

Workshop Manual Audi A6 2005 ➤

Fuel supply system, diesel engines									
Engine ID	BLB	BMK	BNA	BNG	BRE	BRF	BPP	BSG	ASB
	BVG	CAG B	CAH A	CAN A	CAN B	CAN C	CAN D	CDY A	CDY B
	CDY C	CAH B							

Edition 11.2014



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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

(ARL004064; Edition 11.2014)

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

⇒ [“1.2 Safety precautions when using testers and measuring instruments during a road test”, page 2](#)

1.1 Safety precautions when working on the fuel system

When working on the fuel system note the following warnings:

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WARNING

Risk of injury - fuel system operates under pressure.

- ◆ *Wrap a cloth around the connection before opening the fuel system. Then release pressure by carefully loosening the connection.*
- ◆ *Wear protective gloves.*
- ◆ *Wear safety goggles.*

The fuel can become extremely hot. This can cause injuries.

- ◆ *In extreme cases the temperature of the fuel lines and the fuel can be up to 100 °C after the engine is switched off. Allow the fuel to cool down before disconnecting the lines - danger of scalding.*
- ◆ *Wear protective gloves.*
- ◆ *Wear safety goggles.*

Health risk: avoid skin contact with fuel.

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

Escaping fuel can cause a risk.

- ◆ *The power supply for the fuel system pressurisation pump - G6- must be disconnected before opening the fuel system, since -G6- will be activated briefly when the driver's door is opened with the battery still connected.*
- ◆ *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.*

When removing and installing components from a full or partly full fuel tank, note the following:

- ◆ 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 6](#).
- ◆ 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).

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

Removing and installing fuel tank

Fuel tank must be empty to reduce weight. Drain fuel tank if necessary ⇒ [page 6](#).

Observe the following points to prevent personal injuries and damage to the injection and glow plug system:

- ◆ Always switch off the ignition before connecting or disconnecting tester cables or electrical wiring for the injection or glow plug system.
- ◆ Always switch off ignition before washing engine.
- ◆ Erase any entries in event memory resulting from testing or installation ⇒ Vehicle diagnostic tester, Guided Functions, then Interrogate event memory.

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Caution

To prevent irreparable damage to the electronic components when disconnecting the battery:

- ◆ *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 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.*

2 Repair instructions

⇒ [“2.1 Rules for cleanliness”, page 3](#)

⇒ [“2.2 Test conditions”, page 3](#)

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

⇒ [“2.4 Routing and attachment of pipes, hoses and wiring”, page 4](#)

2.1 Rules for cleanliness

Even small amounts of dirt can cause malfunctions. When working on the fuel supply system and injection system, pay careful attention to the following basic rules:

- ◆ 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 parts that have been removed on a clean surface and cover them over. Use only lint-free cloths.
- ◆ Carefully cover or seal open components if repairs cannot be carried out immediately. Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted. Audi AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.
- ◆ 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.
- ◆ Make sure that no diesel fuel comes into contact with other components in the engine compartment. If necessary, clean immediately.

2.2 Test conditions

For checking fuel pump

- 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 ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Fuel tank at least $\frac{1}{4}$ full
- Fuel filter OK.
- Fuel lines OK (not obstructed or crushed).

For checking tandem pump

- Fuel tank at least $\frac{1}{4}$ full
- Fuel filter OK.
- Fuel lines OK (not obstructed or crushed).
- Coolant temperature at least 85 °C.
- Unit injectors OK.

- Electric fuel pump OK.

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 used.

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 .

Note the following:

- ◆ We recommend using only genuine replacement parts; these have been tested and are compatible with aluminium.
- ◆ We recommend the use of Audi accessories.
- ◆ Damage caused by contact corrosion is not covered under 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 supply system - front-wheel drive

1.1 Exploded view - fuel tank with attached components

1 - Mounting for exhaust system

2 - Fuel supply line

- ☐ To fuel filter or supplementary fuel pump
- ☐ Clip onto fuel tank
- ☐ Press release tab on connection piece to disconnect

3 - Fuel return line

- ☐ From fuel filter and fuel cooler
- ☐ Clip onto fuel tank

4 - Bolt

- ☐ 23 Nm
- ☐ Secures fuel filler neck and earth connection -item 9-

5 - Overflow hose

- ☐ Attached at wheel housing liner

6 - Rubber cup

7 - Seal

- ☐ Renew if damaged

8 - Filler cap

- ☐ Secured to tank flap unit

9 - Earth connection

- ☐ To eliminate electrostatic charge
- ☐ Installation position
⇒ [page 6](#)

- ☐ Ensure that connector is seated properly and secure wire with securing bolt for fuel filler neck -item 4-
- ☐ After installing, 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

10 - Breather line

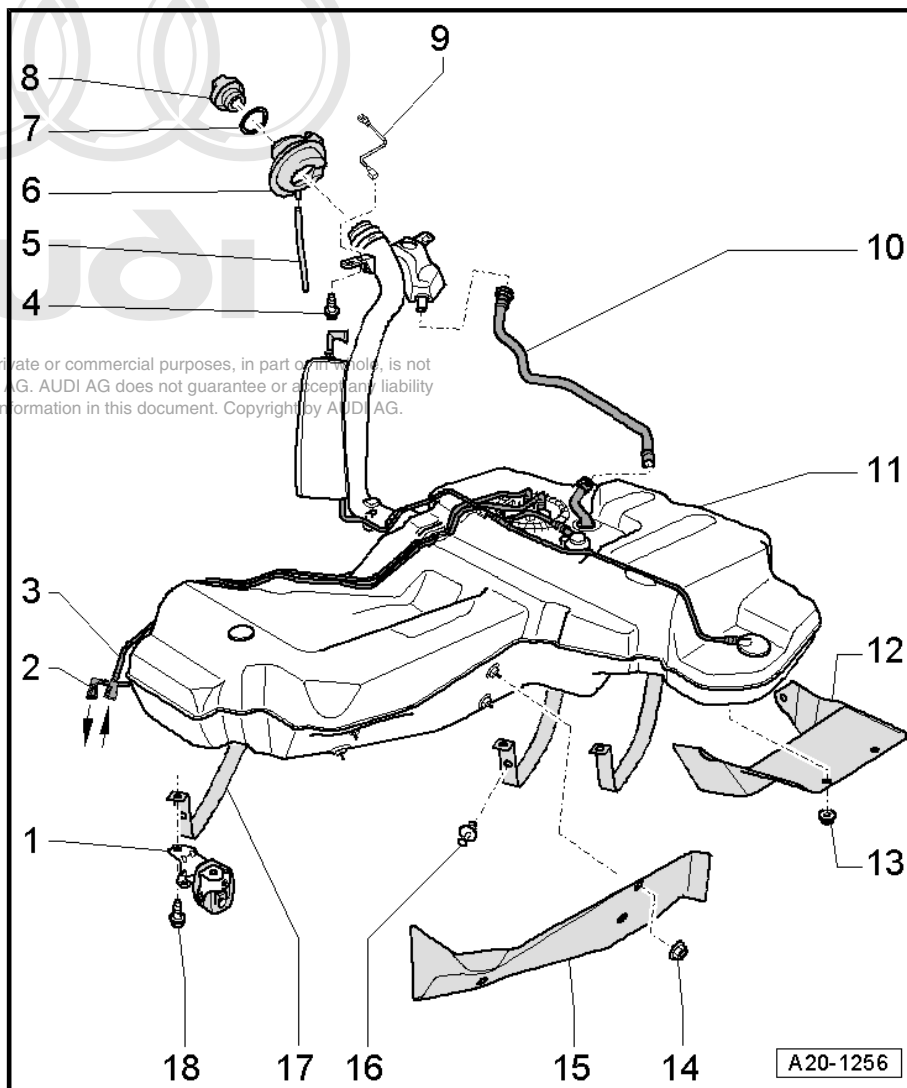
11 - Fuel tank

- ☐ Removing and installing ⇒ [page 7](#)

12 - Heat shield for fuel tank

13 - Nut

- ☐ 2 Nm



14 - Nut

- 2 Nm

15 - Heat shield for fuel tank

16 - Spreader clip

17 - Securing strap

- Note different lengths

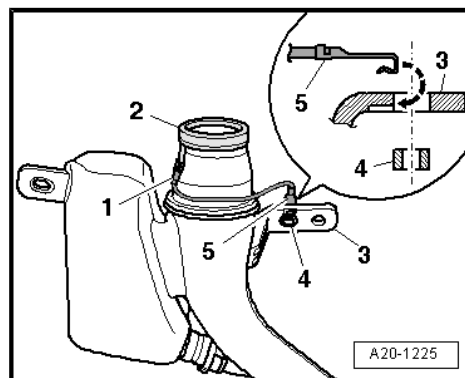
18 - Bolt

- 23 Nm

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Installation position of earth connection

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



WARNING

Safety risk due to 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**

1.2 Draining fuel tank

A - Procedure if fuel tank is more than $\frac{3}{4}$ full ⇒ [page 7](#) .

B - Procedure if fuel tank is less than $\frac{3}{4}$ full ⇒ [page 7](#) .

Special tools and workshop equipment required

- ◆ Fuel extractor - VAS 5190-



Procedure

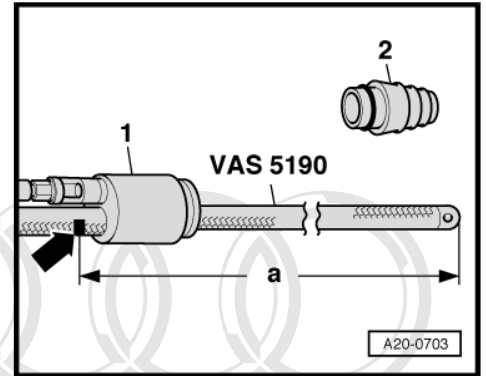
Observe safety precautions ⇒ [page 1](#) .

Observe rules for cleanliness ⇒ [page 3](#) .

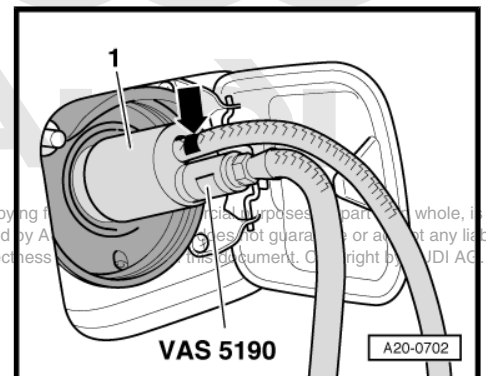
- Switch off ignition.

