

Workshop Manual Audi A1 2011 ➤

Fuel supply system, petrol engines									
Engine ID	CAX A	CBZ A	CAV G	CNU A	CNV A	CPT A	CTH G	CTJA	CWZ A
	CHZ B	CHZ E	CZC A	CZD B	CZE A	CZD D	DDH A	DAJB	DKL D

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List of Workshop Manual Repair Groups

Repair Group

00 - Technical data

20 - Fuel supply system

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

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00 – Technical data

1 Safety precautions

(ARL005834; Edition 07.2018)

⇒ [“1.1 Safety precautions when working on the fuel system”, page 1](#)

⇒ [“1.2 Safety precautions when working on vehicles with start/stop system”, page 2](#)

⇒ [“1.3 Safety precautions when using testers and measuring instruments during a road test”, page 3](#)

1.1 Safety precautions when working on the fuel system

When working on the fuel system note the following warnings:



WARNING

The fuel system operates at extremely high pressure. This can cause injury.

- ◆ *Fuel supply line is pressurised. Wear safety goggles and protective clothing to avoid any contact with skin and risk of injury. Before opening hose connections wrap a clean cloth around the connection. Then release pressure by carefully pulling hose off connection.*

Health risk: avoid skin contact with fuel.

- ◆ *Avoid skin contact with fuel. Wear fuel-resistant gloves.*

Danger due to escaping fuel

- ◆ *For safety reasons, the power supply to the fuel pump must be disconnected before opening the fuel system. Otherwise the fuel pump will be activated when the driver's door is opened.*
- ◆ *Disconnect power supply by removing fuse for fuel pump control unit - J538- /fuel delivery unit ⇒ Current flow diagrams, Electrical fault finding and Fitting locations, or disconnect battery.*

Mobile phones can cause an explosion risk.

- ◆ *Ensure that any mobile phones are well clear of the work-bay.*

Perform the following steps before starting work on the fuel system:

- ◆ Fuel tank must not be full. The amount of fuel which can be left in the fuel tank is indicated in the corresponding procedure description. Drain fuel tank if necessary ⇒ [page 10](#).
- ◆ Before commencing work, switch on exhaust extraction system and place an extraction hose close to the opening in the fuel tank to extract escaping petrol fumes.
- ◆ If no exhaust extraction system is available, a radial fan with a displacement of at least 15 m³/h can be used (the fan motor must be clear of the air stream).

Fuel tank must be empty when installing and removing to reduce weight. Drain fuel tank if necessary ⇒ [page 10](#) .

Observe the following to prevent injuries to persons and damage to the injection and ignition system:

- ◆ Persons wearing a cardiac pacemaker must at all times maintain a safe distance from high-voltage components such as the ignition system and xenon headlights.
 - ◆ Do not touch or disconnect ignition coils with output stages when the engine is running or being turned at cranking speed.
 - ◆ Always switch off the ignition before connecting or disconnecting electrical wiring for the injection or ignition system or tester cables.
 - ◆ Always switch off ignition before washing engine.
 - ◆ When installing, note colour coding of plug-in connectors.
 - ◆ Plug-in connectors should engage audibly when connecting.
 - ◆ Pull plug-in connectors to check that they are correctly engaged.
 - ◆ Erase any entries in event memory resulting from testing or installation ⇒ Vehicle diagnostic tester, Guided Functions, Interrogate event memory, then Generate readiness code.
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Caution

When disconnecting the battery there is a risk of irreparable damage to electronic components.

- ◆ *Observe notes on procedure for disconnecting the battery.*
- ◆ *Always switch off the ignition before disconnecting the battery ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .*

1.2 Safety precautions when working on vehicles with start/stop system

Please note the following when working on vehicles with start/stop system:



WARNING

Risk of injury due to automatic engine start on vehicles with start/stop system.

- ◆ *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).*

1.3 Safety precautions when using testers and measuring instruments during a road test

Note the following if testers and measuring instruments have to be used during a road test:



WARNING

Accidents can be caused if the driver is distracted by test equipment while road-testing, or if test equipment is not properly secured.

Persons sitting in the front passenger's seat could be injured if the airbag is triggered in an accident.

- *The use of test equipment while driving causes distraction.*
- *There is an increased risk of injury if test equipment is not secured.*
- ◆ *Test equipment must always be secured on the rear seat with a strap and operated from the rear seat by a second person.*



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2 Repair instructions

⇒ [“2.1 Rules for cleanliness”, page 4](#)

⇒ [“2.2 Test conditions”, page 4](#)

⇒ [“2.3 Contact corrosion”, page 4](#)

⇒ [“2.4 Routing and attachment of pipes, hoses and wiring”, page 5](#)

2.1 Rules for cleanliness

Even small quantities of dirt can lead to defects. For this reason, please observe the following rules when working on the fuel supply system and injection system:

- ◆ Carefully clean connection points and the surrounding area with engine cleaner or brake cleaner and dry thoroughly before opening.
- ◆ Immediately seal open lines and connections with clean plugs, for example from engine bung set - VAS 6122- .
- ◆ Place removed parts on a clean surface and cover them. Use only lint-free cloths.
- ◆ Carefully cover or seal open components if repairs cannot be carried out immediately.
- ◆ Only install clean components; replacement parts should only be unpacked immediately prior to installation. Do not use parts that have not been stored in their packing (e.g. in tool boxes etc.).
- ◆ When the system is open, do not work with compressed air and do not move the vehicle.
- ◆ Protect unplugged electrical connectors against dirt and moisture and make sure connections are dry when attaching.

2.2 Test conditions

- Battery voltage at least 12.5 V
- Fuel pump fuse OK ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Fuel pump relay - J17- OK; checking in Guided Fault Finding ⇒ Vehicle diagnostic tester.
- Fuel pump control unit - J538- OK; checking in Guided Fault Finding ⇒ Vehicle diagnostic tester.
- Fuel tank at least $\frac{1}{4}$ full.
- Fuel filter OK.
- Fuel lines OK (not obstructed or crushed).
- Ignition switched off.

2.3 Contact corrosion

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

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

Additionally, all rubber and plastic parts and all adhesives are made of non-conductive materials.

Always install new parts if you are not sure whether used parts can be re-fitted ⇒ Electronic parts catalogue .

Please note:

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

2.4 Routing and attachment of pipes, hoses and wiring



Caution

Risk of damage to pipes/hoses/wiring.

- ◆ *The original routing must be restored when installing any kind of pipes/hoses/wiring.*
- ◆ *Due to the restricted space in the engine compartment, it is important to ensure sufficient clearance from all moving or hot components.*

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20 – Fuel supply system

1 Fuel tank

⇒ [“1.1 Exploded view - fuel tank”, page 6](#)

⇒ [“1.2 Draining fuel tank”, page 10](#)

⇒ [“1.3 Removing and installing fuel tank”, page 15](#)

1.1 Exploded view - fuel tank

⇒ [“1.1.1 Exploded view - fuel tank, vehicles with front-wheel drive”, page 6](#)

⇒ [“1.1.2 Exploded view - fuel tank, vehicles with four-wheel drive”, page 8](#)

1.1.1 Exploded view - fuel tank, vehicles with front-wheel drive

1 - Bolts

- ☐ Renew after removing
- ☐ 20 Nm +90°

2 - Breather line

- ☐ To activated charcoal filter solenoid valve 1 - N80-
- ☐ Do not kink
- ☐ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)

3 - Fuel line

- ☐ To engine
- ☐ Do not kink
- ☐ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)

4 - Electrical connector

- ☐ For fuel system pressurisation pump - G6- and fuel gauge sender - G-

5 - Overflow hose

6 - Tank flap unit

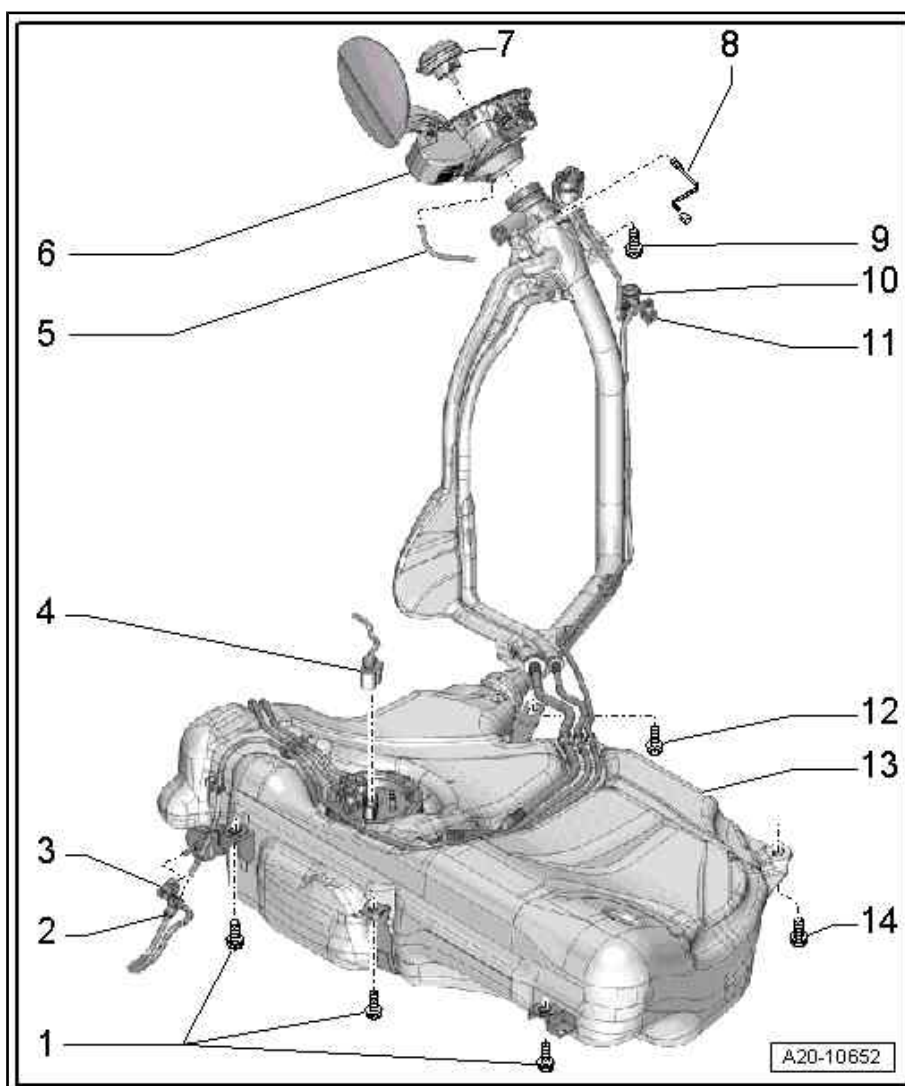
- ☐ Removing and installing ⇒ General body repairs, exterior; Rep. gr. 55 ; Tank flap unit; Removing and installing tank flap unit

7 - Filler cap

- ☐ Screw down until it engages audibly
- ☐ Secured to tank flap unit

8 - Earth connection

- ☐ To eliminate electrostatic charge
- ☐ Installation position ⇒ [page 7](#)



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- ☐ Make sure connector is correctly seated and secure wire with bolt for fuel filler neck -item 9-
- ☐ After installation, use an ohmmeter to check electrical connection between metal ring on fuel filler neck and a bare metal part on body. Specification: approx. 0 Ω

9 - Bolt

- ☐ Secures fuel filler neck and earth connection -item 8-
- ☐ Renew after removing
- ☐ 8 Nm +90°

10 - Breather line

- ☐ To activated charcoal filter
- ☐ Do not kink
- ☐ Disconnecting and connecting plug-in connectors [⇒ page 47](#)

11 - Breather line

- ☐ Activated charcoal filter/ activated charcoal filter solenoid valve 1 - N80-
- ☐ Do not kink
- ☐ Clipped onto fuel tank
- ☐ Disconnecting and connecting plug-in connectors [⇒ page 47](#)

12 - Bolt

- ☐ Renew after removing

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13 - Fuel tank

- ☐ Removing and installing [⇒ page 15](#)
- ☐ Removing, installing and checking gravity valve [⇒ page 8](#)
- ☐ Removing, installing and checking breather valve [⇒ page 8](#)

14 - Bolt

- ☐ Renew after removing
- ☐ 20 Nm +90°

Earth connection for fuel filler neck

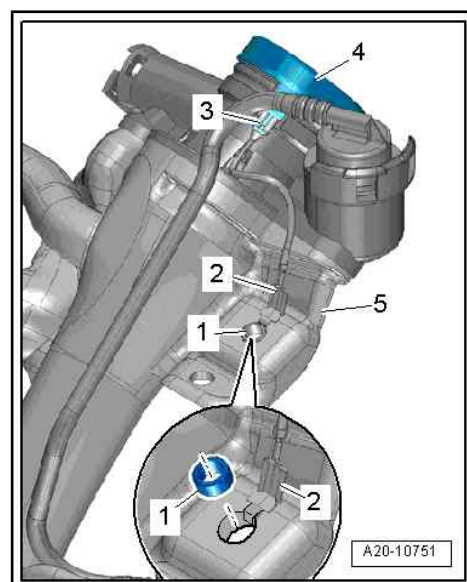
- Route earth connection as shown in illustration.
- Ensure that connector for earth connection -3- is properly seated on metal ring -4- at fuel filler neck.
- First engage contact tab -2- of earth connection in mounting hole on fuel tank -5- and then press in spacer bush -1-.



WARNING

Risk of explosion caused by electrostatic discharge.

- ◆ After installation, use an ohmmeter to check the electrical connection between the metal ring on the fuel filler neck and a bare metal part on the body:
- Specification: approx. 0 Ω



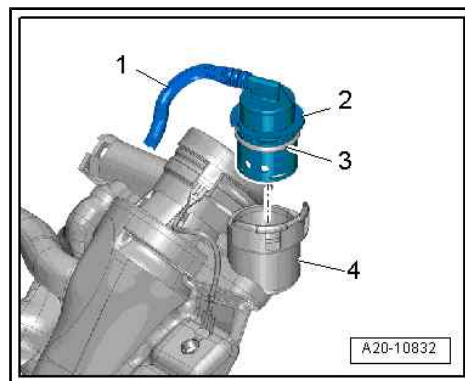
Removing, installing and checking gravity valve



Note

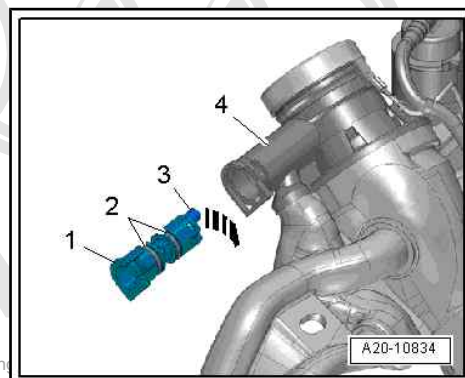
The gravity valve -2- can only be renewed together with breather line -1-.

- To remove gravity valve, release retaining tabs and pull valve upwards out of connection -4-.
- Checking gravity valve:
 - Hold gravity valve in a vertical position: it should be possible to blow through valve.
 - Tilt gravity valve by 45°; it should not be possible to blow through valve.
- Make sure O-ring -3- is not damaged.



Removing, installing and checking breather valve

- To remove breather valve -1-, release retaining tab and pull valve sideways out of connection -4-.
- Before installing breather valve, unscrew filler cap from fuel tank.
- Check breather valve:
 - Lever -3- in released position: breather valve closed.
 - Lever pressed in direction of -arrow-: breather valve open.
- Make sure O-rings -2- are not damaged.



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1.1.2 Exploded view - fuel tank, vehicles with four-wheel drive

1 - Bolt

- ☐ Renew after removing
- ☐ 20 Nm +90°

2 - Nuts

- ☐ For heat shield
- ☐ 3 Nm

3 - Heat shield

- ☐ For fuel tank

4 - Bolt

- ☐ Renew after removing
- ☐ 20 Nm +90°

5 - Fuel line

- ☐ To engine
- ☐ Do not kink
- ☐ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)

6 - Breather line

- ☐ To activated charcoal filter solenoid valve 1 - N80-
- ☐ Do not kink
- ☐ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)

7 - Fuel tank

- ☐ Removing and installing ⇒ [page 20](#)

8 - Bolt

- ☐ Renew after removing
- ☐ 8 Nm +90°

9 - Sealing cap

- ☐ Screw down until it engages audibly
- ☐ Secured to tank flap unit

10 - Earth connection

- ☐ For fuel filler neck
- ☐ To eliminate electrostatic charge ⇒ [page 10](#)

11 - Bolt

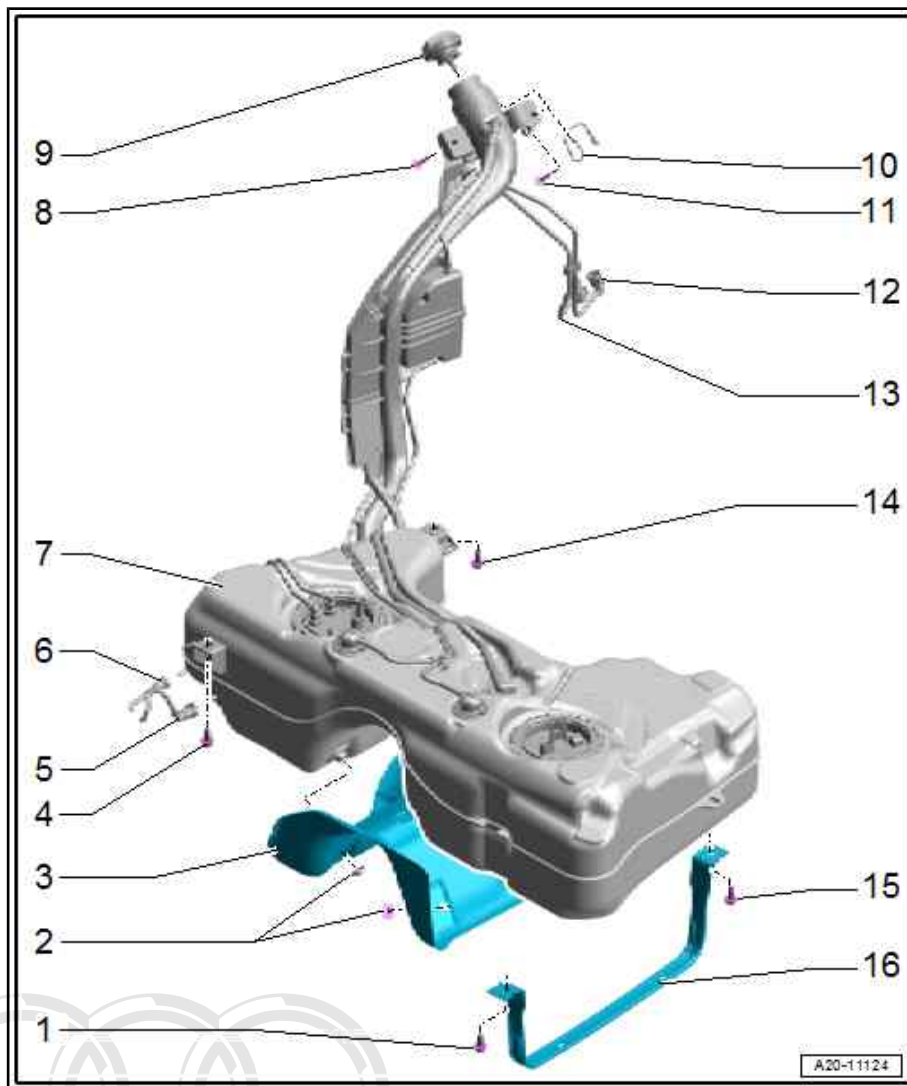
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- ☐ To secure fuel filler neck
 - ☐ To eliminate electrostatic charge ⇒ [page 10](#)
 - ☐ Renew after removing
 - ☐ 8 Nm +90°

12 - Breather line

- ☐ To activated charcoal filter/ activated charcoal filter solenoid valve 1 - N80-
- ☐ Clipped onto fuel tank
- ☐ Do not kink
- ☐ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)

13 - Breather line

- ☐ To activated charcoal filter



- ☐ Do not kink
- ☐ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)

14 - Bolt

- ☐ Renew after removing
- ☐ 20 Nm +90°

15 - Bolt

- ☐ Renew after removing
- ☐ 20 Nm +90°

16 - Securing strap

Earth connection for fuel filler neck

- Route earth connection as shown in illustration.
- Ensure that connector for earth connection -3- is properly seated on metal ring -4- at fuel filler neck.
- First engage contact tab -2- of earth connection in mounting hole on fuel tank and then press in spacer bush -1-.



