

Workshop Manual Audi TT 2007 ➤

Electrical system

Edition 11.2010

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List of Workshop Manual Repair GroupsList of Workshop Manual Repair Groups

Repair Group

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



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

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27 – Starter, current supply, CCS

1 Contact corrosion

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

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

Furthermore, rubber components or plastic components and adhesives are made of non-conductive material.

Always fit new components if you are not sure that the old components are suitable ⇒ Electronic parts catalogue .

Note:

- ◆ We recommend the use of genuine replacement parts only; they have been tested and are compatible with aluminium.
- ◆ We recommend using Audi Genuine Accessories.
- ◆ Damage resulting from contact corrosion is not covered by warranty.



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2 Battery

Observe notes on contact corrosion ⇒ [page 1](#) .

2.1 Battery - general notes

The following descriptions are given in ⇒ Electrical system; General information; Rep. gr. 27 :

- ◆ Safety measures and procedures to be followed
- ◆ Warnings and safety procedures when handling lead-acid batteries

2.2 Maintenance-free batteries

The following descriptions are given in ⇒ Electrical system; General information; Rep. gr. 27 :

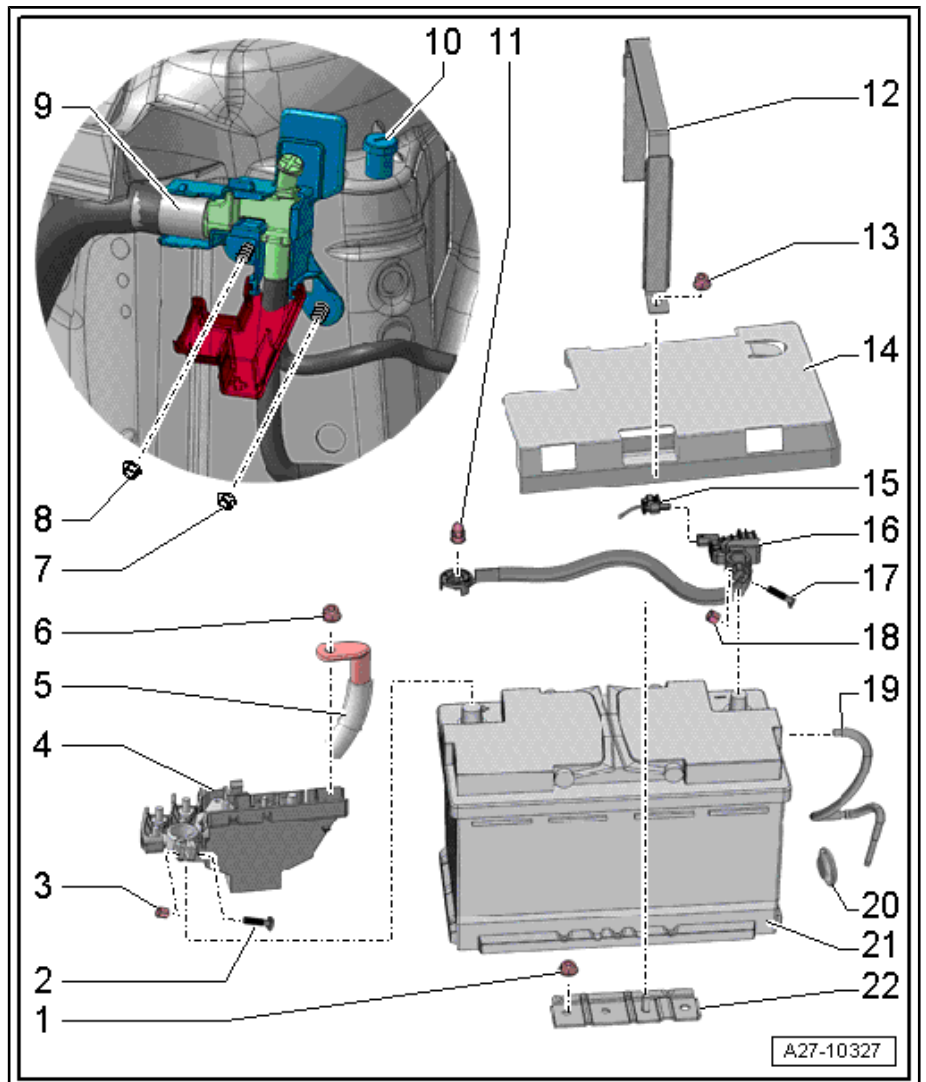
- ◆ Battery with „magic eye“
- ◆ Checking battery with „magic eye“
- ◆ Valve-regulated lead acid (VRLA) or absorbent glass mat (AGM) battery without „magic eye“
- ◆ Checking valve-regulated lead acid or AGM battery
- ◆ Central gas venting system
- ◆ Battery terminal screw connection
- ◆ Visual inspection of battery
- ◆ Checking colour indicator (electrolyte level in battery) - batteries with „magic eye“
- ◆ Checking electrolyte level in battery



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2.3 Exploded view of battery

- 1 - Nut**
☐ 20 Nm
- 2 - Bolt**
- 3 - Nut**
☐ 6 Nm
- 4 - Main fuse box**
☐ In luggage compartment (rear right) at battery
☐ Disconnecting and connecting ⇒ [page 4](#)
- 5 - Positive cable**
☐ To engine
- 6 - Nut**
☐ 15 Nm
- 7 - Nut**
☐ 5.5 Nm
- 8 - Jump start socket -U6-**
☐ Remote positive terminal of battery
- 9 - Nut**
☐ 5.5 Nm
- 10 - Jump start socket (earth stud)**
☐ Remote negative terminal of battery
☐ 9 Nm
- 11 - Nut**
☐ Tightening torque
⇒ Current flow diagrams, Electrical fault finding and Fitting locations



- 12 - Retainer**
☐ For securing battery
- 13 - Nut**
☐ 20 Nm
- 14 - Cover for negative terminal**
- 15 - Electrical wiring**
☐ For battery monitor control unit -J367-
☐ Observe correct sequence when connecting earth cable ⇒ [page 5](#)
- 16 - Earth cable with battery monitor control unit -J367-**
☐ Different versions ⇒ Electronic parts catalogue
☐ Disconnecting and connecting ⇒ [page 4](#)
☐ Removing and installing ⇒ [page 5](#)
- 17 - Bolt**
- 18 - Nut**
☐ 6 Nm

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19 - Hose for central gas venting system

20 - Grommet

- ❑ For hose for central gas venting system

21 - Battery

- ❑ In luggage compartment (rear right)
- ❑ Removing and installing ⇒ [page 6](#)

22 - Retainer plate

- ❑ Different versions ⇒ Electronic parts catalogue

2.4 Disconnecting and connecting battery

Disconnecting

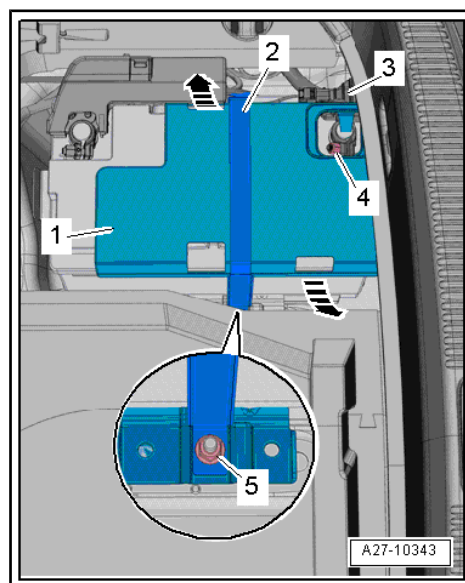
- Switch off ignition and take out ignition key.
- Remove floor covering from luggage compartment.
- If fitted, remove nut -5- and disengage retainer -2- on opposite side.
- Release retaining clips -arrows- and remove cover -1- for negative battery terminal.



Note

If cover for negative battery terminal is located underneath rear cross panel trim, the rear cross panel trim must be removed ⇒ Rep. gr. 70.

- Loosen nut -4- a few turns and disconnect battery clamp -3- of earth cable from battery terminal.



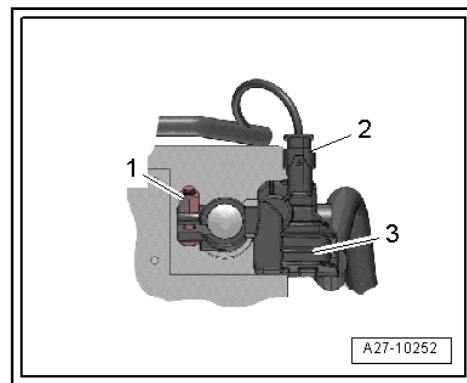
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Connecting

- Tightening torque ⇒ [page 3](#)
- On vehicles with battery monitor control unit -J367- , unplug electrical connector -2- at battery monitor control unit -J367- -item 3-.
- When connecting battery, attach battery clamp of earth cable to negative battery terminal „-“ by hand and tighten nut.
- Reconnect connector at battery monitor control unit -J367- .

The following measures are required after re-connecting the battery:

- ◆ Activate automatic open/close function of electric window regulators - see ⇒ Owner's Manual .
- ◆ Synchronise spare key and additional key to ensure correct remote control operation. To do so, insert key in ignition lock, switch on the ignition and then off again, then remove the key.
- ◆ Interrogate event memories of all control units and erase „Low voltage“ entry ⇒ Vehicle diagnostic, testing and information system VAS 5051.



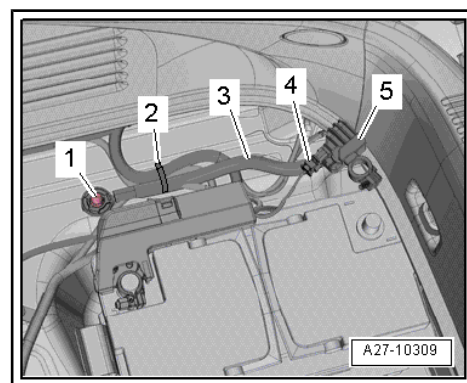
Note

After reconnecting the voltage supply, it is possible that the ESP warning lamp will not go out until the vehicle has been driven several metres.

2.5 Removing and installing earth cable with battery monitor control unit -J367-

Removing

- Disconnect battery ⇒ [page 4](#) .
- Remove foam insert (right-side) for vehicle tool kit.
- If fitted, remove spare wheel well lining ⇒ Rep. gr. 70 .
- Unplug electrical connector -4-.
- If fitted, cut through cable tie -2-.
- Remove nut -1- and detach earth cable -3- with battery monitor control unit -J367- -item 5-.



Installing

- Tightening torques ⇒ [page 3](#)

Installation is carried out in the reverse order; note the following:

- Install foam insert (right-side) for vehicle tool kit.
- Connect battery ⇒ [page 5](#) .

2.6 Removing and installing battery

Removing

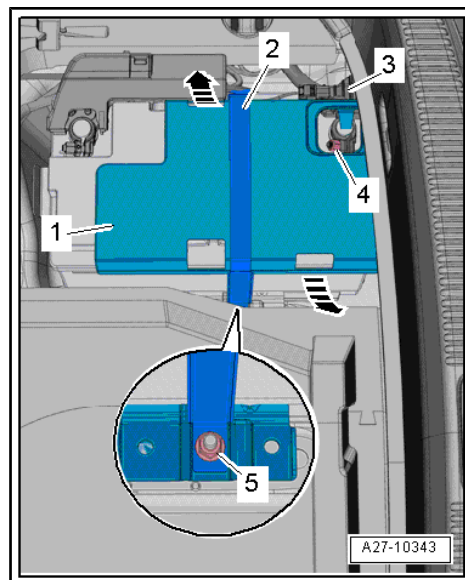
- Switch off ignition and take out ignition key.
- Remove floor covering from luggage compartment.
- Remove foam insert (right-side) for vehicle tool kit.
- If fitted, remove nut -5- and disengage retainer -2- on opposite side.
- Release retaining clips -arrows- and remove cover -1- for negative battery terminal.



Note

If cover for negative battery terminal is located underneath rear cross panel trim, the rear cross panel trim must be removed ⇒ Rep. gr. 70.

- Connect battery charger to provide back-up power supply
⇒ [page 10](#).
- Loosen nut -4- a few turns and disconnect battery clamp -3- of earth cable from battery terminal.



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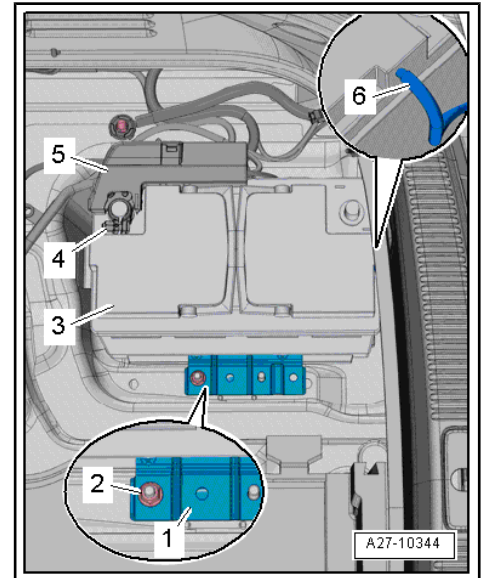
- Loosen nut -4- several turns and disconnect battery clamp -5- of positive cable together with main fuse box from positive battery terminal.
- Unscrew nut -2- on battery retainer plate -1-.
- Pull battery -3- slightly out of battery retainer.
- Pull off hose -6- for central gas venting system.
- Lift battery out of luggage compartment (right-side).



WARNING

Observe environmental requirements.

- ◆ *When disposing of used batteries, always observe the required disposal procedures for batteries and sulphuric acid ⇒ **Electrical system; General information; Rep. gr. 27.***



Installing

- Tightening torques ⇒ [page 3](#)

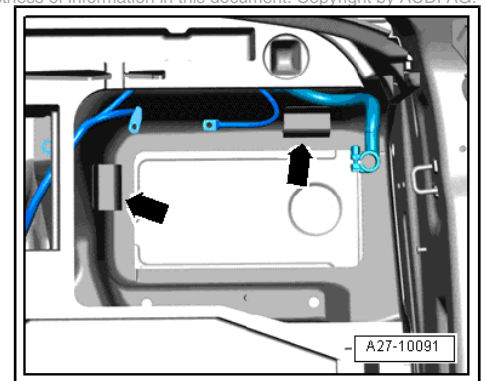


Note

- ◆ *Only install maintenance-free batteries with the specifications „TL82506“ (from December 1997 onwards) and „VW75073“ (from August 2001 onwards).*
- ◆ *If a leakproof, deep-cycle VRLA or AGM battery was fitted as original equipment, this type of battery must also be installed as a replacement.*
- ◆ *Batteries from the Audi parts range feature a base strip adapter for matching to different retainer flanges. The battery operating instructions give details of when and how to use the base strip adapter.*

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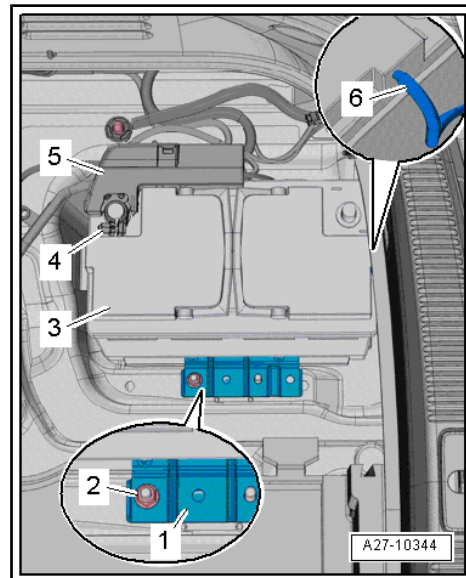
- Insert battery in battery retainer; the battery base strip must engage in the retainer flanges of the battery retainer -arrows-.
- It should no longer be possible to move the battery.



- Connect hose -6- for central gas venting system. Observe notes in ➔ Electrical system; General information; Rep. gr. 27 .
- Place battery retainer plate -1- in position.
- Lug on battery retainer plate must engage in recess on battery base strip.
- Tighten nut -2- for battery retainer plate.

Connect up battery -3- in the following sequence with ignition and electrical equipment switched off:

- First connect battery clamp -5- of positive cable by hand to positive battery terminal „+“ and tighten nut -4-.
- Connect battery ➔ [page 5](#) .
- Install foam insert (right-side) for vehicle tool kit.



2.7 Checking battery

The following descriptions are given in ➔ Electrical system; General information; Rep. gr. 27 :

- ◆ Checking battery using battery tester with printer -VAS 5097A-
- ◆ Measuring no-load voltage - vehicles without battery monitor control unit -J367- or energy management control unit -J644-
- ◆ Checking battery by measuring current draw
- ◆ Checking battery - vehicles with battery monitor control unit -J367- or energy management control unit -J644-
- ◆ Measuring no-load voltage - vehicles with battery monitor control unit -J367- or energy management control unit -J644-
- ◆ Checking battery by measuring current draw - vehicles with battery monitor control unit -J367- or energy management control unit -J644-
- ◆ Measuring no-load voltage - vehicles with battery monitor control unit -J367- or energy management control unit -J644- „transport mode not active“
- ◆ Measuring no-load voltage - vehicles with battery monitor control unit -J367- or energy management control unit -J644- „transport mode active“

2.8 Charging battery

The following descriptions are given in ➔ Electrical system; General information; Rep. gr. 27 :

- ◆ Charging battery with battery charger -VAS 5095A- , -VAS 5900- , -VAS 5903- , -VAS 5904- or -VAS 5906-
- ◆ Totally discharged battery
- ◆ Rapid-charging battery - vehicles without battery monitor control unit -J367- or energy management control unit -J644-
- ◆ Back-up power supply of battery via battery charger -VAS 5095A- , -VAS 5900- , -VAS 5903- , -VAS 5904- or -VAS 5906-
- ◆ Maintaining battery charge with solar panel -VAS 6102 A-

2.9 Preparations before charging battery

Procedure



WARNING

Risk of explosion due to a discharged battery with „magic eye“.

- ◆ *The battery must NOT be checked or charged if the indicator of the „magic eye“ is colourless or yellow. Do NOT boost start the vehicle. There is a risk of explosion when checking or charging the battery or boost starting the vehicle. The battery must be renewed.*

Before connecting battery charger, it is necessary to perform the following steps:



Note

The battery clamps should normally be disconnected from the battery before charging.

- Switch off ignition and all electrical equipment; then take out ignition key.

Vehicles without positive terminal in engine compartment:

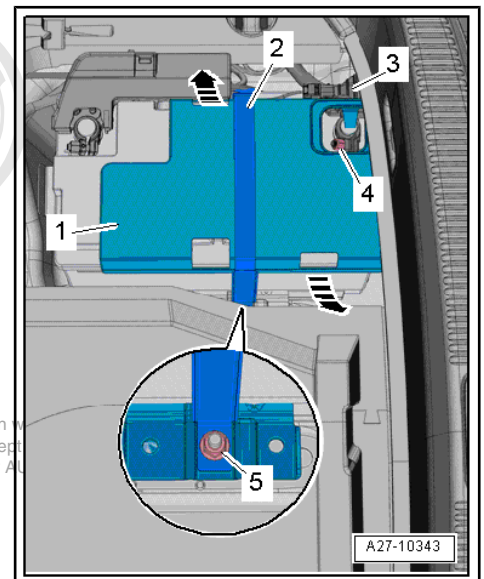
- Remove floor covering from luggage compartment.
- If fitted, remove nut -5- and disengage retainer -2- on opposite side.
- Release retaining clips -arrows- and remove cover -1- for negative battery terminal.



Note

If cover for negative battery terminal is located underneath rear cross panel trim, the rear cross panel trim must be removed ⇒ Rep. gr. 70.

- Loosen nut -4- a few turns and disconnect battery clamp -3- of earth cable from battery terminal.

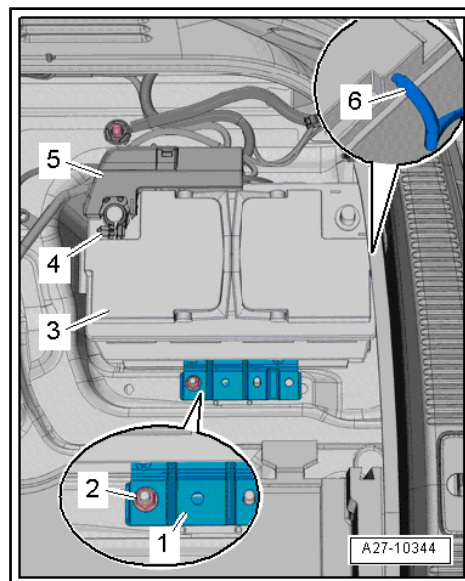


- Loosen nut -4- several turns and disconnect battery clamp -5- of positive cable together with main fuse box from positive battery terminal.
- Connect red clamp „+“ of battery charger to positive terminal of battery and black clamp „-“ to negative terminal of battery.



Note

Disregard -items 1, 2, 3, 6-.

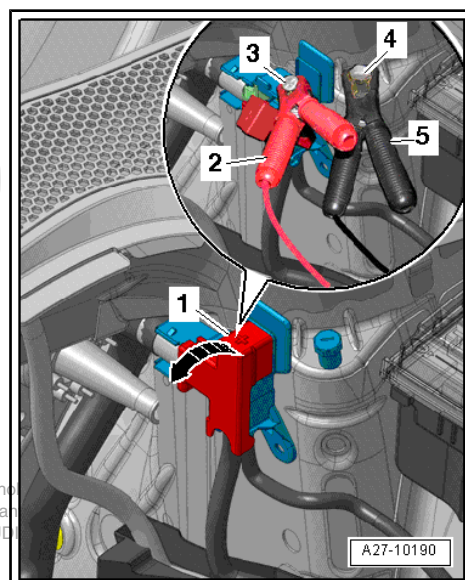


Vehicles with positive terminal in engine compartment:

- Open cover -1- over positive battery terminal -arrow-.
- Connect red clamp „+“ -item 2- of battery charger to remote positive terminal -3- and black clamp „-“ -item 5- to earth terminal -4-.

All models:

- Plug in mains connector of battery charger and switch on battery charger ⇒ Electrical system; General information; Rep. gr. 27 .
- Leave rear lid open during charging.



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2.10 Preparations for back-up power supply of battery

Procedure

Before connecting battery charger, it is necessary to perform the following steps:

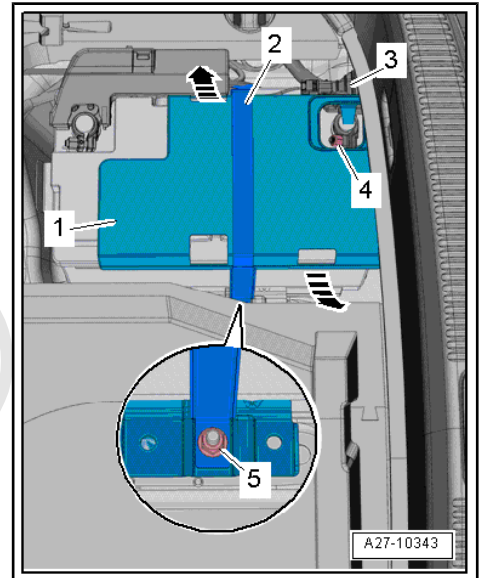
- Switch off ignition and all electrical equipment.

Vehicles without positive terminal in engine compartment:

- Remove floor covering from luggage compartment.
- If fitted, remove nut -5- and disengage retainer -2- on opposite side.
- Release retaining clips -arrows- and remove cover -1- for negative battery terminal.

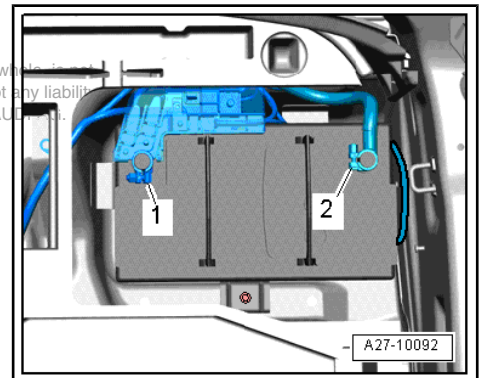
Note

- ◆ If cover for negative battery terminal is located underneath rear cross panel trim, the rear cross panel trim must be removed ⇒ Rep. gr. 70.
- ◆ Disregard -items 3, 4-.



- Connect red clamp „+“ of battery charger to positive battery clamp „+“ -item 1- and black clamp „-“ to negative battery clamp „-“ -item 2-.

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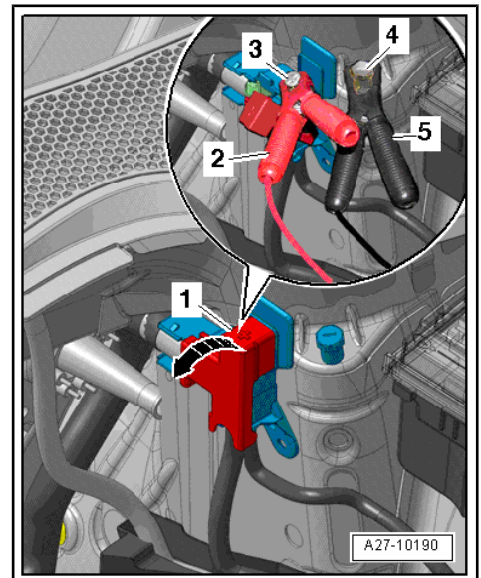


Vehicles with positive terminal in engine compartment:

- Open cover -1- over positive battery terminal -arrow-.
- Connect red clamp „+“ -item 2- of battery charger to remote positive terminal -3- and black clamp „-“ -item 5- to earth terminal -4-.

All models:

- Plug in mains connector of battery charger and switch on battery charger ⇒ Electrical system; General information; Rep. gr. 27.



2.11 Removing and installing battery isolation igniter -N253-

If battery isolation igniter -N253- is defective or has tripped, renew battery isolation igniter -N253- ⇒ Rep. gr. 69.

3 Removing and installing alternator

Observe notes on contact corrosion ⇒ [page 1](#) .

3.1 Exploded view of alternator

1 - Bolt

- 23 Nm

2 - Alternator

- Removing and installing:

- ◆ Audi TT and TTS with 2.0 ltr. TFSI engine ⇒ [page 12](#)
- ◆ Audi TTRS with 2.5 ltr. TFSI engine ⇒ [page 14](#)
- ◆ Audi TT with 3.2 ltr. MPI engine ⇒ [page 16](#)
- ◆ Audi TT with 2.0 ltr. TDI engine ⇒ [page 19](#)

3 - Sliding bush

- Ensure that bushes slide freely, as the clamping pressure of a stiff bush will be insufficient even when the correct tightening torque is applied

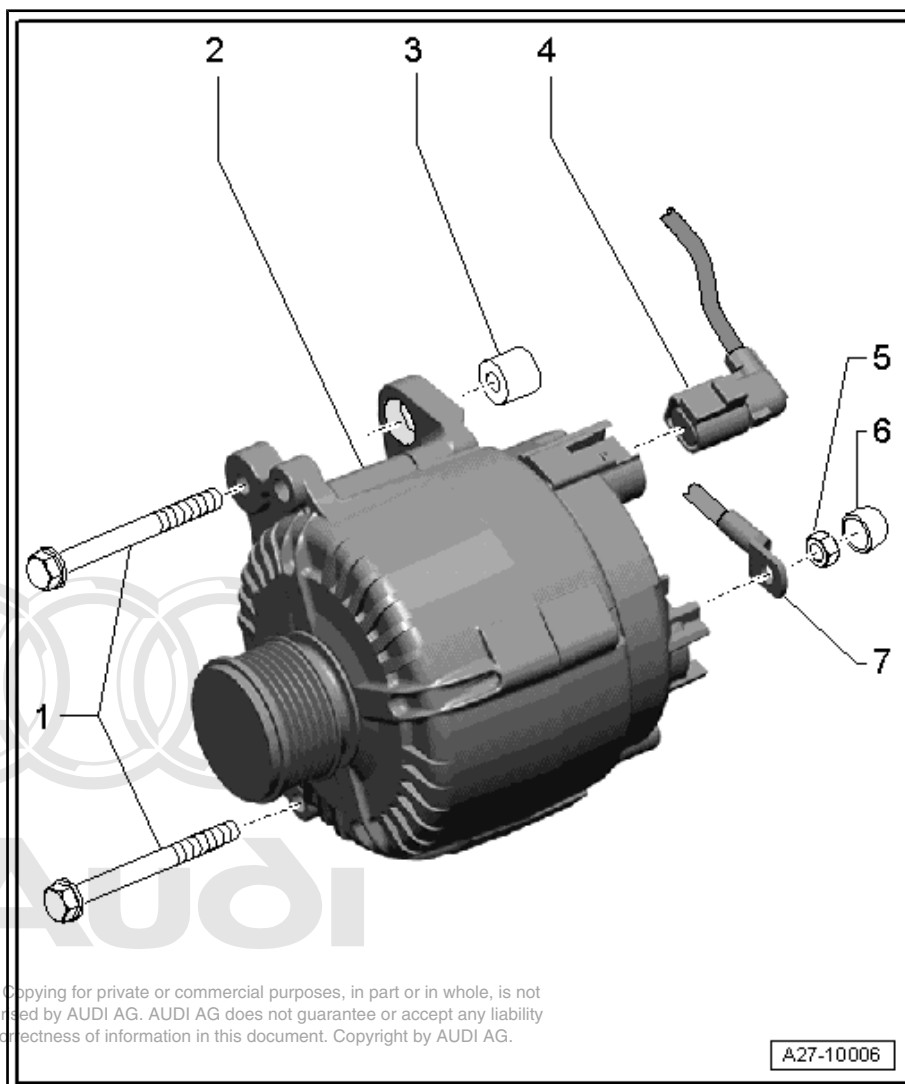
4 - Electrical connector

5 - Nut

- 15 Nm

6 - Cap

7 - Terminal 30/B+



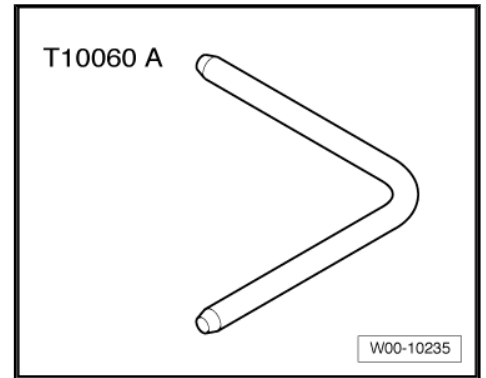
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A27-10006

3.2 Audi TT and TTS with 2.0 ltr. TFSI engine

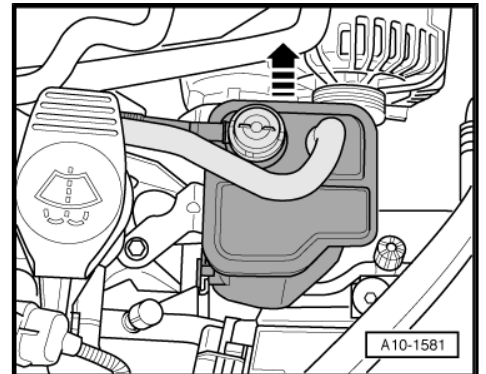
Special tools and workshop equipment required

◆ Locking pin -T10060 A-



Removing

- With ignition switched off, disconnect earth cable at battery
⇒ [page 4](#) .
- Lift activated charcoal filter out of bracket -arrow- and place it aside with hoses still attached.

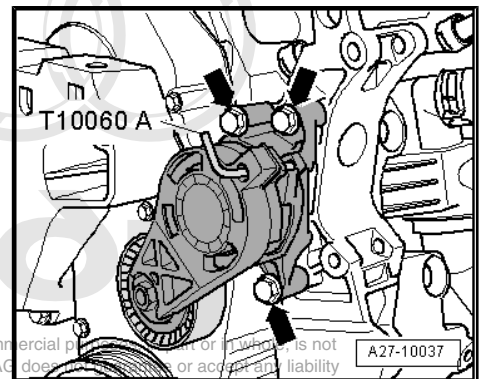
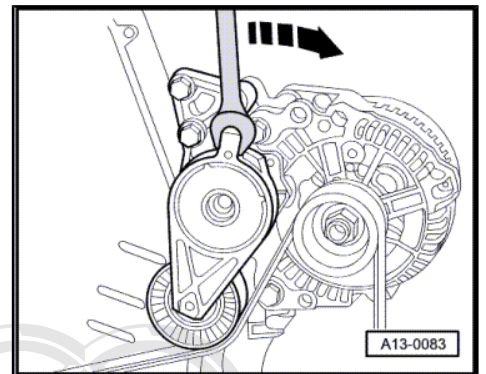


Caution

Risk of breakage if the poly V-belt runs in the opposite direction when refitted.

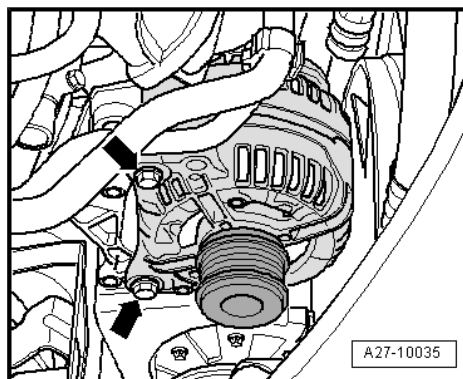
- ◆ ***Before removing, mark direction of operation of poly V-belt with chalk or felt-tipped pen in preparation for re-installation.***

- To slacken poly V-belt, turn tensioner in direction of -arrow-.
- Lock the poly V-belt tensioner using the locking pin -T10060 A- .
- Take off poly V-belt.
- Remove poly V-belt tensioner -arrows-.

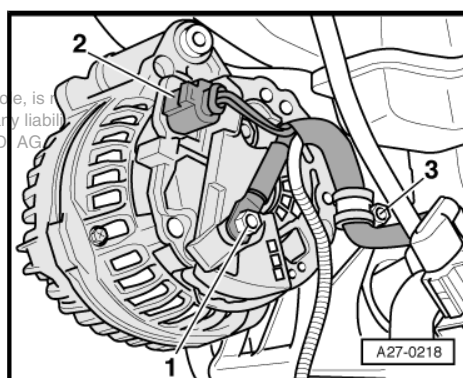


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- Unscrew bolts -arrows- for alternator approx. 6 turns.
- Tap carefully on bolt heads with a hammer to release sliding bushes securing alternator.
- Remove bolts.
- Detach alternator from bracket for ancillaries.
- Swivel alternator towards right side of vehicle with electrical wiring still connected.



- Unplug electrical connector -2-.
- Unscrew electrical wiring -1- and clamp -3- from alternator.
- Lift out alternator.



Installing

- Tightening torques ⇒ [page 12](#)

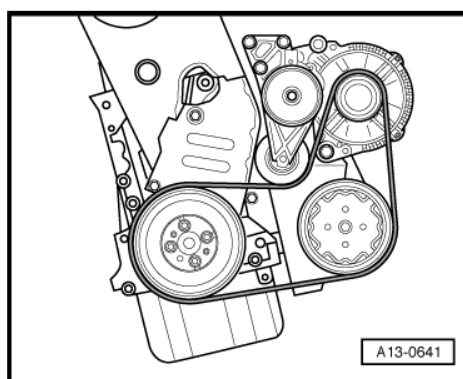
Installation is carried out in the reverse order; note the following:



Note

You must ensure that the bushes slide freely, as the clamping pressure of a stiff bush will be insufficient even when the correct tightening torque is applied.

- To facilitate positioning of alternator, drive back sliding bushes for securing bolts slightly.
- Fit poly V-belt on pulleys of crankshaft, air conditioner compressor and alternator.
- Install tensioner for poly V-belt ⇒ Rep. gr. 13 .
- Check correct positioning of poly V-belt.
- Connect battery. Steps required ⇒ [page 5](#) .
- Start engine and check that belt runs properly.



3.3 Audi TT RS with 2.5 ltr. TFSI engine

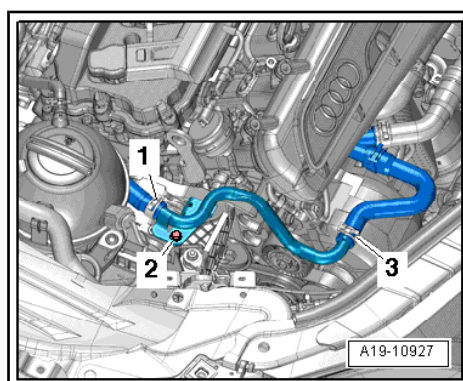
Removing

- With ignition switched off, disconnect earth cable at battery ⇒ [page 4](#) .
- Remove poly V-belt tensioner for alternator and coolant pump ⇒ Rep. gr. 13 .
- Remove bolt -2- for coolant pipe (right-side).

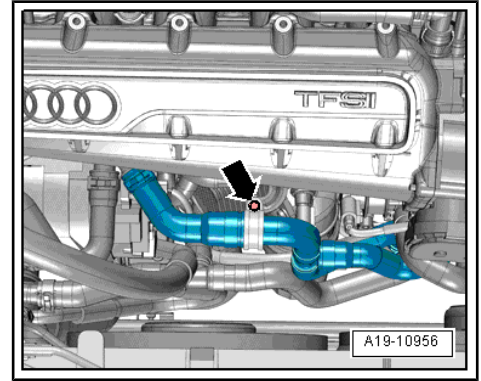


Note

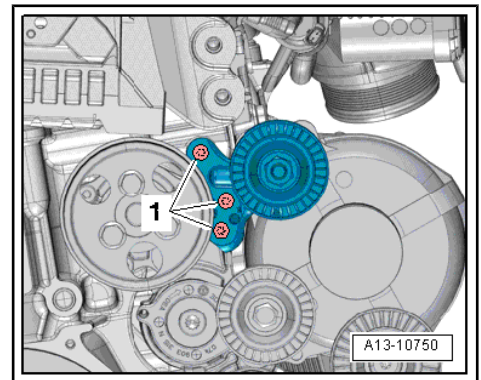
Disregard -items 1, 3-.



- Remove bolt -arrow- at retaining clip.

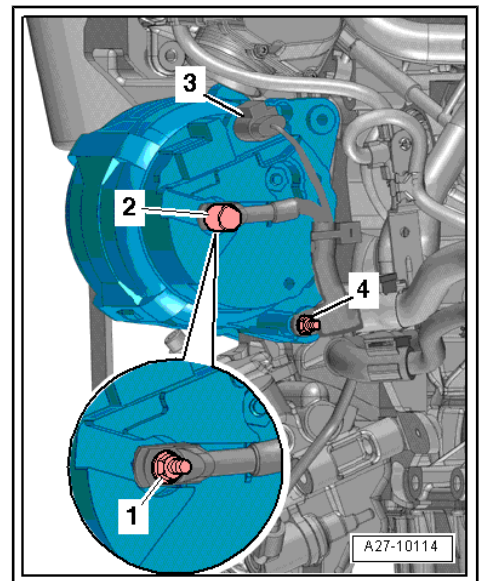


- Unscrew bolts -1- and detach idler roller.

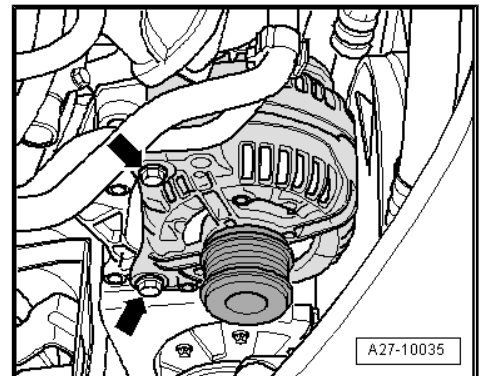


- Unplug electrical connector -3-.
- Pry off protective cap -2- and unscrew nut -1- for terminal 30/B+.
- Unscrew nut -4- and pull off clamp.

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- Remove bolts -arrows-.
- Lift out alternator.





Note

- ◆ If alternator sticks in bracket, apply a 1/2 inch socket (19 mm) -item 1- at sliding bush.
- ◆ Screw a bolt (M8x45) into sliding bush and then pull bush out of alternator by screwing in bolt.

Installing

- Tightening torques ⇒ [page 12](#)

Installation is carried out in the reverse order; note the following:

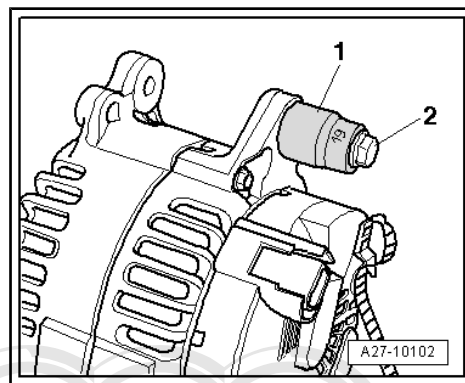


Note

You must ensure that the bushes slide freely, as the clamping pressure of a stiff bush will be insufficient even when the correct tightening torque is applied.

- To facilitate positioning of alternator, drive back sliding bushes for securing bolts slightly.
- Install poly V-belt tensioner for alternator and coolant pump ⇒ Rep. gr. 13 .
- Install coolant pipe (right-side) ⇒ Rep. gr. 19 .
- Connect battery. Steps required ⇒ [page 5](#) .
- Start engine and check that belt runs properly.

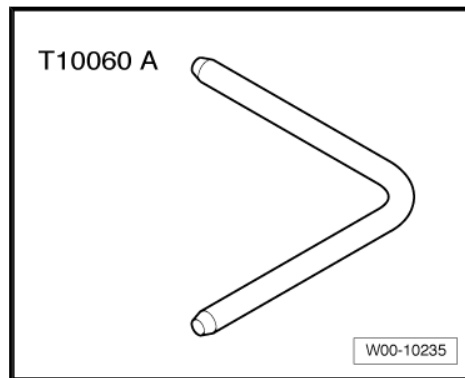
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3.4 Audi TT with 3.2 ltr. MPI engine

Special tools and workshop equipment required

- ◆ Locking pin -T10060 A-



Removing

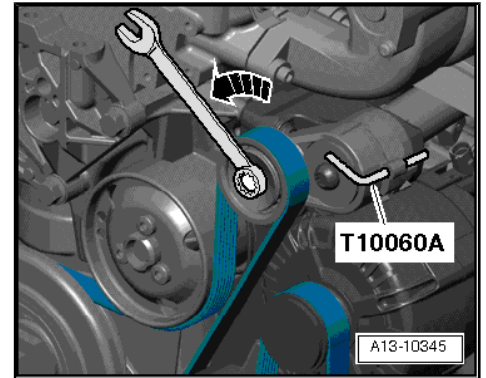
- With ignition switched off, disconnect earth cable at battery
⇒ [page 4](#).



Caution

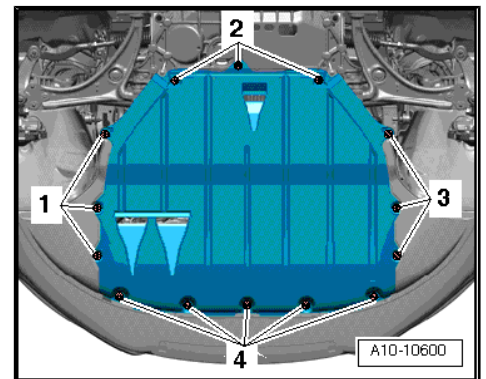
Risk of breakage if the poly V-belt runs in the opposite direction when refitted.

- ◆ **Before removing, mark direction of operation of poly V-belt with chalk or felt-tipped pen in preparation for re-installation.**

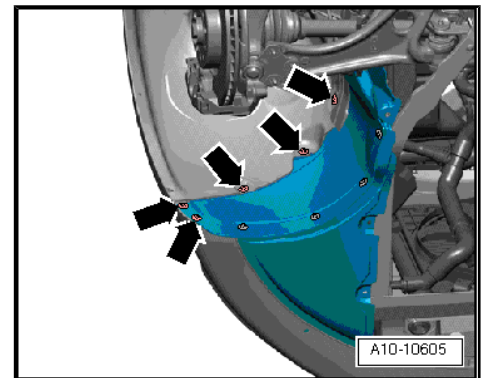


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- Slacken poly V-belt by turning tensioner in direction of -arrow- and lock tensioner using locking pin -T10060 A-.
- Take off poly V-belt.
- Remove front wheel (right-side).
- Release fasteners -1 ... 4- and remove noise insulation (centre).



- Remove noise insulation (right-side) -arrows-.



- Unplug electrical connector -1- for magnetic clutch at air conditioner compressor and move wiring clear.

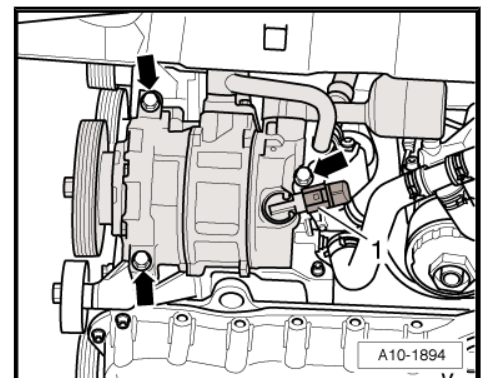


WARNING

Risk of injury due to refrigerant.

- ◆ **Do not open refrigerant circuit of air conditioner.**

- Remove bolts -arrows- for air conditioner compressor.
- Tie up air conditioner compressor to frame for noise insulation (front) with refrigerant hoses connected.

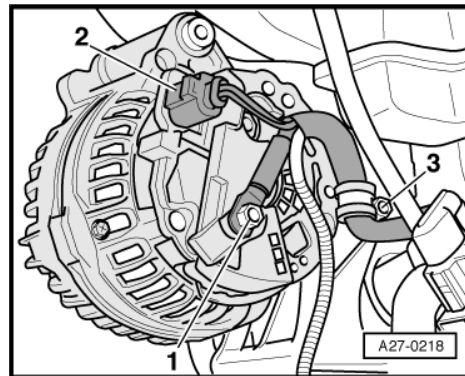


- Detach cap (if fitted) and unscrew wiring -1- at alternator.
- Unplug electrical connector -2-.



Note

Disregard -item 3-.

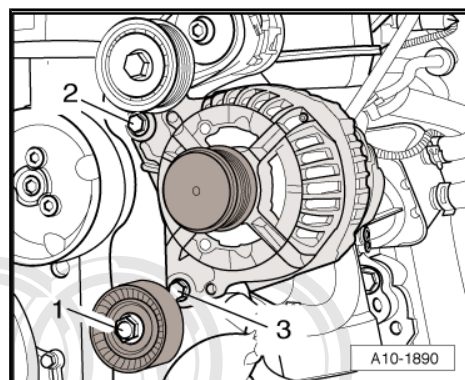


- Remove upper idler roller -1-.
- Unscrew bolts -2 and 3- for alternator approx. 6 turns.
- Tap carefully on bolt heads with a hammer to release bushes securing alternator.
- Remove bolts.



Note

To remove alternator from engine compartment, turn alternator so that pulley is pointing upwards.



- Remove alternator from below.

Installing

- Tightening torque ⇒ [page 12](#)

Installation is carried out in the reverse order; note the following:



Note

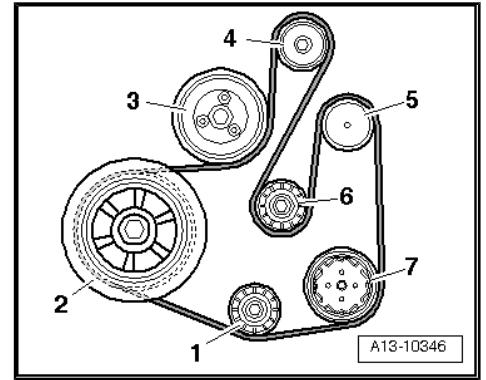
- ◆ *You must ensure that the bushes slide freely, as the clamping pressure of a stiff bush will be insufficient even when the correct tightening torque is applied.*
- ◆ *Before fitting poly V-belt, make sure all ancillary units (alternator, air conditioner compressor) are firmly secured.*
- To facilitate positioning of alternator, drive back sliding bushes for securing bolts slightly.
- Install air conditioner compressor ⇒ Rep. gr. 87 .

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– Fit poly V-belt onto:

- 1 - Idler roller
- 2 - Vibration damper
- 3 - Coolant pump
- 4 - Tensioning roller
- 5 - Alternator
- 6 - Idler roller
- 7 - Air conditioner compressor

- Check correct positioning of poly V-belt.
- Connect battery. Steps required ⇒ [page 5](#).
- Start engine and check that belt runs properly.

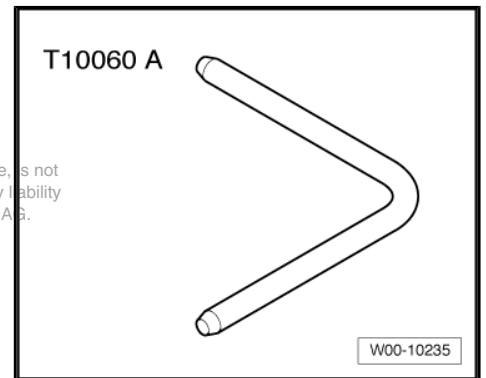


3.5 Audi TT with 2.0 ltr. TDI engine

Special tools and workshop equipment required

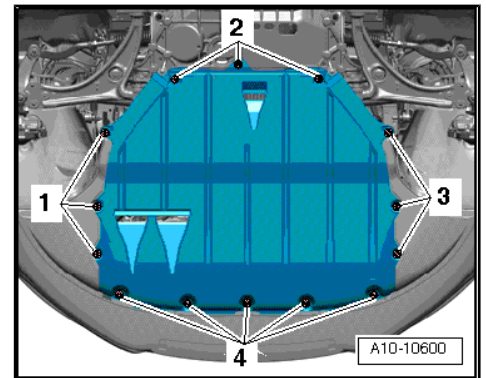
- ◆ Locking pin -T10060 A-

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Removing

- With ignition switched off, disconnect earth cable at battery ⇒ [page 4](#).
- Release fasteners -1 ... 4- and remove noise insulation (centre).
- Remove front right wheel housing liner ⇒ Rep. gr. 66.
- Remove radiator cowl ⇒ Rep. gr. 19.




Caution

Risk of breakage if the poly V-belt runs in the opposite direction when refitted.

- ◆ **Before removing, mark direction of operation of poly V-belt with chalk or felt-tipped pen in preparation for re-installation.**

- To slacken poly V-belt turn tensioner clockwise -arrow-.
- Secure tensioner with locking pin -T10060 A- .
- Take off poly V-belt.
- Unplug electrical connector -2- at air conditioner compressor regulating valve -N280- .


Caution

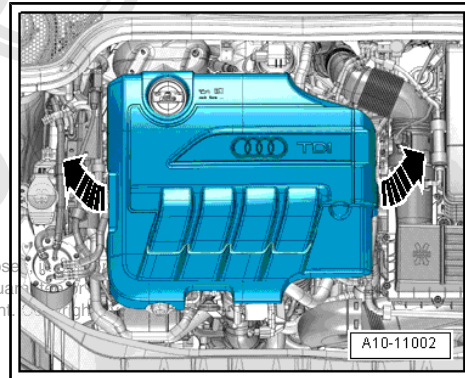
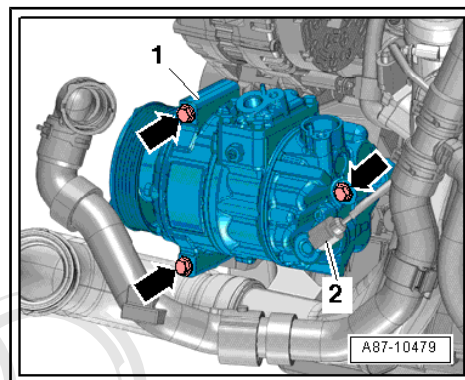
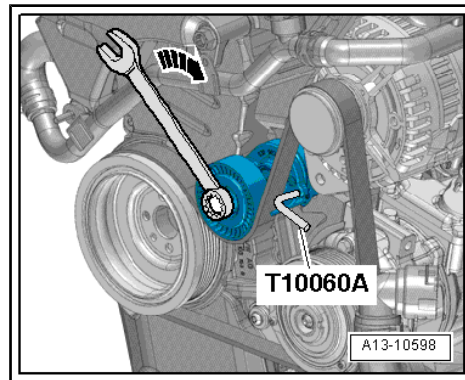
Risk of damage to air conditioner compressor and refrigerant lines/hoses.

- ◆ **Take care to avoid straining, kinking or bending refrigerant lines/hoses.**

- Unscrew bolts -arrows- and detach air conditioner compressor -1- (with refrigerant lines still connected).

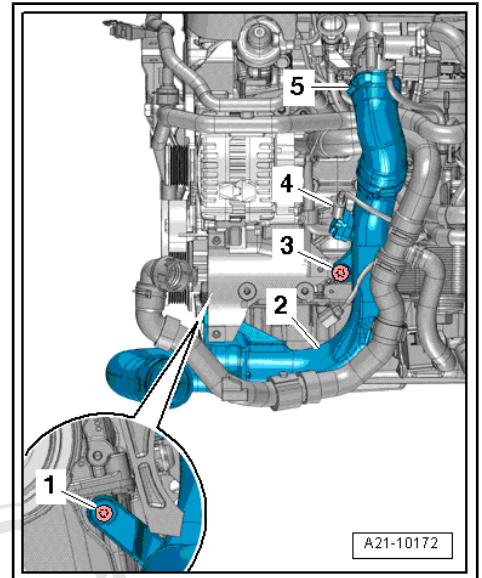
Engine generation I:

- Detach engine cover panel -arrows-.



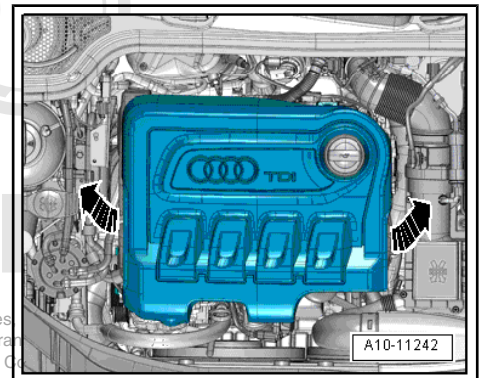
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- Remove bolts -1- and -3-.
- Unplug electrical connector -4-.
- Unfasten clamp -5- at intake manifold flap motor -V157- and pull off air pipe -2-.



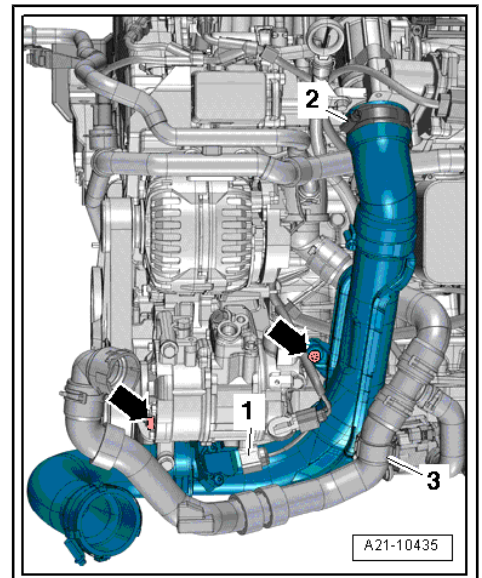
Engine generation II:

- Detach engine cover panel -arrows-.



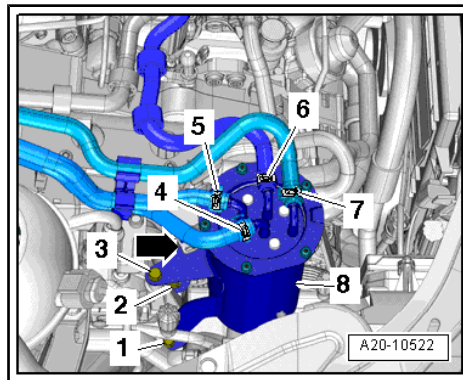
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- Remove bolts -arrows-.
- Move clear coolant hose -3-.
- Release hose clip -2-.
- Unplug electrical connector -1- at charge pressure sender - G31- / intake air temperature sender -G42- and detach air pipe (right-side).

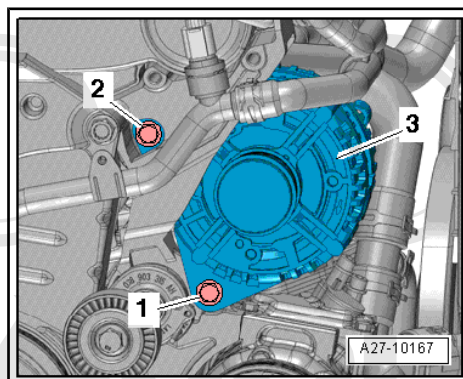


All engines (continued):

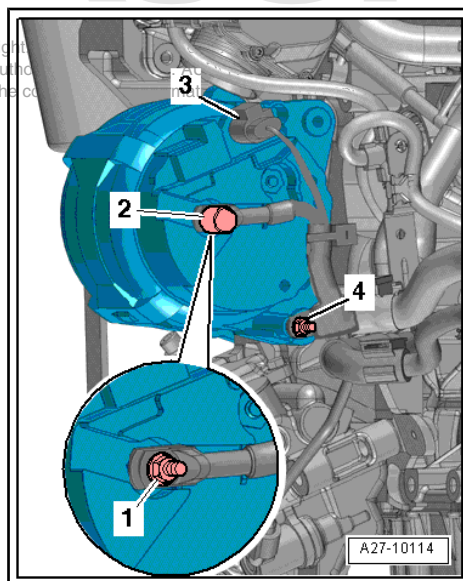
- Loosen bolt -1-.
- Remove nut -2- and bolt -3-.
- Detach hose retainer -arrow- from fuel filter and place fuel filter -8- to one side (with fuel hoses -4 ... 7-connected).



- Remove bolt -2-.



- Swivel alternator forwards and unplug electrical connector -3-.
- Pry off protective cap -2- and unscrew nut -1- for terminal 30/B+.
- Unscrew nut -4- and pull off clamp.



- Unscrew bolt -1- and take out alternator -3- downwards and to the right; to do so, move air conditioner compressor to the left (as seen in direction of travel).

 **Note**

- ◆ If alternator sticks in bracket, screw bolts back in again down to the last 2 turns.
- ◆ Tap carefully on bolt heads with flat side of hammer to release threaded bushes of alternator mountings.

Installing

- Tightening torque ➔ [page 12](#)

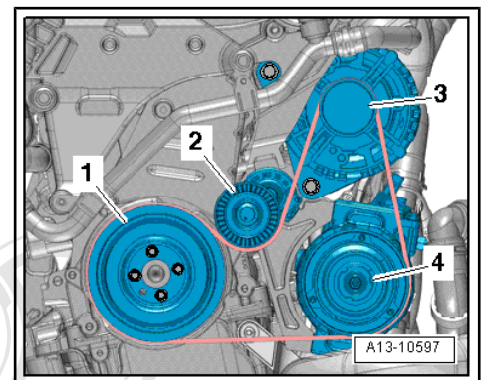
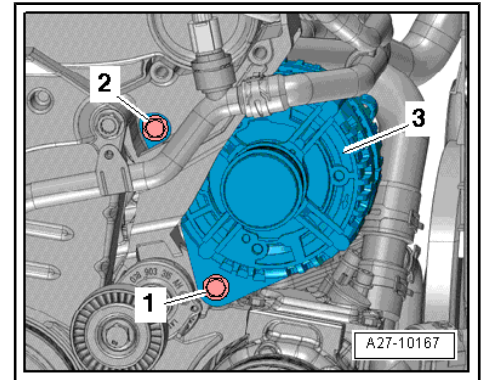
Installation is carried out in the reverse order; note the following:

- To facilitate positioning of alternator, slightly drive back bushes for bolts.

 **Note**

Stiff alternator mount bushes must be freed; otherwise the clamping force of the bush will not be adequate even when the bolts are tightened to the correct torque.