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

- Detach tapered adapter -2- from shaft end -1- of fuel extractor -VAS 5190- .
- Use insulating tape to mark the extraction hose -arrow- at a distance of -a- = 1295 mm from the end of the hose.



- Remove filler cap from fuel filler neck.
- Screw shaft end -1- of fuel extractor -VAS 5190- onto fuel filler neck.
- Push extraction hose into fuel tank until marking on hose -arrow- coincides with shaft end.
- Drain fuel tank as much as possible through fuel filler neck.
- Carefully remove extraction hose.
- Remove fuel delivery unit → [page 19](#) .
- Extract remaining fuel through opening for fuel delivery unit.

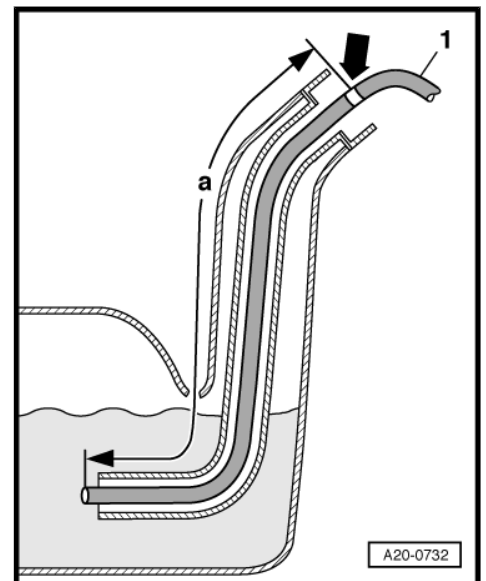


Note

- ◆ The procedure when using a fuel extractor without shaft end is basically the same.
- ◆ In this case, make a mark -arrow- on the hose at distance -a- = 1230 mm from end of extraction hose -1- using insulating tape. The extraction hose has been properly inserted when the affixed mark is level with the edge of the filler neck.
- ◆ If hose is difficult to insert, apply a thin coat of engine oil. DO NOT use silicone-based lubricant.

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

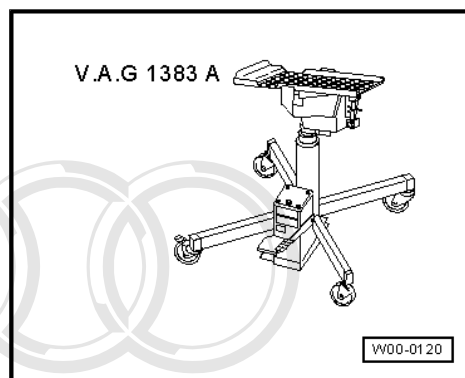
- Remove fuel delivery unit → [page 19](#) .
- Extract fuel through opening for fuel delivery unit.



1.3 Removing and installing fuel tank with attached components

Special tools and workshop equipment required

♦ Engine and gearbox jack - V.A.G 1383 A-



Removing

Observe safety precautions ⇒ [page 1](#) .

Observe rules for cleanliness ⇒ [page 3](#) .



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Risk of accident caused by weight of fuel tank

- ♦ **Fuel tank must be empty when it is removed. Drain the tank if necessary. Procedure ⇒ [page 6](#)**

- Switch off ignition.
- If necessary, fold forward backrests of rear seat bench.

Saloon:

- Take out luggage compartment floor trim.

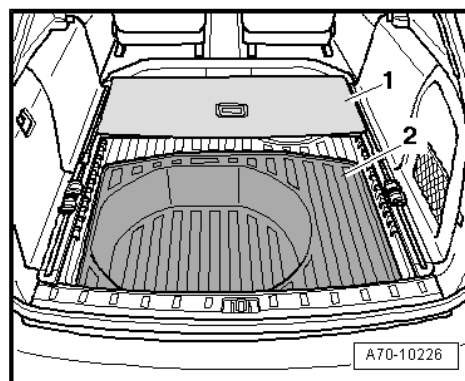
Avant:

- Remove luggage compartment load surface -1-.

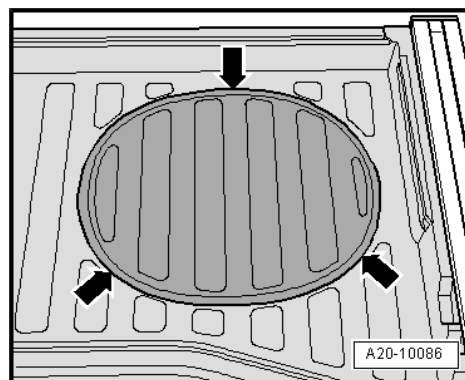


Note

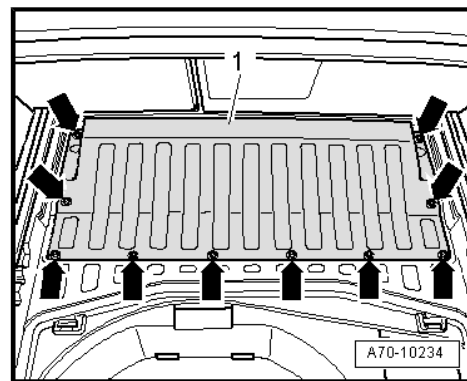
Disregard -item 2-.



- On vehicles without air suspension: unclip the retaining tabs -arrows- for the flange cover.



- On vehicles with air suspension: remove spreader pins -arrows- and take off cover -1-.



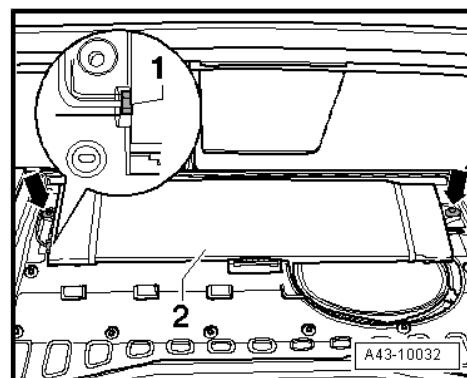
All vehicles (continued):

- On vehicles with air suspension: unscrew bolts -arrows-.
- Detach accumulator -2- and lay it aside with line -1- connected.



Note

Do not stretch or kink line.



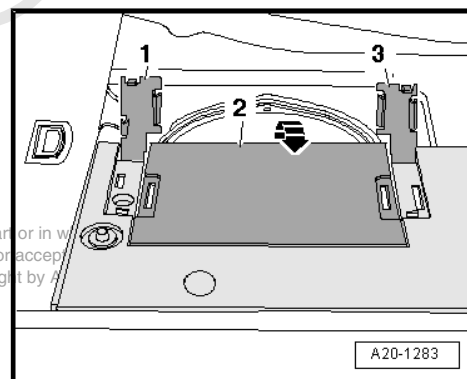
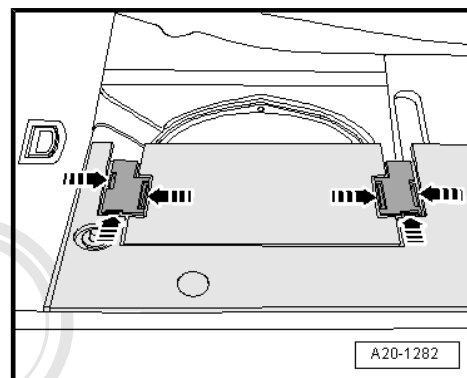
Saloon:



Note

It is advisable to carry out work on the flange from the vehicle interior with the rear seat backrest folded down, therefore the following illustrations are shown from this perspective.

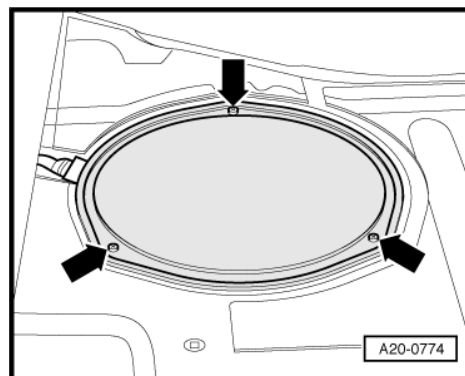
- Release retaining lugs -arrows-.
- Fold retaining lugs -1- and -3- open to rear.
- Fold cover -2- to front -arrow-.



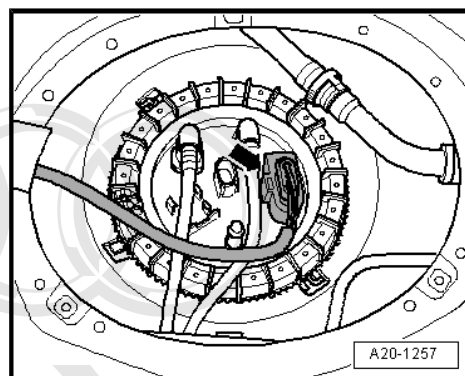
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All vehicles (continued):

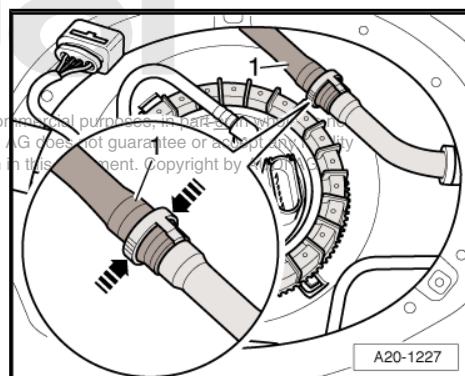
- Unscrew cover for flange -arrows-.



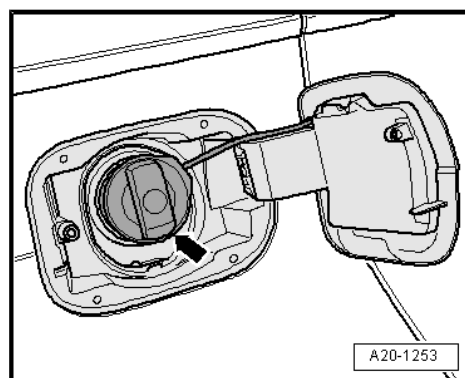
- Unplug electrical connector -arrow- at flange.



- Press release tabs -arrows- to disconnect breather pipe -1-.