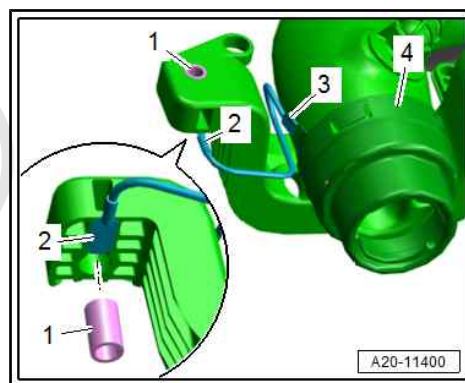
WARNING

Risk of explosion caused by electrostatic discharge.

- ◆ After installation, use an ohmmeter to check the electrical connection between the metal ring on the fuel filler neck and a bare metal part on the body:

- **Specification:** approx. 0 Ω

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1.2 Draining fuel tank

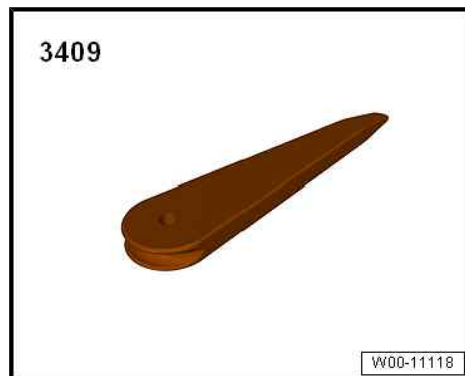
⇒ ["1.2.1 Draining fuel tank - vehicles with front-wheel drive", page 10](#)

⇒ ["1.2.2 Draining fuel tank - vehicles with four-wheel drive", page 13](#)

1.2.1 Draining fuel tank - vehicles with front-wheel drive

Special tools and workshop equipment required

- ◆ Removal wedge - 3409-

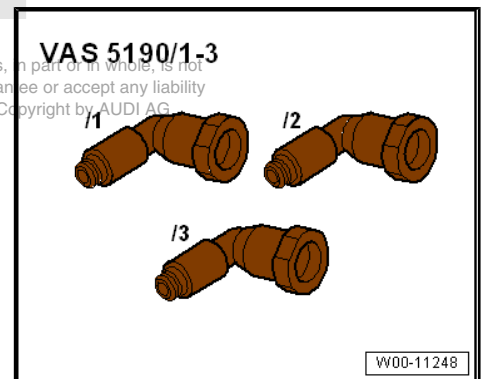


◆ Fuel extractor - VAS 5190A-



◆ Adapter for fuel extraction - VAS 5190 /2-

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Note

If fuel extractor - VAS 5190A- is still fitted with extraction hose with fixed tip, replace with version with screw-on tip.

- Unscrew tip -1- of extraction hose of fuel extractor -VAS 5190A- .
- Screw adapter for fuel extraction - VAS 5190 /2- from adapter set for fuel extraction - VAS 5190 /10- onto extraction hose.

Procedure

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 4](#) .
- Move front right seat all the way forwards.



Caution

When disconnecting the battery there is a risk of irreparable damage to electronic components.

- ◆ Observe notes on procedure for disconnecting the battery.

- Disconnect earth wire from battery terminal ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .

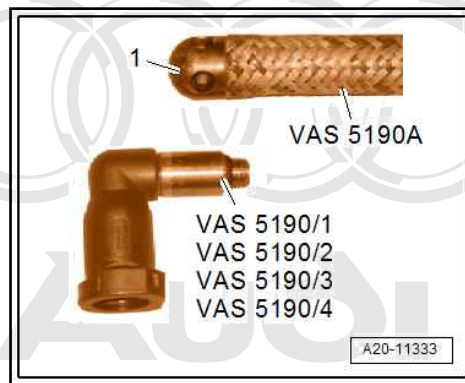


WARNING

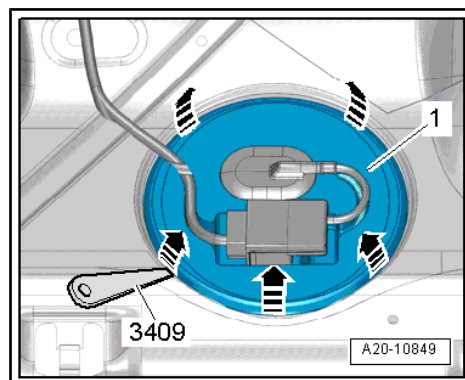
Risk of explosion caused by electrostatic discharge.

- ◆ Secure earth wire of fuel extractor -VAS 5190A- to a bare metal part on the body.

- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Unclip cover -1- for fuel tank flange at retainers -arrows- using removal wedge - 3409- .



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WARNING

The fuel system operates at high pressure - risk of injuries!

- ◆ *To reduce the pressure in the fuel system, wrap a clean cloth around the connection and loosen the connection carefully.*

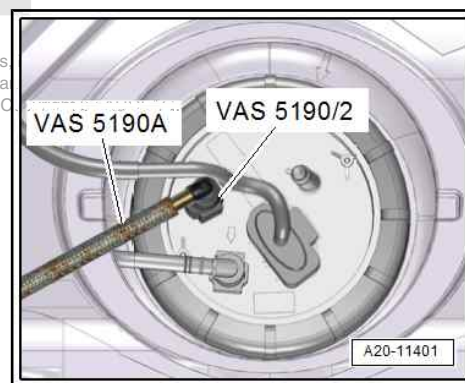
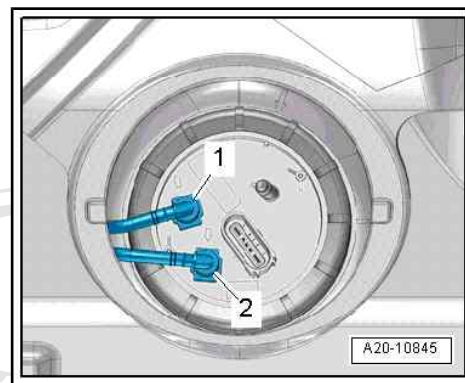
- Disconnect fuel supply line -1- on flange. Disconnecting plug-in connectors ⇒ [page 47](#)



Note

Disregard -item 2-.

- Connect extraction hose to supply connection on flange with adapter for fuel extraction - VAS 5190/2-
- Extract fuel from fuel tank with fuel extractor - VAS 5190A- (via supply connection on flange).



1.2.2 Draining fuel tank - vehicles with four-wheel drive

A - Procedure if fuel tank is more than $\frac{3}{4}$ full ⇒ [page 14](#) .

B - Procedure if fuel tank is less than $\frac{3}{4}$ full ⇒ [page 15](#) .

Special tools and workshop equipment required

- ◆ Fuel extractor - VAS 5190A-



Procedure

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 4](#) .
- Move front seats all the way forwards.



Caution

When disconnecting the battery there is a risk of irreparable damage to electronic components.

- ◆ *Observe notes on procedure for disconnecting the battery.*

- Disconnect earth wire from battery terminal ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .

A - Procedure if fuel tank is more than $\frac{3}{4}$ full



WARNING

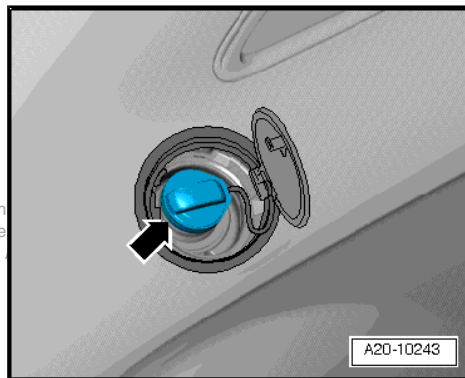
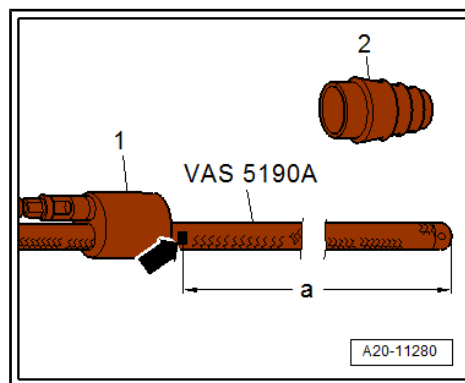
Risk of explosion caused by electrostatic discharge.

- ◆ *Secure earth wire of fuel extractor -VAS 5190A- to a bare metal part on the body.*



Note

- ◆ *Shaft end -1- and tapered adapter -2- of fuel extractor -VAS 5190A- are not used.*
- ◆ *Slide shaft end -1- slightly towards rear on hoses.*
- Use insulating tape to mark the extraction hose -arrow- at a distance of -a- from the end of the hose.
- -a- = 1,000 mm
- Open tank flap.
- Remove filler cap -arrow- for fuel filler neck.



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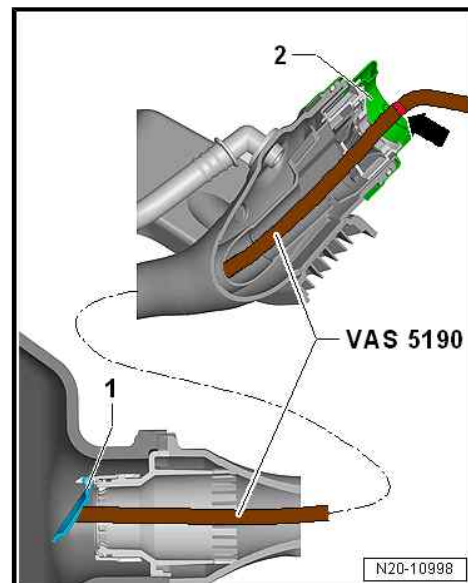
i Note

A flap -1- is located at the bottom of the filler neck -2- in the fuel tank; it must not be damaged by the extraction hose from -VAS 5190A-. Therefore, only push the hose in as far as the tape marking -arrow-.

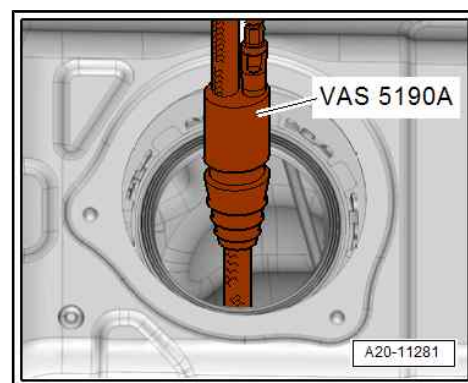
- Push extraction hose from -VAS 5190A- into fuel tank until marking on hose -arrow- is level with edge of filler neck.
- Extract fuel from tank via fuel filler neck.
- Pull out extraction hose carefully.

i Note

When no more fuel is extracted, the fuel tank has been drained enough for the flange to be opened safely.

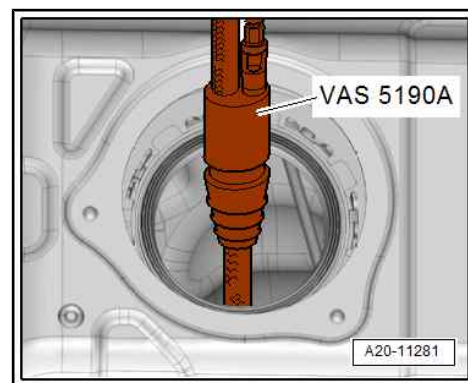


- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72; Rear seats; Removing and installing seat bench/individual seats .
- Remove flange for fuel gauge sender 2 - G169- ⇒ [page 44](#) .
- Extract fuel from both fuel tank chambers through opening for fuel gauge sender 2 - G169- using fuel extractor - VAS 5190A- .



B - Procedure if fuel tank is less than $\frac{3}{4}$ full

- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72; Rear seats; Removing and installing seat bench/individual seats .
- Remove flange for fuel gauge sender 2 - G169- ⇒ [page 44](#) .
- Extract fuel from both fuel tank chambers through opening for fuel gauge sender 2 - G169- using fuel extractor - VAS 5190A- .



1.3 Removing and installing fuel tank

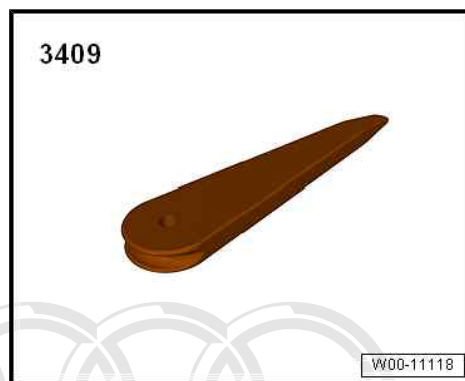
⇒ ["1.3.1 Removing and installing fuel tank - vehicles with front-wheel drive", page 15](#)

⇒ ["1.3.2 Removing and installing fuel tank - vehicles with four-wheel drive", page 20](#)

1.3.1 Removing and installing fuel tank - vehicles with front-wheel drive

Special tools and workshop equipment required

◆ Removal wedge - 3409-



◆ Engine and gearbox jack - VAS 6931-



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Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 4](#) .



Caution

When disconnecting the battery there is a risk of irreparable damage to electronic components.

- ◆ *Observe notes on procedure for disconnecting the battery.*

- Disconnect earth wire from battery terminal ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .
- Move front right seat all the way forwards.
- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .



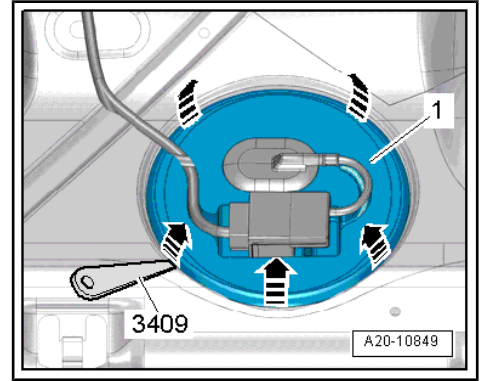
WARNING

Risk of accident caused by weight of fuel tank

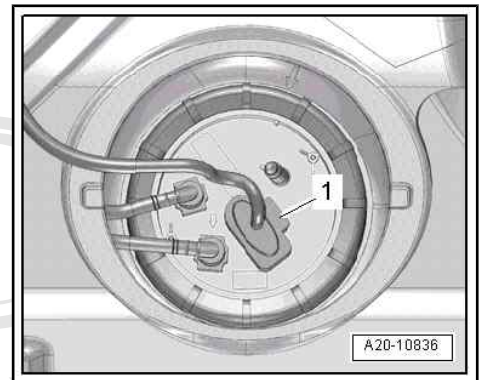
- ◆ *Fuel tank must be empty when it is removed.*

- Drain fuel tank ⇒ [page 10](#) .

- Unclip cover -1- for fuel tank flange at retainers -arrows- using removal wedge - 3409- .



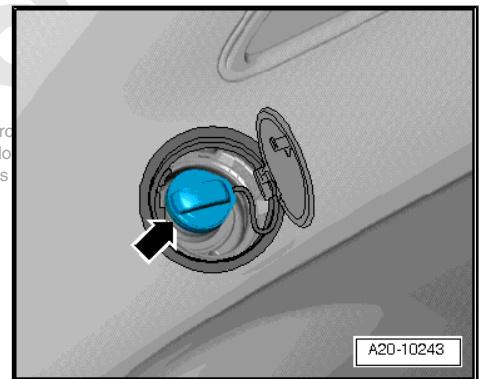
- Release retainer catch and unplug electrical connector -1- on flange.



- Open tank flap.
- Clean area around fuel filler neck.
- Remove filler cap -arrow- for fuel filler neck.



Seal off opening of fuel filler neck with a clean plug to prevent dirt from entering.



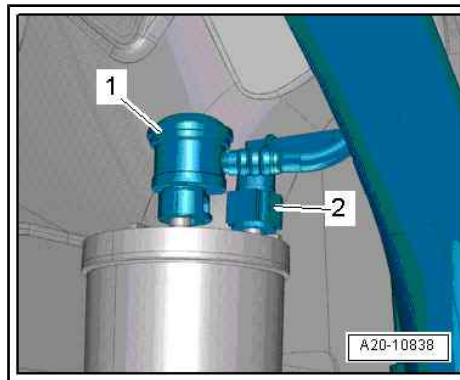
WARNING

The vehicle can tip over on the lifting platform when the rear axle is removed.

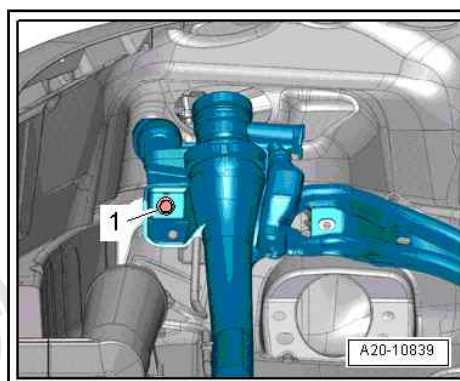
- ◆ *BEFORE loosening the axle beam bolts, take steps to ensure that the vehicle does not tip forwards on the lifting platform ⇒ Running gear, axles, steering; Rep. gr. 42 ; Axle beam; Removing and installing axle beam .*

- Remove axle beam ⇒ Running gear, axles, steering; Rep. gr. 42 ; Axle beam; Removing and installing axle beam .

- Disconnect breather lines -1 and 2- at activated charcoal filter. Disconnecting plug-in connectors ⇒ [page 47](#)

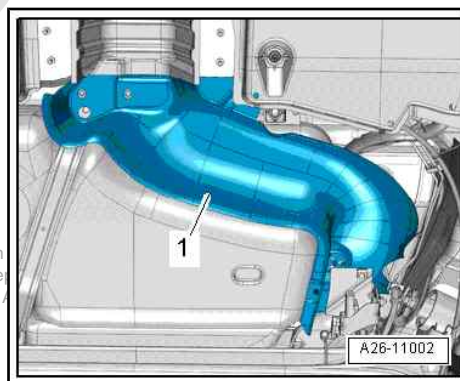


- Remove bolt -1- for fuel filler neck.



- Remove rear section of exhaust system ⇒ Rep. gr. 26 ; Exhaust pipes/silencer; Exploded view - silencer .

- Remove heat shield -1-.



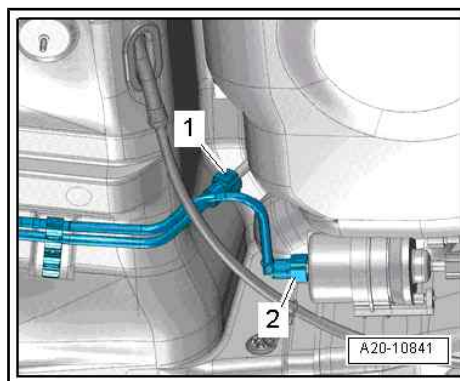
- Disconnect breather line -1- leading to activated charcoal filter solenoid valve 1 - N80- . Disconnecting plug-in connectors ⇒ [page 47](#)



WARNING

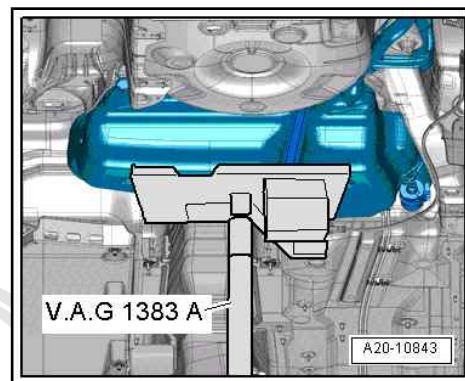
The fuel system operates at high pressure - risk of injuries!

- ◆ ***To reduce the pressure in the fuel system, wrap a clean cloth around the connection and loosen the connection carefully.***



- Disconnect fuel line -2- at fuel filter. Disconnecting plug-in connectors ⇒ [page 47](#)

- Position engine and gearbox jack under vehicle to support fuel tank, as shown in illustration.

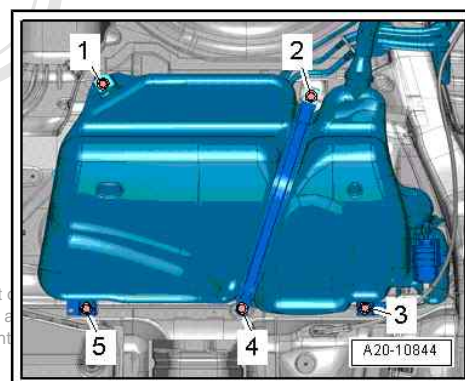


WARNING

Risk of accident caused by weight of fuel tank

- ◆ *Fuel tank must be empty when it is removed.*

- Remove bolts -1 ... 5-.
- Lower fuel tank using engine and gearbox jack, simultaneously guiding fuel tank down by hand.



Note

For illustration purposes the fuel tank is shown without engine and gearbox jack.