- Install air pipe ➔ Rep. gr. 21 .
- Install air conditioner compressor ➔ Rep. gr. 87 .
- Install radiator cowl ➔ Rep. gr. 19 .
- Position poly V-belt on pulleys:
 - 1 - Crankshaft
 - 2 - Tensioner
 - 3 - Alternator
 - 4 - Air conditioner compressor

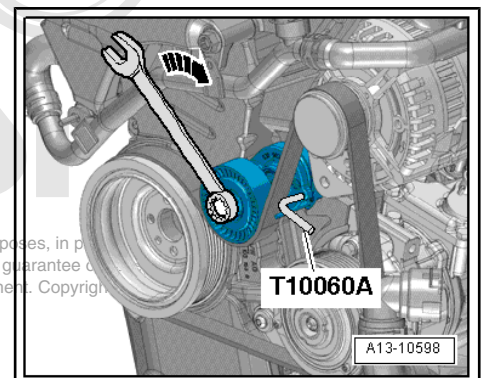


- Use ring spanner to hold tensioner and pull out locking pin - T10060 A- .
- Release pressure from tensioner.

 **Note**

When installing poly V-belt, make sure it is properly seated on pulleys.

- Connect battery. Steps required ➔ [page 5](#) .
- Start engine and check that belt runs properly.
- Install front right wheel housing liner ➔ Rep. gr. 66 .
- Install noise insulation ➔ Rep. gr. 50 .



4 Checking and servicing alternator

4.1 Checking alternator

The alternator should be checked in „Guided Fault Finding“ ⇒ vehicle diagnostic tester .

- Select function or path:

Go to button
Selecting function/component
+ Body (Repair Groups 01, 27, 50 - 97)
+ Electrical system (Repair Groups 01, 27, 90 - 97)
+ 27 Starter, current supply
+ Electrical components
C- Alternator, functional check (Repair Group 27)

- Continue to follow the instructions on the display of the vehicle diagnostic tester.

4.2 Servicing alternator

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The following descriptions are given in ⇒ Electrical system; General information; Rep. gr. 27 :

- ◆ Bosch alternator from 2001 onwards - exploded view
- ◆ Removing and installing voltage regulator - Bosch alternator from 2001 onwards
- ◆ Bosch alternator from 2007 onwards - exploded view
- ◆ Removing and installing voltage regulator - Bosch alternator from 2007 onwards
- ◆ Checking carbon brushes - all types of Bosch alternators from 2001 onwards
- ◆ Valeo alternator from 2001 onwards - exploded view
- ◆ Removing and installing voltage regulator - Valeo alternator from 2001 onwards
- ◆ Checking carbon brushes - Valeo alternator from 2001 onwards
- ◆ Removing and installing voltage regulator - Valeo alternator from 2007 onwards
- ◆ Checking carbon brushes - Valeo alternator from 2007 onwards
- ◆ Removing and installing poly V-belt pulley without free-wheel
- ◆ Removing and installing poly V-belt pulley with free-wheel

5 Removing and installing starter

Observe notes on contact corrosion ⇒ [page 1](#) .

5.1 Exploded view of starter

1 - Bolt

- ☐ Tightening torque:

Audi TT and TTS with manual gearbox ⇒ Rep. gr. 34

Audi TT and TTS with direct shift gearbox: 40 Nm

2 - Earth cable

3 - Nut

- ☐ For earth wire
- ☐ 23 Nm

4 - Electrical connector

5 - Nut

- ☐ 15 Nm

6 - Protective sleeve

7 - Terminal B+

8 - Starter

- ☐ Removing and installing:

- ◆ Audi TT with 2.0 ltr. TFSI engine: Manual gearbox ⇒ [page 26](#) ; direct shift gearbox ⇒ [page 26](#)

- ◆ Audi TTS with 2.0 ltr. TFSI engine and direct shift gearbox ⇒ [page 27](#)

- ◆ Audi TTRS with 2.5 ltr. TFSI engine and manual gearbox ⇒ [page 28](#)

- ◆ Audi TT with 3.2 ltr. MPI engine: Manual gearbox ⇒ [page 29](#) ; direct shift gearbox ⇒ [page 31](#)

- ◆ Audi TT with 2.0 ltr. TDI engine and manual gearbox ⇒ [page 32](#)

9 - Nut

- ☐ For bracket for wiring harness
- ☐ 23 Nm

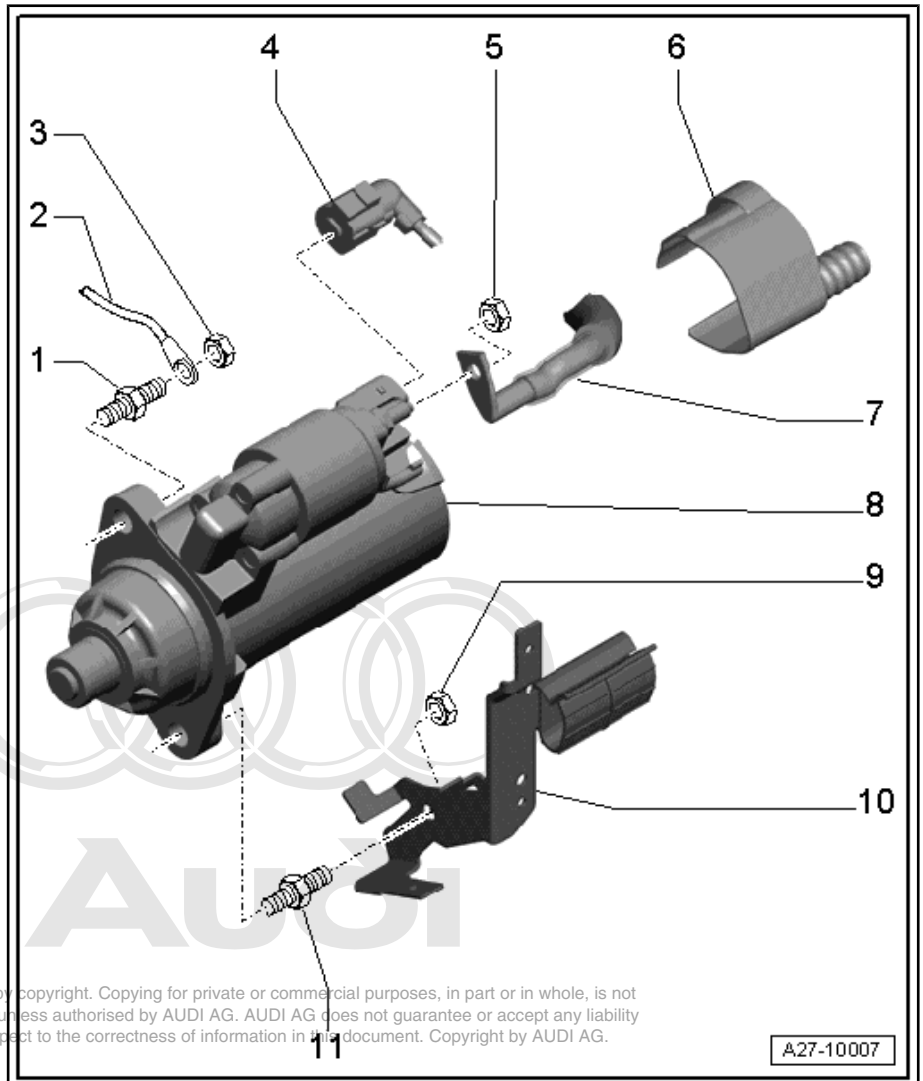
10 - Bracket for wiring harness

11 - Bolt

- ☐ Tightening torque:

Audi TT and TTS with manual gearbox ⇒ Rep. gr. 34

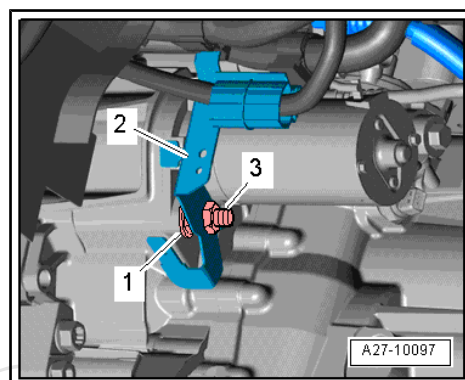
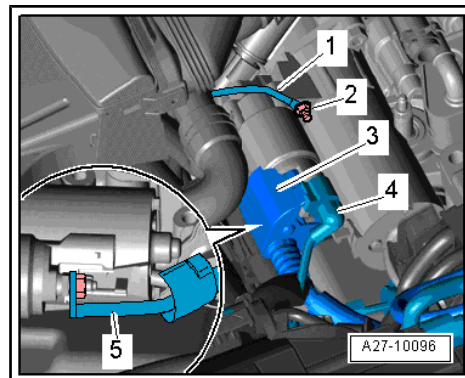
Audi TT with direct shift gearbox: 40 Nm



5.2 Audi TT with 2.0 ltr. TFSI engine and manual gearbox

Removing

- With ignition switched off, disconnect earth cable at battery ➔ [page 4](#) .
- Unplug electrical connector -4-.
- Fold back protective sleeve -3- and detach B+ wire -item 5- from solenoid switch.
- Unscrew earth cable -2-.
- Remove upper starter bolt -1-.
- Unscrew nut -3- from lower starter bolt and detach bracket -2- for wiring harness.
- Remove lower starter bolt -1- (accessible from above) and detach starter.



Installing

- Tightening torques ➔ [page 25](#)
- Installation is carried out in the reverse order; note the following:
- Connect battery. Steps required ➔ [page 5](#) .

5.3 Audi TT with 2.0 ltr. TFSI engine and direct shift gearbox

Removing



Note

All cable ties which are released or cut open when removing must be fitted in the same position when installing.

- With ignition switched off, disconnect earth cable at battery ➔ [page 4](#) .

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- Remove cable tie -arrow- for protective sleeve.
- Unplug electrical connector -2-.
- Fold back protective sleeve -1- and detach B+ wire from solenoid switch.
- Unscrew earth cable -3-.
- Remove lower starter bolt (accessible from above).
- Remove upper starter bolt and detach starter.

 **Note**

Disregard -item 4-.

Installing

- Tightening torques ⇒ [page 25](#)

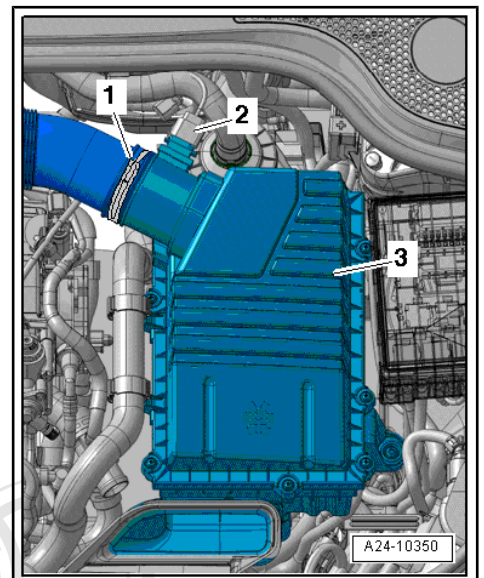
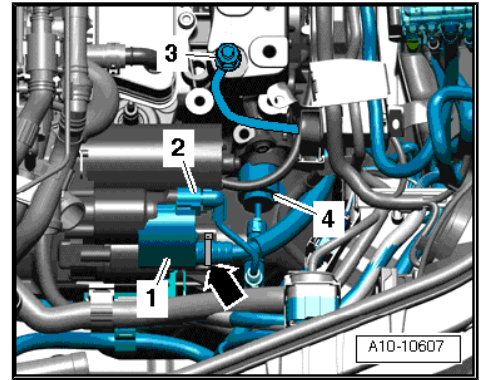
Installation is carried out in the reverse order; note the following:

- Connect battery. Steps required ⇒ [page 5](#) .

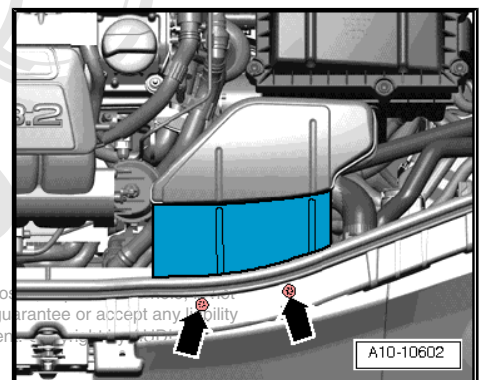
5.4 Audi TTS with 2.0 ltr. TFSI engine and direct shift gearbox

Removing

- With ignition switched off, disconnect earth cable at battery ⇒ [page 4](#) .
- Unplug electrical connector -2- for air mass meter -G70- .
- Remove air hose -1-.
- Unbolt air cleaner (top section) -3- and take out air filter element.

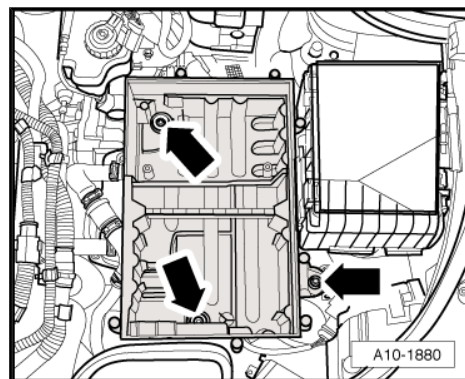


- Remove bolts -arrows- and detach air duct.



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- Unbolt bottom section of air cleaner housing -arrows-.



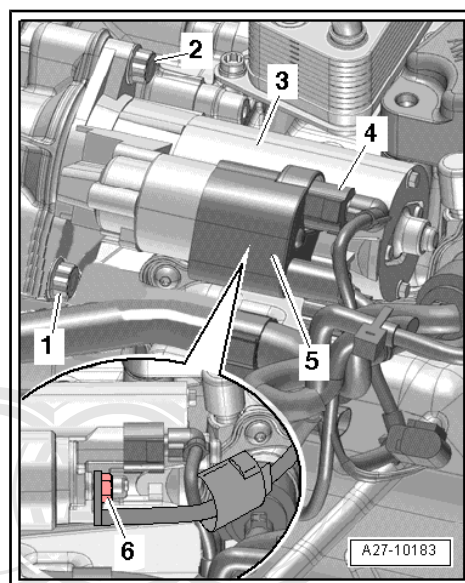
- If fitted, remove cable tie for protective sleeve.
- Unplug connector -4- by sliding locking element to rear and pressing down release catch.
- Fold back protective sleeve -5- and detach B+ wire -item 6- from solenoid switch.
- Unscrew bolts -1- and -2- and lift out starter -3-.

Installing

- Tightening torque ⇒ [page 25](#)

Installation is carried out in the reverse order; note the following:

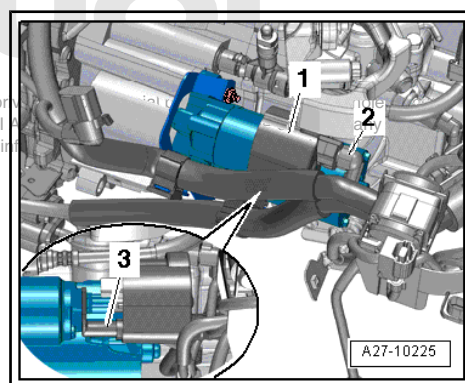
- Install air cleaner housing ⇒ Rep. gr. 24 .
- Connect battery. Steps required ⇒ [page 5](#) .



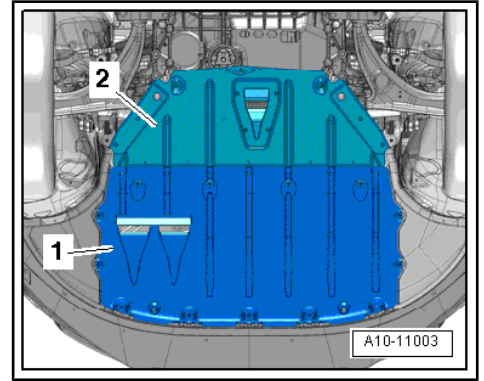
5.5 Audi TT RS with 2.5 ltr. TFSI engine and manual gearbox

Removing

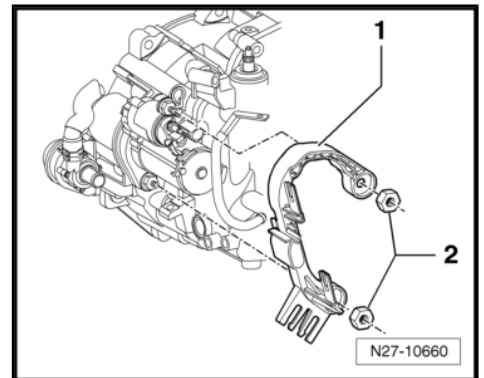
- With ignition switched off, disconnect earth cable at battery ⇒ [page 4](#) .
- Remove air cleaner housing ⇒ Rep. gr. 24 .
- Unplug connector -2- by sliding locking element to rear and pressing down release catch.
- Fold back protective sleeve -1- and detach B+ wire -item 3- from solenoid switch.



- Remove front noise insulation -1- ⇒ Rep. gr. 66 .



- Remove nuts -2- and detach bracket -1- for wiring harness.



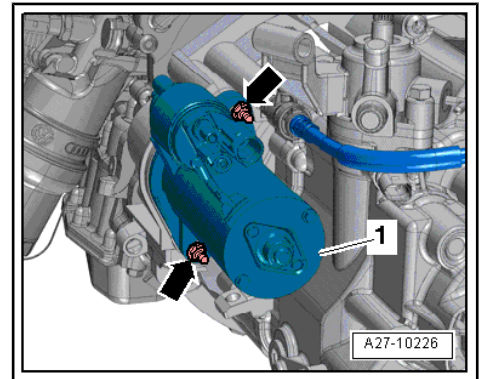
- Remove bolts -arrows- for starter.
- Remove starter -1- downwards.

Installing

- Tightening torques ⇒ [page 25](#)

Installation is carried out in the reverse order; note the following:

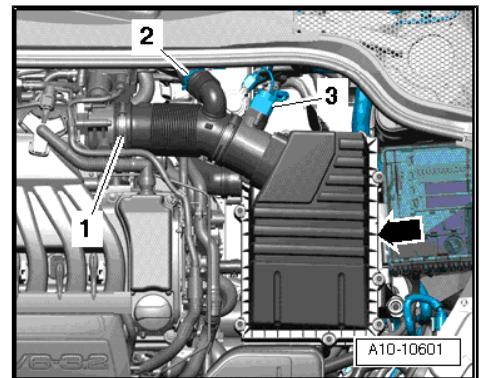
- Install air cleaner housing ⇒ Rep. gr. 24 .
- Connect battery. Steps required ⇒ [page 5](#) .



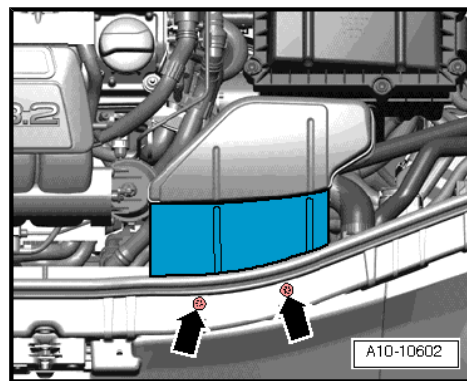
5.6 Audi TT with 3.2 ltr. MPI engine and manual gearbox

Removing

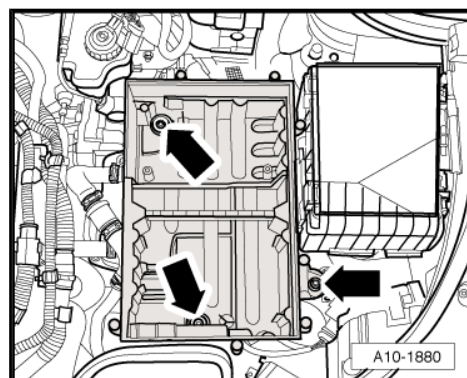
- With ignition switched off, disconnect earth cable at battery ⇒ [page 4](#) .
- Detach resonance pipe -2- from air hose.
- Detach air hose -1- from throttle valve module -J338- .
- Unplug electrical connector -3- for air mass meter -G70- .
- Unbolt air cleaner (top section) -arrow- and take out air filter element.



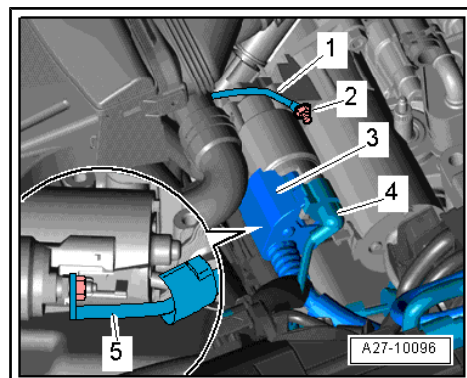
- Remove bolts -arrows- and detach air duct.



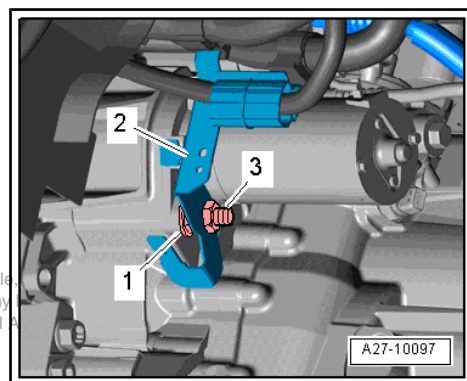
- Unbolt bottom section of air cleaner housing -arrows-.



- Unplug connector -4- by sliding locking element to rear and pressing down release catch.
- Cut through cable ties.
- Fold back protective sleeve -3- and detach B+ wire -item 5- from solenoid switch.
- Unscrew earth cable -2-.
- Remove upper starter bolt -1-.



- Unscrew nut -3- from lower starter bolt and detach bracket -2- for wiring harness.
- Remove lower starter bolt -1- (accessible from above) and detach starter.



Installing

- Tightening torques ➔ [page 25](#)

Installation is carried out in the reverse order; note the following:

- Install bracket for air cleaner (bottom section) and air cleaner (bottom section) ➔ Rep. gr. 24 .
- Connect battery. Steps required ➔ [page 5](#) .

5.7 Audi TT with 3.2 ltr. MPI engine and direct shift gearbox

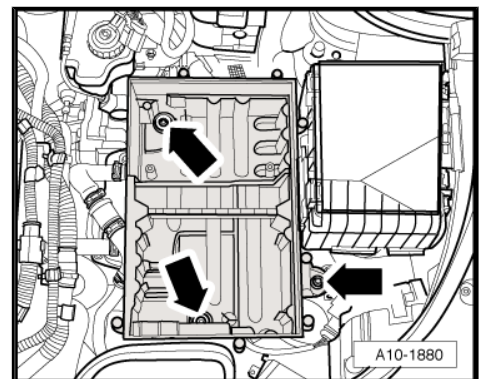
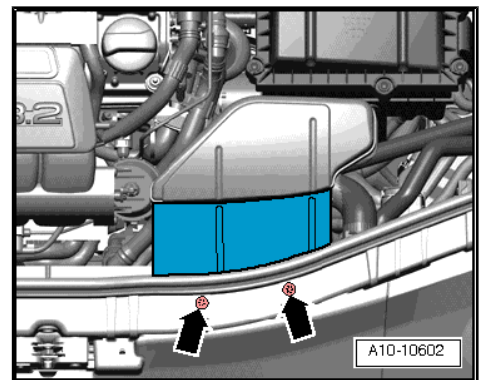
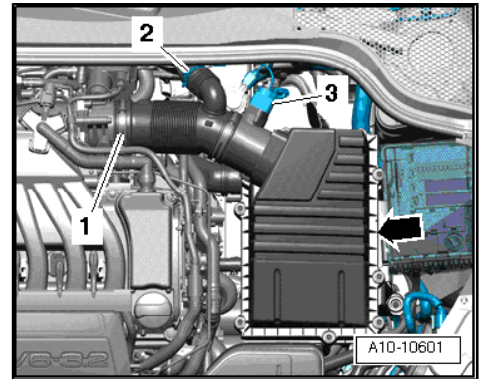
Removing

- With ignition switched off, disconnect earth cable at battery ⇒ [page 4](#) .
- Detach resonance pipe -2- from air hose.
- Detach air hose -1- from throttle valve module -J338- .
- Unplug electrical connector -3- for air mass meter -G70- .
- Unbolt air cleaner (top section) -arrow- and take out air filter element.

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- Remove bolts -arrows- and detach air duct.

- Unbolt bottom section of air cleaner housing -arrows-.

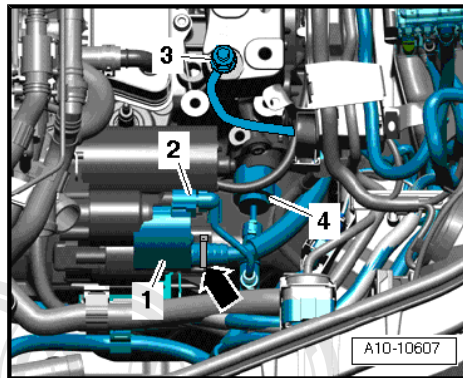


- Cut open cable tie -arrow- for protective sleeve -1-.
- Unplug electrical connector -2-.
- Fold back protective sleeve and detach B+ wire from starter solenoid switch.
- Detach earth wire -3-.


Caution

Risk of irreparable damage to control unit (mechatronic) due to static discharge.

- ◆ *Do not touch the contacts in the gearbox connector with your hands.*



- Touch part of the vehicle body with your bare hand to discharge static electricity.
- Turn retainer catch anti-clockwise and unplug electrical connector -4- at gearbox.
- Remove lower starter bolt (accessible from above).
- Remove upper starter bolt and detach starter.

Installing

- Tightening torques ➔ [page 25](#)

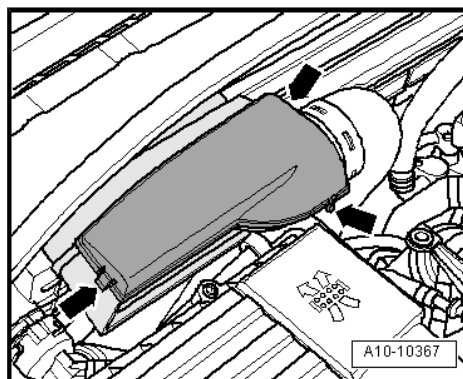
Installation is carried out in the reverse order; note the following:

- Install bracket for air cleaner (bottom section) and air cleaner (bottom section) ➔ Rep. gr. 24 .
- Connect battery. Steps required ➔ [page 5](#) .

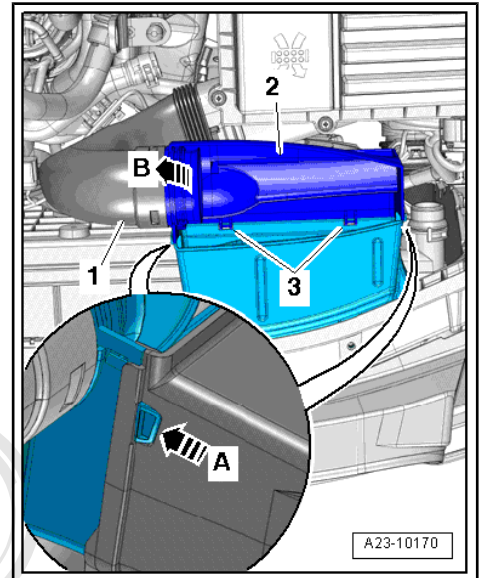
5.8 Audi TT with 2.0 ltr. TDI engine and manual gearbox

Removing

- Release retainers -arrows- at the sides and pull off cover for air duct.



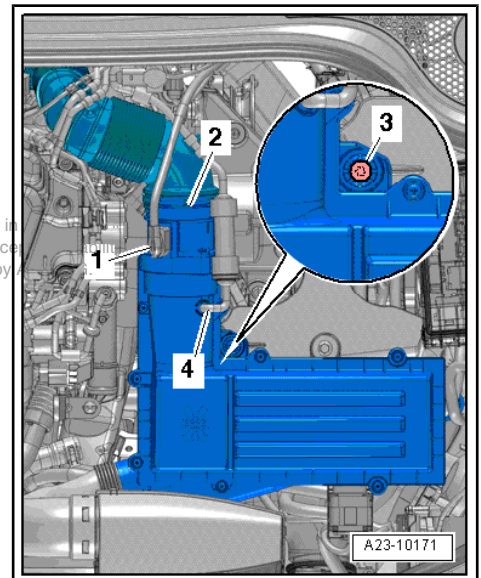
- Release retainers on left and right -arrow A- and unclip air duct (bottom).
- Slightly swivel air duct (bottom) -2- towards rear and disengage air duct (bottom) from retainers -3-.
- Disengage air pipe -1- from air duct (bottom) -arrow B-.



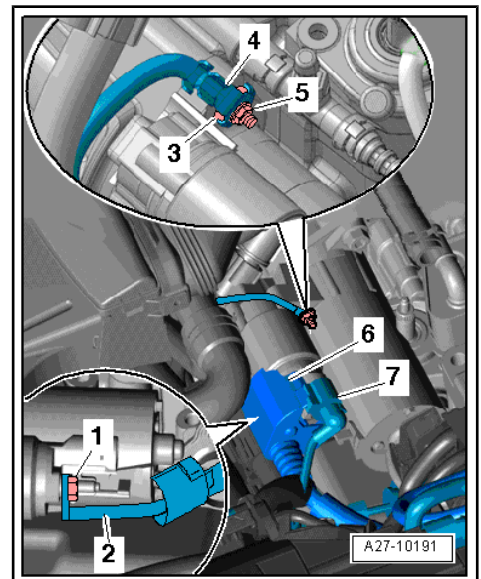
- Unplug electrical connector -1- at air mass meter -G70- .
- Disconnect breather hose -4-.
- Remove air hose -2-.
- Unscrew bolt -3- and detach air cleaner housing.
- With ignition switched off, disconnect earth cable at battery

⇒ [page 4](#) .

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- Unplug connector -7- by sliding locking element to rear and pressing down release catch.
- Fold back protective sleeve -6-.
- Unscrew nut -1- and detach B+ wire -item 2- from solenoid switch.
- Unscrew nut -5- and detach earth cable -4-.
- Remove upper starter bolt -3-.



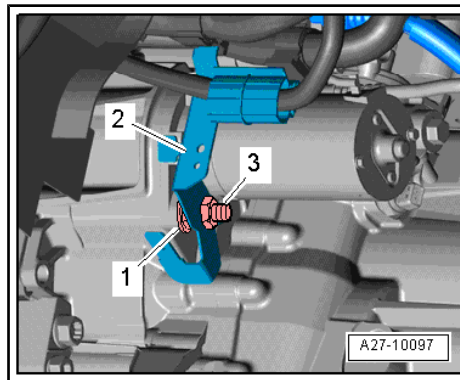
- Unscrew nut -3- from lower starter bolt and detach bracket -2- for wiring harness.
- Remove lower starter bolt -1- (accessible from above) and detach starter.

Installing

- Tightening torque ⇒ [page 25](#)

Installation is carried out in the reverse order; note the following:

- Install air cleaner housing ⇒ Rep. gr. 23 .
- Connect battery. Steps required ⇒ [page 5](#) .



5.9 Exploded view of starter - Audi TT RS with dual clutch gearbox

1 - Starter

- Removing and installing ⇒ [page 35](#)

2 - Centre hex stud

- Tightening torque ⇒ Rep. gr. 34

3 - Electrical connector

4 - Nut

- 15 Nm

5 - Protective sleeve

6 - Terminal B+

7 - Nut

- 8 Nm

8 - Bracket for earth cable

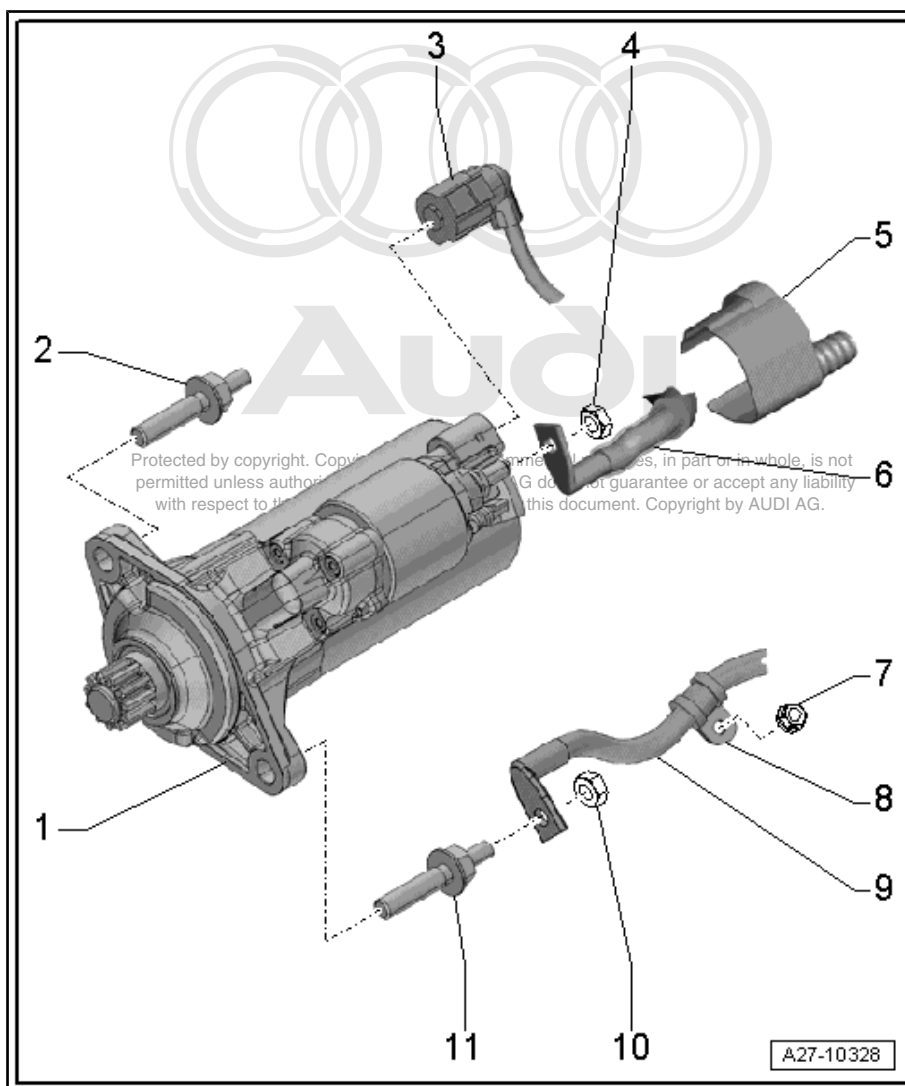
9 - Earth cable

10 - Nut

- For earth wire
- Tightening torque ⇒ Current flow diagrams, Electrical fault finding and Fitting locations

11 - Centre hex stud

- Tightening torque ⇒ Rep. gr. 34



5.10 Audi TT RS with 2.5 ltr. TFSI engine and dual clutch gearbox

Removing

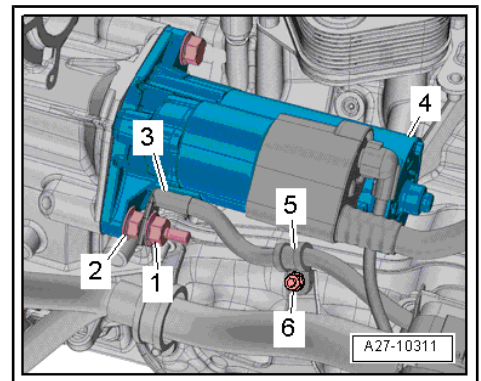
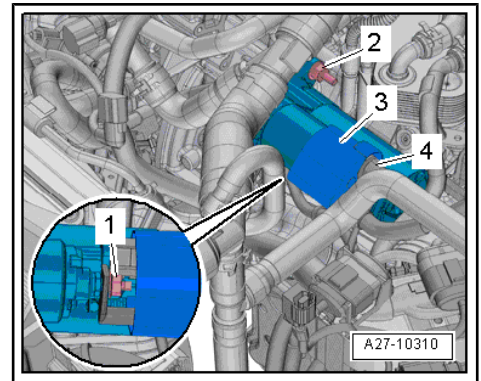
- With ignition switched off, disconnect earth cable at battery ⇒ [page 4](#) .
- Remove air cleaner housing ⇒ Rep. gr. 24 .
- Unplug connector -4- by sliding locking element to rear and pressing down release catch.
- Fold back protective sleeve -3- and detach B+ wire -item 1- from solenoid switch.
- Remove centre hex stud -2-.
- Remove nut -6- and detach bracket -5- for earth cable.
- Remove nut -1- and move clear earth cable -3-.
- Remove centre hex stud -2- and lift out starter -4- to front.

Installing

- Tightening torques ⇒ [page 34](#)

Installation is carried out in the reverse order; note the following:

- Install air cleaner housing ⇒ Rep. gr. 24 .
- Connect battery. Steps required ⇒ [page 5](#) .



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6 Cruise control system (CCS)

The following description is given in ⇒ Electrical system; General information; Rep. gr. 27 :

- ◆ Activating/deactivating cruise control system



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90 – Gauges, instruments

1 Contact corrosion

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

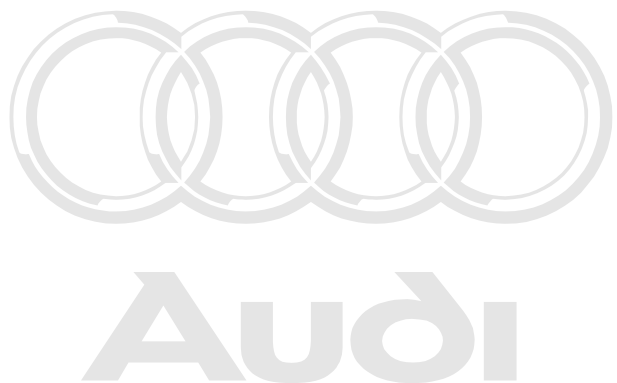
For this reason, only fasteners with a special surface coating are fitted.

Furthermore, rubber components or plastic components and adhesives are made of non-conductive material.

Always fit new components if you are not sure that the old components are suitable ⇒ Electronic parts catalogue .

Note:

- ◆ We recommend the use of genuine replacement parts only; they have been tested and are compatible with aluminium.
- ◆ We recommend using Audi Genuine Accessories.
- ◆ Damage resulting from contact corrosion is not covered by warranty.



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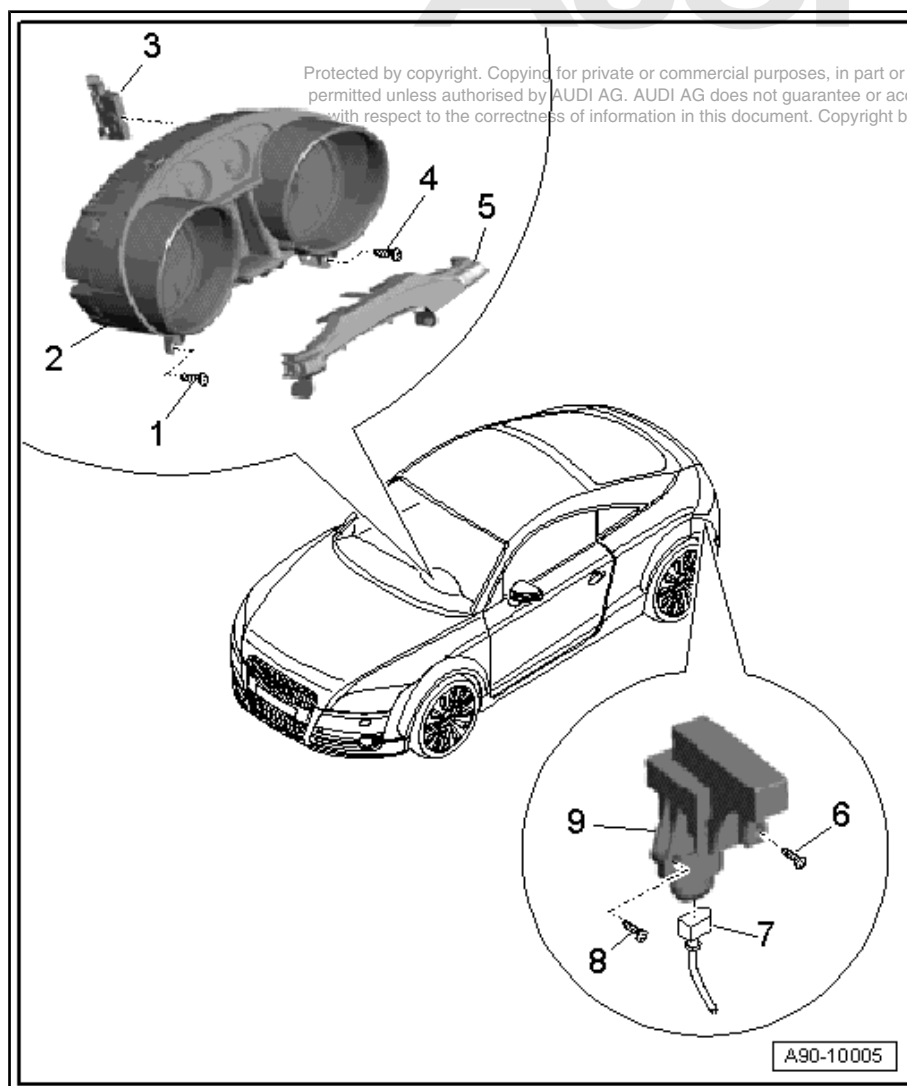
2 Instrument cluster

Note

All warning lamps in instrument cluster are fitted with light-emitting diodes. The instrument cluster must be renewed in the event of a warning lamp failure.

2.1 Exploded view of instrument cluster and radio-controlled clock receiver

- 1 - Bolt
 - ☐ 2.5 Nm
- 2 - Instrument cluster
 - ☐ With control unit in dash panel insert -J285-
 - ☐ Removing and installing
⇒ [page 38](#)
- 3 - Electrical connector
 - ☐ For instrument cluster
- 4 - Bolt
 - ☐ 2.5 Nm
- 5 - Trim cover
 - ☐ Removing and installing
⇒ Rep. gr. 68
- 6 - Bolt
 - ☐ 2.5 Nm
- 7 - Electrical connector
 - ☐ For radio-controlled clock receiver -J489-
- 8 - Bolt
 - ☐ 2.5 Nm
- 9 - Radio-controlled clock receiver -J489-
 - ☐ Removing and installing
⇒ [page 48](#)



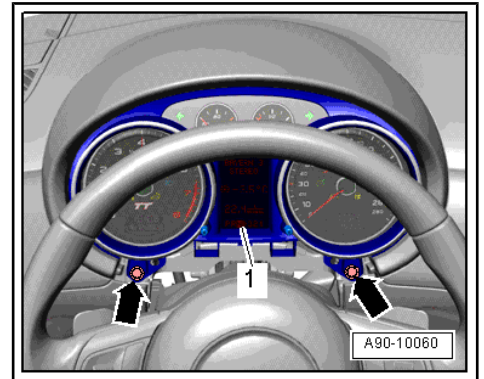
2.2 Removing and installing instrument cluster

Note

- ◆ *The instrument cluster must not be dismantled.*
- ◆ *Removal of instrument cluster does not involve taking out steering wheel.*

Removing

- When renewing instrument cluster with control unit in dash panel insert -J285- select „Replacement“ function for appropriate control unit in „Guided Functions“ ⇒ Vehicle diagnostic, testing and information system VAS 5051.
- Move steering wheel down and to rear as far as possible, making use of full range of steering column adjuster.
- Switch off ignition and take out ignition key.
- Pull off trim cover ⇒ Rep. gr. 68 .
- Place trim cover on steering column trim (top).
- Unscrew bolts -arrows-.
- Pull out instrument cluster -1- until it makes contact with steering wheel.
- Unplug electrical connector.



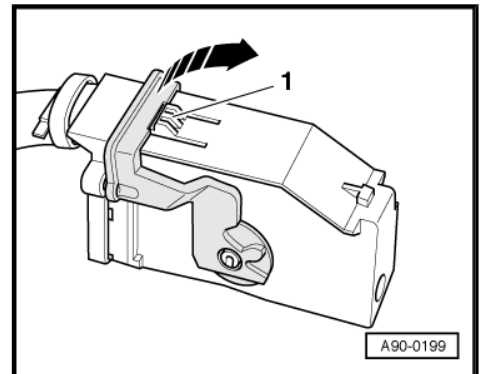
- Unplug electrical connector by releasing catch -1- and moving retaining clip in direction of -arrow-.
- Remove instrument cluster towards driver's side between steering wheel and dash panel.

Installing

- Tightening torque ⇒ [page 38](#)

Installation is carried out in the reverse order; note the following:

- Continue to follow the instructions on the display of the vehicle diagnostic tester for a new instrument cluster.

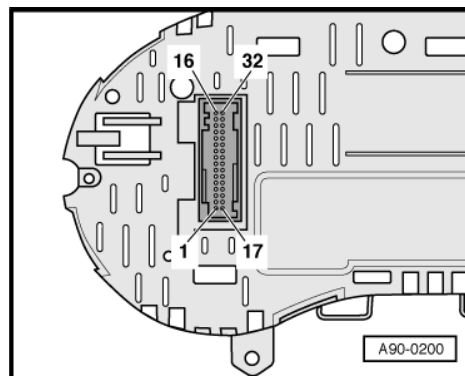


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2.3 Pin assignment at multi-pin connectors on instrument cluster

32-pin connector, blue (Midline)

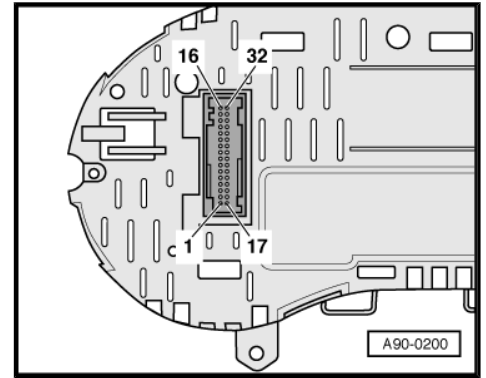
- 1 - Terminal 30
- 2 - Terminal 30
- 3 - Terminal 31
- 4 - Terminal 31
- 5 - CAN bus (diagnosis) wake-up wire
- 6 - Fuel gauge sender 2, signal (quattro)
- 7 - Brake pad
- 8 - Oil level
- 9 - Not used
- 10 - Not used
- 11 - Not used
- 12 - Not used
- 13 - Not used
- 14 - Brake fluid low
- 15 - Oil pressure switch
- 16 - Not used
- 17 - Not used
- 18 - Terminal 30
- 19 - Terminal 31
- 20 - Not used
- 21 - Coolant level low
- 22 - Not used
- 23 - Not used
- 24 - Ambient temperature
- 25 - Fuel gauge sender 1, signal
- 26 - Fuel gauge sender 2, overall resistance (quattro)
- 27 - Fuel gauge sender 1, overall resistance
- 28 - Sender earth
- 29 - CAN bus High (diagnosis)
- 30 - CAN bus Low (diagnosis)
- 31 - Transponder Rx
- 32 - Transponder Tx



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32-pin connector, blue (Highline)

- 1 - Terminal 30
- 2 - Terminal 30
- 3 - Terminal 31
- 4 - Terminal 31
- 5 - CAN bus (diagnosis) wake-up wire
- 6 - Fuel gauge sender 2, signal (quattro)
- 7 - Brake pad
- 8 - Oil level
- 9 - Radio-controlled clock signal
- 10 - Radio-controlled clock 5V
- 11 - Not used
- 12 - Not used
- 13 - Not used
- 14 - Brake fluid low
- 15 - Oil pressure switch
- 16 - Not used
- 17 - Terminal 58d
- 18 - Terminal 30
- 19 - Terminal 31
- 20 - Washer fluid low
- 21 - Coolant level low
- 22 - Not used
- 23 - Not used
- 24 - Ambient temperature
- 25 - Fuel gauge sender 1, signal
- 26 - Fuel gauge sender 2, overall resistance (quattro)
- 27 - Fuel gauge sender 1, overall resistance
- 28 - Sender earth
- 29 - CAN bus High (diagnosis)
- 30 - CAN bus Low (diagnosis)
- 31 - Transponder Rx
- 32 - Transponder Tx



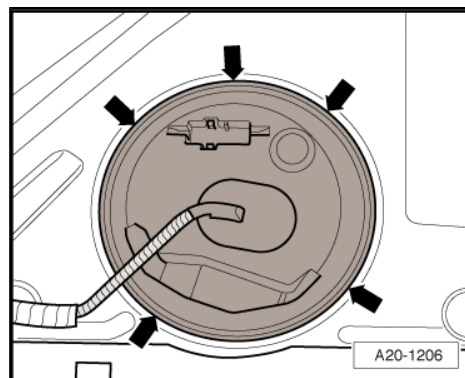
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2.4 Pin assignment at fuel gauge sender -G-

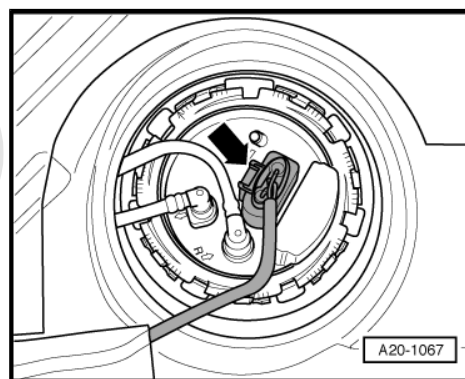
Fuel gauge sender -G- is located beneath rear seat bench (right-side).

Preparations

- Remove rear seat bench ⇒ Rep. gr. 72 .
- Unclip retaining tabs -arrows- for cover on flange for fuel tank (right-side).

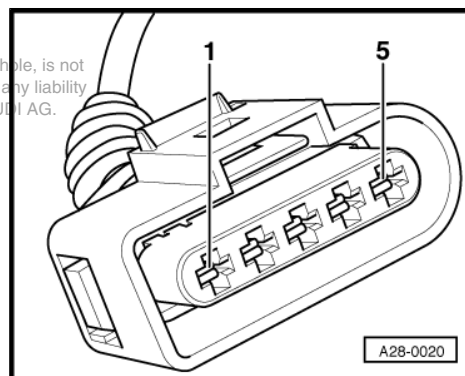


- Unplug electrical connector -arrow- at sealing flange.



Assignment of 5-pin connector at fuel gauge sender -G-

- 1 - Switched positive for fuel system pressurisation pump -G6-
- 2 - Earth for fuel gauge sender -G- (sender earth)
- 3 - Wiring between fuel gauge sender -G- and instrument cluster (fuel gauge)
- 4 - Fuel gauge sender, overall resistance
- 5 - Earth for fuel system pressurisation pump -G6-



Note

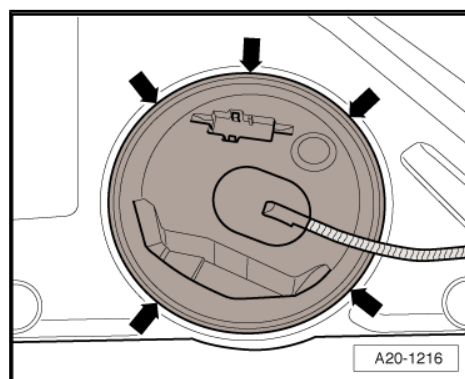
On vehicles with 2.0 ltr. TFSI engine, pins -2, 3 and 4- are looped through the fuel pump control unit -J538- .

2.5 Pin assignment at fuel gauge sender 2 -G169-

The fuel gauge sender 2 -G169- is located beneath rear seat bench (left-side).

Preparations

- Remove rear seat bench ⇒ Rep. gr. 72 .
- Unclip retaining tabs -arrows- for cover on flange for fuel tank (left-side).

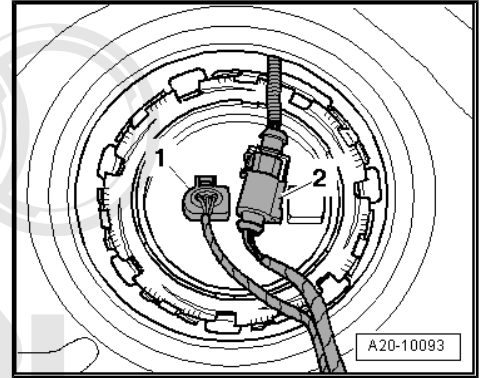


- Unplug electrical connector -1- at sealing flange.



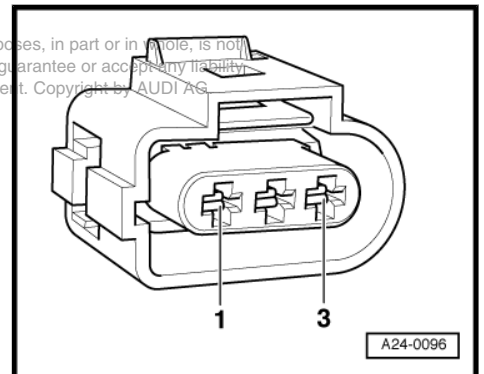
Note

Disregard -item 2-.



Pin assignment for 3-pin connector at fuel gauge sender 2-G169-

- 1 - Earth for fuel gauge sender 2-G169- (sender earth)
- 2 - Wiring between fuel gauge sender -G- and instrument cluster (fuel gauge)
- 3 - Fuel gauge sender, overall resistance

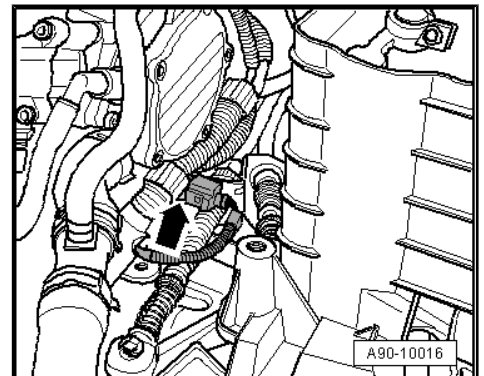


2.6 Pin assignment at coolant temperature senders - 2.0 ltr. TFSI engine

Coolant temperature sender -G62-

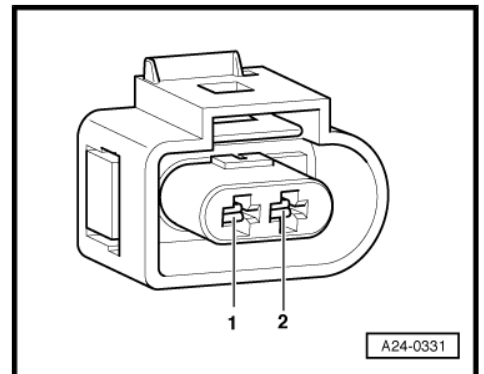
The coolant temperature sender -G62- is located at the coolant connection on the cylinder head (left-side).

- Carefully release and unplug 2-pin connector -arrow-.



Pin assignment for 2-pin connector at coolant temperature sender -G62-

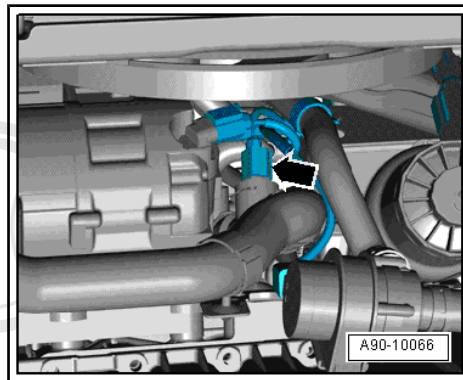
- 1 - Wiring connection from coolant temperature sender -G62- to engine control unit
- 2 - Sender earth



Radiator outlet coolant temperature sender -G83-

The radiator outlet coolant temperature sender -G83- is located at the front of the engine.

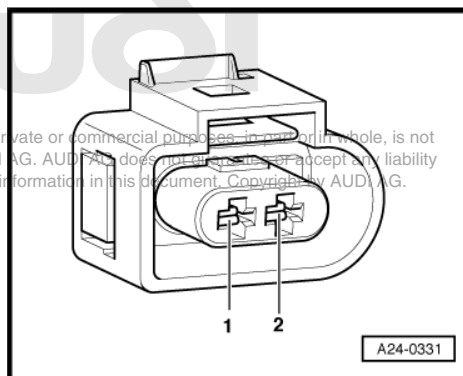
- Carefully unlock and unplug 2-pin connector -arrow-.



Pin assignment for 2-pin connector on radiator outlet coolant temperature sender -G83-

- 1 - Wiring connection from radiator outlet coolant temperature sender -G83- to engine control unit
- 2 - Sender earth

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2.7 Pin assignment at coolant temperature sender - 2.5 ltr. TFSI engine

Coolant temperature sender -G62-

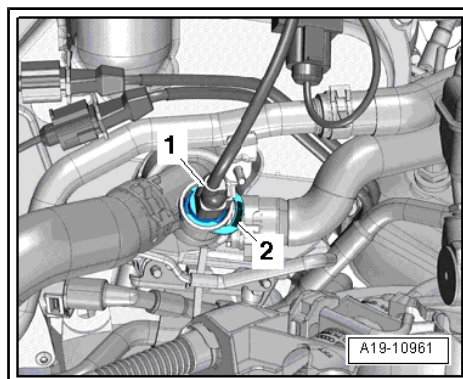
The coolant temperature sender -G62- is located on the cylinder head (left-side).

- Unplug electrical connector -1- at coolant temperature sender -G62- .



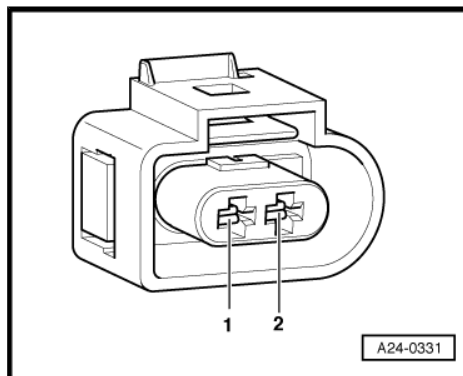
Note

Disregard -item 2-.



Pin assignment for 2-pin connector at coolant temperature sender -G62-

- 1 - Sender earth
- 2 - Wiring connection from coolant temperature sender -G62- to engine control unit

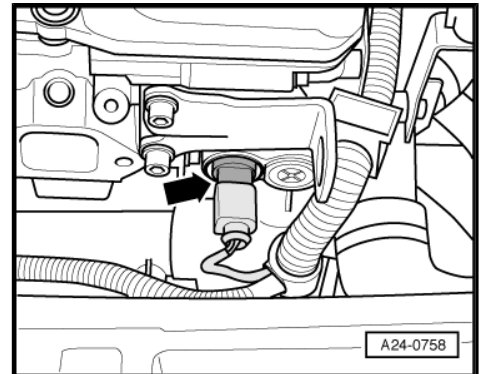


2.8 Pin assignment at coolant temperature senders - 3.2 ltr. MPI engine

Coolant temperature sender -G62-

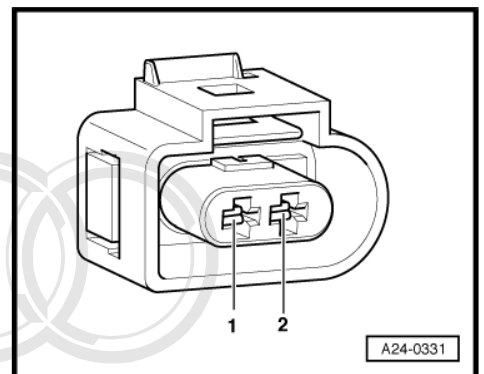
The coolant temperature sender -G62- is located on the cylinder head (front left).

- Unplug electrical connector -arrow- at coolant temperature sender -G62- .



Pin assignment for 2-pin connector at coolant temperature sender -G62-

- 1 - Wiring connection from coolant temperature sender -G62- to engine control unit
- 2 - Sender earth



Radiator outlet coolant temperature sender -G83-

The radiator outlet coolant temperature sender -G83- is located on the radiator (bottom left).