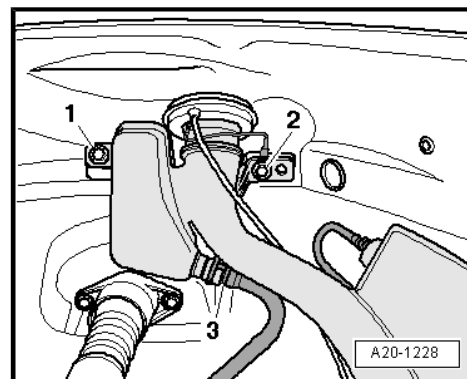


- Open the tank flap.
- Clean area around fuel filler neck.
- Remove filler cap -arrow- from fuel filler neck.
- Seal opening of fuel filler neck with a clean plug to prevent dirt from dropping into the tank.

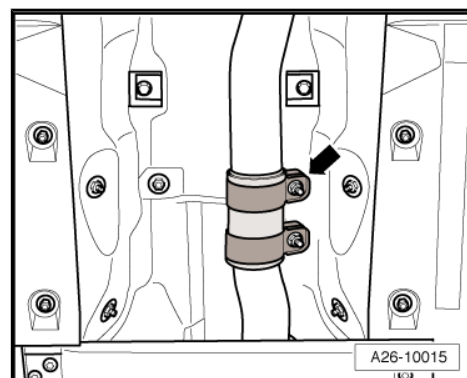


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- Remove rear wheel (right-side).
- Remove rear right wheel housing liner ⇒ Rep. gr. 66 .
- Disconnect breather pipe -3- from fuel filler neck (press release tabs).
- Unscrew bolts -1- and -2- for fuel filler neck.



- Slacken clamp -arrow-.
- Push the clamp back in order to separate the exhaust system.



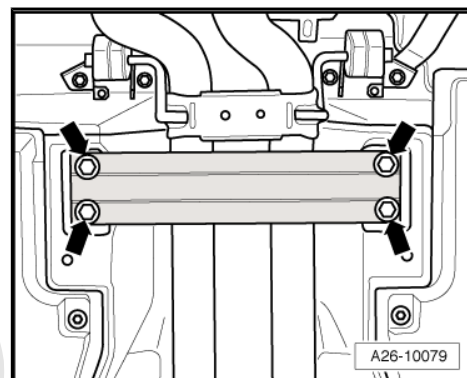
- Remove cross piece (rear) -arrows-.



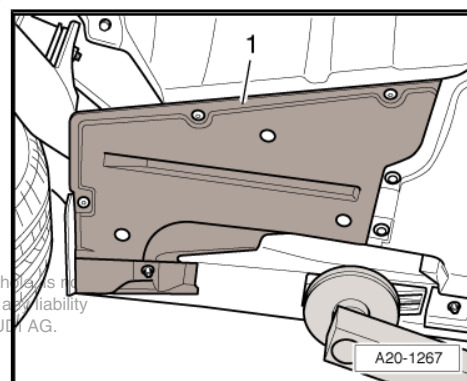
Note

A second person will be required for detaching rear section of exhaust system.

- Disengage exhaust system at the rubber mountings and remove rear section of exhaust system.



- Remove cover -1- from underside of vehicle (rear left).



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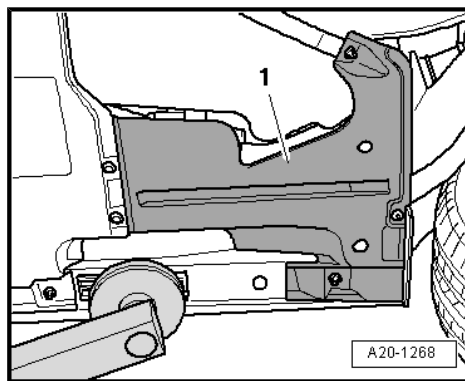
- Remove cover -1- from underside of vehicle (rear right).



WARNING

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

- ◆ *BEFORE loosening the subframe bolts, take steps to ensure that the vehicle does not tip forwards on the lifting platform (e.g. put a weight of about 50 kg in the luggage compartment).*



- Remove rear axle ⇒ Rep. gr. 42 .



WARNING

Risk of injury - fuel system operates under pressure.

- ◆ *Wrap a clean cloth around the connection before opening the fuel system. Then release pressure by carefully loosening the connection.*
- ◆ *Wear protective gloves.*
- ◆ *Wear safety goggles.*

The fuel can become extremely hot. This can cause injuries.

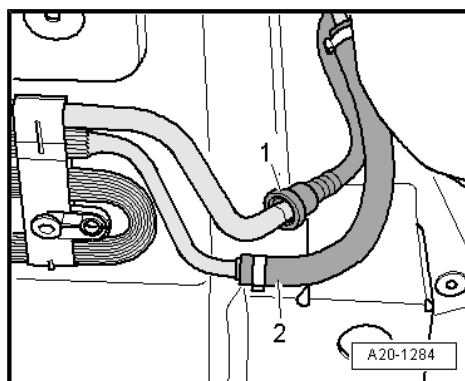
- ◆ *In extreme cases the temperature of the fuel lines and the fuel can be up to 100 °C after the engine is switched off. Allow the fuel to cool down before disconnecting the lines - danger of scalding.*
- ◆ *Wear protective gloves.*
- ◆ *Wear safety goggles.*

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- Disconnect fuel supply line -1- by pressing release tab.
- Detach fuel return line -2-.
- Catch escaping fuel.

Vehicles with auxiliary heater:

- In addition, disconnect fuel line leading to auxiliary heater at metering pump.
- Unplug electrical connector at metering pump.



All vehicles (continued):

- Position engine and gearbox jack - V.A.G 1383 A- below vehicle to support tank.



WARNING

Risk of accident caused by weight of fuel tank

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

- Remove bolts -1 ... 7-.
- Then lower fuel tank using engine and gearbox jack - V.A.G 1383 A- .

Installing

- Tightening torques ⇒ [page 5](#)

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

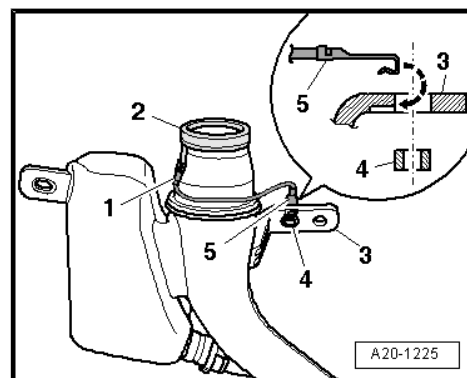
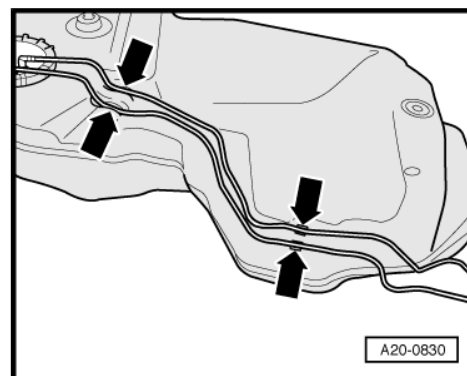
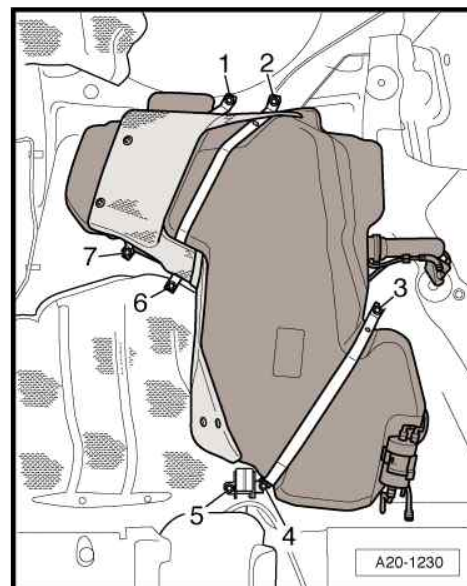


Note

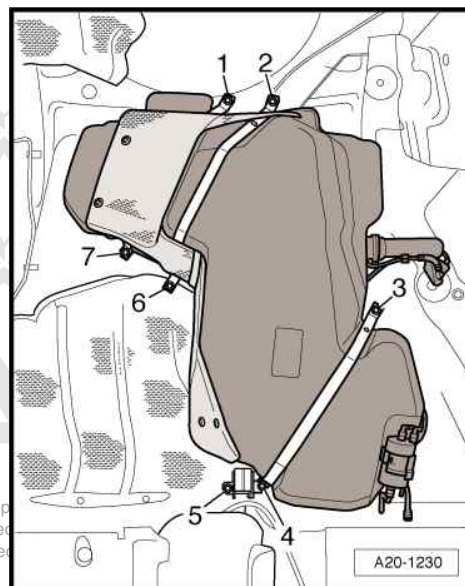
Secure all hose connections with the correct type of hose clips (same as original equipment) ⇒ Electronic parts catalogue .

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- Check that fuel lines are clipped onto side of fuel tank -arrows-.
- Check the earth wiring at both ends for traces of oxidation. Remove any traces of oxidation if necessary.
- Check installation position of earth connection:
 - Connector -1- must be seated securely on metal ring -2-.
 - Contact tab -5- must be attached to fuel tank -3- and secured with spacer bush -4-.



- Position fuel tank with securing straps on underbody, using engine and gearbox jack - V.A.G 1383 A- .
- When installing fuel tank, make sure that the fuel filler neck is correctly inserted into the opening on the body.
- Secure fuel tank by first tightening bolts at points -2, 6, 3, 4, 5-, then at points -1, 7-.



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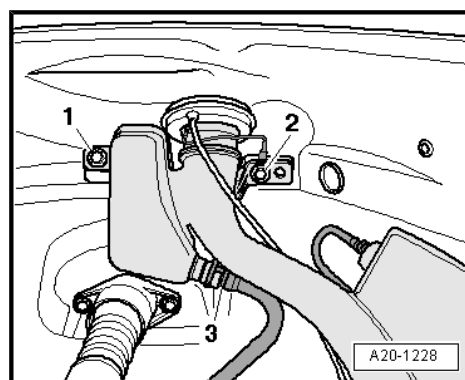
- Secure fuel filler neck with earth connection using bolts -1- and -2-.



WARNING

Safety risk due to 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**



- Fit breather pipe -3- to fuel filler neck.
- Install rear axle ⇒ Rep. gr. 42 .
- Install rear section of exhaust system ⇒ Rep. gr. 26 .
- Install rear right wheel housing liner ⇒ Rep. gr. 66 .
- Install accumulator ⇒ Rep. gr. 43 .

