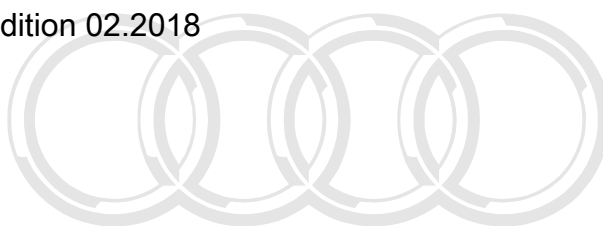


Workshop Manual Audi A3 2004 ➤

Electrical system, Cabriolet

Edition 02.2018



Audi

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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

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.

Contents

27 - Starter, current supply, CCS	1
1 Contact corrosion	1
2 Battery	2
2.1 Battery - general notes	2
2.2 Maintenance-free batteries	2
2.3 Exploded view battery	2
2.4 Disconnecting and connecting battery	3
2.5 Removing and installing earth cable with battery monitor control unit J367	4
2.6 Removing and installing battery	5
2.7 Removing and installing battery mounting	8
2.8 Checking battery	8
2.9 Charging battery	8
2.10 Preparations before charging battery	8
2.11 Preparations for back-up power supply of battery	10
3 Start/stop system	12
3.1 Safety precautions for vehicles with start/stop system	12
3.2 Exploded view - start/stop system	12
3.3 Removing and installing voltage stabiliser J532	13
4 Removing and installing alternator	14
4.1 Exploded view - alternator without sliding bushes	14
4.2 Removing and installing alternator - vehicles with 1.8 ltr. / 2.0 ltr. TFSI engine	14
4.3 Exploded view - alternator with sliding bushes	17
4.4 Removing and installing alternator - vehicles with 1.2 ltr. TFSI engine	19
4.5 Removing and installing alternator - vehicles with 1.4 ltr. TFSI engine	21
4.6 Removing and installing alternator - vehicles with 1.6 ltr. MPI engine	22
4.7 Removing and installing alternator - vehicles with 1.6 ltr. TDI engine	24
4.8 Removing and installing alternator - vehicles with 1.9 ltr. TDI engine	27
4.9 Removing and installing alternator - vehicles with 2.0 ltr. TDI engine	31
5 Checking and servicing alternator	36
5.1 Checking alternator	36
6 Removing and installing starter	37
6.1 Exploded view - starter	37
6.2 Removing and installing starter - vehicles with 1.2 ltr. TFSI engine and dual clutch gearbox	38
6.3 Removing and installing starter - vehicles with 1.2 ltr./1.4 ltr. TFSI engine and manual gearbox	39
6.4 Removing and installing starter - vehicles with 1.4 ltr. TFSI engine and dual clutch gearbox	40
6.5 Removing and installing starter - vehicles with 1.6 ltr. engine	41
6.6 Removing and installing starter - vehicles with 1.8 ltr./2.0 ltr. TFSI engine and manual gearbox	43
6.7 Removing and installing starter - vehicles with 1.8 ltr./2.0 ltr. TFSI engine and dual clutch gearbox	45
6.8 Removing and installing starter - vehicles with 1.6 ltr. TDI engine	46
6.9 Removing and installing starter - vehicles with 1.9 ltr. TDI engine	48
6.10 Removing and installing starter - vehicles with 2.0 ltr. TDI engine	49
90 - Gauges, instruments	51
1 Contact corrosion	51
2 Instrument cluster	52
2.1 Exploded view - instrument cluster, radio controlled clock receiver, data bus diagnostic interface	52
2.2 Removing and installing instrument cluster	53

2.3	Multi-pin connectors on instrument cluster	54
2.4	Pin assignment at multi-pin connectors on instrument cluster	54
2.5	Pin assignment on fuel gauge sender G	55
2.6	Pin assignment at coolant temperature senders - vehicles with 1.6 ltr. MPI engine	56
2.7	Pin assignment at coolant temperature senders - vehicles with 1.8 ltr. / 2.0 ltr. TFSI engine	57
2.8	Pin assignment at coolant temperature senders - vehicles with 1.6 ltr. / 2.0 ltr. TDI engine	58
2.9	Removing and installing ambient temperature sensor G17	59
2.10	Removing and installing radio-controlled clock receiver J489	60
3	Cigarette lighter, 12 V electric socket	61
3.1	Exploded view - cigarette lighter, 12 V electric socket	61
3.2	Removing and installing cigarette lighter U1	61
3.3	Removing and installing cigarette lighter illumination bulb L28	63
3.4	Removing and installing electric socket U	64
3.5	Renewing electric socket U	64
4	Horns	66
4.1	Exploded view - horns	66
4.2	Removing and installing horns H2 / H7	66
4.3	Removing and installing bracket for horns	67
5	Data bus diagnostic interface	68
5.1	Data bus diagnostic interface J533	68
5.2	Removing and installing data bus diagnostic interface J533	68
5.3	Connector at data bus diagnostic interface J533	69
92	Windscreen wash/wipe system	70
1	Contact corrosion	70
2	Overview - windscreen wiper and washer system/headlight washer system	71
3	Windscreen wiper system	72
3.1	Exploded view - windscreen wiper system	72
3.2	Moving windscreen wipers to service position	73
3.3	Renewing wiper blade	74
3.4	Removing and installing wiper arms	74
3.5	Adjusting wiper arms	75
3.6	Removing and installing windscreen wiper motor V with wiper motor control unit J400	76
3.7	Renewing windscreen wiper motor V with wiper motor control unit J400	78
3.8	Removing and installing rain and light sensor	78
4	Windscreen washer system	82
4.1	Exploded view - washer fluid reservoir, washer fluid hoses, washer jets	82
4.2	Removing and installing filler neck for washer fluid reservoir	83
4.3	Removing and installing washer fluid reservoir - vehicles without auxiliary heater	84
4.4	Removing and installing windscreen washer fluid level sender G33	85
4.5	Removing and installing washer pump V5	86
4.6	Removing and installing washer jets	87
4.7	Adjusting washer jets	87
5	Headlight washer system	88
5.1	Exploded view - washer fluid reservoir, washer fluid hoses, washer jets	88
5.2	Removing and installing headlight washer system pump V11	88
5.3	Removing and installing headlight washer jets	89
5.4	Adjusting washer jets	90
5.5	Removing and installing washer fluid reservoir	90
6	Washer fluid hoses	91
94	Lights, bulbs, switches - exterior	92
1	Contact corrosion	92

2	Halogen headlights	93
2.1	Exploded view - halogen headlight	93
2.2	Removing and installing headlight housing	95
2.3	Removing and installing mounting for headlight housing	95
2.4	Renewing headlight dipped beam bulb M29 / M31	96
2.5	Renewing headlight main beam bulb M30 / M32	97
2.6	Renewing bulb for daytime running light and side light L186 / L188	98
2.7	Renewing front turn signal bulb M5 / M7	99
2.8	Removing and installing headlight range control motor V48 / V49	100
2.9	Installing repair kit for headlight housing	101
2.10	Adapting headlights for driving on the left side of the road	102
2.11	Adapting headlights for driving on the right side of the road	103
3	Bi-xenon gas discharge headlights with cornering light	104
3.1	Safety precautions when handling gas discharge bulbs	104
3.2	Exploded view - bi-xenon gas discharge headlight with cornering light	104
3.3	Removing and installing headlight housing	106
3.4	Removing and installing mounting for headlight housing	107
3.5	Renewing gas discharge bulb L13 / L14	108
3.6	Renewing LED module for daytime running light and side light L176 / L177	110
3.7	Removing and installing dip beam screen motor V294 / V295	110
3.8	Removing and installing headlight range control motor V48 / V49 - vehicles without cornering lights	110
3.9	Removing and installing dynamic cornering light control motor V318 / V319 - vehicles with cornering lights	110
3.10	Renewing front turn signal bulb M5 / M7	110
3.11	Removing and installing gas discharge bulb control unit J343 / J344	111
3.12	Removing and installing output module for headlight J667 / J668	112
3.13	Installing repair kit for headlight housing	113
3.14	Adapting headlights for driving on the left or right side of the road - rest-of-the-world vehicles	113
4	Automatic headlight range control	114
4.1	Overview - automatic headlight range control	114
4.2	Removing and installing control unit for headlight range control J431	114
5	Fog lights	116
5.1	Exploded view - fog light	116
5.2	Removing and installing fog lights	116
5.3	Renewing fog light bulb L22 / L23	117
6	Adjusting headlight settings	118
6.1	Adjusting headlights	118
6.2	Adjusting halogen headlights	118
6.3	Adjusting gas discharge headlights	120
6.4	Adjusting fog lights	123
7	Turn signal repeaters - vehicles up to model year 2010	125
7.1	Exploded view - exterior mirror turn signal	125
7.2	Removing and installing exterior mirror turn signal bulb L131 / L132	125
8	Turn signal repeaters - vehicles from model year 2011 onwards	128
8.1	Exploded view - exterior mirror turn signal	128
8.2	Removing and installing exterior mirror turn signal bulb L131 / L132	129
9	Tail light cluster	131
9.1	Exploded view - outer tail light cluster	131
9.2	Removing and installing outer tail light cluster	132
9.3	Removing and installing bulb holder	132
9.4	Exploded view - inner tail light cluster	132
9.5	Removing and installing inner tail light cluster	134
9.6	Removing and installing rear fog light bulb L46 / L47	135

9.7	Removing and installing reversing light bulb M16 / M17	135
10	Exterior lights (rear)	136
10.1	Exploded view - high-level brake light and number plate light	136
10.2	Removing and installing high-level brake light	137
10.3	Preparing high-level brake light for installation	137
10.4	Removing and installing number plate light X	138
11	Steering column switch module	139
11.1	Exploded view - steering column switch module	139
11.2	Removing and installing steering column electronics control unit J527	140
11.3	Pin assignment on steering column electronics control unit J527	141
11.4	Removing and installing return ring with slip ring	144
11.5	Removing and installing steering angle sender G85	145
11.6	Removing and installing turn signal switch E2 and cruise control system switch E45	145
11.7	Removing and installing intermittent wiper switch E22	146
12	Lock cylinder and ignition/starter switch with steering lock	147
12.1	Removing and installing lock cylinder	147
12.2	Removing and installing ignition key withdrawal lock solenoid N376	148
12.3	Removing and installing ignition/starter switch D	148
12.4	Pin assignment on ignition/starter switch	150
12.5	Removing and installing steering lock housing	150
12.6	Removing and installing adapter wiring harness for steering lock housing	151
13	Parking aid	152
13.1	Overview - parking aid (front)	152
13.2	Removing and installing front parking aid warning buzzer H22 - 8-channel parking aid	153
13.3	Removing and installing front parking aid senders G252 / G253 / G254 / G255	153
13.4	Removing and installing front park assist steering senders G568 / G569	153
13.5	Overview - parking aid (rear)	153
13.6	Removing and installing parking aid control unit J446	154
13.7	Removing and installing rear parking aid warning buzzer H15	155
13.8	Removing and installing rear parking aid senders G203 / G204 / G205 / G206	155
96	Lights, bulbs, switches - interior	156
1	Lights and switches in dash panel	156
1.1	Overview - lights and switches in dash panel	156
1.2	Removing and installing central locking SAFELOCK function warning lamp K133	157
1.3	Removing and installing light switch E1	157
1.4	Removing and installing regulator/switch unit (E20 , E102) and “coming home” button	158
1.5	Removing and installing hazard warning light switch E3 - vehicles up to 01.2010	158
1.6	Removing and installing tyre pressure monitor button E226 - vehicles up to 01.2010	159
1.7	Removing and installing start/stop operation button E693 - vehicles up to 01.2010	159
1.8	Removing and installing TCS and ESP button E256 - vehicles up to 01.2010	160
1.9	Removing and installing warning lamp for airbag deactivated on front passenger side K145 - vehicles up to 01.2010	160
1.10	Removing and installing parking aid button E266 - vehicles up to 01.2010	161
1.11	Removing and installing switches in dash panel - vehicles from 01.2010 onwards	161
1.12	Removing and installing front heated seat regulator E94 / E95	162
1.13	Removing and installing glove compartment light W6	162
1.14	Removing and installing glove compartment light switch E26	163
1.15	Removing and installing bulb for footwell light W9 / W10	164
2	Lights and switches in front doors	165
2.1	Overview - lights and switches in front doors	165
2.2	Removing and installing mirror adjustment switch E43 / E168	166
2.3	Removing and installing operating unit for window regulator in driver door E512	167
2.4	Removing and installing window regulator switch in front passenger door E107	167
2.5	Removing and installing interior locking button for central locking system E308 / E309	168

2.6	Removing and installing door opener illumination bulb L108 / L109	168
2.7	Removing and installing interior monitoring deactivation switch E183 and alarm system off switch E217	169
2.8	Removing and installing door contact switch F2 / F3	169
2.9	Removing and installing front entry light W31 / W32 and door warning lamp W30 / W36	170
3	Lights and switches in centre console, front seats, luggage compartment	171
3.1	Overview - lights and switches in centre console, front seats, luggage compartment	171
3.2	Removing and installing selector lever position display Y26 with selector lever display illumination bulb L101	172
3.3	Removing and installing convertible roof actuation button E137	172
3.4	Removing and installing heated rear seat switch with regulator E128 / E129	173
3.5	Removing and installing luggage compartment light W18 / W35	173
3.6	Removing and installing rear lid contact switch	174
4	Lights and switches in roof trim	175
4.1	Overview - lights and switches in roof trim	175
4.2	Removing and installing illuminated vanity mirror W20 / W14	176
4.3	Removing and installing contact switch for vanity mirror F147 / F148	176
4.4	Removing and installing interior light/reading light (front)	176
4.5	Renewing interior light/reading light bulbs (front) W1 / W13 / W19	177
4.6	Removing and installing LED for background lighting	177
4.7	Removing and installing garage door operation control unit J530	178
4.8	Removing and installing garage door operating unit E284	178
5	Immobiliser	179
6	Ultrasonic interior monitoring	180
6.1	Overview - ultrasonic interior monitoring	180
6.2	Removing and installing interior monitoring sensor G273	181
6.3	Removing and installing alarm horn H12	181
7	Towing bracket	183
7.1	Removing and installing trailer detector control unit J345	183
97 - Wiring		184
1	Contact corrosion	184
2	Relay carriers, fuse carriers (engine compartment)	185
2.1	Exploded view - electronics box (engine compartment), connector point (plenum chamber)	185
2.2	Removing and installing relay and fuse holder B SB - vehicles up to 05.2009	187
2.3	Removing and installing relay and fuse holder B SB - vehicles from 06.2009 onwards	188
2.4	Removing and installing electronics box (engine compartment, left-side)	189
2.5	Removing and installing connector point in plenum chamber	190
3	Relay carriers, fuse carriers (vehicle interior, luggage compartment)	192
3.1	Exploded view - relay and fuse carrier (dash panel), relay and fuse carrier (luggage compartment)	192
3.2	Unplugging door disconnecter (left-side)	193
3.3	Removing and installing fuse holder C SC in dash panel (driver side)	193
3.4	Removing and installing onboard supply control unit J519 - vehicles up to 05.2009	194
3.5	Removing and installing onboard supply control unit J519 - vehicles from 06.2009 onwards	195
3.6	Removing and installing 5-position relay carrier - vehicles from 06.2009 onwards	196
3.7	Removing and installing 5-position relay carrier	197
3.8	Unplugging door disconnecter (right-side)	197
4	Repairing wiring harnesses and electrical connectors	199
5	Repairing connector housings and electrical connectors	200
6	Releasing and dismantling connector housings	201
7	Cleaning contact surfaces	202



8	Repairing aerial wires	203
9	Vehicle diagnostic, testing and information systems	204



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27 – Starter, current supply, CCS

1 Contact corrosion

(ARL005683; Edition 02.2018)

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

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

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

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

Please note:

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



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2 Battery

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

2.1 Battery - general notes

⇒ Electrical system; General information; Rep. gr. 27 ; Battery

2.2 Maintenance-free batteries

⇒ Electrical system; General information; Rep. gr. 27 ; Battery

2.3 Exploded view - battery

1 - Battery mounting

- ☐ Removing and installing
⇒ [page 8](#)

2 - Retainer plate

3 - Battery trim cover (front)

4 - Positive wire

- ☐ Disconnecting and connecting
⇒ ["2.6 Removing and installing battery"](#),
[page 5](#)

5 - Nut

- ☐ 6 Nm

6 - Bolt

7 - Heat insulation sleeve

8 - Battery cover

9 - Nut

- ☐ 6 Nm

10 - Earth cable

- ☐ Disconnecting and connecting
⇒ ["2.4 Disconnecting and connecting battery"](#),
[page 3](#)

Vehicles with start/stop system

- ☐ With battery monitor control unit - J367-
- ☐ Overview ⇒ [page 3](#)
- ☐ Removing and installing
⇒ [page 4](#)

11 - Bolt

12 - Nut

- ☐ 15 Nm

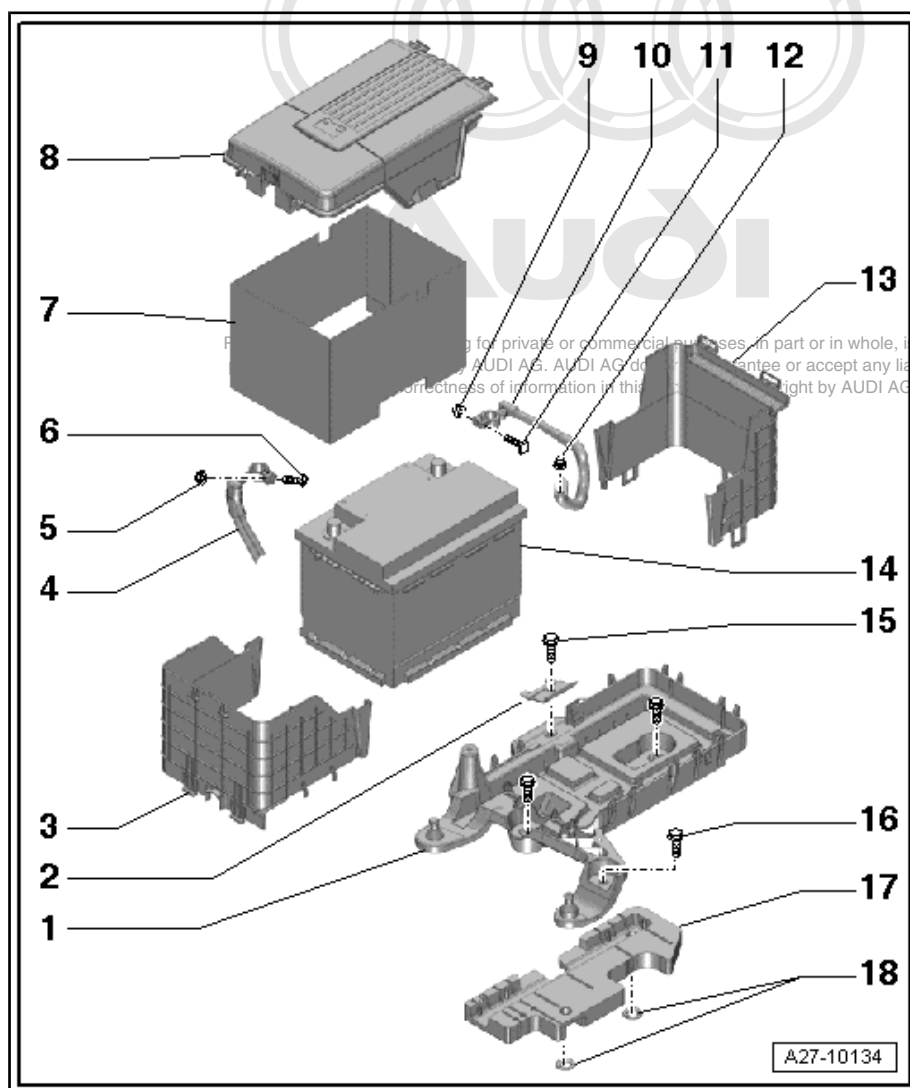
13 - Battery trim cover (rear)

14 - Battery

- ☐ Removing and installing ⇒ [page 5](#)

15 - Bolt

- ☐ 22 Nm



16 - Bolt

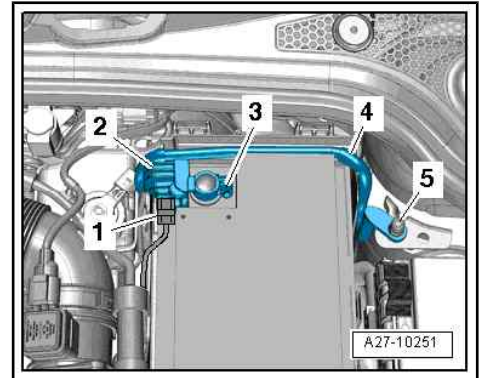
- 9 Nm

17 - Heat shield

18 - Retaining clip

Earth cable with battery monitor control unit - J367-

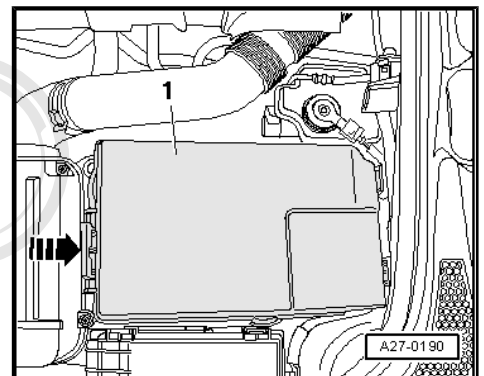
- 1 - Electrical connector
- 2 - Battery monitor control unit - J367-
- 3 - Nut, 6 Nm
- 4 - Earth cable
- 5 - Nut, 15 Nm



2.4 Disconnecting and connecting battery

Disconnecting

- Switch off ignition and remove ignition key.
- Press release tab -arrow- to detach battery cover -1-.



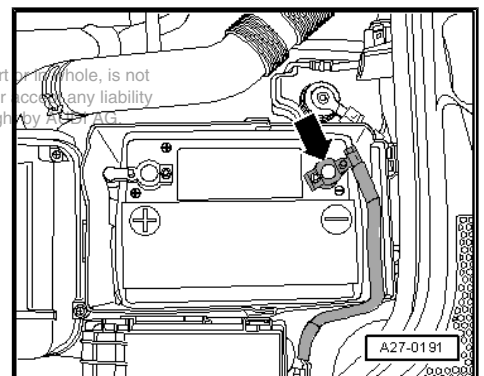
- Loosen nut several turns and disconnect battery clamp -arrow- of earth cable from battery terminal.

Connecting

- Tightening torque: vehicles without start/stop system
⇒ [page 2](#) ; vehicles with start/stop system ⇒ [page 3](#)

Vehicles without battery monitor control unit - J367- :

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



Vehicles with battery monitor control unit - J367- :

- Unplug electrical connector -3- at battery monitor control unit - J367- -item 2-.
- When connecting battery, attach battery clamp of earth cable to negative battery terminal “-” by hand and tighten nut -1-.
- Reconnect connector at battery monitor control unit - J367- .

Continued for all vehicles:

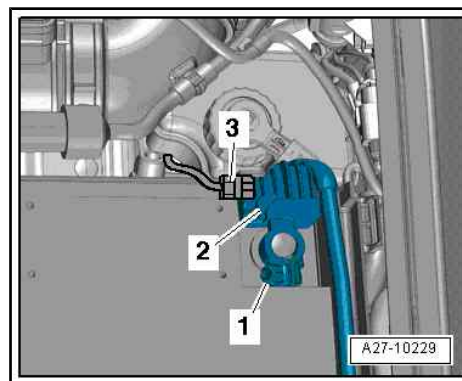
The following measures are required after re-connecting the battery:

- ◆ Observe measures to be performed before starting the engine for the first time - see ⇒ Owner's Manual .
- ◆ Activate automatic open/close function of electric window regulators - see ⇒ Owner's Manual .
- ◆ Synchronise radio-operated remote control - see ⇒ Owner's Manual .
- ◆ Interrogate event memories of all control units and erase “Low voltage” fault if necessary ⇒ Vehicle diagnostic tester.



Note

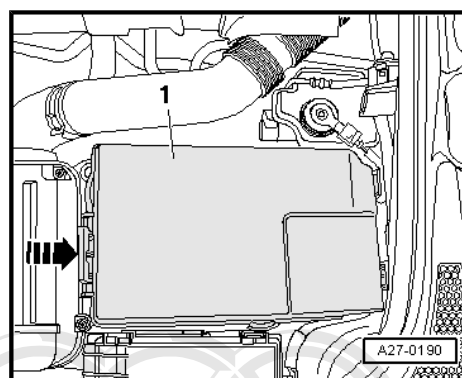
After reconnecting the voltage supply, it is possible that the ESP warning lamp will not go out until the vehicle has been driven several metres.



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

Removing

- Switch off ignition and remove ignition key.
- Press release tab -arrow- to detach battery cover -1-.



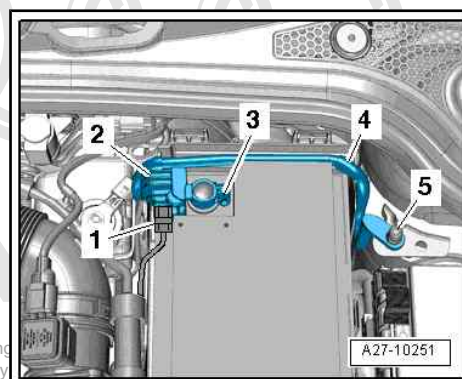
- Slacken off nut several turns and disconnect battery clamp -3- of earth cable from battery terminal.
- Unplug electrical connector -1-.
- Remove nut -5- and detach earth cable -4- with battery monitor control unit - J367- -item 2-.

Installing

- Tightening torque ⇒ [page 3](#)

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

- Connect battery ⇒ [page 3](#) .

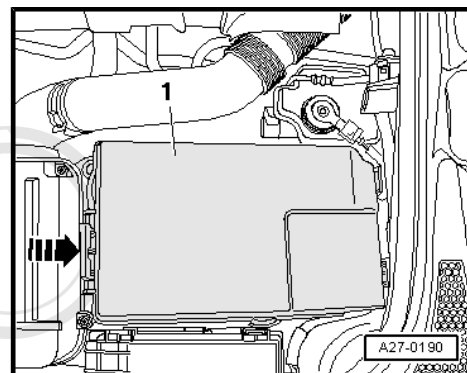


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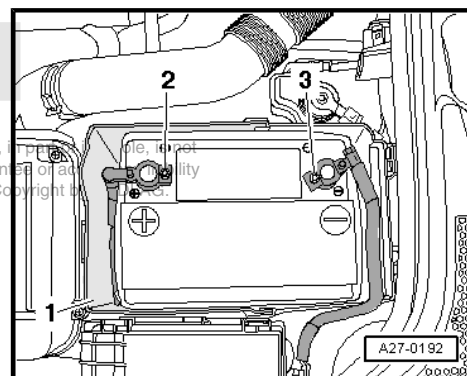
2.6 Removing and installing battery

Removing

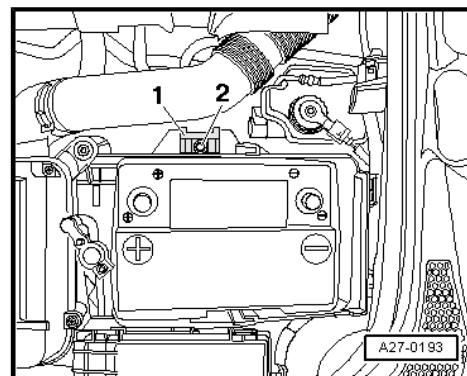
- Switch off ignition and remove ignition key.
- Press release tab -arrow- to detach battery cover -1-.
- Connect battery charger to provide back-up power supply ⇒ Electrical system; General information; Rep. gr. 27 ; Charging battery .



- Loosen nut -3- a few turns and disconnect battery clamp of earth cable from battery terminal.
- Loosen nut -2- a few turns and disconnect battery clamp of positive cable from battery terminal.
- Lift off front part -1- of battery trim cover.
- Pull off heat insulation sleeve upwards.



- Remove bolt -2- on battery retainer plate -1-.
- Pull battery out of retainer flange on battery tray.
- Lift battery out of engine 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 ; Battery .**

Installing

- Tightening torque: vehicles without start/stop system ⇒ [page 2](#) ; vehicles with start/stop system ⇒ [page 3](#)

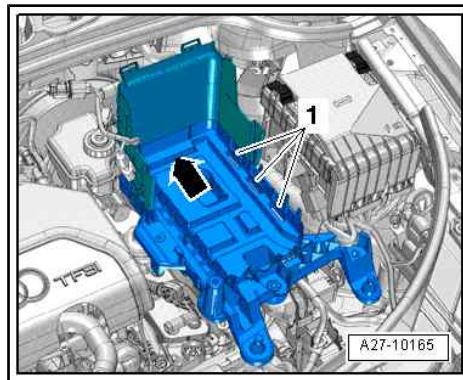
Installation is carried out in reverse order; note the following:



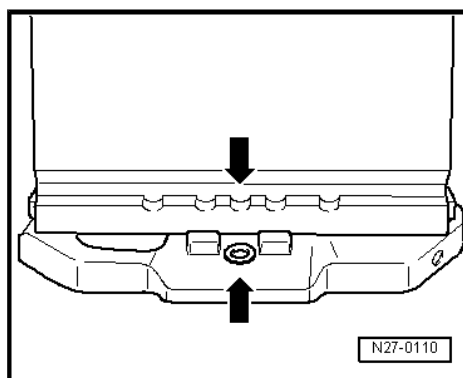
Note

- ◆ **Only install maintenance-free batteries with the specifications "TL82506" (from December 1997 onwards) and "VW75073" (from August 2001 onwards).**
- ◆ **Batteries from the Audi parts range feature a base strip adapter for matching to different retainer flanges. The battery operating instructions give details of when and how to use the base strip adapter.**

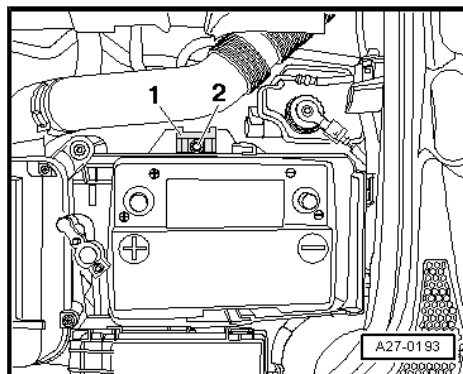
- Insert battery in battery mounting; the battery base strip must engage in the retainer flanges of the battery mounting -1- and make contact at rear -arrow-.
- It should no longer be possible to move the battery.



- The battery has been properly inserted if the centre recess in the battery base strip aligns with the tapped hole in the battery tray -arrows-.



- Place battery retainer plate -1- in position.
- Lug on battery retainer plate must engage in recess on battery base strip.
- Tighten bolt -2- for battery retainer plate.
- Attach hose for central gas venting system.

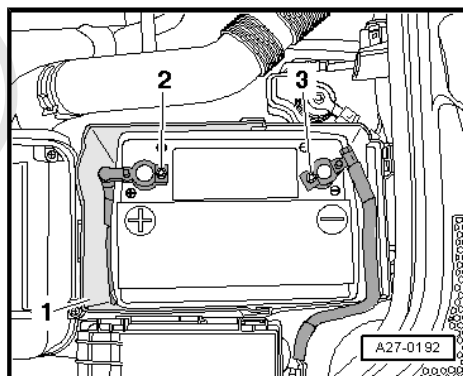


Connect up battery in the following sequence with ignition and electrical equipment switched off:

- First connect battery clamp -2- of positive cable by hand to positive battery terminal “+” and tighten nut.
- Install front part -1- of battery trim cover.

Vehicles without battery monitor control unit - J367- :

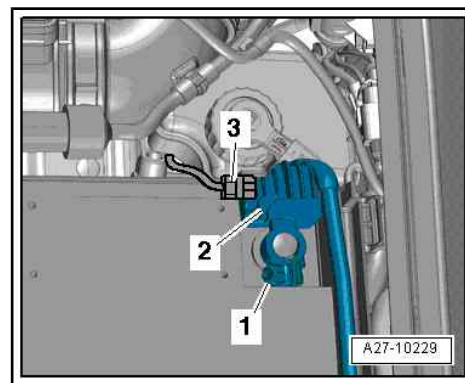
- Attach battery clamp -3- on earth cable to negative battery terminal “-” by hand and tighten nut.



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Vehicles with battery monitor control unit - J367- :

- Unplug electrical connector -3- at battery monitor control unit - J367- -item 2-.
- When connecting battery, attach battery clamp of earth cable to negative battery terminal “-” by hand and tighten nut -1-.
- Reconnect connector at battery monitor control unit - J367- .
- If the battery is renewed, the new battery must be adapted
⇒ Vehicle diagnostic tester.



Procedure

⇒ Vehicle diagnostic tester must be connected.

- Select **Diagnosis** mode and begin diagnosis.
- Select **Test plan** tab.
- Choose **Select own test** and select following options one after the other:
 - ◆ Body
 - ◆ Electrical system
 - ◆ 27 - Starter, current supply
 - ◆ Electrical components
 - ◆ A - Adapt battery after replacing

Further instructions are given by ⇒ Vehicle diagnostic tester.

Continued for all vehicles:

- Check that battery is firmly secured following installation.

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

- ◆ Observe measures to be performed before starting the engine for the first time - see ⇒ Owner's Manual .
- ◆ Activate automatic open/close function of electric window regulators - see ⇒ Owner's Manual .
- ◆ Synchronise radio-operated remote control - see ⇒ Owner's Manual .
- ◆ Interrogate event memories of all control units and erase “Low voltage” fault if necessary ⇒ Vehicle diagnostic tester.



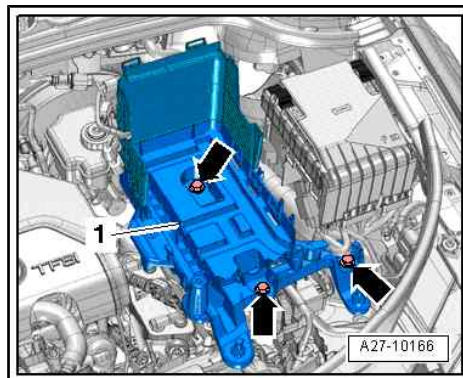
Note

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

2.7 Removing and installing battery mounting

Removing

- Remove battery ⇒ [page 5](#) .
- Remove bolts -arrows-.
- Take out battery mounting -1-.



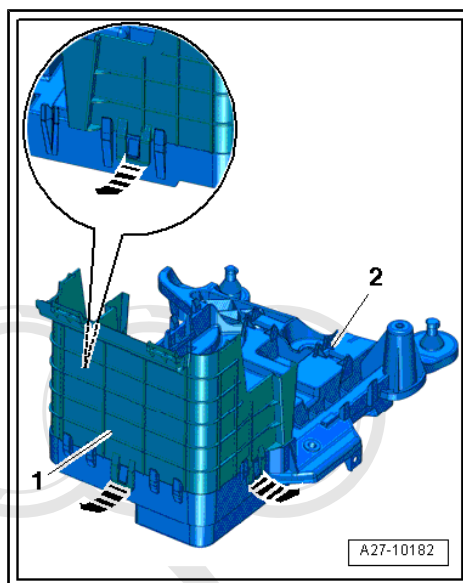
- Release retaining clips -arrows- and detach battery trim cover (rear) -1- from battery mounting -2-.

Installing

- Tightening torque ⇒ [page 2](#)

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

- Install battery ⇒ [page 5](#) .



2.8 Checking battery

⇒ Electrical system; General information; Rep. gr. 27 ; Checking battery

2.9 Charging battery

⇒ Electrical system; General information; Rep. gr. 27 ; Charging battery

2.10 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 "magic eye" indicator is colourless or yellow. Do not attempt to jump-start the vehicle! There is a danger of explosion if you test or charge the battery or jump-start the vehicle! The battery must be renewed.**

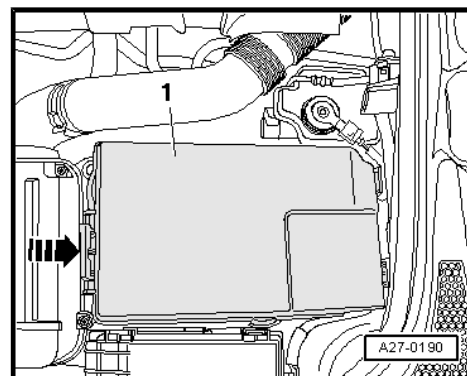
Before connecting battery charger, it is necessary to perform the following steps:

 Note

- ◆ *The battery clamps should normally be disconnected from the battery before charging.*
- ◆ *Vehicles with battery monitor control unit - J367- : If possible, the battery should be charged while it is connected. Otherwise, the charging current will not be taken into account in the capacity calculation of battery monitor control unit -J367- .*
- Switch off ignition and all electrical equipment; then take out ignition key.

Vehicles with battery located in engine compartment:

- Press release tab -arrow- to detach battery cover -1-.

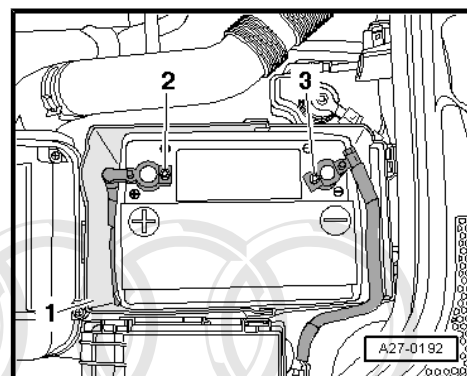


Vehicles without battery monitor control unit -J367- :

- Loosen nut -3- a few turns and disconnect battery clamp of earth cable from battery terminal.
- Loosen nut -2- a few turns and disconnect battery clamp of positive cable from battery terminal.

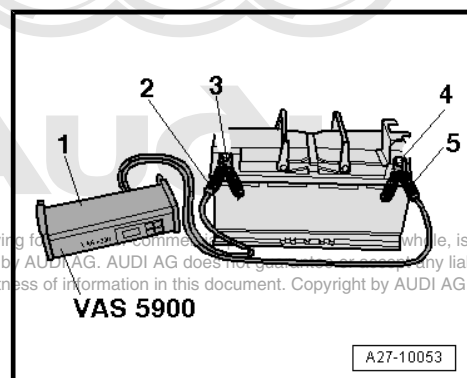
 Note

Disregard -item 1-.



Continued for all vehicles:

- Connect red clamp “+” -item 5- of battery charger -1- to positive battery terminal -4- and black clamp “-” -item 2- to negative battery terminal -3-.



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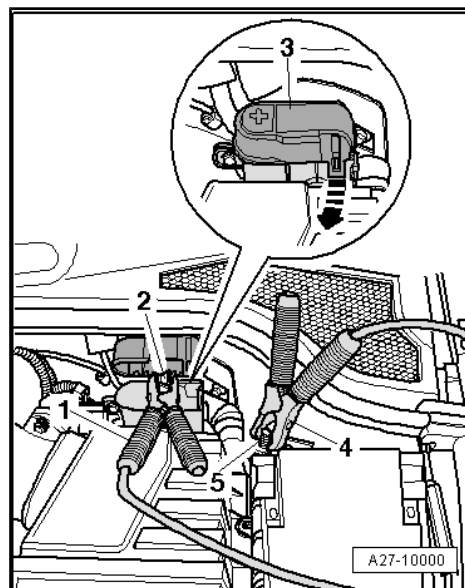
VAS 5900

Vehicles with battery located in luggage compartment:

- Release retaining clip -arrow- in engine compartment and remove cover -3- over positive terminal.
- Connect red clamp “+” -item 1- of battery charger to remote positive terminal -2- and black clamp “-” -item 4- to remote earth terminal -5-.

Continued for all vehicles:

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



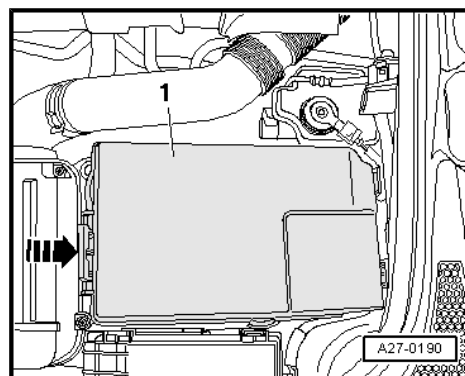
2.11 Preparations for back-up power supply of battery

Procedure

- Switch off ignition and all electrical equipment.

Vehicles with battery located in engine compartment:

- Press release tab -arrow- to detach battery cover -1-.

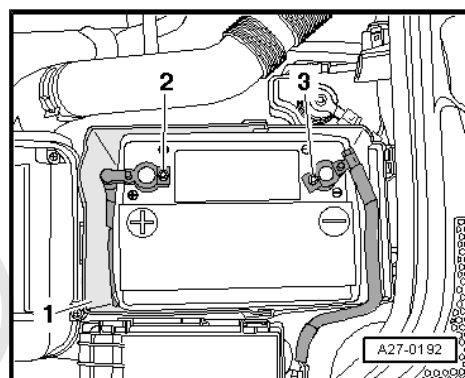


- Connect red clamp “+” of battery charger to positive battery clamp “+” -item 2- and black clamp “-” to negative battery clamp “-” -item 3-.



Note

Disregard -item 1-.

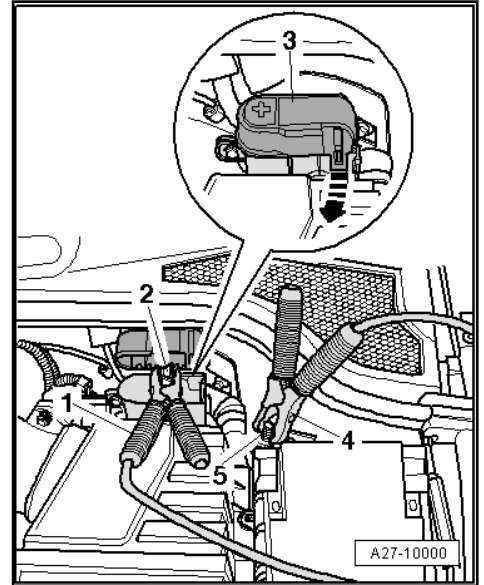


Vehicles with battery located in luggage compartment:

- Release retaining clip -arrow- in engine compartment and remove cover -3- over positive terminal.
- Connect red clamp “+” -item 1- of battery charger to remote positive terminal -2- and black clamp “-” -item 4- to remote earth terminal -5-.

Both:

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



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3 Start/stop system

3.1 Safety precautions for vehicles with start/stop system



Caution

Risk of injury due to automatic engine start.

- ◆ *On vehicles with activated start/stop system (indicated by a message in the instrument cluster), the engine may start automatically if it needs to.*
- ◆ *Therefore it is important to ensure that the start/stop system is deactivated when performing repairs (switch off ignition, if required switch on ignition again).*

3.2 Exploded view - start/stop system

1 - Electronics box

- For voltage stabiliser - J532-

2 - Voltage stabiliser - J532-

- Removing and installing
⇒ [page 13](#)

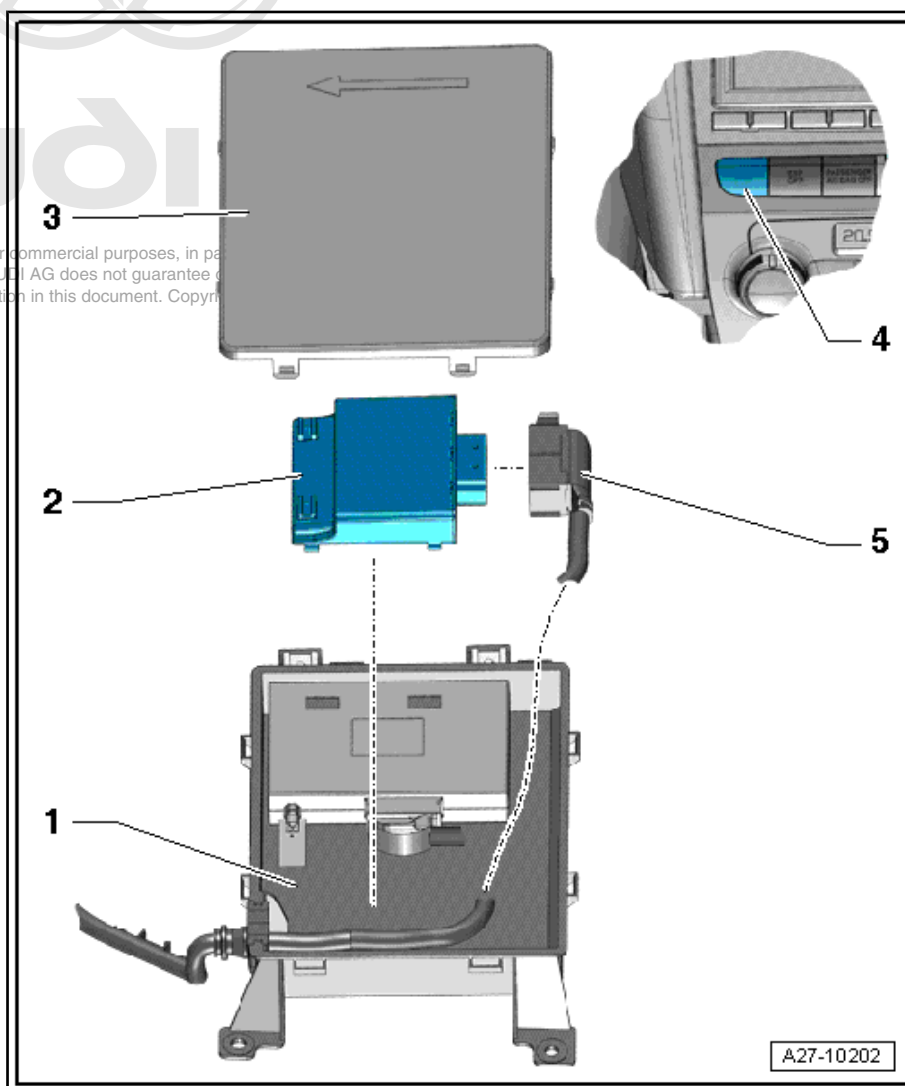
3 - Cover

- For electronics box

4 - Start/stop operation button - E693-

- Removing and installing
⇒ [page 159](#)

5 - Electrical connector



3.3 Removing and installing voltage stabiliser - J532-

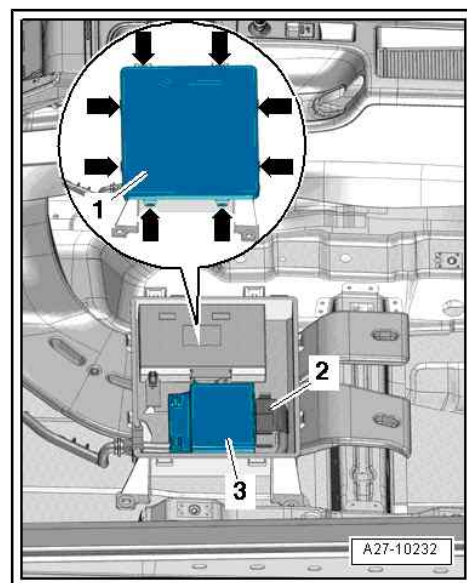
Removing

- Switch off ignition and remove ignition key.
- Remove front seat (left-side) ⇒ Rep. gr. 72 .
- Remove sill panel trim (left-side) ⇒ Rep. gr. 70 .
- Remove foot rest cover and bracket ⇒ Rep. gr. 70 .
- Fold back floor covering until electronics box becomes accessible.
- Release retaining tabs -arrows- and detach cover -1- for electronics box.
- Take voltage stabiliser - J532- item 3- out of electronics box.
- Unplug electrical connector -2-.

Installing

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

- Install floor covering ⇒ Rep. gr. 70 .



4 Removing and installing alternator

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

4.1 Exploded view - alternator without sliding bushes

1 - Bolt

- 23 Nm

2 - Alternator

- Removing and installing: vehicles with 1.8 ltr. / 2.0 ltr. TFSI engine
⇒ [page 14](#)

3 - Electrical connector

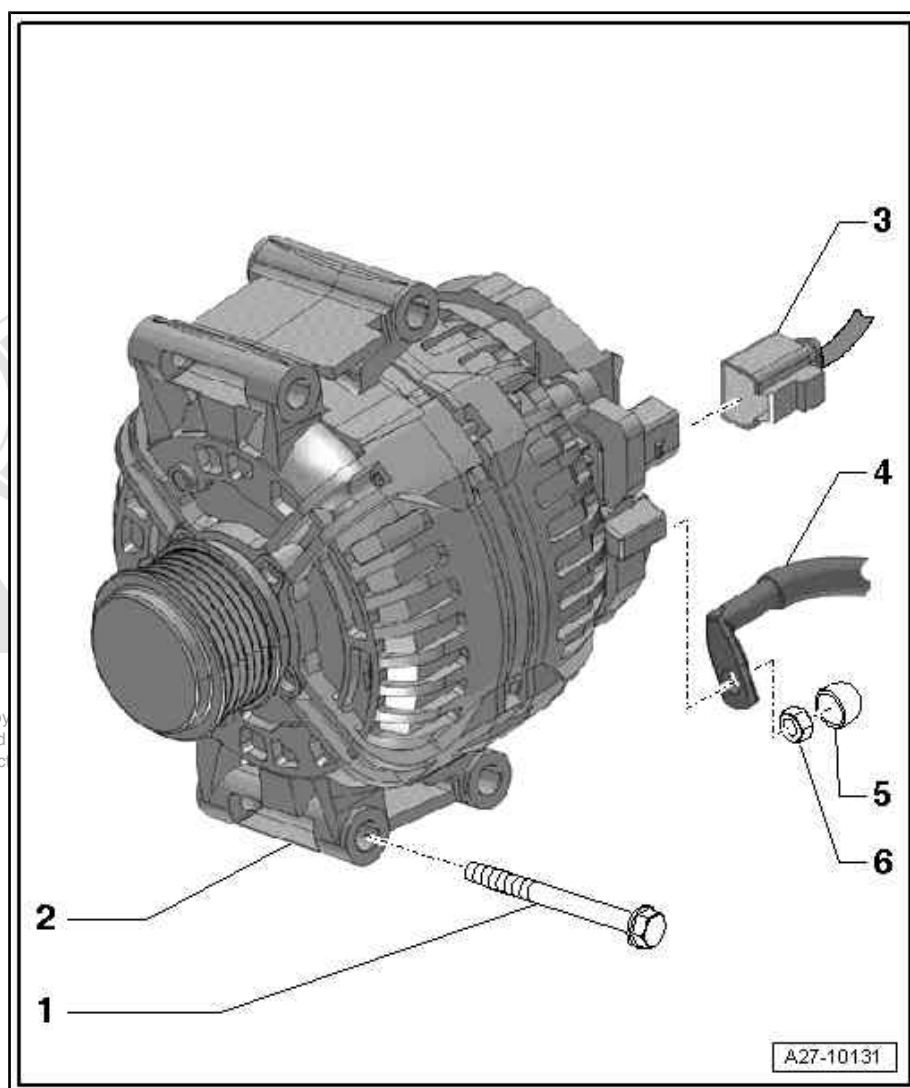
- Terminal 61

4 - Terminal 30/B+

5 - Cap

6 - Nut

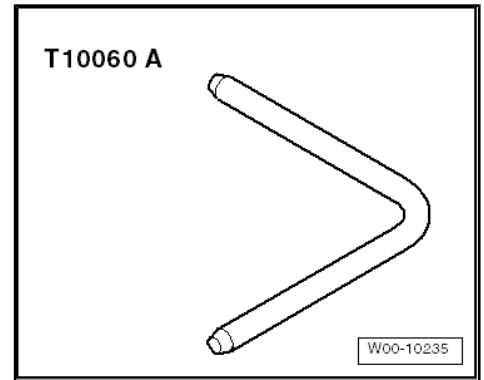
- 16 Nm



4.2 Removing and installing alternator - vehicles with 1.8 ltr. / 2.0 ltr. TFSI engine

Special tools and workshop equipment required

◆ Locking pin - T10060 A-

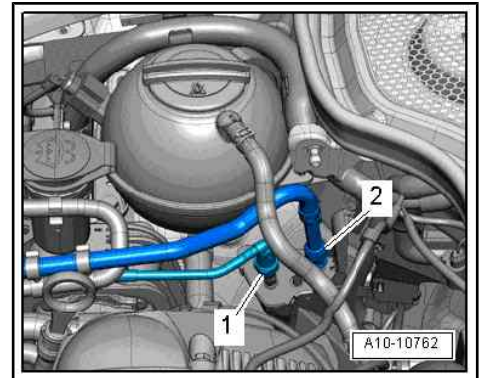


Removing

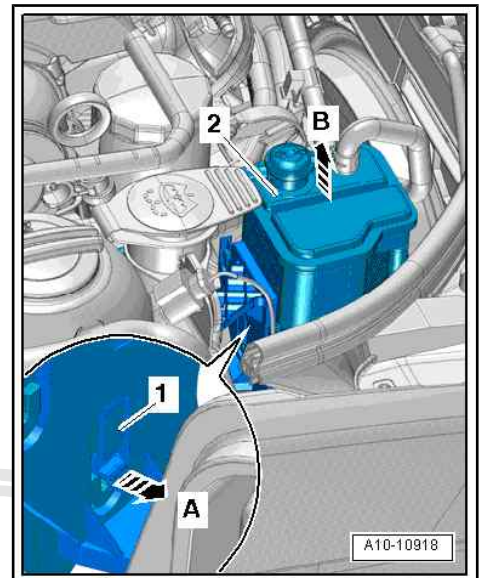
- With ignition switched off, disconnect earth cable at battery ⇒ [page 3](#) .
- Press release tab and detach vacuum line -1- for activated charcoal filter.



-Item 2- can be disregarded.



- Detach vacuum hose from coolant pipe.
- Lift off release tab -1- -arrow A- and pull activated charcoal filter -2- (with hose connected) out of bracket -arrow B-.
- Place activated charcoal filter to one side.



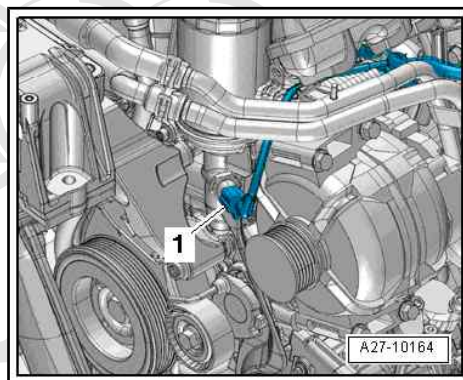
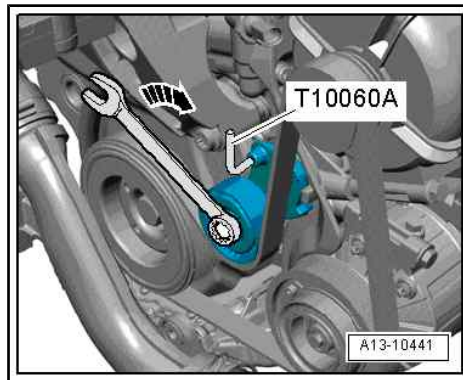


Caution

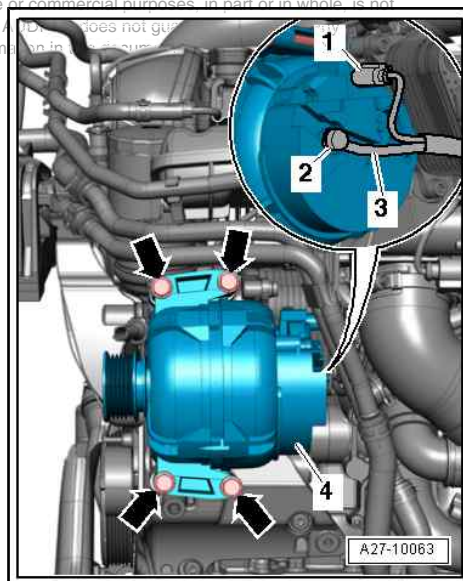
Wrong direction of rotation for a used poly V-belt can lead to irreparable damage.

- ◆ *Before removing the poly V-belt mark the direction of rotation with chalk or a felt-tip pen for re-installation.*

- Move tensioner in clockwise direction -arrow- to slacken poly V-belt.
- Secure tensioner with locking pin - T10060 A- .
- Take off poly V-belt.
- Unplug electrical connector -1- at oil pressure switch - F1- .



- Unscrew bolts -arrows- and remove alternator -4- from bracket for ancillaries.
- Swivel alternator towards right side of vehicle with electrical wiring still connected.
- Unplug electrical connector -1-.
- Pry off protective cap -2- and unscrew terminal 30/B+ -item 3- at alternator.
- Lift out alternator.

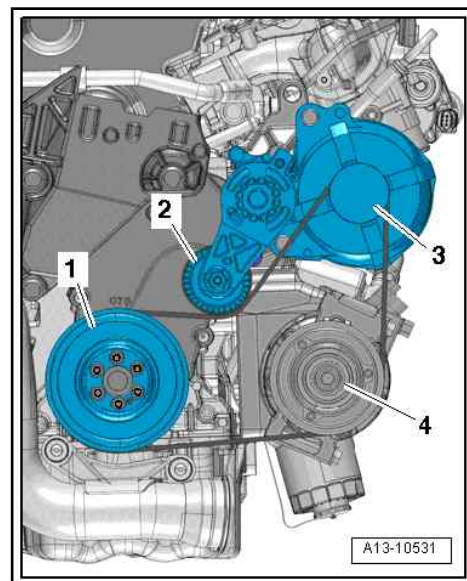


Installing

- Tightening torque ⇒ [page 14](#)

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

- Fit poly V-belt on pulleys (on alternator pulley as final step).
- 1 - Crankshaft
- 2 - Tensioner
- 3 - Alternator
- 4 - Air conditioner compressor



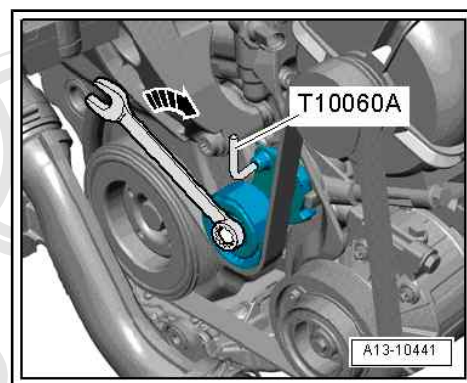
- Use ring spanner to hold tensioner and pull out locking pin - T10060 A- .
- Release pressure from tensioner.



Note

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

- Connect battery. Steps required ⇒ [page 3](#) .
- Start engine and check that poly V-belt(s) run properly.



4.3 Exploded view - alternator with sliding bushes

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1 - Bolts

- 23 Nm

2 - Alternator

- Removing and installing:

◆ Vehicles with 1.6 ltr. MPI engine ⇒ [page 22](#)

◆ Vehicles with 1.6 ltr. TDI engine ⇒ [page 24](#)

◆ Vehicles with 2.0 ltr. TDI engine ⇒ [page 31](#)

3 - Sliding bush

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

4 - Electrical connector

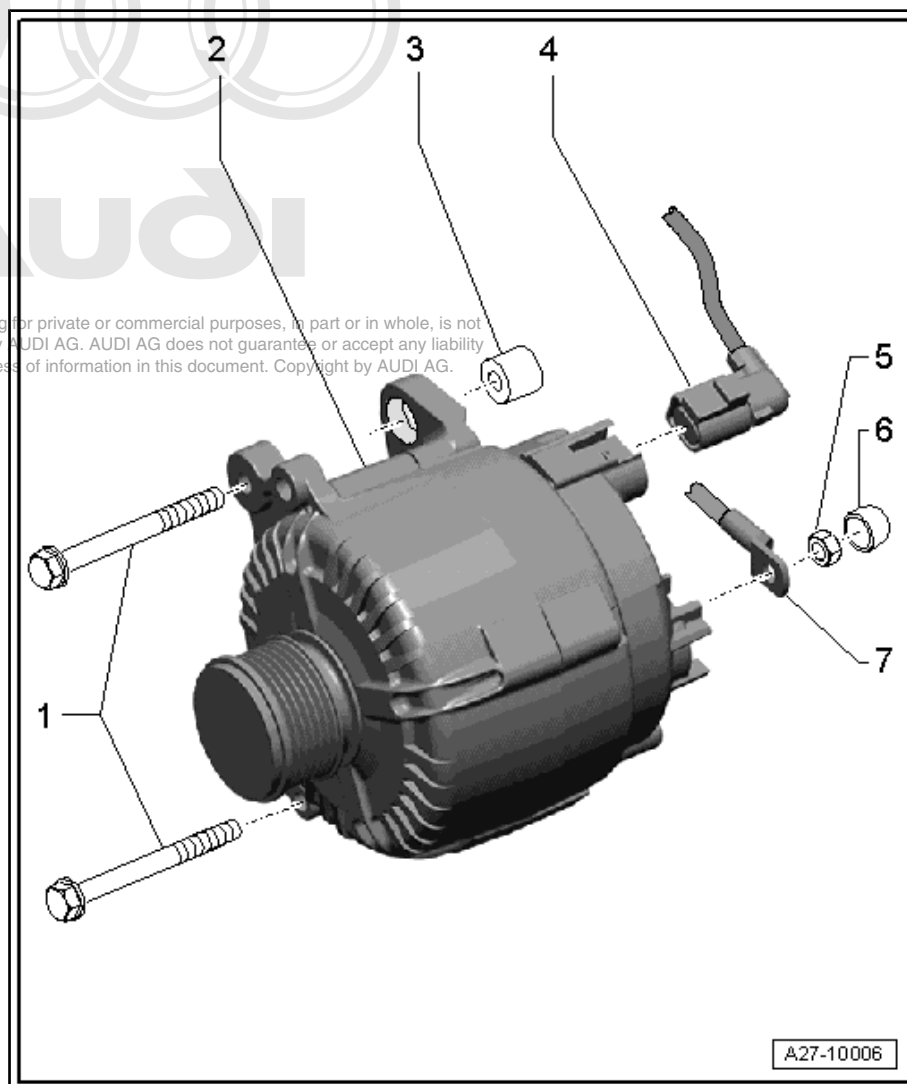
- Terminal 61

5 - Nut

- 16 Nm

6 - Cap

7 - Terminal 30/B+



4.4 Removing and installing alternator - vehicles with 1.2 ltr. TFSI engine

Removing

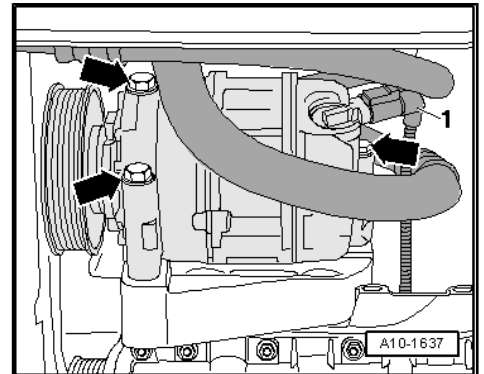
- With ignition switched off, disconnect earth cable at battery ⇒ [page 3](#) .
- Remove idler roller for poly V-belt ⇒ Rep. gr. 13 .
- Unplug connector -1- for magnetic clutch at air conditioner compressor.



WARNING

Risk of injury due to refrigerant.

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



- Remove bolts -arrows- for air conditioner compressor.



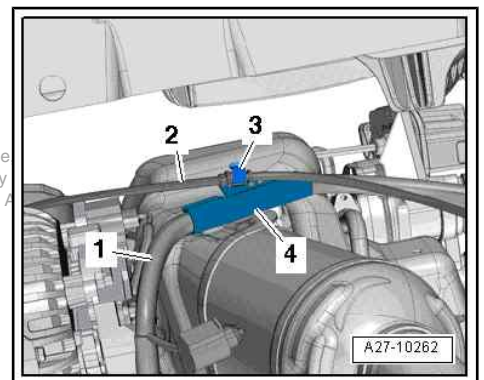
Caution

Risk of damage to refrigerant lines/hoses.

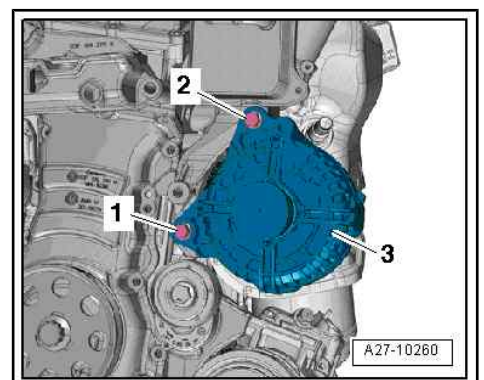
- ◆ *Take care to avoid straining, kinking or bending refrigerant lines/hoses.*

- Tie up air conditioner compressor to longitudinal member with refrigerant hoses connected.
- Pull electrical wiring -2- out of bracket -3- and electrical wiring harness -1- out of bracket -4-.

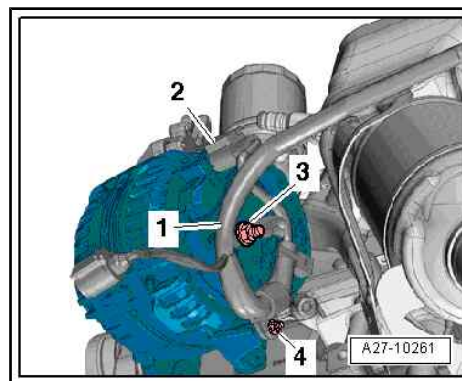
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- Remove bolt -1- and slacken off bolt -2-.
- Swivel alternator -3- upwards.



- Unplug electrical connector -2-.
- Pry off cap and unscrew electrical wiring -3- at alternator.
- Unscrew clamp -4- at alternator and move electrical wiring harness -1- clear.



- Remove bolt -2- and detach alternator -3-.



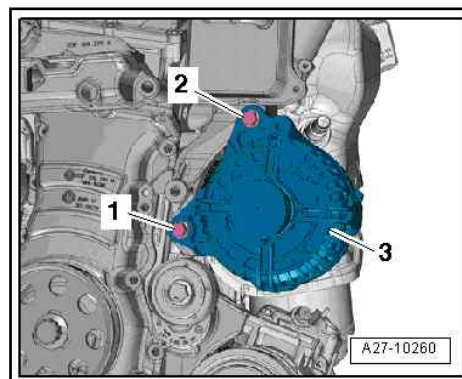
Note

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

Installing

Install in reverse order, paying attention to the following:

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



Note

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

- Install air conditioner compressor ⇒ Rep. gr. 87 .
- Install idler roller for poly V-belt ⇒ Rep. gr. 13 .
- Connect battery. Steps required ⇒ [page 3](#) .
- Start engine and check that belt runs properly.

Tightening torques

Component	Nm
Terminal 30/B+ to alternator	16
Clamp to alternator	5
Alternator to engine	25

4.5 Removing and installing alternator - vehicles with 1.4 ltr. TFSI engine

Removing

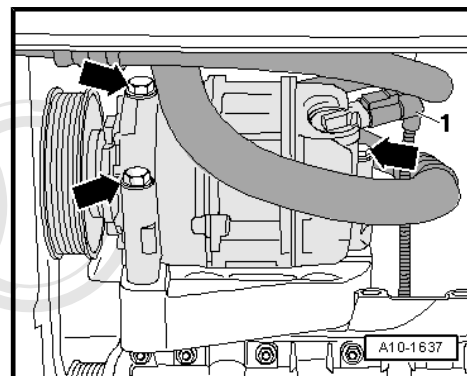
- With ignition switched off, disconnect earth cable at battery ⇒ [page 3](#) .
- Remove poly V-belt ⇒ Rep. gr. 13 .
- Unplug connector -1- for magnetic clutch at air conditioner compressor.



WARNING

Risk of injury due to refrigerant.