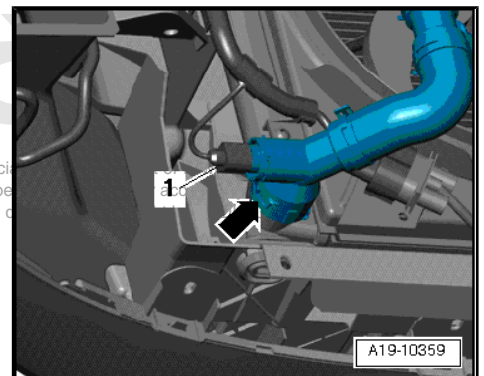
- Unplug electrical connector -1- at radiator outlet coolant temperature sender -G83- .

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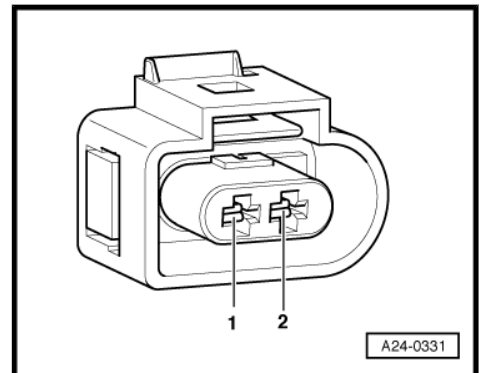
Note

Disregard -arrow-.



Pin assignment for 2-pin connector on radiator outlet coolant temperature sender -G83-

- 1 - Wiring connection from radiator outlet coolant temperature sender -G83- to engine control unit
- 2 - Sender earth

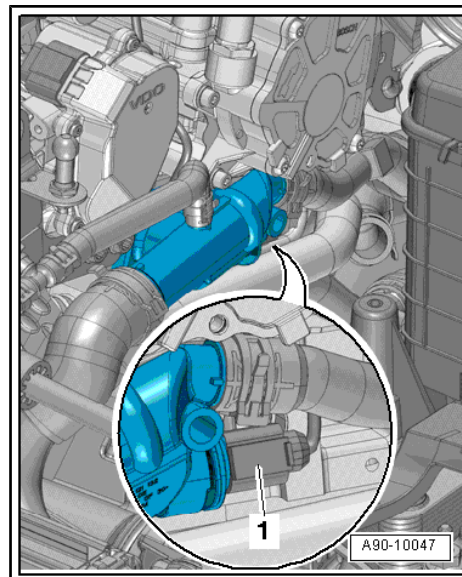


2.9 Pin assignment at coolant temperature senders - 2.0 ltr. TDI engine

Coolant temperature sender -G62-

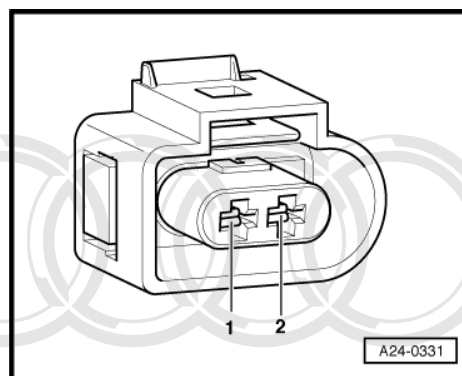
The coolant temperature sender -G62- is located on the left side of the engine behind the air pipe to the turbocharger.

- Carefully unlock and unplug 2-pin connector -1-.



Pin assignment for 2-pin connector at coolant temperature sender -G62-

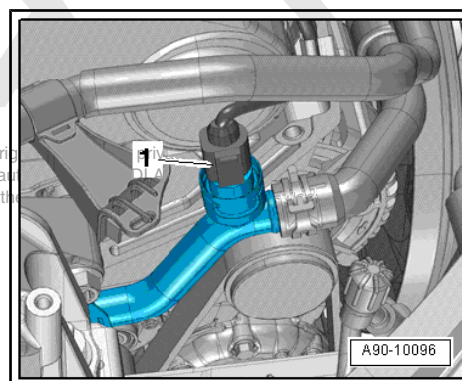
- 1 - Wiring connection from coolant temperature sender -G62- to engine control unit
- 2 - Sender earth



Radiator outlet coolant temperature sender -G83-

The radiator outlet coolant temperature sender -G83- is located on the right side of the engine beside the alternator.

- Carefully unlock and unplug 2-pin connector -1-.

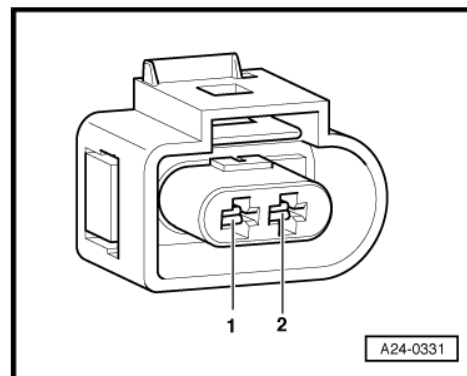


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Pin assignment for 2-pin connector on radiator outlet coolant temperature sender -G83-

- 1 - Wiring connection from radiator outlet coolant temperature sender -G83- to engine control unit
- 2 - Sender earth



2.10 Removing and installing ambient temperature sensor -G17-

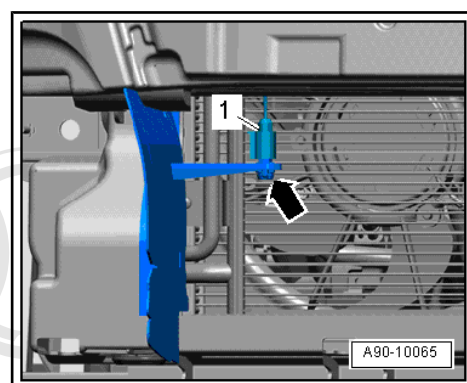
Removing

- Remove front bumper cover ⇒ Rep. gr. 63 .
- Unplug electrical connector -1-.
- Carefully compress retaining clips -arrow- and lift ambient temperature sensor -G17- out of retainer.

Installing

Installation is carried out in the reverse order; note the following:

- Install front bumper cover ⇒ Rep. gr. 63 .



2.11 Removing and installing ambient temperature sensor -G17- - Audi TT RS

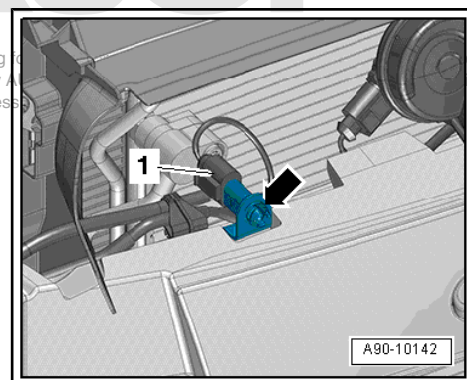
Removing

- Remove front bumper cover ⇒ Rep. gr. 63 .
- Unplug electrical connector -1-.
- Carefully compress retaining clips -arrow- and pull ambient temperature sensor -G17- towards rear out of retainer.

Installing

Installation is carried out in the reverse order; note the following:

- Install front bumper cover ⇒ Rep. gr. 63 .



2.12 Removing and installing radio-controlled clock receiver -J489-

Removing

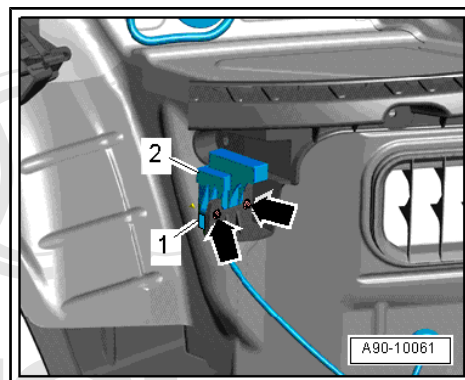
- Remove rear bumper cover ⇒ Rep. gr. 63 .
- Unscrew bolts -arrows- and detach radio-controlled clock receiver -J489- -item 2-.
- Unplug electrical connector -1- at radio-controlled clock receiver -J489- .

Installing

- Tightening torque ⇒ [page 38](#)

Installation is carried out in the reverse order; note the following:

- Install rear bumper cover ⇒ Rep. gr. 63 .



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3 Cigarette lighter, 12 V electric socket

3.1 Exploded view of cigarette lighter, 12 V electric socket

1 - Front ashtray

2 - Cigarette lighter illumination bulb -L28-

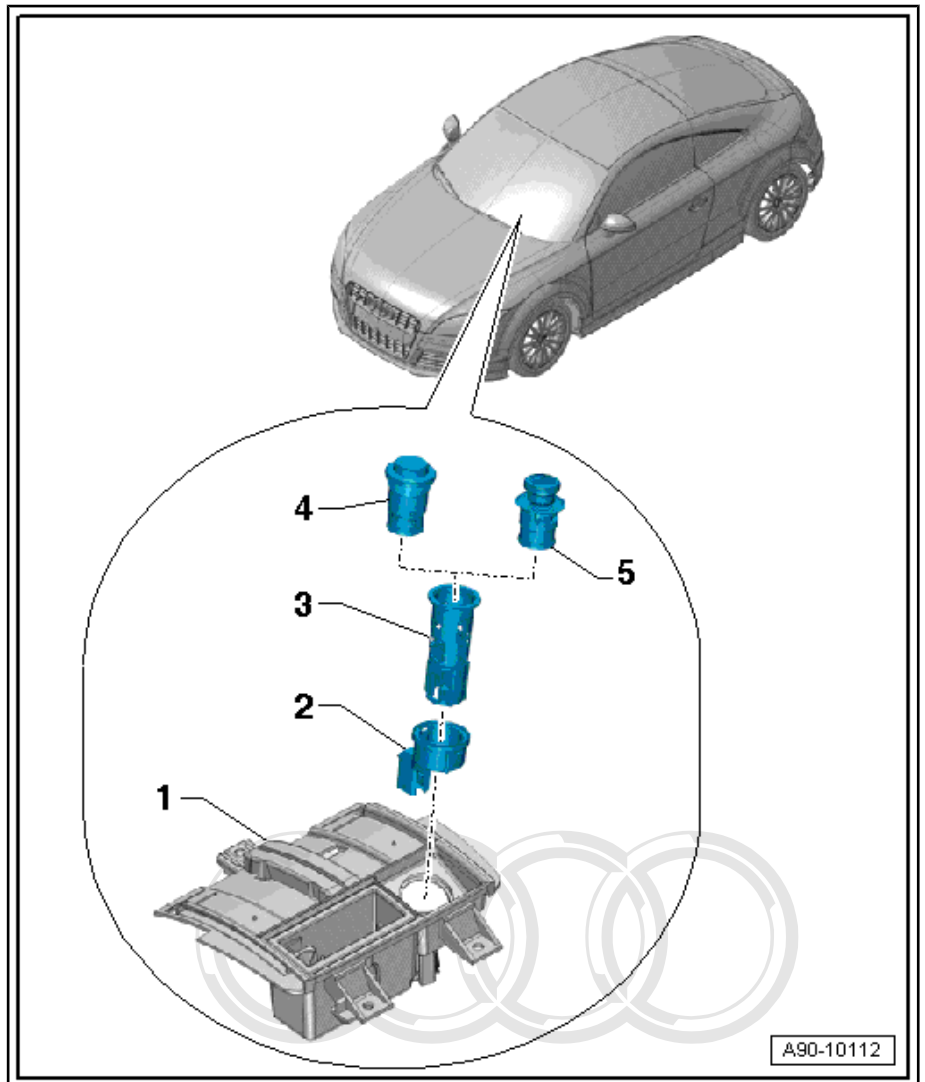
- ❑ One component together with cigarette lighter - U1-

3 - Cigarette lighter -U1-

- ❑ Removing and installing
⇒ [page 49](#)

4 - Cigarette lighter

5 - Dummy cover



3.2 Removing and installing cigarette lighter -U1-

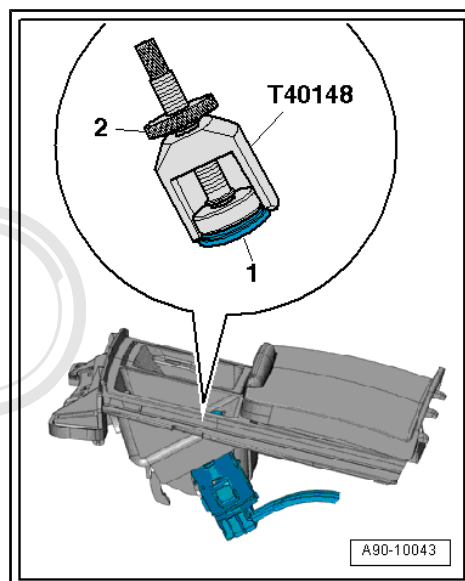
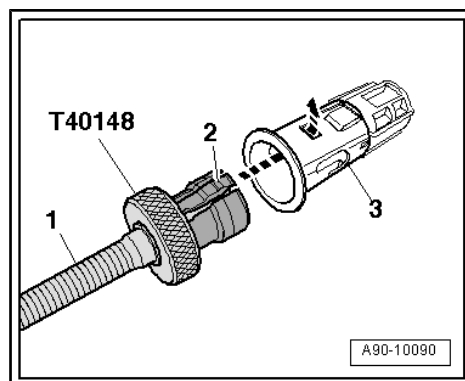
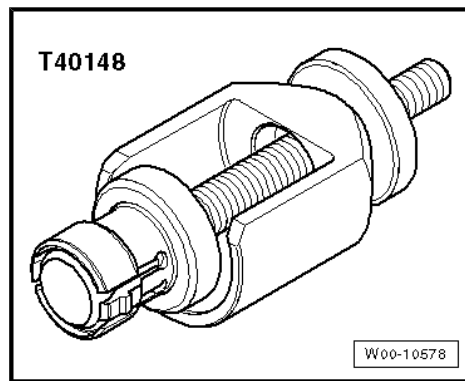
Special tools and workshop equipment required

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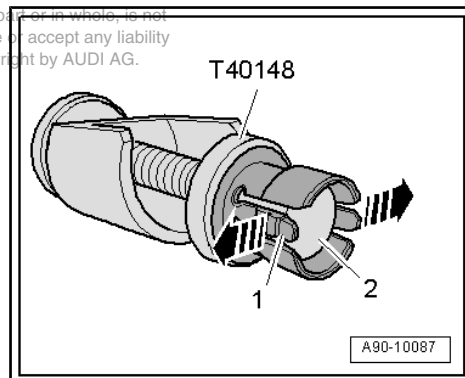
◆ Puller -T40148-

Removing

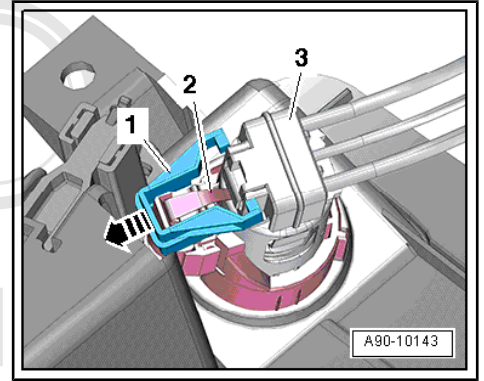
- Remove front ashtray ⇒ Rep. gr. 68 .
- Open ashtray and take out ashtray insert.
- Disengage wiring harness at front ashtray.
- Release tabs -2- on puller -T40148- must engage in recesses in cigarette lighter -3- -arrow-; for this purpose, push threaded rod -1- downwards as far as stop.
- Insert puller -T40148- into cigarette lighter -1- as far as stop.
- Turn knurled wheel -2- on puller -T40148- clockwise as far as stop.



- The piston -2- moves upwards and the release tabs -1- on puller -T40148- spread apart -arrows-.



- Pull out cigarette lighter until contact blade -2- of cigarette lighter illumination bulb -L28- makes contact with mains supply -3-.
- The cover over the cigarette lighter illumination bulb -L28- is now accessible.
- Pull cover -1- to one side -arrow- until cigarette lighter can be pulled out of illuminated ring.



- Release retaining clips in direction of -arrows-.
- Take cigarette lighter with illuminated ring -1- out of ashtray (front) -2-.

Installing

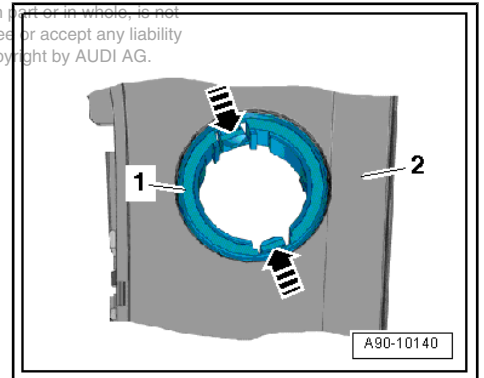
Installation is carried out in the reverse order; note the following:



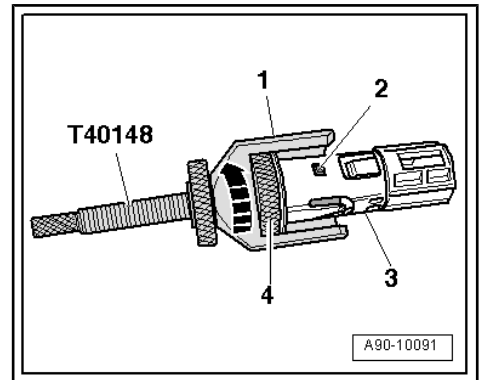
Caution

Risk of injury.

- ◆ *After detaching puller -T40148- check that retaining tabs for lighter are not bent.*
- ◆ *If retaining tabs are bent they must be bent back to prevent lighter from ejecting.*



- Detach support -1- from puller -T40148- .
- Push piston downwards and hold in this position.
- Turn knurled wheel -4- on puller -T40148- anti-clockwise -arrow-; this will open release tabs -2- on cigarette lighter -3- and puller -T40148- can be removed.
- Install front ashtray ⇒ Rep. gr. 68 .



4 Horns

Observe notes on contact corrosion ⇒ [page 37](#) .

4.1 Exploded view of horns

1 - Electrical connector

- For treble horn -H2-

2 - Nut

- 9 Nm

3 - Treble horn -H2-

- Removing and installing
⇒ [page 53](#)

4 - Bass horn -H7-

- Removing and installing
⇒ [page 53](#)

5 - Nut

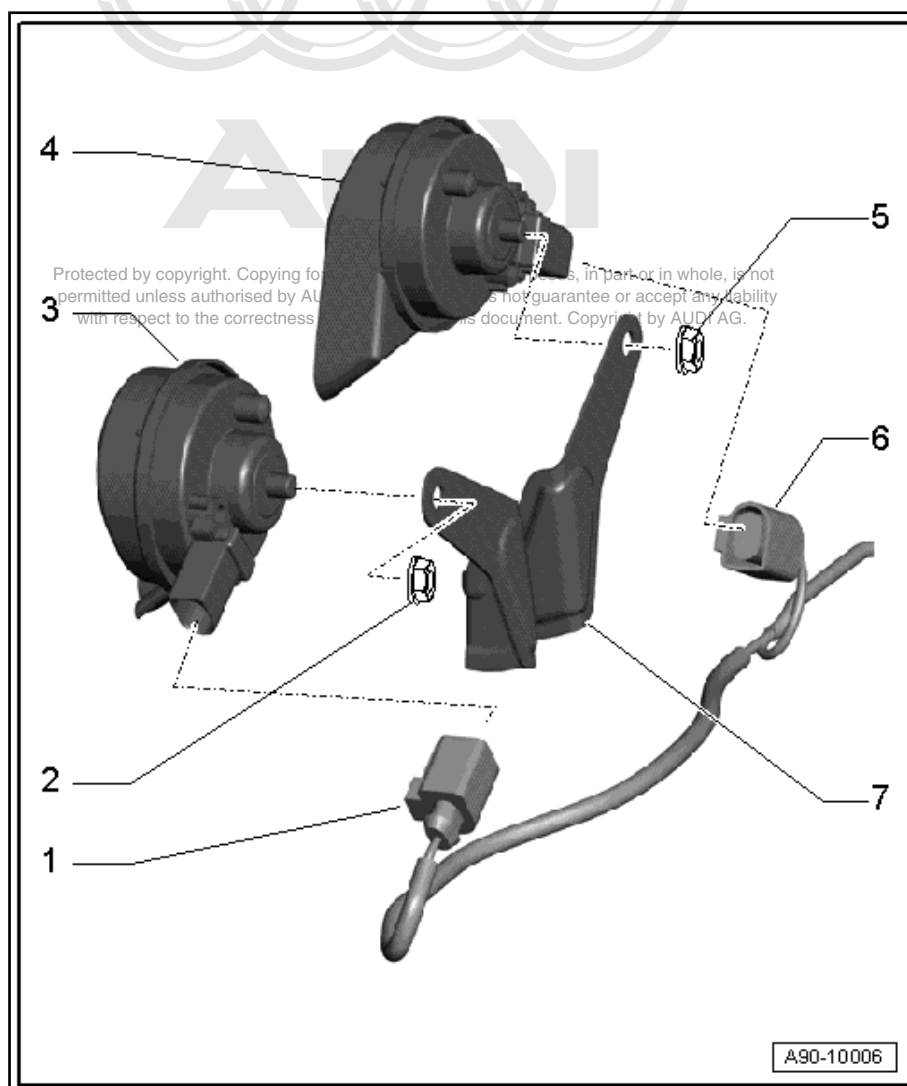
- 9 Nm

6 - Electrical connector

- For bass horn -H7-

7 - Bracket

- For horns



4.2 Removing and installing horns -H2- / -H7-

Removing

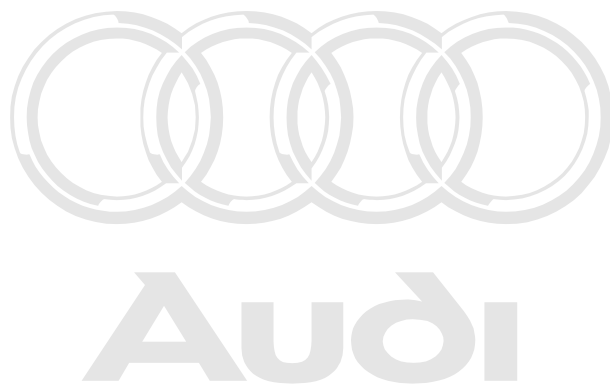
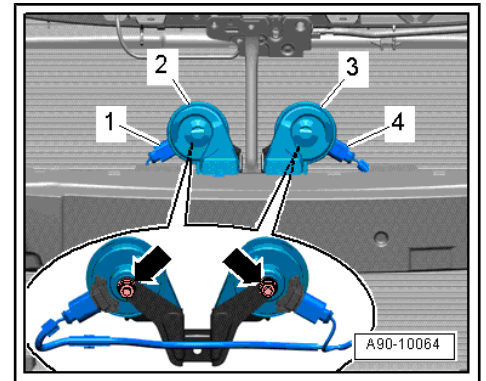
- Switch off ignition and take out ignition key.
- Remove front bumper cover ⇒ Rep. gr. 63 .
- Unplug electrical connectors -1 and 4-.
- Unscrew nuts -arrows-.
- Remove horn -2 or 3- from bracket.

Installing

- Tightening torque ⇒ [page 52](#)

Installation is carried out in the reverse order; note the following:

- Install front bumper cover ⇒ Rep. gr. 63 .



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5 Data bus diagnostic interface

5.1 Data bus diagnostic interface -J533-

General notes

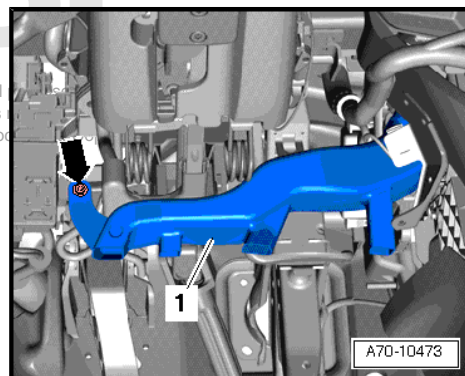
- ◆ The data bus diagnostic interface -J533- interlinks the various CAN bus systems in the vehicle.
- ◆ For example, it transfers data from the engine control unit (powertrain CAN bus) to the instrument cluster (instrument cluster CAN bus).
- ◆ Fault finding is performed via „Guided Fault Finding“ ⇒ Vehicle diagnostic, testing and information system VAS 5051.
- ◆ Repair of CAN bus wiring ⇒ Electrical system; General information; Rep. gr. 97 .

5.2 Removing and installing data bus diagnostic interface -J533-

- When renewing control unit select „Replacement“ function for appropriate control unit in „Guided Fault Finding“ or „Guided Functions“ ⇒ Vehicle diagnostic, testing and information system VAS 5051.

Removing

- Switch off ignition and take out ignition key.
- Remove driver's storage compartment ⇒ Rep. gr. 68 .
- Remove bolt -arrow- and detach air duct -1-.

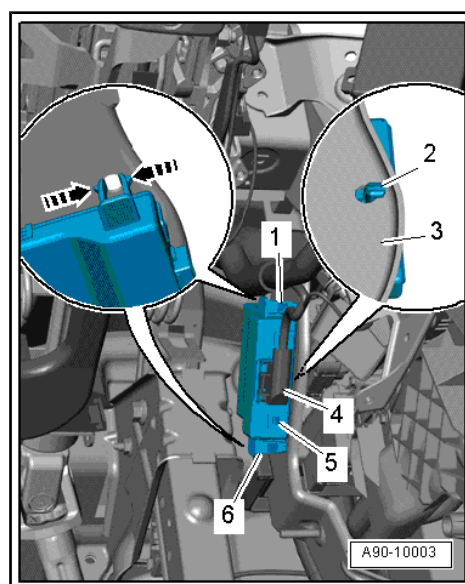


- Release retaining clips -1 and 6- by compressing clips -arrows-.
- Disengage lug -2- from bracket -3-.
- Unplug electrical connector -4- and detach data bus diagnostic interface -J533- -item 5-.

Installing

Installation is carried out in the reverse order; note the following:

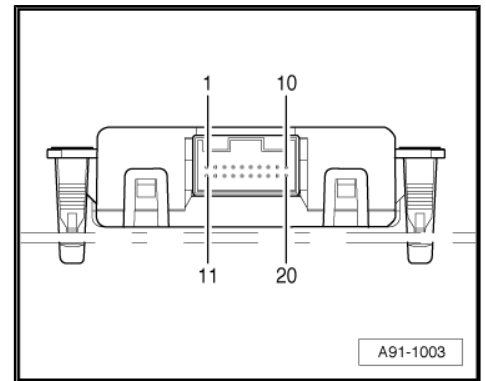
- Install air duct ⇒ Rep. gr. 80 or ⇒ Rep. gr. 87 .
- Install driver's storage compartment ⇒ Rep. gr. 68 .



5.3 Connector at data bus diagnostic interface -J533-

Multi-pin connector, 20-pin

- 1 - Battery „+“ (terminal 30)
- 2 - Battery „+“ (terminal 30)
- 3 - Reserved for external diagnosis
- 4 - Reserved for K-wire
- 5 - CAN bus Low (convenience)
- 6 - CAN bus Low (powertrain)
- 7 - Reserved for screening
- 8 - CAN bus Low (instrument cluster)
- 9 - CAN bus Low (diagnosis)
- 10 - CAN Bus Low (Infotainment)
- 11 - Earth „-“ (terminal 31)
- 12 - Earth „-“ (terminal 31)
- 13 - Instrument cluster wake-up input
- 14 - Terminal 15
- 15 - CAN bus High (convenience)
- 16 - CAN bus High (powertrain)
- 17 - Reserved for screening
- 18 - CAN bus High (instrument cluster)
- 19 - CAN bus High (diagnosis)
- 20 - CAN bus High (Infotainment)



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92 – Windscreen wash/wipe system

1 Contact corrosion

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

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

Furthermore, rubber components or plastic components and adhesives are made of non-conductive material.

Always fit new components if you are not sure that the old components are suitable ⇒ Electronic parts catalogue

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Note:

- ◆ We recommend the use of genuine replacement parts only; they have been tested and are compatible with aluminium.
- ◆ We recommend using Audi Genuine Accessories.
- ◆ Damage resulting from contact corrosion is not covered by warranty.

2 Windscreen wiper system

Observe notes on contact corrosion ⇒ [page 56](#) .

2.1 Exploded view of windscreen wiper system

1 - Nut

- ☐ 8 Nm

2 - Bracket

3 - Nut

- ☐ 6 Nm

4 - Bolt

- ☐ Tightening sequence
⇒ [page 58](#)

5 - Nut

- ☐ 17 Nm

6 - Cap

7 - Wiper arm, passenger's side (LHD)

- ☐ Different length ⇒ Electronic parts catalogue
- ☐ Removing and installing
⇒ [page 60](#)
- ☐ Adjusting ⇒ [page 61](#)

8 - Wiper blade, passenger's side (LHD)

- ☐ Different length ⇒ Electronic parts catalogue
- ☐ Renewing ⇒ [page 59](#)

9 - Wiper blade, driver's side (LHD)

- ☐ Different length ⇒ Electronic parts catalogue
- ☐ Renewing ⇒ [page 59](#)

10 - Wiper arm, driver's side (LHD)

- ☐ Different length ⇒ Electronic parts catalogue
- ☐ Removing and installing ⇒ [page 60](#)
- ☐ Adjusting ⇒ [page 61](#)

11 - Cap

12 - Nut

- ☐ 17 Nm

13 - Bolt

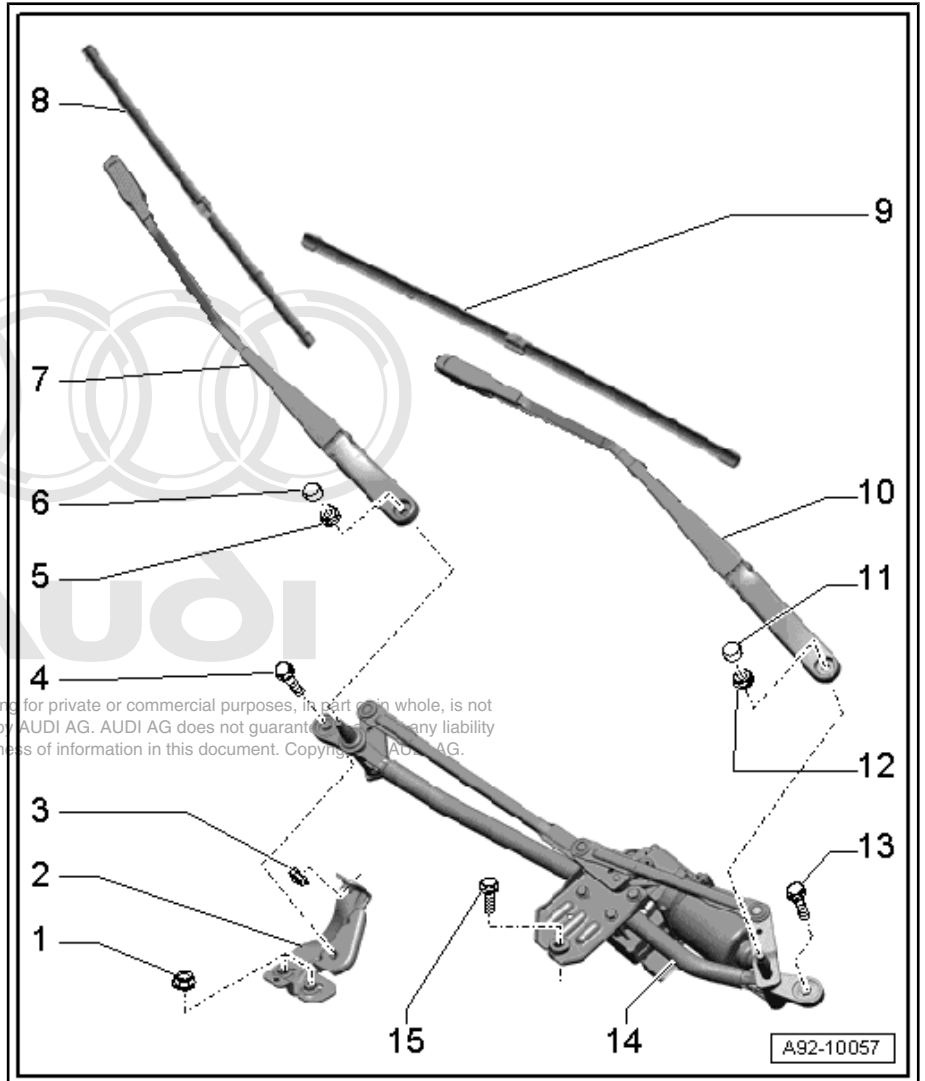
- ☐ Tightening sequence ⇒ [page 58](#)

14 - Wiper motor

- ☐ With wiper motor control unit -J400-
- ☐ Removing and installing ⇒ [page 62](#)

15 - Bolt

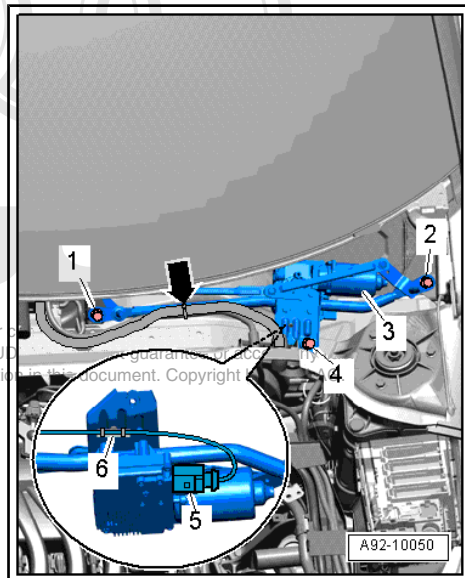
- ☐ Tightening sequence ⇒ [page 58](#)



Tightening sequence for wiper motor

– Tighten bolts -1, 2 and 4- in 2 stages as follows:

1. Hand-tighten bolts.
2. Tighten bolts to 8 Nm.



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2.2 Moving windscreen wipers to service position



Note

The bonnet must be completely closed if the wiper motor needs to be run during repair work (the voltage supply to the wiper motor is cut off when the bonnet is open).

- At sub-zero temperatures, first check that the wiper blades are not frozen onto the glass.

Vehicles without Driver Information System (DIS):

- Switch on ignition briefly and then switch off.
- Operate „touch wipe“ function within 10 seconds.
- The wipers will run to the „service position“.

Vehicles with Driver Information System (DIS):

- Switch on ignition.
- Repeatedly press **Reset** button -1- on windscreen wiper switch until menu display appears.
- Select required menu options by pressing rocker switch -2- and confirm each option by pressing **Reset** button.

Adjusting
Wipers
Front
Service position

- The wipers will run to the „service position“.

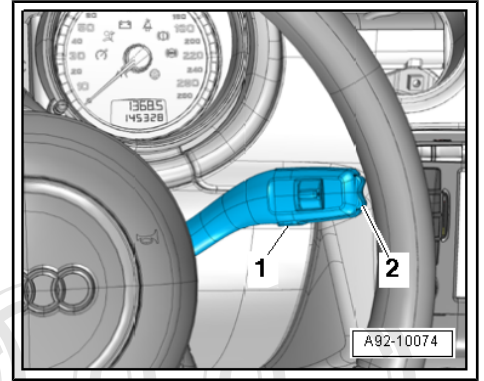
All vehicles (continued):



Caution

The bonnet can be damaged if the wipers are allowed to run back to the park position.

- ◆ *Do not move the vehicle when the wiper arms are lifted up off the windscreen.*
- ◆ *The wipers automatically run back to the park position when the wiper switch is operated or when road speed exceeds 6 km/h.*



2.3 Renewing wiper blade

Removing

- Move windscreen wipers to service position ⇒ [page 58](#).
- Lift wiper arm off windscreen.
- Compress retaining clip -arrows 1-.
- Slide wiper blade off wiper arm -arrow 2-.
- Remove wiper blade.

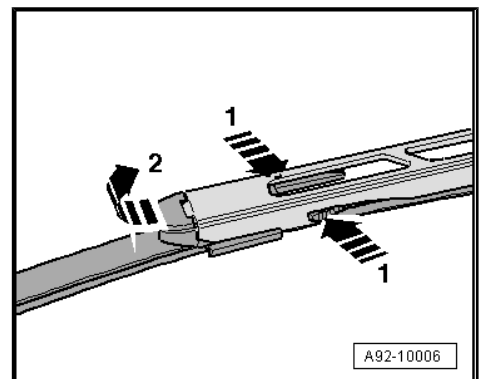
Installing



Caution

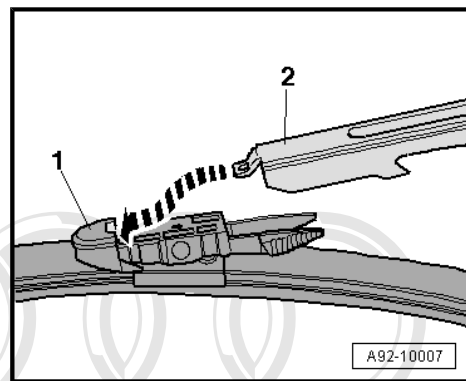
Risk of damage to body.

- ◆ *The wiper blades for driver's and front passenger's side have different lengths.*



Installation is carried out in the reverse order; note the following:

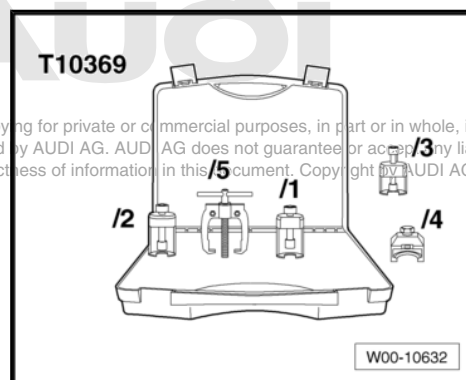
- Guide lug of wiper arm -2- into wiper blade -1- -arrow-.
- The wipers will run back from the „service position“ when you operate the wiper switch or when road speed exceeds 6 km/h.



2.4 Removing and installing wiper arms

Special tools and workshop equipment required

- ◆ Tool kit for wiper arms -T10369-



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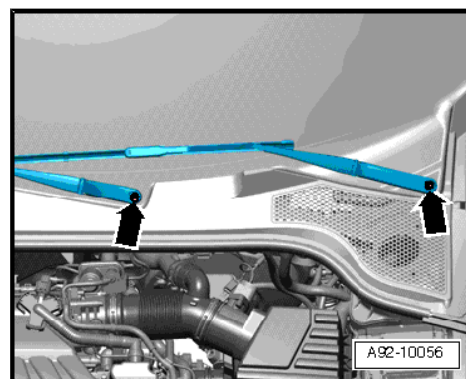
Removing



Note

If the wiper motor needs to be run during repair work, the bonnet must be closed (voltage supply to wiper motor is cut off when bonnet is open).

- Switch on ignition.
- Actuate touch wipe function and allow wiper arms to move to end position.
- Switch off ignition and take out ignition key.
- Pry cover caps off wiper arms with a screwdriver.
- Loosen nuts -arrows- one turn.



- Apply puller -T10369/1- at wiper arm -1- as shown in illustration.
- Apply thrust piece -2- at wiper shaft.
- Turn bolt -3- clockwise until wiper arm is clear of wiper shaft.
- Remove nuts and detach wiper arms.

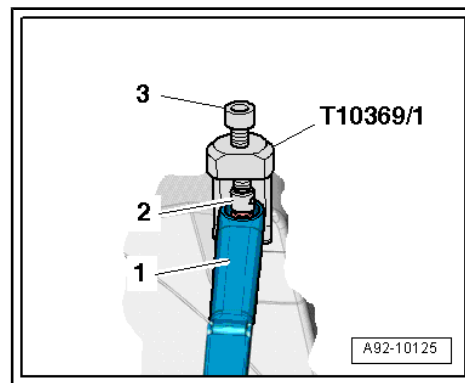
Installing



Caution

Risk of damage to body.

- ◆ *The wiper arms for driver's and front passenger's side have different lengths.*



Installation is carried out in the reverse order; note the following:

- Adjust wiper arms ⇒ [page 61](#) .

2.5 Adjusting wiper arms

Procedure



Note

If the wiper motor needs to be run during repair work, the bonnet must be closed (voltage supply to wiper motor is cut off when bonnet is open).

- Remove wiper arms ⇒ [page 60](#) .
- Switch on ignition.
- Operate „touch-wipe function“ and allow wiper motor to move to end position.

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Note

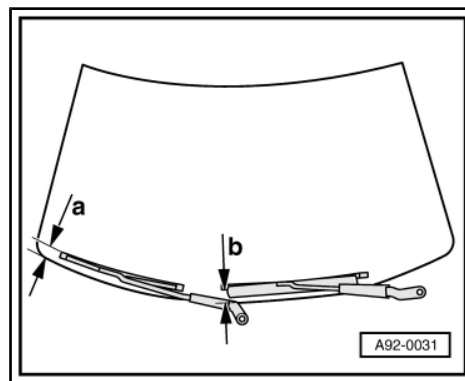
- ◆ *Every second time the wiper motor is switched off it runs back slightly after reaching the end position, which turns the lip of the wiper blade in the opposite direction.*
- ◆ *The wiper motor moves the wiper arms down beyond their end position and then back up slightly. This slightly raised position must not be used when aligning the wiper crank.*
- ◆ *You must use the end setting at which the wiper motor moves directly to its park position (without returning). Operate the „touch-wipe function“ again as necessary.*
- Switch off ignition.

- Attach wiper arm with fitted wiper blade to wiper shaft and position wiper blade on windscreen as follows:
- Dimension -a- = 5 ± 10 mm.
- Dimension -b- = 24 ± 10 mm.

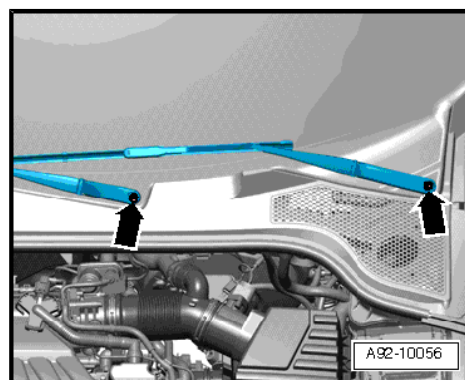


Note

Dimensions indicate distance between tips of wiper blades and plenum chamber cover at bottom edge of windscreen.



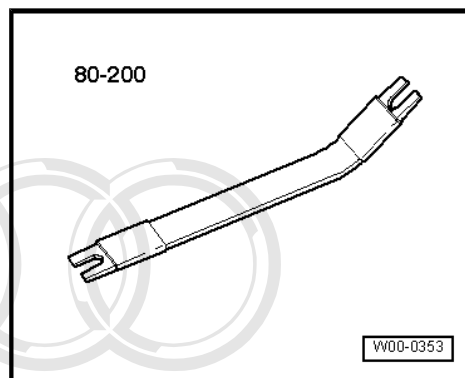
- Tighten securing nuts -arrows- for wiper arms.
- Tightening torque ⇒ [page 57](#)
- Switch on ignition.
- Operate „touch-wipe function“ and allow wiper arms to move to end position.
- Switch off ignition.
- Check setting of wiper arms again. Correct as necessary.
- Press cover caps onto wiper arms.



2.6 Removing and installing wiper motor with wiper motor control unit -J400-

Special tools and workshop equipment required

- ◆ Removal lever -80 - 200-



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Removing

- Remove wiper arms ⇒ [page 60](#) .
- If fitted, remove bolts -3- and -4-.
- Pull off rubber seal -1-.



Caution

Risk of damage to plenum chamber cover.

- ◆ **Apply a small quantity of soap solution to transition between windscreen and plenum chamber cover.**

- Starting at edge of windscreen, carefully pull plenum chamber cover -2- vertically up and out of retainer at windscreen -arrows-.
- Cut through cable tie -arrow-.
- Unscrew bolts -1, 2, 4-.
- Pull wiper frame together with linkage and wiper motor -3- slightly towards left in direction of travel.
- Rotate wiper frame together with linkage and wiper motor upwards until you can pry off wiring clip -6- using removal lever -80 - 200- .



Note

Use silicone-free lubricating spray to facilitate removal, if necessary.

- Unplug electrical connector -5-.
- Remove wiper frame (together with linkage and wiper motor) from plenum chamber towards left in direction of travel.

Installing

- Tightening torque ⇒ [page 58](#)

Installation is carried out in the reverse order; note the following:

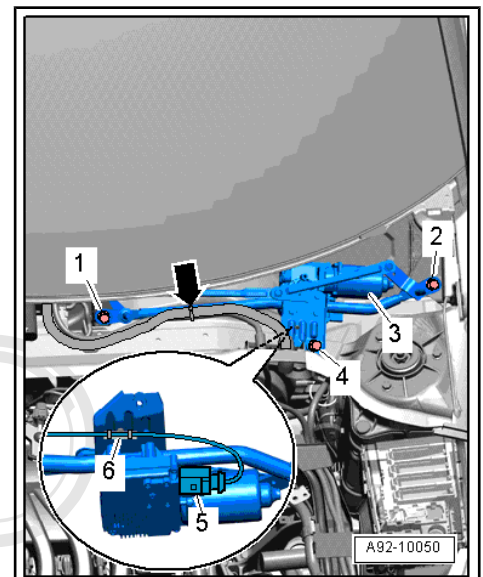
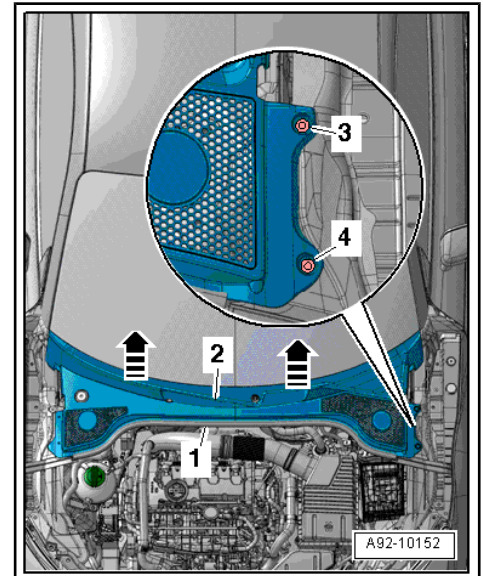
- Fit wiper motor with wiper frame in vehicle.

- Tighten bolts ⇒ [page 58](#) .
- Adjust wiper arms ⇒ [page 61](#) .

2.7 Renewing wiper motor with wiper motor control unit -J400-

Procedure

- When renewing control unit select „Replacement“ function for appropriate control unit in „Guided Fault Finding“ or „Guided Functions“ ⇒ Vehicle diagnostic, testing and information system VAS 5051.



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3 Windscreen washer system

Observe notes on contact corrosion ⇒ [page 56](#) .

3.1 Overview of washer fluid reservoir and washer fluid hoses

1 - Hose connector

- ☐ For headlight washer fluid hoses

2 - Washer jet

- ☐ Removing and installing
⇒ [page 66](#)

3 - Electrical connector

- ☐ For washer jet heating
- ☐ Depending on equipment

4 - Washer fluid hose

- ☐ For washer jet

5 - Grommet

- ☐ For washer fluid hose in bonnet

6 - Washer fluid hose

- ☐ Clipped onto bracket for bonnet

7 - Cap

- ☐ For washer fluid reservoir

8 - Grommet

- ☐ For washer fluid hose in wing panel

9 - Electrical connector

- ☐ For headlight washer system pump

10 - Headlight washer system pump -V11-

11 - Electrical connector

- ☐ For washer pump -V5-

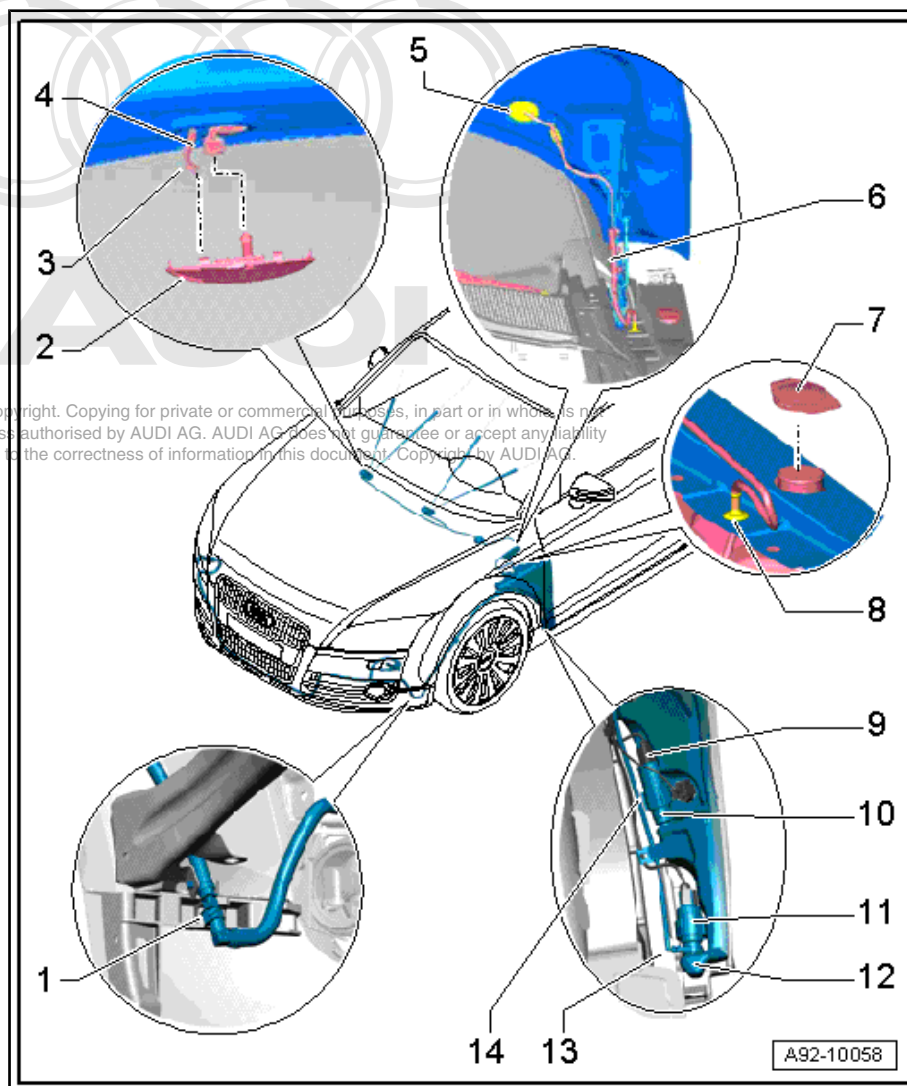
12 - Washer pump -V5-

13 - Washer fluid hose

- ☐ For windscreen washer system

14 - Washer fluid hose

- ☐ For headlight washer system



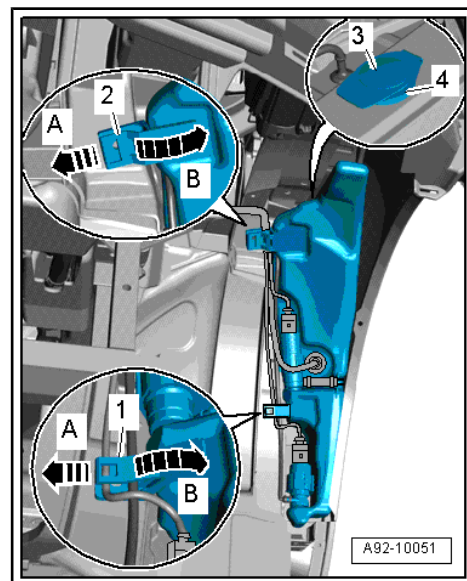
3.2 Removing and installing washer fluid reservoir

Special tools and workshop equipment required

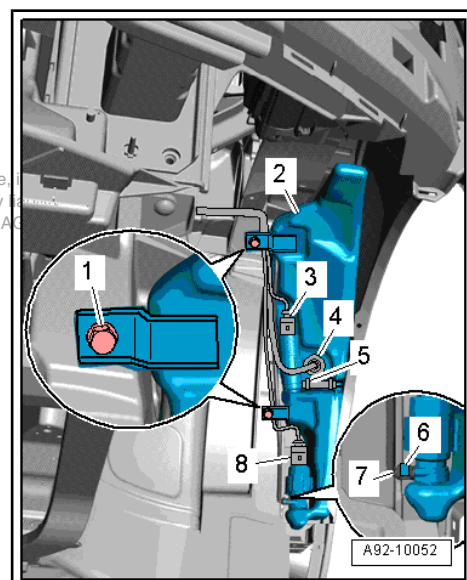
- ◆ Drip tray

Removing

- Switch off ignition and take out ignition key.
- Remove front wheel (left-side).
- Remove front wheel housing liner (left-side) ⇒ Rep. gr. 66 .
- Open cap -3- on filler neck of washer fluid reservoir.
- Disengage retaining ring -4- of cap at filler neck of washer fluid reservoir.
- Release wiring/hose brackets -1 and 2- in direction of -arrow A- and move brackets aside -arrow B-.
- Move harness clear.



- Place drip tray under washer fluid reservoir.
- Release retaining clip -6- and disconnect washer fluid hose -7- at washer pump for windscreen washer system.
- Detach fluid hose -5- at washer pump for headlight washer system.
- Unplug electrical connectors -3, 4, 8-.
- Unscrew bolts -1- and remove washer fluid reservoir -2- towards the front -arrow-.



Installing

- Tightening torque ⇒ [page 64](#)

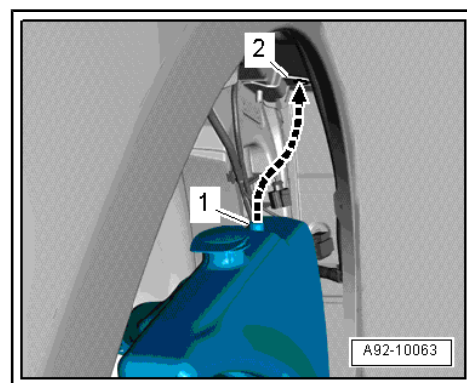
Installation is carried out in the reverse order; note the following:



Note

Secure all hose connections with the correct type of hose clips (same as original equipment) ⇒ Electronic parts catalogue .

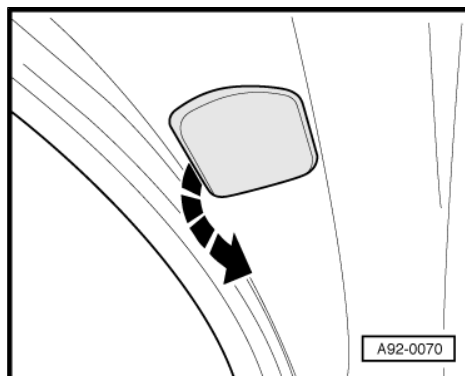
- When installing washer fluid reservoir, make sure that locating lug -1- engages in recess -2- -arrow-.
- Install front wheel housing liner (left-side) ⇒ Rep. gr. 66 .



3.3 Removing and installing washer jets

Removing

- Unclip washer jets from underneath bonnet -arrow-.

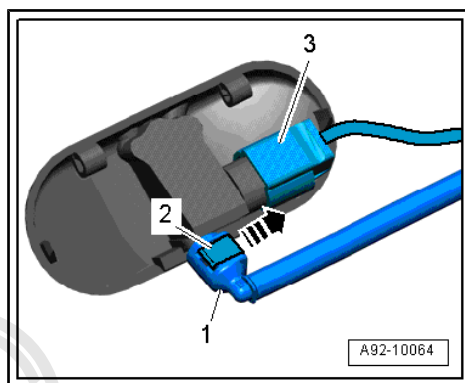


- Release retaining clip -2- in direction of -arrow- and disconnect washer fluid hose -1- at washer jet for windscreen washer system.
- Unplug electrical connector -3- if fitted.

Installing

Installation is carried out in the reverse order; note the following:

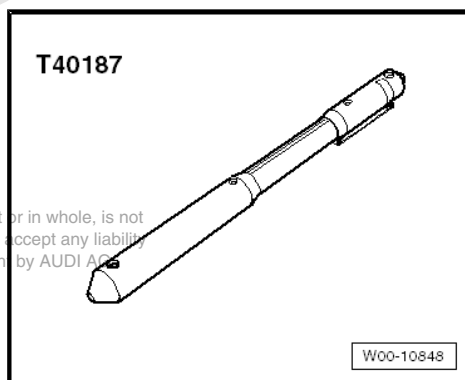
- When fitting fluid hose, make sure that retaining clip engages audibly in connection on washer fluid hose.
- Insert washer jet in bonnet.



3.4 Adjusting washer jets

Special tools and workshop equipment required

- ◆ Adjusting tool for washer jet -T40187- fitted with needle -3125/5A-



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Adjusting

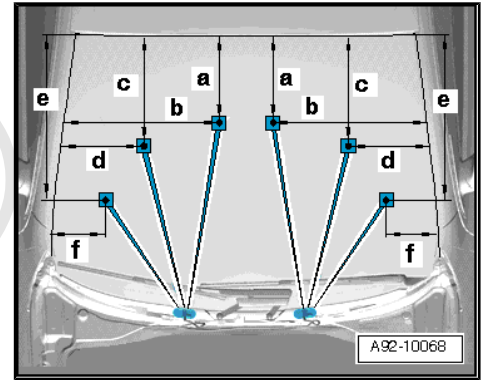


Note

The setting dimensions are calculated to allow for the motion of the vehicle when driving. When the vehicle is stationary the direction of the jets will be slightly different.

- Use water-soluble pen to mark six points on windscreen:

Dimension in mm	Driver's side	Passenger's side
-a- =	300	300
-b- =	600	600
-c- =	320	320
-d- =	335	335
-e- =	495	495
-f- =	175	175



Note

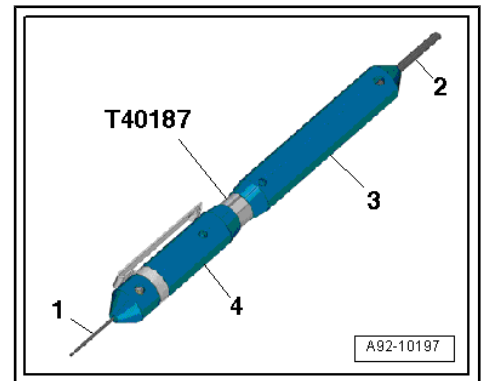
Bond a bright adhesive strip of tape on the marked positions on the inside of the windscreen to avoid marking the dimensions again each time the washer jets are used.



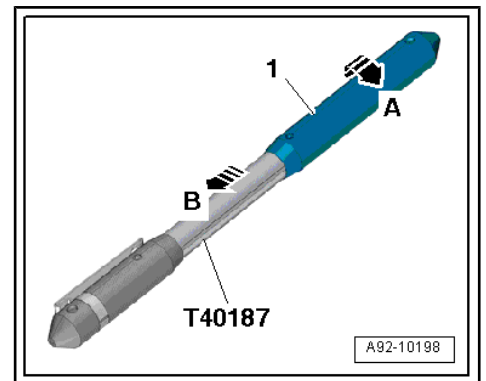
WARNING

Risk of injury.

- ◆ When the adjusting tool for washer jet -T40187- is not used, make sure both sides are always covered and secured with the covers -3- and -4-.
- ◆ If one side is not secured with the cover, injuries may be caused by the needle -3125/5A- -item 1- or the adjusting pin -2-.
- ◆ When opening one of the sides, always make sure the opposite side does not point towards your hand.



- Release long cover -1- on adjusting tool for washer jet -T40187- -arrow A- and slide towards rear -arrow B-.

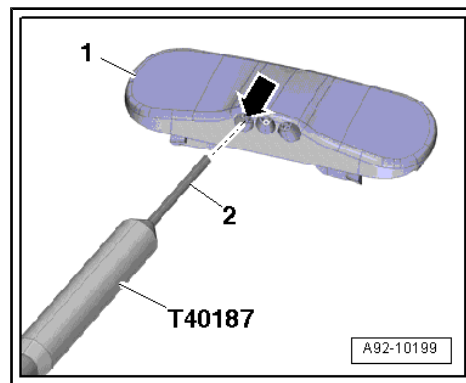


- Fit adjusting pin -2- onto appropriate washer jet -arrow- of washer jet unit -1-, aim at the marks previously made on windscreen and adjust if necessary.
- If spray pattern does not match specifications, clean the contaminated washer jet.