Vehicles with auxiliary heater:

- Let auxiliary heater run with full load for 10 minutes to bleed fuel line going to metering pump.

1.4 Exploded view - fuel delivery unit and fuel gauge sender

1 - Suction-jet pump

2 - Supply line for suction-jet pump

- ☐ Press release tab on connection piece to disconnect

3 - Fuel delivery unit

- ☐ Checking fuel pump (electrical test)
⇒ [page 15](#)
- ☐ Removing and installing
⇒ [page 19](#)
- ☐ Put at least 5 litres of fuel into tank after installing

4 - Threaded ring

5 - Seal

- ☐ Renew
- ☐ Install dry

6 - Union nut

- ☐ Remove and install with union nut tool - T40068 A-
- ☐ Renew
- ☐ Tighten to 120 Nm

7 - Fuel return line

- ☐ From fuel filter and fuel cooler
- ☐ Do not kink
- ☐ Mark before removing
- ☐ Note direction of arrow (fuel supply or fuel return system) on flange when installing
- ☐ To disconnect from flange, press release tab on connection piece
- ☐ Clip onto fuel tank

8 - Fuel supply line

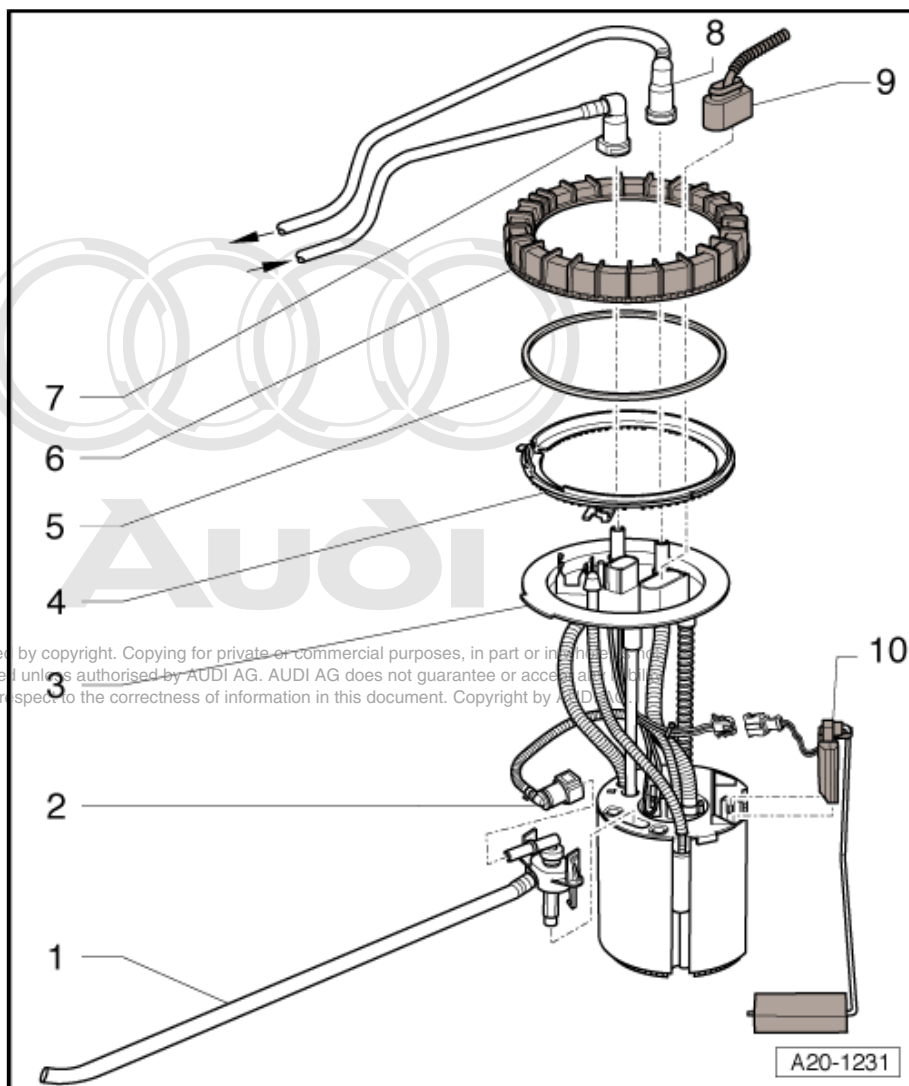
- ☐ To fuel filter or supplementary fuel pump
- ☐ Do not kink
- ☐ Mark before removing
- ☐ Note direction of arrow (fuel supply or fuel return system) on flange when installing
- ☐ To disconnect from flange, press release tab on connection piece
- ☐ Clip onto fuel tank

9 - Electrical connector

- ☐ For fuel pump - G23- and fuel gauge sender - G-

10 - Fuel gauge sender - G-

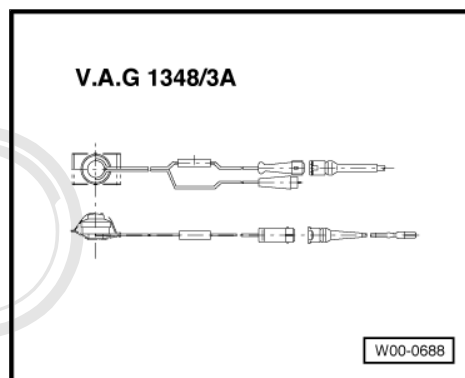
- ☐ Checking resistance values ⇒ [page 27](#)
- ☐ Removing and installing ⇒ [page 30](#)



1.5 Fuel pump (in fuel tank) - electrical test

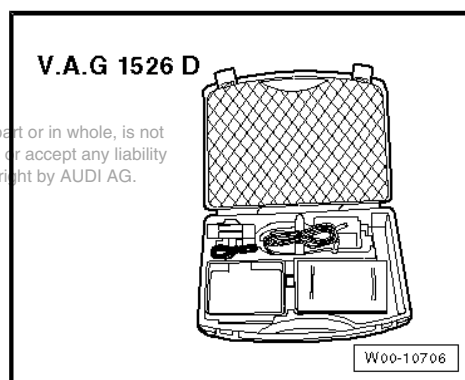
Special tools and workshop equipment required

- ◆ Remote control - V.A.G 1348/3A- for V.A.G 1348 with adapter cable - V.A.G 1348/3-2-



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

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



Procedure

Observe test conditions ⇒ [page 3](#) .

- If necessary, fold forward backrests of rear seat bench.

Saloon:

- Take out luggage compartment floor trim.

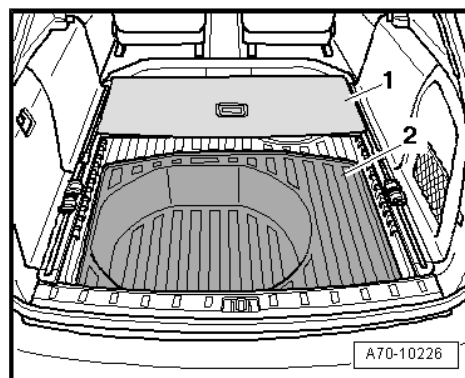
Avant:

- Remove luggage compartment load surface -1-.



Note

Disregard -item 2-.

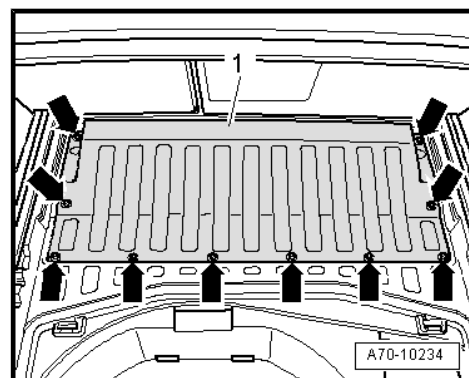
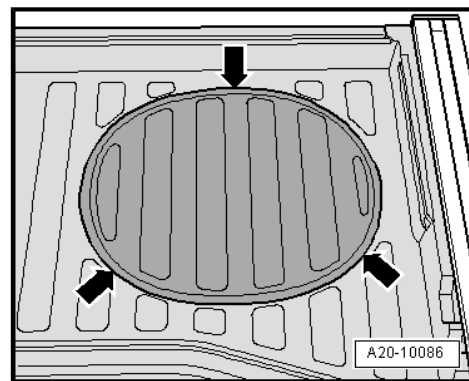


- On vehicles without air suspension: unclip the retaining tabs -arrows- for the flange cover.

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- On vehicles with air suspension: remove spreader pins -arrows- and take off cover -1-.



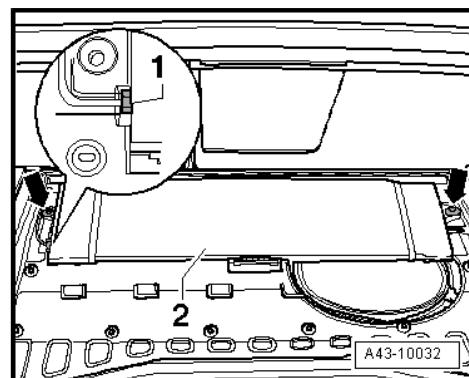
All vehicles (continued):

- On vehicles with air suspension: unscrew bolts -arrows-.
- Detach accumulator -2- and lay it aside with line -1- connected.



Note

Do not stretch or kink line.



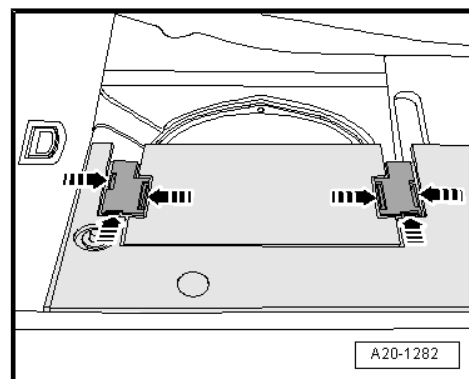
Saloon:



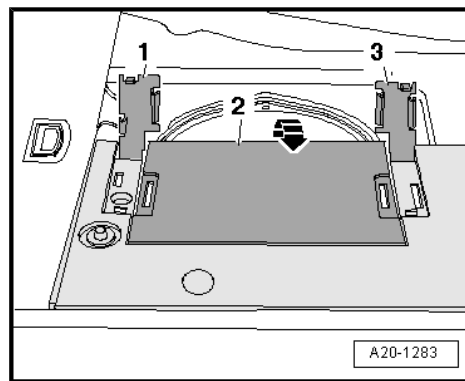
Note

It is advisable to carry out work on the flange from the vehicle interior with the rear seat backrest folded down, therefore the following illustrations are shown from this perspective.