Installing

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

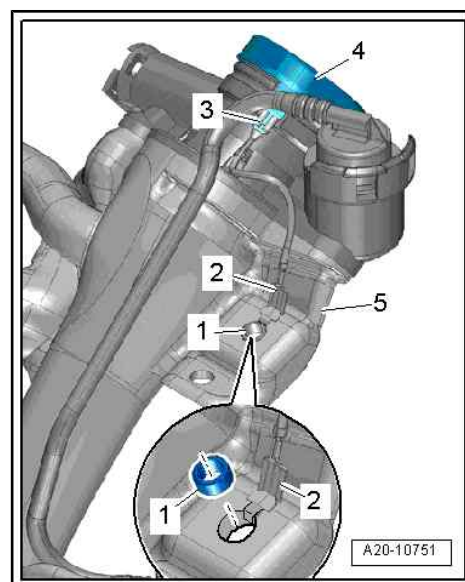
- Check earth wire for traces of oxidation at connectors; remove any oxidation if necessary.
- Connector -3- must be seated securely on metal ring -4-.
- Contact tab -2- must be attached to fuel tank -5- and secured with spacer bush -1-.



WARNING

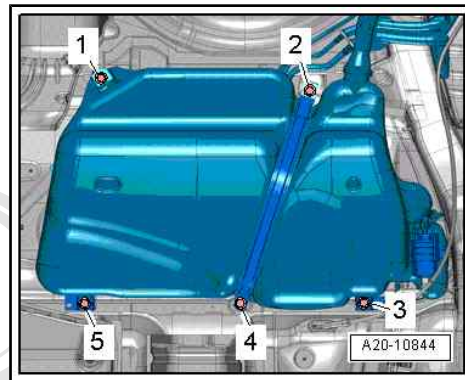
Risk of explosion caused by electrostatic discharge.

- ◆ *After installation, use an ohmmeter to check the electrical connection between the metal ring on the fuel filler neck and a bare metal part on the body:*
- *Specification: approx. 0 Ω*



- Check that fuel line and breather line are clipped onto fuel tank.

- Position fuel tank and securing strap on underside of vehicle using engine and gearbox jack .
- When installing fuel tank, make sure that fuel filler neck is correctly inserted into opening on body .
- Tighten bolts -1 ... 5-.
- Install axle beam ⇒ Running gear, axles, steering; Rep. gr. 42 ; Axle beam; Removing and installing axle beam .
- Install rear section of exhaust system ⇒ Rep. gr. 26 ; Exhaust pipes/silencer; Exploded view - silencer .
- Install rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .
- Connect battery and perform steps required after re-connecting battery ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .



Tightening torques

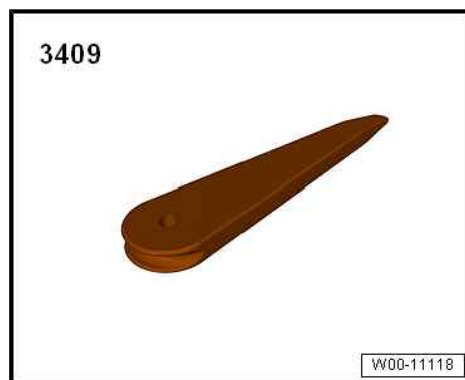
- ♦ ⇒ ["1.1.1 Exploded view - fuel tank, vehicles with front-wheel drive", page 6](#)

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1.3.2 Removing and installing fuel tank - vehicles with four-wheel drive

Special tools and workshop equipment required

- ♦ Removal wedge - 3409-



- ♦ Engine and gearbox jack - VAS 6931-



Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 4](#) .
- Move front seats all the way forwards.



Caution

When disconnecting the battery there is a risk of irreparable damage to electronic components.

◆ *Observe notes on procedure for disconnecting the battery.*

- Disconnect earth wire from battery terminal ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .
- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .

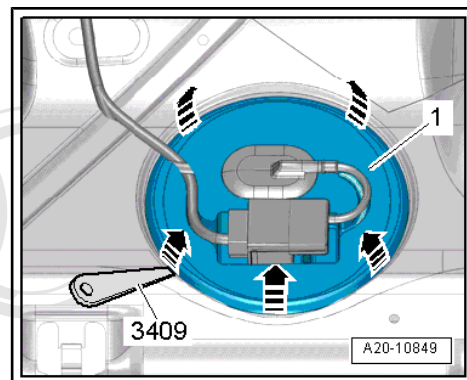


WARNING

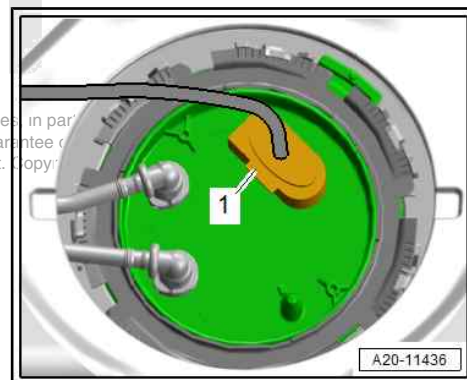
Risk of accident caused by weight of fuel tank

◆ *Fuel tank must be empty when it is removed.*

- Drain fuel tank ⇒ [page 13](#) .
- Unclip cover -1- for flange (right-side) at retainers -arrows- using removal wedge - 3409- .

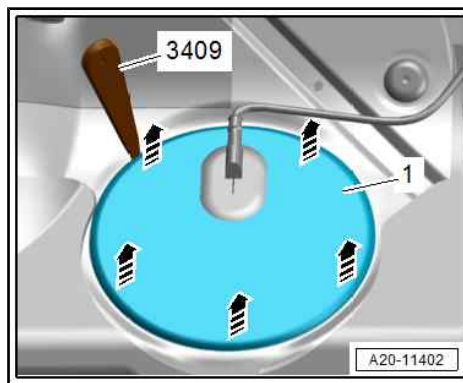


- Release retainer catch and unplug electrical connector -1- on flange.

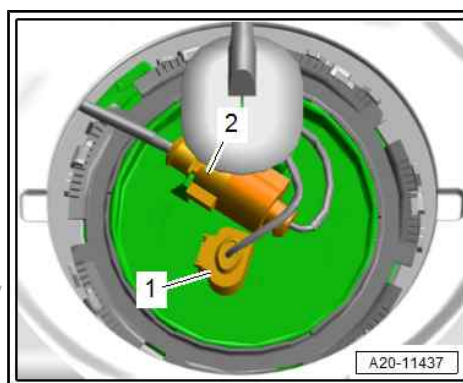


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- Unclip cover -1- for flange (left-side) at retainers -arrows- using removal wedge - 3409- .



- Release retainer catch and unplug electrical connector -1- on flange.
- Release retainer catch and unplug electrical connector -2- for Haldex coupling.



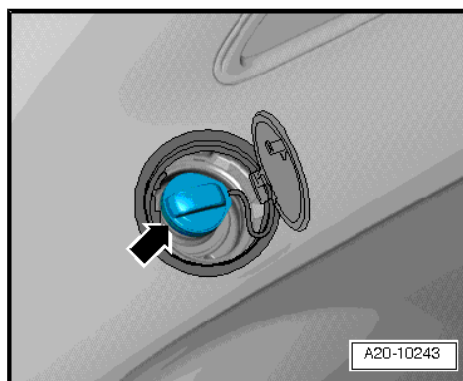
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- Open tank flap.
- Clean area around fuel filler neck.
- Remove filler cap -arrow- for fuel filler neck.

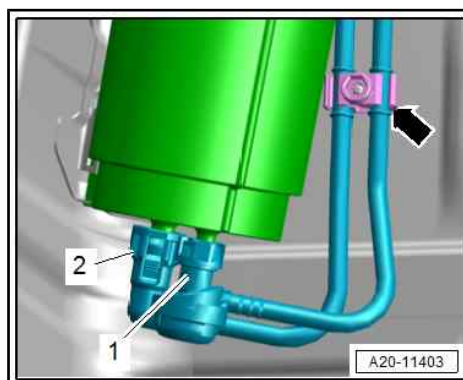


Note

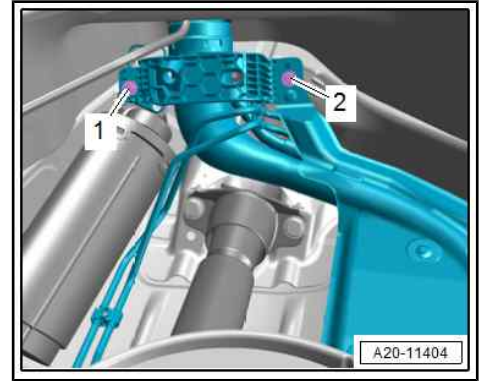
Seal off opening of fuel filler neck with a clean plug to prevent dirt from entering.



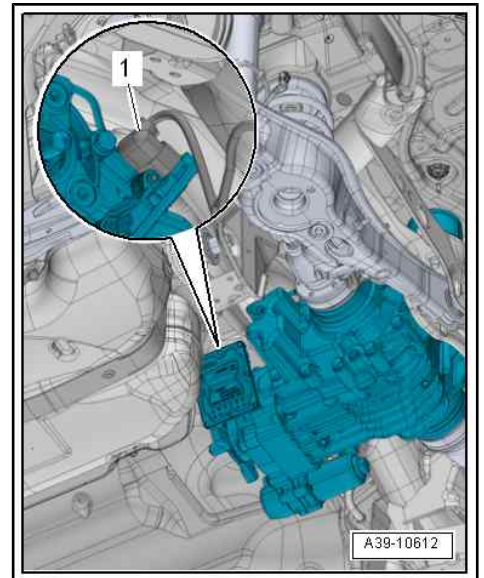
- Remove rear wheel housing liner (right-side) ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (rear) .
- Pull release ring on connection piece and disconnect breather line -1- at activated charcoal filter.
- Disconnect breather line -2- at activated charcoal filter. Disconnecting plug-in connectors ⇒ [page 47](#)
- Unclip breather lines from bracket -arrow-.



- Remove bolts -1 and 2- for fuel filler neck.
- Remove rear section of exhaust system ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Removing and installing silencers .
- Remove propshaft ⇒ Rear final drive; Rep. gr. 39 ; Propshaft; Removing and installing propshaft .
- Remove trailing arm (right-side) ⇒ Running gear, axles, steering; Rep. gr. 42 ; Wheel bearing, trailing arm; Removing and installing trailing arm with mounting bracket .



- Release retainer catch and unplug electrical connector -1- on all-wheel drive control unit - J492- .



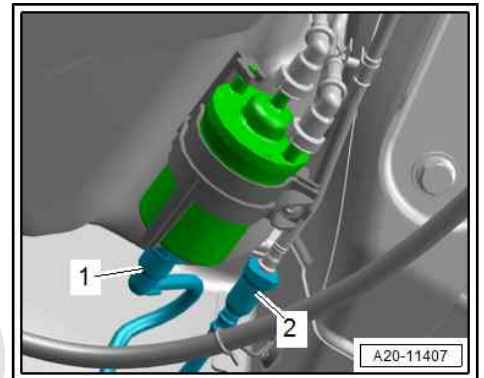
- Disconnect breather line -2- leading to activated charcoal filter solenoid valve 1 - N80- . Disconnecting plug-in connectors ⇒ [page 47](#)



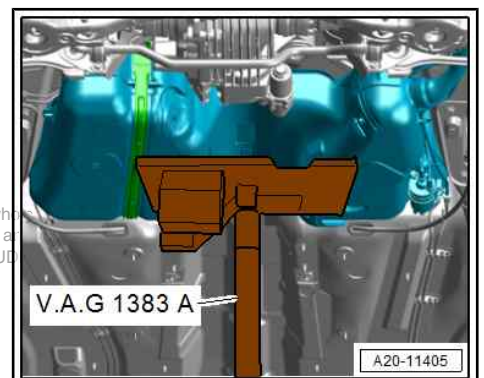
WARNING

The fuel system operates at high pressure - risk of injuries!

- ◆ ***To reduce the pressure in the fuel system, wrap a clean cloth around the connection and loosen the connection carefully.***



- Disconnect fuel line -1- at fuel filter. Disconnecting plug-in connectors ⇒ [page 47](#)
- Position engine and gearbox jack under vehicle to support tank, as shown in illustration.
- In addition, a 2nd mechanic will be required to support the fuel tank at the rear by hand.



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WARNING

Risk of accident caused by weight of fuel tank

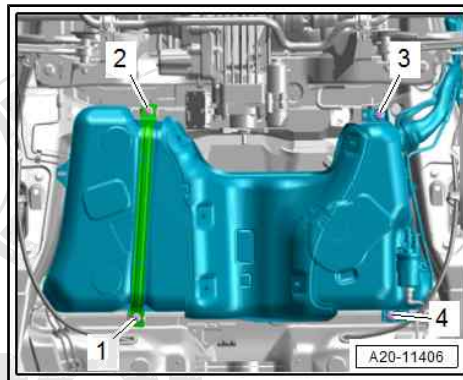
- ◆ *Fuel tank must be empty when it is removed.*

- Remove bolts -1 ... 4-.



Note

For illustration purposes the fuel tank is shown without the engine and gearbox jack.



- Lower fuel tank with engine and gearbox jack.
- Remove fuel tank downwards (turning it sideways as required).

Installing

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



Note

- ◆ *Press fuel lines in again and then pull to check that plug-in connectors are correctly engaged.*
- ◆ *When plugging in electrical connectors, make sure they engage correctly.*
- Check earth wire for traces of oxidation at connectors; remove any oxidation if necessary.

- Check that the following connectors are securely seated:
- Connector -3- must be seated securely on metal ring -4-.
- Contact tab -2- must be attached to fuel tank and secured with spacer bush -1-.

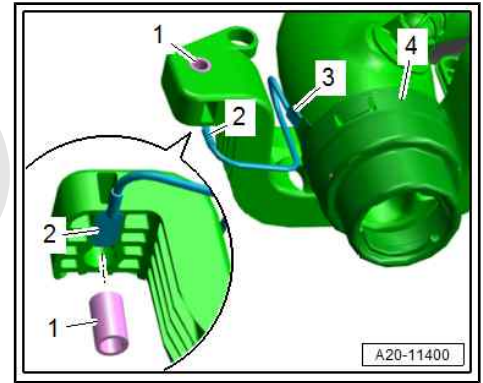


WARNING

Risk of explosion caused by electrostatic discharge.

- ◆ *After installation, use an ohmmeter to check the electrical connection between the metal ring on the fuel filler neck and a bare metal part on the body:*

- *Specification: approx. 0 Ω*



- Check that fuel line and breather line are clipped onto fuel tank.
- Position fuel tank and securing strap on underside of vehicle using engine and gearbox jack .
- When installing fuel tank, make sure that fuel filler neck is correctly inserted into opening on body.
- Install trailing arm (right-side) ⇒ Running gear, axles, steering; Rep. gr. 42 ; Wheel bearing, trailing arm; Removing and installing trailing arm with mounting bracket .
- Install propshaft ⇒ Rear final drive; Rep. gr. 39 ; Propshaft; Removing and installing propshaft .
- Install rear section of exhaust system ⇒ Rep. gr. 26 ; Exhaust pipes/silencer; Removing and installing silencer .
- Install rear wheel housing liner (right-side) ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (rear) .
- Install rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .
- Connect battery and perform steps required after re-connecting battery ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .

Tightening torques

- ◆ ⇒ "1.1.2 Exploded view - fuel tank, vehicles with four-wheel drive", page 8

2 Fuel delivery unit/fuel gauge senders

⇒ [“2.1 Exploded view - fuel delivery unit/fuel gauge senders”, page 26](#)

⇒ [“2.2 Removing and installing fuel delivery unit/fuel gauge senders”, page 29](#)

⇒ [“2.3 Checking fuel gauge sender G ”, page 38](#)

⇒ [“2.4 Removing and installing fuel gauge sender G ”, page 41](#)

⇒ [“2.5 Checking fuel gauge sender 2 G169 ”, page 41](#)

⇒ [“2.6 Removing and installing fuel gauge sender 2 G169 ”, page 44](#)

2.1 Exploded view - fuel delivery unit/fuel gauge senders

⇒ [“2.1.1 Exploded view - fuel delivery unit/fuel gauge sender, vehicles with front-wheel drive”, page 26](#)

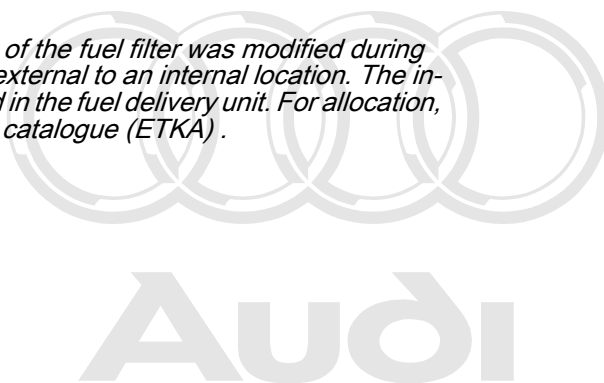
⇒ [“2.1.2 Exploded view - fuel delivery unit/fuel gauge senders, vehicles with four-wheel drive”, page 28](#)

2.1.1 Exploded view - fuel delivery unit/fuel gauge sender, vehicles with front-wheel drive



Note

In 2015, the fitting location of the fuel filter was modified during series production from an external to an internal location. The internal fuel filter is integrated in the fuel delivery unit. For allocation, refer to ⇒ [Electronic parts catalogue \(ETKA\)](#) .



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1 - Fuel delivery unit

- ☐ With fuel system pressurisation pump - G6-
- ☐ Checking fuel pump (electrical test) in Guided Fault Finding
 ⇒ Vehicle diagnostic tester
- ☐ Removing and installing
 ⇒ [page 29](#)
- ☐ Put at least 5 litres of fuel into tank after installing

2 - Seal

- ☐ Renew
- ☐ Install dry

3 - Union nut

- ☐ Remove and install with union nut tool - 3217-
- ☐ 80 Nm

4 - Fuel return line

- ☐ From fuel filter
- ☐ Do not kink
- ☐ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)
- ☐ Note direction of arrow (fuel supply or fuel return system) on flange when installing
- ☐ Clipped onto fuel tank

5 - Fuel supply line

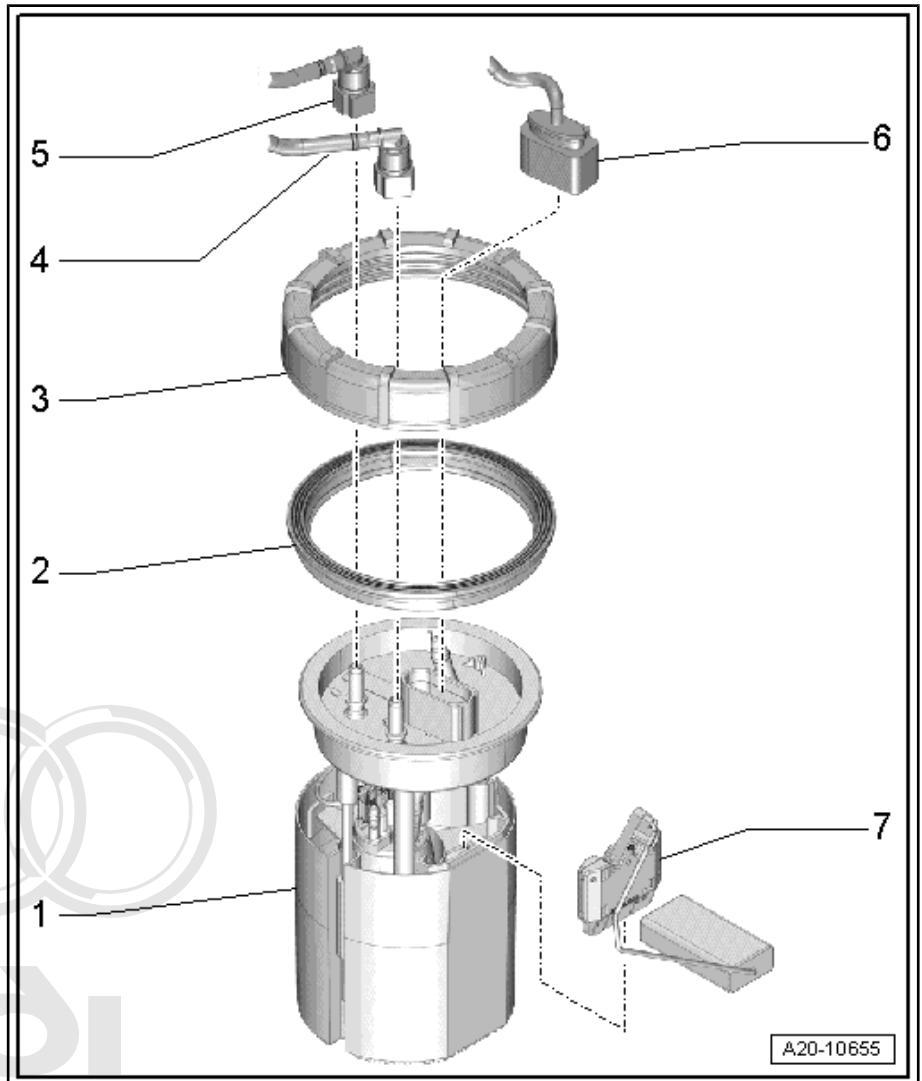
- ☐ To fuel filter
- ☐ Do not kink
- ☐ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)
- ☐ Note direction of arrow (fuel supply or fuel return system) on flange when installing
- ☐ Clipped onto fuel tank

6 - Electrical connector

- ☐ For fuel system pressurisation pump - G6- and fuel gauge sender - G-

7 - Fuel gauge sender - G-

- ☐ Clipped onto baffle housing
- ☐ Checking resistance values ⇒ [page 38](#)
- ☐ Removing and installing ⇒ [page 41](#)



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2.1.2 Exploded view - fuel delivery unit/fuel gauge senders, vehicles with four-wheel drive



Note

In 2015, the fitting location of the fuel filter was modified during series production from an external to an internal location. The internal fuel filter is integrated in the fuel delivery unit. For allocation, refer to ⇒ *Electronic parts catalogue (ETKA)*.