**WARNING**

Risk of injury.

- ◆ *The adjusting pin must be covered and secured with the cover each time it has been used.*

**Cleaning washer jet:**

- Remove washer jet ⇒ [page 66](#) .
- Rinse washer jet with clear water in opposite direction of spray.
- Always blow through washer jet in opposite direction of spray when removing remaining particles of dirt by applying compressed air.
- If spray pattern still does not match specifications, renew the washer jet.



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4 Headlight washer system

4.1 Exploded view of headlight washer system

1 - Washer jet

- ❑ Removing and installing
⇒ [page 69](#)

2 - Bolt

- ❑ 2.5 Nm

3 - Cover for washer jet

4 - Bolt

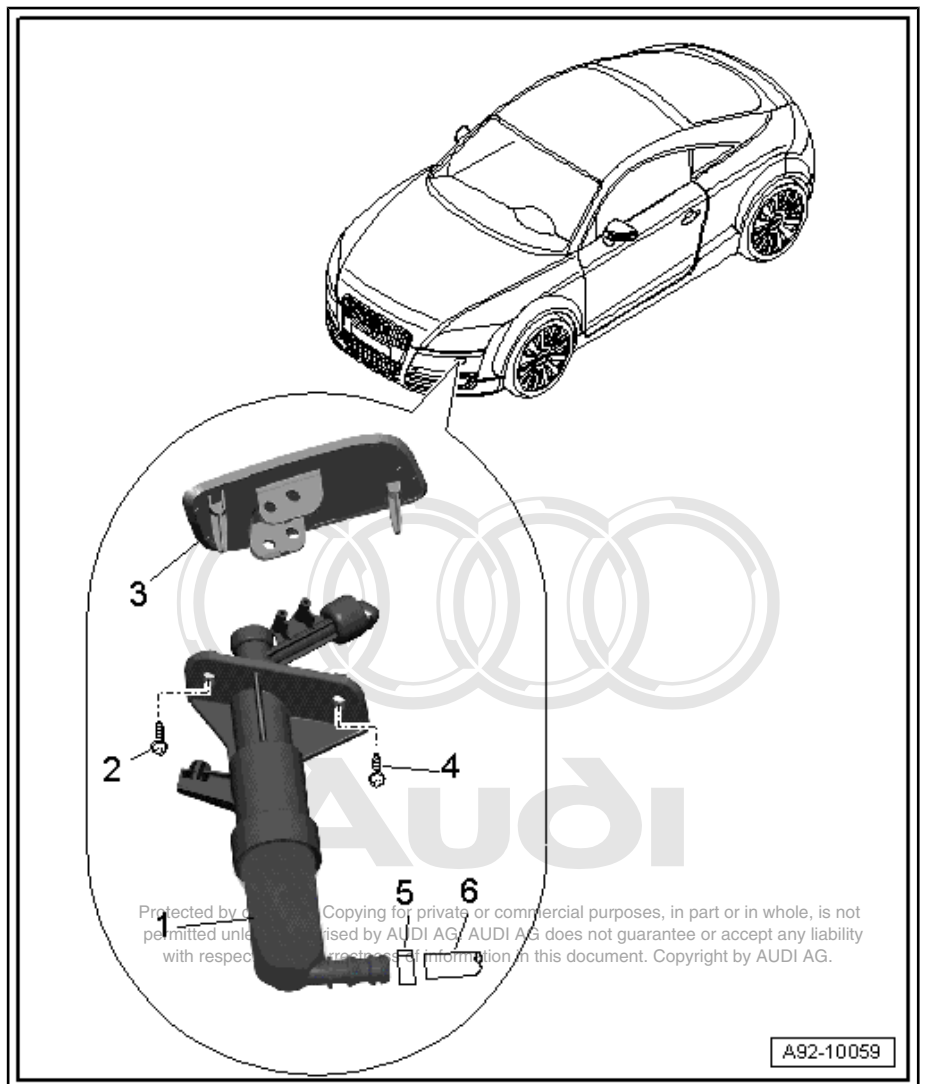
- ❑ 2.5 Nm

5 - Hose clip

- ❑ Secure all hose connections with the correct type of hose clips (same as original equipment)
⇒ Electronic parts catalogue

6 - Fluid hose

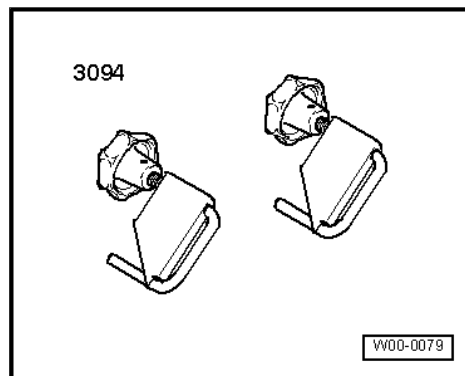
- ❑ For washer jet



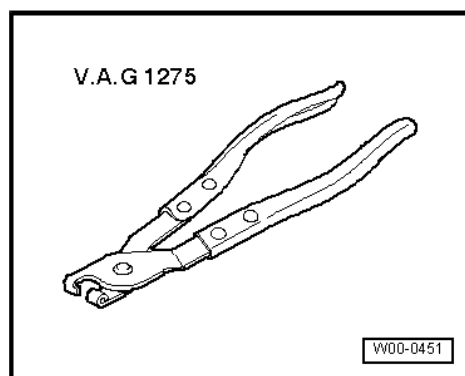
4.2 Removing and installing headlight washer jets

Special tools and workshop equipment required

- ◆ Hose clamps up to 25 mm -3094-



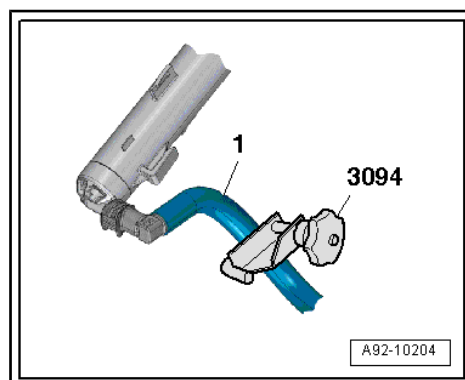
- ◆ Hose clip pliers -V.A.G 1275-



Removing

- Remove front bumper cover ⇒ Rep. gr. 63 .
- Disconnect fluid hose -1- using hose clamp -3094- .

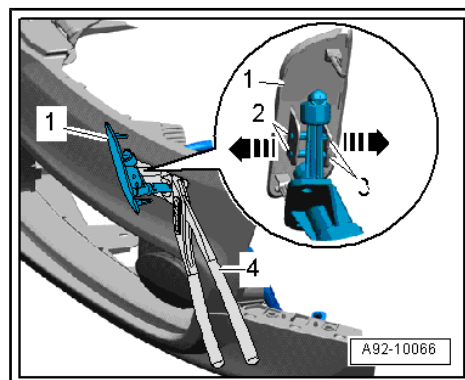
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Note

To protect the bumper cover, place a cloth under pliers before taking hold of the washer jet.

- Pull telescopic part of washer jet out of bumper cover as far as stop.
- Hold telescopic part of washer jet in pulled-out position using pliers -4-.
- Pry apart side sections of cover -1- for washer jet -arrows- and carefully disengage side sections of cover from retaining pins -2 and 3-.



i Note

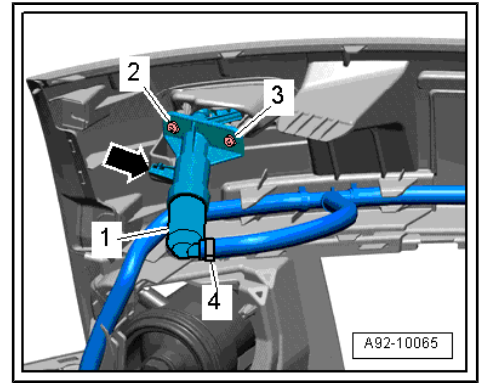
Place a cloth underneath to catch escaping fluid.

- Detach washer fluid hose -4- at washer jet -1-.
- Unscrew bolts -2 and 3- and detach washer jet.

Installing

- Tightening torque ⇒ [page 69](#)

Installation is carried out in the reverse order; note the following:



i Note

Secure all hose connections with the correct type of hose clips (same as original equipment) ⇒ Electronic parts catalogue .

- Make sure that guide pin is seated in recess -arrow-.
- Use hose clip pliers -V.A.G 1275- to install hose clip.
- Install front bumper cover ⇒ Rep. gr. 63 .

4.3 Adjusting washer jets

i Note

The washer jets are pre-set at the factory and do not have to be adjusted following installation.

4.4 Removing and installing washer fluid reservoir

i Note

The washer fluid reservoir supplies both the windscreen and headlight washer systems, and is located in the front left wheel housing. Removing and installing ⇒ [page 64](#) .

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5 Washer fluid hoses

The following descriptions are given in ⇒ Electrical system; General information; Rep. gr. 92 :

- ◆ Disconnecting and connecting washer fluid hose connectors
- ◆ Servicing a washer fluid hose with corrugated tube



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94 – Lights, bulbs, switches - exterior

1 Contact corrosion

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

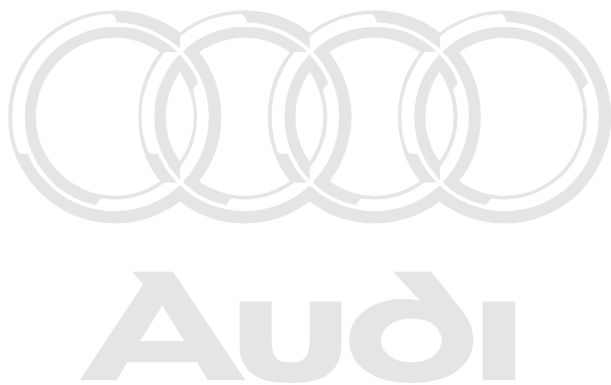
For this reason, only fasteners with a special surface coating are fitted.

Furthermore, rubber components or plastic components and adhesives are made of non-conductive material.

Always fit new components if you are not sure that the old components are suitable ⇒ Electronic parts catalogue .

Note:

- ◆ We recommend the use of genuine replacement parts only; they have been tested and are compatible with aluminium.
- ◆ We recommend using Audi Genuine Accessories.
- ◆ Damage resulting from contact corrosion is not covered by warranty.



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2 Halogen headlights

Observe notes on contact corrosion ⇒ [page 73](#) .



Note

The headlights must be adjusted after any repair work which could affect the headlight settings ⇒ [page 105](#) .

2.1 Exploded view of halogen headlight

1 - Bolt

- 4.5 Nm

2 - Bracket for headlight housing

3 - Adjuster nut

- To adjust headlight to bumper contour

4 - Front turn signal bulb

- Front left turn signal bulb -M5-
- Front right turn signal bulb -M7-
- 12 V, 21 W
- H21W
- Renewing bulbs ⇒ [page 79](#)

5 - Bulb holder

- For front turn signal bulb

6 - Headlight housing

- Removing and installing ⇒ [page 76](#)

7 - Bolt

- 4.5 Nm

8 - Housing cover

- For headlight main beam

9 - Headlight main beam bulb

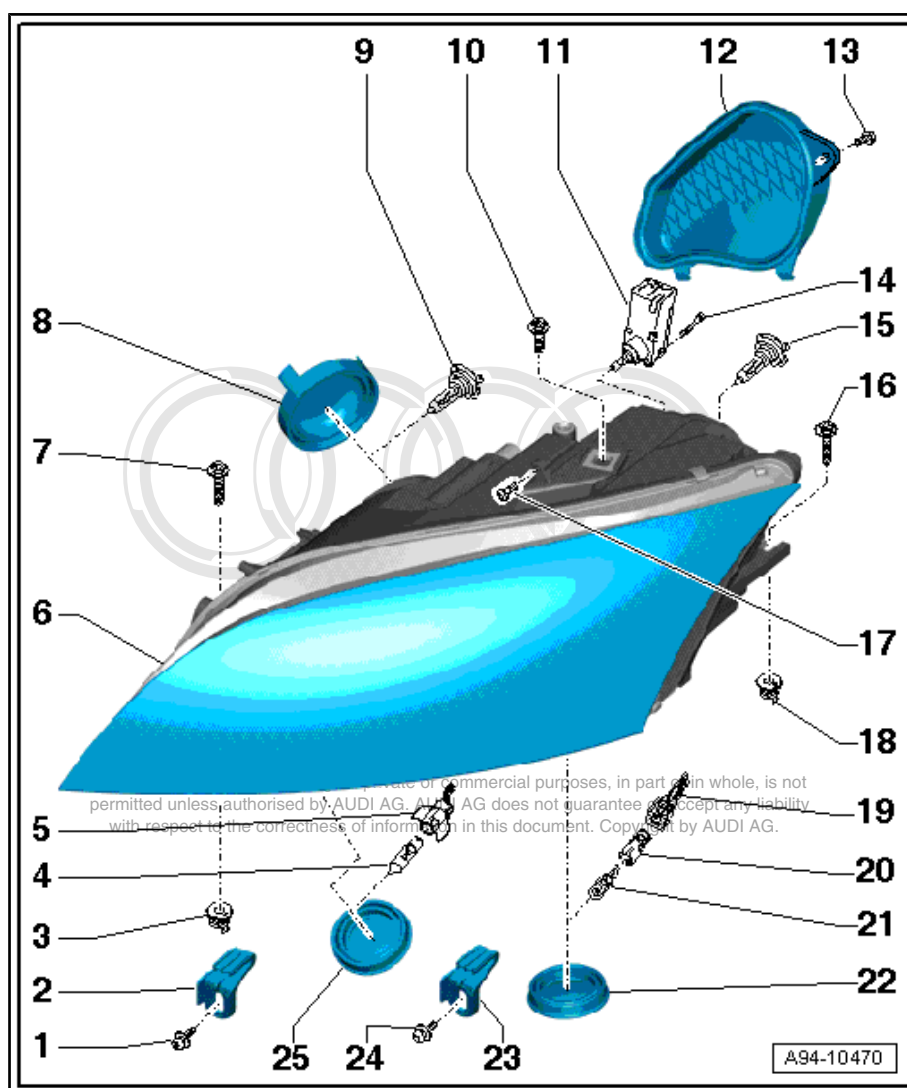
- Left headlight main beam bulb -M30-
- Right headlight main beam bulb -M32-
- H7 - 12 V, 55 W
- Renewing bulbs ⇒ [page 78](#)

10 - Bolt

- 4.5 Nm

11 - Headlight range control motor

- Left headlight range control motor -V48-
- Right headlight range control motor -V49-
- Removing and installing ⇒ [page 79](#)



12 - Housing cover

- ☐ For headlight dipped beam
- ☐ Different versions ⇒ Electronic parts catalogue

13 - Bolt

- ☐ Not fitted on early versions
- ☐ 2 Nm

14 - Bolt

- ☐ 2 Nm

15 - Headlight dipped beam bulb

- ☐ Left headlight dipped beam bulb -M29-
- ☐ Right headlight dipped beam bulb -M31-
- ☐ H7 - 12 V, 55 W
- ☐ Renewing bulbs ⇒ [page 77](#)

16 - Bolt

- ☐ 4.5 Nm

17 - Stop bolt

- ☐ For aligning headlight housing with body contour
- ☐ Must make contact with lock carrier

18 - Adjuster nut

- ☐ To adjust headlight to bumper contour

19 - Mounting for bulb holder

- ☐ For side lights

20 - Bulb holder

- ☐ For side light bulb

21 - Side light bulb

- ☐ Left side light bulb -M1-
- ☐ Right side light bulb -M3-
- ☐ Rest-of-the-world vehicles: 12 V, 5 W
- ☐ USA vehicles: yellow (amber), 12 V, 5 W
- ☐ Renewing bulbs ⇒ [page 79](#)

22 - Housing cover

- ☐ For side lights

23 - Bracket for headlight housing

24 - Bolt

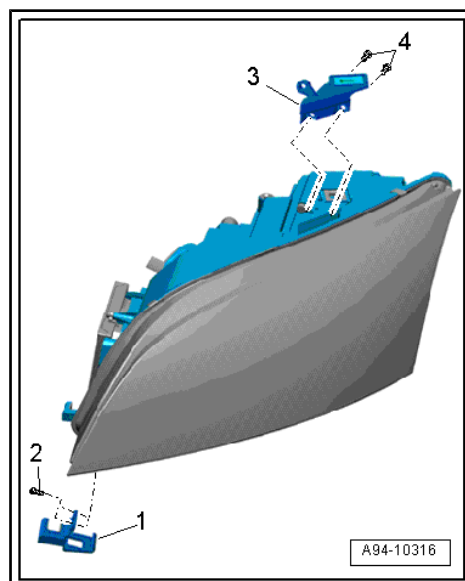
- ☐ 4.5 Nm
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25 - Housing cover

- ☐ For turn signal

Tightening torques for repair kit for headlight housing

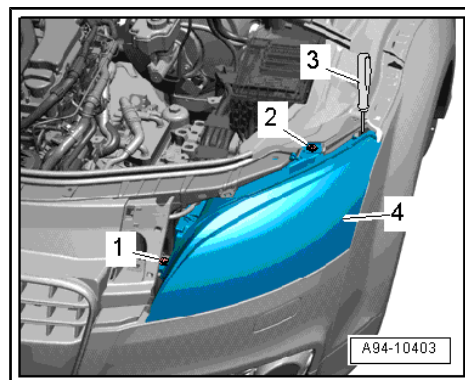
- Tighten bolts -2- and -4- to 6 Nm.



2.2 Removing and installing headlights

Removing

- Switch off ignition and take out ignition key.
- Turn light switch to position „0“.
- Remove bumper cover (top) ⇒ Rep. gr. 63 .
- Remove bolt -2-.
- Guide a long screwdriver -3- through aperture and slacken securing bolt at bottom of headlight housing a few turns.
- Slacken securing bolt -1- at bottom of headlight housing a few turns.
- Remove headlight -4- from body towards front.
- Unplug electrical connector.

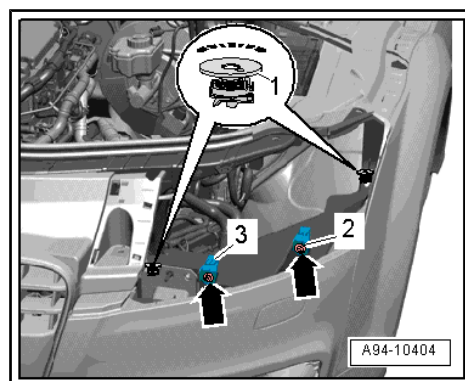


Installing

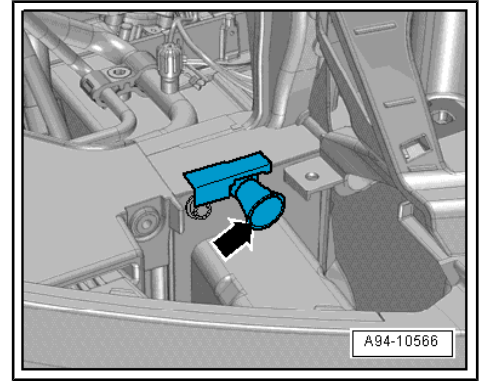
- Tightening torque ⇒ [page 74](#)

Installation is carried out in the reverse order; note the following:

- Check adjuster nut -1- of adjuster for freedom of movement -arrows-.
- Screw down adjuster nut as far as it will go, but do not tighten.



- Insert headlight. When doing so, make sure that ventilation connection on headlight housing is inserted into ventilation opening -arrow- above impact bar.

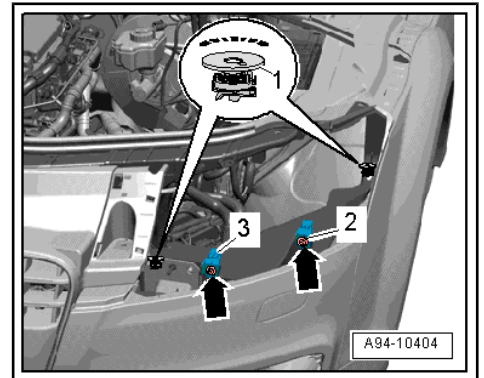


- Align headlight with body contours (gap widths).



Headlight can be aligned by slackening off bolts -arrows- and altering height of brackets -2 and 3-.

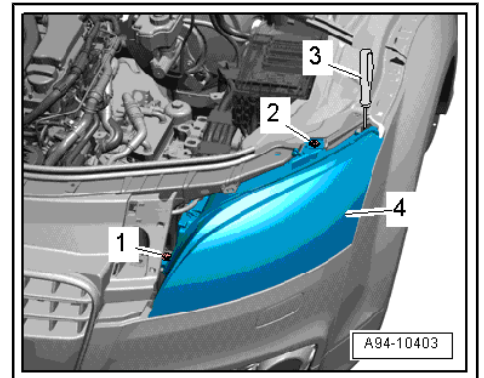
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- Tighten bolts -1 and 3-.



When the bolts are tightened the adjuster nuts of the adjuster elements automatically rotate against the mounting points of the headlight housing -4- and fix it in place.

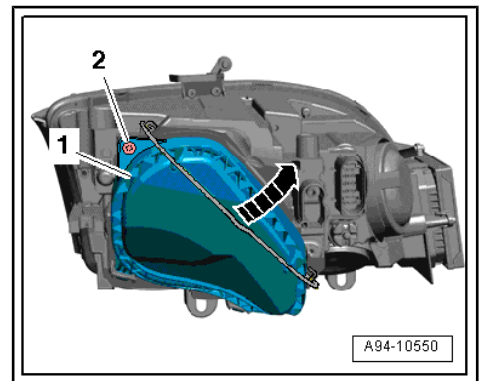


- Tighten bolt -2-.
- Install bumper cover (top) ⇒ Rep. gr. 63 .
- Adjust headlights ⇒ [page 105](#) .

2.3 Renewing headlight dipped beam bulb - M29- / -M31-

Removing

- Remove headlight ⇒ [page 76](#) .
- Remove screw -2- (if fitted).
- Release retaining clip -arrow- and detach housing cover -1- for dipped beam headlight/daytime running light from headlight housing.



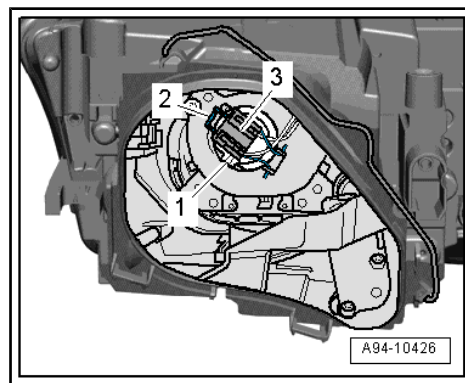
- Unplug electrical connector -3- at bulb for dipped beam headlight/daytime running light.
- Disengage retaining clip -2- and take bulb -1- out of housing.

Installing

- Tightening torque ⇒ [page 74](#)

Installation is carried out in the reverse order; note the following:

- Insert new bulb in housing; do not touch glass part of bulb with bare hands.
- Secure bulb with retaining clip.
- Plug in connector and close housing cover.
- Secure housing cover with retaining clip.
- Install headlight ⇒ [page 76](#) .



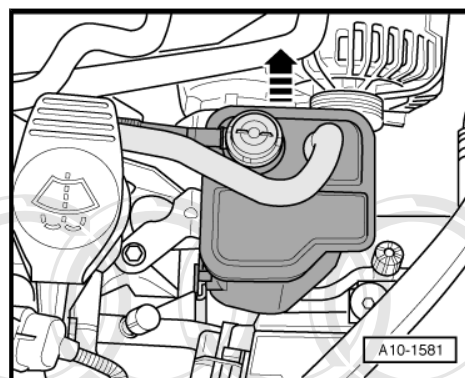
2.4 Renewing headlight main beam bulb - M30- / -M32-

Removing

- Switch off ignition and take out ignition key.
- Turn light switch to position „0“.

Headlight (right-side):

- Lift activated charcoal filter out of bracket -arrow- and place it aside with hoses still attached.



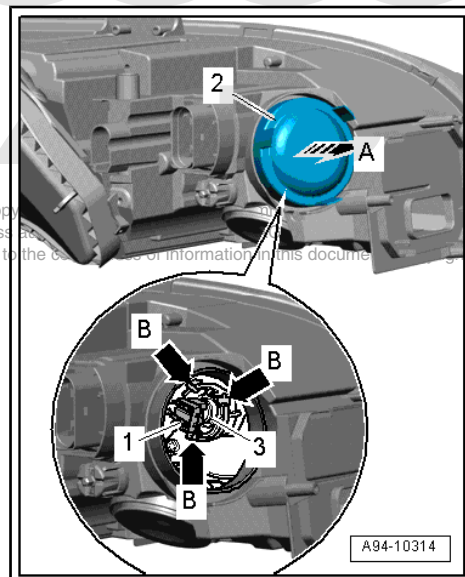
Both sides (continued):

- Detach cover -2- for main beam from headlight housing -arrow A-.
- Remove bulb -3- from spring clips -arrows B-.
- Unplug electrical connector -1- at main beam bulb.

Installing

Installation is carried out in the reverse order; note the following:

- Insert new bulb in housing; do not touch glass part of bulb with bare hands.
- Position bulb at lower spring clip.
- Push bulb beyond resistance of upper spring clips into housing.
- Plug in connector and close housing cover.



2.5 Renewing side light bulb -M1- / -M3-

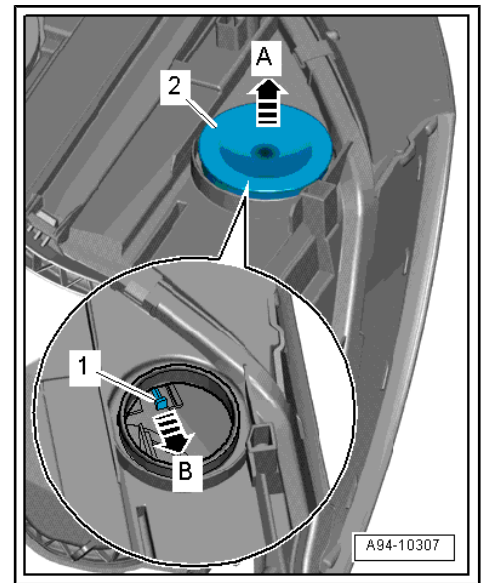
Removing

- Remove headlight ➔ [page 76](#) .
- Detach cover -2- for side light from headlight housing -arrow A-.
- Pull bulb holder -1- together with bulb out of reflector in direction of -arrow B-.
- Pull side light bulb out of holder.

Installing

Installation is carried out in the reverse order; note the following:

- Insert new bulb in bulb holder, taking care not to touch glass part of bulb with bare hands.
- Press bulb holder into reflector until you feel it engage.
- Close housing cover.
- Install headlight ➔ [page 76](#) .



2.6 Renewing front turn signal bulb -M5- / -M7-

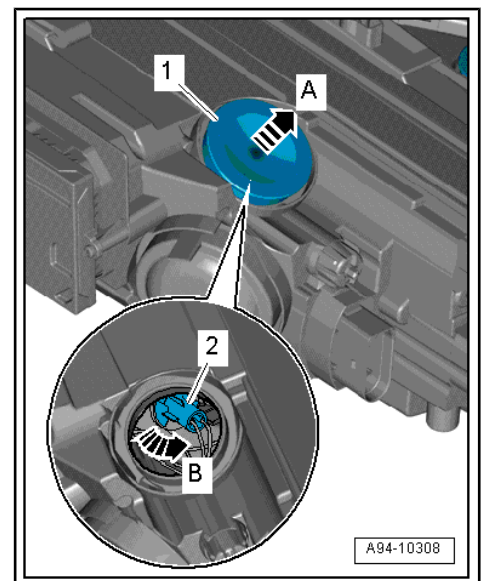
Removing

- Remove headlight ➔ [page 76](#) .
- Detach cover -1- for turn signal from headlight housing -arrow A-.
- Turn bulb holder -2- anti-clockwise -arrow B- and pull it out of housing.
- Screw bulb out of bulb holder.

Installing

Installation is carried out in the reverse order; note the following:

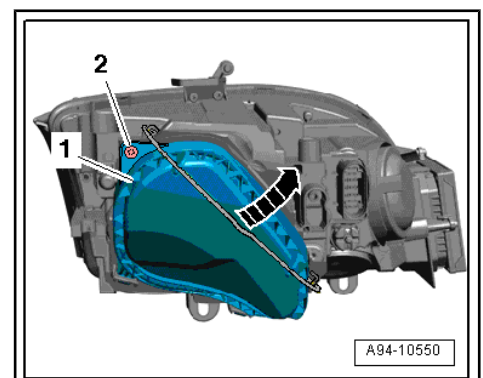
- Insert new bulb in housing; do not touch glass part of bulb with bare hands.
- Close housing cover.
- Install headlight ➔ [page 76](#) .



2.7 Removing and installing headlight range control motor -V48- / -V49-

Removing

- Remove headlight ➔ [page 76](#) .
- Remove screw -2- (if fitted).
- Release retaining clip -arrow- and detach housing cover -1- for dipped beam headlight/daytime running light from headlight housing.



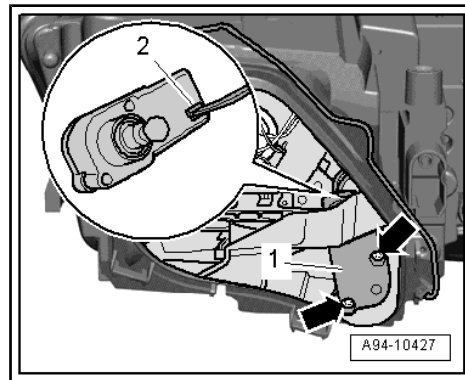
- Unscrew bolts -arrows-.
- Press ball head of actuator shaft out of its mounting by swivelling control motor -1- downwards.
- Press reflector towards front and remove control motor.
- Unplug electrical connector -2-.

Installing

- Tightening torque ⇒ [page 74](#)

Installation is carried out in the reverse order; note the following:

- Start by plugging in connector and insert ball head of actuator shaft in mounting on reflector from below; to do so, pull reflector to rear.



Note

The headlights must always be adjusted if the control motors are removed and installed or renewed ⇒ [page 105](#).

- Close housing cover.
- Secure housing cover with retaining clip.
- Install headlight ⇒ [page 76](#).

2.8 Installing repair kit for headlight housing

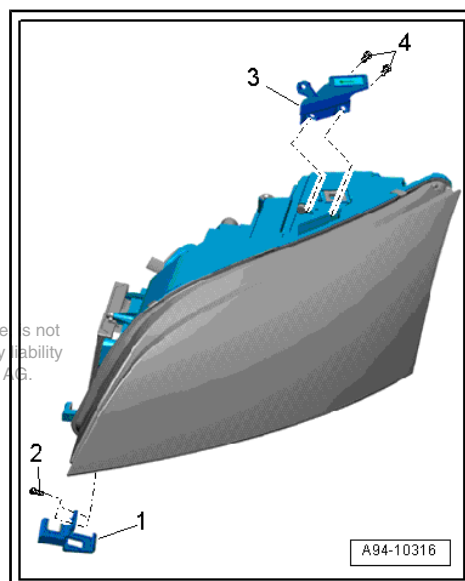


Note

- ♦ *If the headlight retaining tabs have broken off, they can be replaced by installing the repair kit. In this case, it is not necessary to renew the complete headlight unit.*
- ♦ *Different repair kits are available for both left and right side headlights ⇒ [Electronic parts catalogue](#).*

Procedure

- Tightening torques ⇒ [page 76](#)
- Remove headlight with broken retaining tab ⇒ [page 76](#).
- Remove rest of broken retaining tab from headlight housing.
- Fit retaining tab -1 or 3-, as appropriate, from repair kit on headlight housing and secure tab with bolts -2 or 4-.



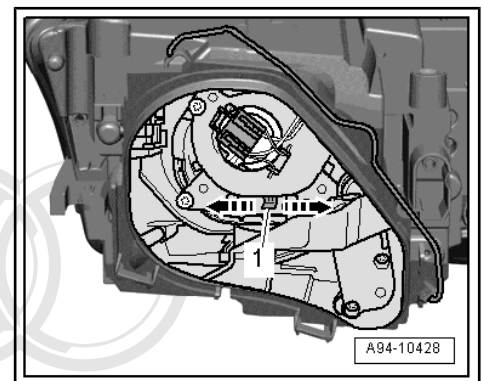
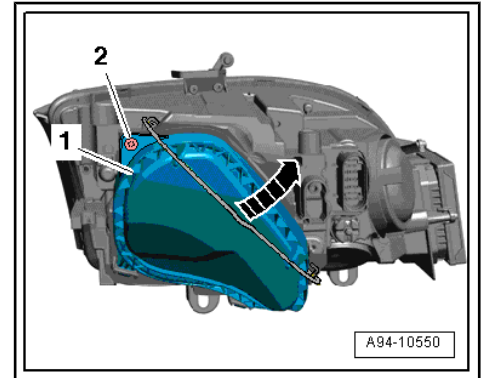
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2.9 Converting headlights for driving on the left or right side of the road

When travelling in countries where the vehicle is to be driven on the other side of the road, both headlights must be adjusted to prevent dazzling by the asymmetric dipped beam.

Procedure

- Remove headlight ⇒ [page 76](#) .
- Remove screw -2- (if fitted).
- Release retaining clip -arrow- and detach housing cover -1- for dipped beam headlight/daytime running light from headlight housing.
- Check position of adjustment lever -1- at both headlights.
- Lever left = Driving on left
- Lever right = Driving on right
- If necessary, swivel lever until it engages in desired position -arrows-.



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3 Bi-xenon gas discharge headlights with cornering light

Observe notes on contact corrosion ⇒ [page 73](#) .



Note

The headlights must be adjusted after any repair work which could affect the headlight settings ⇒ [page 105](#) .

3.1 Safety precautions when handling gas discharge bulbs

⇒ Electrical system; General information; Rep. gr. 94

3.2 Exploded view of bi-xenon gas discharge headlight with cornering light

1 - Bolt

- 4.5 Nm

2 - Bracket for headlight housing

3 - Adjuster nut

- To adjust headlight to bumper contour

4 - Front turn signal bulb

- Front left turn signal bulb -M5-
- Front right turn signal bulb -M7-
- 12 V, 21 W
- H21W
- Renewing bulbs ⇒ [page 88](#)

5 - Bulb holder

- For front turn signal

6 - Headlight housing

- Removing and installing ⇒ [page 84](#)

7 - Bolt

- 2 Nm

8 - Gas discharge bulb control unit

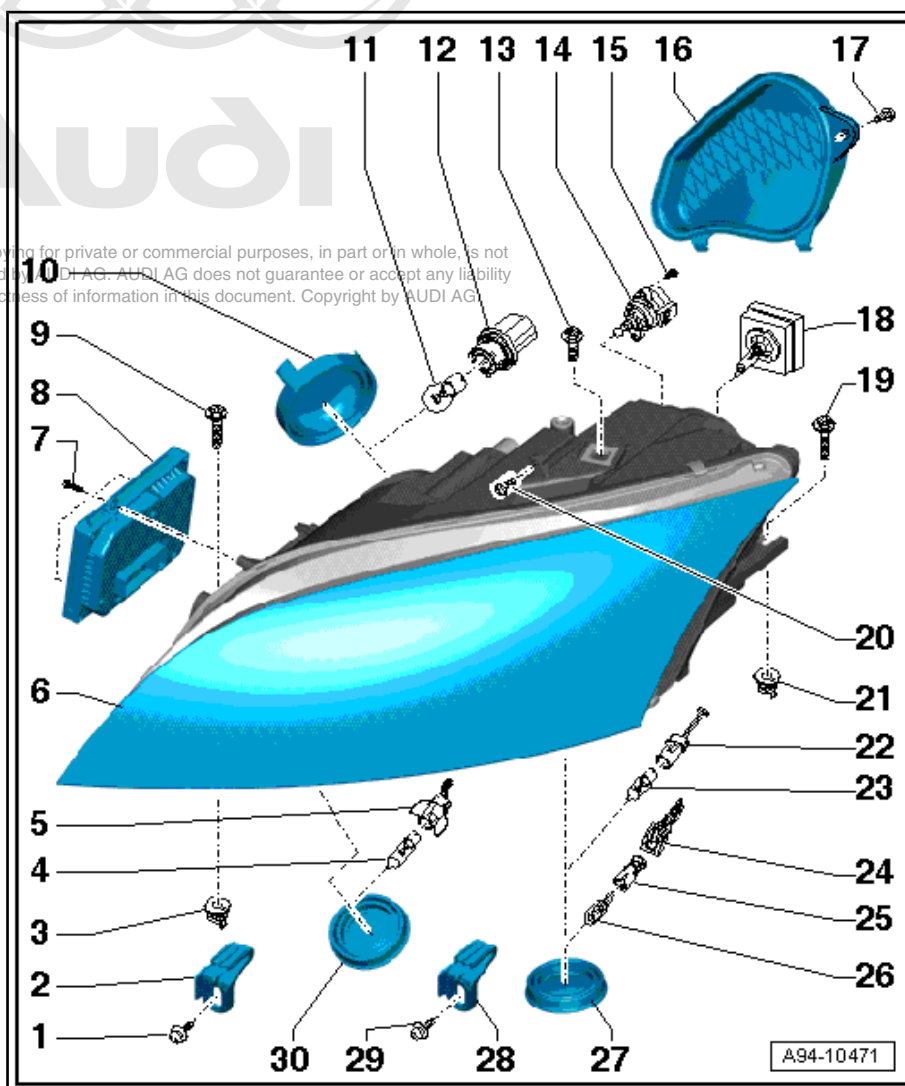
- Left gas discharge bulb control unit -J343-
- Right gas discharge bulb control unit -J344-
- Removing and installing ⇒ [page 88](#)

9 - Bolt

- 4.5 Nm

10 - Housing cover

- For daytime running lights



11 - Daytime running light bulb

- ☐ Left daytime running light bulb -L174-
- ☐ Right daytime running light bulb -L175-
- ☐ 12 V, 21 W
- ☐ Renewing bulbs ⇒ [page 87](#)

12 - Bulb holder

- ☐ For daytime running light bulb

13 - Bolt

- ☐ 4.5 Nm

14 - Headlight range control motor

- ☐ Left headlight range control motor -V48-
- ☐ Right headlight range control motor -V49-
- ☐ Removing and installing ⇒ [page 89](#)

15 - Bolt

- ☐ 2 Nm

16 - Housing cover

- ☐ For gas discharge bulb
- ☐ Different versions ⇒ Electronic parts catalogue

17 - Bolt

- ☐ Not fitted on early versions
- ☐ 2 Nm

18 - Gas discharge bulb

- ☐ With integrated starter unit
- ☐ Left gas discharge (xenon) bulb -L13-
- ☐ Right gas discharge (xenon) bulb -L14-
- ☐ 35 W, D1S
- ☐ Renewing bulbs ⇒ [page 86](#)

19 - Bolt

- ☐ 4.5 Nm

20 - Stop bolt

- ☐ For aligning headlight housing with body contour
- ☐ Must make contact with lock carrier

21 - Adjuster nut

- ☐ To adjust headlight to bumper contour

22 - Bulb holder

- ☐ For side light bulb

23 - Bracket

- ☐ With holder for side light bulb
- ☐ USA vehicles

24 - Bulb holder

- ☐ For side light bulb
- ☐ USA vehicles

25 - Side light bulb

USA vehicles

- ☐ Yellow (amber), 12 V, 5 W
- ☐ Renewing bulbs ⇒ [page 87](#)



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26 - Side light bulb

Rest-of-the-world vehicles

- ☐ 12 V, 6 W
- ☐ Renewing bulbs ⇒ [page 87](#)

27 - Housing cover

- ☐ For side lights

28 - Bracket for headlight housing

29 - Bolt

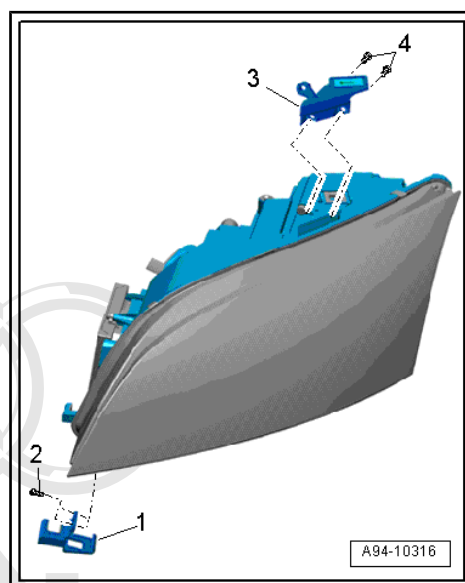
- ☐ 4.5 Nm

30 - Housing cover

- ☐ For turn signal

Tightening torques for repair kit for headlight housing

- Tighten bolts -2- and -4- to 6 Nm.



3.3 Removing and installing headlights



WARNING

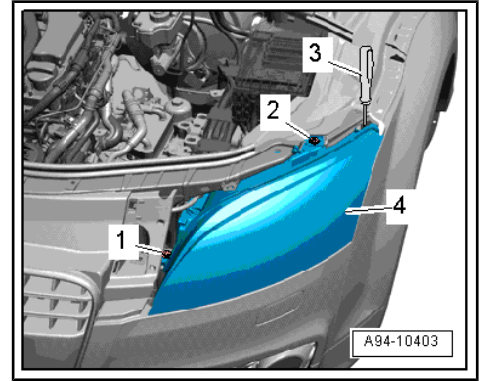
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High voltage! Danger to life!

- ◆ **Safety precautions when handling gas discharge bulbs ⇒ Electrical system; General information; Rep. gr. 94 .**

Removing

- With ignition switched off, disconnect earth cable at battery ⇒ [page 4](#) .
- Remove bumper cover (top) ⇒ Rep. gr. 63 .
- Remove bolt -2-.
- Guide a long screwdriver -3- through aperture and slacken securing bolt at bottom of headlight housing a few turns.
- Slacken securing bolt -1- at bottom of headlight housing a few turns.
- Remove headlight -4- from body towards front.
- Unplug electrical connector.

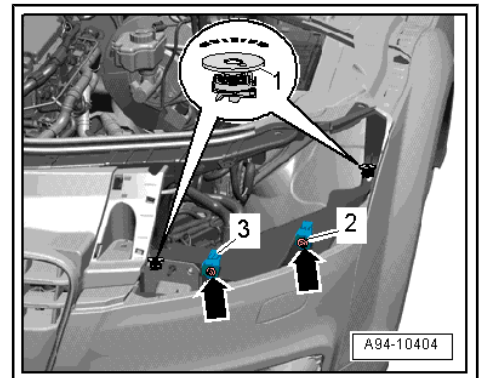


Installing

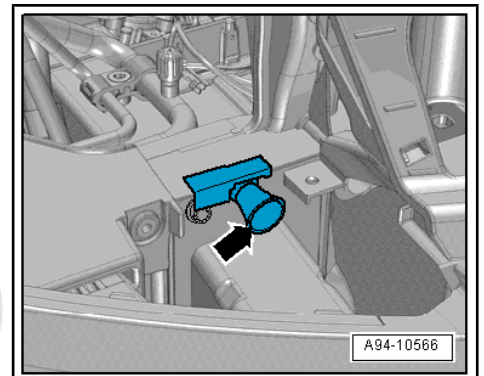
- Tightening torque ⇒ [page 82](#)

Installation is carried out in the reverse order; note the following:

- Check adjuster nut -1- of adjuster for freedom of movement -arrows-.
- Screw down adjuster nut as far as it will go, but do not tighten.



- Insert headlight. When doing so, make sure that ventilation connection on headlight housing is inserted into ventilation opening -arrow- above impact bar.



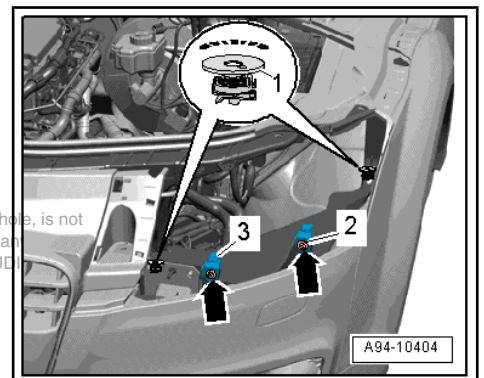
- Align headlight with body contours (gap widths).



Note

Headlight can be aligned by slackening off bolts -arrows- and altering height of brackets -2 and 3-.

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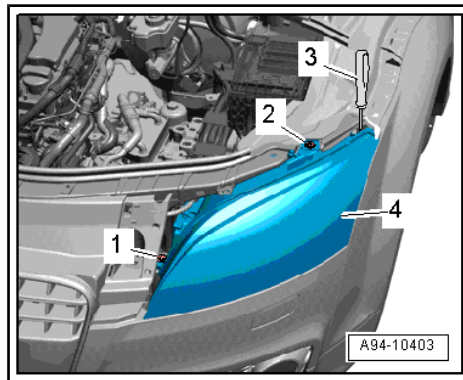


- Tighten bolts -1 and 3-.

 **Note**

When the bolts are tightened the adjuster nuts of the adjuster elements automatically rotate against the mounting points of the headlight housing -4- and fix it in place.

- Tighten bolt -2-.
- Install bumper cover (top) ⇒ Rep. gr. 63 .
- Connect battery. Steps required ⇒ [page 5](#) .
- Adjust headlights ⇒ [page 105](#) .



3.4 Renewing gas discharge bulb -L13- / -L14-



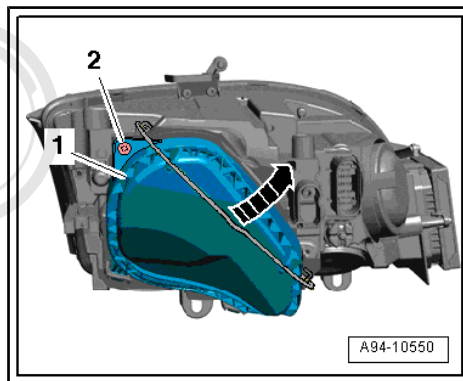
WARNING

High voltage! Danger to life! Observe environmental requirements.

- ◆ **Safety precautions when handling gas discharge bulbs ⇒ Electrical system; General information; Rep. gr. 94 .**

Removing

- Remove headlight ⇒ [page 84](#) .
- Remove screw -2- (if fitted).
- Release retaining clip -arrow- and detach housing cover -1- for gas discharge bulb from headlight housing.

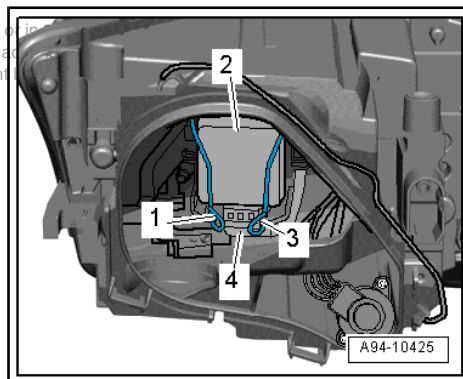


- Unplug electrical connector -4-.
- Release retaining clips -1 and 3- and take gas discharge bulb -2- out of housing.

Installing

Installation is carried out in the reverse order; note the following:

- Insert new gas discharge bulb in housing; do not touch glass part of bulb with bare hands.
- Installation position: The electrical connection faces downwards.
- Secure gas discharge bulb with retaining clips.
- Plug in connector and close housing cover.
- Secure housing cover with retaining clip.
- Install headlight ⇒ [page 84](#) .



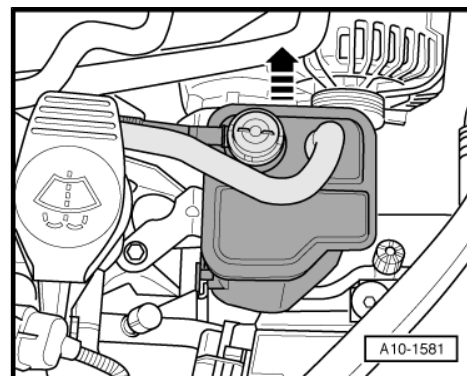
3.5 Renewing daytime running light bulb - L174- / -L175-

Removing

- Switch off ignition and take out ignition key.
- Turn light switch to position „0“.

Headlight (right-side):

- Lift activated charcoal filter out of bracket -arrow- and place it aside with hoses still attached.



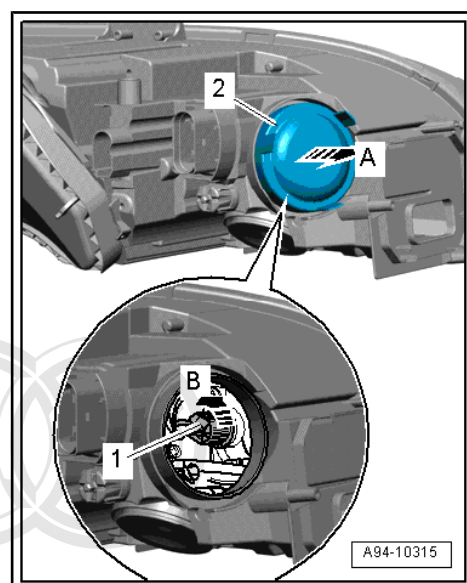
Both sides (continued):

- Detach cover -2- for main beam from headlight housing -arrow A-.
- Turn bulb holder -1- anti-clockwise -arrow B- and pull it out of headlight housing.
- Screw bulb out of bulb holder.

Installing

Installation is carried out in the reverse order; note the following:

- Insert new bulb in housing; do not touch glass part of bulb with bare hands.
- Secure bulb holder by turning clockwise.
- Close housing cover.



3.6 Renewing side light bulb -M1- / -M3-

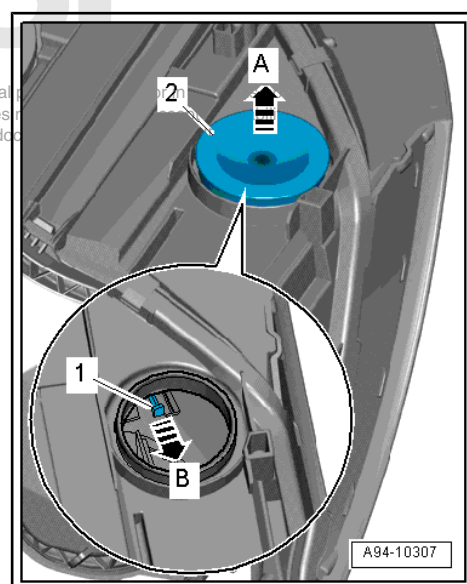
Removing

- Remove headlight => [page 84](#).
- Detach housing cover -2- for side light/side marker light from headlight housing -arrow A-.
- Pull bulb holder -1- together with bulb out of reflector in direction of -arrow B-.
- Turn/pull bulb for side light/side marker light out of bulb holder.

Installing

Installation is carried out in the reverse order; note the following:

- Insert new bulb in bulb holder, taking care not to touch glass part of bulb with bare hands.
- Press bulb holder into reflector until you feel it engage.
- Close housing cover.
- Install headlight => [page 84](#).



3.7 Removing and installing left/right headlight screen adjustment solenoid - N395- / -N396-

The headlight screen adjustment solenoid is located in the headlight housing beneath the gas discharge bulb and cannot be renewed separately in the event of a fault.

- Renewing headlight ⇒ [page 84](#) .

3.8 Removing and installing left/right swivel module position sensor -G474- / -G475-

The swivel module position sensor is located in the headlight housing beneath the gas discharge bulb and cannot be renewed separately in the event of a fault.

- Removing and installing headlights ⇒ [page 84](#) .

3.9 Renewing front turn signal bulb -M5- / -M7-

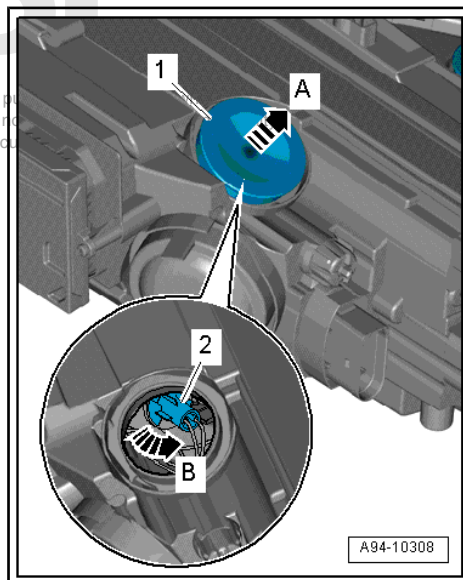
Removing

- Remove headlight ⇒ [page 84](#) .
- Detach cover -1- for turn signal from headlight housing -arrow A-.
- Turn bulb holder -2- anti-clockwise -arrow B- and pull it out of housing.
- Screw bulb out of bulb holder.

Installing

Installation is carried out in the reverse order; note the following:

- Insert new bulb in bulb holder, taking care not to touch glass part of bulb with bare hands.
- Close housing cover.
- Install headlight ⇒ [page 84](#) .



3.10 Removing and installing left/right gas discharge bulb control unit -J343- / -J344-



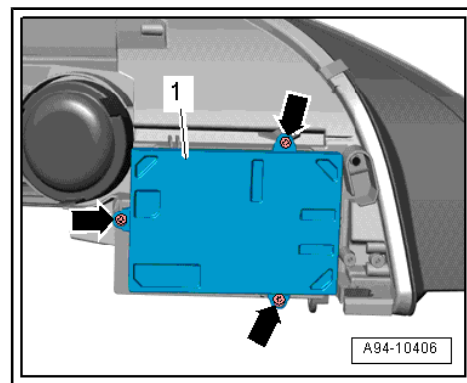
WARNING

High voltage! Danger to life!

- ◆ *Always disconnect the battery earth cable before working on parts of the gas discharge headlights marked with yellow high-voltage warning symbols.*

Removing

- Remove headlight ⇒ [page 84](#) .
- Unscrew bolts -arrows-.
- Pull control unit -1- off headlight housing.



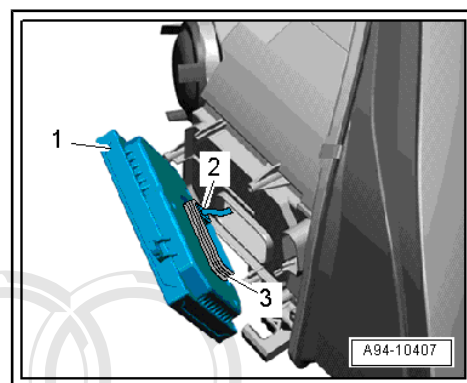
- Disconnect adapter cable -2- for gas discharge bulb at control unit -1-.

Installing

- Tightening torque ⇒ [page 82](#)

Installation is carried out in the reverse order; note the following:

- Check seal -3- between gas discharge bulb control unit and headlight housing for damage.
- Install headlight ⇒ [page 84](#) .



3.11 Removing and installing dynamic cornering light control motor -V318- / -V319-

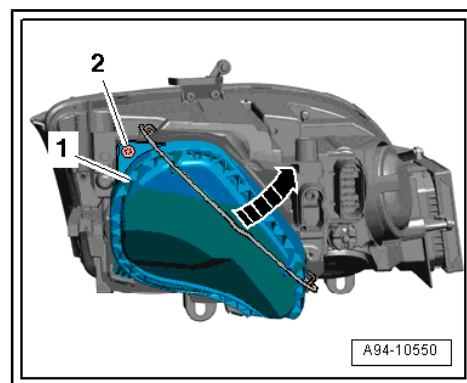
The dynamic cornering light control motor is located in the headlight housing and cannot be renewed separately in the event of a fault.

- Renew headlight housing ⇒ [page 84](#) .

3.12 Removing and installing headlight range control motor -V48- / -V49-

Removing

- Remove headlight ⇒ [page 84](#) .
- Remove screw -2- (if fitted).
- Release retaining clip -arrow- and detach housing cover -1- for gas discharge bulb from headlight housing.



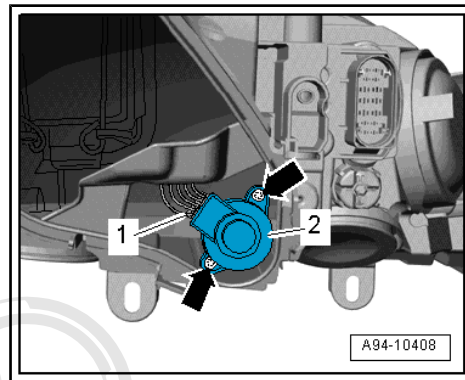
- Unplug electrical connector -1-.
- Unscrew bolts -arrows-.
- Press ball head of actuator shaft out of its mounting by swivelling control motor -2- downwards.

Installing

- Tightening torque ⇒ [page 82](#)

Installation is carried out in the reverse order; note the following:

- Start by inserting ball head of actuator shaft in mounting on reflector from below; to do so, pull reflector to rear.



Note

Lift activated charcoal filter out of bracket -arrow- and place it aside with hoses still attached.

- Plug in connector and close housing cover.
- Secure housing cover with retaining clip.
- Install headlight ⇒ [page 84](#) .

3.13 Installing repair kit for headlight housing

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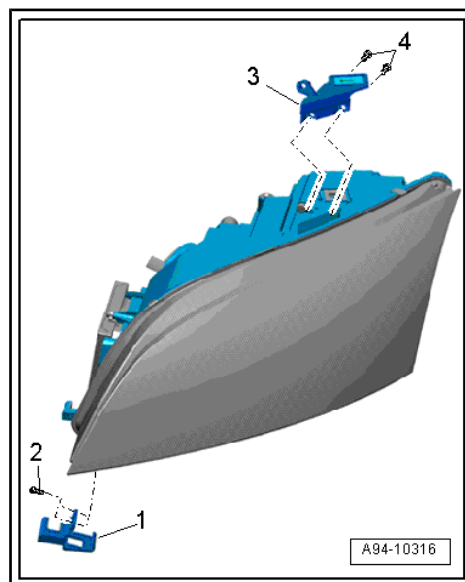


Note

- ♦ *If the headlight retaining tabs have broken off, they can be replaced by installing the repair kit. In this case, it is not necessary to renew the complete headlight unit.*
- ♦ *Different repair kits are available for both left and right side headlights ⇒ Electronic parts catalogue .*

Procedure

- Tightening torques ⇒ [page 84](#)
- Remove headlight with broken retaining tabs ⇒ [page 84](#) .
- Remove remaining parts of broken retaining tabs from headlight housing.
- Fit retaining tab -1 or 3-, as appropriate, from repair kit on headlight housing and secure tab with bolts -2 or 4-.



3.14 Converting headlights for driving on the left or right side of the road

When travelling in countries where the vehicle is to be driven on the other side of the road, both headlights must be adjusted to prevent dazzling by the asymmetric dipped beam.

Procedure

- To adjust headlights, select function „Adaption“ in operating mode „Guided Fault Finding“ or „Guided Functions“ ⇒ Vehicle diagnostic, testing and information system VAS 5051.



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4 Bi-xenon gas discharge headlights with cornering light, LED daytime running light

Observe notes on contact corrosion ⇒ [page 73](#) .



Note

The headlights must be adjusted after any repair work which could affect the headlight settings ⇒ [page 105](#) .