- Release retaining lugs -arrows-.

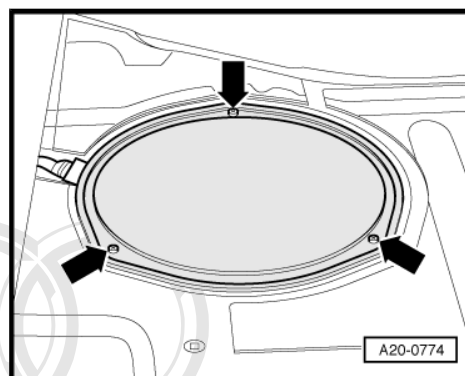


- Fold retaining lugs -1- and -3- open to rear.
- Fold cover -2- to front -arrow-.

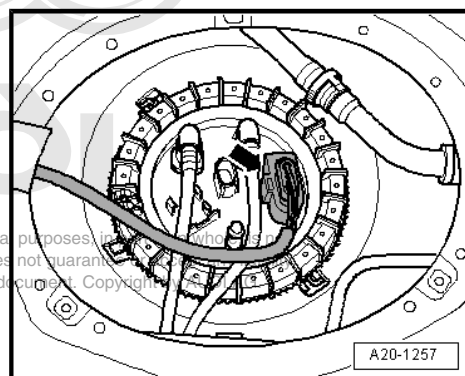


All vehicles (continued):

- Unscrew cover for flange -arrows-.



- Unplug electrical connector -arrow- at flange.

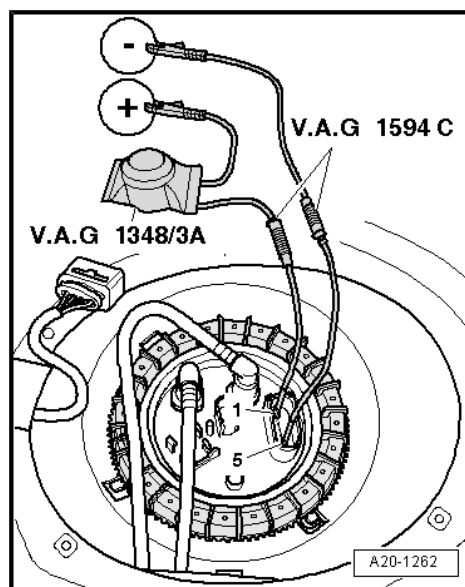


- Connect remote control for V.A.G 1348 - V.A.G 1348/3A- to contact -1- using adapter cable - V.A.G 1348/3-2- and test lead from auxiliary measuring set - V.A.G 1594C- .
- Connect contact -5- to the body (earth) using a test lead from auxiliary measuring set - V.A.G 1594C- .
- Connect crocodile clip to positive (+) terminal of battery.
- Press remote control button.
- Pump should start running audibly.



Note

The fuel pump runs very quietly. Where possible, avoid noisy surroundings for this test.

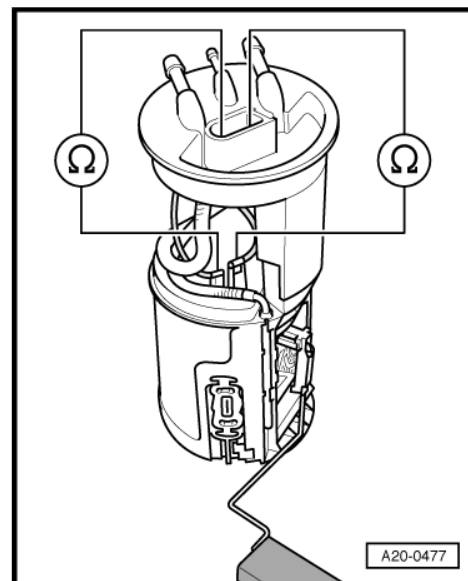


If no noise can be heard from pump:

- Remove fuel delivery unit ⇒ [page 19](#) .
- Check that the electrical wires between flange and fuel pump are connected and test for continuity.

If no fault is found in wiring, fuel pump is defective. Renew fuel delivery unit.

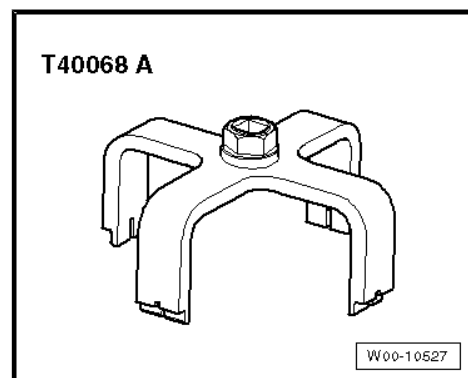
- Install fuel delivery unit ⇒ [page 23](#) .
- Install accumulator ⇒ Rep. gr. 43 .



1.6 Removing and installing fuel delivery unit

Special tools and workshop equipment required

- ◆ Union nut tool - T40068 A-



Removing

Observe safety precautions ⇒ [page 1](#) .

Observe rules for cleanliness ⇒ [page 3](#) .

⚠ 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 the tank if necessary. Procedure ⇒ [page 6](#)***

- If necessary, fold forward backrests of rear seat bench.

Saloon:

- Take out luggage compartment floor trim.

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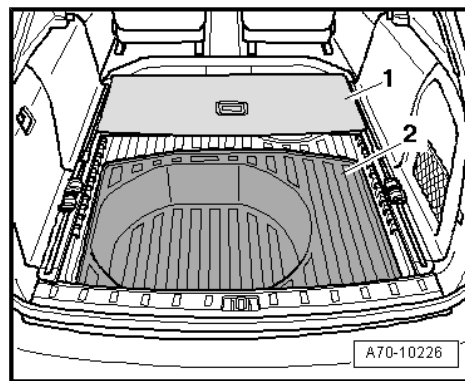
Avant:

- Remove luggage compartment load surface -1-.

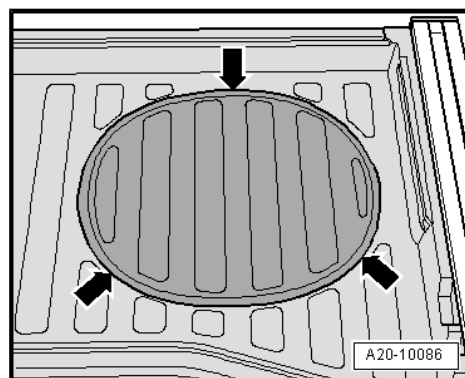


Note

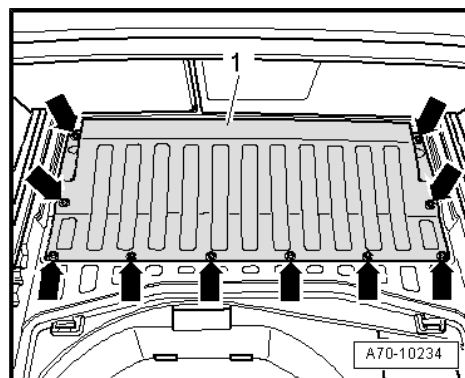
Disregard -item 2-.



- On vehicles without air suspension: unclip the retaining tabs -arrows- for the flange cover.



- On vehicles with air suspension: remove spreader pins -arrows- and take off cover -1-.



All vehicles (continued):

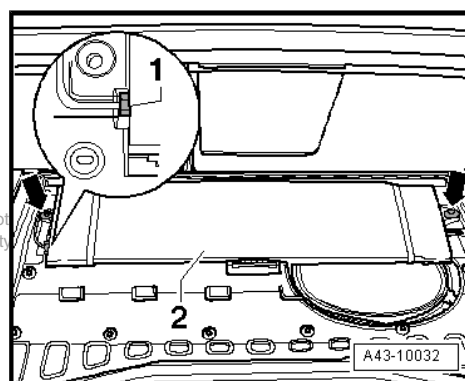
- On vehicles with air suspension: unscrew bolts -arrows-.
- Detach accumulator -2- and lay it aside with line -1- connected.



Note

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Do not stretch or kink line.



Saloon:



Note

It is advisable to carry out work on the flange from the vehicle interior with the rear seat backrest folded down, therefore the following illustrations are shown from this perspective.

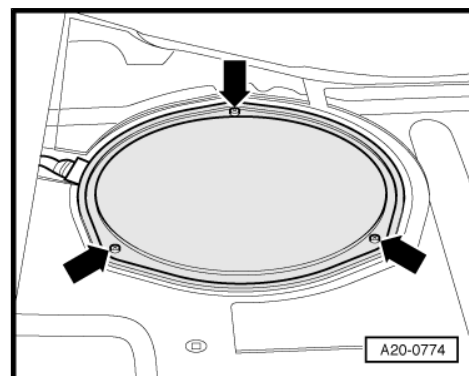
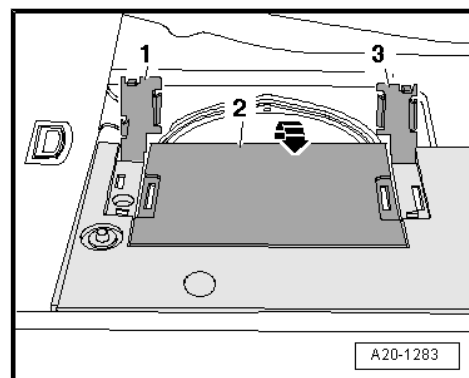
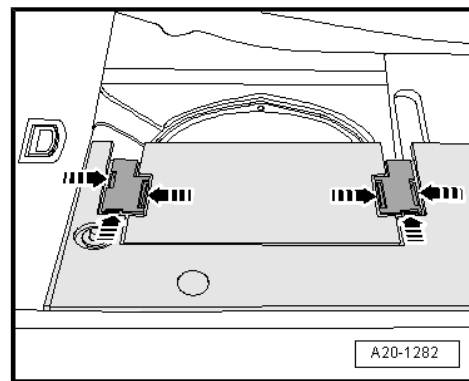
- Release retaining lugs -arrows-.
- Fold retaining lugs -1- and -3- open to rear.
- Fold cover -2- to front -arrow-.



All vehicles (continued):

- Unscrew cover for flange -arrows-.

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- Unplug electrical connector -arrow- at flange.