1 - Suction-jet pump

- ☐ Not available separately; only available with item 11-
- ☐ Allocation ⇒ *Electronic parts catalogue*
- ☐ Suction-jet pump: operation ⇒ [page 65](#)

2 - Fuel delivery unit

- ☐ With fuel system pressurisation pump - G6-
- ☐ Checking fuel pump (electrical test) in *Guided Fault Finding* ⇒ *Vehicle diagnostic tester*
- ☐ Removing and installing ⇒ [page 33](#)
- ☐ Put at least 5 litres of fuel into tank after installing

3 - Seal

- ☐ Renew
- ☐ Install dry

4 - Locking ring

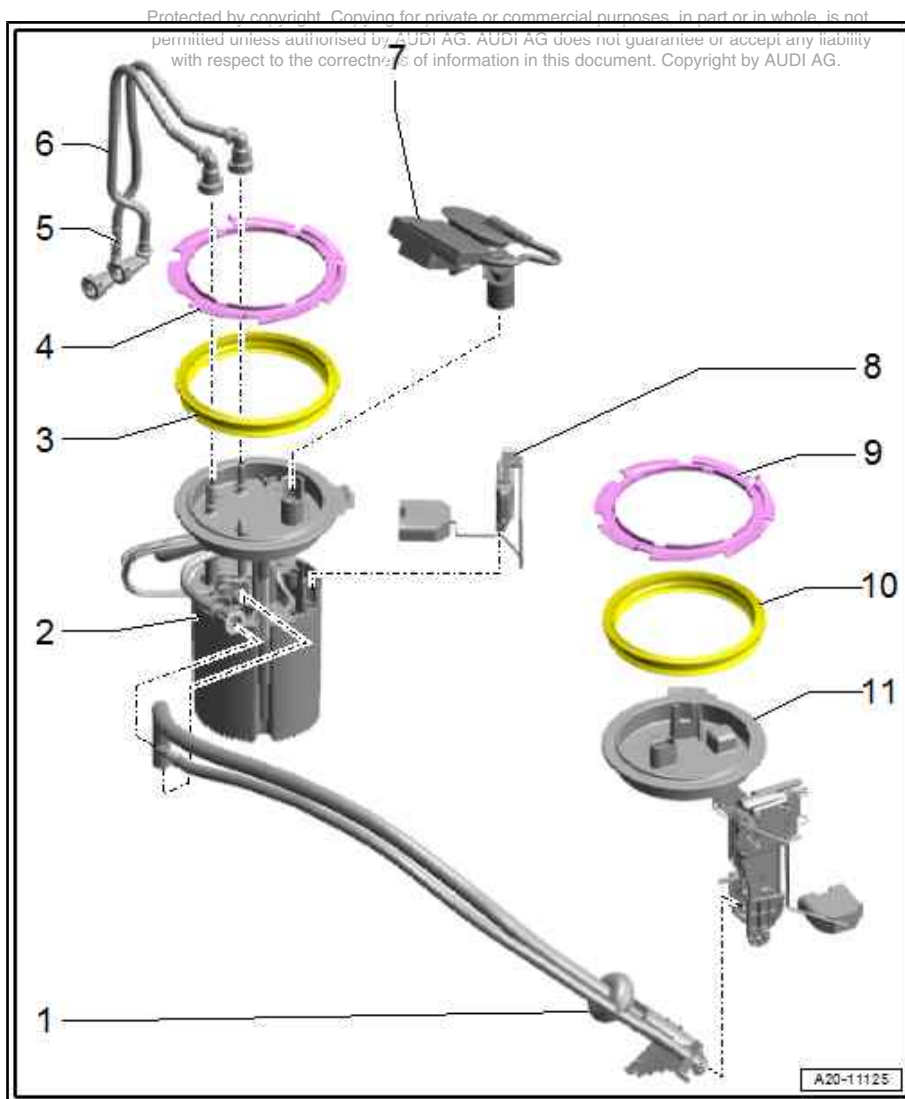
- ☐ Loosen and tighten with key - T10202-
- ☐ 110 Nm

5 - Fuel supply line

- ☐ To fuel filter
- ☐ Do not kink
- ☐ Clipped onto fuel tank
- ☐ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)
- ☐ Note direction of arrow (fuel supply or fuel return system) on flange when installing

6 - Fuel return line

- ☐ From fuel filter
- ☐ Do not kink
- ☐ Clipped onto fuel tank
- ☐ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)
- ☐ Note direction of arrow (fuel supply or fuel return system) on flange when installing



7 - Fuel pump control unit - J538-

- ☐ Check in Guided Fault Finding ⇒ Vehicle diagnostic tester
- ☐ Removing and installing ⇒ [page 66](#)

8 - Fuel gauge sender - G-

- ☐ Checking resistance values ⇒ [page 38](#)
- ☐ Removing and installing ⇒ [page 41](#)

9 - Locking ring

- ☐ Loosen and tighten with key - T10202-
- ☐ 110 Nm

10 - Seal

- ☐ Renew
- ☐ Install dry

11 - Fuel gauge sender 2 - G169-

- ☐ Checking resistance values ⇒ [page 41](#)
- ☐ Removing and installing ⇒ [page 44](#)

2.2 Removing and installing fuel delivery unit/fuel gauge senders

⇒ ["2.2.1 Removing and installing fuel delivery unit/fuel gauge sender - vehicles with front-wheel drive", page 29](#)

⇒ ["2.2.2 Removing and installing fuel delivery unit/fuel gauge senders - vehicles with four-wheel drive", page 33](#)

2.2.1 Removing and installing fuel delivery unit/fuel gauge sender - vehicles with front-wheel drive

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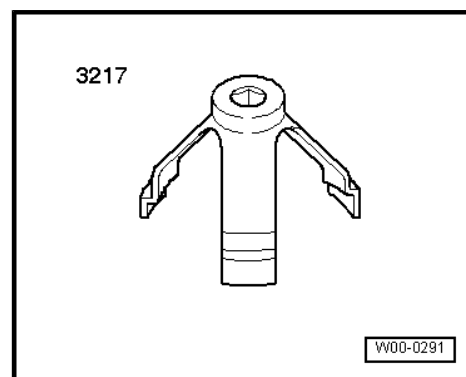


Note

*In 2015, the fitting location of the fuel filter was modified during series production from an external to an internal location. The internal fuel filter is integrated in the fuel delivery unit. For allocation, refer to ⇒ *Electronic parts catalogue (ETKA)*.*

Special tools and workshop equipment required

- ◆ Union nut tool - 3217-



◆ Key - T10202-



◆ Removal wedge - 3409-



Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 4](#) .



WARNING

Danger! Fuel may escape.

- ◆ ***The fuel tank must not be more than $\frac{3}{4}$ full when removing the fuel delivery unit, otherwise a large amount of fuel will escape.***

- Drain fuel tank if necessary ⇒ [page 10](#) .
- Move front right seat all the way forwards.



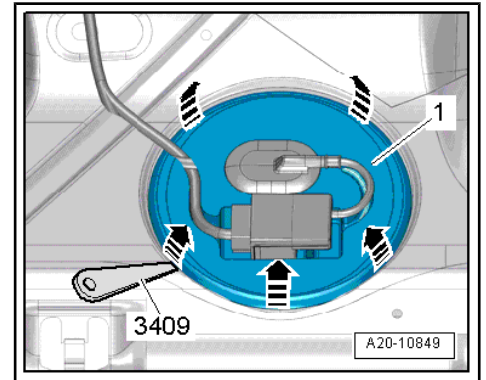
Caution

When disconnecting the battery there is a risk of irreparable damage to electronic components.

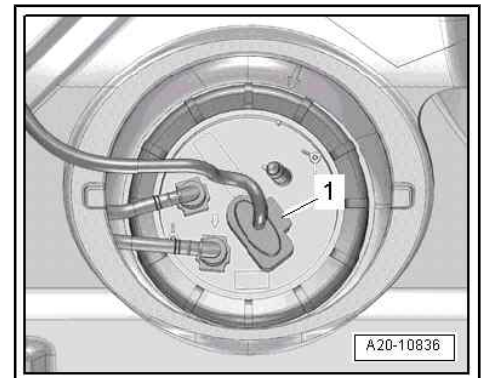
- ◆ ***Observe notes on procedure for disconnecting the battery.***

- Disconnect earth wire from battery terminal ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .
- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .

- Unclip cover -1- for fuel tank flange at retainers -arrows- using removal wedge - 3409- .



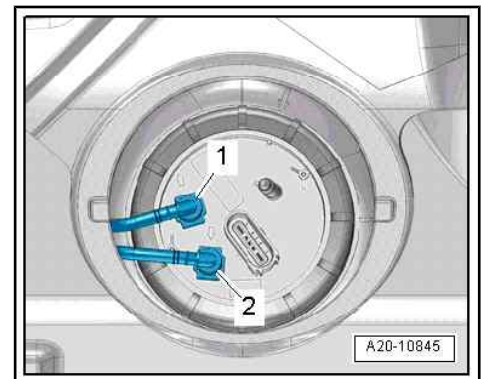
- Release retainer catch and unplug electrical connector -1- on flange.



WARNING

The fuel system operates at high pressure - risk of injuries!

♦ *To reduce the pressure in the fuel system, wrap a clean cloth around the connection and loosen the connection carefully.*



- Disconnect fuel lines -1 and 2- on flange. Disconnecting plug-in connectors ⇒ [page 47](#)

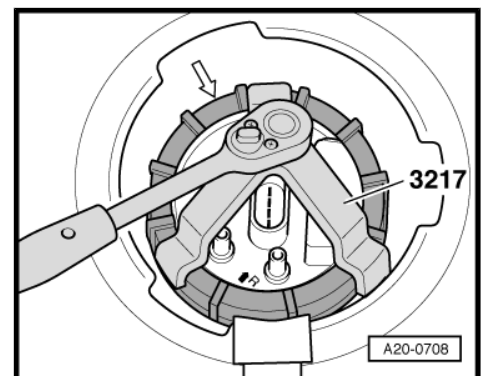
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WARNING

Danger! Fuel may escape.

♦ *The fuel tank must not be more than $\frac{3}{4}$ full when removing the fuel delivery unit, otherwise a large amount of fuel will escape.*



- Unscrew union nut using union nut tool - 3217- .

Version 2


WARNING

Danger! Fuel may escape.

- ◆ ***The fuel tank must not be more than 1/4 full when removing the fuel delivery unit, otherwise a large amount of fuel will escape.***

- Remove locking ring using key - T10202- .
- Pull flange out of opening in fuel tank.
- Take seal out of opening in fuel tank.


WARNING

Safety risk from escaping fuel: the fuel delivery unit is still filled.

- ◆ ***Use a cloth to catch escaping fuel.***

- Carefully pull fuel delivery unit -1- with fuel gauge sender out through opening in fuel tank.


Note

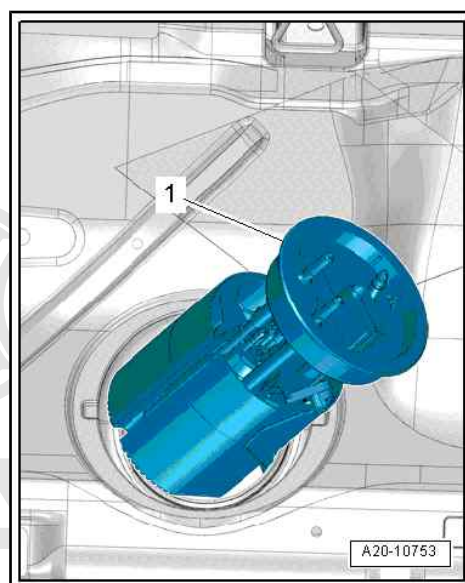
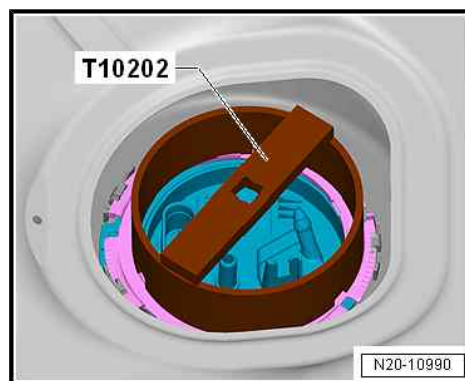
When removing fuel delivery unit, make sure you do not bend float arm of fuel gauge sender -G- .

Installing

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


Note

- ◆ ***Renew seal.***
- ◆ ***Take care not to bend float arm of fuel gauge sender -G- when fitting fuel delivery unit.***
- Carefully guide fuel delivery unit -1- with fuel gauge sender in through opening in fuel tank.



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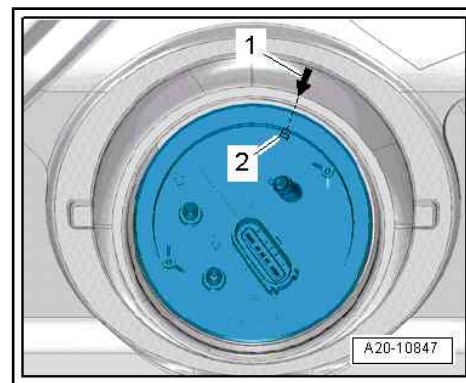
- Install new seal for flange (seal must be installed dry).



Caution

Risk of leaks

- ◆ **The seal must not be pinched or damaged when installing the flange.**



- With fuel delivery unit raised, fit flange in correct installation position.
- Lug -2- on flange must align with arrow -1- on fuel tank.
- Press flange down against spring pressure.
- Fit union nut and tighten using union nut tool - 3217- .
- Connect fuel lines, making sure they engage audibly.
- Press fuel line in again and then pull to check that plug-in connector is correctly engaged.
- Plug in electrical connector and make sure it is correctly engaged.
- Install rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .
- Connect battery and perform steps required after re-connecting battery ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .
- Put at least 5 litres of fuel into tank after installing fuel delivery unit.

Tightening torques

- ◆ ⇒ **“2.1.1 Exploded view - fuel delivery unit/fuel gauge sender, vehicles with front-wheel drive”, page 26**
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2.2.2 Removing and installing fuel delivery unit/fuel gauge senders - vehicles with four-wheel drive

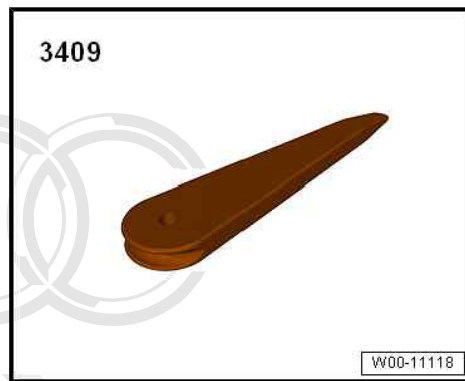


Note

In 2015, the fitting location of the fuel filter was modified during series production from an external to an internal location. The internal fuel filter is integrated in the fuel delivery unit. For allocation, refer to ⇒ Electronic parts catalogue (ETKA) .

Special tools and workshop equipment required

◆ Removal wedge - 3409-



◆ Key - T10202-



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Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 4](#) .



WARNING

Danger! Fuel may escape.

- ◆ ***The fuel tank must not be more than 1/4 full when removing the fuel delivery unit, otherwise a large amount of fuel will escape.***

- Drain fuel tank if necessary ⇒ [page 13](#) .
- Move front seats all the way forwards.



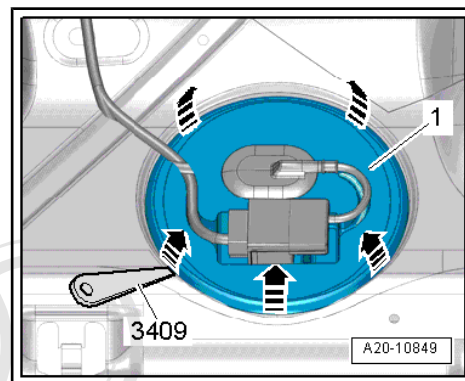
Caution

When disconnecting the battery there is a risk of irreparable damage to electronic components.

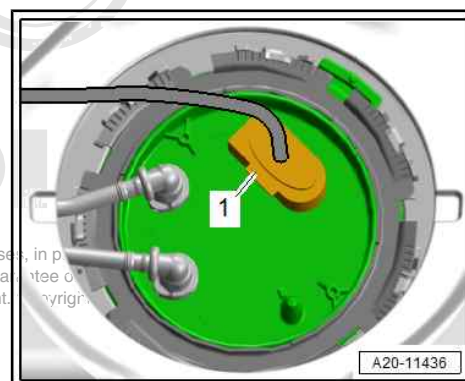
- ◆ ***Observe notes on procedure for disconnecting the battery.***

- Disconnect earth wire from battery terminal ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .
- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .

- Unclip cover -1- for flange (right-side) at retainers -arrows- using removal wedge - 3409- .



- Release retainer catch and unplug electrical connector -1- on flange.

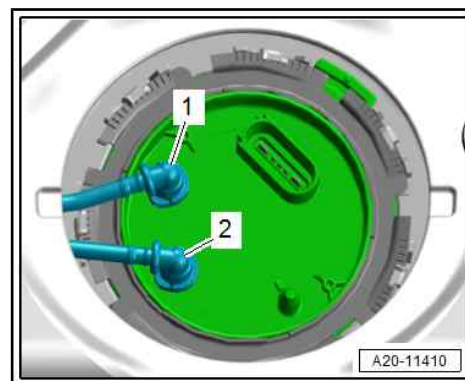


WARNING

The fuel system operates at high pressure - risk of injuries!

- ♦ *To reduce the pressure in the fuel system, wrap a clean cloth around the connection and loosen the connection carefully.*

- Disconnect fuel lines -1 and 2- on flange. Disconnecting plug-in connectors ⇒ [page 47](#)



WARNING

Danger! Fuel may escape.

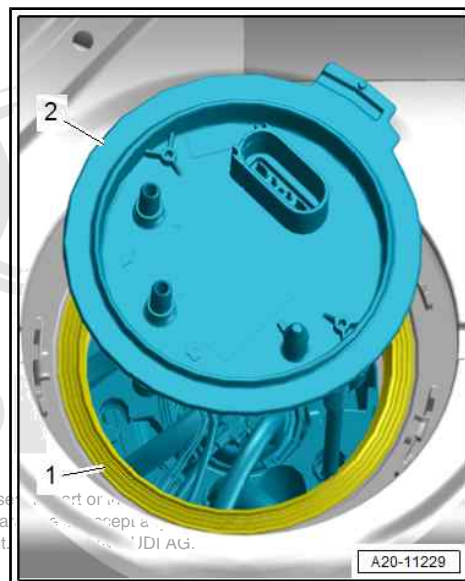
- ♦ *The fuel tank must not be more than 1/4 full when removing the fuel delivery unit, otherwise a large amount of fuel will escape.*

- Remove locking ring using key - T10202- .

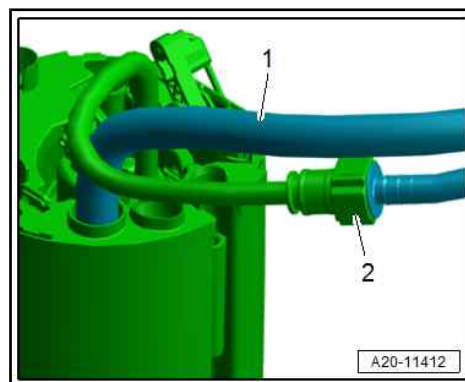


- Pull flange -2- out of opening in fuel tank.
- Remove seal -1- from opening in fuel tank.