4.1 Safety precautions when handling gas discharge bulbs

⇒ Electrical system; General information; Rep. gr. 94

4.2 Exploded view of bi-xenon gas discharge headlight with cornering light, LED daytime running light

1 - Bolt

- ☐ 4.5 Nm

2 - Bracket for headlight housing

3 - Adjuster nut

- ☐ To adjust headlight to bumper contour

4 - Headlight housing

- ☐ Removing and installing ⇒ [page 94](#)

5 - Bolt

- ☐ 2 Nm

6 - Gas discharge bulb control unit

- ☐ Left gas discharge bulb control unit -J343-
- ☐ Right gas discharge bulb control unit -J344-
- ☐ Removing and installing ⇒ [page 97](#)

7 - Bolt

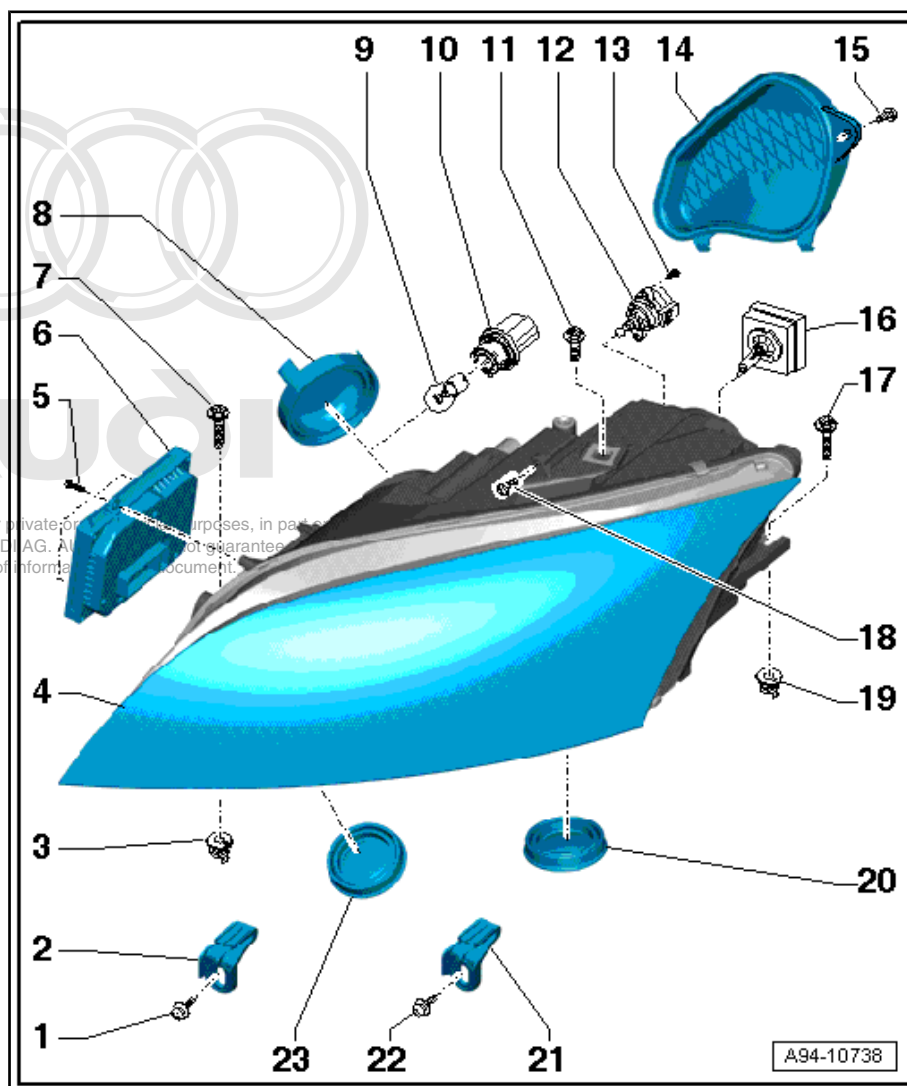
- ☐ 4.5 Nm

8 - Housing cover

- ☐ For front turn signal

9 - Front turn signal bulb

- ☐ Front left turn signal bulb -M5-
- ☐ Front right turn signal bulb -M7-
- ☐ 12 V, 21 W
- ☐ PY21W
- ☐ Renewing bulbs ⇒ [page 97](#)



10 - Bulb holder

- ☐ For front turn signal

11 - Bolt

- ☐ 4.5 Nm

12 - Headlight range control motor

- ☐ Left headlight range control motor -V48-
- ☐ Right headlight range control motor -V49-
- ☐ Removing and installing ⇒ [page 98](#)

13 - Bolt

- ☐ 2 Nm

14 - Housing cover

- ☐ For gas discharge bulb

15 - Bolt

- ☐ 2 Nm

16 - Gas discharge bulb

- ☐ With integrated starter unit
- ☐ Left gas discharge (xenon) bulb -L13-
- ☐ Right gas discharge (xenon) bulb -L14-
- ☐ 35 W, D1S
- ☐ Renewing bulbs ⇒ [page 95](#)

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17 - Bolt

- ☐ 4.5 Nm

18 - Stop bolt

- ☐ For aligning headlight housing with body contour
- ☐ Must make contact with lock carrier

19 - Adjuster nut

- ☐ To adjust headlight to bumper contour

20 - Housing cover

21 - Bracket for headlight housing

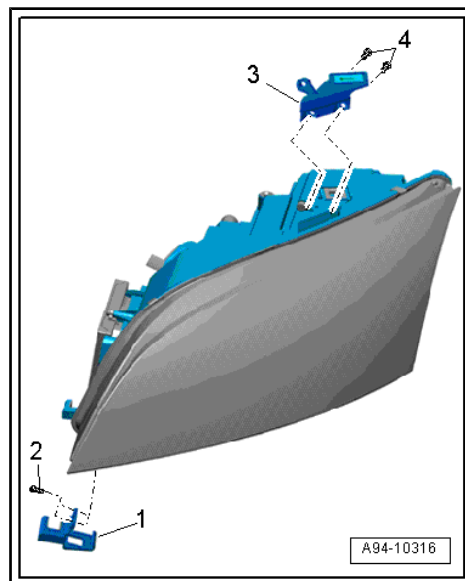
22 - Bolt

- ☐ 4.5 Nm

23 - Housing cover

Tightening torques for repair kit for headlight housing

- Tighten bolts -2- and -4- to 6 Nm.



4.3 Removing and installing headlights



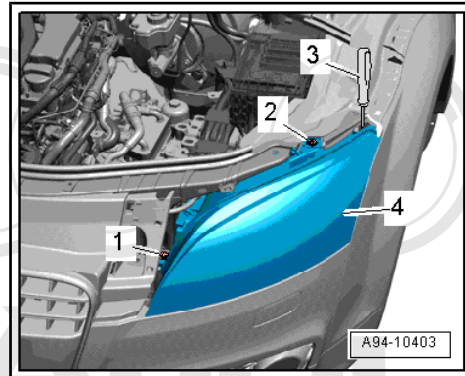
WARNING

High voltage! Danger to life!

- ◆ *Safety precautions when handling gas discharge bulbs ⇒ Electrical system; General information; Rep. gr. 94 .*

Removing

- With ignition switched off, disconnect earth cable at battery ⇒ [page 4](#) .
- Remove bumper cover (top) ⇒ Rep. gr. 63 .
- Remove bolt -2-.
- Guide a long screwdriver -3- through aperture and slacken securing bolt at bottom of headlight housing a few turns.
- Slacken securing bolt -1- at bottom of headlight housing a few turns.
- Remove headlight -4- from body towards front.
- Unplug electrical connector.

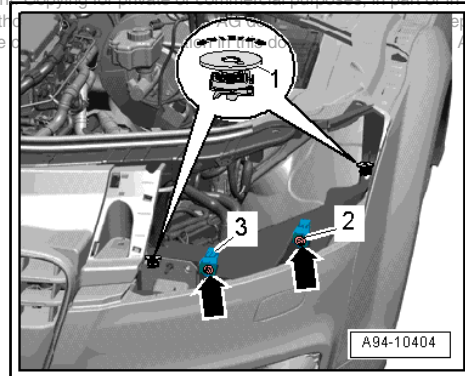


Installing

- Tightening torque ⇒ [page 92](#)

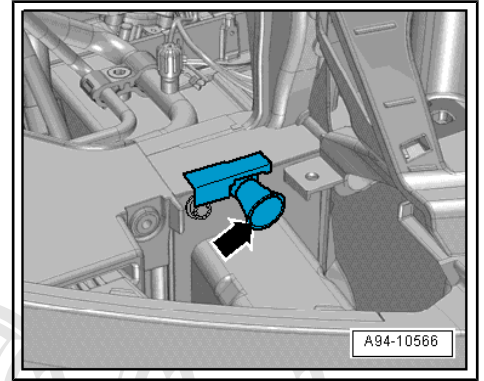
Installation is carried out in the reverse order; note the following:

- Check adjuster nut -1- of adjuster for freedom of movement -arrows-.
- Screw down adjuster nut as far as it will go, but do not tighten.



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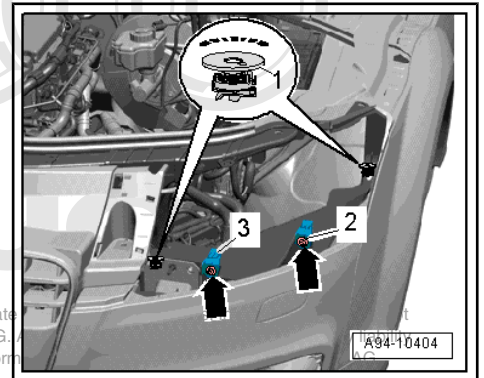
- Insert headlight. When doing so, make sure that ventilation connection on headlight housing is inserted into ventilation opening -arrow- above impact bar.



- Align headlight with body contours (gap widths).

 **Note**

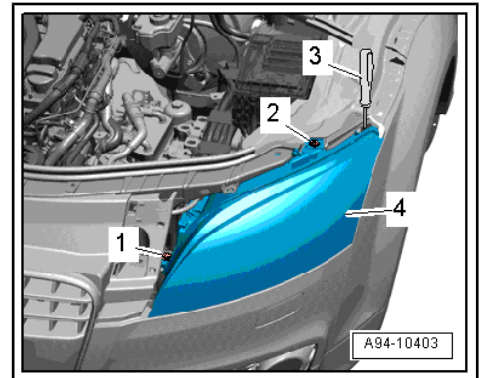
Headlight can be aligned by slackening off bolts -arrows- and altering height of brackets -2 and 3-.



- Tighten bolts -1 and 3-.

 **Note**

When the bolts are tightened the adjuster nuts of the adjuster elements automatically rotate against the mounting points of the headlight housing -4- and fix it in place.



- Tighten bolt -2-.
- Install bumper cover (top) ⇒ Rep. gr. 63 .
- Connect battery. Steps required ⇒ [page 5](#) .
- Adjust headlights ⇒ [page 105](#) .

4.4 Renewing gas discharge bulb -L13- / -L14-



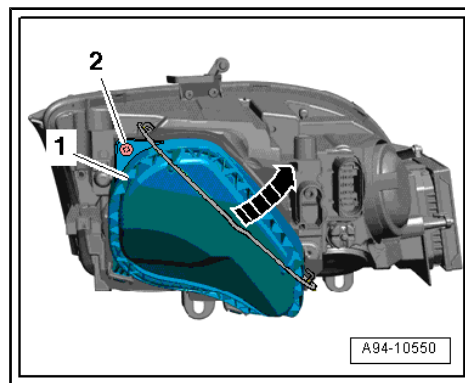
WARNING

High voltage! Danger to life! Observe environmental requirements.

- ◆ *Safety precautions when handling gas discharge bulbs ⇒ Electrical system; General information; Rep. gr. 94 .*

Removing

- Remove headlight ⇒ [page 94](#) .
- Remove locking bolt -2-.
- Release retaining clip -arrow- and detach housing cover -1- for gas discharge bulb from headlight housing.

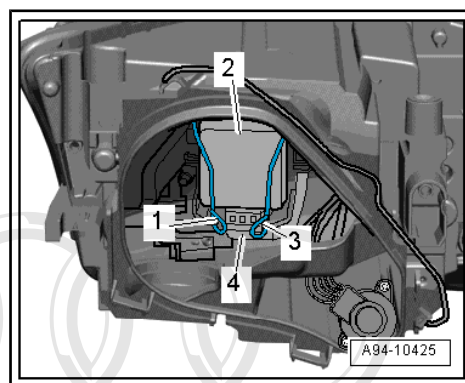


- Unplug electrical connector -4-.
- Release retaining clips -1 and 3- and take gas discharge bulb -2- out of housing.

Installing

Installation is carried out in the reverse order; note the following:

- Insert new gas discharge bulb in housing; do not touch glass part of bulb with bare hands.
- Installation position: The electrical connection faces downwards.
- Secure gas discharge bulb with retaining clips.
- Plug in connector and close housing cover.
- Secure housing cover with retaining clip.
- Install headlight ⇒ [page 94](#) .



4.5 Renewing LED module for daytime running light and side light -L176- / -L177-, -M1- / -M3-

The daytime running light bulbs (LED lights) are integrated in the headlight housing. The LED light cannot be renewed separately; the headlight must be renewed as a complete unit.

- Renewing headlight ⇒ [page 94](#) .

4.6 Removing and installing left/right headlight screen adjustment solenoid -N395- / -N396-

The headlight screen adjustment solenoid is located in the headlight housing beneath the gas discharge bulb and cannot be renewed separately in the event of a fault.

- Renewing headlight ⇒ [page 94](#) .

4.7 Removing and installing left/right swivel module position sensor -G474- / -G475-

The swivel module position sensor is located in the headlight housing beneath the gas discharge bulb and cannot be renewed separately in the event of a fault.

- Renewing headlight ⇒ [page 94](#) .

4.8 Renewing front turn signal bulb -M5- / -M7-

Removing

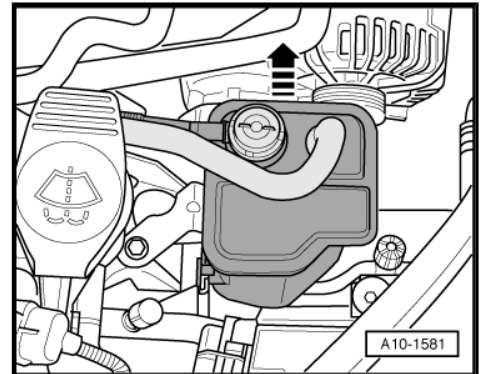
- Switch off ignition and take out ignition key.
- Turn light switch to position „0“.

Headlight (left-side):

- On vehicles with TDI engine, remove air cleaner housing ⇒ Rep. gr. 23 .

Headlight (right-side):

- On vehicles with petrol engine, lift activated charcoal filter out of bracket -arrow- and place it aside with hoses still attached.
- On vehicles with TDI engine, remove fuel filter and place to one side (with fuel hoses still connected) ⇒ Rep. gr. 20 .



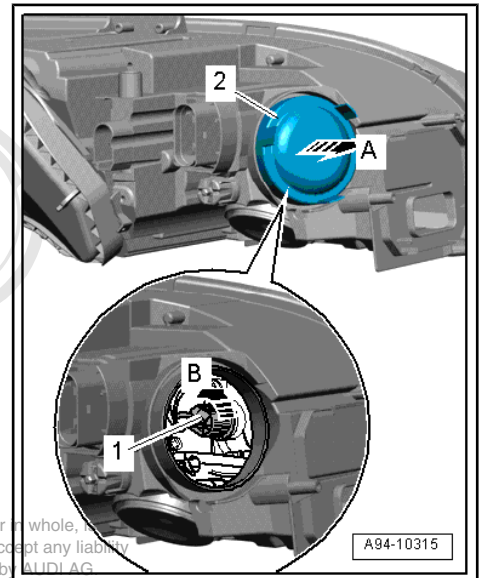
Both sides (continued):

- Detach cover -2- for turn signal from headlight housing -arrow A-.
- Turn bulb holder -1- anti-clockwise -arrow B- and pull it out of headlight housing.
- Screw bulb out of bulb holder.

Installing

Installation is carried out in the reverse order; note the following:

- Insert new bulb in housing; do not touch glass part of bulb with bare hands.
- Secure bulb holder by turning clockwise.
- Close housing cover.
- On vehicles with TDI engine, install air cleaner housing ⇒ Rep. gr. 23 .
- On vehicles with TDI engine, install fuel filter ⇒ Rep. gr. 20 .



4.9 Removing and installing left/right gas discharge bulb control unit -J343- / -J344-



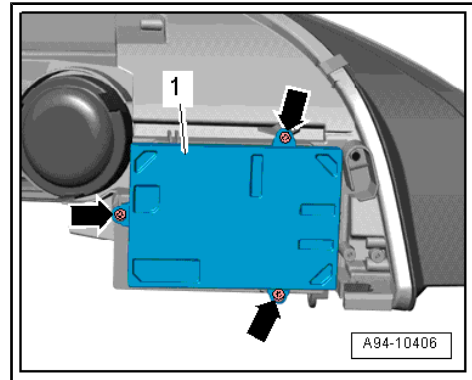
WARNING

High voltage! Danger to life!

- ◆ **Always disconnect the battery earth cable before working on parts of the gas discharge headlights marked with yellow high-voltage warning symbols.**

Removing

- Remove headlight ⇒ [page 94](#) .
- Unscrew bolts -arrows-.
- Pull control unit -1- off headlight housing.



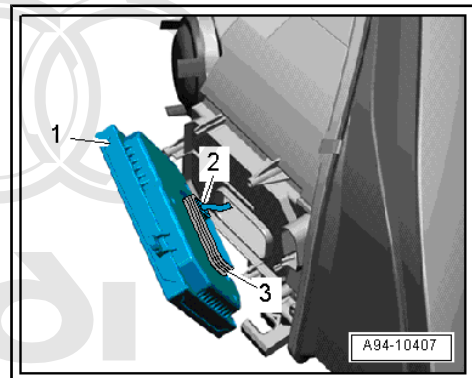
- Disconnect adapter cable -2- for gas discharge bulb at control unit -1-.

Installing

- Tightening torque ⇒ [page 92](#)

Installation is carried out in the reverse order; note the following:

- Check seal -3- between gas discharge bulb control unit and headlight housing for damage.
- Install headlight ⇒ [page 94](#) .



4.10 Removing and installing dynamic cornering light control motor -V318- / -V319-

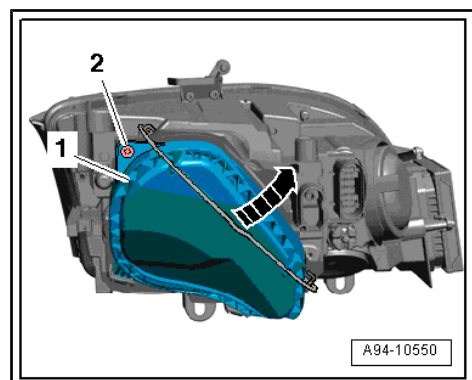
The dynamic cornering light control motor is located in the headlight housing and cannot be renewed separately in the event of a fault.

- Renew headlight housing ⇒ [page 94](#) .

4.11 Removing and installing headlight range control motor -V48- / -V49-

Removing

- Remove headlight ⇒ [page 94](#) .
- Remove locking bolt -2-.
- Release retaining clip -arrow- and detach housing cover -1- for gas discharge bulb from headlight housing.



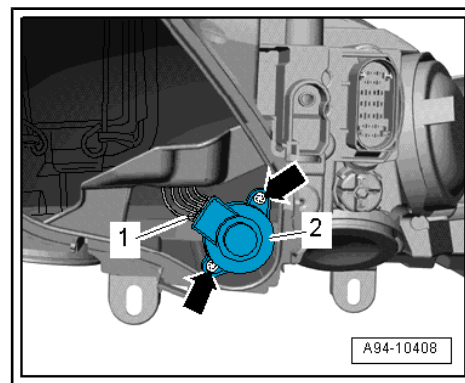
- Unplug electrical connector -1-.
- Unscrew bolts -arrows-.
- Press ball head of actuator shaft out of its mounting by swivelling control motor -2- downwards.

Installing

- Tightening torque ➔ [page 92](#)

Installation is carried out in the reverse order; note the following:

- Start by inserting ball head of actuator shaft in mounting on reflector from below; to do so, pull reflector to rear.



Note

Lift activated charcoal filter out of bracket -arrow- and place it aside with hoses still attached.

- Plug in connector and close housing cover.
- Secure housing cover with retaining clip.
- Install headlight ➔ [page 94](#).

4.12 Installing repair kit for headlight housing

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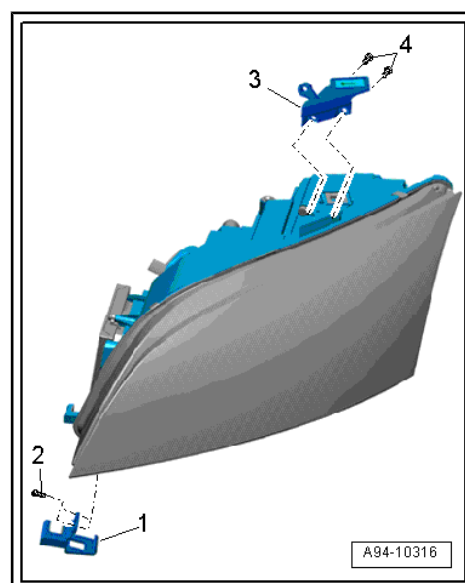


Note

- ◆ *If the headlight retaining tabs have broken off, they can be replaced by installing the repair kit. In this case, it is not necessary to renew the complete headlight unit.*
- ◆ *Different repair kits are available for both left and right side headlights ➔ Electronic parts catalogue.*

Procedure

- Tightening torque ➔ [page 94](#)
- Remove headlight with broken retaining tabs ➔ [page 94](#).
- Remove remaining parts of broken retaining tabs from headlight housing.
- Fit retaining tab -1 or 3-, as appropriate, from repair kit on headlight housing and secure tab with bolts -2 or 4-.



4.13 Converting headlights for driving on the left or right side of the road

When travelling in countries where the vehicle is to be driven on the other side of the road, both headlights must be adjusted to prevent dazzling by the asymmetric dipped beam.



Procedure

- To adjust headlights, select function „Adaption“ in operating mode „Guided Fault Finding“ or „Guided Functions“ ⇒ Vehicle diagnostic, testing and information system VAS 5051.



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5 Automatic headlight range control

Observe notes on contact corrosion ⇒ [page 73](#).

5.1 Overview of automatic headlight range control

1 - Right headlight range control motor -V49-

2 - Control unit for headlight range control -J431-

- ☐ Fitting location: behind instrument cluster
- ☐ Removing and installing ⇒ [page 101](#)

3 - Bolt

- ☐ 3 Nm

4 - Electrical connector

5 - Bolt

- ☐ 3 Nm

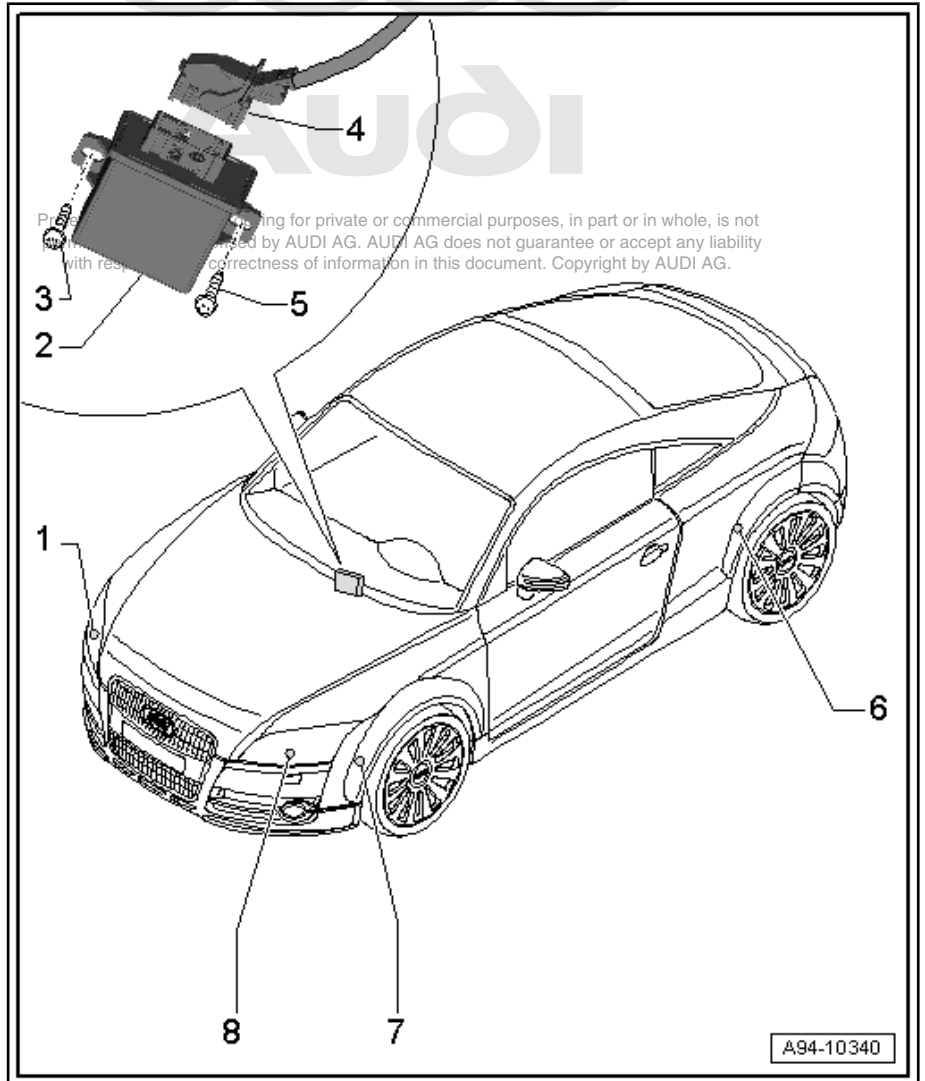
6 - Rear left vehicle level sender -G76-

- ☐ Fitting location: on suspension link (rear left)
- ☐ Removing and installing ⇒ Rep. gr. 42

7 - Front left vehicle level sender -G78-

- ☐ Fitting location: on suspension link (front left)
- ☐ Removing and installing ⇒ Rep. gr. 40

8 - Left headlight range control motor -V48-



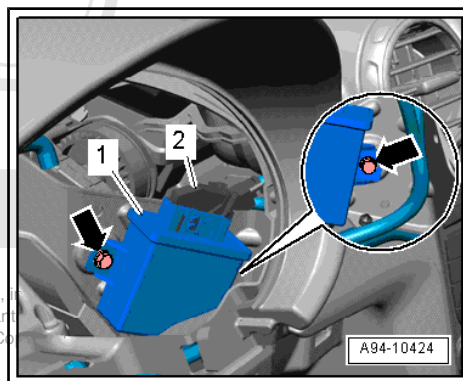
5.2 Removing and installing control unit for headlight range control -J431-

- When renewing control unit select „Replacement“ function for appropriate control unit in „Guided Fault Finding“ or „Guided Functions“ ⇒ Vehicle diagnostic, testing and information system VAS 5051.

Removing

- Remove instrument cluster ⇒ [page 38](#) .
- Unscrew bolts -arrows- and detach headlight range control unit -J431- -item 1-.
- Unplug electrical connector -2-.

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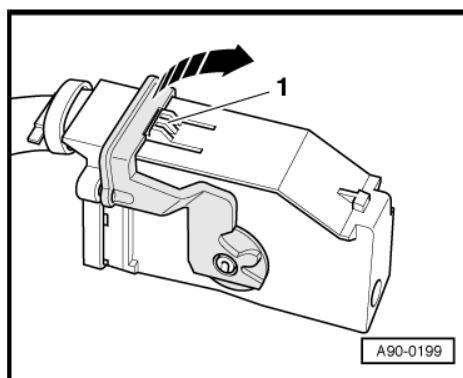
- Unplug electrical connector by releasing catch -1- and moving retaining clip in direction of -arrow-.

Installing

- Tightening torque ⇒ [page 101](#)

Installation is carried out in the reverse order; note the following:

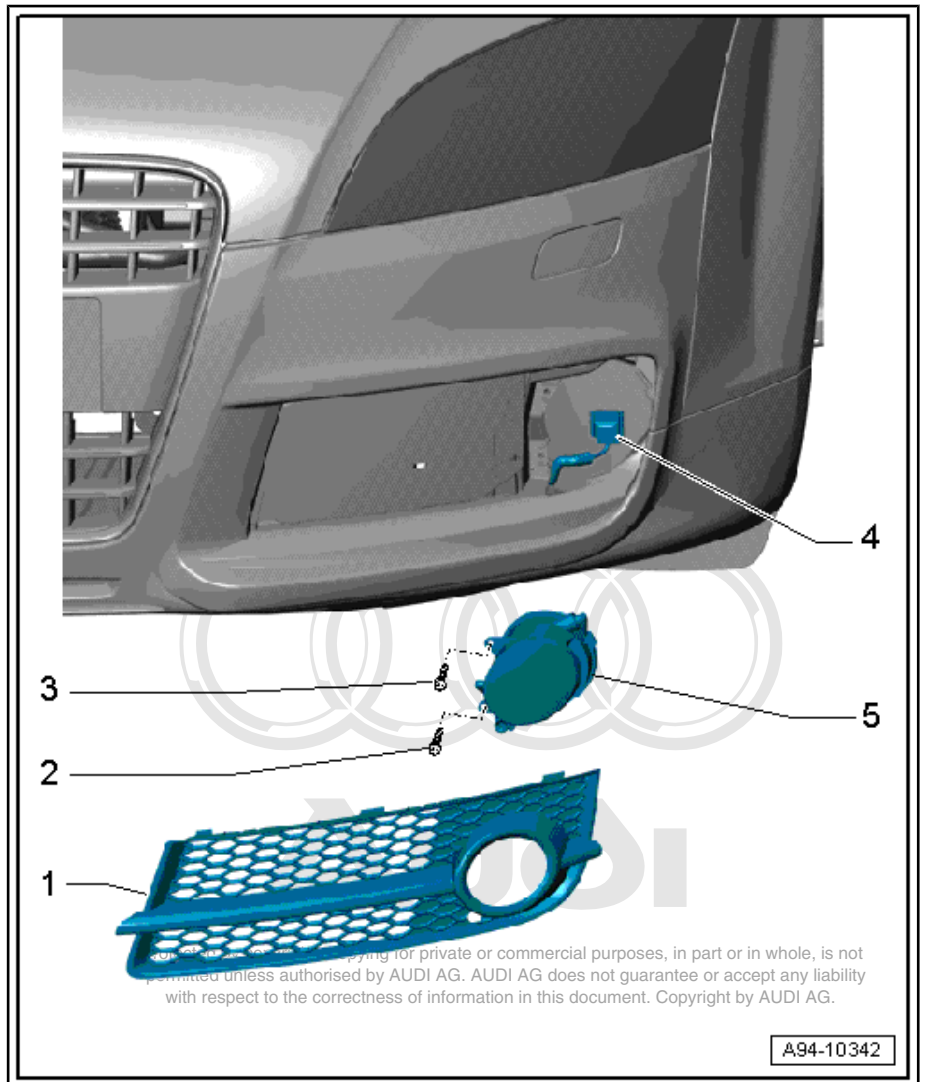
- Install instrument cluster ⇒ [page 38](#) .



6 Fog lights

6.1 Exploded view of fog light

- 1 - Air intake grille
- 2 - Bolt
 - ☐ 5 Nm
- 3 - Bolt
 - ☐ 5 Nm
- 4 - Electrical connector
- 5 - Fog lights
 - ☐ Removing and installing
⇒ [page 103](#)



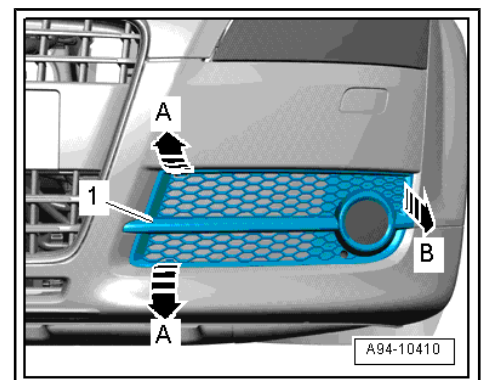
6.2 Removing and installing fog lights

Removing

- Switch off ignition and take out ignition key.
- Turn light switch to position „0“.

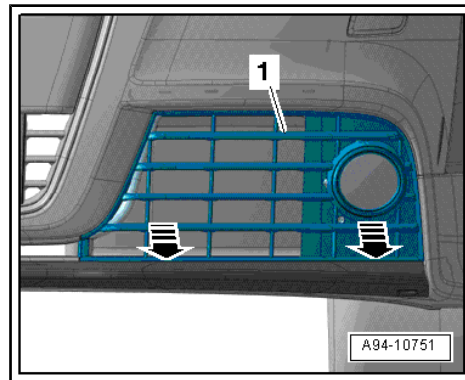
Audi TT:

- Use a screwdriver to release fasteners -arrows A-.
- Pull air intake grille -1- off bumper cover -arrow B-.



Audi TTS:

- Pull air intake grille -1- off bumper cover -arrows-.



All vehicles (continued):

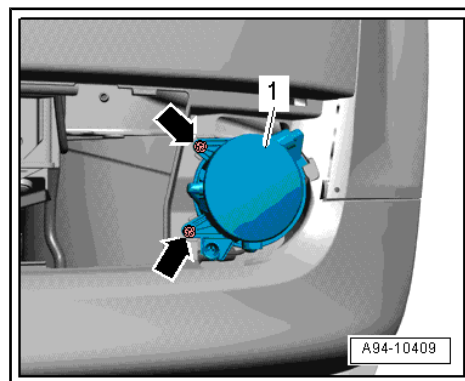
- Unscrew bolts -arrows-.
- Take fog light housing -1- out of bumper cover.
- Unplug electrical connector.

Installing

- Tightening torque ⇒ [page 103](#)

Installation is carried out in the reverse order; note the following:

- Adjust fog lights ⇒ [page 105](#) .



6.3 Renewing fog light bulb -L22- / -L23-

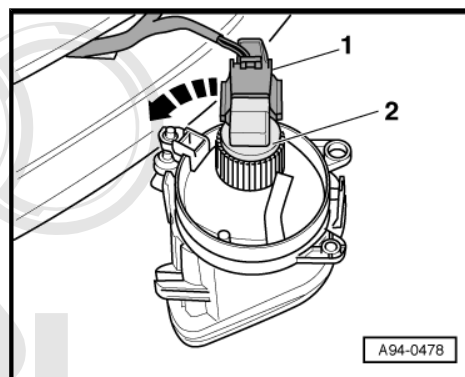
Removing

- Remove fog light ⇒ [page 103](#) .
- Unplug electrical connector -1- at bulb.
- Turn bulb -2- anti-clockwise -arrow- and pull it out of fog light housing.

Installing

Installation is carried out in the reverse order; note the following:

- Fit new bulb (H11 - 12 V, 55 W) in housing; do not touch glass part of bulb with bare hands.
- Secure bulb by turning clockwise.
- Adjust fog lights ⇒ [page 105](#)



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7 Checking and adjusting headlight settings

- ◆ The following checking and adjustment procedures apply to all countries.
- ◆ However, national legislation and guidelines for individual countries must be adhered to.

Overview

- ◆ ⇒ „7.1 Adjusting headlights - rest-of-the-world vehicles“, page 105
- ◆ ⇒ „7.2 Adjusting headlights - USA vehicles“, page 108
- ◆ ⇒ „7.3 Adjusting fog lights“, page 111
- ◆ ⇒ „7.4 Adjusting additional headlights“, page 112

7.1 Adjusting headlights - rest-of-the-world vehicles

Requirements for checking and adjusting

- Tyre pressure OK
- Headlight lenses must be clean and dry.
- Headlight lenses must not be damaged.
- Reflectors and bulbs OK
- Vehicle correctly loaded.

Vehicle loading: driver's seat occupied, otherwise vehicle unloaded (unladen weight).

- One person or 75 kg.

The unladen weight is the weight of the vehicle ready for operation with full fuel tank including the weight of all equipment normally carried.

- Fuel tank: at least 90% full.
- Equipment: e.g. spare wheel, tools, jack, fire extinguisher etc.

If the fuel tank is not at least 90 % full, put in additional weight as follows:

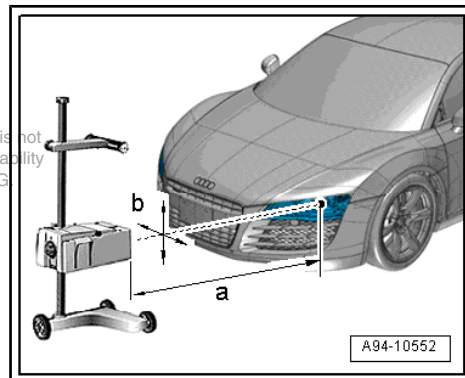
- Read off fuel tank level at fuel gauge in instrument cluster, compare with the following table and if necessary, place additional weight in luggage compartment.

	Additional weight in kg
Fuel gauge	Front-wheel drive / four-wheel drive
1/4	40
1/2	25
3/4	10
Full	0
Example: If fuel tank is half full, place an additional weight of 25 kg into luggage compartment.	

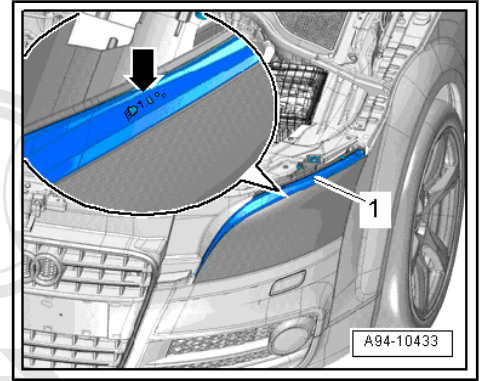
**Note**

Use fuel canisters filled with water as additional weight (a 5 litre fuel canister filled with water weighs approx. 5 kg).

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- Roll vehicle several metres or depress front and rear springs fully several times so that springs settle correctly.
- Release handbrake to avoid torsion of vehicle.
- Vehicle and headlight adjustment unit must be on a level surface.
- Headlight adjustment unit must be aligned to vehicle ⇒ Operating instructions for headlight adjustment unit .
- Position headlight adjustment unit in front of headlight at distance -a- 30 ... 70 cm. Dimension -b- = 3 cm must not be exceeded (measured from headlight centre).
- Dip setting on headlight adjustment unit has been adjusted ⇒ Operating instructions for headlight adjustment unit .
- Dip setting -arrow- is marked on top edge of headlight -1- in „‰“.



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Note

- ◆ *Adjust headlights according to dip setting marked on headlight.*
- ◆ *The percentage value is for a range of 10 m. Example: Converting a dip setting of 1.0‰ = 10 cm.*

Preparations

- Vehicle must be on a level surface.
- Turn light switch to „dipped beam“ position – not to „Auto“ position.
- Versions equipped with halogen headlights: Set knurled wheel for headlight range control to position „0“.
- Versions equipped with gas discharge headlights: For preparing headlight adjustment, select „Basic setting“ function in „Guided Functions“ mode ⇒ Vehicle diagnostic, testing and information system VAS 5051.

Note

With this programme the headlights return to the basic setting.

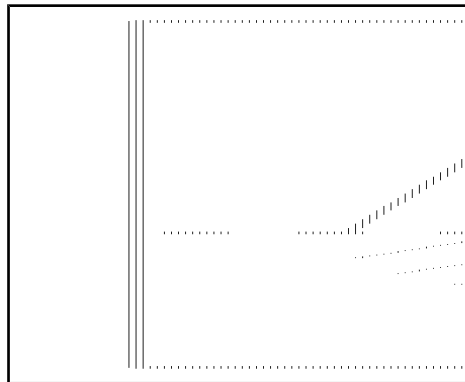
- Select function or path:

Vehicle brand
Engine code
55 Dynamic headlight range control J431
55 Basic setting (Repair Group 94)

- Continue to follow the instructions on the display of the vehicle diagnostic tester.
- You will be requested to perform headlight adjustment while running through the programme.

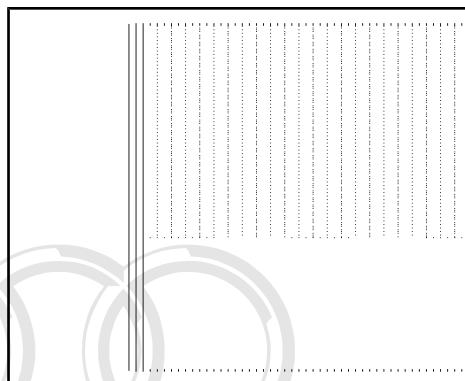
Headlight adjustment

- The horizontal light-dark border should coincide with the setting line -1- of the test surface on the headlight adjustment unit.
- The break-away point -2- between the horizontal section of the light-dark border on the left and the rising section on the right should coincide with the vertical line running through the central point -3-. The bright spot in the centre of the beam should be to the right of the vertical line.



Note

- ◆ To make it easier to find the break-away point -2-, cover and uncover the left half of the headlight (as seen in direction of travel) a few times. Then check dipped beam again.
- ◆ If dipped beams have been adjusted correctly the centre point of the main beam should lie on central point -3-.
- ◆ If using an old test screen with a 15° setting line, the adjustment procedure is the same as for the test screen without a 15° setting line. Disregard the 15° setting line -arrow- to avoid incorrect settings.



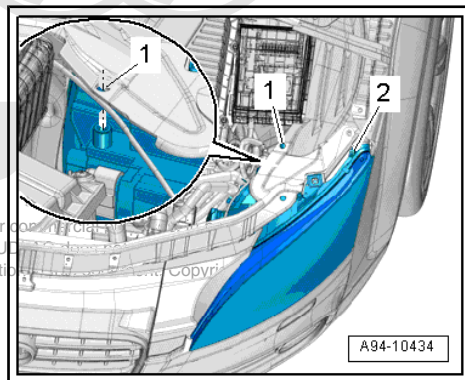
- Before adjusting height of headlight, use adjuster screw -1- to position light-dark border below setting line.
- Then adjust light-dark border to setting line from below.
- Turn adjuster screw -2- for lateral adjustment.



Note

The arrangement on the right headlight is symmetrically opposite.

- Versions equipped with gas discharge headlights: After completing headlight adjustment, end „Basic setting“, switch off ignition and unplug diagnostic connector.



7.2 Adjusting headlights - USA vehicles

Requirements for checking and adjusting

- Tyre pressure OK
- Headlight lenses must be clean and dry.
- Headlight lenses must not be damaged.
- Reflectors and bulbs OK
- Vehicle correctly loaded.

Vehicle loading: driver's seat occupied, otherwise vehicle unloaded (unladen weight).

- One person or 75 kg.

The unladen weight is the weight of the vehicle ready for operation with full fuel tank including the weight of all equipment normally carried.

- Fuel tank: at least 90% full.

- Equipment: e.g. spare wheel, tools, jack, fire extinguisher etc.

If the fuel tank is not at least 90 % full, put in additional weight as follows:

- Read off fuel tank level at fuel gauge in instrument cluster, compare with the following table and if necessary, place additional weight in luggage compartment.

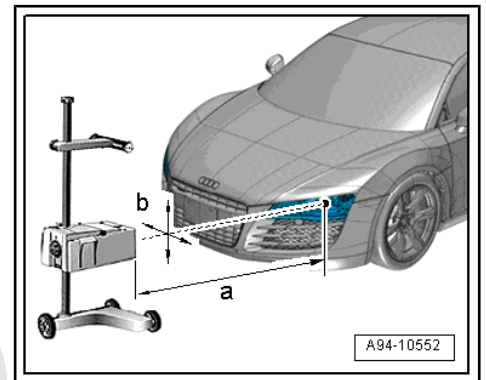
Fuel gauge	Additional weight in kg	
	Front-wheel drive / four-wheel drive	
1/4	40	
1/2	25	
3/4	10	
Full	0	

Example: If fuel tank is half full, place an additional weight of 25 kg into luggage compartment.



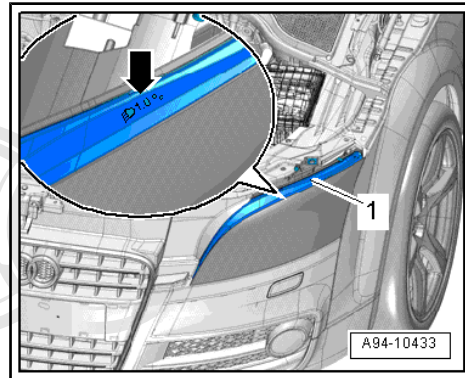
Note

Use fuel canisters filled with water as additional weight (a 5 litre fuel canister filled with water weighs approx. 5 kg).



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- Roll vehicle several metres or depress front and rear springs fully several times so that springs settle correctly.
- Release handbrake to avoid torsion of vehicle.
- Vehicle and headlight adjustment unit must be on a level surface.
- Headlight adjustment unit must be aligned to vehicle ⇒ Operating instructions for headlight adjustment unit .
- Position headlight adjustment unit in front of headlight at distance -a- 30 ... 70 cm. Dimension -b- = 3 cm must not be exceeded (measured from headlight centre).
- Dip setting on headlight adjustment unit has been adjusted ⇒ Operating instructions for headlight adjustment unit .
- Dip setting -arrow- is marked on top edge of headlight -1- in „%“.


Note

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- ◆ *Adjust headlights according to dip setting marked on headlight.*
- ◆ *The percentage value is for a range of 10 m. Example: Converting a dip setting of 1.0% = 10 cm.*

Preparations

- Vehicle must be on a level surface.
- Turn light switch to „dipped beam“ position – not to „Auto“ position.
- Versions equipped with halogen headlights: Set knurled wheel for headlight range control to position „0“.
- Versions equipped with gas discharge headlights: For preparing headlight adjustment, select „Basic setting“ function in „Guided Functions“ mode ⇒ Vehicle diagnostic, testing and information system VAS 5051.


Note

With this programme the headlights return to the basic setting.

- Select function or path:

Vehicle brand
Engine code
55 Dynamic headlight range control J431
55 Basic setting (Repair Group 94)

- Continue to follow the instructions on the display of the vehicle diagnostic tester.
- You will be requested to perform headlight adjustment while running through the programme.

Headlight adjustment

- The horizontal light-dark border should coincide with the setting line -1- of the test surface on the headlight adjustment unit.
- The break-away point -2- between the horizontal section of the light-dark border on the left and the vertical section on the right should coincide with the vertical line running through the central point -3-. The bright spot in the centre of the beam should be to the right of the vertical line.



Note

- ◆ *To make it easier to find the break-away point -2-, cover and uncover the left half of the headlight (as seen in direction of travel) a few times. Then check dipped beam again.*
- ◆ *If dipped beams have been adjusted correctly the centre point of the main beam should lie on central point -3-.*

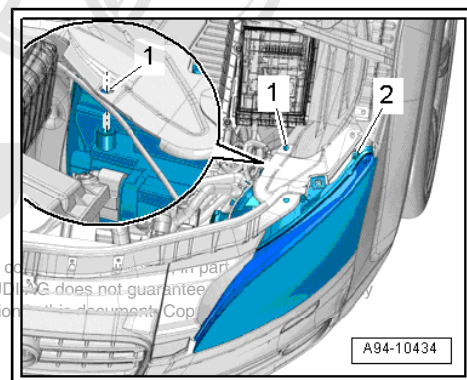
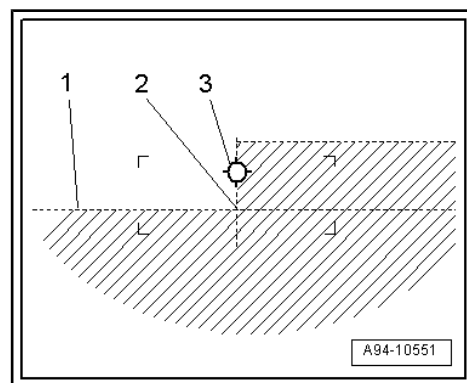
- Before adjusting height of headlight, use adjuster screw -1- to position light-dark border below setting line.
- Then adjust light-dark border to setting line from below.
- Turn adjuster screw -2- for lateral adjustment.



Note

The arrangement on the right headlight is symmetrically opposite.

- Versions equipped with gas discharge headlights: After completing headlight adjustment, end „Basic setting“, switch off ignition and unplug diagnostic connector.



7.3 Adjusting fog lights

Requirements for checking and adjusting

- Tyre pressure OK
- Headlight lenses must be clean and dry.
- Headlight lenses must not be damaged.
- Reflectors and bulbs OK
- Roll vehicle several metres or depress front and rear springs fully several times so that springs settle correctly.
- Release handbrake to avoid torsion of vehicle.
- Vehicle and headlight adjustment unit must be on a level surface.
- Headlight adjustment unit must be aligned to vehicle ⇒ Operating instructions for headlight adjustment unit .
- Dip setting on headlight adjustment unit has been adjusted ⇒ Operating instructions for headlight adjustment unit .
- Vehicle correctly loaded.

Vehicle loading: driver's seat occupied, otherwise vehicle unloaded (unladen weight).

- One person or 75 kg.

Preparations

- Vehicle must be on a level surface.
- Turn light switch to „dipped beam“ position – not to „Auto“ position.
- Pull light switch to „fog light“ position.
- You will be requested to perform headlight adjustment while running through the programme.

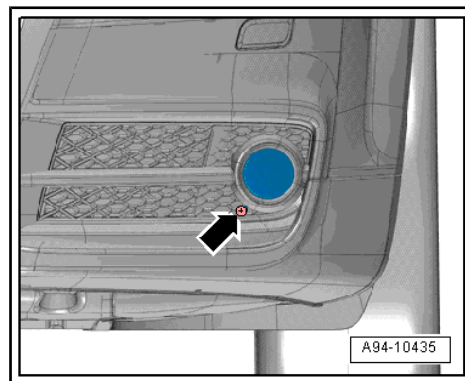
Headlight adjustment

- Turn adjuster screw -arrow- to adjust fog light range.
- Dip setting: 2%.



Note

- ◆ *The percentage value is for a range of 10 m. Example: Converting a dip setting of 2.0% = 20 cm.*
- ◆ *Lateral adjustment is not possible.*



7.4 Adjusting additional headlights

Retrofitted additional headlights from other suppliers have to be checked and adjusted in compliance with the applicable requirements.



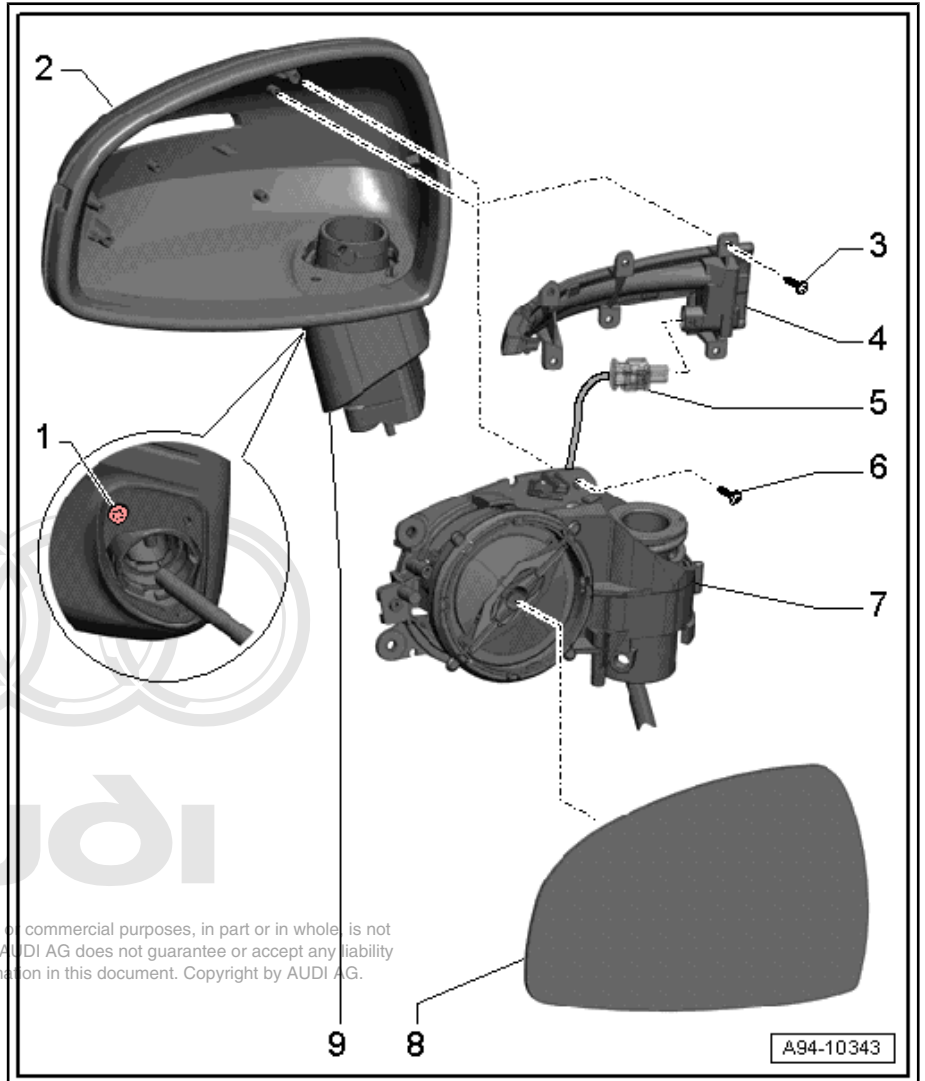
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8 Turn signal repeater

Observe notes on contact corrosion ⇒ [page 73](#) .

8.1 Exploded view of exterior mirror turn signal

- 1 - Bolt
 - 6.5 Nm
- 2 - Housing
 - For exterior mirror
- 3 - Bolt
 - 0.4 Nm
- 4 - Exterior mirror turn signal bulb
 - Driver side exterior mirror turn signal bulb - L131-
 - Front passenger side exterior mirror turn signal bulb -L132-
 - Removing and installing ⇒ [page 113](#)
- 5 - Electrical connector
- 6 - Bolt
 - 2.0 Nm
- 7 - Mirror mounting
- 8 - Mirror glass
- 9 - Mirror base

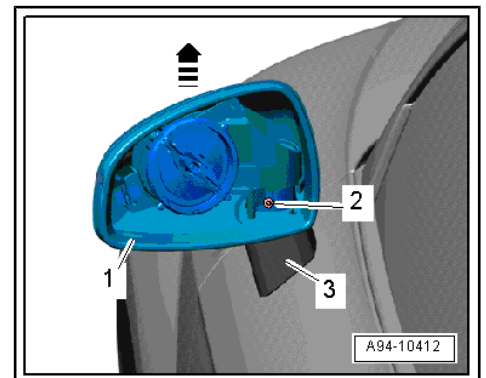


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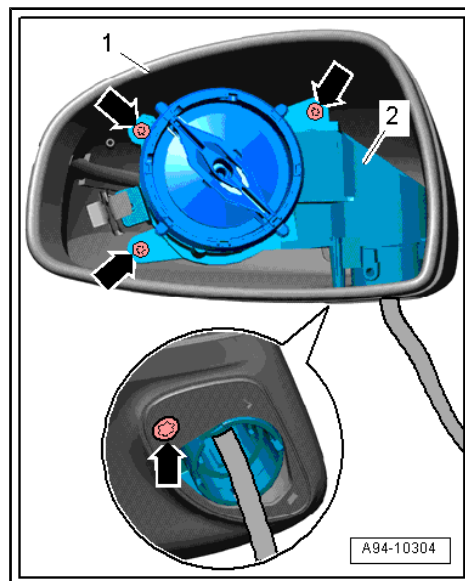
8.2 Removing and installing exterior mirror turn signal bulb -L131- / -L132-

Removing

- Remove mirror glass ⇒ Rep. gr. 66 .
- Remove locking bolt -2-.
- Lift housing -1- off mirror base -3- -arrow-.



- Unscrew bolts -arrows-.
- Rotate mirror mounting -2- out of housing -1-.



- Unscrew bolts -arrows-.
- Swivel housing -1- for turn signal out of housing -2- for exterior mirror.
- Unplug electrical connector -3-.

Installing

- Tightening torques ⇒ [page 113](#)

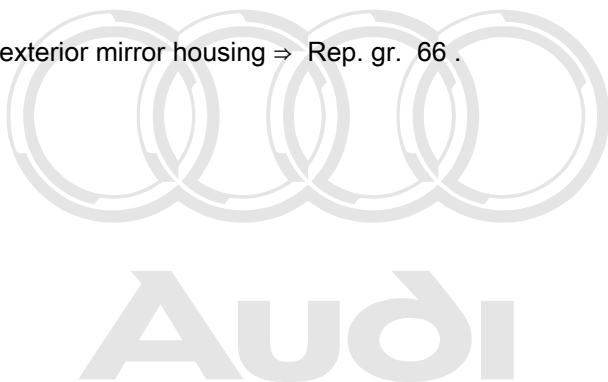
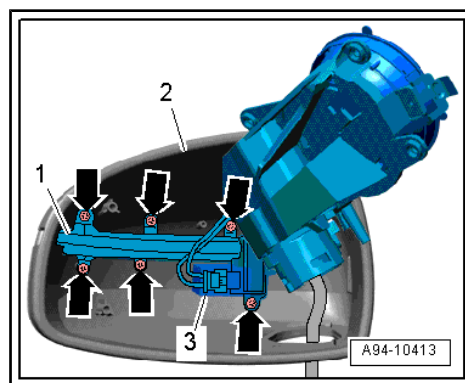
Installation is carried out in the reverse order; note the following:



Note

Entire turn signal in exterior mirror must be renewed as a complete unit if an LED is defective.

- Install exterior mirror housing ⇒ Rep. gr. 66 .



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9 Tail light cluster

Observe notes on contact corrosion ⇒ [page 73](#) .

9.1 Exploded view of tail light cluster

1 - Retaining pin

- ☐ Screwed into housing

2 - Rear turn signal bulb

- ☐ Rear left turn signal bulb -M6-
- ☐ Rear right turn signal bulb -M8-
- ☐ 12 V, 18 W
- ☐ W16W
- ☐ Renewing bulbs ⇒ [page 116](#)

3 - Bulb

- ☐ Rear left turn signal bulb -M6-
- ☐ Rear right turn signal bulb -M8-
- ☐ 12 V, 18 W
- ☐ W16W
- ☐ Renewing bulbs ⇒ [page 116](#)

4 - Rear brake light/tail light/side marker light bulb

- ☐ 12 V, 21 W
- ☐ Renewing ⇒ [page 116](#)

5 - Bolt

- ☐ 1.7 Nm

6 - Bulb carrier

- ☐ Removing and installing ⇒ [page 116](#)

7 - Rear brake light/tail light/side marker light bulb

- ☐ 12 V, 21 W
- ☐ Renewing bulbs ⇒ [page 116](#)

8 - Reversing light bulb

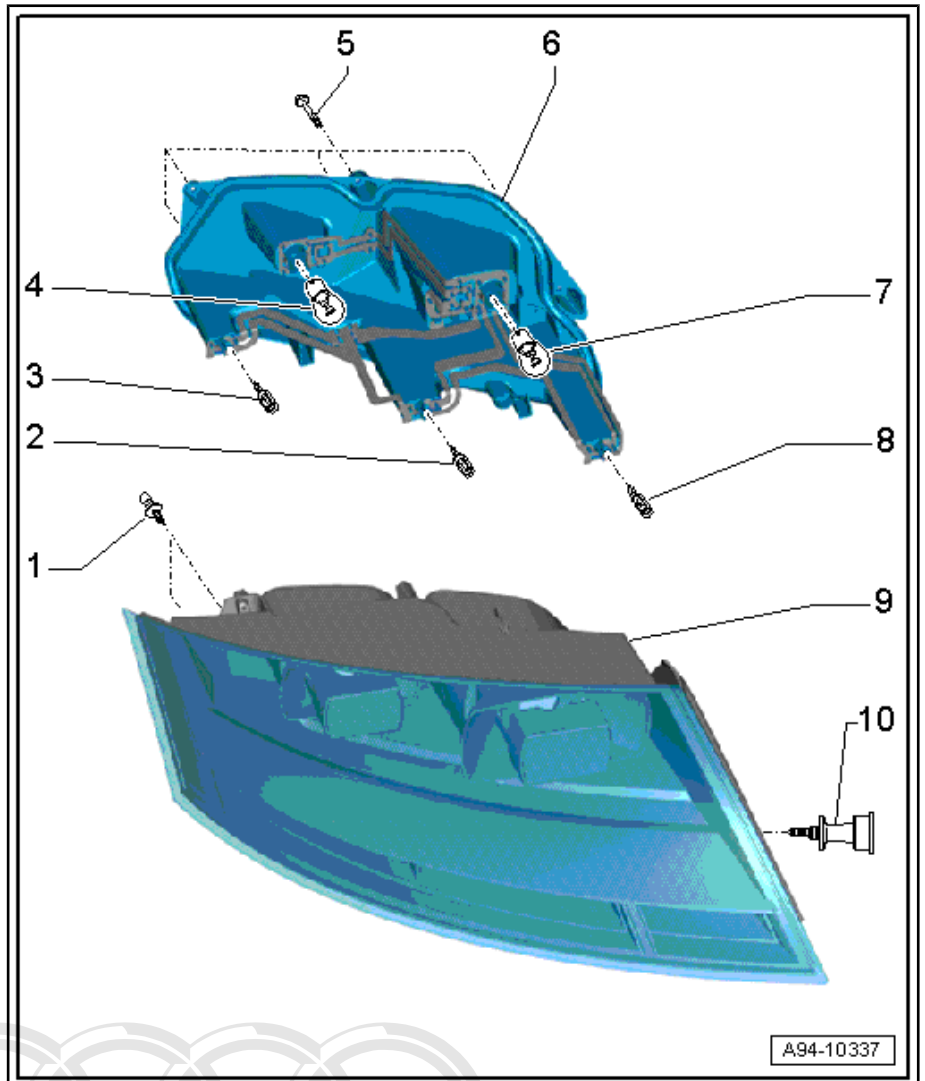
- ☐ Left reversing light bulb -M16-
- ☐ Right reversing light bulb -M17-
- ☐ 12 V, 18 W
- ☐ W16W
- ☐ Renewing bulbs ⇒ [page 116](#)

9 - Tail light

- ☐ Removing and installing ⇒ [page 116](#)

10 - Stud

- ☐ 3.5 Nm

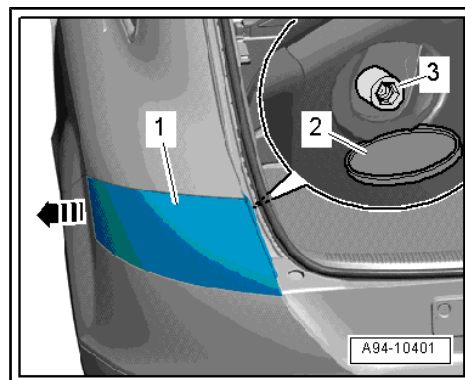


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9.2 Removing and installing tail light cluster

Removing

- Switch off ignition and take out ignition key.
- Turn light switch to position „0“.
- Fold pre-punched area -2- of luggage compartment lining forwards.
- Remove bolt -3-.
- Slide tail light -1- outwards -arrow- and disengage from retaining pins at body.
- Unplug electrical connector at bulb carrier.



Installing

- Tightening torque ⇒ [page 115](#)

Installation is carried out in the reverse order; note the following:



Note

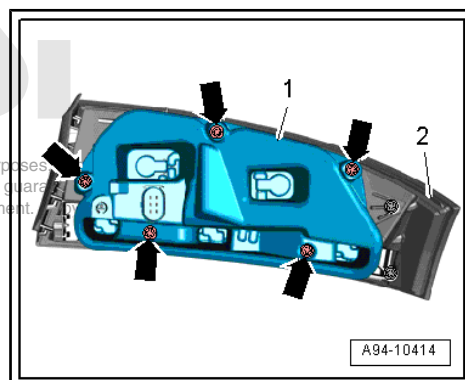
Ensure that seal between body and tail light housing seals completely.

- Position tail light in place at retaining pins (from outside) and press on towards centre of vehicle until it engages.

9.3 Removing and installing bulb carrier

Removing

- Remove tail light cluster ⇒ [page 116](#).
- Unscrew bolts -arrows-.
- Detach bulb carrier -1- from tail light -2-.



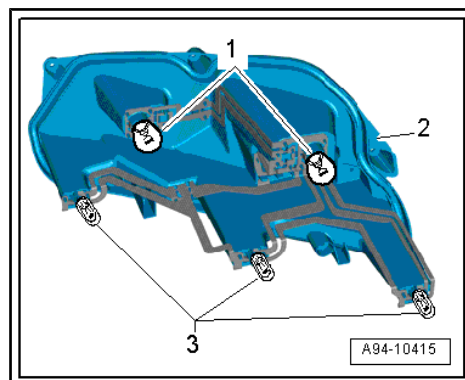
- Unscrew bulbs -1- or pull bulbs -3- out of holder on bulb carrier -2-.

Installing

- Tightening torque ⇒ [page 115](#)

Installation is carried out in the reverse order; note the following:

- Insert new bulb in bulb holder, taking care not to touch glass part of bulb with bare hands.



10 Exterior lights (rear)

Observe notes on contact corrosion ⇒ [page 73](#) .

10.1 Exploded view of rear fog light, high-level brake light and number plate light

1 - Bolt

- ☐ 1.2 Nm

2 - Rear fog light

- ☐ Rear left fog light bulb - L46-
- ☐ Removing and installing
⇒ [page 118](#)

3 - Nut

- ☐ 1.2 Nm

4 - High-level brake light

- ☐ High-level brake light bulb -M25-
- ☐ Removing and installing
⇒ [page 118](#)

5 - Nut

- ☐ 1.2 Nm

6 - Number plate light

- ☐ Left number plate light - X4-
- ☐ Right number plate light -X5-
- ☐ Removing and installing: vehicles up to 11.2006: ⇒ [page 119](#) , vehicles from 11.2006 onwards ⇒ [page 119](#)

7 - Bolt

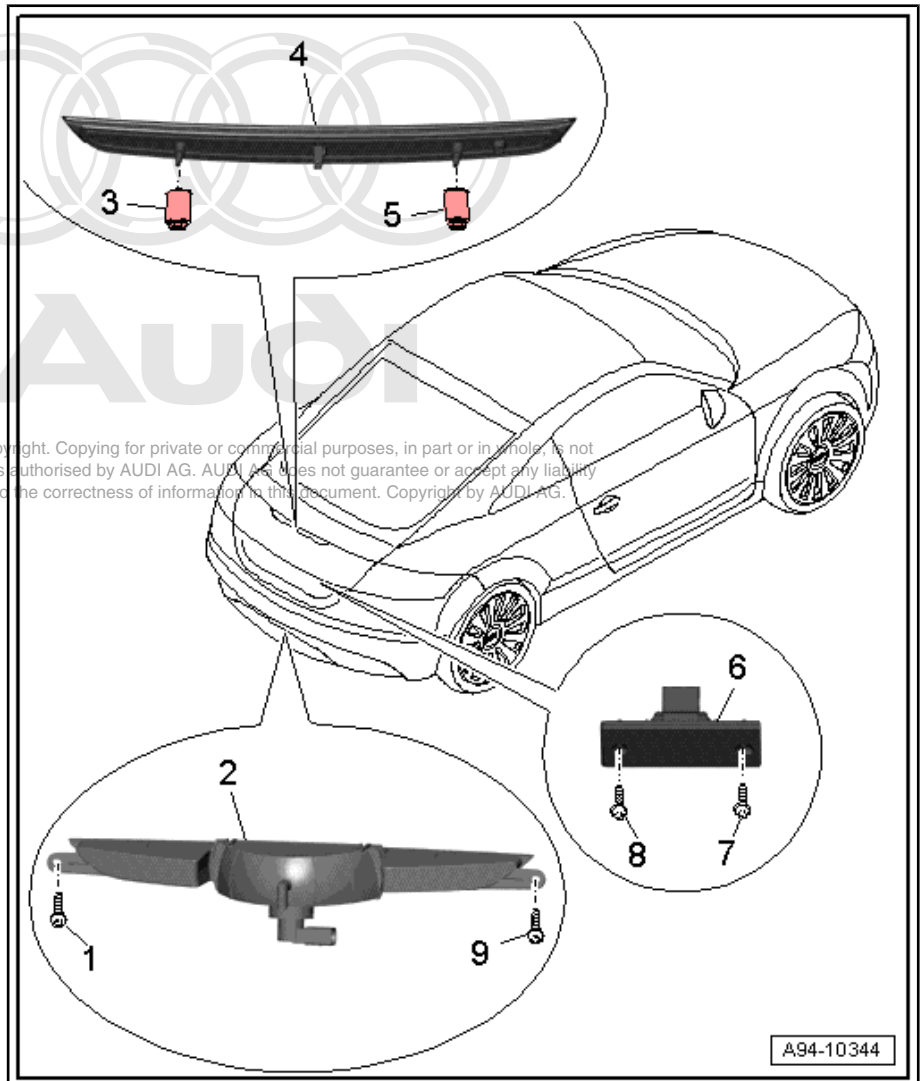
- ☐ 0.8 Nm
- ☐ Vehicles up to 11.2006

8 - Bolt

- ☐ 0.8 Nm
- ☐ Vehicles up to 11.2006

9 - Bolt

- ☐ 1.2 Nm



10.2 Removing and installing rear fog light

Removing

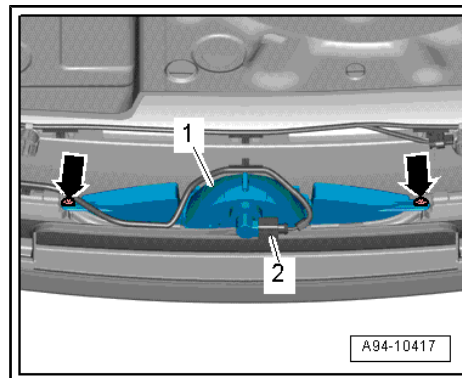
- Remove rear bumper cover ⇒ Rep. gr. 63 .
- Unplug electrical connector -2-.
- Remove bolts -arrows- and detach fog light -1-.

Installing

- Tightening torque ⇒ [page 117](#)

Installation is carried out in the reverse order; note the following:

- Install rear bumper cover ⇒ Rep. gr. 63 .



10.3 Removing and installing bulb carrier for rear fog light

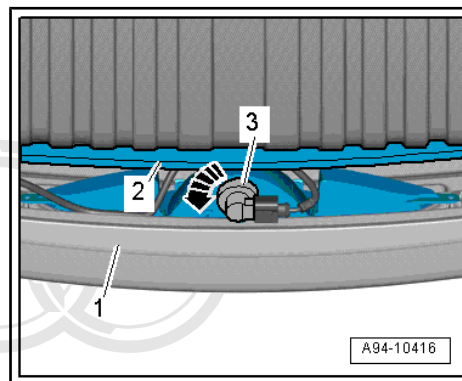
Removing

- Insert your hand between bumper cover -1- and heat shield -2-.
- Turn bulb holder -3- anti-clockwise -arrow- and pull it out of housing.
- Screw bulb out of bulb holder.

Installing

Installation is carried out in the reverse order; note the following:

- Insert new bulb in bulb holder, taking care not to touch glass part of bulb with bare hands.



10.4 Removing and installing high-level brake light bulb -M25-

Removing

- Do not press brake pedal.

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Audi TT, Audi TTS:

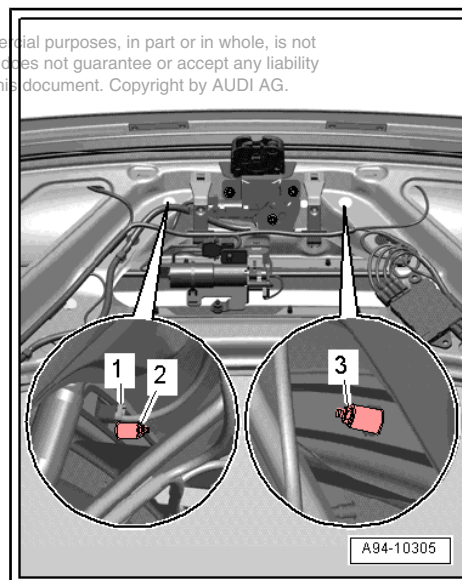
- Extend rear spoiler manually.
- Remove trim at bottom of rear lid ⇒ Rep. gr. 70 .

Audi TT RS:

- Remove rear spoiler ⇒ Rep. gr. 66 .

All vehicles (continued):

- Unscrew nuts -2 and 3-.
- Unplug electrical connector -1-.
- Use fabric tape to mask area around high-level brake light.
- Carefully release high-level brake light from bonded sealing strip at rear lid.



- Insert a small screwdriver -3- through aperture and release retaining spring -2-.
- Pull high-level brake light -1- out of rear lid -arrow-.

Installing

- Tightening torque ➔ [page 117](#)

Installation is carried out in the reverse order; note the following:



Entire high-level brake light must be renewed if LED is defective.

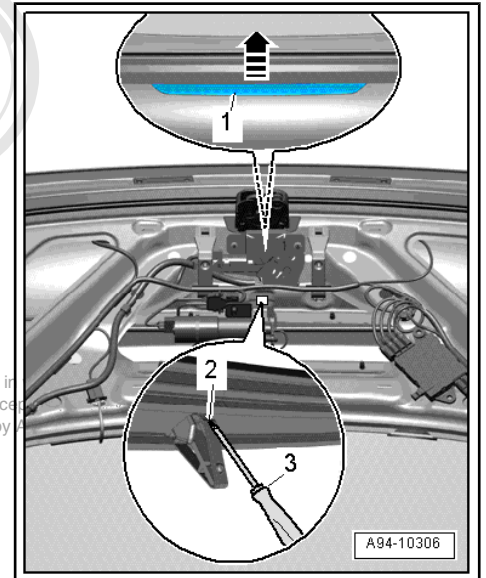
- Press high-level brake light into recess until fasteners engage.

Audi TT, TTS:

- Install trim at bottom of rear lid ➔ Rep. gr. 70 .

Audi TT RS:

- Install rear spoiler ➔ Rep. gr. 66 .



10.5 Removing and installing number plate light -X4- / -X5- - vehicles up to 11.2006

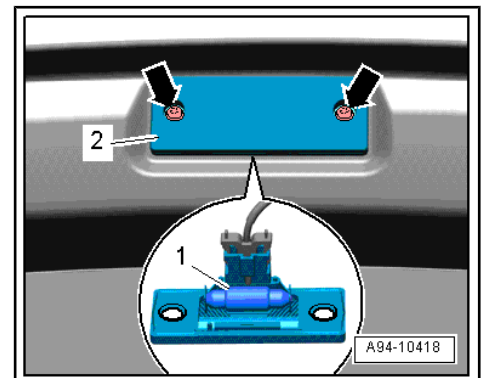
Removing

- Turn light switch to position „0“.
- Unscrew bolts -arrows-.
- Pry bulb carrier -2- out of rear lid.
- Take bulb -1- (12 V, 5 W) out of clamp-type holder.

Installing

- Tightening torque ➔ [page 117](#)

Install in reverse order.



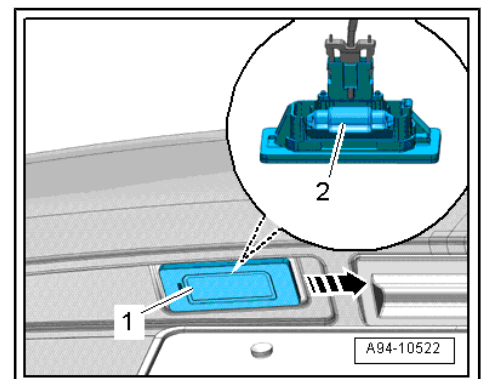
10.6 Removing and installing number plate light -X4- / -X5- - vehicles from 11.2006 onwards

Removing

- Turn light switch to position „0“.
- Move bulb carrier -1- in direction of -arrow- and take out of rear lid.
- Take bulb -1- (12 V, 5 W) out of clamp-type holder.

Installing

Install in reverse order.



11 Steering column switch module

General notes

- ◆ The steering column switch module consists of the return ring with slip ring, steering angle sender -G85- , steering column switches (turn signal switch, wiper switch, cruise control switch), steering column electronics control unit -J527- and the ignition/starter switch.
- ◆ Fault finding is performed via „Guided Fault Finding“ ⇒ Vehicle diagnostic, testing and information system VAS 5051.

11.1 Exploded view of steering column switch module

1 - Bolt

- 0.4 Nm

2 - Steering lock housing

- Exploded view
⇒ [page 128](#)

3 - Ignition/starter switch -D-

- Exploded view
⇒ [page 128](#)

4 - Steering angle sender - G85-

- Removing and installing
⇒ [page 126](#)

5 - Transport protection

- To secure return ring with slip ring in centre position

6 - Return ring with slip ring

- Removing and installing
⇒ [page 125](#)



Caution

*Risk of damage to return ring.
Return ring with slip ring must not be turned following removal.*

7 - Turn signal switch -E2-

- On vehicles with cruise control: with additional cruise control system switch -E45-
- Removing and installing
⇒ [page 126](#)

8 - Intermittent wiper switch -E22-

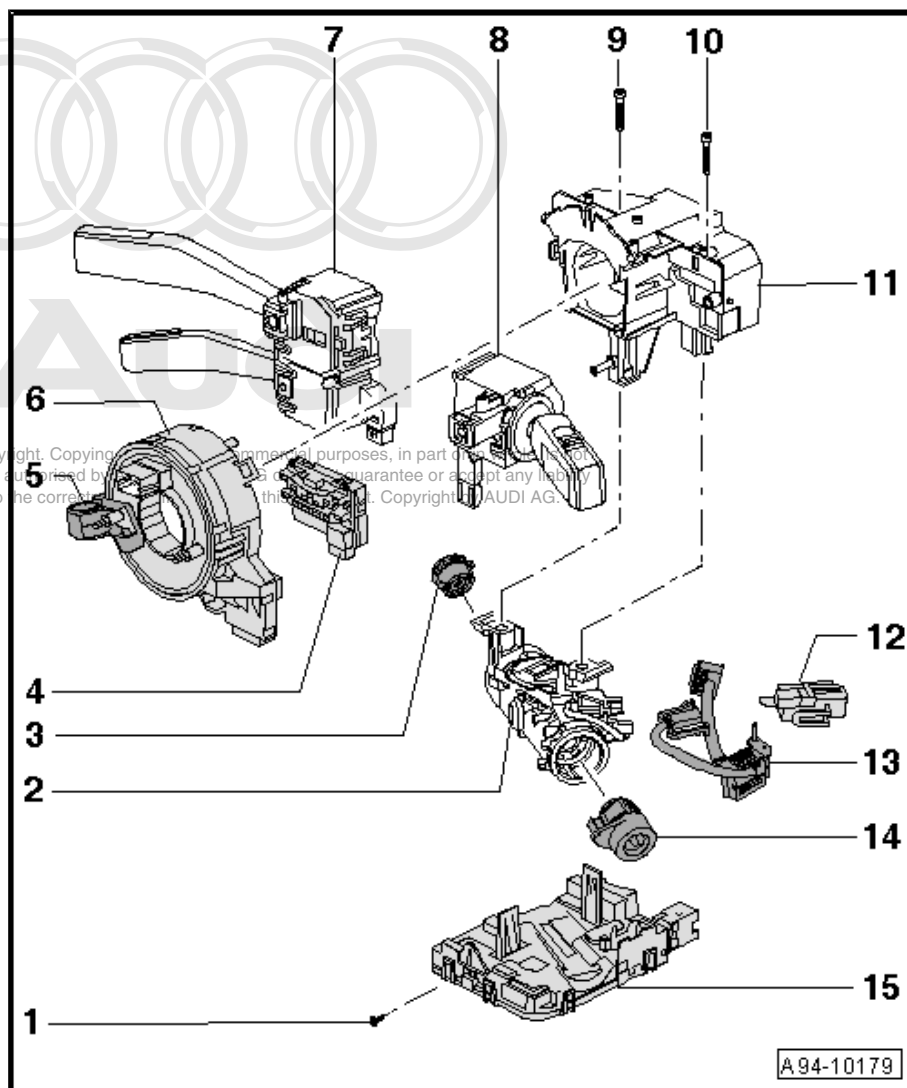
- Removing and installing ⇒ [page 127](#)

9 - Bolt for steering lock housing

- Shear bolt

10 - Bolt for steering lock housing

- Shear bolt



11 - Mounting

12 - Ignition key withdrawal lock solenoid -N376-

- ☐ On vehicles with dual clutch gearbox
- ☐ Exploded view ⇒ [page 128](#)

13 - Adapter wiring harness

- ☐ For steering lock housing
- ☐ Exploded view ⇒ [page 128](#)

14 - Lock cylinder

- ☐ Exploded view ⇒ [page 128](#)

15 - Steering column electronics control unit -J527-

- ☐ Removing and installing ⇒ [page 121](#)
- ☐ Pin assignment for steering column electronics control unit -J527- ⇒ [page 122](#)

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11.2 Removing and installing steering column electronics control unit -J527-

Special tools and workshop equipment required

- ◆ Drill bit Ø 2.5 mm; length at least 75 mm
- When renewing control unit select „Replacement“ function for appropriate control unit in „Guided Fault Finding“ or „Guided Functions“ ⇒ Vehicle diagnostic, testing and information system VAS 5051.

Removing

- Move steering wheel down and to rear as far as possible, making use of full range of steering column adjuster.
- Remove airbag unit ⇒ Rep. gr. 69 .
- Remove steering wheel ⇒ Rep. gr. 48 .



Caution

Risk of damage to return ring.

- ◆ *Return ring with slip ring must not be turned following removal.*

- Remove steering column trim ⇒ Rep. gr. 68 .
- Unplug electrical connector -4- at steering column electronics control unit -J527- -item 1-. To do so, remove fuse -3- -arrow- and press release catch downwards.

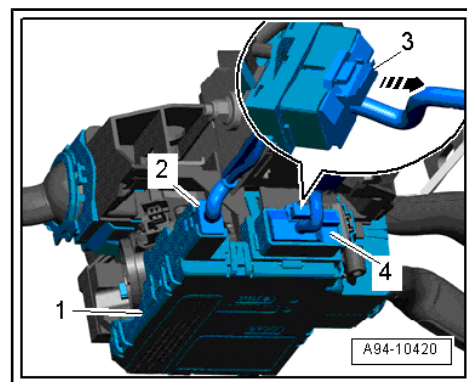


Caution

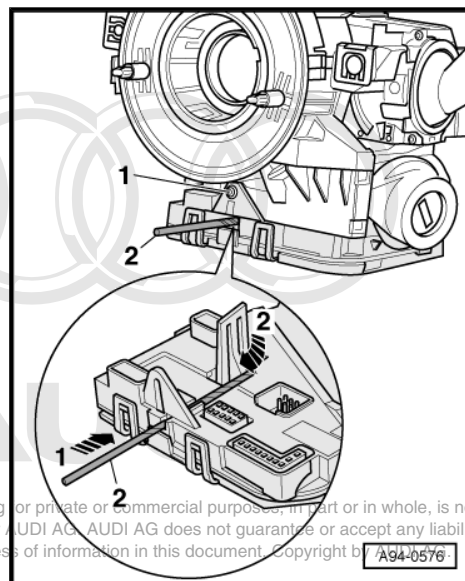
Risk of irreparable damage to electronic components due to static discharge.

- ◆ *Touch part of the vehicle body with your bare hand to discharge static electricity.*

- Unplug electrical connector -2-.



- Remove bolt -1-.
- Insert a drill Ø 2.5 mm -item 2- approx. 45 mm into hole on steering column electronics control unit -J527- -arrow 1-, thereby releasing retaining clip -arrow 2-.
- Pull steering column electronics control unit -J527- down slightly and remove drill.



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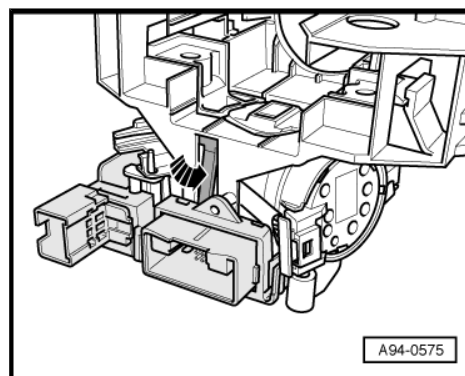
- Release retaining clip -arrow- on connector side of steering column electronics control unit -J527- and detach control unit from steering column switch module.

Installing

- Tightening torque ⇒ [page 120](#)

Installation is carried out in the reverse order; note the following:

- Install steering column trim ⇒ Rep. gr. 68 .
- Install steering wheel ⇒ Rep. gr. 48 .
- Install airbag unit ⇒ Rep. gr. 69 .



11.3 Pin assignment on steering column electronics control unit -J527-

The steering column electronics control unit -J527- is part of the „steering column switch module“. It receives signals e.g. from the steering column switch.

Checking steering column electronics control unit -J527- in „Guided Fault Finding“ ⇒ Vehicle diagnostic, testing and information system VAS 5051.

A - Plug connection for Tiptronic switch

- 1 - Analogue value, Tiptronic left, down
- 2 - Earth, Tiptronic left
- 3 - Earth, Tiptronic right
- 4 - Analogue value, Tiptronic left, up

B - Plug connection: turn signal switch/cruise control system (CCS)

- 1 - Voltage supply (terminal 15)
- 2 - Locked „Off“
- 3 - Res („+“)/Set („-“)
- 4 - On/Off
- 5 - Earth
- 6 - Lighting (terminal 58)
- 7 - Headlight flasher
- 8 - Main beam
- 9 - Turn signal switch
- 10 - Turn signal switch, earth

C - Plug connection: vehicle electrical system

- ☐ Pin assignment
⇒ [page 125](#)

D - Plug connection: airbag control unit

- ☐ Pin assignment ⇒ [page 125](#)

E - Plug connection: ignition/starter switch / ignition key removal lock

- 1 - Not used
- 2 - Not used
- 3 - Ignition key removal lock ON, terminal 30
- 4 - Ignition/starter switch earth

5 - Not used

6 - Not used

7 - Ignition/starter switch output terminal 50

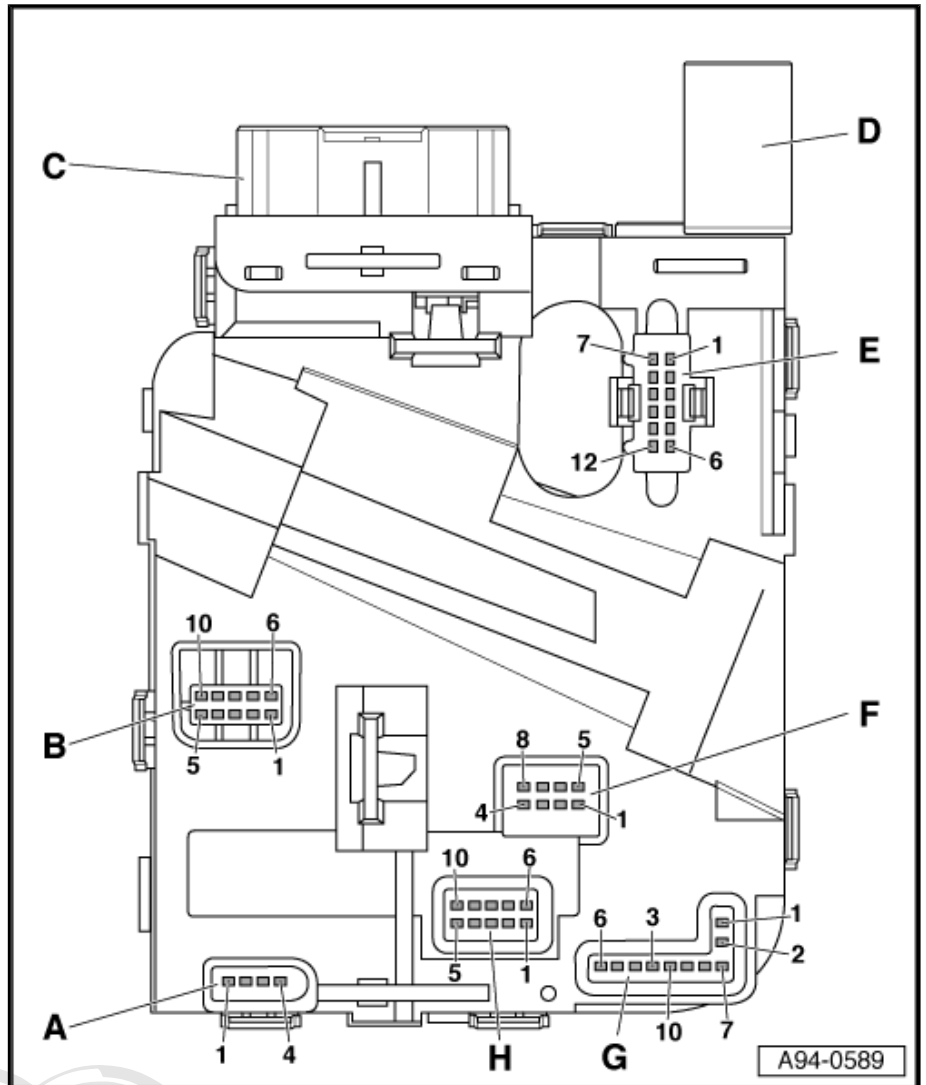
8 - Voltage supply terminal 30 to ignition/starter switch

9 - Output, ignition/starter switch terminal S

10 - Output, ignition/starter switch terminal X

11 - Output, ignition/starter switch terminal P

12 - Output, ignition/starter switch terminal 15



F - Plug connection: window wiper system/DIS

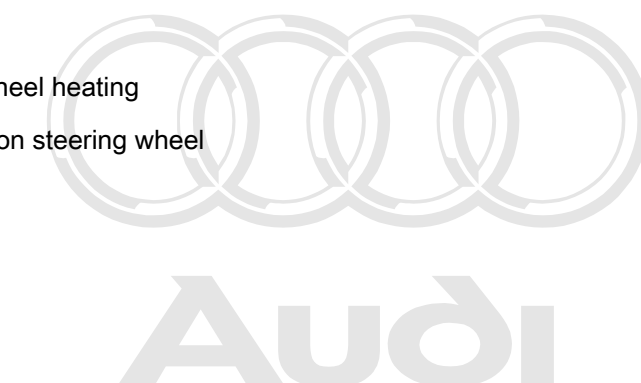
- 1 - Wiper switch signal
- 2 - Earth, wipers
- 3 - Not used
- 4 - Not used
- 5 - DIS signal
- 6 - Earth, DIS/intermittent potentiometer
- 7 - Intervals signal
- 8 - Not used

G - Plug connection: coil connector cassette/airbag/multi-function steering wheel/horn

- 1 - Not used
- 2 - Not used
- 3 - Airbag 1 „+“
- 4 - Airbag 1 „-“
- 5 - Airbag 2 „+“
- 6 - Airbag 2 „-“
- 7 - Earth (for coil connector cassette / multi-function steering wheel / horn)
- 8 - CCS locked „Off“ / horn signal
- 9 - LIN bus or temperature signal for steering wheel heating
- 10 - Voltage supply terminal 15 with multi-function steering wheel

H - Plug connection: steering angle sender

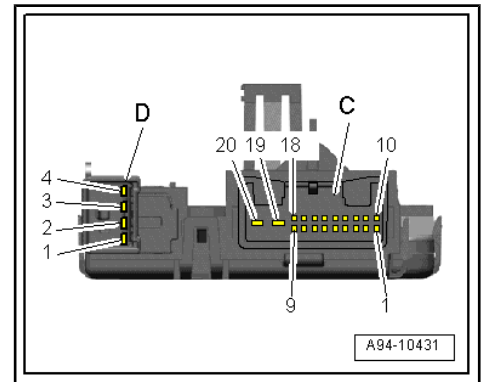
- 1 - Light barrier 5
- 2 - Light barrier 3
- 3 - Light barrier 1
- 4 - 12 V voltage supply
- 5 - 5 V voltage supply
- 6 - Light barrier 6
- 7 - Light barrier 4
- 8 - Light barrier 2
- 9 - Steering angle sender earth
- 10 - Light barrier 7



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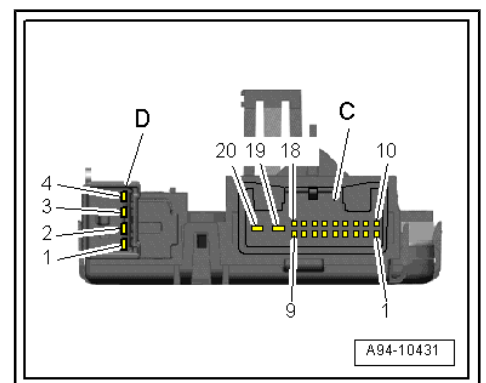
C - Plug connection: vehicle electrical system

- 1 - Not used
- 2 - Not used
- 3 - Not used
- 4 - Not used
- 5 - Not used
- 6 - Not used
- 7 - Not used
- 8 - Not used
- 9 - Not used
- 10 - Powertrain CAN bus screening
- 11 - CAN bus Low (powertrain)
- 12 - CAN bus High (powertrain)
- 13 - Cruise control locked Off
- 14 - CAN bus High (convenience)
- 15 - CAN bus Low (convenience)
- 16 - P-IN (selector lever P-contact)
- 17 - Additional output, terminal 15
- 18 - Additional output, terminal 50
- 19 - Power supply terminal 30
- 20 - Power supply terminal 31



D - Plug connection: airbag control unit

- 1 - Airbag 1 „-“
- 2 - Airbag 1 „+“
- 3 - Airbag 2 „+“
- 4 - Airbag 2 „-“



11.4 Removing and installing return ring with slip ring

Special tools and workshop equipment required

- ◆ Feeler gauge

Removing



Note

Return ring with slip ring must be removed/installed in centre position (wheels in straight ahead position).

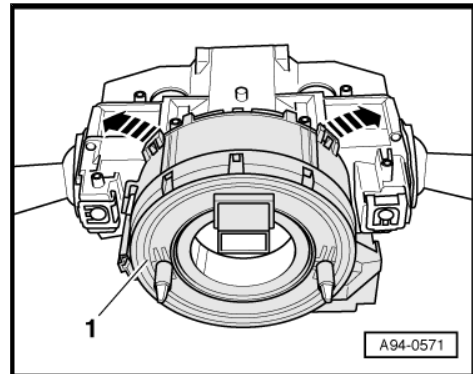
- Remove steering column trim ⇒ Rep. gr. 68 .

- Remove steering column electronics control unit -J527-
⇒ [page 121](#) .
- Carefully release retaining hooks -arrows- and pull return ring with slip ring -1- off steering column switch module.

Installing

Installation is carried out in the reverse order; note the following:

- Make sure all fasteners and the electrical connectors are properly engaged.



11.5 Removing and installing steering angle sender -G85-

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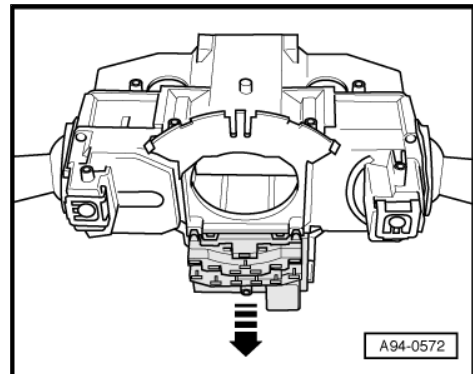
Removing

- Remove steering column trim ⇒ Rep. gr. 68 .
- Remove return ring with slip ring ⇒ [page 125](#) .
- Detach steering angle sender -G85- -arrow-.

Installing

Installation is carried out in the reverse order; note the following:

- Perform calibration of steering angle sender -G85- in „Guided Fault Finding“ or „Guided Functions“ mode after renewing steering angle sender ⇒ Vehicle diagnostic, testing and information system VAS 5051.



11.6 Removing and installing turn signal switch -E2- and cruise control system switch -E45-

Removing

- Remove steering angle sender -G85- ⇒ [page 126](#) .



Note

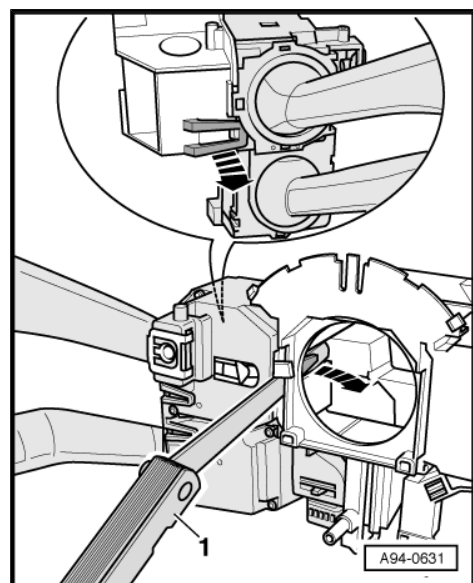
The following steps are shown with the steering column switch module removed for illustration purposes.

- Release clips using 1.0 mm feeler gauge -item 1- -arrows- and detach lever switch (left-side).

Installing

Installation is carried out in the reverse order; note the following:

- Make sure all fasteners and the electrical connectors are properly engaged.



11.7 Removing and installing intermittent wiper switch -E22-

Removing

- Remove steering angle sender -G85- ⇒ [page 126](#) .



Note

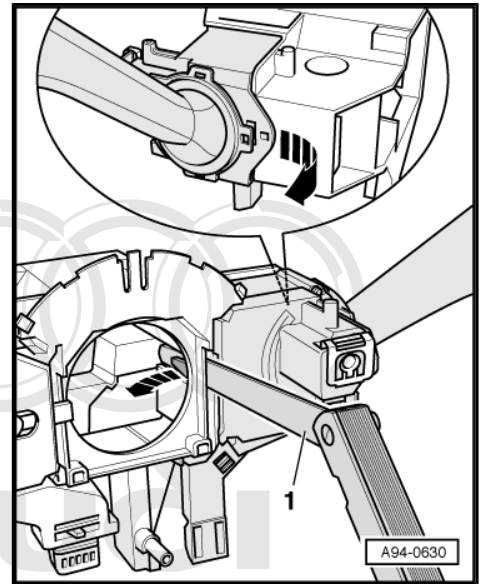
The following steps are shown with the steering column switch module removed for illustration purposes.

- Release clips using 1.0 mm feeler gauge -item 1- -arrows- and detach intermittent wiper switch -E22- .

Installing

Installation is carried out in the reverse order; note the following:

- Make sure all fasteners and the electrical connectors are properly engaged.



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12 Lock cylinder and ignition/starter switch with steering lock

General notes

- ◆ The reader coil for the immobilizer is attached to the lock cylinder and cannot be renewed separately.
- ◆ The lock cylinder must be renewed if the reader coil is defective.
- ◆ When renewing the lock cylinder, observe the requirements for the reader coil of the immobilizer ⇒ Electrical system; General information; Rep. gr. 96 ; Immobilizer for vehicles without entry and start authorisation control unit -J518- .

12.1 Exploded view of lock cylinder, ignition/starter switch and steering lock

1 - Bolt

2 - Steering lock housing

- ☐ Removing and installing ⇒ [page 132](#)

3 - Ignition/starter switch -D-

- ☐ Removing and installing ⇒ [page 131](#)
- ☐ Pin assignment ⇒ [page 132](#)

4 - Steering angle sender - G85-

- ☐ Exploded view ⇒ [page 120](#)

5 - Transport protection

- ☐ To secure return ring with slip ring in centre position

6 - Return ring with slip ring

- ☐ Exploded view ⇒ [page 120](#)

7 - Turn signal switch -E2-

- ☐ On vehicles with cruise control: with additional cruise control system switch -E45-
- ☐ Exploded view ⇒ [page 120](#)

8 - Intermittent wiper switch - E22-

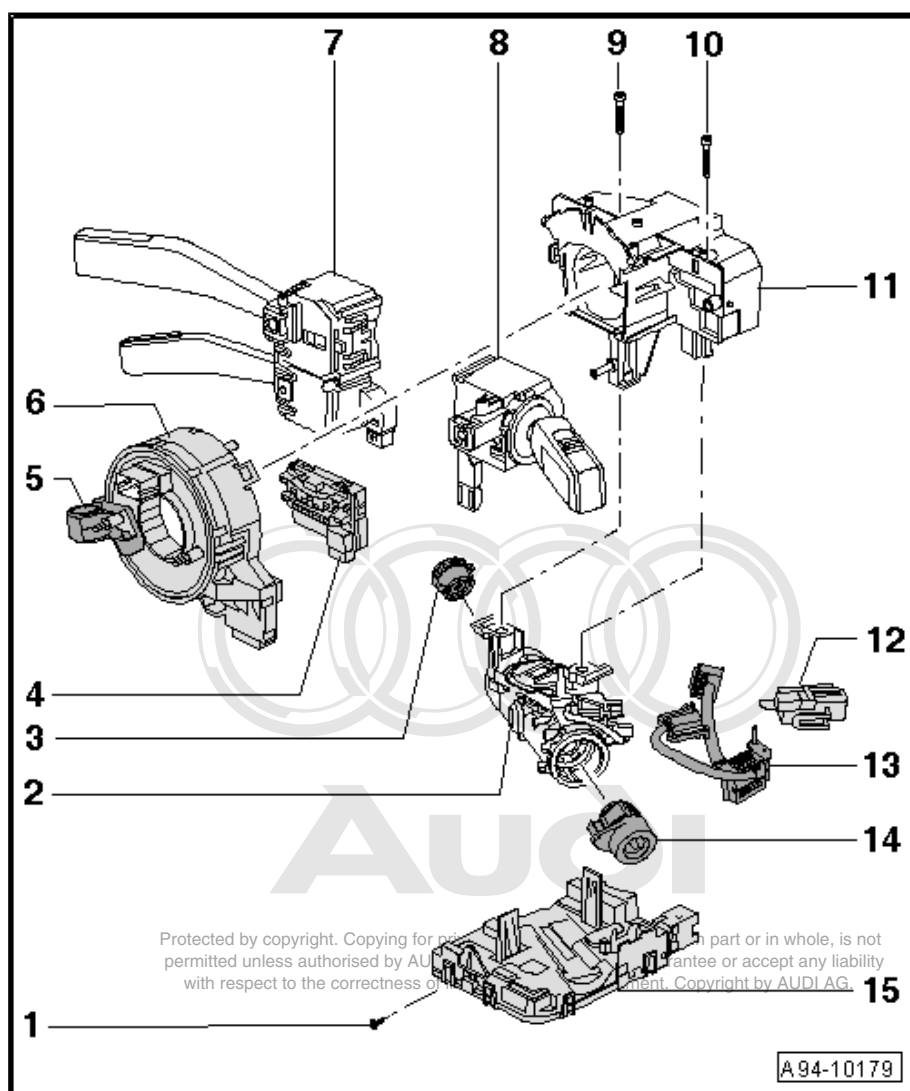
- ☐ Exploded view ⇒ [page 120](#)

9 - Bolt for steering lock housing

- ☐ Shear bolt
- ☐ Removing and installing ⇒ [page 132](#)

10 - Bolt for steering lock housing

- ☐ Shear bolt
- ☐ Removing and installing ⇒ [page 132](#)



11 - Mounting

12 - Ignition key withdrawal lock solenoid -N376-

- ☐ On vehicles with automatic gearbox
- ☐ Removing and installing ⇒ [page 130](#)

13 - Adapter wiring harness

- ☐ For steering lock housing
- ☐ Removing and installing ⇒ [page 133](#)

14 - Lock cylinder

- ☐ Removing and installing ⇒ [page 129](#)

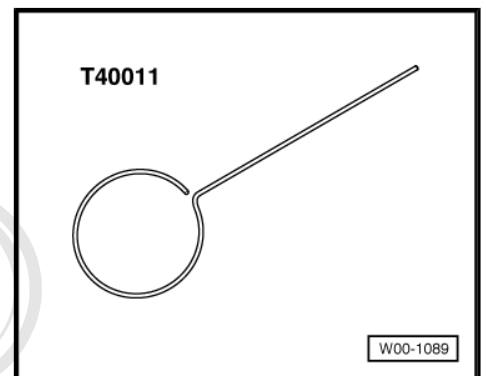
15 - Steering column electronics control unit -J527-

- ☐ Exploded view ⇒ [page 120](#)

12.2 Removing and installing lock cylinder

Special tools and workshop equipment required

- ◆ Locking pin -T40011-



Removing

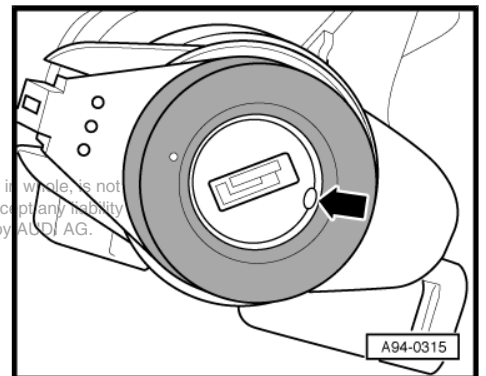
- Remove steering column trim ⇒ Rep. gr. 68 .



Note

To remove the lock cylinder the spare key without illumination and remote control function is needed, as removal is only possible using a key with a flat handle.

- Turn spare key to ignition „ON“ position, thus aligning recess in trim -arrow- with hole in ignition lock.



Note

The correct ignition lock position is shown without ignition key for illustration purposes.

- Insert locking pin -T40011- in hole as far as it will go, at the same time pulling lock cylinder -1- with reader coil out of steering lock housing -2-.


WARNING

Risk of lock-up on steering lock.

- ◆ *Do not operate steering lock without lock cylinder.*


Note

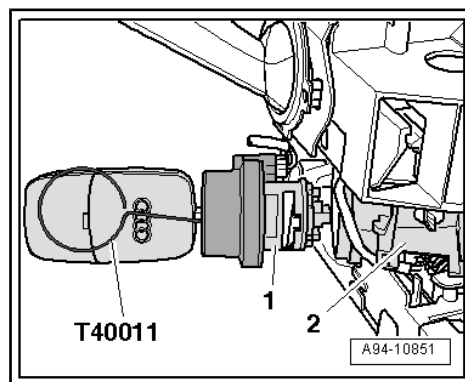
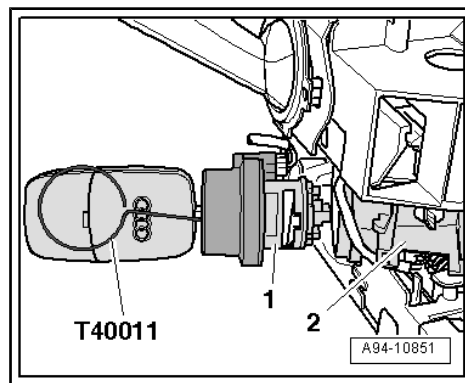
- ◆ *If the steering lock has locked up, it must be renewed.*
- ◆ *When renewing the lock cylinder, observe the requirements for the reader coil of the immobilizer ➔ Electrical system; General information; Rep. gr. 96 ; Immobilizer for vehicles without entry and start authorisation control unit -J518- .*

- Unplug electrical connector at reader coil.

Installing

Installation is carried out in the reverse order; note the following:

- Insert spare ignition key into lock cylinder and turn to ignition „on“ position.
- Re-insert locking pin -T40011- in hole on end face as far as it will go.
- Insert lock cylinder -1- with reader coil in steering lock housing -2-.
- Then pull out locking pin -T40011- and press in lock cylinder firmly until catch engages audibly.
- Plug in electrical connector on immobilizer reader coil.



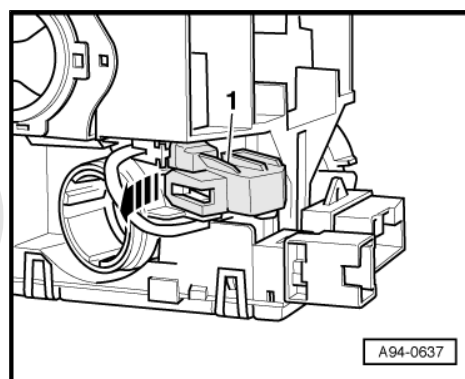
12.3 Removing and installing ignition key withdrawal lock solenoid -N376-

Removing

- Remove steering column trim ➔ Rep. gr. 68 .
- Release clip -arrow- and detach ignition key withdrawal lock solenoid -N376- -item 1- from steering lock housing.

Installing

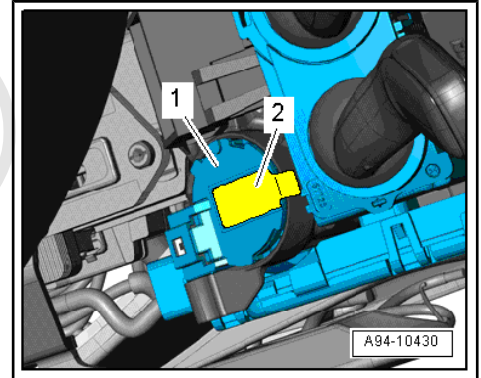
Install in reverse order.



12.4 Removing and installing ignition/starter switch -D-

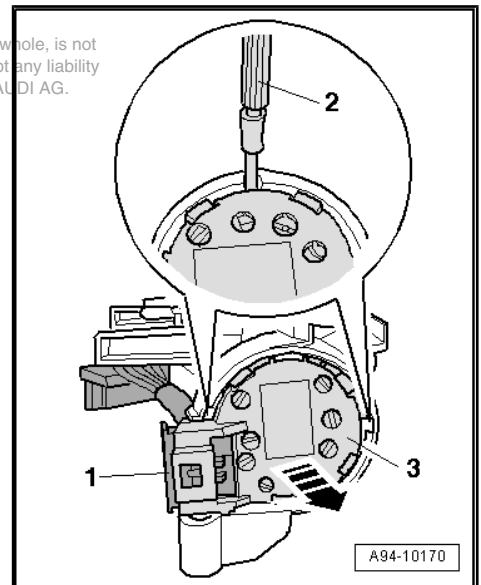
Removing

- Remove steering column trim ⇒ Rep. gr. 68 .
- Break off retainer for cover cap -2- on ignition/starter switch -D- .
- Pry cover cap -1- off ignition/starter switch -D- .



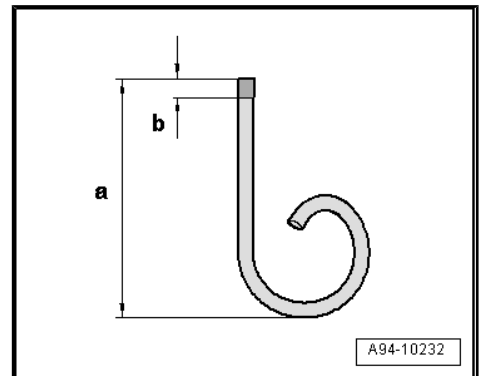
- Unplug electrical connector -1-.
- Insert jeweller screwdrivers -2- to release retaining clips.

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If procedure cannot be performed due to limited space, improvise suitable tool (2 bent wires) as described below.

- Take welding wire (Ø 1 mm) and bend round at one end.
- Then cut off welding wire.
- Dimension -a- = approx. 50 mm
- File hook so that end is pointed.
- Dimension -b- = 5 mm

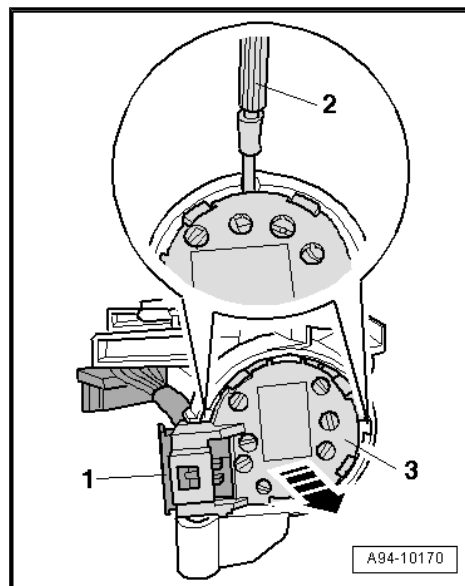


- Take ignition/starter switch -D- -3- out of steering lock housing in direction of -arrow-, leaving jeweller screwdrivers or wire hooks inserted.

Installing

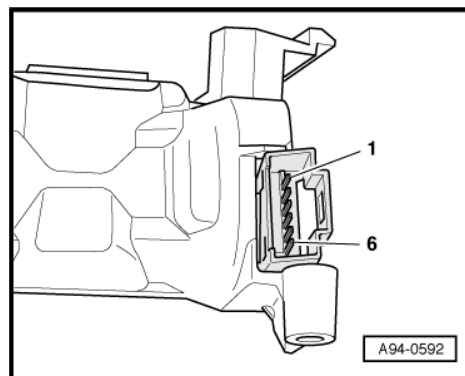
Installation is carried out in the reverse order; note the following:

- Insert ignition/starter switch -D- into steering lock housing until it engages audibly.



12.5 Pin assignment on ignition/starter switch -D-

- 1 - Terminal 50
- 2 - Terminal 30
- 3 - Terminal S
- 4 - Terminal X
- 5 - Terminal P
- 6 - Terminal 15



12.6 Removing and installing steering lock housing

Special tools and workshop equipment required

- ◆ Socket -T10424-

Removing

- Move steering wheel down and to rear as far as possible, making use of full range of steering column adjuster.
- Remove airbag unit ⇒ Rep. gr. 69 .
- Remove steering wheel ⇒ Rep. gr. 48 .



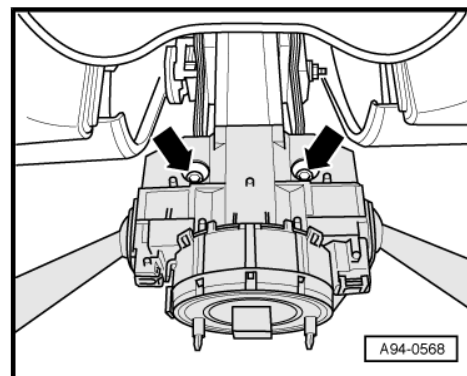
Caution

Risk of damage to return ring.

- ◆ **Return ring with slip ring must not be turned following removal.**

- Remove steering column trim ⇒ Rep. gr. 68 .

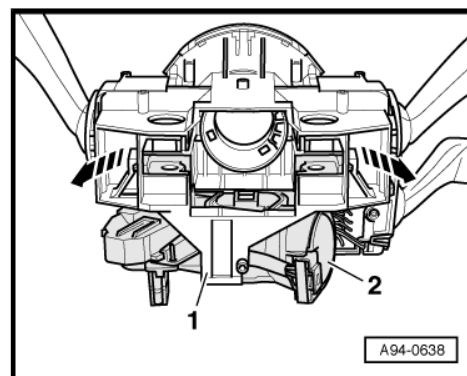
- Remove shear bolts -arrows- using socket -T10424- .
- Turn ignition key to „on“ position.
- Unplug reader coil wire from steering column switch.
- Detach steering column switch module from steering column.
- Remove steering column electronics control unit -J527-
⇒ [page 121](#) .



- Release clips -arrows- and take steering lock housing -2- out of mounting -1-.
- Detach electrical connector at ignition/starter switch.

In order to renew steering lock housing, remove ignition/starter switch, lock cylinder and, on vehicles with dual clutch gearbox, ignition key withdrawal lock solenoid -N376- .

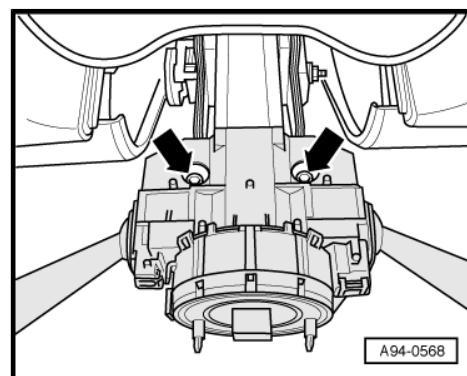
- ◆ Removing ignition/starter switch ⇒ [page 131](#) .
- ◆ Removing lock cylinder ⇒ [page 129](#) .
- ◆ Removing ignition key withdrawal lock solenoid -N376-
⇒ [page 130](#) .



Installing

Installation is carried out in the reverse order; note the following:

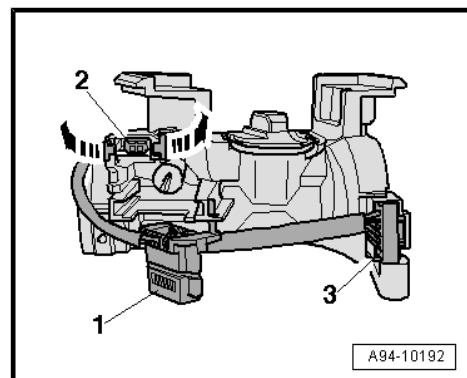
- Tighten new bolts -arrows- until heads shear off.
- Install steering column trim ⇒ Rep. gr. 68 .
- Install steering wheel ⇒ Rep. gr. 48 .
- Install airbag unit ⇒ Rep. gr. 69 .



12.7 Removing and installing adapter wiring harness for steering lock housing

Removing

- Remove steering column electronics control unit -J527-
⇒ [page 121](#) .
- Detach electrical connector -3- at ignition/starter switch.
- Release retaining clips in direction of -arrows- and detach electrical connector -2- for ignition key withdrawal lock solenoid -N376- .
- Remove adapter wiring harness -1- for steering lock housing.



Installing
Installation is carried out in the reverse order; note the following:

- Install steering column electronics control unit -J527-
⇒ [page 121](#) .

13 Parking aid

Observe notes on contact corrosion ⇒ [page 73](#) .

13.1 Overview of parking aid

1 - Rear parking aid warning buzzer -H15-

Coupé:

- ☐ Behind rear right speaker trim
- ☐ Removing and installing ⇒ [page 135](#)

Roadster:

- ☐ Behind back panel trim (left-side)
- ☐ Removing and installing ⇒ [page 135](#)

2 - Parking aid control unit -J446-

- ☐ In luggage compartment (rear right) beneath side trim
- ☐ Removing and installing ⇒ [page 134](#)

3 - Rear right parking aid sender -G206-

- ☐ In rear bumper
- ☐ Removing and installing ⇒ [page 136](#)

4 - Rear centre right parking aid sender -G205-

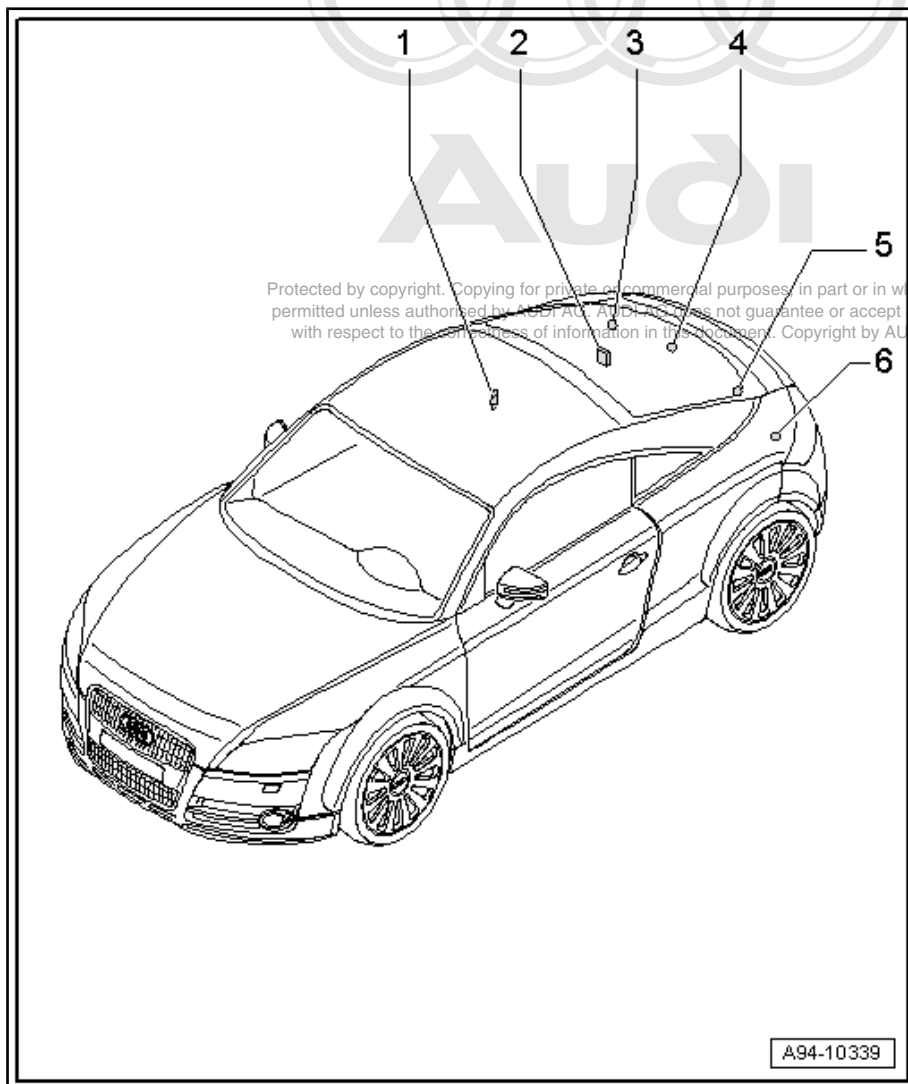
- ☐ In rear bumper
- ☐ Removing and installing ⇒ [page 136](#)

5 - Rear centre left parking aid sender -G204-

- ☐ In rear bumper
- ☐ Removing and installing ⇒ [page 136](#)

6 - Rear left parking aid sender -G203-

- ☐ In rear bumper
- ☐ Removing and installing ⇒ [page 136](#)



13.2 Removing and installing parking aid control unit -J446-

- When renewing control unit, select „Replacement“ function for appropriate control unit in „Guided Functions“ ⇒ Vehicle diagnostic, testing and information system VAS 5051.