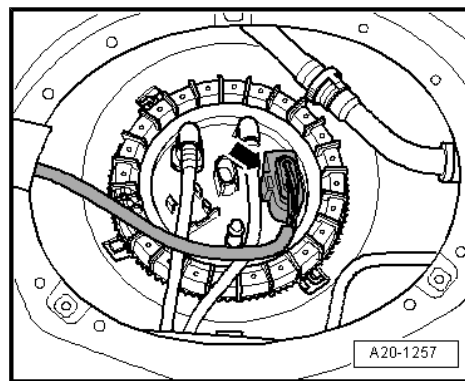

WARNING

Risk of injury - fuel system operates under pressure.

- ◆ *Wrap a clean cloth around the connection before opening the fuel system. Then release pressure by carefully loosening the connection.*
- ◆ *Wear protective gloves.*
- ◆ *Wear safety goggles.*

The fuel can become extremely hot. This can cause injuries.

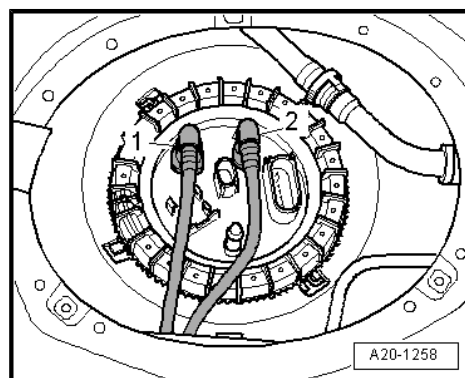
- ◆ *In extreme cases the temperature of the fuel lines and the fuel can be up to 100 °C after the engine is switched off. Allow the fuel to cool down before disconnecting the lines - danger of scalding.*
- ◆ *Wear protective gloves.*
- ◆ *Wear safety goggles.*



- Mark fuel supply line -1- and fuel return line -2-.
- Detach both lines from flange (press release tabs).

Vehicles with auxiliary heater:

- In addition, disconnect fuel line leading to metering pump for auxiliary heater by pressing release tab.



All vehicles (continued):


WARNING

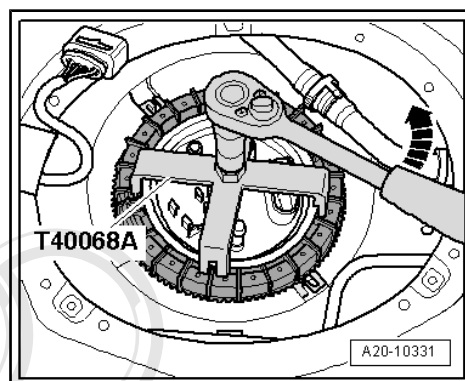
Danger! Fuel may escape.

- ◆ *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.*

- Use union nut tool - T40068 A- to unscrew union nut -arrow-.


Note

The plastic detent on the threaded ring will break off when the union nut is unscrewed - this can be disregarded.

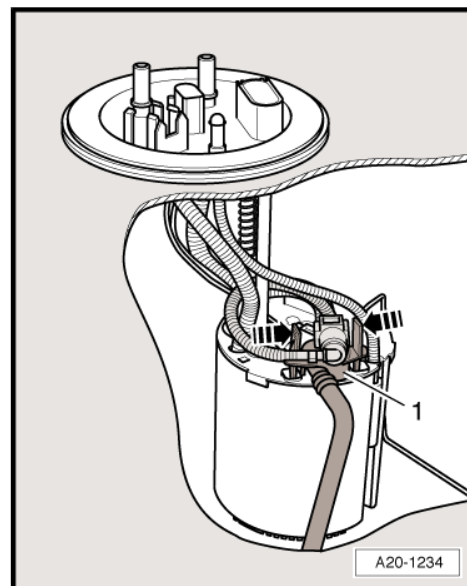


- Move fuel delivery unit with flange slightly to one side with fuel delivery unit still located in fuel tank.
- Reach into fuel tank in the gap between flange and installation opening and release suction-jet pump -1-.

 Note

Fuel tank is shown in a cut-away view for illustration purposes.

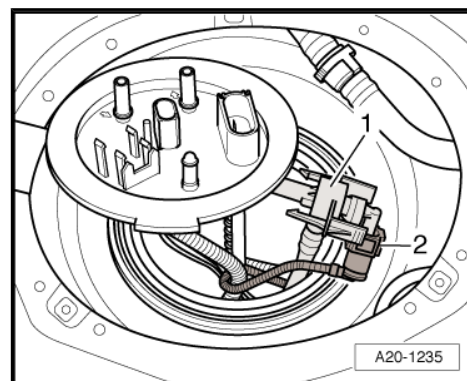
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- Pull suction-jet pump -1- upwards with its supply line -2- connected.
- Disconnect supply line from suction-jet pump by pressing release tab. Then take out suction-jet pump.
- Remove fuel delivery unit.

 Note

- ◆ *When removing fuel delivery unit, make sure you do not bend float arm of fuel gauge sender -G-.*
- ◆ *Keep in mind that the fuel delivery unit still contains fuel.*



Installing

- Tightening torques → [page 14](#)

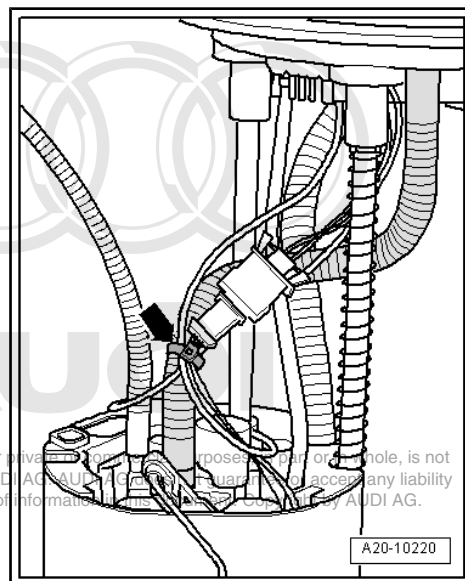
Installation is carried out in the reverse order; note the following:

 Note

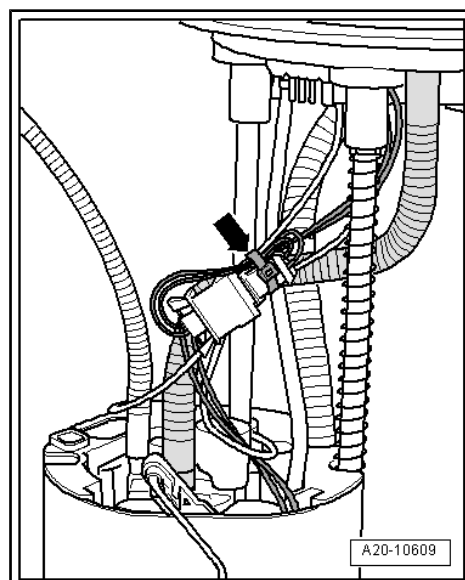
- ◆ *Renew seal and union nut.*
- ◆ *Take care not to bend the fuel gauge sender when fitting fuel delivery unit.*
- ◆ *Ensure that fuel hoses are securely seated.*

Vehicles up to vehicle identification no. 4F-8N-147018:

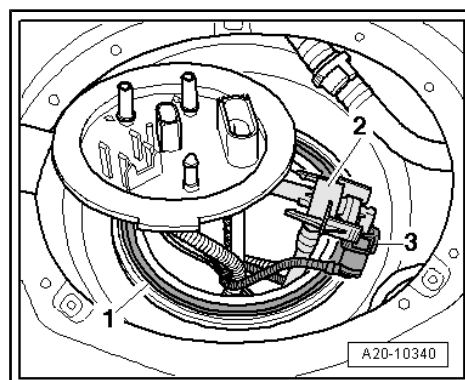
- Make sure electrical wiring is properly routed:
- Wiring for fuel pump and fuel gauge sender - G- must be secured to fuel supply line just slightly behind electrical connector with a cable tie -arrow-, as illustrated.


Vehicles from vehicle identification no. 4F-8N-147019 onwards and retrofitted vehicles:

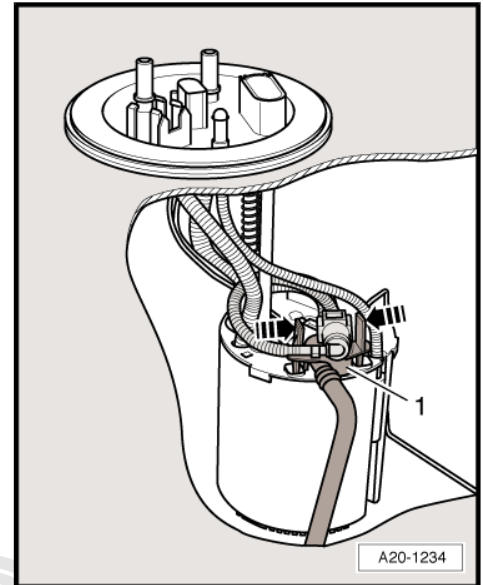
- Make sure electrical wiring is properly routed:
- Turn the connector 180° before securing so that the wires cross each other and thus become shorter.
- Secure electrical wiring for fuel pump with -arrow-.
- Wrap cable tie around electrical connector only at position indicated.


All vehicles (continued):

- Insert fuel delivery unit into fuel tank.
- Fit suction-jet pump -2- into fuel tank and connect supply line -3- for suction-jet pump.
- Slip new seal -1- over flange and insert it in groove on fuel tank.



- Clip suction-jet pump -1- onto fuel delivery unit. To do so, reach into gap between flange and opening in fuel tank.
- The suction-jet pump should click into place.
- Check that suction-jet pump has engaged properly.