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



- Remove bolts -arrows- for air conditioner compressor.



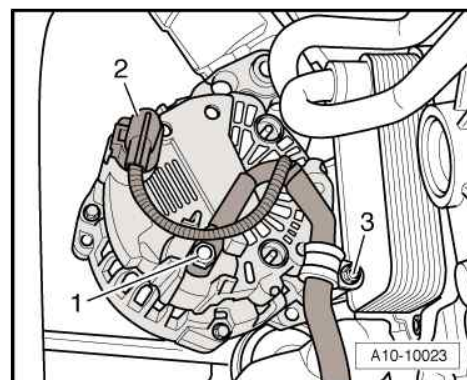
Caution

Risk of damage to refrigerant lines/hoses.

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

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- Tie up air conditioner compressor to longitudinal member with refrigerant hoses connected.
- Unplug electrical connector -2-.
- Unscrew electrical wire -1- at alternator.
- Unscrew clamp -3- at alternator and move electrical wiring harness clear.



- Remove bolts -arrows- and detach alternator.



Note

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

Installing

Install in reverse order, paying attention to the following:

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



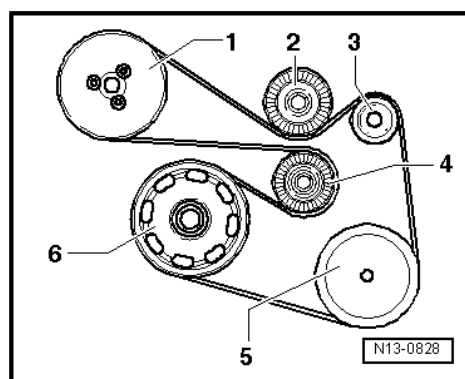
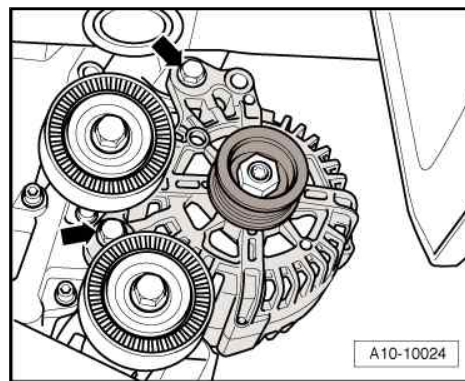
Note

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

- Fit poly V-belt on pulleys.

- 1 - Coolant pump pulley
- 2 - Idler roller
- 3 - Alternator pulley
- 4 - Tensioning roller
- 5 - Air conditioner compressor
- 6 - Crankshaft pulley

- Connect battery. Steps required ⇒ [page 3](#).
- Start engine and check that belt runs properly.



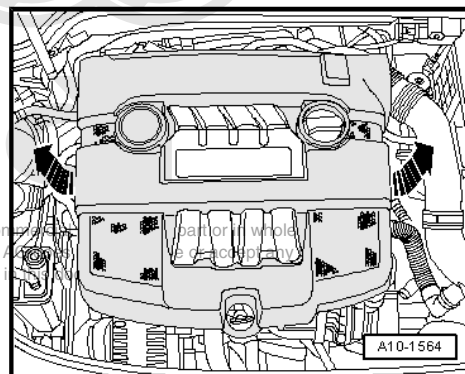
Tightening torques

Component	Nm
Terminal 30/B+ to alternator	16
Alternator to engine	25
Air conditioner compressor to bracket for air conditioner compressor	25

4.6 Removing and installing alternator - vehicles with 1.6 ltr. MPI engine

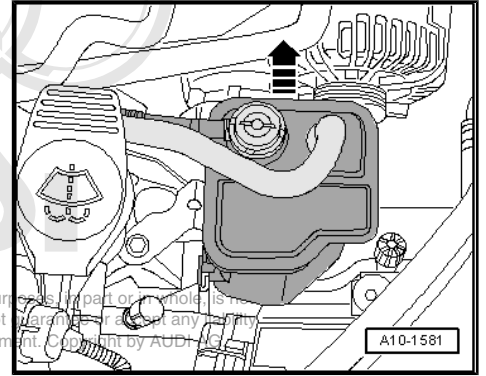
Removing

- With ignition switched off, disconnect earth cable at battery ⇒ [page 3](#).
- Remove engine cover -arrows-.



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- Lift the activated charcoal filter (with hoses still connected) out of the bracket -arrow- and place it aside.

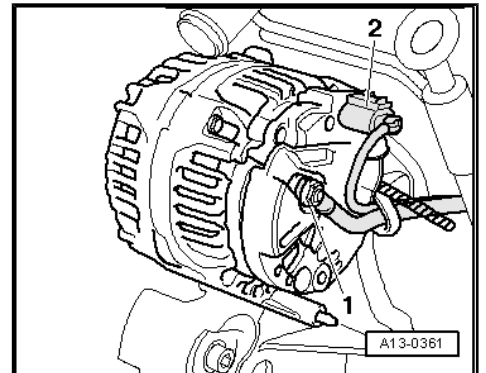
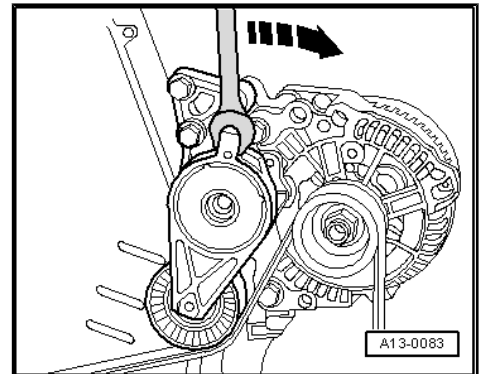


Caution

Wrong direction of rotation for a used poly V-belt can lead to irreparable damage.

- ◆ ***Before removing the poly V-belt mark the direction of rotation with chalk or a felt-tip pen for re-installation.***

- To slacken poly V-belt, turn tensioner in direction of -arrow-.
- Use Allen key to lock poly V-belt tensioner.
- Take off poly V-belt.
- Unplug electrical connector -2-.
- Unscrew electrical wire -1- at alternator.
- Unscrew wiring clamp at alternator.



- Unscrew bolts -arrows- and detach alternator.



Note

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

Installing

- Tightening torque ⇒ [page 17](#)

Install in reverse order, paying attention to the following:

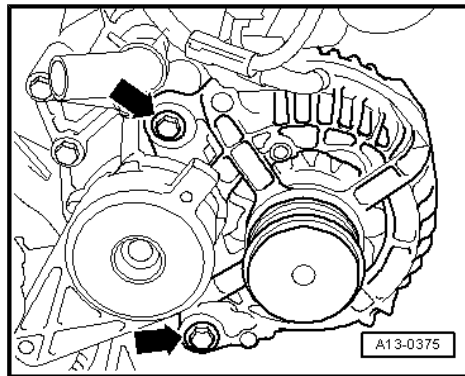
- To facilitate positioning of alternator, drive back bushes for securing bolts slightly.



Note

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

- Install poly V-belt ⇒ Rep. gr. 13 .
- Connect battery. Steps required ⇒ [page 3](#) .
- Start engine and check that belt runs properly.



4.7 Removing and installing alternator - vehicles with 1.6 ltr. TDI engine

Removing

- With ignition switched off, disconnect earth cable at battery ⇒ [page 3](#) .
- Remove poly V-belt ⇒ Rep. gr. 13 .
- Remove front right wheel housing liner ⇒ Rep. gr. 66 .
- Remove radiator cowl ⇒ Rep. gr. 19 .
- Unplug electrical connector -2- at air conditioner compressor regulating valve - N280- .

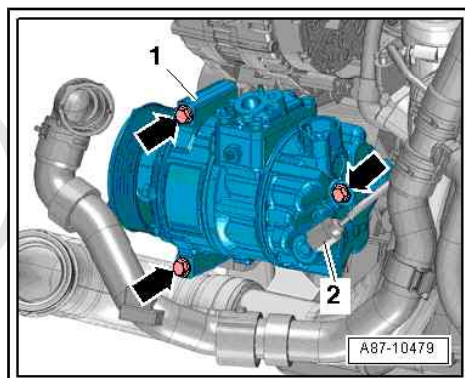


Caution

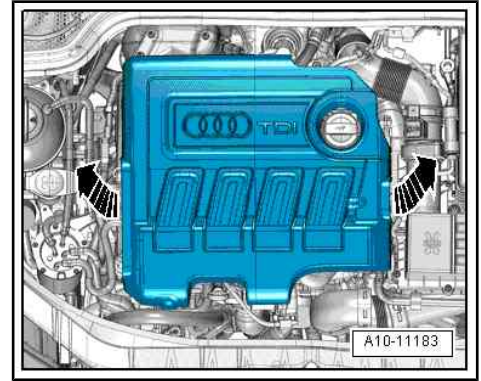
Risk of damage to air conditioner compressor and refrigerant lines/hoses.

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

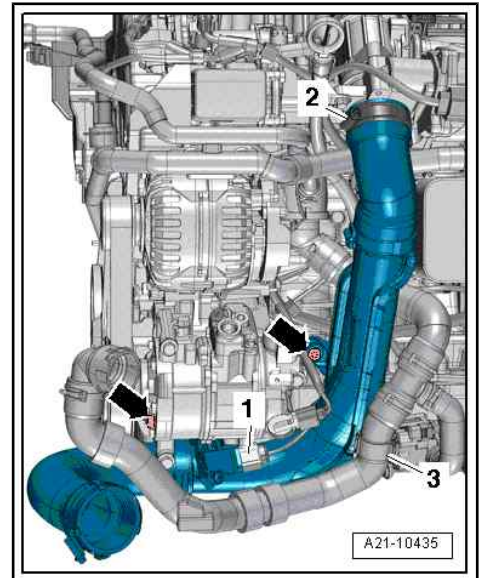
- Unscrew bolts -arrows- and detach air conditioner compressor -1- (with refrigerant lines still connected).



- Detach engine cover panel -arrows-.



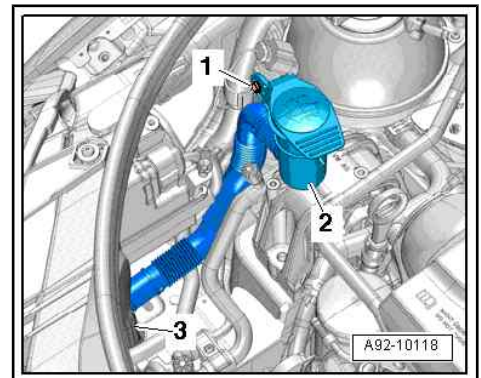
- Remove bolts -arrows-.
- Move clear coolant hose -3-.
- Release hose clip -2-.
- Unplug electrical connector -1- at charge pressure sender - G42- / intake air temperature sender - G31- and detach air pipe (right-side).



- Remove bolt -1-.
- Disengage filler pipe -2- at engine mounting.



-Item 3- can be disregarded.



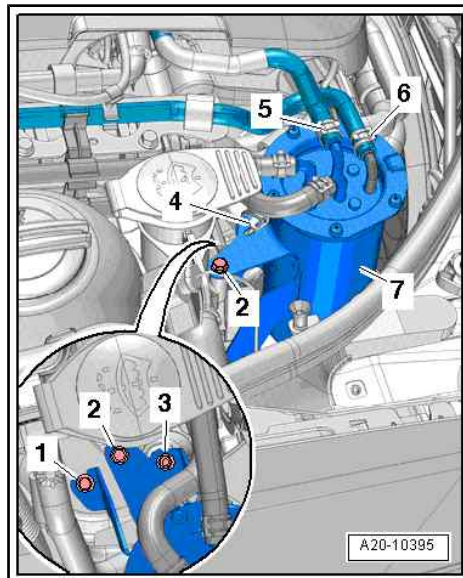
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- Loosen bolt -1-.
- Remove bolt -2- and nut -3-.
- Detach hose retainer -4- at fuel filter and place fuel filter -7- to one side (with fuel hoses connected).

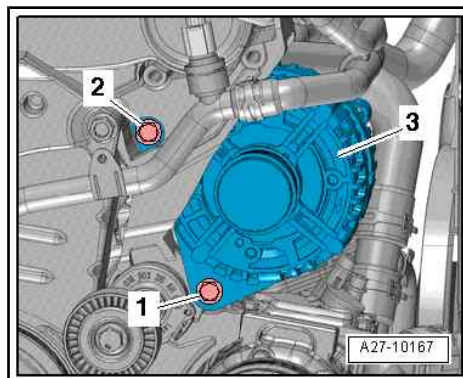


Note

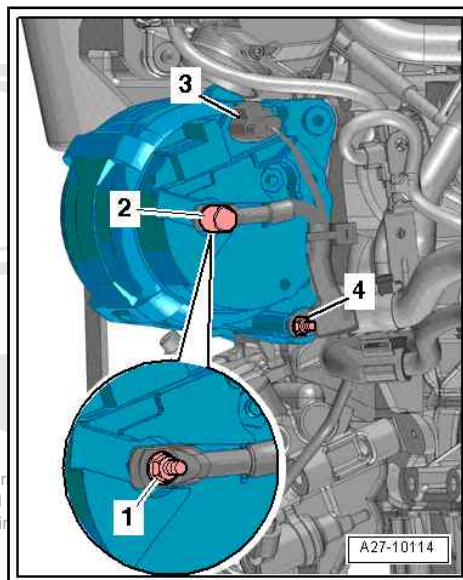
- ◆ If necessary, disengage fuel hoses from retainer.
- ◆ Disregard -items 5 and 6-.



- Remove bolt -2-.



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

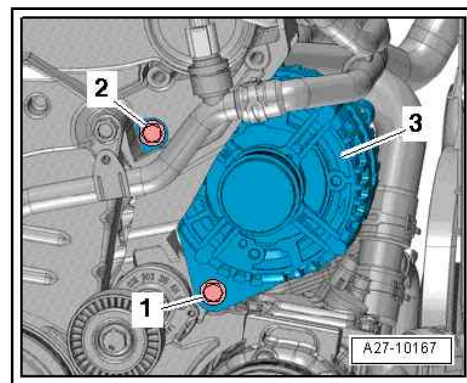


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- Unscrew bolt -1- and take out alternator -3- downwards and to the right; on vehicles with air conditioner, it is necessary to move air conditioner compressor to the left (as seen in direction of travel).

 Note

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



Installing

- Tightening torque ➔ [page 17](#)

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

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

 Note

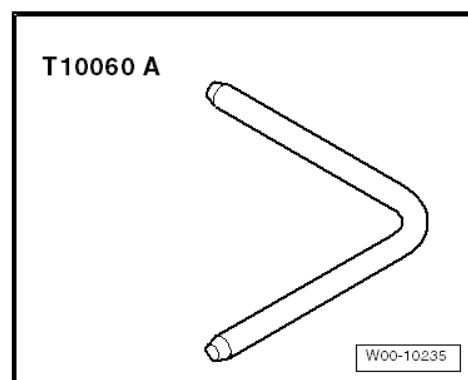
Stiff alternator mount bushes must be freed; otherwise the clamping force of the bush will not be adequate even when the bolts are tightened to the correct torque.

- Install air pipe ➔ Rep. gr. 21 .
- Install air conditioner compressor ➔ Rep. gr. 87 .
- Install radiator cowl ➔ Rep. gr. 19 .
- Install poly V-belt ➔ Rep. gr. 13 .
- Connect battery. Steps required ➔ [page 3](#) .
- Start engine and check that belt runs properly.
- Install front right wheel housing liner ➔ Rep. gr. 66 .
- Install noise insulation ➔ Rep. gr. 50 .

4.8 Removing and installing alternator - vehicles with 1.9 ltr. TDI engine

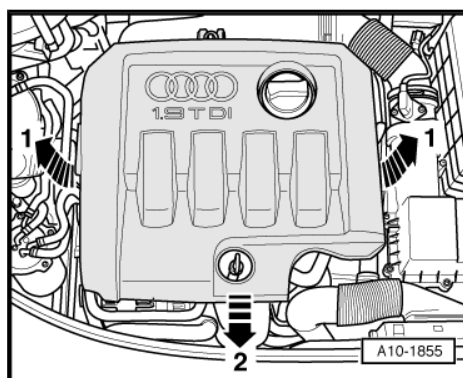
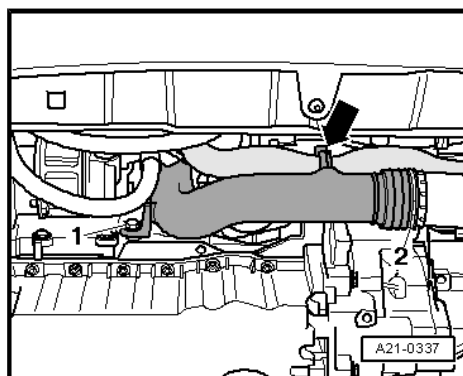
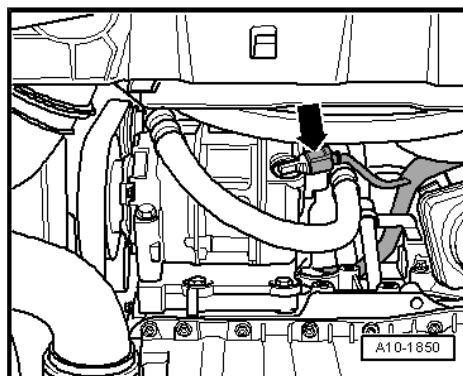
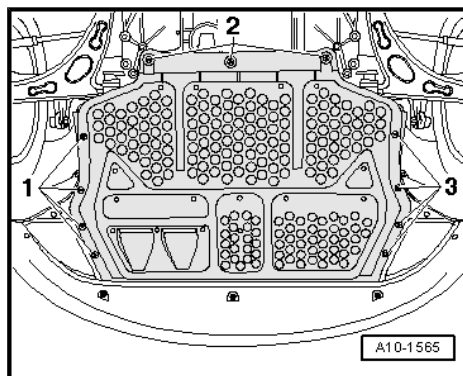
Special tools and workshop equipment required

- ◆ Locking pin - T10060 A-



Removing

- With ignition switched off, disconnect earth cable at battery
⇒ [page 3](#).
- Remove noise insulation (centre) -fasteners 1 ... 3-.
- Unplug electrical connector -arrow- for magnetic clutch at air conditioner compressor.
- Lift retaining clip -2- slightly and detach air intake hose (bottom left) from front air pipe.
- Remove bolt -1-.
- Unclip coolant hose from air pipe -arrow-.
- Raise engine cover panel at sides -arrows 1- and pull out towards front -arrow 2-.

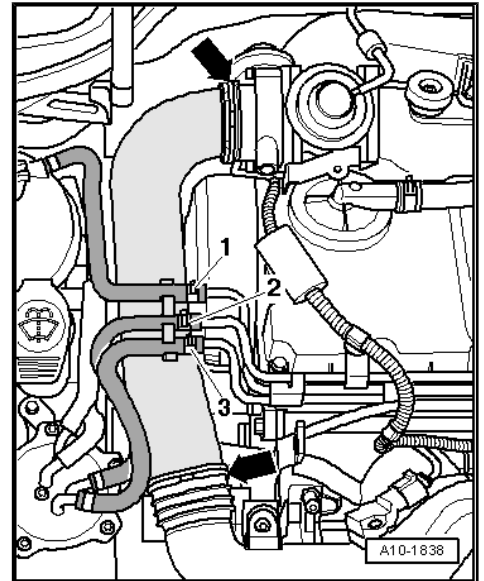


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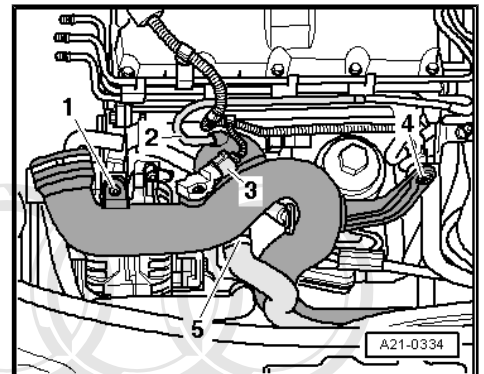
- Move lines -1 ... 3- clear at air pipe.
- Lift retaining clips -arrows- slightly and remove air pipe.

i Note

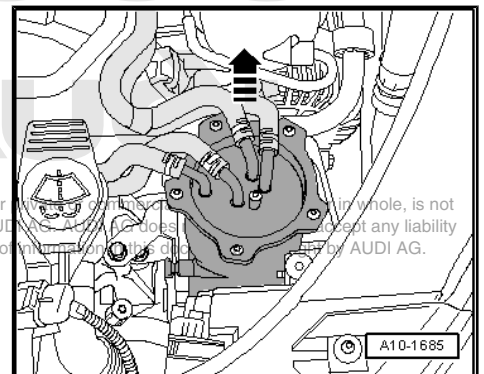
Leave coolant hose -1- and fuel lines -2- and -3- connected.



- Remove bolts -1- and -4-.
- Detach vacuum line -2-.
- Unplug electrical connector -3- at charge pressure sender - G31- .
- Unclip coolant hose -5- at air pipe.
- Pull air pipe approx. 10 cm upwards and towards left side of vehicle, and lay aside.



- Release retainers and pull fuel filter (with hoses still connected) up out of bracket -arrow- and place to one side.



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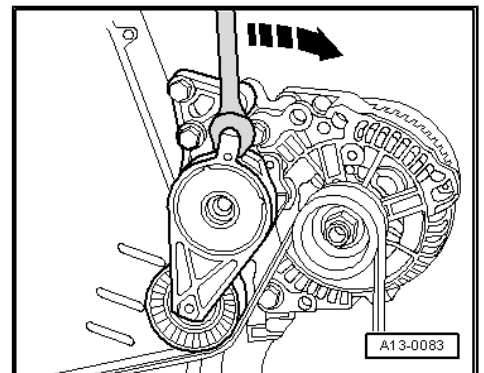


Caution

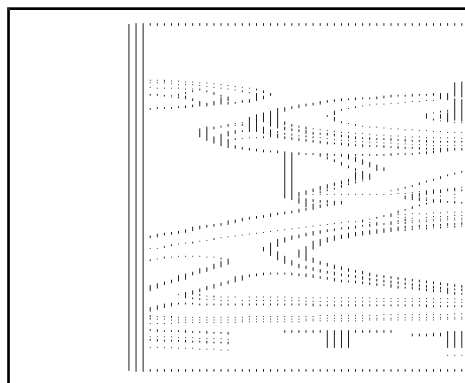
Wrong direction of rotation for a used poly V-belt can lead to irreparable damage.

- ◆ ***Before removing the poly V-belt mark the direction of rotation with chalk or a felt-tip pen for re-installation.***

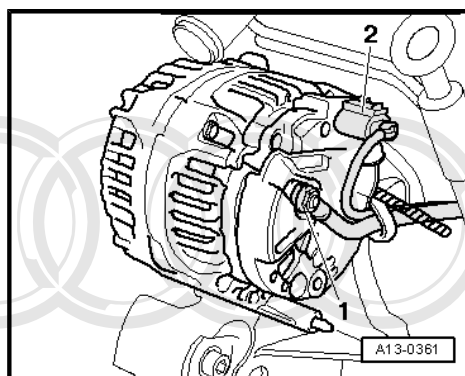
- Swivel tensioner in direction of -arrow- to slacken poly V-belt.



- Lock the poly V-belt tensioner using the locking pin - T10060 A- .
- Take off poly V-belt.



- Unplug electrical connector -2-.
- Unscrew electrical wire -1- at alternator.
- Unscrew wiring clamp at alternator.

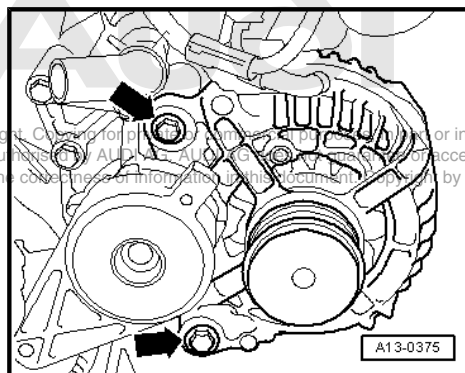


- Remove bolts -arrows- and lift out alternator.



Note

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



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Installing

Install in reverse order, paying attention to the following:

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

Note

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

- Fit poly V-belt on pulleys of crankshaft and air conditioner compressor.
- Then position poly V-belt on alternator pulley and release tensioner.
- Routing of poly V-belt on vehicles with air conditioner.
- Check correct positioning of poly V-belt.
- Connect battery. Steps required [⇒ page 3](#).
- Start engine and check that belt runs properly.

Tightening torques

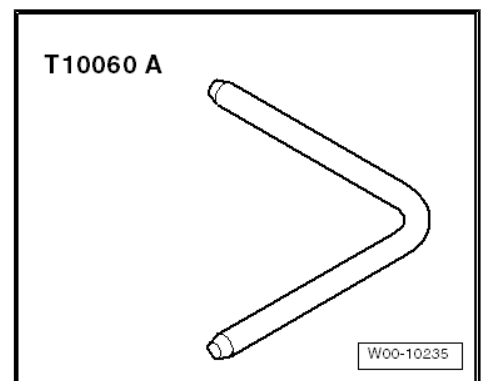
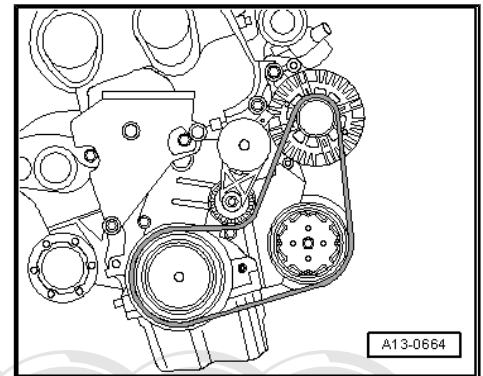
Component		Nm
Alternator to bracket for ancillaries		23
Terminal 30/B+ to alternator		16
Air pipe to	Cylinder block	15
	Bracket	8

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4.9 Removing and installing alternator - vehicles with 2.0 ltr. TDI engine

Special tools and workshop equipment required

- ◆ Locking pin - T10060 A-



Removing

- With ignition switched off, disconnect earth cable at battery
⇒ [page 3](#) .
- Remove noise insulation -1- ⇒ Rep. gr. 50 .
- Remove front right wheel housing liner ⇒ Rep. gr. 66 .
- Remove radiator cowl ⇒ Rep. gr. 19 .



Caution

Wrong direction of rotation for a used poly V-belt can lead to irreparable damage.

- ◆ *Before removing the poly V-belt mark the direction of rotation with chalk or a felt-tip pen for re-installation.*

- Move tensioner in clockwise direction -arrow- to slacken poly V-belt.
- Secure tensioner with locking pin - T10060 A- .
- Take off poly V-belt.

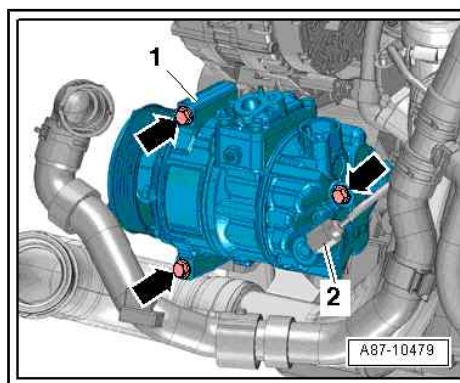
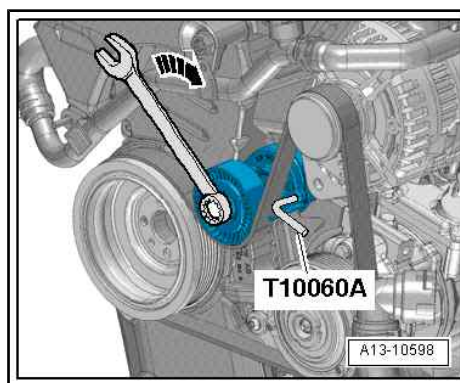
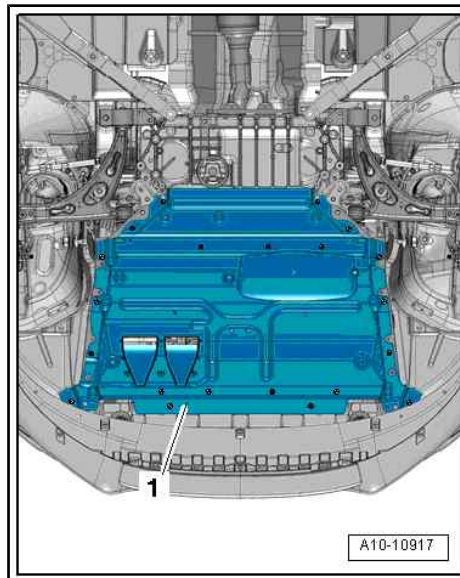


Caution

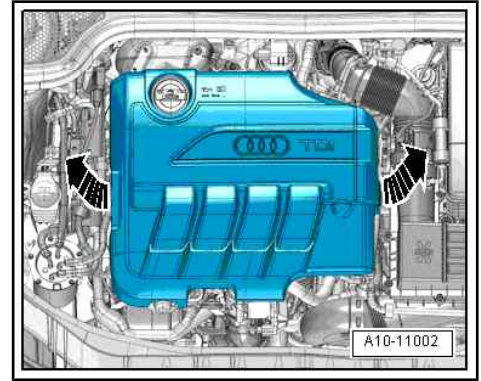
Risk of damage to air conditioner compressor and refrigerant lines/hoses.

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

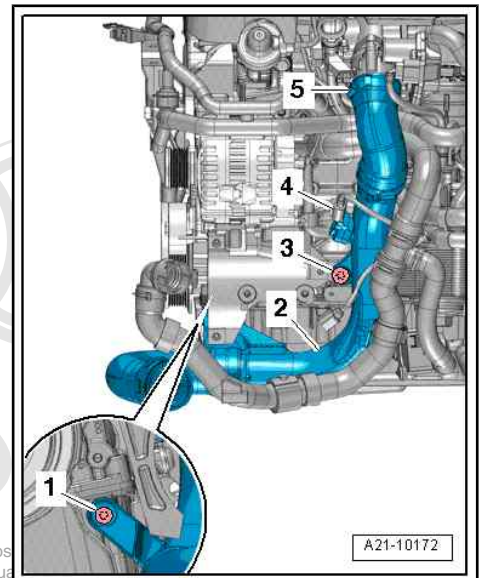
- Unscrew bolts -arrows- and detach air conditioner compressor -1- (with refrigerant lines still connected).



- Detach engine cover panel -arrows-.



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

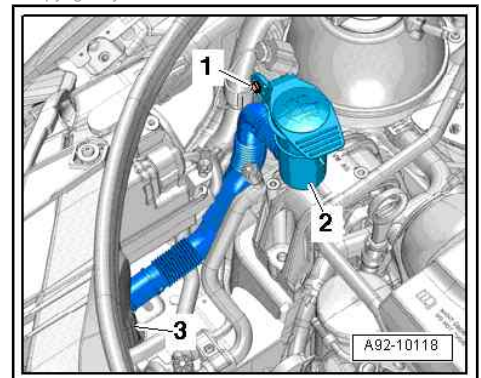


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- Remove bolt -1-.



Disregard -items 2 and 3-.

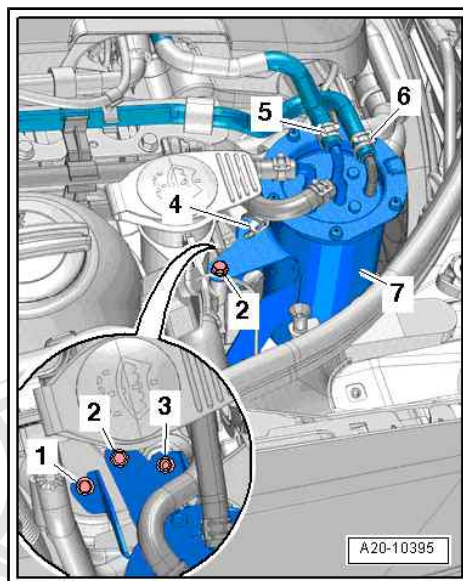


- Loosen bolt -1-.
- Remove bolt -2- and nut -3-.
- Detach hose retainer -4- at fuel filter and place fuel filter -7- to one side (with fuel hoses connected).



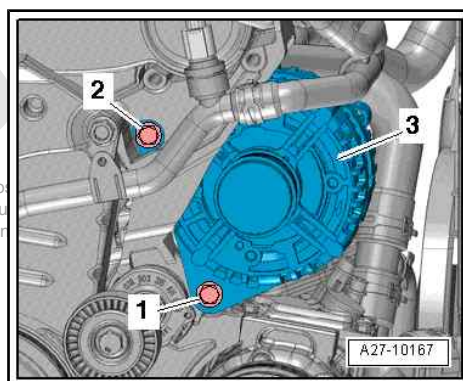
Note

- ◆ If necessary, disengage fuel hoses from retainer.
- ◆ Disregard -items 5 and 6-.

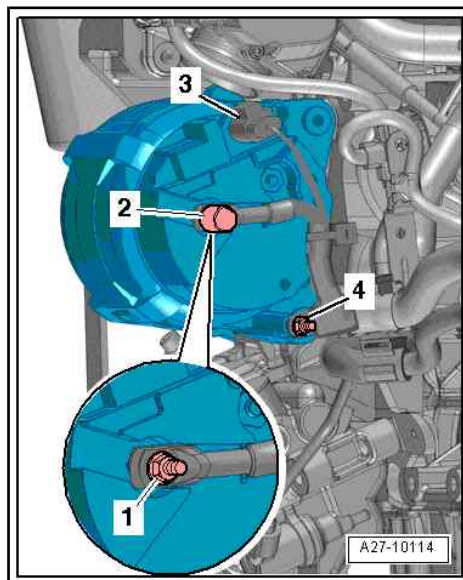


- Remove bolt -2-.

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



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

i Note

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

Installing

- Tightening torque ➔ [page 17](#)

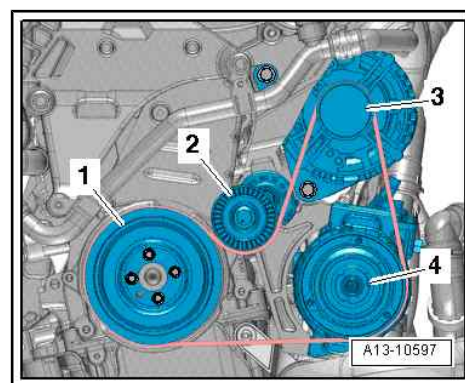
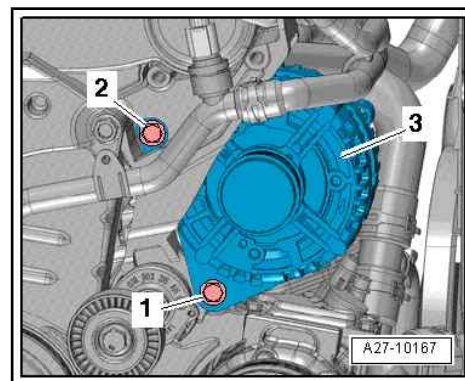
Installation is carried out in reverse order; note the following:

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

i Note

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

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

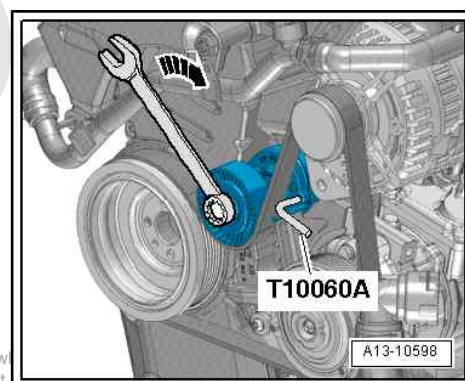


- Use ring spanner to hold tensioner and pull out locking pin - T10060 A- .
- Release pressure from tensioner.

i Note

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

- Connect battery. Steps required ➔ [page 3](#) .
- Start engine and check that belt runs properly.
- Install front right wheel housing liner ➔ Rep. gr. 66 .
- Install noise insulation ➔ Rep. gr. 50 .





5 Checking and servicing alternator

5.1 Checking alternator

⇒ Electrical system; General information; Rep. gr. 27 ; Alternator



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6 Removing and installing starter

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

6.1 Exploded view - starter

1 - Bolt

☐ Tightening torque:

- ◆ Vehicles with manual gear-box ⇒ Rep. gr. 34
- ◆ Vehicles with S tronic: 40 Nm

2 - Earth cable

3 - Nut

☐ 23 Nm

4 - Electrical connector

5 - Nut

☐ 15 Nm

6 - Protective sleeve

7 - Terminal B+

8 - Starter

☐ Removing and installing:

- ◆ Vehicles with 1.6 litre engine ⇒ [page 41](#)
- ◆ Vehicles with 1.8 ltr. / 2.0 ltr. TFSI engine and manual gearbox ⇒ [page 43](#)
- ◆ Vehicles with 1.8 ltr. / 2.0 ltr. TFSI engine and dual clutch gearbox ⇒ [page 45](#)
- ◆ Vehicles with 1.6 litre TDI engine ⇒ [page 46](#)
- ◆ Vehicles with 2.0 litre TDI engine ⇒ [page 49](#)

9 - Nut

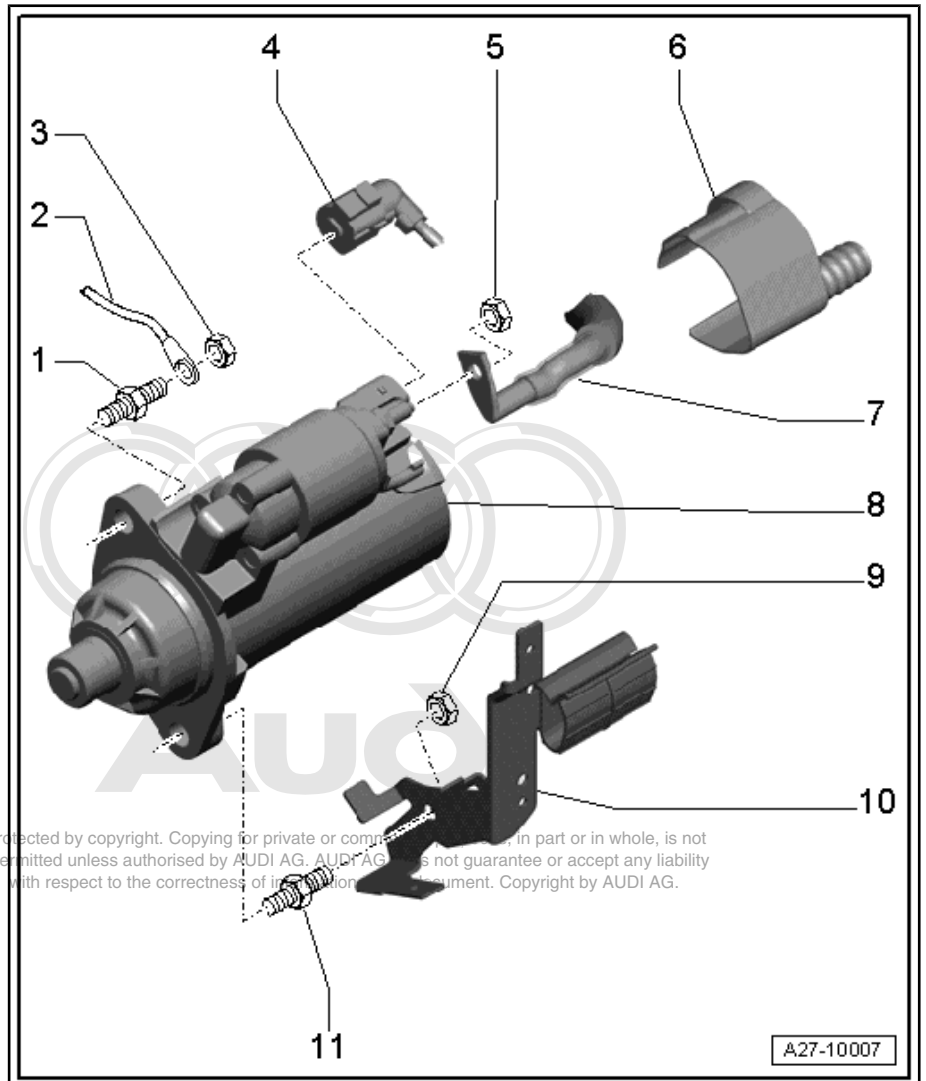
☐ 23 Nm

10 - Bracket for wiring harness

11 - Bolt

☐ Tightening torque:

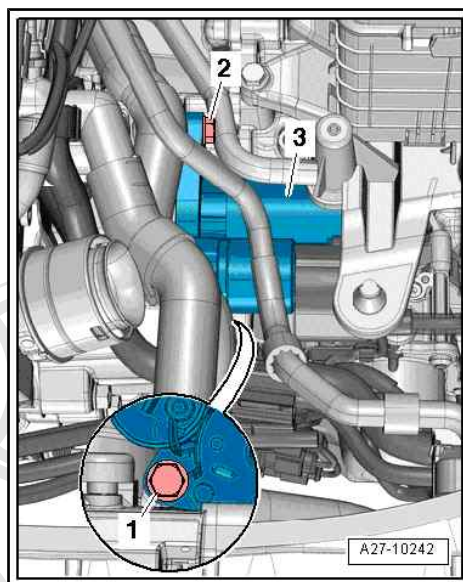
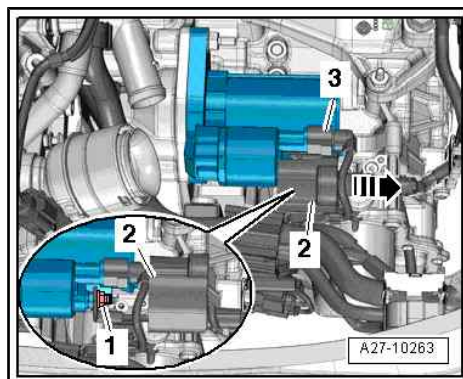
- ◆ Vehicles with manual gearbox ⇒ Rep. gr. 34
- ◆ Vehicles with S tronic: 40 Nm



6.2 Removing and installing starter - vehicles with 1.2 ltr. TFSI engine and dual clutch gearbox

Removing

- Remove air cleaner housing ⇒ Rep. gr. 24 .
- With ignition switched off, disconnect earth cable at battery ⇒ [page 3](#) .
- Press off protective sleeve -2- in direction of -arrow-.
- Unscrew nut -1- and detach “B+” wire from solenoid switch.
- Unplug connector -3- by sliding locking element to rear and pressing down release catch.
- Remove bolts -1- and -2-.
- Remove starter -3- from gearbox towards rear.



- Lift out starter -1- between gearbox -2- and battery retainer -3- -arrow-, as shown in illustration.

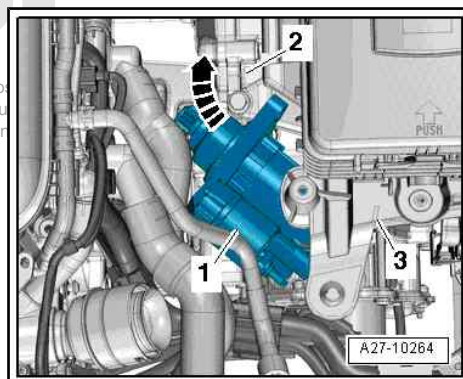
Installing

Install in reverse order, paying attention to the following:

- Connect battery. Steps required ⇒ [page 3](#) .

Tightening torques

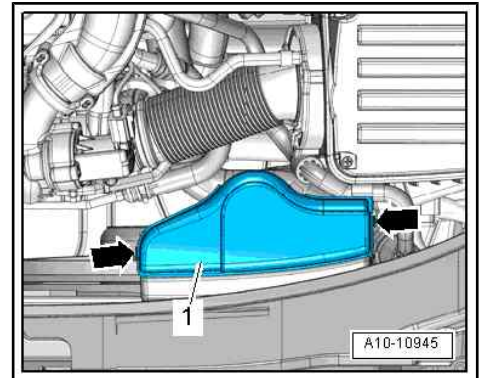
Component	Nm
Starter to gearbox	80
Terminal B+ to starter	16



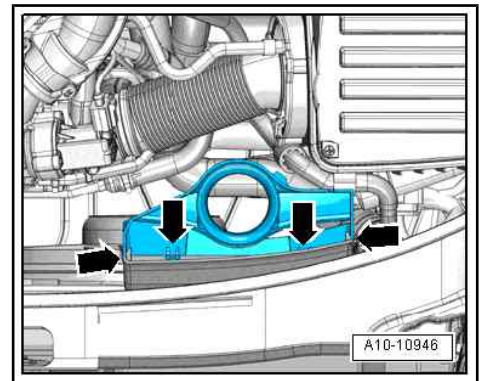
6.3 Removing and installing starter - vehicles with 1.2 ltr./1.4 ltr. TFSI engine and manual gearbox

Removing

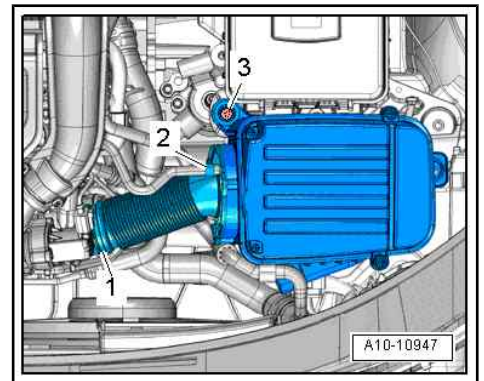
- Release retainers -arrows- at the sides and pull off cover -1- for air duct.



- Release retainers -arrows- and unclip air duct (bottom).
- Detach air duct (bottom) together with air hose.

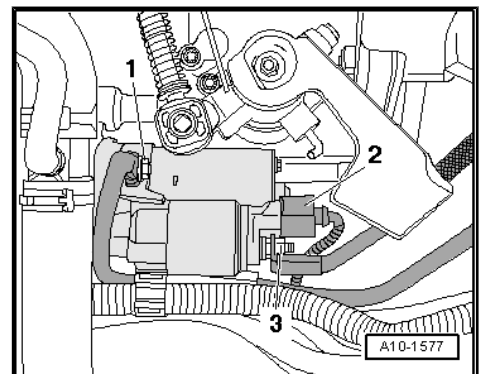


- Release hose clip and detach air hose -1- from turbocharger.
- Disconnect vacuum hose -2-.
- Unscrew bolt -3- and detach air cleaner housing.
- Remove battery mounting ⇒ [page 8](#).



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- Unscrew earth cable -1-.
- Unplug electrical connector -2-.
- If fitted, fold back protective sleeve.
- Unscrew "B+" cable -3- at solenoid switch.



- Remove nut -arrow- and detach bracket -3- with wires from stud.



Note

Disregard -item 1-, -item 2- and -item 4-.

- Remove lower and upper starter securing bolts.
- Take out starter.

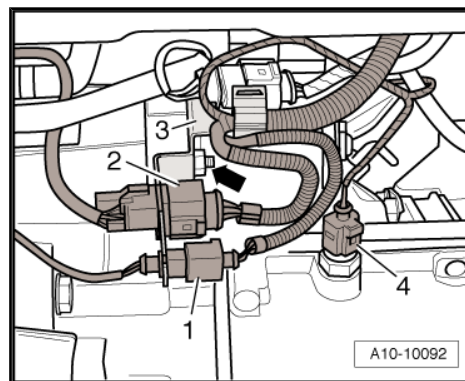
Installing

Install in reverse order, paying attention to the following:

- Install battery mounting ⇒ [page 8](#) .
- Connect battery. Steps required ⇒ [page 3](#) .

Tightening torques

Component	Nm
Starter to gearbox	80
Bracket for electrical wires	23
Terminal B+ to starter	16
Earth cable to starter	23



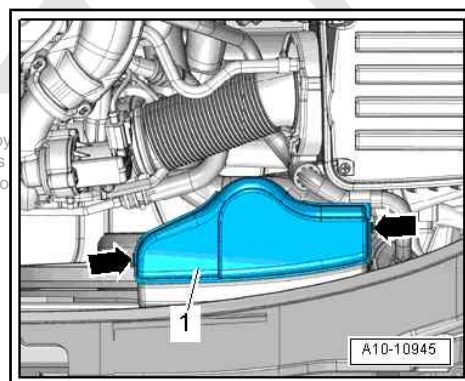
6.4 Removing and installing starter - vehicles with 1.4 ltr. TFSI engine and dual clutch gearbox

Removing

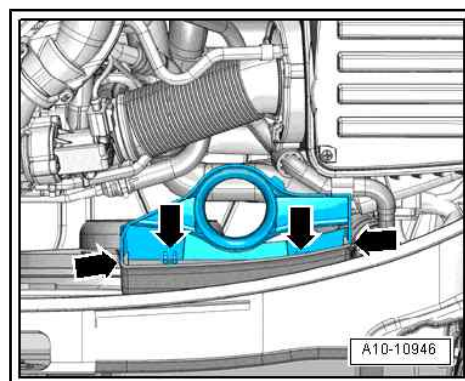
- Release retainers -arrows- at the sides and pull off cover -1- for air duct.

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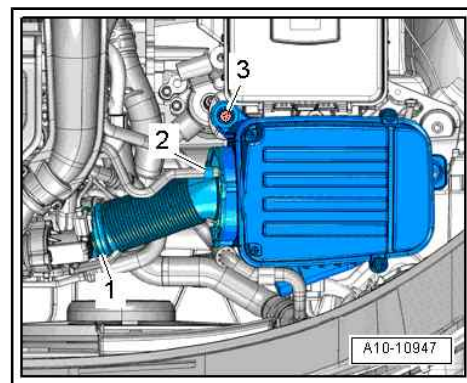
in whole, is not accepted any liability by AUDI AG.



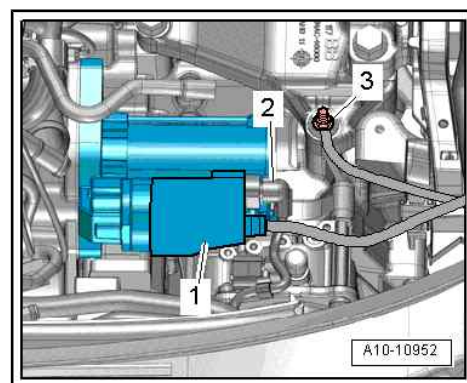
- Release retainers -arrows- and unclip air duct (bottom).
- Detach air duct (bottom) together with air hose.



- Release hose clip and detach air hose -1- from turbocharger.
- Disconnect vacuum hose -2-.
- Unscrew bolt -3- and detach air cleaner housing.



- Remove battery mounting ⇒ [page 8](#) .
- Unplug electrical connector -2-.
- Fold back protective sleeve -1- and detach “B+” wire from solenoid switch.
- Remove bolt -3- for earth cable.
- Remove lower and upper starter securing bolts.
- Take out starter.



Installing

Install in reverse order, paying attention to the following:

- Install battery mounting ⇒ [page 8](#) .
- Connect battery. Steps required ⇒ [page 3](#) .

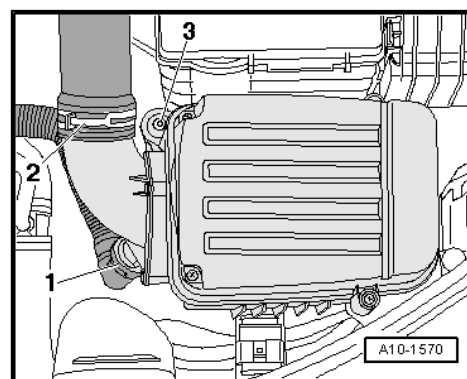
Tightening torques

Component	Nm
Starter to gearbox	80
Bracket for electrical wires	23
Terminal B+ to starter	16
Earth cable to starter	23

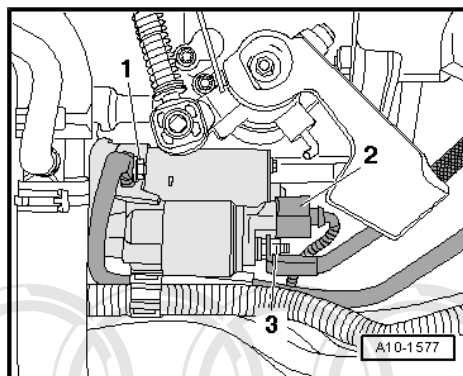
6.5 Removing and installing starter - vehicles with 1.6 ltr. engine

Removing

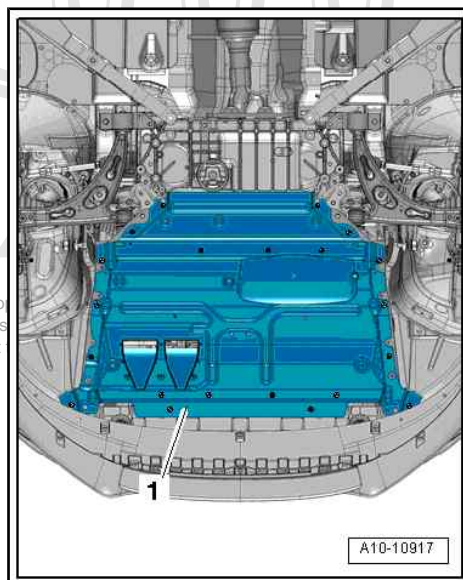
- With ignition switched off, disconnect earth cable at battery ⇒ [page 3](#) .
- Detach hoses -1- and -2- from air cleaner housing.
- Remove bolt -3-.
- Take out air cleaner housing.



- Unscrew earth cable -1-.
- Detach wiring -2- and -3- at starter.
- Remove top starter bolt.



- Remove noise insulation -1- ⇒ Rep. gr. 50 .



- Unplug electrical connector -3- at reversing light switch - F4- .
- Unscrew nut -1- and detach bracket with wires from stud.



Note

Disregard -item 2-.

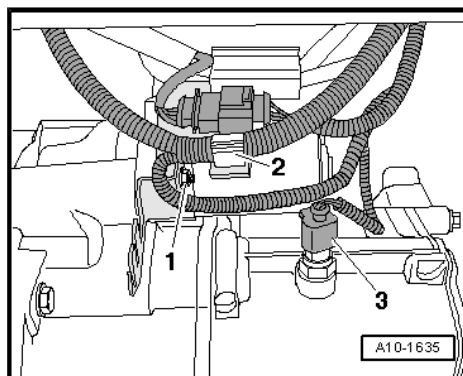
- Remove bottom starter bolt and take out starter.

Installing

- Tightening torques ⇒ [page 37](#)

Install in reverse order, paying attention to the following:

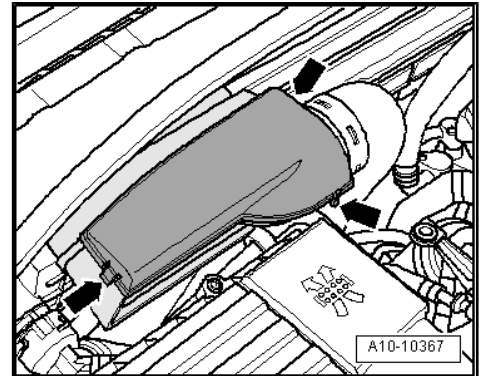
- Install air cleaner housing ⇒ Rep. gr. 24 .
- Install noise insulation ⇒ Rep. gr. 50 .
- Connect battery. Steps required ⇒ [page 3](#) .



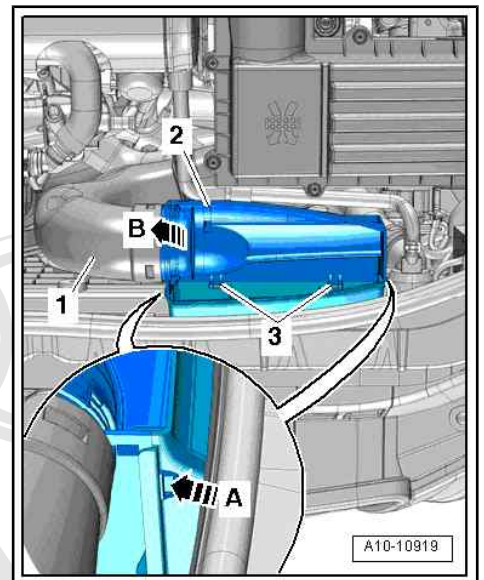
6.6 Removing and installing starter - vehicles with 1.8 ltr./2.0 ltr. TFSI engine and manual gearbox

Removing

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



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



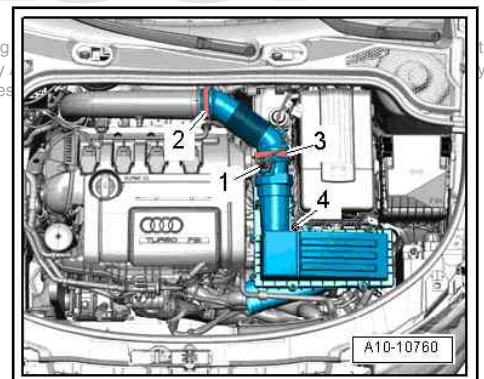
- Unplug electrical connector -1- at air mass meter - G70- .
- Detach air hose -3-.
- Unscrew bolt -4- and detach air cleaner housing.

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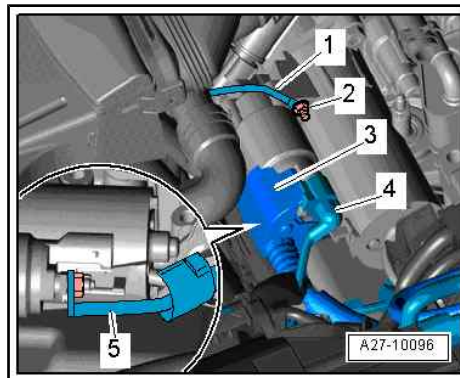


Note

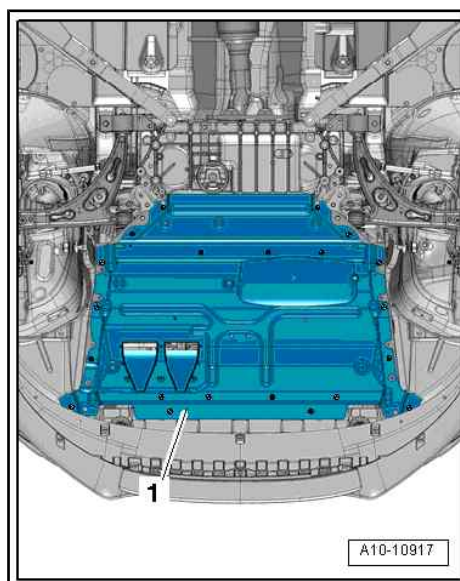
-Item 2- can be disregarded.



- With ignition switched off, disconnect earth cable at battery
⇒ [page 3](#) .
- If fitted, remove cable tie for protective sleeve.
- Unplug connector -4- by sliding locking element to rear and pressing down release catch.
- Fold back protective sleeve -3- and detach B+ wire -item 5- from solenoid switch.
- Unscrew earth cable -2-.
- Remove top starter bolt -1-.



- Remove noise insulation -1- ⇒ Rep. gr. 50 .



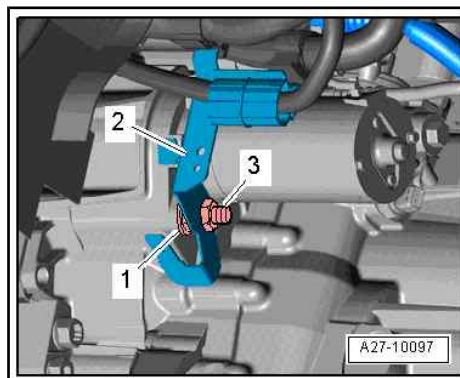
- Remove nut -3- and detach bracket -2- for wiring harness.
- Remove bottom starter bolt -1- and detach starter.

Installing

- Tightening torques ⇒ [page 37](#)

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

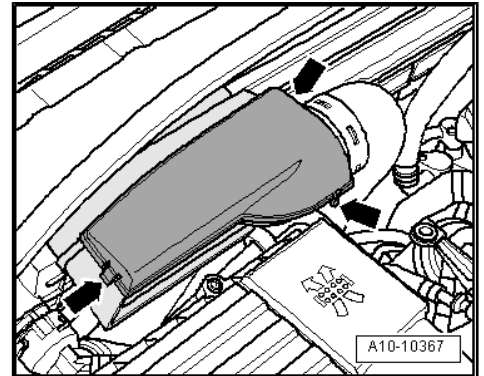
- Install air cleaner housing ⇒ Rep. gr. 24 .
- Install noise insulation ⇒ Rep. gr. 50 .
- Connect battery. Steps required ⇒ [page 3](#) .



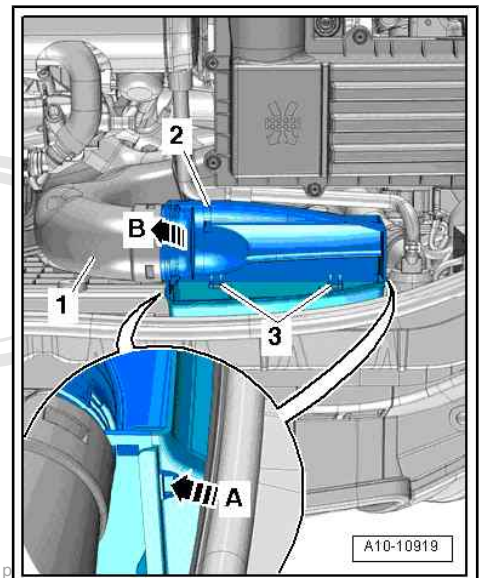
6.7 Removing and installing starter - vehicles with 1.8 ltr./2.0 ltr. TFSI engine and dual clutch gearbox

Removing

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



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

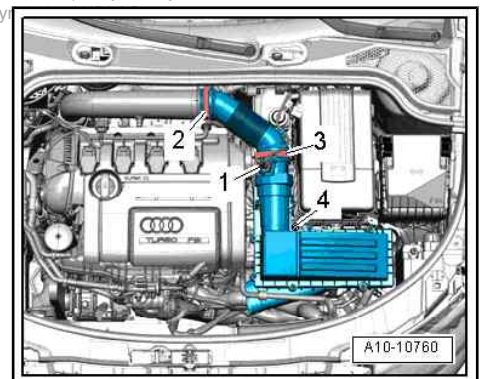


- Unplug electrical connector -1- at air mass meter - G70- .
- Detach air hose -3-.
- Unscrew bolt -4- and detach air cleaner housing.



Note

-Item 2- can be disregarded.



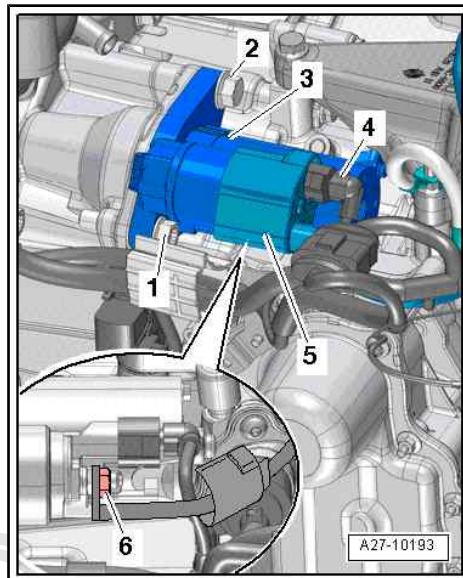
- With ignition switched off, disconnect earth cable at battery ⇒ [page 3](#) .
- If fitted, remove cable tie for protective sleeve.
- Unplug connector -4- by sliding locking element to rear and pressing down release catch.
- Fold back protective sleeve -3- and detach B+ wire -item 5- from solenoid switch.
- Remove bolts -1-.
- Detach starter.

Installing

- Tightening torques ⇒ [page 37](#)

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

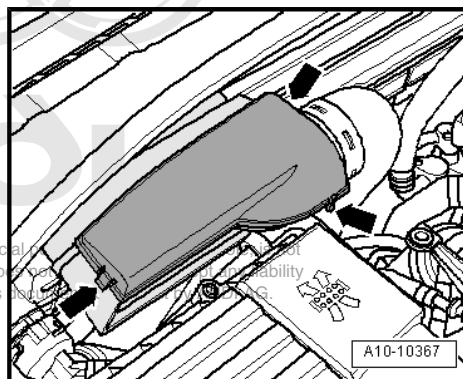
- Install air cleaner housing ⇒ Rep. gr. 24 .
- Connect battery. Steps required ⇒ [page 3](#) .



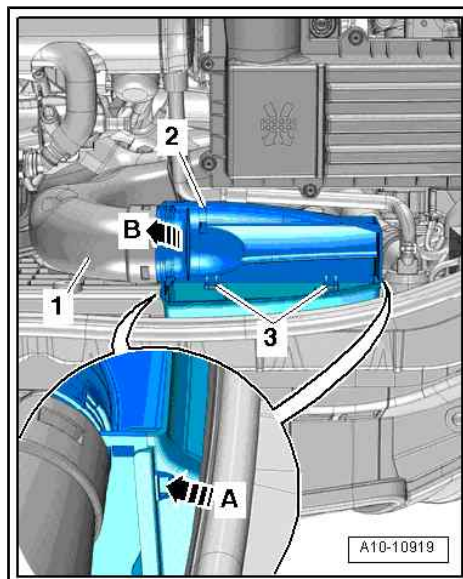
6.8 Removing and installing starter - vehicles with 1.6 ltr. TDI engine

Removing

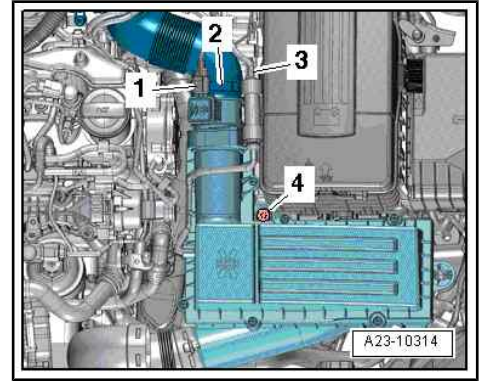
- Release retainers -arrows- at the sides and pull off cover for air duct.



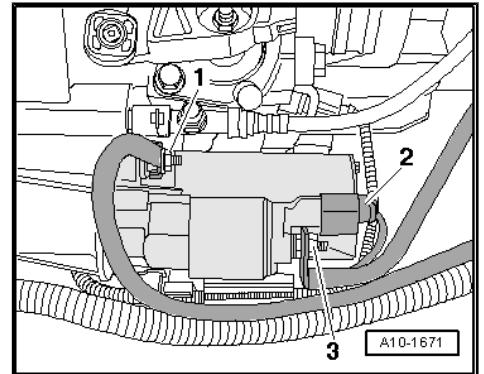
- Release retainers on left and right -arrow A- and unclip air duct (bottom) -2-.
- Slightly swivel air duct (bottom) towards rear and disengage air duct (bottom) from retainers -3-.
- Disengage air pipe -1- from air duct (bottom) -arrow B-.



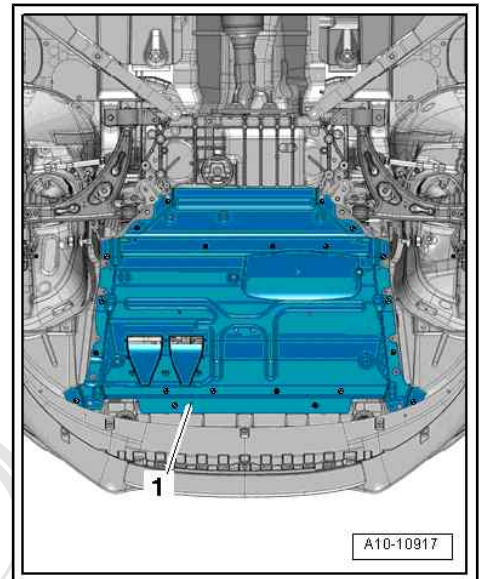
- Unplug electrical connector -1- at air mass meter - G70- .
- Pull off hose -3-.
- Release hose clip -2- and detach air hose.
- Unscrew bolt -4- and detach air cleaner housing.
- With ignition switched off, disconnect earth cable at battery
⇒ [page 3](#) .