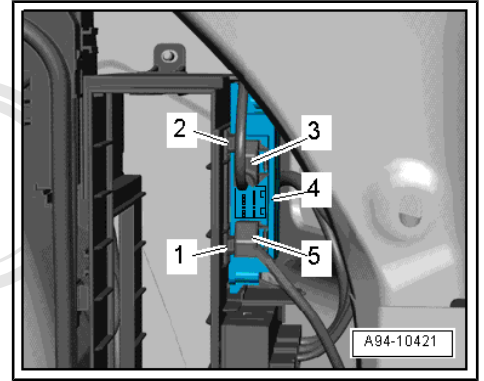
Removing

- Switch off ignition and take out ignition key.
- Remove right luggage compartment side trim ⇒ Rep. gr. 70 .
- If fitted, remove TV tuner ⇒ Rep. gr. 91 .
- Release retaining clips -1 and 2- and remove parking aid control unit -J446- -item 4- from mounting bracket for control units.
- Unplug electrical connectors -3 and 5-.

Installing

Installation is carried out in the reverse order; note the following:

- If fitted, install TV tuner ⇒ Rep. gr. 91 .
- Install luggage compartment side trim (right-side) ⇒ Rep. gr. 70 .



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13.3 Removing and installing rear parking aid warning buzzer -H15- (Coupé)

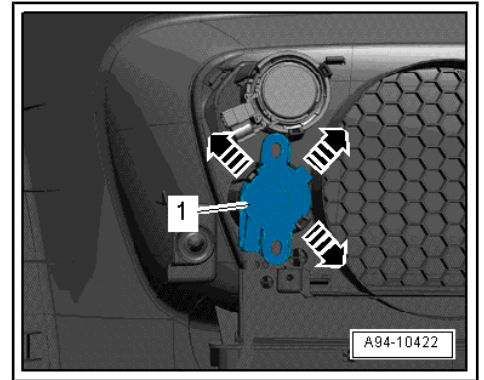
Removing

- Switch off ignition and take out ignition key.
- Remove rear right side trim ⇒ Rep. gr. 70 .
- Release retaining clips -arrows- and remove rear parking aid warning buzzer -H15- -item 1- from rear side trim.

Installing

Installation is carried out in the reverse order; note the following:

- Install rear right side trim ⇒ Rep. gr. 70 .



13.4 Removing and installing rear parking aid warning buzzer -H15- (Roadster)

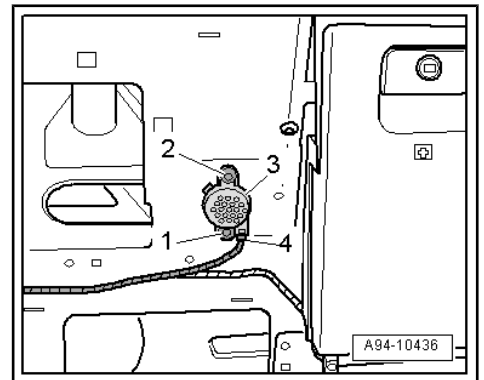
Removing

- Switch off ignition and take out ignition key.
- Remove back panel trim (right-side) ⇒ Rep. gr. 70 .
- Pull out spreader pins -1 and 2-.
- Detach rear parking aid warning buzzer -H15- -item 3-.
- Unplug electrical connector -4-.

Installing

Installation is carried out in the reverse order; note the following:

- Install rear right side trim ⇒ Rep. gr. 70 .



13.5 Removing and installing rear parking aid senders -G203- / -G204- / -G205- / -G206-

Fitting location: in rear bumper -arrows-

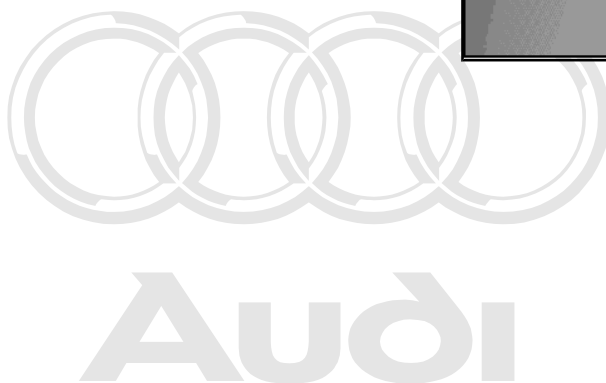
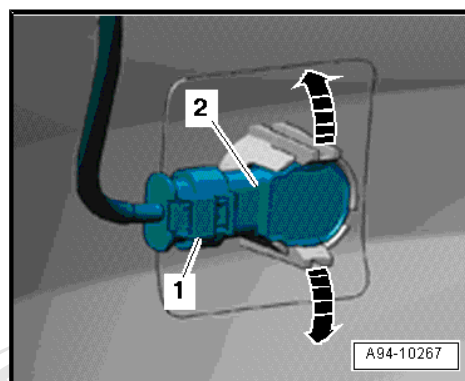
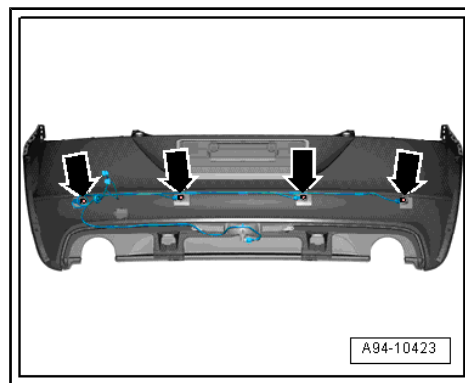
Removing

- To remove exterior senders, reach behind bumper cover from below.
- To remove interior senders, remove rear bumper cover ⇒ Rep. gr. 63 .
- Press both retaining tabs apart -arrows- and press out sender -2- from outside to inside.
- Unplug electrical connector -1- at sender.

Installing

Installation is carried out in the reverse order; note the following:

- Install rear bumper cover ⇒ Rep. gr. 63 .



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96 – Lights, bulbs, switches - interior

1 Contact corrosion

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

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

Furthermore, rubber components or plastic components and adhesives are made of non-conductive material.

Always fit new components if you are not sure that the old components are suitable → Electronic parts catalogue.

Note:

- ◆ We recommend the use of genuine replacement parts only; they have been tested and are compatible with aluminium.
- ◆ We recommend using Audi Genuine Accessories.
- ◆ Damage resulting from contact corrosion is not covered by warranty.

2 Lights and switches in dash panel

2.1 Overview of lights and switches in dash panel

1 - Central locking deadlock function warning lamp -SAFE-K133-

- ❑ Removing and installing
⇒ [page 139](#)

2 - Front right footwell illumination bulb -L152-

- ❑ Removing and installing
⇒ [page 142](#)

3 - Glove compartment light -W6-

- ❑ Removing and installing
⇒ [page 141](#)

4 - Glove compartment light switch -E26-

- ❑ Removing and installing
⇒ [page 141](#)

5 - Heated driver seat regulator -E94-

- ❑ Integrated in Climatronic control unit -J255- (may also be referred to as „front operating and display unit“). Cannot be renewed separately if defective
- ❑ Renewing Climatronic control unit -J255- ⇒ Rep. gr. 87

6 - Warning lamp for airbag deactivated on front passenger side -K145-

- ❑ Removing and installing
⇒ [page 140](#)

7 - Heated front passenger seat regulator -E95-

- ❑ Integrated in Climatronic control unit -J255- (may also be referred to as „front operating and display unit“). Cannot be renewed separately if defective
- ❑ Renewing Climatronic control unit -J255- ⇒ Rep. gr. 87

8 - Front left footwell illumination bulb -L151-

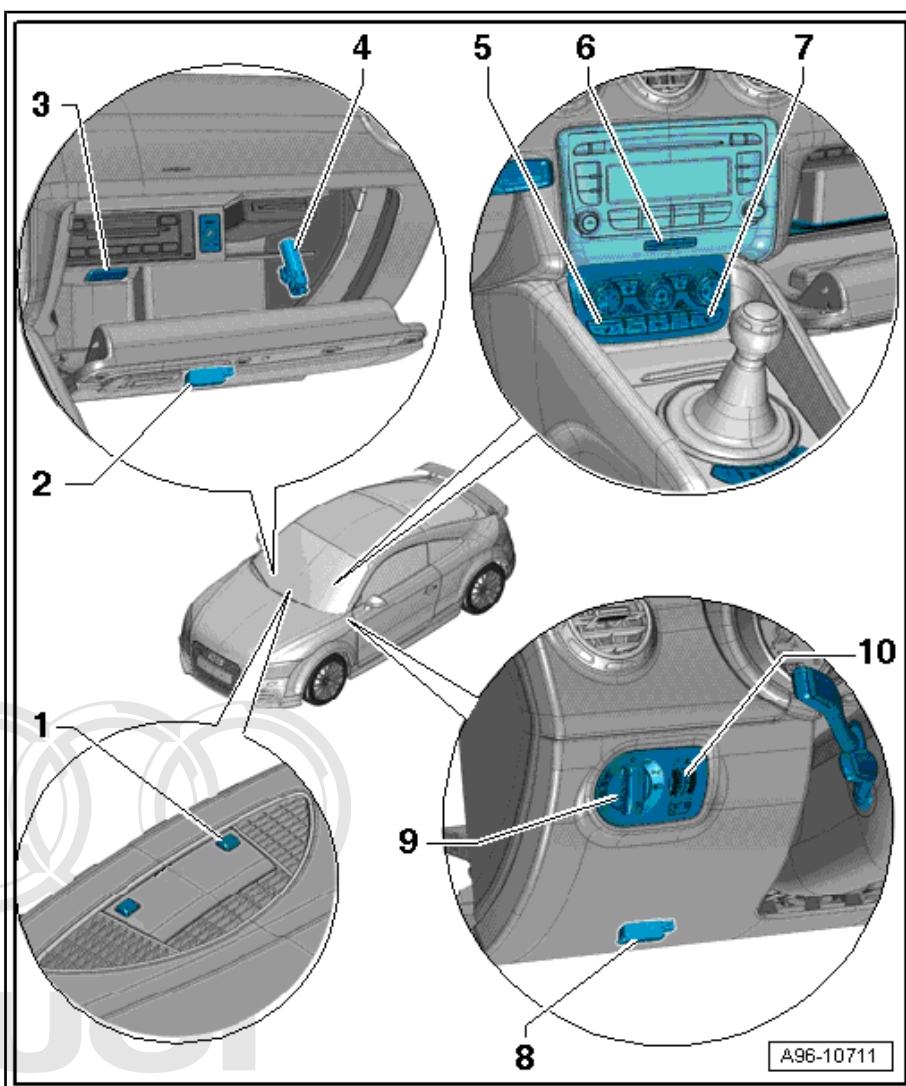
- ❑ Removing and installing ⇒ [page 142](#)

9 - Light switch -E1-

- ❑ Removing and installing ⇒ [page 139](#)

10 - Switch and instrument illumination regulator -E20-

- ❑ Depending on version: with headlight range control regulator -E102- , daytime running lights switch -E579-
- ❑ Removing and installing ⇒ [page 140](#)



2.2 Removing and installing central locking deadlock function warning lamp -SAFE- -K133-

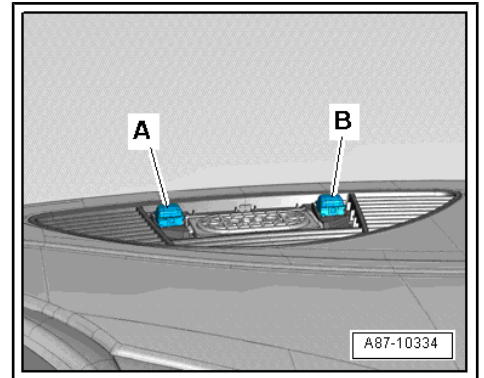
Removing

- Switch off ignition.
- Remove loudspeaker trim (centre) ⇒ Rep. gr. 70 .
- Carefully pry central locking deadlock function warning lamp -SAFE- -K133- -item B- out of top defroster vent (centre).
- Unplug 2-pin electrical connector.



Note

The sunlight penetration photosensor -G107- -item A- looks identical, but it has a 4-pin connector.



Installing

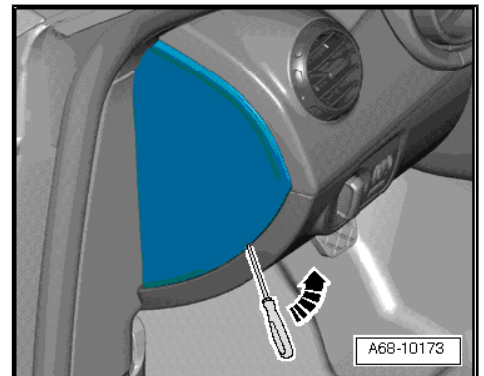
Installation is carried out in the reverse order; note the following:

- Install loudspeaker trim (centre) ⇒ Rep. gr. 70 .

2.3 Removing and installing light switch -E1- with -E20- , -E102- , -E579-

Removing

- Switch off ignition and take out ignition key.
- Turn light switch to position „0“.
- Use screwdriver to pry off dash panel end trim -arrow-.

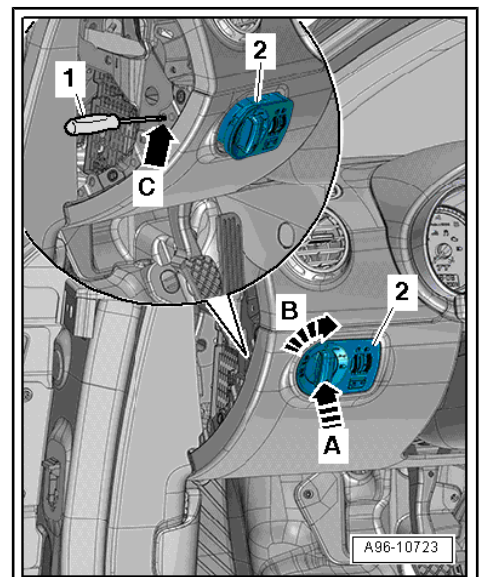


- Press light switch -arrow A- and simultaneously turn it clockwise -arrow B-.
- Hold switch in this position.
- Press out light switch -2- from reverse side through small hole -arrow C- with a small screwdriver -1- and at the same time pull it out of dash panel trim (driver's side).
- Unplug electrical connectors.

Installing

Installation is carried out in the reverse order; note the following:

- Press switch into switch housing until catch engages.



2.4 Removing and installing switch and instrument illumination regulator -E20- , headlight range control regulator - E102- , daytime running lights switch - E579-

Depending on the vehicle's equipment, the switch and instrument illumination regulator -E20- , headlight range control regulator - E102- and daytime running lights switch -E579- are located in the same housing. These components are not available separately; for assignment see ➔ Electronic parts catalogue .

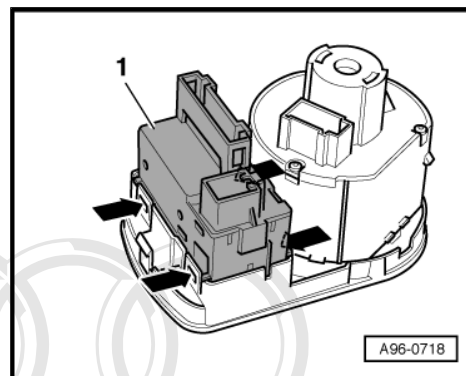
Removing

- Remove light switch ➔ [page 139](#) .
- Release retaining clips -arrows- and remove housing -1-.

Installing

Installation is carried out in the reverse order; note the following:

- Install light switch ➔ [page 139](#) .



2.5 Removing and installing heated driver seat regulator -E94- /heated front passenger seat regulator -E95-

The front heated seat regulators are integrated in the Climatronic control unit -J255- (may also be referred to as „front operating and display unit“). They cannot be renewed separately.

- Renew Climatronic control unit -J255- ➔ [Rep. gr. 87](#) .

2.6 Removing and installing warning lamp for airbag deactivated on front passenger side -K145-

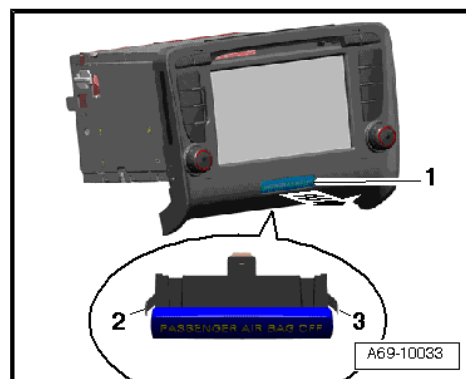
Removing

- Remove radio ➔ [Rep. gr. 91](#) .
- Release retaining clips -2 and 3- on both sides and slide out front passenger side airbag deactivated warning lamp -K145- -item 1- in direction of -arrow-.

Installing

Installation is carried out in the reverse order; note the following:

- Press warning lamp into housing until catch engages.
- Install radio ➔ [Rep. gr. 91](#) .



2.7 Removing and installing glove compartment light -W6-

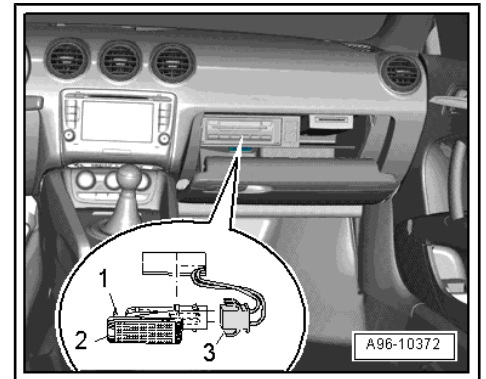
Removing

- Turn light switch to position „0“.
- Use a flat screwdriver to press in retaining tab -1- and pry out glove compartment light -2-.
- Unplug electrical connector -3-.

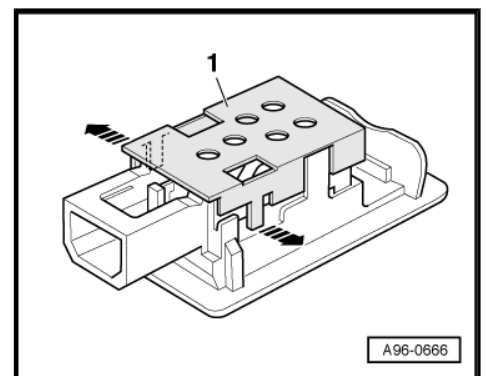


Note

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted. On glove compartment light with LED, the LED cannot be renewed separately.



- To renew bulb, release clips -arrows- and detach cover -1- over bulb.

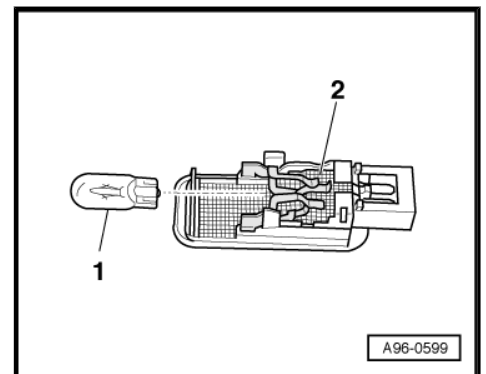


- Take bulb -1- (12 V, 5 W) on back of glove compartment light out of bulb holder -2-.

Installing

Installation is carried out in the reverse order; note the following:

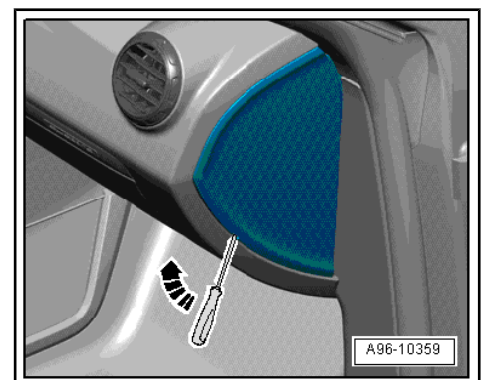
- Plug in electrical connector.
- Insert glove compartment light in opening and engage on opposite side.



2.8 Removing and installing glove compartment light switch -E26-

Removing

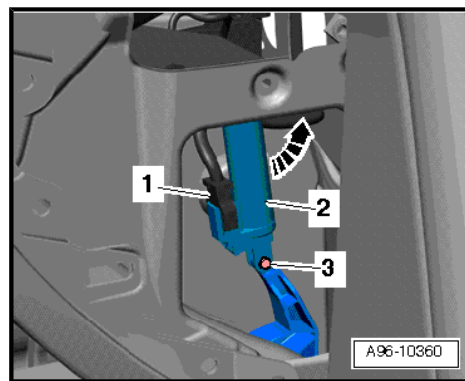
- Switch off ignition and take out ignition key.
- Use screwdriver to pry off dash panel end trim -arrow-.
- If fitted, remove aerial amplifier for mobile telephone -R86- → Rep. gr. 91 .



- Unplug electrical connector -1-.
- Pull out hinge pin -3-.
- Release switch -2- in anti-clockwise direction -arrow- and detach.

Installing

Install in reverse order.



2.9 Removing and installing footwell illumination bulb (front) -L151- / -L152-

Removing

- Use flat-bladed screwdriver to press in retaining tab -1- and pry out footwell light -2-.
- Unplug electrical connector -3-.

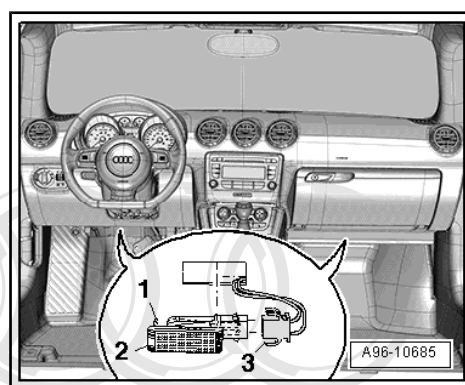
Installing

Installation is carried out in the reverse order; note the following:



Note

If the LED is defective, the complete footwell light must be renewed.



- Insert footwell light in opening and engage on opposite side.

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3 Lights and switches in front doors

3.1 Overview of lights and switches in front doors

1 - Rear lid remote release button -E233- / fuel tank flap release button -E319-

- ☐ Removing and installing
⇒ [page 146](#)

2 - Operating unit for window regulator in driver door -E512-

- ☐ With front left window regulator switch -E40- and front right window regulator switch in driver door -E81-
- ☐ Removing and installing window regulator switches ⇒ [page 145](#)

3 - Driver side door interior handle illumination bulb -L146-

- ☐ Removing and installing
⇒ [page 146](#)

4 - Driver side interior locking button for central locking system -E308-

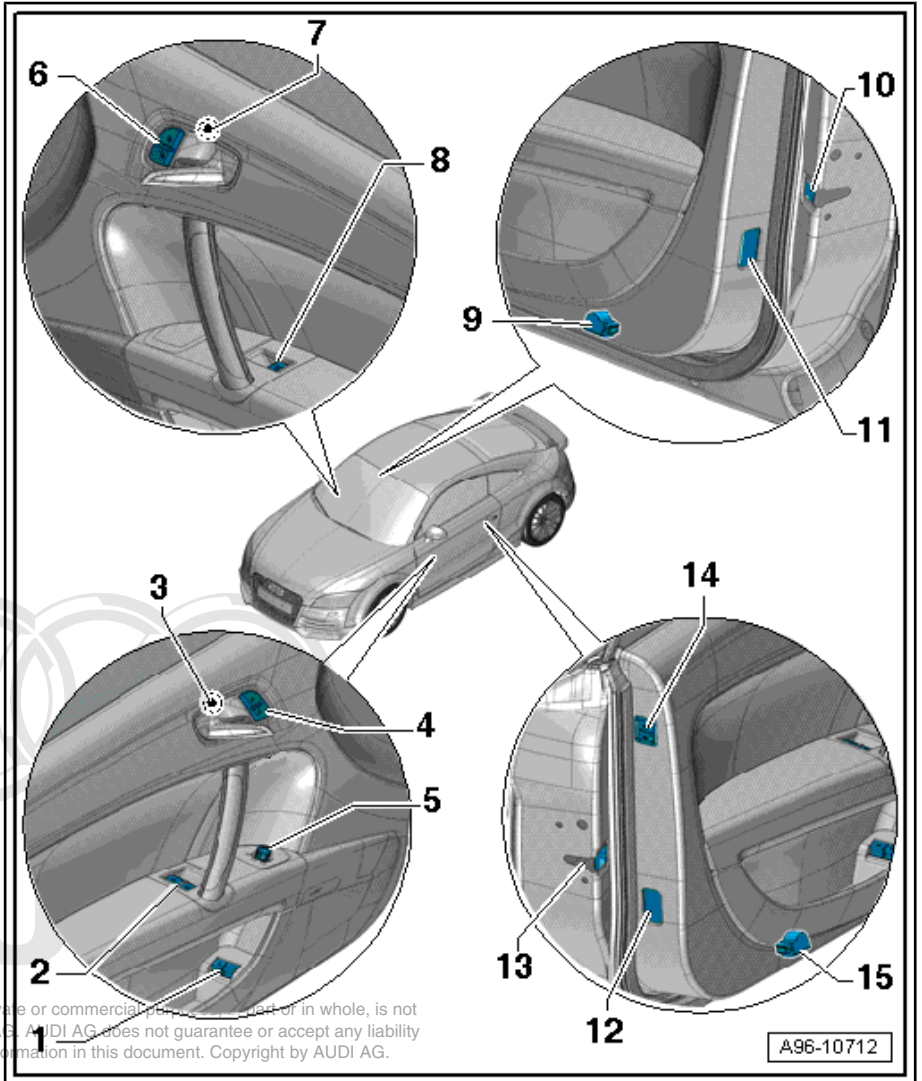
- ☐ Removing and installing
⇒ [page 145](#)

5 - Mirror adjustment switch -E43- or adjustment switch for mirror with fold-in feature -E168-

- ☐ Removing and installing
⇒ [page 144](#)

6 - Front passenger side interior locking button for central locking system -E309-

- ☐ Removing and installing
⇒ [page 145](#)



7 - Front passenger side door interior handle illumination bulb -L147-

- ☐ Removing and installing ⇒ [page 146](#)

8 - Window regulator switch in front passenger door -E107-

- ☐ Removing and installing ⇒ [page 145](#)

9 - Front right entry light -W32-

- ☐ Removing and installing ⇒ [page 147](#)

10 - Front passenger door contact switch -F3-

- ☐ Integrated in door lock. Cannot be renewed separately if defective
- ☐ Renewing door lock ⇒ Rep. gr. 57

11 - Front passenger side door warning lamp -W36-

- ☐ 12 V, 3 W
- ☐ Removing and installing ⇒ [page 147](#)

12 - Driver side door warning lamp -W30-

- ☐ 12 V, 3 W
- ☐ Removing and installing ⇒ [page 147](#)

13 - Driver door contact switch -F2-

- ☐ Integrated in door lock. Cannot be renewed separately if defective
- ☐ Renewing door lock ⇒ Rep. gr. 57

14 - Interior monitoring switch -E183- / alarm system off switch -E217-

- ☐ Removing and installing ⇒ [page 161](#)

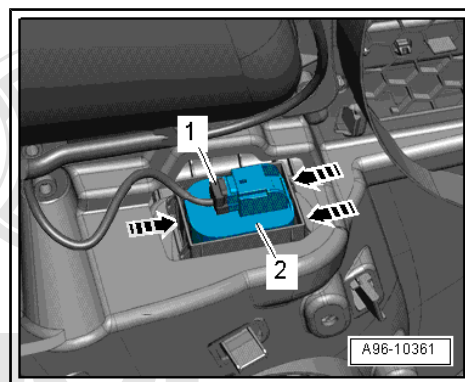
15 - Front left entry light -W31-

- ☐ Removing and installing ⇒ [page 147](#)

3.2 Removing and installing mirror adjustment switch -E43- or adjustment switch for mirror with fold-in feature -E168-

Removing

- Switch off ignition and take out ignition key.
- Remove door trim (front) ⇒ Rep. gr. 70 .
- Detach insulating mat from door trim.
- Unplug electrical connector -1-.
- Carefully release retaining hooks -arrows- using a small screwdriver.
- Pull mirror adjustment switch -2- out of switch mounting.

**Installing**

Installation is carried out in the reverse order; note the following:

**Note**

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When installing, make sure symbol panel is inserted before mirror adjustment switch.

- Press mirror adjustment switch into switch mounting until retaining hooks engage.
- Install door trim (front) ⇒ Rep. gr. 70 .

3.3 Removing and installing window regulator switches -E512- / -E107-

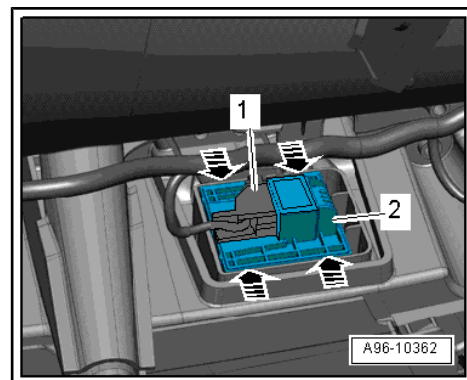
Removing

- Switch off ignition and take out ignition key.
- Remove door trim (front) ⇒ Rep. gr. 70 .
- Remove armrest ⇒ Rep. gr. 70 .
- Unplug electrical connector -1-.
- Carefully release retaining hooks -arrows- using a small screwdriver.
- Press window regulator switch -2- out of switch mounting.

Installing

Installation is carried out in the reverse order; note the following:

- Press window regulator switch into switch mounting until retaining hooks engage.
- Install door trim (front) ⇒ Rep. gr. 70 .



3.4 Removing and installing door contact switch -F2- / -F3-

The door contact switch is located in the door lock and cannot be renewed separately if defective.

- Renew door lock ⇒ Rep. gr. 57 .

3.5 Removing and installing interior locking button for central locking system - E308- / -E309-

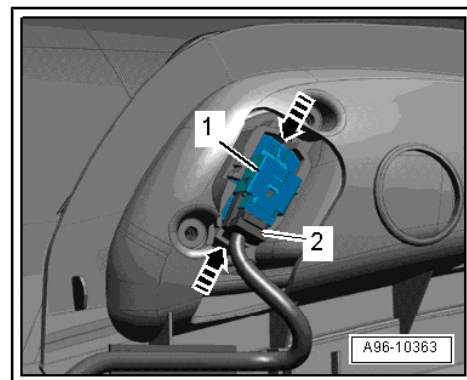
Removing

- Switch off ignition and take out ignition key.
- Remove door trim (front) ⇒ Rep. gr. 70 .
- Detach soundproofing mat from door trim in upper area.
- Release retainers -arrows- and press interior locking switch -1- out of door trim.
- Unplug electrical connector -2-.

Installing

Installation is carried out in the reverse order; note the following:

- Press interior locking switch into switch mounting until retainers engage.
- Install door trim (front) ⇒ Rep. gr. 70 .



3.6 Removing and installing door interior handle illumination bulb -L146- / -L147-

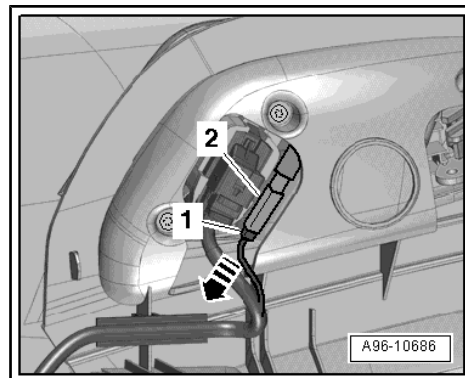
Removing

- Remove door trim (front) ⇒ Rep. gr. 70 .
- Unplug electrical connector -1-.
- Pull bulb holder -2- downwards out of door opener -arrow-.

Installing

Installation is carried out in the reverse order; note the following:

- Insert door opener illumination bulb in opening and engage.
- Install door trim (front) ⇒ Rep. gr. 70 .



3.7 Removing and installing rear lid remote release button -E233- / fuel tank flap release button -E319-

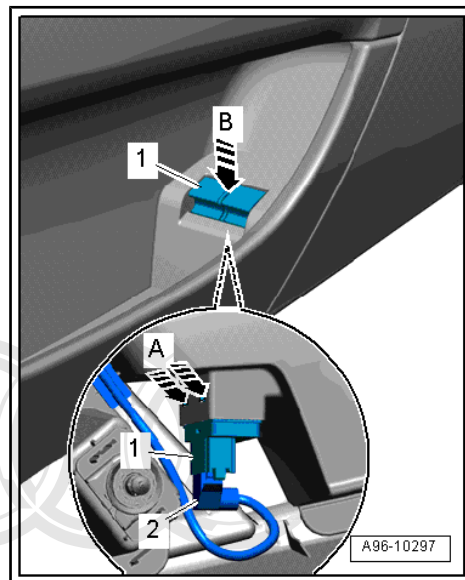
Removing

- Switch off ignition and take out ignition key.
- Remove door trim (front) ⇒ Rep. gr. 70 .
- Unplug electrical connector -2- on switch for rear lid remote release button -E233- and fuel tank flap release button -E319- -item 1-.
- Carefully release retaining hooks -arrows A- using a small screwdriver.
- Press switch for rear lid remote release button -E233- and fuel tank flap release button -E319- -item 1- downwards out of switch mounting -arrow B-.

Installing

Installation is carried out in the reverse order; note the following:

- Press switch into switch mounting until retaining hooks engage.
- Install door trim (front) ⇒ Rep. gr. 70 .



3.8 Removing and installing front entry light -W31- / -W32- and door warning lamp -W30- / -W36-

Removing

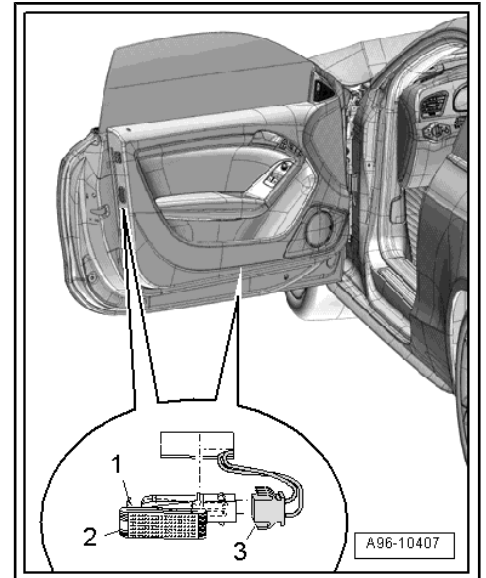
- Use flat screwdriver to press in retainer tab -1- and pry out door warning lamp/entry light (front) -2-.
- Unplug electrical connector -3-.



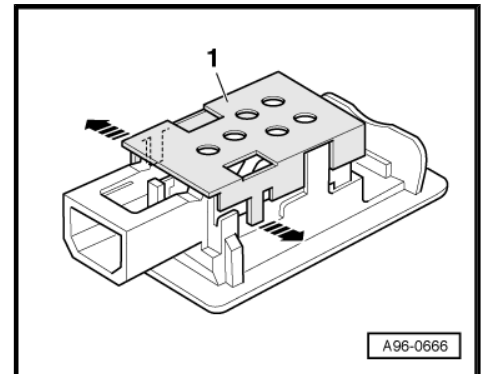
Note

On front entry light, LED cannot be renewed separately.

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- If fitted, release retaining clips -arrows- and detach cover -1- over bulb.

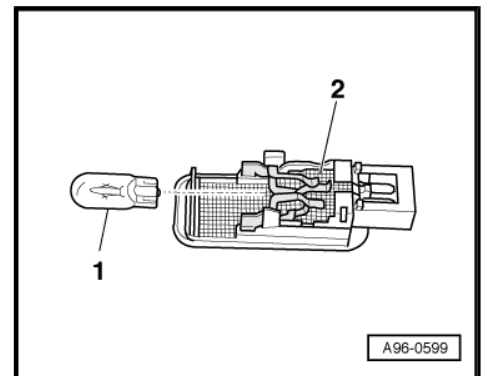


- Take bulb -1- on back of door warning lamp/entry light out of bulb holder -2-.

Installing

Installation is carried out in the reverse order; note the following:

- If applicable, attach cover at door safety light.
- Insert door safety light/entry light in opening and engage on opposite side.



4 Lights and switches in centre console, luggage compartment

4.1 Overview of selector lever position display, operating unit in centre console, convertible roof actuation, rear lid lock

1 - Operating unit in front centre console -E461-

- ❑ Removing and installing
⇒ [page 148](#)

2 - Selector lever position display -Y26- with selector lever display illumination bulb - L101-

- ❑ Removing and installing
⇒ [page 150](#)

3 - Convertible roof actuation button -E137-

- ❑ Removing and installing
⇒ [page 151](#)

4 - Cabrio windbreak switch - E278-

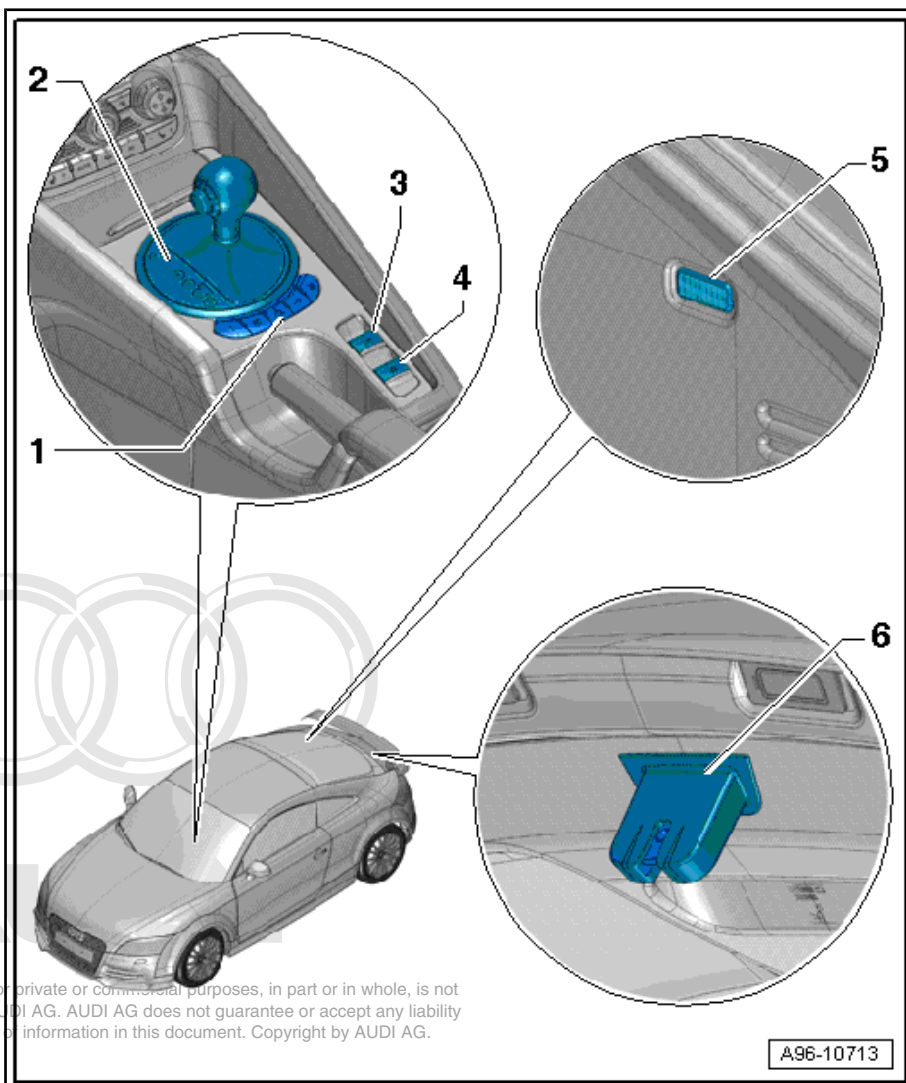
- ❑ Removing and installing
⇒ [page 152](#)

5 - Right luggage compartment light -W35-

- ❑ Removing and installing
⇒ [page 153](#)

6 - Rear lid contact switch for anti-theft alarm -F123-

- ❑ Removing and installing
⇒ [page 153](#)



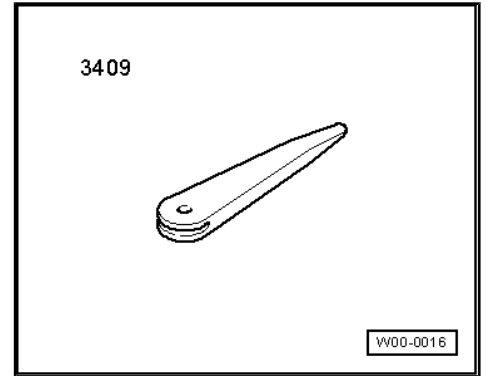
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A96-10713

4.2 Removing and installing operating unit in front of centre console -E461- with - E127- , -E226- , -E229- , -E256- , -E387- and -E541-

Special tools and workshop equipment required

◆ Removal wedge -3409-



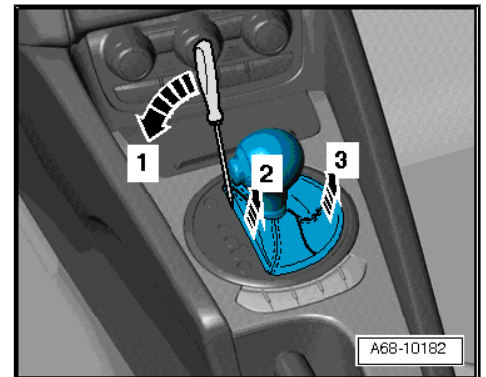
Removing

- Carefully pry out selector lever boot at the side -arrow 1- using a small screwdriver.
- Pull selector lever boot upwards at both sides -arrows 2 and 3-.

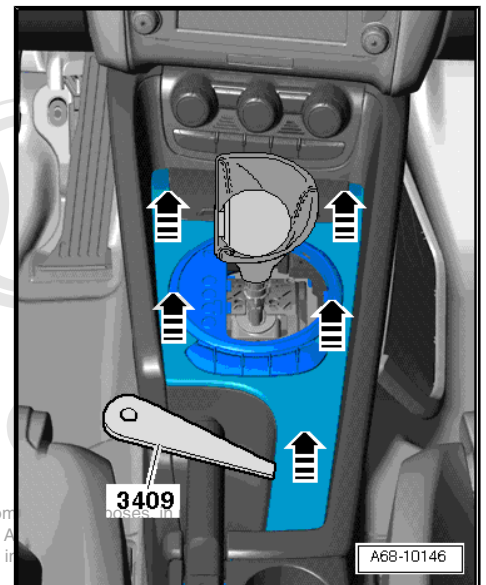


Note

The illustration shows a vehicle with direct shift gearbox.



- Pry cover off front centre console -arrows- using removal wedge -3409-.
- Unplug electrical connectors.

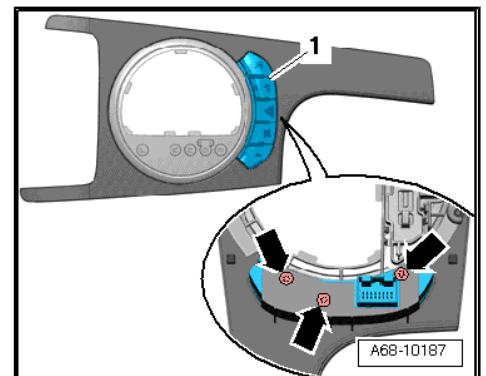


- Unscrew bolts -arrows- and detach operating unit in front centre console -E461- -item 1-.

Installing

- Tightening torque ⇒ Rep. gr. 68

Install in reverse order.

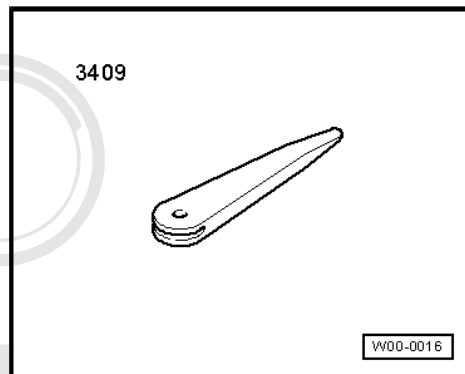


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4.3 Removing and installing selector lever position display -Y26- with selector lever display illumination bulb -L101-

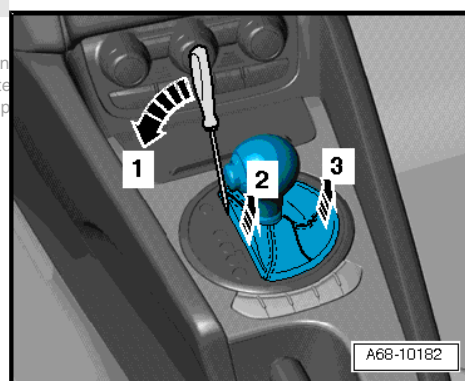
Special tools and workshop equipment required

- ◆ Removal wedge -3409-

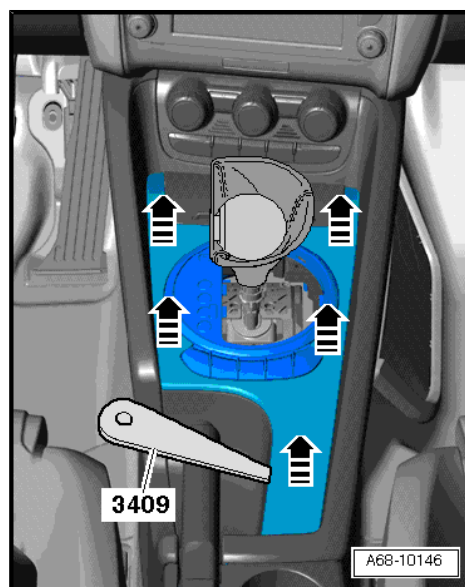


Removing

- Carefully pry out selector lever boot at the side -arrow 1- using a small screwdriver.
- Pull selector lever boot upwards at both sides -arrows 2 and 3-.



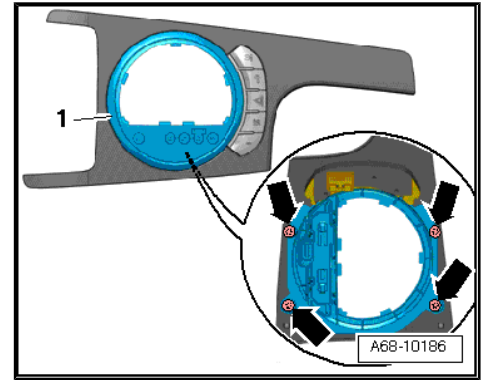
- Pry cover off front centre console -arrows- using removal wedge -3409-.
- Unplug electrical connectors.



- Unscrew bolts -arrows- and remove trim frame with selector lever position display -1-.

Installing

- Tightening torque ⇒ Rep. gr. 68
- Install in reverse order.



4.4 Removing and installing convertible roof actuation button -E137-

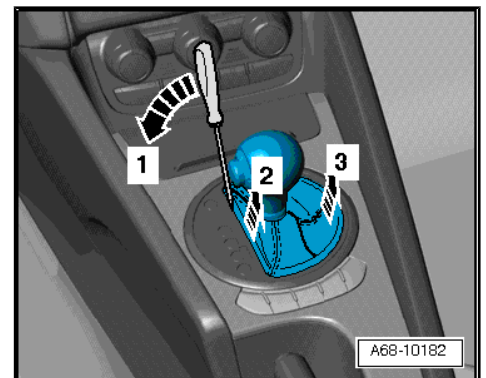
Removing

- Carefully pry out selector lever boot at the side -arrow 1- using a small screwdriver.
- Pull selector lever boot upwards at both sides -arrows 2 and 3-.

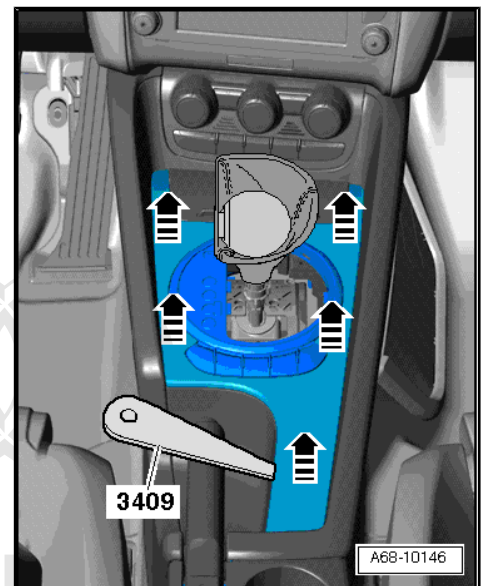


Note

The illustration shows a vehicle with direct shift gearbox.



- Pry cover off front centre console -arrows- using removal wedge -3409- .
- Unplug electrical connectors.



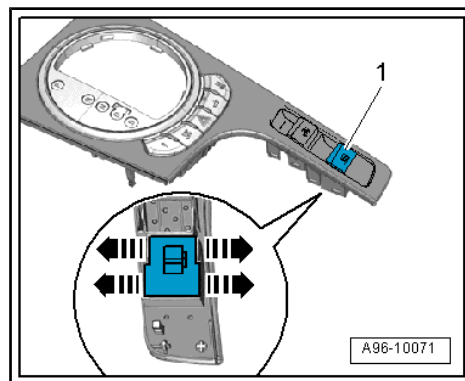
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- Carefully release retaining hooks -arrows- using a small screwdriver.
- Pull convertible roof actuation button -E137- -item 1- out of switch mounting.

Installing

Installation is carried out in the reverse order; note the following:

- Press convertible roof actuation button -E137- into switch mounting until retainers engage.



4.5 Removing and installing cabrio wind-break switch -E278-

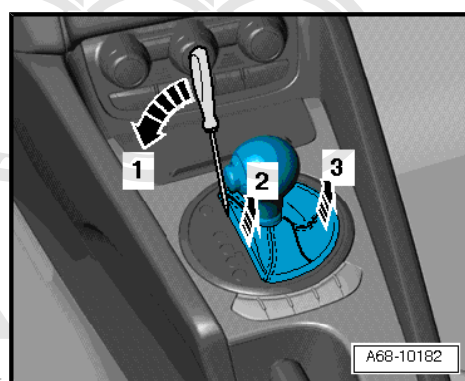
Removing

- Carefully pry out selector lever boot at the side -arrow 1- using a small screwdriver.
- Pull selector lever boot upwards at both sides -arrows 2 and 3-.

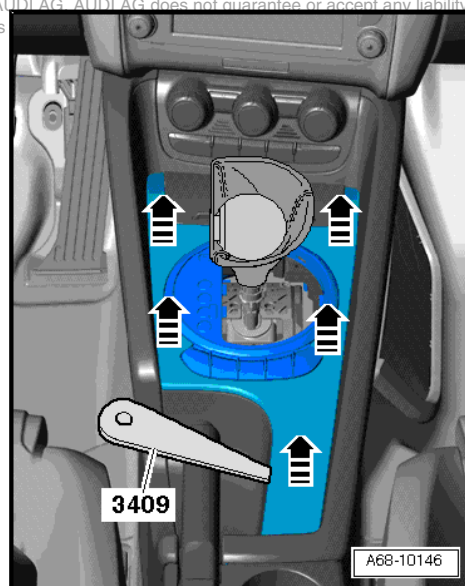


Note

The illustration shows a vehicle with direct shift gearbox.



- Pry cover off front centre console -arrows- using removal wedge -3409-.
- Unplug electrical connectors.

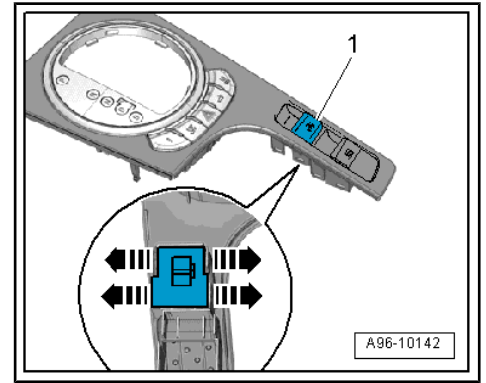


- Carefully release retaining hooks -arrows- using a small screwdriver.
- Pull cabrio windbreak switch -E278- -item 1- out of switch mounting.

Installing

Installation is carried out in the reverse order; note the following:

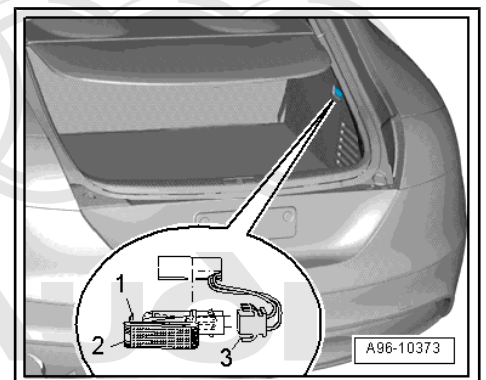
- Press cabrio windbreak switch -E278- into switch mounting until retainers engage.



4.6 Removing and installing right luggage compartment light -W35-

Removing

- Use a flat screwdriver to press in retaining tab -1- and pry out luggage compartment light -2-.
- Unplug electrical connector -3-.

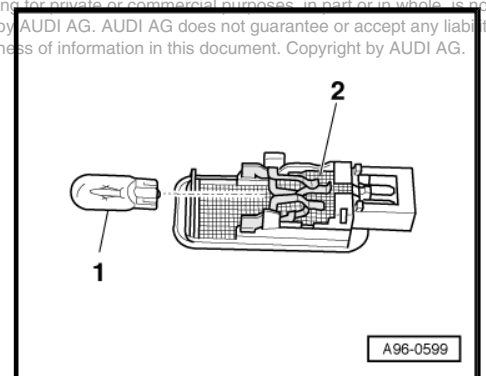


- Take bulb -1- (12 V, 5 W) on back of luggage compartment light out of bulb holder -2-.

Installing

Installation is carried out in the reverse order; note the following:

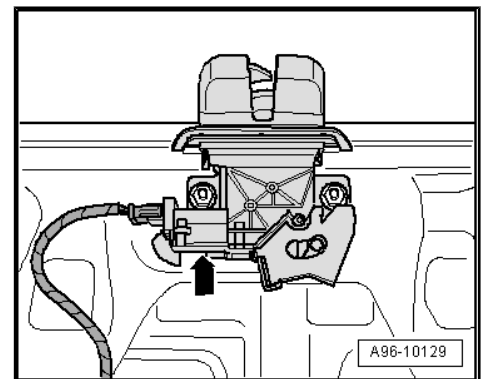
- Plug in electrical connector.
- Insert luggage compartment light in opening and engage on opposite side.



4.7 Removing and installing rear lid contact switch for anti-theft alarm -F123-

The rear lid contact switch for anti-theft alarm -F123- -arrow- is located in the rear lid lock and cannot be renewed separately if defective.

- Renewing rear lid lock ⇒ Rep. gr. 55 .



5 Lights and switches in roof trim

5.1 Overview of lights and switches in roof trim

1 - Interior light/reading light (front)

Interior light/reading light

- ❑ Removing and installing
⇒ [page 155](#)

Bulb for interior light/reading light

- ❑ Front interior light -W1-
- ❑ Front passenger reading light -W13-
- ❑ Driver side reading light -W19-
- ❑ Renewing ⇒ [page 156](#)

LED for interior light/reading light

- ❑ Renewing ⇒ [page 156](#)

2 - Microphone (right)

- ❑ Removing and installing
⇒ Rep. gr. 91

3 - Microphone (left)

- ❑ Removing and installing
⇒ Rep. gr. 91

4 - Vanity mirror light bulb -L31-

- ❑ Only fitted on Coupé
- ❑ Removing and installing
⇒ [page 155](#)

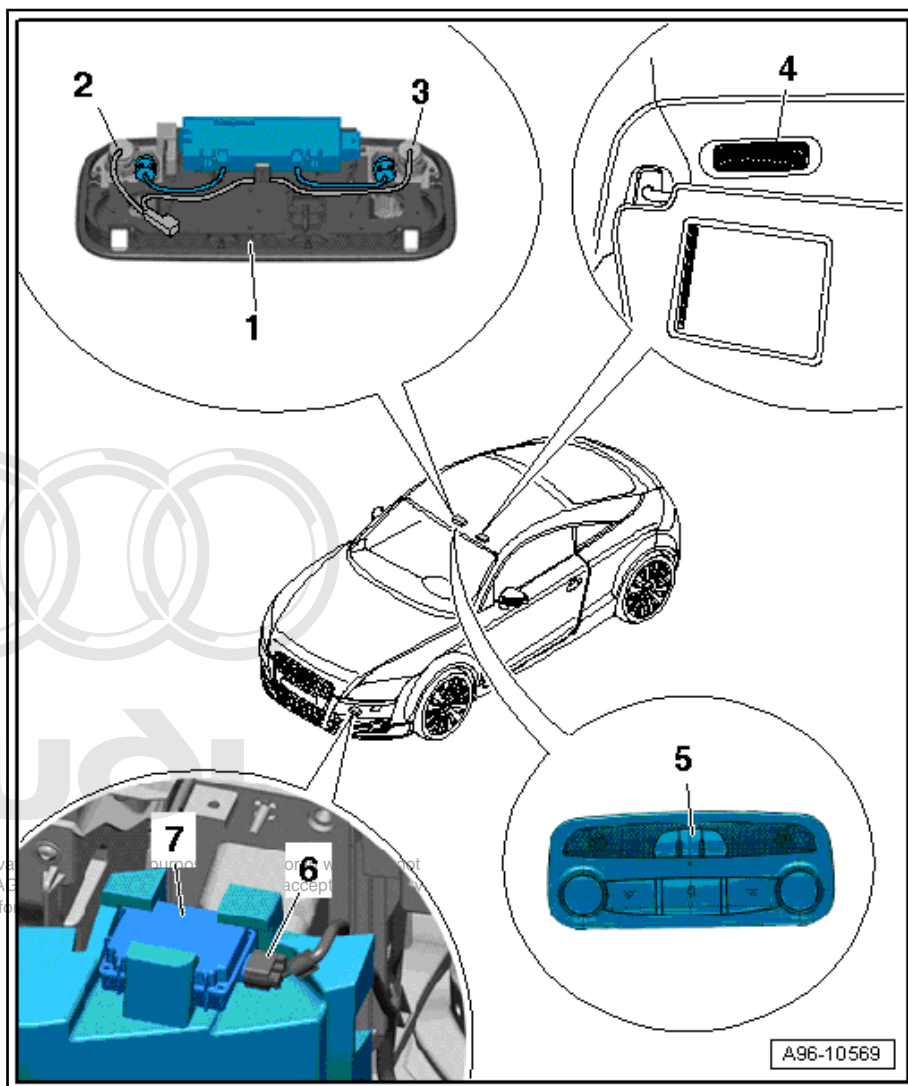
5 - Garage door operating unit -E284-

- ❑ Removing and installing
⇒ [page 157](#)

6 - Electrical connector

7 - Garage door operation control unit -J530-

- ❑ Removing and installing ⇒ [page 157](#)

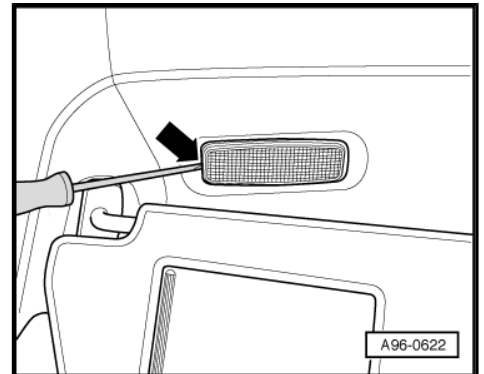


A96-10569

5.2 Removing and installing vanity mirror light bulb -L31- - Coupé

Removing

- Carefully pry out vanity mirror light at slot -arrow- using a flat screwdriver.
- Unplug electrical connector.



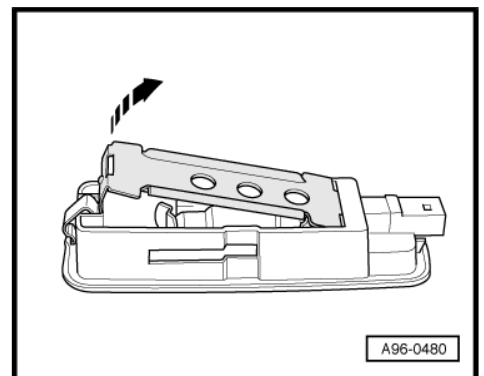
- Detach cover -arrow- to renew bulb.
- Remove bulb (12 V, 5 W) from holder on reverse side of vanity mirror light.

Installing

Installation is carried out in the reverse order; note the following:



The vanity mirror light must be renewed as a complete unit if LED is defective.



5.3 Removing and installing contact switch for vanity mirror -F147- / -F148-

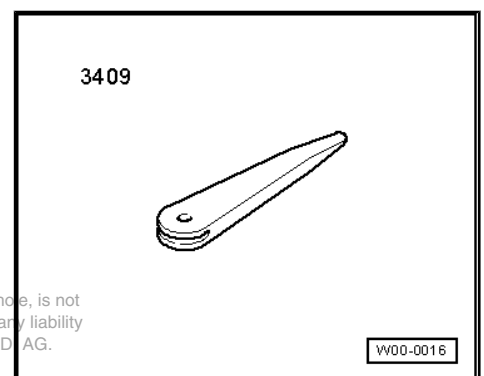
The contact switch for the vanity mirror is located in the sun visor and cannot be renewed separately if defective.

- Removing and installing sun visor ⇒ Rep. gr. 70 .

5.4 Removing and installing interior light/reading light (front)

Special tools and workshop equipment required

- ◆ Removal wedge -3409-



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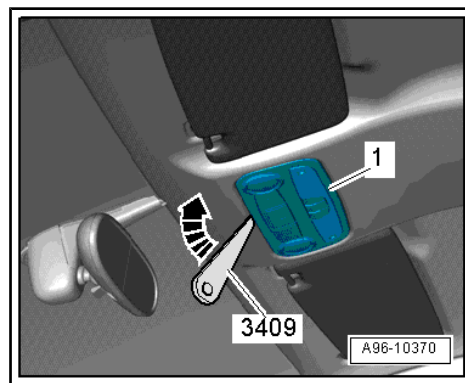
Removing

- Carefully pry interior light/reading light -1- out of opening in headliner using removal wedge -3409- -arrow-.
- Unplug electrical connectors.

Installing

Installation is carried out in the reverse order; note the following:

- Insert interior light/reading light in opening in headliner and clip into place.



5.5 Renewing interior light/reading light bulbs (front) -W1- / -W13- / -W19-

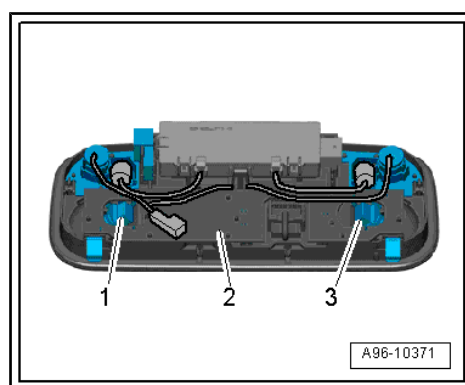
Removing

- Remove interior light/reading light (front) ⇒ [page 155](#) .
- Unscrew bulb holder -1 or 3- from interior light/reading light -2-.
- Unscrew bulb (12 V, 5 W) from bulb holder.

Installing

Installation is carried out in the reverse order; note the following:

- Insert interior light/reading light in opening in headliner and clip into place.

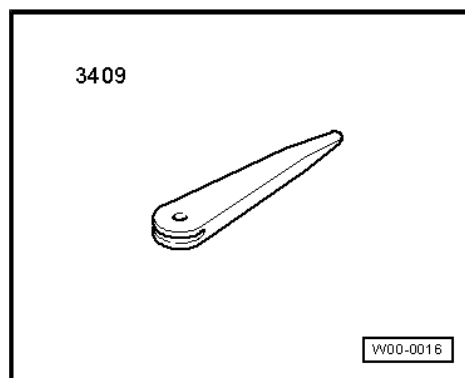


5.6 Renewing LED for interior light/reading light (front)

Special tools and workshop equipment required

- ◆ Removal wedge -3409-

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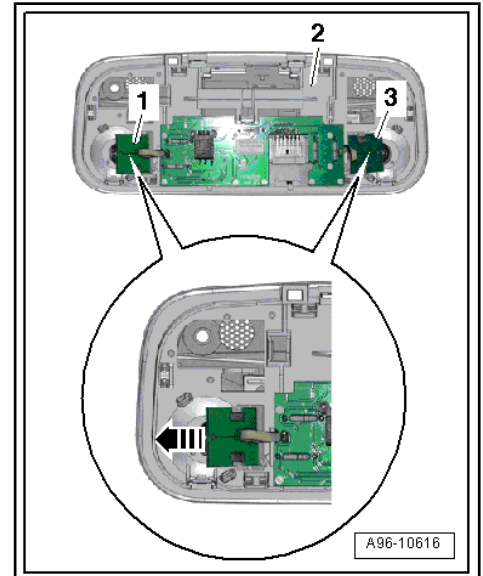


Note

If the LED is defective, the interior light/reading light (front) must be renewed.

Removing

- Remove interior light/reading light (front) ⇒ [page 155](#) .
- Slightly lift LED printed circuit boards -1- and -3- and pull off retainer -2- in direction of -arrow-.

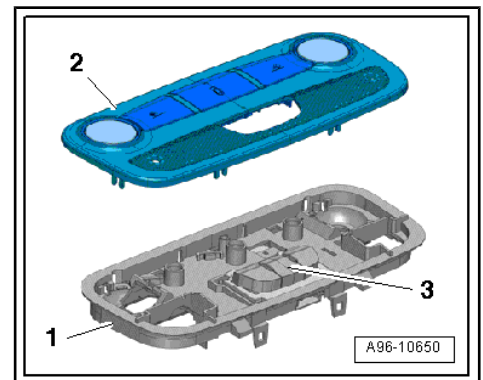


- Carefully pry light lens -2- off retainer -1- using removal wedge -3409- .
- If fitted, remove garage door operating unit -E284- -item 3- ⇒ [page 157](#) .

Installing

Installation is carried out in the reverse order; note the following:

- Press on lens for interior light/reading light (front) until it engages.
- Insert interior light/reading light in opening in headliner and clip into place.



5.7 Removing and installing garage door operation control unit -J530-

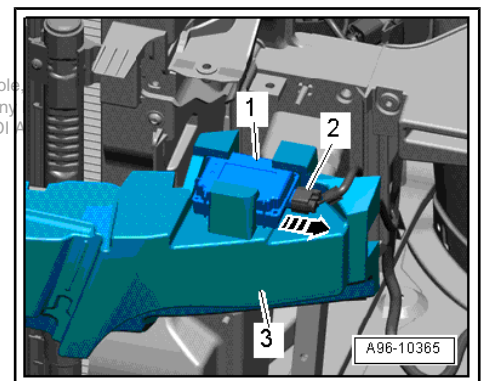
Removing

- Remove front bumper cover ⇒ Rep. gr. 63 .
- Remove garage door operation control unit -J530- -item 1- from impact absorber -3- on bumper cover in direction of -arrow-.
- Unplug electrical connector -2-.

Installing

Installation is carried out in the reverse order; note the following:

- Install front bumper cover ⇒ Rep. gr. 63 .



5.8 Removing and installing garage door operating unit -E284-

Removing

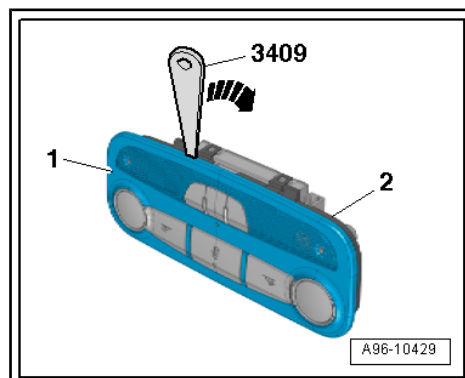
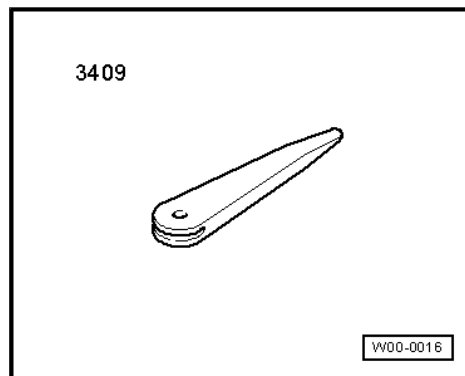
Special tools and workshop equipment required

◆ Removal wedge -3409-



Removing

- Remove interior light/reading light (front) ⇒ [page 155](#).
- Carefully pry light lens -1- off retainer -2- in direction of -arrow- using removal wedge -3409- .

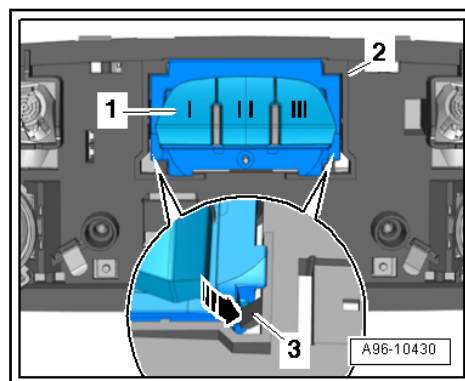


- Use a small screwdriver to release retaining clips -3- in direction of -arrow- and swivel garage door operating unit -E284- item 1- out of interior light/reading light -2-.

Installing

Installation is carried out in the reverse order; note the following:

- Press on lens for interior light/reading light (front) until it engages.
- Insert interior light/reading light in opening in headliner and clip into place.



6 Immobilizer

- ◆ The control unit for the immobilizer is integrated in the instrument cluster ⇒ Electrical system; General information; Rep. gr. 96 ; Immobilizer for vehicles without entry and start authorisation control unit -J518- .
- ◆ Fitting location of control unit for immobilizer: in instrument cluster, removing and installing ⇒ [page 38](#) .
- ◆ When renewing control unit, select appropriate control unit in „Guided Functions“ ⇒ Vehicle diagnostic, testing and information system VAS 5051.



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7 Ultrasonic interior monitoring

Observe notes on contact corrosion ⇒ [page 137](#) .

General notes

- ◆ The interior monitor send and receive module 1 -G303- and the anti-theft and tilt system control unit -J529- have been combined in one component, referred to as the anti-theft alarm sensor -G578- .
- ◆ The convenience system central control unit -J393- therefore only has two „LIN“ users on vehicles with the optional „anti-theft alarm“.

7.1 Overview of ultrasonic interior monitoring

1 - Alarm horn -H12-

- ❑ Removing and installing
⇒ [page 162](#)

2 - Protective housing

- ❑ For alarm horn -H12-

3 - Nut

- ❑ 9 Nm

4 - Electrical connector

5 - Mounting bracket for control units

6 - Convenience system central control unit -J393-

- ❑ Removing and installing
⇒ [page 162](#)

7 - Anti-theft alarm sensor - G578-

- ❑ Removing and installing
⇒ [page 161](#)

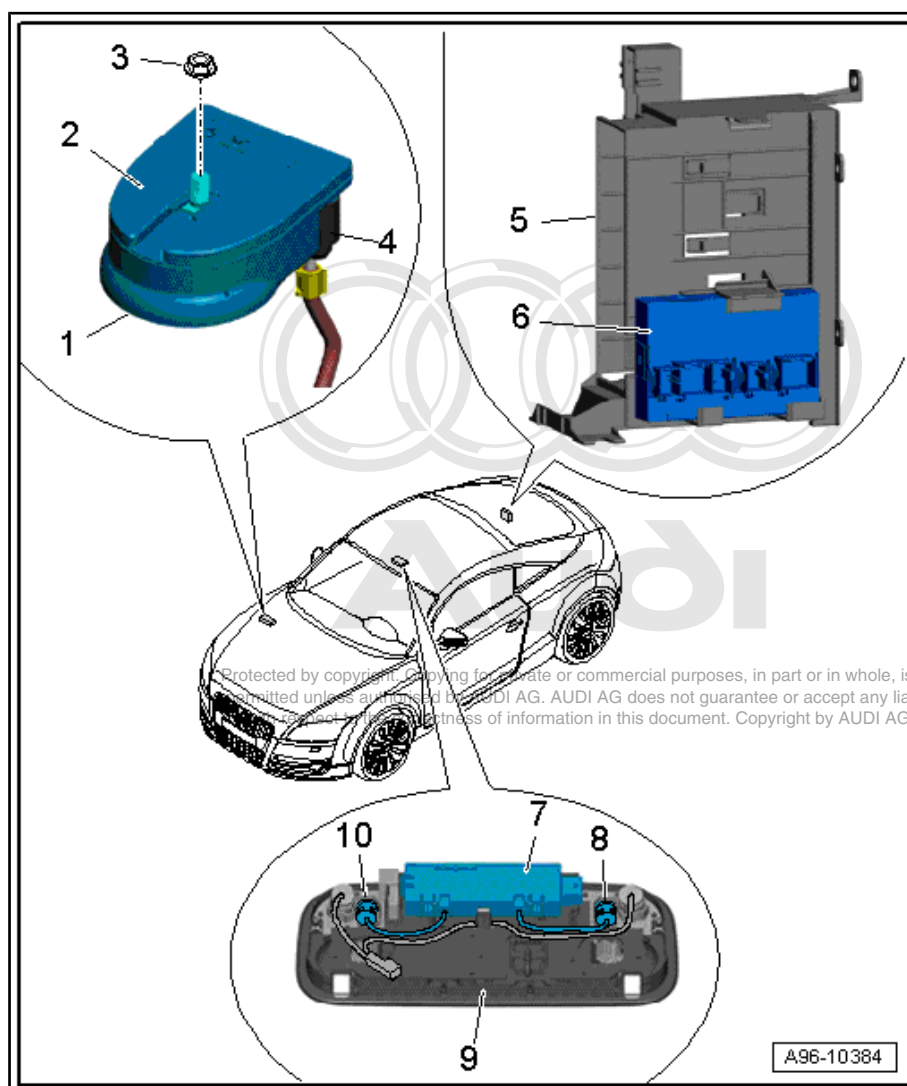
8 - Individual sensor for interior monitor (left-side)

- ❑ Can only be renewed together with anti-theft alarm sensor -G578-

9 - Interior light/reading light (front)

10 - Individual sensor for interior monitor (right-side)

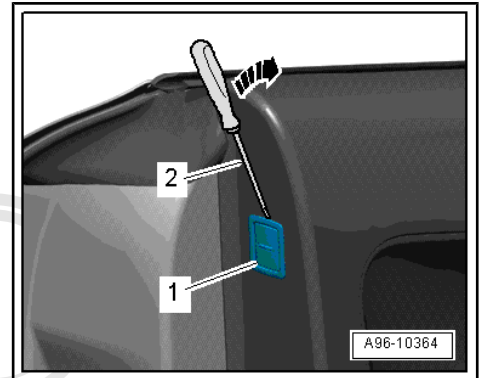
- ❑ Can only be renewed together with anti-theft alarm sensor -G578-



7.2 Removing and installing interior monitoring switch -E183- / alarm system off switch -E217-

Removing

- Switch off ignition and take out ignition key.
- Carefully pry trim -1- out of door trim -arrow- using a small screwdriver -2-.
- Unplug electrical connector.

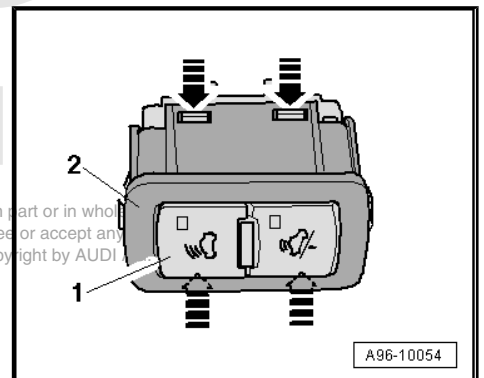


- Carefully release retaining hooks -arrows- using a small screwdriver.
- Remove interior monitoring switch -E183- and alarm system off switch -E217- -item 1- from trim -2- towards rear.

Installing

Install in reverse order:

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7.3 Removing and installing anti-theft alarm sensor -G578-

- When renewing control unit, select „Replacement“ function for appropriate control unit in „Guided Functions“ ⇒ Vehicle diagnostic, testing and information system VAS 5051.

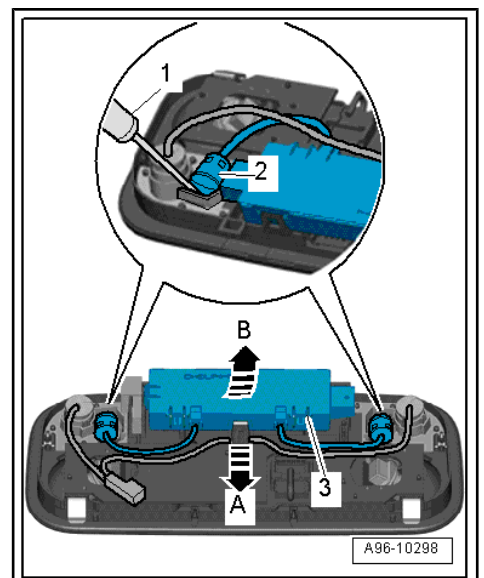
Removing

- Remove interior light/reading light (front) ⇒ [page 155](#).
- Release retaining clip -arrow A- and swivel anti-theft alarm sensor -G578- -item 3- out of interior light/reading light -arrow B-.
- Using a small screwdriver -1-, carefully unclip the individual sensors -2- for interior monitoring from the interior light/reading light.

Installing

Installation is carried out in the reverse order; note the following:

- Plug in electrical connector.
- Install interior light/reading light (front) ⇒ [page 155](#).



7.4 Removing and installing convenience system central control unit -J393-

- When renewing control unit, select „Replacement“ function for appropriate control unit in „Guided Functions“ ⇒ Vehicle diagnostic, testing and information system VAS 5051.

Removing

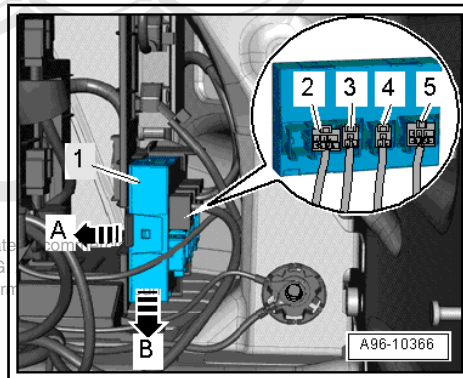
- Remove right luggage compartment side trim ⇒ Rep. gr. 70 .
- If fitted, remove TV tuner ⇒ Rep. gr. 91 .
- Press clip to side -arrow A- and withdraw convenience system central control unit -J393- -item 1- from mounting bracket for control units -arrow B-.
- Unplug electrical connectors -2 ... 5-.

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Installing

Installation is carried out in the reverse order; note the following:

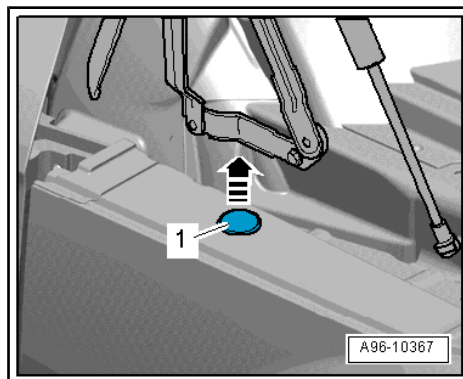
- If fitted, install TV tuner ⇒ Rep. gr. 91 .
- Install luggage compartment side trim (right-side) ⇒ Rep. gr. 70 .



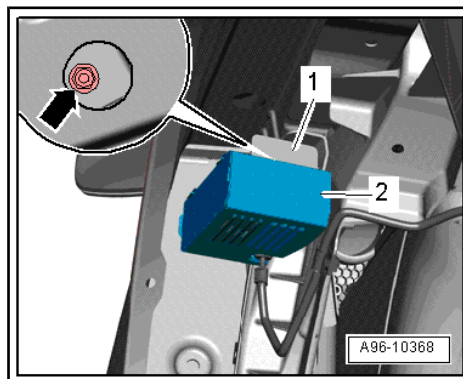
7.5 Removing and installing alarm horn - H12-

Removing

- Remove front right wheel housing liner ⇒ Rep. gr. 66 .
- Open bonnet and remove sealing plug -1- from wing panel -arrow-.



- Guide a socket through aperture in wing panel and unscrew nut -arrow-.
- Disengage protective housing -2- with alarm horn -H12- from mounting bracket -1-.



- Slide alarm horn -H12- -item 1- out of protective housing -3- in direction of -arrow-.
- Unplug electrical connector -2-.

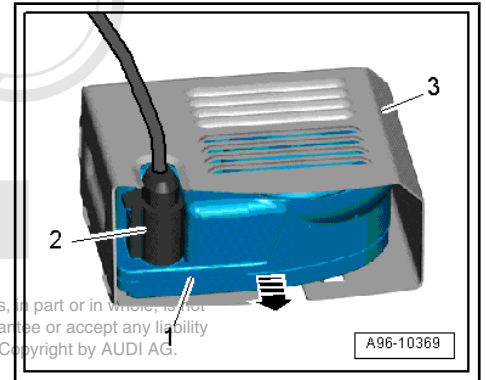
Installing

- Tightening torque ⇒ [page 160](#)

Installation is carried out in the reverse order; note the following:

- Engage retaining tab in recess on mounting bracket.

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97 – Wiring

1 Contact corrosion

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

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

Furthermore, rubber components or plastic components and adhesives are made of non-conductive material.

Always fit new components if you are not sure that the old components are suitable ⇒ Electronic parts catalogue .

Note:

- ◆ We recommend the use of genuine replacement parts only; they have been tested and are compatible with aluminium.
- ◆ We recommend using Audi Genuine Accessories.
- ◆ Damage resulting from contact corrosion is not covered by warranty.



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2 Relay carriers, fuse carriers (engine compartment)

Observe notes on contact corrosion ⇒ [page 164](#) .

2.1 Component protection

Most of the control units are equipped with component protection.

In the event of replacement, the new control unit must be adapted to the vehicle via an on-line link. Failure to do so will result in activation of the component protection for the newly installed control unit.

If component protection is active, the new control unit in the vehicle will only operate to a limited extent (e.g. no rev. counter function). Component protection is active:

- ◆ when you install a new control unit.
- ◆ when you install a control unit from a different vehicle.

If the component protection function in the drive authorisation system is activated, it will be active for all other control units with component protection as well.

The immobilizer function is not a component protection function.

For deactivation of component protection, refer to ⇒ Vehicle diagnostic, testing and information system VAS 5051.

2.2 Overview of engine compartment electronics box, main fuse box and door separating connector

1 - Engine compartment electronics box

- ❑ With fuse holder A -SA-
- ❑ Removing and installing
⇒ [page 167](#)

2 - Relay and fuse carrier in engine compartment electronics box

- ❑ With fuse holder B -SB-
- ❑ Removing and installing
⇒ [page 169](#)

3 - Suppression filter -C24-

- ❑ Removing and installing
⇒ [page 168](#)

4 - Nut

- ❑ 7.5 Nm

5 - Nut

- ❑ 7.5 Nm

6 - Jump start socket -U6-

7 - Door separating connector (right-side)

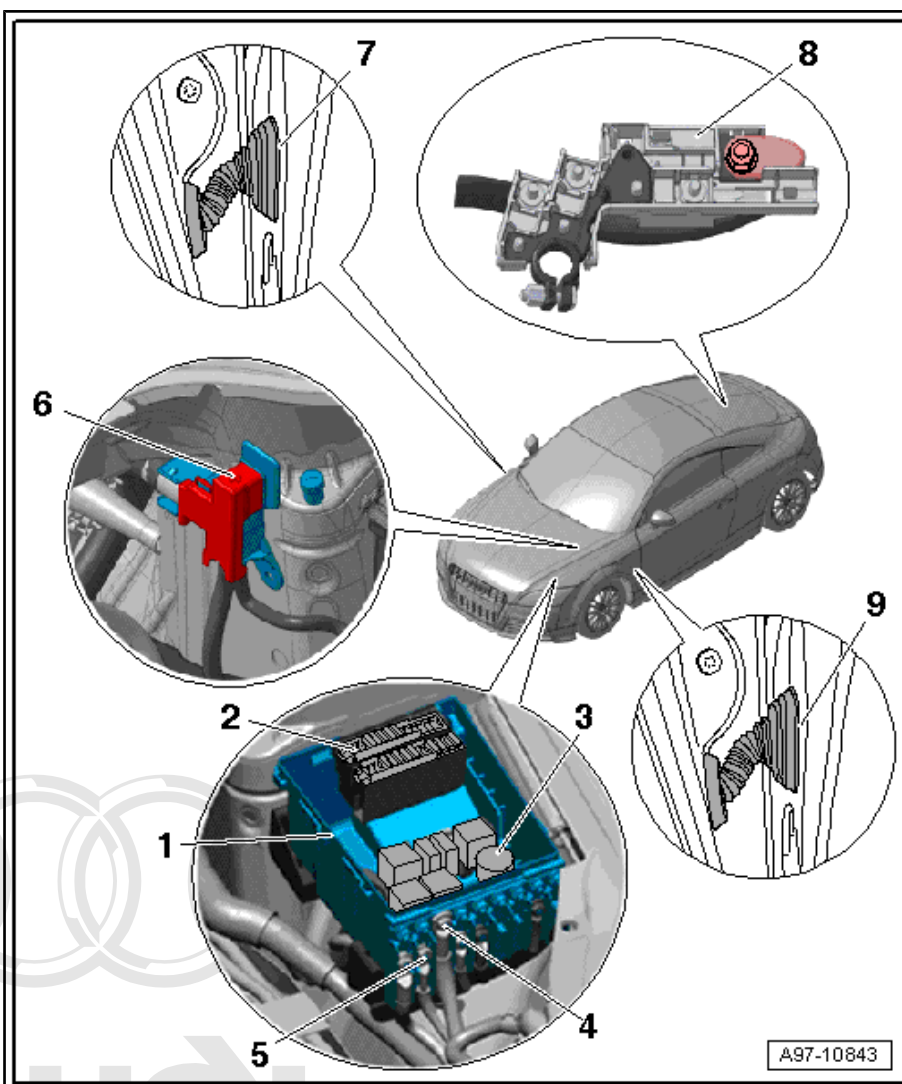
- ❑ Unplugging
⇒ [page 171](#)

8 - Main fuse box

- ❑ In luggage compartment (rear right) at battery
- ❑ With fuse holder D -SD-
- ❑ Removing and installing
⇒ [page 171](#)

9 - Door separating connector (left-side)

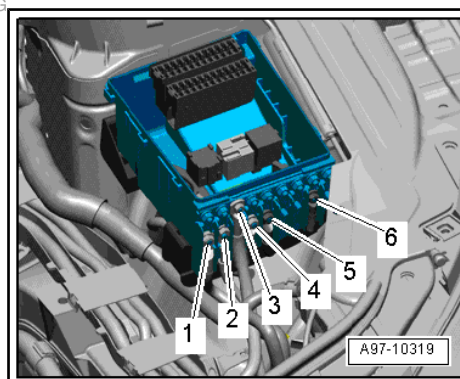
- ❑ Unplugging ⇒ [page 171](#)



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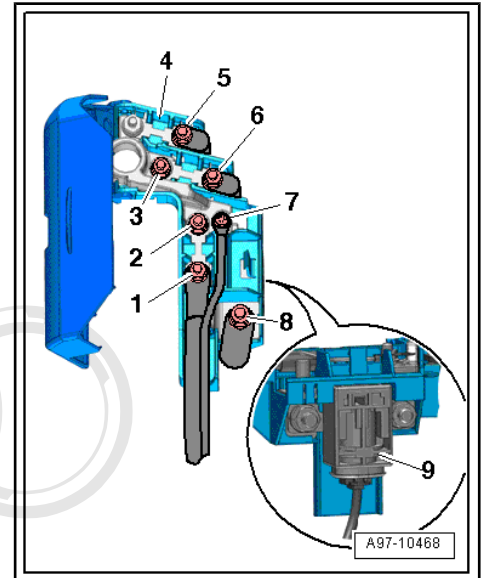
Tightening torque for wiring at engine compartment electronics box

- Tighten nuts for electrical wiring -1 ... 6- to busbar of engine compartment electronics box to 7.5 Nm.



Tightening torque for fuse holder D -SD-

- 1 - Electrical wire, 7.5 Nm
- 2 - Nut, 9 Nm
- 3 - Nut, 9 Nm
- 4 - Fuse holder D -SD- in luggage compartment
- 5 - Electrical wire, 7.5 Nm
- 6 - Electrical wire, 7.5 Nm
- 7 - Battery isolation igniter -N253- ⇒ Rep. gr. 69
- 8 - Positive cable to engine, 15 Nm



2.3 Removing and installing engine compartment electronics box

Removing

- With ignition switched off, disconnect earth cable at battery ⇒ [page 4](#) .

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Audi TTS, Audi TT with 3.2 ltr. MPI engine:

- Remove air cleaner housing ⇒ Rep. gr. 24 .

Audi TT with 2.0 ltr. TDI engine:

- Remove air cleaner housing ⇒ Rep. gr. 23 .

All vehicles (continued):

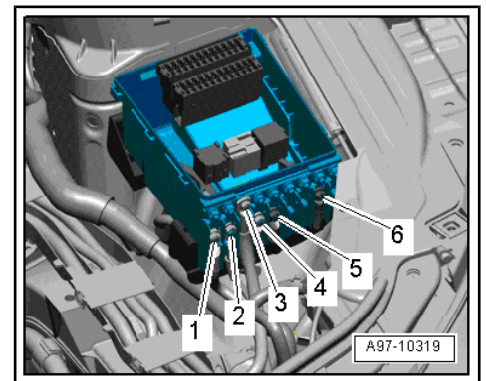
- Remove relay and fuse carrier ⇒ [page 169](#) .



Note

Mark assignment of wires at screw connections for re-installation.

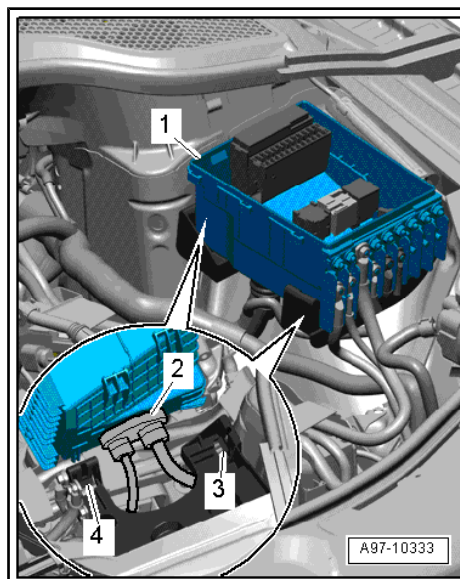
- Unscrew nuts of electrical wires -1 ... 6- at busbar.



- Release retaining springs -3 and 4- and lift out engine compartment electronics box -1-.
- Unfasten rubber grommet -2- from engine compartment electronics box and guide relay and fuse carrier out through opening.


Note

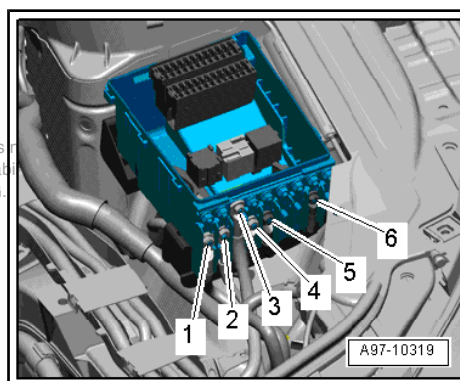
Exact assignment of electronics box in engine compartment can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.


Installing

- Tightening torque ⇒ [page 166](#)

Installation is carried out in the reverse order; note the following:

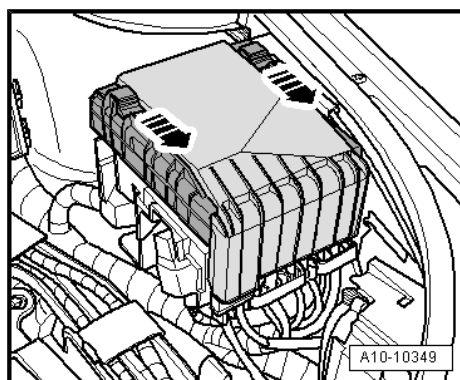
- Connect electrical wires -1- -6- to busbar in accordance with markings.
- Install relay and fuse carrier ⇒ [page 169](#) .
- Install air cleaner housing ⇒ Rep. gr. 23 or ⇒ Rep. gr. 24 .
- Connect battery. Steps required ⇒ [page 5](#) .



2.4 Removing and installing suppression filter -C24-

Removing

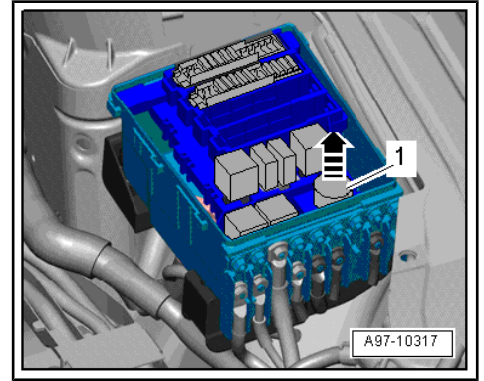
- Remove cover for engine compartment electronics box. To do so, slide both catches in direction of -arrows-.



- Lift suppression filter -C24- -item 1- out of relay and fuse carrier -arrow-.
- Unplug electrical connector.

Installing

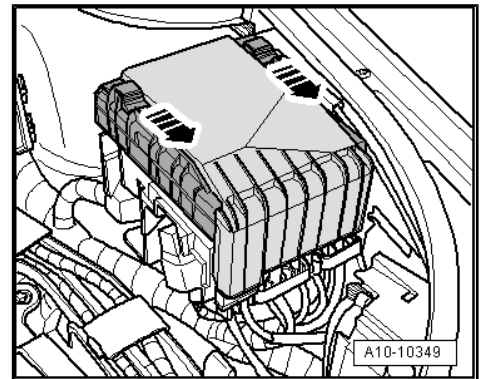
Install in reverse order.



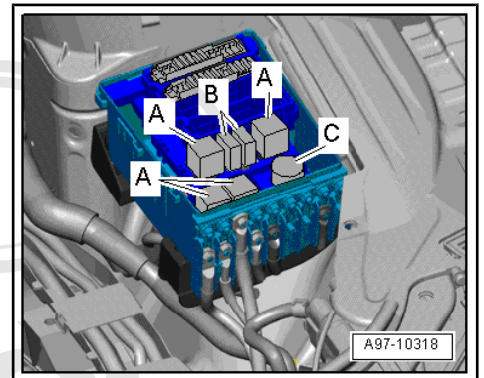
2.5 Removing and installing relay and fuse carrier in engine compartment electronics box

Removing

- With ignition switched off, disconnect earth cable at battery => [page 4](#) .
- Remove cover for engine compartment electronics box. To do so, slide both catches in direction of -arrows-.



- Pull relays -A- and control units -B- out of relay carrier.
- Pull suppression filter -C24- -item C- out of relay and fuse carrier and unplug the electrical connector.



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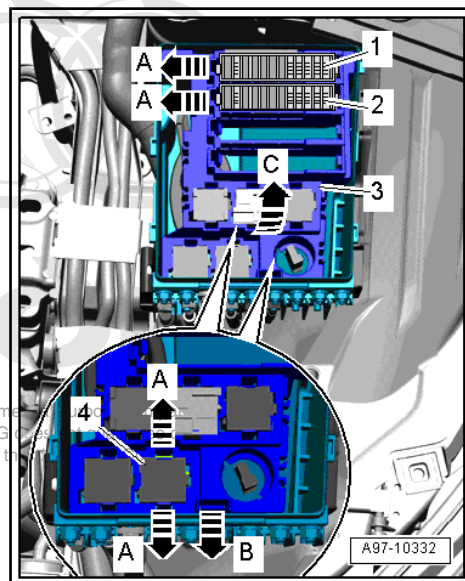
- Release retaining clips -arrows A- and press fuse holders -1 and 2- and relay carriers -4- towards rear out of relay and fuse carrier.
- Release retaining clip -arrow B- and swivel relay and fuse carrier -3- upwards -arrow C- and out of engine compartment electronics box.

Installing

Installation is carried out in the reverse order; note the following:

- Connect battery. Steps required ➔ [page 5](#) .

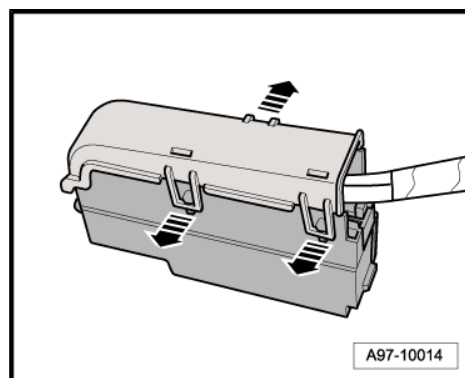
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2.6 Removing and installing fuse holders in engine compartment electronics box

Removing

- Remove relay and fuse carrier ➔ [page 169](#) .
- If fitted, release captive fastener and pull it off fuse carrier.
- Remove fuses from fuse holder.
- Release retaining clips -arrows- and remove cover from fuse holder.



- Detach retaining strip -1- for connectors -arrow- and take connectors out of socket.



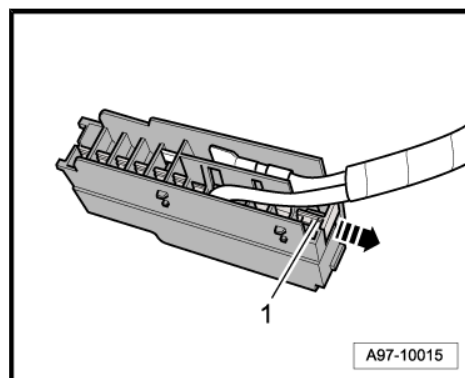
Note

Exact assignment of fuse holder in engine compartment electronics box can be found in applicable current flow diagram ➔ Current flow diagrams, Electrical fault finding and Fitting locations.

Installing

Installation is carried out in the reverse order; note the following:

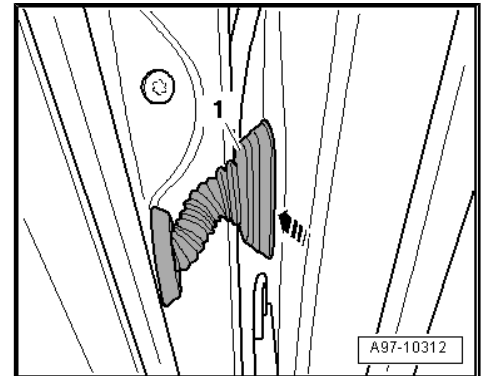
- Install relay and fuse carrier ➔ [page 169](#) .
- Connect battery. Steps required ➔ [page 5](#) .



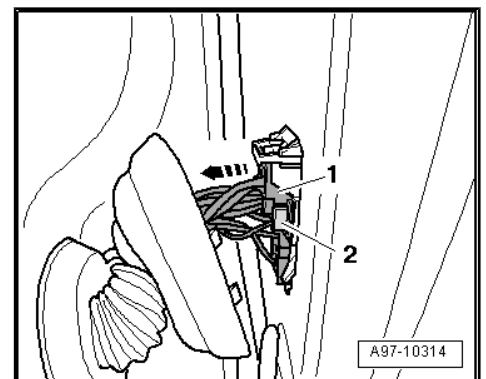
2.7 Unplugging door separating connector

Procedure

- Press dust cover -1- at location marked with -arrow- and detach.



- Release door separating connector -1- and remove outwards -arrow- (press retainer tab -2-).
- Make sure connector is pressed onto connection piece so it engages audibly.
- Press on dust cover so it engages audibly.



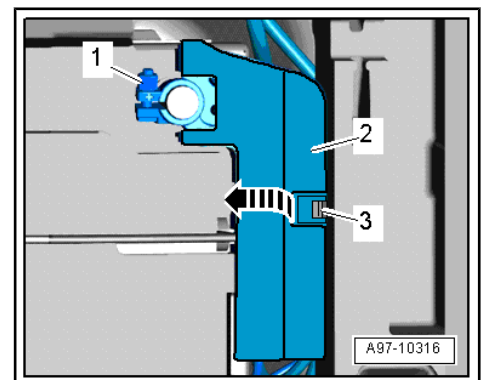
Note

Make sure sealing lip of dust cover makes contact with A pillar evenly all round.

2.8 Removing and installing main fuse box in luggage compartment (rear right) at battery

Removing

- With ignition switched off, disconnect earth cable at battery
⇒ [page 4](#)
- Loosen nut -1- several turns.
- Release retaining clip -3- and open cover -2- of main fuse box -arrow-.



- Unscrew electrical wires -1, 5, 6, 7, 8-.
- Detach battery clamp of positive cable from battery terminal post together with main fuse box.
- Remove battery isolation igniter -N253- -item 9- ➔ Rep. gr. 69 .
- Remove main fuse box -4-.


Note

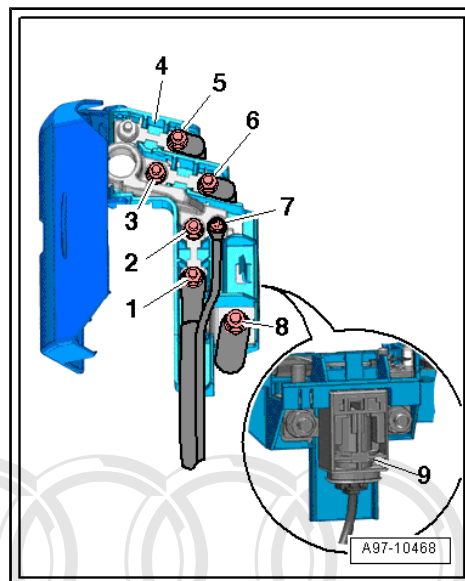
- ◆ *Disregard -item 2- and -item 3-.*
- ◆ *Exact assignment of main fuse box can be found in applicable current flow diagram ➔ Current flow diagrams, Electrical fault finding and Fitting locations.*

Installing

- Tightening torque ➔ [page 167](#)

Installation is carried out in the reverse order; note the following:

- Connect battery. Steps required ➔ [page 5](#) .

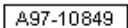


Audi

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Observe notes on contact corrosion ⇒ page 164 .

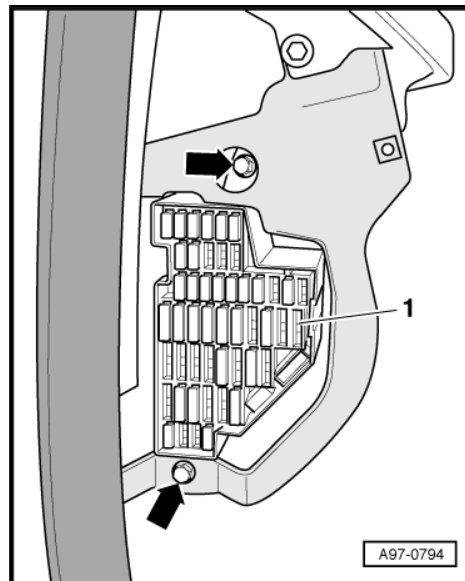
 3 Nm



3.2 Removing and installing fuse holder in dash panel (left-side)

Removing

- With ignition switched off, disconnect earth cable at battery ➔ [page 4](#) .
- Remove driver's storage compartment ➔ Rep. gr. 68 .
- Unscrew bolts -arrows- for fuse holder -1-.
- Detach fuse holder from central tube for dash panel.

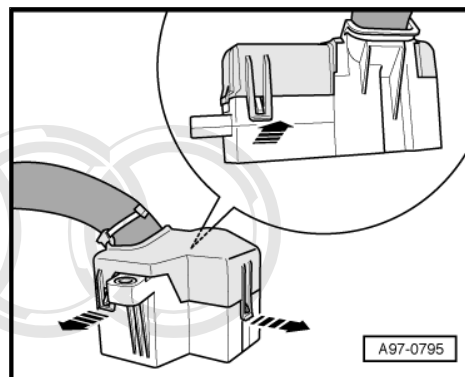


- Release cover for fuse holder -arrows-.
- Remove fuses from fuse holder.
- Unclip socket and take connectors out of fuse holder.



Note

Exact assignment of contacts in fuse holder can be found in applicable current flow diagram ➔ *Current flow diagrams, Electrical fault finding and Fitting locations*.

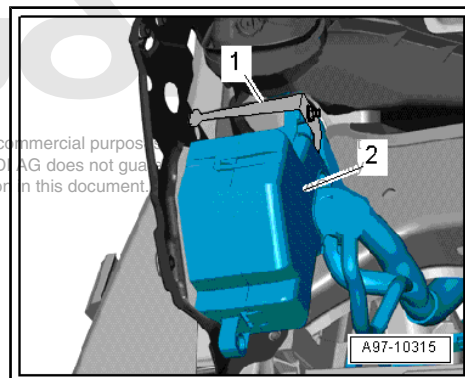


Installing

- Tightening torque ➔ [page 173](#)

Installation is carried out in the reverse order; note the following:

- Make sure fuse holder -2- is seated on top of central tube behind mounting -1-.
- Install driver's storage compartment ➔ Rep. gr. 68 .
- Connect battery. Steps required ➔ [page 5](#) .



3.3 Removing and installing onboard supply control unit -J519- - vehicles up to 05.2008

- When renewing control unit select „Replacement“ function for appropriate control unit in „Guided Fault Finding“ or „Guided Functions“ ➔ Vehicle diagnostic, testing and information system VAS 5051.

Removing

- Switch off ignition and take out ignition key.
- Remove driver's storage compartment ⇒ Rep. gr. 68 .
- On USA vehicles, remove air duct (driver's footwell) ⇒ Rep. gr. 69 .
- Release retaining springs -arrows- and withdraw onboard supply control unit -J519- -item 1- downwards out of base retainer -2-.



Note

Illustration shown with connectors removed for greater clarity.

- Press retaining strips -1 and 2- for connectors in direction of -arrow-.
- Unplug electrical connectors.



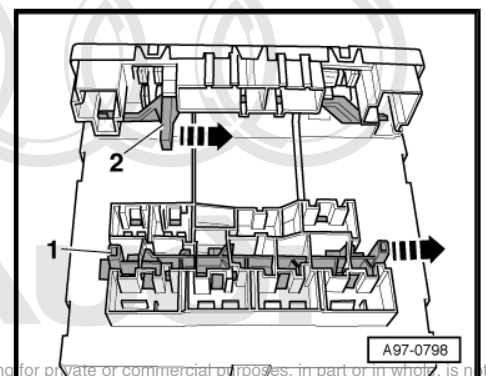
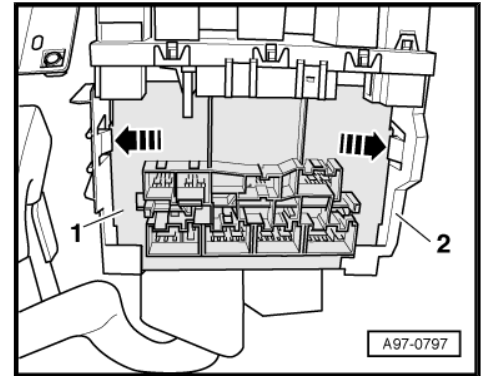
Note

Shown in illustration with connectors unplugged.

Installing

Installation is carried out in the reverse order; note the following:

- On USA vehicles, install air duct (driver's footwell) ⇒ Rep. gr. 69 .
- Install driver's storage compartment ⇒ Rep. gr. 68 .

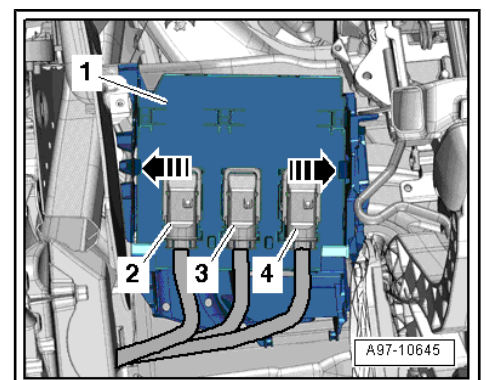


3.4 Removing and installing onboard supply control unit -J519- - vehicles from 06.2008 onwards

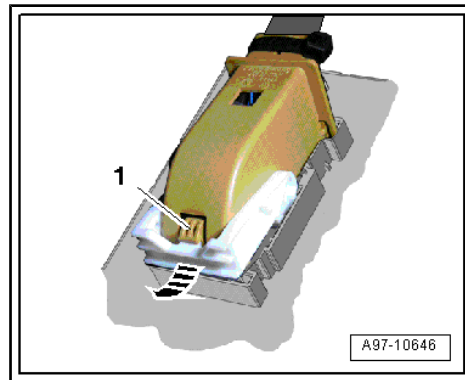
- When renewing control unit select „Replacement“ function for appropriate control unit in „Guided Fault Finding“ or „Guided Functions“ ⇒ Vehicle diagnostic, testing and information system VAS 5051.

Removing

- Switch off ignition and take out ignition key.
- Remove 5-position relay carrier ⇒ [page 176](#) .
- Unplug electrical connectors -2 ... 4-.



- Unplug electrical connector by releasing catch -1- and moving retaining clip in direction of -arrow-.

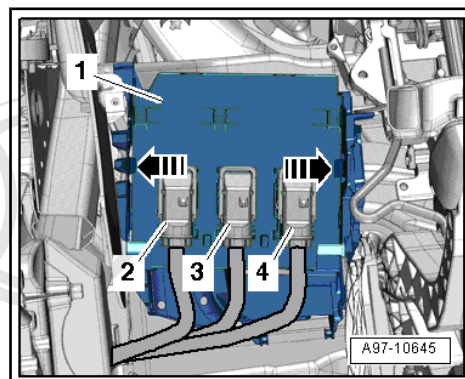


- Release retaining springs -arrows- and take onboard supply control unit -J519- -item 1- downwards out of base retainer.

Installing

Installation is carried out in the reverse order; note the following:

- Install 5-position relay carrier ⇒ [page 176](#) .



3.5 Removing and installing 5-position relay carrier - vehicles from 06.2008 onwards

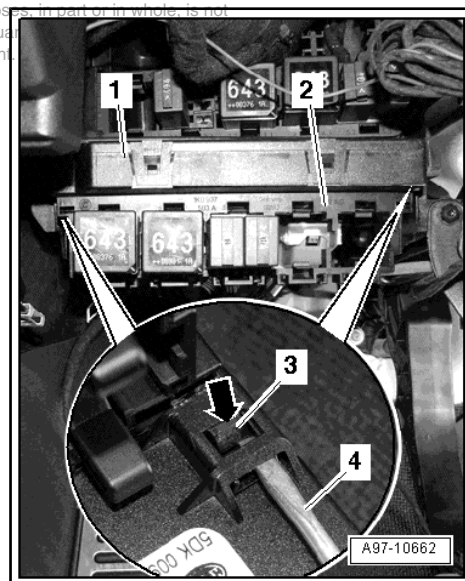
Removing

- Switch off ignition and take out ignition key.
- Remove driver's storage compartment ⇒ Rep. gr. 68 .
- On USA vehicles, remove air duct (driver's footwell) ⇒ Rep. gr. 69 .
- Release retaining tab -3- with a screwdriver -4- and detach 5-position relay carrier -2- at onboard supply control unit -J519- -item 1-.
- Unclip fuse holders at relay carrier.
- Detach relays and control units and then unclip appropriate relay carrier.



Note

Exact assignment of 5-position relay carrier can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.



Installing

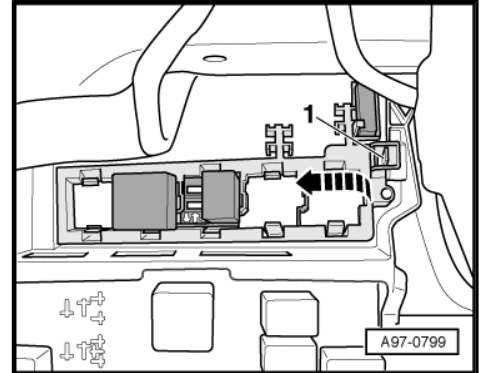
Installation is carried out in the reverse order; note the following:

- On USA vehicles, install air duct (driver's footwell) ⇒ Rep. gr. 69 .
- Install driver's storage compartment ⇒ Rep. gr. 68 .

3.6 Removing and installing relay carrier underneath dash panel (left-side)

Removing

- Switch off ignition and take out ignition key.
- Remove driver's storage compartment ⇒ Rep. gr. 68 .
- Release retaining spring -1-.
- Swivel relay carrier in direction of -arrow- and withdraw from base retainer towards right.
- Unclip fuse holders at relay carrier.
- Detach relays and control units and then unclip appropriate relay carrier.



Note

Exact assignment of 5-position relay carrier can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.

Installing

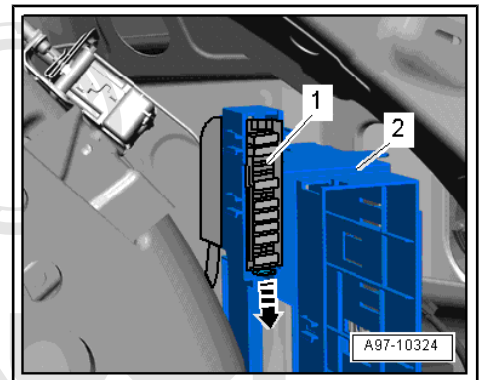
Installation is carried out in the reverse order; note the following:

- Install driver's storage compartment ⇒ Rep. gr. 68 .

3.7 Removing and installing luggage compartment fuse holder (right-side)

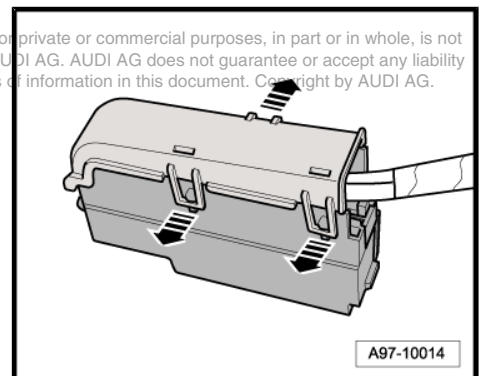
Removing

- With ignition switched off, disconnect earth cable at battery ⇒ [page 4](#) .
- Remove right luggage compartment side trim ⇒ Rep. gr. 70 .
- Release retaining clip -arrow- and press fuse holder -1- towards rear out of mounting bracket -2- for control units.



- If fitted, release captive fastener and pull it off fuse carrier.
- Remove fuses from fuse holder.
- Release retaining clips -arrows- and remove cover from fuse holder.

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- Detach retaining strip -1- for connectors -arrow- and take connectors out of socket.

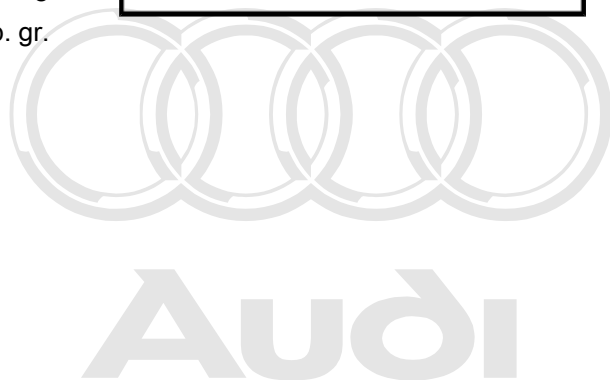
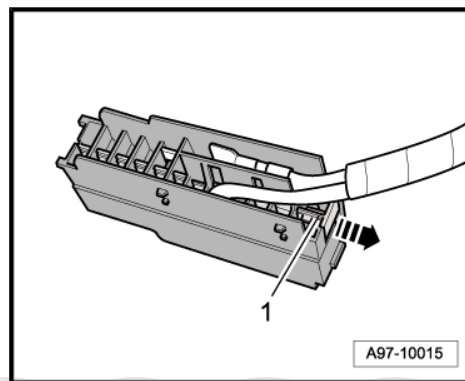
**Note**

Exact contact assignment of fuse holder in luggage compartment (right-side) can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.

Installing

Installation is carried out in the reverse order; note the following:

- Install luggage compartment side trim (right-side) ⇒ Rep. gr. 70 .
- Connect battery. Steps required ⇒ [page 5](#) .



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4 Repairing wiring harnesses and electrical connectors

The following descriptions are given in ⇒ Electrical system; General information; Rep. gr. 97 :

- ◆ General information on repairs to the vehicle electrical system
- ◆ ESD (electrostatic discharge) workplace -VAS 6613-
- ◆ Notes on repairing wiring harnesses and electrical connectors
- ◆ Repairing wiring for pyrotechnic components
- ◆ Repairing CAN bus wiring
- ◆ Repairing FlexRay wiring
- ◆ Repairing an 0.25 mm² wire with a single crimp connector
- ◆ Repairing a wire of 0.35 mm² section or thicker with a single crimp connector
- ◆ Repairing an 0.25 mm² wire by connecting in an additional wire
- ◆ Repairing a wire of 0.35 mm² section or thicker by connecting in an additional wire



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5 **Repairing connector housings and electrical connectors**

The following descriptions are given in ⇒ Electrical system; General information; Rep. gr. 97 :

- ◆ Notes on repairing connector housings and electrical connectors
- ◆ Repairing contacts in connector housings
- ◆ Fitting seals for individual wires
- ◆ Repairing connector housings with insulation displacement technology (IDC)



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6 Releasing and dismantling connector housings

The following descriptions are given in ⇒ Electrical system; General information; Rep. gr. 97 :

- ◆ Notes on releasing and dismantling connector housings
- ◆ Secondary locking device
- ◆ Primary locking device
- ◆ Primary locking device with round connector systems
- ◆ Primary locking device with flat connector systems
- ◆ Primary locking device with special connector systems



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7 Cleaning contact surfaces with contact surface cleaning set -VAS 6410-

The following descriptions are given in ⇒ Electrical system; General information; Rep. gr. 97 :

- ◆ Servicing wiring lugs
- ◆ Servicing screw connections
- ◆ Cleaning battery clamps and battery terminals
- ◆ Corrosion protection

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8 Repairing aerial wires

⇒ Electrical system; General information; Rep. gr. 97



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9 Fibre optic cables

The following descriptions are given in ⇒ Electrical system; General information; Rep. gr. 97 :

- ◆ Repairing fibre optic cables
- ◆ Separating fibre optic cable from wiring harness connector

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10 Vehicle diagnostic, testing and information systems

The following descriptions are given in ⇒ Electrical system; General information; Rep. gr. 97 :

- ◆ Notes on operation and safety
- ◆ Connecting vehicle diagnostic tester



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