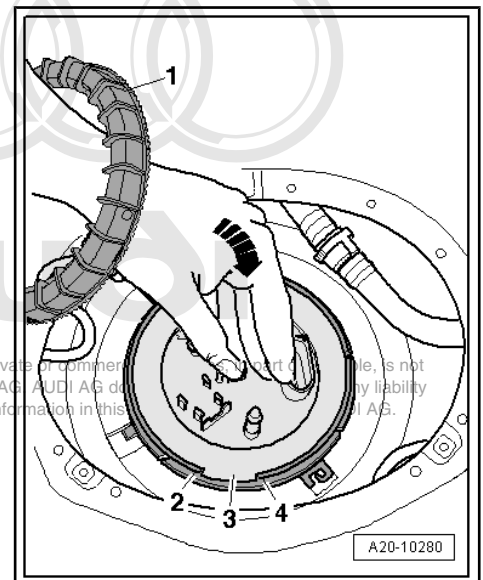


 Note

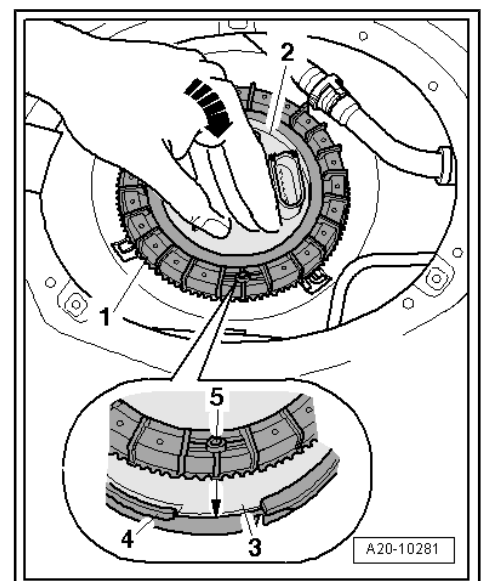
It is advisable to carry out work on the flange from the vehicle interior with the rear seat backrest folded down, therefore the following illustrations are shown from this perspective.

- Slip union nut -1- over your left arm and press flange firmly into installation position -arrow- with your left hand.
- Lug -3- on flange must be between tabs -2- and -4- on threaded ring.

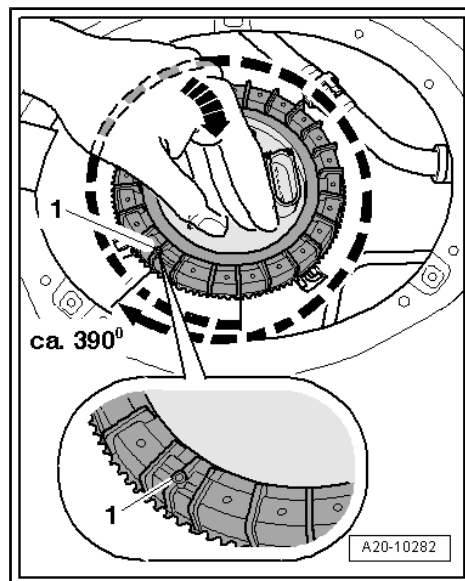
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- Take union nut -1- off your left arm with your right hand and at the same time keep pressing down flange -2- firmly with your left hand -arrow-.
- Position union nut -1- with your right hand in such a way that double ridge -5- on ribs aligns with lug -3- of flange (approx. six o'clock position). This will make union nut engage immediately with beginning of thread -4- when tightening.



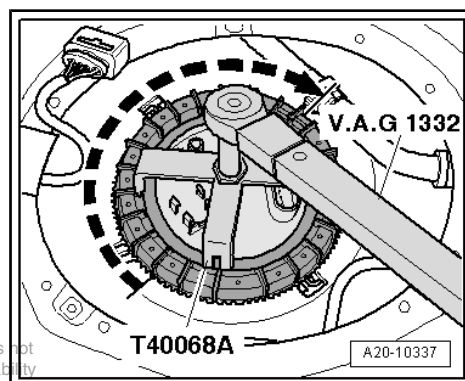
- Keep pressing flange downwards firmly.
- Turn locking ring approx. 390° with your right hand until double ridge -1- is in approx. eight o'clock position and at the same time keep pressing flange downwards firmly with your left hand.



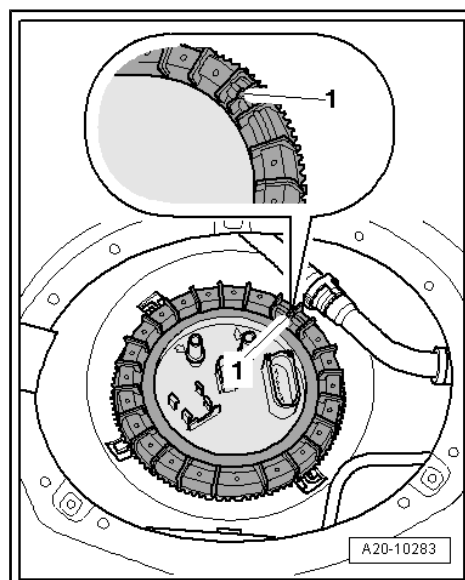
Caution

Take care to avoid leakage at flange.

- ◆ *Press flange downwards firmly when tightening union nut to make sure flange does not also turn.*



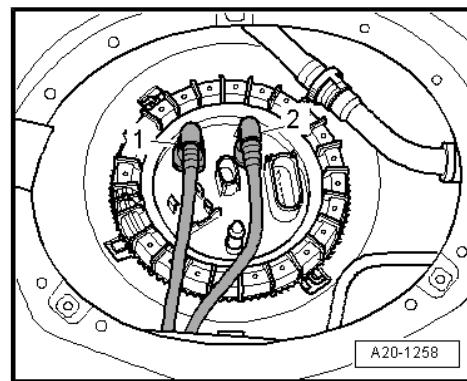
- Use union nut tool - T40068 A- to tighten union nut for flange.
- Tightening torque: 120 Nm
- Checking: Double ridge -1- must now be aligned between one o'clock and two o'clock position.



- Install fuel supply line -1- and fuel return line -2- according to markings.
- Plug in electrical connector.
- Put at least 5 litres of fuel into tank after installing fuel delivery unit.
- Install accumulator ⇒ Rep. gr. 43 .

Vehicles with auxiliary heater:

- Let auxiliary heater run with full load for 10 minutes to bleed fuel line going to metering pump.



1.7 Checking fuel gauge sender - G-

Special tools and workshop equipment required

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



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



Procedure

- If necessary, fold forward backrests of rear seat bench.

Saloon:

- Take out luggage compartment floor trim.



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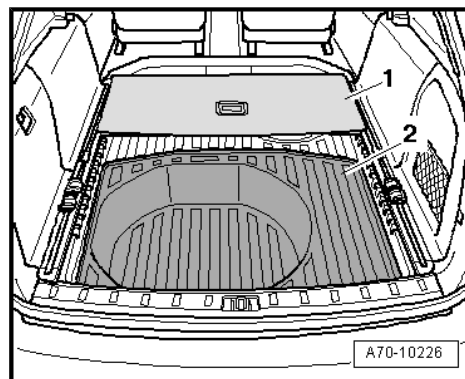
Avant:

- Remove luggage compartment load surface -1-.

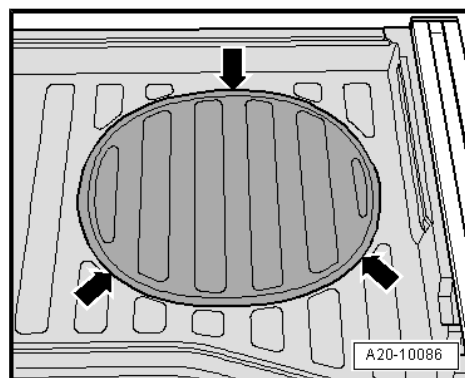


Note

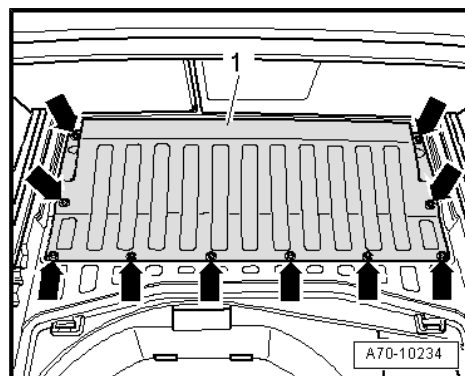
Disregard -item 2-.



- On vehicles without air suspension: unclip the retaining tabs -arrows- for the flange cover.



- On vehicles with air suspension: remove spreader pins -arrows- and take off cover -1-.



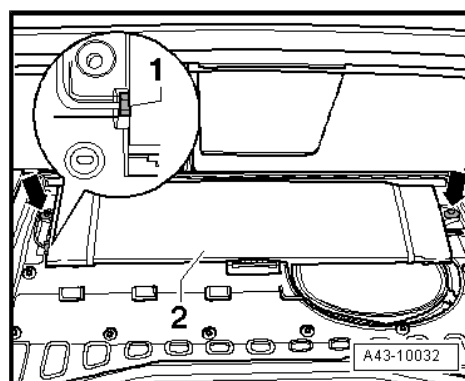
All vehicles (continued):

- On vehicles with air suspension: unscrew bolts -arrows-.
- Detach accumulator -2- and lay it aside with line -1- connected.



Note

Do not stretch or kink line.



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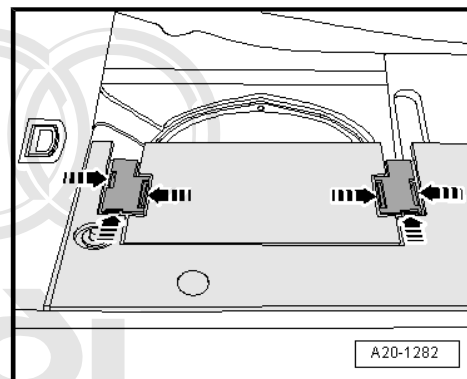
Saloon:



Note

It is advisable to carry out work on the flange from the vehicle interior with the rear seat backrest folded down, therefore the following illustrations are shown from this perspective.

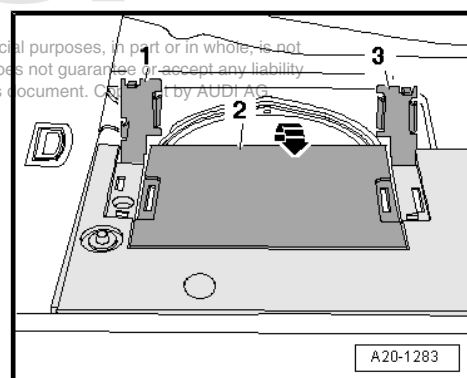
- Release retaining lugs -arrows-.



- Fold retaining lugs -1- and -3- open to rear.

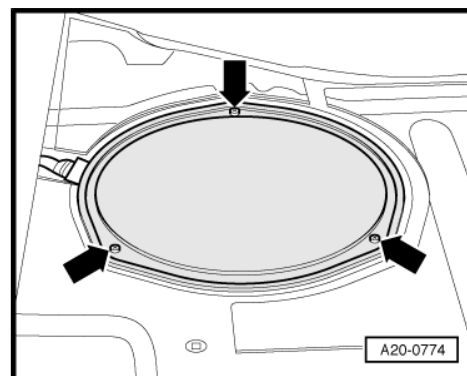
- Fold cover -2- to front -arrow-.

