

## Workshop Manual Audi A2 2001 ➤

### Electrical System

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## List 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 ⇒ Parts catalogue .

#### Note:

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

## 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”
- ◆ Central gas venting system
- ◆ Battery terminal post screw connection
- ◆ Visual inspection of battery
- ◆ Checking colour indicator - batteries with “magic eye”
- ◆ Checking electrolyte level in battery

### 2.3 Disconnecting and connecting battery

#### Disconnecting



#### Caution

*On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01 ; Telematics self-diagnosis .*

- Switch off ignition and take out ignition key.
- If applicable, remove the load compartment floor from the luggage compartment.
- Fold the luggage compartment floor covering forwards.



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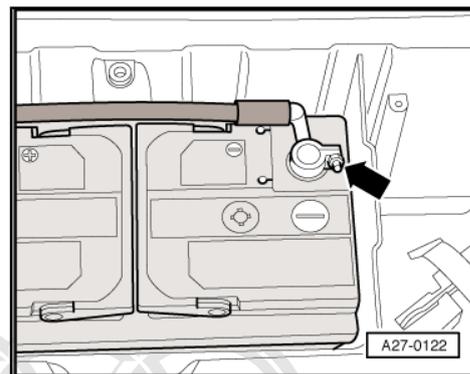
- Loosen nut several turns and disconnect battery clamp -arrow- of earth cable from battery terminal post.

### Connecting

- When connecting battery, attach battery clamp of earth cable to negative battery terminal “-” by hand and tighten nut.

The following measures must be carried out after re-connecting battery:

- ◆ Activate vehicle equipment (radio, radio/navigation system, clock, electric windows) according to operating instructions.
- ◆ Deactivate service mode of telematics control unit ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01 ; Telematics self-diagnosis .
- ◆ Check operation of remote control and synchronise remote control keys if necessary. Customers should be informed that second and additional keys are also to be synchronised so as to ensure proper operation of remote control function ⇒ Owner's manual .
- ◆ Interrogate fault memories of all control units and erase “Undervoltage” fault if necessary ⇒ Vehicle diagnosis, testing and information system VAS 5051.



### Note

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*After re-connecting the power supply, the ABS/ESP warning lamp does not go out until the vehicle has been driven a few metres.*

### Tightening torque

Component	Nm
Battery terminal to battery post	6

## 2.4 Removing and installing battery

### Removing



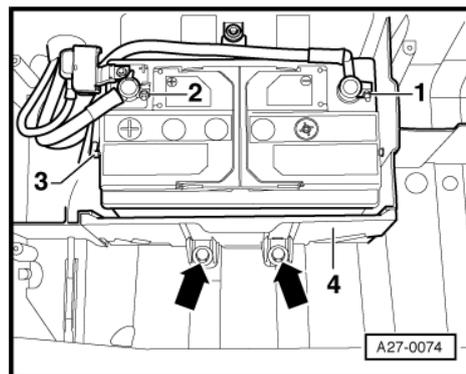
### Caution

***On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01 ; Telematics self-diagnosis .***

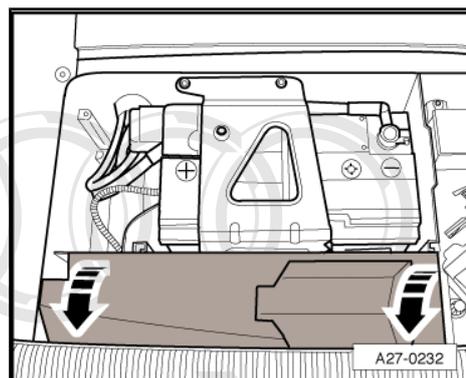
- Switch off ignition and remove ignition key.
- If applicable, remove the load compartment floor from the luggage compartment.
- Fold the luggage compartment floor covering forwards.

**Vehicles without bracket for compact spare wheel:**

- Remove cover from positive terminal.
- Connect the battery charger for battery back-up operation  
⇒ [page 9](#) .
- Disconnect earth lead -1- and positive lead -2- from battery.
- Pull off hose -3- for central gas venting.
- If necessary, swivel out the moulded element in front of the battery.
- Remove the bolts -arrows- at battery mount -4-.

**Vehicles with bracket for compact spare wheel:**

- Remove the compact spare wheel.
- Swivel out the moulded element in front of the battery  
-arrows-.

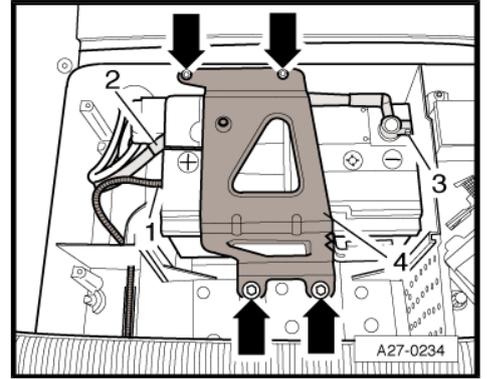


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- Remove the bolts -arrows- at compact spare wheel / battery mount bracket -4-.
- Remove the compact spare wheel / battery mount bracket.
- Remove cover from positive terminal.
- Connect the battery charger for battery back-up operation => [page 9](#) .
- Disconnect earth lead -3- and positive lead -2- from battery.
- Disconnect central gas venting system hose -1-.

**All models:**

- Lift battery out of luggage compartment.



 **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**

Install in reverse order, paying attention to the following:

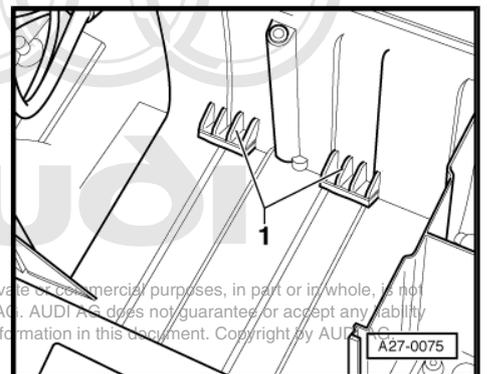
 **Note**

- ◆ *Only maintenance-free batteries complying with standards "TL82506" (as of December 1997) and "VW75073" (as of August 2001) are to be fitted.*
- ◆ *Batteries from the Audi parts range feature a base strip adapter for matching to different fastening strips. When and how the base strip adapter is to be used is described in the battery operating instructions.*

- Insert the battery in the battery recess such that the battery base strip engages beneath the locating elements -1-.

 **Note**

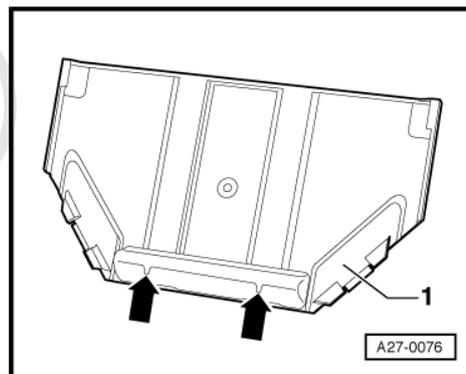
*In order to ensure secure seating of the battery, only batteries with 10.5 mm mounting strips must be installed.*



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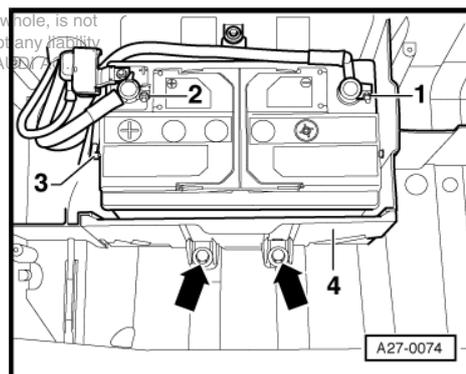
**Vehicles without bracket for compact spare wheel:**

- Insert the battery mount -1- such that the two lugs -arrows- engage in the recesses of the battery base strip.



- Tighten the bolts -arrows- at the battery mount 4.
- Connect up battery in the following sequence with ignition and electrical consumers switched off:

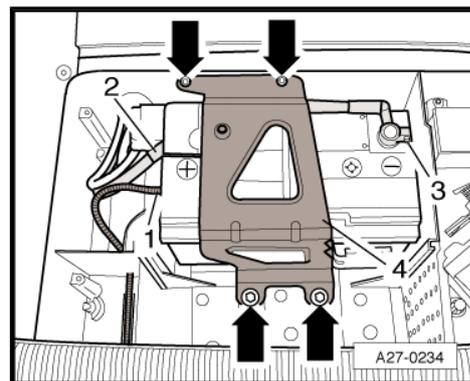
- Start by connecting pole shoe -2- of positive lead by hand to battery positive terminal "+" and tighten nut.
- Connect pole shoe -1- of earth lead by hand to battery negative terminal "-" and tighten nut.
- Connect hose -3- for central gas venting system. Observe notes in ⇒ Electrical system; General information; Rep. Gr. 27 .



**Vehicles with bracket for compact spare wheel:**

Connect up battery in the following sequence with ignition and electrical consumers switched off:

- Start by connecting pole shoe -2- of positive lead by hand to battery positive terminal “+” and tighten nut.
- Connect pole shoe -3- of earth lead by hand to battery negative terminal “-” and tighten nut.
- Connect hose -1- for central gas venting system. Observe notes in ⇒ Electrical system; General information; Rep. Gr. 27 .
- Insert compact spare wheel / battery mount bracket and tighten the bolts -arrows- at compact spare wheel / battery mount bracket -4-.



**All models:**

- After installation, check that battery is securely attached ⇒ Electrical system; General information; Rep. Gr. 27 .
- Terminate battery back-up operation on the battery charger.

If the battery has been removed and installed without battery back-up operation, the following action must be taken after connecting the battery:

- ◆ Activate vehicle equipment (radio/radio navigation system, clock, electric window lifters) in line with owner's manual.
- ◆ Deactivate service mode of telematics control unit ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01 ; Telematics self-diagnosis .
- ◆ Check operation of remote control and synchronise remote control keys if necessary. Customers should be informed that second and additional keys are also to be synchronised so as to ensure proper operation of remote control function ⇒ Owner's manual .
- ◆ Interrogate fault memories of all control units and erase “Undervoltage” fault if necessary ⇒ Vehicle diagnosis, testing and information system VAS 5051.

 **Note**

- ◆ After re-connecting the power supply, the ABS/ESP warning lamp does not go out until the vehicle has been driven a few metres.
- ◆ Following installation, do not forget to insert moulded element in front of battery.

**Tightening torques**

Component	Nm
Battery mount to luggage compartment pan	10
Compact spare wheel / battery mount bracket to luggage compartment pan	10
Battery terminal to battery post	6

**2.5 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 not equipped with energy management control unit -J644-
- ◆ Measuring current draw

## 2.6 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- or -VAS 5904-
- ◆ Totally discharged battery
- ◆ Quick charging battery
- ◆ Back-up power supply of battery via battery charger -VAS 5095A- , -VAS 5900- , -VAS 5903- or -VAS 5904-

## 2.7 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

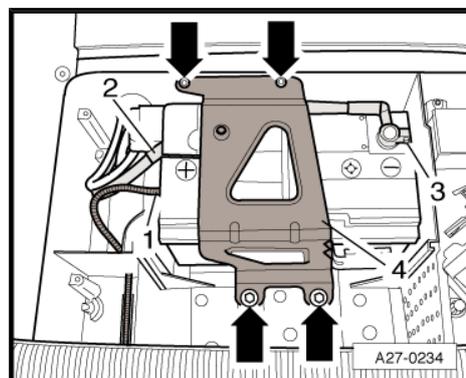
*The battery clamps should normally be disconnected from the battery before charging.*

- Switch off ignition and all electrical equipment; then take out ignition key.
- If applicable, remove the load compartment floor from the luggage compartment.
- Fold the luggage compartment floor covering forwards.
- Remove cover from positive terminal.
- Unfasten nut -3- a few turns and disconnect pole shoe of earth lead from battery terminal.
- Unfasten nut -2- several turns and disconnect pole shoe of positive lead from battery terminal.

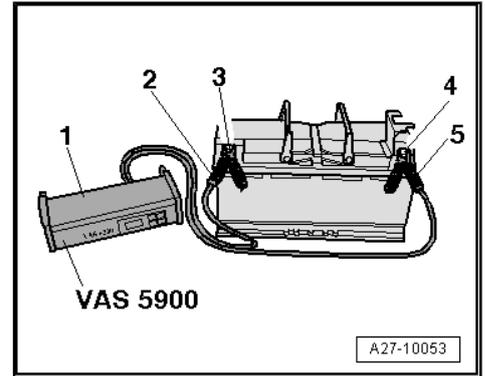


#### Note

*-Item 1-, -Item 4- and -arrows- can be ignored.*



- Connect red clamp "+" -item 5- of battery charger -1- to battery positive terminal -4- and black clamp "-" -item 2- to earth terminal -3-.
- Plug in mains connector of battery charger and switch on battery charger ⇒ Electrical system; General information; Rep. Gr. 27 .
- Leave boot lid open during charging.



## 2.8 Preparations for back-up power supply of battery

### Procedure

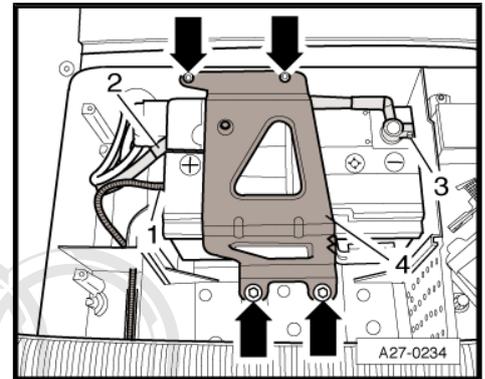
Before connecting battery charger, it is necessary to perform the following steps:

- Switch off ignition and all electrical equipment.
- If applicable, remove the load compartment floor from the luggage compartment.
- Fold the luggage compartment floor covering forwards.
- Remove the cover over the positive terminal.
- Connect red clamp "+" of battery charger to positive battery clamp "+" -item 2- and black clamp "-" to negative battery clamp "-" -item 3-.

### Note

*-Item 1-, -Item 4- and -arrows- can be ignored.*

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



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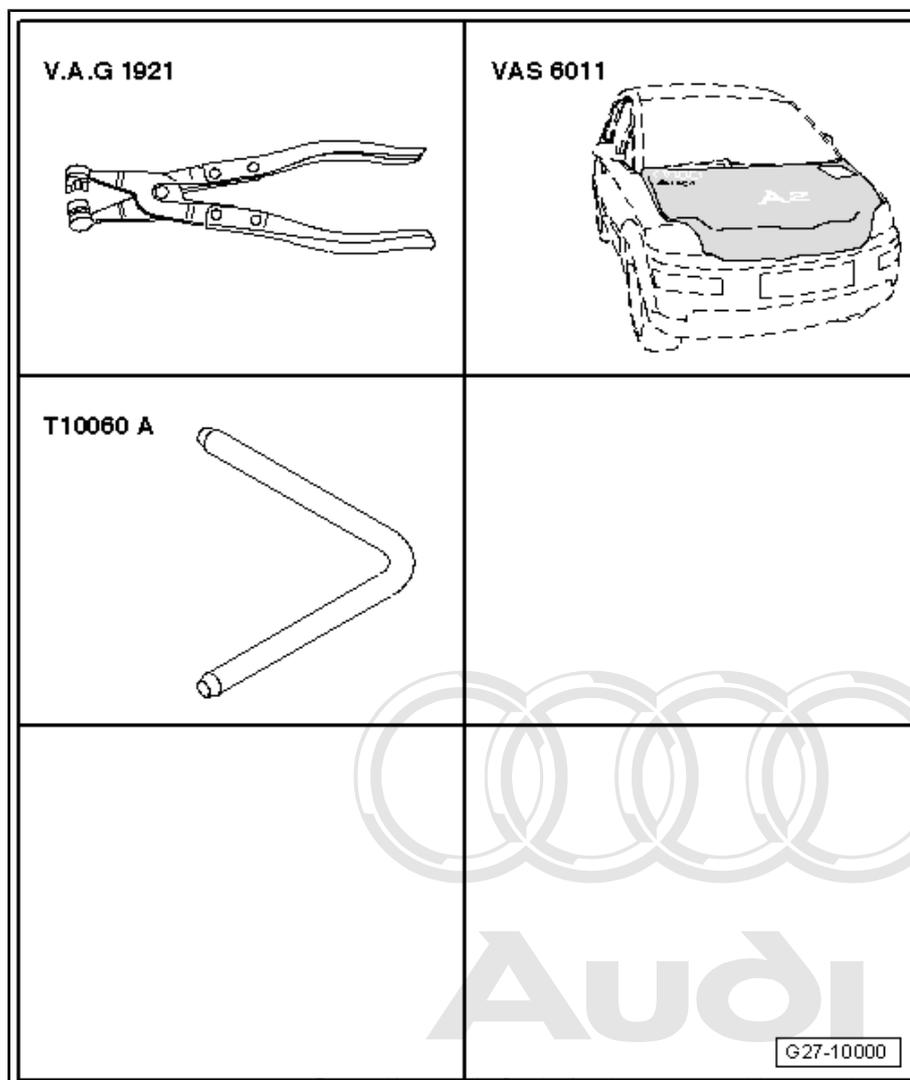
### 3 Removing and installing alternator

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

#### 3.1 Vehicles with 1.4 I MPI engine

##### Special tools and workshop equipment required

- ◆ Hose clamp fitting tool - V.A.G 1921-
- ◆ Protective cover for bonnet Audi A2 -VAS 6011-
- ◆ Locking pin -T10060 A-



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#### Removing



##### Note

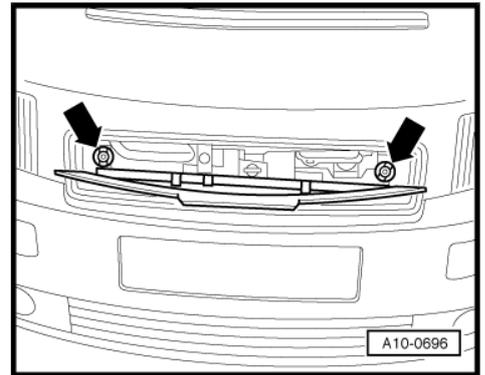
The following describes the procedure for a vehicle with air conditioner.



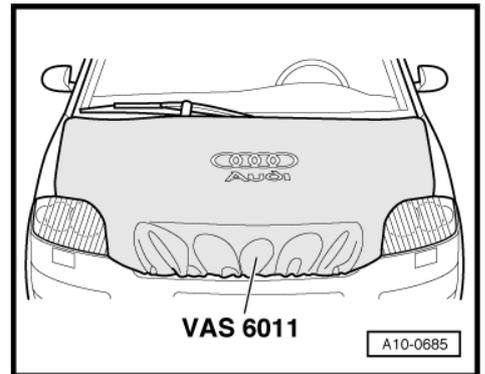
##### Caution

**On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01; Telematics self-diagnosis .**

- With the ignition switched off, disconnect the earth wire at the battery ⇒ [page 2](#) .
- Wash and rub dry the outside of the bonnet.
- Release the service flap from inside.
- Release the bonnet -arrows- and pull it forwards slightly.



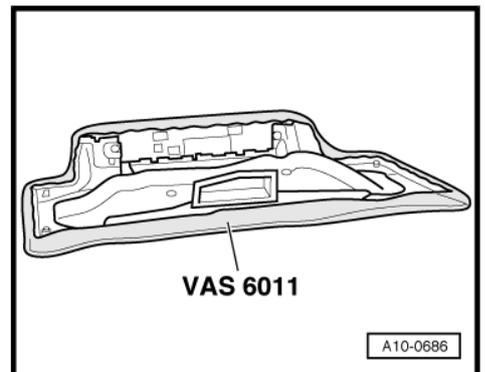
- Fit the protective cover -VAS 6011- over the bonnet.



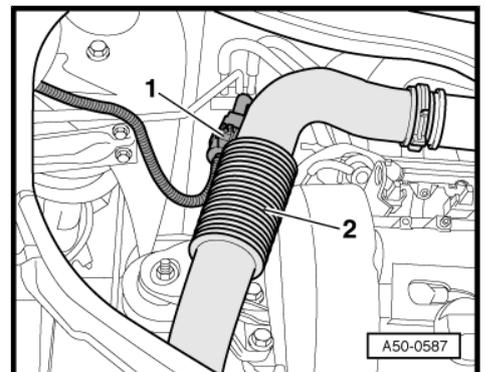
 **Note**

*Do not stand the bonnet on end.*

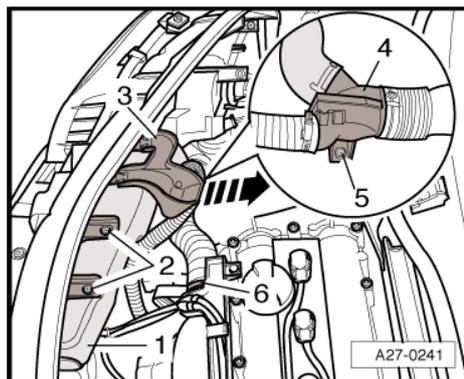
- Detach the bonnet and set it down on the protective cover -VAS 6011- .



- Detach the activated charcoal filter system solenoid valve 1 - N80- -Item 1- with mount at the air duct.
- Remove the air duct -2-; for this purpose, release the spring clips with hose clamp fitting tool -V.A.G 1921- .
- Remove the air duct.

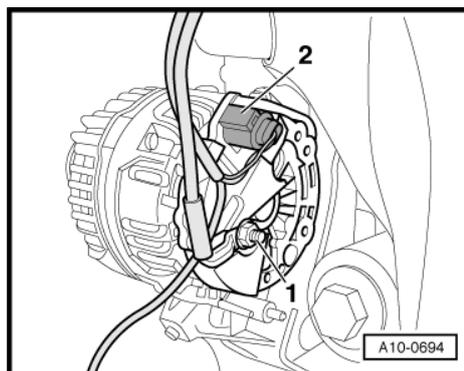
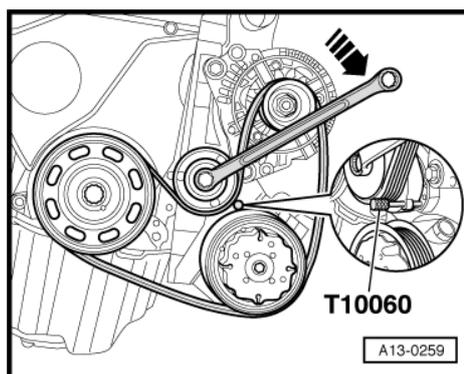


- Remove bolts -2-.
- Detach the water collector -3- in -direction of arrow-.
- Detach air duct hose -6- for intake air preheater from warm air arrester plate.
- Remove the bolt -5- from the intake air preheater -4-.
- Detach the air hose -1- at the lock carrier and air cleaner housing.

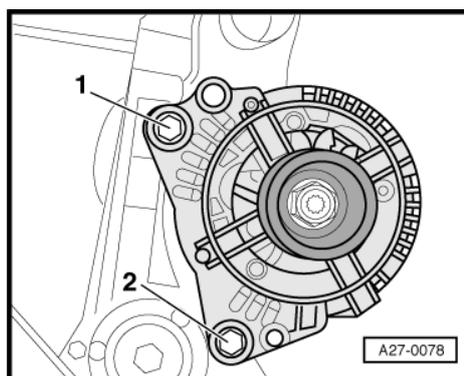
**Note**

Mark direction of rotation of ribbed V-belt with chalk or felt pen. Running a used belt in the opposite direction could destroy it.

- In order to slacken the poly V-belt, turn tensioner in -direction of arrow- using a ring spanner.
- Lock the poly V-belt tensioner in position by inserting the locking pin -T10060 A- in the locating holes.
- Remove ribbed belt.
- Detach the terminal 30/B+ wire -Item 1- from alternator.
- Unplug electrical connector -2-.



- Remove securing bolts -1- and -2- for alternator.

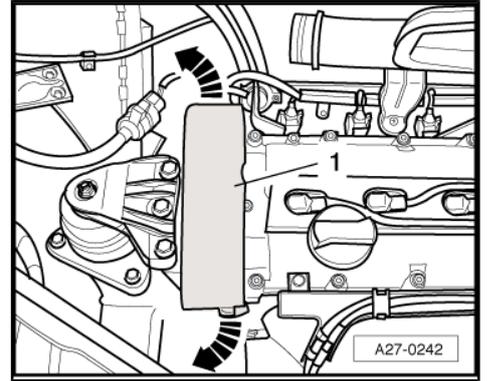


# Audi

- Release the retaining clips -arrows- and remove the toothed belt cover -1-.
- Lift out alternator.

 **Note**

- ◆ *If the alternator sticks in its holder, screw the bolts back in again down to the last 2 turns.*
- ◆ *Tap carefully on the bolt heads with the flat side of a hammer to release the bushes of the alternator mount.*



**Installing**

Install in reverse order, paying attention to the following:

- To facilitate positioning of the alternator, drive back the bushings for the securing bolts slightly.

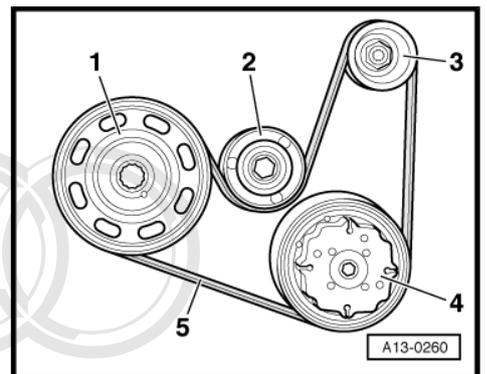
 **Note**

*Stiff alternator mount bushes must be released as otherwise the clamping force of the bush will not be adequate even if tightened to the correct torque.*

- Make sure the poly V-belt is properly positioned and correctly routed.

**Poly V-belt routing on vehicles with air conditioner:**

- 1 - Crankshaft pulley
- 2 - Tensioning roller
- 3 - Alternator pulley
- 4 - Air conditioner compressor pulley
- 5 - Poly V-belt



- Position the poly V-belt on the crankshaft and alternator pulleys.
- As a final step, position the poly V-belt on the air conditioner compressor pulley.

**All models:**

- Slacken off the tensioner and pull the locking pin T10060 A out of the locating holes.
- Make sure the poly V-belt is correctly positioned.
- Connect the battery. Action to be taken => [page 3](#).
- Start the engine and check belt running.

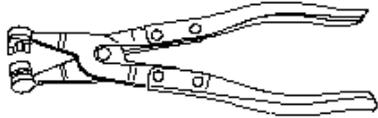
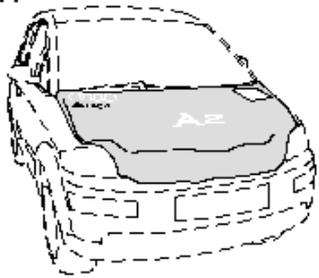
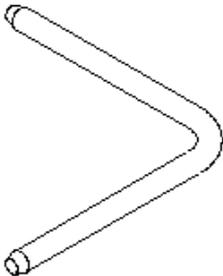
**Tightening torques**

Component	Nm
Alternator to bracket	25
Terminal 30/B+ wire to alternator	16
Intake air preheater to lock carrier	3.5
Air hose to lock carrier	2.5

**3.2 Vehicles with 1.6 l FSI engine**

**Special tools and workshop equipment required**

- ◆ Hose clamp fitting tool - V.A.G 1921-
- ◆ Protective cover for bonnet Audi A2 -VAS 6011-
- ◆ Locking pin -T10060 A-

<b>V.A.G 1921</b> 	<b>VAS 6011</b> 
<b>T10060 A</b> 	
	 <b>G27-10000</b>

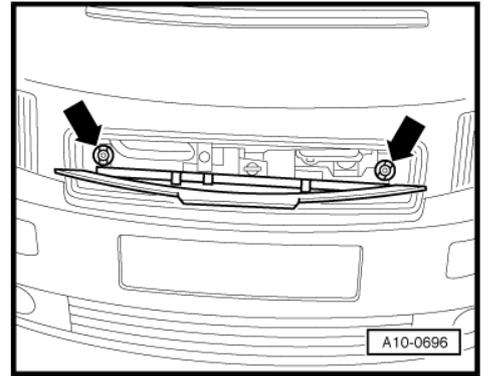
**Removing****Caution**

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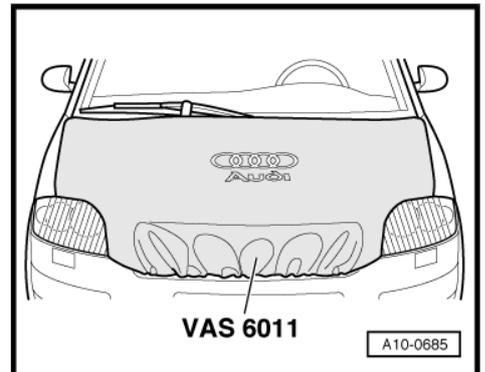
***On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01; Telematics self-diagnosis .***

- With the ignition switched off, disconnect the earth wire at the battery ⇒ [page 2](#) .

- Wash and rub dry the outside of the bonnet.
- Release the service flap from inside.
- Release the bonnet -arrows- and pull it forwards slightly.



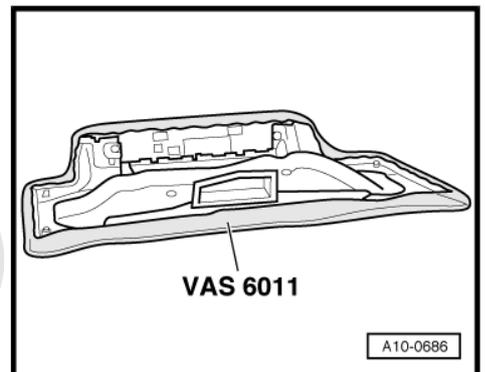
- Fit the protective cover -VAS 6011- over the bonnet.



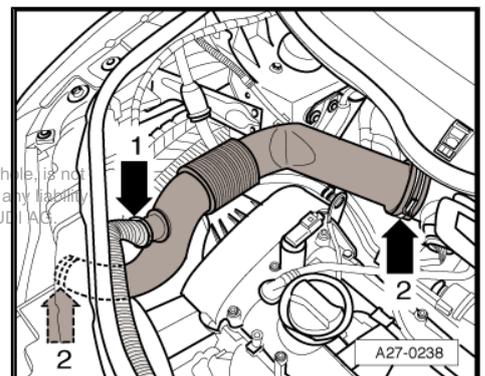
 **Note**

*Do not stand the bonnet on end.*

- Detach the bonnet and set it down on the protective cover -VAS 6011- .

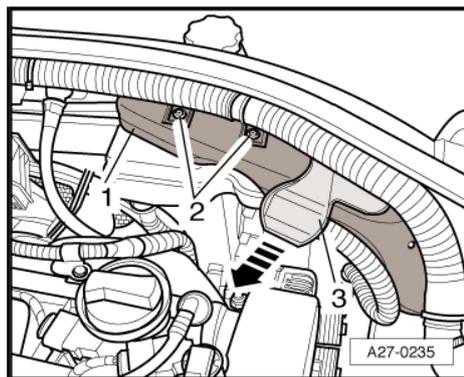


- Remove the resonator from the air guide hose -arrow 1-; for this purpose, press the release tabs.
- Remove the air duct; for this purpose, release the spring clips -2- with the hose clamp fitting tool -V.A.G 1921- .
- Remove the air duct.



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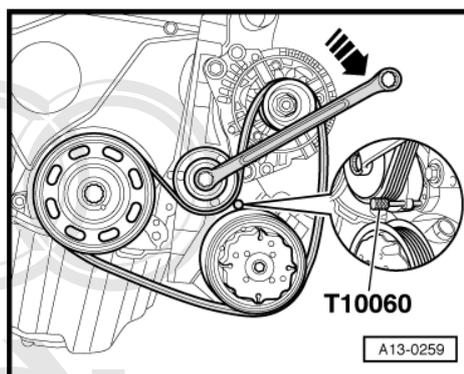
- Remove bolts -2-.
- Detach the water collector -3- in -direction of arrow-.
- Detach the air hose -1- at the lock carrier and air cleaner housing.



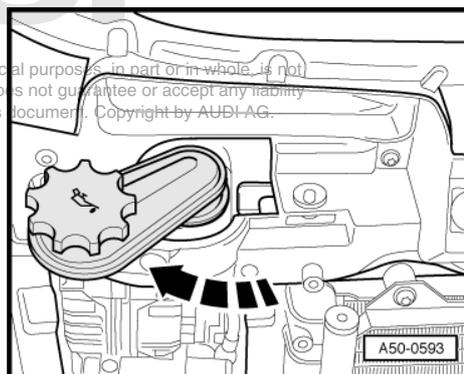
**Note**

Mark the running direction of the poly V-belt with chalk or felt pen. Running a used belt in the opposite direction may result in destruction of the belt.

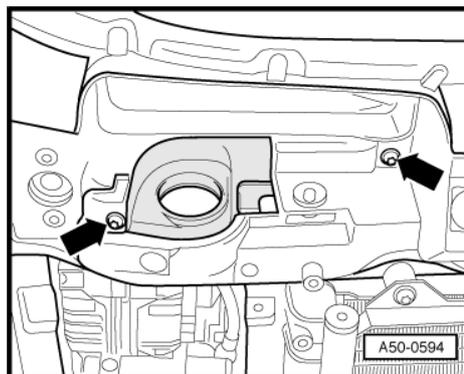
- In order to slacken the poly V-belt, turn tensioner in -direction of arrow- using a ring spanner.
- Lock the poly V-belt tensioner in position by inserting the locking pin -T10060 A- in the locating holes.
- Remove the poly V-belt.
- Swing the oil filler connectors past the stop to the right side of the vehicle -arrow-.
- Pull off the oil filler connectors upwards.



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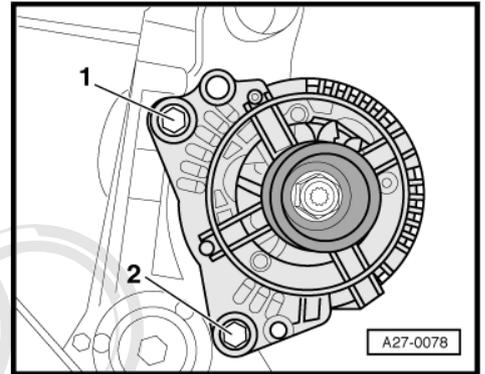
- Unscrew bolts -arrows-.
- Remove the oil filler tank from the lock carrier.
- Detach the oil filler pipe from the oil filler tank; for this purpose, press the release tabs.



- Remove bolts -1- and -2- for alternator.
- Remove the alternator from the bracket and swivel it to the right together with the connected wiring.

 **Note**

- ◆ *If the alternator sticks in its holder, screw the bolts back in again down to the last 2 turns.*
- ◆ *Tap carefully on the bolt heads with the flat side of a hammer to release the bushes of the alternator mount.*

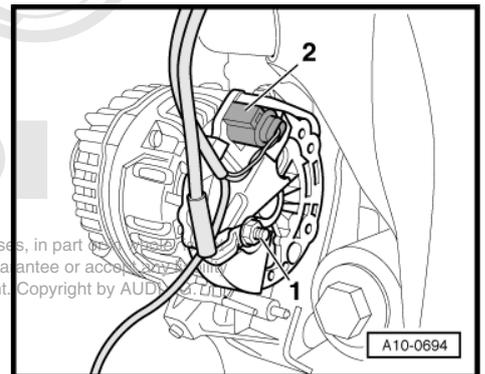


- Detach the terminal 30/B+ wire -Item 1- from the alternator.
- Detach electrical connector -2-.
- Lift out alternator.

**Installing**

Install in reverse order, paying attention to the following:

- To facilitate positioning of the alternator, drive back the bushings for the securing bolts slightly.



 **Note**

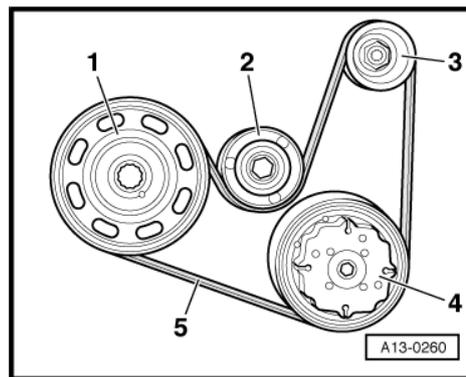
*Stiff alternator mount bushes must be released as otherwise the clamping force of the bush will not be adequate even if tightened to the correct torque.*

- Make sure the poly V-belt is properly positioned and correctly routed.

**Poly V-belt routing on vehicles with air conditioner:**

- 1 - Crankshaft pulley
- 2 - Tensioning roller
- 3 - Alternator pulley
- 4 - Air conditioner compressor pulley
- 5 - Poly V-belt

- Position the poly V-belt on the crankshaft and alternator pulleys.
- As a final step, position the poly V-belt on the air conditioner compressor pulley.



**All models:**

- Slacken off the tensioner and pull the locking pin -T10060 A- out of the locating holes.
- Make sure the poly V-belt is correctly positioned.
- Connect the battery. Action to be taken ⇒ [page 3](#) .
- Start the engine and check belt running.

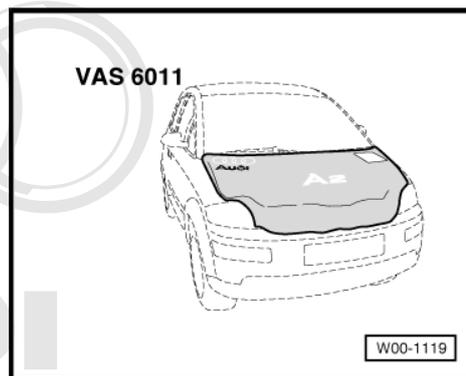
**Tightening torques**

Component	Nm
Terminal 30/B+ wire to alternator	16
Alternator to bracket	25
Oil filler tank to lock carrier	3.5
Air hose to lock carrier	2.5

### 3.3 Vehicles with 1.2 l TDI engine

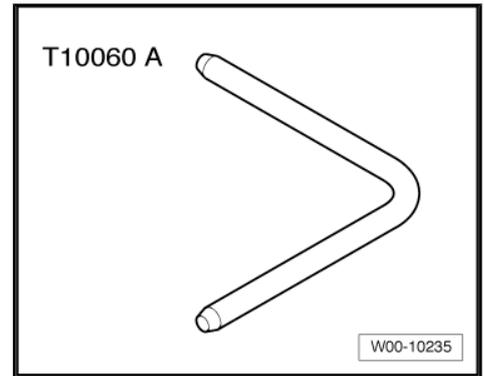
**Special tools and workshop equipment required**

- ◆ Protective cover for bonnet Audi A2 -VAS 6011-



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◆ Locking pin -T10060 A-

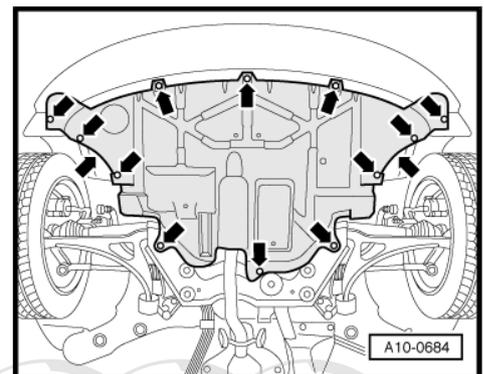


Removing

 **Caution**

*On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01; Telematics self-diagnosis .*

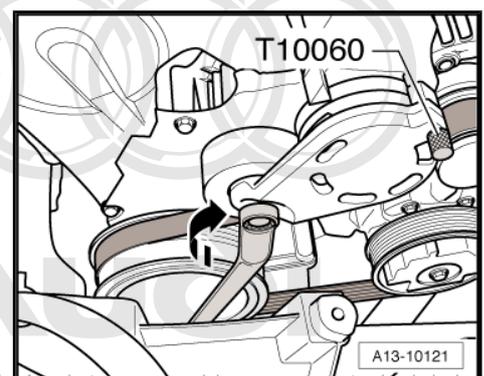
- With the ignition switched off, disconnect the earth wire at the battery ⇒ [page 2](#) .
- Remove the noise insulation -arrows-.



 **Note**

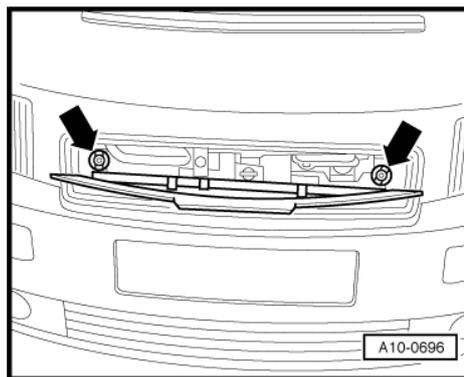
*Prior to removal, mark the direction of the poly V-belt with chalk or a felt-tip pen. Running a used belt in the opposite direction could destroy it.*

- Use a ring spanner to swivel the tensioner in -arrow direction- to slacken off the poly V-belt.
- Lock the poly V-belt tensioner in position by inserting the locking pin -T10060 A- in the locating holes.
- Detach the poly V-belt.

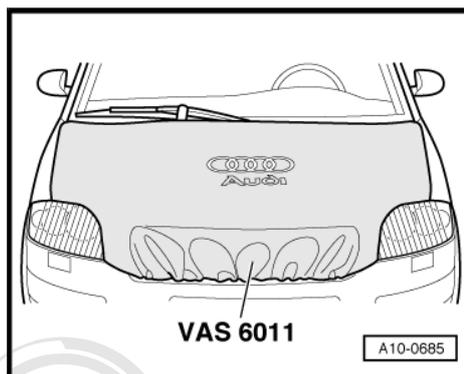


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- Wash and rub dry the outside of the bonnet.
- Release the service flap from inside.
- Release the bonnet -arrows- and pull it forwards slightly.

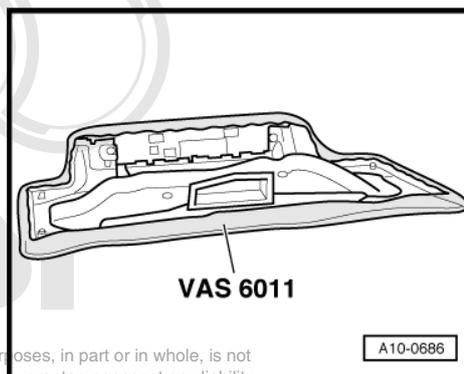


- Fit the protective cover -VAS 6011- over the bonnet.

**Note**

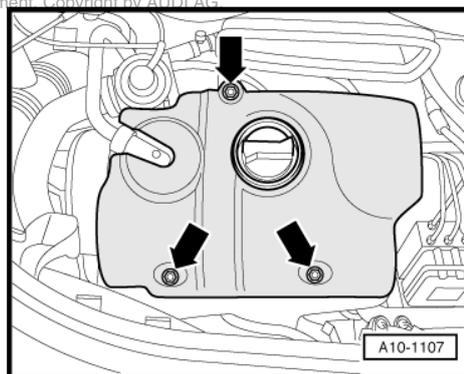
*Do not stand the bonnet on end.*

- Detach the bonnet and set it down on the protective cover -VAS 6011- .

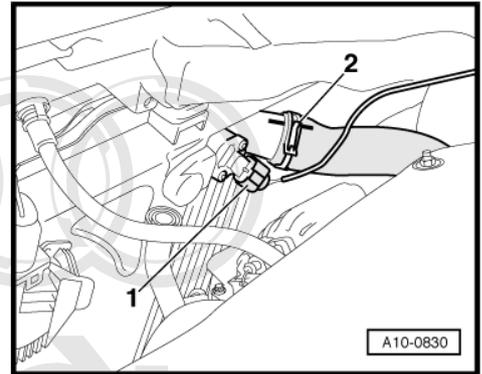


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- Remove the engine cover -arrows-.
- Remove the noise insulation underneath. This involves detaching the crankcase breather hose.

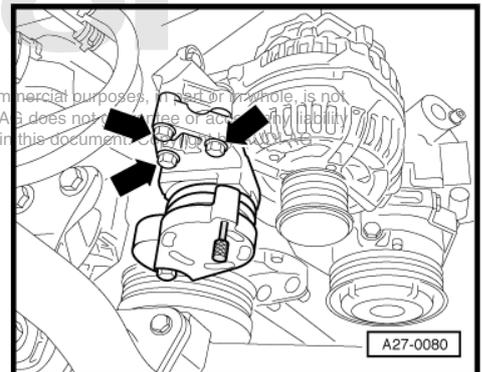


- Unplug the connector -1- at the intake manifold pressure sender -G71- .
- Lay bare the wire.
- Remove the air hose -2- between the charge air cooler and intake manifold.

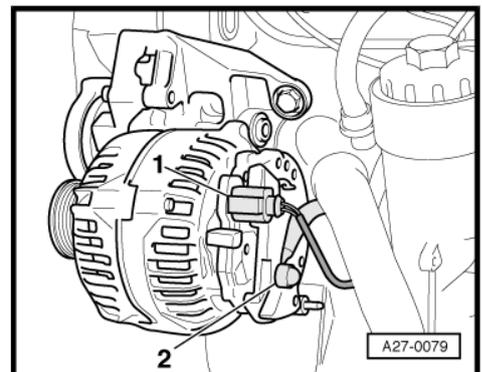


- Unscrew the poly V-belt tensioner -arrows-.

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- Unscrew the wire for terminal 30/B+ -Item 2- at the alternator.
- Unplug the connector -1-.



- Screw out the alternator bolts -1- and -2-.



**Note**

- ◆ *If the alternator sticks in its holder, screw the bolt back in again down to the last 2 turns.*
- ◆ *Tap carefully on the bolt heads with the flat side of a hammer to release the threaded bushes of the alternator mount.*

- Take out the alternator downwards.

**Installing**

Install in reverse order, paying attention to the following:

- To facilitate positioning of the alternator, drive back the bushings for the securing bolts slightly.



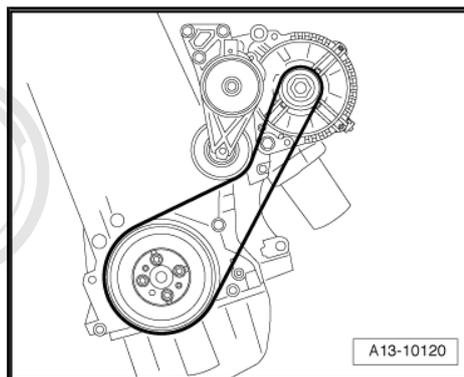
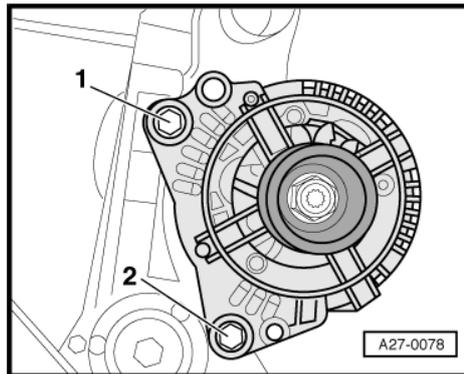
**Note**

*Stiff alternator mount bushes must be released as otherwise the clamping force of the bush will not be adequate even if tightened to the correct torque.*

- Make sure the poly V-belt is properly positioned and correctly routed.

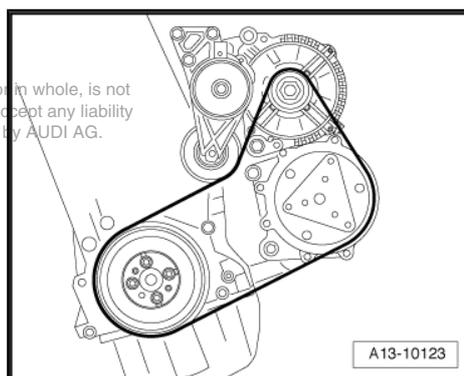
**Poly V-belt routing on vehicles with no air conditioner:**

- Position the poly V-belt on the crankshaft and alternator pulleys.



**Poly V-belt routing on vehicles with air conditioner:**

- Position the poly V-belt on the crankshaft and alternator pulleys.
- As a final step, position the poly V-belt on the air conditioner compressor pulley.



**All models:**

- Slacken off the tensioner and pull the locking pin -T10060 A- out of the locating holes.
- Make sure the poly V-belt is correctly positioned.
- Connect the battery. Action to be taken ⇒ [page 3](#).
- Start the engine and check belt running.

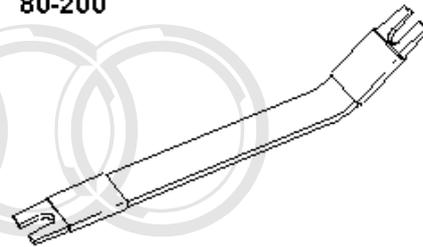
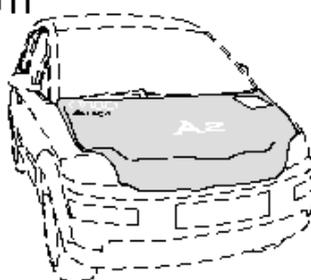
**Tightening torques**

Component	Nm
Alternator to holder	25
Poly V-belt tensioner to holder	25
Terminal 30/B+ to alternator	16

### 3.4 Vehicles with 1.4 l TDI engine

#### Special tools and workshop equipment required

- ◆ Pressing-off lever -80 - 200-
- ◆ Protective cover for bonnet Audi A2 -VAS 6011-
- ◆ Locking pin -T10060 A-

<p><b>80-200</b></p> 	<p><b>VAS 6011</b></p> 
<p><b>T10060 A</b></p> 	
	<p style="text-align: right;">G27-10001</p>

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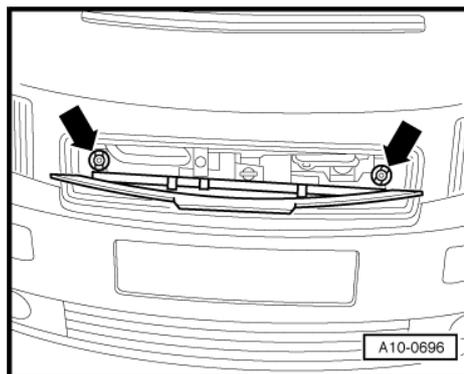
#### Removing

 **Caution**

*On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01; Telematics self-diagnosis .*

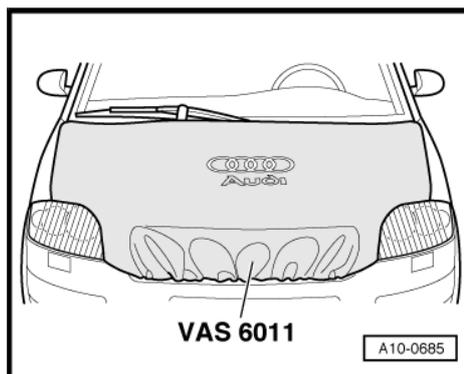
- With the ignition switched off, disconnect the earth wire at the battery ⇒ [page 2](#) .

- Wash and rub dry the outside of the bonnet.
- Release the service flap from inside.
- Release the bonnet -arrows- and pull it forwards slightly.



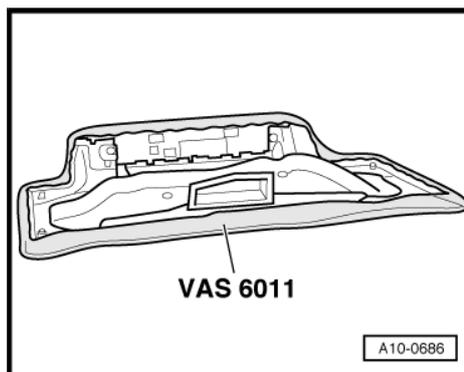
- Fit the protective cover -VAS 6011- over the bonnet.

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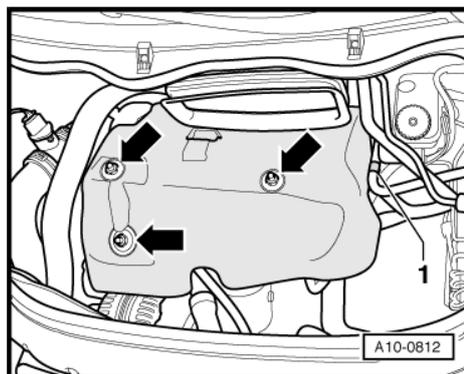
**Note**

*Do not stand the bonnet on end.*

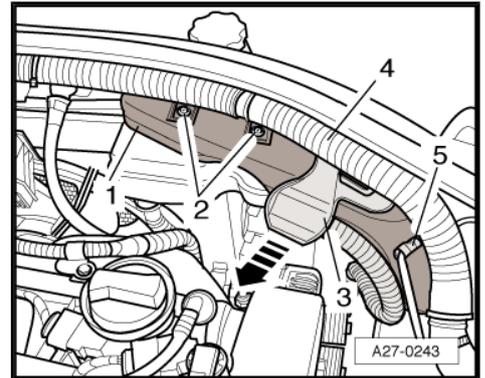
- Detach the bonnet and set it down on the protective cover - VAS 6011- .



- If fitted, detach the hose -1- from the bracket.
- Remove engine cover -arrows-.



- Unclip the resonator mount -4- at the lock carrier using the pressing-off lever -80 - 200- .
- Remove bolts -2-.
- Detach the water collector -3- in -direction of arrow-.
- Detach the air hose -1- at the lock carrier and air cleaner housing.
- Unclip the wiring harness holder -5- at the air hose.

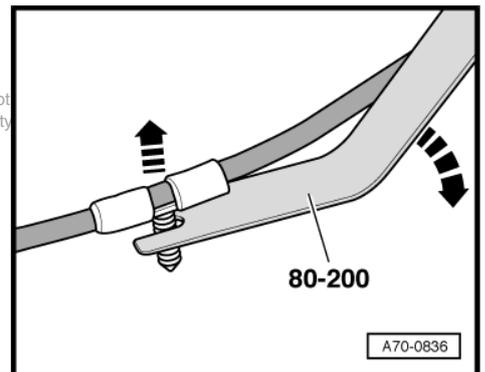


- Unclip the holder using the pressing-off lever -80 - 200- .

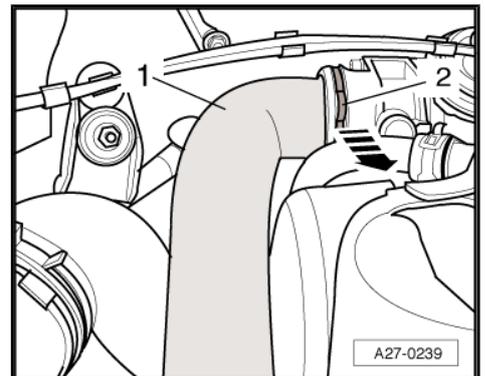


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*Use silicone-free lubricating spray to facilitate removal, if necessary.*



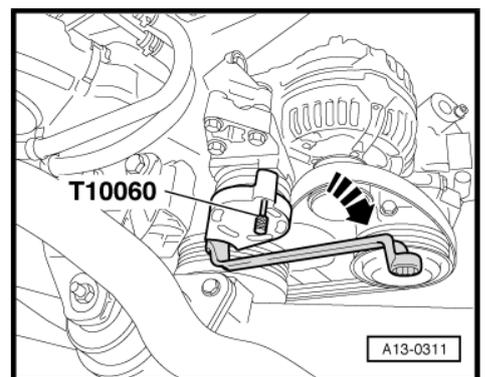
- Unlock the retaining clip -2- in -direction of arrow- and detach the intercooler connecting hose -1- from the intake manifold.



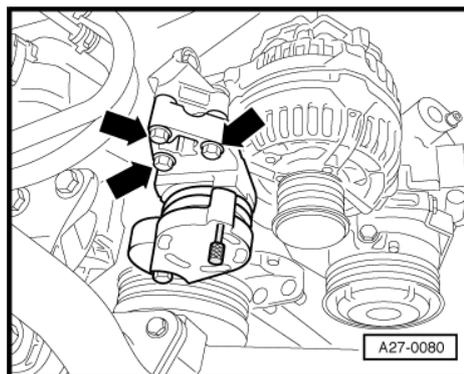
**Note**

*Mark the running direction of the poly V-belt with chalk or felt pen. Running a used belt in the opposite direction may result in destruction of the belt.*

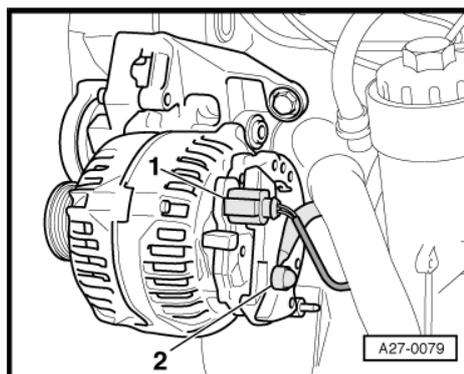
- In order to slacken the poly V-belt, swivel the tensioner in -direction of arrow- using a ring spanner.
- Lock the poly V-belt tensioner in position by inserting the locking pin -T10060 A- in the locating holes.
- Remove ribbed belt.



- Remove the poly V-belt tensioner -arrow-.



- Detach the terminal 30/B+ wire -Item 2- from the alternator.
- Detach electrical connector -1-.

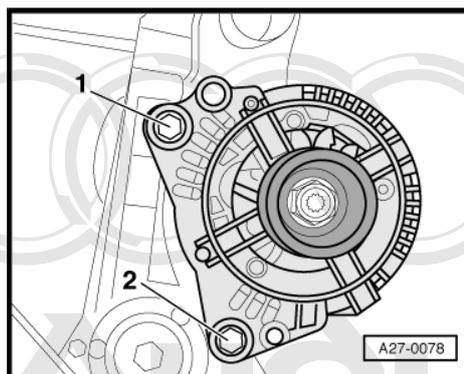


- Remove securing bolts -1- and -2- for alternator.

**Note**

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

- Lift out alternator.

**Installing**

Install in reverse order, paying attention to the following:

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

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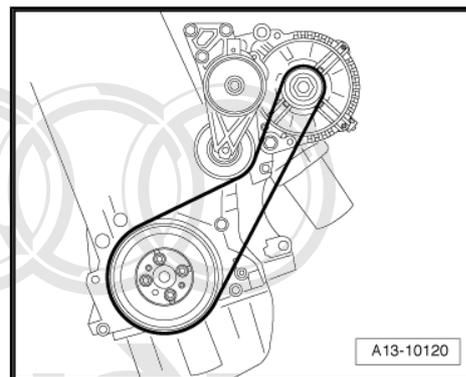
**Note**

Stiff alternator mount bushes must be released as otherwise the clamping force of the bush will not be adequate even if tightened to the correct torque.

- Make sure the poly V-belt is properly positioned and correctly routed.

**Poly V-belt routing on vehicles with no air conditioner:**

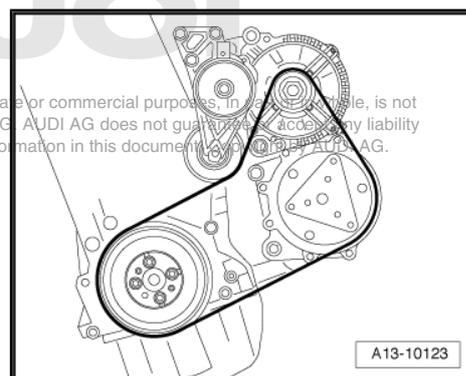
- Position the poly V-belt on the crankshaft and alternator pulleys.



**Poly V-belt routing on vehicles with air conditioner:**

- Position the poly V-belt on the crankshaft and alternator pulleys.
- As a final step, position the poly V-belt on the air conditioner compressor pulley.

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**All models:**

- Slacken off the tensioner and pull the locking pin -T10060 A- out of the locating holes.
- Make sure the poly V-belt is correctly positioned.
- Connect the battery. Action to be taken ⇒ [page 3](#) .
- Start the engine and check belt running.

**Tightening torques**

Component	Nm
Alternator to bracket	25
Poly V-belt tensioner to bracket	25
Terminal 30/B+ wire to alternator	16



## 4 Servicing alternator

### 4.1 Checking alternator

The alternator is checked as part of "Guided fault-finding" under "Body/electrical system / 27 - Starter, current supply/electrical components / C- Alternator, checking" ⇒ Vehicle diagnosis, testing and information system VAS 5051.

### 4.2 Servicing alternator

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
- ◆ Checking carbon brushes - Bosch alternator from 2001 onwards
- ◆ Removing and installing poly V-belt pulley without free-wheel
- ◆ Removing and installing poly V-belt pulley with free-wheel



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## 5 Removing and installing starter

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

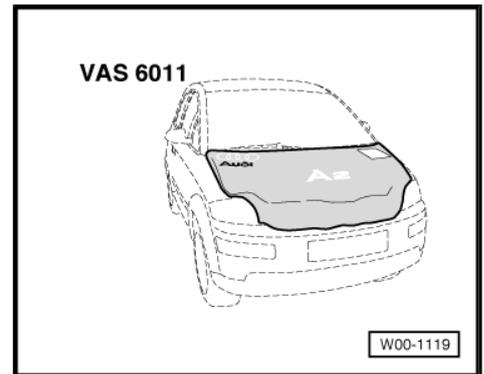
### 5.1 Vehicles with 1.4 ltr. MPI and 1.6 ltr. FSI engine

Special tools and workshop equipment required

- ◆ Protective cover for bonnet Audi A2 -VAS 6011-

# Audi

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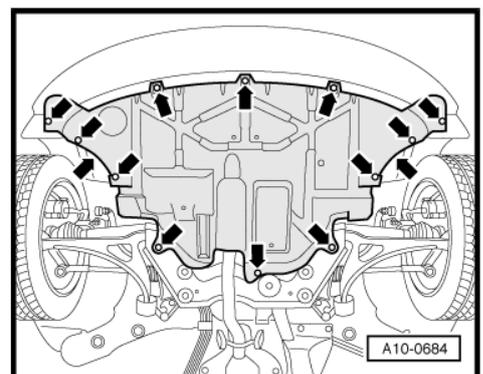
#### Removing



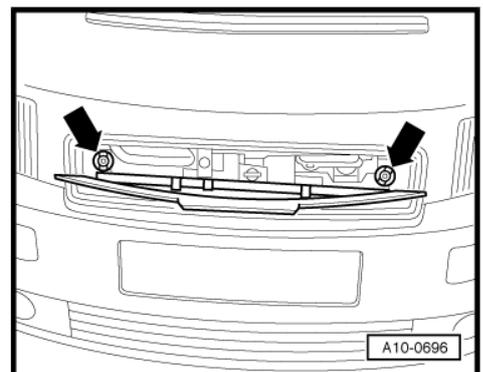
#### Caution

*On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01; Telematics self-diagnosis .*

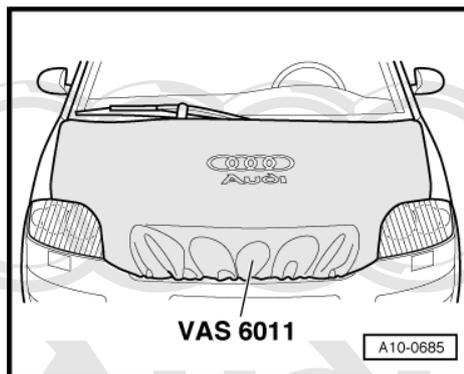
- With the ignition switched off, disconnect the earth wire at the battery ⇒ [page 2](#) .
- Detach the noise insulation -arrows-.



- Wash and rub dry the outside of the bonnet.
- Release the service flap from inside.
- Release the bonnet -arrows- and pull it forwards slightly.

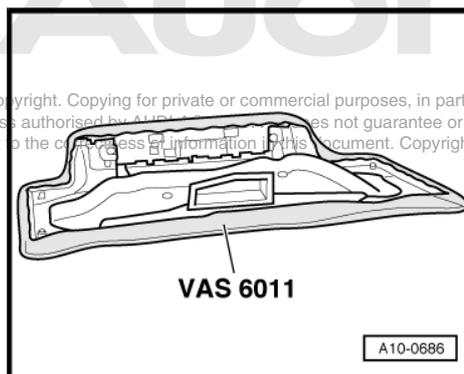


- Fit the protective cover -VAS 6011- over the bonnet.

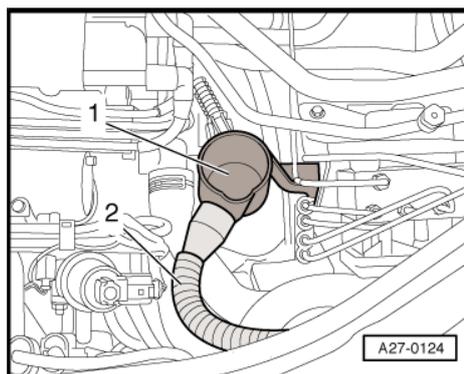
**Note**

*Do not stand the bonnet on end.*

- Detach the bonnet and set it down on the protective cover - VAS 6011- .



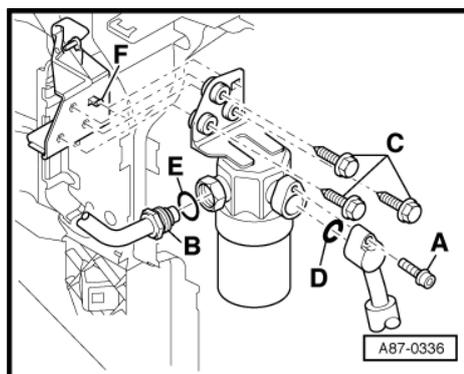
- Remove the water collecting tank -1- from the ABS hydraulic unit bracket.
- Lay the water collecting tank with connected drain hose -2- aside.



- Remove bolts -C- and detach air conditioner reservoir; refrigerant lines remain connected.

**Note**

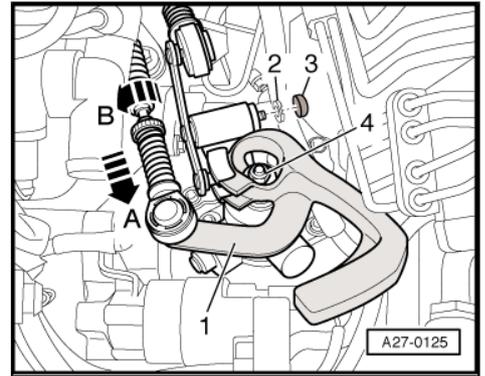
*Disregard other items.*



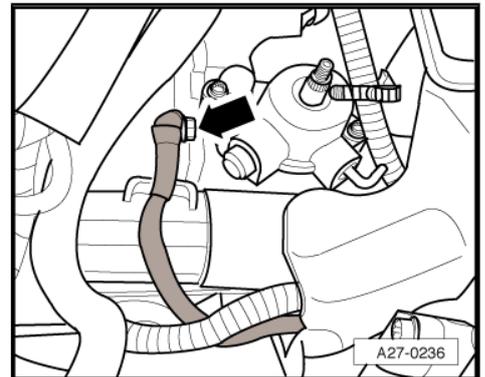
- Detach trim cap -3- covering the circlip.
- Detach the circlip -2- from the actuating arm.

Release the selector cable lock for gate selector cable and gear selector cable as follows:

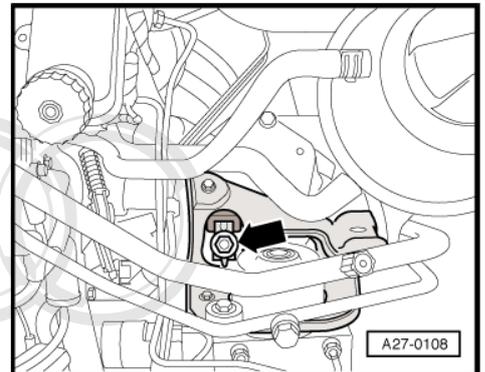
- Pull securing mechanism on gear selector cable forward to stop in -direction of arrow A-.
- Turn the locking sleeve up to stop in -direction of arrow B- and then lock the locking sleeve.
- Remove nut -4- and remove the gear selector lever -1-.



- Remove the nut -arrow-.
- Remove the earth cable from the double bolt.



- Remove the upper securing nut -arrow- for starter protective cover.



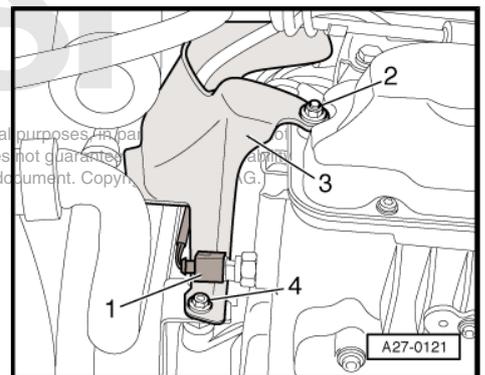
- Remove nuts -2- and -4-.
- Push the starter protective cover -3- aside.



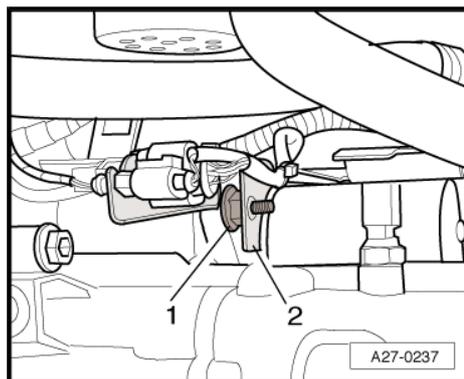
**Note**

Ignore -item 1-.

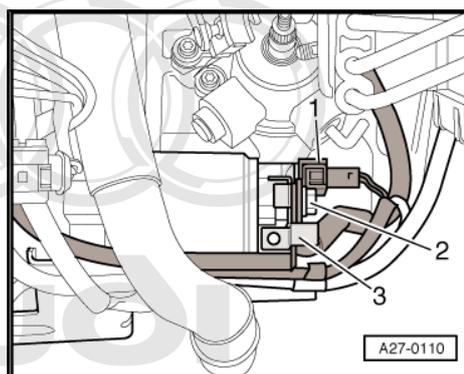
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- Pull off the connector bracket -2- from the double bolt -1-.
- Remove the double bolt.



- Remove the starter protective cover upwards.
- Detach terminal 50 connector -Item 1- from solenoid switch.
- Remove the nut -2-; counterhold the wiring in order prevent damage to the solenoid switch.
- Detach the B+ wiring.
- Detach anti-rotation device -3-.
- Remove the upper starter double bolt.
- Lift out starter.



### Installing

Install in reverse order, paying attention to the following:

- Perform gearshift basic setting ⇒ Rep. Gr. 34 .
- Connect the battery. Action to be taken ⇒ [page 3](#) .
- Add coolant and bleed the coolant circuit ⇒ Rep. Gr. 19 .

### Tightening torques

Component	Nm	
Starter to gearbox	65	
Starter protective cover to	Gearbox mounting	18
	gearbox	8
Holder to starter	22	
Terminal B+ to starter	16	
Earth cable to starter	22	
A/C reservoir to bracket	8	
Water collecting tank to ABS hydraulic unit	6	

## 5.2 Vehicles with 1.2 I TDI engine

### Removing



#### Note

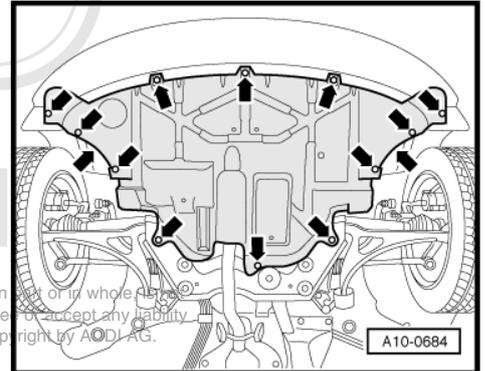
*All cable ties unfastened or severed on removal must be re-attached in the same position on installation.*



**Caution**

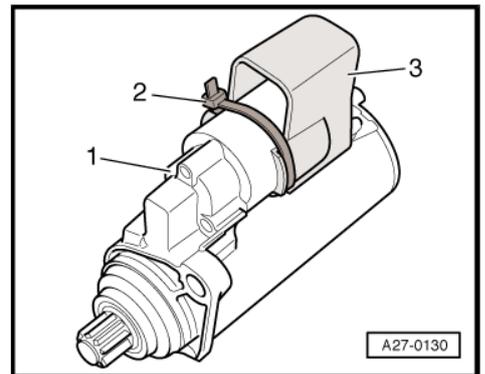
*On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01; Telematics self-diagnosis .*

- With the ignition switched off, disconnect the earth wire at the battery ⇒ [page 2](#) .
- Detach the noise insulation -arrows-.

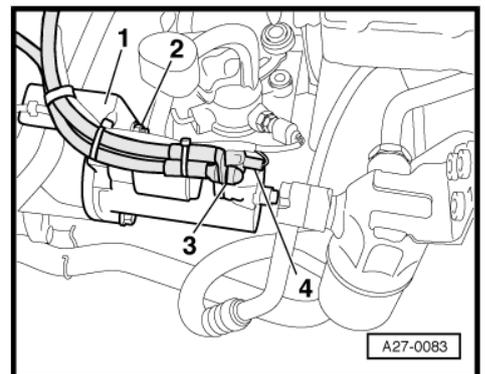


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- Sever the cable tie -2- and lift the cover -3- off the solenoid switch -1-.



- Unscrew the nut -2-.
- If applicable, unscrew the brace to the left engine mounting.
- Detach the cover for the positive terminal.
- Detach the wires -3- and -4- at the starter solenoid switch.
- Disengage the wire holder -1-.
- Screw out the upper starter bolt.



- Unscrew the nut -2- and detach the earth cable -3- at the bottom of the starter.
- Screw out the lower double bolt -1- of the starter.
- Take out the starter downwards.

**Installing**

Install in reverse order, paying attention to the following:



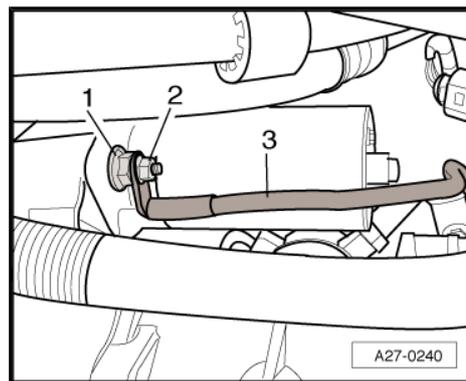
**Note**

*Re-attach all cable ties in the same locations on installation.*

- Connect the battery. Action to be taken ⇒ [page 3](#) .

**Tightening torques**

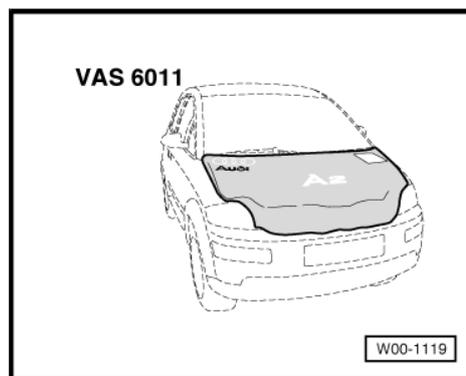
Component	Nm
Starter to engine	65
Terminal B+ to starter	16
Earth cable to starter	22
Holder to starter	22



**5.3 Vehicles with 1.4 I TDI engine**

**Special tools and workshop equipment required**

- ◆ Protective cover for bonnet Audi A2 -VAS 6011-



**Removing**



**Note**

*All cable ties unfastened or severed on removal must be re-attached in the same position on installation.*



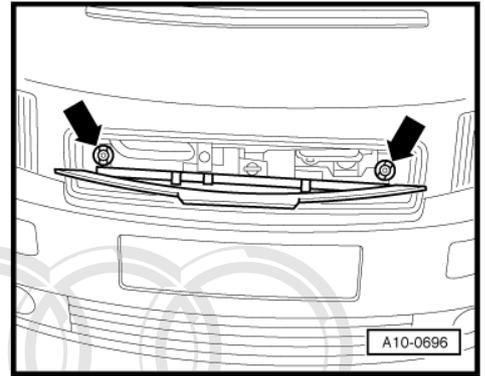
**Caution**

***On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01 ; Telematics self-diagnosis .***

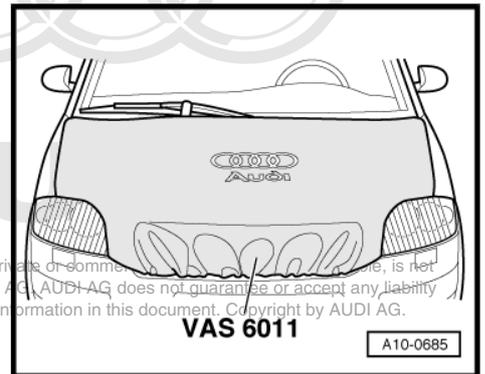
- With the ignition switched off, disconnect the earth wire at the battery ⇒ [page 2](#) .

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- Wash and rub dry the outside of the bonnet.
- Release the service flap from inside.
- Release the bonnet -arrows- and pull it forwards slightly.



- Fit the protective cover -VAS 6011- over the bonnet.

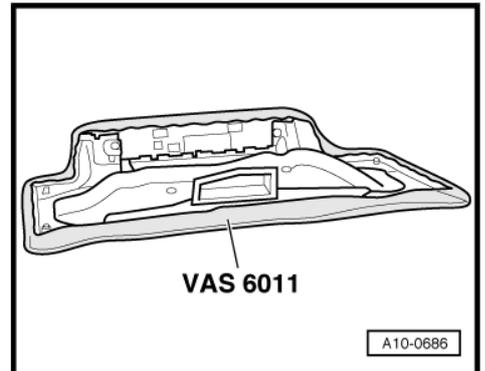


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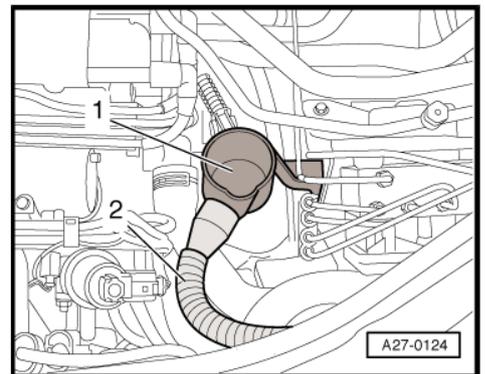
 **Note**

*Do not stand the bonnet on end.*

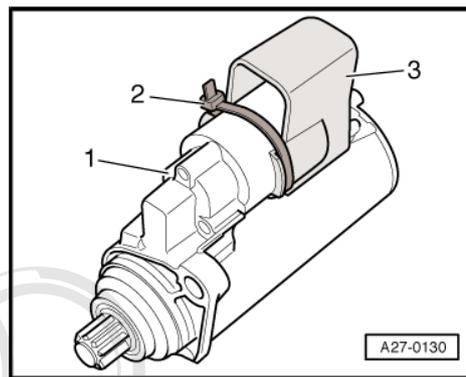
- Detach the bonnet and set it down on the protective cover - VAS 6011- .



- Remove the water collecting tank -1- from the ABS hydraulic unit bracket.
- Lay the water collecting tank with connected drain hose -2- aside.

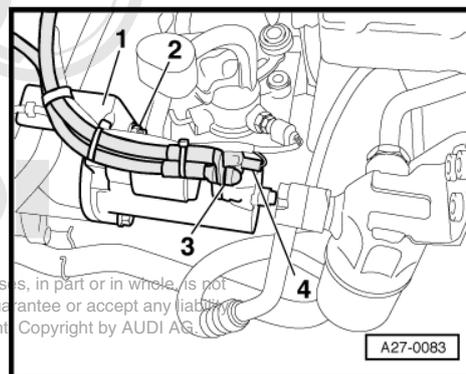


- Cut the cable tie -2- and detach the cover -3- from the solenoid switch -1- upwards.

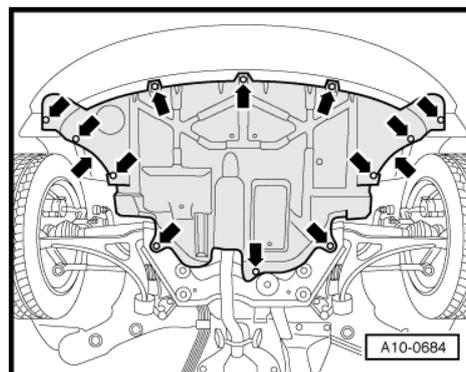


- Unscrew nut -2-.
- If fitted, remove the left engine mount brace.
- Detach the positive terminal cover.
- Detach wires -3- and -4- from starter solenoid switch.
- Detach the wiring bracket -1-.
- Remove upper securing bolts of starter.

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- Remove the noise insulation -arrows-.



- Remove nut -2- and remove the earth cable -3- from the starter.
- Remove lower double bolt -1- from starter.
- Remove starter downwards.

**Installing**

Install in reverse order, paying attention to the following:

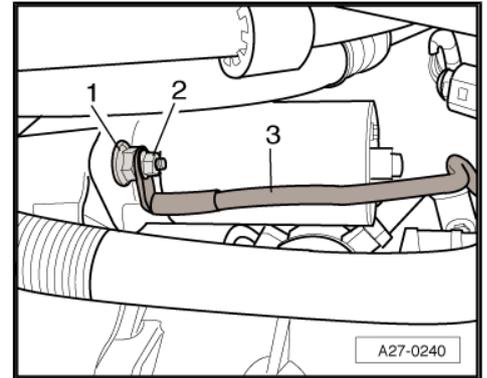
 **Note**

*Re-attach all cable ties in the same locations on installation.*

- Connect the battery. Action to be taken ⇒ [page 3](#) .

**Tightening torques**

Component	Nm
Starter to engine	65
Terminal B+ to starter	16
Earth cable to starter	22
Bracket to starter	22
Water collecting tank to ABS hydraulic unit	6



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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 Dash panel insert

#### 1.1 Fault message “deft” on trip recorder display

If the control unit in the dash panel insert detects a fault in its permanent memory, “deft” will appear on the trip recorder display.

- If “dEF” is displayed, replace the dash panel insert  
 ⇒ [page 39](#) .

#### 1.2 Removing and installing dash panel insert

##### Removing



##### Note

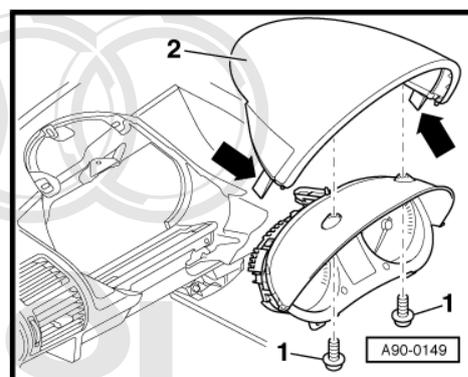
*The dash panel insert is not to be dismantled.*

- If the dash panel insert with control unit in dash panel insert - J285- is to be replaced, go into the “Guided functions” and select the “Replacement” function for -J285- ⇒ Vehicle diagnosis, testing and information system VAS 5051.
- Switch off ignition and take out ignition key.



##### Note

- ◆ *All cable ties unfastened or cut open on removing are to be reattached in same position on installation.*
- ◆ *Removal of dash panel insert does not involve taking out steering wheel.*
- Move the steering wheel down and to the rear as far as possible, making use of the full range of the steering column adjuster.
- Remove bolts -1-.
- Carefully remove the instrument cowl -2- upwards. If necessary, lever it off the dash panel using removal wedge -3409- .

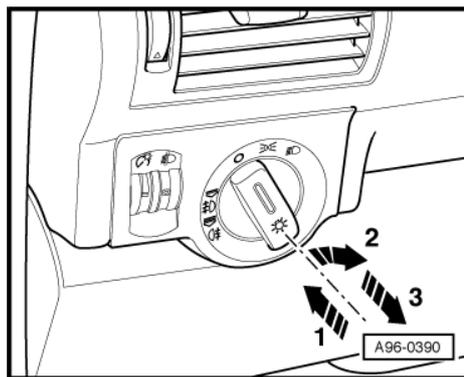


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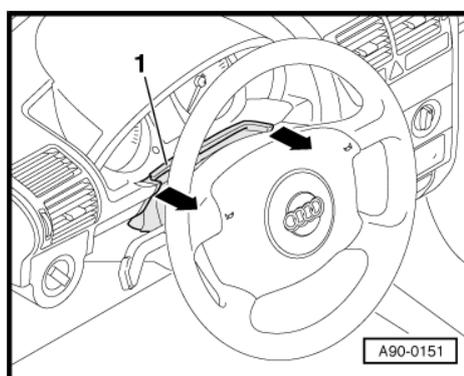


**Note**

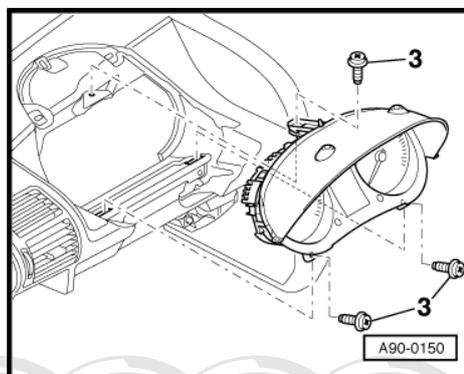
- ◆ *If the instrument cowl cannot be detached in the manner described, the fasteners of the retainer tabs -arrows- must additionally be released, working from the footwell. For this purpose, proceed as follows:*
- ◆ *Turn light switch to "0" position.*
- ◆ *Press light switch -arrow 1- and, at the same time, turn it to the right -arrow 2-.*
- ◆ *Hold the switch in this position and pull it out of the switch housing -arrow 3-.*
- ◆ *Remove the driver's storage compartment => Rep. Gr. 68 .*



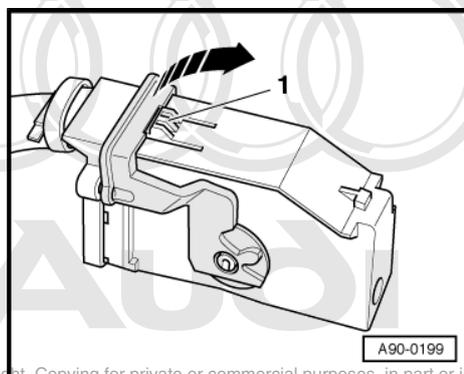
- Pull off surround -1- from dash panel insert in -direction of arrow-.



- Remove bolts -3-.
- Remove the dash panel insert upwards.
- If fitted, cut the cable tie on the back of the dash panel insert.



- Unplug the connector at the dash panel insert. To do so, press the catch -1-, turn the bracket in -arrow direction- and detach the connector.



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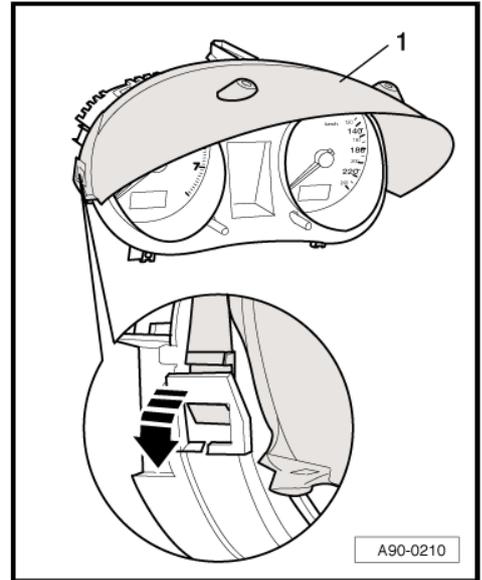
- Release the retaining clips -arrow- on left and right of dash panel insert.
- Detach instrument trim -1- from dash panel insert.

**Installing**

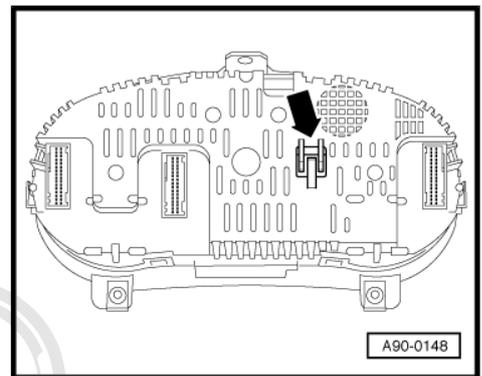
Install in reverse order, paying attention to the following:



*Re-attach all cable ties in the same locations on installation.*



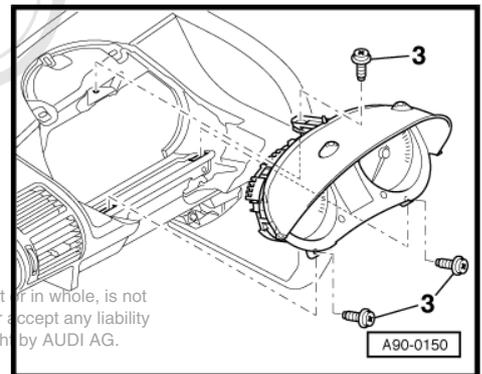
- Plug in the connectors and fix the wiring harness in position on the back of the dash panel insert at the clamp -arrow-.



- Apply locking fluid when inserting upper securing bolt -3-.

**Tightening torque**

Component	Nm
Dash panel insert to dash panel	top 3.5 <sup>1)</sup>
	bottom 3.5
<ul style="list-style-type: none"> <li>• <sup>1)</sup> Apply locking fluid on fitting; for locking fluid, refer to =&gt; Parts catalogue .</li> </ul>	



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### 1.3 Multi-pin connectors at dash panel insert

**Note**

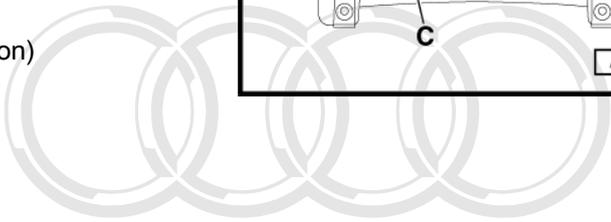
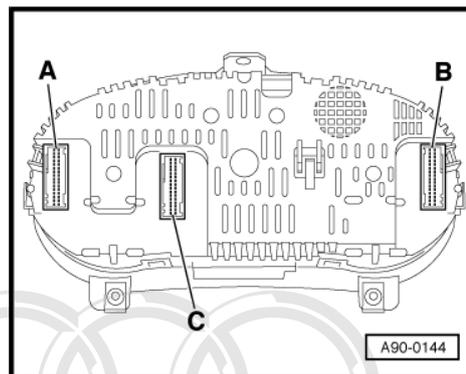
All warning lamps in dash panel insert are fitted with light-emitting diodes. Dash panel insert must be replaced in the event of warning lamp failure.

A - 32-pin green connector (supplementary function)

B - 32-pin blue connector (basic function)

**Highline-dash panel insert only:**

C - 32-pin grey connector (multi-function display)



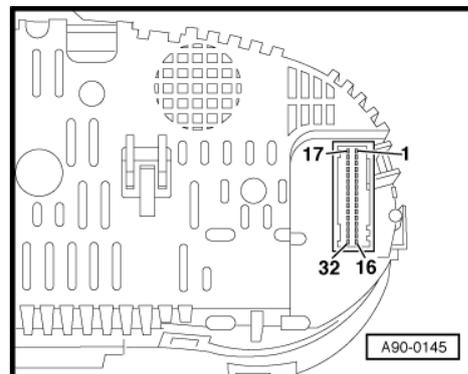
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## 1.4 Assignment of contacts at multi-pin connectors at dash panel insert

### 32-pin blue connector

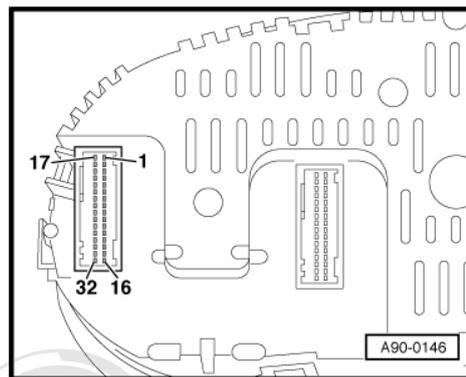
- 1 - Terminal 15
- 2 - Brake lining wear
- 3 - Speedometer output 1
- 4 - Vacant
- 5 - Fuel gauge sender
- 6 - Fuel gauge warning OBD 2
- 7 - Terminal 31 (sender earth)
- 8 - Coolant temperature
- 9 - Terminal 31 (load earth)
- 10 - Oil pressure 2 (high)
- 11 - Engine speed signal
- 12 - Air conditioner shut-off
- 13 - Electronic throttle / glow period warning lamp
- 14 - Self-levelling suspension
- 15 - Terminal 58d
- 16 - Trailer turn signal
- 17 - Main beams
- 18 - Left turn signal
- 19 - Vacant
- 20 - Terminal 58s
- 21 - Driver's door contact
- 22 - Coolant level low
- 23 - Terminal 30
- 24 - Terminal 31 (load earth)
- 25 - Fuel consumption signal
- 26 - Right parking light
- 27 - Left parking light
- 28 - Speedometer input
- 29 - Brake pad / brake fluid
- 30 - S contact
- 31 - Speedometer output 2
- 32 - ESP/TCS



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**32-pin green connector**

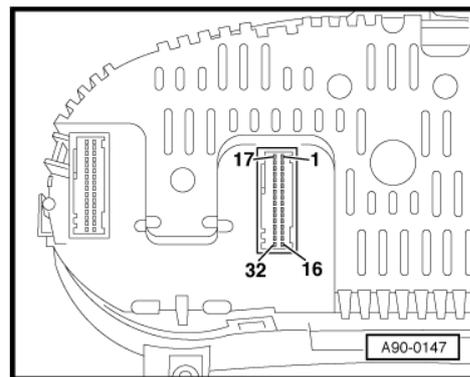
- 1 - Door contact (all doors)
- 2 - Transponder 1
- 3 - Vacant
- 4 - Vacant
- 5 - W wire
- 6 - Tailgate
- 7 - Right turn signal
- 8 - Vacant
- 9 - Vacant
- 10 - airbag
- 11 - Standing time output
- 12 - Terminal 61
- 13 - Parking brake / BRAKE
- 14 - Check / fault in engine electrical system
- 15 - Oil level / oil temperature
- 16 - Vacant
- 17 - Transponder 2
- 18 - CAN high speed (drive "+")
- 19 - CAN high speed (drive "+")
- 20 - CAN high speed (drive "screen")
- 21 - ABS
- 22 - CAN low speed (convenience "+")
- 23 - CAN low speed (convenience "-")
- 24 - CAN low speed (convenience "screen")
- 25 - Bonnet switch
- 26 - Tank flap switch
- 27 - Belt buckle
- 28 - K wire
- 29 - Ambient temperature input
- 30 - Terminal 58de (ext. dimmer potentiometer)
- 31 - Selector lever display
- 32 - Vacant



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### 32-pin grey connector

- 1 - Menu switch (menu)
- 2 - Menu switch (out A)
- 3 - Menu switch (out B)
- 4 - Menu switch (enter)
- 5 - CAN high speed (display "+")
- 6 - CAN high speed (display "-")
- 7 - CAN high speed (display "screen")
- 8 - Passenger's door contact
- 9 - Door contact, rear right
- 10 - Door contact, rear left
- 11 - Enable
- 12 - Clock
- 13 - **Data** Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.
- 14 - **Brake lights**
- 15 - Washing water level
- 16 - Tail lights / dipped beams
- 17 - On-board computer, left
- 18 - On-board computer, right
- 19 - On-board computer, reset
- 20 - Vacant
- 21 - Vacant
- 22 - Vacant
- 23 - Key branch 1 Navigation system
- 24 - Key branch 2 Navigation system
- 25 - Key branch Telematics
- 26 - Vacant
- 27 - Vacant
- 28 - Vacant
- 29 - Vacant
- 30 - Vacant
- 31 - Vacant
- 32 - Vacant



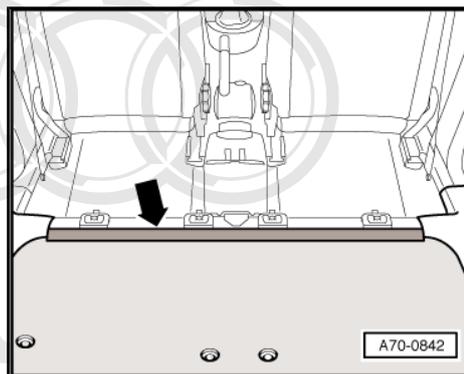
## 1.5 Terminal assignment on fuel gauge sender -G-

The fuel-gauge sender -G- is located beneath rear seat bench.

### Preliminary work:

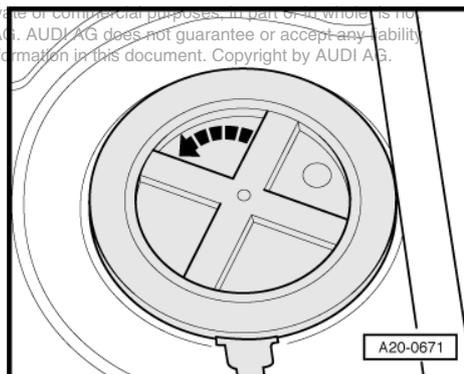
- Switch off ignition and remove ignition key.
- Fold rear seat bench forwards ⇒ Owner's Manual .

- Remove the front cover strip -arrow- for luggage compartment floor covering upwards.



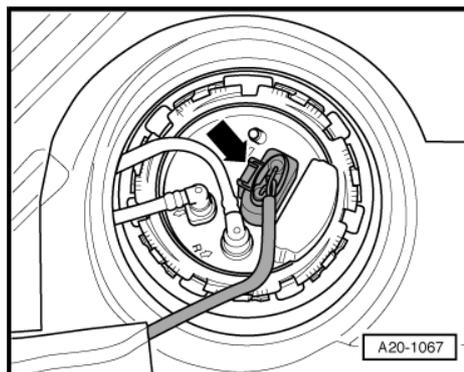
- Turn the cover in anti-clockwise direction -arrow-.
- Detach cover.

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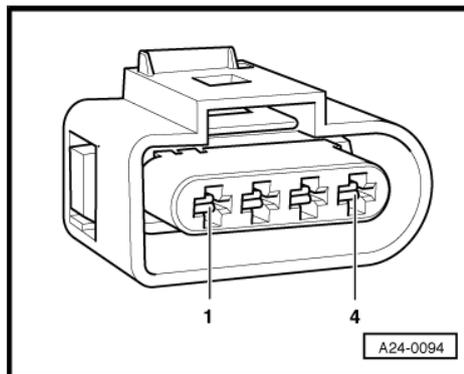
#### Vehicles with petrol engine:

- Carefully unlock and unplug electrical connector -arrow- at sealing flange.



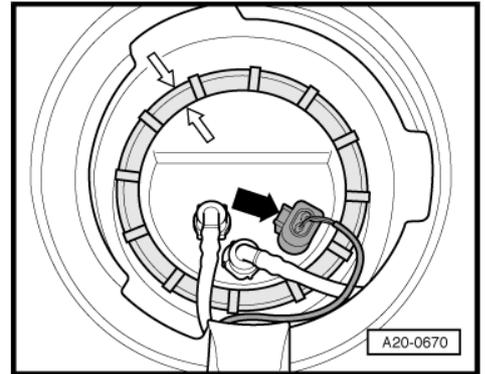
#### Assignment of 4-pin connector at fuel gauge sender -G-

- 1 - Switched positive connection of fuel pre-supply pump -G6-
- 2 - Earth connection for fuel gauge sender -G- (sender earth)
- 3 - Wiring between fuel gauge sender -G- and dash panel insert (fuel gauge)
- 4 - Fuel pre-supply pump -G6- earth



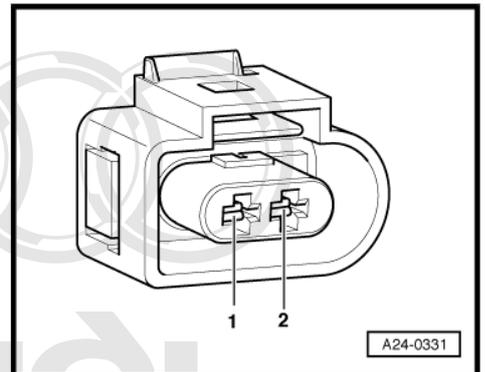
**Vehicles with TIDE engine:**

- Carefully unlock and unplug electrical connector -arrow- at sealing flange.



**Assignment of 2-pin connector at fuel gauge sender -G-**

- 1 - Wiring between fuel gauge sender -G- and dash panel insert (fuel gauge)
- 2 - Earth connection for fuel gauge sender -G- (sender earth)

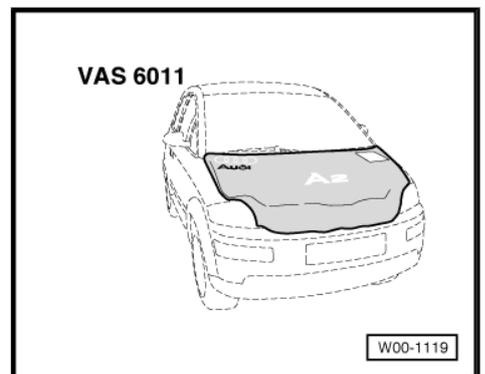


**1.6 Connection assignment at coolant temperature gauge sender -G2- / coolant temperature sender -G62-**

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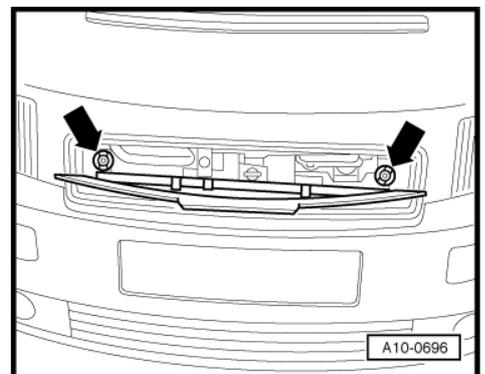
**Special tools and workshop equipment required**

- ◆ Protective cover for bonnet Audi A2 -VAS 6011-

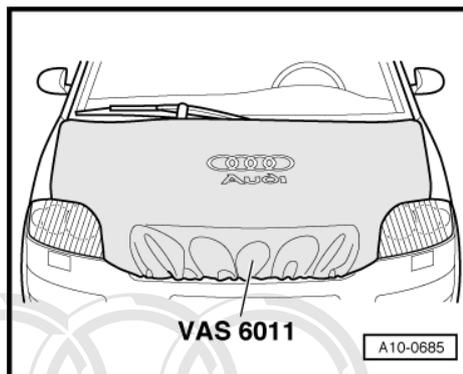


**Preliminary work:**

- Wash and rub dry the outside of the bonnet.
- Release the service flap from inside.
- Release the bonnet -arrows- and pull it forwards slightly.



- Fit the protective cover -VAS 6011- over the bonnet.



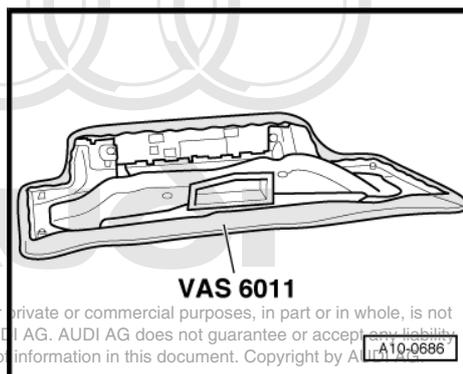
**Note**

*Do not stand the bonnet on end.*

- Detach the bonnet and set it down on the protective cover - VAS 6011- .
- Unplug the connector at the coolant temperature gauge sender -G2- :

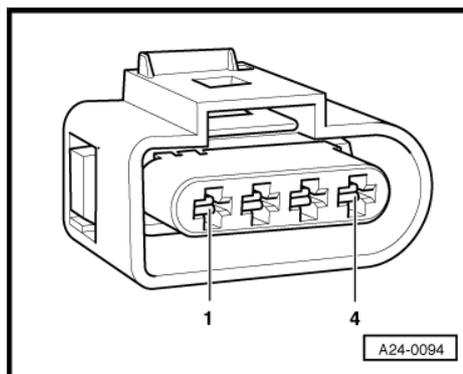
- ◆ Vehicles with 1.4 l MPI engine ⇒ [page 48](#)
- ◆ Vehicles with 1.6 l FSI engine ⇒ [page 49](#)
- ◆ Vehicles with 1.2 l TDI engine ⇒ [page 49](#)
- ◆ Vehicles with 1.4 l TDI engine ⇒ [page 49](#)

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**Assignment of 4-pin connector at coolant temperature gauge sender -G2- / coolant temperature sender -G62-**

- 1- Wiring between coolant temperature gauge sender -G2- and dash panel insert (temperature gauge)
- 2- Earth from coolant temperature gauge sender -G2- (sender earth)
- 3- Earth from coolant temperature sender -G62- (sender earth)
- 4- Signal wire from coolant temperature sender -G62-

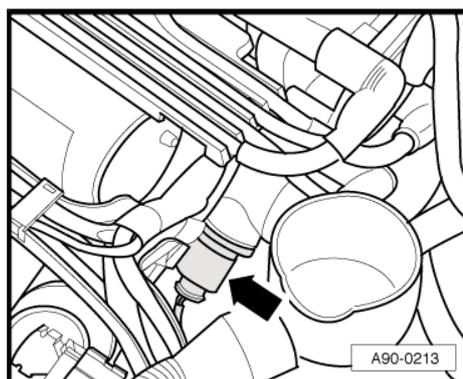


**1.6.1 Unplugging connector at coolant temperature gauge sender -G2- / coolant temperature sender -G62- - vehicles with 1.4 l MPI engine**

**Sequence of operations**

The coolant temperature gauge sender -G2- / coolant temperature sender -G62- is located at the coolant connection on the left of the cylinder head.

- Unplug the connector -arrow- at the coolant temperature gauge sender -G2- / coolant temperature sender -G62- .

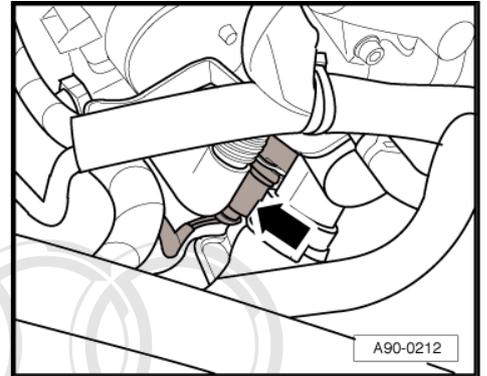


### 1.6.2 Unplugging connector at coolant temperature gauge sender -G2- / coolant temperature sender -G62- - vehicles with 1.6 I FSI engine

#### Sequence of operations

The coolant temperature gauge sender -G2- / coolant temperature sender -G62- is located at the coolant connection on the left of the cylinder head.

- Unplug the connector -arrow- at the coolant temperature gauge sender -G2- / coolant temperature sender -G62- .

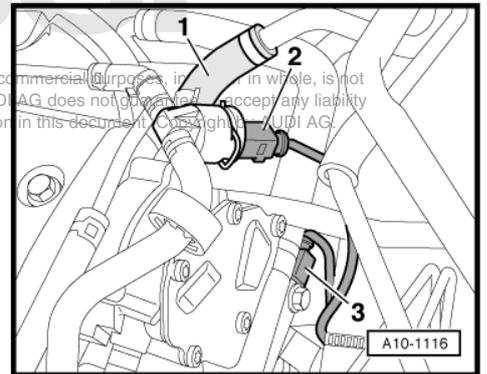


### 1.6.3 Unplugging connector at coolant temperature gauge sender -G2- / coolant temperature sender -G62- - vehicles with 1.2 I TDI engine

#### Sequence of operations

The coolant temperature gauge sender -G2- / coolant temperature sender -G62- is located at the coolant connection on the left of the cylinder head.

- Unplug the connector -3- at the coolant temperature gauge sender -G2- / coolant temperature sender -G62- .



#### Note

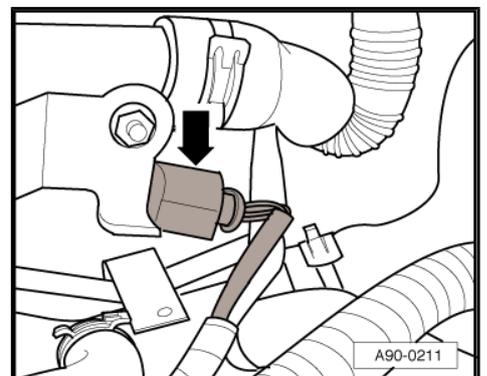
-Item 1- and -Item 2- can be ignored.

### 1.6.4 Unplugging connector at coolant temperature gauge sender -G2- / coolant temperature sender -G62- - vehicles with 1.4 I TDI engine

#### Sequence of operations

The coolant temperature gauge sender -G2- / coolant temperature sender -G62- is located at the coolant connection on the left of the cylinder head.

- Unplug the connector -arrow- at the coolant temperature gauge sender -G2- / coolant temperature sender -G62- .



## 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 ⇒ Parts catalogue .

**Note:**

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



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## 2 Windscreen wiper system

Observe notes on contact corrosion ⇒ [page 50](#) .

### 2.1 Windscreen wiper system - exploded view

#### 1 - Wiper arm

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

#### 2 - Wiper motor

- With wiper frame
- Removing and installing  
 ⇒ [page 57](#)

#### 3 - Windscreen washer jets

- Removing and installing:

Vehicles up to Model Year 2002 ⇒ [page 69](#)

Vehicles as of Model Year 2003 ⇒ [page 70](#)

- Adjusting:

Vehicles up to Model Year 2002 ⇒ [page 72](#)

Vehicles up to Model Year 2003 ⇒ [page 72](#)

#### 4 - Filler neck for washer fluid reservoir

- with flexible pipe
- Removing and installing  
 ⇒ [page 61](#)

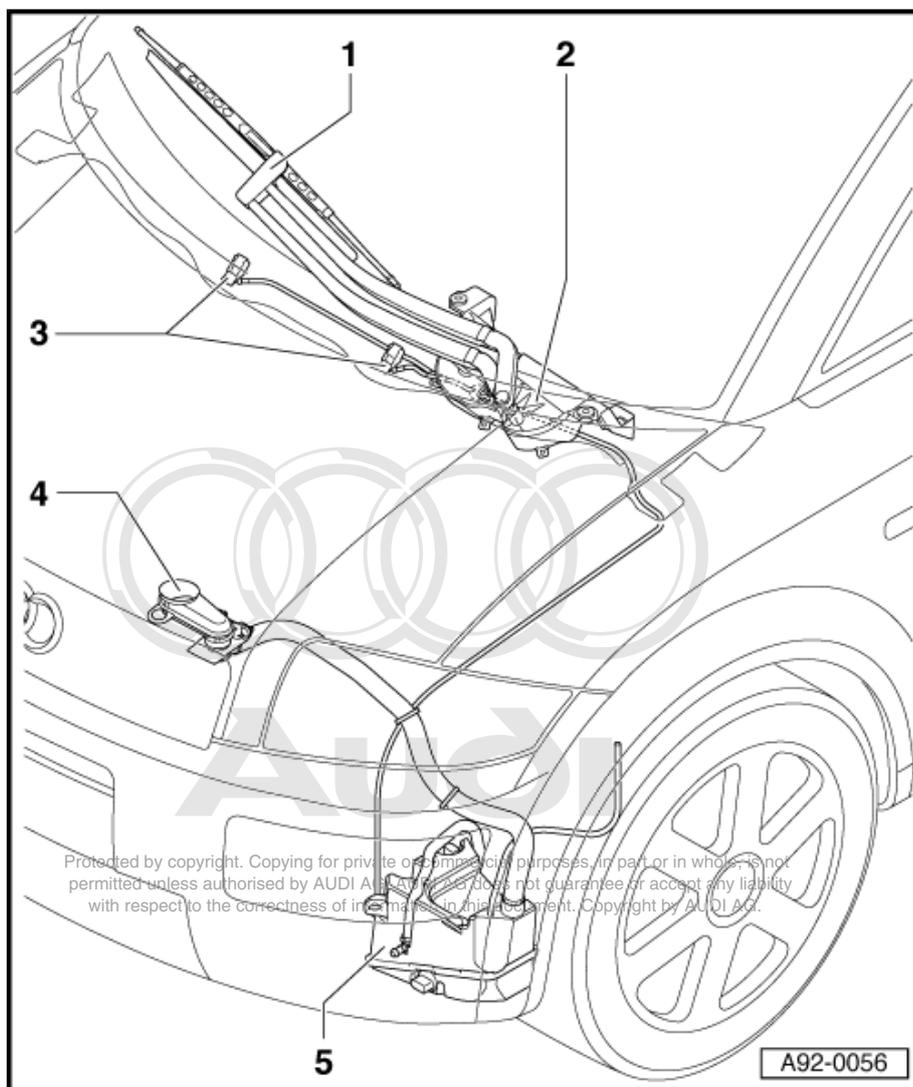
#### 5 - Washer fluid container

- Removing and installing:

3 | Audi A2 ⇒ [page 62](#)

Audi A2 without headlight washer system  
 ⇒ [page 64](#)

Vehicles with headlight washer system ⇒ [page 66](#)



## 2.2 Replacing wiper blade - vehicles up to Model Year 2001

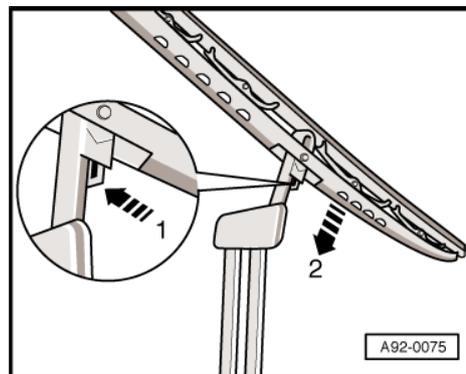
### Removing

- Fold back the wiper arm from the windscreen and position the wiper blade at right angles to the wiper arm.
- Press the securing spring in -direction of arrow 1-.
- Detach the wiper blade downwards -arrow 2- and remove it from the wiper arm upwards.



### Note

Make sure the wiper arm does not drop onto the windscreen.



### Installing

- Insert the new wiper blade in the wiper arm. Make sure the deflector is facing downwards when installed.
- Press the wiper blade upwards until the securing spring is heard to engage in the wiper arm.

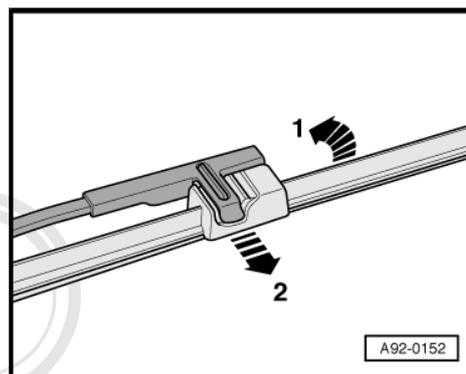
## 2.3 Replacing wiper blade - vehicles as of Model Year 2002

### Removing

- Lift the wiper arm off the windscreen and turn the wiper blade through 90° -arrow 1-.
- Detach the wiper blade from the shaft at the wiper arm -arrow 2-.

### Installing

Install in reverse order.

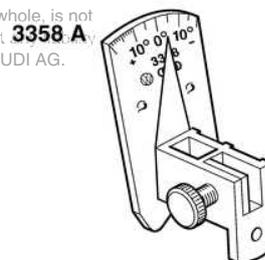


## 2.4 Eliminating wiper judder - vehicles up to Model Year 2001

### Special tools and workshop equipment required

- ◆ Wiper adjusting tool -3358 A-

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### Possible causes for wiper judder:

- ◆ Scratched windscreen.

- ◆ Wiper blade rubber slipped out of retainer or torn.
- ◆ Wiper arm / blade loose or bent.
- ◆ Wiper blades coated with wax or warped.

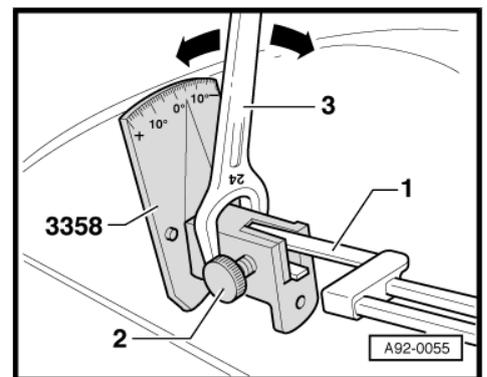
If none of the above are the cause of the “Wiper judder” problem, check and if necessary adjust the contact angle of the wiper arm before replacing the wiper blade.

### Sequence of operations

- Switch on ignition.
- Actuate the “Flick wipe” function and allow the wiper arm to move to its end position.
- Switch off ignition and take out ignition key.
- Detach wiper blade ⇒ [page 52](#) .
- Place the wiper arm -1- in the wiper adjusting tool -3358 A- and secure the wiper arm with the locking screw -2-.
- Compare indicated angle with specified value.
- Contact angle:  $-2 \pm 1^\circ$ .

If contact angle is not OK:

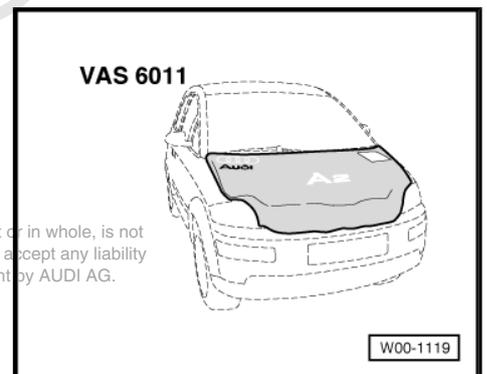
- Place the A/F 24 open-ended spanner -Item 3- on the wiper adjuster and adjust the wiper arm -1- -arrows-.
- Loosen the locking bolt -2- and pull the wiper arm -1- out of the wiper adjuster device.
- Reinsert the wiper arm -1- in the wiper adjuster -3358 A- and fasten in position again with the locking bolt -2-.
- Compare indicated angle with specified value.
- If necessary, repeat adjusting and checking procedure until specified value is attained.
- Detach adjustment tool and fit wiper blade.



## 2.5 Removing and installing wiper arm

### Special tools and workshop equipment required

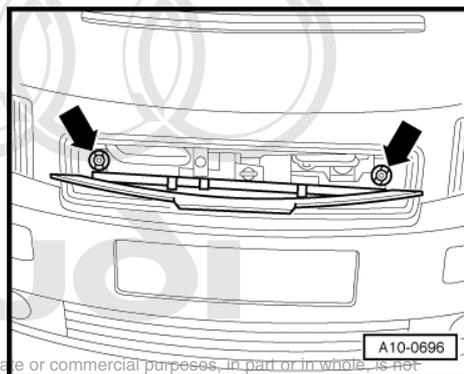
- ◆ Protective cover for bonnet Audi A2 -VAS 6011-



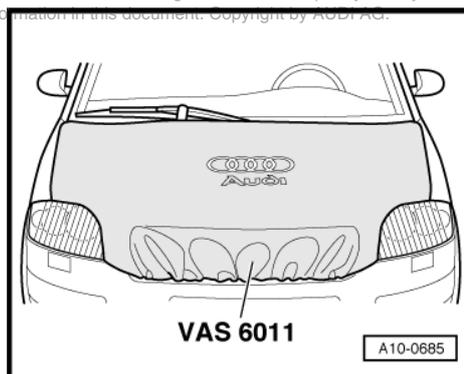
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## Removing

- Wash and rub dry the outside of the bonnet.
- Release the service flap from inside.
- Release the bonnet -arrows- and pull it forwards slightly.



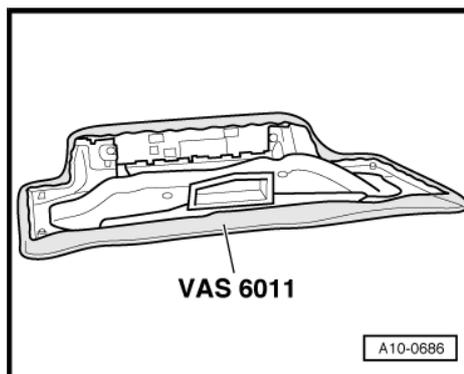
- Fit the protective cover -VAS 6011- over the bonnet.



## Note

*Do not stand the bonnet on end.*

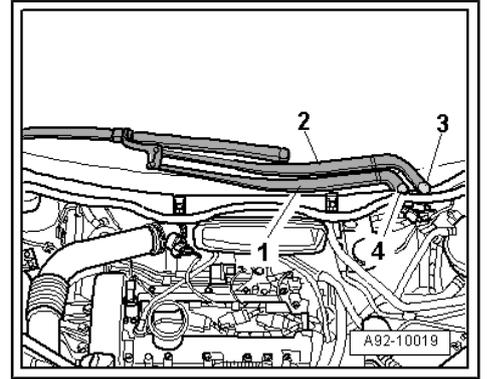
- Detach the bonnet and set it down on the protective cover - VAS 6011- .
- Switch on ignition.
- Actuate the “Flick wipe” function and allow the wiper arm to move to its end position.
- Switch off ignition and remove ignition key.



- Use a screwdriver to prise off the caps -3- and -4- at the two-piece wiper arm.
- Unfasten the nuts of the two-piece wiper arm by several turns.
- By tilting slightly, consecutively detach the arms -1- and -2- from the wiper shafts.
- Completely unscrew the nuts and detach the two-piece wiper arm.

 **Note**

*If the two-piece wiper arm cannot be detached in this manner, use a commercially available puller.*



**Installing**

Install in reverse order, paying attention to the following:

- Adjust the wiper arm => [page 55](#) .

**Tightening torque**

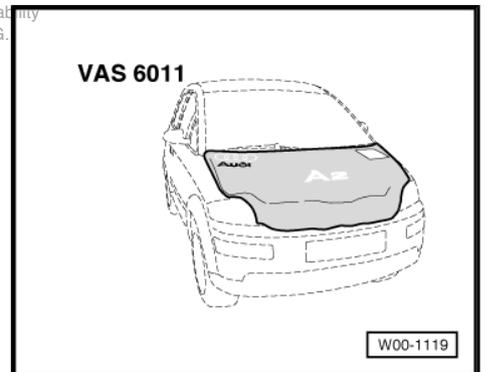
Component	Nm
Wiper arm at bottom to wiper shaft	10

**2.6 Adjusting wiper arm**

**Special tools and workshop equipment required**

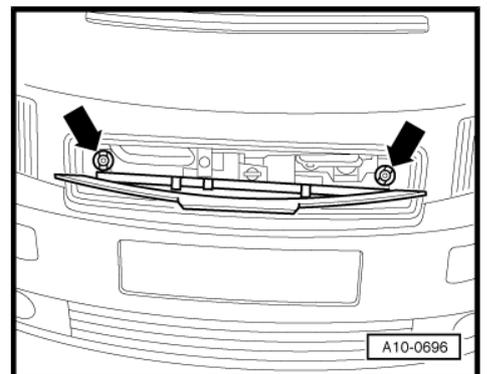
- ◆ Protective cover for bonnet Audi A2 -VAS 6011-

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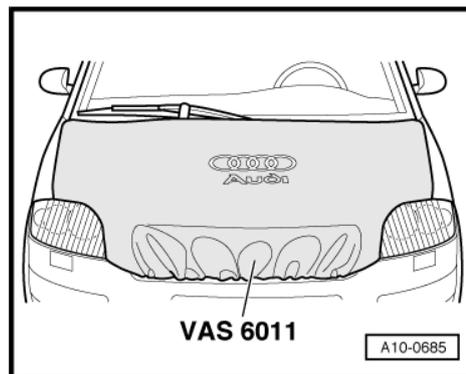


**Sequence of operations**

- Wash and rub dry the outside of the bonnet.
- Release the service flap from inside.
- Release the bonnet -arrows- and pull it forwards slightly.

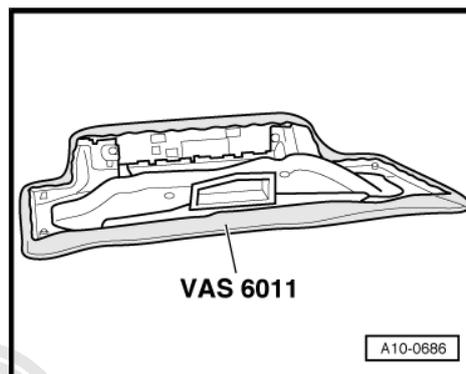


- Fit the protective cover -VAS 6011- over the bonnet.

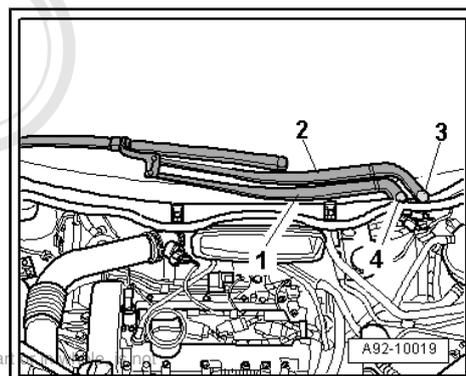
**Note**

*Do not stand the bonnet on end.*

- Detach the bonnet and set it down on the protective cover -VAS 6011-.



- Remove the wiper arm at the top -2- ⇒ [page 53](#).
- Switch on ignition.
- Actuate the "Flick wipe" function and allow the wiper motor to move to its end position.
- Switch off ignition.



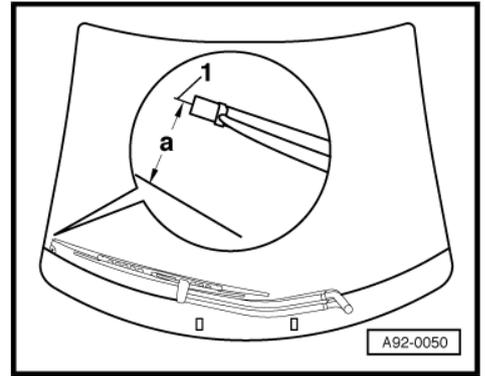
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- Position the wiper arm with the wiper blade fitted at the wiper shaft and align the wiper blade on the windscreen as follows:
- Dimension -a- = 22+5 mm

 **Note**

*Dimension -a- indicates the distance between the tip of the wiper blade -1- and the black cowl panel grille at the bottom edge of the windscreen.*

- Tighten the wiper arm nut.
- Actuate the "Flick wipe" function and allow the wiper arm to move to its end position.
- Switch off ignition.
- Check the setting of the wiper arm again and correct if necessary.



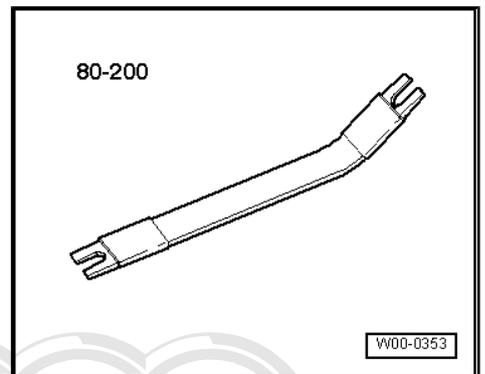
**Tightening torque**

Component	Nm
Wiper arm at top to wiper shaft	21

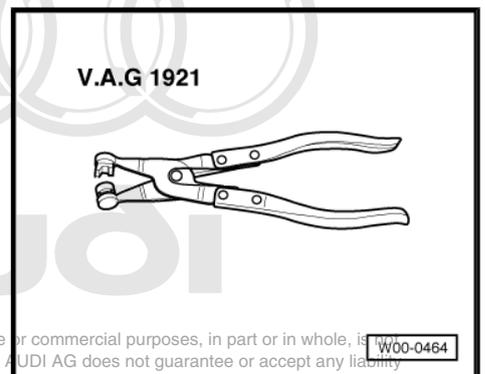
## 2.7 Removing and installing wiper motor with wiper frame

**Special tools and workshop equipment required**

- ◆ Pressing-off lever -80 - 200-



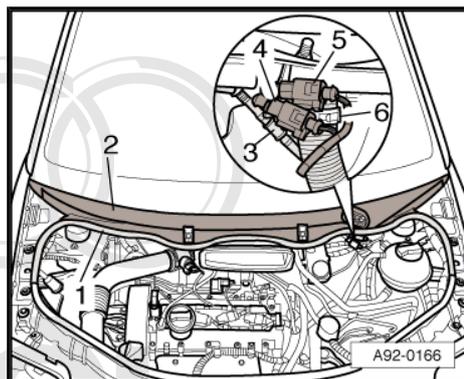
- ◆ Hose clamp fitting tool -V.A.G 1921-



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### Removing

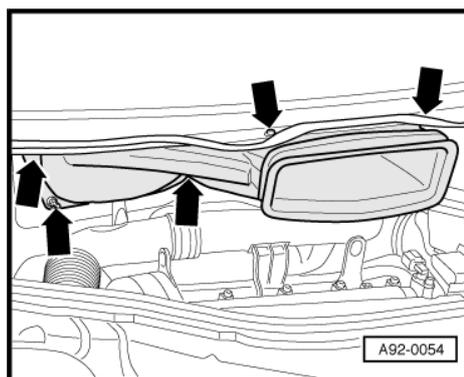
- Remove the wiper arm ⇒ [page 53](#) .
- Detach washer fluid pipe -3-.
- If fitted, detach electrical connectors -4- and -5- for heated washer jets.
- Release hose clamp -6- with hose clamp fitting tool - V.A.G 1921- and detach water drain hose from cowl panel grille.
- Detach rubber seal -1- for cowl panel grille.



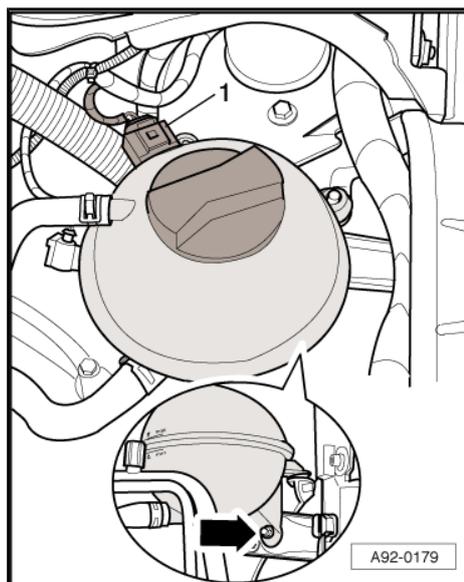
### Caution

**To stop the cowl panel grille -2- being torn on removal, apply a small quantity of soap solution to the transition between the windscreen and cowl panel grille and pull the cowl panel grille vertically upwards out of the fastening strip, starting at the edge of the windscreen.**

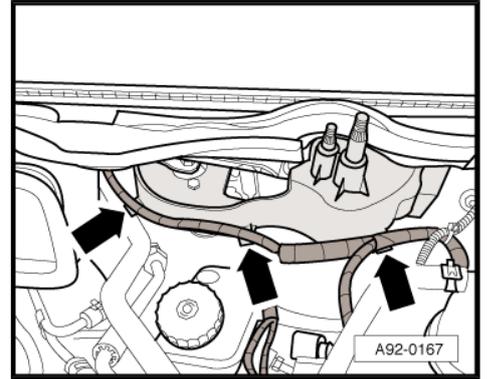
- Detach the cowl panel grille -2-.
- Set the washer fluid pipe aside.
- Remove the hexagon nuts and bolts -arrows-.
- Pull out the fresh air duct forwards.
- Swivel the fresh air duct to the right side of the vehicle.



- Remove nut -arrow- from bottom of coolant expansion tank.
- Detach electrical connector -1- for coolant shortage indicator switch -F66- at expansion tank.
- Remove coolant expansion tank upwards from bracket and lay aside with connected coolant pipes.



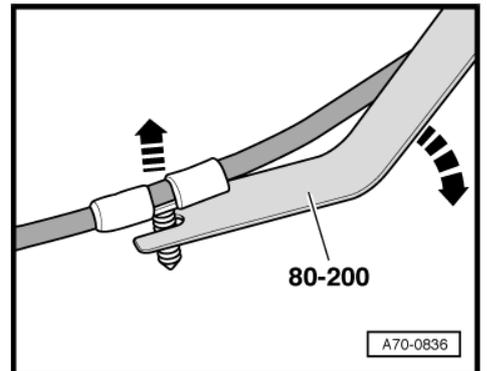
- Press off the wiring harness holders -arrows- at the wiper motor.



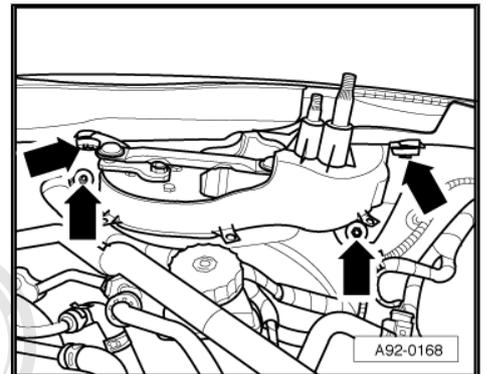
- Unclip the holder using the pressing-off lever -80 - 200- .

 **Note**

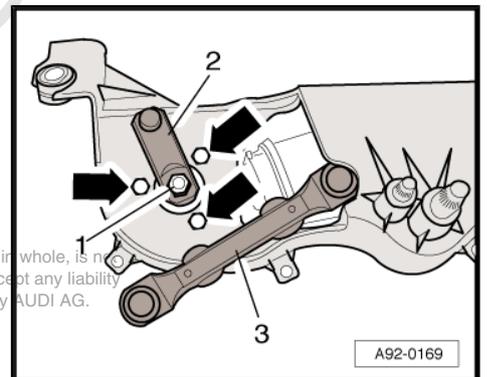
*Use silicone-free lubricating spray to facilitate removal, if necessary.*



- Remove the nuts and bolts -arrows-.
- Carefully pull out the wiper motor mounting frame to the left.
- Unplug the connector.



- Prise the wiper linkage -3- off the ball head.
- Unscrew the nut -1- and detach the crank -2- from the wiper motor.
- Unscrew bolts -arrows-.
- Detach the wiper motor from the wiper frame.

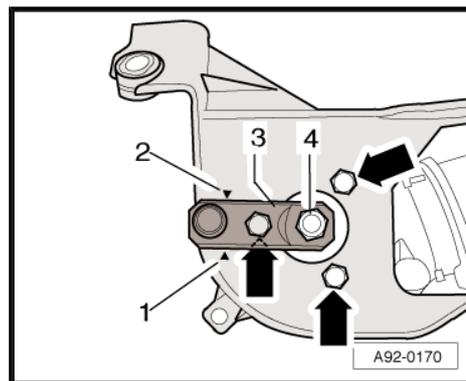


**Installing**

Install in reverse order, paying attention to the following:

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- Screw the wiper motor without crank to the wiper frame -arrows-.
- Plug in the connector at the wiper motor.
- Switch on ignition.
- Actuate the "Flick wipe" function and allow the wiper motor to move to its end position.
- Switch off ignition and remove ignition key.
- Fit the crank -3- with wiper linkage loosely in position on the wiper shaft.
- Align the crank with the wiper frame.
- The crank must be positioned between marks -1- and -2-.
- Hold the crank in position and start by hand-tightening the nut -4- so that the setting is not altered.
- Then hold the crank in position with an open-ended spanner and finish-tighten the nut.
- Switch on ignition.
- Actuate the "Flick wipe" function and allow the wiper motor to move to its end position.
- Check whether crank is positioned between marks -1- and -2- and re-align if necessary.
- Switch off ignition and take out ignition key.
- Fit the wiper motor with wiper frame in the vehicle.
- Adjust the wiper arm ⇒ [page 55](#) .



#### Tightening torques

Component	Nm
Wiper motor to wiper frame	9
Crank to wiper motor	18
Wiper frame to body	9
Wiper arm at bottom to wiper shaft	10
Coolant expansion tank to body	6

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### 3 Windscreen washer system

Observe notes on contact corrosion ⇒ [page 50](#) .

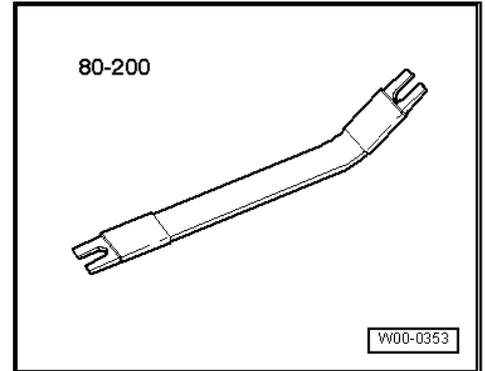
#### 3.1 Removing and installing filler neck with flexible pipe for washer fluid container

Special tools and workshop equipment required

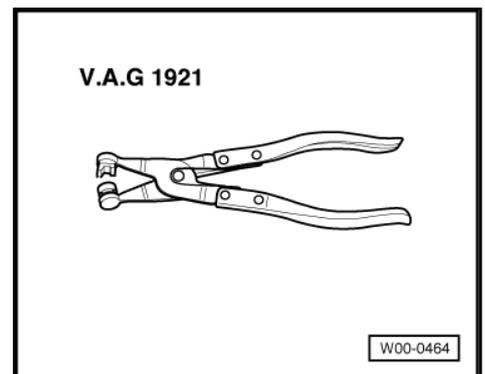
- ◆ Pressing lever -80 - 200-

**Audi**

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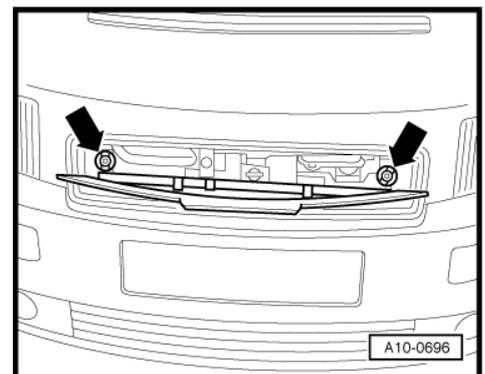


- ◆ Hose clamp fitting tool -V.A.G 1921-

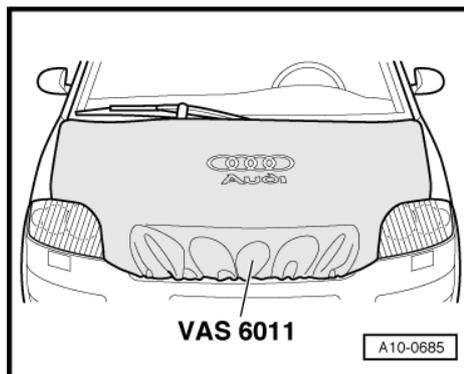


#### Removing

- Wash and rub dry the outside of the bonnet.
- Release the service flap from inside.
- Release the bonnet -arrows- and pull it forwards slightly.



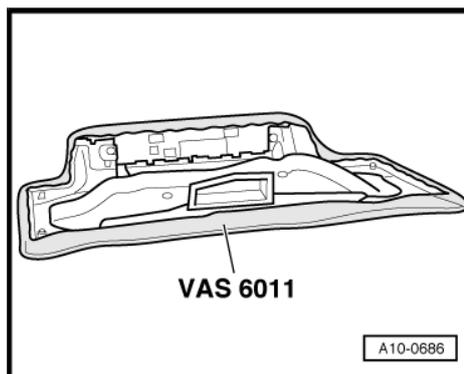
- Fit the protective cover -VAS 6011- over the bonnet.



**i** Note

*Do not stand the bonnet on end.*

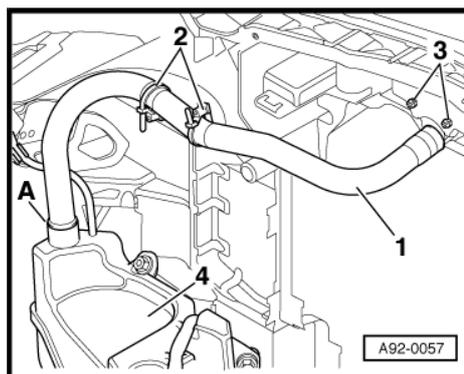
- Detach the bonnet and set it down on the protective cover - VAS 6011- .



- Remove the left wheel housing liner ⇒ Rep. Gr. 66 .

**Pull the flexible pipe of the filler neck -1- out of the washer fluid reservoir -4- at the location marked -A-.**

- Press off the hose holders -2- with the pressing-off lever -80 - 200- .



**i** Note

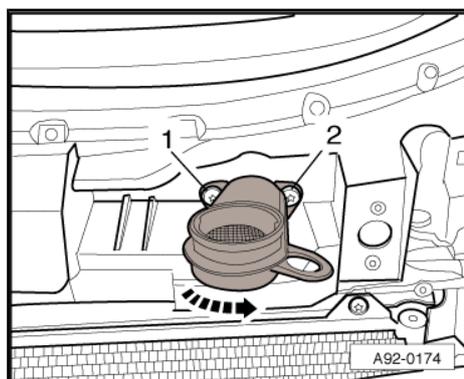
- ◆ *Ignore -item 3-.*
- ◆ *Use silicone-free lubricant spray to facilitate removal if necessary.*

- Swivel the filler neck for the washer fluid reservoir forwards -arrow-.
- Press the pins of the expanding clips -1- and -2- towards the engine compartment.
- Remove the filler neck for the washer fluid reservoir together with the flexible pipe.

**Installing**

Install in reverse order, paying attention to the following:

- Fit the left wheel housing liner ⇒ Rep. Gr. 66 .



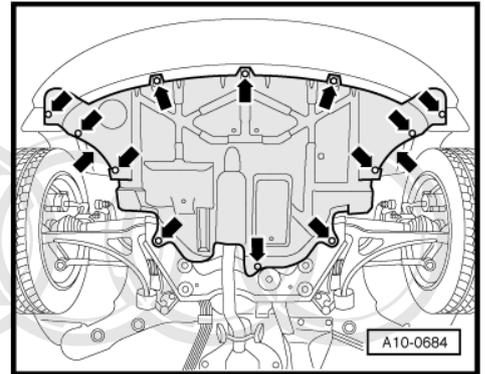
### 3.2 Removing and installing washer fluid reservoir - vehicles with 1.2 l TDI engine

**Special tools and workshop equipment required**

- ◆ Drip tray

## Removing

- Detach the noise insulation -arrows-.
- Remove the left wheel housing liner ⇒ Rep. Gr. 66 .



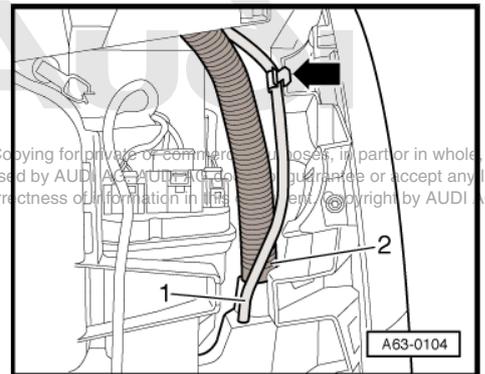
- Unclip the bleeder hose -1- at the holder -arrow-.
- Pull the flexible pipe -2- out of the washer fluid reservoir.



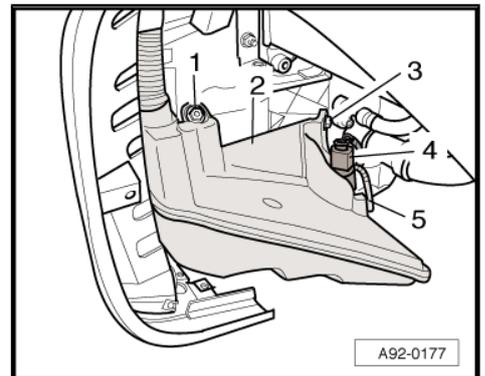
### Note

*The bumper has been removed in the illustration.*

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- Remove bolts -1- and -3-.
- Place a drip tray beneath the washer fluid reservoir.
- Detach the washer fluid pipe -5- at the washer fluid pump.
- Unplug the connector -4-.
- Lift the washer fluid reservoir -2- out of the guide ring.

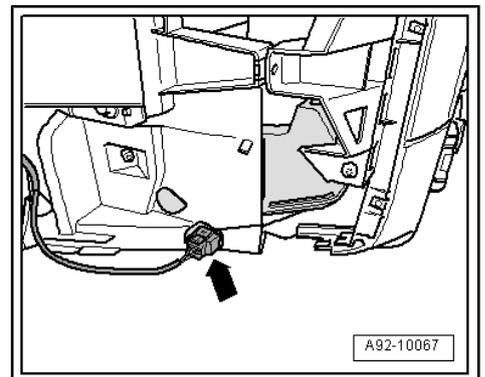


- If applicable, unplug the connector -arrow- at the washer fluid warning contact -F77- .



### Note

*The bumper has been removed in the illustration.*



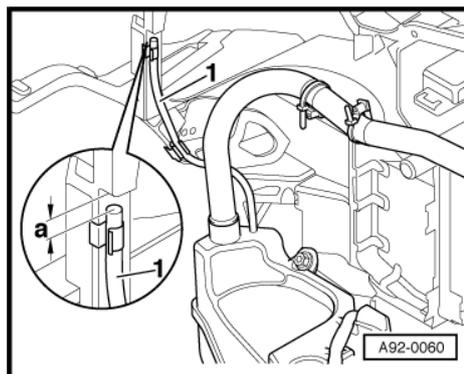
### Installing

Install in reverse order, paying attention to the following:

- The fluid hose must be heard to engage in the washer fluid pump connection.
- Insert the bleeder hose -1- in the clip and measure the distance -a-.
- Dimension -a- = 3 mm
- Fit the left wheel housing liner ⇒ Rep. Gr. 66 .

### Tightening torque

Component	Nm
Washer fluid reservoir to lock carrier	3



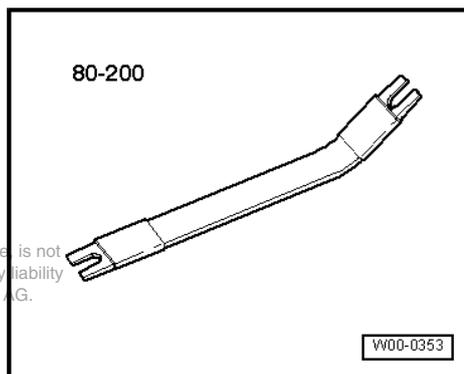
## 3.3 Removing and installing washer fluid reservoir - vehicles without headlight washer system

### Special tools and workshop equipment required

- ◆ Pressing lever -80 - 200-



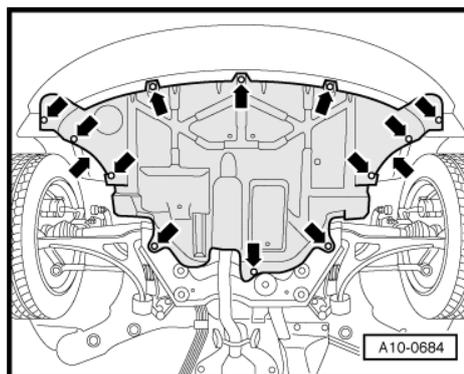
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- ◆ Drip tray

### Removing

- Detach the noise insulation -arrows-.
- Remove the left wheel housing liner ⇒ Rep. Gr. 66 .

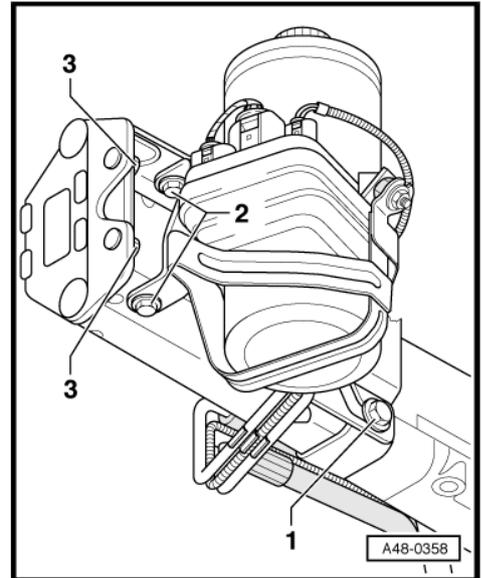
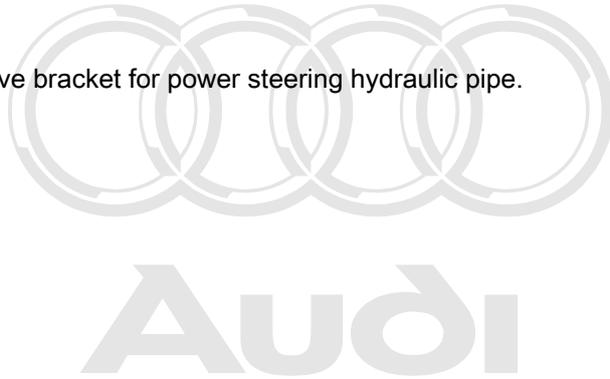


- Remove bolts -1- and -2- from motor/pump unit for power steering.

 **Note**

*Ignore -item 3-.*

- If fitted, remove bracket for power steering hydraulic pipe.

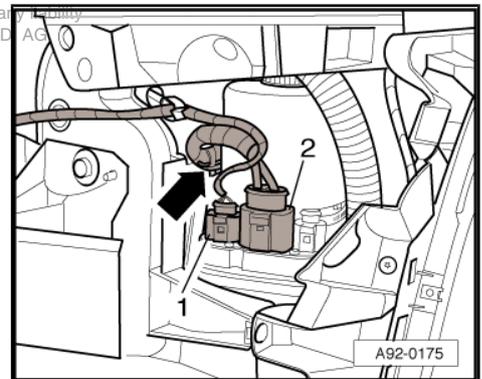


- Detach electrical connectors -1- and -2- from motor/pump unit.

 **Note**

*The bumper has been removed in the illustration.*

- Press off wiring harness bracket -arrow- from motor/pump unit.

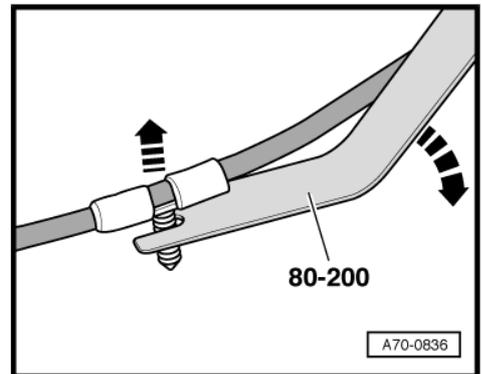


- Unclip the holder using the pressing-off lever -80 - 200- .

 **Note**

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

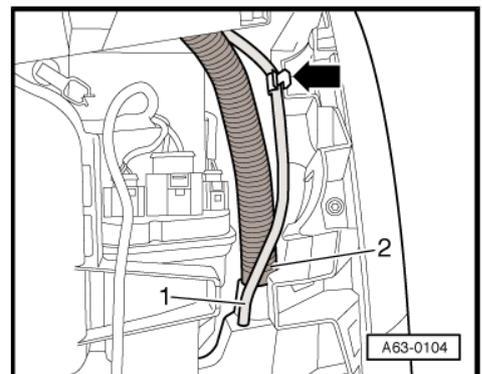
- Suspend motor/pump unit with connected hoses from suspension strut.



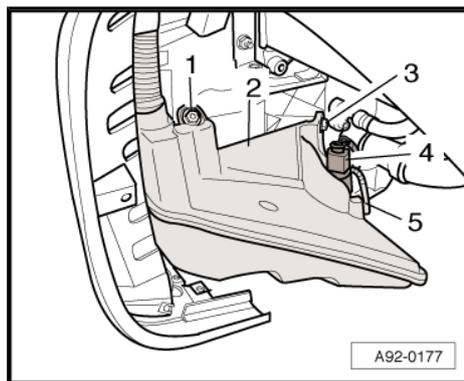
- Unclip breather hose -1- from bracket -arrow-.
- Pull flexible pipe -2- out of the washer fluid reservoir.

 **Note**

*The bumper has been removed in the illustration.*



- Remove bolts -1- and -3-.
- Place a drip tray beneath the washer fluid reservoir.
- Detach the washer fluid pipe -5- at the washer fluid pump.
- Unplug the connector -4-.
- Lift the washer fluid reservoir -2- out of the guide ring.

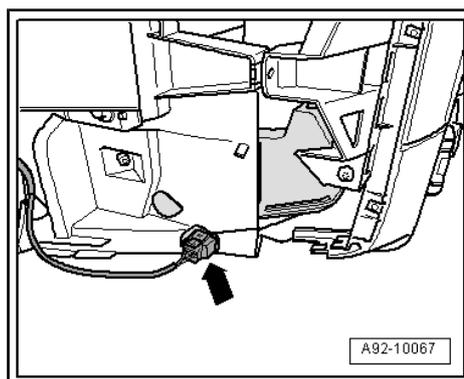


- If applicable, unplug the connector -arrow- at the washer fluid warning contact -F77- .



**Note**

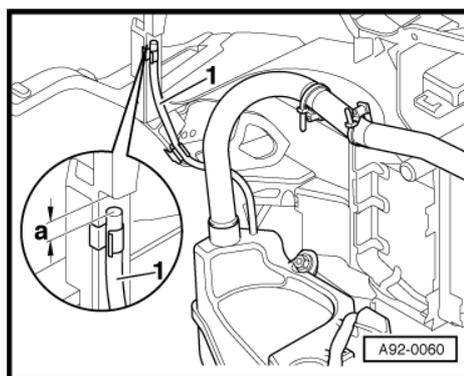
The bumper has been removed in the illustration.



**Installing**

Install in reverse order, paying attention to the following:

- The fluid hose must be heard to engage in the washer fluid pump connection.
- Insert the bleeder hose 1 in the clip and measure the distance -a- with respect to the correctness of information in this document. Copyright by AUDI AG.
- Dimension -a- = 3 mm
- On installing the motor/pump unit, ensure proper and careful routing and attachment of the hydraulic pipes.
- Fit the left wheel housing liner => Rep. Gr. 66 .



**Tightening torques**

Component	Nm
Washer fluid reservoir to lock carrier	3
Motor/pump unit to longitudinal member	23

**3.4 Removing and installing washer fluid reservoir - vehicles with headlight washer system**

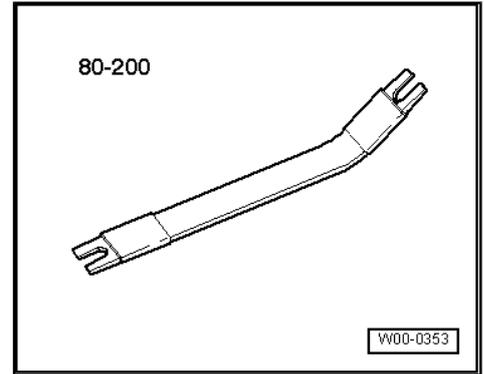


**Note**

The washer fluid reservoir at the front left of the engine compartment supplies water for both the windscreen washer system and the headlight washer system.

**Special tools and workshop equipment required**

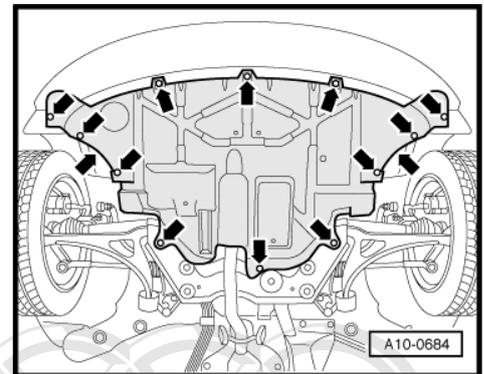
◆ Pressing-off lever -80 - 200-



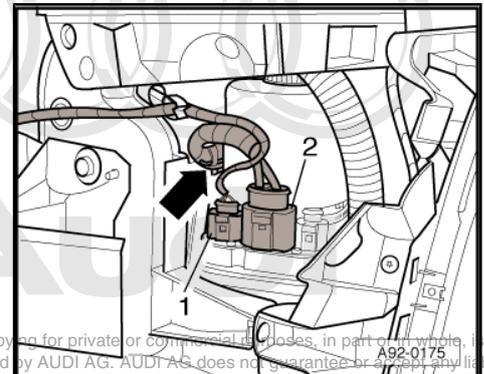
◆ Drip tray

**Removing**

- Detach the noise insulation -arrows-.
- Remove the left wheel housing liner ⇒ Rep. Gr. 66 .
- Remove the front bumper ⇒ Rep. Gr. 63 .



- Detach electrical connectors -1- and -2- from motor/pump unit.
- Press off wiring harness bracket -arrow- from motor/pump unit.



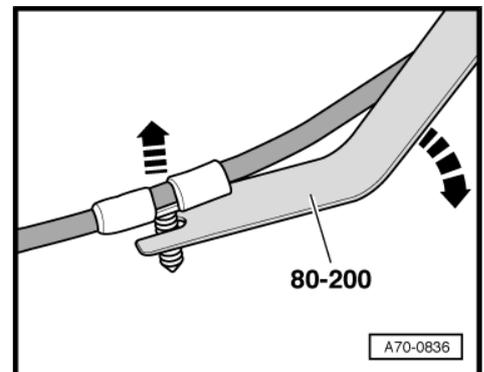
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- Unclip the holder using the pressing-off lever -80 - 200- .



**Note**

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

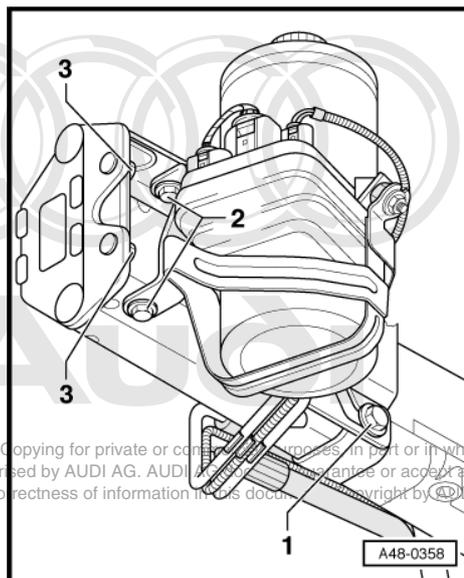


- Remove bolt -1- and nuts -3- from motor/pump unit for power steering.

**Note**

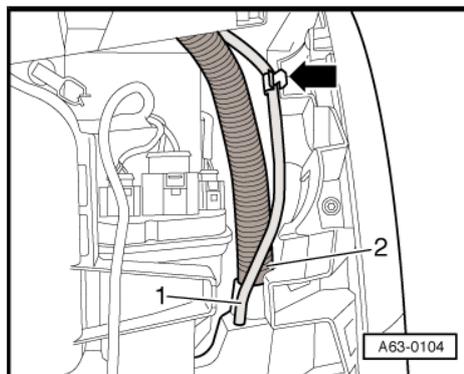
Ignore -item 2-.

- Suspend motor/pump unit with connected hoses from suspension strut.



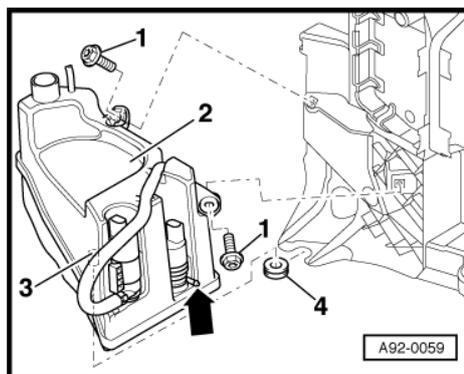
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- Unclip breather hose -1- from bracket -arrow-.
- Pull flexible pipe -2- out of the washer fluid reservoir.



- Remove bolts -1-.
- Place drip tray under washer fluid reservoir.
- Detach washer fluid pipe -arrow- from washer fluid pump.
- Unplug connectors.
- Lift washer fluid reservoir -2- out of locating ring -4-.

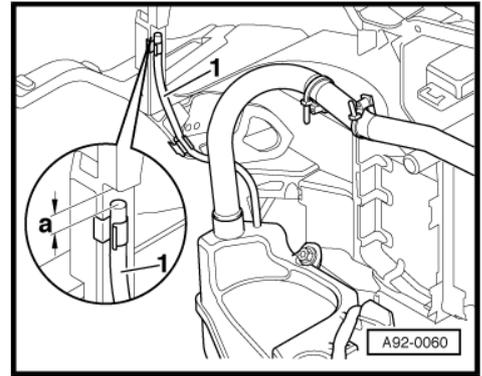
3 - Stud



### Installing

Install in reverse order, paying attention to the following:

- The fluid hose must be heard to engage in the washer fluid pump connection.
- Insert the bleeder hose -1- in the clip and measure the distance -a-.
- Dimension -a- = 3 mm
- On installing the motor/pump unit, ensure proper and careful routing and attachment of the hydraulic pipes.
- Install the front bumper ⇒ Rep. Gr. 63 .
- Fit the left wheel housing liner ⇒ Rep. Gr. 66 .



### Tightening torques

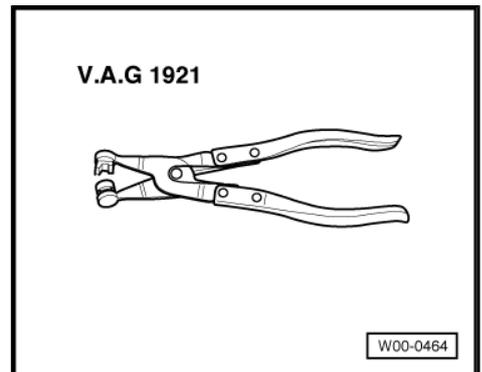
Component	Nm
Washer fluid reservoir to lock carrier	3
Motor/pump unit to longitudinal member	23

### 3.5 Removing and installing spray jets - vehicles up to Model Year 2002

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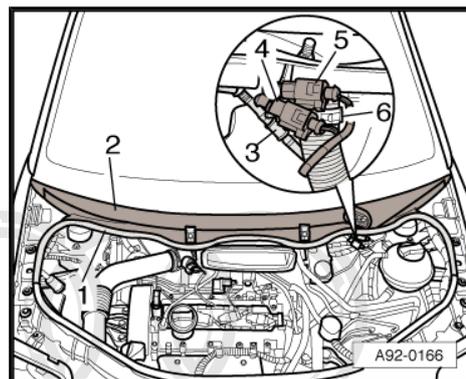
#### Special tools and workshop equipment required

- ◆ Hose clamp fitting tool -V.A.G 1921-



## Removing

- Remove the wiper arm ⇒ [page 53](#) .
- Detach washer fluid pipe -3-.
- If fitted, detach electrical connectors -4- and -5- for heated washer jets.
- Release hose clamp -6- with hose clamp fitting tool - V.A.G 1921- and detach water drain hose from cowl panel grille.
- Detach rubber seal -1- for cowl panel grille.



### Caution

*To stop the cowl panel grille -2- being torn on removal, apply a small quantity of soap solution to the transition between the windscreen and cowl panel grille and pull the cowl panel grille vertically upwards out of the fastening strip, starting at the edge of the windscreen.*

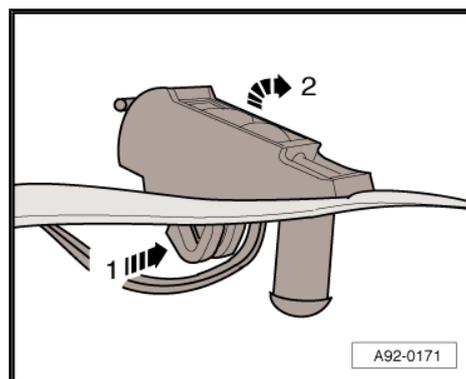
- Detach the cowl panel grille -2-.
- Set the washer fluid pipe aside.
- Lay wiring to relevant spray jet aside.
- Detach washer fluid pipe from relevant spray jet.
- Press back both retaining tabs using a screwdriver -arrow 1- and swivel spray jet upwards out of cowl panel grille -arrow 2-.

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## Installing

Install in reverse order, paying attention to the following:

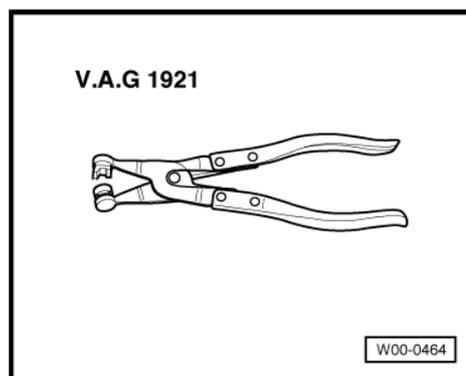
- The fluid hose must be heard to engage in the spray jet connection.
- Adjust the wiper arm ⇒ [page 55](#) .



## 3.6 Removing and installing spray jets - vehicles as of Model Year 2003

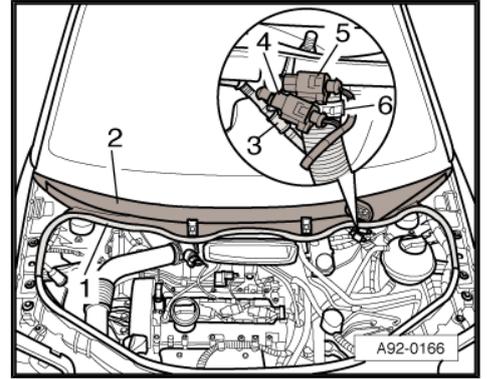
### Special tools and workshop equipment required

- ◆ Hose clamp fitting tool -V.A.G 1921-



## Removing

- Remove the wiper arm ⇒ [page 53](#) .
- Detach washer fluid pipe -3-.
- If fitted, detach electrical connectors -4- and -5- for heated washer jets.
- Release hose clamp -6- with hose clamp fitting tool - V.A.G 1921- and detach water drain hose from cowl panel grille.
- Detach rubber seal -1- for cowl panel grille.



### Caution

*To stop the cowl panel grille -2- being torn on removal, apply a small quantity of soap solution to the transition between the windscreen and cowl panel grille and pull the cowl panel grille vertically upwards out of the fastening strip, starting at the edge of the windscreen.*

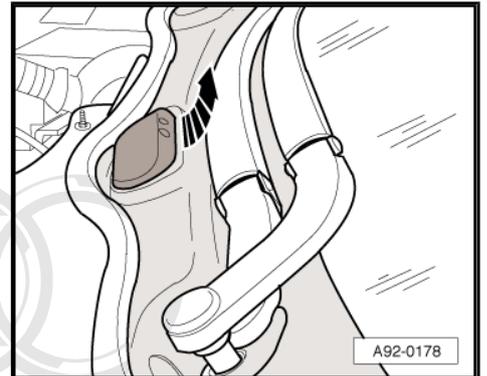
- Detach the cowl panel grille -2-.
- Set the washer fluid pipe aside.
- Unclip washer spray jet from cowl panel grille -arrow-.



### Note

*The illustration shows the wiper arm in position.*

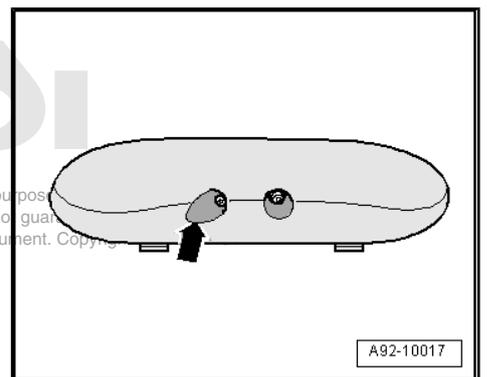
- Detach the washer fluid pipe from the spray jet.
- Unplug spray jet heater connector where present.



## Installing

Install in reverse order, paying attention to the following:

- When attaching the washer fluid pipe, make sure it is heard to engage in the spray jet connection.
- Insert the spray jet in the cowl panel grille.
- Oval opening -arrow- for individual spray jet must face outer side of vehicle.
- Adjust the wiper arm ⇒ [page 55](#) .



### 3.7 Adjusting spray jets - vehicles up to Model Year 2002

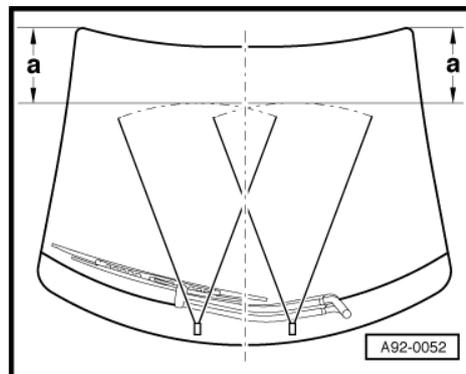
#### Adjustment

- Use water-soluble ink to mark the top edge of the spray area on the windscreen:
- Dimension -a- =  $420 \pm 50$  mm



#### Note

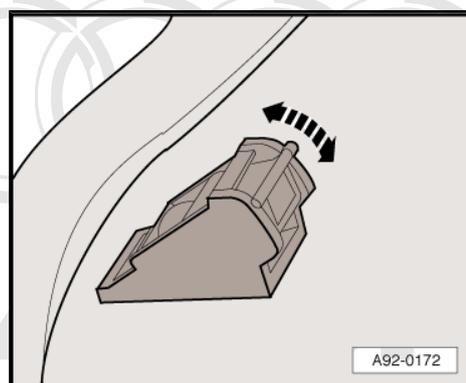
The setting dimension is measured from the spray jet.



- Adjust the height of the spray area at the front at the spray jet -arrow-.
- If the spray area is not as specified, the spray jet is dirty and must be cleaned.

#### Cleaning spray jet:

- Remove the spray jet ⇒ [page 69](#) .
- Flush out the spray jet with clean water opposite to the spray direction.
- To remove any residual contamination, compressed air can be blown through the spray jet, but only opposite to the spray direction.



If the spray area is still not as specified.

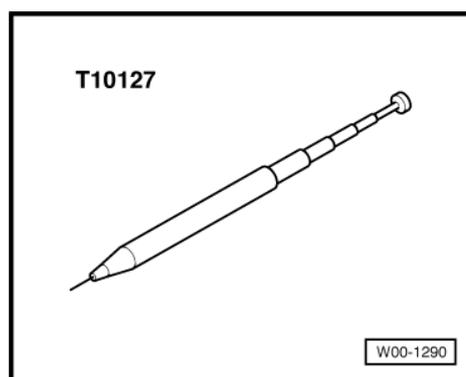
- Replace the spray jet.

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### 3.8 Adjusting spray jets - vehicles as of Model Year 2003

#### Special tools and workshop equipment required

- ◆ Setting tool -T10127- fitted with needle -3125/5 A-



## Adjustment

### Note

*The setting dimensions indicate the values for a moving vehicle, i.e. the spray from the jets is slightly offset when the vehicle is stationary.*

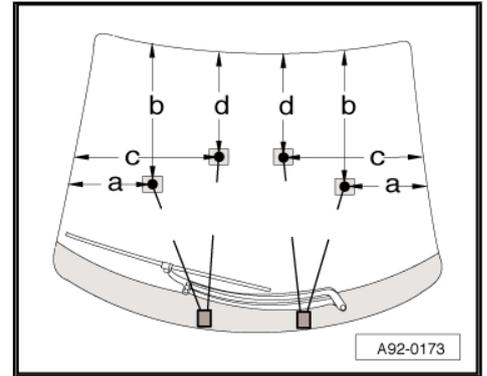
- Use water-soluble pen to mark four points on windscreen:
  - Dimension -a- = 240 ... 280 mm.
  - Dimension -b- = 470 ... 535 mm
  - Dimension -c- = 560 ... 580 mm
  - Dimension -d- = 670 mm
- Using setting tool -T10127-, target points from individual spray jets.
- If the spray area is not as specified, the spray jet is dirty and must be cleaned.

### Cleaning spray jet:

- Remove the spray jet ⇒ [page 70](#) .
- Flush out the spray jet with clean water opposite to the spray direction.
- To remove any residual contamination, compressed air can be blown through the spray jet, but only opposite to the spray direction.

If the spray area is still not as specified.

- Replace the spray jet.



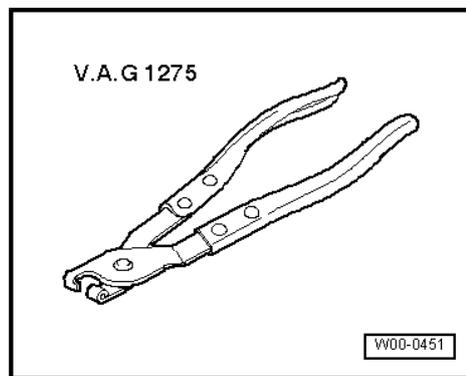
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## 4 Headlight washer system

### 4.1 Removing and installing headlight washer spray jets

Special tools and workshop equipment required

- ◆ Hose clamp pliers -V.A.G 1275-



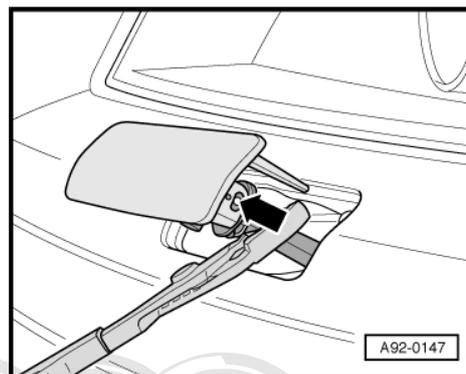
#### Removing

- Remove the front bumper => Rep. Gr. 63 .

#### Note

To protect the bumper, place a cloth underneath and hold the spray jet with pliers.

- Pull the cover for the spray jets upwards at the bumper and carefully disengage the mounts -arrow-.



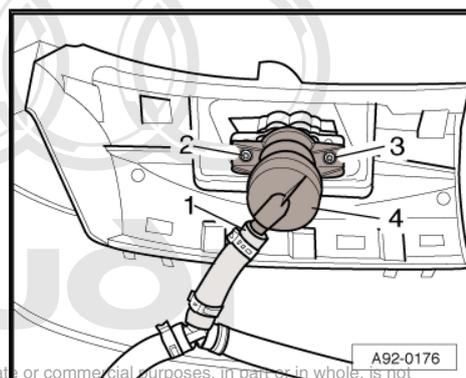
- Detach fluid hose -1- at spray jet -4-.
- Remove bolts -2- and -3- and remove the spray jet.

#### Installing

Install in reverse order, paying attention to the following:

#### Note

Secure all hose connections with standard hose clamps => Parts List .



- Use hose clamp pliers -V.A.G 1275- to install hose clamp
- Install the front bumper => Rep. Gr. 63 .

#### Tightening torque

Component	Nm
Spray jet to bumper	2.5

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## 4.2 Adjusting spray jets

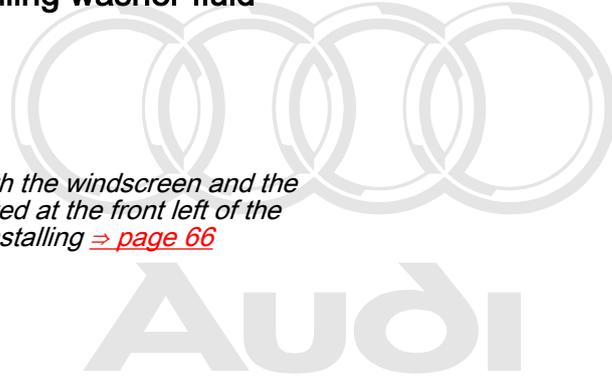


*The spray jets supplied are pre-set at the factory and do not have to be adjusted following installation.*

## 4.3 Removing and installing washer fluid reservoir



*The washer fluid reservoir supplies both the windscreen and the headlight washer systems, and is located at the front left of the engine compartment. Removing and installing ⇒ [page 66](#)*



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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 ⇒ Parts catalogue .

**Note:**

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



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## 2 Headlights

Observe notes on contact corrosion ⇒ [page 77](#) .



### Note

*If any work is performed which could affect the headlight setting, the headlights must be re-adjusted ⇒ Maintenance ; Booklet 809 .*

### 2.1 Headlights - exploded view

#### 1 - Surround

#### 2 - Lens

- Can be replaced separately up to Model Year 2001

#### 3 - Clip

- Can be replaced separately up to Model Year 2001

#### 4 - Gasket

- Can be replaced separately up to Model Year 2001

#### 5 - 6 Nm

#### 6 - Headlight housing

- with reflector
- Can be replaced separately up to Model Year 2001

#### 7 - Bulb holder

- for turn signal bulb

#### 8 - Turn signal bulb

- 12 V, 21 W
- Orange
- Bulb replacement ⇒ [page 84](#)

#### 9 - 6 Nm

#### 10 - Dipped beam bulb

- H7 - 12 V, 55 W
- Bulb replacement ⇒ [page 82](#)

#### 11 - Main beam bulb

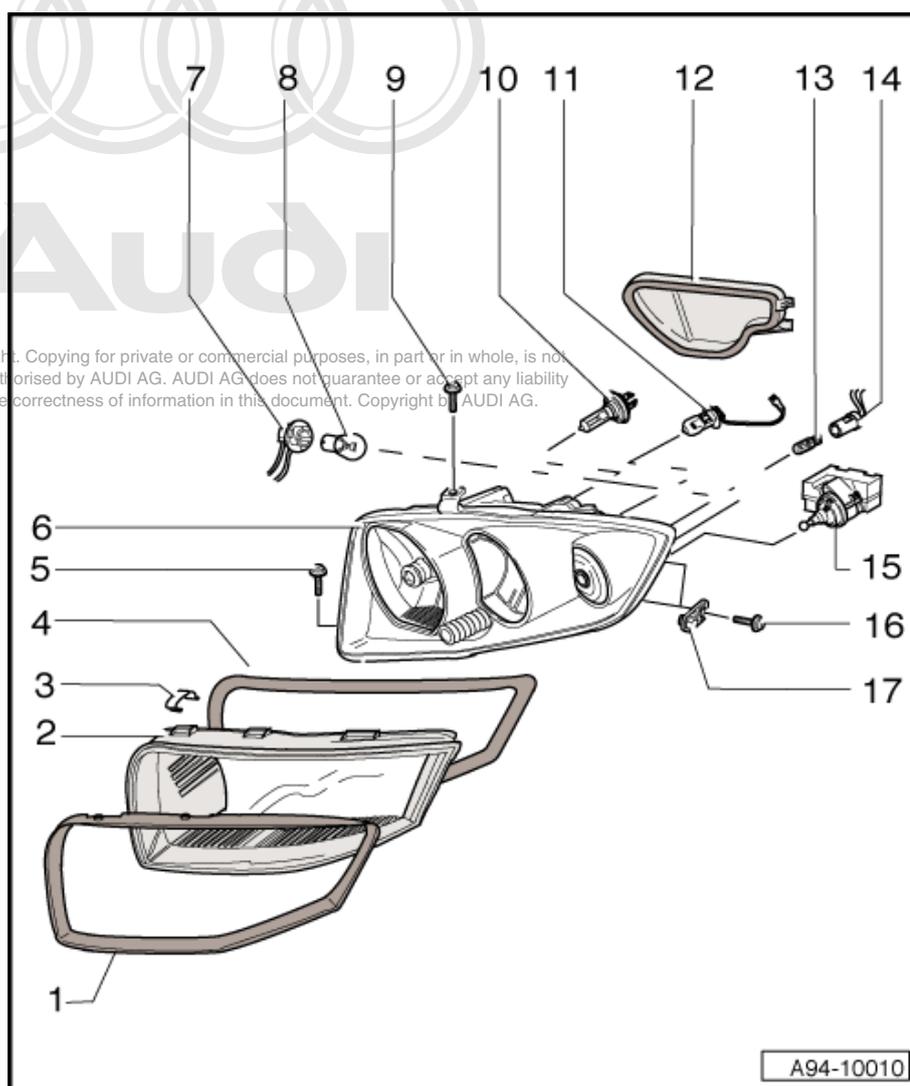
- H1 - 12 V, 55 W
- Bulb replacement ⇒ [page 83](#)

#### 12 - Housing cover

- with seal

#### 13 - Parking light bulb

- W5W - 12 V, 5 W
- Bulb replacement ⇒ [page 84](#)



#### 14 - Bulb holder

- For parking light bulb

#### 15 - Headlight range control positioning motor

- Left headlight range control motor -V48- , right headlight range control motor -V49-
- Removing and installing ⇒ [page 85](#)

#### 16 - 6 Nm

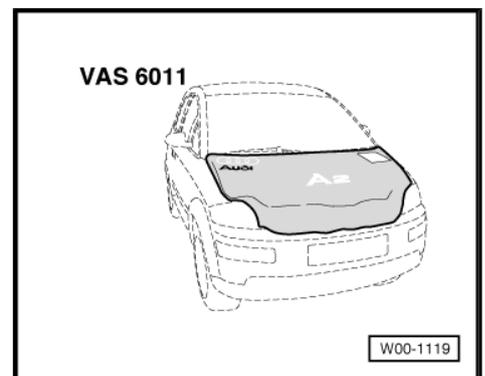
#### 17 - Adjusting element

- For outside edge of headlight
- For alignment of headlight to body contour (gap widths)

## 2.2 Removing and installing headlights

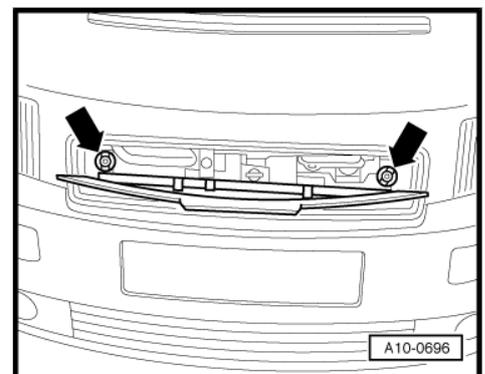
### Special tools and workshop equipment required

- ◆ Protective cover for bonnet Audi A2 -VAS 6011-

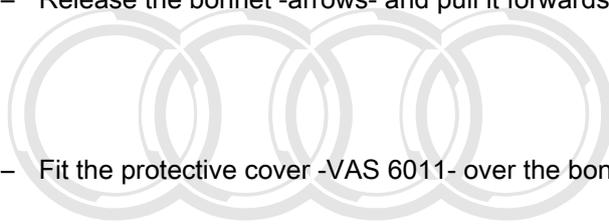
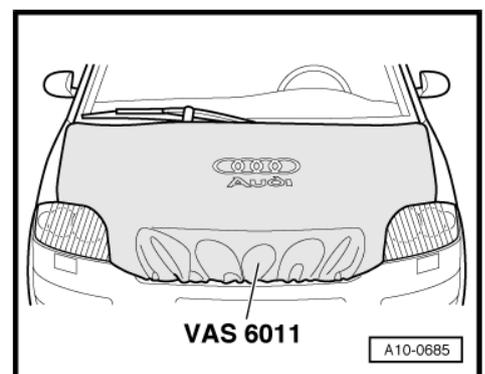


### Removing

- Switch off ignition and remove ignition key.
- Turn light switch to "0" position.
- Wash and rub dry the outside of the bonnet.
- Release the service flap from inside.
- Release the bonnet -arrows- and pull it forwards slightly.



- Fit the protective cover -VAS 6011- over the bonnet.



**Audi**

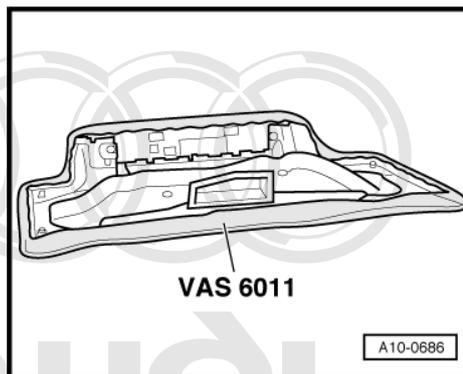
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**Note**

*Do not stand the bonnet on end.*

- Detach the bonnet and set it down on the protective cover - VAS 6011- .

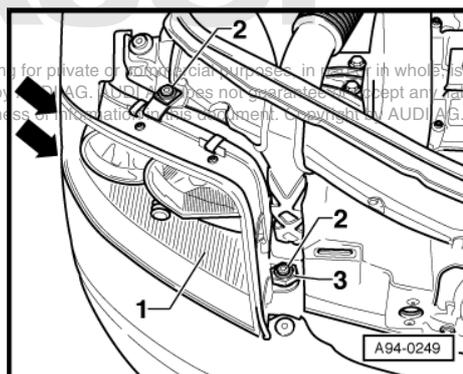


**Note**

*To avoid damaging the paintwork, use adhesive tape to mask the bumper in the area of the headlight.*

- Remove bolts -2-.
- Detach headlight from its mountings at the points indicated by the -arrows-; for this purpose, push the headlight towards the centre of the vehicle.
- Detach electrical connector and remove headlight.

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**Note**

*Ignore -item 3-.*

**Installing**

Install in reverse order, paying attention to the following:

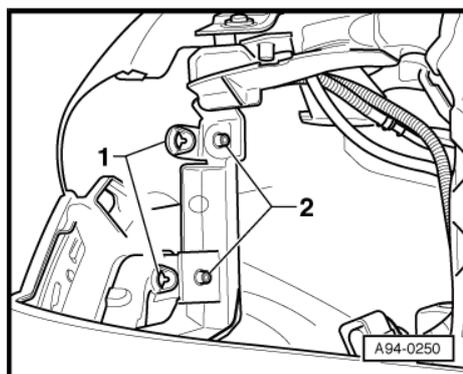
- Install headlight in mountings -1- on lock carrier.



**Note**

*Ignore -item 2-.*

- Check alignment of headlight to body contours (gap widths). Re-align if necessary ⇒ [page 81](#) .
- Following installation, adjust the headlights ⇒ Maintenance ; Booklet 809 .



**Tightening torque**

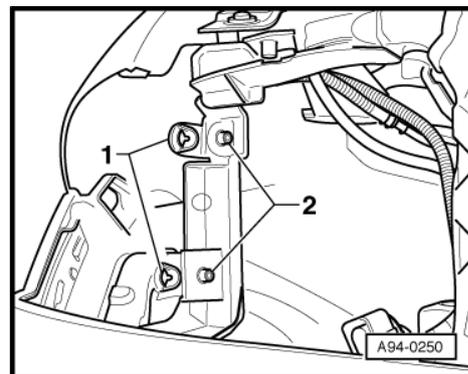
Component	Nm
Headlight to lock carrier	6

## 2.3 Aligning headlight to body contours (gap widths)

- Headlight removed ⇒ [page 79](#) .

### Alignment of outer edge:

- Loosen bolts -2-.
- Change position of adjusting elements -1- in stages with headlight removed.
- In order to check adjustment, reinstall headlight each time.



### Alignment of inner edge:

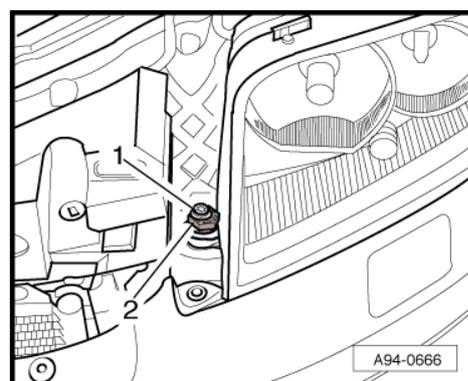
- Loosen bolt -1-.
- Change installation position of headlight in stages via adjusting nut -2-.
- In order to check adjustment, reinstall headlight each time.

### Concluding operations:

- Adjust the headlight ⇒ Maintenance ; Booklet 809 .

### Tightening torque

Component	Nm
Headlight to lock carrier	6



## 2.4 Adjusting headlights

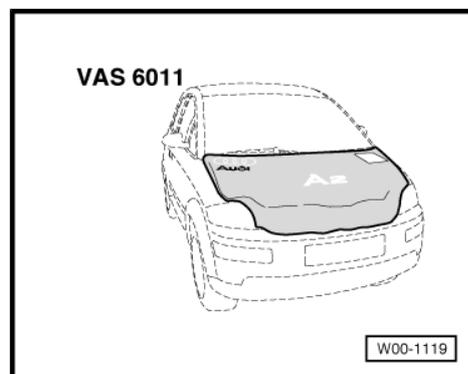
For specifications and headlight adjustment procedure, refer to ⇒ Maintenance ; Booklet 809 .

## 2.5 Preparation for working on headlight

### 2.5.1 Detaching bonnet

#### Special tools and workshop equipment required

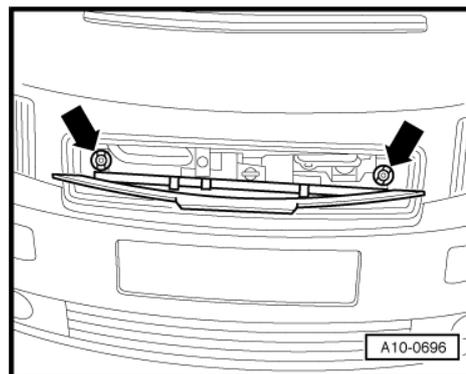
- ◆ Protective cover for bonnet Audi A2 -VAS 6011-

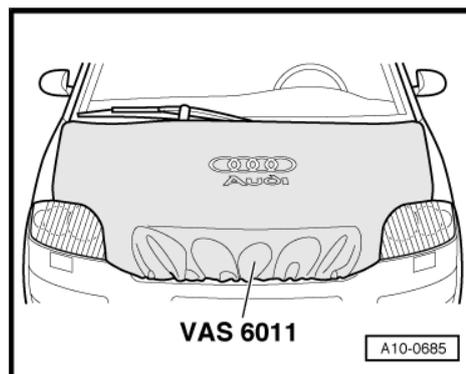
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### Sequence of operations

- Wash and rub dry the outside of the bonnet.
- Release the service flap from inside.
- Release the bonnet -arrows- and pull it forwards slightly.



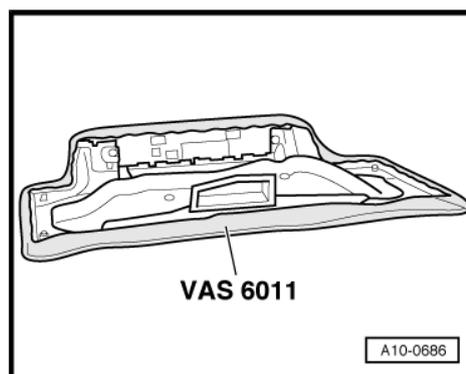
- Fit the protective cover -VAS 6011- over the bonnet.



### Note

*Do not stand the bonnet on end.*

- Detach the bonnet and set it down on the protective cover -VAS 6011- .

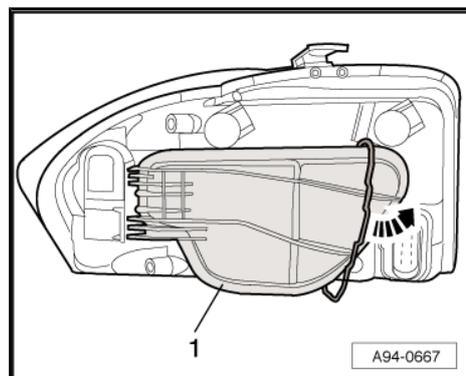


## 2.6 Replacing dipped beam bulb

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### Removing

- Switch off ignition and remove ignition key.
- Turn light switch to "0" position.
- Detach the bonnet ⇒ [page 81](#) .
- Release the spring clip -arrow- and detach the cover -1- from the headlight housing.

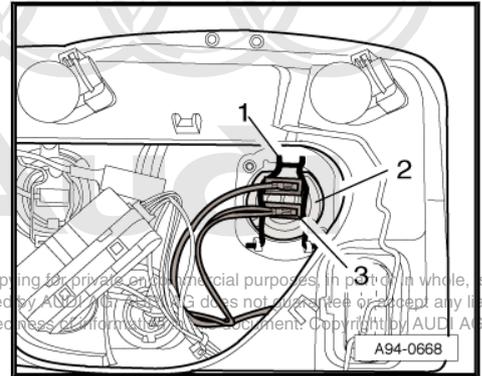


- Detach electrical connector -3- from dipped beam bulb.
- Disengage wire clip -1- and remove bulb -2- from housing.

**Installing**

Install in reverse order, paying attention to the following:

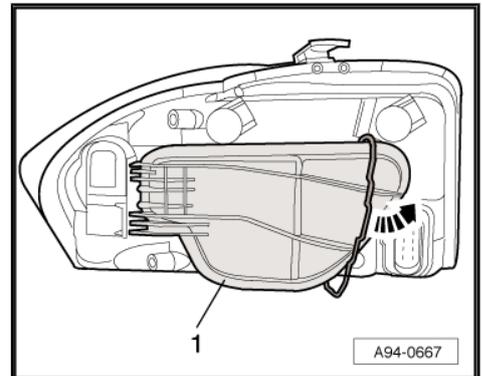
- Insert the new bulb in the housing, taking care not to touch the glass bulb with bare hands.
- Secure the bulb with the spring clip.
- Plug the connector back in and close the housing cover.
- Secure the housing cover with the spring clip.



**2.7 Replacing main beam bulb**

**Removing**

- Switch off ignition and remove ignition key.
- Turn light switch to "0" position.
- Detach the bonnet => [page 81](#) .
- Release the spring clip -arrow- and detach the cover -1- from the headlight housing.

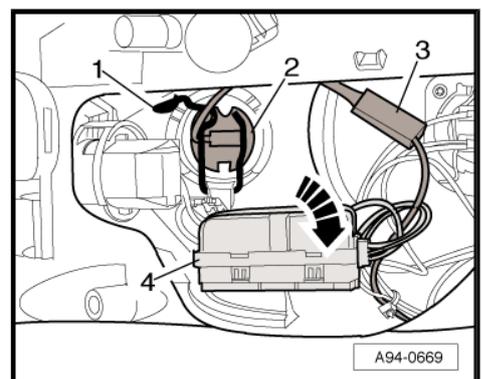


- Turn the headlight range control motor -4- clockwise at the left headlight and anti-clockwise at the right headlight until it is in horizontal position -arrow-.
- Detach electrical connector -3- at main beam bulb.
- Disengage wire clip -1- and remove bulb -2- from housing.

**Installing**

Install in reverse order, paying attention to the following:

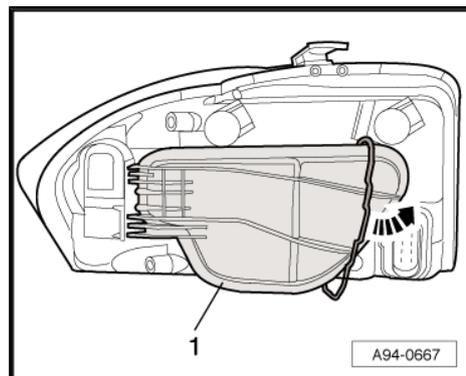
- Insert the new bulb in the housing, taking care not to touch the glass bulb with bare hands.
- Secure the bulb with the spring clip.
- Plug the connector back in and close the housing cover.
- Secure the housing cover with the spring clip.



## 2.8 Replacing side light bulb

### Removing

- Switch off ignition and remove ignition key.
- Turn light switch to "0" position.
- Detach the bonnet ⇒ [page 81](#) .
- Release the spring clip -arrow- and detach the cover -1- from the headlight housing.

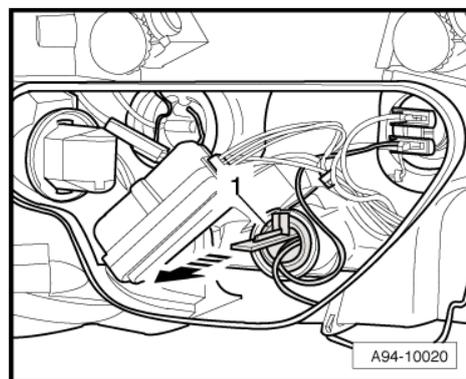


- Pull the holder -1- together with bulb out of reflector in -direction of arrow-.
- Pull side light bulb out of holder.

### Installing

Install in reverse order, paying attention to the following:

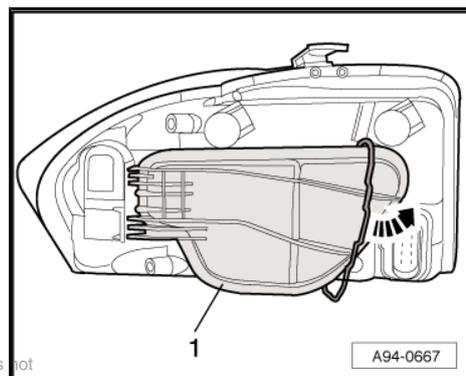
- Insert the new bulb in the holder, taking care not to touch the glass bulb with bare hands.
- Press holder into reflector until it is felt to engage.
- Close the housing cover.
- Secure the housing cover with the spring clip.



## 2.9 Replacing turn signal bulb

### Removing

- Detach the bonnet ⇒ [page 81](#) .
- Switch off ignition and remove ignition key.
- Turn light switch to "0" position.
- Release the spring clip -arrow- and detach the cover -1- from the headlight housing.

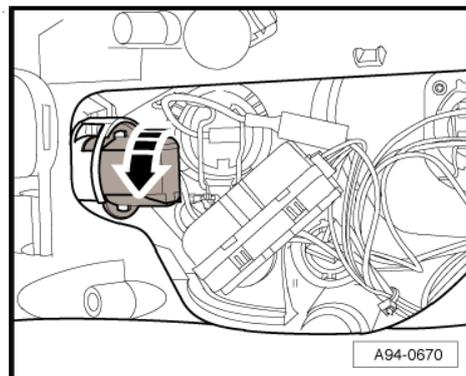


- Turn bulb holder for turn signal anti-clockwise -arrow- and remove from reflector.
- Pull turn signal bulb out of holder.

### Installing

Install in reverse order, paying attention to the following:

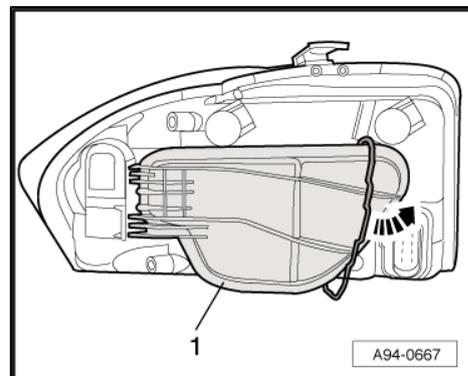
- Insert the new bulb in the housing, taking care not to touch the glass bulb with bare hands.
- Close the housing cover.
- Secure the housing cover with the spring clip.



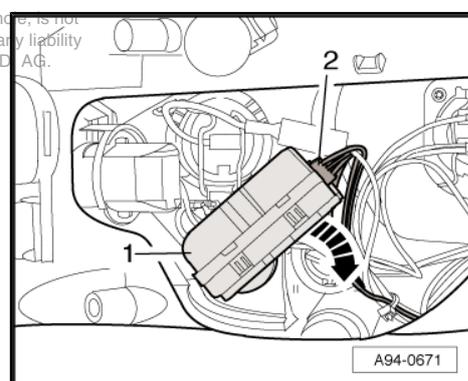
## 2.10 Removing and installing headlight range control motor -V48- / -V49-

### Removing

- Switch off ignition and remove ignition key.
- Turn light switch to "0" position.
- Detach the bonnet => [page 81](#) .
- Release the spring clip -arrow- and detach the cover -1- from the headlight housing.



- Detach electrical connector -2- from headlight range control positioning motor.
- Turn the positioning motor -1- clockwise for left-hand headlights and anti-clockwise for right-hand headlights until it is horizontal -arrow-.
- Swivel ball head of positioning shaft downwards out of mounting on reflector.
- Remove headlight range control positioning motor from headlight housing.



### Installing

Install in reverse order, paying attention to the following:

- Push ball head of positioning shaft into mounting on reflector and turn positioning motor to limit stop in installation position.
- Close the housing cover.
- Secure housing cover with spring clip.

### Note

*The headlights must always be adjusted if the control motors are removed and installed or replaced => Maintenance ; Booklet 809 .*

## 2.11 Installing repair set for headlight housing

### Note

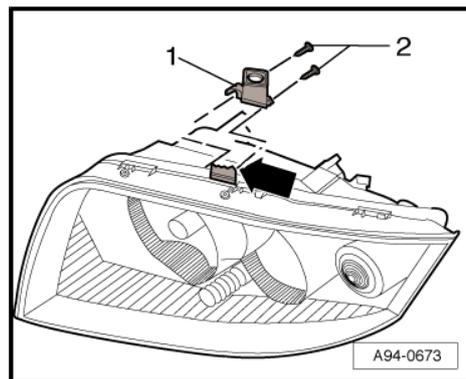
- ◆ *Broken-off headlight fasteners can be replaced by installing repair set, thus avoiding replacement of entire headlight.*
- ◆ *Different repair sets are available for both left and right side headlights => Parts List .*

### Sequence of operations

- Remove headlight with broken fastener ⇒ [page 79](#) .
- Remove rest of broken fastener -arrow- from headlight housing.
- Position fastener -1- of repair set on headlight housing and secure fastener with bolts -2-.

### Tightening torque

Component	Nm
Headlight to lock carrier	6



## 2.12 Resetting headlights for driving on the left instead of on the right

- ◆ When travelling in countries where the vehicle is to be driven on the other side of the road, the lenses of both headlights must be partially masked with appropriately shaped opaque adhesive strips to prevent dazzling of oncoming traffic by the asymmetric dipped beam.
- ◆ A masking film must be affixed to the headlight lenses for switching from driving on the right to driving on the left and vice versa ⇒ Owner's manual .

## 2.13 Resetting headlights for driving on the right instead of on the left

- ◆ When travelling in countries where the vehicle is to be driven on the other side of the road, the lenses of both headlights must be partially masked with appropriately shaped opaque adhesive strips to prevent dazzling of oncoming traffic by the asymmetric dipped beam.
- ◆ A masking film must be affixed to the headlight lenses for switching from driving on the right to driving on the left and vice versa ⇒ Owner's manual .



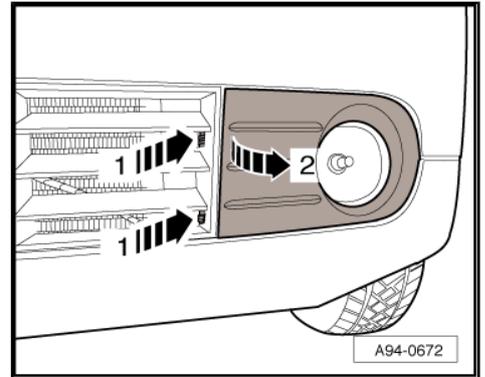
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### 3 Fog lights

#### 3.1 Removing and installing fog lights

##### Removing

- Switch off ignition and remove ignition key.
- Turn light switch to "0" position.
- Use a screwdriver to release the fasteners -arrows 1- and detach the fog light cover at the bottom in the bumper -arrow 2-.

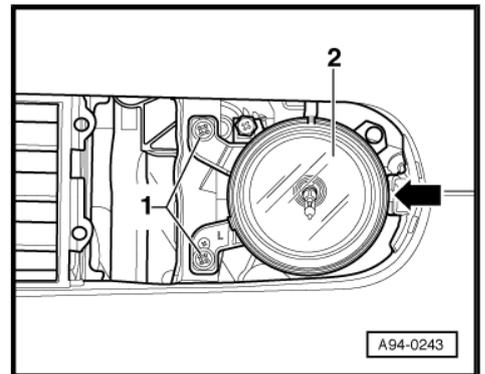


- Remove bolts -1-.
- Pull the guide pin of the fog light -2- in -arrow direction- out of the bumper.
- Unplug the connector.

##### Installing

Install in reverse order, paying attention to the following:

- Engage the fog light on the inside at the bumper.
- Adjusting fog light ⇒ Maintenance ; Booklet 809



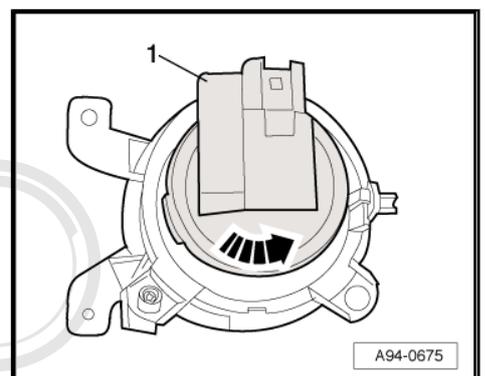
##### Tightening torque

Component	Nm
Fog light housing to bumper	2.5

#### 3.2 Replacing fog light bulb

##### Removing

- Remove fog light ⇒ [page 87](#) .
- Release cover -1- by turning anti-clockwise -arrow- and remove.



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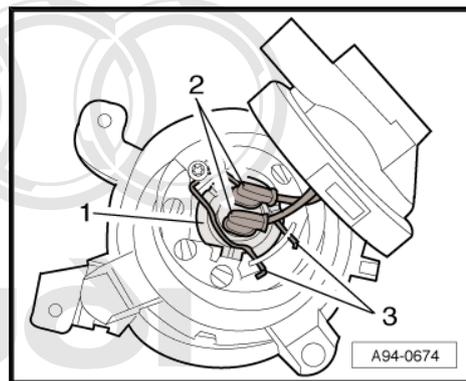
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- Unplug connectors -2-.
- Disengage wire clip -3- and remove bulb -1- from housing.

### Installing

Install in reverse order, paying attention to the following:

- Insert the new bulb in the housing, taking care not to touch the glass bulb with bare hands.
- Secure the bulb with the spring clip.
- Plug the connectors back in and close the housing cover.
- Adjusting fog light ⇒ Maintenance ; Booklet 809



## 3.3 Adjusting fog lights

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- For fog light adjustment specifications refer to ⇒ Maintenance ; Booklet 809 .

## 4 Side-mounted turn signals

### 4.1 Removing and installing side mounted turn signals

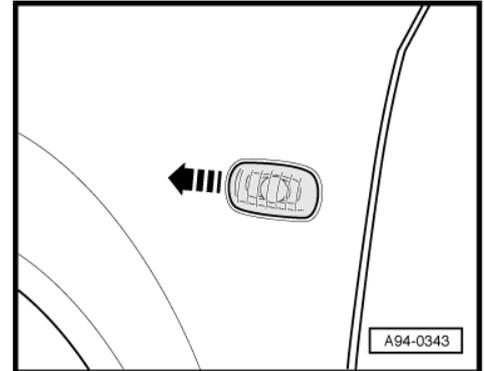
#### Removing

- Switch off ignition and remove ignition key.
- Press the turn signal indicator in the direction of travel towards the retaining tab -arrow- and take it carefully out of the wing opening.
- Detach the housing for the side-mounted turn signal indicator from the bulb holder.

#### Installing

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Install in reverse order.



## 5 Rear lights

Observe notes on contact corrosion ⇒ [page 77](#) .

### 5.1 Rear light - exploded view

**1 - Seal**

**2 - Brake light/tail light bulb**

- ❑ 12 V, 21/5 W
- ❑ Removing and installing ⇒ [page 91](#)

**3 - Bulb carrier**

**4 - Rear fog light bulb**

- ❑ 12 V, 21 W
- ❑ Removing and installing ⇒ [page 91](#)

**5 - Turn signal bulb**

- ❑ 12 V, 21 W
- ❑ Orange
- ❑ Removing and installing ⇒ [page 91](#)

**6 - Reversing light bulb**

- ❑ 12 V, 21 W
- ❑ Removing and installing ⇒ [page 91](#)

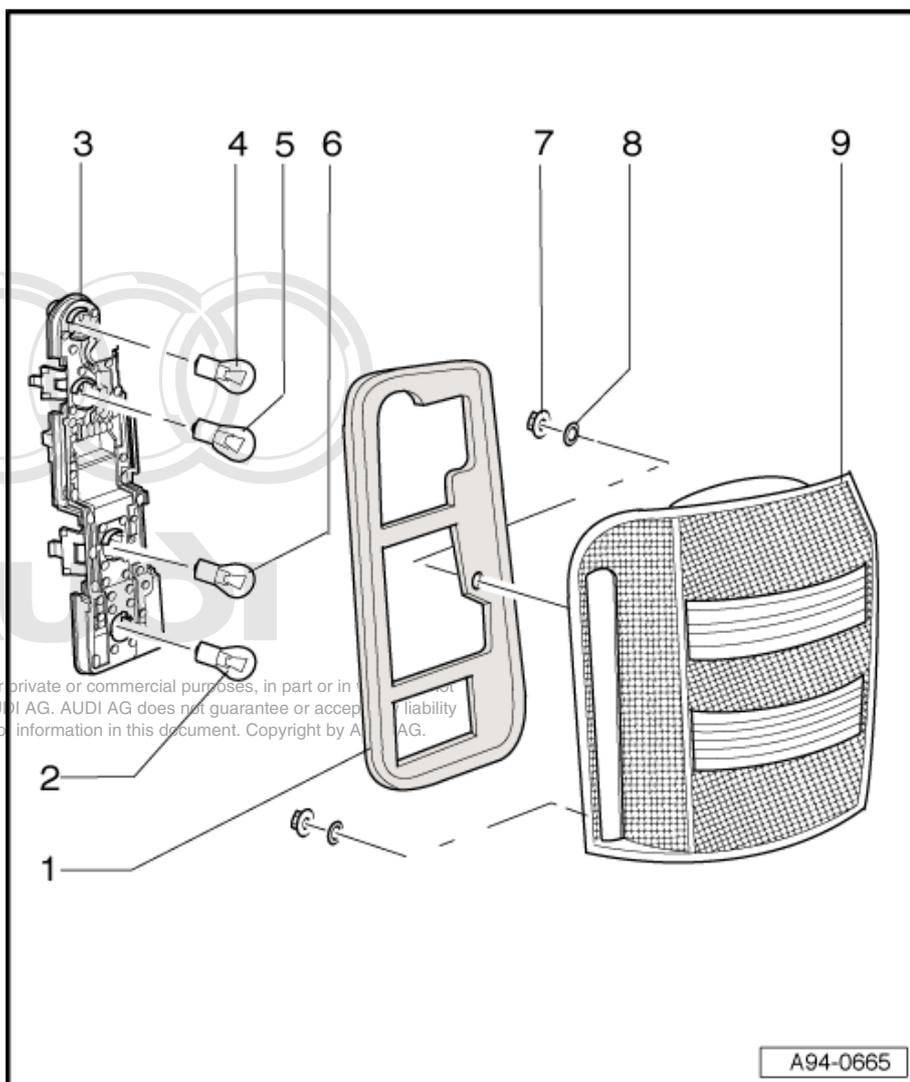
**7 - Nut -4.5 Nm**

**8 - Sealing washer**

- ❑ self-adhesive

**9 - Housing**

- ❑ Removing and installing ⇒ [page 90](#)

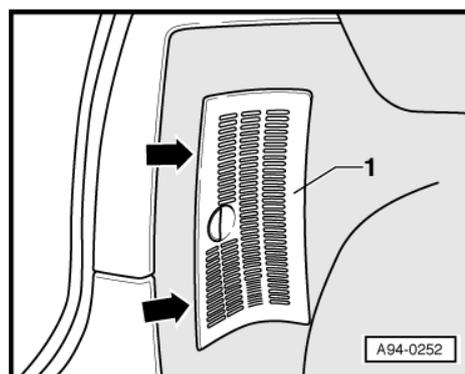


A94-0665

### 5.2 Removing and installing rear light

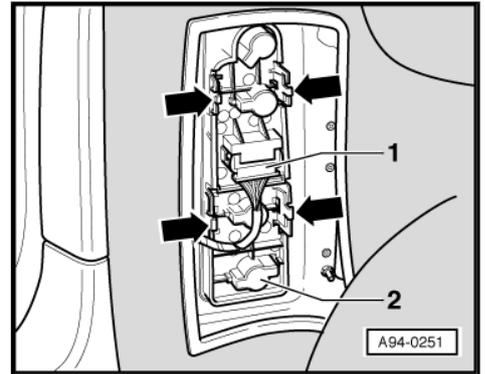
**Removing**

- Switch off ignition and remove ignition key.
- Turn light switch to "0" position.
- Pull the cover -1- out of the luggage compartment side trim -arrows-.



A94-0252

- Detach electrical connector -1-.
- Press locking tabs -arrows- together and remove bulb carrier -2- from rear light in direction of vehicle interior.



- Unscrew nuts -arrows-.
- Detach the rear light outwards from the rear end of the vehicle.

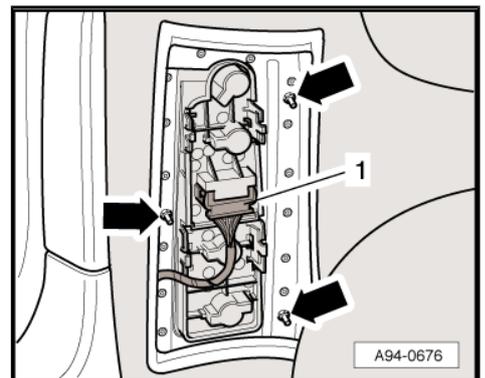
**Installing**

Install in reverse order, paying attention to the following:



*Ensure tight seal between body and rear light housing.*

- Align rear light to body contours before tightening nuts -arrows-.
- When doing so, make sure that gap widths are even.



**Tightening torque**

Component	Nm
Rear light to body	4.5

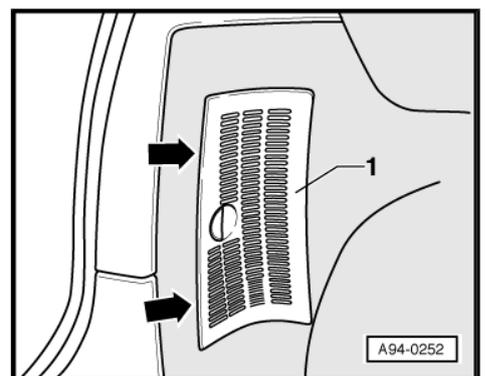
**5.3 Replacing rear light bulbs**

**Removing**

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**Switch off ignition and remove ignition key**

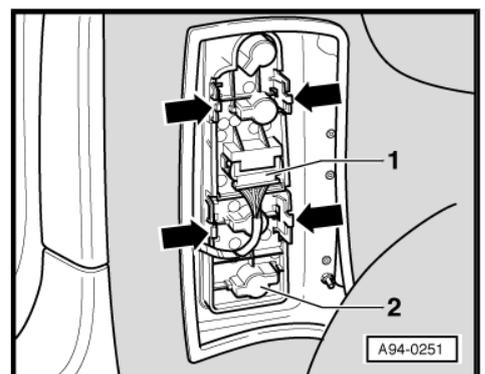
- Turn light switch to "0" position.
- Pull the cover -1- out of the luggage compartment side trim -arrows-.



- Detach electrical connector -1-.
- Press locking tabs -arrows- together and remove bulb carrier -2- from rear light in direction of vehicle interior.
- Screw the bulbs out of the holders.

**Installing**

Install in reverse order.



## 6 High-level brake light

Observe notes on contact corrosion ⇒ [page 77](#) .

### 6.1 Removing and installing high-level brake light

#### Removing

- Do not press brake pedal.
- Remove the lower rear lid trim ⇒ Rep. Gr. 70 .
- Unplug the connector -3-.
- Remove bolts -2-.
- Pull high-level brake light -1- upwards out of guides -arrows-.

#### Installing

Install in reverse order, paying attention to the following:



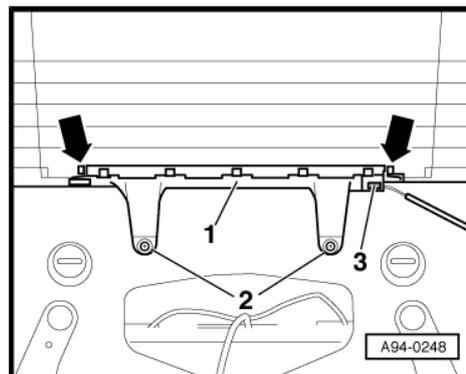
#### Note

*The entire high-level brake light must be replaced in the event of defective LEDs.*

- Fit the lower rear lid trim ⇒ Rep. Gr. 70 .

#### Tightening torque

Component	Nm
High-level brake light to tailgate	2.3



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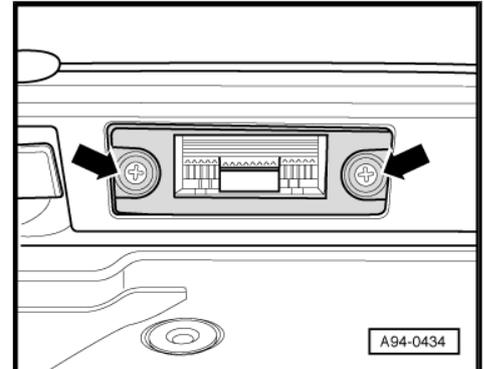
## 7 Number plate light

Observe notes on contact corrosion ⇒ [page 77](#) .

### 7.1 Removing and installing number plate light

#### Removing

- Turn light switch to "0" position.
- Remove bolts -arrows-.
- Remove bulb carrier from tailgate.
- Detach electrical connector.



- Press the release buttons -1- and -2- and detach the bulb holder from the number plate light bulb carrier -arrow-.
- Pull the bulb (12 V, 5 W) out of the clamp-type holder.

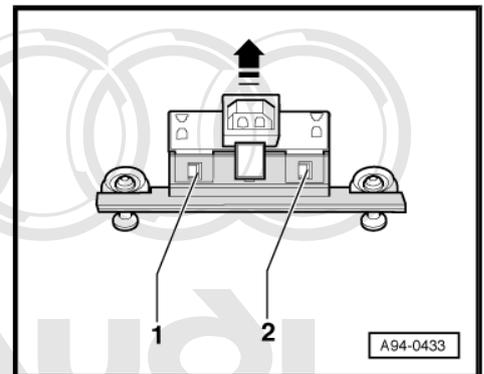
#### Installing

Install in reverse order, paying attention to the following:

- Insert the bulb in the clamp-type holder.
- Slide the bulb holder onto the number plate light bulb carrier.

#### Tightening torque

Component	Nm
Number plate light to tailgate	1.2



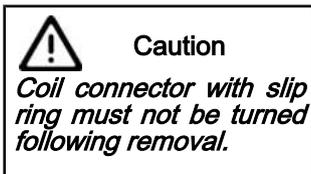
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## 8 Steering column switch

### 8.1 Steering column switch - exploded view

#### 1 - Coil connector with slip ring and steering angle sender - G85-

- ❑ Removing and installing  
⇒ [page 98](#)



#### 2 - Lever switch for windscreen wipe/wash

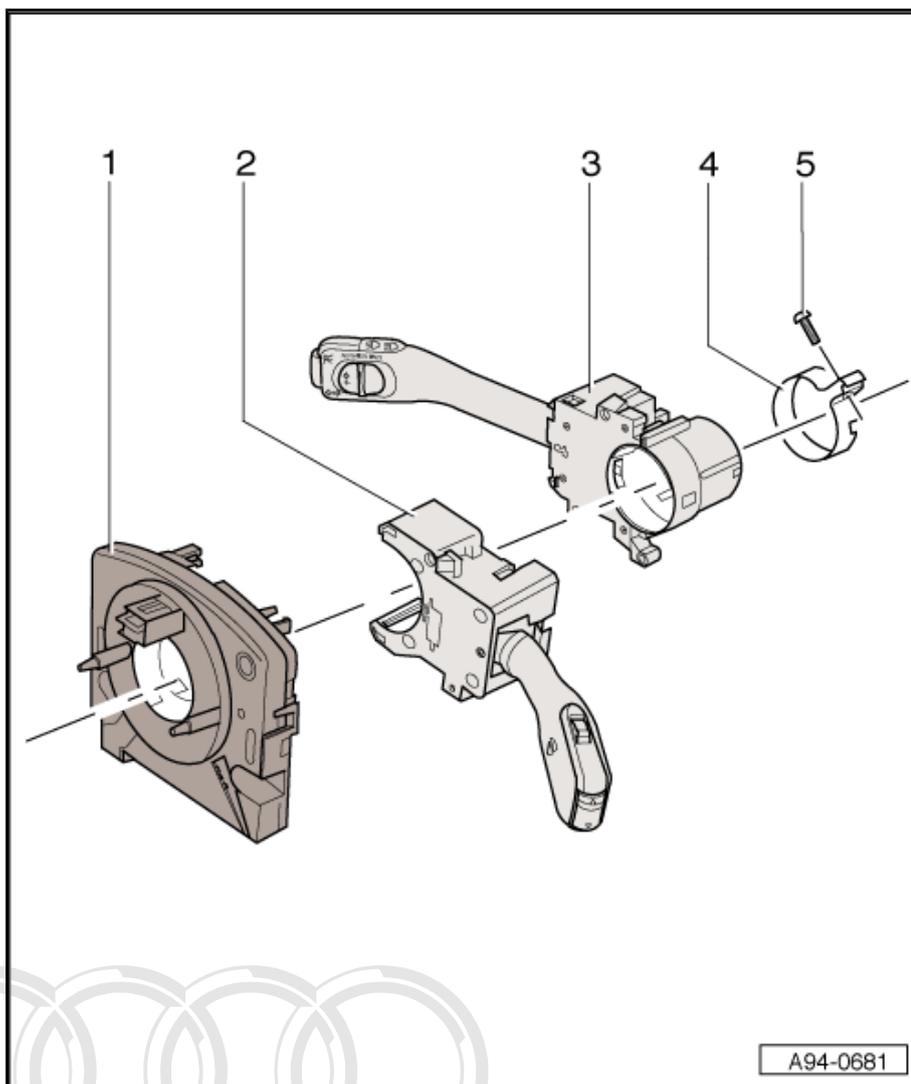
- ❑ On vehicles with FIS: with additional FIS switch
- ❑ Connection assignment  
⇒ [page 99](#)
- ❑ Removing and installing  
⇒ [page 99](#)

#### 3 - Lever switch for turn signal indicator/lights

- ❑ On vehicles with CCS: with additional CCS switch
- ❑ Connection assignment  
⇒ [page 99](#)
- ❑ Removing and installing  
⇒ [page 99](#)

#### 4 - Clamp ring

#### 5 - 3 Nm



### 8.2 Removing and installing steering column switch

#### Removing

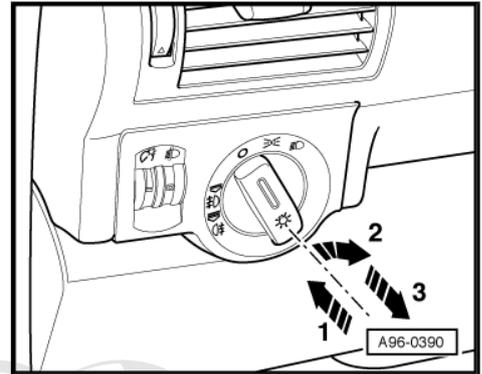
- Move the steering wheel down and to the rear as far as possible, making use of the full range of the steering column adjuster.

- Remove the airbag unit ⇒ [Rep. Gr. 69](#)
- Remove the steering wheel ⇒ [Rep. Gr. 48](#).

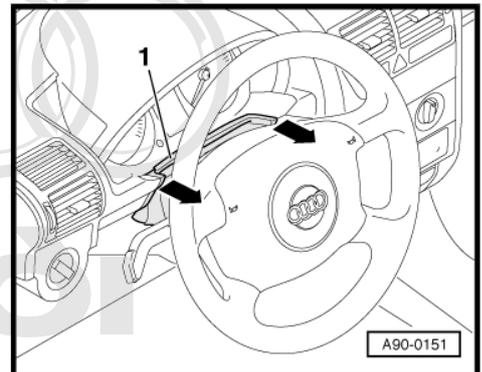
#### Note

*The coil connector with slip ring is only to be removed and installed in centre position (wheels in straight ahead position).*

- Turn light switch to "0" position.
- Press the light switch -arrow 1- and at the same time turn it to the right -arrow 2-.
- Hold the switch in this position and pull it out of the switch housing -arrow 3-.
- Unplug the connectors.
- Remove the driver's storage compartment => Rep. Gr. 68 .

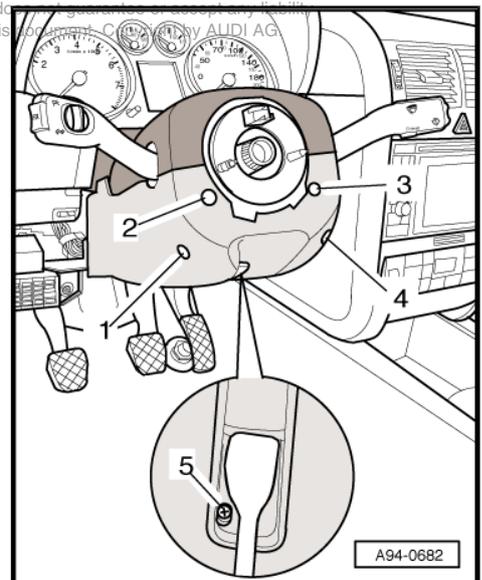


- Pull off surround -1- in -direction of arrow-.

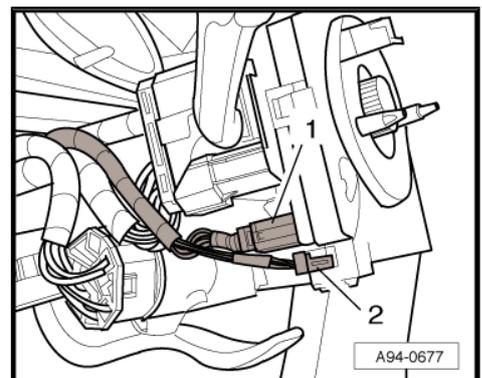


- Unscrew bolts -1 ... 5-.
- Remove upper and lower parts of steering column trim.

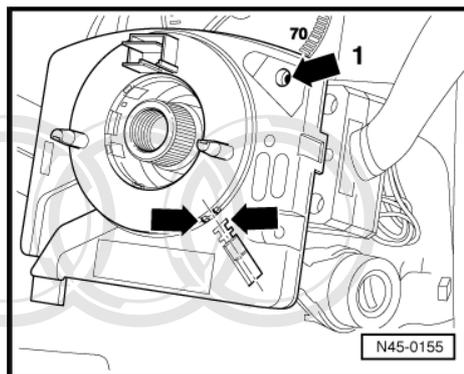
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- Detach electrical connectors -1- and -2-.

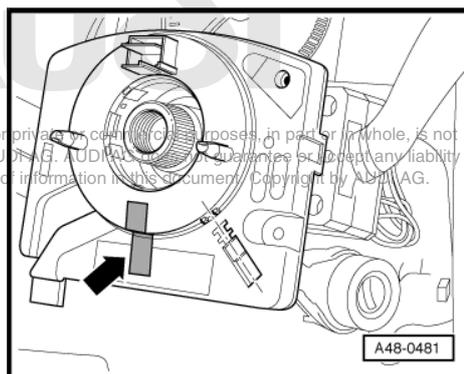


- Check again for straight-ahead position of steering column and front wheels.
- Yellow dot must be visible in hole -arrow 1- and the two marks -arrows- must align.

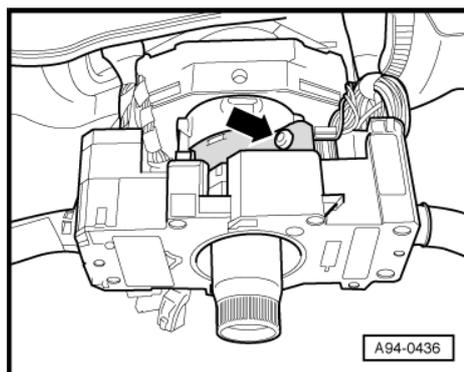


- Fix coil connector with slip ring in centre position using strip of adhesive tape -arrow-.

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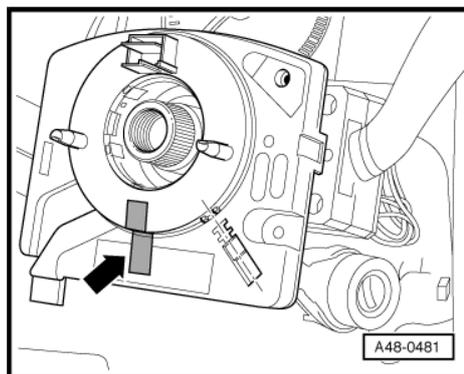
- Loosen bolt -arrow- of clamp until steering column switch can be removed.
- Detach electrical connectors for steering column switch.



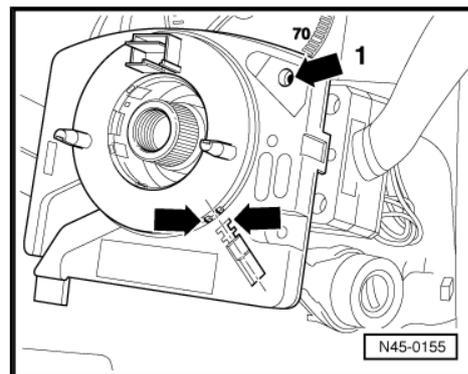
### Installing

Install in reverse order, paying attention to the following:

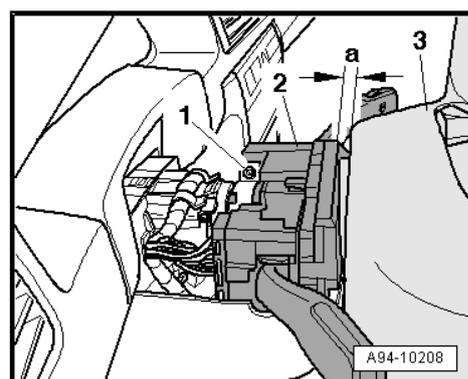
- Remove the adhesive securing strip -arrow-.



- Check whether the steering angle sender -G85- is in centre position:
  - Yellow dot must be visible in hole -arrow 1- and the two marks -arrows- must align.
- Make sure all connectors are properly engaged.



- Fit the lower steering column switch trim.
- Position the steering wheel on the steering column.
- Measure the distance -a- between the steering wheel -3- and the steering column switch -2-.
  - Dimension -a- = 3 mm
- If dimension -a- is not OK, alter the position of the steering column switch with the lower trim on the steering column.
- If dimension -a- is OK, tighten the bolt -1-.
- Insert the upper steering column switch trim in the lower trim hooks, press both sections together and screw on.
- Fit the driver's storage compartment ⇒ Rep. Gr. 68 .
- Fit the steering wheel ⇒ Rep. Gr. 48 .
- Fit the airbag unit ⇒ Rep. Gr. 69 .
- Start basic setting for the steering angle sender -G85- ⇒ Running gear, self-diagnosis; Rep. Gr. 01 .
- On vehicles with ABS/ESP Mark 60, perform the ESP road test in "Basic setting 093" ⇒ Vehicle diagnosis, testing and information system VAS 5051.



#### Tightening torques

Component	Nm
Steering column switch to an steering column	3
Trim for steering column switch	1



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### 8.3 Removing and installing coil connector with slip ring and steering angle sender -G85-

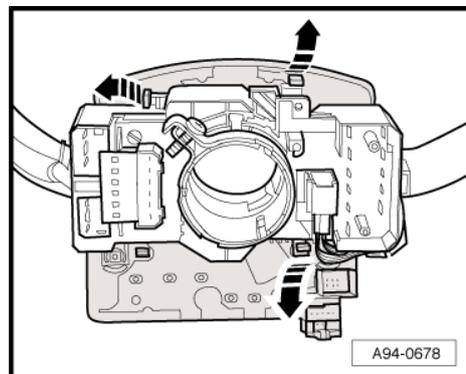
#### Removing



#### Note

*The steering must be in the centre position (wheels in straight-ahead position) when the coil connector with slip ring are removed and installed.*

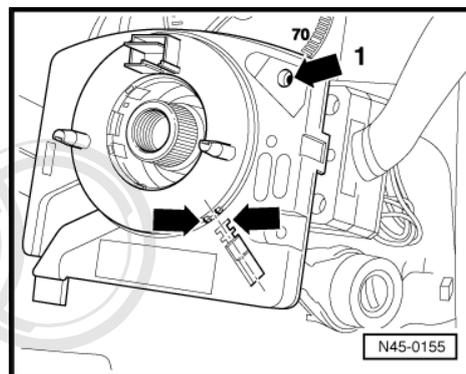
- Remove steering column switch ⇒ [page 94](#) .
- Carefully release the fasteners -arrows- and detach the housing of the coil connector with slip ring and steering angle sender -G85- from the steering column switch.



#### Installing

Install in reverse order, paying attention to the following:

- Slide the housing of the coil connector with slip ring and steering angle sender -G85- onto the steering column switch until all fasteners are heard to engage.
- Remove adhesive tape strip or break off the transport protection in the case of a new part.
- Check whether the steering angle sender -G85- is in centre position:
  - Yellow dot must be visible in hole -arrow 1- and the two marks -arrows- must align.
- Fit the steering column switch ⇒ [page 96](#) .



## 8.4 Removing and installing lever switch for windscreen wipe/wash, FIS, turn signals/lights, CCS

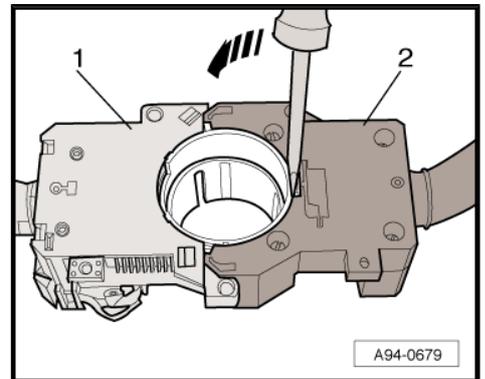
### Removing

- Remove the steering column switch ⇒ [page 94](#) .
- Remove the coil connector with slip ring and steering angle sender -G85- ⇒ [page 98](#) .
- Release retaining spring -arrow- and detach lever switch -Item 2- for windscreen wipe/wash, FIS from lever switch -Item 1- for turn signal/lights, CCS.

### Installing

Install in reverse order, paying attention to the following:

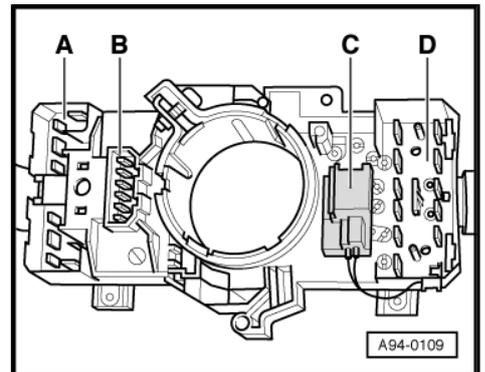
- Make sure all catches and the connectors are properly engaged.
- Fit the coil connector with slip ring and steering angle sender -G85- ⇒ [page 98](#) .
- Fit the steering column switch ⇒ [page 96](#) .



## 8.5 Connection assignment at steering column switch

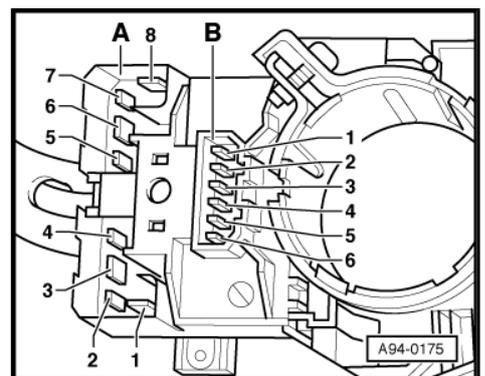
### General view

- A - Connection for wiper switch
- B - Connection for DIS, intermittent wipe and eco button (if fitted)
- C - Connection for CCS
- D - Connection for turn signal switch



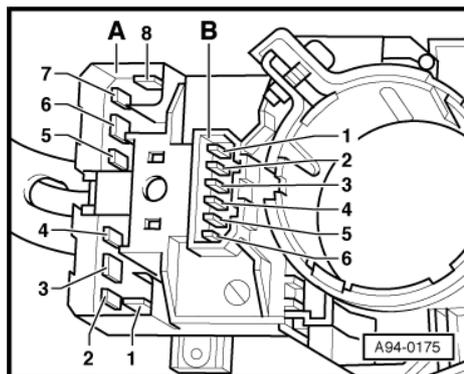
### Terminal assignment for wiper switch -A-

- 1 - Terminal 53
- 2 - Vacant
- 3 - Terminal 53e
- 4 - Terminal 53c
- 5 - Vacant
- 6 - Terminal 53 b
- 7 - Intermittent wipe
- 8 - Terminal 53a



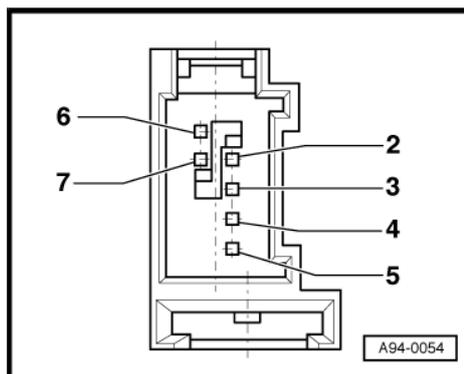
**Connection assignment for DIS, intermittent wipe and eco button (if fitted) -B-**

- 1 - Driver information system - rocker switch to right
- 2 - Driver information system - rocker switch to left
- 3 - Terminal 31
- 4 - Driver information system reset or Eco
- 5 - Relay for automatic wash/wipe interval system -J31-
- 6 - Terminal 31



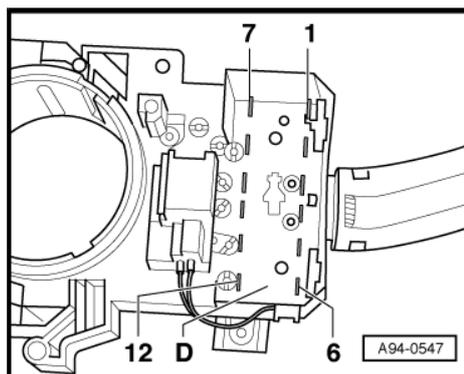
**Terminal assignment for cruise control system -C-**

- 1 - Vacant
- 2 - Engine control unit
- 3 - Engine control unit
- 4 - Engine control unit
- 5 - Engine control unit
- 6 - Terminal 15a
- 7 - Engine control unit



**Terminal assignment for turn-signal switch -D-**

- 1 - Terminal 30
- 2 - Terminal 30
- 3 - Terminal L
- 4 - Terminal P
- 5 - Terminal 49a
- 6 - Vacant
- 7 - Terminal 56
- 8 - Terminal 56b
- 9 - Terminal PL
- 10 - Terminal PR
- 11 - Terminal R
- 12 - Terminal 56a



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## 9 Lock cylinder and ignition/starter switch

### 9.1 Removing and installing lock cylinder

#### Note

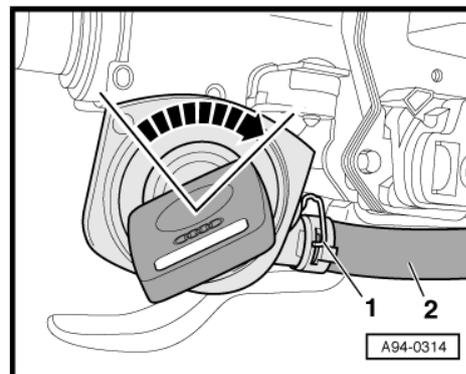
- ◆ *The immobilizer reading coil is attached to the lock cylinder and cannot be replaced separately.*
- ◆ *The lock cylinder must be replaced if the reading coil is defective.*
- ◆ *When renewing the lock cylinder, observe the requirements for the reader coil of the immobilizer → Electrical system;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

#### Removing

- Remove steering column switch ⇒ [page 94](#) .
- Detach electrical connector at reader coil.

#### Audi A2 “3 l”:

- Shift selector lever to “STOP” position.
- Turn ignition key to “Ignition ON” position -arrow-.
- Then lift interlock lever -1- slightly and pull locking cable -2- out of ignition lock housing.



#### All models:

#### Note

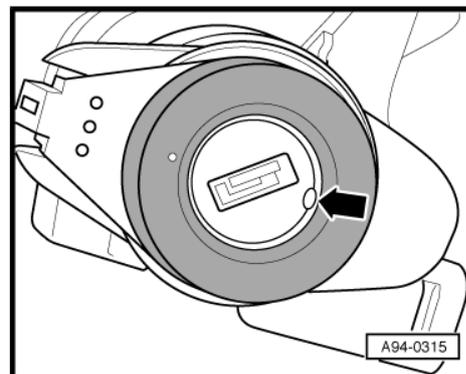
*The spare key with no light or remote control function is required for removing the lock cylinder, as the removal operation can only be performed using a key with a flat grip.*

- Turn spare key to “Ignition ON” position, aligning recess in trim **arrow, with hole in ignition lock.**

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#### Note

*For ease of illustration, the correct lock position is shown without ignition key.*



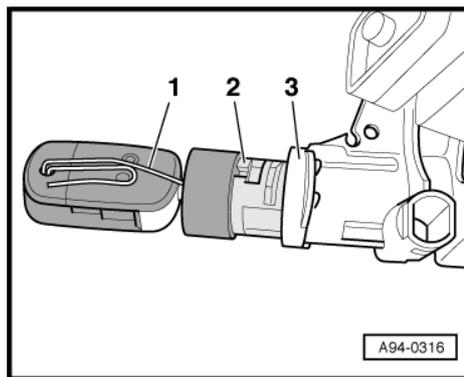
- Insert the steel wire or pin -1- (  $\varnothing$  approx. 1.5 mm) as far as it will go in the hole and in doing so pull the lock cylinder -2- with the reading coil out of the steering lock housing -3-.


**WARNING**

*Never operate the steering lock without lock cylinder, as this would lead to total blocking. A blocked steering lock must be replaced.*

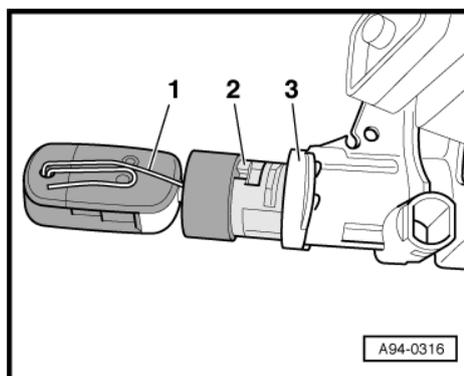

**Note**

*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- .*


**Installing**

Install in reverse order, paying attention to the following:

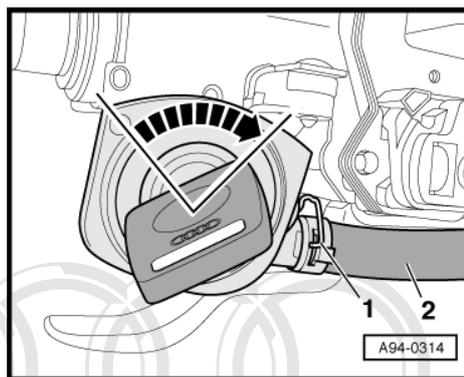
- Insert the spare key in the lock cylinder and turn the key to the "ignition ON" position.
- Re-insert steel wire/pin -1- in hole on end face as far as it will go.
- Slide the lock cylinder -2- with the reading coil into the steering lock housing -3-.
- Then pull out the steel wire and firmly press in the lock cylinder until the catch is heard to engage.
- Plug in the connector at the immobilizer reading coil.


**Audi A2 "3 l":**

- Turn the ignition key to the "ignition ON" position.
- Guide the interlock cable -2- into the ignition lock housing until it is heard to engage.
- The interlock lever -1- must make flush contact with the ignition lock housing.

**All models:**

- Fit the steering column switch ⇒ [page 96](#) .



## 9.2 Removing and installing ignition/starter switch

### Removing

- Remove the steering column switch ⇒ [page 94](#) .
- Unplug the connector at the reading coil.
- Unplug the connector -1- at the ignition/starter switch.
- Remove locking compound from both bolts -arrows-.
- Slacken off the bolts -arrows- slightly and pull the ignition/starter switch out of the steering lock housing -2-.

### Installing

Install in reverse order, paying attention to the following:

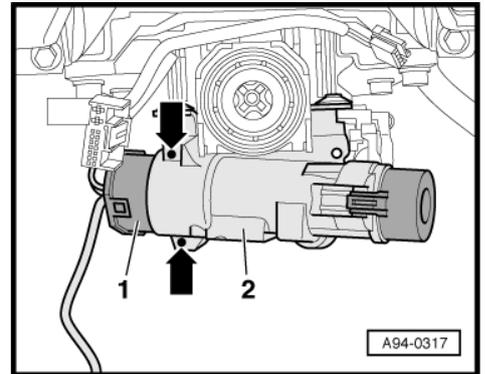


#### Note

*On installation, make sure the ignition/starter switch and lock cylinder are in the same position, e.g. "ignition ON".*

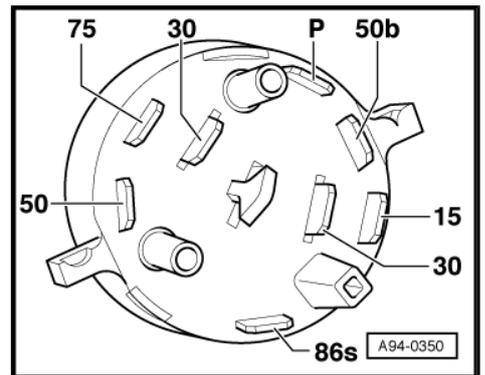
- Secure bolts -arrows- at steering lock housing -2- with locking compound.

- Fit the steering column switch ⇒ [page 96](#)
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## 9.3 Terminal assignment on ignition/starter switch

- 15 - Terminal 15
- 30 - Terminal 30
- 50 - Terminal 50
- 50b - Terminal 50b
- 75 - Terminal 75
- 86s - Terminal 86s
- P - Park position



## 10 Parking aid

Observe notes on contact corrosion ⇒ [page 77](#) .

### 10.1 Parking aid - overview

#### 1 - Rear parking aid warning buzzer -H15-

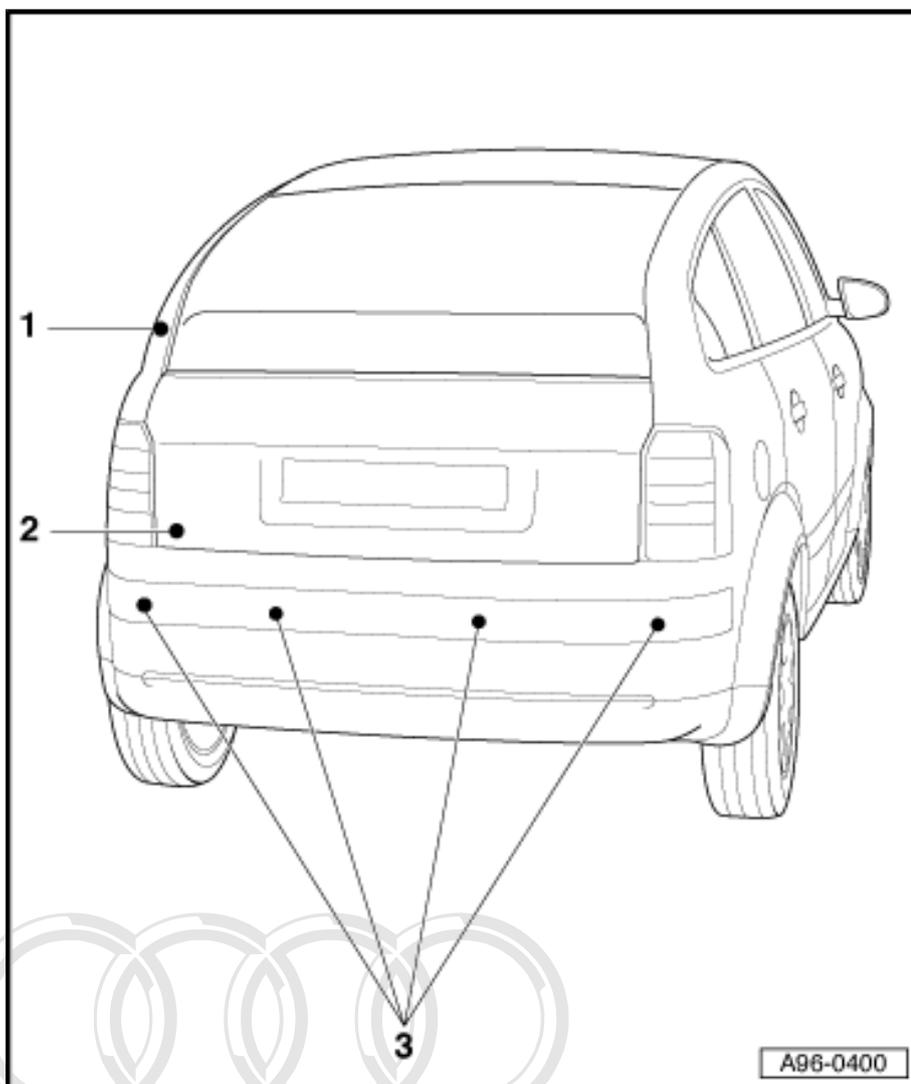
- ❑ under left D-pillar trim
- ❑ Removing and installing ⇒ [page 105](#)

#### 2 - Automatic parking system control unit -J446-

- ❑ at rear left of luggage compartment under side trim
- ❑ Removing and installing ⇒ [page 104](#)

#### 3 - Parking aid sender

- ❑ In rear bumper
- ❑ Removing and installing ⇒ [page 106](#)

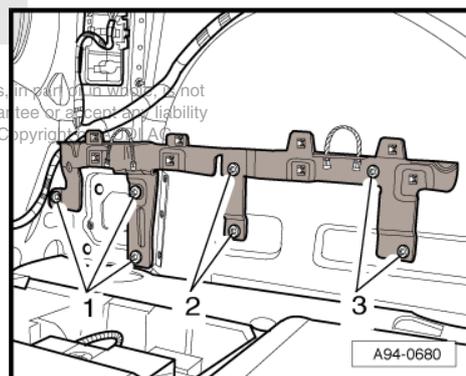


### 10.2 Removing and installing parking aid control unit -J446-

#### Removing

- Remove the left luggage compartment side trim ⇒ Rep. Gr. 70 .
- Unscrew bolts -1 ... 3-.
- Detach the mounting rail with fastening rings.

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- Remove bolts -2-.
- Remove parking aid control unit -J446- -Item 1- upwards.
- Detach electrical connectors.

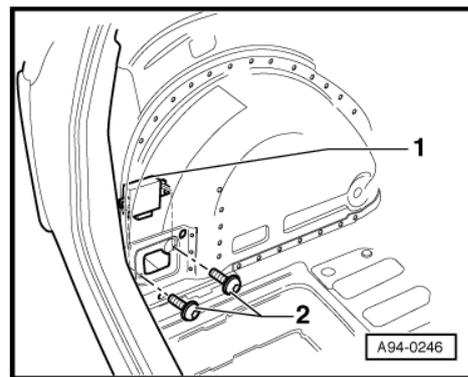
### Installing

Install in reverse order, paying attention to the following:

- Fit the left luggage compartment side trim ⇒ Rep. Gr. 70 .

### Tightening torques

Component	Nm
Parking aid control unit -J446- to body	1.8
Mounting rail with fastening rings to body	21



## 10.3 Removing and installing rear parking aid warning buzzer -H15-

### Removing



**WARNING**

*Heed safety precautions for working on airbags ⇒ Rep. Gr. 69 .*

- Remove the left luggage compartment side trim ⇒ Rep. Gr. 70 .
- Remove the left D-pillar trim ⇒ Rep. Gr. 70 .
- Remove bolts -2-.
- Remove rear parking aid warning buzzer -H15- -Item 1- from D-pillar.
- Detach electrical connector.

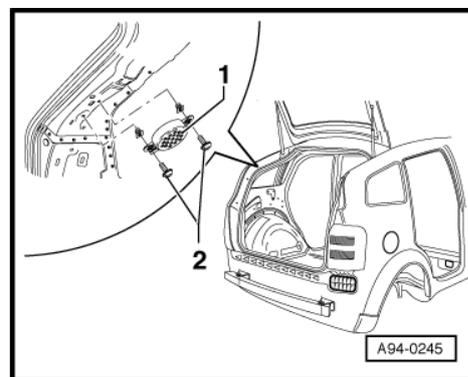
### Installing

Install in reverse order, paying attention to the following:

- Fit the left D-pillar trim ⇒ Rep. Gr. 70 .
- Fit the left luggage compartment side trim ⇒ Rep. Gr. 70 .

### Tightening torque

Component	Nm
Rear parking aid warning buzzer -H15- to body	1.5

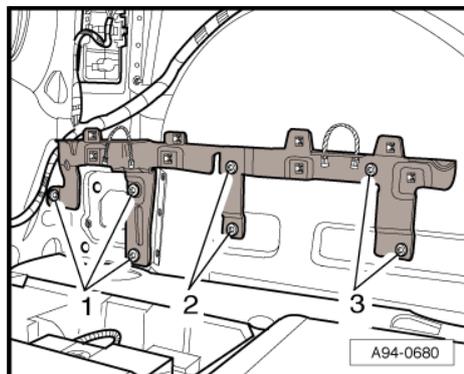


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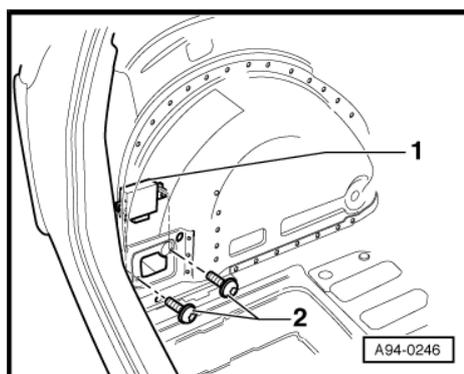
## 10.4 Removing and installing rear parking aid senders

### Removing

- Switch off ignition and remove ignition key.
- Remove the left luggage compartment side trim ⇒ Rep. Gr. 70 .
- Unscrew bolts -1 ... 3-.
- Detach the mounting rail with fastening rings.



- Screw out bolts -2-.
- Remove parking aid control unit -J446- -Item 1- upwards.
- Detach electrical connector (black) for rear parking aid senders.
- Remove the rear bumper ⇒ Rep. Gr. 63 .



- Detach electrical connector -1- at sender.
- Push both retainer tabs aside -arrows- and press out the parking aid sender inwards.

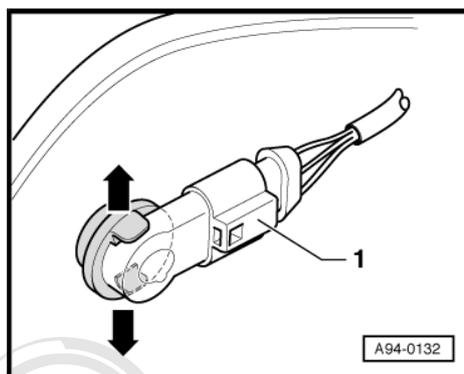
### Installing

Install in reverse order, paying attention to the following:

- Fit the rear bumper ⇒ Rep. Gr. 63 .
- Fit the left luggage compartment side trim ⇒ Rep. Gr. 70 .

### Tightening torques

Component	Nm
Parking aid control unit -J446- to body	1.8
Mounting rail with fastening rings to body	21



## 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 ⇒ Parts catalogue .

**Note:**

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

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## 2 Switches

### 2.1 Removing and installing light switch - E1-

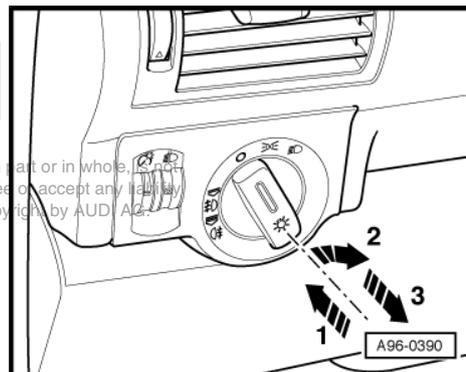
#### Removing

- Switch off ignition and remove ignition key.
- Turn light switch to "0" position.
- Press light switch -arrow 1- and, at the same time, turn it to right -arrow 2-.
- Hold the switch in this position and pull it out of the switch housing -arrow 3-.
- Unplug the connectors.

#### Installing

Install in reverse order, paying attention to the following:

- Press switch into switch mounting until catch engages.



### 2.2 Removing and installing switches and instruments illumination regulator - E20- / headlight range control regulator -E102-

The switches and instruments illumination regulator -E20- and the headlight range control regulator -E102- are located in a joint housing. These components are not available separately; for assignment see ⇒ Parts List .

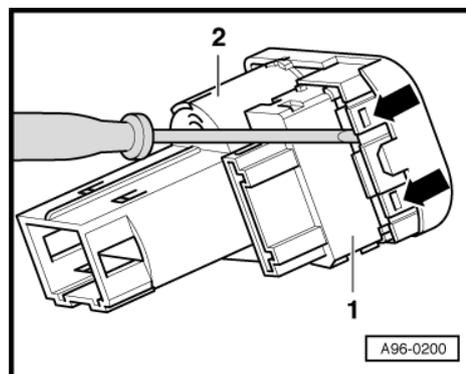
#### Removing

- Remove light switch ⇒ [page 108](#) .
- Release the 4 clips -arrows-.
- Take the switches and instruments illumination regulator - E20- / headlight range control regulator -E102- -Item 1- out of the housing -2-.

#### Installing

Install in reverse order, paying attention to the following:

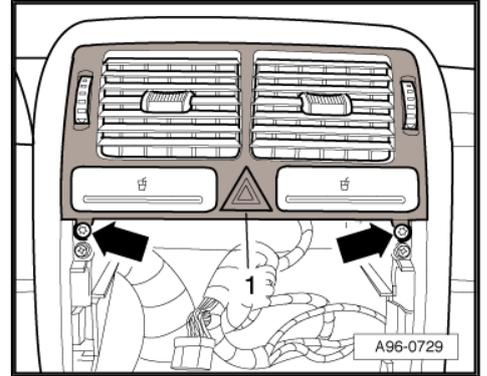
- Press the switches and instruments illumination regulator - E20- / headlight range control regulator -E102- into the switch housing until it is heard to engage.
- Install the light switch ⇒ [page 108](#) .



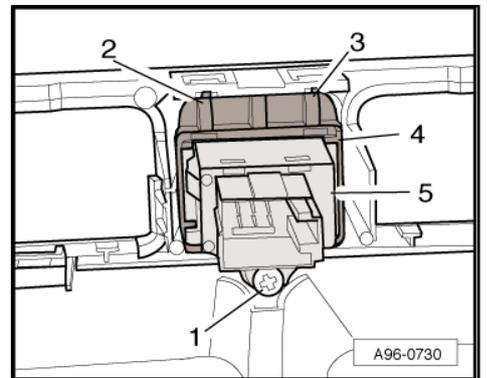
## 2.3 Removing and installing hazard warning switch -E3-

### Removing

- Switch off ignition and remove ignition key.
- Remove the radio set/navigation control unit ⇒ Rep. Gr. 91 .
- Remove screws -arrows- at centre air vents.
- Reach through radio opening and carefully press frame -1- of centre air vents out of dash panel.
- Detach electrical connector from hazard warning switch -E3- .



- Remove bolt -1-.
- Release retaining clips -2- and -3- and remove hazard warning switch -E3- -Item 4- with retaining frame -5- from air vents.



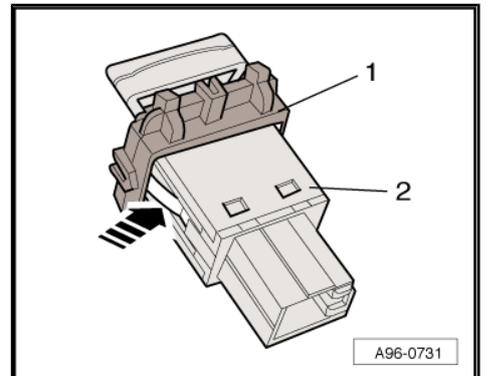
- Squeeze the retaining springs -arrow- and slide the hazard warning light switch -E3- -Item 2- out of the mounting frame -1-.

### Installing

- Plug in the connector.
- Install the radio or navigation system ⇒ Rep. Gr. 91 .

### Tightening torques

Component	Nm	
Hazard warning switch -E3- to centre air vents	1	
Centre air vents to dash panel	Small radio slot	1.8
	Large radio slot	3



## 2.4 Removing and installing front seat heating switches

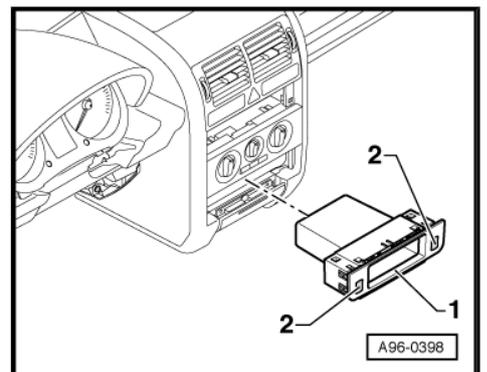
### Removing

- Switch off ignition and remove ignition key.

#### Vehicles without air conditioner:

The front seat heating switches are integrated into the front storage compartment.

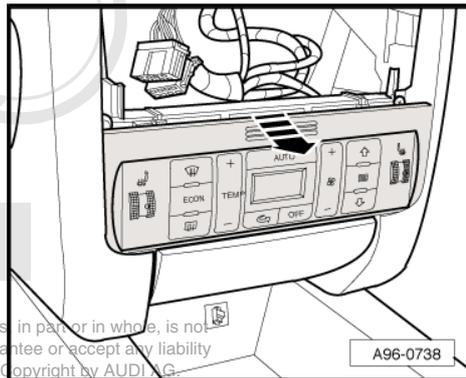
- Lever storage compartment -1- out of centre console.
- Release retaining clips and remove seat heating switch -2- from storage compartment.



**Vehicles with air conditioner:**

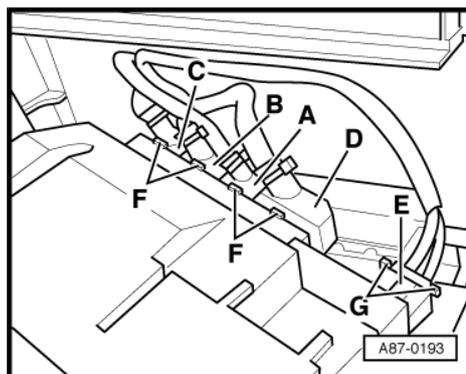
The front seat heating switches are integrated into the air conditioning system/Climatronic operating and display unit -E87- .

- Remove the radio set/navigation control unit ⇒ Rep. Gr. 91 .
- Pull the air conditioning system/Climatronic operating and display unit -E87- out of the centre console -arrow-.



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- Press back connector catches -F- and detach electrical connectors -A ... D-.
- Press back connector catches -G- and detach electrical connector -E- (for heated rear window).

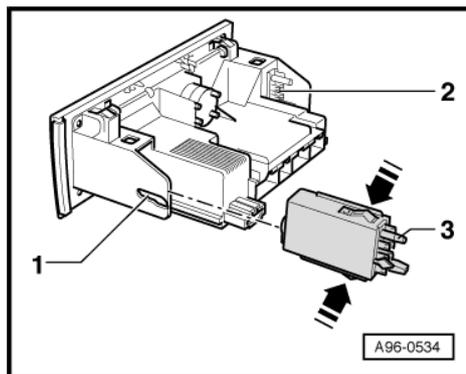


- Carefully release retaining clips -arrows- using a small screwdriver.
- Take the seat heating switches -1- and -2- out of the air conditioning system/Climatronic operating and display unit -E87- .

**Installing**

Install in reverse order, paying attention to the following:

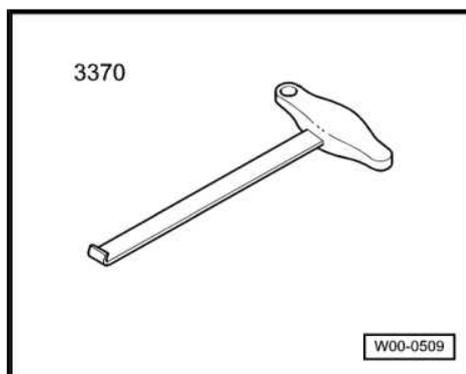
- Plug in the connector.
- Install the radio or navigation system ⇒ Rep. Gr. 91 .



## 2.5 Removing and installing switches in centre console

**Special tools and workshop equipment required**

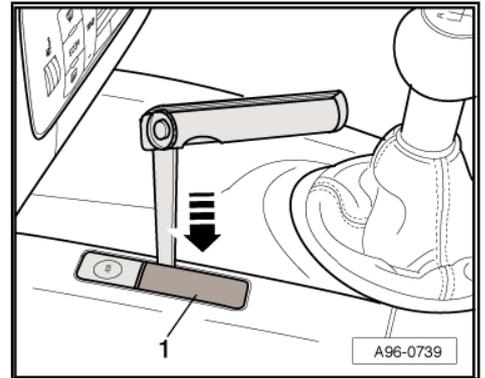
- ◆ Front end hook -3370-



- ◆ Feeler gauge

### Removing

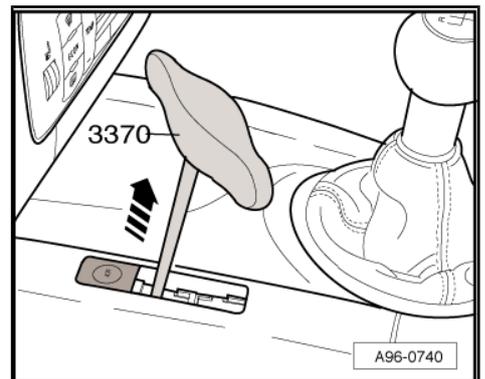
- Switch off ignition and take out ignition key.
- Release a total of 4 retaining latches of dummy cover -1- using a feeler gauge -arrow-.



- Lift switch out of centre console -arrow- using front end hook -3370- .
- Unplug electrical connector.

### Installing

Install in reverse order.



## 2.6 Removing and installing glove box light switch -E26-

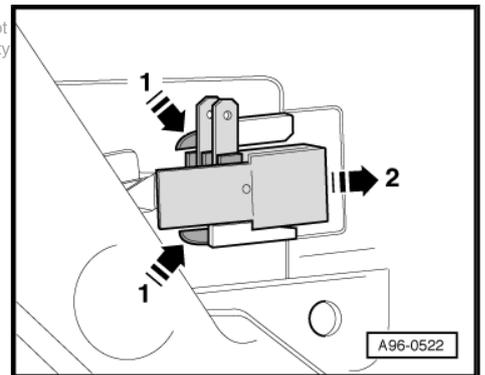
### Removing

- Switch off ignition and remove ignition key.
- Remove the glove box => Rep. Gr. 68 .
- Press both release tabs together -arrows 1- and pull switch out of guide at glove box in direction of travel -arrow 2- .
- Unplug connectors.

### Installing

Install in reverse order, paying attention to the following:

- Install the glove box => Rep. Gr. 68 .



## 2.7 Removing and installing function selection switch 2 -E272-

### Removing

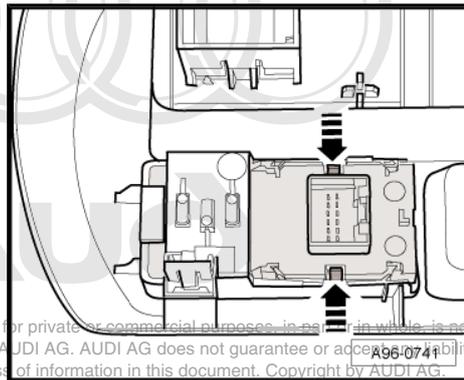
- Switch off ignition and remove ignition key.
- Remove the rear centre console => Rep. Gr. 70 .

- Release retaining clips -arrows-.
- Press the function selection switch 2 -E272- out of the rear centre console.

**Installing**

Install in reverse order, paying attention to the following:

- Install the rear centre console ⇒ Rep. Gr. 70 .

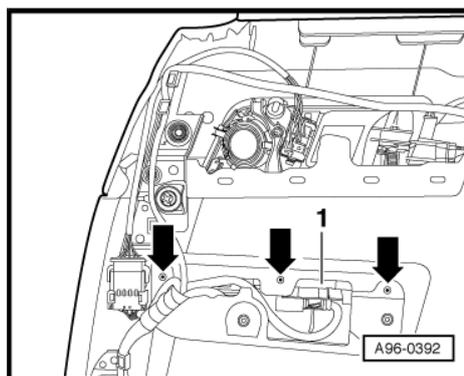


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## 2.8 Removing and installing mirror adjustment switch -E43-

**Removing**

- Switch off ignition and remove ignition key.
- Remove the front door trim ⇒ Rep. Gr. 70 .
- Detach insulating mat from door trim.
- Screw out bolts -arrows-.
- Detach switch mount -1- from armrest.
- Unplug electrical connector.



- Use small screwdriver to carefully release fasteners -arrows-.
- Pull the mirror adjustment switch -E43- -Item 1- downwards out of the switch mount.

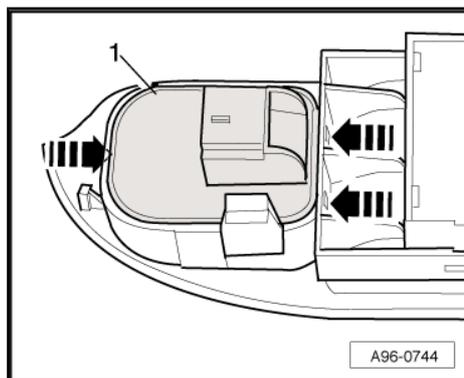
**Installing**

Install in reverse order, paying attention to the following:

**i Note**

*On installation, ensure that symbol panel is inserted in front of mirror adjustment switch.*

- Press the mirror adjustment switch -E43- into the switch mount until the fasteners engage.
- Install the front door trim ⇒ Rep. Gr. 70 .

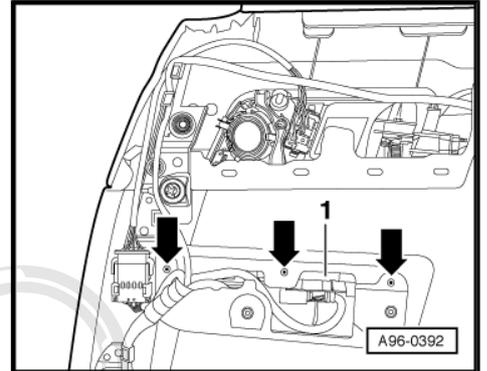


## 2.9 Removing and installing switch unit with window lifter switches -E40- , -E39- , -E41- , -E53- and -E55-

**Removing**

- Switch off ignition and remove ignition key.

- Remove the front door trim ⇒ Rep. Gr. 70 .
- Detach insulating mat from door trim.
- Remove bolts -arrows-.
- Remove switch mount -1- from armrest.
- Detach electrical connector.

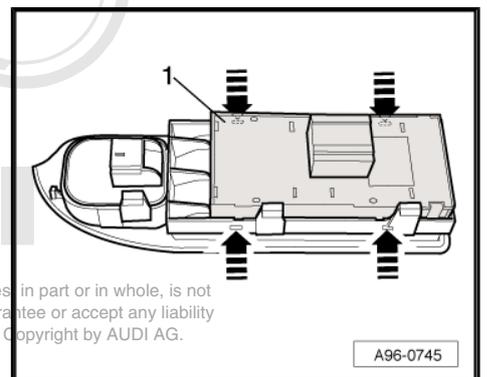


- Use small screwdriver to carefully release catches -arrows-.
- Press the window lifter switch unit -1- downwards out of the switch mount.

### Installing

Install in reverse order, paying attention to the following:

- Press the switch unit into the switch mount until the fasteners engage.
- Install the front door trim ⇒ Rep. Gr. 70 .



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## 2.10 Removing and installing window regulator switch in front passenger door - E107-

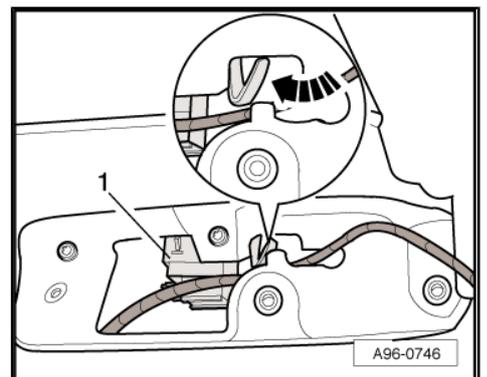
### Removing

- Switch off ignition and remove ignition key.
- Remove the front door trim ⇒ Rep. Gr. 70 .
- Detach insulating mat from door trim.
- Carefully release retaining clips -arrow- using a small screwdriver.
- Press the window regulator switch in front passenger door - E107- -Item 1- upwards out of the armrest.
- Unplug the connector.

### Installing

Install in reverse order, paying attention to the following:

- Press the window regulator switch in front passenger door - E107- into the armrest until the fastener engages.
- Install the front door trim ⇒ Rep. Gr. 70 .



## 2.11 Removing and installing rear left/rear right window regulator switch in door - E52- / -E54-

### Removing

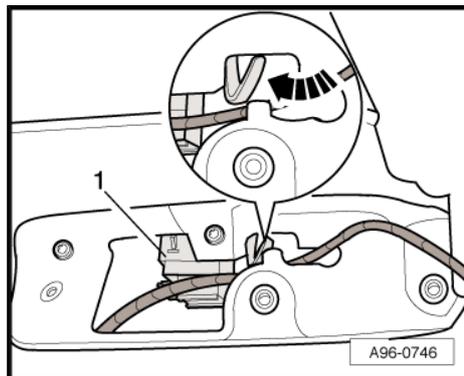
- Switch off ignition and remove ignition key.

- Remove the rear door trim ⇒ Rep. Gr. 70 .
- Detach insulating mat from door trim.
- Carefully release retaining clips -arrows- using a small screwdriver.
- Press window lifter switch -1- upwards out of armrest.
- Detach electrical connector.

**Installing**

Install in reverse order, paying attention to the following:

- Press the rear window regulator switch in the door into the armrest until the fastener engages.
- Install the rear door trim ⇒ Rep. Gr. 70 .



## 2.12 Removing and installing tank filler flap remote release switch -E204-

**Removing**

- Switch off ignition and remove ignition key.
- Remove the lower B-pillar trim on the driver's side ⇒ Rep. Gr. 70 .
- Carefully release retaining clips -4- using a small screwdriver.
- Press the tank filler flap remote release switch -E204- -Item 3- to the rear out of the lower B-pillar trim.

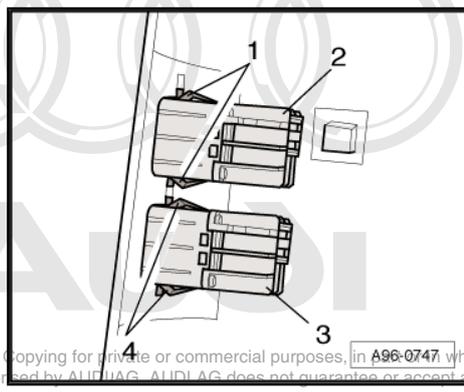
**i Note**

-Item 1- and -Item 2- can be ignored.

**Installing**

Install in reverse order, paying attention to the following:

- Fit the lower B-pillar trim on the driver's side ⇒ Rep. Gr. 70 .



## 2.13 Removing and installing interior monitoring deactivation switch -E183-

**Removing**

- Switch off ignition and remove ignition key.
- Remove the lower B-pillar trim on the driver's side ⇒ Rep. Gr. 70 .
- Carefully release retaining clips -1- using a small screwdriver.
- Press the interior monitoring deactivation switch -E183- -Item 2- to the rear out of the lower B-pillar trim.

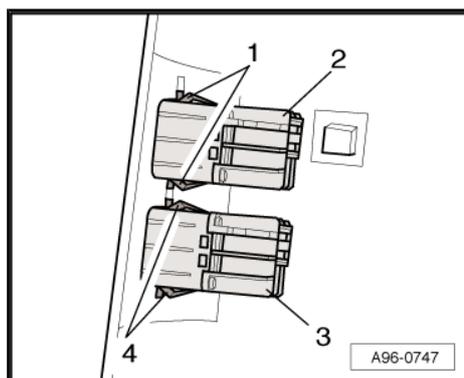
**i Note**

-Item 3- and -Item 4- can be ignored.

**Installing**

Install in reverse order, paying attention to the following:

- Fit the lower B-pillar trim on the driver's side ⇒ Rep. Gr. 70 .



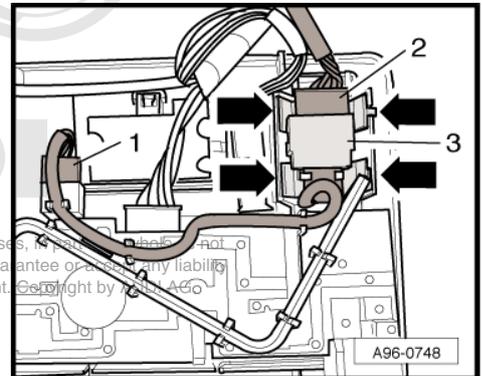
## 2.14 Removing and installing sun roof switch -E8-

### Removing

- Switch off ignition and remove ignition key.
- Remove front interior light/reading light ⇒ [page 120](#) .
- Detach electrical connectors -1- and -2-.
- Release retaining clips -arrows- and remove sun roof switch - E8- -Item 3- from front interior light/reading light.

### Installing

Install in reverse order.



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## 2.15 Removing and installing door contact switch

The door contact switch is located in door lock and cannot be replaced separately in event of malfunction.

- Replacing front door lock ⇒ Rep. Gr. 57
- Replacing rear door lock ⇒ Rep. Gr. 58

## 2.16 Removing and installing driver side interior locking switch -E150- (central locking switch)

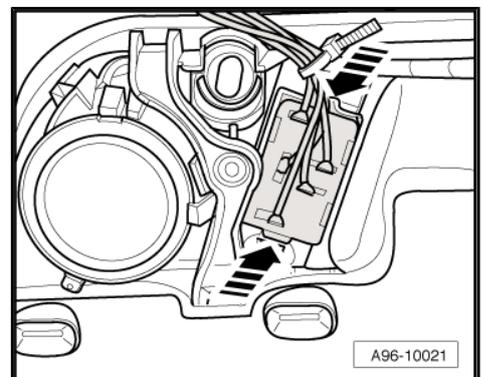
### Removing

- Switch off ignition and remove ignition key.
- Remove the front door trim ⇒ Rep. Gr. 70 .
- Detach insulating mat from door trim.
- Detach electrical connector.
- Release retaining clips -arrows- and press central locking switch -1- out of driver's door trim towards interior.

### Installing

Install in reverse order, paying attention to the following:

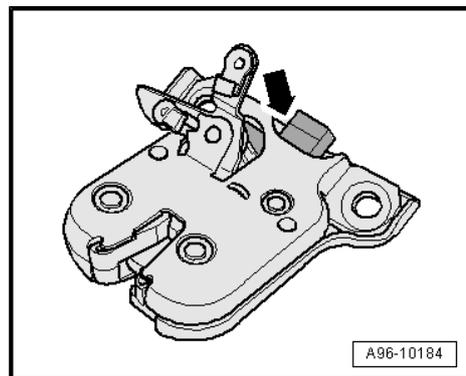
- Install the front door trim ⇒ Rep. Gr. 70 .



## 2.17 Removing and installing rear lid contact switch with integrated microswitch

The rear lid contact switch is located in the rear lid lock -arrow- and cannot be replaced separately in the event of a fault.

- Replacing rear lid lock ⇒ Rep. Gr. 55



## 2.18 Removing and installing 12 V socket in luggage compartment

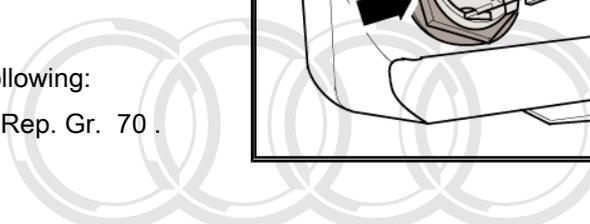
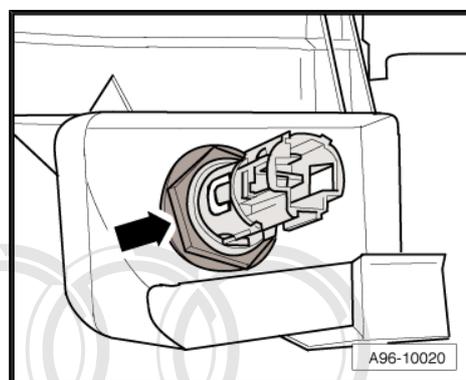
### Removing

- Remove the left luggage compartment side trim ⇒ Rep. Gr. 70 .
- Remove nut -arrow-.
- Detach 12 V socket from back of luggage compartment side trim.

### Installing

Install in reverse order, paying attention to the following:

- Fit the left luggage compartment side trim ⇒ Rep. Gr. 70 .



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### 3 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 39](#) .
- ◆ When renewing control unit, select appropriate control unit in “Guided Functions” ⇒ Vehicle diagnosis, testing and information system VAS 5051.



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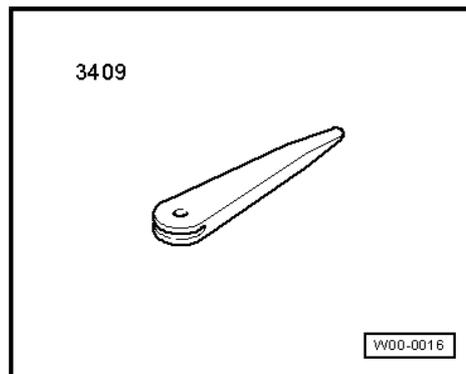
## 4 Ultrasonic interior monitoring

Observe notes on contact corrosion ⇒ [page 107](#) .

### 4.1 Removing and installing anti-theft alarm ultrasonic sensor -G209-

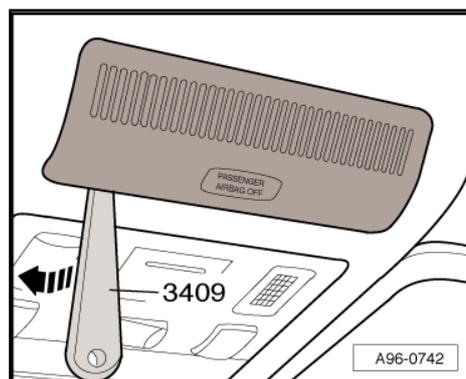
Special tools and workshop equipment required

- ◆ Disassembly tool -3409-



#### Removing

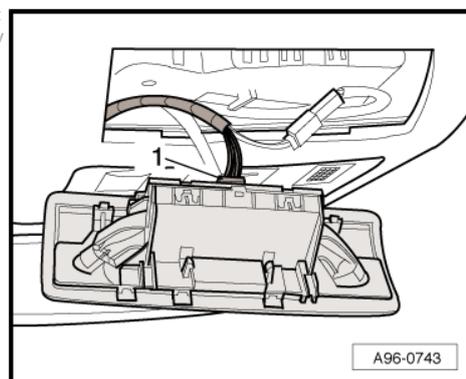
- Switch off ignition and remove ignition key.
- Prise out the cover for the anti-theft alarm ultrasonic sensor -G209- using the disassembly tool -3409- .



- Detach electrical connector -1- .
- Detach the anti-theft alarm ultrasonic sensor -G209- .

#### Installing

Install in reverse order.



### 4.2 Removing and installing horn for anti-theft alarm -H8- and alarm horn -H12-

Fitting location: At rear right of luggage compartment under side trim.

#### Removing

- Switch off ignition and remove ignition key.

- Remove the right luggage compartment side trim ⇒ Rep. Gr. 70 .
- Remove bolt -2- and remove horn for antitheft alarm -H8- upwards.
- Detach electrical connector -3-.

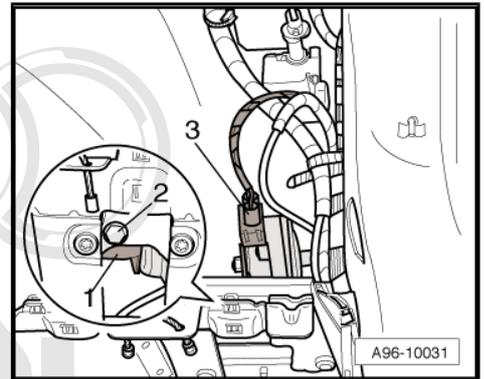
 **Note**

*In order to remove bracket -1- for horn for anti-theft alarm -H8-, remove nut.*

**Installing**

Install in reverse order, paying attention to the following:

- Fit the right luggage compartment side trim ⇒ Rep. Gr. 70 .



**Tightening torques**

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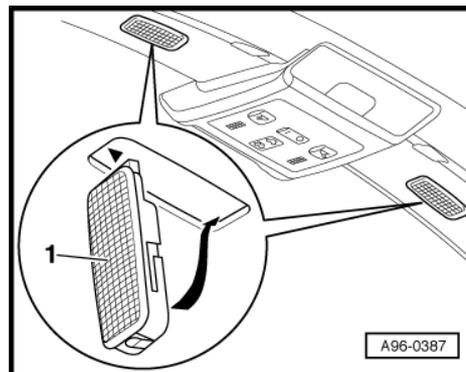
Component	Nm
Horn for anti-theft alarm -H8- to bracket	5
Bracket for horn for anti-theft alarm -H8- to body	10

## 5 Interior lights

### 5.1 Removing and installing light for vanity mirror

#### Removing

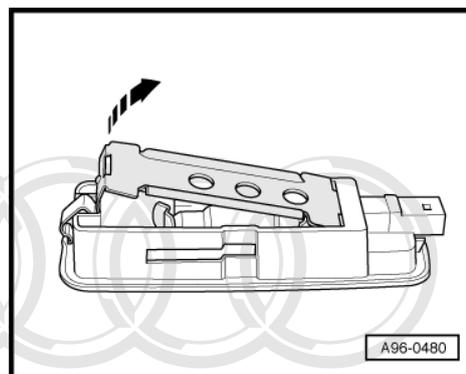
- Close the mirror cover to switch off the make-up mirror light.
- Use a flat screwdriver to carefully prise out the make-up mirror light -1- at the recess -arrow-.
- Unplug the connector.



- Detach the cover over the bulb -arrow-.
- Take the bulb (12 V, 5 W) out of the holder on the back of the make-up mirror light.

#### Installing

Install in reverse order.



### 5.2 Removing and installing front interior/reading light

#### Special tools and workshop equipment required

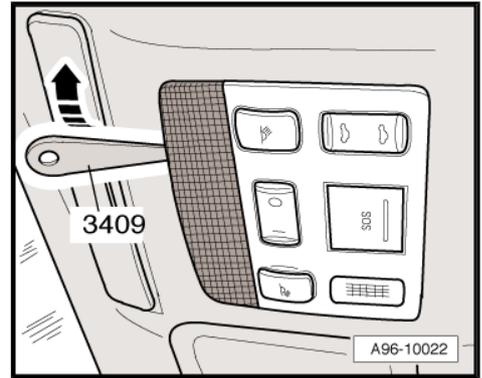
- ◆ Disassembly tool -3409-

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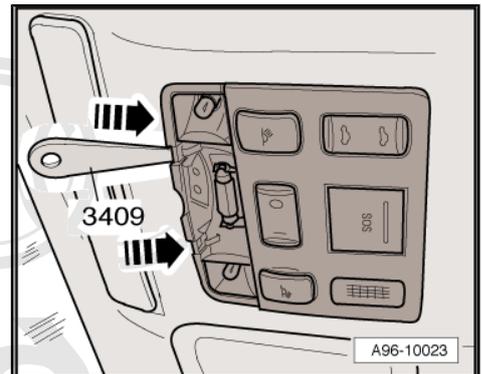


### Removing

- Switch off ignition and remove ignition key.
- Switch off front interior lights and reading lights.
- Unclip lens from interior light/reading light using disassembly tool -3409- -arrow-.



- Release the retainer tabs -arrows- with the disassembly tool -3409- and take the interior light/reading light out of the roof opening.

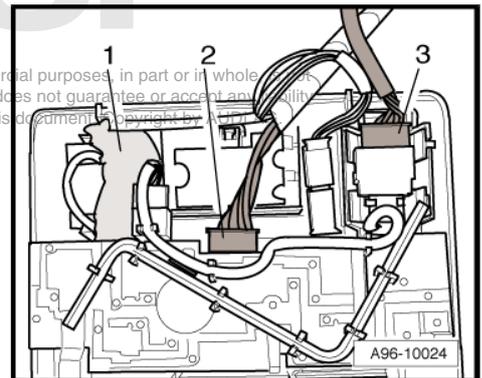


- Unplug electrical connectors -1 ... 3-.

### Installing

Install in reverse order, paying attention to the following:

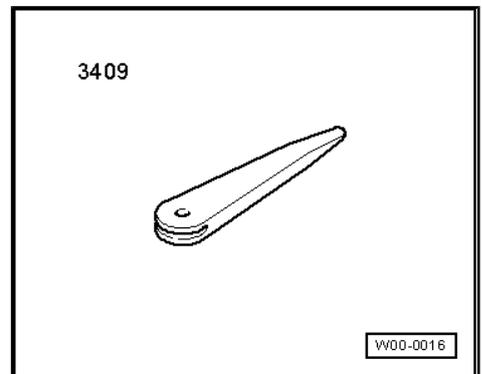
- Insert lens for interior light/reading light and press on until it engages.
- Press on lens for interior light until it engages.



## 5.3 Replacing bulb for front interior light

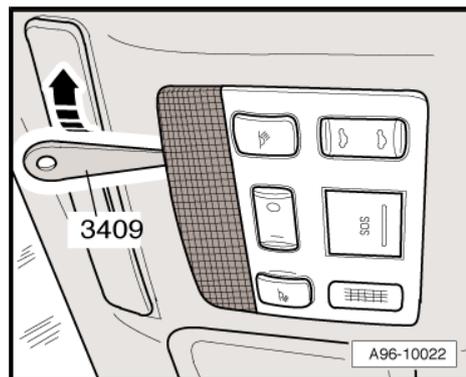
### Special tools and workshop equipment required

- ◆ Disassembly tool -3409-



### Removing

- Switch off ignition and remove ignition key.
- Switch off front interior light.
- Unclip lens from interior light/reading light using disassembly tool -3409- -arrow-.

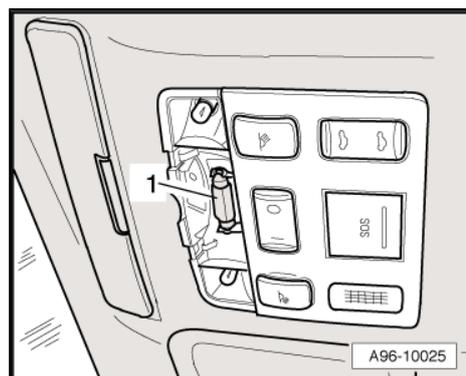


- Remove bulb -1- (12 V, 10 W) from clamp-type holder.

### Installing

Install in reverse order, paying attention to the following:

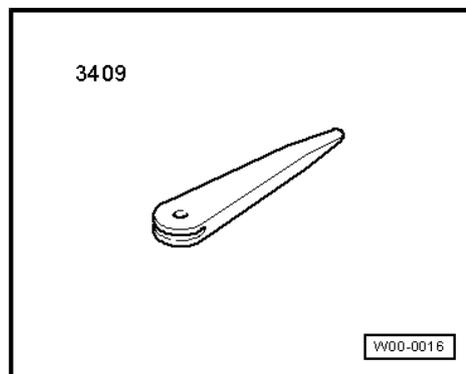
- Press on lens for interior light until it engages.



## 5.4 Replacing bulbs for front reading lights

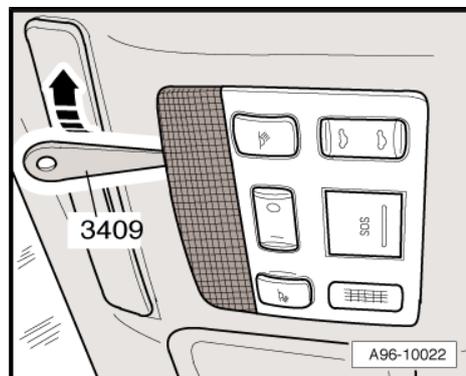
### Special tools and workshop equipment required

- ◆ Disassembly tool -3409-



### Removing

- Switch off ignition and remove ignition key.
- Switch off front reading lights.
- Unclip lens from interior light/reading light using disassembly tool -3409- -arrow-.



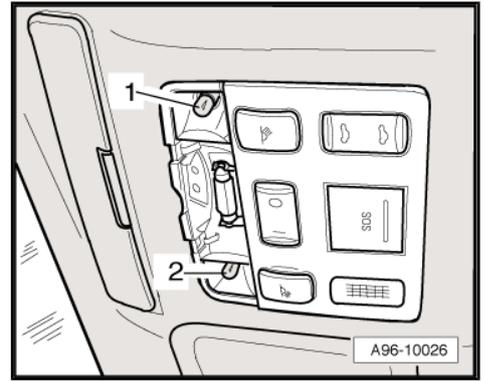
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- Screw bulb -1- or -2- (12 V, 5 W) out of holder.

**Installing**

Install in reverse order, paying attention to the following:

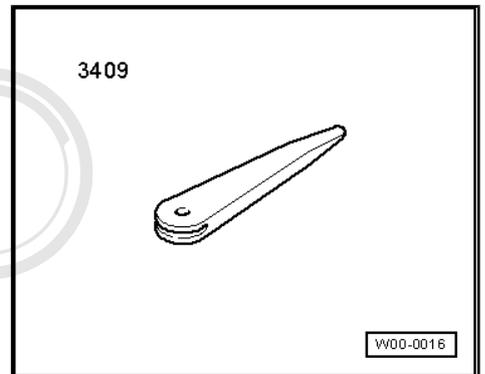
- Press on cover for reading light until it engages.



**5.5 Removing and installing front passenger side airbag deactivated warning lamp - K145-**

**Special tools and workshop equipment required**

- ◆ Disassembly tool -3409-



**Removing**

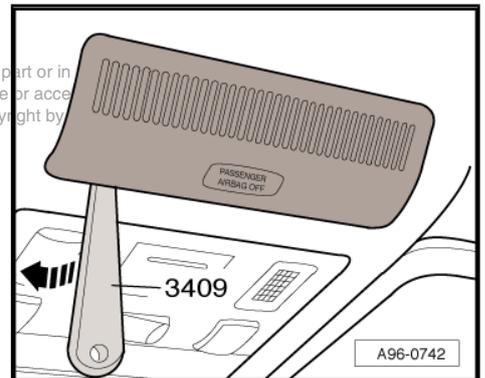
- Prise out the cover for the front passenger side airbag deactivated warning lamp -K145- using the disassembly tool -3409- .
- Unplug the connector.

**Vehicles with ultrasonic interior monitor:**

If the front passenger side airbag deactivated warning lamp -K145- is defective, the anti-theft alarm ultrasonic sensor -G209- must be replaced => [page 118](#) .

**Installing**

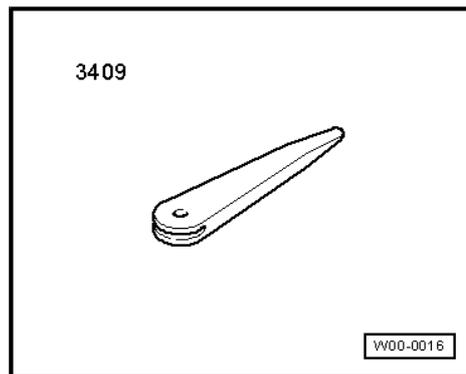
Install in reverse order.



**5.6 Removing and installing rear interior/ reading light**

**Special tools and workshop equipment required**

- ◆ Disassembly tool -3409-

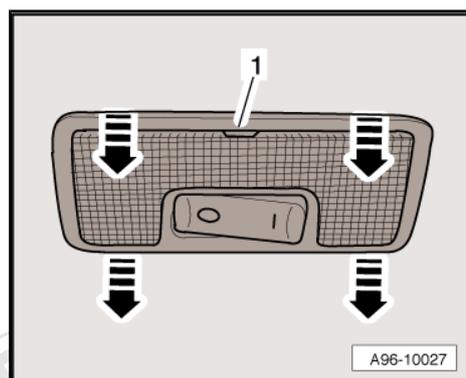


### Removing

- Switch off rear interior light/reading light.
- Carefully lever left and right rear interior light/reading lights -1- out of roof aperture -arrows- using disassembly tool -3409- .
- Unplug the connector.

### Installing

Install in reverse order.

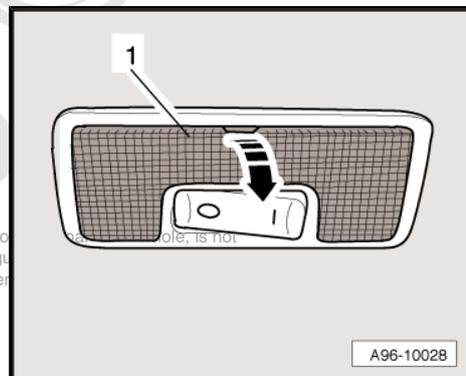


## 5.7 Replacing bulb for rear interior light/reading light

### Removing

- Switch off rear interior light/reading light.
- Unclip lens -1- from rear interior light/reading light -arrow-.

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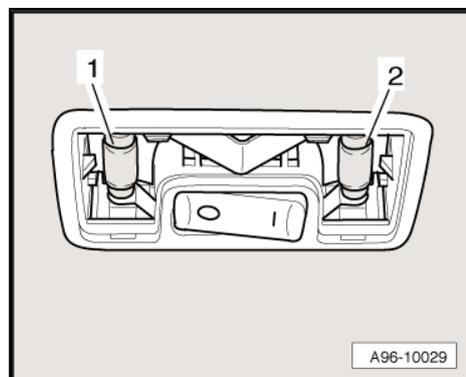


- Remove bulb -1- or -2- (12 V, 6 W) from clamp-type holder.

### Installing

Install in reverse order, paying attention to the following:

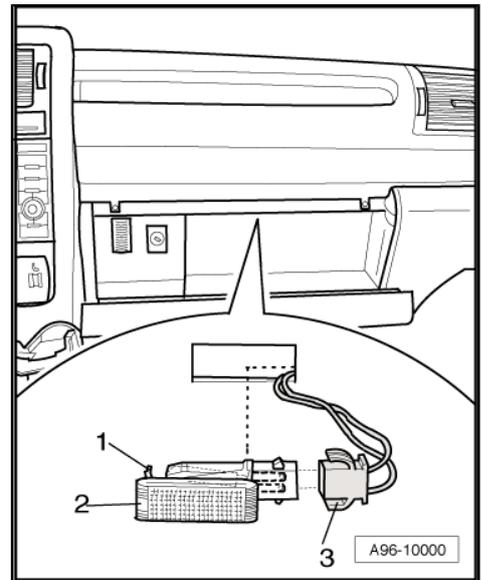
- Press on cover for interior light/reading light until it engages.



## 5.8 Removing and installing glove box light

### Removing

- Use a flat screwdriver to press in the retainer tab -1- and prise out the glove box light -2-.
- Unplug the connector -3-.

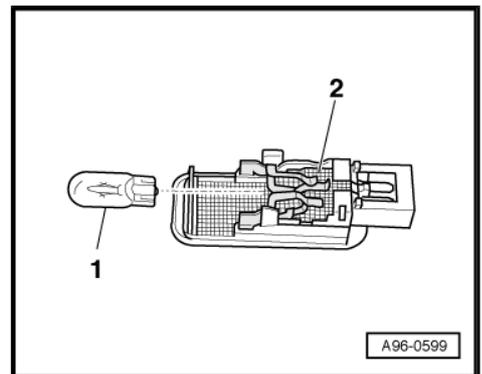


- Take the bulb -1- (12 V, 5 W) on the back of the glove box light holder -2-.

### Installing

Install in reverse order, paying attention to the following:

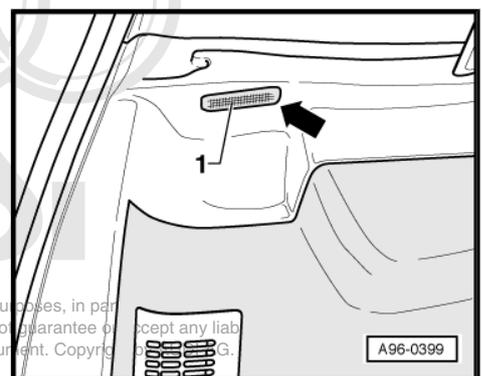
- Insert glove box light in opening and engage on opposite side.



## 5.9 Removing and installing luggage compartment light

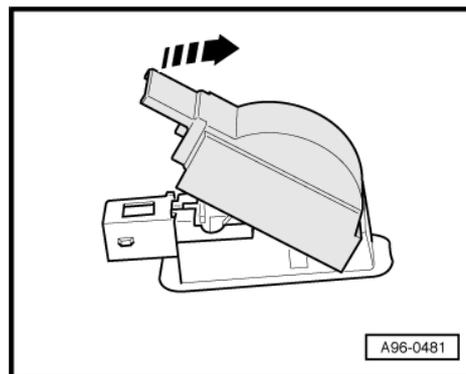
### Removing

- Use a flat screwdriver to press in the retainer tab and prise out the luggage compartment light -1-.
- Unplug the connector.



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- Carefully prise off the cover at the luggage compartment light -arrow-.

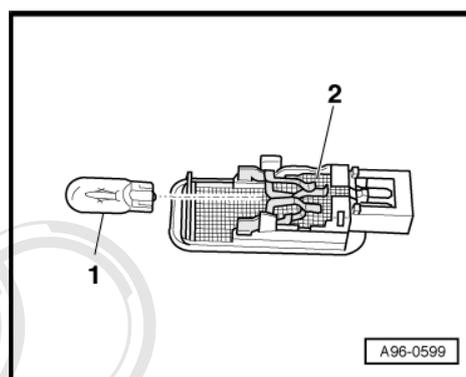


- Take the bulb -1- (12 V, 5 W) on the back of the luggage compartment light out of the holder -2-.

### Installing

Install in reverse order, paying attention to the following:

- Attach cover to luggage compartment light.
- Insert the luggage compartment light in the opening and engage on the opposite side.



# Audi

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## 6 Horn

Observe notes on contact corrosion ⇒ [page 107](#) .

### 6.1 Removing and installing horn and dual tone horn -H1-

#### Removing

- Remove the front bumper ⇒ Rep. Gr. 63 .

#### Horn at right on lock carrier:

- Remove bolt -2-.
- Detach the horn and dual tone horn -H1- at the lock carrier.



#### Note

*To remove the holder -1- for the horn and dual tone horn -H1-, completely unscrew the nut -arrow-.*

- Detach electrical connector.

#### Horn at front on lock carrier:

- Unscrew nut -2-.
- Detach the horn and dual tone horn -H1- at the lock carrier.
- Unplug the connector -1-.

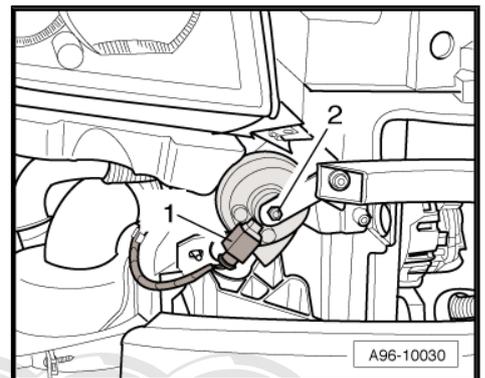
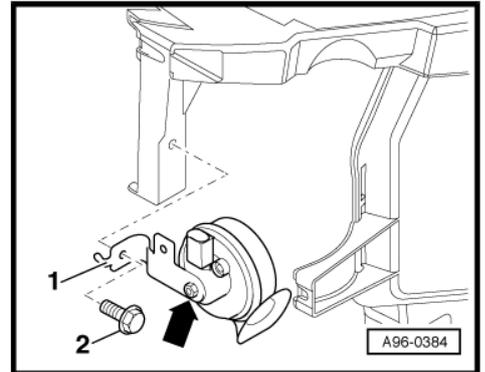
#### Installing

Install in reverse order, paying attention to the following:

- Install the front bumper ⇒ Rep. Gr. 63 .

#### Tightening torques

Component	Nm
Horn and dual tone horn -H1- to holder	11
Holder for horn and dual tone horn -H1- to lock carrier	11



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## 7 Towing bracket

Observe notes on contact corrosion ⇒ [page 107](#) .

### 7.1 Socket for towing bracket

The following descriptions are given in ⇒ Electrical system; General information; Rep. Gr. 96 :

- ◆ Removing and installing trailer socket
- ◆ Terminal assignment on trailer socket



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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 ⇒ 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 genuine Audi accessories.
- ◆ Damage resulting from contact corrosion is not covered by warranty.

## 2 Relay carriers, fuse carriers

Observe notes on contact corrosion ⇒ [page 129](#) .

### 2.1 Relay carriers, fuse carriers - overview

#### 1 - 9-socket relay carrier, fuse carrier

- behind driver's side storage compartment
- Removing and installing 9-socket relay carrier ⇒ [page 131](#)
- Removing and installing fuse carrier ⇒ [page 130](#)

#### 2 - Left A-pillar connection point

- In footwell on left at A-pillar
- Removing and installing ⇒ [page 133](#)

#### 3 - 6+6-socket relay carrier

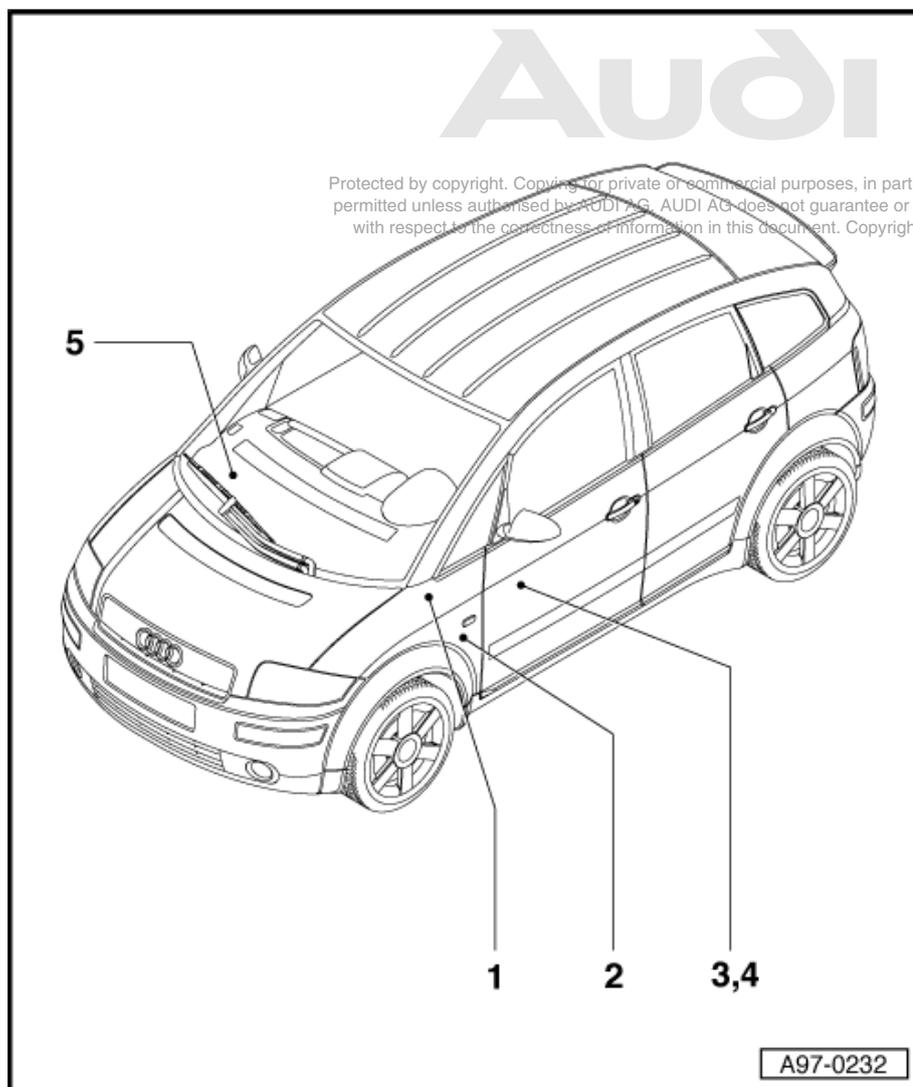
- In footwell on left beneath footwell floor
- Removing and installing ⇒ [page 134](#)

#### 4 - 3-socket relay carrier

- In footwell on left beneath footwell floor
- Removing and installing ⇒ [page 135](#)

#### 5 - Right A-pillar connection point

- In footwell on right at A-pillar
- Removing and installing ⇒ [page 137](#)



### 2.2 Removing and installing fuse carrier on 9-socket relay carrier

#### Removing

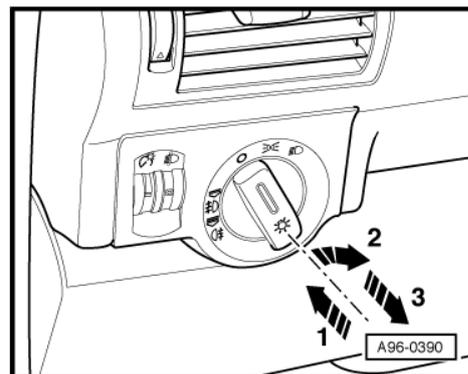


#### Caution

*On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01; Telematics self-diagnosis .*

- With the ignition switched off, disconnect the earth wire at the battery ⇒ [page 2](#) .

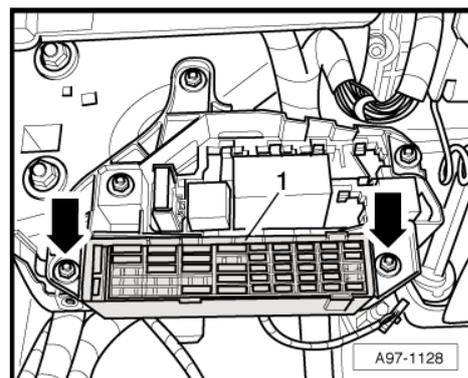
- Press the light switch -arrow 1- and at the same time turn it to the right -arrow 2-.
- Hold the switch in this position and pull it out of the switch housing -arrow 3-.
- Unplug the connectors.



- Remove the driver's storage compartment => Rep. Gr. 68 .
- Remove nuts -arrows- from fuse carrier.
- Remove fuse carrier -1- from 9-socket relay carrier.

 **Note**

*Exact assignment for fuse carrier can be found on applicable current flow diagram => Current flow diagrams, Electrical fault finding and Fitting locations.*



**Installing**

Install in reverse order, paying attention to the following:

- Fit the driver's storage compartment => Rep. Gr. 68 .
- Install the light switch => [page 108](#) .
- Connect the battery. Action to be taken => [page 3](#) .

**Tightening torque**

Component	Nm
Fuse carrier to 9-socket relay carrier	2

**2.3 Removing and installing 9-socket relay carrier**

**Removing**

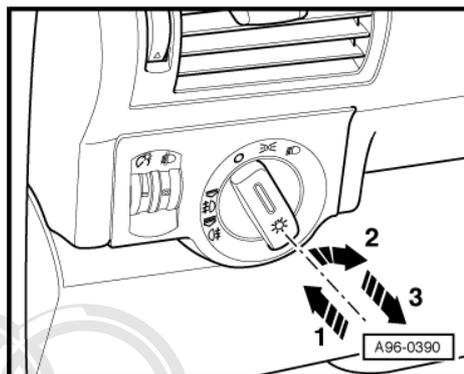
 **Caution**

*On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery => Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01; Telematics self-diagnosis .*

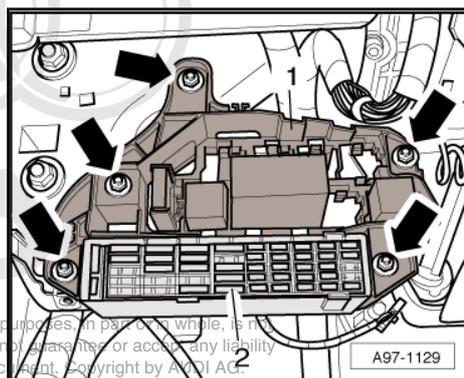
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- With the ignition switched off, disconnect the earth wire at the battery => [page 2](#) .

- Press the light switch -arrow 1- and at the same time turn it to the right -arrow 2-.
- Hold the switch in this position and pull it out of the switch housing -arrow 3-.
- Unplug the connectors.



- Remove the driver's storage compartment => Rep. Gr. 68 .
- Remove nuts -arrows-.
- Remove 9-socket relay carrier -1-.
- Unclip fuse carrier -2- from 9-socket relay carrier.
- Detach relays and control units and then unclip the appropriate relay carrier.



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*Exact assignment for relay carrier and fuse carrier can be found on appropriate current flow diagram => Current flow diagrams, Electrical fault finding and Fitting locations.*

**Installing**

Install in reverse order, paying attention to the following:

- Fit the driver's storage compartment => Rep. Gr. 68 .
- Install the light switch => [page 108](#) .
- Connect the battery. Action to be taken => [page 3](#) .

**Tightening torque**

Component	Nm
Fuse carrier to 9-socket relay carrier	2
9-socket relay carrier to central tube	2

## 2.4 Removing and installing left A-pillar connection point

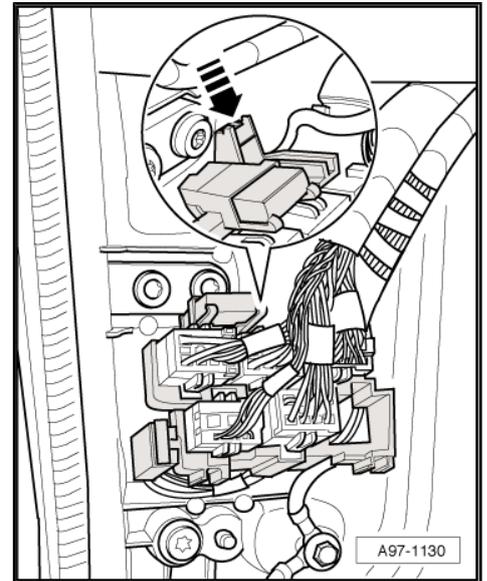
### Removing



#### Caution

*On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01; Telematics self-diagnosis .*

- With the ignition switched off, disconnect the earth wire at the battery ⇒ [page 2](#) .
- Remove the lower A-pillar trim ⇒ Rep. Gr. 70 .
- Press the clip in -arrow direction- and disengage the connector point at the A-pillar.
- Unclip the fuse carriers at the connector point.
- Detach relays and control units and then unclip the appropriate relay carrier.



#### Note

*Exact assignment for left A-pillar connection point can be found on applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*

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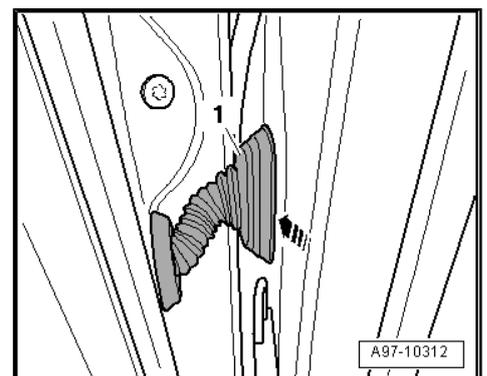
Install in reverse order, paying attention to the following:

- Fit the lower A-pillar trim ⇒ Rep. Gr. 70 .
- Connect the battery. Action to be taken ⇒ [page 3](#) .

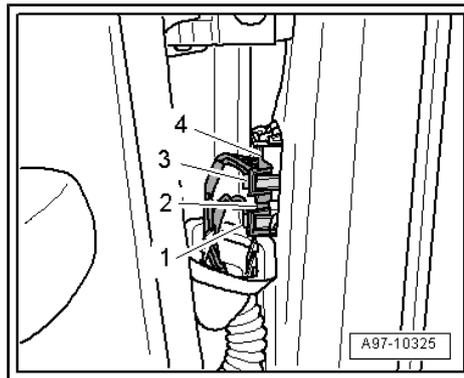
## 2.5 Unplugging left door disconnectors

### Sequence of operations

- Press the dust boot -1- at the location marked with an -arrow- and detach it.



- By pressing the appropriate retainer tabs -1- and -3-, release the door disconnectors -2- and -4- and detach outwards.



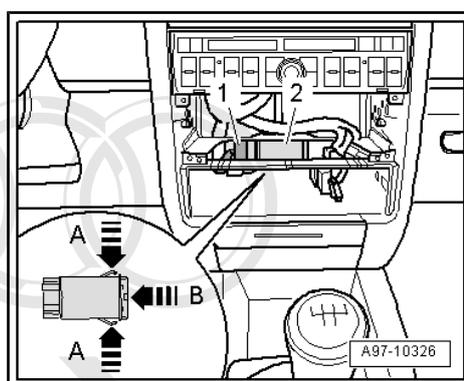
## 2.6 Removing and installing hazard warning light relay -J2-

### Removing

- Remove the air conditioning system/Climatronic operating and display unit -E87- ⇒ Rep. Gr. 87 .
- Remove the storage compartment ⇒ Rep. Gr. 68 .
- Reach through the opening and unplug the connector -1-.
- Release the clips -arrows A- and slide the hazard warning light relay -J2- -Item 2- in -direction of arrow B- out of the mount.



*Make use of the assembly tool -T10118- if the lower clip cannot be released.*



### Installing

Install in reverse order, paying attention to the following.

- Install the storage compartment ⇒ Rep. Gr. 68 .
- Install the air conditioning system/Climatronic operating and display unit -E87- ⇒ Rep. Gr. 87 .

## 2.7 Removing and installing 6+6-socket relay carrier

### Removing

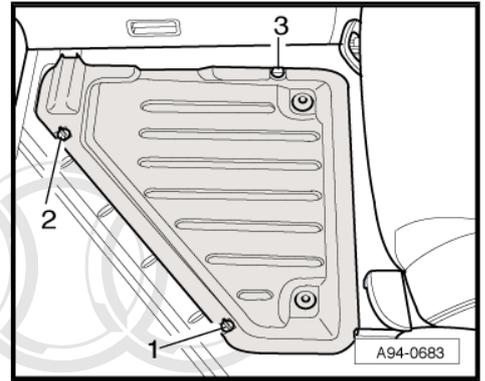


#### Caution

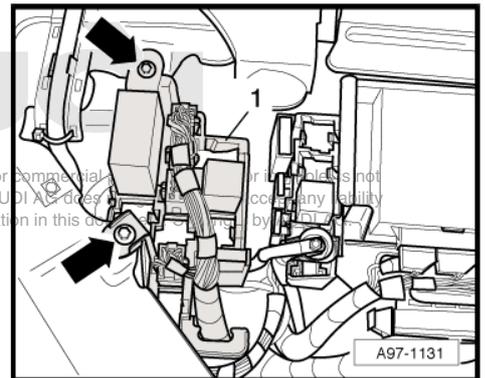
*On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01 ; Telematics self-diagnosis .*

- With the ignition switched off, disconnect the earth wire at the battery ⇒ [page 2](#) .

- Lift the floor covering on the left side of the vehicle.
- Turn catches -1 ... 3- anti-clockwise and remove cover plate.



- Remove bolts -arrows-.
- Remove 6+6-socket relay carrier -1- from false floor upwards.
- Detach electrical connectors.
- Unclip fuse carrier from connection point.
- Detach relays and control units and then unclip the appropriate relay carrier.



 **Note**

*Exact assignment for 6+6-socket relay carrier can be found on appropriate current flow diagram → Current flow diagrams, Electrical fault finding and Fitting locations.*

**Installing**

Install in reverse order, paying attention to the following:

- Connect the battery. Action to be taken ⇒ [page 3](#) .

**Tightening torque**

Component	Nm
6+6-socket relay carrier to body	2

**2.8 Removing and installing 3-socket relay carrier**

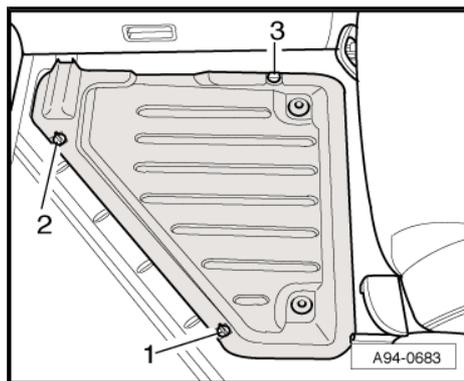
**Removing**

 **Caution**

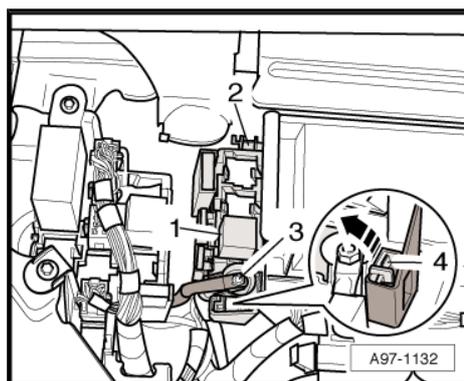
*On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery → Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01; Telematics self-diagnosis .*

- With the ignition switched off, disconnect the earth wire at the battery ⇒ [page 2](#) .

- Lift the floor covering on the left side of the vehicle.
- Turn catches -1 ... 3- anti-clockwise and remove cover plate.



- Remove nut -3- from “positive” lead.
- Release catches -2- and -4- and remove 3-socket relay carrier -1- upwards from false floor -arrow-.
- Unclip fuse carrier from connection point.
- Detach relays and control units and then unclip the appropriate relay carrier.



**Note**

*Exact assignment for 3-socket relay carrier can be found on appropriate current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*

**Installing**

Install in reverse order, paying attention to the following:

- Connect the battery. Action to be taken ⇒ [page 3](#) .

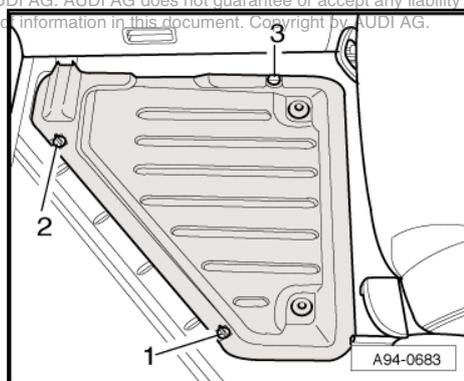
**Tightening torque**

Component	Nm
Positive lead to relay carrier	9

**2.9 Removing and installing convenience system central control unit -J393-**

**Removing**

- If the control unit is to be replaced, select the appropriate control unit in the “Guided functions” ⇒ Vehicle diagnosis, testing and information system VAS 5051.
- Switch off ignition and remove ignition key.
- Lift floor covering on left side of vehicle.
- Turn catches -1 ... 3- anti-clockwise and remove cover plate.

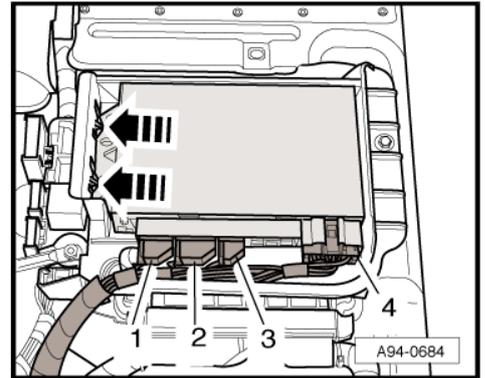


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- Release retaining clips -arrows- and remove convenience system central control unit -J393- upwards out of electronics box in vehicle floor.
- Unplug electrical connectors -1 ... 4-.

### Installing

Install in reverse order.



## 2.10 Removing and installing right A-pillar connection point

### Removing

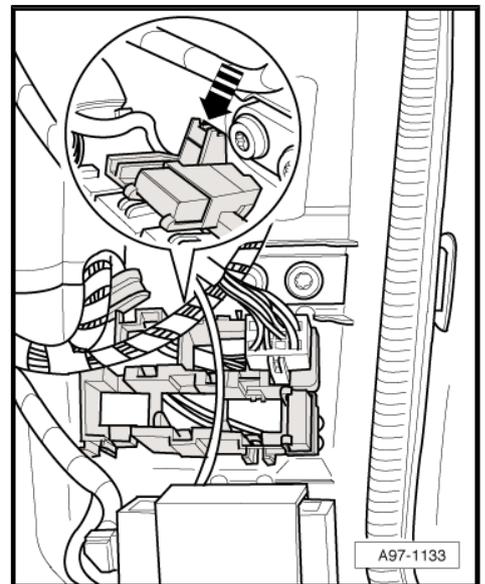


#### Caution

*On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01; Telematics self-diagnosis .*

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- With the ignition switched off, disconnect the earth wire at the battery ⇒ [page 2](#) .
- Remove the lower A-pillar trim ⇒ Rep. Gr. 70 .
- Press the clip in -arrow direction- and disengage the connector point at the A-pillar.
- Unclip the fuse carriers at the connector point.
- Detach relays and control units and then unclip the appropriate relay carrier.



#### Note

*Exact assignment for right A-pillar connection point can be found on applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*

### Installing

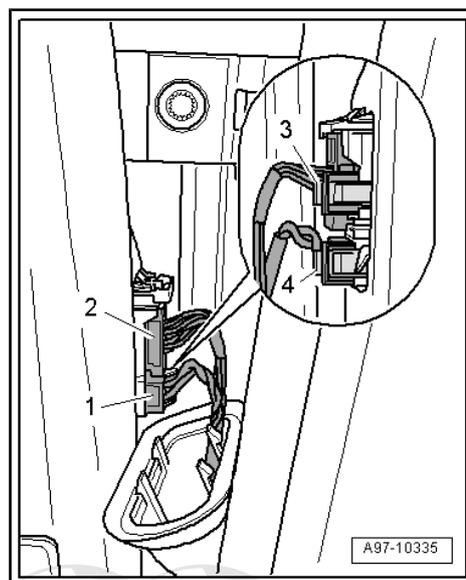
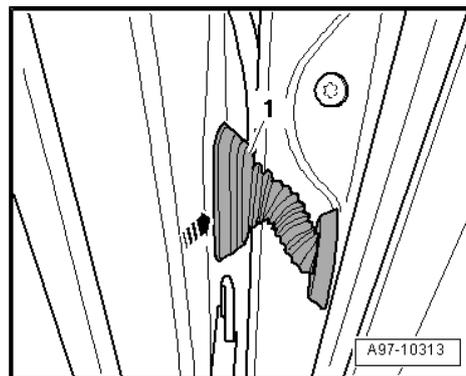
Install in reverse order, paying attention to the following:

- Fit the lower A-pillar trim ⇒ Rep. Gr. 70 .
- Connect the battery. Action to be taken ⇒ [page 3](#) .

## 2.11 Unplugging right door disconnectors

### Sequence of operations

- Press the dust boot -1- at the location marked with an -arrow- and detach it.
- By pressing the appropriate retainer tabs -3- and -4-, release the door disconnectors -1- and -2- and detach outwards.



## 2.12 Removing and installing main fuse carrier

### Removing



#### Caution

*On vehicles with telematics system, activate service mode of telematics control unit before disconnecting battery ⇒ Radio, telephone, navigation, self-diagnosis; Rep. Gr. 01; Telematics self-diagnosis .*

- With ignition switched off, disconnect earth lead at battery ⇒ [page 2](#) .

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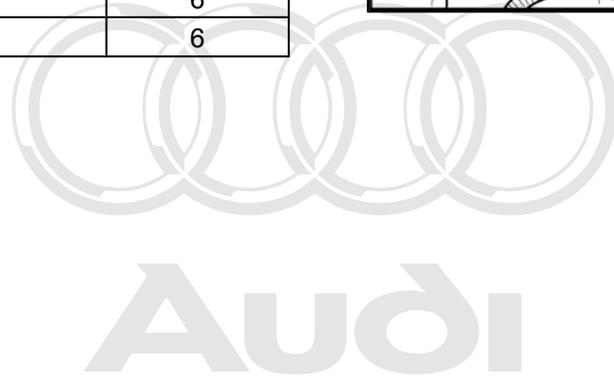
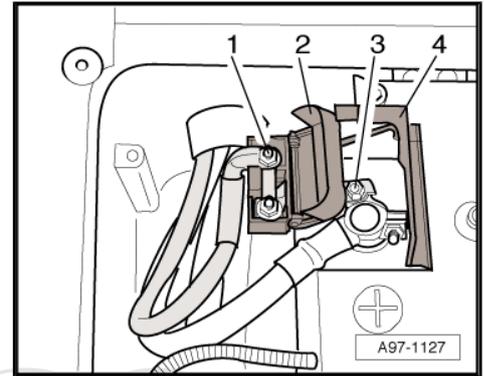
- Fold trim caps -2- and -4- aside.
- Remove nut -1- from lead and remove lead.
- Remove nut -3- for fuse carrier from positive terminal and remove main fuse carrier.

**Installing**

Install in reverse order.

**Tightening torques**

Component	Nm
Fuse carrier to positive terminal	6
Lead to fuse carrier	6



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### 3 Repairing wiring harnesses and electrical connectors

The following descriptions are given in ⇒ Electrical system; General information; Rep. Gr. 97 :

- ◆ General information on vehicle electrical system repair work
- ◆ Notes on repairing wiring harnesses and electrical connectors
- ◆ Repairing airbag and belt tensioner wiring
- ◆ Repairing CAN bus wiring
- ◆ Repairing a 0.25 mm<sup>2</sup> wire with a single crimp connector
- ◆ Repairing a wire of 0.35 mm<sup>2</sup> section or thicker with a single crimp connector
- ◆ Repairing a 0.25 mm<sup>2</sup> wire by connecting in an additional wire
- ◆ Repairing a wire of 0.35 mm<sup>2</sup> section or thicker by connecting in an additional wire



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## 4 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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## 5 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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## 6 Repairing aerial wires

⇒ Electrical system; General information; Rep. Gr. 97



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## 7 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, testing and information system -VAS 5051B-



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