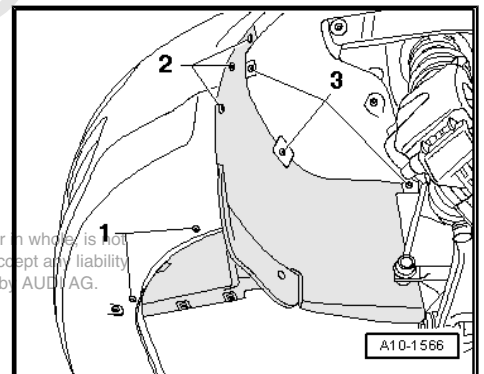
- Unscrew earth cable -1-.
- Fold back protective sleeve and detach B+ wire -3- from starter solenoid switch.
- Unplug electrical wire -2-.
- Remove top starter bolt.



- Remove noise insulation -1- ⇒ Rep. gr. 50 .



- Remove noise insulation (left-side) -fasteners 1 ... 3-.



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- Unscrew nut -1- and detach bracket with wires from stud.



Note

Disregard -item 2-.

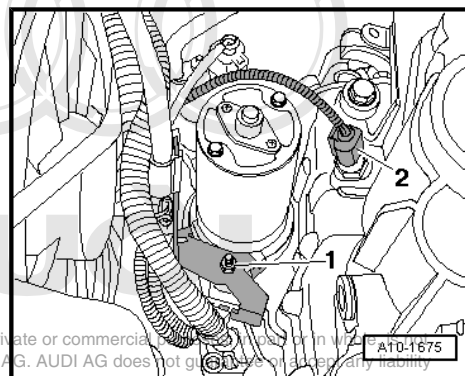
- Remove bottom starter bolt and take out starter.

Installing

- Tightening torque ⇒ [page 37](#)

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

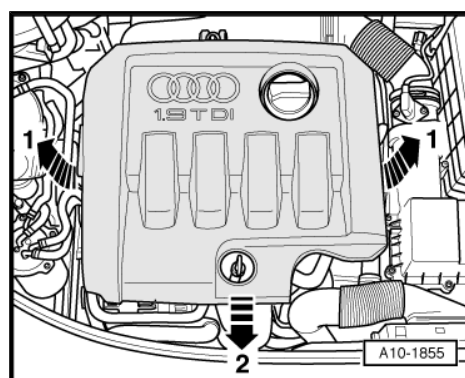
- Install air cleaner housing ⇒ Rep. gr. 23 .
- Connect battery. Steps required ⇒ [page 3](#) .



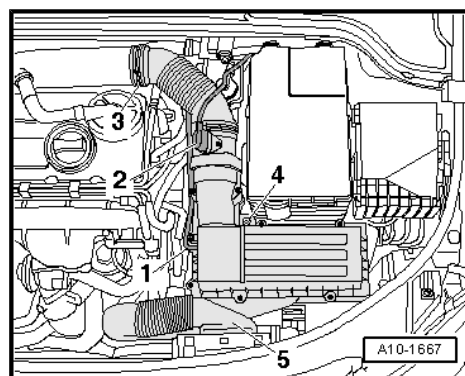
6.9 Removing and installing starter - vehicles with 1.9 ltr. TDI engine

Removing

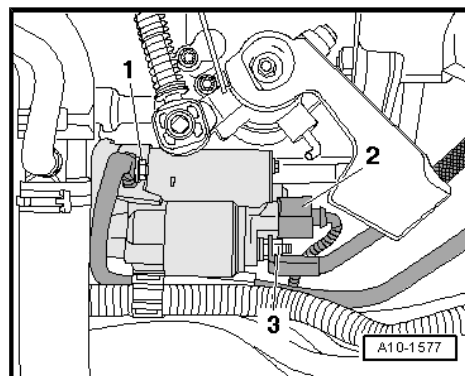
- With ignition switched off, disconnect earth cable at battery ⇒ [page 3](#) .
- Raise engine cover panel at sides -arrows 1- and pull out towards front -arrow 2-.



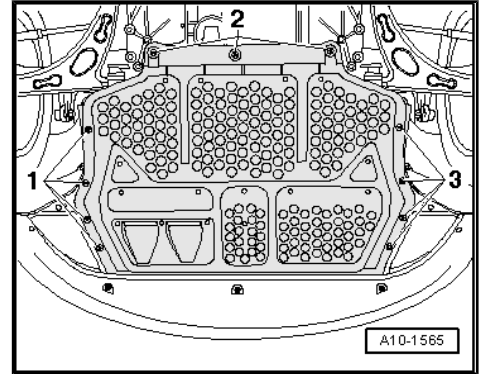
- Unplug electrical connector -2- at air mass meter - G70- .
- Disconnect vent hose -1- and air intake hoses -3- and -5-.
- Remove bolt -4- and detach air cleaner housing.



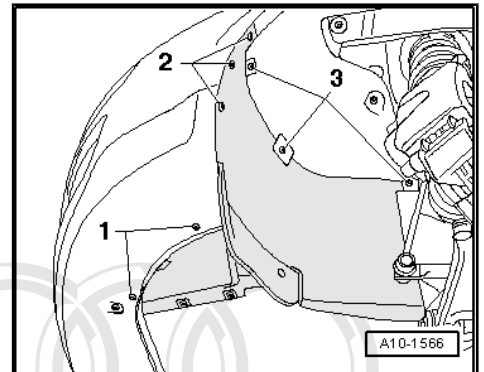
- Unscrew earth cable -1-.
- Detach wires -2- and -3- at starter and move clear.
- Remove top starter bolt.



- Remove noise insulation (centre) -fasteners 1 ... 3-.



- Remove noise insulation (left-side) -fasteners 1 ... 3-.



- Remove nut -arrow- and detach bracket for electrical wires from stud.
- Remove bottom starter bolt and take out starter.

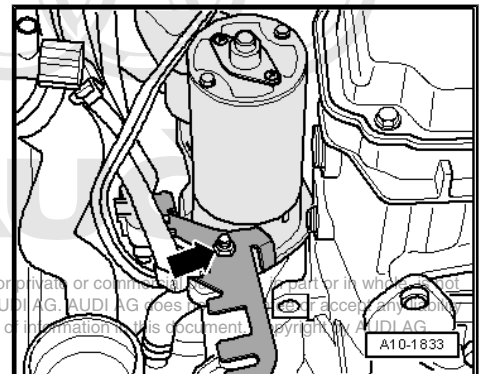
Installing

Install in reverse order, paying attention to the following:

- Connect battery. Steps required [⇒ page 3](#).

Tightening torques

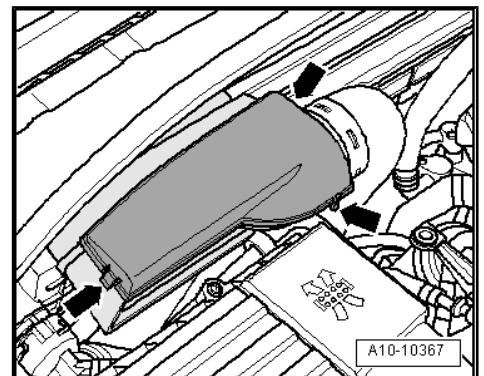
Component	Nm
Starter to gearbox	80
Bracket for electrical wires	23
Terminal B+ to starter	16
Earth cable to starter	23



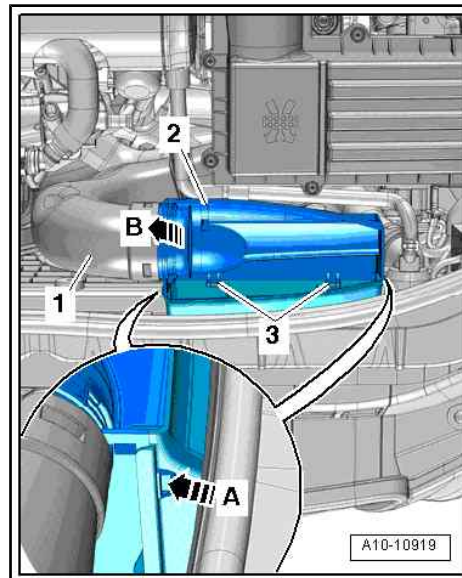
6.10 Removing and installing starter - vehicles with 2.0 ltr. TDI engine

Removing

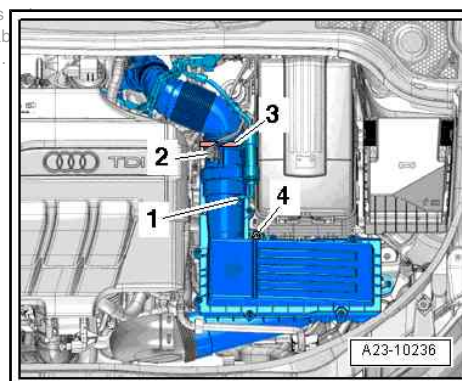
- Release retainers -arrows- at the sides and pull off cover for air duct.



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



- Unplug electrical connector -2- at air mass meter - G70-.
- Disconnect breather hose -1-.
- Detach air hose -3-.
- Unscrew bolt -4- and detach air cleaner housing.



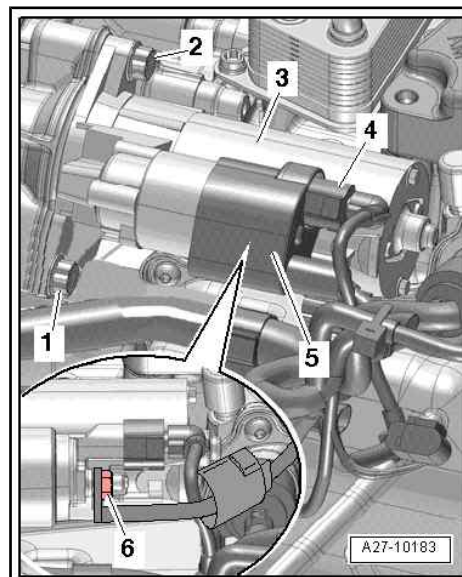
- With ignition switched off, disconnect earth cable at battery ⇒ [page 3](#) .
- If fitted, remove cable tie for protective sleeve.
- Unplug connector -4- by sliding locking element to rear and pressing down release catch.
- Fold back protective sleeve -5- and detach B+ wire -item 6- from solenoid switch.
- Unscrew bolts -1- and -2- and lift out starter -3-.

Installing

- Tightening torque ⇒ [page 37](#)

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

- Install air cleaner housing ⇒ Rep. gr. 23 .
- Connect battery. Steps required ⇒ [page 3](#) .



90 – Gauges, instruments

1 Contact corrosion

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

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

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

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

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Please note:

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

2 Instrument cluster

Observe notes on contact corrosion ⇒ page 51 .



Note

The instrument cluster must not be dismantled.

2.1 Exploded view - instrument cluster, radio controlled clock receiver, data bus diagnostic interface

1 - Windscreen washer fluid level sender - G33-

- ❑ Removing and installing
⇒ [page 85](#)

2 - Oil level and oil temperature sender - G266-

- ❑ Removing and installing
⇒ Rep. gr. 17

3 - Oil pressure switch - F1-

- Removing and installing ^{with respect to the}
⇒ Rep. gr. 17

4 - Coolant shortage indicator switch - F66-

5 - Data bus diagnostic interface - J533-

- ❑ Removing and installing
⇒ [page 68](#)

6 - Electrical connector

- ❑ For data bus diagnostic interface - J533-

7 - Instrument cluster

- ❑ With control unit in dash panel insert - J285-
- ❑ Removing and installing
⇒ [page 53](#)
- ❑ Assignment of contacts at multi-pin connectors
⇒ [page 54](#)

8 - Electrical connector

- For instrument cluster

9 - Bolt

- ☐ 2.5 Nm

10 - Trim cover

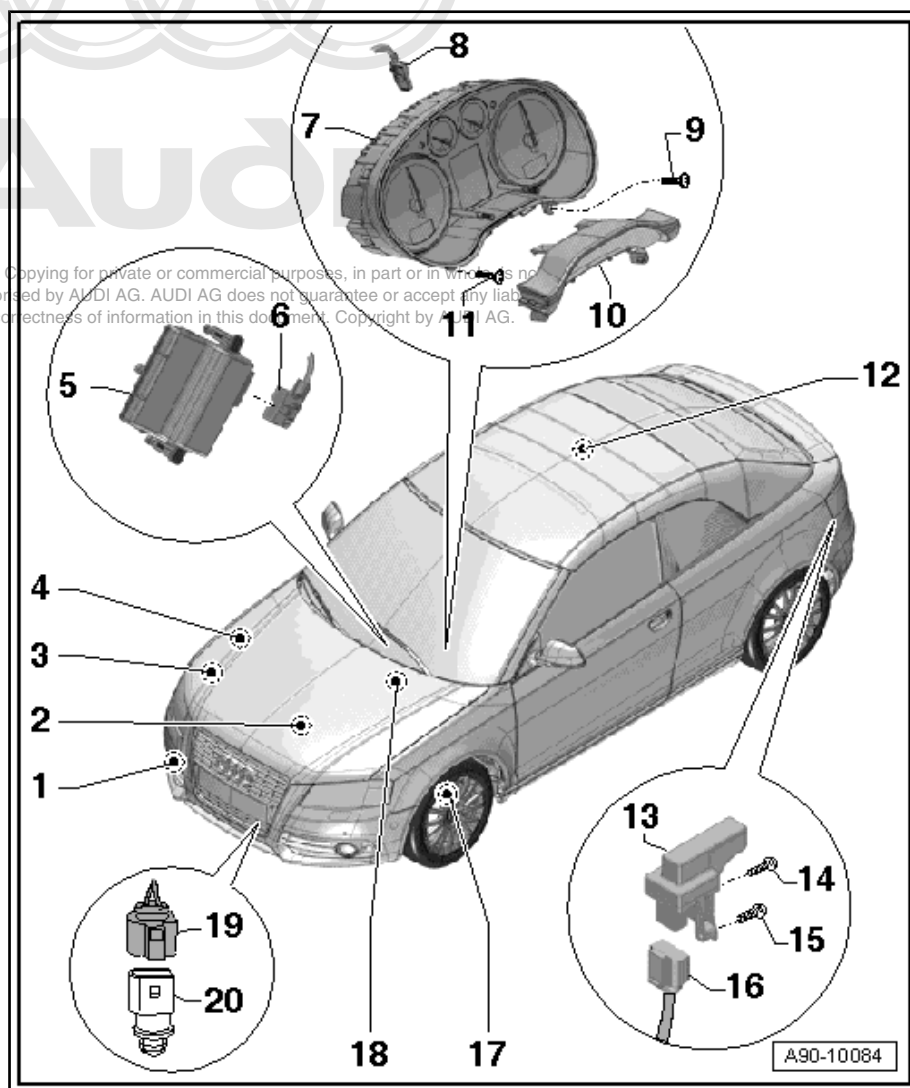
- ❑ Removing and installing ⇒ Rep. gr. 68

11 - Bolt

- 2.5 Nm

12 - Fuel gauge sender - G-

- ❑ Pin assignment ⇒ [page 55](#)
- ❑ Removing and installing ⇒ Rep. gr. 20



13 - Radio-controlled clock receiver - J489-

- ☐ Removing and installing ⇒ [page 60](#)

14 - Bolt

- ☐ 2.5 Nm

15 - Bolt

- ☐ 2.5 Nm

16 - Electrical connector

- ☐ For radio-controlled clock receiver - J489-

17 - Brake pad wear sender

- ☐ Front left -G34-
- ☐ Removing and installing ⇒ Rep. gr. 46

18 - Brake fluid level warning contact - F34-

- ☐ Removing and installing ⇒ Rep. gr. 47

19 - Electrical connector

- ☐ For ambient temperature sensor - G17-

20 - Ambient temperature sensor - G17-

- ☐ Removing and installing ⇒ [page 59](#)

2.2 Removing and installing instrument cluster

- If instrument cluster is being renewed, select function "Replace" for corresponding control unit in "Guided Fault Finding" or "Guided Functions" mode ⇒ Vehicle diagnostic tester.

Removing

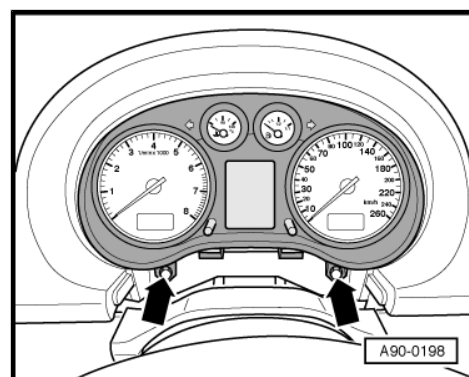
- Switch off ignition and remove ignition key.



Note

Removal of instrument cluster does not involve taking out steering wheel.

- Move steering wheel down and to rear as far as possible, making use of full range of steering column adjuster.
- Switch off ignition and remove ignition key.
- Pull off trim cover ⇒ Rep. gr. 68 .
- Place trim cover on steering column trim (top).
- Remove bolts -arrows-.
- Pull out instrument cluster until it makes contact with steering wheel.



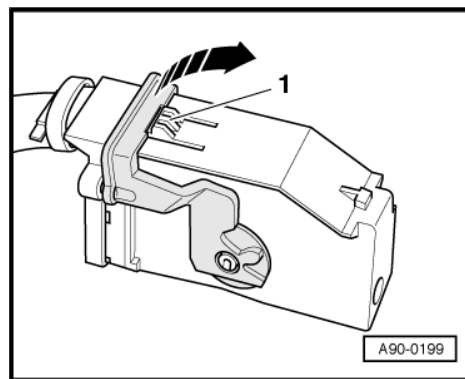
- Press catch -1-, turn clip in direction of -arrow- and unplug connector.
- Remove instrument cluster towards driver's side between steering wheel and dash panel.

Installing

- Tightening torque ⇒ [page 52](#)

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

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



2.3 Multi-pin connectors on instrument cluster



Note

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

2.4 Pin assignment at multi-pin connectors on instrument cluster



Note

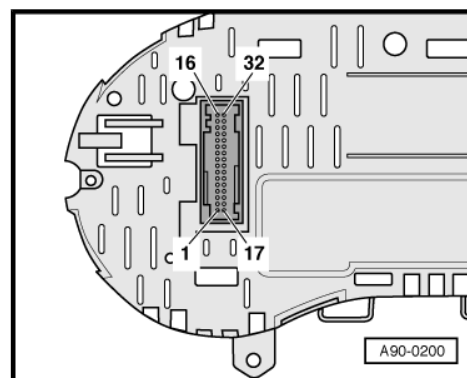
The multi-pin connector assignment is described for the "Highline" instrument cluster. Not all pins are used on the multi-pin connector for the "Midline" instrument cluster.



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32-pin connector, blue

- 1 - Terminal 30
- 2 - Terminal 30
- 3 - Terminal 31
- 4 - Terminal 31
- 5 - CAN bus (diagnosis) wake-up wire
- 6 - Fuel gauge sender 2, signal (quattro)
- 7 - Brake pad
- 8 - Oil level
- 9 - Radio-controlled clock signal
- 10 - Radio-controlled clock 5V
- 11 - MFT telematics
- 12 - MFT Out B (left button)
- 13 - MFT Out A (right button)
- 14 - Brake fluid low
- 15 - Oil pressure switch
- 16 - MFT Enter
- 17 - Terminal 58d
- 18 - Terminal 30
- 19 - Terminal 31
- 20 - Washer fluid low
- 21 - Coolant low
- 22 - MFT 01 Return
- 23 - MFT Info Jam
- 24 - Ambient temperature
- 25 - Fuel gauge sender 1, signal
- 26 - Fuel gauge sender 2, overall resistance (quattro)
- 27 - Fuel gauge sender 1, overall resistance
- 28 - Sender earth
- 29 - CAN bus High (diagnosis)
- 30 - CAN bus Low (diagnosis)
- 31 - Transponder Rx
- 32 - Transponder Tx



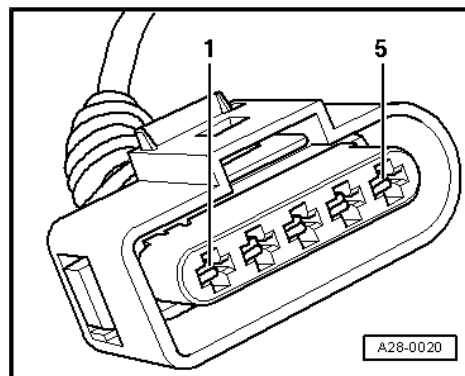
2.5 Pin assignment on fuel gauge sender - G-

- Unplug 5-pin connector at sealing flange of fuel tank. Procedure ⇒ Rep. gr. 20 ; Checking fuel gauge sender - G-

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Pin assignment for 5-pin connector on fuel gauge sender - G-

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



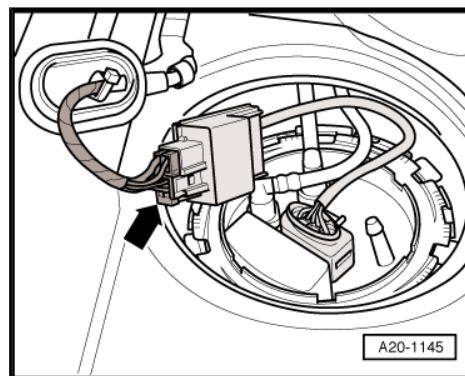
TFSI engines:



Note

On vehicles with TFSI engines, the fuel gauge sender signal from the fuel gauge sender - G- is looped through the fuel pump control unit - J538-.

The fuel pump control unit - J538- is located on the sealing flange cover on the right beneath the rear seat bench.

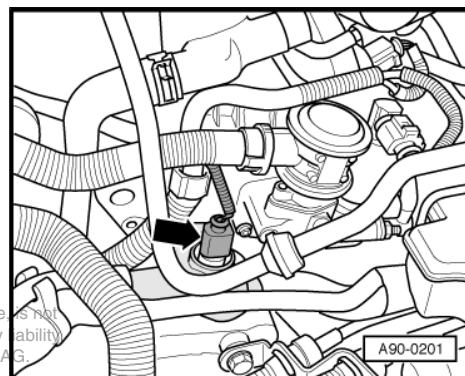


2.6 Pin assignment at coolant temperature senders - vehicles with 1.6 ltr. MPI engine

Coolant temperature sender - G62-

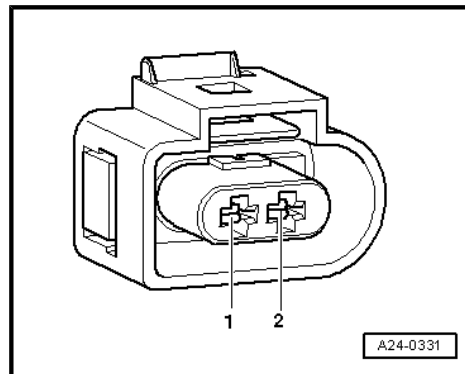
The coolant temperature sender - G62- is located at the coolant connection on the cylinder head (left-side).

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



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

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



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Radiator outlet coolant temperature sender - G83-

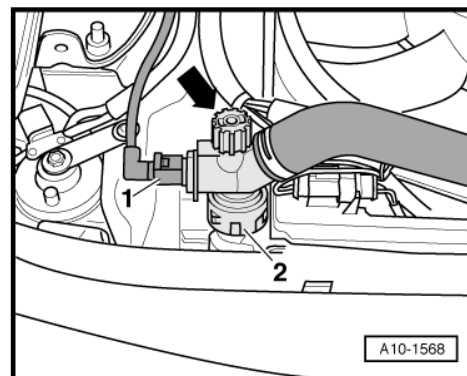
The radiator outlet coolant temperature sender - G83- is located on the radiator (bottom left).

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



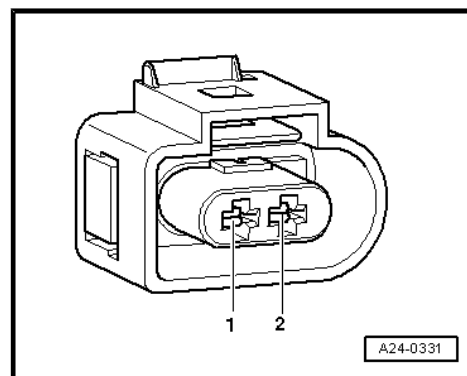
Note

Disregard items marked -1- and -2-.



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

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



2.7 Pin assignment at coolant temperature senders - vehicles with 1.8 ltr. / 2.0 ltr. TFSI engine

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Coolant temperature sender - G62-

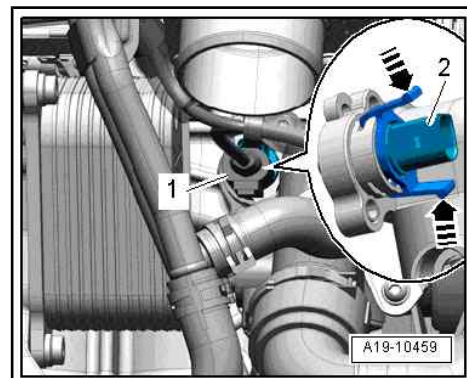
The coolant temperature sender - G62- is located on the coolant pump/thermostat housing on the cylinder head (front).

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



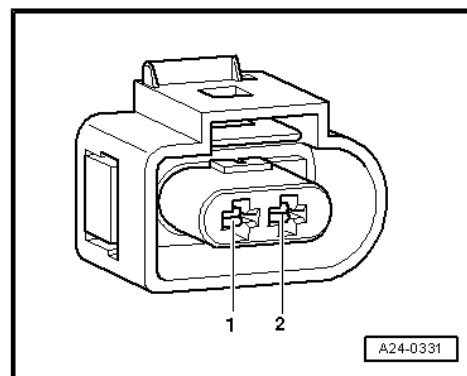
Note

-Item 2- and -arrows- can be disregarded.



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

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



Radiator outlet coolant temperature sender - G83-

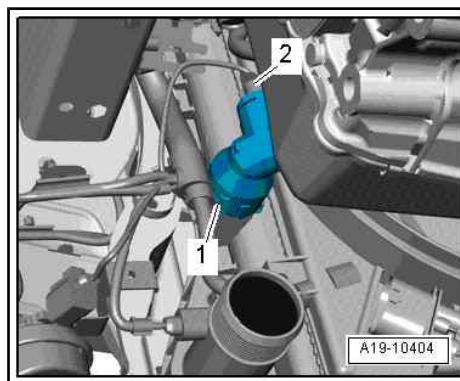
The radiator outlet coolant temperature sender - G83- is located on the radiator (bottom left).

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



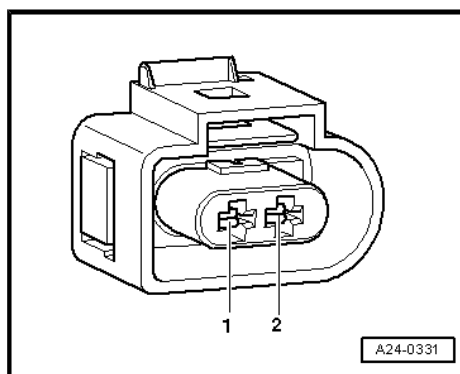
Note

Disregard -item 1-.



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

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



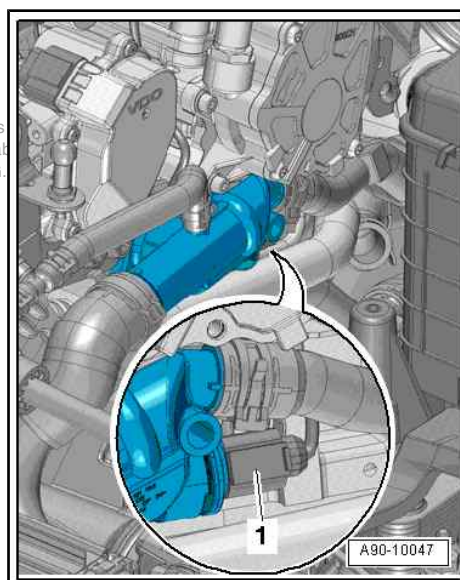
2.8 Pin assignment at coolant temperature senders - vehicles with 1.6 ltr. / 2.0 ltr. TDI engine

Coolant temperature sender - G62-

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

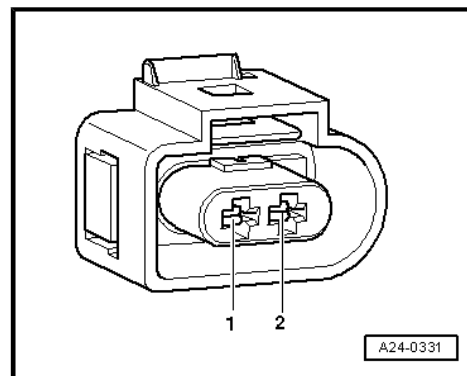
- Carefully unlock and unplug 2-pin connector -1-.

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

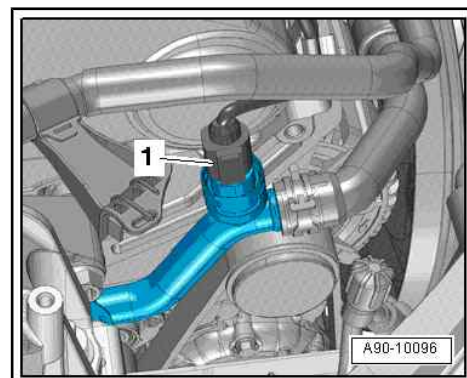
- 1 - Wiring connection from coolant temperature sender - G62- to engine control unit
- 2 - Sender earth



Radiator outlet coolant temperature sender - G83-

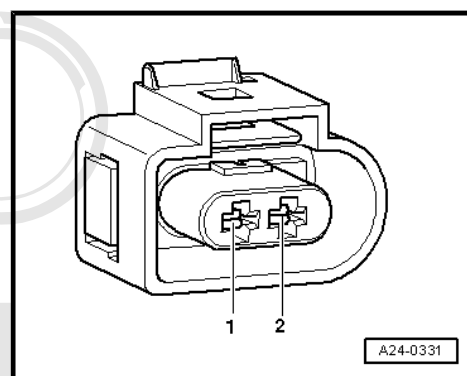
The radiator outlet coolant temperature sender - G83- is located on the right side of the engine beside the alternator.

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



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

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



2.9 Removing and installing ambient temperature sensor - G17-

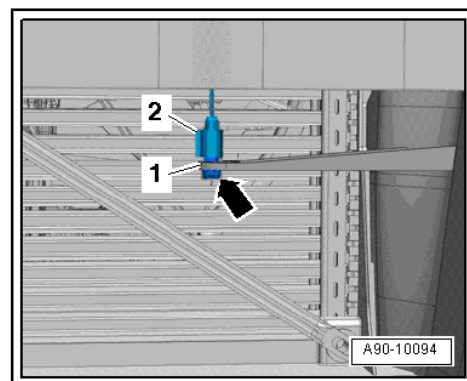
Removing

- Remove front bumper cover ⇒ Rep. gr. 63 .
- Unplug electrical connector -2-.
- Carefully compress retaining clips -arrow- and lift ambient temperature sensor - G17- -item 1- out of retainer.

Installing

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

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



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

Removing

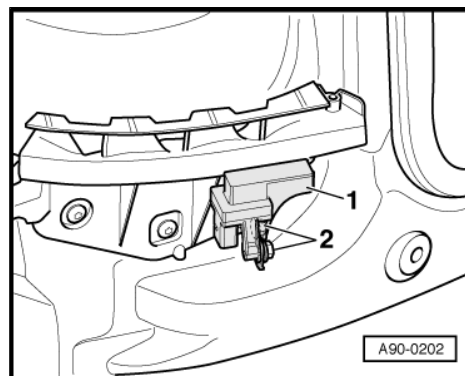
- Remove rear bumper cover ⇒ Rep. gr. 63 .
- Unplug electrical connector at radio-controlled clock receiver - J489- -item 1-.
- Unscrew bolts -2- and detach radio controlled clock receiver - J489- .

Installing

- Tightening torque ⇒ [page 52](#)

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

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



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3 Cigarette lighter, 12 V electric socket

3.1 Exploded view - cigarette lighter, 12 V electric socket

1 - Mounting

- ☐ For cigarette lighter - U1-

2 - Cigarette lighter illumination bulb - L28-

- ☐ Removing and installing
⇒ [page 63](#)

3 - Cigarette lighter - U1-

- ☐ Removing and installing
⇒ [page 61](#)

4 - Lighter

5 - Dummy cover

6 - Electric socket - U-

- ☐ Removing and installing
⇒ [page 64](#)
- ☐ Renewing ⇒ [page 64](#)

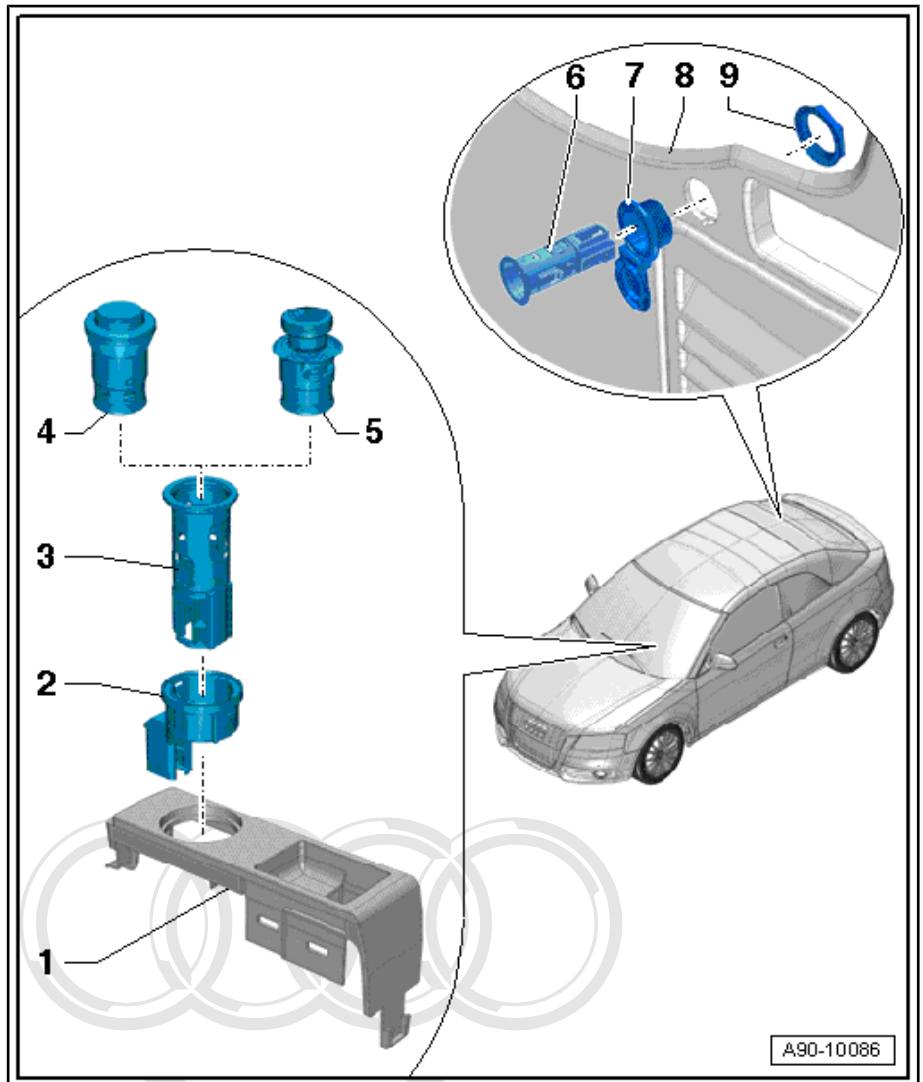
7 - Mounting with cover

- ☐ For electric socket - U-

8 - Luggage compartment side trim (right-side)

9 - Nut

- ☐ 2 Nm

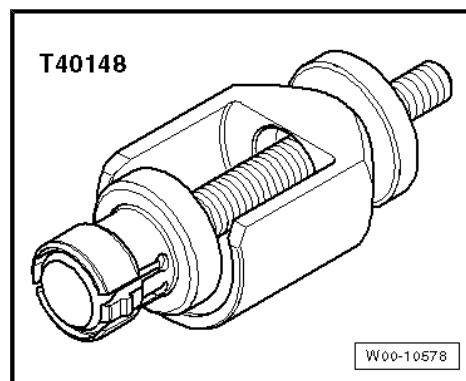


3.2 Removing and installing cigarette lighter - U1-

Special tools and workshop equipment required

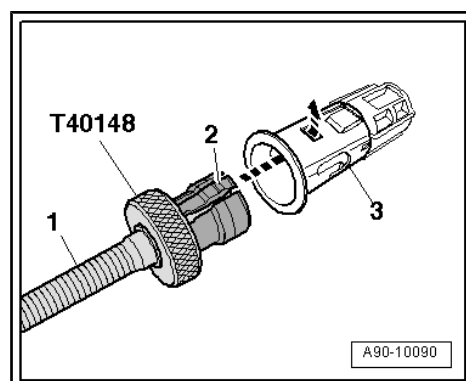
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◆ Release tool - T40148-

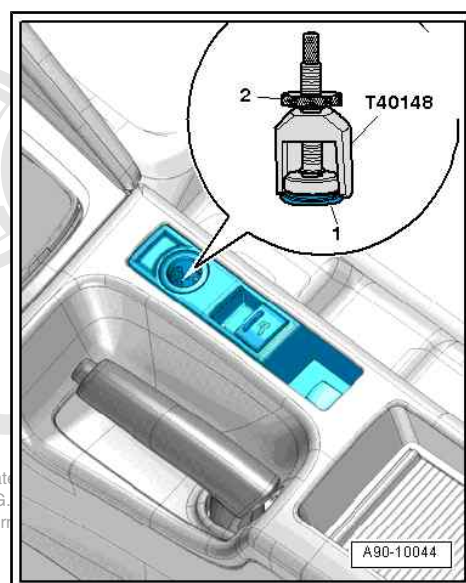


Removing

- Release tabs -2- on release tool -T40148- must engage in recesses in cigarette lighter/12 V socket -3- -arrow-; for this purpose, push threaded rod -1- downwards as far as stop.



- Pull lighter/dummy cover off cigarette lighter - U1- .
- Insert release tool - T40148- into cigarette lighter - U1- -item 1- as far as stop.
- Turn knurled wheel -2- on release tool - T40148- clockwise as far as stop.



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- The piston -2- moves upwards and the release tabs -1- on release tool - T40148- spread apart -arrows-.
- Using release tool - T40148- , pull cigarette lighter - U1- out of illuminated ring with cigarette lighter illumination bulb - L28- .
- Unplug electrical connector.

Installing

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

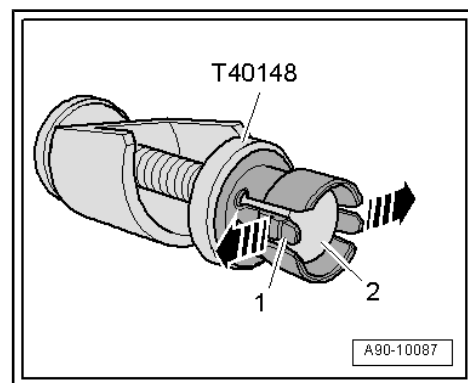


Caution

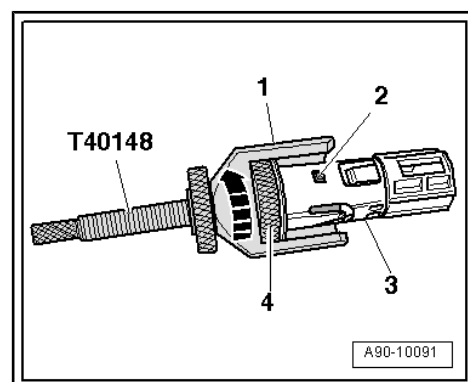
Risk of injury.

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

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- Detach support -1- from release tool - T40148- .
- Push piston downwards and hold in this position.
- Turn knurled wheel -4- on release tool - T40148- anti-clockwise -arrow-; this will open release tabs -2- on cigarette lighter - U1- -item 3- and release tool - T40148- can be removed.



3.3 Removing and installing cigarette lighter illumination bulb - L28-

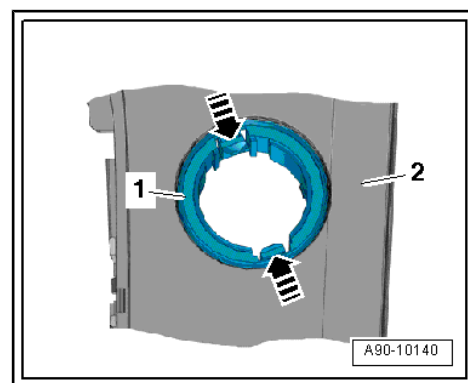
Removing

- Remove cigarette lighter - U1- ➔ [page 61](#) .
- Release retaining clips in direction of -arrows-.
- Take illuminated ring -1- with cigarette lighter illumination bulb - L28- out of switch mounting -2- in direction of -arrow-.

Installing

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

- Install cigarette lighter - U1- ➔ [page 61](#) .



3.4 Removing and installing electric socket - U-

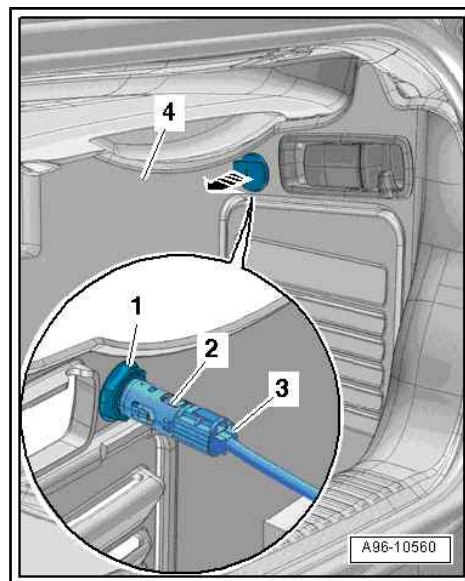
Removing

- Switch off ignition and remove ignition key.
- Open cover -4- in luggage compartment side trim (right-side) -arrow-.
- Unplug electrical connector -3-.
- Unscrew nut -1-.
- Take electric socket - U- -item 2- out of luggage compartment side trim (right-side).

Installing

- Tightening torque ⇒ [page 61](#)

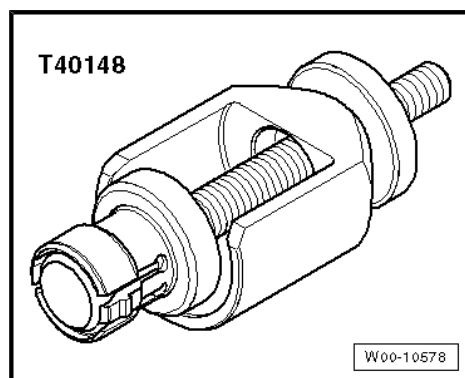
Installation is carried out in reverse sequence.



3.5 Renewing electric socket - U-

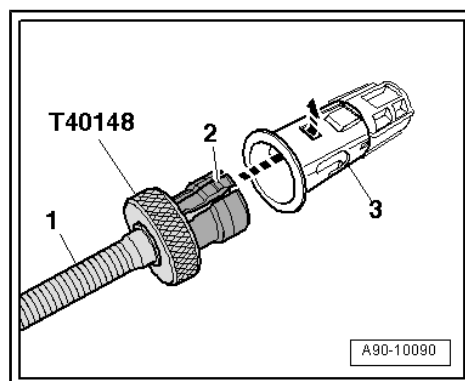
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- ◆ Release tool - T40148-

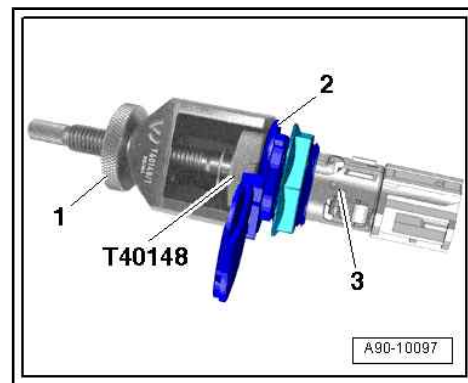


Removing

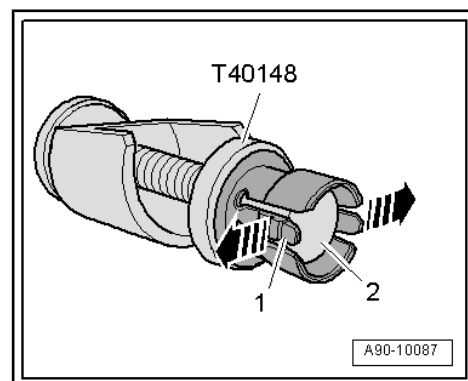
- Open cover in luggage compartment side trim (right-side).
- Unplug electrical connector.
- Release tabs -2- on release tool -T40148- must engage in recesses in electric socket - U- -item 3- -arrow-; for this purpose, push threaded rod -1- downwards as far as stop.



- Open cover of mounting -2- and hold in this position.
- Insert release tool - T40148- into electric socket - U- -item 3- as far as stop.
- Turn knurled wheel -1- on release tool - T40148- clockwise as far as stop.



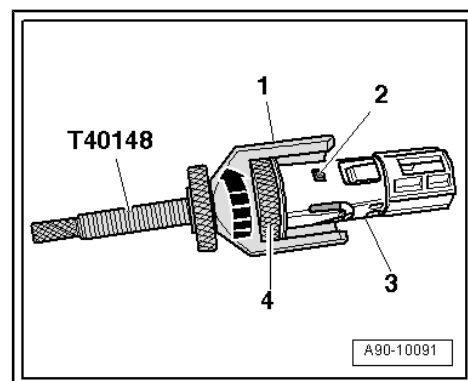
- The piston -2- moves upwards and the release tabs -1- on release tool - T40148- move apart -arrows-.
- Remove electric socket - U- from mounting.



Installing

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

- Detach support -1- from release tool - T40148- .
- Push piston downwards and hold in this position.
- Turn knurled wheel -4- on release tool - T40148- anti-clockwise -arrow-; this will open release tabs -2- on electric socket - U- -item 3-, and release tool - T40148- can be removed.



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4 Horns

Observe notes on contact corrosion ⇒ [page 51](#) .

4.1 Exploded view - horns

1 - Bass horn - H7-

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

2 - Nut

- ❑ 9 Nm

3 - Nut

- ❑ 9 Nm

4 - Bracket

- ❑ Removing and installing
⇒ [page 67](#)

5 - Bolt

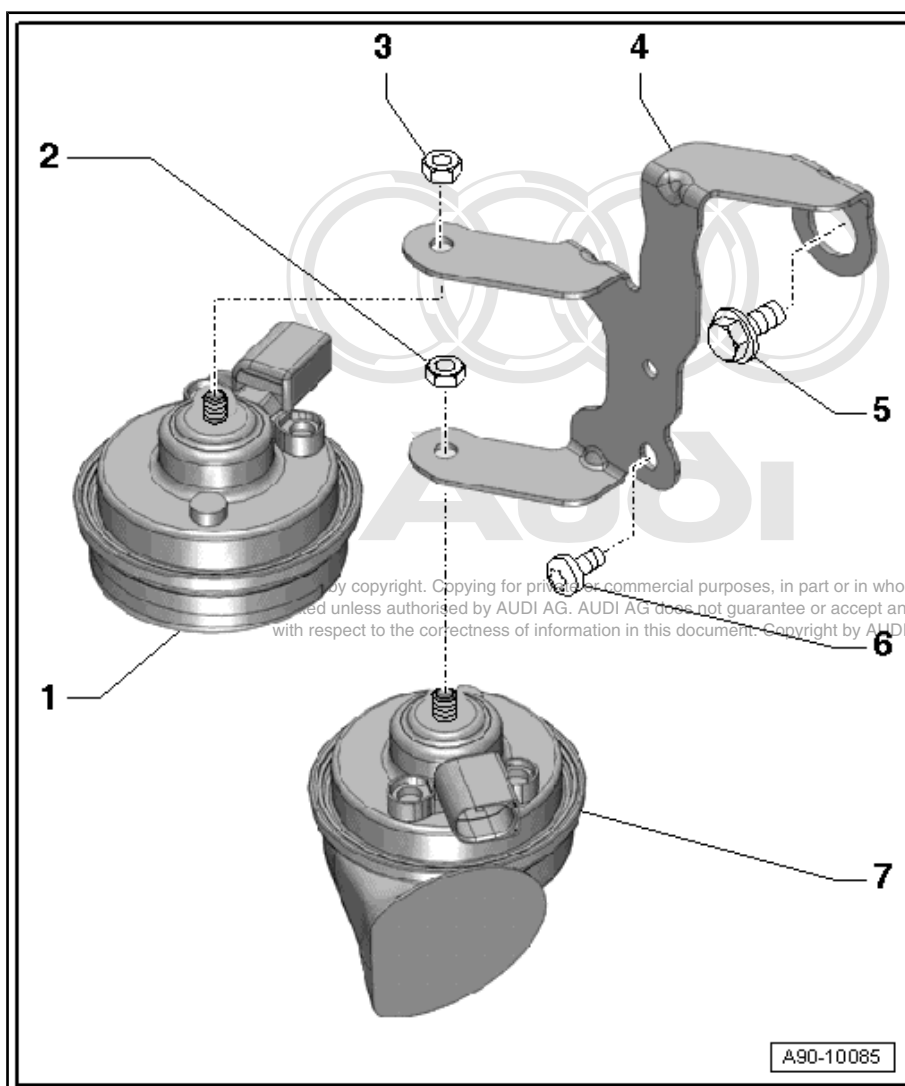
- ❑ Tightening torque ⇒
Rep. gr. 50

6 - Bolt

- ❑ 8 Nm

7 - Treble horn - H2-

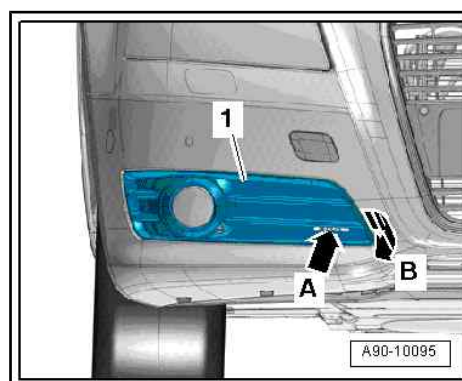
- ❑ Removing and installing
⇒ [page 66](#)



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

Removing

- Reach into opening -arrow A- and pull air intake grille -1- at bottom out of bumper -arrow B-.

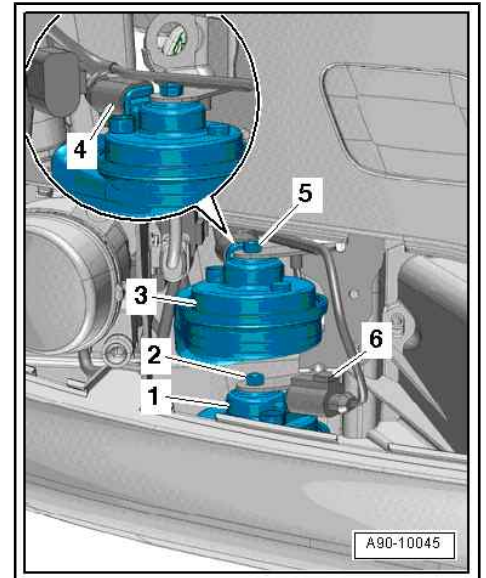


- Unscrew nut -5-.
- Detach bass horn - H7- -item 3- and unplug electrical connector -4-.
- Unplug electrical connector -6-.
- Unscrew nut -2- and detach treble horn - H2- -item 1-.

Installing

- Tightening torque ➔ [page 66](#)

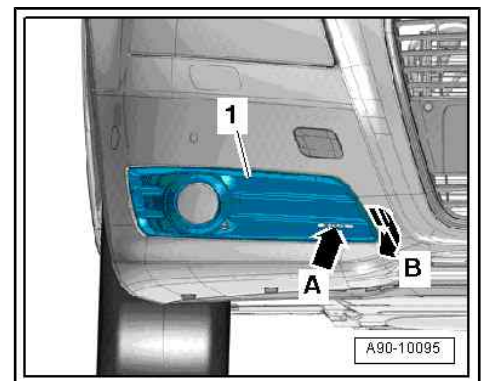
Installation is carried out in reverse sequence.



4.3 Removing and installing bracket for horns

Removing

- Reach into opening -arrow A- and pull air intake grille -1- at bottom out of bumper -arrow B-.



- Unplug electrical connectors -1- and -6-.
- Move wiring retainer -2- clear at bracket.
- Remove bolts -4- and -5-.
- Detach bracket -3- with horns -H2- / -H7- .



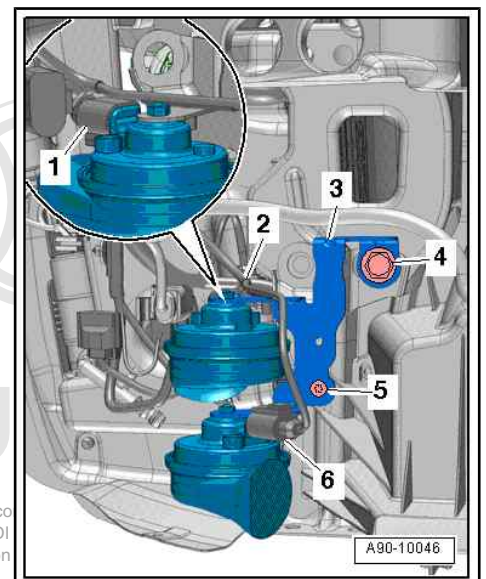
Note

Illustration shows bumper cover removed.

Installing

- Tightening torque ➔ [page 66](#) and ➔ Rep. gr. 50

Installation is carried out in reverse sequence.



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5 Data bus diagnostic interface

5.1 Data bus diagnostic interface - J533-

General notes

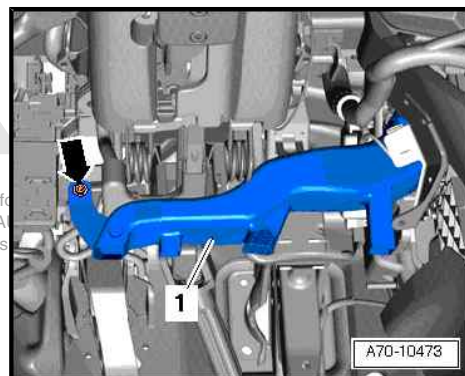
- ◆ The data bus diagnostic interface - J533- interlinks the various CAN bus systems in the vehicle.
- ◆ For example, it transfers data from the engine control unit (drive system CAN bus) to the instrument cluster (instrument cluster CAN bus).
- ◆ Fault finding is performed via "Guided Fault Finding" ⇒ Vehicle diagnostic tester.
- ◆ Repairing CAN bus wiring ⇒ Electrical system; General information; Rep. gr. 97 ; Repairing wiring harnesses and connectors; Repairing wiring harnesses

5.2 Removing and installing data bus diagnostic interface - J533-

- If control unit is being renewed, select function "Replace" for corresponding control unit in "Guided Fault Finding" or "Guided Functions" mode ⇒ Vehicle diagnostic tester.

Removing

- Switch off ignition and remove ignition key.
- Remove dash panel cover (driver side) ⇒ Rep. gr. 68 .
- Remove bolt -arrow- and detach air duct -1-.

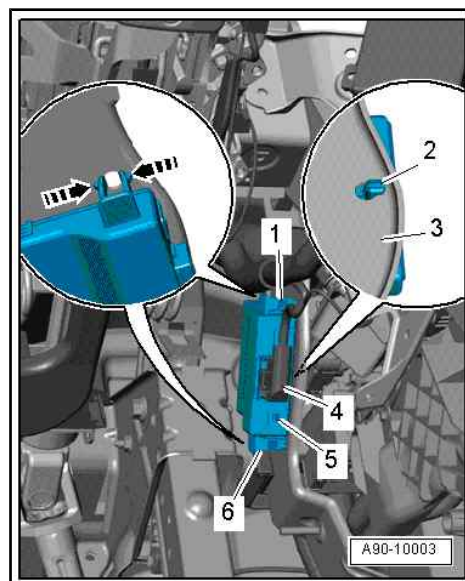


- Release retaining clips -1- and -6- by compressing clips -arrows-.
- Disengage lug -2- from bracket -3-.
- Unplug electrical connector -4- and remove data bus diagnostic interface - J533- -item 5-.

Installing

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

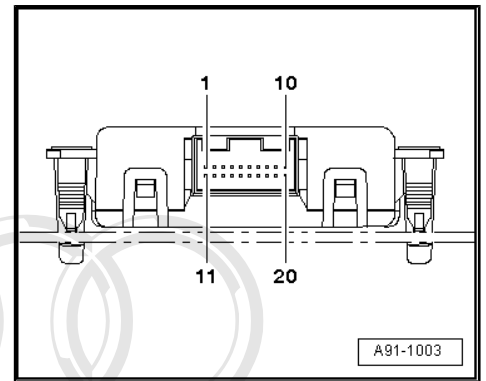
- Install air duct ⇒ Rep. gr. 80 or ⇒ Rep. gr. 87 .
- Install dash panel cover (driver side) ⇒ Rep. gr. 68 .



5.3 Connector at data bus diagnostic interface - J533-

20-pin connector, black

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



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92 – Windscreen wash/wipe system

1 Contact corrosion

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

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

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

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

Please note:

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



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2 Overview - windscreen wiper and washer system/headlight washer system

1 - Washer fluid reservoir

- ☐ Exploded view
⇒ [page 82](#)
- ☐ Removing and installing
⇒ [page 84](#)

2 - Filler neck

- ☐ For washer fluid reservoir
- ☐ Exploded view
⇒ [page 82](#)
- ☐ Removing and installing
⇒ [page 83](#)

3 - Washer jet

- ☐ Exploded view
⇒ [page 82](#)
- ☐ Removing and installing
⇒ [page 87](#)

4 - Rain and light sensor - G397-

- ☐ Removing and installing
⇒ [page 78](#)

5 - Wiper arm

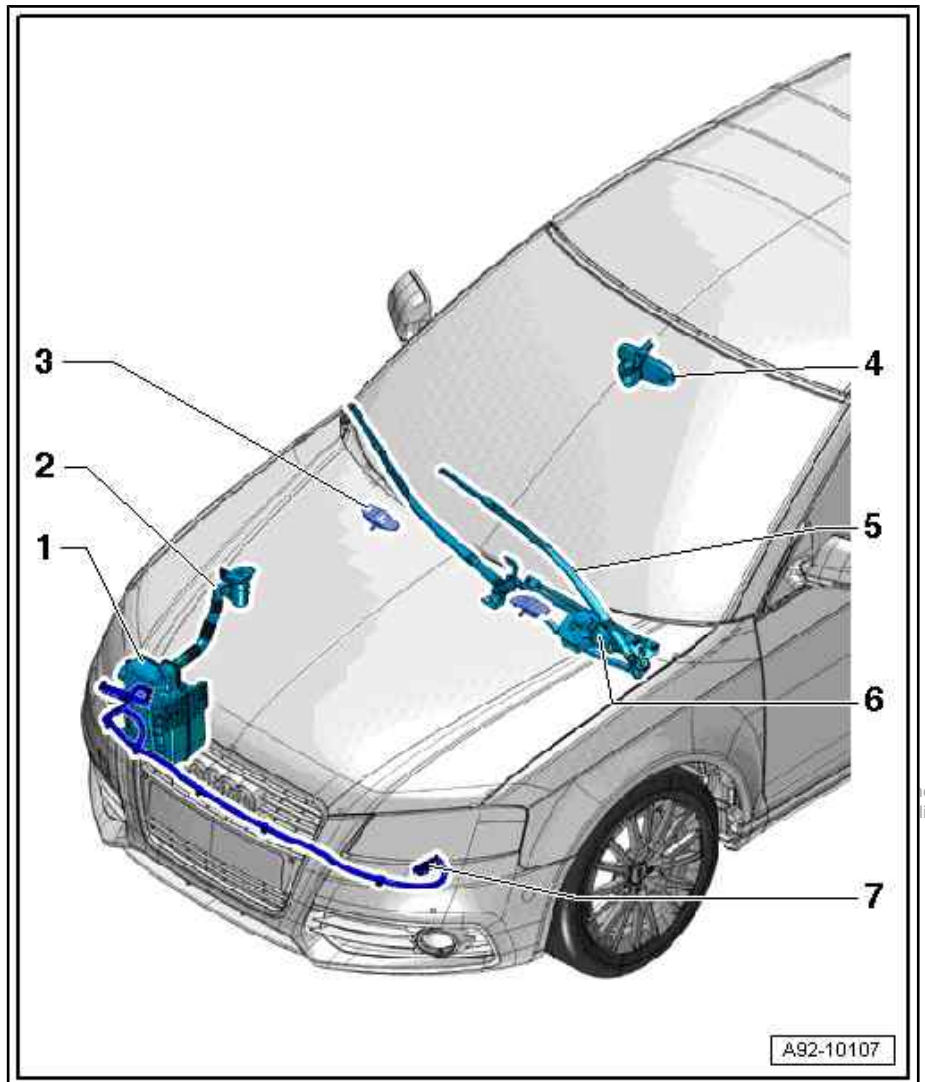
- ☐ Exploded view
⇒ [page 72](#)
- ☐ Removing and installing
⇒ [page 74](#)

6 - Wiper motor - V-

- ☐ With wiper motor control unit - J400-
- ☐ Exploded view
⇒ [page 72](#)
- ☐ Removing and installing
⇒ [page 76](#)

7 - Headlight washer jet

- ☐ Exploded view ⇒ [page 88](#)
- ☐ Removing and installing ⇒ [page 87](#)



3 Windscreen wiper system

Observe notes on contact corrosion ⇒ [page 70](#) .

3.1 Exploded view - windscreen wiper system

1 - Wiper motor - V-

- ☐ With wiper motor control unit - J400-
- ☐ With wiper frame
- ☐ Removing and installing ⇒ [page 76](#)
- ☐ Renewing ⇒ [page 78](#)
- ☐ Tightening torques ⇒ [page 73](#)

2 - Bolt

- ☐ 8 Nm

3 - Nut

- ☐ 17 Nm

4 - Cap

5 - Wiper arm, passenger side (LHD)

- ☐ Removing and installing ⇒ [page 74](#)
- ☐ Adjusting ⇒ [page 75](#)

6 - Wiper blade, passenger side (LHD)

- ☐ Renewing ⇒ [page 74](#)

7 - Wiper blade, driver side (LHD)

- ☐ Renewing ⇒ [page 74](#)

8 - Wiper arm, driver side (LHD)

- ☐ Removing and installing ⇒ [page 74](#)
- ☐ Adjusting ⇒ [page 75](#)

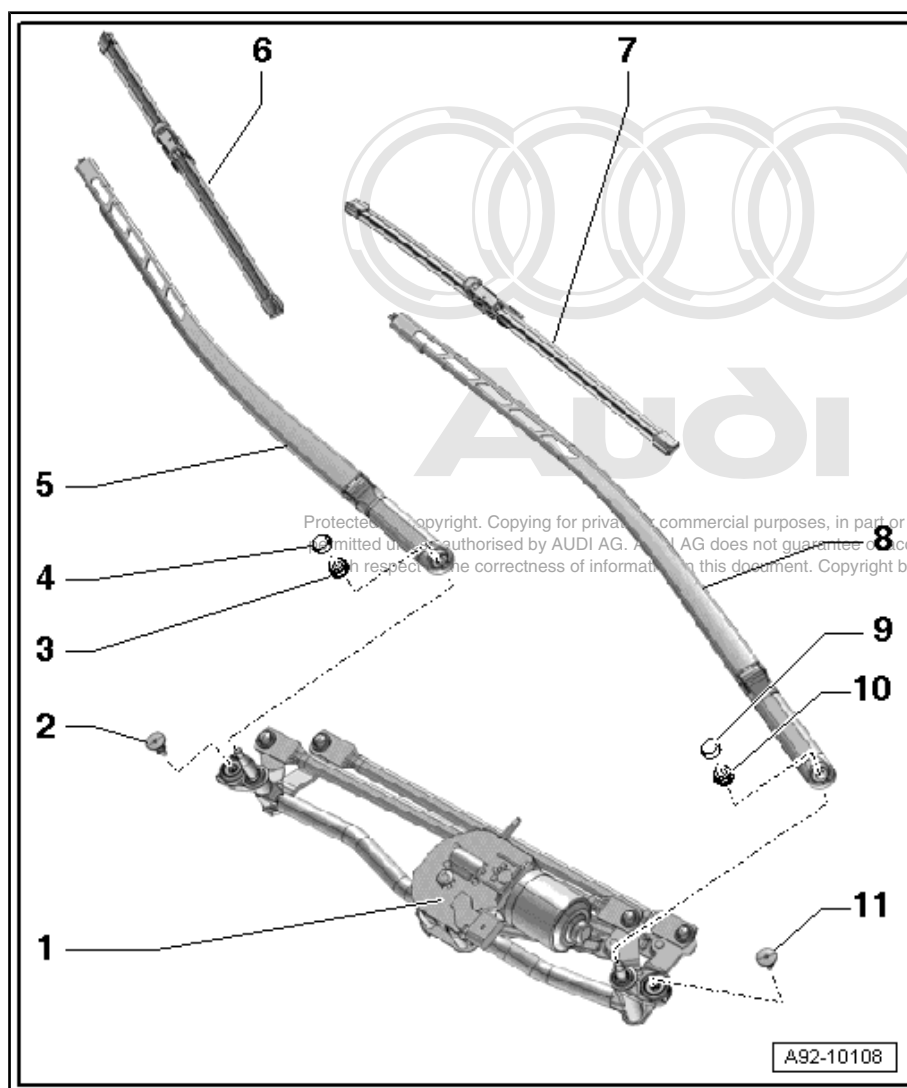
9 - Trim cap

10 - Nut

- ☐ 17 Nm

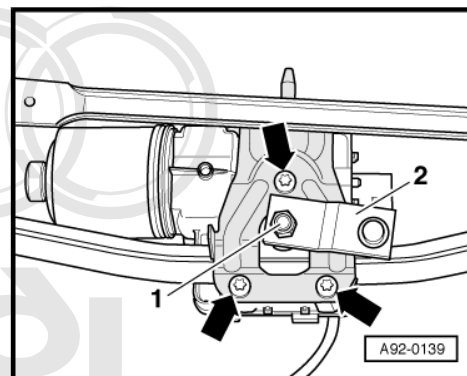
11 - Bolt

- ☐ 8 Nm



Tightening torques for wiper motor

Component	Nm
Wiper motor to wiper frame -arrows-	9
Nut -1- for wiper crank -2- to wiper motor	18



3.2 Moving windscreen wipers to service position



Note

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

- At sub-zero temperatures, first check that the wiper blades are not frozen onto the glass.
- Switch on ignition briefly and then switch off.
- Operate “touch wipe” function within 10 seconds.
- The wipers will run to the “service position”.

Vehicles with Driver Information System (DIS):

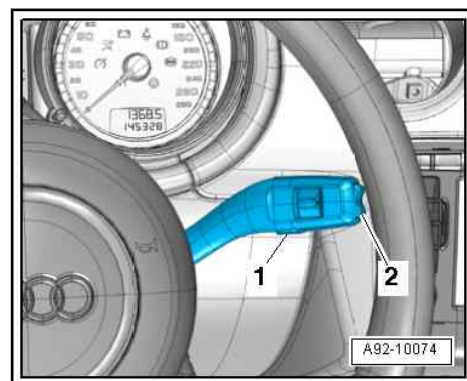
- Switch on ignition.
- Repeatedly press **Reset** button -1- on windscreen wiper switch until menu display appears.
- Select required menu options by pressing rocker switch -2- and confirm each option by pressing **Reset** button.

Set
Wipers
Front
Service position

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

Continued for all vehicles:

- Switch off ignition.



Caution

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

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

3.3 Renewing wiper blade

Removing

- Move windscreen wipers to service position ⇒ [page 73](#) .
- Lift wiper arm off windscreen.
- Compress retaining clip -arrows 1-.
- Slide wiper blade off wiper arm -arrow 2-.
- Remove wiper blade.

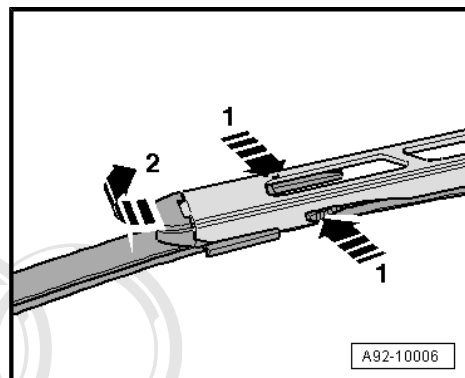
Installing



Caution

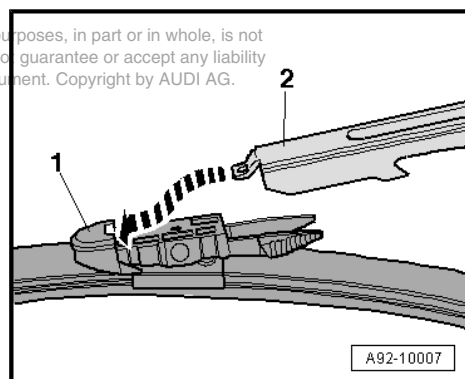
Risk of damage to body.

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



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

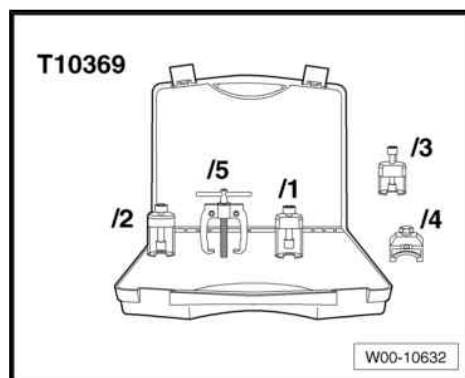
- Guide lug of wiper arm -2- into wiper blade -1- -arrow-
- The wipers will run back from the "service position" when you operate the wiper switch or when road speed exceeds 6 km/h.



3.4 Removing and installing wiper arms

Special tools and workshop equipment required

- ◆ Tool kit for wiper arms - T10369-



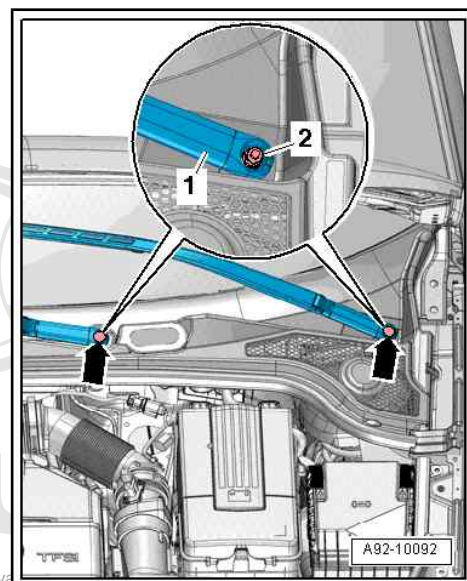
Removing



Note

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

- Switch on ignition.
- Perform brief wipe and let wiper arms move into park position.
- Switch off ignition and remove ignition key.
- Pry cover caps -arrows- off wiper arms -1- with a screwdriver.
- Slacken nuts -2- one turn.



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

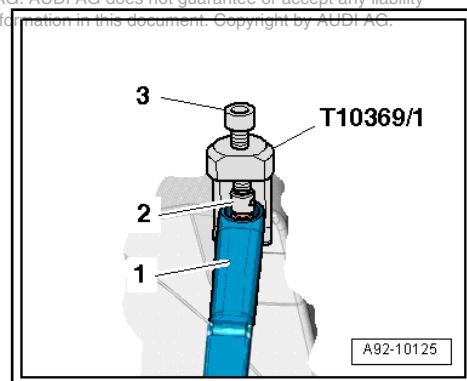
Installing



Caution

Risk of damage to body.

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



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

- Adjust wiper arms ⇒ [page 75](#) .

3.5 Adjusting wiper arms

Procedure



Note

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

- Remove wiper arms ⇒ [page 74](#) .
- Switch on ignition.
- Actuate “touch wipe” function and allow wiper motor to move to end position.
- Switch off ignition and remove ignition key.



Note

- ◆ Every 2nd time the wiper motor is switched off, it moves the wiper arms slightly past the end position, which ensures that the lip of the wiper blade is tipped the other way.
- ◆ To do so, the wiper motor will first move the wiper arms down and then up again slightly to their final position. This slightly raised end position must not be used when aligning the wiper crank.
- ◆ You must use the end setting at which the wiper motor moves directly to its park position (and not past the return point). Operate the "touch-wipe function" again as necessary.

- Switch off ignition.
- Place wiper arm (with wiper blade already fitted) on wiper shaft and adjust wiper blade on windscreen as follows:

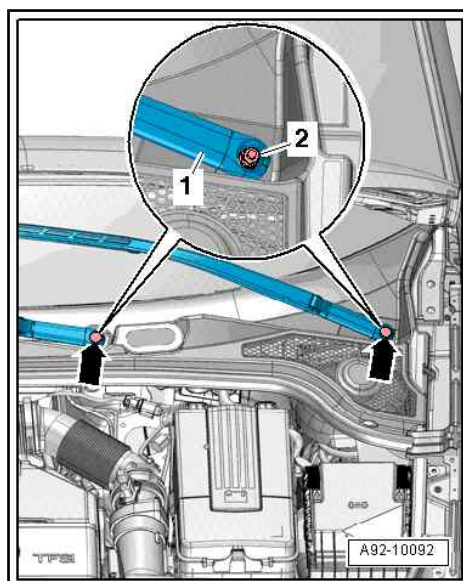
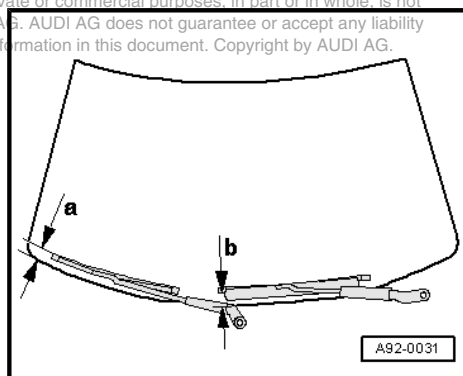
- Dimension -a- = 0 ... 10 mm
- Dimension -b- = 0 ... 10 mm



Note

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

- Tighten nuts -2- for wiper arms -1-.
- Tightening torque ⇒ [page 72](#)
- Switch on ignition.
- Actuate "touch wipe" function and allow wiper arms to move down to their bottom end position.
- Switch off ignition.
- Check setting of wiper arms again. Correct as necessary.
- Press trim caps -arrows- onto wiper arms.

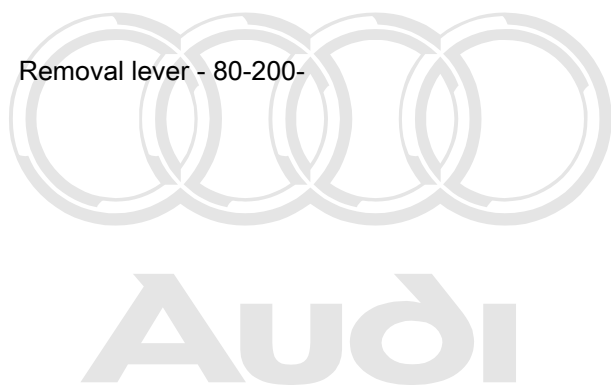


3.6 Removing and installing windscreen wiper motor - V- with wiper motor control unit - J400-

Wiper motor control unit - J400- is integrated in wiper motor.

Special tools and workshop equipment required

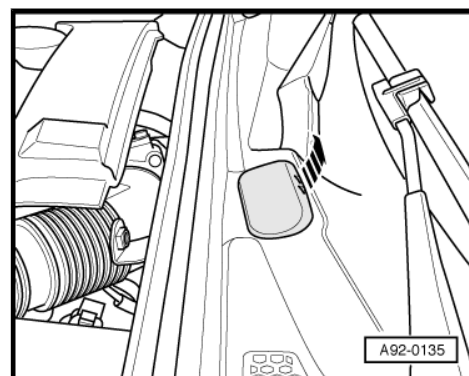
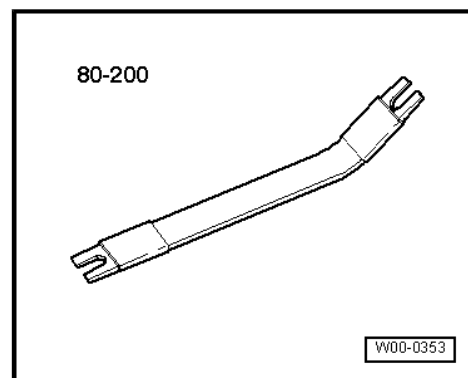
◆ Removal lever - 80-200-



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Removing

- Remove wiper arms ⇒ [page 74](#) .
- Unclip washer jets -arrow-.
- Push washer jet (with hoses connected) through mounting opening into plenum chamber.



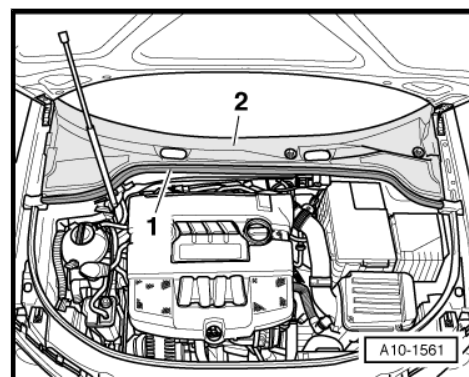
- Pull off seal -1-.



Caution

Risk of damage to plenum chamber cover.

- ◆ *Apply a small quantity of soap solution to transition between windscreen and plenum chamber cover -2-. Then, starting at edge of windscreen, carefully pull plenum chamber cover vertically up and out of retainer at windscreen.*



- Detach plenum chamber cover -2-. To do so, carefully pull plenum chamber cover off retainer at windscreen.

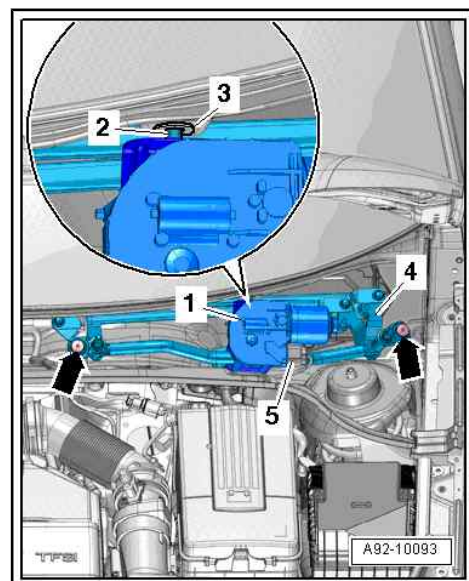


Caution

Risk of paintwork damage.

- ◆ *Use adhesive tape to prevent scratches on suspension turret.*

- Turn linkage -4- for wiper arms until it is parallel with body.
- Unplug electrical connector -5-.
- Remove bolts -arrows-.
- Pull wiper frame with linkage and wiper motor -1- forwards until retaining pin -2- is no longer seated in mounting -3-.
- Take wiper frame with linkage and wiper motor out of plenum chamber.

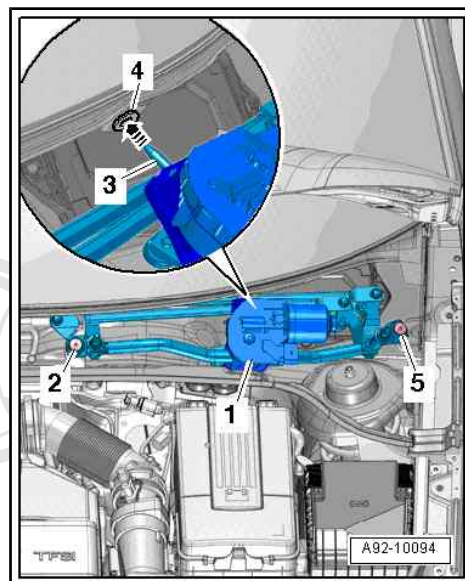


Installing

- Tightening torque ⇒ [page 72](#)

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

- Insert wiper frame -1- with linkage and wiper motor in plenum chamber; retaining pin -3- must engage in mounting -4- on body -arrow-.
- Tighten bolts -2- and -5-.
- Adjust wiper arms ⇒ [page 75](#) .



3.7 Renewing windscreen wiper motor - V- with wiper motor control unit - J400-

- If control unit is being renewed, select “Replace” function for corresponding control unit in “Guided Fault Finding” or “Guided Functions” ⇒ Vehicle diagnostic tester.

3.8 Removing and installing rain and light sensor

⇒ “3.8.1 Removing and installing rain and light sensor G397”, [page 78](#)

⇒ “3.8.2 Renewing rain and light sensor G397”, [page 80](#)

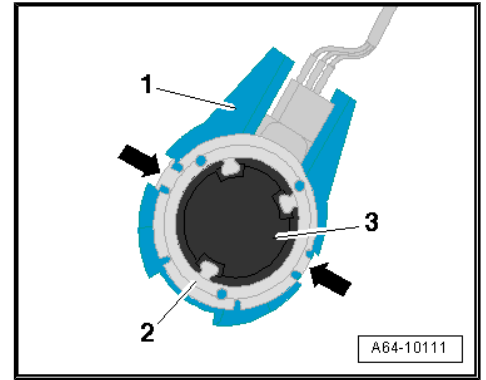
3.8.1 Removing and installing rain and light sensor - G397-

Special tools and workshop equipment required

- ◆ Cleaning solution - D 009 401 04-

Removing

- Remove interior mirror ⇒ Rep. gr. 68 .
- Unplug electrical connector.
- Release catches of retaining clip -arrows- using a small screwdriver.
- Detach retaining clip -2- from mounting -1-.
- Wait one minute to allow silicone pad to loosen enough so that it can be removed without leaving residue.
- Loosen rain and light sensor - G397- -item 3- by turning it back and forth and take it out of mounting.
- Remove silicone pad from windscreen, ensuring that no residue remains.



Installing

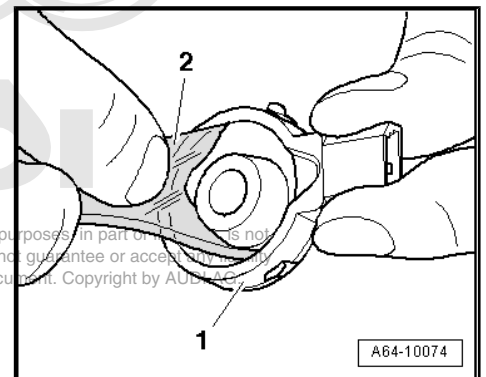
Installation is carried out in reverse order; note the following:



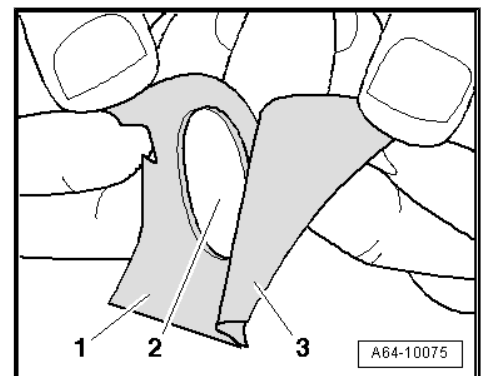
Note

Renew silicone pad.

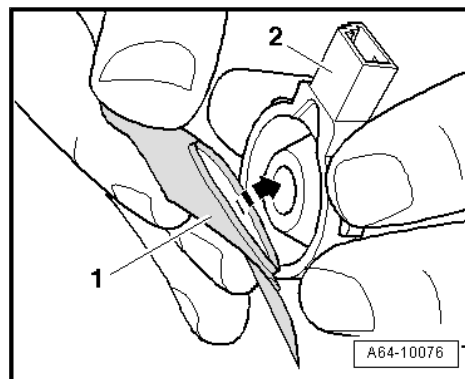
- Clean bonding surface on windscreen with cleaning fluid - D 009 401 04- .
- Remove silicone pad -2- from sensor -1-, ensuring that no residue remains.
- Clean bonding surface on sensor with cleaning fluid - D 009 401 04- .



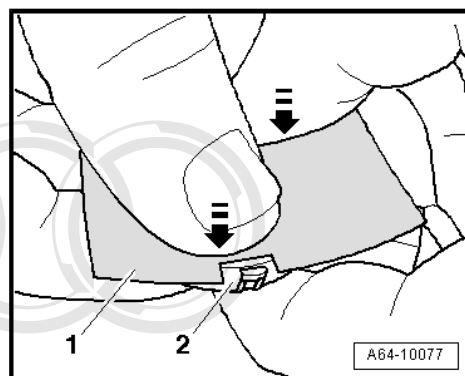
- Remove silicone paper -3- from silicone pad -2-.
- Transparent protective film -1- remains on silicone pad to assist with installation.



- Using transparent protective film -1- to help you, position silicone pad on sensor -2- so that it is centred.



- Press silicone pad onto sensor -2- through protective film -1-, ensuring that no air bubbles are present.



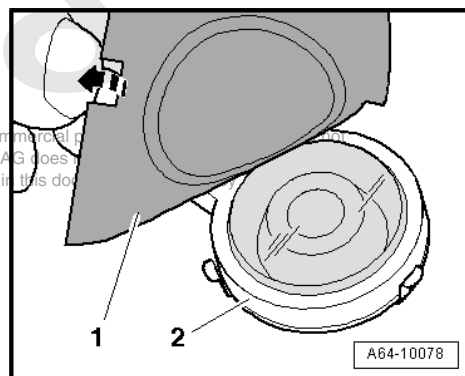
- Remove protective film -1- from silicone pad -2-.



Note

To prevent the silicone pad from becoming dirty, do not remove the protective film until just before fitting the pad.

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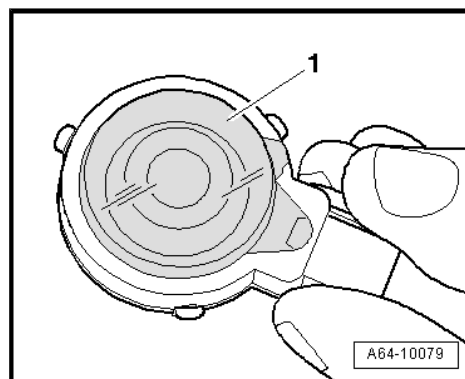
- Spray complete surface of silicone pad -1- with cleaning fluid - D 009 401 04- and insert sensor in mounting.



Caution

In order to function correctly, rain and light sensor - G397- must be clear and there must be no air bubbles between it and the windscreen.

- Press retaining clip onto mounting plate until it engages audibly.



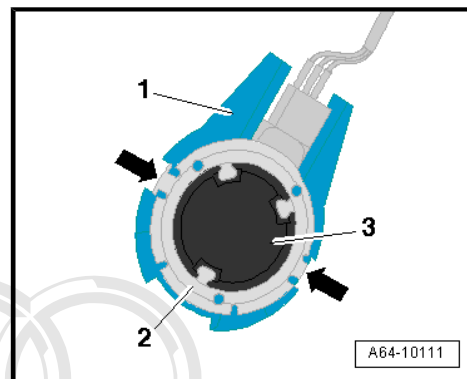
3.8.2 Renewing rain and light sensor - G397-

Special tools and workshop equipment required

- ◆ Cleaning solution - D 009 401 04-

Removing

- Remove interior mirror => Rep. gr. 68 .
- Unplug electrical connector.
- Release catches of retaining clip -arrows- using a small screwdriver.
- Detach retaining clip -2- from mounting -1-.
- Wait one minute to allow silicone pad to loosen enough so that it can be removed without leaving residue.
- Loosen rain and light sensor - G397- -item 3- by turning it back and forth and take it out of mounting.
- Remove silicone pad from windscreen, ensuring that no residue remains.
- Clean bonding surface on windscreen with cleaning fluid - D 009 401 04- .
- Any silicone residue must be removed completely.



Installing

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



Note

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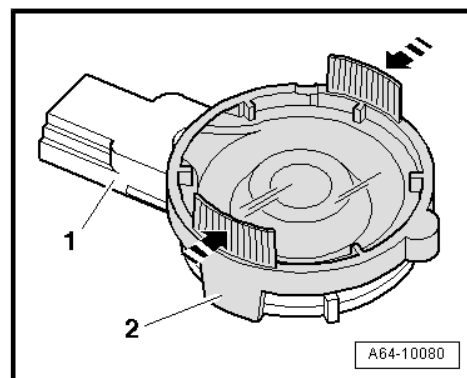
Renew silicone pad.

- Press tabs -arrows- on protective cover -2- together gently and detach from sensor -1-.



Note

To prevent the silicone pad from becoming dirty, do not remove the protective cover until just before fitting the pad.



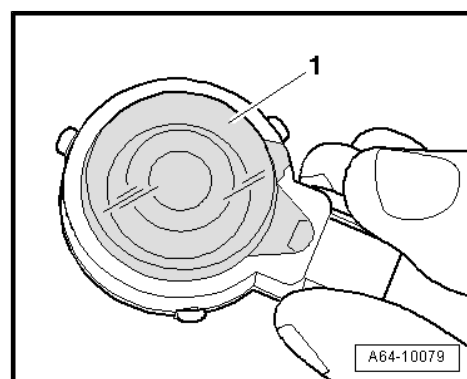
- Spray complete surface of silicone pad -1- with cleaning fluid - D 009 401 04- and insert sensor in mounting.



Caution

In order to function correctly, rain and light sensor - G397- must be clear and there must be no air bubbles between it and the windscreen.

- Press retaining clip onto mounting plate until it engages audibly.



4 Windscreen washer system

Observe notes on contact corrosion ⇒ [page 70](#) .

4.1 Exploded view - washer fluid reservoir, washer fluid hoses, washer jets

1 - Sealing grommet

2 - Washer pump - V5-

- ☐ Removing and installing
⇒ [page 86](#)

3 - Windscreen washer fluid level sender - G33-

- ☐ Removing and installing
⇒ [page 85](#)

4 - Sealing grommet

5 - Sealing grommet

6 - Washer fluid hose

- ☐ For headlight washer system

7 - Headlight washer system pump - V11-

8 - Bolt

- ☐ 7 Nm

9 - Washer fluid reservoir

- ☐ Removing and installing: vehicles without auxiliary heater
⇒ [page 84](#)

10 - Nut

- ☐ 7 Nm

11 - Filler pipe

- ☐ For washer fluid reservoir
- ☐ Removing and installing
⇒ [page 83](#)

12 - Bolt

- ☐ 8 Nm

13 - Right washer jet

- ☐ With right washer jet heater element - Z21- (depending on version)
- ☐ Removing and installing ⇒ [page 87](#)
- ☐ Adjusting ⇒ Maintenance ; Booklet 808

14 - Left washer jet

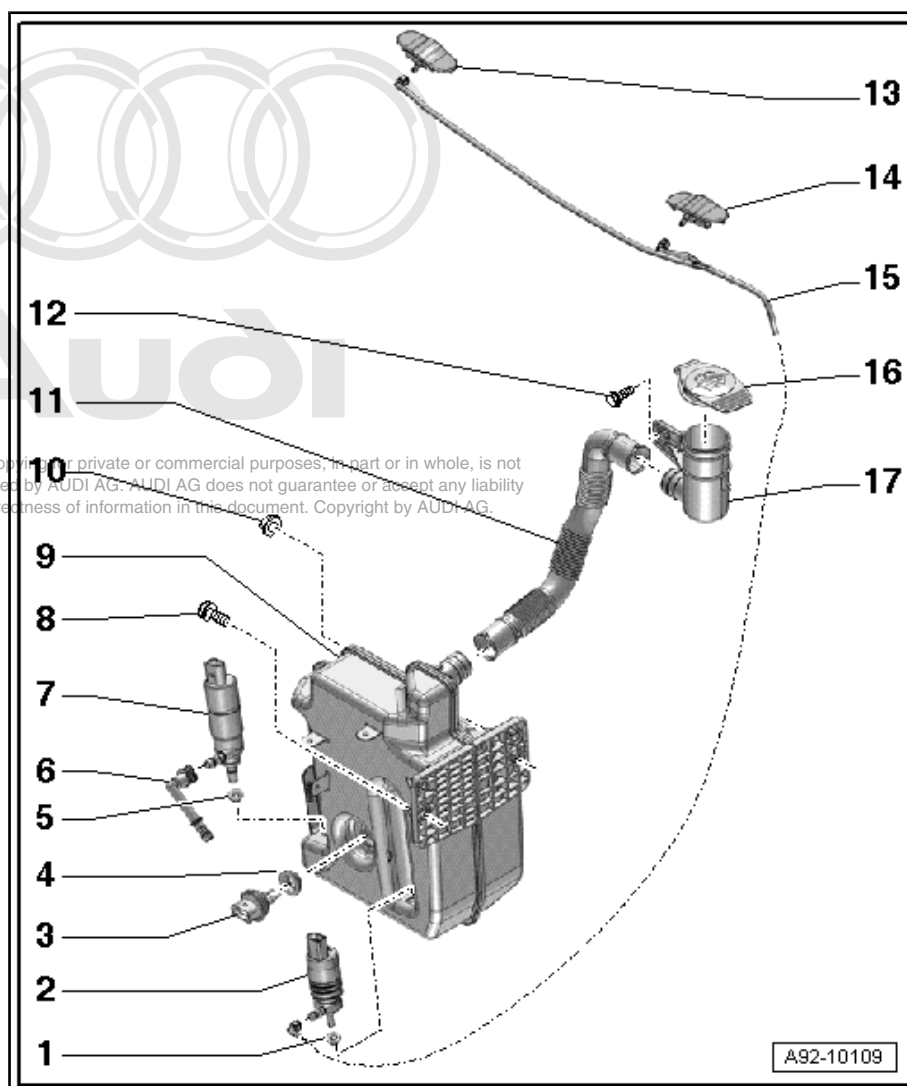
- ☐ With left washer jet heater element - Z20- (depending on version)
- ☐ Removing and installing ⇒ [page 87](#)
- ☐ Adjusting ⇒ Maintenance ; Booklet 808

15 - Washer fluid hose

- ☐ For windscreen washer system

16 - Filler cap

- ☐ For filler neck



17 - Filler neck

- ☐ For washer fluid reservoir
- ☐ Removing and installing ⇒ [page 83](#)

4.2 Removing and installing filler neck for washer fluid reservoir

Removing

Vehicles with petrol engine:

- Press release tab and detach vacuum line -1- for activated charcoal filter.

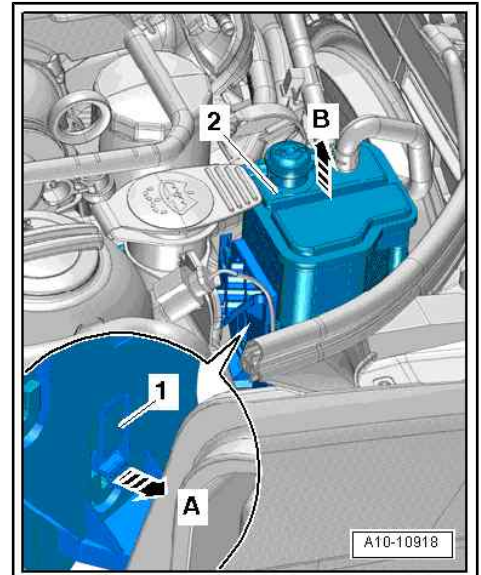
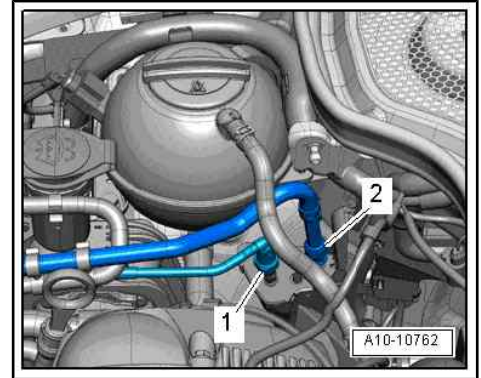


Note

-Item 2- can be disregarded.

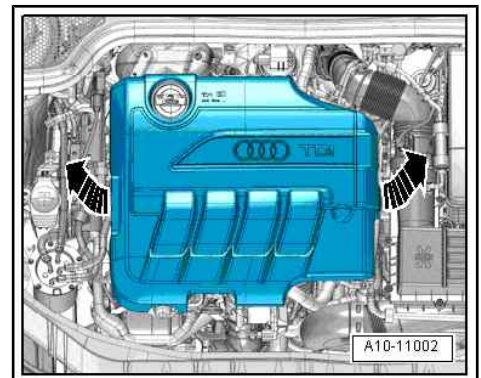
- Detach vacuum hose from coolant pipe.
- Lift off release tab -1- -arrow A- and pull activated charcoal filter -2- (with hose connected) out of bracket -arrow B-.
- Place activated charcoal filter to one side.

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Vehicles with TDI engine:

- Detach engine cover panel -arrows-.

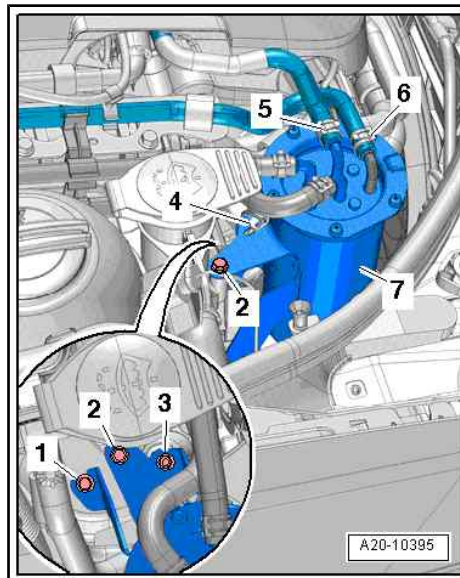


- Loosen bolt -1-.
- Remove bolt -2- and nut -3-.
- Detach hose retainer -4- at fuel filter and place fuel filter -7- to one side (with fuel hoses connected).



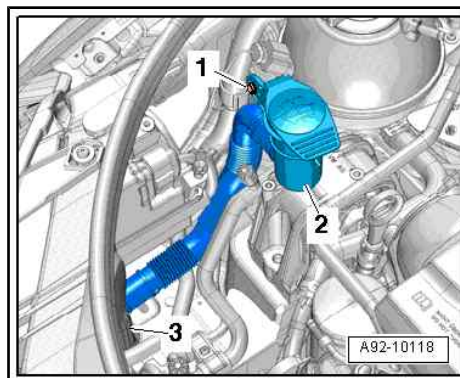
Note

- ◆ If necessary, disengage fuel hoses from retainer.
- ◆ Disregard -items 5 and 6-.



Continued for all vehicles:

- Remove bolt -1-.
- Pull filler pipe with filler neck -2- off washer fluid reservoir -3-.

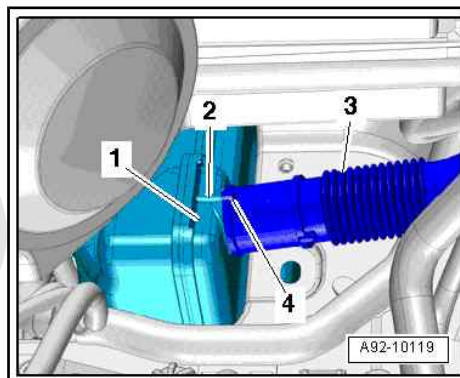


Installing

- Tightening torque ⇒ [page 82](#)

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

- Slide filler pipe -3- onto washer fluid reservoir -1- as far as stop.
- Lug -2- must make contact in recess -4- on filler pipe.



4.3 Removing and installing washer fluid reservoir - vehicles without auxiliary heater

Special tools and workshop equipment required

- ◆ Drip tray

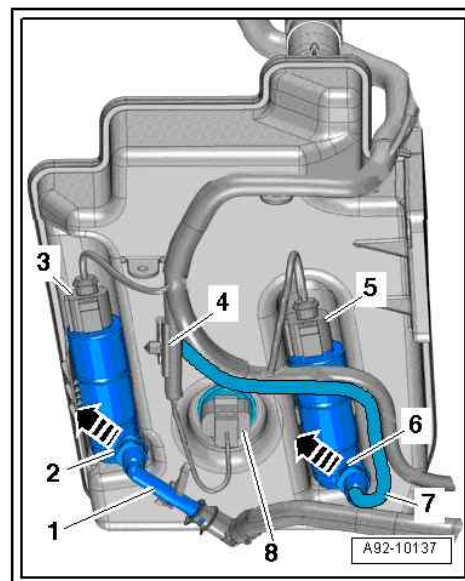
Removing

- Switch off ignition and remove ignition key.
- Remove filler neck for washer fluid reservoir ⇒ [page 83](#).
- Remove front section of front right wheel housing liner ⇒ Rep. gr. 66.

- Remove fog light ➔ [page 116](#) .
- Place drip tray under washer fluid reservoir.
- Unplug electrical connector -5-.
- Detach wiring harness -4- from retainer on washer fluid reservoir.
- Release retaining clip -6- -right arrow- and pull washer fluid hose -7- off washer pump.

Vehicles with headlight washer system:

- Unplug electrical connector -3-.
- Release retaining clip -2- -left arrow- and pull washer fluid hose -1- off headlight washer system pump.



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Continued for all vehicles:

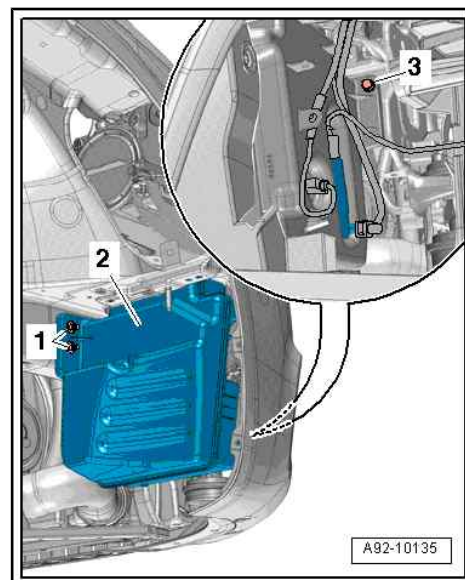
- Remove bolt -3-.
- Unscrew nuts -1- and detach washer fluid reservoir -2-.

Installing

- Tightening torque ➔ [page 82](#)

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

- Fluid hose must audibly engage in washer fluid pump connection.
- Install fog light ➔ [page 116](#) .
- Install front section of front right wheel housing liner ➔ Rep. gr. 66 .
- Install filler neck for washer fluid reservoir ➔ [page 83](#) .



4.4 Removing and installing windscreen washer fluid level sender - G33-

Special tools and workshop equipment required

- ◆ Drip tray

Removing

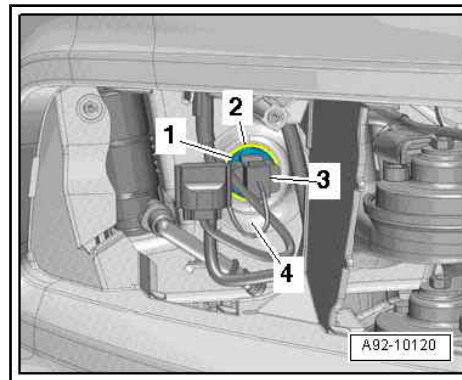
- Switch off ignition and remove ignition key.
- Remove front section of front right wheel housing liner ➔ Rep. gr. 66 .
- Remove fog light ➔ [page 116](#) .
- Place drip tray under washer fluid reservoir.

- Unplug electrical connector -3-.
- Pull windscreen washer fluid level sender - G33- -item 1- out of washer fluid reservoir -4-.

Installing

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

- Check sealing grommet -2- for damage.
- Install fog light ⇒ [page 116](#) .
- Install front section of front right wheel housing liner ⇒ Rep. gr. 66 .



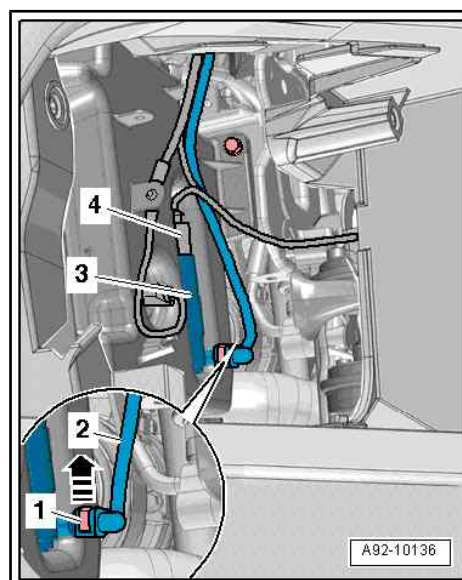
4.5 Removing and installing washer pump - V5-

Special tools and workshop equipment required

- ◆ Drip tray

Removing

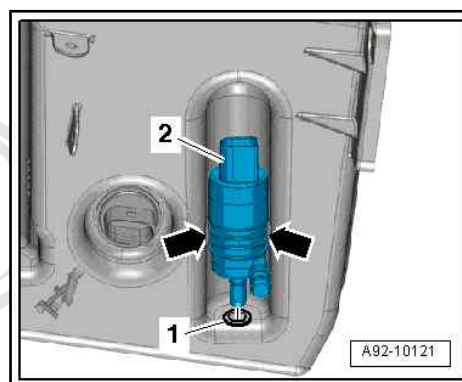
- Switch off ignition and remove ignition key.
- Remove front section of front right wheel housing liner ⇒ Rep. gr. 66 .
- Remove fog light ⇒ [page 116](#) .
- Unplug electrical connector -4-.
- Place drip tray under washer fluid reservoir.
- Release retaining clip -1- in direction of -arrow- and disconnect washer fluid hose -2- from washer pump.
- Lift washer pump - V5- -item 3- out of washer fluid reservoir.



Installing

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

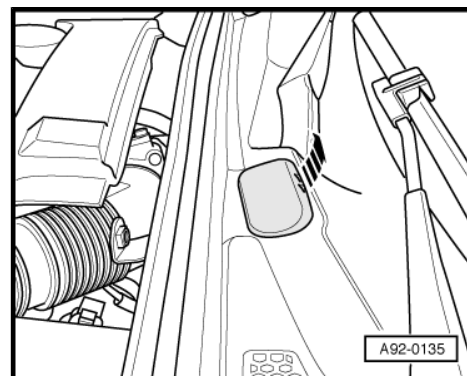
- Check sealing grommet -1- for damage.
- Slide washer pump - V5- -item 2- into washer fluid reservoir from above; washer pump is guided by two retaining lugs -arrows-.
- Install fog light ⇒ [page 116](#) .
- Install front section of front right wheel housing liner ⇒ Rep. gr. 66 .



4.6 Removing and installing washer jets

Removing

- Switch off ignition and remove ignition key.
- Unclip washer jets from plenum chamber cover -arrow-.

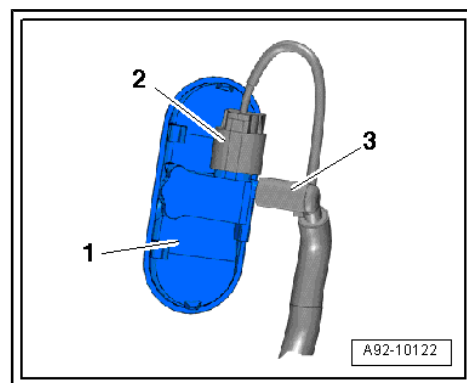


- Release retaining clip -3- and disconnect washer fluid hose -3- from windscreen washer jet -1-.
- If fitted, unplug electrical connector -2-.

Installing

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

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



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4.7 Adjusting washer jets

- Adjust washer jets for windscreen washer system ⇒ Maintenance ; Booklet 808 .
- If spray pattern does not match specifications, clean the contaminated washer jet.

Cleaning washer jet:



Caution

Risk of damage.

- ◆ ***Do NOT use any tools or implements to clean the washer jets.***

- Remove washer jet ⇒ [page 87](#) .
- Rinse washer jet with clean water in opposite direction to normal flow.
- To remove any remaining obstructions, blow out with compressed air only (in opposite direction to normal flow).
- If spray pattern still does not match specifications, renew washer jet.

5 Headlight washer system

5.1 Exploded view - washer fluid reservoir, washer fluid hoses, washer jets

1 - Bumper

2 - Fluid hose

- ☐ To washer jets
- ☐ Attached to bumper with retaining clip

3 - Fluid hose

- ☐ From headlight washer system pump - V11-

4 - Right washer jet

- ☐ Removing and installing
⇒ [page 89](#)

5 - Mounting (right-side)

- ☐ For washer jet and headlight

6 - Headlight washer system pump - V11-

- ☐ Removing and installing
⇒ [page 88](#)

7 - Washer fluid reservoir

8 - Sealing grommet

9 - Fluid hose

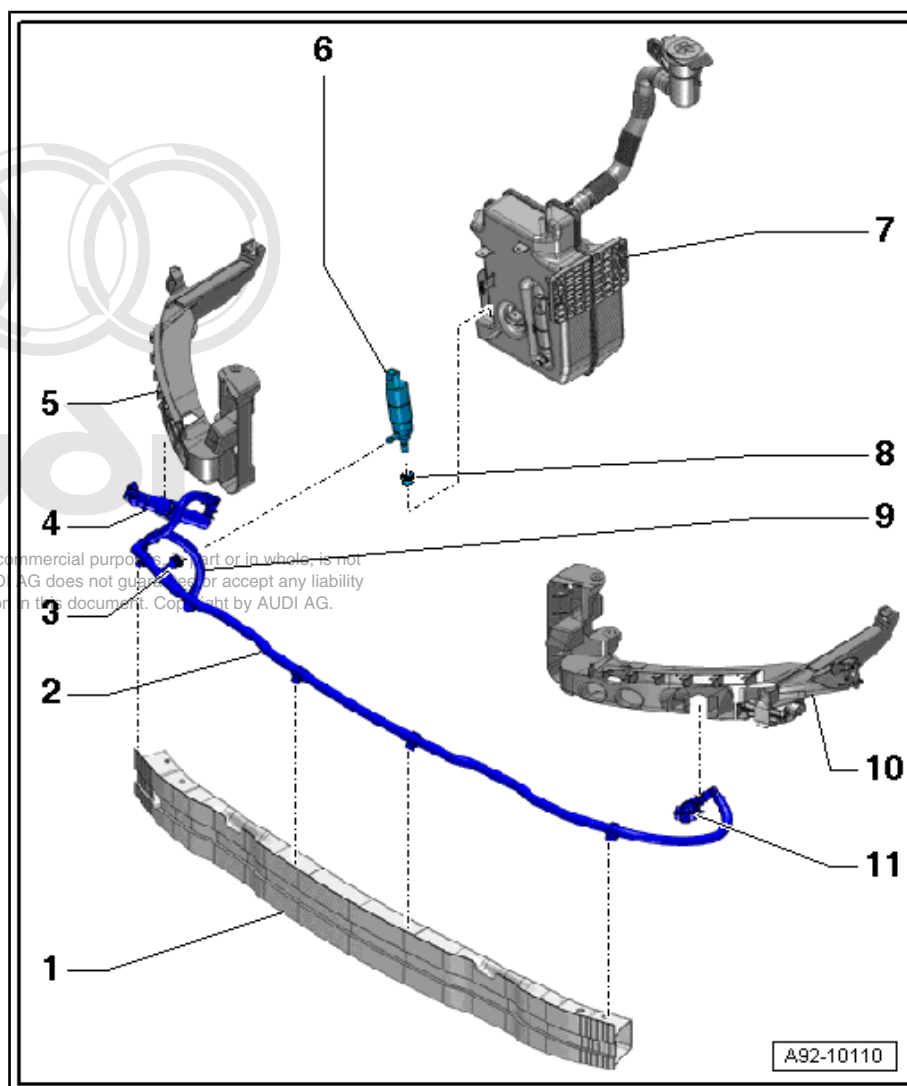
- ☐ For washer jet (right-side)

10 - Mounting (left-side)

- ☐ For washer jet and headlight

11 - Left washer jet

- ☐ Removing and installing
⇒ [page 89](#)



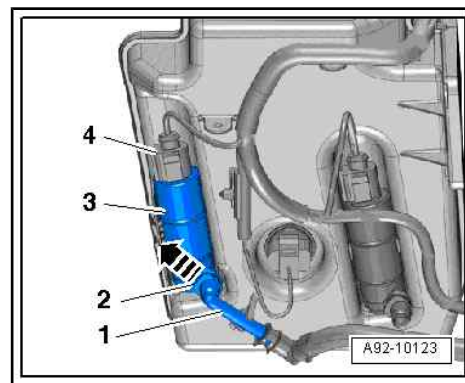
5.2 Removing and installing headlight washer system pump - V11-

Special tools and workshop equipment required

- ◆ Drip tray

Removing

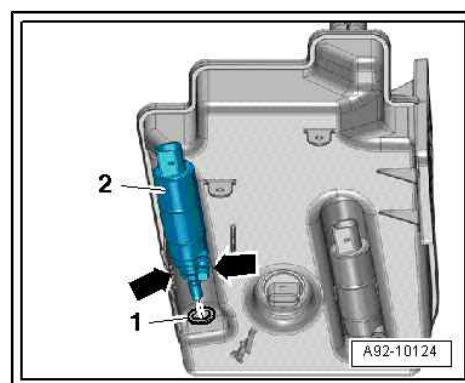
- Switch off ignition and remove ignition key.
- Remove front section of front right wheel housing liner ⇒ Rep. gr. 66 .
- Remove fog light ⇒ [page 116](#) .
- Unplug electrical connector -4-.
- Place drip tray under washer fluid reservoir.
- Release retaining clip -2- in direction of -arrow- and disconnect washer fluid hose -1- from headlight washer system pump.
- Lift headlight washer system pump - V11- -item 3- out of washer fluid reservoir.



Installing

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

- Check sealing grommet -1- for damage.
- Slide headlight washer system pump - V11- -item 2- into washer fluid reservoir from above; pump is guided by two retaining lugs -arrows-.
- Install fog light ⇒ [page 116](#) .
- Install front section of front right wheel housing liner ⇒ Rep. gr. 66 .



5.3 Removing and installing headlight washer jets

Left side of vehicle:

- Remove wheel housing liner (front) ⇒ Rep. gr. 66 .

Right side of vehicle:

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

Both sides of vehicle (continued):

- Place drip tray under washer jet.
- Press release tab -2- and detach fluid hose -1-.
- Press retaining springs upwards -arrows- to release them and at the same time pull washer jet -3- towards rear out of retainer.

Installing

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

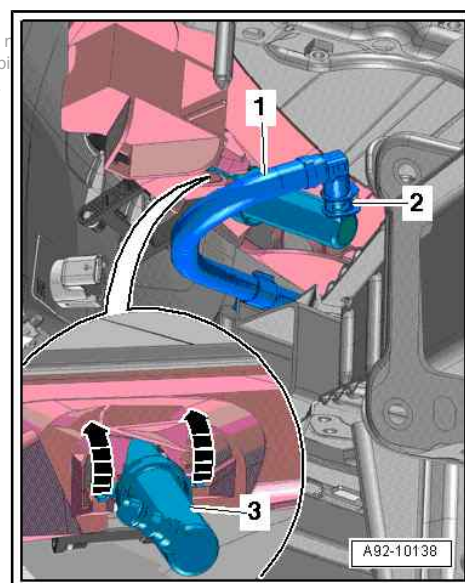
- Retaining springs on washer jet must engage audibly.

Left side of vehicle:

- Install front wheel housing liner ⇒ Rep. gr. 66 .

Right side of vehicle:

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



5.4 Adjusting washer jets



Note

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

5.5 Removing and installing washer fluid reservoir



Note

The washer fluid reservoir supplies both the windscreen and the headlight washer systems; it is located in the engine compartment (front right). Removing and installing

⇒ "4.3 Removing and installing washer fluid reservoir - vehicles without auxiliary heater", page 84



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6 Washer fluid hoses

⇒ Electrical system; General information; Rep. gr. 92 ; Washer fluid hoses



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94 – Lights, bulbs, switches - exterior

1 Contact corrosion

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

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

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

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

Please note:

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



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2 Halogen headlights

Observe notes on contact corrosion ⇒ [page 92](#) .

Note

The headlights must be adjusted after any repair work which could affect the headlight settings ⇒ [page 118](#) .

2.1 Exploded view - halogen headlight

1 - Bolt

- ☐ 4.5 Nm

2 - Mounting

- ☐ For headlight housing
- ☐ Removing and installing
⇒ [page 95](#)

3 - Adjuster nut

- ☐ To adjust headlight to bumper contour

4 - Breather

- ☐ For headlight housing

5 - Breather hose

- ☐ For headlight housing

6 - Bolt

- ☐ 4.5 Nm

7 - Front turn signal bulb

- ☐ Front left turn signal bulb - M5-
- ☐ Front right turn signal bulb - M7-
- ☐ 12 V, 24 W
- ☐ PSY24W
- ☐ Orange
- ☐ Renewing bulb
⇒ [page 99](#)

8 - Housing cover

- ☐ For main beam headlight and turn signal

9 - Bolt

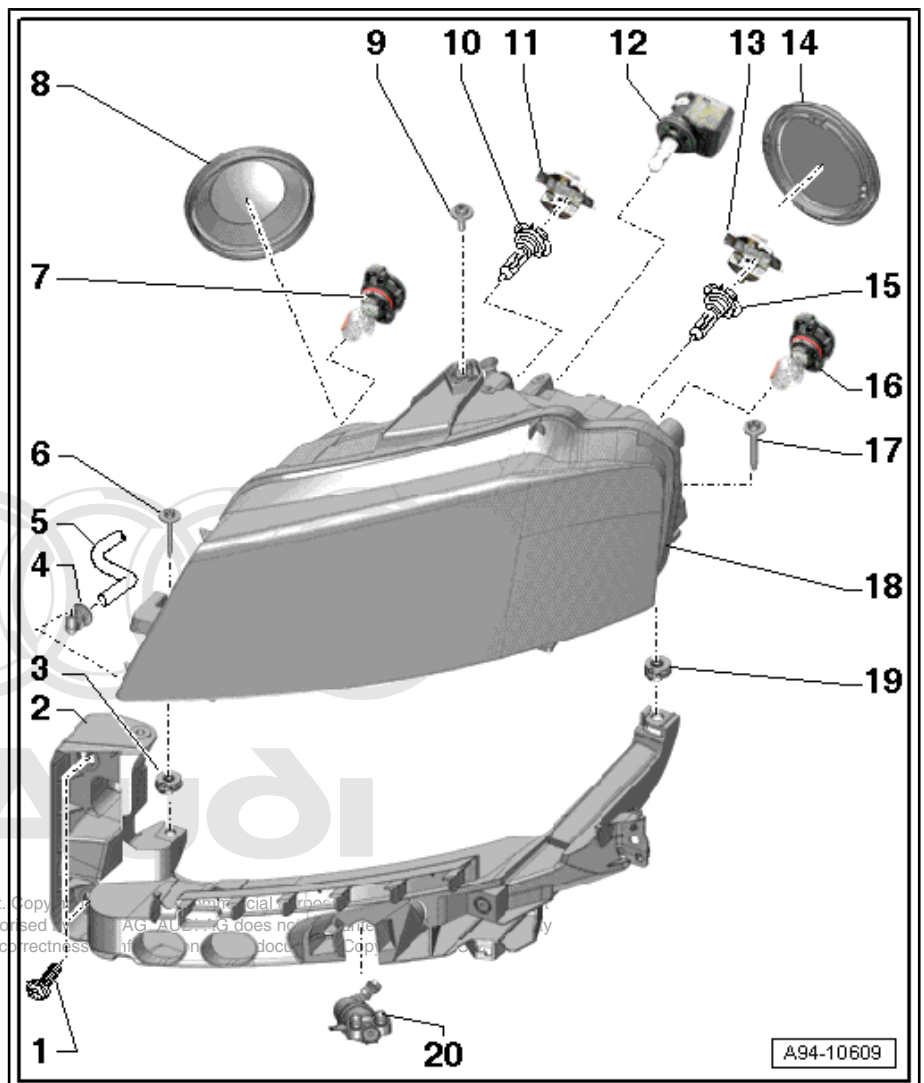
- ☐ 4.5 Nm

10 - Headlight main beam bulb

- ☐ Left headlight main beam bulb - M30-
- ☐ Right headlight main beam bulb - M32-
- ☐ H7 - 12 V, 55 W
- ☐ Renewing bulb ⇒ [page 97](#)

11 - Bulb holder

- ☐ For main beam bulb



12 - Headlight range control motor

- ☐ Left headlight range control motor - V48-
- ☐ Right headlight range control motor - V49-
- ☐ Removing and installing ⇒ [page 100](#)

13 - Bulb holder

- ☐ For dipped beam bulb

14 - Housing cover

- ☐ For dipped beam headlight and side light

15 - Headlight dipped beam bulb

- ☐ Left headlight dipped beam bulb - M29-
- ☐ Right headlight dipped beam bulb - M31-
- ☐ H7 - 12 V, 55 W
- ☐ Renewing bulb ⇒ [page 96](#)

16 - Daytime running light and side light bulb

- ☐ Bulb for left daytime running light and side light - L186-
- ☐ Bulb for right daytime running light and side light - L188-
- ☐ 12 V, 19 W
- ☐ PS19W
- ☐ Renewing bulb ⇒ [page 98](#)

17 - Bolt

- ☐ 4.5 Nm

18 - Headlight housing

- ☐ Removing and installing ⇒ [page 95](#)

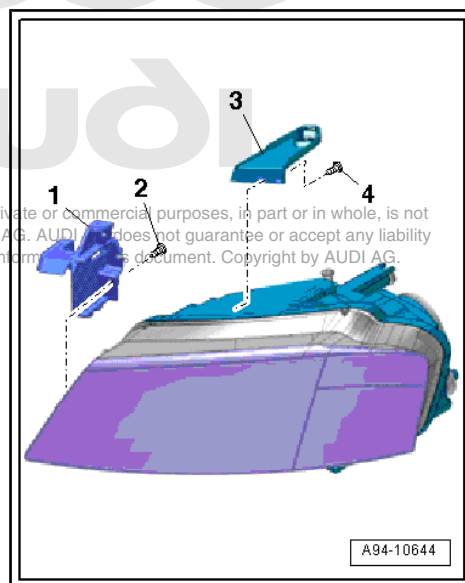
19 - Adjuster nut

- ☐ To adjust headlight to bumper contour

20 - Headlight washer jet**Tightening torques for repair kit for headlight housing**

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

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2.2 Removing and installing headlight housing

Removing

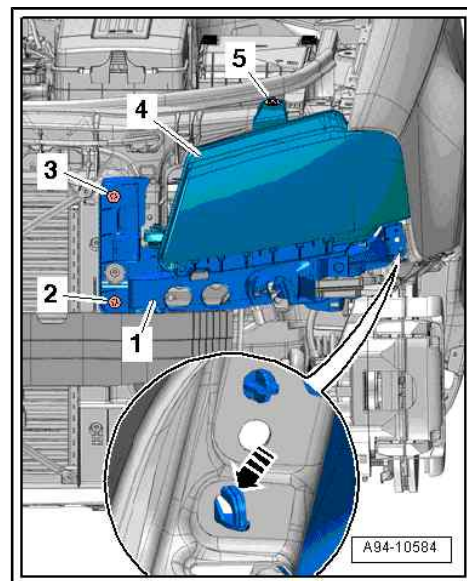
- Switch off ignition and remove ignition key.
- Turn light switch to position "0".
- Remove front bumper cover ⇒ Rep. gr. 63 .
- If fitted, remove headlight washer jet ⇒ [page 89](#) .
- Unplug electrical connector.
- Remove bolts -2, 3, 5-.
- Release retaining clip on rear side of wing -arrow- and take headlight housing -4- with mounting -1- out of body towards front.

Installing

- Tightening torque ⇒ [page 93](#)

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

- Insert headlight housing with mounting for headlight housing at lock carrier and wing and hand-tighten bolts -2, 3, 5-.
- Install front bumper cover ⇒ Rep. gr. 63 .
- Align gap widths of headlight housing in relation to body contour.
- Tighten bolts -2, 3, 5-.
- Adjust headlights ⇒ [page 118](#) .



2.3 Removing and installing mounting for headlight housing

Removing

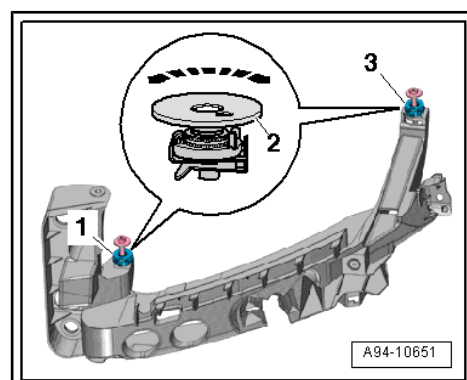
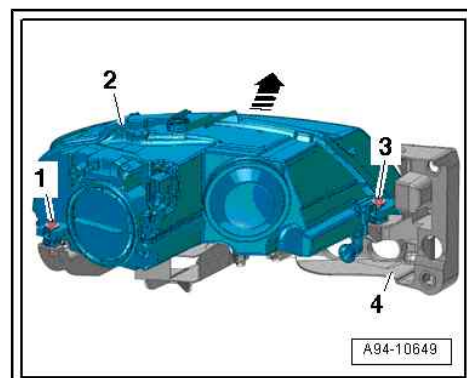
- Remove headlight housing ⇒ [page 95](#) .
- Remove bolts -1- and -3-.
- Swivel front of headlight housing -2- upwards -arrow- and detach headlight housing from mounting -4- .

Installing

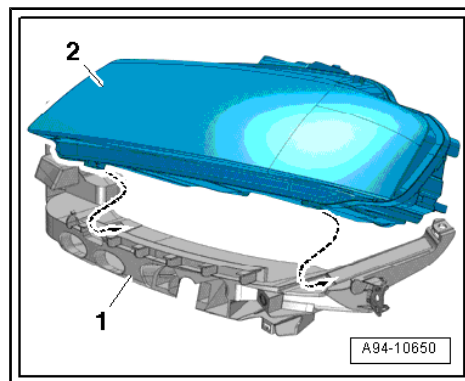
- Tightening torque ⇒ [page 93](#)

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

- Check that adjusting nuts -2- of adjuster elements -1- and -3- turn freely -arrows-.
- Screw down adjusting nuts as far as they will go, but do not tighten.



- When inserting headlight housing -2- in mounting -1-, make sure that guide rails on headlight housing engage in guides on mounting -arrows-.



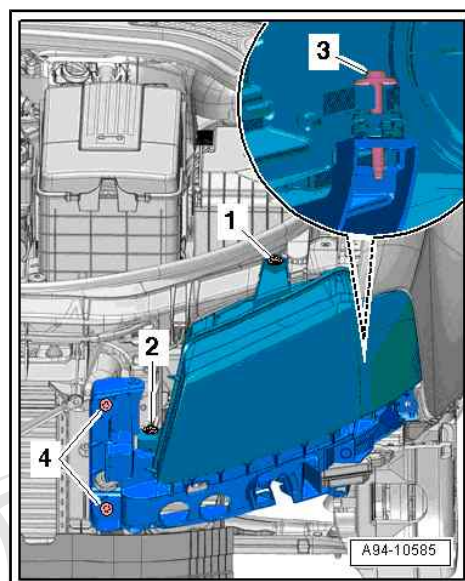
- Insert mounting with headlight housing at lock carrier and wing and hand-tighten bolts.
- Install front bumper cover ⇒ Rep. gr. 63 .
- Align gap widths of headlight housing in relation to body contour.
- Tighten bolts in sequence shown -1 ... 4-.



Note

When bolts -2- and -3- are tightened, the adjusting nuts of the adjuster elements automatically rotate against the mounting points of the headlight housing and fix it in place.

- Adjust headlights ⇒ [page 118](#) .

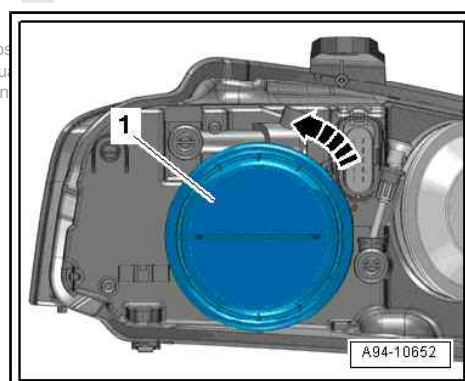


2.4 Renewing headlight dipped beam bulb - M29- / -M31-

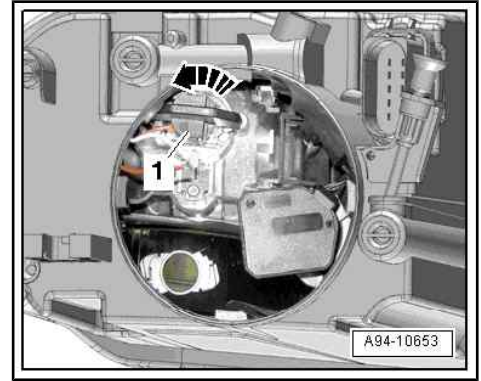
Removing

- Switch off ignition and remove ignition key.
- Turn light switch to position “0”.
- Turn housing cover -1- anti-clockwise -arrow- and detach from headlight housing.

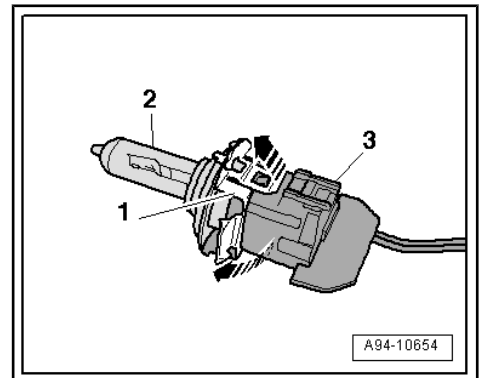
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- Turn bulb holder -1- anti-clockwise -arrow- and pull it out of housing.



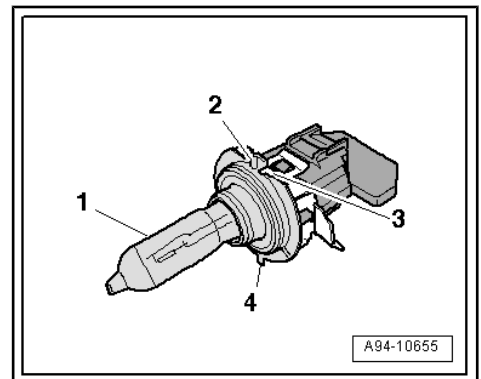
- Release retaining clips -arrows- and pull electrical connector -3- off bulb holder -1- with bulb -2-.



Installing

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

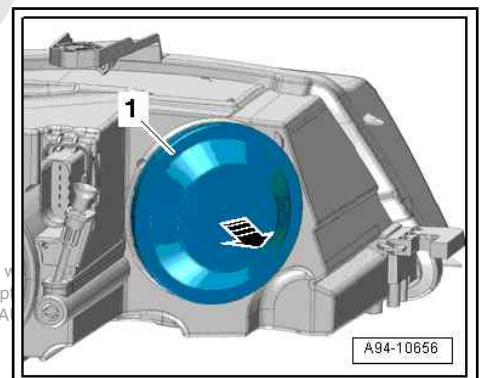
- Fit new bulb -1- in bulb holder and attach to electrical connector; lug -2- on bulb must make contact with stop -3- of bulb holder.
- Insert new bulb in housing; do not touch glass part of bulb with bare hands.
- Installation position: Lug -4- on bulb holder must face downwards.
- Close housing cover (turn clockwise).
- Make sure mark “TOP” is at top.



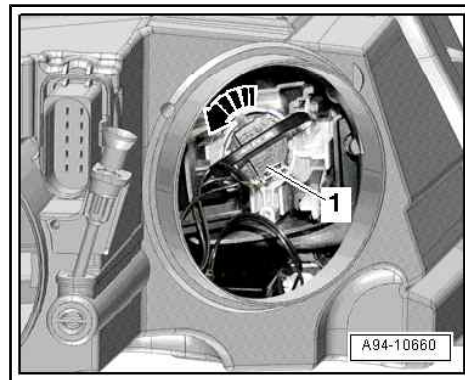
2.5 Renewing headlight main beam bulb - M30- / -M32-

Removing

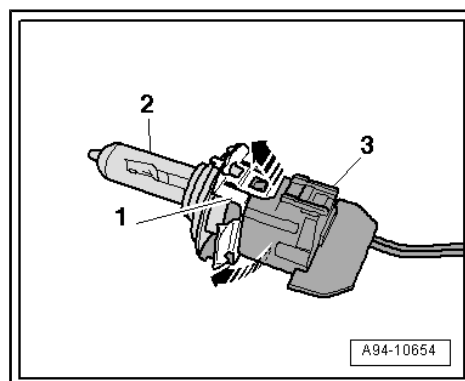
- Switch off ignition and remove ignition key.
- Turn light switch to position “0”.
- Remove air cleaner housing on left headlight: vehicles with petrol engine ⇒ Rep. gr. 24 ; vehicles with TDI engine ⇒ Rep. gr. 23 .
- Detach housing cover -1- for main beam headlight from headlight housing -arrow-.



- Turn bulb holder -1- anti-clockwise -arrow- and pull it out of housing.



- Release retaining clips -arrows- and pull electrical connector -3- off bulb holder -1- with bulb -2-.

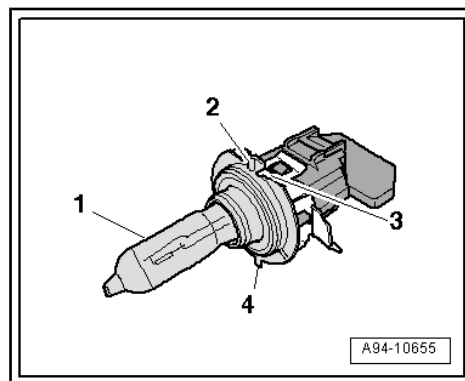


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Installing

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

- Fit new bulb -1- in bulb holder and attach to electrical connector; lug -2- on bulb must make contact with stop -3- of bulb holder.
- Insert new bulb in housing; do not touch glass part of bulb with bare hands.
- Installation position: Lug -4- on bulb holder must face to the left and upwards.
- Close housing cover.
- Install air cleaner housing on left headlight: vehicles with petrol engine ⇒ Rep. gr. 24 ; vehicles with TDI engine ⇒ Rep. gr. 23 .

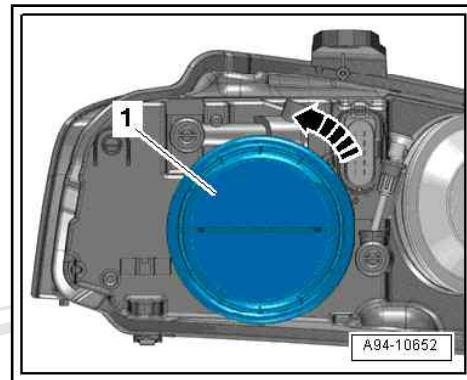


2.6 Renewing bulb for daytime running light and side light -L186- / -L188-

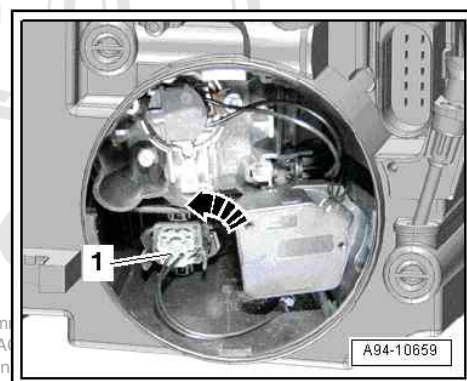
Removing

- Switch off ignition and remove ignition key.
- Turn light switch to position "0".
- Remove wheel housing liner (front) ⇒ Rep. gr. 66 .

- Turn housing cover -1- anti-clockwise -arrow- and detach from headlight housing.



- Turn bulb holder -1- anti-clockwise -arrow- and pull it out of housing.

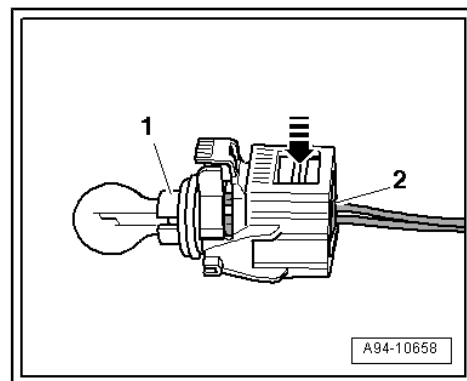


- Press down release mechanism -arrow- and pull electrical connector -2- off bulb -1-.

Installing

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

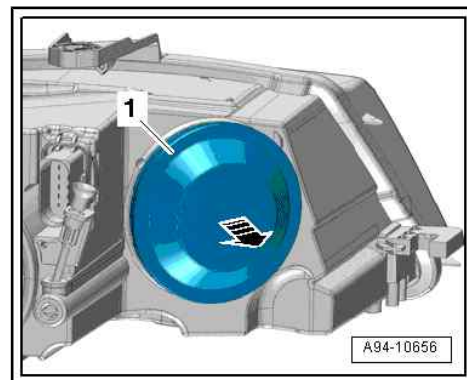
- Insert new bulb in housing; do not touch glass part of bulb with bare hands.
- Close housing cover (turn clockwise).
- Make sure mark "TOP" is at top.
- Install front wheel housing liner ⇒ Rep. gr. 66 .



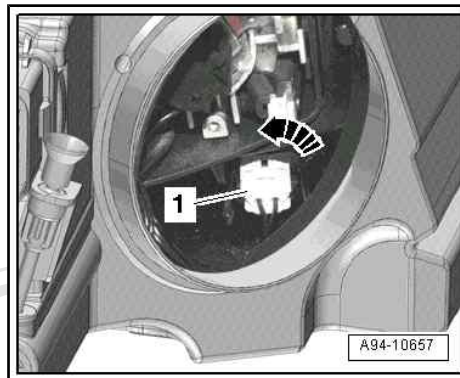
2.7 Renewing front turn signal bulb -M5- / -M7-

Removing

- Switch off ignition and remove ignition key.
- Turn light switch to position "0".
- Remove air cleaner housing on left headlight: vehicles with petrol engine ⇒ Rep. gr. 24 ; vehicles with TDI engine ⇒ Rep. gr. 23 .
- Detach housing cover -1- for main beam headlight from headlight housing -arrow-.



- Turn bulb holder -1- anti-clockwise -arrow- and pull it out of housing.

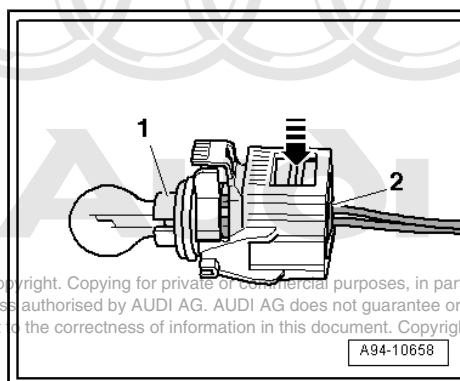


- Press down release mechanism -arrow- and pull electrical connector -2- off bulb -1-.

Installing

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

- Insert new bulb in housing; do not touch glass part of bulb with bare hands.
- Close housing cover.
- Install air cleaner housing on left headlight: vehicles with petrol engine ⇒ Rep. gr. 24 ; vehicles with TDI engine ⇒ Rep. gr. 23 .

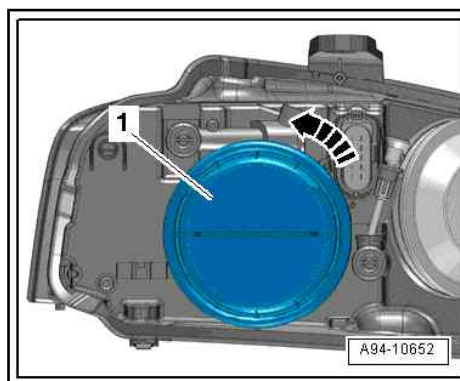


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2.8 Removing and installing headlight range control motor -V48- / -V49-

Removing

- Switch off ignition and remove ignition key.
- Turn light switch to position "0".
- Remove wheel housing liner (front) ⇒ Rep. gr. 66 .
- Turn housing cover -1- anti-clockwise -arrow- and detach from headlight housing.



- Release headlight range control motor -1-: at left headlight by turning anti-clockwise -arrow-; at right headlight by turning clockwise.
- Press ball head -2- of actuator shaft out of its mounting -3- by pivoting control motor to the side.

i Note

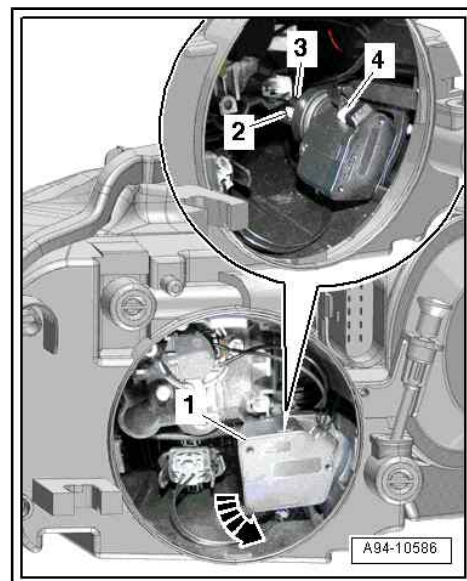
On some versions, a release lever has to be operated in order to disengage the ball head.

- Remove headlight range control motor from headlight housing.
- Unplug electrical connector -4-.

Installing

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

- Start by inserting ball head of actuator shaft into ball head mounting of reflector from the side; to do so, pull reflector to rear.
- Position quick-release fastener of headlight range control motor on headlight housing.
- Engage headlight range control motor for left headlight by turning clockwise, for right headlight by turning anti-clockwise.
- Close housing cover (turn clockwise).
- Make sure mark "TOP" is at top.
- Install front wheel housing liner ⇒ Rep. gr. 66 .
- Following installation, adjust headlights ⇒ [page 118](#) .



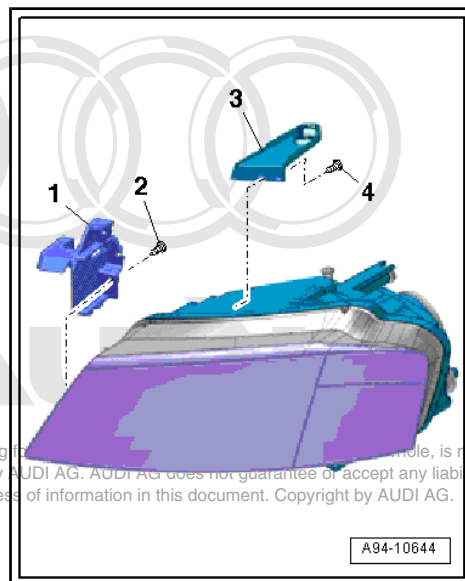
2.9 Installing repair kit for headlight housing

i Note

- ◆ *Broken-off headlight retaining tabs can be renewed by installing repair kit. Renewing the entire headlight is then not necessary.*
- ◆ *Different repair kits are available for both headlights (left-side or right-side) ⇒ Electronic parts catalogue .*

Procedure

- Tightening torque ⇒ [page 94](#)
- Remove headlight with broken retaining tab ⇒ [page 95](#) .
- Remove rest of broken retaining tab from headlight housing.
- Fit retaining tab -1/-3- from repair kit on headlight housing and secure tab with bolt -2/-4-.



2.10 Adapting headlights for driving on the left side of the road

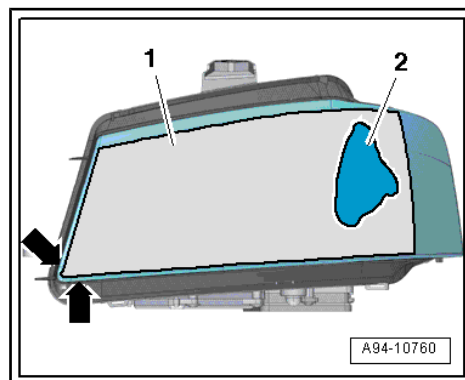
- ◆ In countries where vehicles are driven on the opposite side of the road to the vehicle's normal environment, both headlights must be partially masked by appropriately shaped opaque adhesive strips to prevent oncoming traffic from being dazzled by the asymmetric dipped beams.
- ◆ There are different masking elements available for adapting headlights for left and right-hand traffic (adhesive elements for headlight lens) ⇒ Electronic parts catalogue .

Procedure

- Clean headlight lenses on both sides of vehicle (must be clean and dry).
- Perform basic setting of headlights ⇒ [page 118](#) .

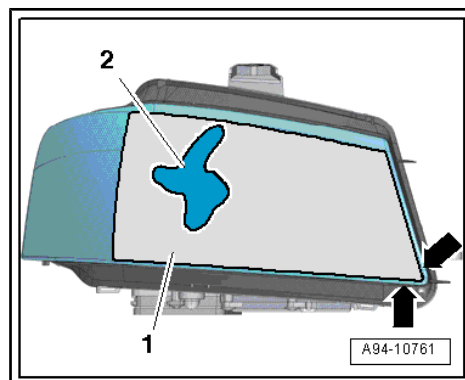
Headlight (driver side):

- Remove protective backing from masking foil for headlight.
- Apply masking foil -1- at edge of headlight lens -arrows-, as shown in illustration.
- Adhere masking foil -2- on headlight lens.



Headlight (passenger side):

- Remove protective backing from masking foil for headlight.
- Apply masking foil -1- at edge of headlight lens -arrows-, as shown in illustration.
- Adhere masking foil -2- on headlight lens.



2.11 Adapting headlights for driving on the right side of the road

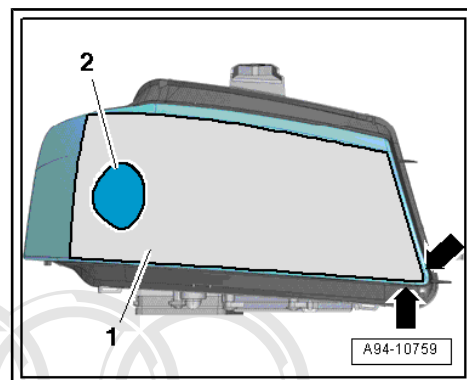
- ◆ In countries where vehicles are driven on the opposite side of the road to the vehicle's normal environment, both headlights must be partially masked by appropriately shaped opaque adhesive strips to prevent oncoming traffic from being dazzled.
- ◆ There are different masking elements available for adapting headlights for left and right-hand traffic (adhesive elements for headlight lens) ⇒ Electronic parts catalogue .

Procedure

- Clean headlight lenses on both sides of vehicle (must be clean and dry).
- Perform basic setting of headlights ⇒ [page 118](#) .

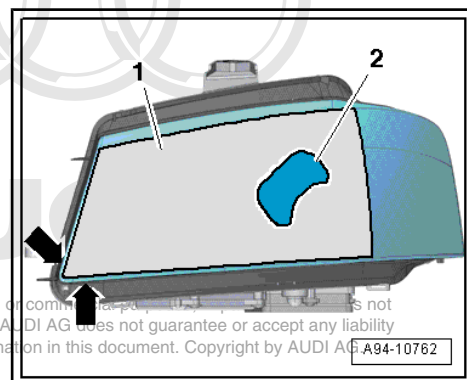
Headlight (driver side):

- Remove protective backing from masking foil for headlight.
- Apply masking foil -1- at edge of headlight lens -arrows-, as shown in illustration.
- Adhere masking foil -2- on headlight lens.



Headlight (passenger side):

- Remove protective backing from masking foil for headlight.
- Apply masking foil -1- at edge of headlight lens -arrows-, as shown in illustration.
- Adhere masking foil -2- on headlight lens.



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3 Bi-xenon gas discharge headlights with cornering light

Observe notes on contact corrosion ⇒ [page 92](#) .



Note

The headlights must be adjusted after any repair work which could affect the headlight settings ⇒ [page 118](#) .

3.1 Safety precautions when handling gas discharge bulbs

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

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

1 - Bolt

- ☐ 4.5 Nm

2 - Mounting

- ☐ For headlight housing
- ☐ Removing and installing ⇒ [page 95](#)

3 - Adjuster nut

- ☐ To adjust headlight to bumper contour

4 - Bolt

- ☐ 1.4 Nm

5 - Output module for headlight

- ☐ Only on vehicles with cornering light
- ☐ Output module for left headlight - J667-
- ☐ Output module for right headlight - J668-
- ☐ Removing and installing ⇒ [page 112](#)

6 - Seal

7 - Breather

- ☐ For headlight housing

8 - Breather hose

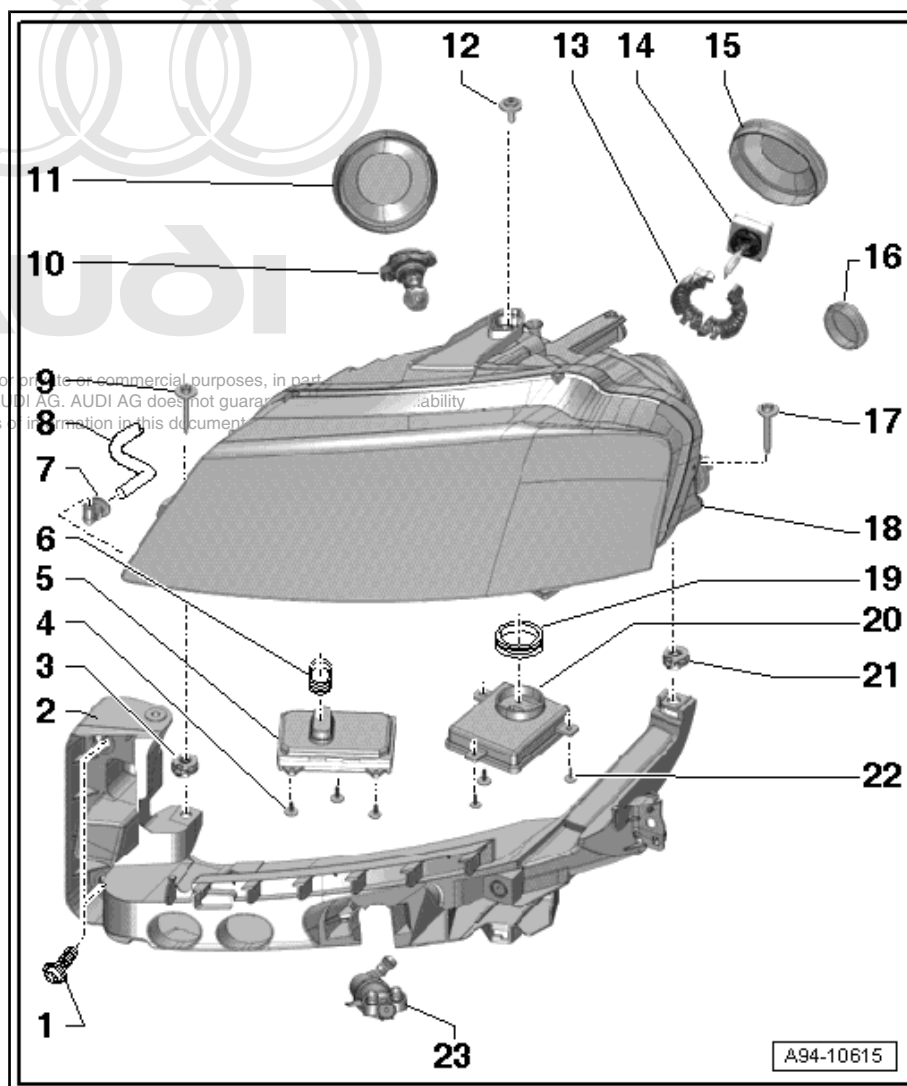
- ☐ For headlight housing

9 - Bolt

- ☐ 4.5 Nm

10 - Front turn signal bulb

- ☐ Front left turn signal bulb - M5-
- ☐ Front right turn signal bulb - M7-
- ☐ 12 V, 24 W
- ☐ PSY24W



- ☐ Orange
- ☐ Renewing bulbs ⇒ [page 110](#)

11 - Housing cover

- ☐ For turn signal

12 - Bolt

- ☐ 4.5 Nm

13 - Adapter ring

- ☐ For gas discharge bulb

14 - Gas discharge bulb

- ☐ With integrated starter unit
- ☐ Left gas discharge (xenon) bulb - L13-
- ☐ Right gas discharge (xenon) bulb - L14-
- ☐ 42 V, 35 W (D3S)
- ☐ Renewing bulbs ⇒ [page 108](#)

15 - Housing cover

- ☐ For dipped beam headlights

16 - Housing cover

17 - Bolt

- ☐ 4.5 Nm

18 - Headlight housing

- ☐ The daytime running light and side light bulbs (LED lights) are integrated in the headlight housing. The LED lights cannot be renewed separately; the headlight must be renewed as a complete unit.
- ☐ Control unit for left daytime running light and side light - J860- and control unit for right daytime running light and side light - J861- are integrated in headlight housing. They cannot be renewed separately; the headlight must be renewed as a complete unit.
- ☐ Removing and installing ⇒ [page 106](#)

19 - Seal

20 - Gas discharge bulb control unit

- ☐ Left gas discharge bulb control unit - J343-
- ☐ Right gas discharge bulb control unit - J344-
- ☐ Removing and installing ⇒ [page 111](#)

21 - Adjuster nut

- ☐ To adjust headlight to bumper contour

22 - Bolt

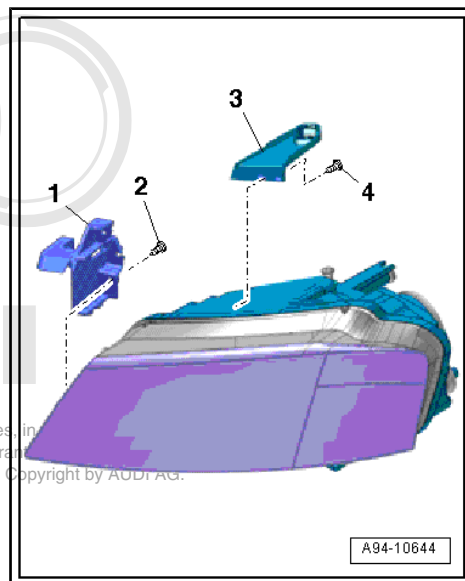
- ☐ 1.4 Nm

23 - Headlight washer jet

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Tightening torques for repair kit for headlight housing

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



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3.3 Removing and installing headlight housing

Removing



WARNING

High voltage! Danger to life!

- ◆ **Ensure that any part of the gas discharge headlights marked with yellow high-voltage warning symbols are de-energised when you are working on them.**
- ◆ **Switch off ignition and all electrical equipment, and remove ignition key.**
- ◆ **Do not flash the headlights.**

- Turn light switch to position "0".
- Switch off ignition and all electrical equipment, and remove ignition key.
- Do not flash the headlights.
- Remove front bumper cover ⇒ Rep. gr. 63 .

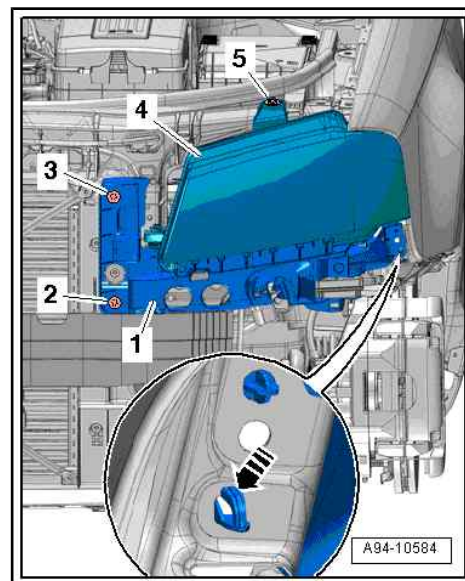
- If fitted, remove headlight washer jet ⇒ [page 89](#) .
- Unplug electrical connector.
- Remove bolts -2, 3, 5-.
- Release retaining clip on rear side of wing -arrow- and take headlight housing -4- with mounting -1- out of body towards front.

Installing

- Tightening torque ⇒ [page 104](#)

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

- Insert headlight housing with mounting for headlight housing at lock carrier and wing and hand-tighten bolts -2, 3, 5-.
- Install front bumper cover ⇒ Rep. gr. 63 .
- Align gap widths of headlight housing in relation to body contour.
- Tighten bolts -2, 3, 5-.
- Adjust headlights ⇒ [page 118](#) .



3.4 Removing and installing mounting for headlight housing

Removing

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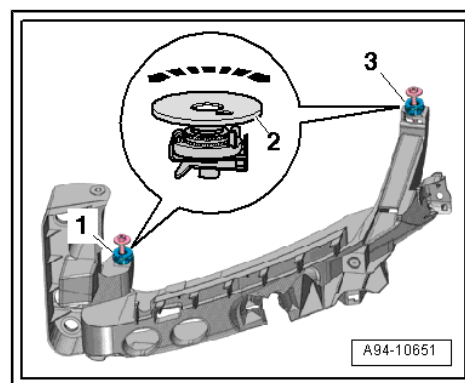
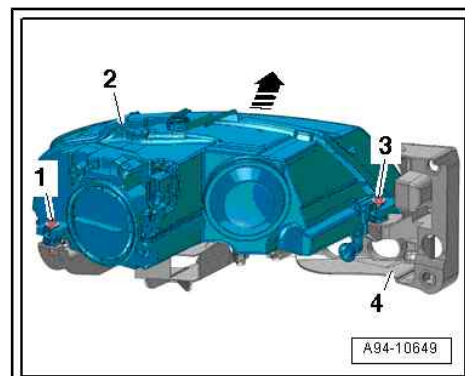
- Remove headlight housing ⇒ [page 106](#) .
- Remove bolts -1- and -3-.
- Swivel front of headlight housing -2- upwards -arrow- and detach headlight housing from mounting -4- .

Installing

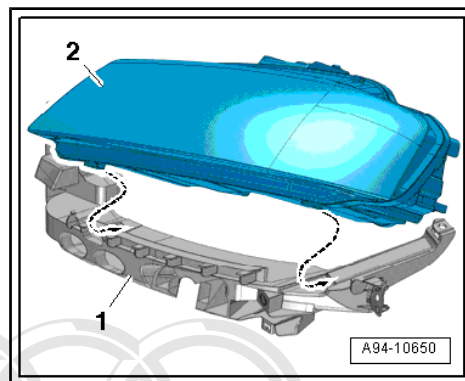
- Tightening torque ⇒ [page 104](#)

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

- Check that adjusting nuts -2- of adjuster elements -1- and -3- turn freely -arrows-.
- Screw down adjusting nuts as far as they will go, but do not tighten.



- When inserting headlight housing -2- in mounting -1-, make sure that guide rails on headlight housing engage in guides on mounting -arrows-.



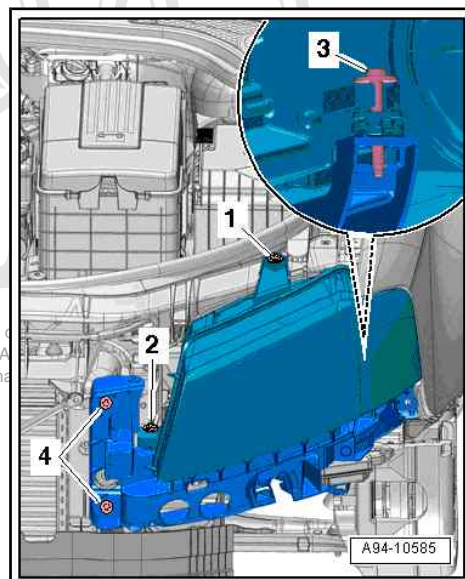
- Insert mounting with headlight housing at lock carrier and wing and hand-tighten bolts.
- Install front bumper cover ⇒ Rep. gr. 63 .
- Align gap widths of headlight housing in relation to body contour.
- Tighten bolts in sequence shown -1 ... 4-.



Note

When bolts -2- and -3- are tightened, the adjusting-nuts of the adjuster elements automatically rotate against the mounting points of the headlight housing and fix it in place.

- Adjust headlights ⇒ [page 118](#) .



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

Removing



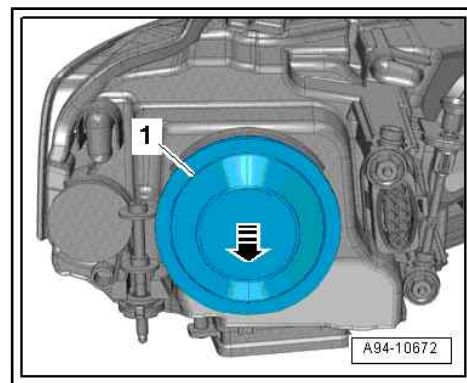
WARNING

High voltage! Danger to life! Observe environmental requirements.

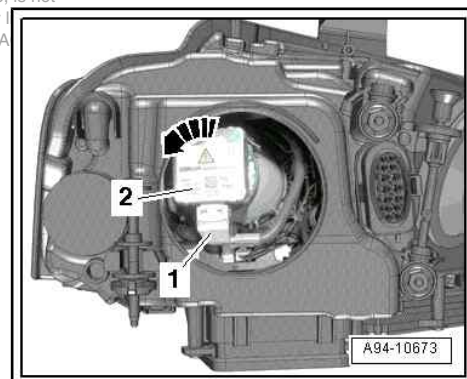
- ◆ **Safety precautions when handling gas discharge bulbs ⇒ Electrical system; General information; Rep. gr. 94 ; Safety precautions when handling gas discharge bulbs**

- Turn light switch to position “0”.
- Switch off ignition and all electrical equipment, and remove ignition key.
- Do not flash the headlights.

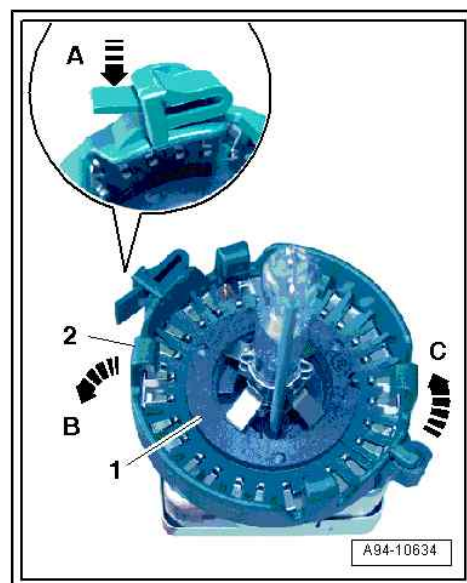
- Remove wheel housing liner (front) ⇒ Rep. gr. 66 .
- Detach housing cover -1- for dipped beam headlight from headlight housing -arrow-.



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- Turn gas discharge bulb -2- in direction of -arrow- and take out of housing.
 - Unplug electrical connector -1-.



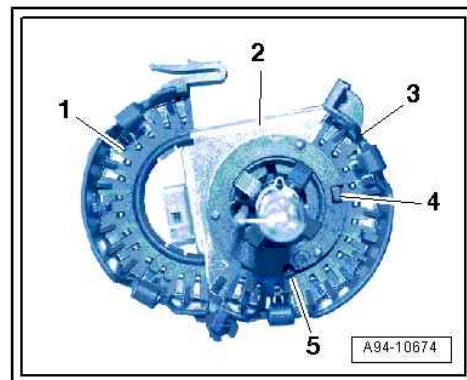
- Release retaining clip -arrow A- and open adapter ring -2- -arrow B-.
- Disengage adapter ring at gas discharge bulb -1- -arrow C-.



Installing

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

- Position one half of adapter ring -3- with locating lugs at gas discharge bulb -2-.
- Locating lugs -4- and -5- must be inserted in mountings.
- Close second half -1- of adapter ring until it engages audibly.
- Plug connector in again and insert new gas discharge bulb in housing; do not touch glass part of bulb with bare hands.
- Installation position: The electrical connection faces downwards.
- Install front wheel housing liner ⇒ Rep. gr. 66 .



3.6 Renewing LED module for daytime running light and side light -L176- / -L177-

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

- Renew headlight housing ⇒ [page 106](#) .

3.7 Removing and installing dip beam screen motor -V294- / -V295-

The dip beam screen motor is located in the headlight housing and cannot be renewed separately in the event of a fault.

- Renew headlight housing ⇒ [page 106](#) .

3.8 Removing and installing headlight range control motor - V48- / -V49- - vehicles without cornering lights

The headlight range control motor cannot be renewed separately if defective.

- Renew headlight housing ⇒ [page 106](#) .

3.9 Removing and installing dynamic cornering light control motor -V318- / -V319- - vehicles with cornering lights

The dynamic cornering light control motor cannot be renewed separately if defective.

- Renew headlight housing ⇒ [page 106](#) .

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



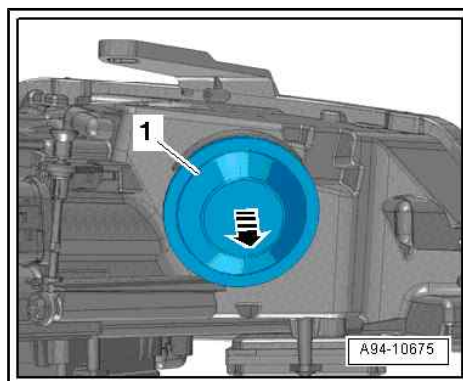
WARNING

High voltage! Danger to life!

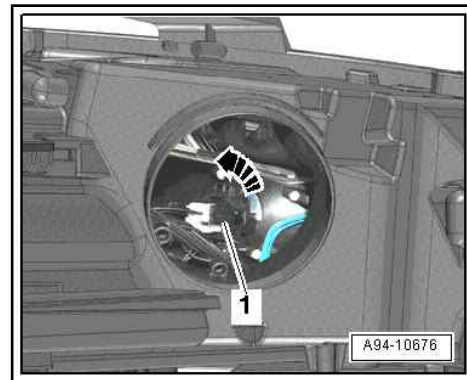
- ◆ **Ensure that any part of the gas discharge headlights marked with yellow high-voltage warning symbols are de-energised when you are working on them.**
- ◆ **Switch off ignition and all electrical equipment, and remove ignition key.**
- ◆ **Do not flash the headlights.**

Removing

- Turn light switch to position “0”.
- Switch off ignition and all electrical equipment, and remove ignition key.
- Do not flash the headlights.
- Remove air cleaner housing on left headlight: vehicles with petrol engine ⇒ Rep. gr. 24 ; vehicles with TDI engine ⇒ Rep. gr. 23 .
- Detach housing cover -1- for main beam headlight from headlight housing -arrow-.



- Turn bulb holder -1- anti-clockwise -arrow- and pull it out of housing.

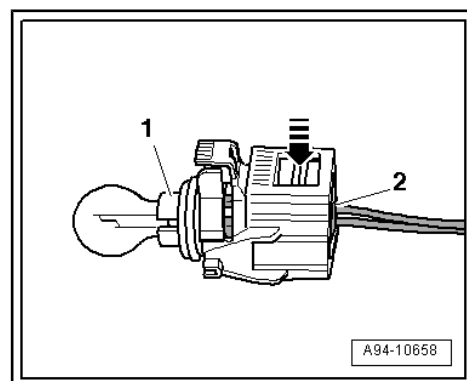


- Press down release mechanism -arrow- and pull electrical connector -2- off bulb -1-.

Installing

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

- Insert new bulb in housing; do not touch glass part of bulb with bare hands.
- Close housing cover.
- Install air cleaner housing on left headlight: vehicles with petrol engine ⇒ Rep. gr. 24 ; vehicles with TDI engine ⇒ Rep. gr. 23 .



3.11 Removing and installing gas discharge bulb control unit -J343- / -J344-

Removing



WARNING

High voltage! Danger to life!

- ◆ **Ensure that any part of the gas discharge headlights marked with yellow high-voltage warning symbols are de-energised when you are working on them.**
- ◆ **Switch off ignition and all electrical equipment, and remove ignition key.**
- ◆ **Do not flash the headlights.**

- Remove headlight housing ⇒ [page 106](#) .

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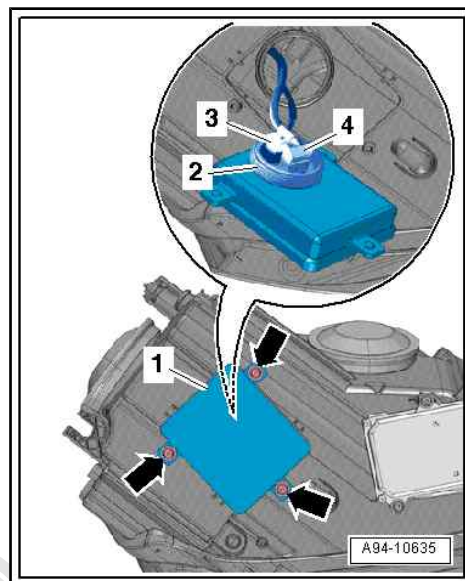
- Remove bolts -arrows-.
- Pull control unit -1- off headlight housing.
- Disconnect adapter cable -4- and electrical connector -3- at gas discharge bulb control unit.
- Detach gas discharge bulb control unit.

Installing

- Tightening torque ⇒ [page 104](#)

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

- Check seal -2- between gas discharge bulb control unit and headlight housing for damage.
- Install headlight housing ⇒ [page 106](#) .



3.12 Removing and installing output module for headlight -J667- / -J668-

Removing



WARNING

High voltage! Danger to life!

- ◆ **Ensure that any part of the gas discharge headlights marked with yellow high-voltage warning symbols are de-energised when you are working on them.**
- ◆ **Switch off ignition and all electrical equipment, and remove ignition key.**
- ◆ **Do not flash the headlights.**

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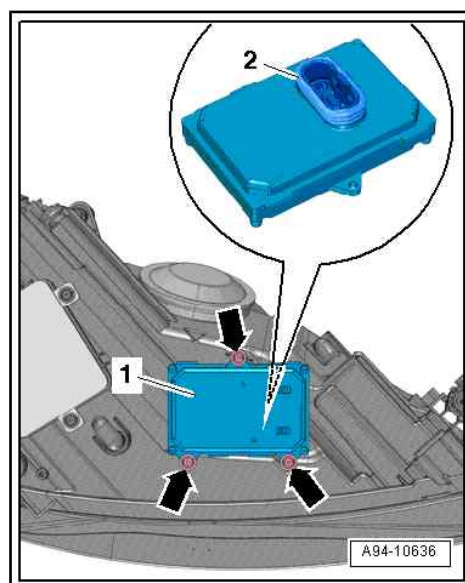
- Remove headlight housing ⇒ [page 106](#) .
- Remove bolts -arrows-.
- Detach output module -1- for headlights from headlight housing.

Installing

- Tightening torque ⇒ [page 104](#)

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

- Check seal -2- between output module and headlight housing.
- Install headlight housing ⇒ [page 106](#) .



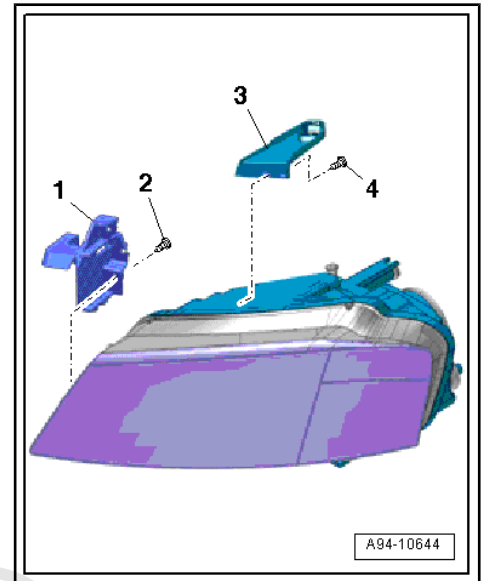
3.13 Installing repair kit for headlight housing

Note

- ◆ Broken-off headlight retaining tabs can be renewed by installing repair kit. Renewing the entire headlight is then not necessary.
- ◆ Different repair kits are available for both headlights (left-side or right-side) ⇒ *Electronic parts catalogue*.

Procedure

- Tightening torque ⇒ [page 106](#)
- Remove headlight with broken retaining tabs ⇒ [page 106](#).
- Remove remaining parts of broken retaining tabs from headlight housing.
- Fit retaining tab -1/-3- from repair kit on headlight housing and secure tab with bolt -2/-4-.



3.14 Adapting headlights for driving on the left or right side of the road - rest-of-the-world vehicles

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

Procedure

- When changing headlight settings select “headlamp converter” in “Guided Functions” mode ⇒ *Vehicle diagnostic tester*.

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4 Automatic headlight range control

4.1 Overview - automatic headlight range control

1 - Right headlight range control motor - V49-

- ☐ Cannot be renewed separately

2 - Electrical connector

3 - Headlight range control unit - J431-

- ☐ Fitting location: at front of central tube for dash panel in driver's footwell
- ☐ Removing and installing
⇒ [page 114](#)

4 - Bolt

- ☐ 3 Nm

5 - Bolt

- ☐ 3 Nm

6 - Rear left vehicle level sender - G76-

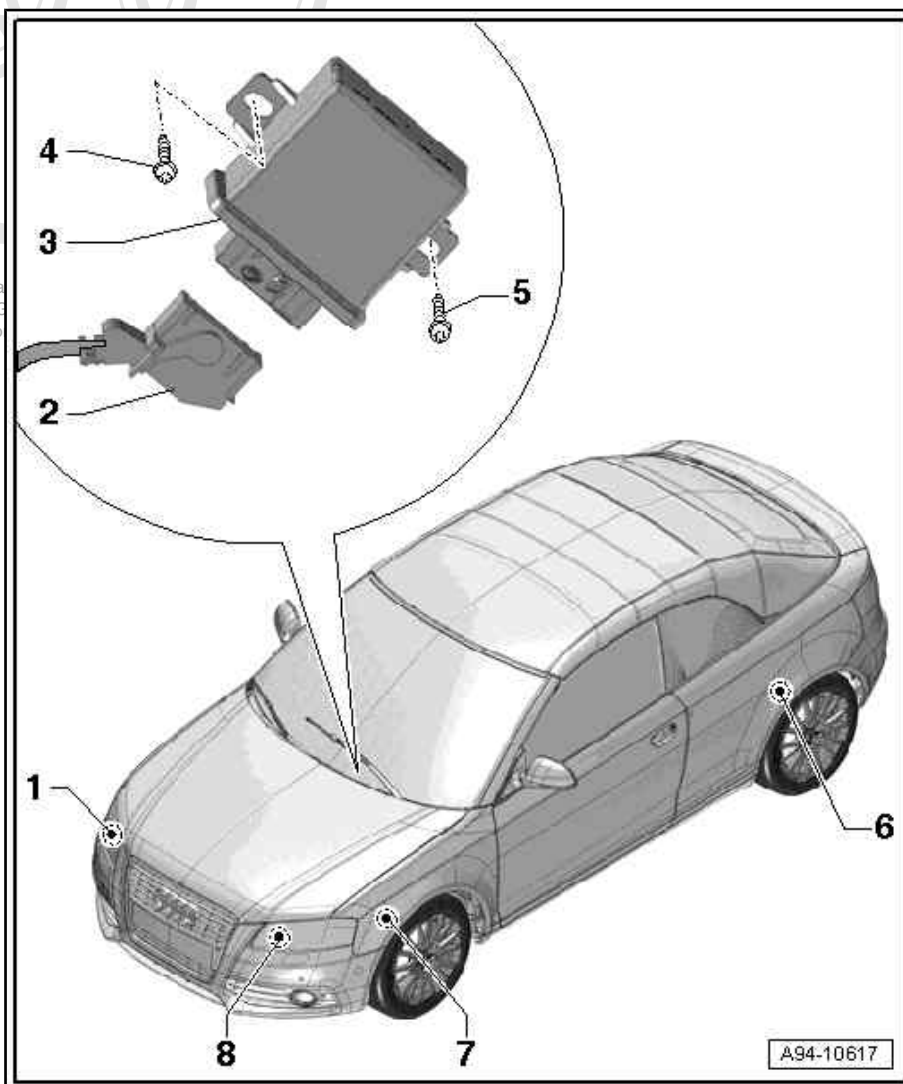
- ☐ Fitting location: On rear left transverse link
- ☐ Removing and installing
⇒ Rep. gr. 42

7 - Front left vehicle level sender - G78-

- ☐ Fitting location: On front left wishbone
- ☐ Removing and installing
⇒ Rep. gr. 40

8 - Left headlight range control motor - V48-

- ☐ Cannot be renewed separately



A94-10617

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

- If control unit is being renewed, select function "Replace" for corresponding control unit in "Guided Fault Finding" or "Guided Functions" mode ⇒ Vehicle diagnostic tester.

Removing

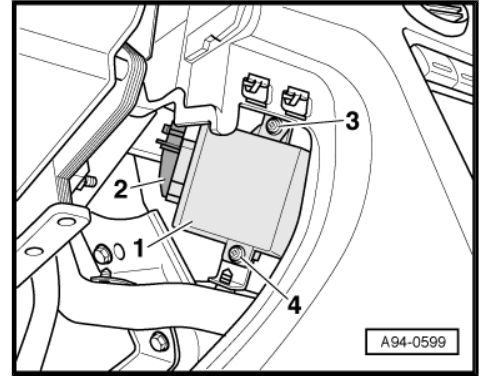
- Remove dash panel cover (driver side) ⇒ Rep. gr. 68 .
- Unplug electrical connector -2-.
- Unscrew bolts -3- and -4- and detach control unit for headlight range control - J431- -item 1-.

Installing

- Tightening torque ⇒ [page 114](#)

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

- Install dash panel cover (driver side) ⇒ Rep. gr. 68 .



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5 Fog lights

5.1 Exploded view - fog light

1 - Air intake grille

2 - Bolt

- 6 Nm

3 - Fog light

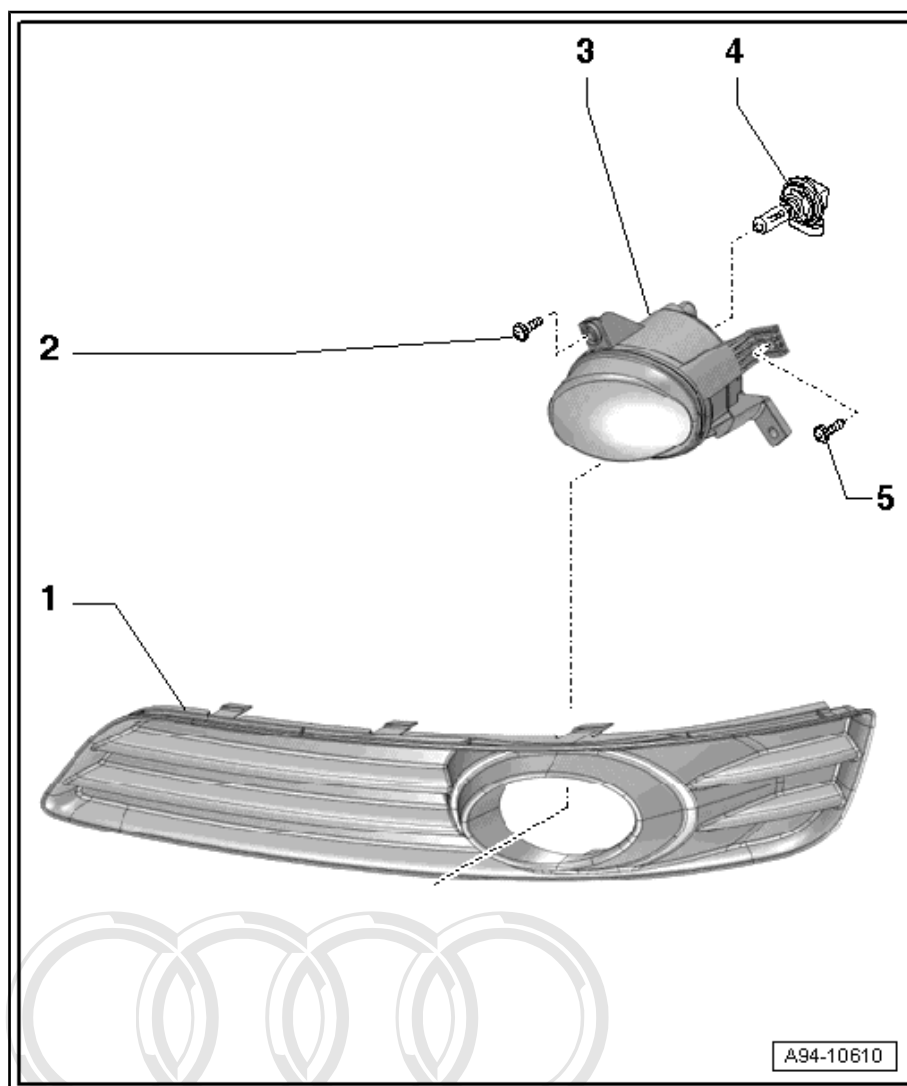
- Removing and installing
⇒ [page 116](#)

4 - Fog light bulb

- Left fog light bulb - L22-
- Right fog light bulb - L23-
- H11 - 12 V, 55 W
- Removing and installing
⇒ [page 117](#)

5 - Bolt

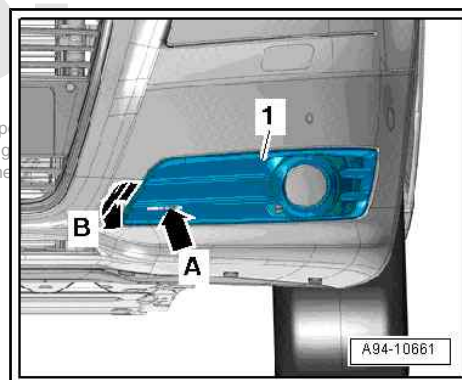
- 6 Nm



5.2 Removing and installing fog lights

Removing

- Switch off ignition and remove ignition key.
- Turn light switch to position “0”.
- Reach into opening -arrow A- and pull air intake grille -1- at bottom out of bumper -arrow B-.



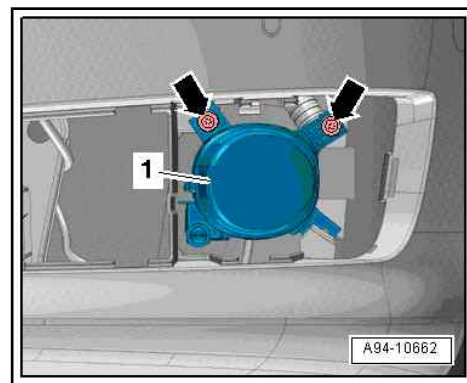
- Remove bolts -arrows-.
- Remove fog light housing -1- from bumper.
- Unplug electrical connector.

Installing

- Tightening torque ➔ [page 116](#)

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

- Adjust fog lights ➔ [page 118](#) .



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

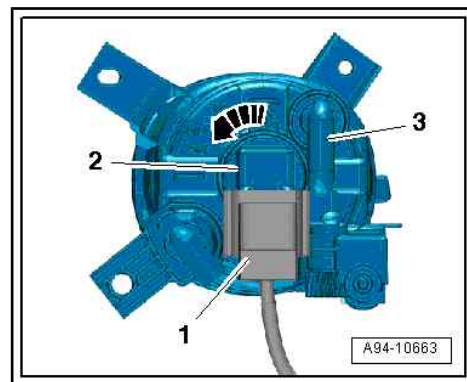
Removing

- Remove fog light ➔ [page 116](#) .
- Unplug electrical connector -1- at bulb.
- Detach breather hose -3- from fog light (left-side).
- Turn bulb -2- anti-clockwise -arrow- and pull it out of fog light housing.

Installing

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

- Insert new bulb in housing; do not touch glass part of bulb with bare hands.
- Secure bulb by turning clockwise.
- Attach breather hose to fog light (left-side).
- Install fog light ➔ [page 116](#) .



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6 Adjusting headlight settings

⇒ [“6.1 Adjusting headlights”, page 118](#)

⇒ [“6.2 Adjusting halogen headlights”, page 118](#)

⇒ [“6.3 Adjusting gas discharge headlights”, page 120](#)

⇒ [“6.4 Adjusting fog lights”, page 123](#)

6.1 Adjusting headlights

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

6.2 Adjusting halogen headlights

Requirements for checking and adjusting

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

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

- One person or 75 kg.

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

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

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

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

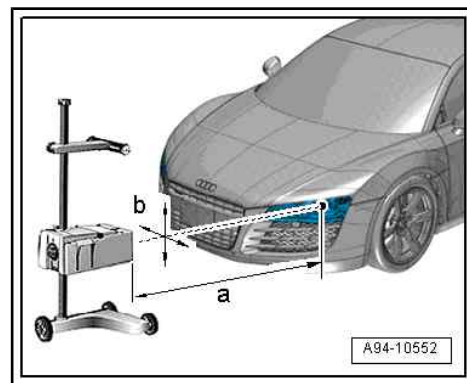
Fuel gauge	Additional weight in kg
1/4	45
1/2	30
3/4	15
Full	0



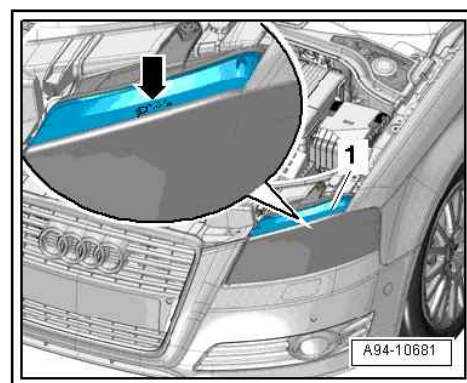
Note

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

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



Note

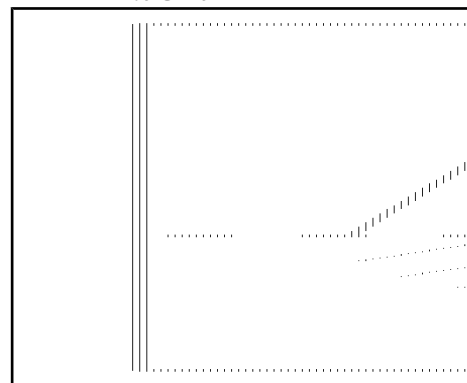
- ◆ Adjust headlights according to dip setting marked on headlight.
- ◆ The percentage value is for a range of 10 m. Example: Converting a dip setting of 1.0% = 10 cm.

Preparations

- Vehicle must be on a level surface.
- Turn light switch to “dipped beam” position – not to “Auto” position.
- Set knurled wheel for headlight range control to position “0”

Headlight adjustment

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





Note

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

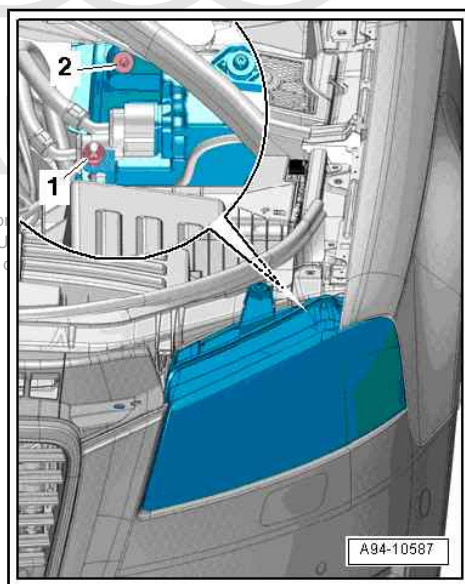
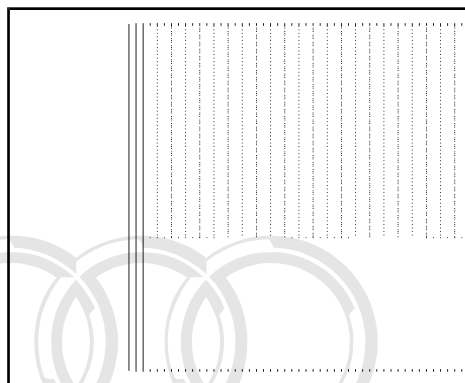
- Before adjusting height of headlight, use adjuster screw -1- to position light-dark border below setting line.
- Then adjust light-dark border to setting line from below.
- Turn adjuster screw -2- for lateral adjustment.



Note

The arrangement of the adjuster screws on the right headlight is symmetrically opposite.

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6.3 Adjusting gas discharge headlights

Requirements for checking and adjusting

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

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

- One person or 75 kg.

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

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

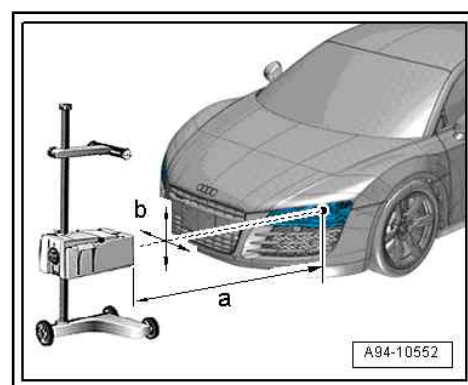
If the fuel tank is not at least 90 % full, put in additional weight as follows:

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

Fuel gauge	Additional weight in kg
1/4	45
1/2	30
3/4	15
Full	0

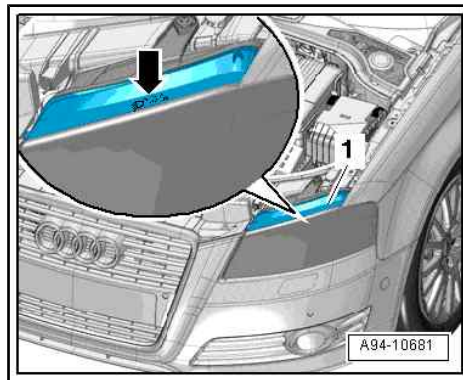
 Note

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



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



Note

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

Preparations

- Vehicle must be on a level surface.
- Turn light switch to “dipped beam” position – not to “Auto” position.

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Procedure

- Connect ⇒ Vehicle diagnostic tester.
- Select **Diagnosis** mode and begin diagnosis.
- Select **Test plan** tab.
- Choose **Select own test** and select following options one after the other:
 - ◆ Body
 - ◆ Electrical system
 - ◆ 01 - Self-diagnosis compatible systems
 - ◆ 55 - Dynamic headlight range control - J431
 - ◆ 55 - Headlight range control, functions
 - ◆ 55 - Basic setting



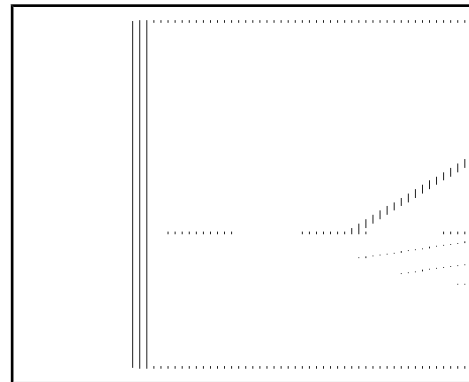
Note

With this programme the headlights return to the basic setting.

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

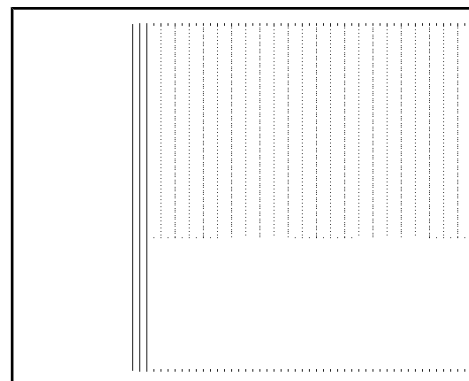
Headlight adjustment

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



Note

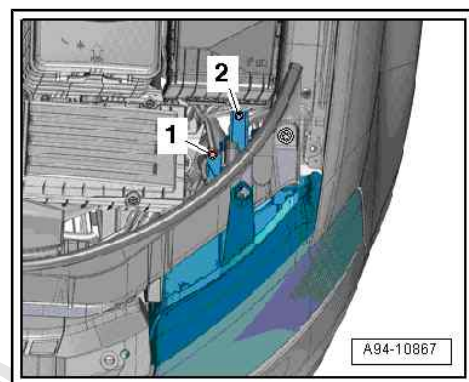
- ◆ To make it easier to find break-away point -2-, cover and uncover left half of headlight (as seen in direction of travel) a few times. Then check dipped beam again.
 - ◆ If dipped beams have been adjusted correctly the centre point of the main beam should lie on central point -3-.
 - ◆ If using an old test screen with a 15° setting line, the adjustment procedure is the same as for the test screen without a 15° setting line. Disregard the 15° setting line -arrow- to avoid incorrect settings.
 - ◆ When the bonnet release is operated, the light-dark border automatically moves beyond the normal dipped beam position once and then returns to its specified position from the top. This process takes a maximum of 5 seconds.
- Before adjusting height of headlight, use adjuster screw -1- to position light-dark border below setting line.
 - Then adjust light-dark border to setting line from below.
 - Turn both adjuster screws -1- and -2- with the same number of turns for lateral adjustment.



Note

The arrangement of the adjuster screws on the right headlight is symmetrically opposite.

- After completing headlight adjustment, end "Basic setting", switch off ignition and unplug diagnostic connector.



6.4 Adjusting fog lights

Requirements for checking and adjusting

- Tyre pressures OK.
- Headlight lenses must be clean and dry.
- Headlight lenses must not be damaged.
- Reflectors and bulbs OK
- Roll vehicle several metres or depress front and rear springs fully several times so that springs settle correctly.
- Release handbrake to relieve any load on suspension.

- Vehicle and headlight adjustment unit must be on a level surface.
- Headlight adjustment unit must be aligned to vehicle ⇒ Operating instructions for headlight adjustment unit .
- Dip setting must be set on headlight adjustment unit ⇒ Operating instructions for headlight adjustment unit .
- Vehicle correctly loaded.

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

- One person or 75 kg.

Preparations

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

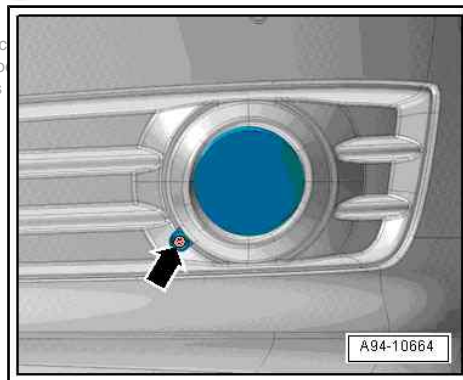
Headlight adjustment

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



Note

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



7 Turn signal repeaters - vehicles up to model year 2010

7.1 Exploded view - exterior mirror turn signal

1 - Mirror glass

2 - Mounting for mirror adjustment unit

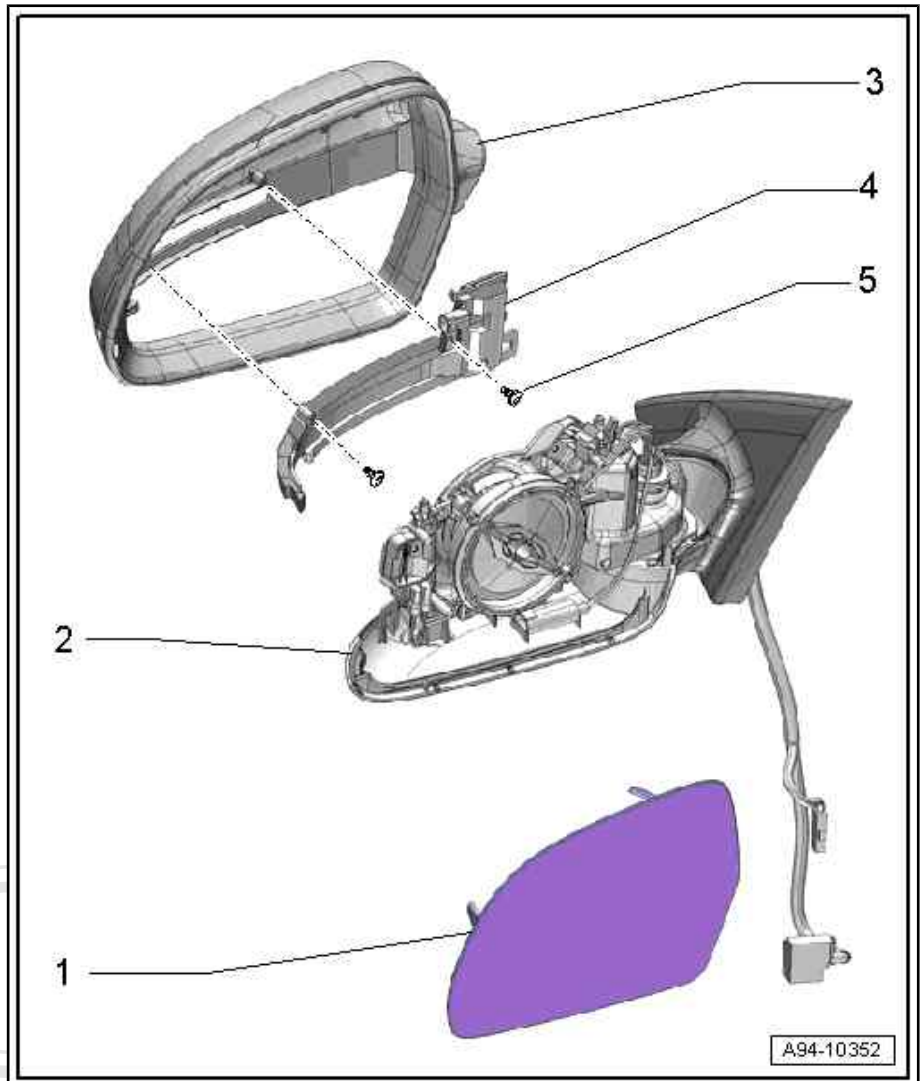
3 - Exterior mirror housing

4 - Exterior mirror turn signal bulb

- ☐ Driver side exterior mirror turn signal bulb - L131-
- ☐ Front passenger side exterior mirror turn signal bulb - L132-
- ☐ Removing and installing
⇒ [page 125](#)

5 - Bolt

- ☐ 0.9 Nm

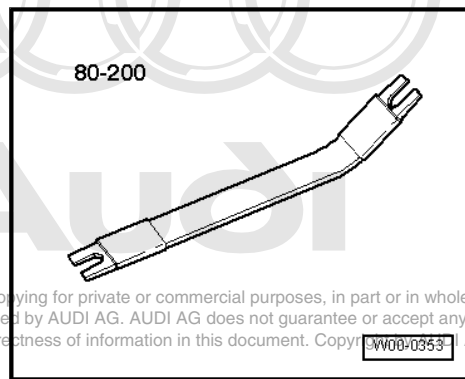


7.2 Removing and installing exterior mirror turn signal bulb -L131- / -L132-

Special tools and workshop equipment required

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◆ Removal lever - 80 - 200-



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◆ Protective gloves

Removing



WARNING

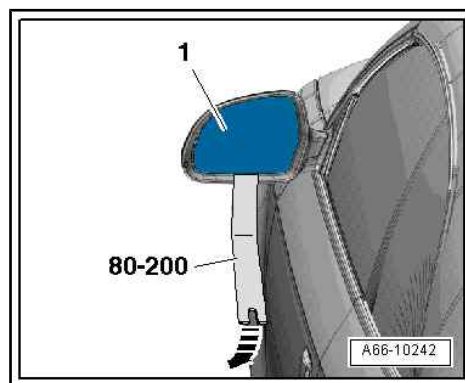
Risk of injury.

- ◆ *Put on protective gloves.*

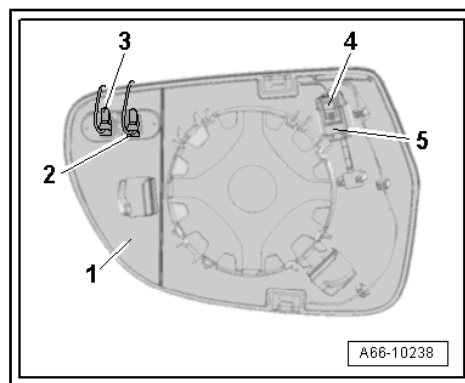


Note

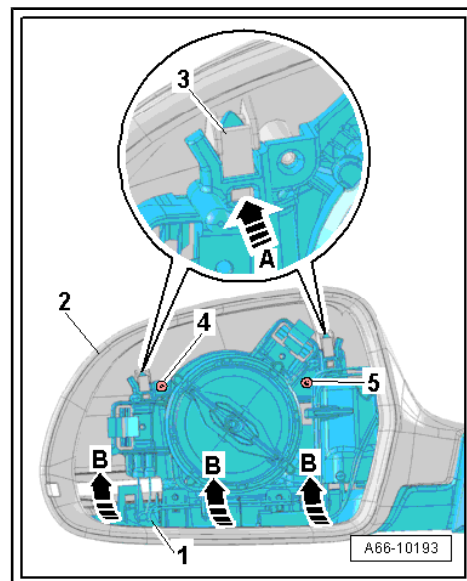
Mask the area around the mirror housing with a soft cloth to protect the paintwork.



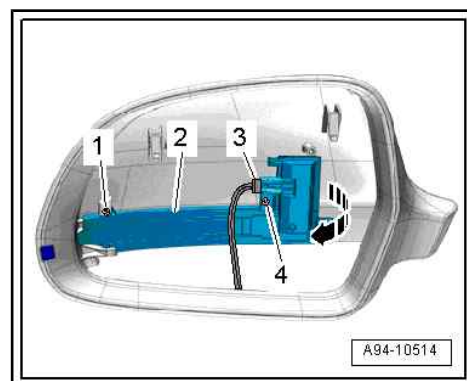
- Pry mirror glass -1- off mirror adjustment unit using removal lever - 80 - 200- -arrow-.
- Unplug electrical connectors -2- and -3- for mirror glass heating on rear side of mirror glass -1-.
- Unclip electrical connector -5- from retainer, if fitted.
- Unplug electrical connector -4-.



- Remove bolts -4- and -5-.
- Release retaining tabs -3- in direction of -arrow A-.
- Release retaining clip -1- and detach exterior mirror housing -2- from cover -arrows B-.
- Press mirror adjustment unit downwards and lift off exterior mirror housing.



- Unplug electrical connector -3-.
- Remove bolts -1- and -4-.
- Swivel housing -2- for turn signal bulb out of exterior mirror housing -arrow-.



Installing

- Tightening torques ➔ [page 125](#) and ➔ Rep. gr. 66

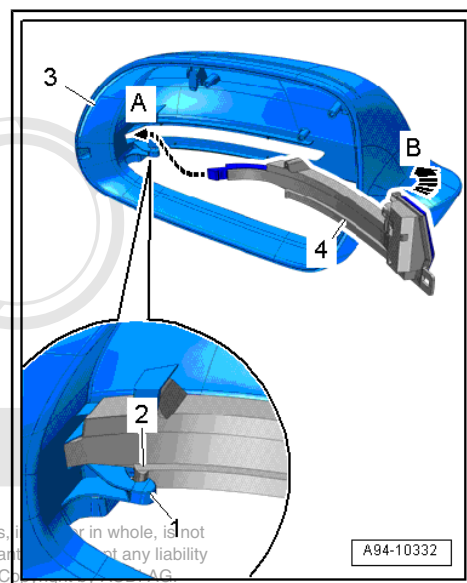
Installation is carried out in reverse order; note the following:



Note

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

- Insert tip of turn signal repeater in slot in housing -3- for exterior mirror -arrow A-.
- Swivel housing -4- for turn signal bulb into exterior mirror housing -arrow B-; locking lug -2- must engage in mounting -1-.
- Install exterior mirror housing ➔ Rep. gr. 66



8 Turn signal repeaters - vehicles from model year 2011 onwards

8.1 Exploded view - exterior mirror turn signal

1 - Mirror glass

2 - Mounting for mirror adjustment unit

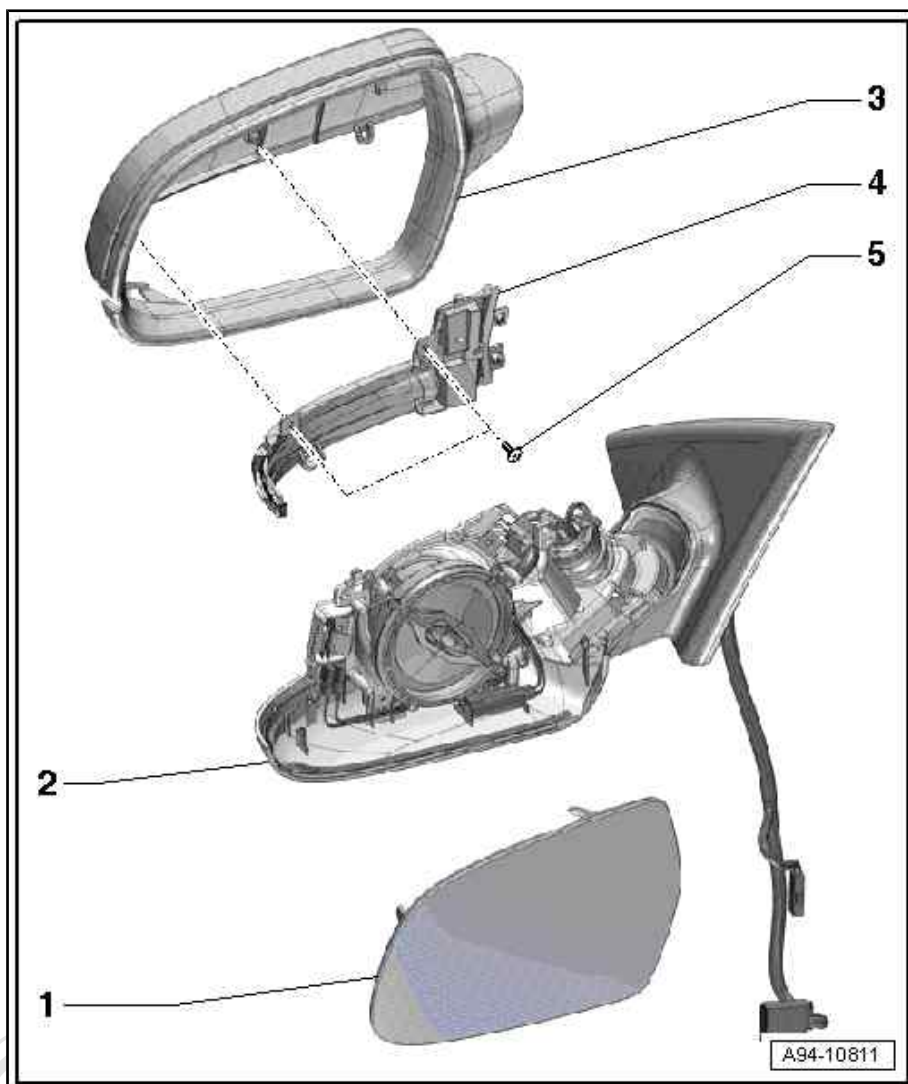
3 - Exterior mirror housing

4 - Exterior mirror turn signal bulb

- ☐ Driver side exterior mirror turn signal bulb - L131-
- ☐ Front passenger side exterior mirror turn signal bulb - L132-
- ☐ Removing and installing
⇒ [page 129](#)

5 - Bolt

- ☐ 0.9 Nm



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

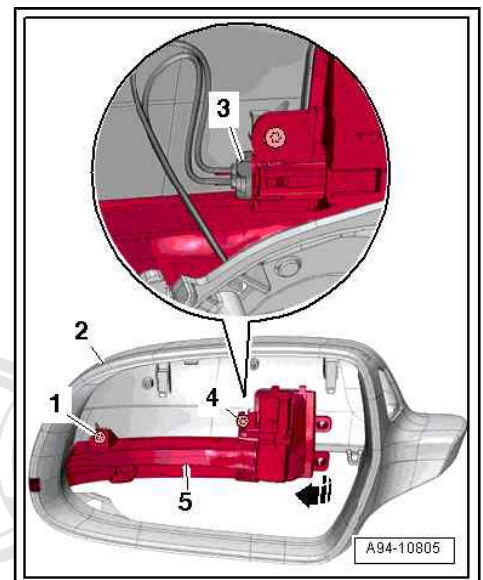
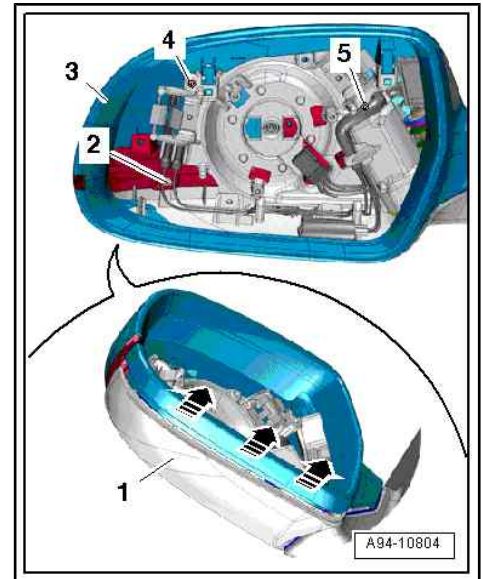
Removing

- Remove mirror glass ⇒ Rep. gr. 66 .

Note

Mask the area around the mirror housing with a soft cloth to protect the paintwork.

- Remove bolts -4- and -5-.
- Release retaining clip -2- and detach exterior mirror housing -3- from cover -1- -arrows-.
- Lift off exterior mirror housing -2- and unplug electrical connector -3-.
- Remove bolts -1- and -4-.
- Swivel housing -5- for turn signal bulb out of exterior mirror housing -arrow-.



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Installing

- Tightening torques ⇒ [page 128](#)

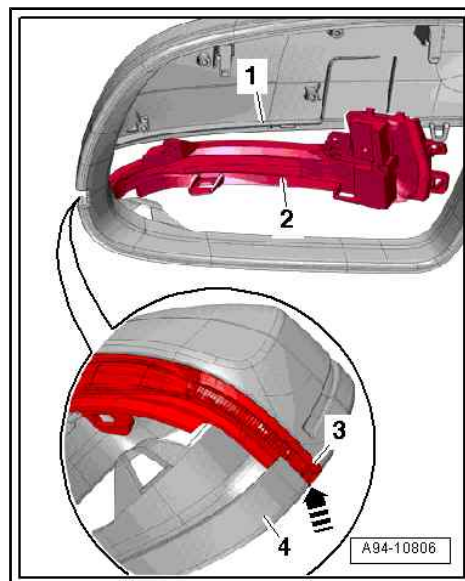
Installation is carried out in reverse order; note the following:



Note

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

- Insert tip of turn signal repeater -3- in slot in exterior mirror housing -4- -arrow-.
- Swivel housing -2- for turn signal bulb into exterior mirror housing and make sure that guide groove engages in guide -1-.
- Install exterior mirror housing ⇒ Rep. gr. 66 .



Audi

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9 Tail light cluster

9.1 Exploded view - outer tail light cluster

1 - Outer tail light cluster

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

2 - Clip nut

3 - Seal

- ☐ For bulb holder

4 - Main connector

- ☐ For bulb holders

5 - Connector for tail light bulb

- ☐ Left tail light bulb - M4-
- ☐ Right tail light bulb - M2-
- ☐ Outer tail light cluster must be renewed if LED is defective

6 - Seal

- ☐ For bulb holder

7 - Bulb holder

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

8 - Seal

- ☐ For bulb holder

9 - Brake light bulb

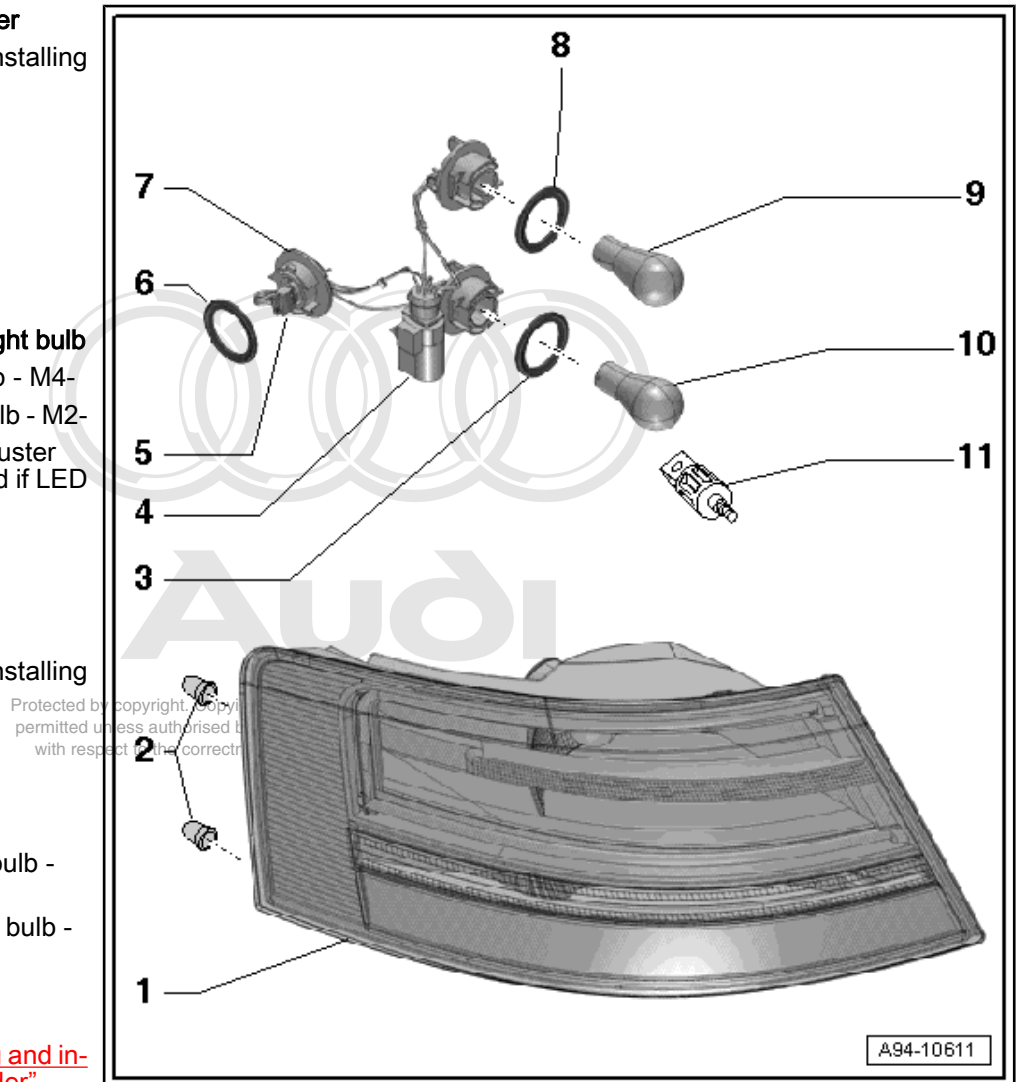
- ☐ Left brake light bulb - M9-
- ☐ Right brake light bulb - M10-
- ☐ 12 V, 21 W
- ☐ Renewing bulbs
⇒ ["9.3 Removing and installing bulb holder"](#), [page 132](#)

10 - Rear turn signal bulb

- ☐ Rear left turn signal bulb - M6-
- ☐ Rear right turn signal bulb - M8-
- ☐ 12 V, 21 W
- ☐ Renewing bulbs ⇒ ["9.3 Removing and installing bulb holder"](#), [page 132](#)

11 - Stud

- ☐ 3.5 Nm



9.2 Removing and installing outer tail light cluster

Removing

- Switch off ignition and remove ignition key.
- Turn light switch to position "0".
- Open cover in luggage compartment side trim.
- Remove stud -2-.
- Swivel tail light -1- outwards -arrow-, and at the same time disengage retaining pins from body.
- Unplug electrical connector.

Installing

- Tightening torque ⇒ [page 131](#)

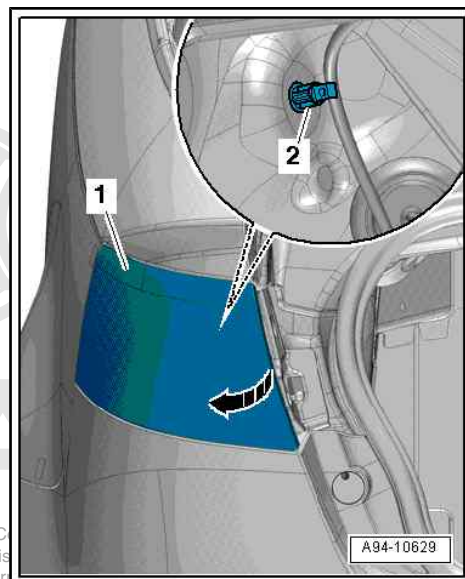
Installation is carried out in reverse order; note the following:



Note

Ensure that self-adhesive seal on tail light housing seals properly.

- Fit tail light cluster in position on body and press retaining pins into clip nuts.
- Tighten stud -2-.



9.3 Removing and installing bulb holder

Removing

- Remove outer tail light cluster ⇒ [page 132](#).
- Turn bulb holders -1- and -2- anti-clockwise and pull out of tail light housing.
- Screw bulbs out of bulb holder.
- Turn bulb holder -3- anti-clockwise and pull out of tail light housing.
- Detach electrical connector -4- for tail light bulb from printed circuit -arrow-.

Installing

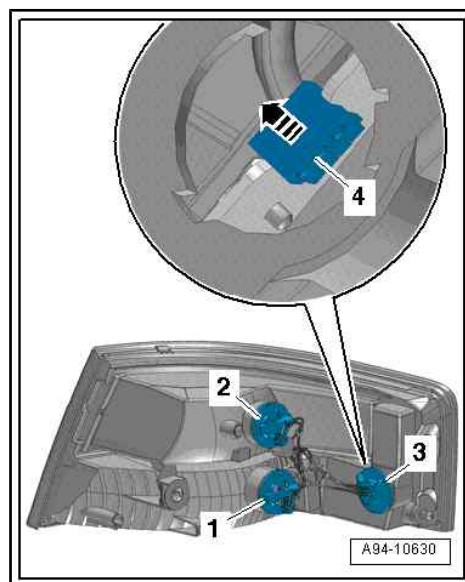
Installation is carried out in reverse order; note the following:



Note

The entire outer tail light cluster must be renewed if the tail light LED is defective.

- Insert new bulb in bulb holder, taking care not to touch glass part of bulb with bare hands.
- Secure bulb holder by turning in clockwise direction.
- Install outer tail light cluster ⇒ [page 132](#).



9.4 Exploded view - inner tail light cluster

1 - Inner tail light cluster

- ☐ Removing and installing
⇒ [page 134](#)

2 - Seal

- ☐ Renew if damaged

3 - Reversing light bulb

- ☐ Left reversing light bulb - M16-
- ☐ Right reversing light bulb - M17-
- ☐ 12 V, 16 W
- ☐ W16W
- ☐ Renewing bulbs
⇒ [page 135](#)

4 - Seal

- ☐ For bulb holder

5 - Bulb holder

6 - Connector for tail light bulb

- ☐ For left tail light bulb - M4-
- ☐ Right tail light bulb - M2-
- ☐ Inner tail light cluster must be renewed if LED is defective

7 - Main connector

- ☐ For bulb holders

8 - Seal

- ☐ For bulb holder

9 - Rear fog light bulb

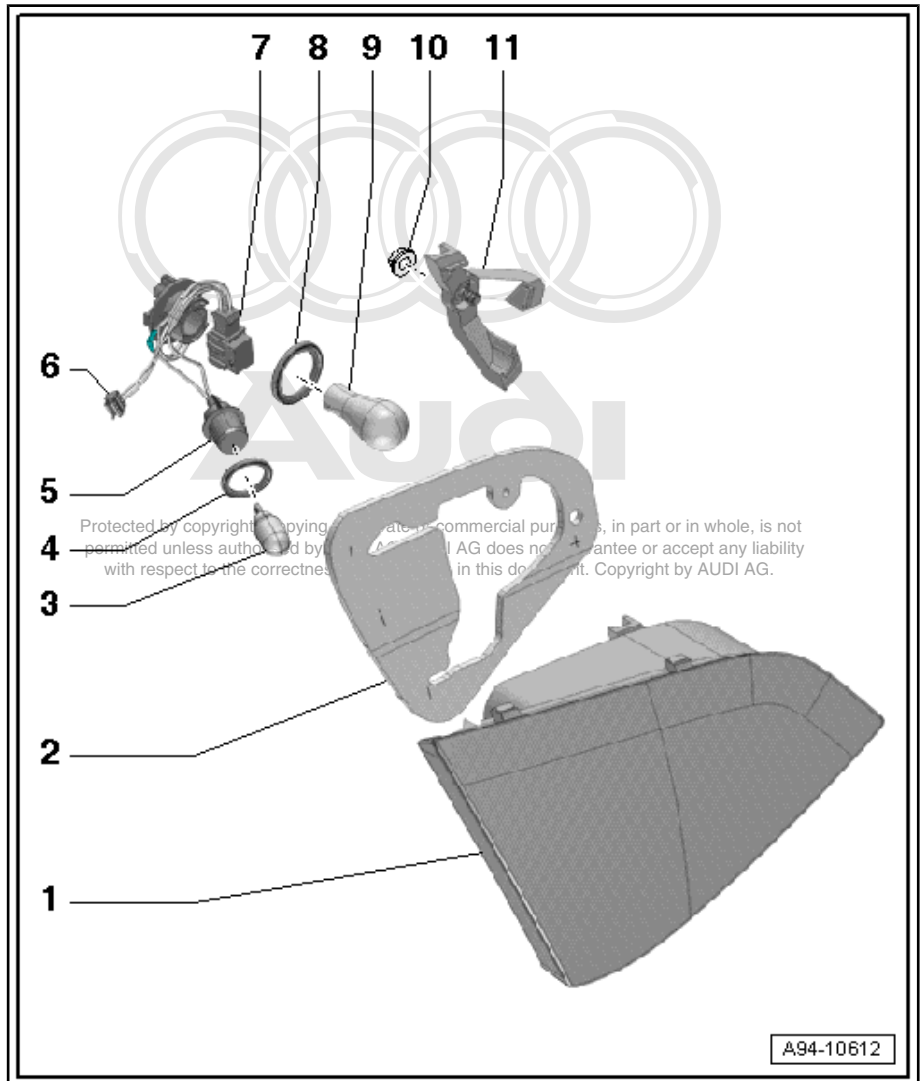
- ☐ Rear left fog light bulb - L46-
- ☐ Rear right fog light bulb - L47-
- ☐ 12 V, 21 W
- ☐ Renewing bulbs ⇒ [page 135](#)

10 - Nut

- ☐ 3.5 Nm

11 - Retainer bracket

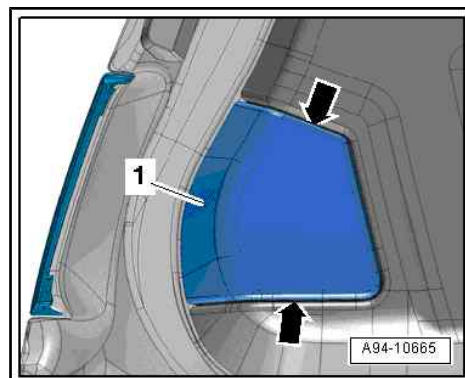
- ☐ Secures tail light cluster to rear lid



9.5 Removing and installing inner tail light cluster

Removing

- Switch off ignition and remove ignition key.
- Turn light switch to position "0".
- Release cover -1- from retaining clips -arrows-.



- Unplug electrical connector -2-.
- Remove nut -4- and detach retainer bracket -3-.
- Swivel inner tail light slightly outwards -arrow A- and detach from rear lid in direction of -arrow B-.

Installing

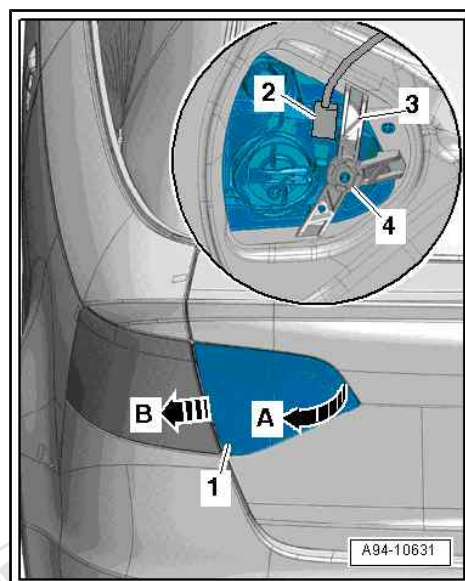
- Tightening torque ⇒ [page 132](#)

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



Note

Ensure that seal between body and rear light housing seals correctly.



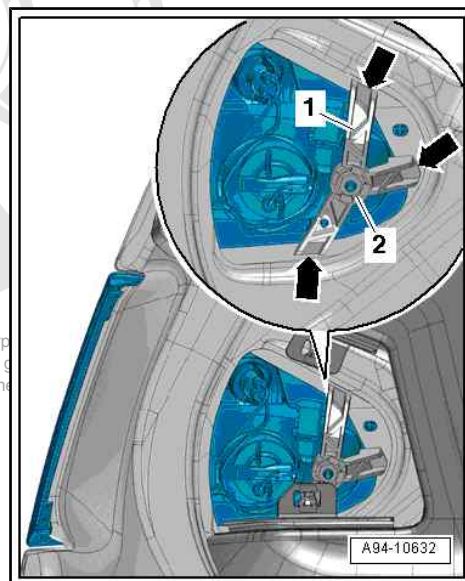
- Position inner tail light cluster at outer edge of rear lid.
- Slide retainer bracket -1- onto stud of inner tail light.
- Guide pin on tail light cluster must engage in retainer bracket.
- Tighten nut -2-.



Note

As the nut is tightened the retainer bracket becomes wedged in the rear lid -arrows-.

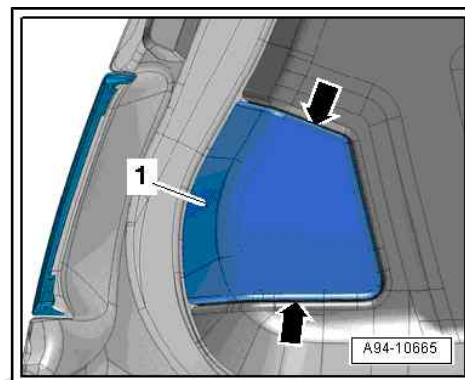
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9.6 Removing and installing rear fog light bulb -L46- / -L47-

Removing

- Switch off ignition and remove ignition key.
- Turn light switch to position “0”.
- Release cover -1- from retaining clips -arrows-.

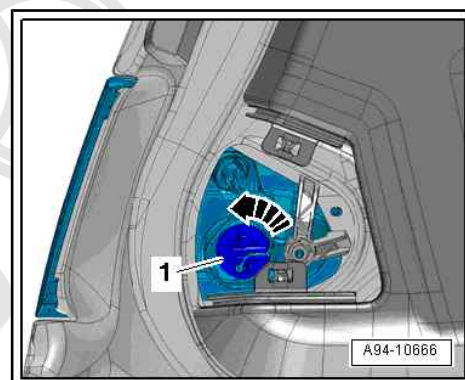


- Turn bulb holder -1- anti-clockwise and pull out of tail light housing.
- Unscrew bulb from bulb holder.

Installing

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

- Insert new bulb in bulb holder, taking care not to touch glass part of bulb with bare hands.
- Secure bulb holder by turning in clockwise direction.



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9.7 Removing and installing reversing light bulb -M16- / -M17-

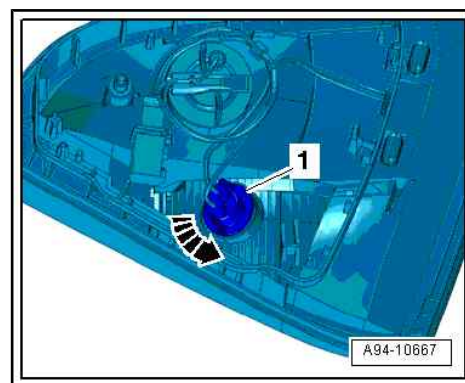
Removing

- Remove inner tail light cluster ⇒ [page 134](#) .
- Turn bulb holder -1- anti-clockwise -arrow- and pull it out of tail light housing.
- Pull bulb out of bulb holder.

Installing

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

- Insert new bulb in bulb holder, taking care not to touch glass part of bulb with bare hands.
- Secure bulb holder by turning in clockwise direction.
- Install inner tail light cluster ⇒ [page 134](#) .



10 Exterior lights (rear)

10.1 Exploded view - high-level brake light and number plate light

1 - Bolt

- 1 Nm

2 - Left number plate light

- Removing and installing
⇒ [page 138](#)

3 - Left number plate light - X-

- 12 V, 5 W
- Renewing bulbs
⇒ [page 138](#)

4 - Handle trim

5 - High-level brake light

- With high-level brake light bulb - M25-
- Removing and installing
⇒ [page 137](#)

6 - Spring clips

- 3x

7 - Springs

- 3x

8 - Retaining rail

9 - Right number plate light - X-

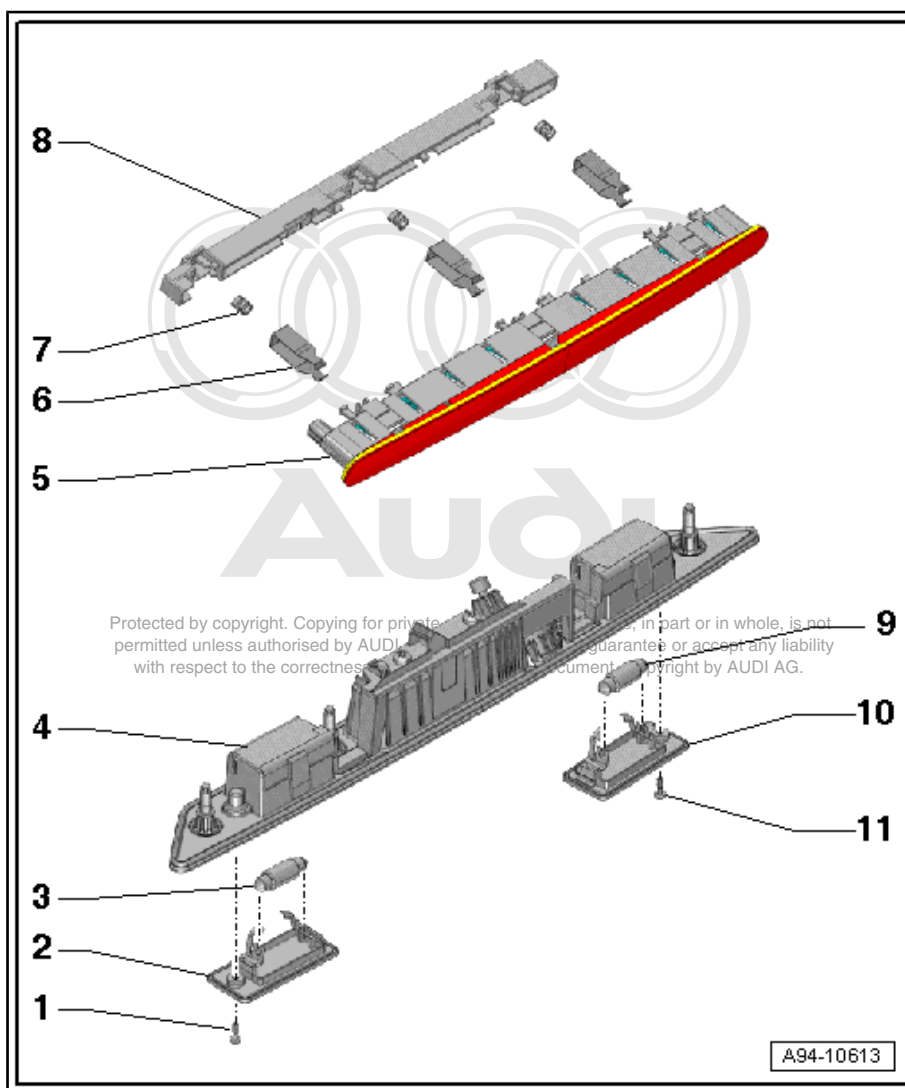
- 12 V, 5 W
- Renewing bulbs
⇒ [page 138](#)

10 - Right number plate light

- Removing and installing
⇒ [page 138](#)

11 - Bolt

- 1 Nm



10.2 Removing and installing high-level brake light

Removing

- Do not press brake pedal.
- Remove rear lid trim ⇒ Rep. gr. 70 .
- Unplug electrical connector -1-.
- Proceeding from right to left, compress spring clips -3 ... 5-; while doing so, press high-level brake light -2- out of opening in rear lid, starting on right side -arrow-.

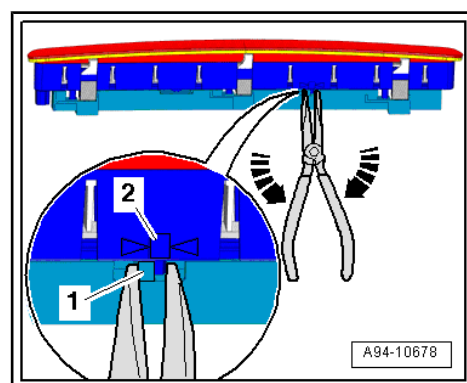
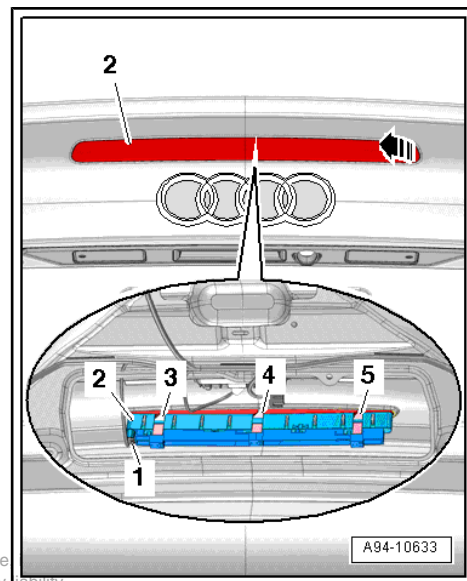
Installing

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



Note

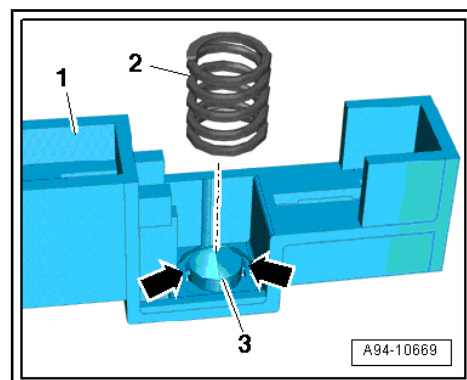
- ◆ *If the high-level brake light bulb - M25- (LED) is defective, the complete high-level brake light must be renewed.*
- ◆ *New high-level brake lights are supplied ready for fitting and in their installation position.*
- ◆ *If the retaining rail for the high-level brake light is removed, it falls apart into its individual components.*
- ◆ *For re-installation, the high-level brake light must be prepared as follows.*
- Insert high-level brake light into opening in rear lid and press in until spring clips engage audibly in opening in rear lid.
- If a new high-level brake light is installed, the retaining rail must be locked using long-nose pliers -arrows-.
- The projection -1- on retaining rail must be located under marking -2- on bulb housing.
- Install rear lid trim ⇒ Rep. gr. 70 .



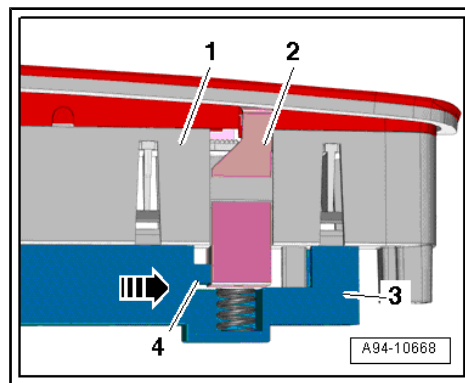
10.3 Preparing high-level brake light for installation

Procedure

- Insert springs -2- in retaining rail -1-.
- Press springs onto mountings -3- until they engage audibly.
- Springs must be pressed onto retaining pegs -arrows- so that springs are seated securely.



- Insert all three spring clips -2- into light housing -1-.
- Engage retaining rail -3- and push to right -arrow- as far as stop.
- Lugs -4- must contact spring clips.



10.4 Removing and installing number plate light - X-

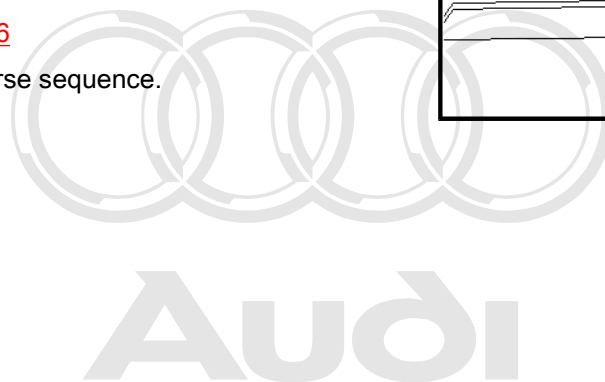
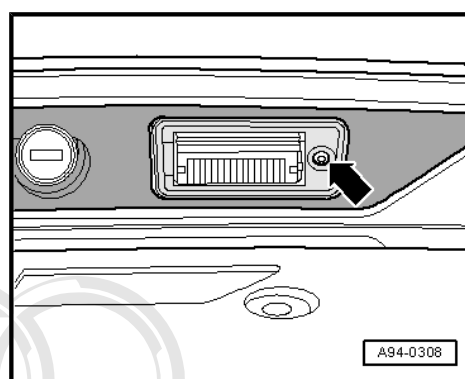
Removing

- Turn light switch to position “0”.
- Unscrew bolt -arrow- from handle trim.
- Lever bulb carrier out of handle trim.
- Take bulb out of clamp-type holder.

Installing

- Tightening torque ⇒ [page 136](#)

Installation is carried out in reverse sequence.



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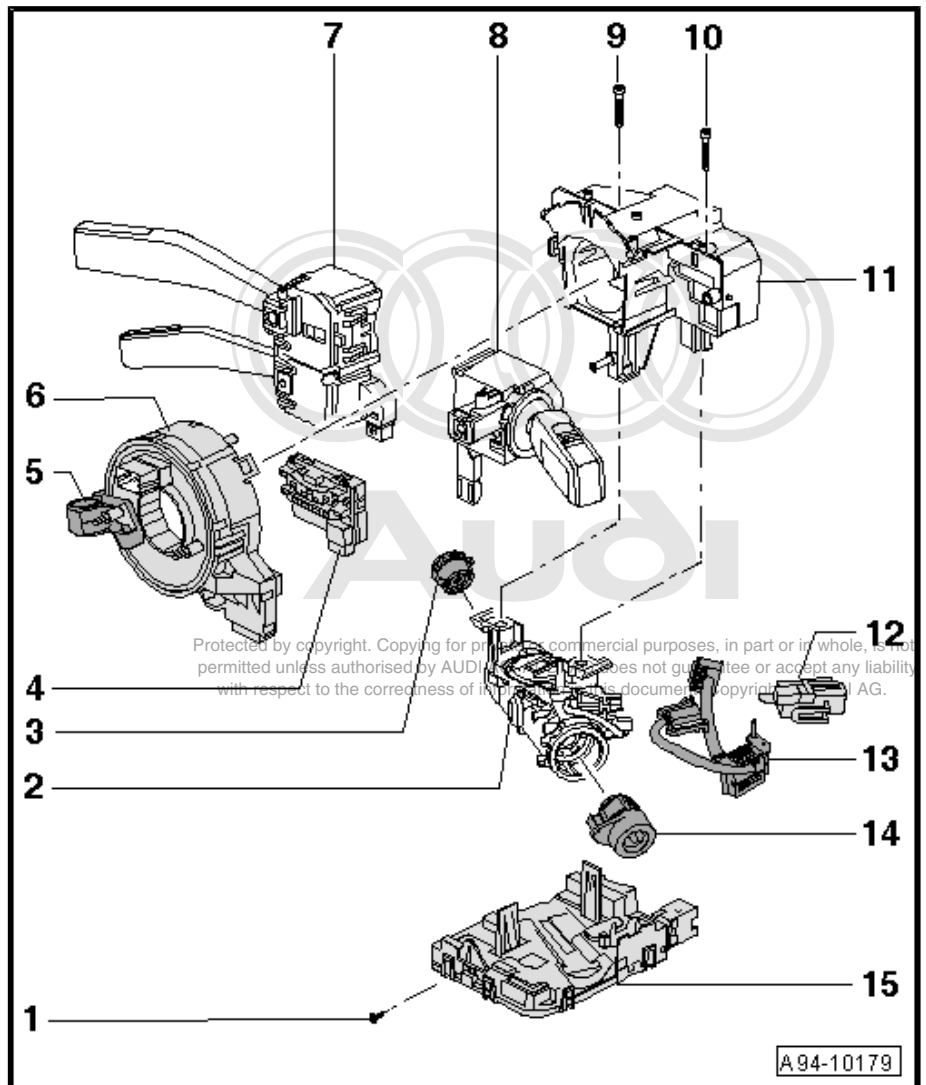
11 Steering column switch module

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

11.1 Exploded view - steering column switch module

- 1 - Bolt
 - ☐ 0.4 Nm
- 2 - Steering lock housing
 - ☐ Removing and installing ⇒ [page 150](#)
- 3 - Ignition/starter switch - D-
 - ☐ Removing and installing ⇒ [page 148](#)
- 4 - Steering angle sender - G85-
 - ☐ Removing and installing ⇒ [page 145](#)
- 5 - Transport protection
 - ☐ To secure return ring with slip ring in centre position
- 6 - Return ring with slip ring
 - ☐ Removing and installing ⇒ [page 144](#)
- 7 - Turn signal switch - E2-
 - ☐ On vehicles with cruise control: with additional cruise control system switch - E45-
 - ☐ Removing and installing ⇒ [page 145](#)
- 8 - Intermittent wiper switch - E22-
 - ☐ Removing and installing ⇒ [page 146](#)
- 9 - Bolt for steering lock housing
 - ☐ Shear bolt
 - ☐ Removing and installing ⇒ [page 150](#)
- 10 - Bolt for steering lock housing
 - ☐ Shear bolt
 - ☐ Removing and installing ⇒ [page 150](#)

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



11 - Mounting

12 - Ignition key withdrawal lock solenoid - N376-

- ☐ On vehicles with automatic gearbox
- ☐ Removing and installing ⇒ [page 148](#)

13 - Adapter wiring harness

- ☐ For steering lock housing
- ☐ Removing and installing ⇒ [page 151](#)

14 - Lock cylinder

- ☐ Removing and installing ⇒ [page 147](#)

15 - Steering column electronics control unit - J527-

- ☐ Removing and installing ⇒ [page 140](#)
- ☐ Pin assignment for steering column electronics control unit - J527- ⇒ [page 141](#)

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

Special tools and workshop equipment required

- ◆ Drill Ø 2.5 mm; length at least 75 mm
- If control unit is being renewed, select function “Replace” for corresponding control unit in “Guided Fault Finding” or “Guided Functions” mode ⇒ Vehicle diagnostic tester.

Removing

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



Caution

Risk of damage to return ring.

- ◆ *After it has been removed, the return ring with slip ring must not be turned (secure in installation position using adhesive tape).*

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

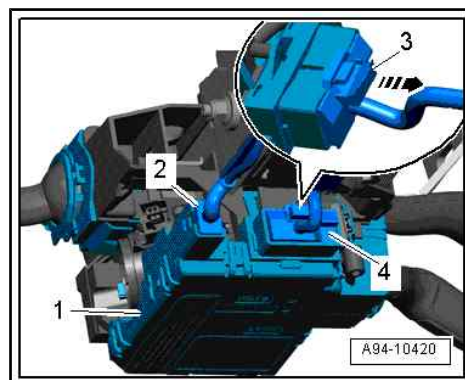


Caution

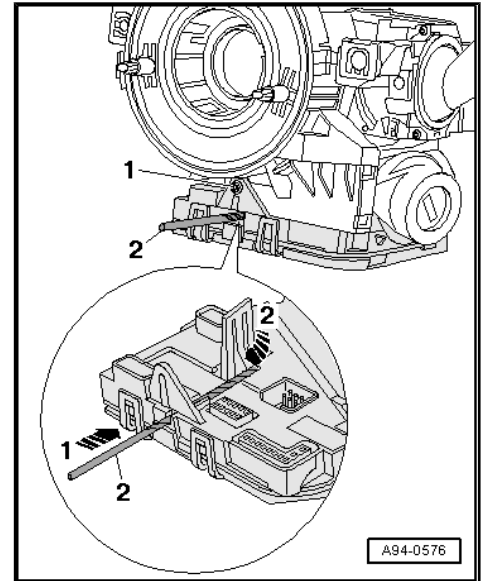
Risk of irreparable damage to electronic components due to static discharge.

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

- Unplug electrical connector -2-.



- Remove bolt -1-.
- Insert a drill bit ($\varnothing$ 2.5 mm) -item 2- approx. 45 mm into hole in steering column electronics control unit - J527- -arrow 1-, thereby releasing retaining tab -arrow 2-.
- Pull steering column electronics control unit - J527- down slightly and remove drill.



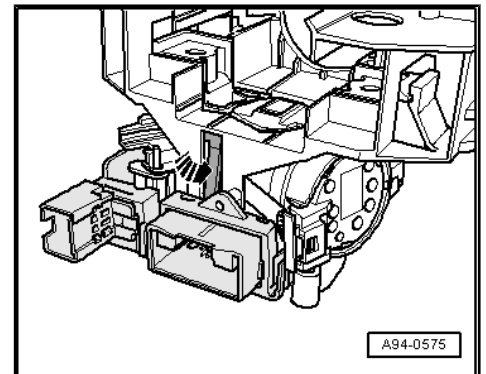
- Release retaining clip -arrow- on connector side of steering column electronics control unit - J527- and detach control unit from steering column switch module.

Installing

- Tightening torque $\Rightarrow$ [page 139](#)

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

- Make sure all fasteners and the electrical connectors are properly engaged.
- Install steering column trim $\Rightarrow$ Rep. gr. 68 .
- Install steering wheel $\Rightarrow$ Rep. gr. 48 .
- Install driver's airbag $\Rightarrow$ Rep. gr. 69 .



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

- ◆ The steering column electronics control unit - J527- is part of the "steering column switch module". It receives signals e.g. from the steering column switch.
- ◆ Fault finding is performed via "Guided Fault Finding" $\Rightarrow$ Vehicle diagnostic tester.

A - Plug connection for tiptronic switch

1 - Analogue value, tiptronic left, down

2 - Earth, tiptronic left

3 - Earth, tiptronic right

4 - Analogue value, tiptronic left, up

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

1 - Voltage supply (terminal 15)

2 - Locked "Off"

3 - Res ("+") / Set ("-")

4 - On/Off

5 - Earth

6 - Lighting (terminal 58)

7 - Headlight flasher

8 - Main beam

9 - Turn signal switch

10 - Turn signal switch, earth

C - Plug connection: vehicle electrical system

- Pin assignment
⇒ [page 144](#)

D - Plug connection: airbag control unit

- Pin assignment ⇒ [page 144](#)

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

1 - Not used

2 - Not used

3 - Ignition key removal lock, terminal 30

4 - Ignition/starter switch earth

5 - Not used

6 - Not used

7 - Ignition/starter switch output terminal 50

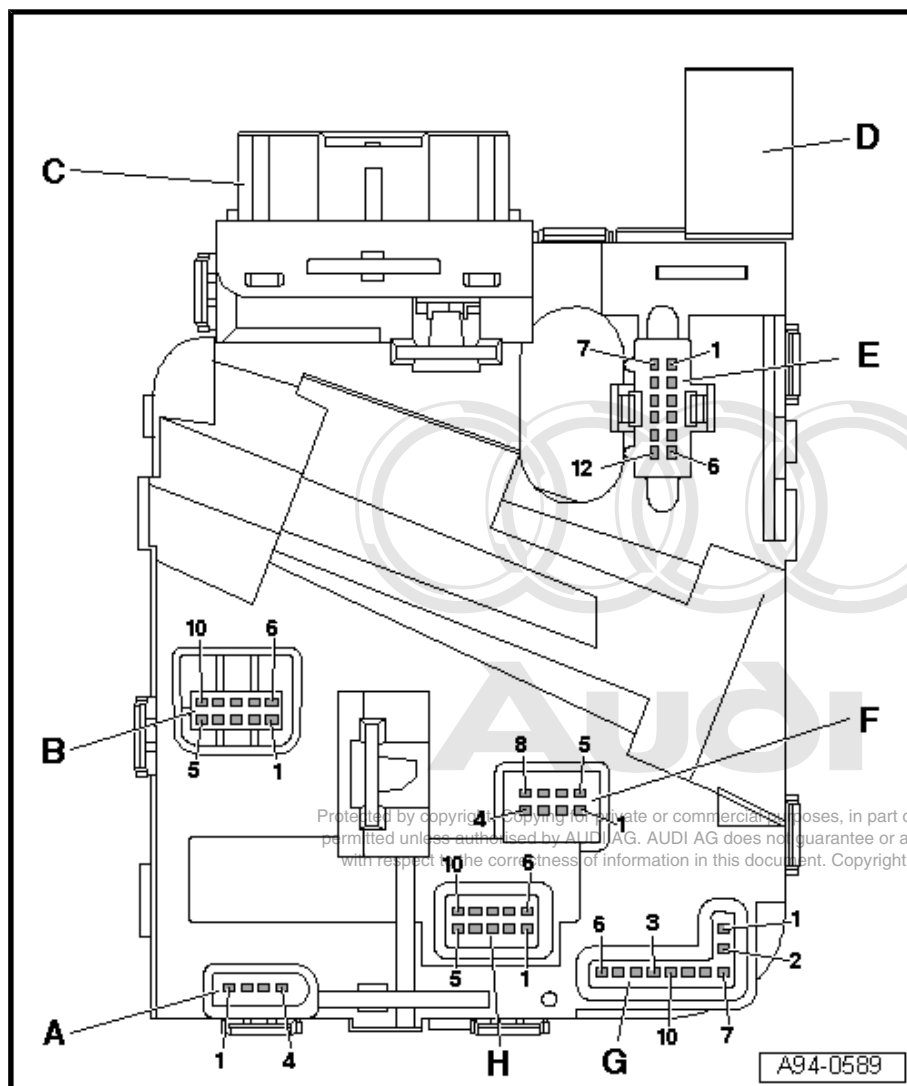
8 - Voltage supply terminal 30 to ignition/starter switch

9 - Output, ignition/starter switch terminal S

10 - Output, ignition/starter switch terminal X

11 - Output, ignition/starter switch terminal P

12 - Output, ignition/starter switch terminal 15



F - Plug connection: window wiper system/DIS

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

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

- 1 - Heated steering wheel “+”
- 2 - Heated steering wheel “-”
- 3 - Airbag 1 “+”
- 4 - Airbag 1 “-”
- 5 - Airbag 2 “+”
- 6 - Airbag 2 “-”
- 7 - Earth (for coil connector cassette / multi-function steering wheel / horn)
- 8 - CCS locked “Off” / horn signal
- 9 - Temperature signal with steering wheel heating
- 10 - Voltage supply terminal 15 with multi-function steering wheel

H - Plug connection: steering angle sender

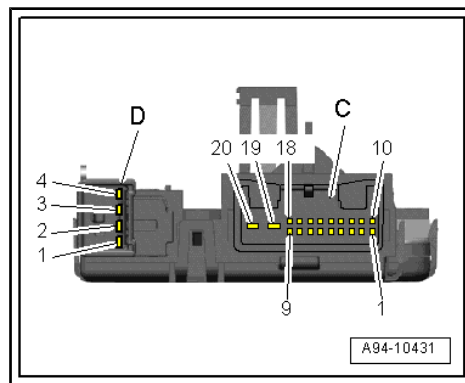
- 1 - Light barrier 5
- 2 - Light barrier 3
- 3 - Light barrier 1
- 4 - 12 V voltage supply
- 5 - 5 V voltage supply
- 6 - Light barrier 6
- 7 - Light barrier 4
- 8 - Light barrier 2
- 9 - Steering angle sender earth
- 10 - Light barrier 7



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C - Plug connection: vehicle electrical system

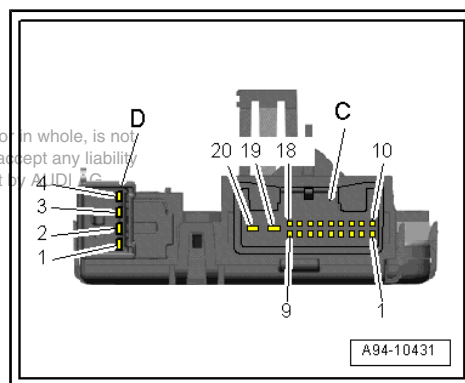
- 1 - Not used
- 2 - Not used
- 3 - Not used
- 4 - Not used
- 5 - Not used
- 6 - Not used
- 7 - Not used
- 8 - Not used
- 9 - Not used
- 10 - Powertrain CAN bus screening
- 11 - CAN bus Low (powertrain)
- 12 - CAN bus High (powertrain)
- 13 - Cruise control locked Off
- 14 - CAN bus High (convenience)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



D - Plug connection: airbag control unit

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

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11.4 Removing and installing return ring with slip ring

Special tools and workshop equipment required

- ◆ Feeler gauge

Removing



Note

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

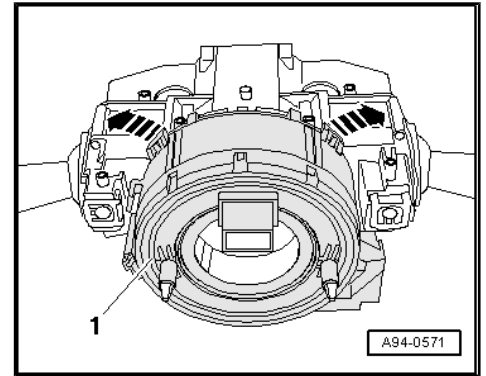
- Remove steering column electronics control unit - J527-
⇒ [page 140](#) .

- Carefully release retaining hooks -arrows- and pull return ring with slip ring off steering column switch module -1-.

Installing

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

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



11.5 Removing and installing steering angle sender - G85-

- If control unit is being renewed, select function “Replace” for corresponding control unit in “Guided Fault Finding” or “Guided Functions” mode ⇒ Vehicle diagnostic tester.

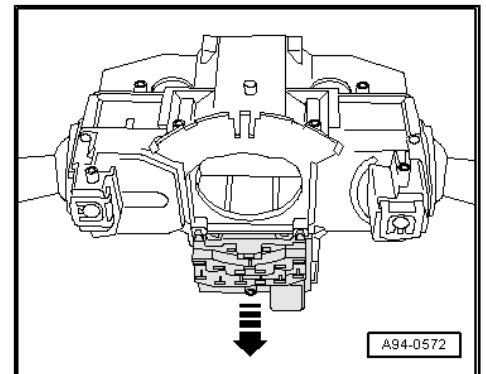
Removing

- Remove return ring with slip ring ⇒ [page 144](#) .
- Pull off steering angle sender - G85- -arrow-.

Installing

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

- Perform calibration of steering angle sender in “Guided Fault Finding” or “Guided Functions” mode after renewing return ring with slip ring ⇒ Vehicle diagnostic tester.
- Install return ring with slip ring ⇒ [page 144](#) .



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

Removing

- Remove steering angle sender - G85- ⇒ [page 145](#) .



Note

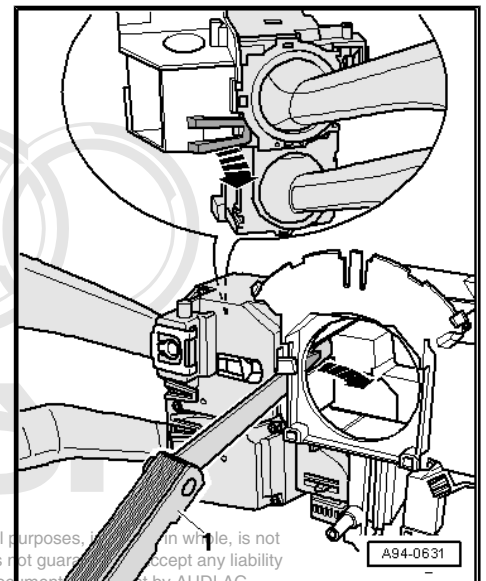
The following steps are described with the steering column switch module removed for illustration purposes.

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

Installing

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

- Make sure all fasteners and the electrical connectors are properly engaged.
- Install steering angle sender - G85- ⇒ [page 145](#) .



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11.7 Removing and installing intermittent wiper switch - E22-

Removing

- Remove steering angle sender - G85- ⇒ [page 145](#) .



Note

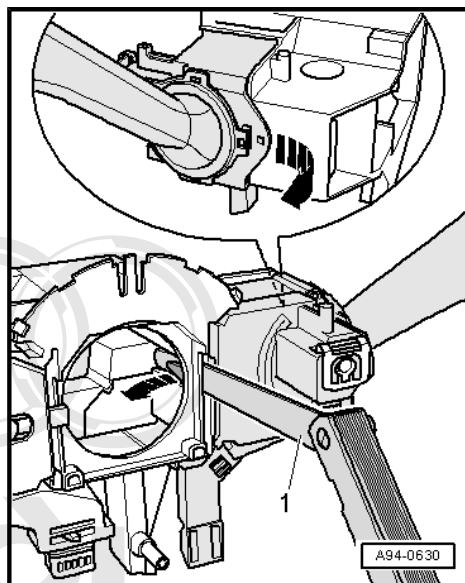
The following steps are described with the steering column switch module removed for illustration purposes.

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

Installing

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

- Make sure all fasteners and the electrical connectors are properly engaged.
- Install steering angle sender - G85- ⇒ [page 145](#) .



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12 Lock cylinder and ignition/starter switch with steering lock

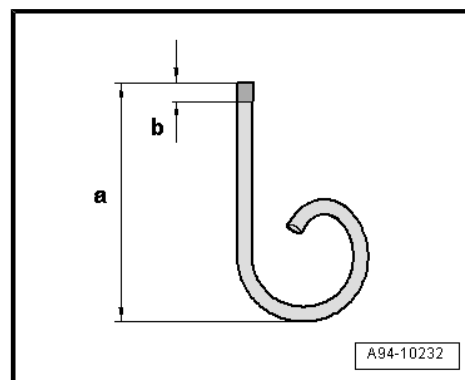
Note

- ◆ *The immobiliser reader coil is attached to the lock cylinder and cannot be renewed separately.*
- ◆ *The lock cylinder must be renewed if the reader coil is defective.*
- ◆ *When renewing lock cylinder, note immobiliser reader coil specifications ⇒ Electrical system; General information; Rep. gr. 96 ; Immobiliser .*

12.1 Removing and installing lock cylinder

Preparing improvised tool:

- Bend round one end of a 1.5 mm Ø welding wire.
- Then cut off welding wire.
- Distance -a- = approx. 50 mm
- File wire hook so that end is pointed.
- Dimension -b- = 3 mm



Removing

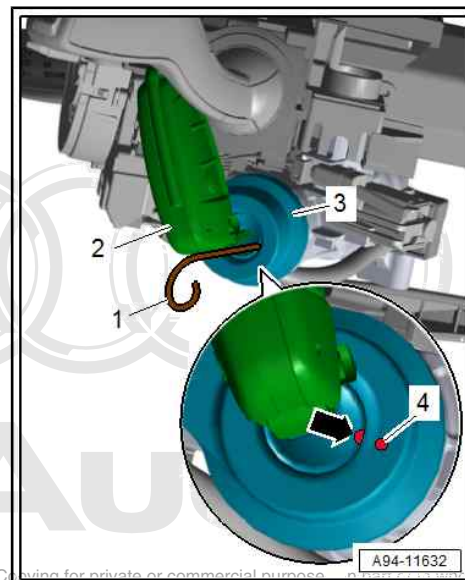
- Remove trim panels for steering column switch module ⇒ Rep. gr. 68 .
- Insert ignition key in lock and turn to “ON” position: mark -4- must be aligned with hole -arrow- in ignition lock.
- Fold back ignition key -2- and hold in this position, as shown in illustration.
- Insert welding wire -1- in hole as far as stop and pull lock cylinder -3- with reader coil out of steering lock housing.
- Unplug electrical connector at reader coil.



WARNING

Risk of lock-up on steering lock.

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



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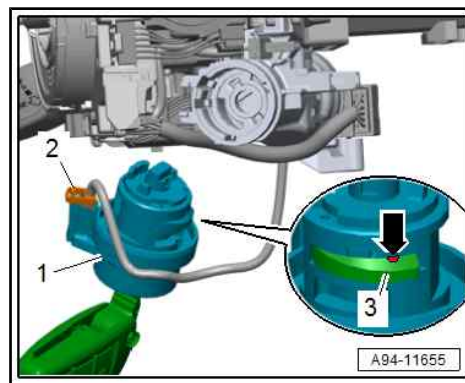
Note

- ◆ *If the steering lock has locked up, it must be renewed.*
- ◆ *When renewing lock cylinder, note immobiliser reader coil specifications ⇒ Electrical system; General information; Rep. gr. 96 ; Immobiliser .*

Installing

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

- Insert ignition key in lock cylinder -1- and turn to ignition “on” position.
- Re-insert welding wire in hole on end face as far as it will go and press locking lever -3- towards lock cylinder.
- Welding wire must protrude from hole -arrow- in locking lever.
- Plug in electrical connector -2- on immobiliser reader coil.
- Insert lock cylinder with reader coil in steering lock housing.
- Pull out welding wire and press in lock cylinder firmly until locking lever engages audibly.
- Install trim panels for steering column switch module ⇒ Rep. gr. 68 .



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

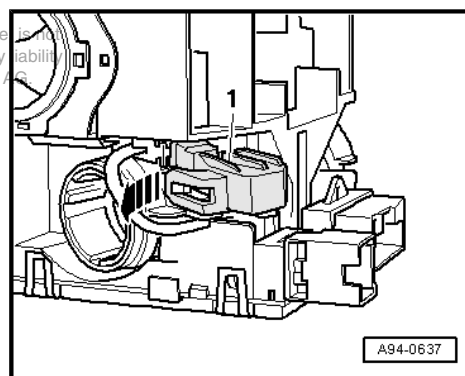
Removing

- Move steering wheel down and to rear as far as possible, making use of full range of steering column adjuster.
- Remove steering column trim ⇒ Rep. gr. 68 .
- Release clip -arrow- and detach ignition key withdrawal lock solenoid -N376- item 1- from steering lock housing.

Installing

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

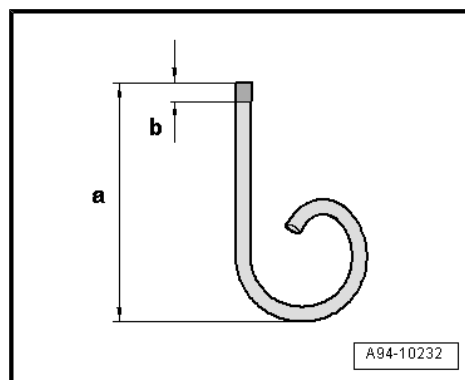
- Install steering column trim ⇒ Rep. gr. 68 .



12.3 Removing and installing ignition/starter switch - D-

Preparing two improvised tools:

- Take welding wire $\varnothing$ 1.5 mm and bend round at one end.
- Then cut off welding wire.
- Distance -a- = approx. 50 mm
- File wire hook so that end is pointed.
- Dimension -b- = 3 mm



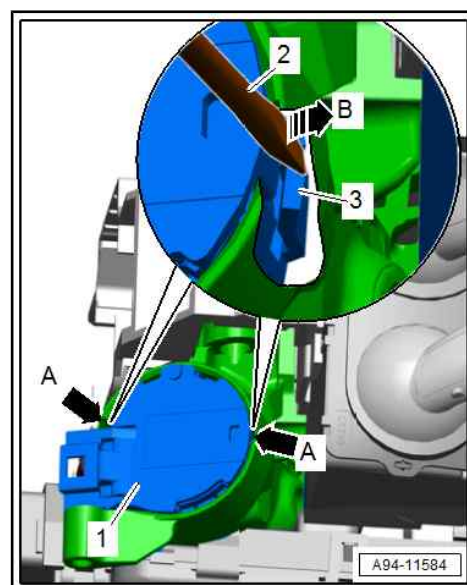
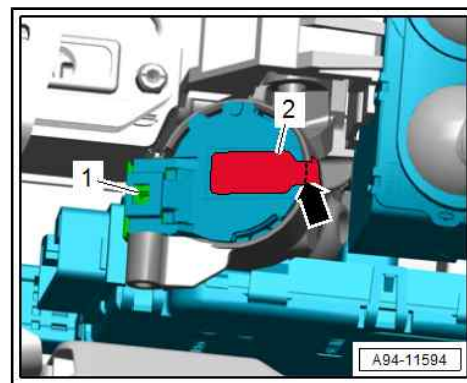
Removing

- Pull out steering wheel with adjuster as far as it will go and tilt it downwards.
- Remove trim for steering column switch module ⇒ Rep. gr. 68.
- Unplug electrical connector -1-.

Note

Inspection seal -2- on base of switch must not be pulled off or damaged.

- Carefully make an incision in inspection seal -arrow- using a carpet knife, as shown in illustration.
- To release catches -3- -arrow B-, insert improvised tool -2- at positions shown -arrows A-.
- Pull out ignition/starter switch -1- and detach to left.

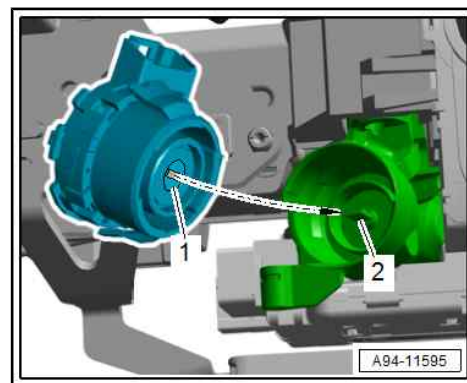


Installing

Install in reverse order, paying attention to the following:

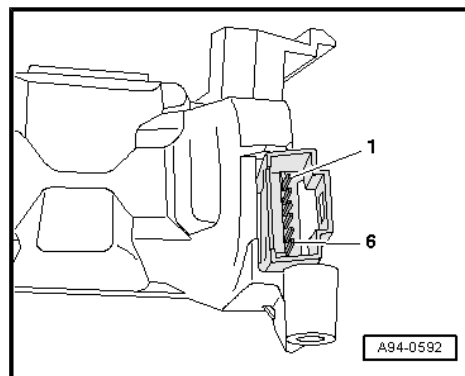
- Actuator -2- must engage in recess -1-, as shown in illustration.
- Insert ignition/starter switch into steering lock housing until it engages audibly.
- Install trim for steering column switch module ⇒ Rep. gr. 68.

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12.4 Pin assignment on ignition/starter switch

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



12.5 Removing and installing steering lock housing

Special tools and workshop equipment required

- ◆ Angle drill
- ◆ Drill bit, Ø 8.5 mm

Removing

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

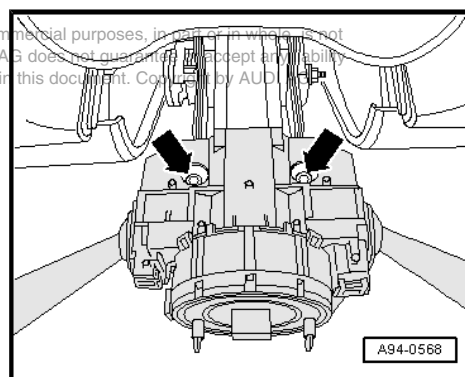


Caution

Risk of damage to return ring.

- ◆ *Return ring with slip ring must not be turned following removal.*
- ◆ *Secure return ring with slip ring in installation position using adhesive tape.*

- Remove steering column trim ⇒ Rep. gr. 68 .
- Drill out shear bolts -arrows- using an angle drill and 8.5 mm Ø drill bit.



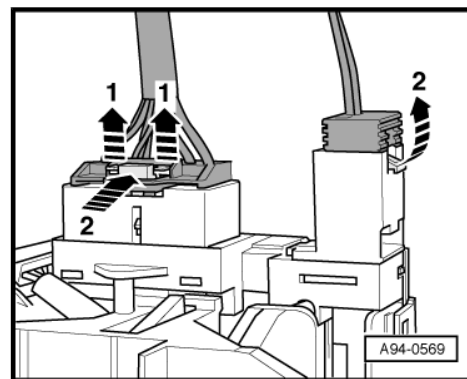
- Pull out connector lock -arrows 1-.
- Release electrical connectors -arrows 2- and unplug.



Note

For illustration purposes, fitting location is shown with steering column switch module removed.

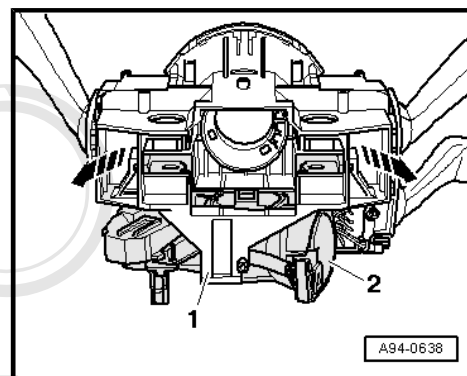
- Unplug reader coil wire from steering column switch.
- Detach steering column switch module from steering column.
- Remove steering column electronics control unit - J527-
⇒ [page 140](#) .



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

Remove ignition switch, lock cylinder and, if fitted, safety switch for ignition key removal lock when renewing steering lock housing.

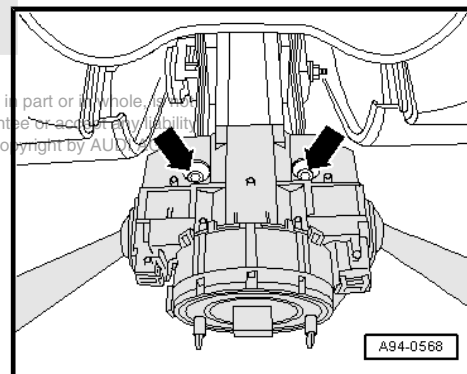
- ◆ Removing ignition switch ⇒ [page 148](#)
- ◆ Removing lock cylinder ⇒ [page 147](#)
- ◆ Removing safety switch for ignition key removal lock
⇒ [page 148](#)



Installing

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

- Tighten bolts -arrows- until head shears off.
- Install steering column trim ⇒ Rep. gr. 68 .
- Install steering wheel ⇒ Rep. gr. 48 .
- Install driver's airbag ⇒ Rep. gr. 69 .



12.6 Removing and installing adapter wiring harness for steering lock housing

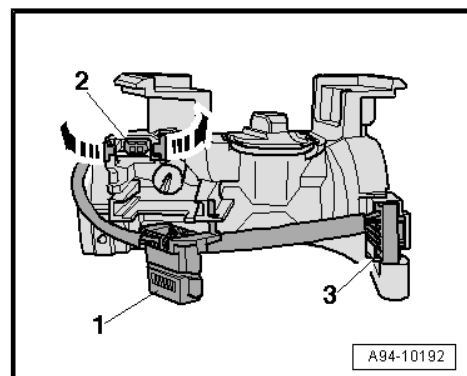
Removing

- Remove steering column electronics control unit - J527-
⇒ [page 140](#) .
- Unplug electrical connector -3- at ignition/starter switch.
- Release retaining clips in direction of -arrows- and detach electrical connector -2- for safety switch for ignition key removal lock.
- Remove adapter wiring harness -1- for steering lock housing.

Installing

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

- Install steering column electronics control unit - J527-
⇒ [page 140](#) .



13 Parking aid

13.1 Overview - parking aid (front)

1 - Parking aid button - E266-

- ☐ Only for 8-channel parking aid
- ☐ Removing and installing ⇒ [page 161](#)

2 - Parking aid control unit - J446-

- ☐ Removing and installing ⇒ [page 154](#)

3 - Fastener

4 - Front parking aid warning buzzer - H22-

- ☐ At central tube for dash panel behind dash panel cover (driver side)
- ☐ Removing and installing ⇒ [page 153](#)

5 - Fastener

6 - Front left sender for park assist steering on left side of vehicle - G568-

- ☐ Only on vehicles with park assist steering
- ☐ Removing and installing ⇒ [page 153](#)

7 - Front left parking aid sender - G255-

- ☐ In front bumper
- ☐ Removing and installing ⇒ [page 153](#)

8 - Front centre left parking aid sender - G254-

- ☐ In radiator grille
- ☐ Removing and installing ⇒ [page 153](#)

9 - Front centre right parking aid sender - G253-

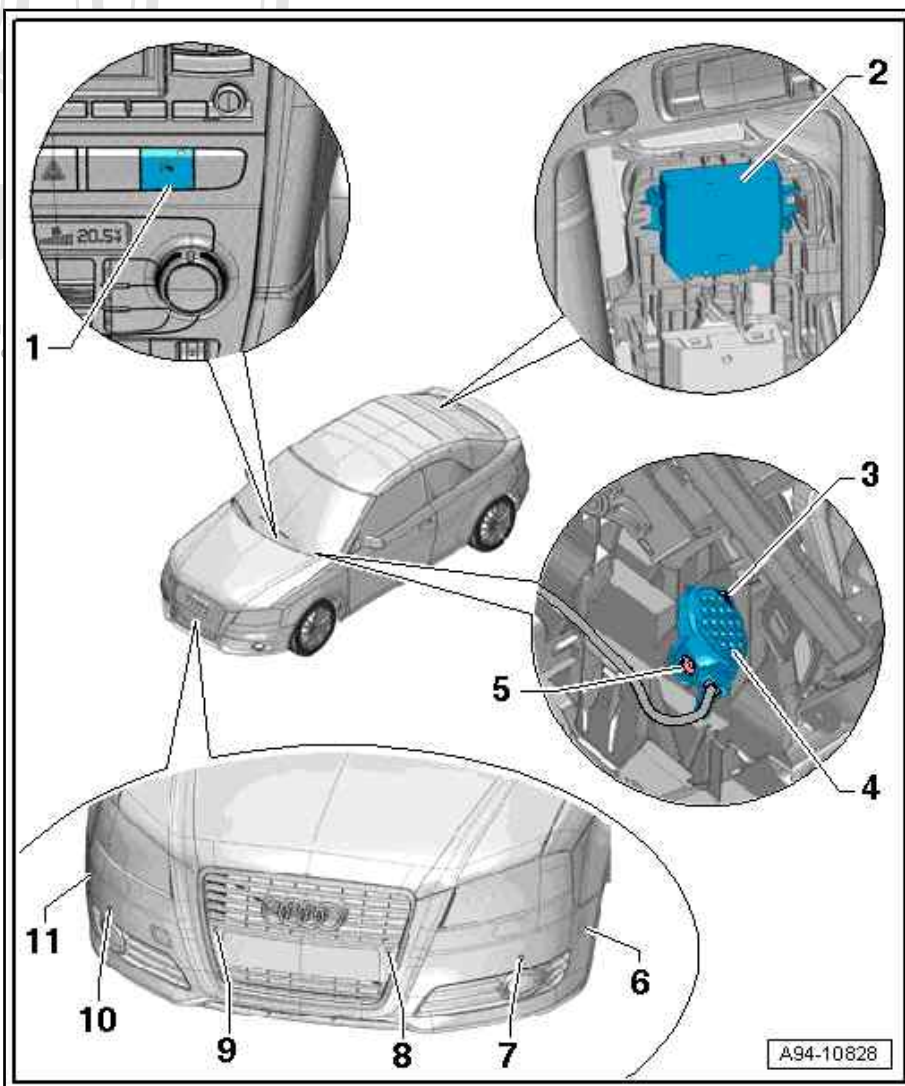
- ☐ In radiator grille
- ☐ Removing and installing ⇒ [page 153](#)

10 - Front right parking aid sender - G252-

- ☐ In front bumper
- ☐ Removing and installing ⇒ [page 153](#)

11 - Front right sender for park assist steering on right side of vehicle - G569-

- ☐ Only on vehicles with park assist steering
- ☐ Removing and installing ⇒ [page 153](#)



13.2 Removing and installing front parking aid warning buzzer - H22- - 8-channel parking aid

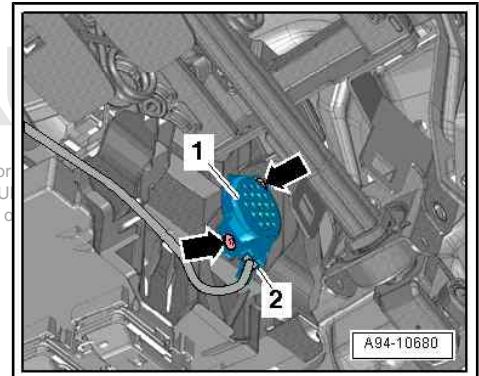
Removing

- Switch off ignition and remove ignition key.
- Remove dash panel cover (driver side) ⇒ Rep. gr. 68 .
- Remove bolts -arrows- and detach front parking aid warning buzzer - H22- -item 1-.
- Unplug electrical connector -2-.

Installing

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

- Install dash panel cover (driver side) ⇒ Rep. gr. 68 .



13.3 Removing and installing front parking aid senders -G252- / -G253- / -G254- / -G255-

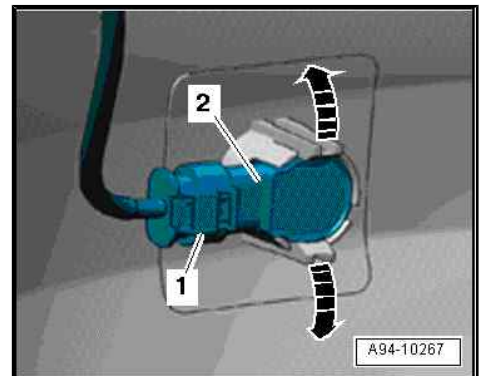
Removing

- Remove front bumper cover ⇒ Rep. gr. 63 .
- Press the two retaining tabs apart -arrows- and at the same time press out sender -2- from outside to inside.
- Unplug electrical connector -1- on sender.

Installing

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

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



13.4 Removing and installing front park assist steering senders -G568- / -G569-

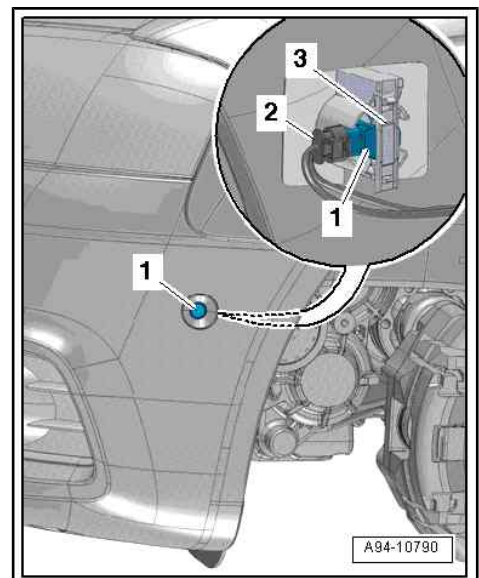
Removing

- Remove wheel housing liner (front) ⇒ Rep. gr. 66 .
- Unplug electrical connector -2-.
- Release retaining clip -3- and open.
- Press out front sender -1- for park assist steering from outside to inside.

Installing

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

- Install front wheel housing liner ⇒ Rep. gr. 66 .



13.5 Overview - parking aid (rear)

1 - Parking aid control unit - J446-

- ❑ Removing and installing
⇒ [page 154](#)

2 - Rear left parking aid sender - G203-

- ❑ Removing and installing
⇒ [page 155](#)

3 - Rear centre left parking aid sender - G204-

- ❑ Removing and installing
⇒ [page 155](#)

4 - Rear centre right parking aid sender - G205-

- ❑ Removing and installing
⇒ [page 155](#)

5 - Rear right parking aid sender - G206-

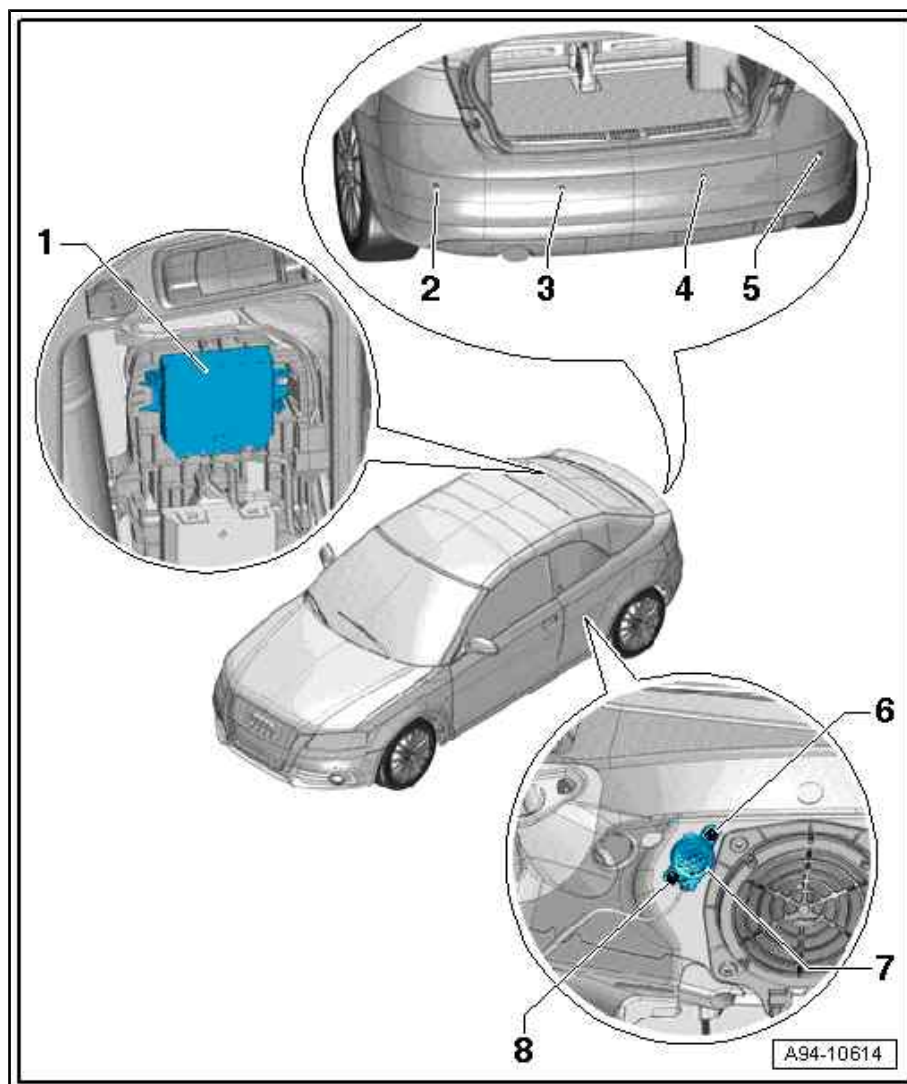
- ❑ Removing and installing
⇒ [page 155](#)

6 - Fastener

7 - Rear parking aid warning buzzer - H15-

- ❑ Removing and installing
⇒ [page 155](#)

8 - Fastener



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13.6 Removing and installing parking aid control unit - J446-

- If control unit is being renewed, select function “Replace” for corresponding control unit in “Guided Fault Finding” or “Guided Functions” mode ⇒ Vehicle diagnostic tester.

Removing

- Switch off ignition and remove ignition key.
- Open cover in luggage compartment side trim (right-side).

Vehicles with sound amplifier:

- Remove bracket for sound amplifier ⇒ Rep. gr. 91 .

Continued for all vehicles:

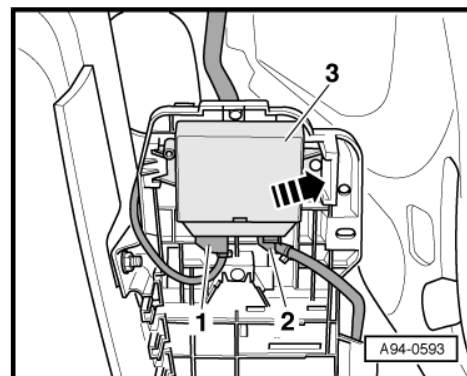
- Unplug electrical connectors -1- and -2-.
- Release clip -arrow- and remove parking aid control unit - J446- -item 3- from mounting frame.

Installing

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

Vehicles with sound amplifier:

- Install bracket for sound amplifier ⇒ Rep. gr. 91 .



13.7 Removing and installing rear parking aid warning buzzer - H15-

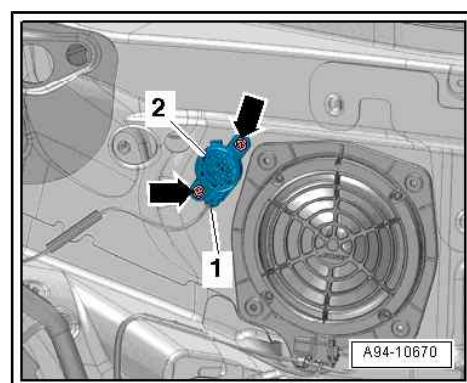
Removing

- Switch off ignition and remove ignition key.
- Remove rear left side trim ⇒ Rep. gr. 70 .
- Unplug electrical connector -1-.
- Remove bolts -arrows- and detach rear parking aid warning buzzer - H15- -item 2-.

Installing

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

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



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

Removing

Inner senders:

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

All senders (continued):

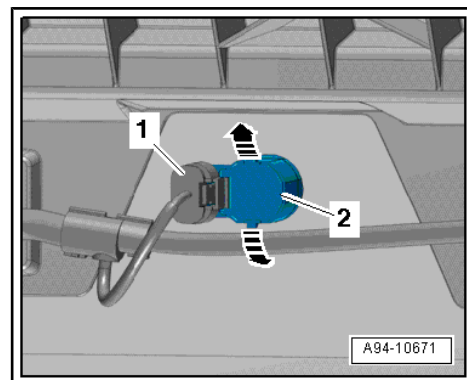
- Press the two retaining tabs apart -arrows- and at the same time press out sender -2- from outside to inside.
- Unplug electrical connector -1- on sender.

Installing

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

Inner senders:

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



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96 – Lights, bulbs, switches - interior

1 Lights and switches in dash panel

1.1 Overview - lights and switches in dash panel

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1 - Heated driver seat regulator - E94-

- ❑ Integrated in Climatronic control unit - J255- (may also be referred to as "front operating and display unit"). Cannot be renewed separately if defective
- ❑ Removing and installing Climatronic control unit - J255- → Rep. gr. 87

2 - Button

Vehicles without start/stop system

- ❑ Tyre Pressure Monitoring System button - E226-
- ❑ Removing and installing → [page 159](#)

Vehicles with start/stop system

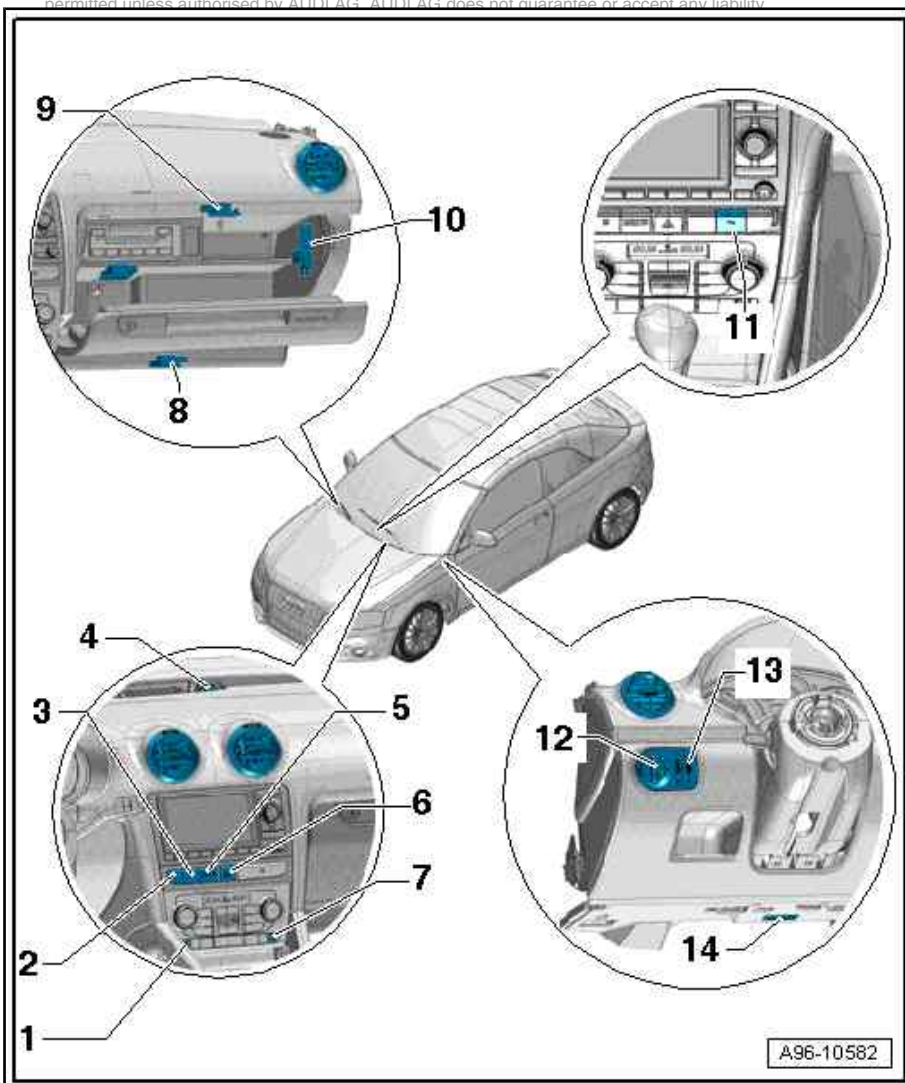
- ❑ Start/stop operation button - E693-
- ❑ Removing and installing → [page 159](#)

3 - TCS and ESP button - E256-

- ❑ Removing and installing → [page 160](#)

4 - Central locking SAFELOCK function warning lamp - K133-

- ❑ Removing and installing → [page 157](#)



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

- ❑ Removing and installing → [page 160](#)

6 - Hazard warning light switch - E3-

- ❑ Removing and installing → [page 158](#)

7 - Heated front passenger seat regulator - E95-

- ❑ Integrated in Climatronic control unit - J255- (may also be referred to as "front operating and display unit"). Cannot be renewed separately if defective
- ❑ Removing and installing Climatronic control unit - J255- → Rep. gr. 87

8 - Right footwell light - W10-

- ❑ 12 V, 5 W
- ❑ Removing and installing → [page 164](#)

9 - Glove compartment light - W6-

- ❑ 12 V, 5 W
- ❑ Removing and installing ⇒ [page 162](#)

10 - Glove compartment light switch - E26-

- ❑ Removing and installing ⇒ [page 163](#)

11 - Parking aid button - E266-

- ❑ Removing and installing ⇒ [page 161](#)

12 - Light switch - E1-

- ❑ Removing and installing ⇒ [page 157](#)

13 - Regulator/switch unit

- ❑ With switch and instrument illumination regulator - E20- , headlight range control regulator - E102- , daytime running lights switch - E579-
- ❑ Removing and installing ⇒ [page 158](#)

14 - Left footwell light - W9-

- ❑ 12 V, 5 W
- ❑ Removing and installing ⇒ [page 164](#)

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1.2 Removing and installing central locking SAFELOCK function warning lamp - K133-

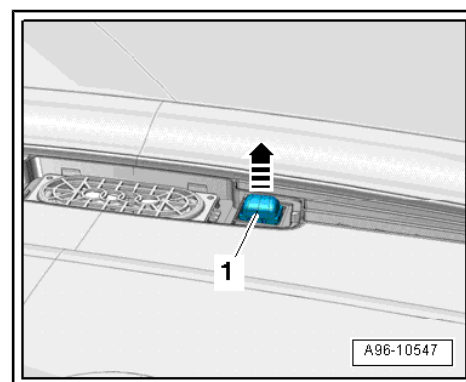
Removing

- Switch off ignition and remove ignition key.
- Remove loudspeaker trim (centre) ⇒ Rep. gr. 70 .
- Lift central locking SAFELOCK function warning lamp - K133- -item 1- out of dash panel -arrow-.
- Unplug electrical connector.

Installing

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

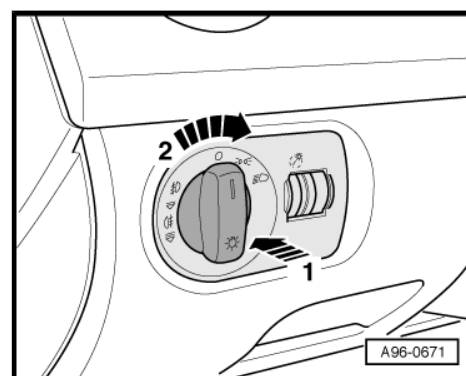
- Press central locking warning lamp in until it engages audibly.
- Install loudspeaker trim (centre) ⇒ Rep. gr. 70 .



1.3 Removing and installing light switch - E1-

Removing

- Switch off ignition and remove ignition key.
- Turn light switch to position "0".
- Press light switch -arrow 1- and simultaneously turn it clockwise -arrow 2-.
- Hold switch in this position.

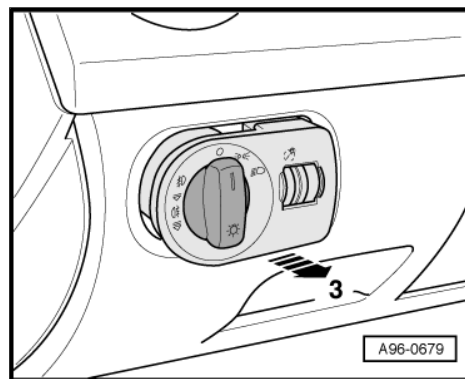


- At the same time, pull light switch out of switch housing -arrow 3-.
- Unplug electrical connector.

Installing

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

- Press switch into switch housing until catch engages.



1.4 Removing and installing regulator/switch unit (-E20-, -E102-) and “coming home” button

Depending on the vehicle's equipment, the switches and instruments light regulator - E20-, headlight range control adjuster - E102- and “coming home” button are located in a shared housing. If defective, they cannot be renewed separately, for allocation refer to ⇒ Electronic parts catalogue .

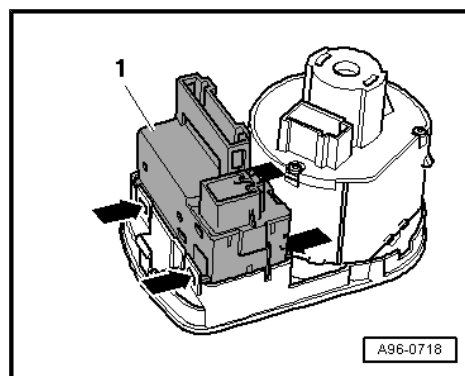
Removing

- Remove light switch - E1- ⇒ [page 157](#) .
- Release clips -arrows- and take out housing -item 1-.

Installing

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

- Install light switch - E1- ⇒ [page 157](#) .



1.5 Removing and installing hazard warning light switch - E3- - vehicles up to 01.2010

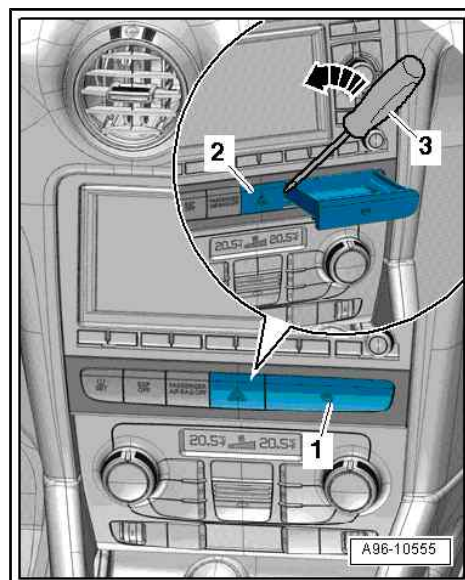
Removing

- Switch off ignition and remove ignition key.
- Open storage compartment -1-.
- Carefully pry hazard warning light switch - E3- -item 2- out of mounting frame -arrow- using a small screwdriver -3-.
- Unplug electrical connector.

Installing

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

- Push switch into mounting frame and engage.



1.6 Removing and installing tyre pressure monitor button - E226- - vehicles up to 01.2010

Removing



Note

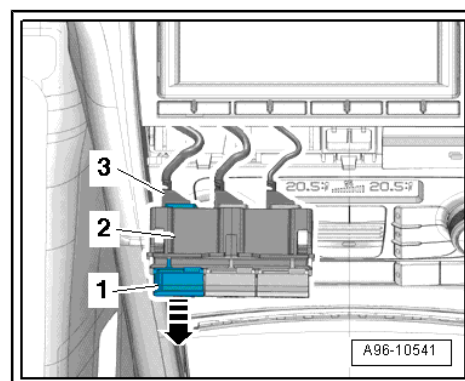
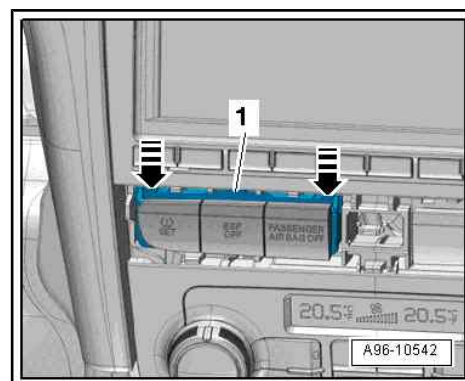
On vehicles with start/stop system, the tyre pressure monitor button - E226- is installed in the switch mounting on the right.

- Switch off ignition and remove ignition key.
- Remove hazard warning light switch - E3- ➔ [page 158](#) .
- Unclip switch unit trim ➔ Rep. gr. 70 .
- Release retaining clips -arrows- and pull out switch mounting -1-.
- Unplug electrical connector -3-.
- Press tyre pressure monitor button - E226- -item 1- out of switch mounting -2- -arrow-.

Installing

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

- Push button into switch mounting and engage.
- Install switch unit trim ➔ Rep. gr. 70 .
- Install hazard warning light switch - E3- ➔ [page 158](#) .

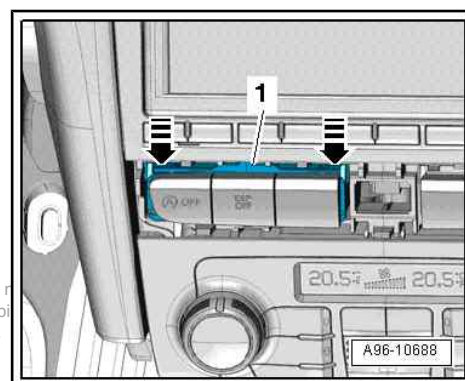


1.7 Removing and installing start/stop operation button - E693- - vehicles up to 01.2010

Removing

- Switch off ignition and remove ignition key.
- Remove hazard warning light switch - E3- ➔ [page 158](#) .
- Unclip switch unit trim ➔ Rep. gr. 70 .
- Release retaining clips -arrows- and pull out switch mounting -1-.

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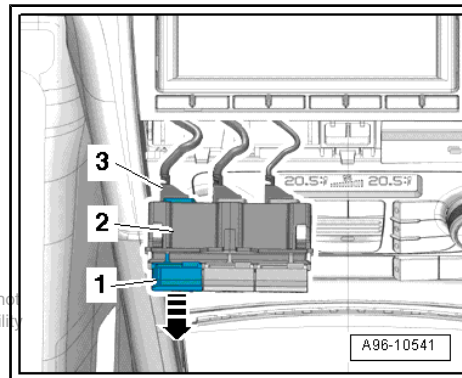


- Unplug electrical connector -3-.
- Press start/stop operation button - E693- -item 1- out of switch mounting -2- -arrow-.

Installing

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

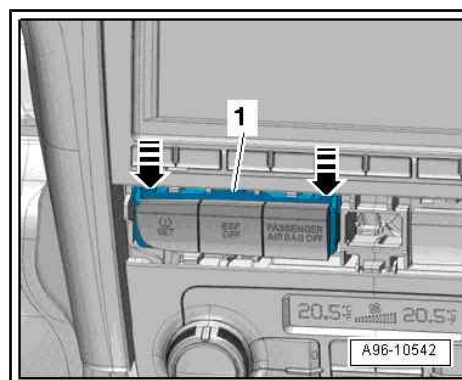
- Push button into switch mounting and engage.
- Install switch unit trim ⇒ Rep. gr. 70 .
- Install hazard warning light switch - E3- ⇒ [page 158](#) .



1.8 Removing and installing TCS and ESP button - E256- - vehicles up to 01.2010

Removing

- Switch off ignition and remove ignition key.
- Remove hazard warning light switch - E3- ⇒ [page 158](#) .
- Unclip switch unit trim ⇒ Rep. gr. 70 .
- Release retaining clips -arrows- and pull out switch mounting -1-.

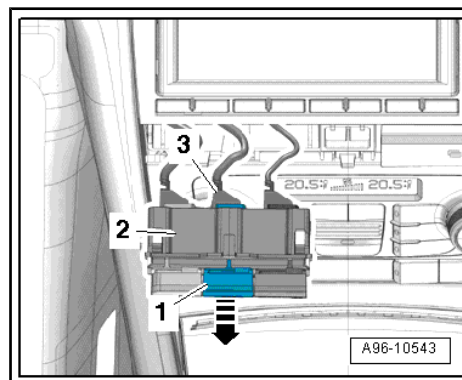


- Unplug electrical connector -3-.
- Press TCS and ESP button - E256- -item 1- out of switch mounting -2- -arrow-.

Installing

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

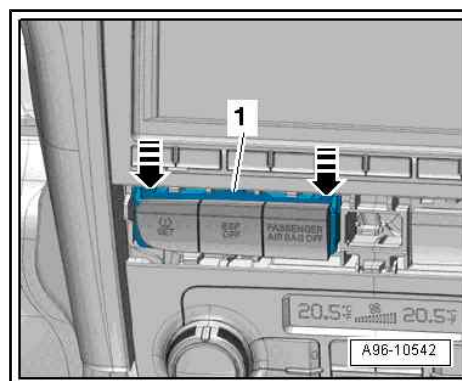
- Push button into switch mounting and engage.
- Install switch unit trim ⇒ Rep. gr. 70 .
- Install hazard warning light switch - E3- ⇒ [page 158](#) .



1.9 Removing and installing warning lamp for airbag deactivated on front passenger side - K145- - vehicles up to 01.2010

Removing

- Switch off ignition and remove ignition key.
- Remove hazard warning light switch - E3- ⇒ [page 158](#) .
- Unclip switch unit trim ⇒ Rep. gr. 70 .
- Release retaining clips -arrows- and pull out switch mounting -1-.

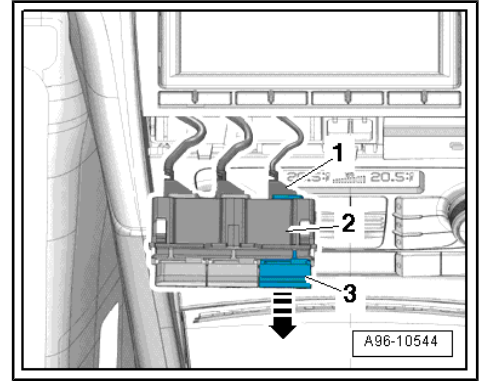


- Unplug electrical connector -1-.
- Press warning lamp for airbag deactivated on front passenger side - K145- -item 3- out of switch mounting -2- -arrow-.

Installing

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

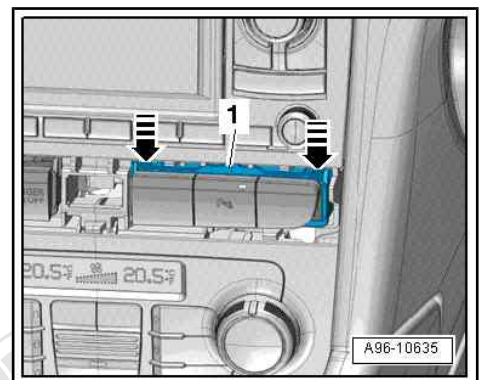
- Push warning lamp into switch mounting and engage.
- Install switch unit trim ⇒ Rep. gr. 70 .
- Install hazard warning light switch - E3- ⇒ [page 158](#) .



1.10 Removing and installing parking aid button - E266- - vehicles up to 01.2010

Removing

- Switch off ignition and remove ignition key.
- Remove hazard warning light switch - E3- ⇒ [page 158](#) .
- Unclip switch unit trim ⇒ Rep. gr. 70 .
- Release retaining clips -arrows- and pull out switch mounting -1-.

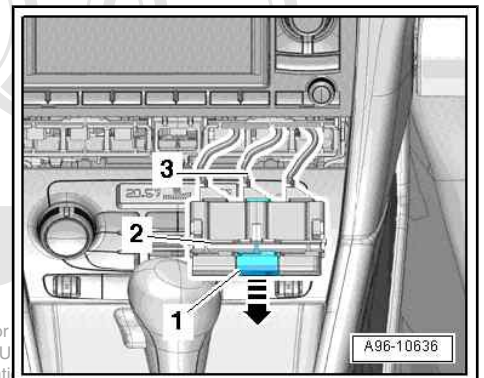


- Unplug electrical connector -3-.
- Press parking aid button - E266- -item 1- out of switch mounting -2- -arrow-.

Installing

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

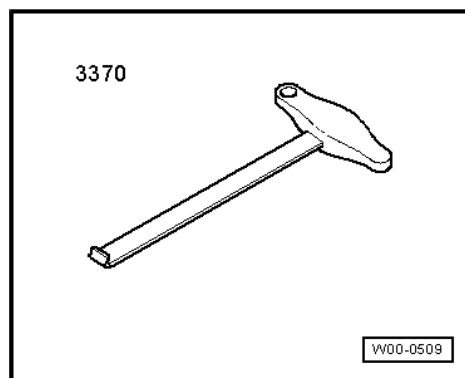
- Push warning lamp into switch mounting and engage.
- Install switch unit trim ⇒ Rep. gr. 70 .
- Install hazard warning light switch - E3- ⇒ [page 158](#) .



1.11 Removing and installing switches in dash panel - vehicles from 01.2010 onwards

Special tools and workshop equipment required

◆ Front-end hook - 3370-

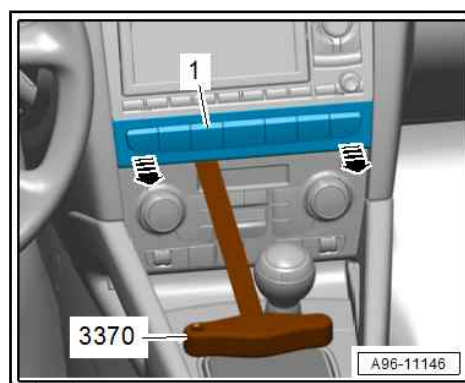


Removing

- Carefully release catches on switch unit; to do so insert front-end hook - 3370- behind switch unit -1- and pull carefully -arrows-.
- Unplug electrical connectors and remove switch unit.

Installing

Installation is carried out in reverse sequence.



1.12 Removing and installing front heated seat regulator -E94- / -E95-

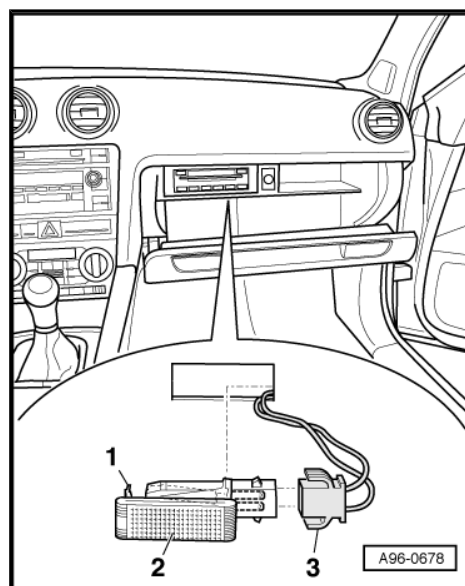
The front heated seat regulators are integrated into the Climatronic control unit - J255- (may also be referred to as “front operating and display unit”). They cannot be renewed separately.

- Removing and installing Climatronic control unit - J255- ⇒ Rep. gr. 87 .

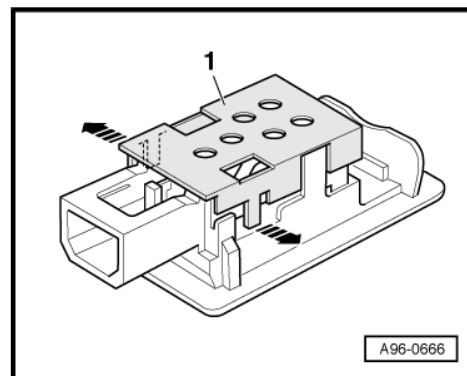
1.13 Removing and installing glove compartment light - W6-

Removing

- Turn light switch to position “0”.
- Use a flat screwdriver to press in retaining tab -1- and pry out glove compartment light -2-.
- Unplug electrical connector -3-.



- To renew bulb, release clips -arrows- and detach cover -1- over bulb.

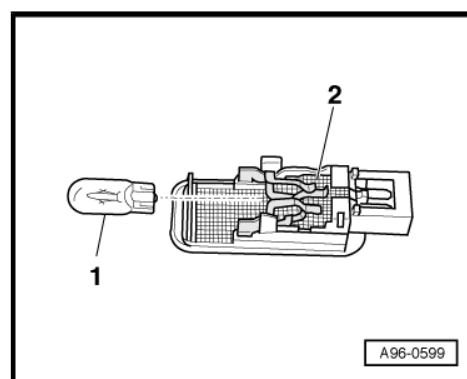


- Remove bulb -1- from bulb holder -2- on reverse side of glove compartment light.

Installing

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

- Plug in electrical connector.
- Insert glove compartment light in opening and engage on opposite side.



1.14 Removing and installing glove compartment light switch - E26-

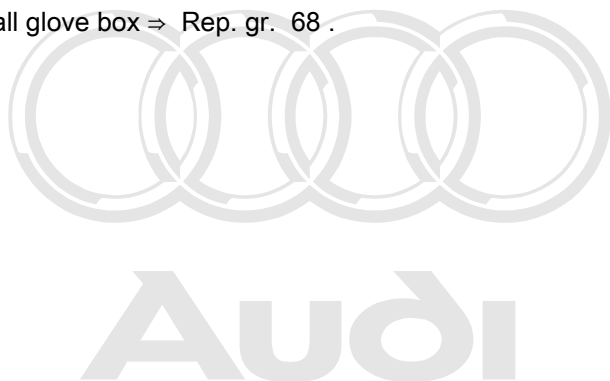
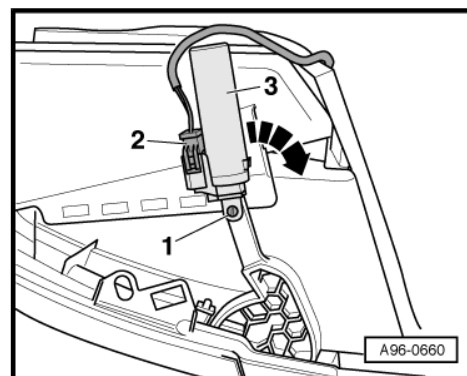
Removing

- Switch off ignition and remove ignition key.
- Remove glove box ⇒ Rep. gr. 68 .
- Unplug electrical connector -2-.
- Pull out hinge pin -1-.
- Open removed glove box.
- Release switch -3- in clockwise direction -arrow- and detach.

Installing

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

- Install glove box ⇒ Rep. gr. 68 .



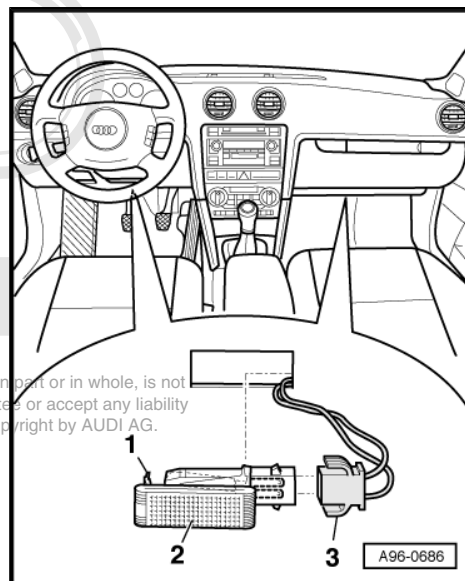
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1.15 Removing and installing bulb for footwell light -W9- / -W10-

Removing

- Use a flat screwdriver to press in retaining tab -1- and pry out footwell light -2-.
- Unplug electrical connector -3-.

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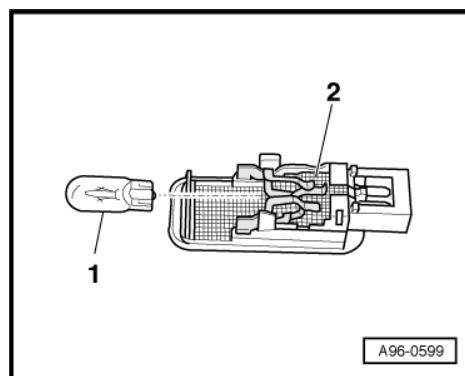


- Remove bulb -1- from bulb holder -2- on reverse side of footwell light.

Installing

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

- Insert footwell light in opening and engage on opposite side.



2 Lights and switches in front doors

2.1 Overview - lights and switches in front doors

1 - Driver door opener illumination bulb - L108-

- ☐ Removing and installing
⇒ [page 168](#)

2 - Driver side interior locking button for central locking system - E308-

- ☐ Removing and installing
⇒ [page 168](#)

3 - Mirror adjustment switch

- ☐ Mirror adjustment switch - E43- or adjustment switch for mirror with fold-in feature - E168-
- ☐ Removing and installing
⇒ [page 166](#)

4 - Operating unit for window regulator in driver door - E512-

- ☐ With central switch for window regulators in driver door - E189-, front left window regulator switch - E40-, front right window regulator switch in driver door - E81-, rear left window regulator switch, in driver door - E53-, rear right window regulator switch, in driver door - E55-
- ☐ Removing and installing
⇒ [page 167](#)

5 - Front passenger side interior locking button for central locking system - E309-

- ☐ Removing and installing ⇒ [page 168](#)

6 - Front passenger door opener illumination bulb - L109-

- ☐ Removing and installing ⇒ [page 168](#)

7 - Window regulator switch in front passenger door - E107-

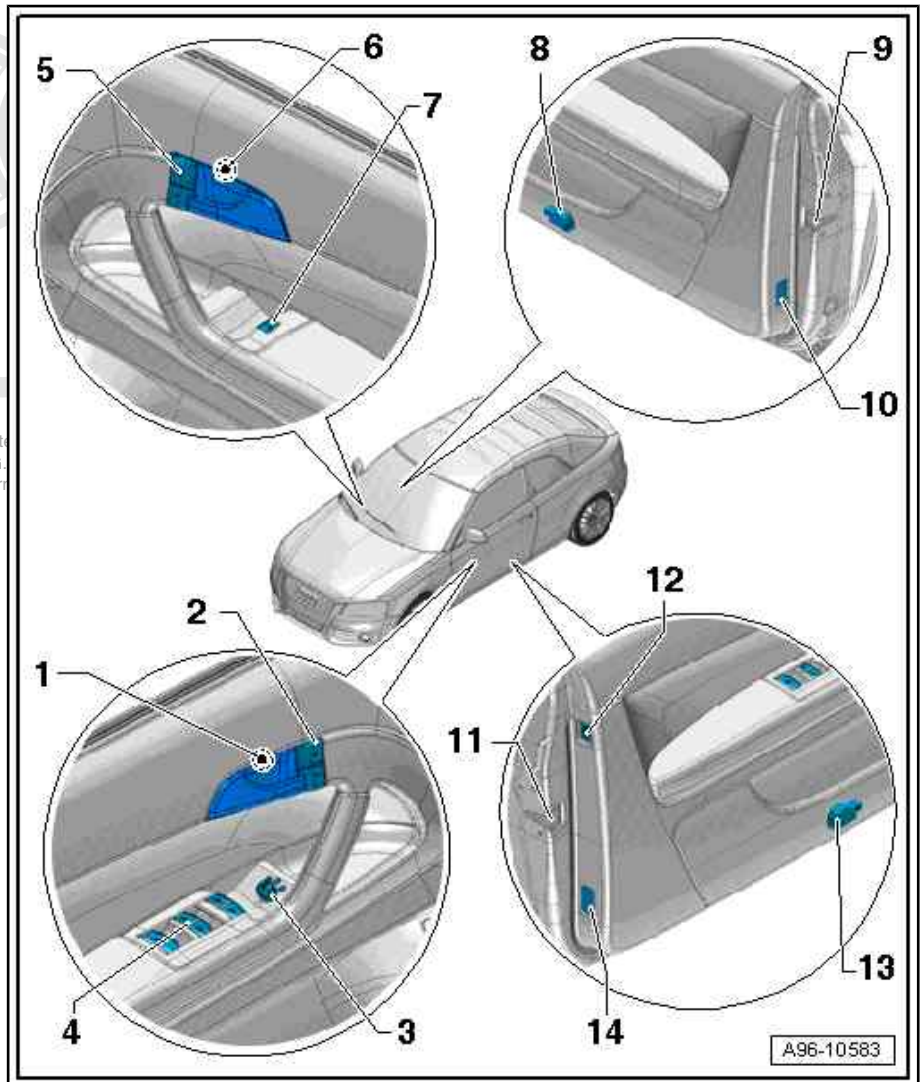
- ☐ Removing and installing ⇒ [page 167](#)

8 - Front right entry light - W32-

- ☐ 12 V, 5 W
- ☐ Removing and installing ⇒ [page 170](#)

9 - Front passenger door contact switch - F3-

- ☐ Integrated in door lock. Cannot be renewed separately if defective
- ☐ Removing and installing door lock ⇒ Rep. gr. 57



10 - Front passenger side door warning lamp - W36-

- ☐ 12 V, 5 W
- ☐ Removing and installing ⇒ [page 170](#)

11 - Driver door contact switch - F2-

- ☐ Integrated in door lock. Cannot be renewed separately if defective
- ☐ Removing and installing door lock ⇒ Rep. gr. 57

12 - Interior monitoring switch - E183- / alarm system off switch - E217-

- ☐ Removing and installing ⇒ [page 169](#)

13 - Front left entry light - W31-

- ☐ 12 V, 5 W
- ☐ Removing and installing ⇒ [page 170](#)

14 - Driver side door warning lamp - W30-

- ☐ 12 V, 5 W
- ☐ Removing and installing ⇒ [page 170](#)

2.2 Removing and installing mirror adjustment switch -E43- / -E168-

Removing

- Switch off ignition and remove ignition key.
- Remove door trim (front) ⇒ Rep. gr. 70 .
- Remove armrest ⇒ Rep. gr. 70 .
- Use small screwdriver to carefully release retaining hooks -arrows-.
- Pull mirror adjustment switch -1- downwards out of switch mounting.

Installing

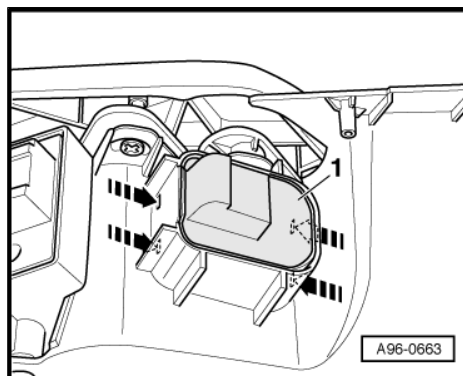
Installation is carried out in reverse order; note the following:



Note

When installing, make sure symbol panel is inserted before mirror adjustment switch.

- Press mirror adjustment switch into switch mounting until retaining hooks engage.
- Install armrest ⇒ Rep. gr. 70 .
- Install door trim (front) ⇒ Rep. gr. 70 .



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2.3 Removing and installing operating unit for window regulator in driver door - E512-

Removing

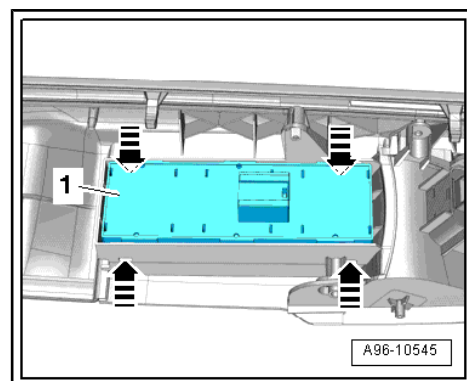
- Remove door trim (front) ⇒ Rep. gr. 70 .
- Remove armrest ⇒ Rep. gr. 70 .
- Use small screwdriver to carefully release retaining hooks -arrows-.
- Pull operating unit for window regulator in driver door - E512-item 1- downwards out of switch mounting.

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Installing

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

- Press operating unit for window regulator in driver door - E512- into switch mounting until retaining hooks engage.
- Install armrest ⇒ Rep. gr. 70 .
- Install door trim (front) ⇒ Rep. gr. 70 .



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

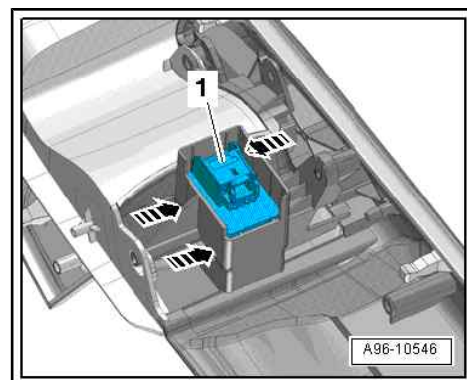
Removing

- Switch off ignition and remove ignition key.
- Remove door trim (front) ⇒ Rep. gr. 70 .
- Remove armrest ⇒ Rep. gr. 70 .
- Use small screwdriver to carefully release retaining hooks -arrows-.
- Pull window regulator switch in front passenger door - E107-item 1- downwards out of switch mounting.

Installing

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

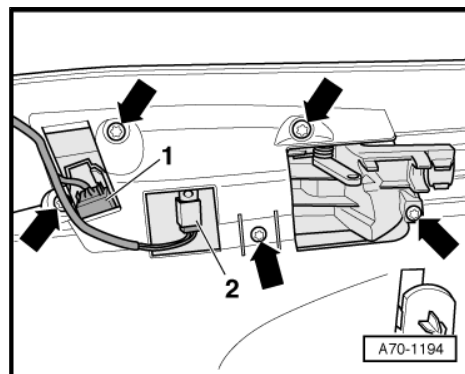
- Press window regulator switch in front passenger door - E107- into switch mounting until retaining hooks engage.
- Install armrest ⇒ Rep. gr. 70 .
- Install door trim (front) ⇒ Rep. gr. 70 .



2.5 Removing and installing interior locking button for central locking system - E308- / -E309-

Removing

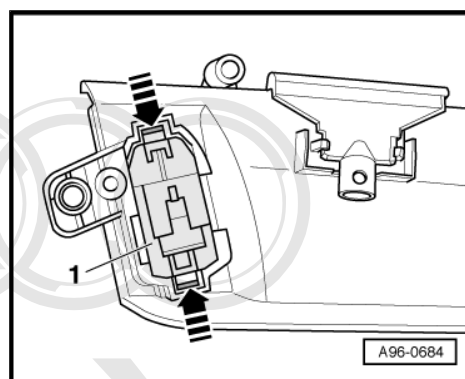
- Switch off ignition and remove ignition key.
- Remove door trim (front) ⇒ Rep. gr. 70 .
- Detach soundproofing mat from door trim in upper area.
- Unplug electrical connector -1-.
- If fitted, pull door opener illumination bulb -2- out of bulb holder at door release.
- Remove bolts -arrows-.
- Take interior door handle out of door trim.
- Release retaining clips -arrows- and press central locking switch -1- out of door trim towards vehicle interior.



Installing

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

- Press central locking switch into switch mounting until fasteners engage.
- Install interior door handle ⇒ Rep. gr. 70 .
- Install door trim (front) ⇒ Rep. gr. 70 .



2.6 Removing and installing door opener illumination bulb -L108- / -L109-

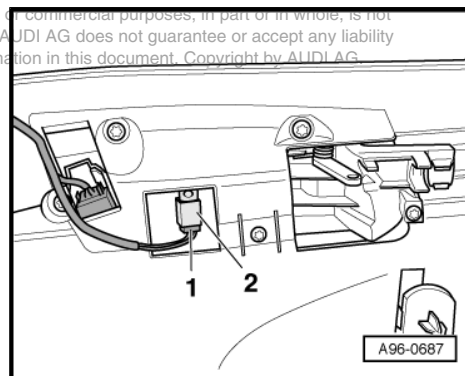
Removing

- Remove door trim (front) ⇒ Rep. gr. 70 .
- Detach soundproofing mat from door trim in upper area.
- Pull bulb -2- out of bulb holder at door release.
- Unplug electrical connector -1- from holder.

Installing

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

- Plug in electrical connector.
- Insert door opener illumination bulb in opening and engage.
- Install door trim (front) ⇒ Rep. gr. 70 .



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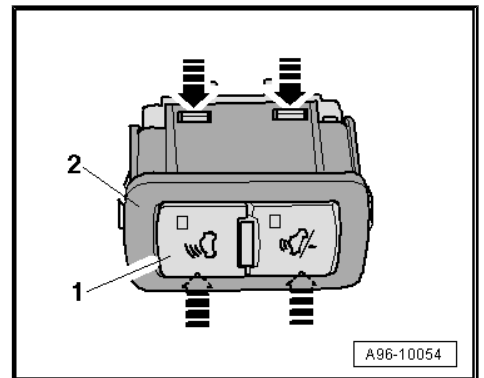
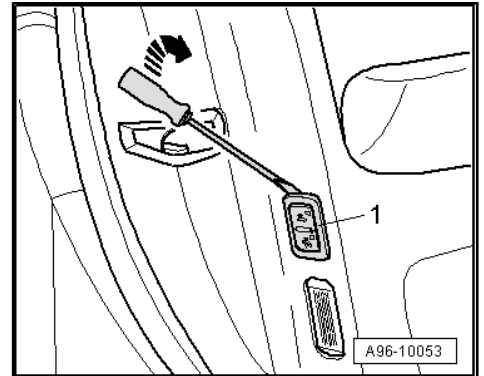
2.7 Removing and installing interior monitoring deactivation switch - E183- and alarm system off switch - E217-

Removing

- Switch off ignition and remove ignition key.
- Carefully pry trim -1- out of door trim -arrow- using a small screwdriver -2-.
- Unplug electrical connector.
- Carefully release retaining hooks -arrows- using a small screwdriver.
- Remove interior monitoring switch - E183- and alarm system off switch - E217- -item 1- from trim -2- towards rear.

Installing

Installation is carried out in reverse sequence.



2.8 Removing and installing door contact switch -F2- / -F3-

The door contact switch is located in the door lock and cannot be renewed separately if defective.

- Removing and installing front door lock ⇒ Rep. gr. 57 .



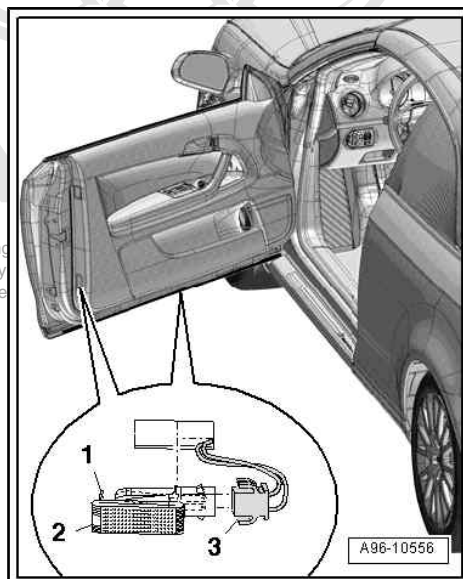
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2.9 Removing and installing front entry light -W31- / -W32- and door warning lamp -W30- / -W36-

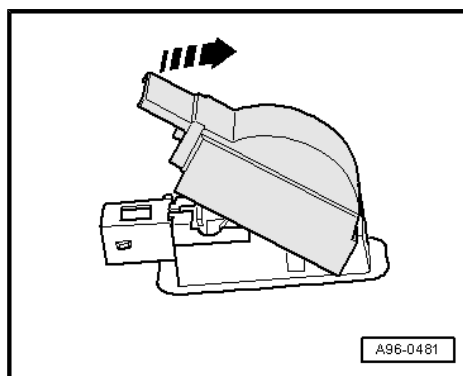
Removing

- Use a flat screwdriver to press in retaining tab -1- and pry out entry light / door warning lamp -2-.
- Unplug electrical connector -3-.

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- To renew bulb, carefully pry off cover (if fitted) at door warning lamp -arrow-.

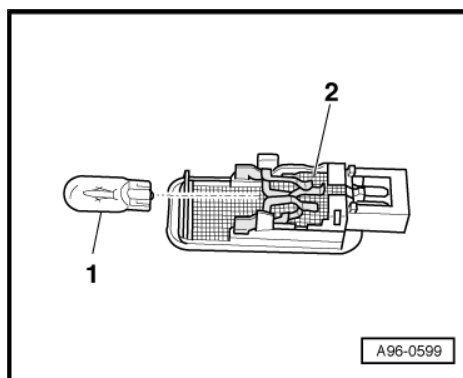


- Take bulb -1- on back of door warning lamp/entry light out of bulb holder -2-.

Installing

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

- If fitted previously, attach cover at door warning lamp.
- Plug in electrical connector.
- Insert door warning light/entry light in opening and engage on opposite side.



3 Lights and switches in centre console, front seats, luggage compartment

3.1 Overview - lights and switches in centre console, front seats, luggage compartment

1 - Selector lever position display - Y26- with selector lever display illumination bulb - L101-

- ☐ Removing and installing
⇒ [page 172](#)

2 - Cigarette lighter - U1-

- ☐ Removing and installing
⇒ [page 61](#)

3 - Convertible roof actuation button - E137-

- ☐ Removing and installing
⇒ [page 172](#)

4 - Heated rear left seat switch with regulator - E128-

- ☐ Removing and installing
⇒ [page 173](#)

5 - Heated rear right seat switch with regulator - E129-

- ☐ Removing and installing
⇒ [page 173](#)

6 - Electric socket - U-

- ☐ Removing and installing
⇒ [page 64](#)

7 - Right luggage compartment light - W35-

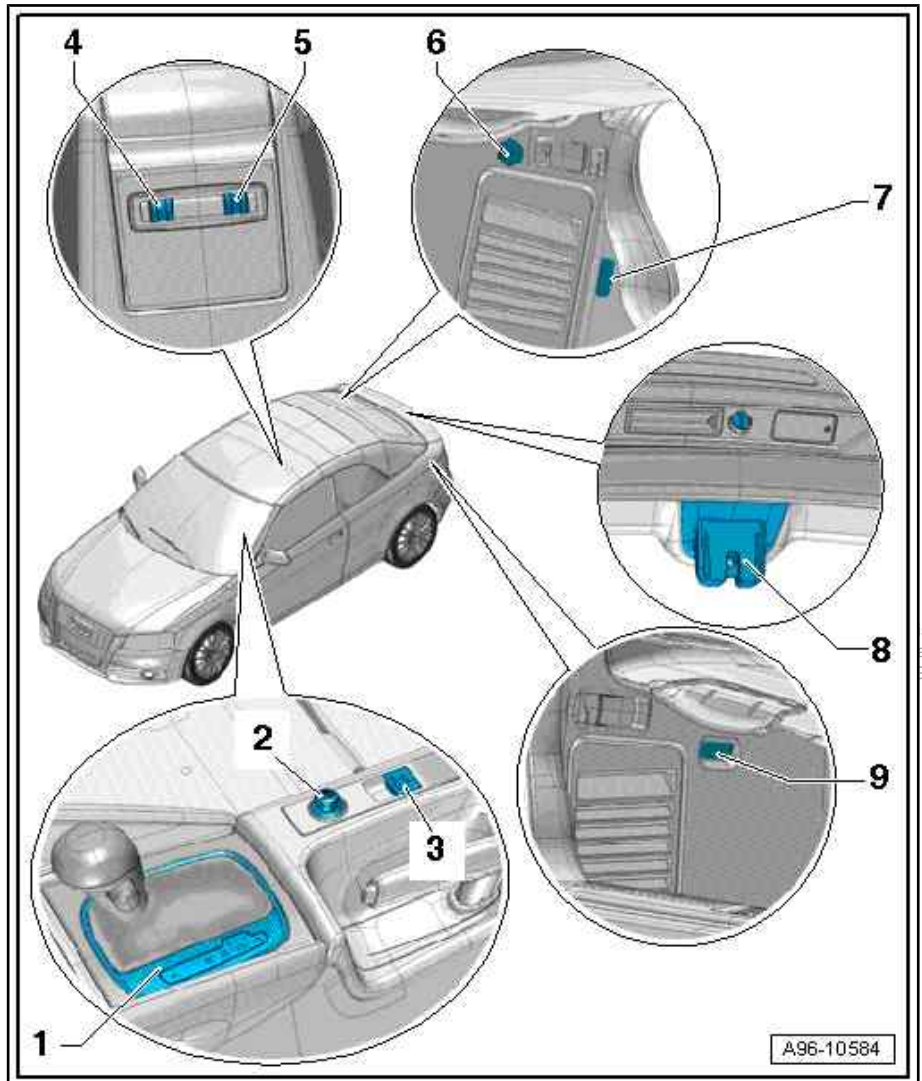
- ☐ 12 V, 5 W
- ☐ Removing and installing
⇒ [page 173](#)

8 - Rear lid contact switch

- ☐ Removing and installing
⇒ [page 174](#)

9 - Luggage compartment light on left - W18-

- ☐ 12 V, 5 W
- ☐ Removing and installing ⇒ [page 173](#)

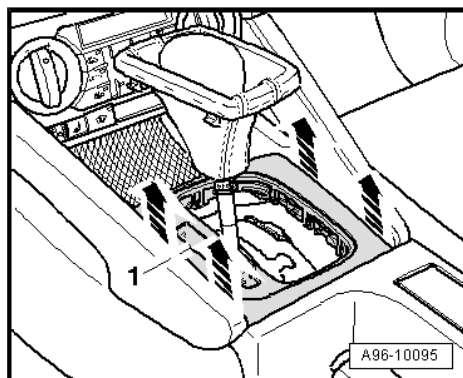
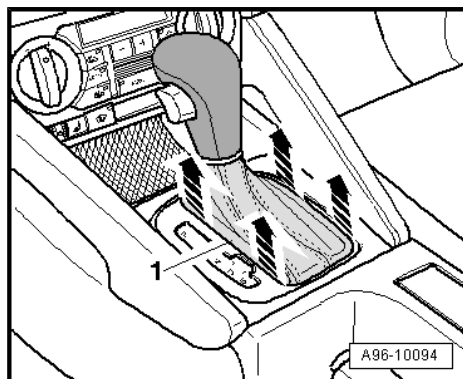


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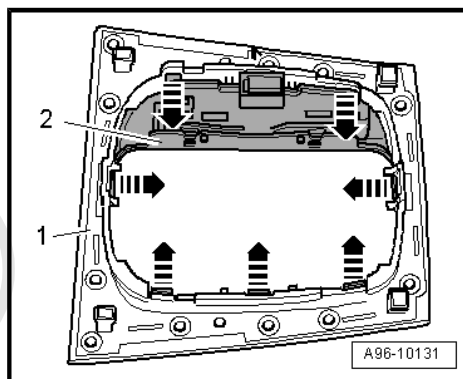
3.2 Removing and installing selector lever position display - Y26- with selector lever display illumination bulb - L101-

Removing

- Shift selector lever to “N” position.
- Switch off ignition and remove ignition key.
- Unclip retaining frame for selector lever boot -1- from centre console and detach upwards -arrows-.
- Pull up boot for selector lever and turn inside out.
- Unclip trim frame for selector lever -1- from centre console and detach upwards -arrows-.
- Remove trim for selector lever.
- Unplug electrical connector.



- Release retaining springs -arrows- and remove trim frame together with selector lever display unit -2- and trim for selector lever -1-.



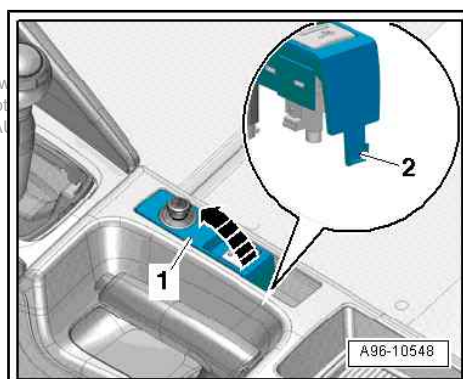
Installing

Installation is carried out in reverse sequence.

3.3 Removing and installing convertible roof actuation button - E137-

Removing

- Switch off ignition and remove ignition key.
- Release retaining clip -2- with a small screwdriver.
- Swivel switch mounting -1- out of centre console -arrow-.
- Unplug electrical connectors.

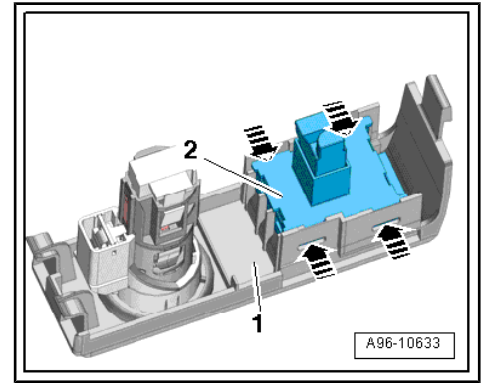


- Use small screwdriver to carefully release retaining hooks -arrows-.
- Pull convertible roof actuation button - E137- -item 2- downwards out of switch mounting -1-.

Installing

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

- Press convertible roof actuation button - E137- into switch mounting until retaining hooks engage.



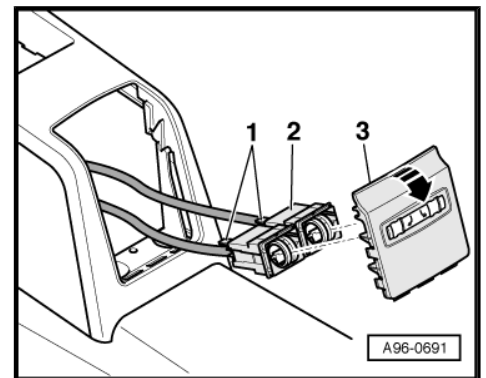
3.4 Removing and installing heated rear seat switch with regulator -E128- / -E129-

Removing

- Switch off ignition and remove ignition key.
- Take out rear ashtray.
- Pull switch mounting -3- at top edge out of retainer in direction of -arrow-.
- Disengage switch mounting at bottom.
- Unplug electrical connectors -1-.
- Unclip switches -2- from switch mounting.

Installing

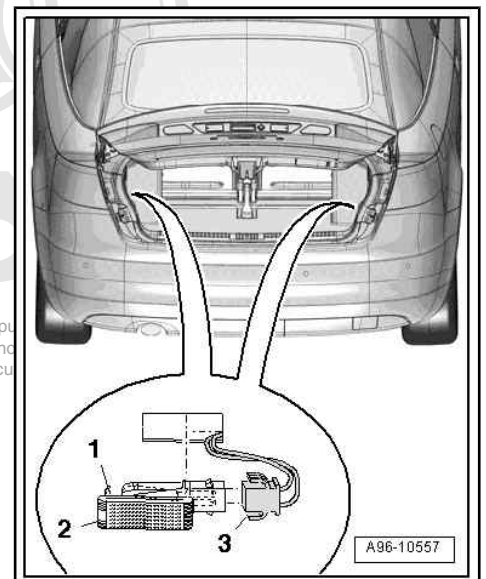
Installation is carried out in reverse sequence.



3.5 Removing and installing luggage compartment light -W18- / -W35-

Removing

- Use a flat screwdriver to press in retaining tab -1- and pry out luggage compartment light -2-.
- Unplug electrical connector -3-.



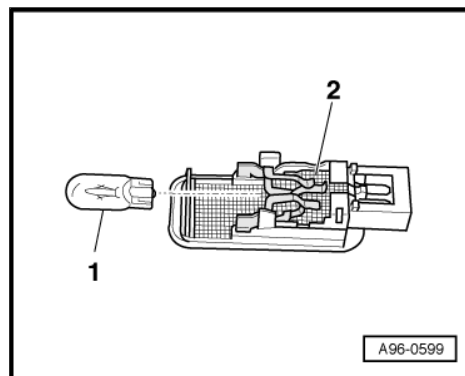
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- Remove bulb -1- from bulb holder -2- on reverse side of luggage compartment light.

Installing

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

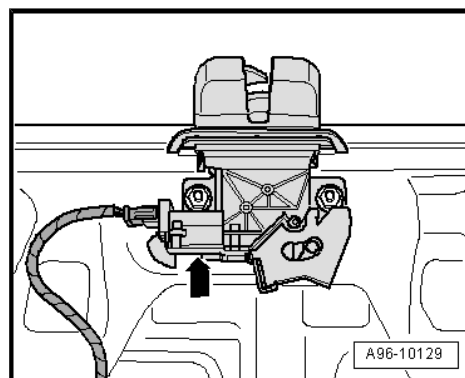
- Plug in electrical connector.
- Insert luggage compartment light in opening and engage on opposite side.



3.6 Removing and installing rear lid contact switch

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

- Removing and installing rear lid lock ⇒ Rep. gr. 55 .



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4 Lights and switches in roof trim

4.1 Overview - lights and switches in roof trim

1 - Bolt

- ☐ 2.5 Nm

2 - Retaining clip

- ☐ For garage door operation control unit - J530-

3 - Garage door operation control unit - J530-

- ☐ Removing and installing
⇒ [page 178](#)

4 - Interior light/reading light (front)

- ☐ 12 V, 5 W
- ☐ Removing and installing
⇒ [page 176](#)
- ☐ Front interior light - W1- . Removing and installing
⇒ [page 177](#)
- ☐ Front passenger reading light - W13- . Removing and installing
⇒ [page 177](#)
- ☐ Driver side reading light - W19- . Removing and installing
⇒ [page 177](#)

5 - Garage door operating unit - E284-

- ☐ Removing and installing
⇒ [page 178](#)

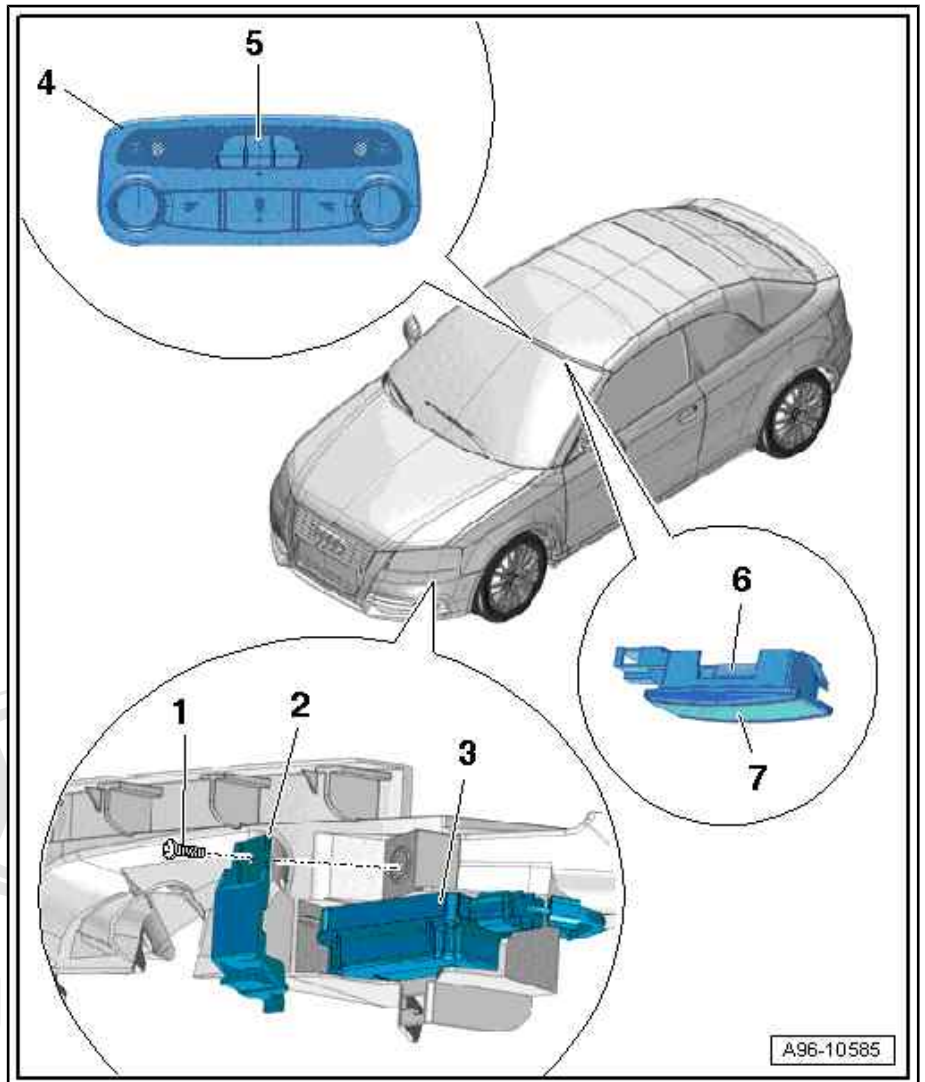
6 - Vanity mirror light bulb

- ☐ 12 V, 5 W
- ☐ Removing and installing
⇒ [page 176](#)

7 - Illuminated vanity mirror

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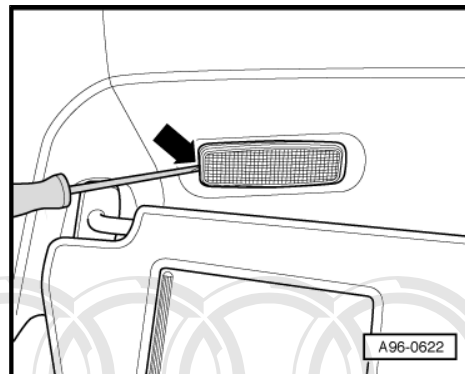
- ☐ Driver side illuminated vanity mirror - W20-
- ☐ Front passenger side illuminated vanity mirror - W14-
- ☐ Removing and installing ⇒ [page 176](#)



4.2 Removing and installing illuminated vanity mirror -W20- / -W14-

Removing

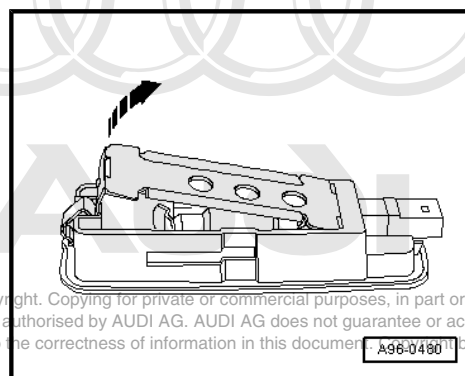
- Carefully pry out vanity mirror light at slot -arrow- using a flat screwdriver.
- Unplug electrical connector.



- Detach cover -arrow- to renew bulb.
- Remove bulb on reverse side of vanity mirror light from bulb holder.

Installing

Installation is carried out in reverse sequence.



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4.3 Removing and installing contact switch for vanity mirror -F147- / -F148-

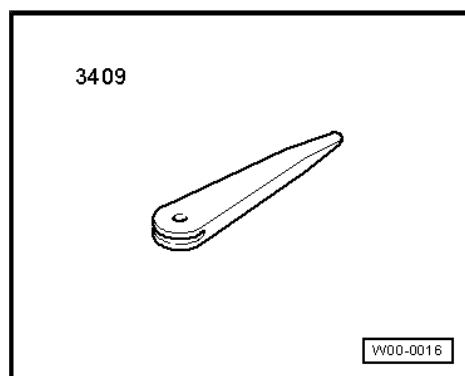
The contact switch for the vanity mirror is located in the sun visor bracket and cannot be renewed separately if defective.

- Removing and installing sun visor ⇒ Rep. gr. 70 .

4.4 Removing and installing interior light/reading light (front)

Special tools and workshop equipment required

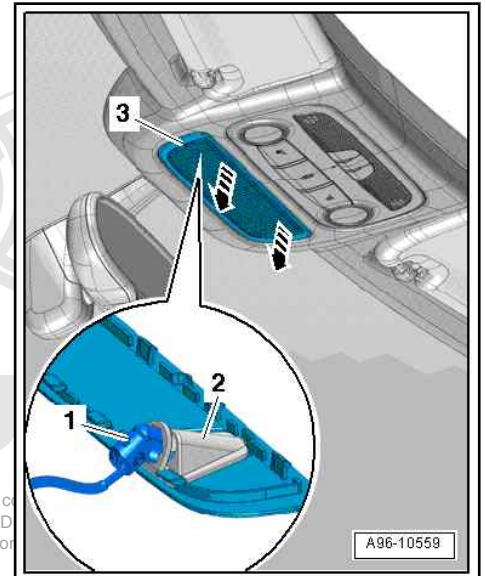
- ◆ Removal wedge - 3409-



Removing

Vehicles with anti-theft alarm:

- Unclip trim panel -3- from bottom of windscreen frame trim -arrows-.
- Carefully unclip individual sensor "2" -item 1- for interior monitoring from mounting -2-.



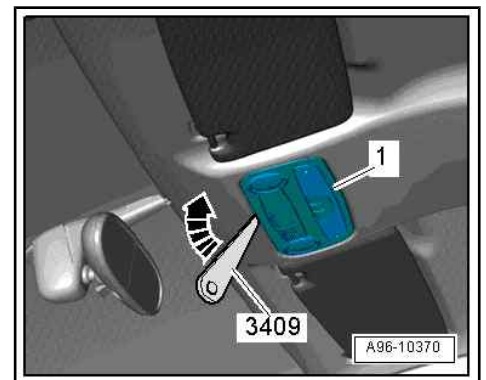
Continued for all vehicles:

- Carefully pry interior light/reading light -1- out of opening in windscreen frame using removal wedge - 3409- -arrow-.
- Unplug electrical connectors.

Installing

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

- Insert interior light/reading light in opening in windscreen frame and clip into place.



4.5 Renewing interior light/reading light bulbs (front) -W1- / -W13- / -W19-

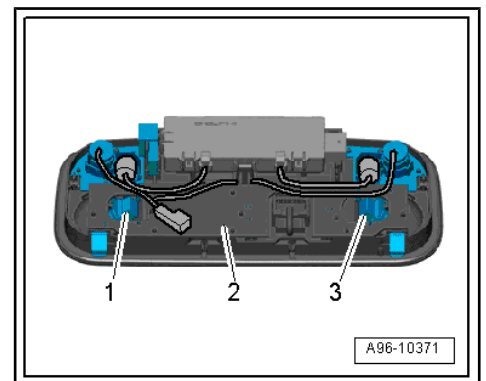
Removing

- Remove interior light/reading light (front) ➔ [page 176](#) .
- Unscrew bulb holder -1- or -3- from interior light/reading light -2-.
- Unscrew bulb from bulb holder.

Installing

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

- Insert interior light/reading light in opening in windscreen frame and clip into place.



4.6 Removing and installing LED for background lighting

The LED for background lighting is located in the interior light/reading light (front) and cannot be renewed separately if defective.

- Removing and installing interior light/reading light (front) ➔ [page 176](#)

4.7 Removing and installing garage door operation control unit - J530-

Removing

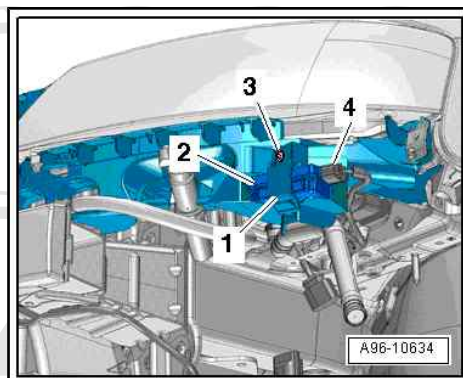
- Remove front bumper cover ⇒ Rep. gr. 63 .
- Remove bolt -3- and disengage retaining clip -1-.
- Pull garage door operation control unit - J530- -item 2- out of headlight mounting and unplug electrical connector -4-.

Installing

- Tightening torque ⇒ [page 175](#)

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

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

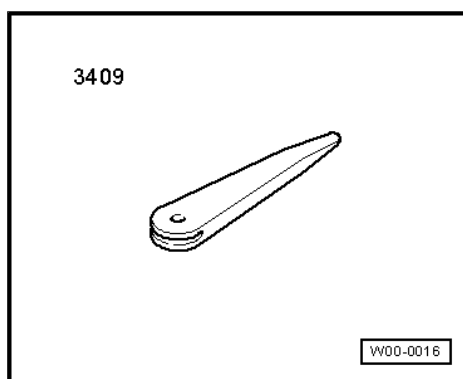


4.8 Removing and installing garage door operating unit - E284-

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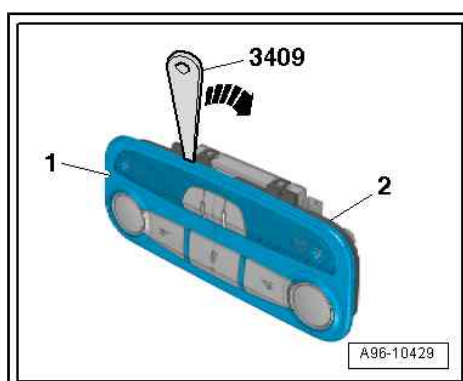
Special tools and workshop equipment required

- ◆ Removal wedge - 3409-



Removing

- Remove interior light/reading light (front) ⇒ [page 176](#) .
- Carefully pry light lens -1- off retainer -2- in direction of -arrow- using removal wedge - 3409- .

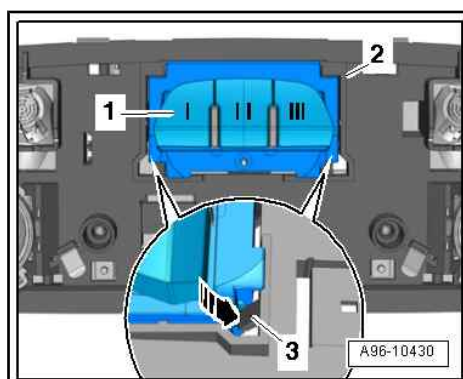


- Use a small screwdriver to release retaining clips -3- in direction of -arrow- and swivel garage door operating unit - E284- -item 1- out of interior light/reading light -2-.

Installing

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

- Press on lens for interior light/reading light (front) until it engages.
- Insert interior light/reading light in opening in windscreen frame and clip into place.



5 Immobiliser

- ◆ The immobiliser control unit is integrated in the instrument cluster ⇒ Electrical system; General information; Rep. gr. 96 ; Immobiliser .
- ◆ Fitting location of immobiliser control unit: in instrument cluster. Removing and installing ⇒ [page 53](#)
- ◆ If control unit is being renewed, select function “Replace” for corresponding control unit in “Guided Fault Finding” or “Guided Functions” mode ⇒ Vehicle diagnostic tester.



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6 Ultrasonic interior monitoring

6.1 Overview - ultrasonic interior monitoring

1 - Shear bolt

2 - Nut

□ 5 Nm

3 - Protective housing

□ For alarm horn - H12-

4 - Alarm horn - H12-

□ Removing and installing
⇒ [page 181](#)

5 - Electrical connector

6 - Mounting bracket for control units

7 - Convenience system central control unit - J393-

□ Removing and installing
⇒ Rep. gr. 57

8 - Individual sensor for interior monitor (right-side)

□ Can only be renewed together with interior monitoring sensor - G273-

9 - Interior monitoring sensor - G273-

□ Removing and installing
⇒ [page 181](#)

10 - Individual sensor for interior monitor (left-side)

□ Can only be renewed together with interior monitoring sensor - G273-

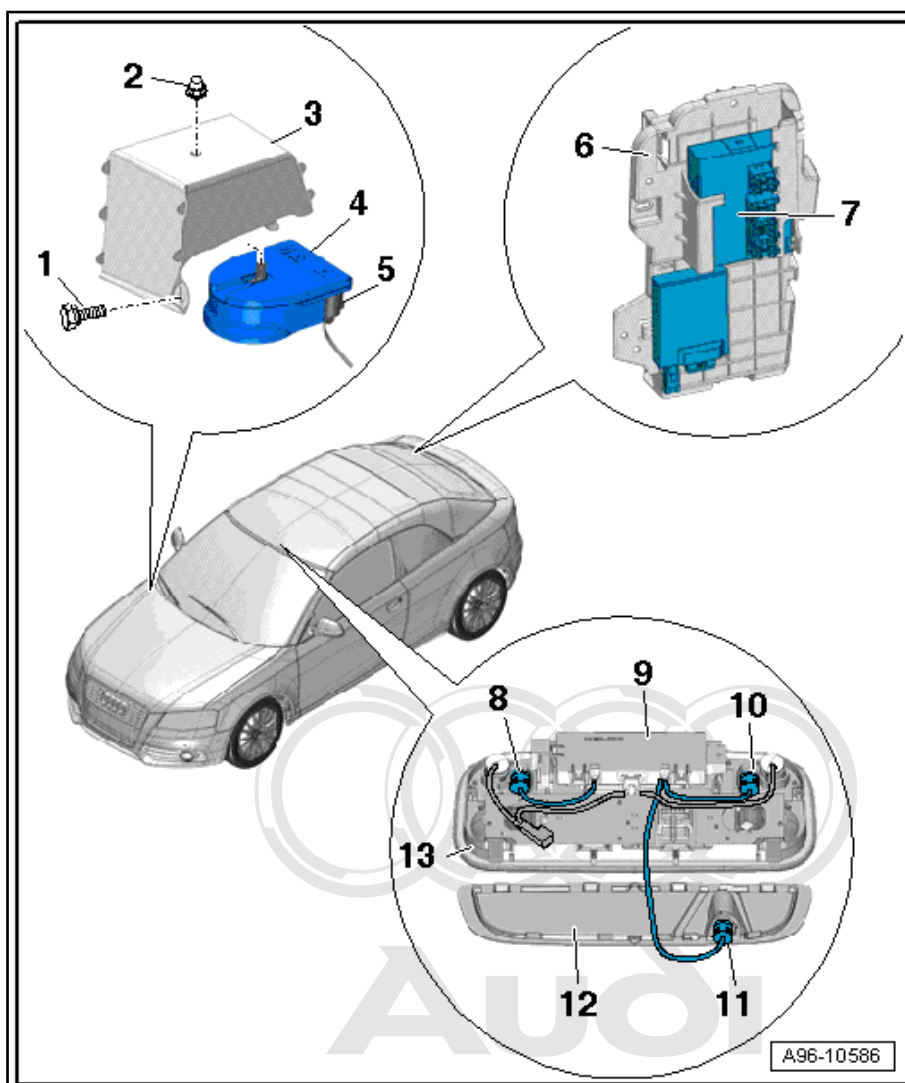
11 - Individual sensor "2"

□ Can only be renewed together with interior monitoring sensor - G273-

12 - Trim

□ In roof trim (bottom)

13 - Interior light/reading light (front)



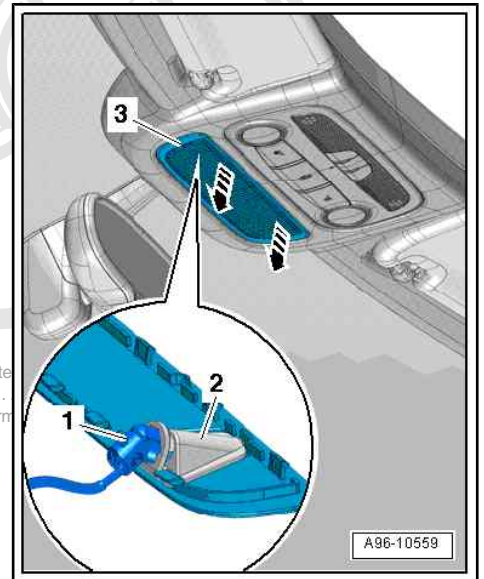
A96-10586

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6.2 Removing and installing interior monitoring sensor - G273-

Removing

- Unclip trim panel -3- from bottom of windscreen frame trim -arrows-.
- Carefully unclip individual sensor "2" -item 1- for interior monitoring from mounting -2-.

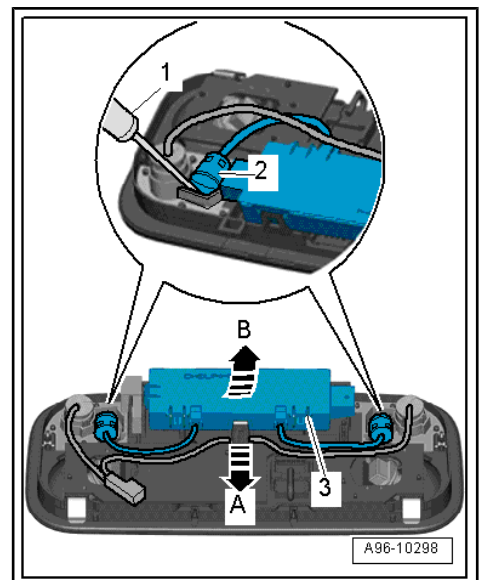


- Remove interior light/reading light (front) ⇒ [page 176](#) .
- Release retaining clip -arrow A- and swivel interior monitoring sensor - G273- -item 3- out of interior light/reading light -arrow B-.
- Using a small screwdriver -1-, carefully unclip the individual sensors -2- for interior monitoring from the interior light/reading light.

Installing

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

- Plug in electrical connector.
- Insert interior light/reading light in opening in windscreen frame and clip into place.



6.3 Removing and installing alarm horn - H12-

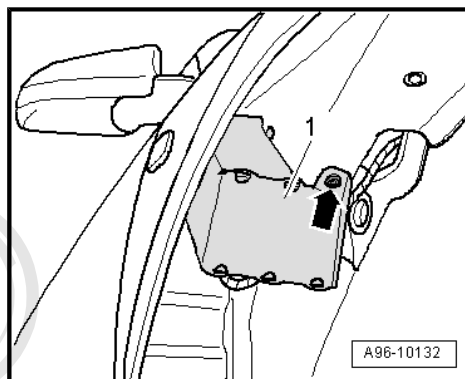
Special tools and workshop equipment required

- ◆ Angle hand drill
- ◆ Drill bit, Ø 8.5 mm

Removing

Fitting location: in wheel housing (front right) behind wheel housing liner

- Remove front right wheel housing liner ⇒ Rep. gr. 66 .
- Drill out shear bolt -arrow- using an angle hand drill and 8.5 mm Ø drill bit.
- Disengage protective housing -1- with alarm horn - H12- .



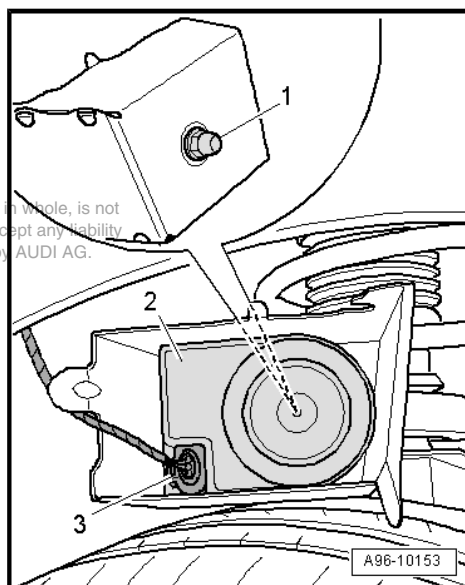
- Unplug electrical connector -3-.
- Unscrew cap nut -1- and remove alarm horn - H12- -item 2-.

Installing

- Tightening torque ⇒ [page 180](#)

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

- Engage retaining tab in recess at retainer.
- Tighten bolt until head shears off.



7 Towing bracket

⇒ Electrical system; General information; Rep. gr. 96 ; Towing bracket

7.1 Removing and installing trailer detector control unit - J345-

- If control unit is being renewed, select function “Replace” for corresponding control unit in “Guided Fault Finding” or “Guided Functions” mode ⇒ Vehicle diagnostic tester.

Removing

- Open cover in luggage compartment side trim (right-side).

Vehicles with sound amplifier:

- Remove bracket for sound amplifier ⇒ Rep. gr. 91 .

Continued for all vehicles:

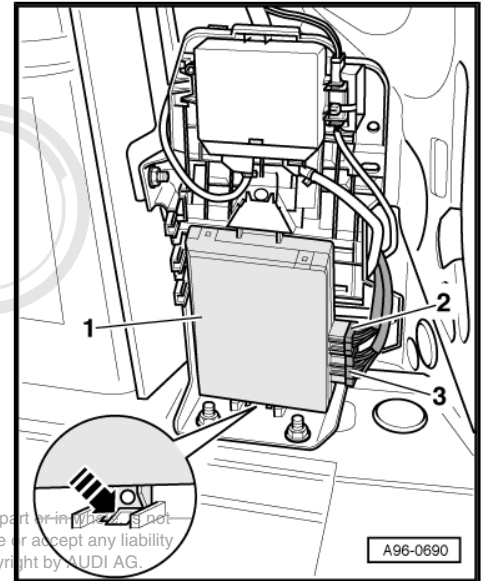
- Unplug electrical connectors -2- and -3-.
- Release retaining clip -arrow- and remove trailer detector control unit - J345- -item 1- from frame.

Installing

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

Vehicles with sound amplifier:

- Install bracket for sound amplifier ⇒ Rep. gr. 91 .



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97 – Wiring

1 Contact corrosion

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

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

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

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

Please note:

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



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2 Relay carriers, fuse carriers (engine compartment)

Observe notes on contact corrosion ⇒ [page 184](#) .

2.1 Exploded view - electronics box (engine compartment), connector point (plenum chamber)

1 - Wire retainer

2 - Nut

- ☐ 9 Nm

3 - Relay

- ☐ Allocation ⇒ Current flow diagrams, Electrical fault finding and Fitting locations

4 - 2-position relay carrier under electronics box (engine compartment)

- ☐ Removing and installing ⇒ ["2.4 Removing and installing electronics box \(engine compartment, left-side\)", page 189](#)

5 - Bolt

- ☐ 2.4 Nm

6 - 40-pin connector

- ☐ Removing and installing ⇒ ["2.4 Removing and installing electronics box \(engine compartment, left-side\)", page 189](#)

7 - Relay and fuse holder B - SB-

- ☐ Removing and installing on vehicles up to 05.2009 ⇒ [page 187](#)
- ☐ Removing and installing on vehicles from 06.2009 onwards ⇒ [page 188](#)

8 - Cover

- ☐ For electronics box (engine compartment)

9 - Bolt

- ☐ Cannot be detached from relay and fuse holder B - SB-
- ☐ 9 Nm

10 - Nut

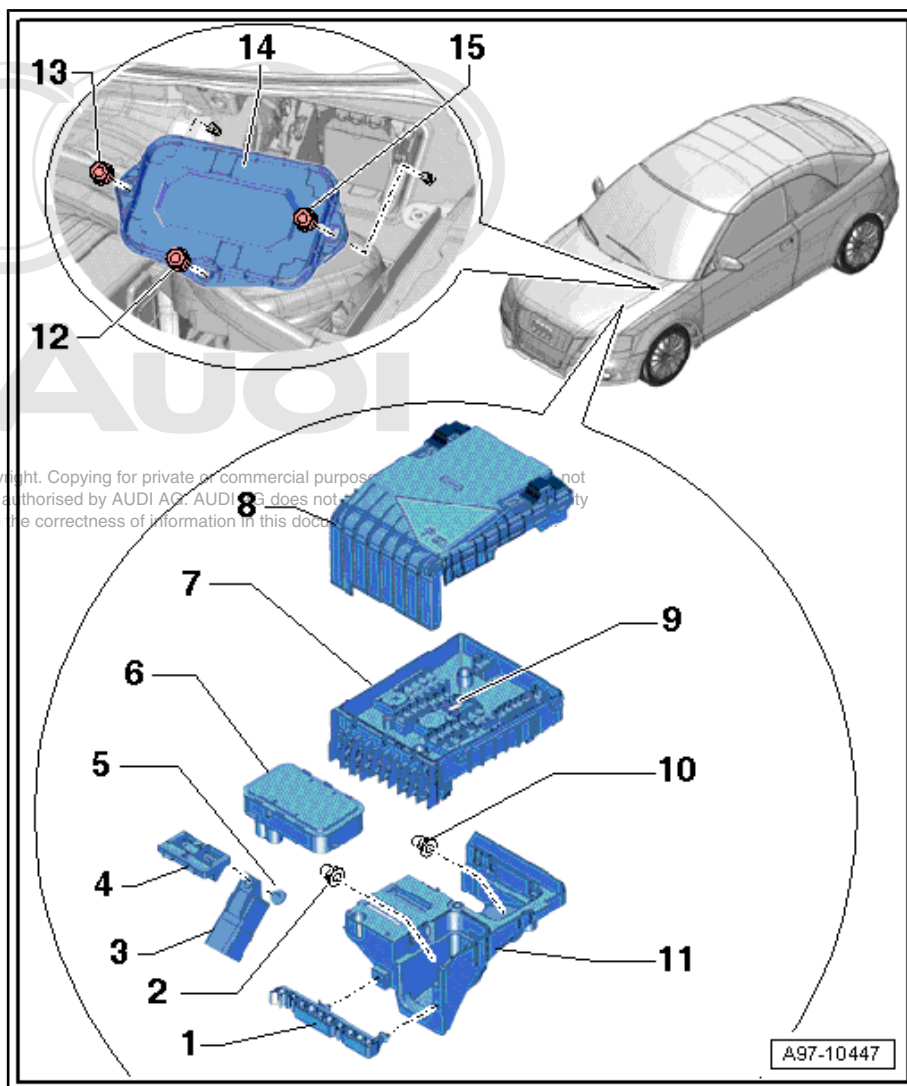
- ☐ 9 Nm

11 - Electronics box (engine compartment, left-side)

- ☐ Removing and installing ⇒ [page 189](#)

12 - Nut

- ☐ 3 Nm



13 - Nut

- 3 Nm

14 - Connector point in plenum chamber

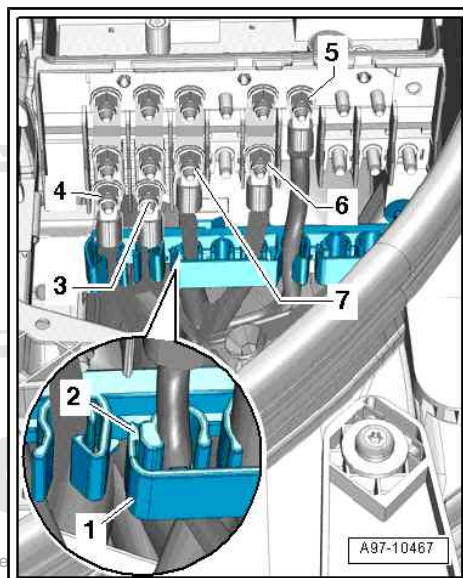
- Removing and installing ⇒ [page 190](#)

15 - Nut

- 3 Nm

Tightening torques for main fuse holder (electronics box in engine compartment, left-side) - vehicles up to 05.2009

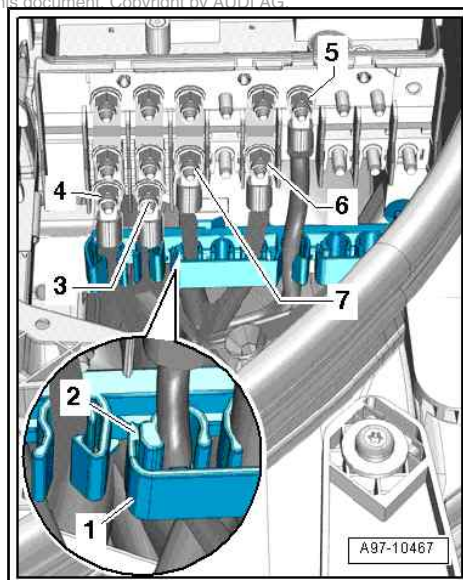
- Tighten nuts -6- and -7- to 4.5 Nm.
- Tighten nuts -3, 4, 5- to 6 Nm.



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Tightening torques for main fuse holder (electronics box in engine compartment, left-side) - vehicles from 06.2009 onwards

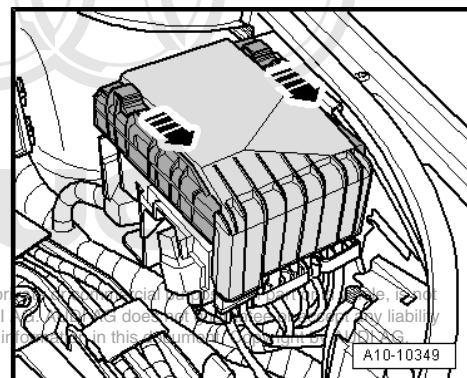
- Tighten nuts -5- and -6- to 4.5 Nm.
- Tighten nuts -3, 4, 7- to 6 Nm.



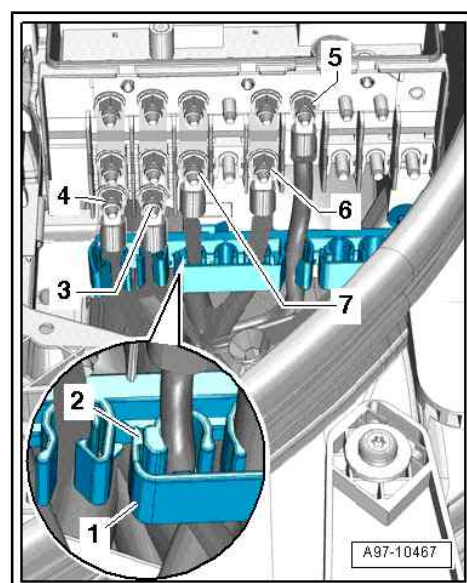
2.2 Removing and installing relay and fuse holder B - SB- - vehicles up to 05.2009

Removing

- With ignition switched off, disconnect earth cable at battery ➔ [page 3](#).
- Press both tabs in direction of -arrow- and remove cover for electronics box (engine compartment).



- Mark assignment of electrical wiring at screw connections for re-installation.
- Release retaining clip -2- and swivel wire retainer -1- to the side -arrow-.
- Unscrew nuts -3 ... 7- and pull electrical wires out of clamps.



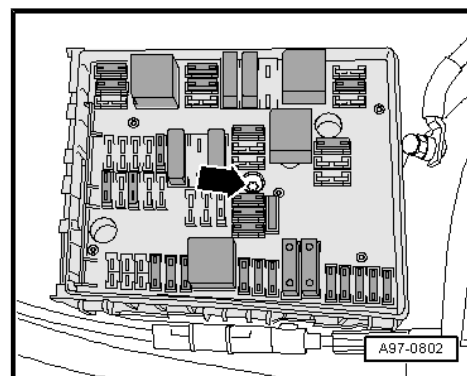
- Remove bolt -arrow-.
- Take relay and fuse holder B - SB- out of electronics box (engine compartment).

Installing

- Tightening torque ➔ [page 185](#) and ➔ [page 186](#)

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

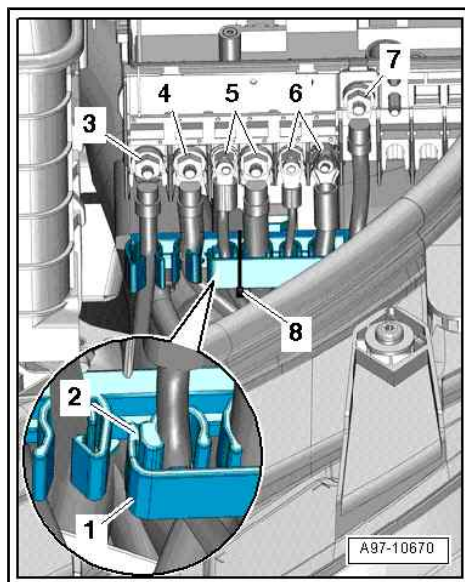
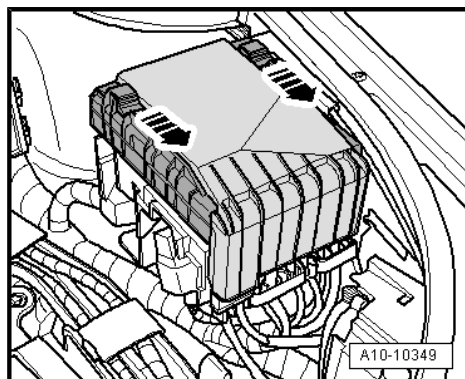
- Fit relay and fuse holder B - SB- onto electronics box (engine compartment). Tighten securing bolt (centre); at the same time connectors will slide on.
- Fit and secure electrical wiring to main fuse holder (electronics box in engine compartment) according to markings made earlier.
- Connect battery. Steps required ➔ [page 3](#).



2.3 Removing and installing relay and fuse holder B - SB- - vehicles from 06.2009 onwards

Removing

- With ignition switched off, disconnect earth cable at battery ⇒ [page 3](#) .
- Press both tabs in direction of -arrow- and remove cover for electronics box (engine compartment).
- Mark assignment of electrical wiring at screw connections for re-installation.
- Cut through cable tie -8-.
- Release retaining clip -2- and swivel wire retainer -1- to the side.
- Unscrew nuts -3 ... 7- and pull electrical wires out of clamps.



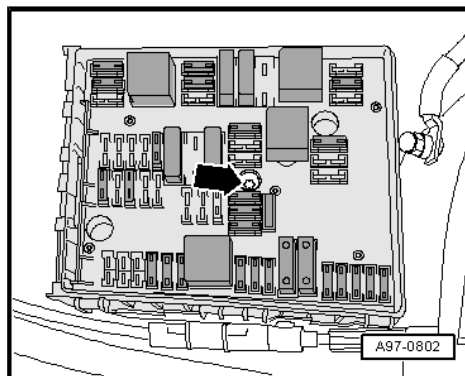
- Remove bolt -arrow-.
- Take relay and fuse holder B - SB- out of electronics box (engine compartment).

Installing

- Tightening torque ⇒ [page 185](#) and ⇒ [page 186](#)

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

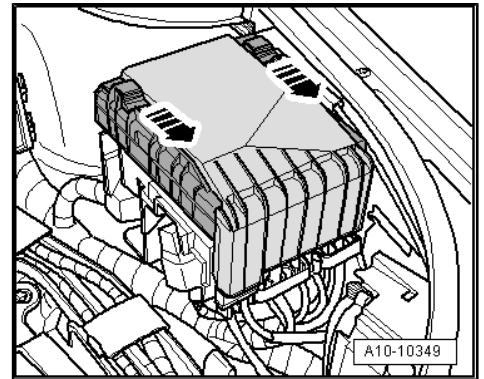
- Fit relay and fuse holder B - SB- onto electronics box (engine compartment). Tighten securing bolt (centre); at the same time connectors will slide on.
- Fit and secure electrical wiring to main fuse holder (electronics box in engine compartment) according to markings made earlier.
- Connect battery. Steps required ⇒ [page 3](#) .



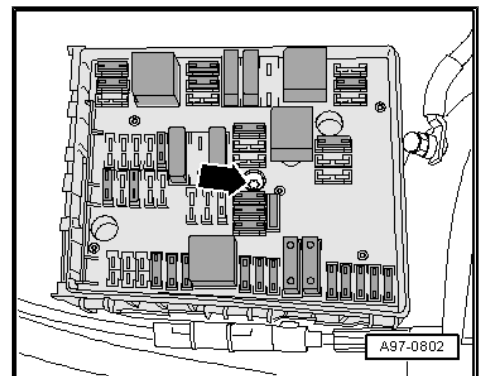
2.4 Removing and installing electronics box (engine compartment, left-side)

Removing

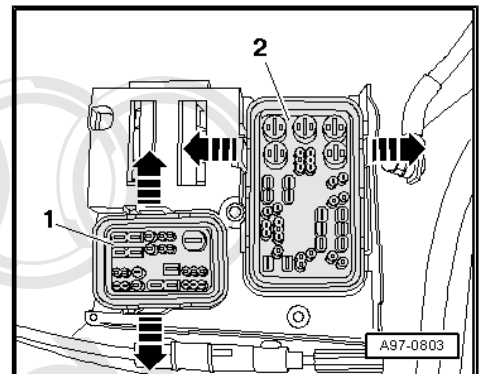
- With ignition switched off, disconnect earth cable at battery ➤ [page 3](#).
- Press both tabs in direction of -arrow- and remove cover for electronics box (engine compartment).



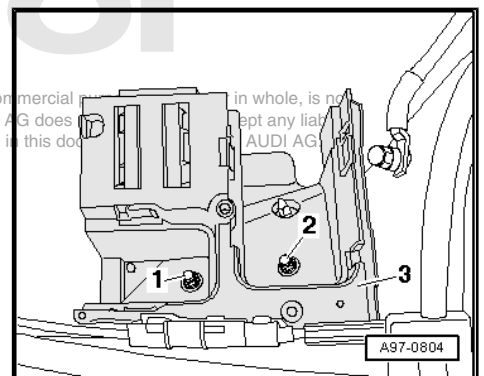
- Remove bolt -arrow-.
- Take relay and fuse holder B - SB- out of electronics box (engine compartment).
- Move relay and fuse holder B - SB- to one side (with wiring connected).



- Release retaining tabs -arrows-.
- If fitted, slide 26-pin connector -1- to one side out of electronics box (engine compartment).
- Slide 40-pin connector -2- to one side out of electronics box (engine compartment) -arrows-.



- Remove nuts -1- and -2-.
- Lift out electronics box (engine compartment) -3-.



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- If fitted, pull out 2-position relay carrier -2- under electronics box (engine compartment) -1- -arrow-.



Note

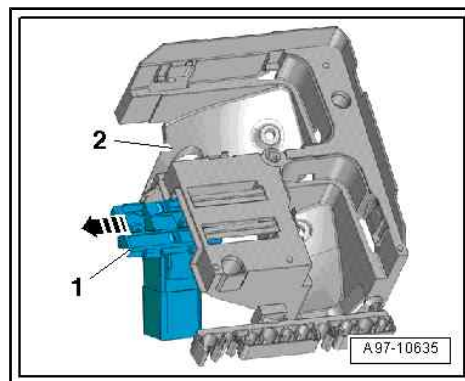
Exact assignment of electronics box in engine compartment can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.

Installing

- Tightening torque ⇒ [page 185](#)

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

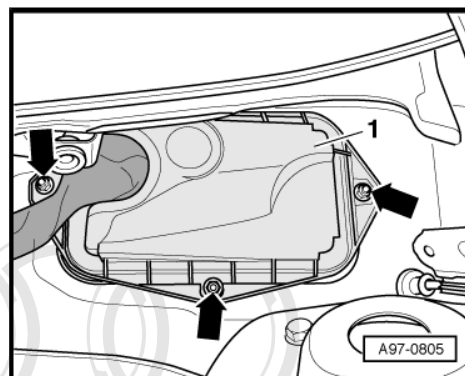
- Install relay and fuse holder B - SB- : vehicles up to 05.2009 ⇒ [page 187](#) ; vehicles from 06.2009 onwards ⇒ [page 188](#) .
- Connect battery. Steps required ⇒ [page 3](#) .



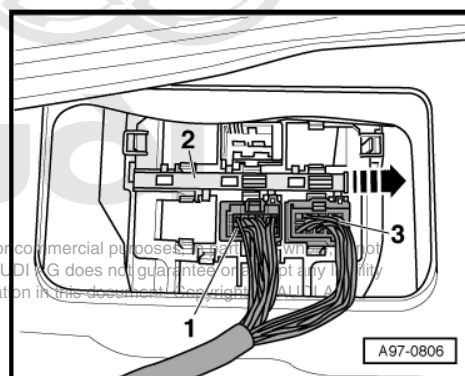
2.5 Removing and installing connector point in plenum chamber

Removing

- Remove wiper motor ⇒ [page 76](#) .
- Remove nuts -arrows-.
- Detach cover -1- from plenum chamber connector point.



- Press retaining strip -2- in direction of -arrow-.
- Unplug electrical connectors -1- and -3-.



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- Release retaining springs -1- and take connector strip -2- out of base retainer -arrow-.
- Unclip appropriate socket.

 Note

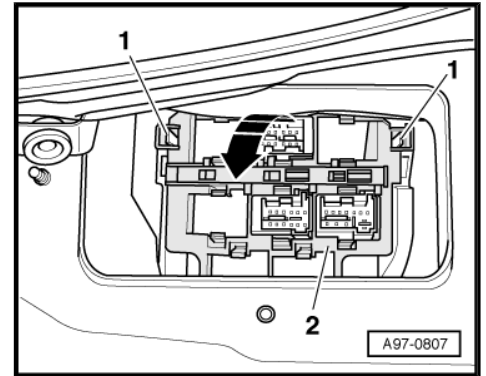
Exact assignment of connector point in electronics box (plenum chamber) can be found in appropriate current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.

Installing

- Tightening torque ⇒ [page 185](#)

Remaining installation steps are carried out in reverse sequence; note the following:

- Install wiper motor ⇒ [page 76](#) .
- Adjust wiper arms ⇒ [page 75](#) .



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3 Relay carriers, fuse carriers (vehicle interior, luggage compartment)

Observe notes on contact corrosion ⇒ [page 184](#) .

3.1 Exploded view - relay and fuse carrier (dash panel), relay and fuse carrier (luggage compartment)

1 - Mounting for relay and fuse carrier with onboard supply control unit - J519-

2 - 5-position relay carrier (driver side dash panel, bottom left)

- ❑ Removing and installing ⇒ [page 197](#)

3 - Bolt

- ❑ 1.5 Nm

4 - Onboard supply control unit - J519-

- ❑ Removing and installing on vehicles up to 05.2009 ⇒ [page 194](#)
- ❑ Removing and installing on vehicles from 06.2009 onwards ⇒ [page 195](#)

5 - Mounting frame

- ❑ For convenience system central control unit - J393-

6 - Parking aid control unit - J446-

- ❑ Removing and installing ⇒ [page 154](#)

7 - Convenience system central control unit - J393-

- ❑ Removing and installing ⇒ Rep. gr. 57

8 - Trailer detector control unit - J345-

- ❑ Removing and installing ⇒ [page 183](#)

9 - Bolt

- ❑ 3 Nm

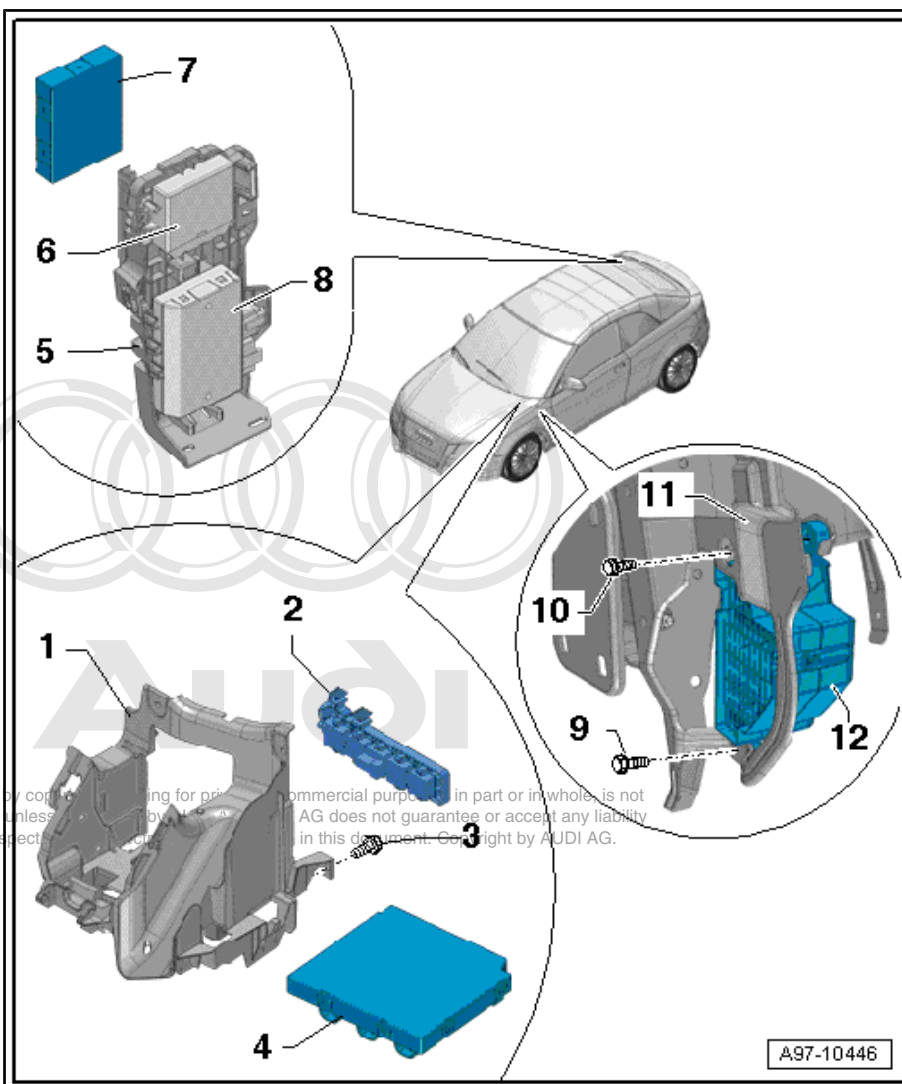
10 - Bolt

- ❑ 3 Nm

11 - Central tube

12 - Fuse holder C - SC-

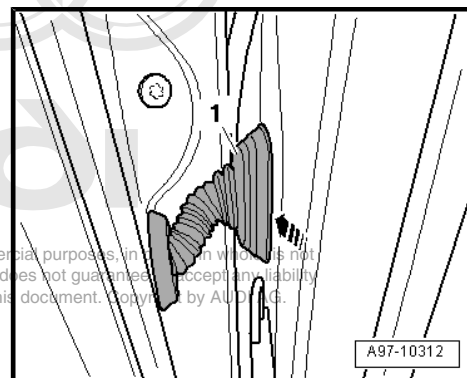
- ❑ Removing and installing ⇒ [page 193](#)



3.2 Unplugging door disconnecter (left-side)

Procedure

- Press dust cover -1- at location marked with -arrow- and detach.

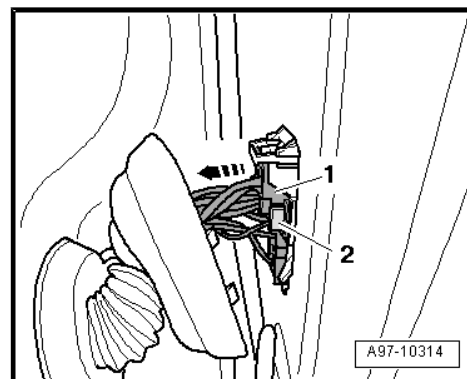


- Release door disconnecter -1- and remove outwards -arrow- (press retainer tab -2-).
- Make sure connector is pressed onto connection piece so it engages audibly.
- Press on dust cover so it engages audibly.



Note

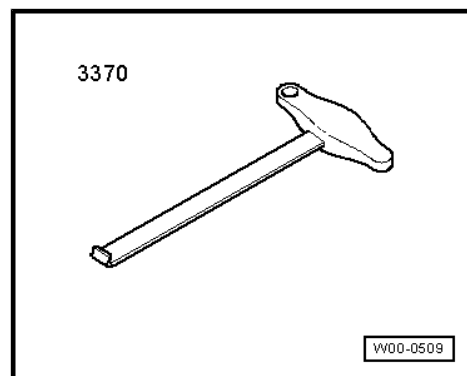
Make sure sealing lip of dust cover makes contact with A pillar evenly all round.



3.3 Removing and installing fuse holder C - SC- in dash panel (driver side)

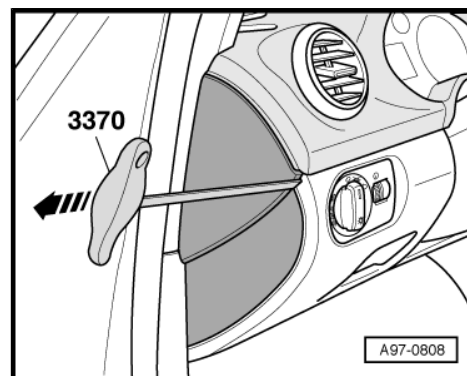
Special tools and workshop equipment required

- ◆ Front-end hook - 3370-

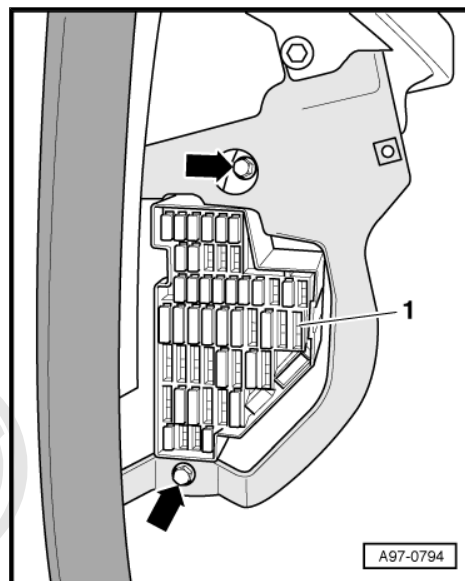


Removing

- With ignition switched off, disconnect earth cable at battery ⇒ [page 3](#).
- Pry off cover on left of dash panel using front-end hook - 3370- -arrow-.
- Remove dash panel cover (driver side) ⇒ Rep. gr. 68.



- Remove bolts -arrows- for fuse holder C - SC- -item 1- in dash panel (driver side).
- Detach fuse holder from central tube for dash panel.



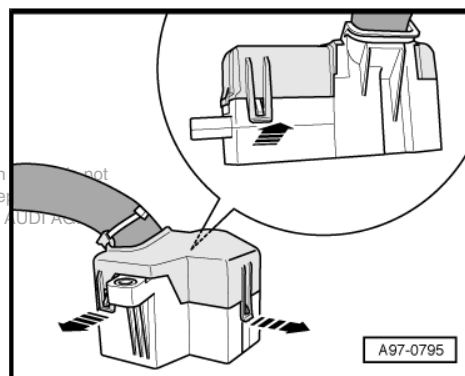
- Release cover for fuse holder -arrows-.
- Detach fuses at fuse holder.
- Unclip socket and take connectors out of fuse holder.



Note

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Exact assignment of contacts in fuse holder can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.

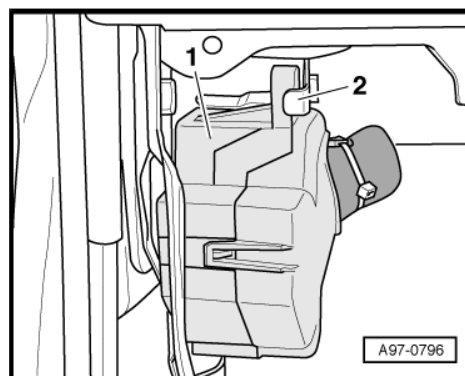


Installing

- Tightening torque ⇒ [page 192](#)

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

- Make sure fuse holder -1- is seated on top of central tube behind mounting -2-.
- Install dash panel cover (driver side) ⇒ Rep. gr. 68 .
- Connect battery. Steps required ⇒ [page 3](#) .



3.4 Removing and installing onboard supply control unit - J519- - vehicles up to 05.2009

- If control unit is being renewed, select function "Replace" for corresponding control unit in "Guided Fault Finding" or "Guided Functions" mode ⇒ Vehicle diagnostic tester.

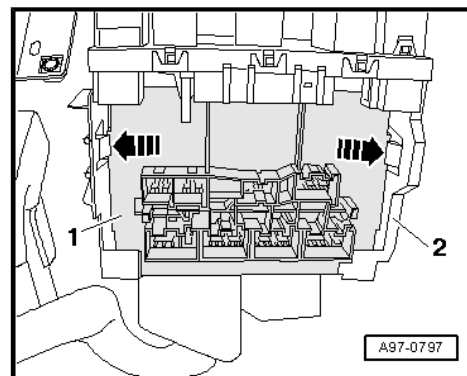
Removing

- Switch off ignition and remove ignition key.
- Remove dash panel cover (driver side) ⇒ Rep. gr. 68 .
- Release retaining springs -arrows- and withdraw onboard supply control unit - J519- -item 1- downwards out of base retainer -2-.



Note

For illustration purposes, fitting location is shown with connectors detached.

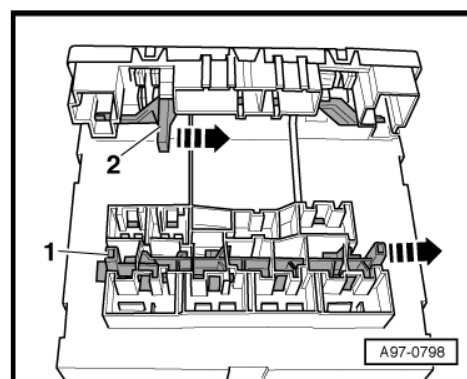


- Press retaining strips -1- and -2- in direction of -arrow-.
- Unplug electrical connectors.



Note

For illustration purposes, fitting location is shown with connectors detached.



Installing

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

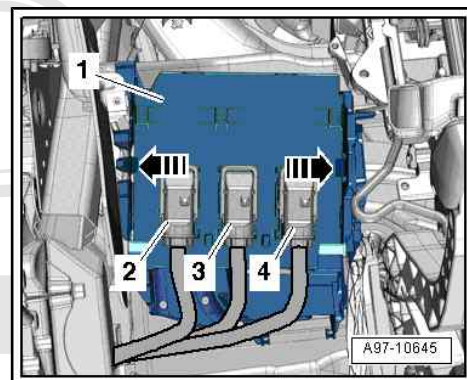
Onboard supply control unit - J519- must be re-encoded after it has been renewed ⇒ Vehicle diagnostic tester.

- Install dash panel cover (driver side) ⇒ Rep. gr. 68 .

3.5 Removing and installing onboard supply control unit - J519- - vehicles from 06.2009 onwards

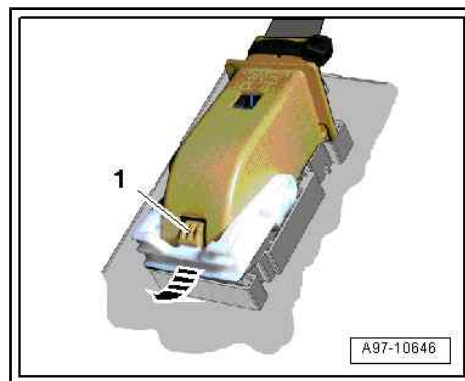
Removing

- If control unit is being renewed, select "Replace" function for corresponding control unit in "Guided Fault Finding" or "Guided Functions" ⇒ Vehicle diagnostic tester.
- Switch off ignition and remove ignition key.
- Remove 5-position relay carrier ⇒ [page 196](#) .
- Unplug electrical connectors -2 ... 4-.



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



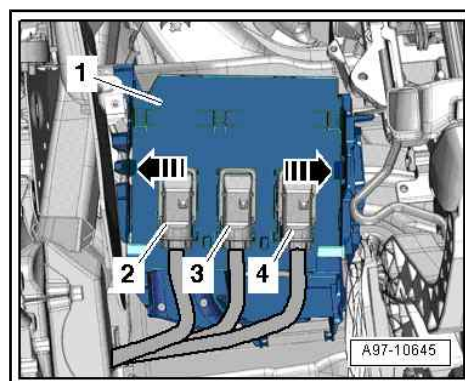
- Release retaining springs -arrows- and take onboard supply control unit - J519- -item 1- downwards out of base retainer.

Installing

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

Onboard supply control unit - J519- must be re-encoded after it has been renewed ⇒ Vehicle diagnostic tester.

- Install 5-position relay carrier ⇒ [page 196](#) .



3.6 Removing and installing 5-position relay carrier - vehicles from 06.2009 onwards

Removing

- Switch off ignition and remove ignition key.
- Remove dash panel cover (driver side) ⇒ Rep. gr. 68 .
- On USA vehicles, remove air duct (driver's footwell) ⇒ Rep. gr. 69 .
- Release retaining tab -3- with a screwdriver -4- and detach 5-position relay carrier -2- at onboard supply control unit - J519- -item 1-.
- Unclip fuse holders at relay carrier.
- Detach relays and control units and then unclip appropriate relay carrier.



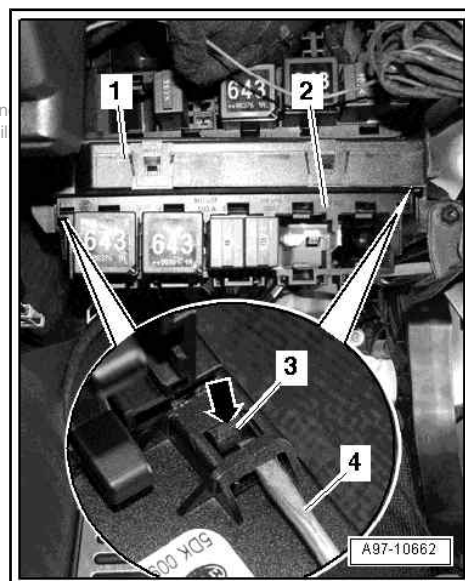
Note

Exact assignment of 5-position relay carrier can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.

Installing

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

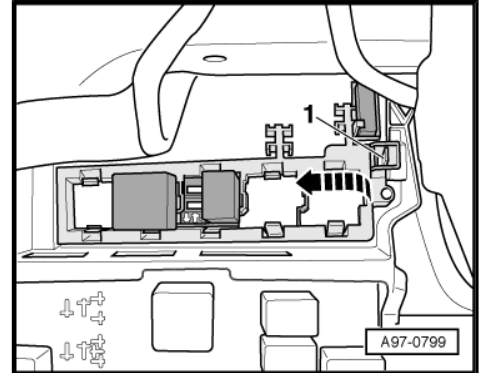
- On USA vehicles, install air duct (driver's footwell) ⇒ Rep. gr. 69 .
- Install dash panel cover (driver side) ⇒ Rep. gr. 68 .



3.7 Removing and installing 5-position relay carrier

Removing

- Switch off ignition and remove ignition key.
- Remove dash panel cover (driver side) ⇒ Rep. gr. 68 .
- Release retaining spring -1-.
- Swivel 5-position relay carrier in direction of -arrow- and withdraw from base retainer towards right.
- Unclip fuse holders at 5-position relay carrier.
- Detach relays and control units and then unclip appropriate relay carrier.



Note

Exact assignment of 5-position relay carrier can be found in applicable current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.

Installing

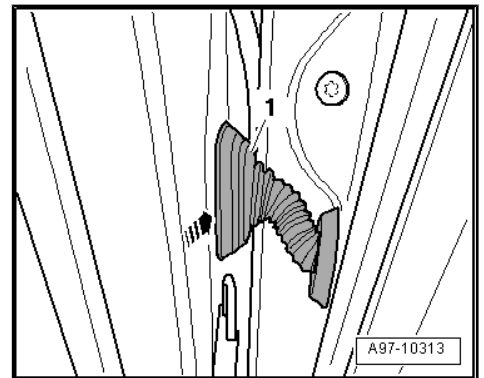
Installation is carried out in reverse order; note the following:

- Install dash panel cover (driver side) ⇒ Rep. gr. 68 .

3.8 Unplugging door disconnecter (right-side)

Procedure

- Press dust cover -1- at location marked with -arrow- and detach.

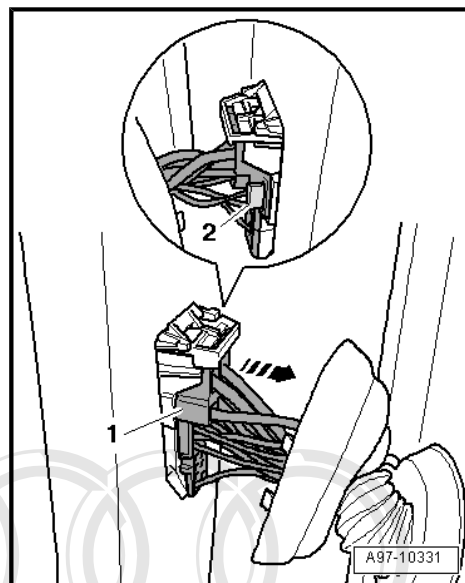


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- Release door disconnecter -1- and remove outwards -arrow- (press retainer tab -2-).
- Make sure connector is pressed onto connection piece so it engages audibly.
- Press on dust cover so it engages audibly.

**Note**

Make sure sealing lip of dust cover makes contact with A pillar evenly all round.



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4 Repairing wiring harnesses and electrical connectors

⇒ Electrical system; General information; Rep. gr. 97 ; Repairing wiring harnesses and connectors



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5 **Repairing connector housings and electrical connectors**

⇒ Electrical system; General information; Rep. gr. 97 ; Repairing wiring harnesses and connectors; Repairing connector housings and electrical connectors



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6 Releasing and dismantling connector housings

⇒ Electrical system; General information; Rep. gr. 97 ; Repairing wiring harnesses and connectors; Releasing and dismantling connector housings



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7 Cleaning contact surfaces

⇒ Electrical system; General information; Rep. gr. 97 ; Contact surface cleaning set VAS 6410



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8 Repairing aerial wires

⇒ Electrical system; General information; Rep. gr. 97 ; Repairing wiring harnesses and connectors; Repairing aerial wires



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9 Vehicle diagnostic, testing and information systems

⇒ Electrical system; General information; Rep. gr. 97 ; Vehicle diagnostic, testing and information systems



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