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- Reach into opening in fuel tank and detach fuel supply line -1- from fuel delivery unit.
- Reach into opening in fuel tank and disconnect supply line -2- for suction-jet pump. Disconnecting plug-in connectors
[⇒ page 47](#)





WARNING

Safety risk from escaping fuel: the fuel delivery unit is still filled.

- ◆ **Use a cloth to catch escaping fuel.**

- Carefully pull fuel delivery unit -1- with fuel gauge sender out through opening in fuel tank by turning and tilting it as required.



Note

When removing the fuel delivery unit, make sure you do not bend the float arm of the fuel gauge sender.

Installing

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



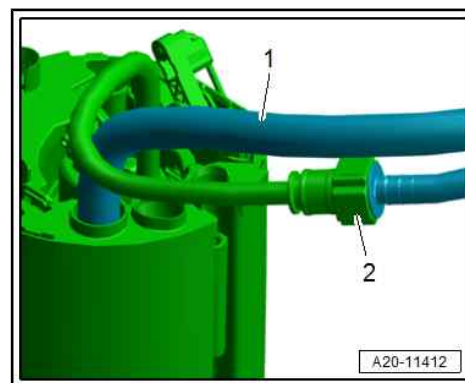
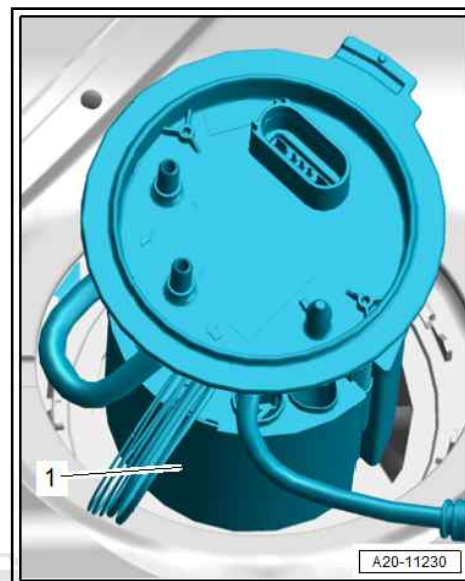
Note

- ◆ *Renew seal.*
- ◆ *Make sure that fuel hoses are securely fitted.*
- ◆ *When plugging in electrical connectors, make sure they engage correctly.*
- ◆ *When inserting the fuel delivery unit, make sure you do not bend the float arm of the fuel gauge sender.*

- Carefully guide fuel delivery unit with fuel gauge sender in through opening in fuel tank

- Connect fuel supply line -1- by inserting into fuel delivery unit as far as stop.

- Connect supply line for suction-jet pump -2- so it engages audibly.



- Install new seal -1- for flange (seal must be installed dry).

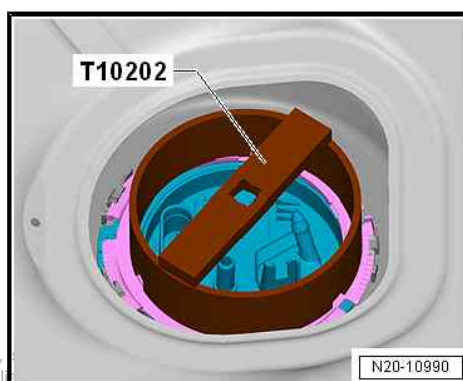
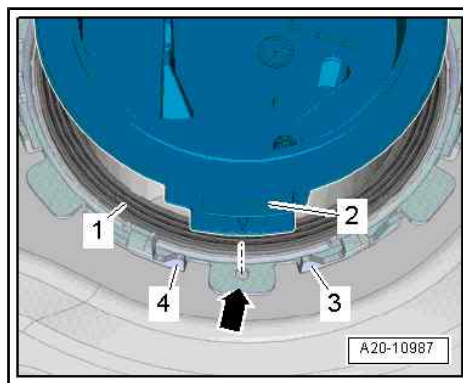


Caution

Risk of leaks

- ◆ *The seal must not be pinched or damaged when installing the flange.*

- With fuel delivery unit raised, fit flange in correct installation position.
- Lug -2- on flange must point towards hole -arrow- on locking ring and must be between tabs -3 and 4- on fuel tank.
- Press flange down against spring pressure.
- Fit locking ring and secure using key - T10202- .
- Connect fuel lines, making sure they engage audibly.
- Press fuel line in again and then pull to check that plug-in connector is correctly engaged.
- Connect battery and perform steps required after re-connecting battery ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .
- Put at least 5 litres of fuel into tank after installing fuel delivery unit.



Tightening torques

- ◆ ⇒ "2.1.2 Exploded view - fuel delivery unit/fuel gauge senders, vehicles with four-wheel drive", page 28

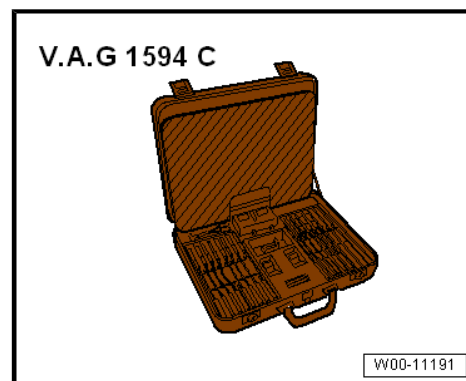
2.3 Checking fuel gauge sender - G-

Special tools and workshop equipment required

- ◆ Hand-held multimeter - V.A.G 1526E-



- ◆ Auxiliary measuring set - V.A.G 1594C-



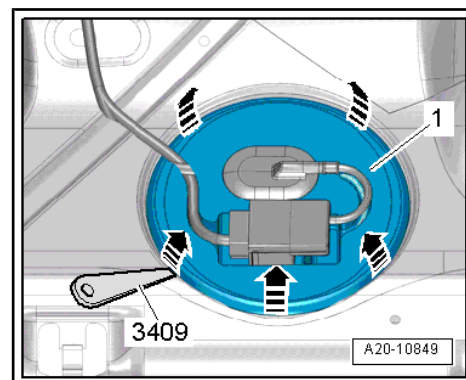
- ◆ Removal wedge - 3409-



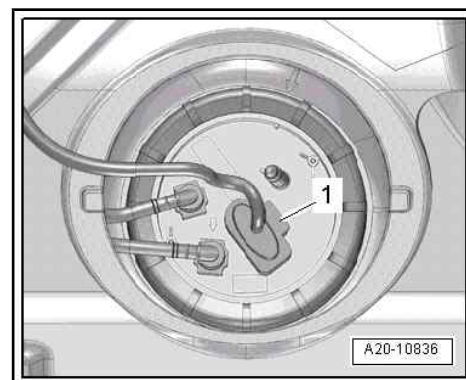
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Procedure

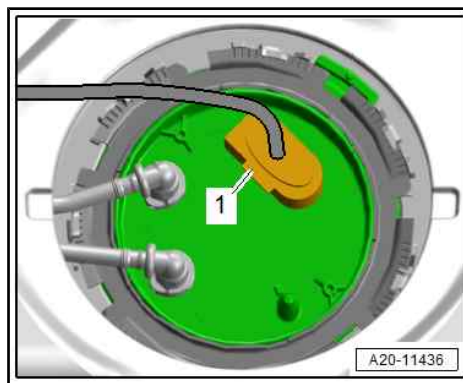
- Move front right seat all the way forwards.
- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Unclip cover -1- for fuel tank flange at retainers -arrows- using removal wedge - 3409- .



- Vehicles with front-wheel drive: Release retainer catch and unplug electrical connector -1- on flange.



- Vehicles with four-wheel drive: Release retainer catch and unplug electrical connector -1- on flange.



Fuel gauge sender - G- installed:

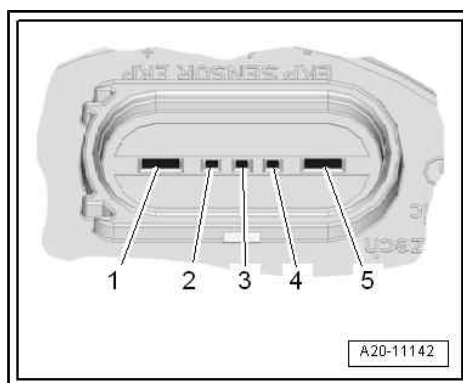


Note

To obtain an exact measurement of the resistance value for the specification "Tank full", the fuel tank must be completely full. For this, drive for at least 500 metres after filling the tank to let air bubbles escape from the fuel tank; then add fuel again.

- Connect multimeter (resistance test) as shown in table.

Measure at contacts	Tank empty	Tank full
2 + 3	266 ...274 Ω	67 ...73 Ω
2 + 4	67 ...73 Ω	266 ...274 Ω
3 + 4 ¹⁾	335 ...345 Ω	335 ...345 Ω
¹⁾ Sender in any position		



Fuel gauge sender - G- removed:

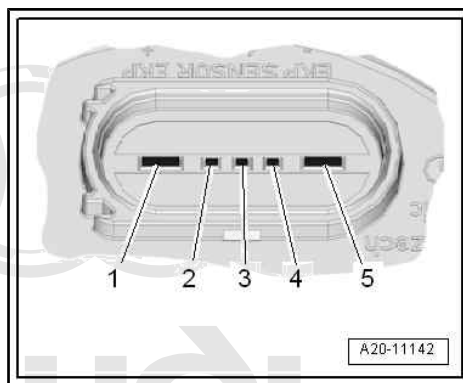


Note

- ♦ To test the maximum and minimum resistance values for "tank full" and "tank empty", remove the fuel delivery unit and move the sender float all the way to its top or bottom position.
- ♦ The following values are obtained with the fuel delivery unit removed, due to the greater travel of the float arm:

- Connect multimeter (resistance test) as shown in table.

Measure at contacts	Tank empty	Tank full
2 + 3	285 ...295 Ω	48 ...52 Ω
2 + 4	48 ...52 Ω	285 ...295 Ω
3 + 4 ¹⁾	335 ...345 Ω	335 ...345 Ω
¹⁾ Sender in any position		



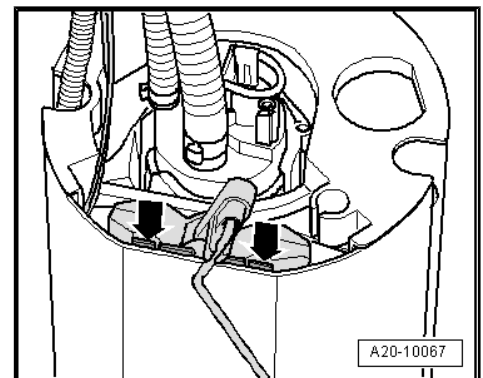
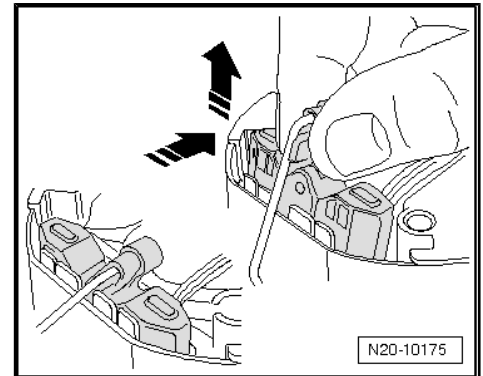
Fuel gauge sender - G- is defective in the following cases:

- ♦ Large differences in test readings
- ♦ Reading: 0 Ω (short circuit)
- ♦ Reading: ∞ Ω (open circuit)
- ♦ No fault in electrical wiring
- Removing and installing fuel gauge sender - G- ⇒ [page 41](#)

2.4 Removing and installing fuel gauge sender - G-

Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 4](#) .
- Remove fuel delivery unit ⇒ [page 29](#) .
- Pull fuel gauge sender - G- inwards slightly and then lift it out -arrows-.
- If necessary, release retaining tabs -arrows- using a screw-driver.

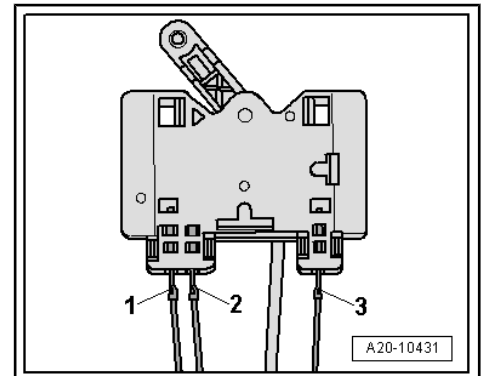


Caution

Risk of damage.

- ◆ *First release retaining tabs on connector contact before unplugging electrical connectors on fuel gauge sender - G- .*

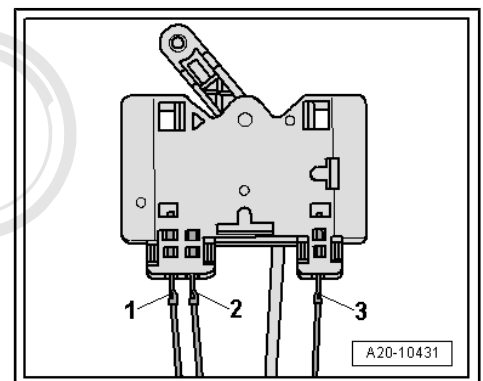
- Release and unplug electrical connectors -1...3-.



Installing

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

- Plug in electrical connectors -1 ... 3- and make sure they are securely engaged.
- Insert fuel gauge sender - G- into guides on fuel delivery unit and press downwards until it clicks into place.
- Install fuel delivery unit ⇒ [page 29](#) .
- Connect battery and perform steps required after re-connecting battery ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .



2.5 Checking fuel gauge sender 2 - G169-

Special tools and workshop equipment required

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◆ Hand-held multimeter - V.A.G 1526E-



◆ Auxiliary measuring set - V.A.G 1594C-



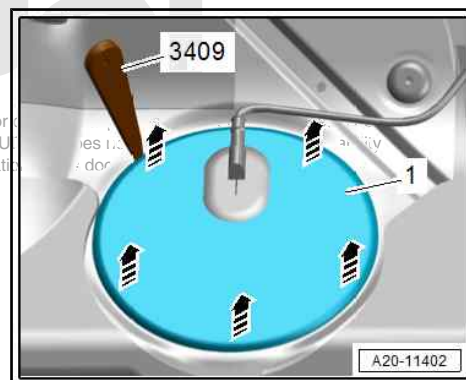
◆ Removal wedge - 3409-



Procedure

- Move front seats all the way forwards.
- Switch off ignition.
- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Unclip cover -1- for flange (left-side) at retainers -arrows- using removal wedge - 3409- .

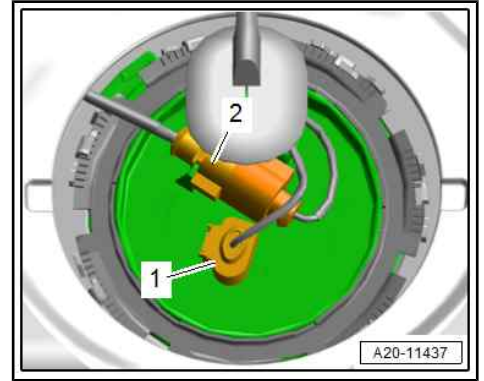
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- Release retainer catch and unplug electrical connector -1- on flange (right-side).

 Note

Disregard -item 2-.



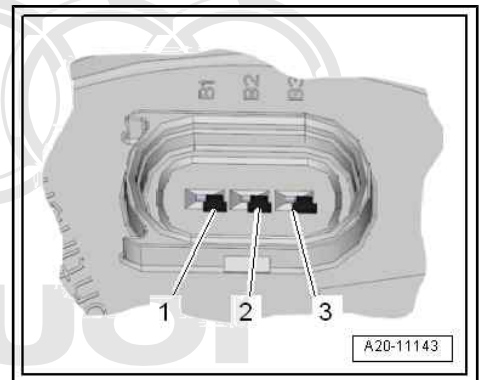
With fuel gauge sender 2 - G169- installed:

 Note

To obtain an exact measurement of the resistance value for the specification "Tank full", the fuel tank must be completely full. For this, drive for at least 500 metres after filling the tank to let air bubbles escape from the fuel tank; then add fuel again.

- Connect multimeter (resistance test) as shown in table.

Measure at contacts	Tank empty	Tank full
1 + 2	275 ...303 Ω	51 ...71 Ω
1 + 3	44 ...70 Ω	269 ...289 Ω
2 + 3 ¹⁾	335 ...345 Ω	335 ...345 Ω
¹⁾ Sender in any position		



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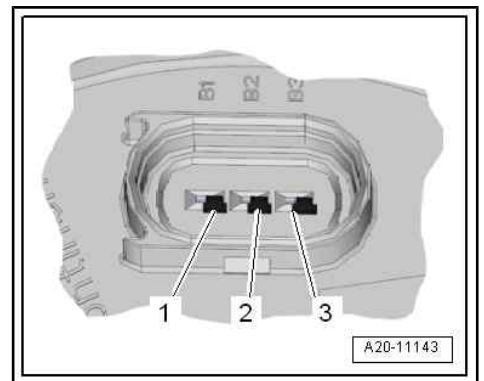
With fuel gauge sender 2 - G169- removed:

 Note

- ◆ To test the maximum and minimum resistance values for "tank full" and "tank empty", remove the fuel gauge sender and move the sender float all the way to its top or bottom position.
- ◆ The following values are obtained with the fuel gauge sender removed, due to the greater travel of the float arm:

- Connect multimeter (resistance test) as shown in table.

Measure at contacts	Tank empty	Tank full
1 + 2	297 ...303 Ω	51 ...53 Ω
1 + 3	37 ...43 Ω	281 ...289 Ω
2 + 3 ¹⁾	335 ...345 Ω	335 ...345 Ω
¹⁾ Sender in any position		



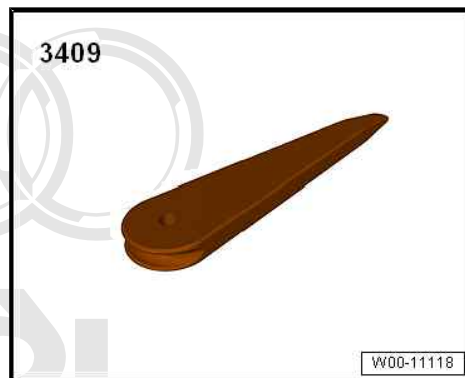
Fuel gauge sender 2 - G169- is defective in the following cases:

- ◆ Large differences in test readings
- ◆ Reading: 0 Ω (short circuit)
- ◆ Reading ∞ Ω (open circuit)
- ◆ No fault in electrical wiring
- Install fuel gauge sender 2 - G169- → [page 44](#) .

2.6 Removing and installing fuel gauge sender 2 - G169-

Special tools and workshop equipment required

- ◆ Removal wedge - 3409-



- ◆ Key - T10202-

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Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 4](#) .
- Move front seats all the way forwards.
- Switch off ignition.
- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .



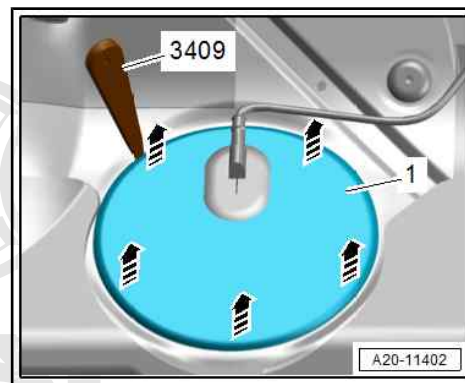
WARNING

Danger! Fuel may escape.

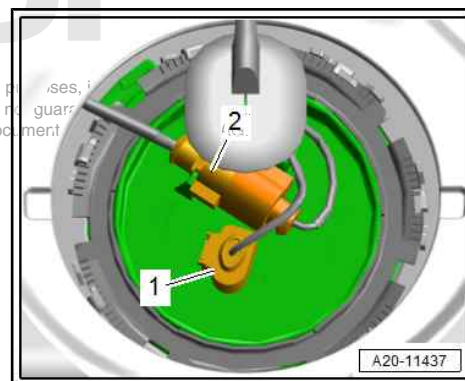
- ◆ ***The fuel tank must not be more than 1/4 full when removing the fuel gauge sender; otherwise a large amount of fuel will escape.***

- Drain fuel tank if necessary ⇒ [page 13](#) .

- Unclip cover -1- for flange (left-side) at retainers -arrows- using removal wedge - 3409- .