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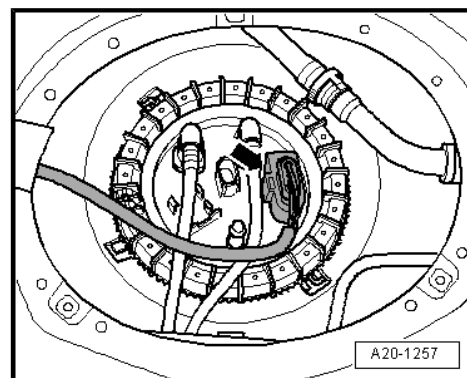


All vehicles (continued):

- Unscrew cover for flange -arrows-.



- Unplug electrical connector -arrow- at flange.



- Connect hand-held multimeter - V.A.G 1526D- to measure resistance between contacts -2- and -3-.

Fuel gauge sender - G- installed:

- Sender at lower stop: approx. 900 ... 975 Ω .
- Sender at upper stop: approx. 50 ... 104 Ω .



Note

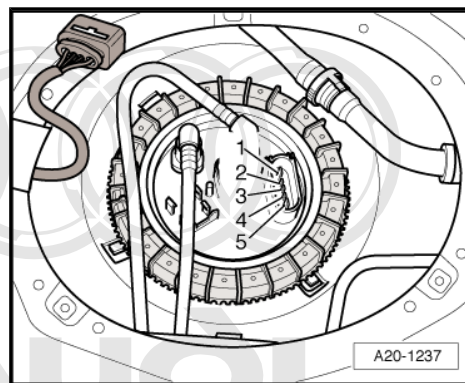
- ◆ If the resistance is 0 Ω , there is a short circuit. If the resistance is $\infty \Omega$, there is an open circuit in the wiring.
- ◆ To test the maximum and minimum resistance values for "tank full" and "tank empty", remove the fuel delivery unit
 ⇒ [page 19](#) and move the sender float all the way to its top or bottom position.
- ◆ The following values are obtained with the fuel gauge sender - G- removed, due to the greater travel of the float arm:

Fuel gauge sender - G- removed:

- Sender at lower stop: approx. 1004 Ω .
- Sender at upper stop: approx. 50 Ω .

Assemble in reverse order.

- Install accumulator ⇒ Rep. gr. 43 .



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1.8 Removing and installing fuel gauge sender - G-

Removing



Note

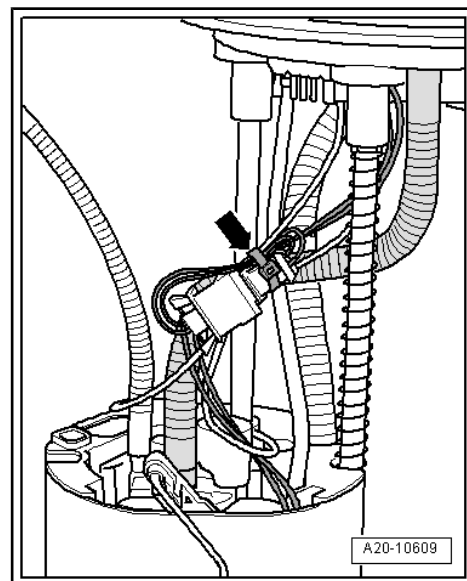
All cable ties which are released or cut open when removing must be refitted in the same position when installing.

Observe safety precautions ⇒ [page 1](#) .

Observe rules for cleanliness ⇒ [page 3](#) .

- Remove fuel delivery unit ⇒ [page 19](#) .

- Cut through cable tie -arrow- and unplug electrical connector.



- Use screwdriver to release retaining tabs -arrows- and lift out fuel gauge sender - G- .

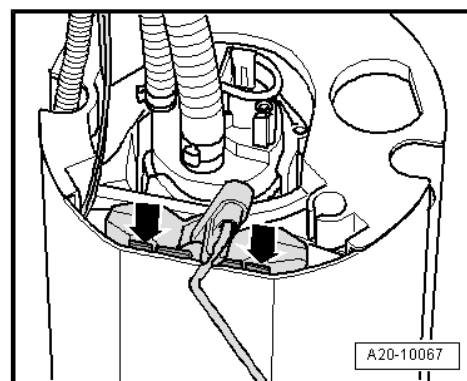
Installing

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



Note

- ◆ *Fit cable tie in the original position (just slightly behind the electrical connector) when installing.*
- ◆ *Make sure the wiring does not block the lever-type sender.*
- Insert fuel gauge sender - G- into guides on fuel delivery unit and press downwards until it clicks into place.



Plug in electrical connector and check that it has engaged properly.

- Install fuel delivery unit ⇒ [page 23](#) .

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2 Fuel supply system - four-wheel drive

2.1 Exploded view - fuel tank with attached components

1 - Bolt

- ☐ 23 Nm

2 - Mounting for exhaust system

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3 - Support bracket

4 - Fuel return line

- ☐ From fuel filter and fuel cooler
- ☐ Do not kink
- ☐ Clip onto fuel tank

5 - Fuel supply line

- ☐ To fuel filter or supplementary fuel pump
- ☐ Do not kink
- ☐ Press release tab on connection piece to disconnect
- ☐ Clip onto fuel tank

6 - Bolt

- ☐ 23 Nm
- ☐ Secures fuel filler neck and earth connection -item 11-

7 - Overflow hose

- ☐ Attached at wheel housing liner

8 - Rubber cup

9 - Seal

- ☐ Renew if damaged

10 - Filler cap

- ☐ Secured to tank flap unit

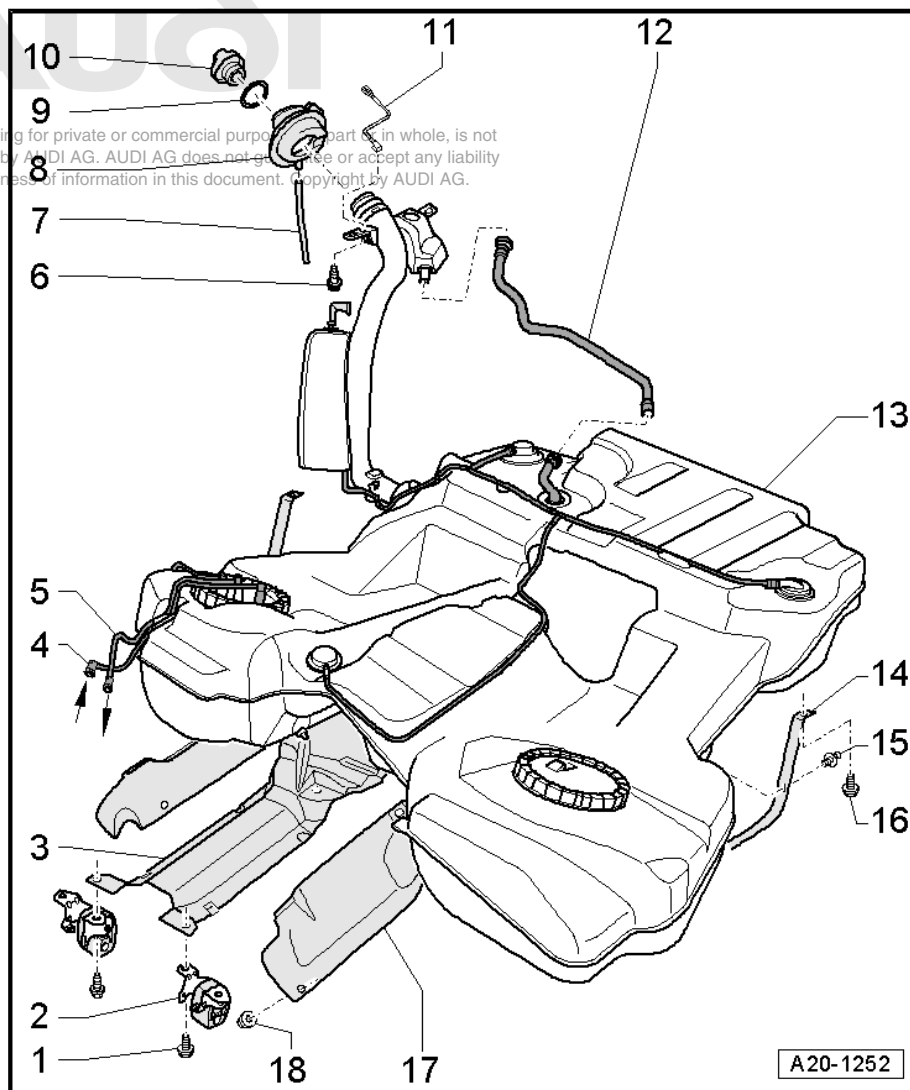
11 - Earth connection

- ☐ To eliminate electrostatic charge
- ☐ Installation position ⇒ [page 33](#)
- ☐ Ensure that connector is seated properly and secure wire with securing bolt for fuel filler neck -item 6-
- ☐ After installing, 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

12 - Breather line

13 - Fuel tank

- ☐ Removing and installing ⇒ [page 34](#)



A20-1252

14 - Securing strap

15 - Spreader clip

16 - Bolt

□ 23 Nm

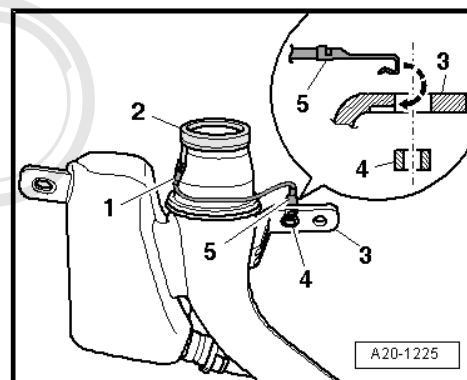
17 - Heat shield for fuel tank

18 - Nut

□ 2 Nm

Installation position of earth connection

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



WARNING

Safety risk due to 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**

2.2 Draining fuel tank

A - Procedure if fuel tank is more than $\frac{1}{4}$ full ➔ [page 34](#) .

B - Procedure if fuel tank is less than $\frac{1}{4}$ full ➔ [page 34](#) .

Special tools and workshop equipment required

- ