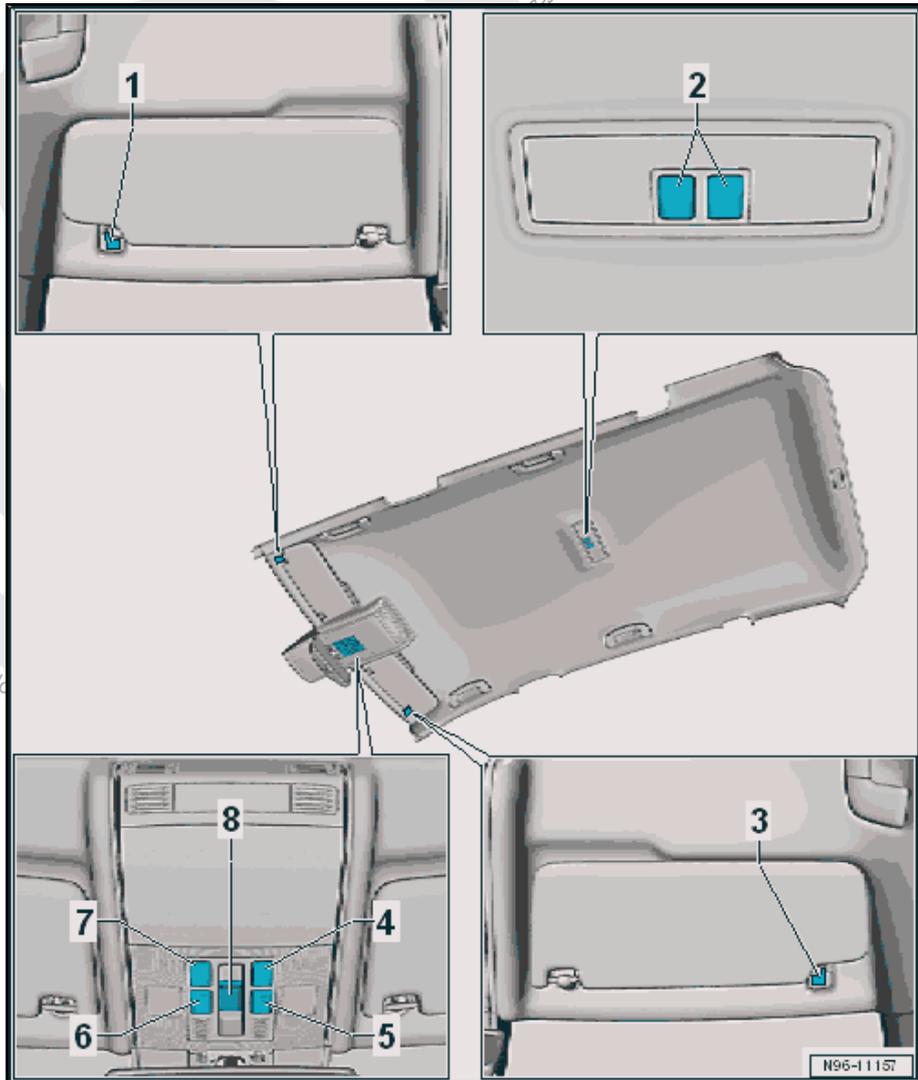
- ❑ In the Front Interior Lamp - WX1-
- ❑ Removing and installing. Refer to ⇒ ["2.32 Left/Right Front Reading Lamp Button E633 / E634 , Removing and Installing"](#), page 277 .

7 - Front Interior Lamp - W1- Button

- ❑ In the Front Interior Lamp - WX1-
- ❑ Removing and installing. Refer to ⇒ ["2.30 Front Interior Lamp/Reading Lamp, Removing and Installing"](#), page 275 .

8 - Sunroof Button - E325-

- ❑ Bolt: 1 Nm
- ❑ In the Front Interior Lamp - WX1-



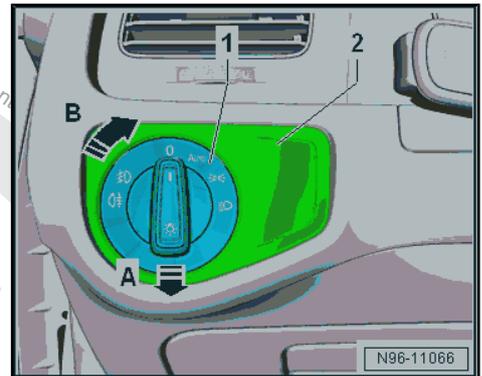


- Removing and installing. Refer to ⇒ [“2.29 Sunroof Button E325 , Removing and Installing”, page 274](#) .

2.7 Rotary Light Switch - EX1- , Removing and Installing

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Push in the Rotary Light Switch - EX1- rotary handle -1- opposite the direction of the -arrow A- and turn in the direction of the -arrow B-.
- Hold the rotary handle -1- in this position.
- Remove the entire Rotary Light Switch - EX1- in the direction of the -arrow A- from the instrument panel.
- Disconnect the connectors -arrow A-.

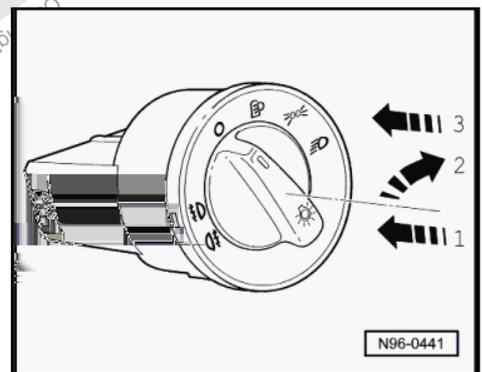
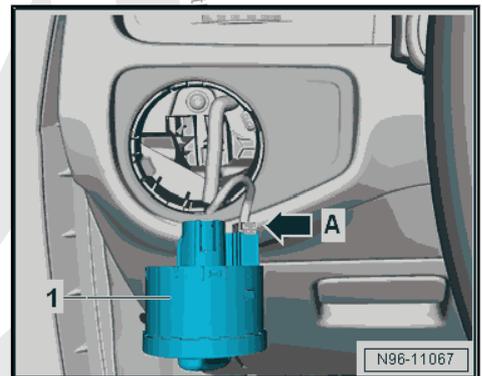


- Remove the Rotary Light Switch - EX1- -1-.

Installing

Install in the reverse order of removal while paying attention to the following:

- Tighten the Rotary Light Switch - EX1- and push in the light switch rotary handle in direction of -arrow 1- and at the same time turn right in direction of -arrow 2-.
- Hold the rotary handle in this position and install the Rotary Light Switch - EX1- in the instrument panel -3-.
- Turn the rotary handle to “0” to lock the switch in the instrument panel.
- Perform a function test.



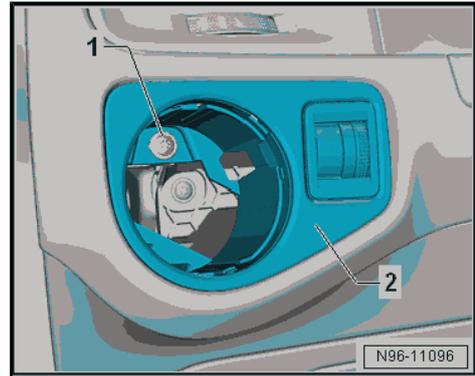
2.8 Headlamp Range Control Adjuster - E102- , Removing and Installing

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the Rotary Light Switch - EX1- . Refer to ⇒ [“2.7 Rotary Light Switch EX1 , Removing and Installing”, page 265](#) .



- Remove the bolt -1-.
- Remove the trim -2- using the Headlamp Range Control Adjuster - E102- from the instrument panel.
- Release and disconnect the connectors.

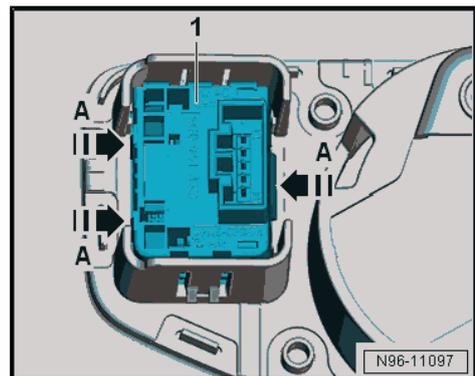


- Push the catches on the Headlamp Range Control Adjuster - E102- -1- in the direction of the -arrow A-.
- Push the Headlamp Range Control Adjuster - E102- -1-.

Installing

Install in reverse order of removal.

- Perform a function test.



2.9 Driving Profile Selection Button - E735- , Removing and Installing

Removing and installing. Refer to
⇒ [“2.14 Center Console Switch Module 1 and 2 EX23 / EX30 , Removing and Installing” , page 267](#) .

2.10 Start/Stop Mode Button - E693- , Removing and Installing

Removing and installing. Refer to
⇒ [“2.14 Center Console Switch Module 1 and 2 EX23 / EX30 , Removing and Installing” , page 267](#) .

2.11 ASR/ESP Button - E256- , Removing and Installing

Removing and installing. Refer to
⇒ [“2.14 Center Console Switch Module 1 and 2 EX23 / EX30 , Removing and Installing” , page 267](#) .

2.12 Parking Aid Button - E266- , Removing and Installing

Removing and installing. Refer to
⇒ [“2.14 Center Console Switch Module 1 and 2 EX23 / EX30 , Removing and Installing” , page 267](#) .

2.13 Parallel Parking Assistance Button - E581- , Removing and Installing

Removing and installing. Refer to
⇒ [“2.14 Center Console Switch Module 1 and 2 EX23 / EX30 , Removing and Installing” , page 267](#) .



2.14 Center Console Switch Module 1 and 2 -EX23- / -EX30- , Removing and Instal- ling

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-

The following buttons are installed on the left and right sides of the selector lever, depending on the vehicle equipment, in two button modules. The same procedure is used to remove and install the following components. The procedure is only described for one button module. A removed button module cannot be disassembled.

Center Console Switch Module 1 - EX23-

- ◆ Driving Profile Selection Button - E735-
- ◆ Start/Stop Mode Button - E693-
- ◆ ASR/ESP Button - E256-

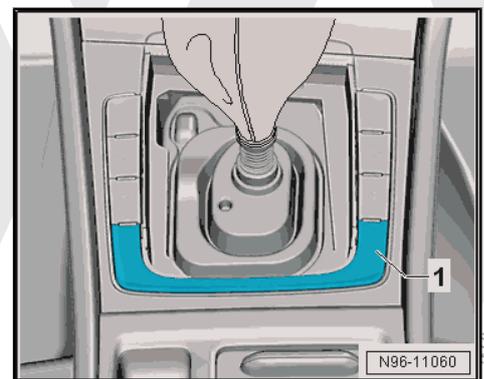
Center Console Switch Module 2 - EX30-

- ◆ Parking Aid Button - E266-
- ◆ Parallel Parking Assistance Button - E581-

**Caution**
Risk of damaging the component surfaces.
◆ *When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.*

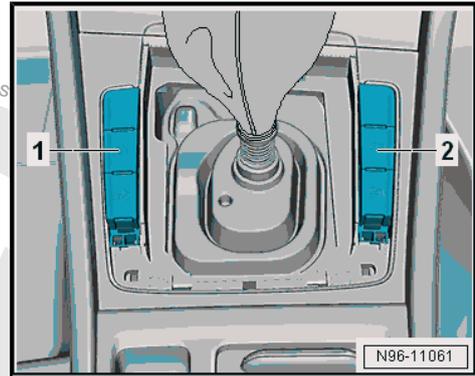
Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the selector lever boot. Refer to ⇒ Rep. Gr. 34 ; Selector Mechanism; Selector Lever Handle, Removing and Installing .
- Pry the trim -1- up using the -3409-





- Lift the driver side button module -1- or the front passenger side button module -2- upward from the center console.
- Release and disconnect the connector -1-.

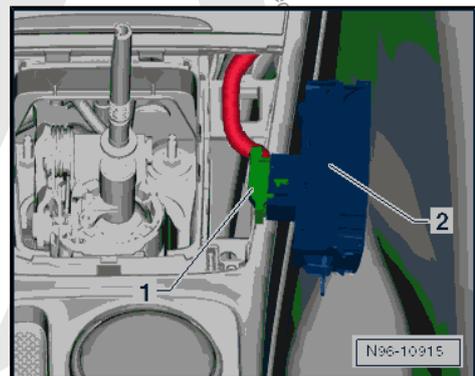


- Remove the button module -2-.

Installing

Install in reverse order of removal.

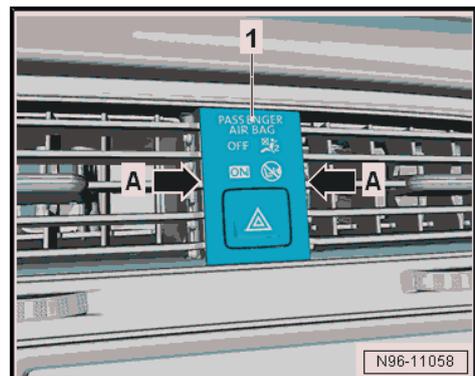
- Perform a function test.



2.15 Emergency Flasher Switch - EX3- , Removing and Installing

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Grasp the Front Passenger Airbag -Disabled- Indicator Lamp - K145- -1- at the side -A arrows- and remove from the instrument panel.
- Release and disconnect the connectors.
- Loosen the catches -1-.

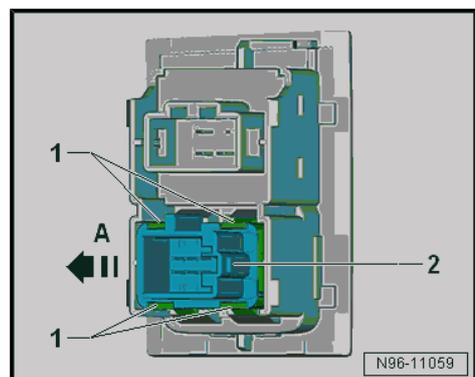


- Push the Emergency Flasher Switch - EX3- -2- out of the Front Passenger Airbag -Disabled- Indicator Lamp - K145- in the direction of the -arrow A-.

Installing

Install in reverse order of removal.

- Perform a function test.





2.16 Left/Right Seat Heating Button -E653- / -E654- , Removing and Installing

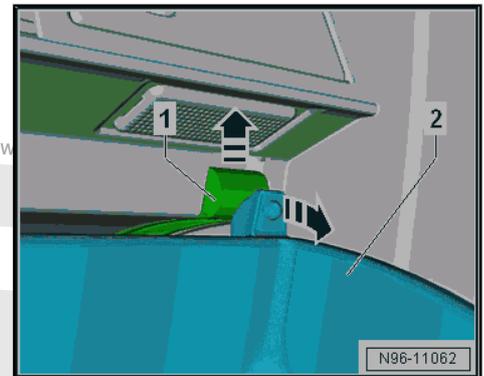
The seat heating buttons are integrated in the Heater Control Module - J65- / A/C Control Module - J301- / Climatronic Control Module - J255- display control head. Components cannot be replaced separately if faulty.

- Heater Control Module - J65- / A/C Control Module - J301- / Climatronic Control Module - J255- removing and installing. Refer to ⇒ Heating, Ventilation, and Air Conditioning; Rep. Gr. 87 ; Component Location Overview - Display And Control Unit .

2.17 Glove Compartment Lamp Switch - E26- , Removing and Installing

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Open the glove compartment.
- Push the left and right glove compartment stop -1- in the upward direction of the -arrow-.
- Open the glove compartment lid -2-.
- Open the glove compartment lid completely in the direction of the -arrow B- so that the steering rack -2- is removed from the damper -1-.

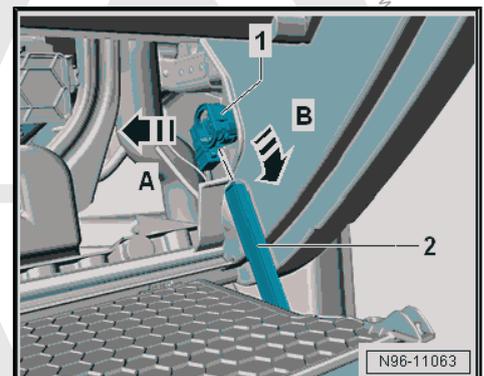


- Remove the Glove Compartment Lamp Switch - E26- in the damper -1- from the mount in the direction of the -arrow A-.

Installing

Install in reverse order of removal.

- Perform a function test.



2.18 Exterior Rearview Mirror Adjuster - EX11- , Removing and Installing



Caution

Risk of damaging the component surfaces.

- ◆ **When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.**



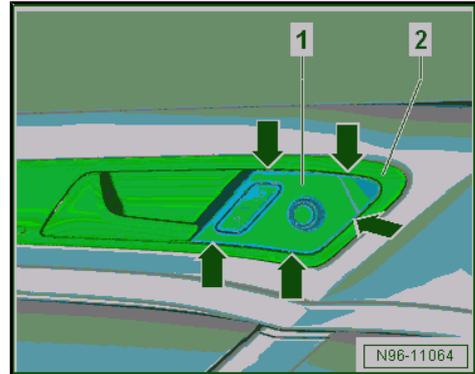
Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Carefully release the retainers using a small screwdriver -arrows-.
- Remove the Exterior Rearview Mirror Adjuster - EX11- -1- from the exterior rearview mirror adjuster trim -2-.
- Release and disconnect the connectors.
- If necessary remove the Driver Interior Locking Button - E308-. Refer to
⇒ ["2.21 Driver Interior Locking Button E308 , Removing and Installing", page 271](#) .

Installing

Install in the reverse order of removal while paying attention to the following:

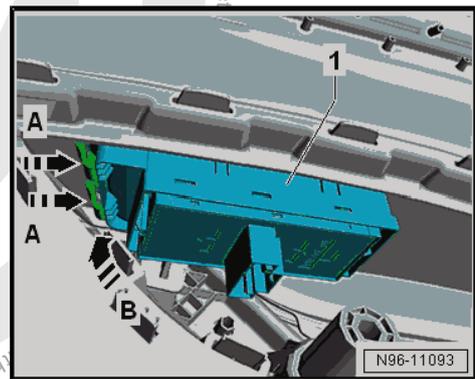
- If necessary install the Driver Interior Locking Button - E308-. Refer to
⇒ ["2.21 Driver Interior Locking Button E308 , Removing and Installing", page 271](#) .
- Perform a function test.



2.19 Power Window Control Head in Driver Door - E512- , Removing and Installing

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the front door trim panel. Refer to ⇒ Body Interior; Rep. Gr.70 ; Front Door Trim Panels; Front Door Trim Panel, Removing and Installing .
- Push the catches on the trim -1- for the Power Window Control Head in Driver Door - E512- in the direction of the -arrow A-.
- Remove the trim -1- for the Power Window Control Head in Driver Door - E512- in the direction of the -arrow B- from the door trim panel.
- Release the hook -3- on both sides with a small screwdriver.



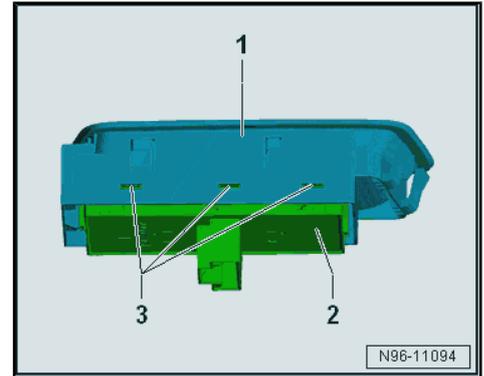


- Remove the Power Window Control Head in Driver Door - E512- -2- from the trim -1-.

Installing

Install in reverse order of removal.

- Perform a function test.



2.20 Front Passenger Power Window Button - E716- , Removing and Installing

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the front door trim panel. Refer to => Body Interior; Rep. Gr. 70 ; Front Door Trim Panels; Front Door Trim Panel, Removing and Installing .
- Release the hook in the direction of the -arrow A- with a small screwdriver.
- Release the mounting tab -2- in the direction of the -arrow B-.
- Remove the window regulator switch -3- from the switch mount and remove it to the rear.
- Release and disconnect the connector -1-.

Installing

Install in reverse order of removal.

- Perform a function test.



2.21 Driver Interior Locking Button - E308- , Removing and Installing

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the Exterior Rearview Mirror Adjuster - EX11- . Refer to => ["2.18 Exterior Rearview Mirror Adjuster EX11 , Removing and Installing", page 269](#) .
- Release the retainers -arrows-.

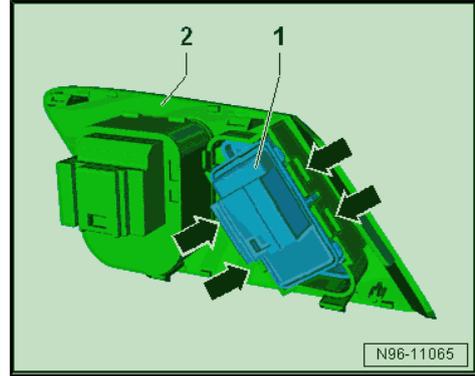


- Remove the Driver Interior Locking Button - E308- -1- from the Exterior Rearview Mirror Adjuster - EX11- -2- trim.

Installing

Install in the reverse order of removal while paying attention to the following:

- The Driver Interior Locking Button - E308- must engage audibly in the trim for the Exterior Rearview Mirror Adjuster - EX11- .
- Perform a function test.



2.22 Interior Monitoring And Vehicle Inclination Deactivation Button - E616- , Removing and Installing

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-



Caution

Risk of damaging the component surfaces.

- ◆ **When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.**

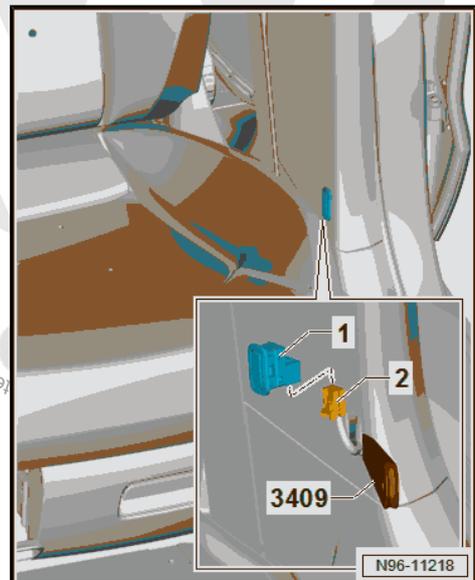
Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Pry out the Interior Monitoring and Vehicle Inclination Deactivation Button - E616- -1- using the -3409- or a screwdriver at the lower edge.
- Remove the button from the B-pillar trim panel.
- Release and disconnect the connector -2-.

Installing

Install in reverse order of removal.

- Perform a function test.





2.23 Driver and Front Passenger Door Contact Switch - F2- / -F3- , Removing and Installing

The door contact switch is installed in the door lock and cannot be replaced individually when faulty.

- Removing and installing the front door lock. Refer to ⇒ Body Exterior; Rep. Gr. 57 ; Door Components; Door Lock, Removing and Installing .

2.24 Driver and Passenger Side Rear Power Window Button -E711- / -E713- , Removing and Installing

The removal and installation is described for the left side. Removing and installing on the right side is identical.

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the rear door trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Rear Door Trim Panels; Rear Door Trim Panel, Removing and Installing .
- Release the hook in the direction of the -arrow A- with a small screwdriver.
- Release the mounting tab -2- in the direction of the -arrow B-.
- Remove the window regulator switch -3- from the switch mount and remove it to the rear.
- Release and disconnect the connector -1-.

Installing

Install in reverse order of removal.

- Perform a function test.



2.25 Left/Right Rear Door Contact Switch - F10- / -F11- , Removing and Installing

The door contact switch is installed in the door lock and cannot be replaced individually when faulty.

- Removing and installing the rear door lock. Refer to ⇒ Body Exterior; Rep. Gr. 58 ; Door Components; Door Lock, Removing and Installing .

2.26 Start System Button - E378- , Removing and Installing

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.

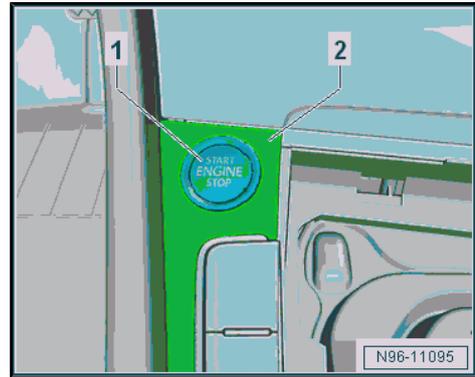


- Remove the selector lever boot. Refer to ⇒ Rep. Gr. 34 ; Selector Mechanism; Selector Lever Handle, Removing and Installing .
- Remove the Start System Button - E378- -1- from below out of the center console -2-. The clips are opened at the same time.
- Release and disconnect the connectors.

Installing

Install in reverse order of removal.

- Perform a function test.



2.27 Rear Lid Contact Switch, Removing and Installing

The rear lid contact switch is installed in the rear lid latch and cannot be replaced separately.

- Rear Lid Latch, Removing and installing. Refer to ⇒ Body Exterior; Rep. Gr. 55 ; Rear Lid; Lid Latch, Removing and Installing .

2.28 Driver and Front Passenger Vanity Mirror Lamp Contact Switch - F147- / - F148- , Removing and Installing

The vanity mirror contact switch is installed in the sun visor mount and cannot be replaced separately if faulty.

- Sun Visor, removing and installing. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Equipment; Sun Visor, Removing and Installing .

2.29 Sunroof Button - E325- , Removing and Installing

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the Front Interior Lamp - WX1- . Refer to ⇒ ["2.30 Front Interior Lamp/Reading Lamp, Removing and Installing", page 275](#) .
- Remove the bolts -arrows-.
- Remove the button -1- from the interior lamp.

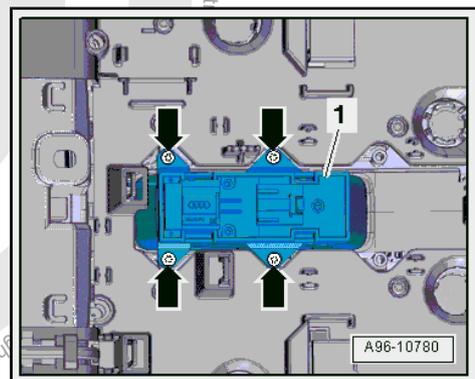
Installing

Install in reverse order of removal.

- Perform a function test.

Tightening Specifications

- ◆ Refer to ⇒ ["2.6 Component Location Overview - Controls in Roof Trim Panel", page 264](#)





2.30 Front Interior Lamp/Reading Lamp, Removing and Installing

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-

The switch module is a component of the Front Interior Lamp - WX1- and cannot be removed separately.

Removing

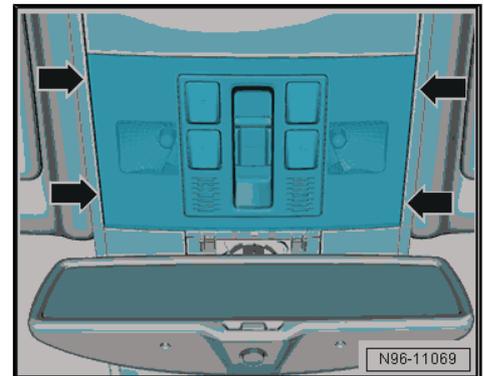
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the mirror base cover. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Rearview Mirror; Overview - Rearview Mirror .
- Pry the diffusion lens in the marked areas -arrows- using the -3409- from the Front Interior Lamp - WX1- .

Only Front Interior Lamp - WX1- with LED-Technology

- Release and disconnect the connectors.

All Versions

- Push the catches in the direction of the -arrow A- and remove the Front Interior Lamp - WX1- .

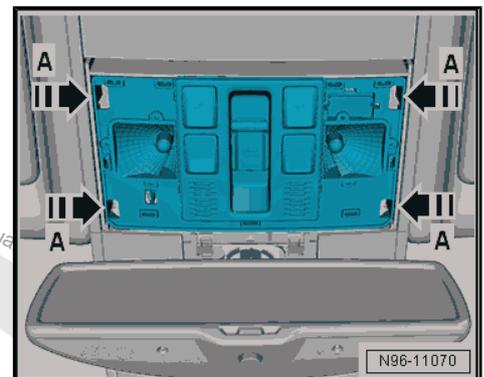


- Release and disconnect the connectors.

Installing

Install in the reverse order of removal while paying attention to the following:

- Install the Front Interior Lamp - WX1- in the roof opening.
- Install the diffusion lens in the Front Interior Lamp - WX1- .
- Perform a function test.



2.31 Rear Interior Lamp/Reading Lamp, Removing and Installing

The button is a permanent component of the Rear Interior Lamp - WX2- and cannot be removed separately.



Caution

Risk of damaging the component surfaces.

- ◆ ***When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.***

The Rear Interior Lamp - WX2- is held in place by a dual-stage locking mechanism.

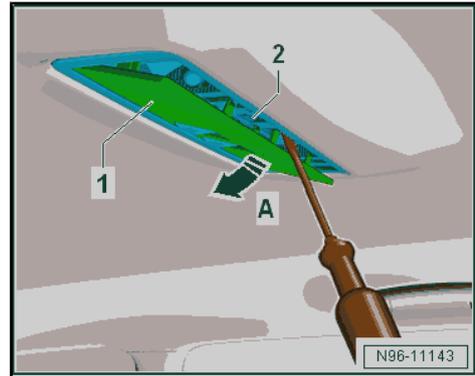
Removing

- Turn off the ignition and all electrical equipment.

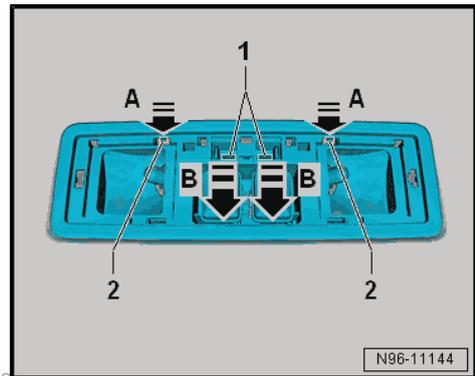




- Remove the ignition key, if equipped.
- Pry the diffusion lens -1- with a narrow screwdriver in the direction of the -arrow A-.
- Remove the diffusion lens -1- from the Rear Interior Lamp - WX2- -2-.
- Release the catches -2- with a narrow screwdriver in the direction of the -arrow A-.



- Push the locking mechanism -1- in the direction of the -arrow B-.



- Remove the Rear Interior Lamp - WX2- -1- out of the roof opening in the direction of the -arrow A-.
- Release the connector safety catch in the direction of the -arrow B- and disconnect the connector in the direction of the -arrow C-.

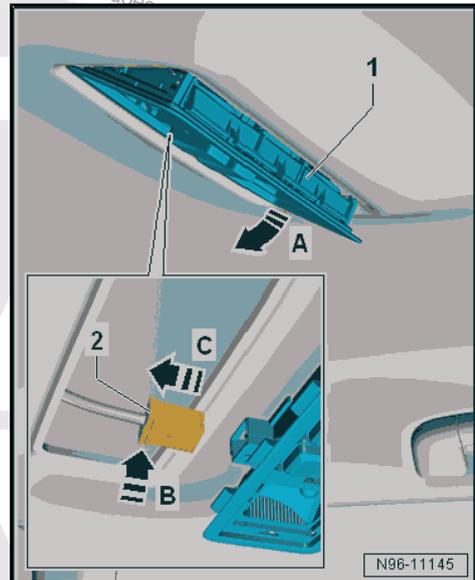
Installing

Install in the reverse order of removal while paying attention to the following:

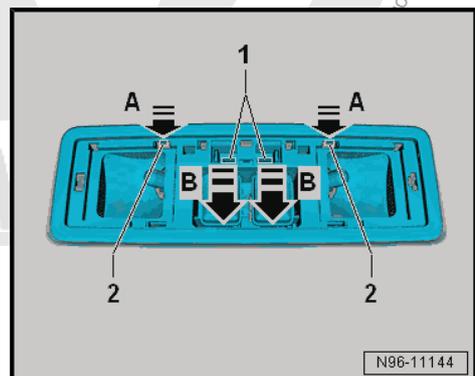


Note

The connector must point in the direction of travel!



- Push the locking mechanism -1- opposite the direction of the -arrow B-. The catches -2- must engage securely.
- Perform a function test.





2.32 Left/Right Front Reading Lamp Button - E633- / -E634-, Removing and Installing

The Left Front Reading Lamp Button - E633- / Right Front Reading Lamp Button - E634- is a component of the Front Interior Lamp - WX1- and cannot be replaced separately.

- Remove the Front Interior Lamp - WX1- . Refer to ["2.30 Front Interior Lamp/Reading Lamp, Removing and Installing", page 275](#) .



3 Anti-Theft Alarm System

⇒ [“3.1 Overview - Interior Monitoring”, page 278](#)

⇒ [“3.2 Alarm Horn H12 , Removing and Installing”, page 279](#)

⇒ [“3.3 Anti-Theft Alarm System Sensor G578 , Removing and Installing”, page 279](#)

3.1 Overview - Interior Monitoring



Note

The Sedan is shown. The Wagon is identical.

1 - Anti-Theft Alarm System Sensor - G578-

- ❑ Removing and installing. Refer to ⇒ [“3.3 Anti-Theft Alarm System Sensor G578 , Removing and Installing”, page 279](#) .
- ❑ After replacing adjust. Refer to ⇒ [“3.3 Anti-Theft Alarm System Sensor G578 , Removing and Installing”, page 279](#) .

2 - Screw

- ❑ 1 Nm
- ❑ Quantity: 2 or 4, depending on version

3 - Cover

- ❑ Removing and installing. Refer to ⇒ [“3.3.2 Anti-Theft Alarm System Sensor G578 , Removing and Installing, Version with Four Screws”, page 281](#) .

4 - Interior Monitoring And Vehicle Inclination Deactivation Button - E616-

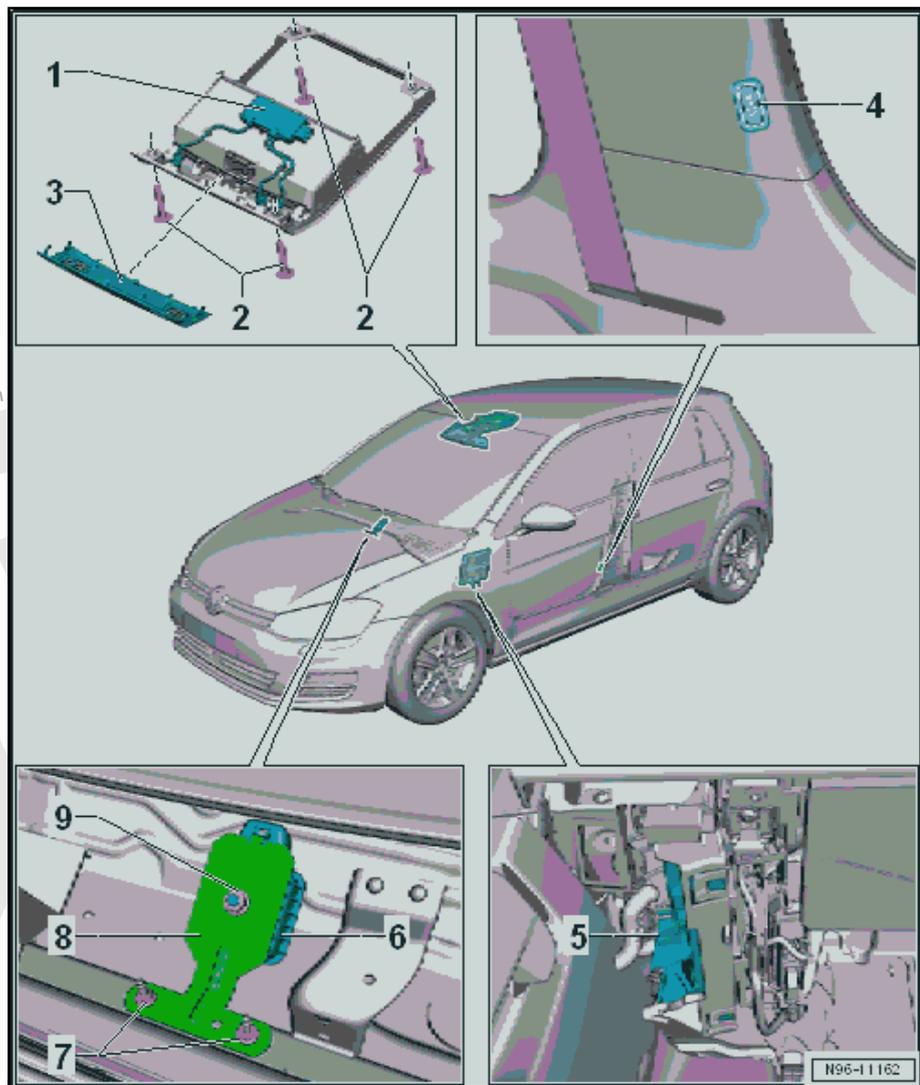
- ❑ Removing and installing. Refer to ⇒ [“2.22 Interior Monitoring And Vehicle Inclination Deactivation Button E616 , Removing and Installing”, page 272](#) .

5 - Vehicle Electrical System Control Module - J519-

- ❑ With Central Locking and Anti-Theft Alarm System Antenna - R47-
- ❑ Overview. Refer to ⇒ [“2.2 Overview - Control Modules”, page 298](#) .

6 - Alarm Horn - H12-

- ❑ Removing and installing. Refer to ⇒ [“3.2 Alarm Horn H12 , Removing and Installing”, page 279](#) .





7 - Nut

- 9 Nm
- Quantity: 2

8 - Bracket

- Removing and installing. Refer to ⇒ [“3.2 Alarm Horn H12, Removing and Installing”, page 279](#) .

9 - Nut

- 6 Nm

3.2 Alarm Horn - H12- , Removing and Installing

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the plenum chamber cover. Refer to ⇒ Body Exterior; Rep. Gr. 50 ; Bulkhead; Plenum Chamber Cover, Removing and Installing .
- Remove the nuts -3-.
- Remove the alarm horn -1- with the bracket -4- from the plenum chamber.
- Disconnect the connector -5-.
- If necessity remove the nut -2-.
- Remove the alarm horn -1- from the bracket -4-.

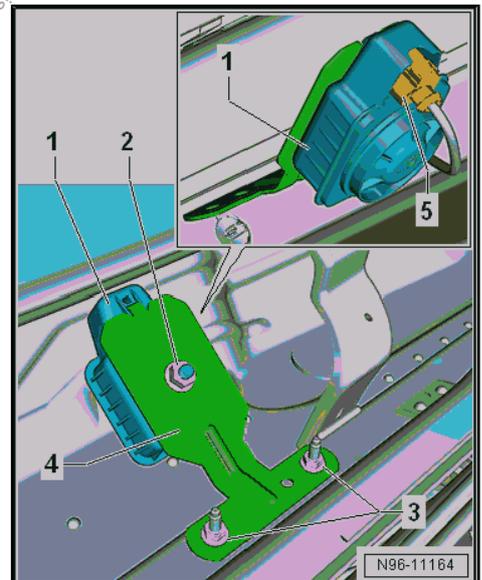
Installing

Install in the reverse order of removal while paying attention to the following:

- Perform a function test.

Tightening Specifications

- ◆ Refer to ⇒ [“3.1 Overview - Interior Monitoring”, page 278](#)



3.3 Anti-Theft Alarm System Sensor - G578- , Removing and Installing

⇒ [“3.3.1 Anti-Theft Alarm System Sensor G578 , Removing and Installing, Version with Two Screws”, page 279](#)

⇒ [“3.3.2 Anti-Theft Alarm System Sensor G578 , Removing and Installing, Version with Four Screws”, page 281](#)

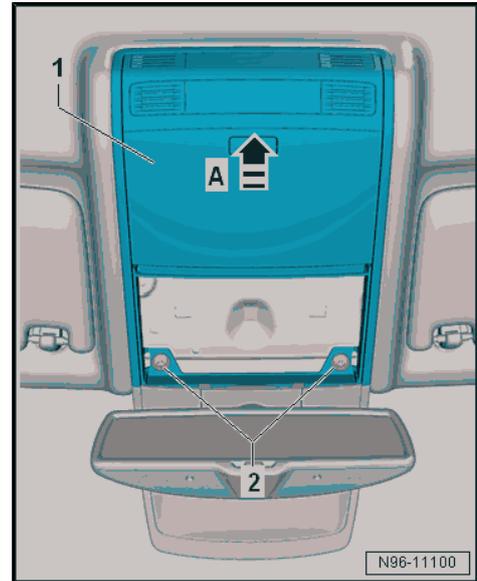
3.3.1 Anti-Theft Alarm System Sensor - G578- , Removing and Installing, Version with Two Screws

Removing

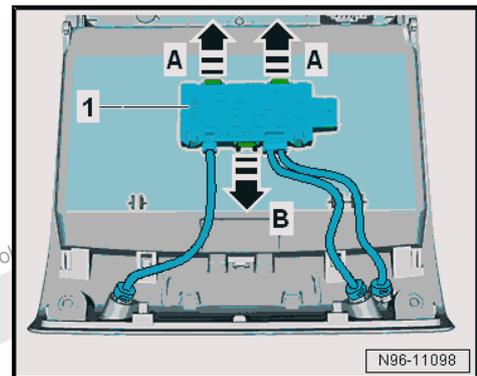
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.



- Remove the Front Interior Lamp - WX1- . Refer to [⇒ "2.30 Front Interior Lamp/Reading Lamp, Removing and Installing", page 275](#) .
- Remove the screws -2-.
- Remove the roof module -1- in the direction of the -arrow A-.
- Disengage the connector and disconnect.



- Release the mounting tabs in the direction of the -arrows A and B-.
- Remove the Anti-Theft Alarm System Sensor - G578- -1- from the roof module.
- Release the mounting tabs in the direction of the arrows -A and B-.



- Remove the individual sensor -1- from the roof module.

Installing

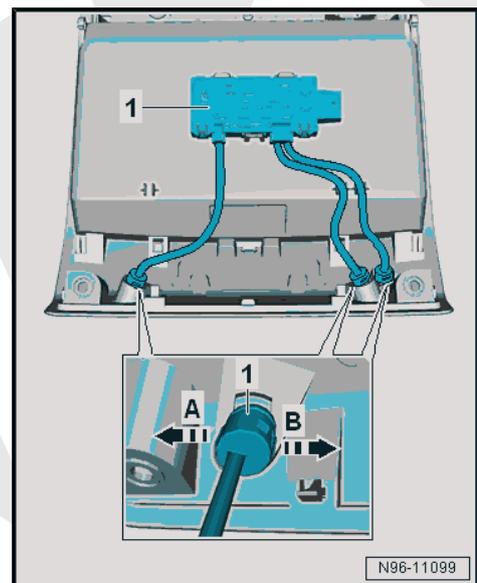
Install in the reverse order of removal while paying attention to the following:

If the Anti-Theft Alarm System Sensor - G578- is being replaced, then it must be adapted using the Vehicle Diagnostic Tester .

- Perform a function test.

Tightening Specifications

- ◆ Refer to [⇒ "3.1 Overview - Interior Monitoring", page 278](#)





3.3.2 Anti-Theft Alarm System Sensor - G578- , Removing and Installing, Version with Four Screws

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-



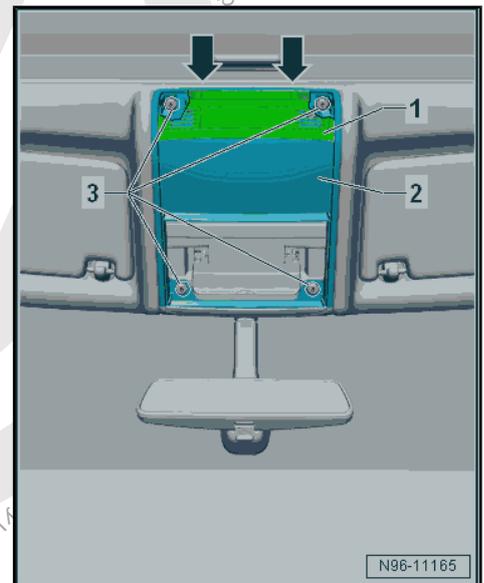
Caution

Risk of damaging the component surfaces.

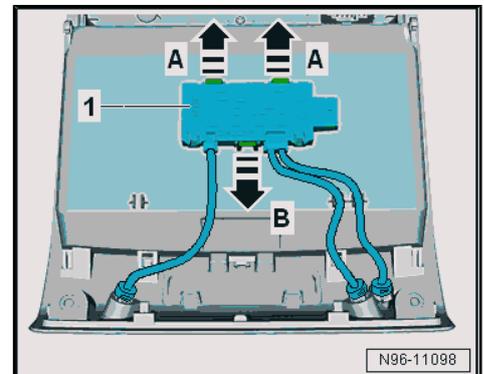
- ◆ *When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.*

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the Front Interior Lamp - WX1- . Refer to ["2.30 Front Interior Lamp/Reading Lamp, Removing and Installing", page 275](#) .
- Using the -3409- pry the cover -1- in the area of the -arrows-.
- Remove the screws -3-.
- Remove the roof module -2-.
- Disengage the connector and disconnect.



- Release the mounting tabs in the direction of the arrows -A and B-.
- Remove the Anti-Theft Alarm System Sensor - G578- -1- from the roof module.
- Release the mounting tabs in the direction of the -arrows A and B-.





- Remove the individual sensor -1- from the roof module.

Installing

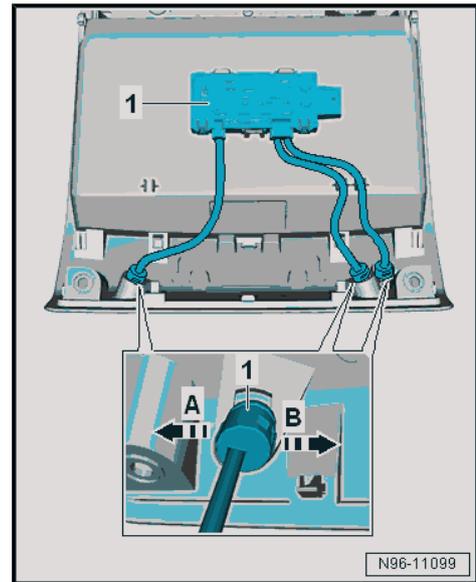
Install in the reverse order of removal while paying attention to the following:

If the Anti-Theft Alarm System Sensor - G578- is being replaced, then it must be adapted using the Vehicle Diagnostic Tester .

- Perform a function test.

Tightening Specifications

- ◆ Refer to ⇒ [“3.1 Overview - Interior Monitoring”, page 278](#)





4 Driver Assistance Systems Front Camera

⇒ ["4.1 Driver Assistance Systems Front Camera, Removing and Installing", page 283](#)

4.1 Driver Assistance Systems Front Camera, Removing and Installing

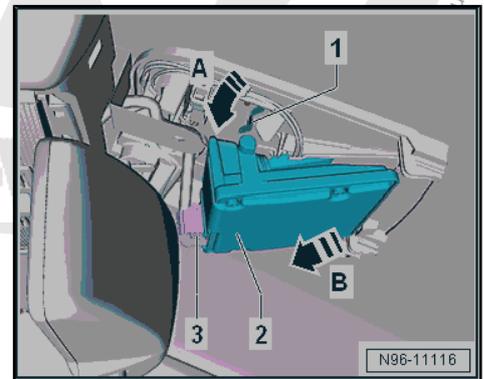
Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the mirror base cover. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Rearview Mirror; Overview - Rearview Mirror .
- Unclip the Driver Assistance Systems Front Camera - R242-2- in the direction of the -arrow A- from the clamps -1-.
- Remove the Driver Assistance Systems Front Camera - R242-1- in the direction of the -arrow B- from the bracket.
- Disconnect the connector -3-.

Installing

Install in the reverse order of removal while paying attention to the following:

- Calibrate the Driver Assistance Systems Front Camera - R242- . Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 44 ; Driver Assistance Systems Front Camera; Driver Assistance Systems Front Camera, Calibrating .





5 Cigarette Lighter and Socket

⇒ ["5.1 Overview - Converter with Socket, 12 V-230 V", page 284](#)

⇒ ["5.2 Cigarette Lighter U1 , Removing and Installing", page 285](#)

⇒ ["5.3 Socket Illumination Bulb L42 , Removing and Installing", page 285](#)

⇒ ["5.4 Rear Cigarette Lighter Illumination Bulb L32 , Removing and Installing", page 285](#)

⇒ ["5.5 Socket U , Removing and Installing", page 285](#)

⇒ ["5.6 Converter with Socket, 12 V-230 V U13 , Removing and Installing", page 285](#)

5.1 Overview - Converter with Socket, 12 V-230 V

1 - Bracket

- To mount the Converter with Socket, 12 V-230 V - U13-
- Removing and installing. Refer to ⇒ ["5.6 Converter with Socket, 12 V-230 V U13 , Removing and Installing", page 285](#) .

2 - Screw

- 2 Nm
- Quantity: 4
- To secure the Converter with Socket, 12 V-230 V - U13- to the bracket

3 - Bolt

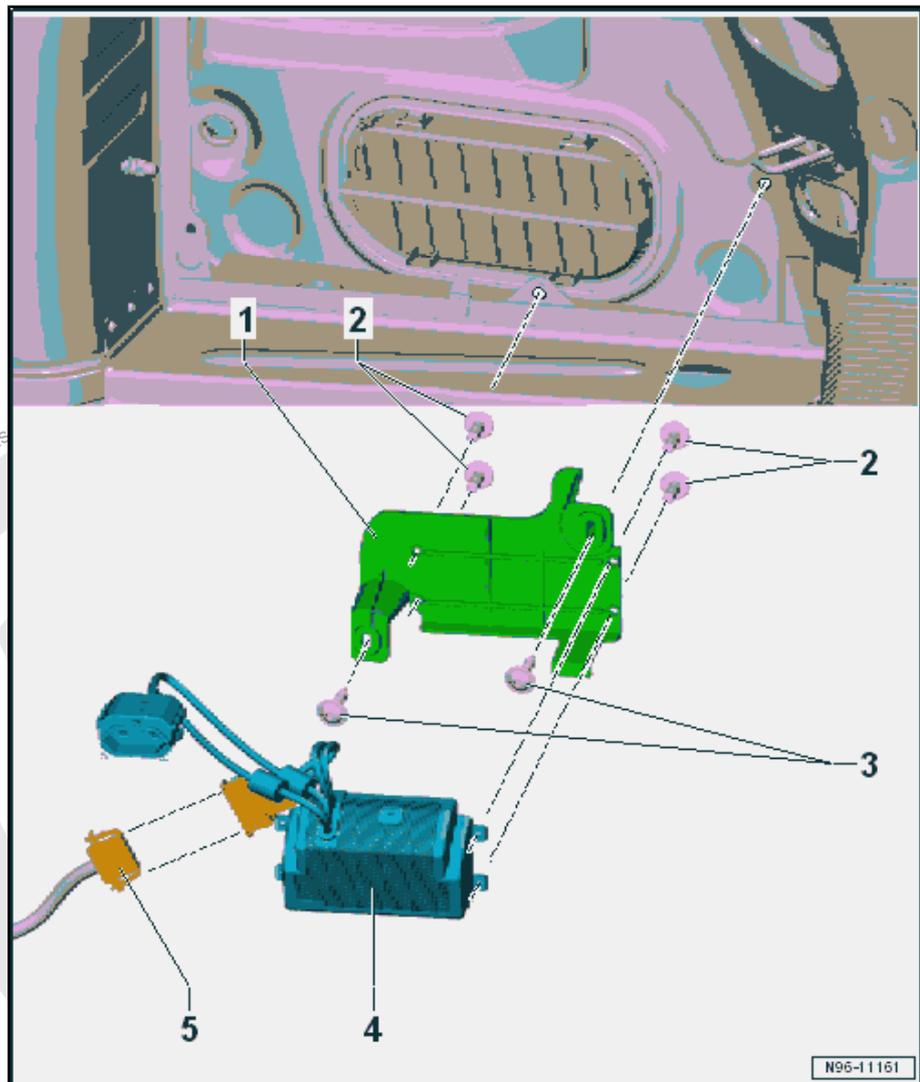
- 9 Nm
- Quantity: 2
- To secure the bracket in the side panel

4 - Converter with Socket, 12 V-230 V - U13-

- Must not be opened.
- No repairs on the connector, on the lines and on the 230 V socket
- Removing and installing. Refer to ⇒ ["5.6 Converter with Socket, 12 V-230 V U13 , Removing and Installing", page 285](#) .

5 - Connector

- 12-V input voltage





5.2 Cigarette Lighter - U1- , Removing and Installing

All instructions and information on this chapter. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 96 ; Cigarette Lighter and Socket .

5.3 Socket Illumination Bulb - L42- , Removing and Installing

All instructions and information on this chapter. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 96 ; Cigarette Lighter and Socket .

5.4 Rear Cigarette Lighter Illumination Bulb - L32- , Removing and Installing

All instructions and information on this chapter. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 96 ; Cigarette Lighter and Socket .

5.5 Socket - U- , Removing and Installing

All instructions and information on this chapter. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 96 ; Cigarette Lighter and Socket .

5.6 Converter with Socket, 12 V-230 V - U13- , Removing and Installing

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-

 **WARNING**

There is a danger of electric shock.

- ◆ *The Converter with Socket, 12 V-230 V - U13- housing contains condensers that can be charged with residual voltage.*
- ◆ *The Converter with Socket, 12 V-230 V - U13- housing must not be opened under any circumstances.*
- ◆ *No repairs may be performed on the harness connector, on the wires and the 230 V-outlet.*
- ◆ *If there is a fault at harness connector, at wires, at 230 V-socket or in the converter, the complete unit must always be replaced.*

 **Caution**

Risk of damaging the component surfaces.

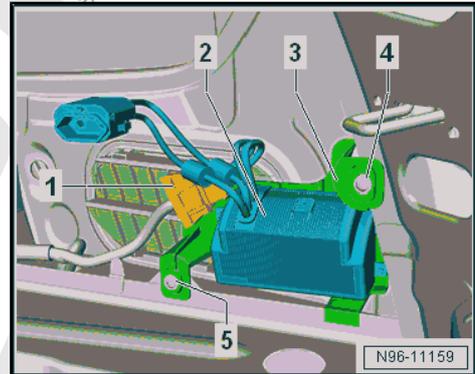
- ◆ *When positioning a prying tool, put commercially available adhesive tape over the component in the visible area.*

Removing:

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.



- Remove the right luggage compartment side trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Luggage Compartment Trim Panels; Luggage Compartment Side Trim Panel, Removing and Installing .
- Release and disconnect the connector -1-.
- Remove the screws -4 and 5-.
- Remove the Converter with Socket, 12 V-230 V - U13- -2- with the bracket -3-.
- Remove the bolts -3-.



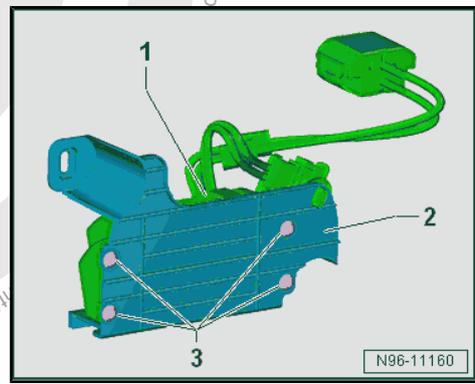
- Remove the Converter with Socket, 12 V-230 V - U13- -1- from the bracket -2-.

Installing:

Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to
⇒ ["5.1 Overview - Converter with Socket, 12 V-230 V", page 284](#)





6 Special Tools

Special tools and workshop equipment required

- ◆ Trim Removal Wedge - 3409-





97 – Wiring

1 Relay Carriers, Fuse Panels and E-Boxes

⇒ [“1.1 Component Location Overview - Relay Carriers, Fuse Panels and E-Boxes”, page 288](#)

⇒ [“1.2 E-Box, Removing and Installing”, page 290](#)

⇒ [“1.3 E-Box Relay and Fuse Panels, Removing and Installing”, page 292](#)

⇒ [“1.4 Relay and Fuse Carrier Behind Instrument Panel on Driver Side, Removing and Installing”, page 294](#)

1.1 Component Location Overview - Relay Carriers, Fuse Panels and E-Boxes

⇒ [“1.1.1 Relay Carriers, Fuse Panels and E-Boxes”, page 288](#)

⇒ [“1.1.2 Relay Carrier and Instrument Panel/A-Pillar Fuse Panel”, page 290](#)

1.1.1 Relay Carriers, Fuse Panels and E-Boxes

1 - Front Cover

- For engine compartment E-box

2 - Nut

- 9 Nm

3 - Nut

- 9 Nm

4 - Wire

- 5 Nm
- Coolant fan

5 - Wire

- 5 Nm
- Terminal 30

6 - Wire

- 5 Nm
- Electro-mechanical power steering

7 - Wire

- 6 Nm
- Battery positive

8 - Wire

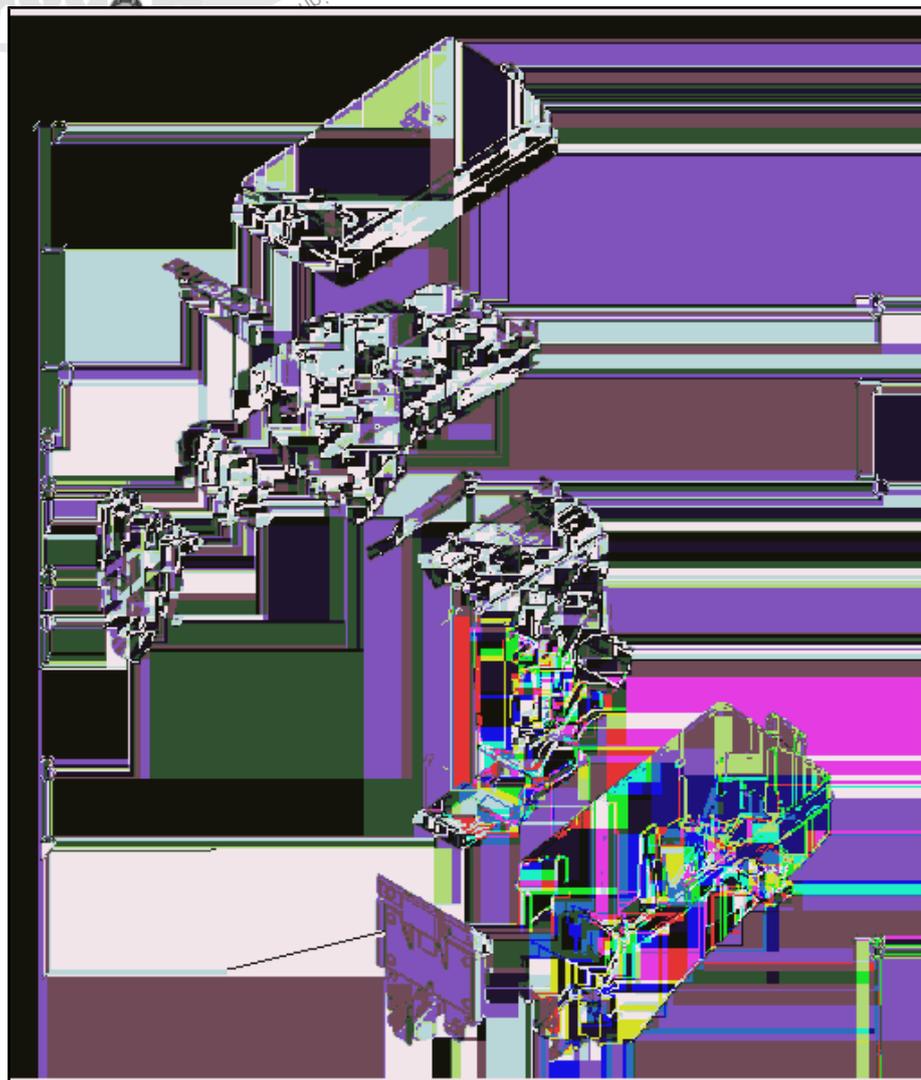
- 5 Nm
- Terminal 30

9 - Wire

- 6 Nm
- Generator - C-

10 - Fuse Panel A - SA-

- Removing and instal-





ling. Refer to ⇒ [“1.3.2 Fuse Panel A SA , Removing and Installing”, page 293](#) .

11 - Mounting Bracket

- Removing and installing. Refer to ⇒ [“1.3.2 Fuse Panel A SA , Removing and Installing”, page 293](#) .

12 - Cover

- For engine compartment E-box

13 - Relay and Fuse Panel B - SB-

- With connecting bracket for fuse panel A
- Removing and installing. Refer to
⇒ [“1.3 E-Box Relay and Fuse Panels, Removing and Installing”, page 292](#) .

14 - Wire

- 6 Nm

15 - Bracket

- For Engine Control Module - J623-

16 - Engine Compartment E-Box

- Removing and installing. Refer to ⇒ [“1.2 E-Box, Removing and Installing”, page 290](#) .





1.1.2 Relay Carrier and Instrument Panel/A-Pillar Fuse Panel



Note

The Sedan is shown. The Wagon is identical.

1 - Bracket

- For Parking Aid Control Module - J446- / Parallel Parking Assistance Control Module - J791-
- Removing and installing. Refer to ⇒ ["2.8 Parking Aid Control Module J446 / Parallel Parking Assistance Control Module J791 Bracket, Removing and Installing"](#), page 302 .

2 - Bracket

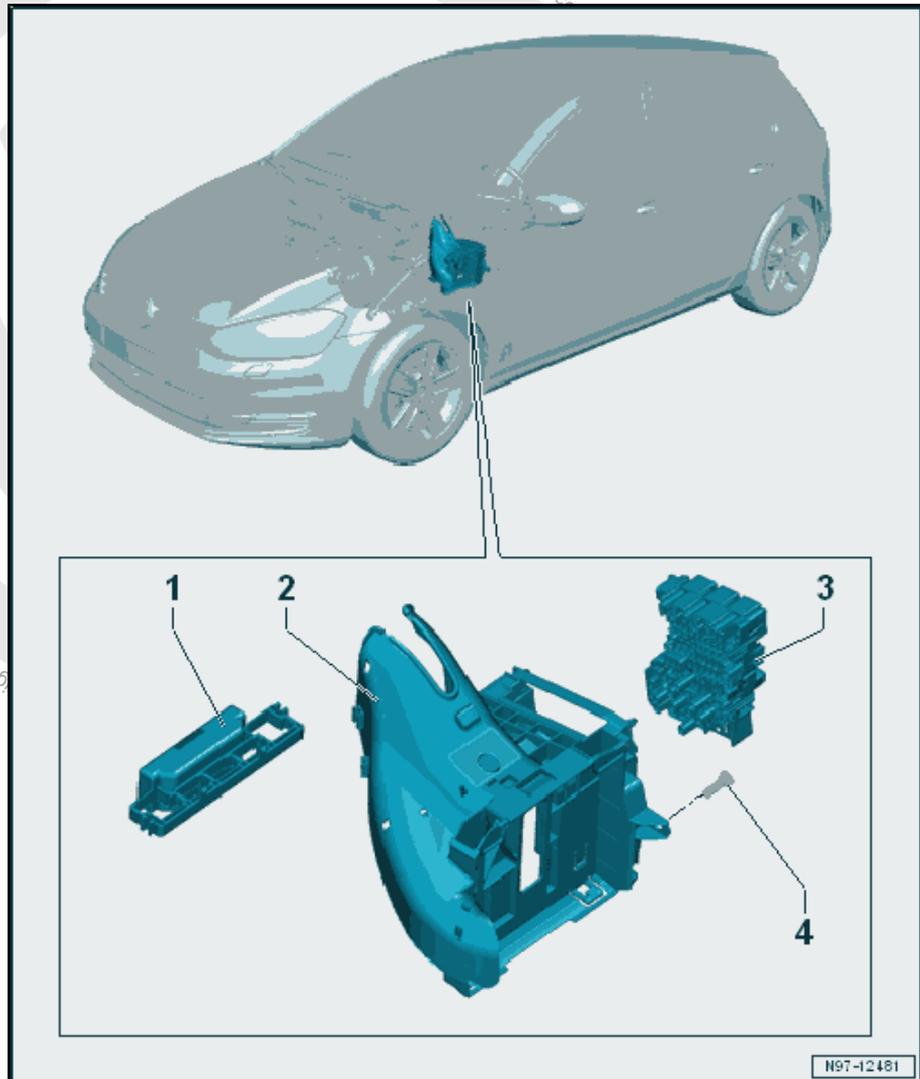
- For Vehicle Electrical System Control Module - J519-
- Removing and installing. Refer to ⇒ ["2.6 Vehicle Electrical System Control Module J519 Bracket, Removing and Installing"](#), page 301 .

3 - Fuse Panel C - SC-

- Removing and installing. Refer to ⇒ ["1.4 Relay and Fuse Carrier Behind Instrument Panel on Driver Side, Removing and Installing"](#), page 294 .

4 - Screw

- 3 Nm
- Quantity: 3



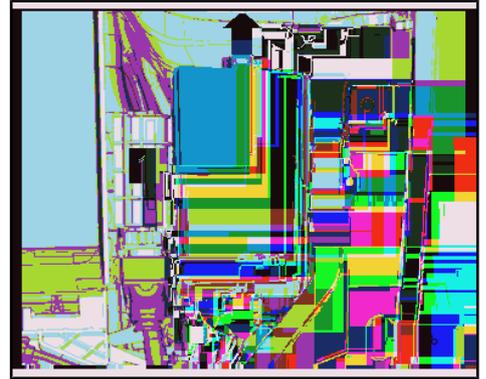
1.2 E-Box, Removing and Installing

Removing

- Disconnect the Battery - A- . Refer to ⇒ ["1.3 Battery, Disconnecting and Connecting"](#), page 9 .
- Remove the Engine Control Module - J623- and set it aside with the connectors attached. Refer to ⇒ Rep. Gr. 23 ; Engine Control Module; Engine Control Module - J623- , Removing and Installing or ⇒ Rep. Gr. 24 ; Engine Control Module; Engine Control Module - J623- , Removing and Installing .



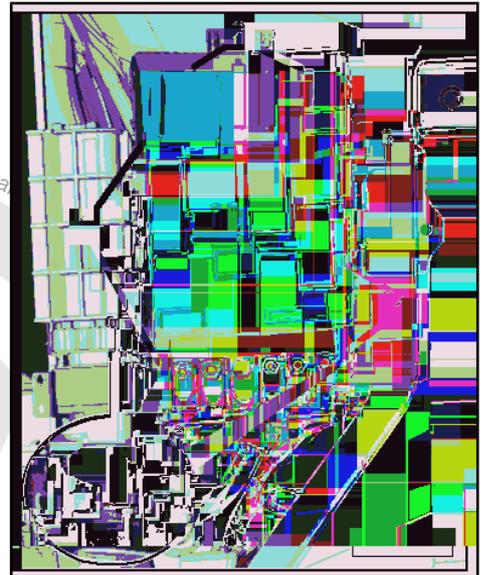
- Push the release button in direction of -arrows-.
- Remove the engine compartment E-box cover -1-.



- Release the mounting tab -2- with a screwdriver, and remove the front cover -1- upward in direction of -arrow-.
- Cut the lower cable ties on the wiring harness.



- Release the retainers -1, 2 and 4- -arrow- and remove the fuse panel B -3- and set it aside.
- Remove the nuts -arrows- and remove the Engine Control Module - J623- -1- bracket.
- Release the mounting tab -3- and disengage the engine compartment E-box -2- from the threaded pin.





- Remove the engine compartment E-box upward.

Installing

Install in reverse order of removal.

Tightening Specifications

- ◆ Refer to
⇒ [“1.1.1 Relay Carriers, Fuse Panels and E-Boxes”, page 288](#)



1.3 E-Box Relay and Fuse Panels, Removing and Installing

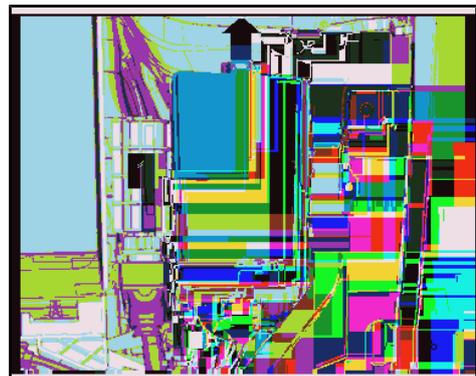
⇒ [“1.3.1 Fuse Panel B SB , Removing and Installing”, page 292](#)

⇒ [“1.3.2 Fuse Panel A SA , Removing and Installing”, page 293](#)

1.3.1 Fuse Panel B - SB- , Removing and Installing

Removing

- Disconnect the Battery - A- . Refer to
⇒ [“1.3 Battery, Disconnecting and Connecting”, page 9](#) .
- Press the release buttons in direction of -arrow- and remove the cover -1- for the engine compartment E-box.



- Release the mounting tab -2- with a screwdriver, and remove the front cover -1- upward in direction of -arrow-.
- For reinstallation, mark the wires at the bolted connections.





- Remove the nuts -1, 2, 4, 5 and 6-.
- Remove the bolt -3-.
- Free up the wire -arrow-.
- Cut the lower cable ties on the wiring harness.



- Release the retainers -1, 2 and 4- in direction of -arrow-, remove the Fuse Panel B - SB- -3- and set it aside.

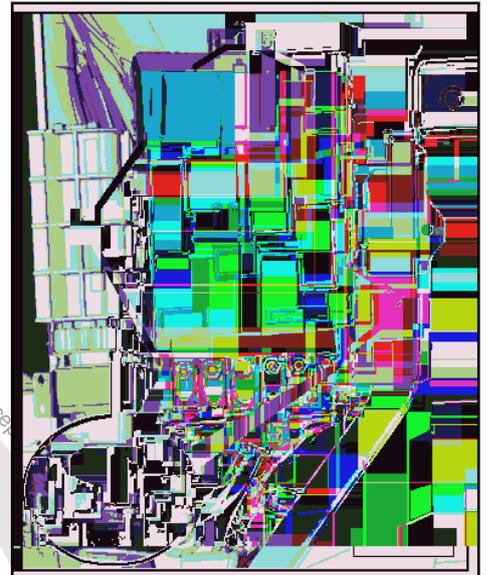
Installing

Install in the reverse order of removal while paying attention to the following:

- Attach and tighten the wires according to the markings on Fuse Panel A - SA- .

Tightening Specifications

- ◆ Refer to
 ⇒ ["1.1.1 Relay Carriers, Fuse Panels and E-Boxes", page 288](#)



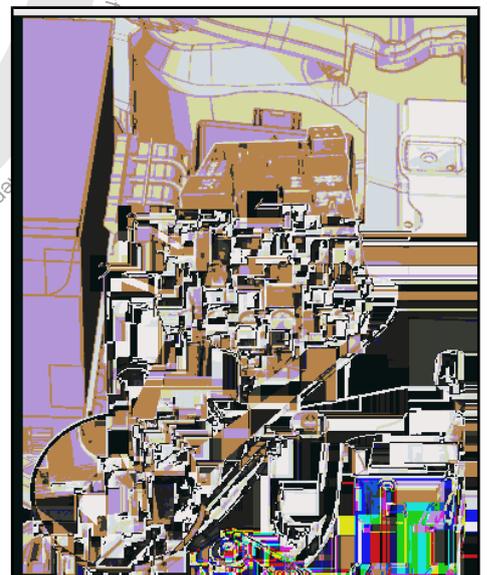
1.3.2 Fuse Panel A - SA- , Removing and Installing

Removing

- Remove the Fuse Panel B - SB- . Refer to
 ⇒ ["1.3 E-Box Relay and Fuse Panels, Removing and Installing", page 292](#) .
- Remove the mounting bracket -4- upward from the Fuse Panel B - SB- .
- Release the mounting tab -1- in direction of -arrow- and fuse panel A -2- downward from the fuse panel B -3-.

Installing

Install in reverse order of removal.





1.4 Relay and Fuse Carrier Behind Instrument Panel on Driver Side, Removing and Installing

Removing

- Disconnect the Battery - A- . Refer to ⇒ ["1.3 Battery, Disconnecting and Connecting", page 9](#) .
- Remove the instrument panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Instrument Panel, Removing and Installing .
- Release the mounting tab -2 and 4- -A arrows-.
- Remove fuse panel C -3- to the rear from the bracket -1- -arrow B-.
- Remove the wires.

The exact assignment can be found the applicable wiring diagram. Refer to ⇒ Wiring diagrams, Troubleshooting & Component locations.

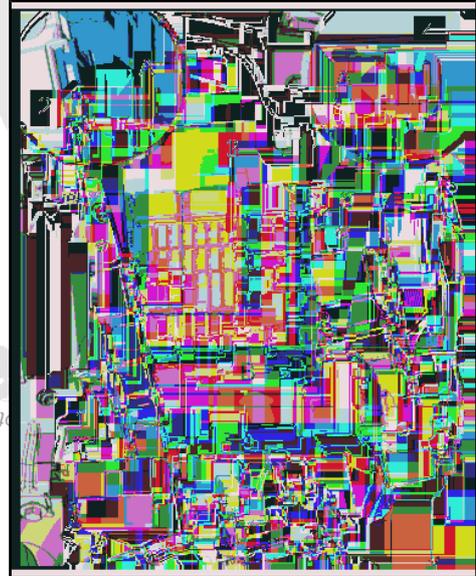


Note

Take photos of the alignment.

Installing

Install in reverse order of removal.





2 Control Modules

⇒ [“2.1 Component Location Overview - Control Modules”, page 295](#)

⇒ [“2.2 Overview - Control Modules”, page 298](#)

⇒ [“2.3 Overview - Data Bus On Board Diagnostic Interface”, page 299](#)

⇒ [“2.4 Vehicle Electrical System Control Module J519 , Removing and Installing”, page 299](#)

⇒ [“2.5 Data Bus On Board Diagnostic Interface J533 , Removing and Installing”, page 300](#)

⇒ [“2.6 Vehicle Electrical System Control Module J519 Bracket, Removing and Installing”, page 301](#)

⇒ [“2.7 Vehicle Electrical System Control Module J519 Bracket, Replacing”, page 302](#)

⇒ [“2.8 Parking Aid Control Module J446 / Parallel Parking Assistance Control Module J791 Bracket, Removing and Installing”, page 302](#)

2.1 Component Location Overview - Control Modules

⇒ [“2.1.1 Component Location Overview - Front Control Modules”, page 295](#)

⇒ [“2.1.2 Component Location Overview - Rear Control Modules”, page 297](#)

2.1.1 Component Location Overview - Front Control Modules



Note

The component locations for the Sedan are shown. The component locations for the Wagon are identical.



1 - Data Bus On Board Diagnostic Interface - J533-

- Overview. Refer to ⇒ [“2.3 Overview - Data Bus On Board Diagnostic Interface”](#), page 299 .

2 - Bracket

- Overview. Refer to ⇒ [“2.2 Overview - Control Modules”](#), page 298 .

3 - Vehicle Electrical System Control Module - J519-

- Overview. Refer to ⇒ [“2.2 Overview - Control Modules”](#), page 298 .

4 - Bracket

- Overview. Refer to ⇒ [“9.1.2 Overview - Rear Parking Aid, Sedan”](#), page 199 .

5 - Parking Aid Control Module - J446- / Parallel Parking Assistance Control Module - J791-

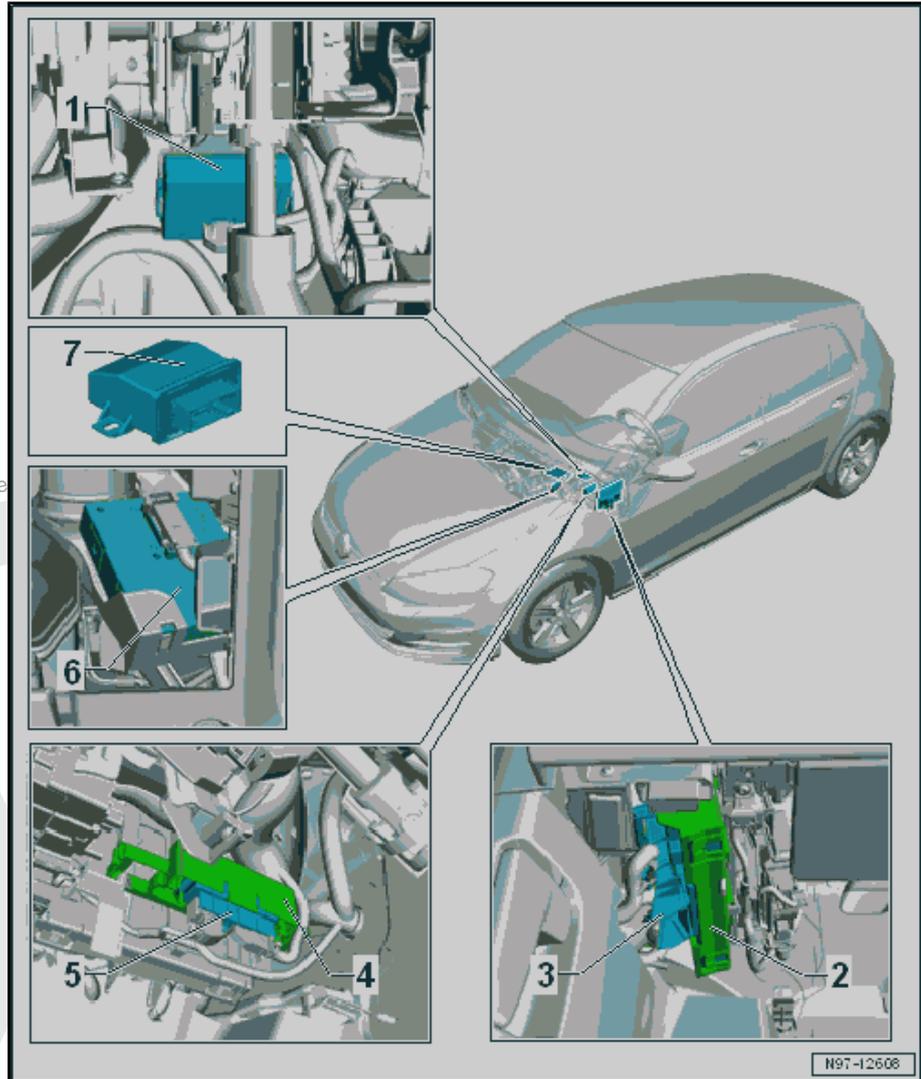
- Overview. Refer to ⇒ [“9.1 Overview - Parking Aid”](#), page 197 .

6 - Access/Start System Interface - J965-

- Component location overview. Refer to ⇒ [“7.1 Component Location Overview - Access/Start Authorization System”](#), page 166 .

7 - Headlamp Range Control Module - J431- / Cornering Lamp and Headlamp Range Control Module - J745-

- Overview. Refer to ⇒ [“11.1 Overview - Automatic Headlamp Range Control”](#), page 209 .





2.1.2 Component Location Overview - Rear Control Modules

1 - Auxiliary Engine Coolant Heater Radio Frequency Receiver - R149-

- ❑ Removing and installing. Refer to ⇒ Heating, Ventilation and Air Conditioning.; Rep. Gr. 82 ; Additional Components for Control and Regulation; Auxiliary Engine Coolant Heater Radio Frequency Receiver - R149- Removing and Installing

2 - Mobile Communication 2-Way Signal Amplifier - J984-

- ❑ Removing and installing. Refer to ⇒ Communication; Rep. Gr. 91 ; Telephone System; Component Location Overview - Telephone System .

3 - Engine Sound Generator Control Module - J943-

- ❑ Not installed

4 - Bolt

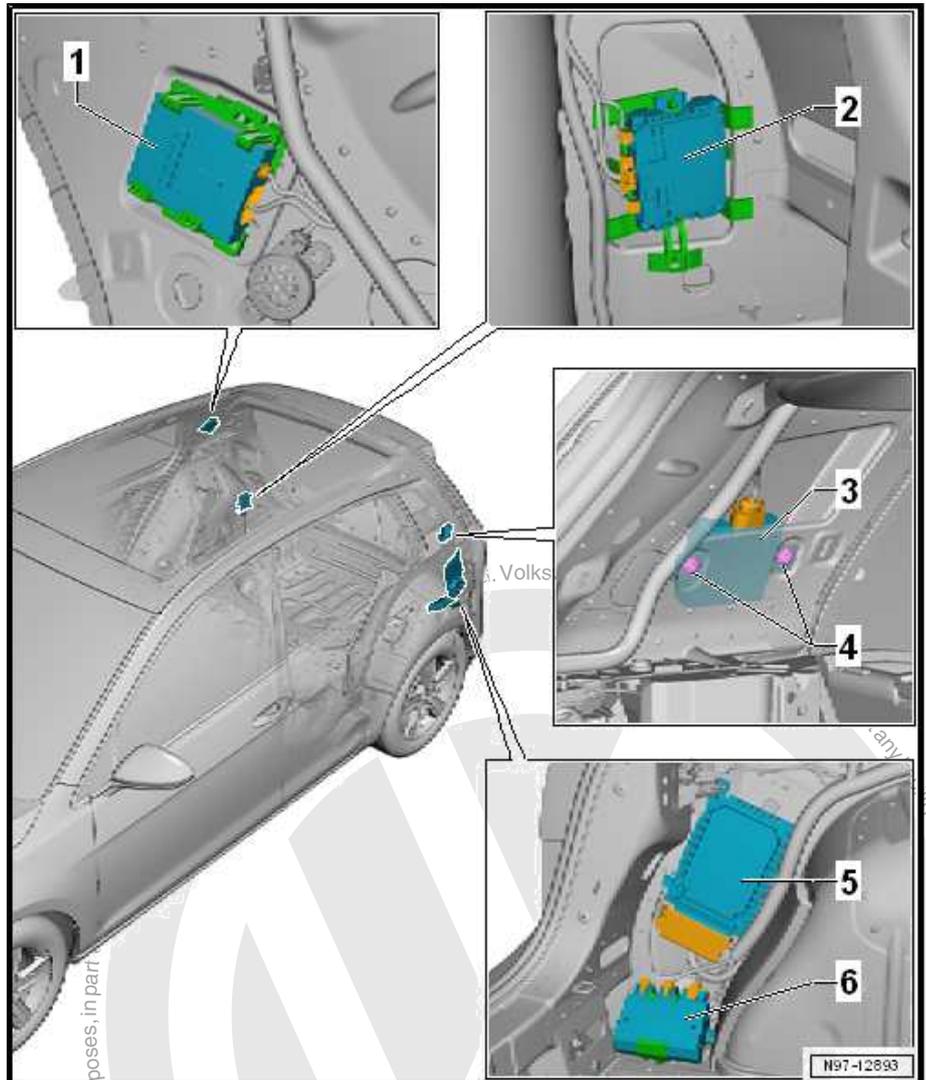
- ❑ Not installed

5 - Electronic Damping Control Module - J250-

- ❑ Overview. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 43 ; Electronic Damping; Overview - Electronic Damping .

6 - Towing Recognition Control Module - J345-

- ❑ Removing and installing. Refer to ⇒ ["12.3 Towing Recognition Control Module J345 , Removing and Installing", page 215](#) .





2.2 Overview - Control Modules

1 - Parking Aid Control Module - J446- / Parallel Parking Assistance Control Module - J791-

- With parking aid: Parking Aid Control Module - J446-
- Overview. Refer to [⇒ "9.1 Overview - Parking Aid", page 197](#) .
- With parallel parking assist: Parallel Parking Assistance Control Module - J791-
- Overview. Refer to [⇒ "10.1 Overview - Parallel Parking Assist", page 206](#) .

2 - Bracket

- For Parking Aid Control Module - J446- / Parallel Parking Assistance Control Module - J791-
- Removing and installing. Refer to [⇒ "2.8 Parking Aid Control Module J446 / Parallel Parking Assistance Control Module J791 Bracket, Removing and Installing", page 302](#) .

3 - Bracket

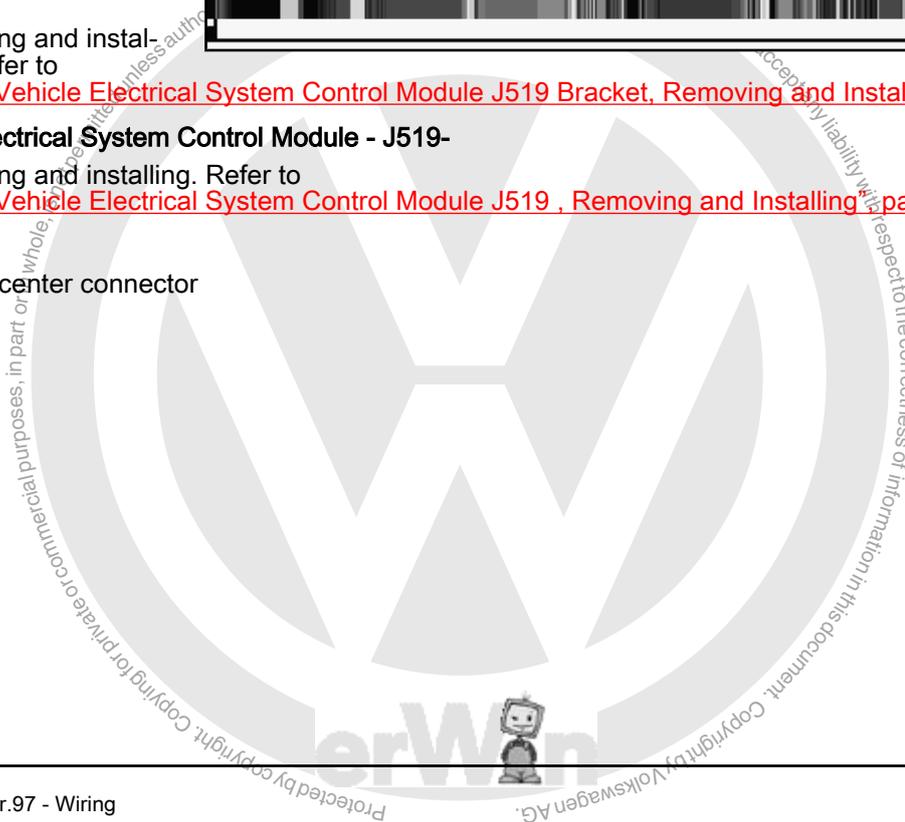
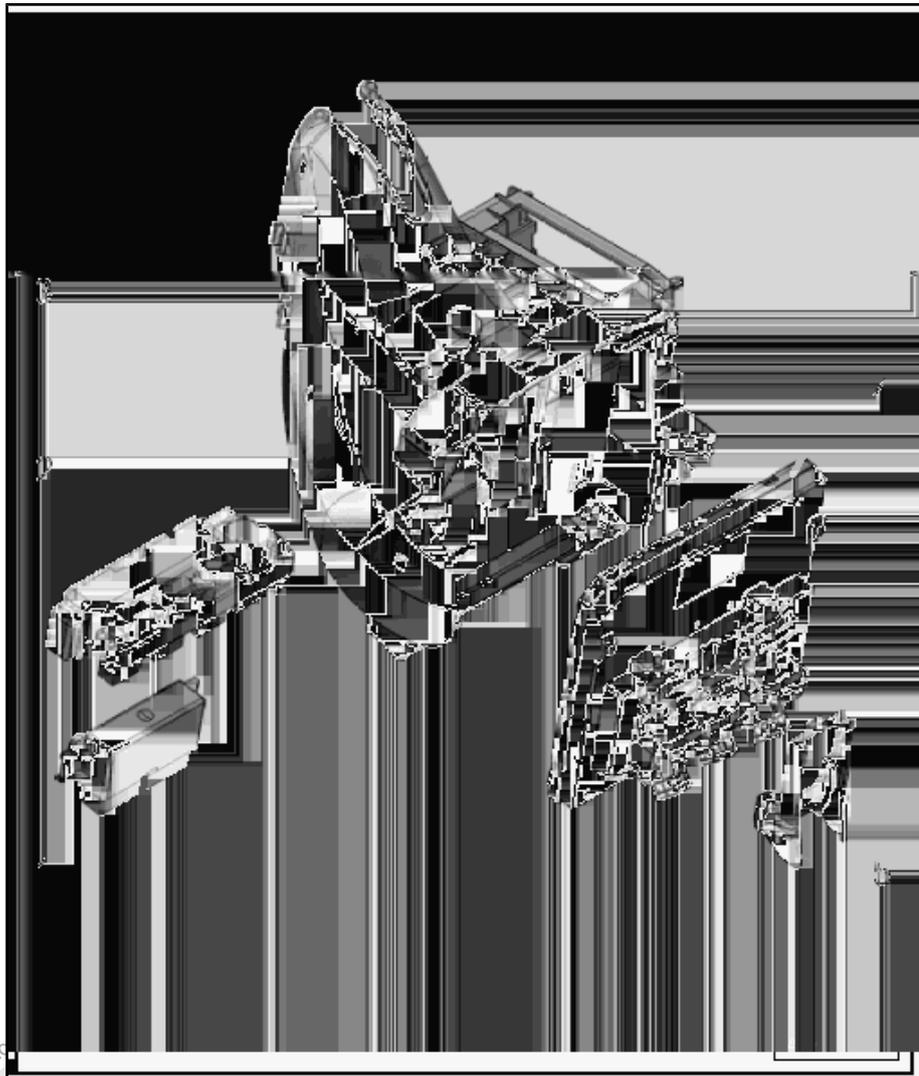
- For Vehicle Electrical System Control Module - J519-
- Removing and installing. Refer to [⇒ "2.6 Vehicle Electrical System Control Module J519 Bracket, Removing and Installing", page 301](#) .

4 - Vehicle Electrical System Control Module - J519-

- Removing and installing. Refer to [⇒ "2.4 Vehicle Electrical System Control Module J519 , Removing and Installing page 299](#) .

5 - Guide

- For the center connector





2.3 Overview - Data Bus On Board Diagnostic Interface

1 - Connector

- ❑ For Data Bus On Board Diagnostic Interface - J533-

2 - Data Bus On Board Diagnostic Interface - J533-

- ❑ Removing and installing. Refer to ⇒ ["2.5 Data Bus On Board Diagnostic Interface J533 , Removing and Installing", page 300](#) .

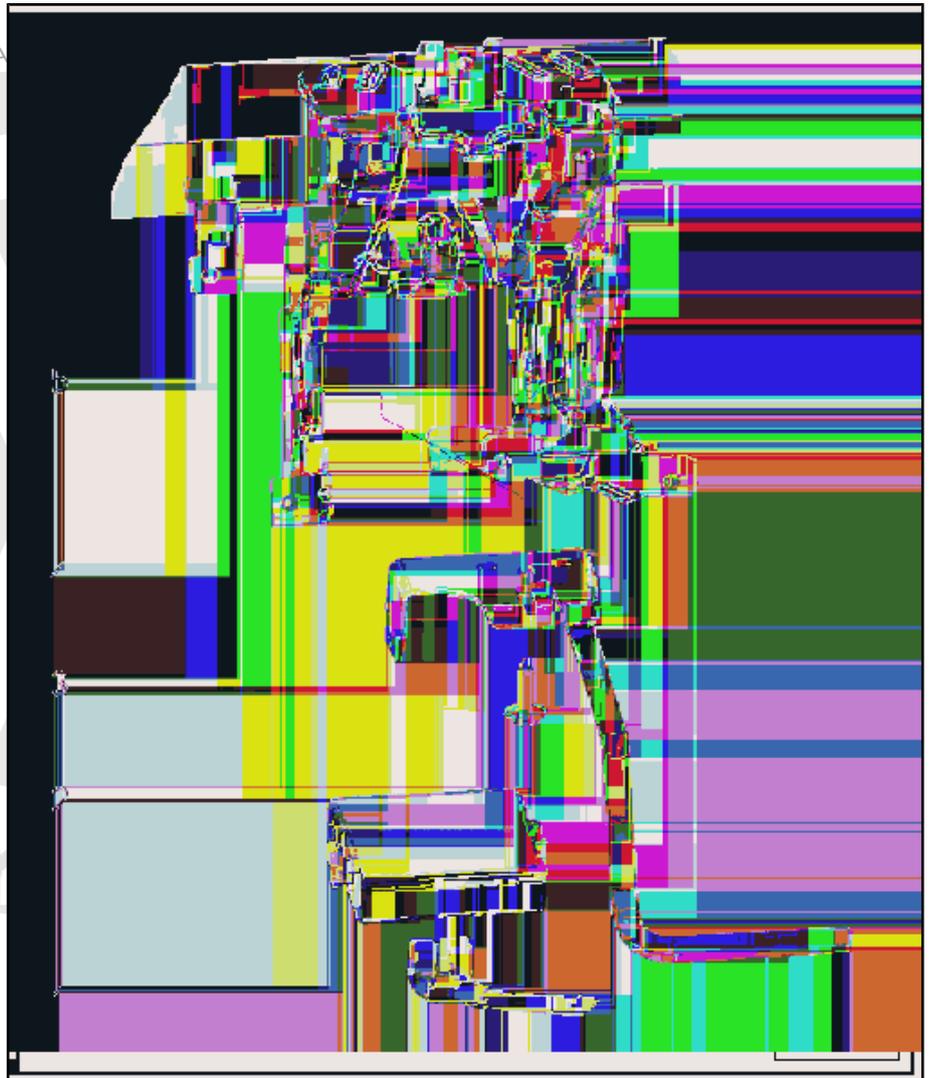
3 - Bolt

- ❑ Tightening specification. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel Central Tube; Overview - Instrument Panel Central Tube .

4 - Crash Bracket

- ❑ Overview. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel Central Tube; Overview - Instrument Panel Central Tube .

5 - Instrument Panel Central Tube



2.4 Vehicle Electrical System Control Module - J519- , Removing and Installing

If the control module is being replaced, use the Vehicle Diagnostic Tester and select the "Replacing" function for the respective control module in "Guided Fault Finding".

Removing

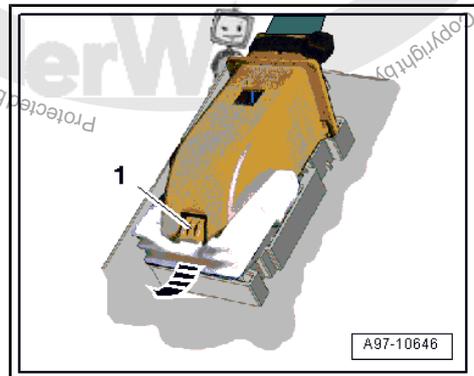
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the A-pillar lower trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Passenger Compartment Trim; A-Pillar Trim Panel, Removing and Installing .
- Remove the footwell cover on the driver side. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Driver Side Footwell Cover, Removing and Installing .



- Release and disconnect the connectors -1, 2, and 3-
- To disconnect the connector press the circlip -1-



- Pivot the retaining bracket in direction of -arrow- and remove the connector.



- Release the springs -arrow-, pivot the Vehicle Electrical System Control Module - J519- -4- out of the bracket -5- and remove downward.

Installing

Install in reverse order of removal.



2.5 Data Bus On Board Diagnostic Interface - J533- , Removing and Installing

If the control module is being replaced, use the Vehicle Diagnostic Tester and select the "Replacing" function for the respective control module in "Guided Fault Finding".



Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the footwell cover on the driver side. Refer to ⇒ Body Interior; Rep. Gr. 68 ; Storage Compartments and Covers; Driver Side Footwell Cover, Removing and Installing .
- Release the connector -1- and disconnect, to do this grasp upward behind the pedal bracket.
- To disconnect the connector press the circlip and remove the connector.
- Release the retainers in direction of -arrows-.
- Remove the Data Bus On Board Diagnostic Interface - J533- -3- downward from the bracket -2-.

Installing

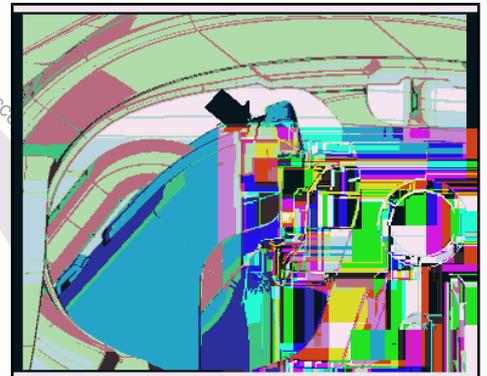
Install in reverse order of removal.



2.6 Vehicle Electrical System Control Module - J519- Bracket, Removing and Installing

Removing

- Disconnect the Battery - A- . Refer to ⇒ [“1.3 Battery, Disconnecting and Connecting”, page 9](#) .
- Remove the instrument panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Instrument Panel; Instrument Panel, Removing and Installing .
- Cut the cable tie -arrow-.
- Disengage the fuse panel C and press aside. Refer to ⇒ [“1.4 Relay and Fuse Carrier Behind Instrument Panel on Driver Side, Removing and Installing”, page 294](#) .
- Release and disconnect the connector from the Front Parking Aid Warning Buzzer - H22- .
- Release and disconnect the connector on the Vehicle Electrical System Control Module - J519- . Refer to ⇒ [“2.4 Vehicle Electrical System Control Module J519 , Removing and Installing”, page 299](#) .
- Release and disconnect the connector on the Parking Aid Control Module - J446- / Parallel Parking Assistance Control Module - J791- .
- Remove the diagnostic connector, to do this release the locking mechanism on the bracket and remove the bracket outward.



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- Remove the bolts -2, 3, and 6-.
- Push the bracket -1- as far as possible out of the central tube until the alignment pins -4- and -5- are disengaged.
- Cut the cable ties -arrows-.
- Free up the wiring harness on the mount.
- Remove the bracket to the vehicle interior.

Installing

Install in reverse order of removal.

Tightening Specifications

Component	Tightening Specification
Bracket for Vehicle Electrical System Control Module - J519- to central tube	4.5 Nm



2.7 Vehicle Electrical System Control Module - J519- Bracket, Replacing

Removing

- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.
- Remove the Vehicle Electrical System Control Module - J519- bracket. Refer to [⇒ "2.6 Vehicle Electrical System Control Module J519 Bracket, Removing and Installing", page 301](#) .
- Remove the Vehicle Electrical System Control Module - J519- . Refer to [⇒ "2.4 Vehicle Electrical System Control Module J519, Removing and Installing", page 299](#) .
- Remove the Parking Aid Control Module - J446- / Parallel Parking Assistance Control Module - J791- . Refer to [⇒ "9.2 Parking Aid Control Module J446, Removing and Installing", page 200](#) .
- Remove the Front Parking Aid Warning Buzzer - H22- . Refer to [⇒ "9.3 Front Parking Aid Warning Buzzer H22, Removing and Installing", page 201](#) .

Installing

Install in reverse order of removal.

2.8 Parking Aid Control Module - J446- / Parallel Parking Assistance Control Module - J791- Bracket, Removing and Installing

Special tools and workshop equipment required

- ◆ Feeler Gauge

Removing

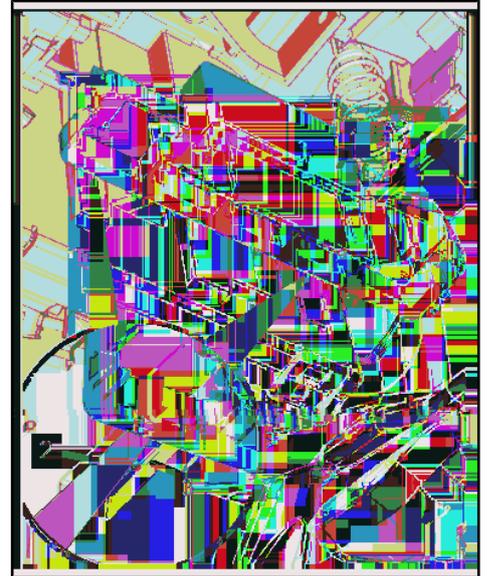
- Turn off the ignition and all electrical equipment.
- Remove the ignition key, if equipped.



- If equipped: remove the Parking Aid Control Module - J446- / Parallel Parking Assistance Control Module - J791- . Refer to => ["9.2 Parking Aid Control Module J446 , Removing and Installing"](#) , page 200 .
- To loosen the retainers, insert a 0.9 mm feeler gauge -2- behind the opening -arrow- as illustrated.
- Remove the bracket -1- from below from the Vehicle Electrical System Control Module - J519- -3- bracket.

Installing

Install in reverse order of removal.





3 Connectors

⇒ [“3.1 Wiring Harnesses and Connectors, Repairing”](#),
[page 304](#)

3.1 Wiring Harnesses and Connectors, Repairing

⇒ [“3.1.1 Electric Wiring Harnesses and Connectors, Repairing”](#),
[page 304](#)

⇒ [“3.1.2 Connector Housings and Connectors, Repairing”](#),
[page 304](#)

3.1.1 Electric Wiring Harnesses and Connectors, Repairing

All instructions and information on this chapter. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 97 ; Connectors .

3.1.2 Connector Housings and Connectors, Repairing

All instructions and information on this chapter. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 97 ; Connectors .





4 Connector Housings, Releasing and Disassembling

All instructions and information on this chapter. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 97 ; Connectors .





5 Antenna Wires, Repairing

All instructions and information on this chapter. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 97 ; Connectors .





6 Fiber-Optic Cable

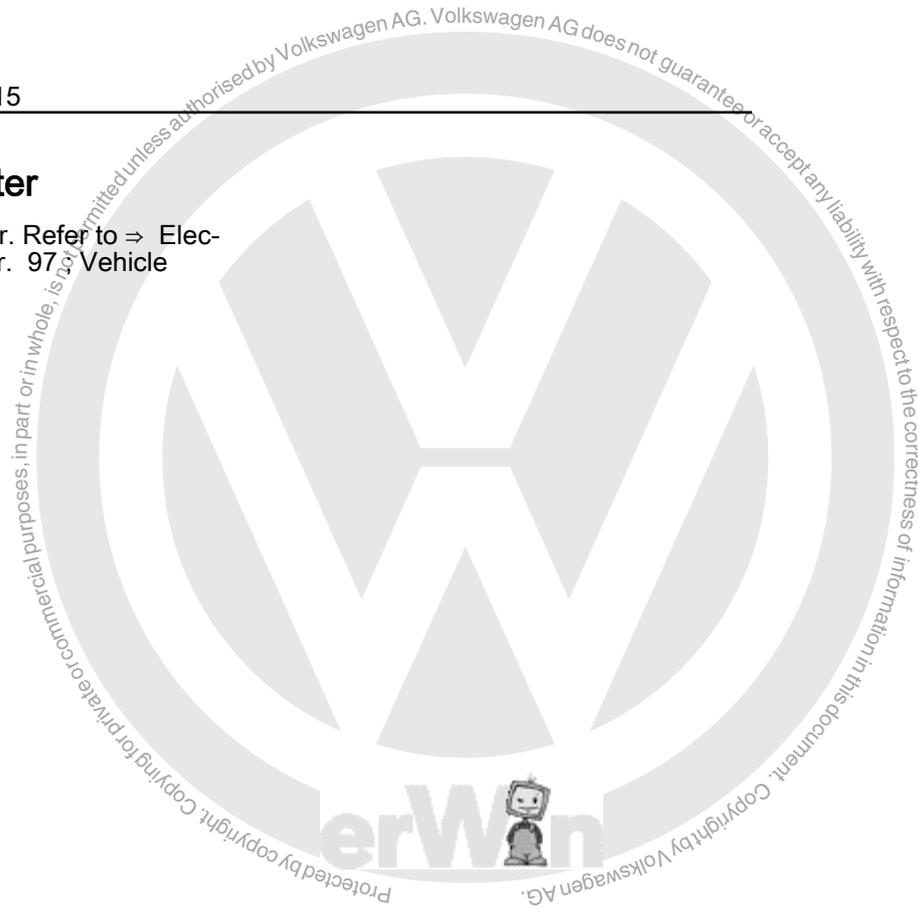
All instructions and information on this chapter. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 97 ; Connectors .





7 Vehicle Diagnostic Tester

All instructions and information on this chapter. Refer to ⇒ Electrical Equipment General Information; Rep. Gr. 97 Vehicle Diagnostic Tester .





8 Revision History

DRUCK NUMBER: K0059241521

Factory Edition	Edit Edition	Job Type	Feedback	Notes	Quality Checked By
12.2 015	1/15/ 2016	Factory Update		Added MRPs and deleted tool names from text.	Jim H
02.2 015	08/2 8/20 15	Editing Review			Tom P
02.2 015	07/3 0/20 15	Local Factory Feedback	11 11 87 6	Note added to Headlamp, Removing and Installing chapter. Reference to full bumper cover removal only when removing both headlight assemblies.	Tom P
02.2 015	05/1 1/20 15	Local Factory Feedback	10 96 29 7	Correction to negative battery cable torques specifications until factory update is provided.	Tom P
02.2 015	03/2 4/20 15	Factory Update	N/A		Eric P
	01/1 2/20 15	Local Feedback	Ch an ge d win der wa sh ers to wip ers wh ere ap pli ca ble	1070575	Tom P
	4/21/ 2014	Factory New	N/A		Jim H

Cautions & Warnings

Please read these WARNINGS and CAUTIONS before proceeding with maintenance and repair work. You must answer that you have read and you understand these WARNINGS and CAUTIONS before you will be allowed to view this information.

- If you lack the skills, tools and equipment, or a suitable workshop for any procedure described in this manual, we suggest you leave such repairs to an authorized Volkswagen retailer or other qualified shop. We especially urge you to consult an authorized Volkswagen retailer before beginning repairs on any vehicle that may still be covered wholly or in part by any of the extensive warranties issued by Volkswagen.
- Disconnect the battery negative terminal (ground strap) whenever you work on the fuel system or the electrical system. Do not smoke or work near heaters or other fire hazards. Keep an approved fire extinguisher handy.
- Volkswagen is constantly improving its vehicles and sometimes these changes, both in parts and specifications, are made applicable to earlier models. Therefore, part numbers listed in this manual are for reference only. Always check with your authorized Volkswagen retailer parts department for the latest information.
- Any time the battery has been disconnected on an automatic transmission vehicle, it will be necessary to reestablish Transmission Control Module (TCM) basic settings using the VAG 1551 Scan Tool (ST).
- Never work under a lifted vehicle unless it is solidly supported on stands designed for the purpose. Do not support a vehicle on cinder blocks, hollow tiles or other props that may crumble under continuous load. Never work under a vehicle that is supported solely by a jack. Never work under the vehicle while the engine is running.
- For vehicles equipped with an anti-theft radio, be sure of the correct radio activation code before disconnecting the battery or removing the radio. If the wrong code is entered when the power is restored, the radio may lock up and become inoperable, even if the correct code is used in a later attempt.
- If you are going to work under a vehicle on the ground, make sure that the ground is level. Block the wheels to keep the vehicle from rolling. Disconnect the battery negative terminal (ground strap) to prevent others from starting the vehicle while you are under it.
- Do not attempt to work on your vehicle if you do not feel well. You increase the danger of injury to yourself and others if you are tired, upset or have taken medicine or any other substances that may impair you or keep you from being fully alert.
- Never run the engine unless the work area is well ventilated. Carbon monoxide (CO) kills.
- Always observe good workshop practices. Wear goggles when you operate machine tools or work with acid. Wear goggles, gloves and other protective clothing whenever the job requires working with harmful substances.
- Tie long hair behind your head. Do not wear a necktie, a scarf, loose clothing, or a necklace when you work near machine tools or running engines. If your hair, clothing, or jewelry were to get caught in the machinery, severe injury could result.
- Do not re-use any fasteners that are worn or deformed in normal use. Some fasteners are designed to be used only once and are unreliable and may fail if used a second time. This includes, but is not limited to, nuts, bolts, washers, circlips and cotter pins. Always follow the recommendations in this manual - replace these fasteners with new parts where indicated, and any other time it is deemed necessary by inspection.

Cautions & Warnings

- Illuminate the work area adequately but safely. Use a portable safety light for working inside or under the vehicle. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.
- Friction materials such as brake pads and clutch discs may contain asbestos fibers. Do not create dust by grinding, sanding, or by cleaning with compressed air. Avoid breathing asbestos fibers and asbestos dust. Breathing asbestos can cause serious diseases such as asbestosis or cancer, and may result in death.
- Finger rings should be removed so that they cannot cause electrical shorts, get caught in running machinery, or be crushed by heavy parts.
- Before starting a job, make certain that you have all the necessary tools and parts on hand. Read all the instructions thoroughly; do not attempt shortcuts. Use tools that are appropriate to the work and use only replacement parts meeting Volkswagen specifications. Makeshift tools, parts and procedures will not make good repairs.
- Catch draining fuel, oil or brake fluid in suitable containers. Do not use empty food or beverage containers that might mislead someone into drinking from them. Store flammable fluids away from fire hazards. Wipe up spills at once, but do not store the oily rags, which can ignite and burn spontaneously.
- Use pneumatic and electric tools only to loosen threaded parts and fasteners. Never use these tools to tighten fasteners, especially on light alloy parts. Always use a torque wrench to tighten fasteners to the tightening torque listed.
- Keep sparks, lighted matches, and open flame away from the top of the battery. If escaping hydrogen gas is ignited, it will ignite gas trapped in the cells and cause the battery to explode.
- Be mindful of the environment and ecology. Before you drain the crankcase, find out the proper way to dispose of the oil. Do not pour oil onto the ground, down a drain, or into a stream, pond, or lake. Consult local ordinances that govern the disposal of wastes.
- The air-conditioning (A/C) system is filled with a chemical refrigerant that is hazardous. The A/C system should be serviced only by trained automotive service technicians using approved refrigerant recovery/recycling equipment, trained in related safety precautions, and familiar with regulations governing the discharging and disposal of automotive chemical refrigerants.
- Before doing any electrical welding on vehicles equipped with anti-lock brakes (ABS), disconnect the battery negative terminal (ground strap) and the ABS control module connector.
- Do not expose any part of the A/C system to high temperatures such as open flame. Excessive heat will increase system pressure and may cause the system to burst.
- When boost-charging the battery, first remove the fuses for the Engine Control Module (ECM), the Transmission Control Module (TCM), the ABS control module, and the trip computer. In cases where one or more of these components is not separately fused, disconnect the control module connector(s).
- Some of the vehicles covered by this manual are equipped with a supplemental restraint system (SRS), that automatically deploys an airbag in the event of a frontal impact. The airbag is operated by an explosive device. Handled improperly or without adequate safeguards, it can be accidentally activated and cause serious personal injury. To guard against personal injury or airbag system failure, only trained Volkswagen Service technicians should test, disassemble or service the airbag system.

Cautions & Warnings

- Do not quick-charge the battery (for boost starting) for longer than one minute, and do not exceed 16.5 volts at the battery with the boosting cables attached. Wait at least one minute before boosting the battery a second time.
- Never use a test light to conduct electrical tests of the airbag system. The system must only be tested by trained Volkswagen Service technicians using the VAG 1551 Scan Tool (ST) or an approved equivalent. The airbag unit must never be electrically tested while it is not installed in the vehicle.
- Some aerosol tire inflators are highly flammable. Be extremely cautious when repairing a tire that may have been inflated using an aerosol tire inflator. Keep sparks, open flame or other sources of ignition away from the tire repair area. Inflate and deflate the tire at least four times before breaking the bead from the rim. Completely remove the tire from the rim before attempting any repair.
- When driving or riding in an airbag-equipped vehicle, never hold test equipment in your hands or lap while the vehicle is in motion. Objects between you and the airbag can increase the risk of injury in an accident.

I have read and I understand these Cautions and Warnings.