- Release retainer catch and unplug electrical connector -1- on flange.
- Release retainer catch and unplug electrical connector -2- for Haldex coupling.



WARNING

Danger! Fuel may escape.

- ♦ ***The fuel tank must not be more than 1/4 full when removing the fuel gauge sender; otherwise a large amount of fuel will escape.***

- Remove locking ring using key - T10202- .



- Carefully pull fuel gauge sender 2 - G169- with suction-jet pump slightly out of opening in fuel tank.
- Remove seal -2- from opening in fuel tank.
- Unclip fuel gauge sender 2 - G169- -item 3- from suction-jet pump -1- and carefully take it out of opening in fuel tank.



Note

When removing, make sure you do not bend float arm of fuel gauge sender.

Installing

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



Note

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- ◆ **When plugging in electrical connectors, make sure they engage correctly.**

- Carefully insert fuel gauge sender 2 - G169- in fuel tank and clip onto suction-jet pump.
- Install new seal -1- for flange (seal must be installed dry).



Caution

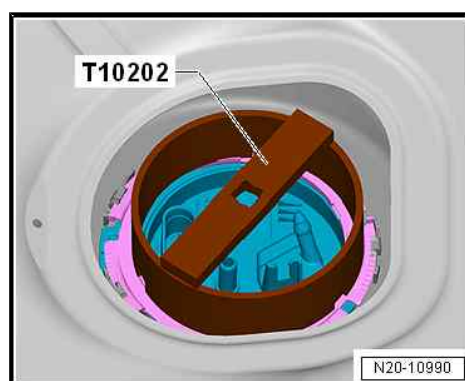
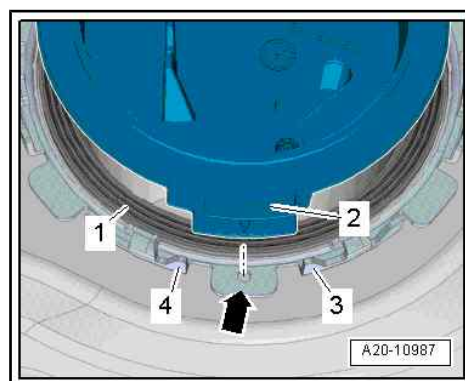
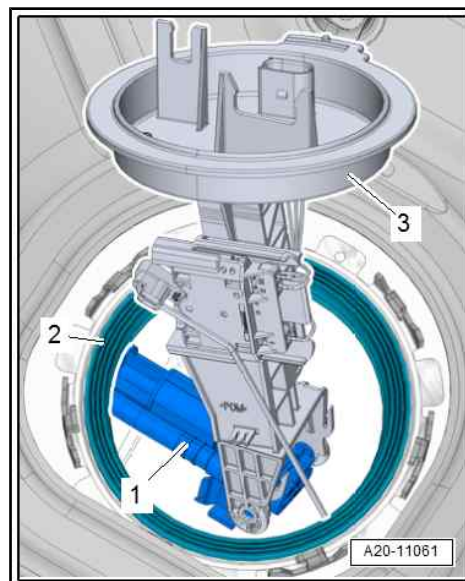
Risk of leaks

- ◆ **The seal must not be pinched or damaged when installing the flange.**

- Fit flange in correct installation position.
- Lug -2- on flange must point towards hole -arrow- on locking ring and must be between tabs -3 and 4- on fuel tank.
- Press flange down against spring pressure.
- Fit locking ring and secure using key - T10202- .

Tightening torques

- ◆ ⇒ **“2.1.2 Exploded view - fuel delivery unit/fuel gauge senders, vehicles with four-wheel drive”, page 28**



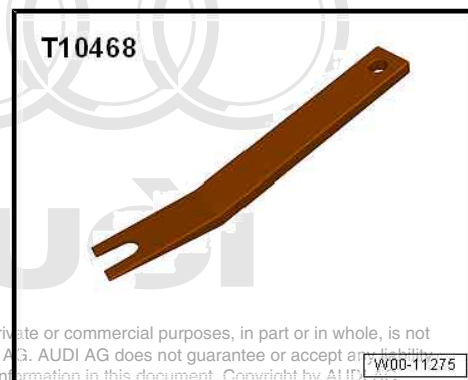
3 Plug-in connectors

⇒ "3.1 Disconnecting plug-in connectors", page 47

3.1 Disconnecting plug-in connectors

Special tools and workshop equipment required

- ◆ Lever - T10468-



Allocation of plug-in connectors



Note

The plug-in connectors for the fuel lines, vacuum lines, and breather lines are colour coded. There is either a coloured marking on the plug-in connector, or the release tab is the corresponding colour ⇒ [page 47](#).

Colour coding

Plug-in connector	Colour coding on plug-in connector
Fuel supply line	Black
Fuel return line	Blue
Breather	White-beige
Vacuum	Green



WARNING

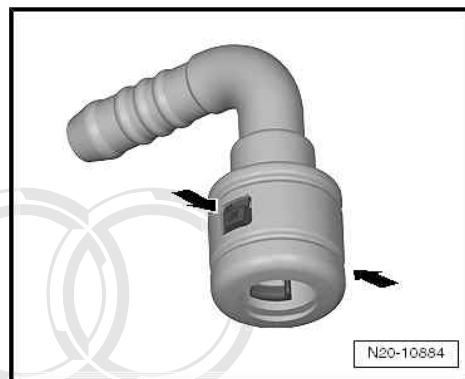
Fuel line is pressurised.

Risk of injury to eyes and skin caused by fuel.

Wear safety goggles and protective clothing to avoid possible injury and skin contact. Before opening hose connections wrap a cloth around the connection. Then relieve pressure by carefully opening the connection.

Version 1

Plug-in connector with release tabs -arrows- on both sides

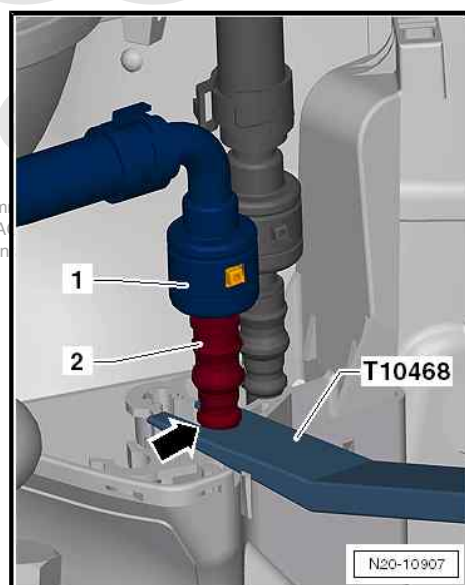


Disconnecting

Counter-hold connection point for fuel -1- in engine compartment.

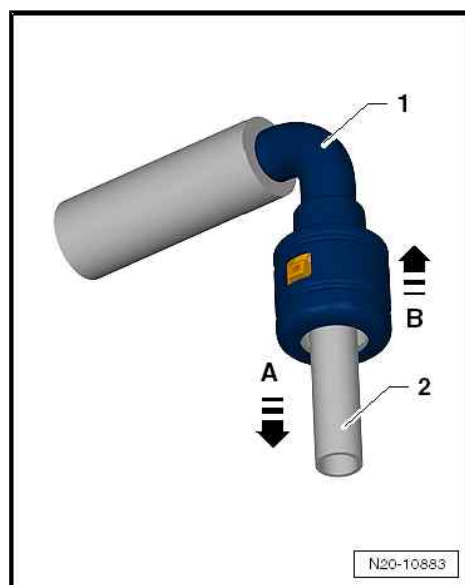
- Insert lever - T10468- between heat shield and stop -arrow- of fuel line -2- and counter-hold.

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Continued for all connection points in fuel system:

- Press plug-in connector -1- in direction of -arrow A-.
- Press in and hold release tabs.
- Unplug plug-in connector -1- from fuel line -2- in direction of -arrow B-.
- When installing observe colour coding ⇒ [page 47](#) .
- Plug-in connectors should engage audibly when connecting.
- Check that plug-in connector is securely seated by pulling at it.



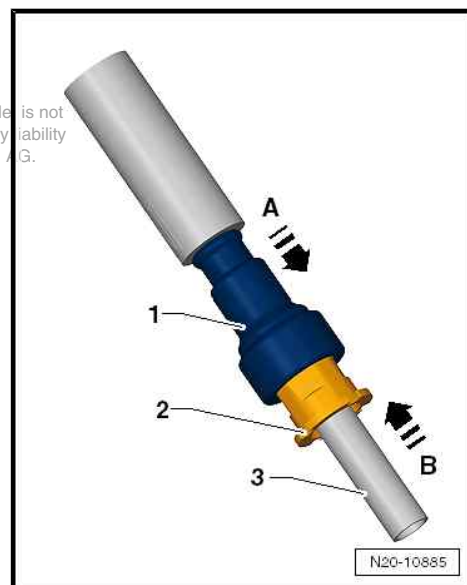
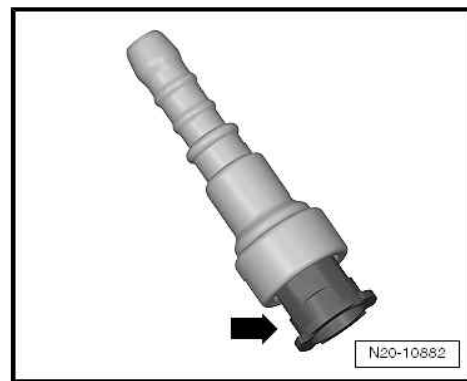
Version 2

Plug-in connector with pull release -arrow-:



Disconnecting

- Press plug-in connector -1- in direction of -arrow A-.
- Pull the pull release catch -2- in direction of -arrow B-.
- Unplug plug-in connector -1- from fuel line -3- in direction of -arrow B-.
- When installing observe colour coding ⇒ [page 47](#) .
- Plug-in connectors should engage audibly when connecting.
- Check that plug-in connector is securely seated by pulling at it.

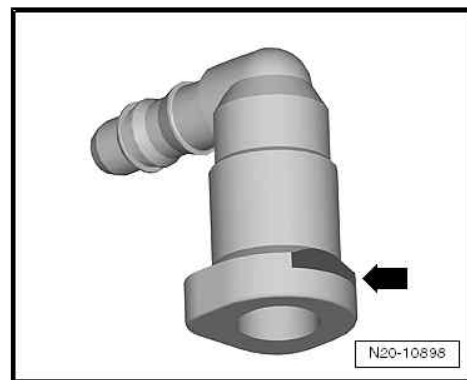


Version 3

Plug-in connector with release tab at front -arrow-:

Disconnecting

- Press release tab -arrow- and disconnect plug-in connectors.
- When installing observe colour coding ⇒ [page 47](#) .
- Plug-in connectors should engage audibly when connecting.
- Check that plug-in connector is securely seated by pulling at it.

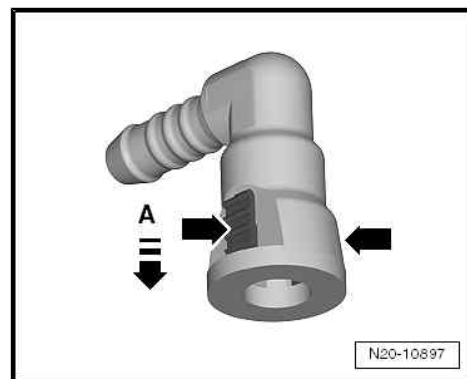


Version 4

Plug-in connector with release tab -arrows- on both sides:

Disconnecting

- Press plug-in connector in direction of -arrow A-.
- Press release tabs -arrows- and disconnect plug-in connector.
- When installing observe colour coding ⇒ [page 47](#) .
- Plug-in connectors should engage audibly when connecting.
- Check that plug-in connector is securely seated by pulling at it.

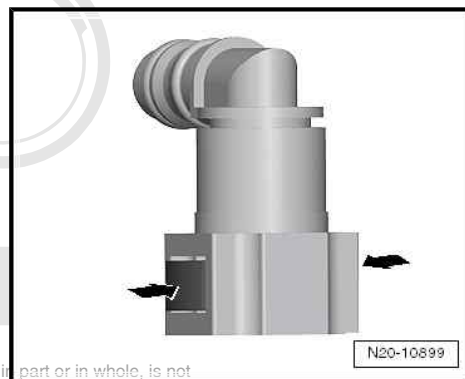


Version 5

Plug-in connector with release tabs -arrows- on both sides:

Disconnecting

- Press release tabs -arrows- and disconnect plug-in connector.
- When installing observe colour coding ⇒ [page 47](#) .
- Plug-in connectors should engage audibly when connecting.
- Check that plug-in connector is securely seated by pulling at it.



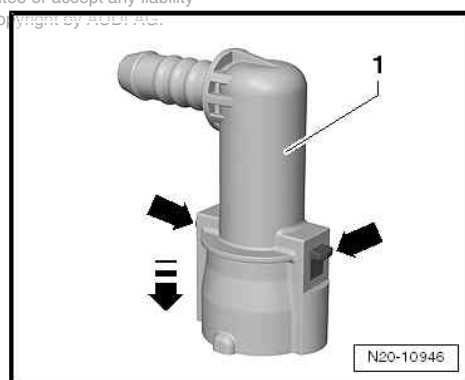
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Version 6

Plug-in connector with release tabs -arrows- on both sides:

Disconnecting

- Press and hold plug-in connector -1- in direction of -arrow -.
- Press release tabs -arrows- and disconnect plug-in connector.
- When installing observe colour coding ⇒ [page 47](#) .
- Plug-in connectors should engage audibly when connecting.
- Check that plug-in connector is securely seated by pulling at it.

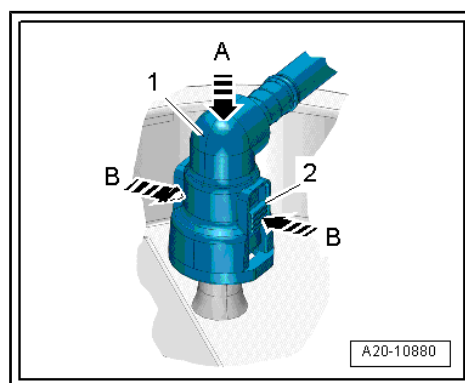


Version 7

Plug-in connector -1- with release tabs -2- on both sides:

Disconnecting

- Press and hold plug-in connector -1- in direction of -arrow A-.
- Press release tabs -2- in direction of -arrow B- and unplug plug-in connector -1-.
- When installing observe colour coding ⇒ [page 47](#) .
- Plug-in connectors should engage audibly when connecting.
- Check that plug-in connector is securely seated by pulling at it.



4 Fuel filter

⇒ [“4.1 Exploded view - fuel filter”, page 51](#)

⇒ [“4.2 Removing and installing fuel filter”, page 52](#)

4.1 Exploded view - fuel filter



In 2015, the fitting location of the fuel filter was modified during series production from an external to an internal location. The internal fuel filter is integrated in the fuel delivery unit. For allocation, refer to ⇒ [Electronic parts catalogue \(ETKA\)](#) ⇒ [“2 Fuel delivery unit/fuel gauge senders”, page 26](#).

In the fuel system of the Audi A1, which has no direct fuel return line, the fuel pressure regulator is located in the fuel filter. In this system, only the supply line is routed to the front, to the engine compartment. The fuel pressure regulator opens when the pressure in the fuel supply line rises above a specified value. Excess fuel flows from the filter directly back to the tank via a return line.

1 - Fuel filter

- ☐ With fuel pressure regulator, 6.4 bar
- ☐ Flow direction is marked by arrows
- ☐ Do not interchange connections
- ☐ Installation position: pin on filter housing must engage in opening on filter bracket ⇒ [page 52](#)
- ☐ Removing and installing ⇒ [page 52](#)

2 - Fuel return line

- ☐ Blue
- ☐ To fuel tank
- ☐ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)

3 - Fuel supply line

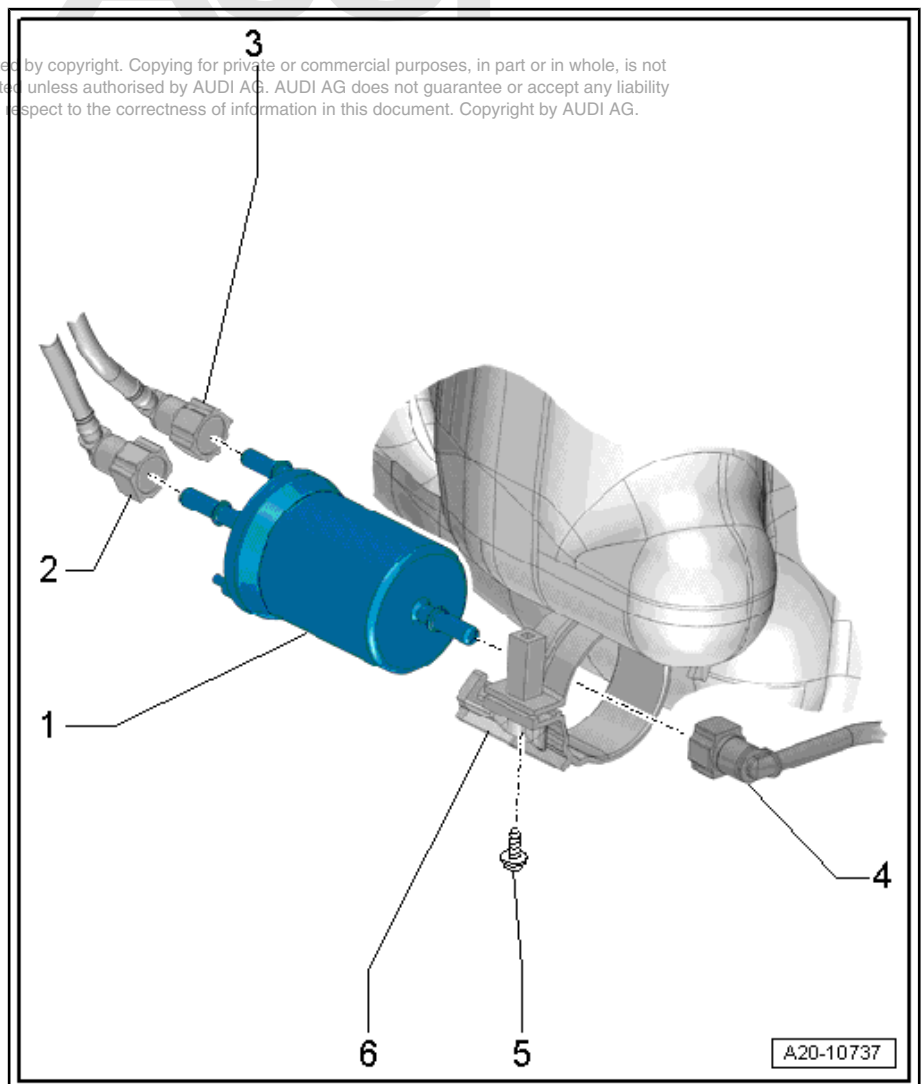
- ☐ Black
- ☐ From fuel tank
- ☐ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)

4 - Fuel line

- ☐ Black
- ☐ To engine
- ☐ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)

5 - Bolt

- ☐ 1.5 Nm



6 - Bracket for fuel filter

- ☐ Welded to fuel tank

4.2 Removing and installing fuel filter



Note

*In 2015, the fitting location of the fuel filter was modified during series production from an external to an internal location. The internal fuel filter is integrated in the fuel delivery unit. For allocation, refer to ⇒ *Electronic parts catalogue (ETKA)**

⇒ *"2.2 Removing and installing fuel delivery unit/fuel gauge senders", page 29*.

Special tools and workshop equipment required

- ◆ Reservoir

Removing

- Observe safety precautions ⇒ [page 1](#).
- Observe rules for cleanliness ⇒ [page 4](#).
- Place drip tray under fuel filter.



WARNING

The fuel system operates at high pressure - risk of injuries!

- ◆ ***To reduce the pressure in the fuel system, wrap a clean cloth around the connection and loosen the connection carefully.***

- Disconnect fuel lines -1, 2, 3-. Disconnecting plug-in connectors ⇒ [page 47](#)
- Remove bolt -4-.
- Open bracket -5- and pull out fuel filter.

Installing

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

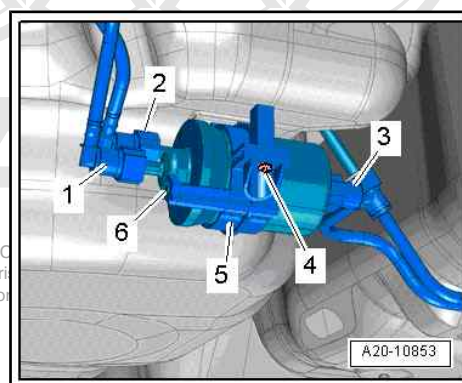
- Slide fuel filter into bracket as far as stop.

Installation position:

- Flow direction is marked with arrows on filter housing.
- Pin -6- on filter housing must engage in opening on filter bracket.
- Connect fuel lines, making sure they engage audibly.
- Press fuel line in again and then pull to check that plug-in connector is correctly engaged.

Tightening torques

- ◆ ⇒ ["4.1 Exploded view - fuel filter", page 51](#)



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5 Activated charcoal filter system

⇒ [“5.1 Exploded view - activated charcoal filter system”, page 53](#)

⇒ [“5.2 Removing and installing activated charcoal filter”, page 54](#)

5.1 Exploded view - activated charcoal filter system

⇒ [“5.1.1 Exploded view - activated charcoal filter system, vehicles with front-wheel drive”, page 53](#)

⇒ [“5.1.2 Exploded view - activated charcoal filter system, vehicles with four-wheel drive”, page 54](#)

5.1.1 Exploded view - activated charcoal filter system, vehicles with front-wheel drive

1 - Activated charcoal filter

- ☐ Fitting location: in wheel housing (rear right) behind wheel housing liner
- ☐ Removing and installing ⇒ [page 54](#)

2 - Breather line

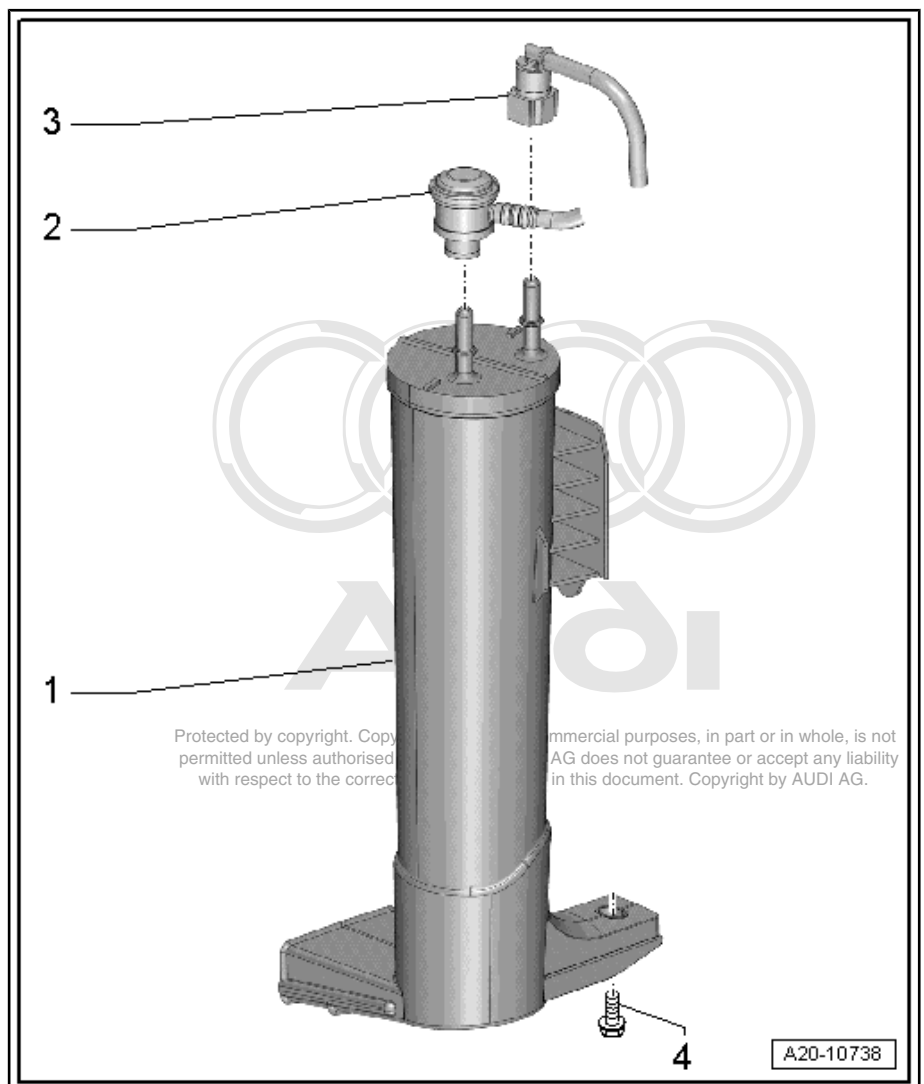
- ☐ To gravity valve
- ☐ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)

3 - Breather line

- ☐ To activated charcoal filter solenoid valve 1 - N80-
- ☐ Clipped onto fuel tank
- ☐ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)

4 - Bolt

- ☐ 12 Nm



5.1.2 Exploded view - activated charcoal filter system, vehicles with four-wheel drive

1 - Activated charcoal filter

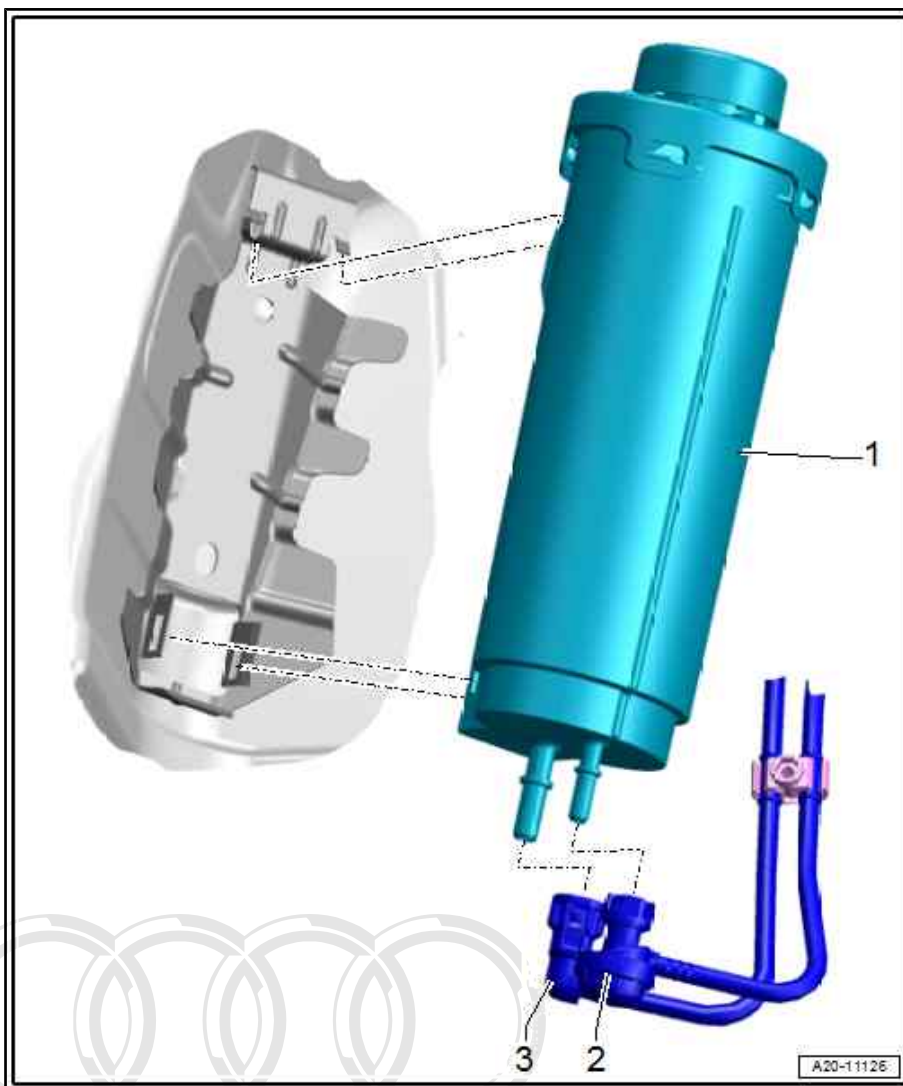
- ❑ Fitting location: in wheel housing (rear right) behind wheel housing liner
- ❑ Removing and installing ⇒ [page 55](#)

2 - Breather line

- ❑ To fuel tank
- ❑ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)

3 - Breather line

- ❑ To activated charcoal filter solenoid valve 1 - N80-
- ❑ Clipped onto fuel tank
- ❑ Disconnecting and connecting plug-in connectors ⇒ [page 47](#)



5.2 Removing and installing activated charcoal filter

⇒ [“5.2.1 Removing and installing activated charcoal filter - vehicles with front-wheel drive”, page 54](#)

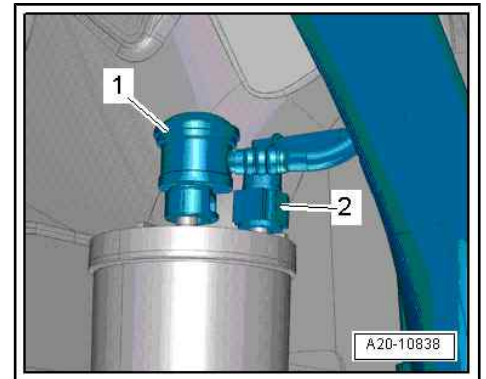
⇒ [“5.2.2 Removing and installing activated charcoal filter - vehicles with four-wheel drive”, page 55](#)

5.2.1 Removing and installing activated charcoal filter - vehicles with front-wheel drive

Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 4](#) .

- Remove rear wheel housing liner (right-side) ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (rear) .
- Detach breather line -1- leading to gravity valve. Disconnecting plug-in connectors ⇒ [page 47](#)
- Disconnect breather line -2- leading to activated charcoal filter solenoid valve 1 - N80- . Disconnecting plug-in connectors ⇒ [page 47](#)



- Remove bolt -2-.
- Lift retaining tab -arrow- using a screwdriver and detach activated charcoal filter -1- from below.

Installing

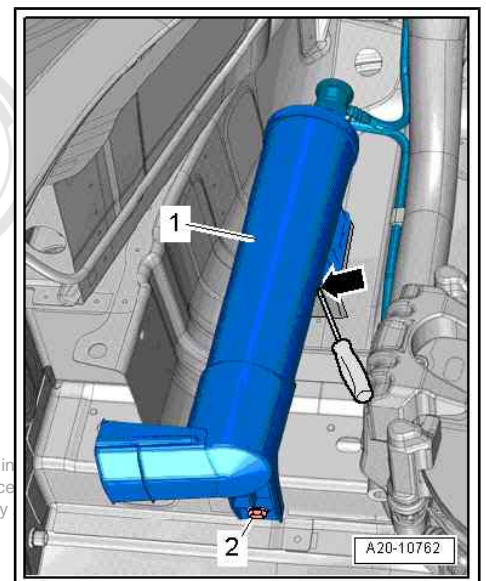
Installation is carried out in reverse order; note the following:

- Connect breather lines, making sure they engage audibly.
- Install rear wheel housing liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (rear) .

Tightening torques

- ◆ ⇒ [“5.1.1 Exploded view - activated charcoal filter system, vehicles with front-wheel drive”, page 53](#)

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5.2.2 Removing and installing activated charcoal filter - vehicles with four-wheel drive

Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 4](#) .
- Remove rear wheel housing liner (right-side) ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (rear) .

- Disconnect breather lines -1, 2-. Disconnecting plug-in connectors ⇒ [page 47](#)
- Apply a screwdriver on both sides to release retaining tab -3- at lug and at the same time pull activated charcoal filter towards front -arrow A-.
- Pull activated charcoal filter -4- downwards out of mounting -arrow B- and detach.

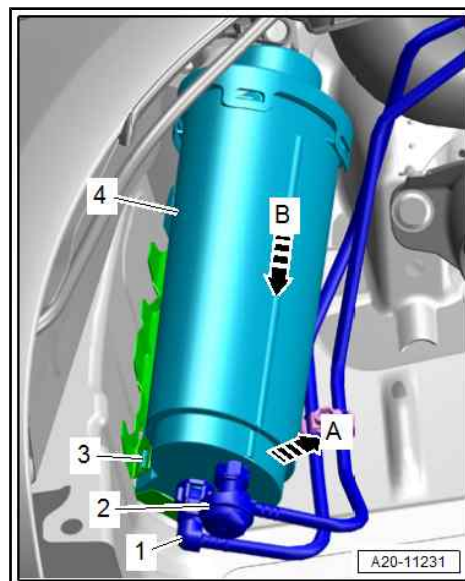
Installing

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

- Connect breather lines, making sure they engage audibly.
- Install rear wheel housing liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Removing and installing wheel housing liner (rear) .

Tightening torques

- ♦ ⇒ [“5.1.2 Exploded view - activated charcoal filter system, vehicles with four-wheel drive”, page 54](#)



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6 Accelerator mechanism

⇒ [“6.1 Exploded view - accelerator pedal module”, page 57](#)

⇒ [“6.2 Removing and installing accelerator pedal module with accelerator position sender G79 / G185”, page 58](#)

6.1 Exploded view - accelerator pedal module

⇒ [“6.1.1 Exploded view - accelerator pedal module, vehicles with electrohydraulic steering”, page 57](#)

⇒ [“6.1.2 Exploded view - accelerator pedal module, vehicles with electromechanical steering”, page 58](#)

6.1.1 Exploded view - accelerator pedal module, vehicles with electrohydraulic steering

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1 - Bolt

- ☐ 8 Nm

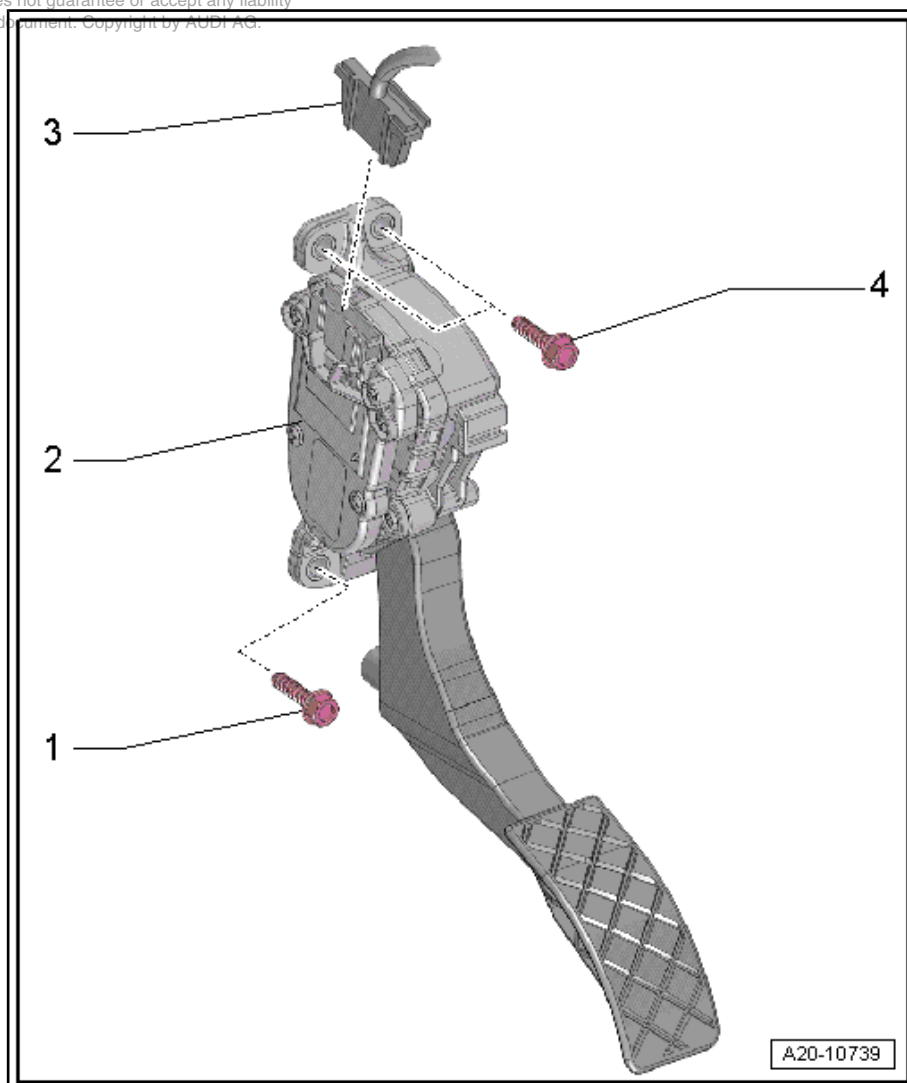
2 - Accelerator pedal module

- ☐ With accelerator position sender - G79- and accelerator position sender 2 - G185-
- ☐ Check in [Guided Fault Finding](#) ⇒ Vehicle diagnostic tester
- ☐ Removing and installing ⇒ [page 58](#)
- ☐ Adaption may be required after renewing, depending on engine/ gearbox combination
- ☐ If this menu item is available in “Guided Functions”, perform adaption ⇒ Vehicle diagnostic tester

3 - Electrical connector

4 - Bolt

- ☐ 8 Nm



6.1.2 Exploded view - accelerator pedal module, vehicles with electromechanical steering

1 - Bolt

- 8 Nm

2 - Bearing bracket

3 - Electrical connector

4 - Bolt

- 2x
- 8 Nm

5 - Accelerator pedal module

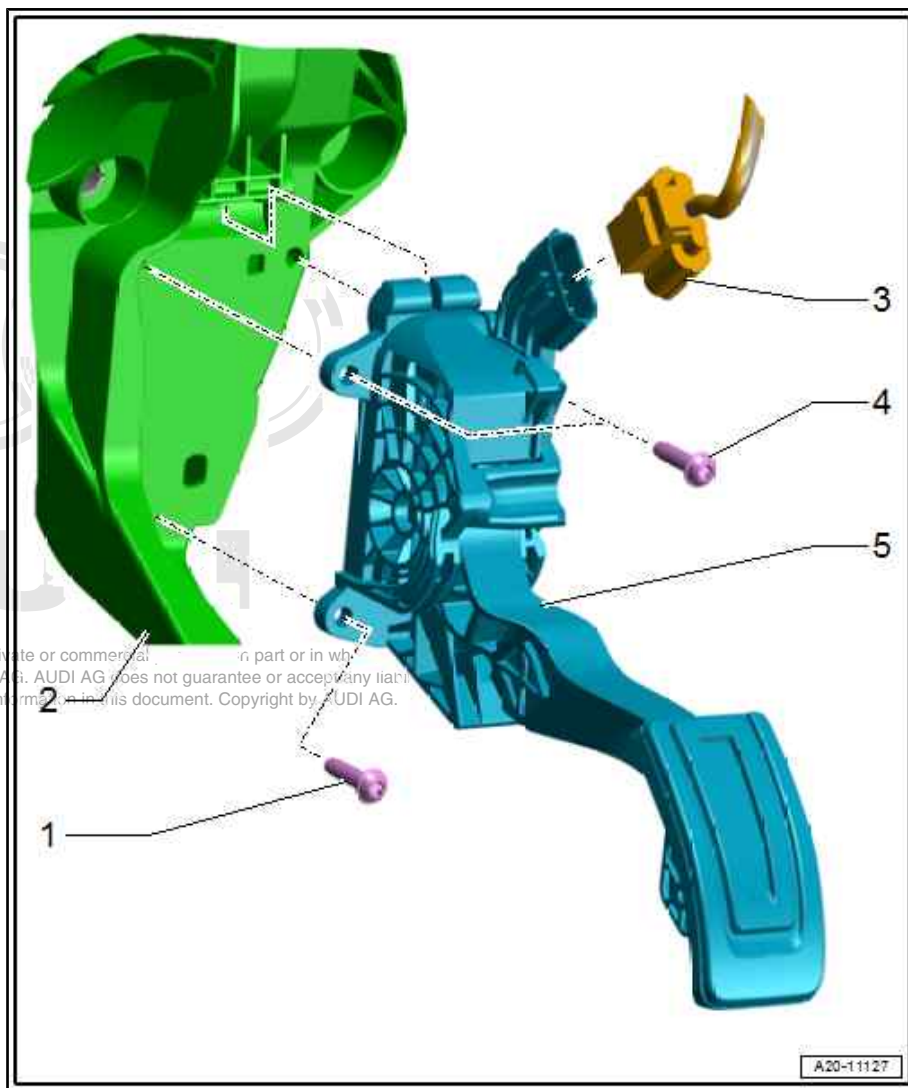
- With accelerator position sender - G79- and accelerator position sender 2 - G185-

- Check in Guided Fault Finding ⇒ Vehicle diagnostic tester

- Removing and installing ⇒ [page 58](#)

- Adaption may be required after renewing, depending on engine/gearbox combination

- If this menu item is available in "Guided Functions", perform adaption ⇒ Vehicle diagnostic tester



6.2 Removing and installing accelerator pedal module with accelerator position sender -G79- / -G185-

Special tools and workshop equipment required

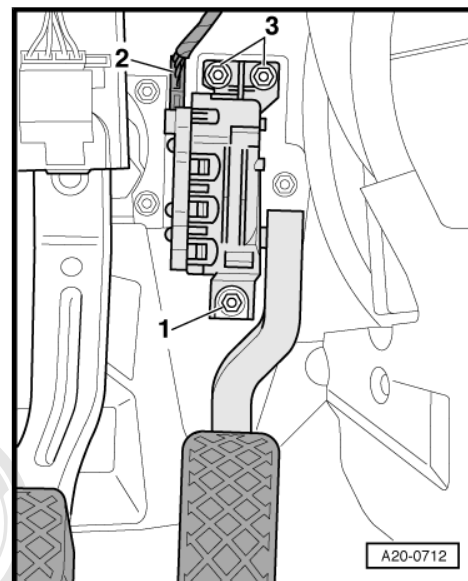
- ◆ Vehicle diagnostic tester

Removing

- Remove dash panel cover (driver side) ⇒ General body repairs, interior; Rep. gr. 68 ; Storage compartments/covers/trim panels; Removing and installing dash panel cover (driver side) .

Vehicles with electrohydraulic steering:

- Press release tab and unplug electrical connector -2-.
- Unscrew bolts -1 and 3- and detach accelerator pedal module.



Vehicles with electromechanical steering:

- Release retainer catch and unplug electrical connector -2-.
- Unscrew bolts -1 and 3- and detach accelerator pedal module -4-.

Installing

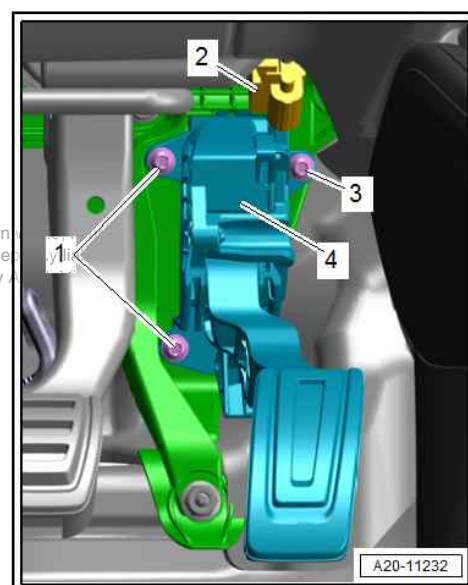
Installation is carried out in reverse order; note the following:

- Install dash panel cover (driver side) ⇒ General body repairs, interior; Rep. gr. 68 ; Storage compartments/covers/trim panels; Removing and installing dash panel cover (driver side) .



Note

- ◆ *Adaption must be carried out after renewing, depending on engine/gearbox combination.*
- ◆ *If this menu item is available in "Guided Functions", perform adaption ⇒ Vehicle diagnostic tester.*



Tightening torques

- ◆ ⇒ ["6.1 Exploded view - accelerator pedal module", page 57](#)

7 Fuel pump

⇒ ["7.1 Checking fuel system pressurisation pump G6", page 60](#)

⇒ ["7.2 Removing and installing suction-jet pump", page 65](#)

⇒ ["7.3 Removing and installing fuel pump control unit J538", page 66](#)

7.1 Checking fuel system pressurisation pump - G6-

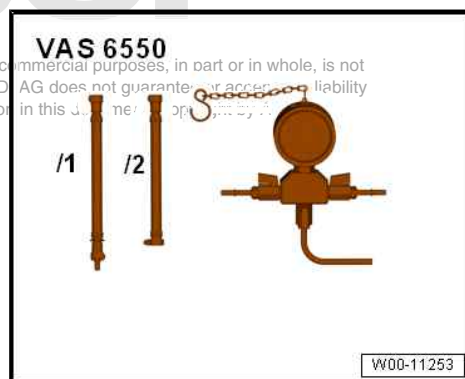
Special tools and workshop equipment required

◆ Lever - T10468-

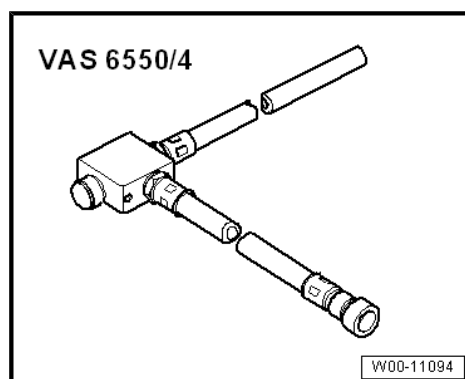


◆ Pressure tester - VAS 6550- with hoses - VAS 6550/1- and - VAS 6550/2-

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◆ Pressure control valve - VAS 6550/4-

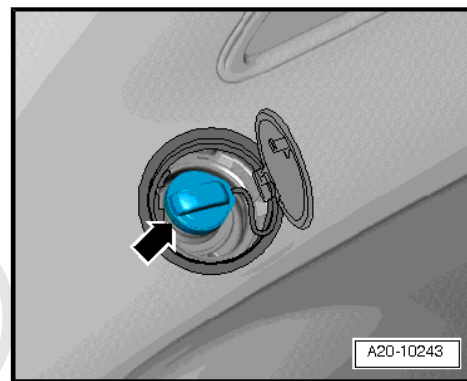


◆ Fuel-resistant measuring container

◆ Vehicle diagnostic tester

A - Checking fuel delivery rate

- Observe test conditions ⇒ [page 4](#) .
- Open tank flap.
- Remove filler cap -arrow- for fuel filler neck.



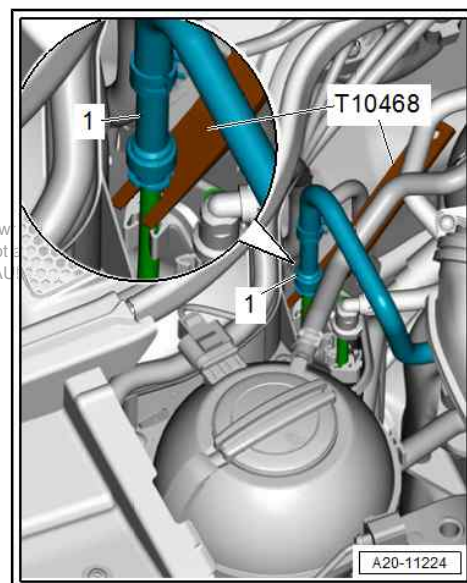
Version 1:

 **WARNING**

The fuel system operates at high pressure - risk of injuries!

◆ *To reduce the pressure in the fuel system, wrap a clean cloth around the connection and loosen the connection carefully.*

- Disconnect fuel supply line -1-. Disconnecting plug-in connectors ⇒ [page 47](#)



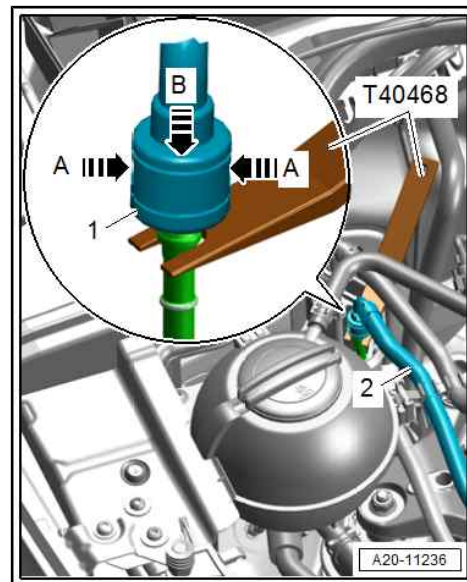
Version 2:

 **WARNING**

The fuel system operates at high pressure - risk of injuries!

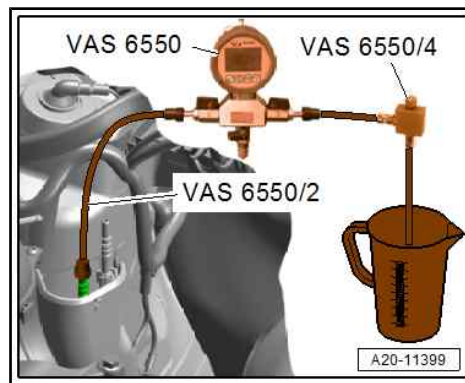
◆ *To reduce the pressure in the fuel system, wrap a clean cloth around the connection and loosen the connection carefully.*

- Disconnect fuel line -2-. Disconnecting plug-in connectors ⇒ [page 47](#)



All vehicles (continued):

- Connect pressure tester - VAS 6550- to fuel supply line with hose - VAS 6550/2- .
- Attach pressure control valve - VAS 6550/4- and hold end of hose into fuel-resistant measuring container.



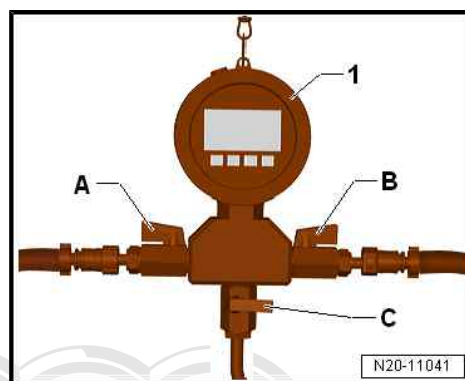
- Switch on pressure tester - VAS 6550- -item 1- by pressing **On/Off** button.



Note

To measure the fuel delivery rate, pressure must first be built up in the fuel line; the fuel pump must then operate against this pressure during the measurement. This pressure can be built up using the pressure control valve - VAS 6550/4- as follows:

- Open cut-off valves -A and B-.
- Levers must point in direction of flow.



Caution

Risk of fuel escaping.

- ◆ **Make sure that drain tap -C- is closed.**
- ◆ **The lever should point perpendicular to direction of flow.**

- Connect vehicle diagnostic tester .
- Switch on the ignition and select the following menu options on the vehicle diagnostic tester :

- ◆ **Vehicle self-diagnosis**
- ◆ **Engine electronics**
- ◆ **Basic setting**
- ◆ **Checking fuel system pressurisation pump**

- Press **Start**: The fuel pump will start running.

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- Build up pressure in fuel system by turning adjuster screw -1- on pressure control valve - VAS 6550/4- until correct pressure is reached.
- Specification: 4.0 bar
- From this point on, do not turn adjuster screw -1-.
- Press **Stop**.
- Drain measuring container.
- For measurement, press **Start** again and let fuel pump run for 15 seconds.
- Press **Stop** after 15 seconds.
- Check amount of fuel delivered in measuring container.
- Specification: minimum delivery rate 300 cm³/15 sec.

If the minimum delivery rate is attained:

- ◆ Fuel supply line with fuel filter and fuel pump are OK

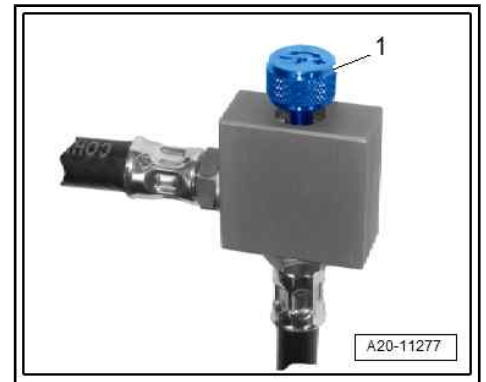
If minimum delivery rate is not achieved, check for the following causes:

- ◆ Fuel pump in fuel tank or fuel pressure regulator in fuel filter faulty.
- ◆ Blocked fuel filter or crushed fuel line.



Note

To find the precise cause of the fault, a pressure test must be performed on the fuel supply line as described below.



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B - Pressure test on fuel supply line

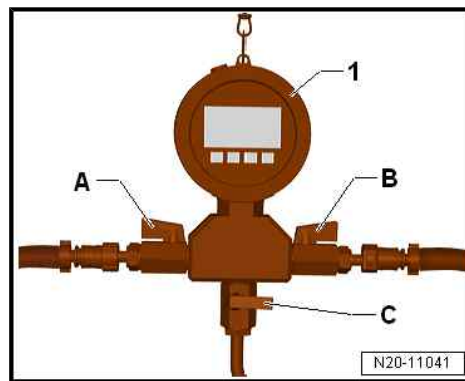
- Leave measuring equipment connected in the same way as for measuring the fuel delivery rate.
- Vehicle diagnostic tester still connected.
- Switch on pressure tester - VAS 6550- -item 1- by pressing **On/Off** button.
- Open cut-off valves -A and B-.
- Levers must point in direction of flow.



Caution

Risk of fuel escaping.

- ◆ *Cut-off valve -C- must be closed.*
- ◆ *The lever should point perpendicular to direction of flow.*



- Press **Start** on vehicle diagnostic tester display to start the fuel pump.
- When fuel emerging is free of bubbles, close cut-off valve -B- to allow fuel pressure to build up.
- The lever should point perpendicular to direction of flow.
- Read fuel pressure off pressure tester - VAS 6550- :
- Specification: at least 6.0 bar
- Press **Stop**.

If specification is attained although fuel delivery rate was not OK:

- ◆ Blocked fuel filter or crushed fuel supply line.

If specification is not attained:

- ◆ Fuel pump in fuel tank or fuel pressure regulator in fuel filter faulty.

C - Checking residual pressure

- Check system for leaks and check residual pressure by watching drop in pressure on pressure tester - VAS 6550- :
- After 10 minutes pressure should still be at least 3 bar.

If the residual pressure drops below 3 bar:

- ◆ Check fuel lines and their connections for leaks.
- ◆ Non-return valve in fuel pump is leaking, renew fuel delivery unit ⇒ [page 29](#) .

Assembling

Assembly is carried out in reverse sequence; note the following:

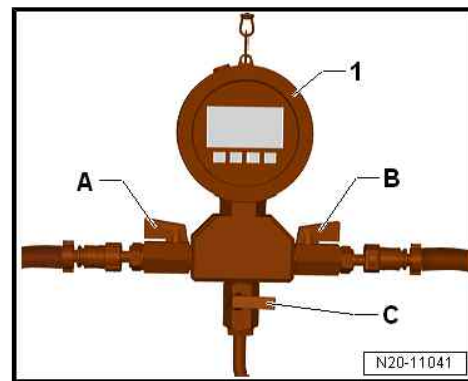
- The ignition must be switched off.

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i Note

Before removing the pressure tester -1-, release the fuel pressure by opening the cut-off valves -B, C- and allowing fuel to drain off into a measuring container.

- Detach pressure tester - VAS 6550- together with connection cables.
- Connect fuel supply line, making sure it engages audibly.
- Press fuel supply line in again and then pull to check that plug-in connector is correctly engaged.



7.2 Removing and installing suction-jet pump

i Note

The suction-jet pump is available as a replacement part only together with the flange/ fuel gauge sender 2 - G169- .



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On vehicles with four-wheel drive the fuel tank is divided into a left and a right chamber. A so-called suction-jet pump -2- is used for delivering the fuel from the left fuel tank chamber to the baffle housing of the fuel delivery unit -1- on the right.

Suction-jet pump: operation

The suction-jet pump operates according to the principle of fluid entrainment: The stream of fuel from the electric fuel pump is passed through a nozzle in the suction-jet pump, and is thus accelerated. The accelerated stream of fuel draws off the surrounding fuel and delivers it to the baffle housing of the fuel delivery unit.

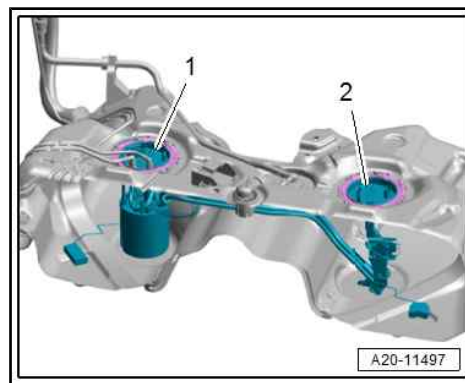
Faults caused by defective suction-jet pump



Caution

The engine can stop due to fuel starvation if the suction-jet pump is defective.

- ◆ *If the suction-jet pump is defective, the engine can stop due to fuel starvation when the tank is still $\frac{1}{4}$ full.*



If the suction-jet pump is not working, up to 12 litres of fuel (up to approx. $\frac{1}{4}$ of tank capacity) may remain in the left chamber of the tank where it cannot be drawn into the fuel delivery unit.

If the engine stops due to fuel starvation with the tank up to about $\frac{1}{4}$ full, proceed as follows:

- Check fuel pump in **Guided Fault Finding** ⇒ Vehicle diagnostic tester.
- Follow instructions shown on display of vehicle diagnostic tester.
- After reading out data from control unit, press **Go to** key and select function/component.
- Function/component selection:
 - + Power unit (Rep. Gr. 01; 10 - 39)
 - + ... engine (Rep. Gr. 01, 10 - 28)
 - + 20 Fuel supply system
 - + Electrical components
 - G6 - Fuel pump (Rep. Gr. 20)
- Continue to follow instructions shown on display of vehicle diagnostic tester.

If fuel pump is OK, but no fuel is delivered:

- Add approx. 5 litres of fuel.
- Start engine.

If engine now starts:

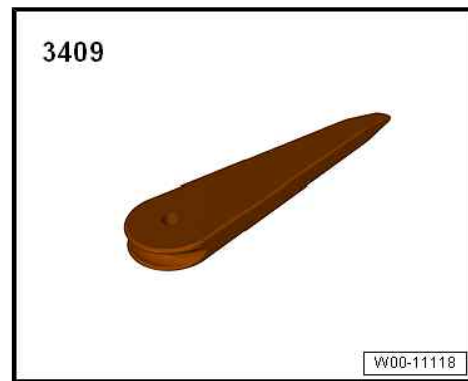
- Renew fuel gauge sender 2 - G169- with suction-jet pump
⇒ [page 33](#) , ⇒ [page 44](#) .

7.3 Removing and installing fuel pump control unit - J538-

Special tools and workshop equipment required

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◆ Removal wedge - 3409-



Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 4](#) .

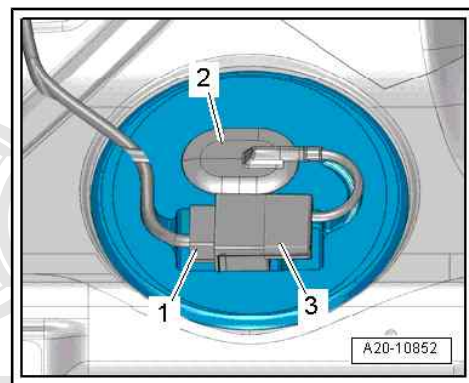


Caution

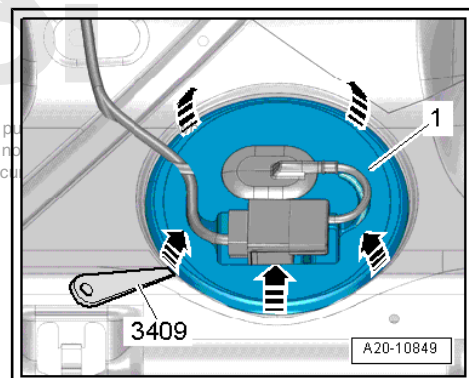
When disconnecting the battery there is a risk of irreparable damage to electronic components.

◆ *Observe notes on procedure for disconnecting the battery.*

- Disconnect earth wire from battery terminal ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .
- Move front right seat all the way forwards.
- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Detach fuel pump control unit - J538- -item 3- from cover for fuel tank flange and unplug electrical connector -1-.
- Press grommet -2- out of cover for flange.

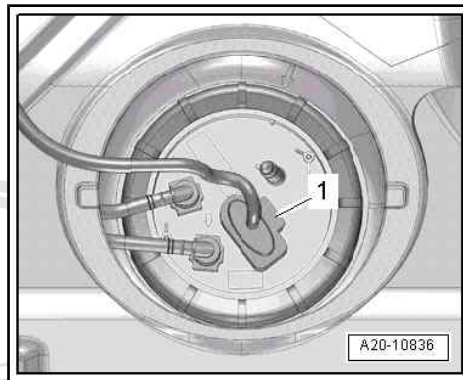


- Unclip cover -1- for fuel tank flange at retainers -arrows- using removal wedge - 3409- .



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- Vehicles with front-wheel drive: Release retainer catch and unplug electrical connector -1- on flange.



- Vehicles with four-wheel drive: Release retainer catch and unplug electrical connector -1- on flange.

Installing

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

- Install rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .
- Connect battery and perform steps required after re-connecting battery ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .

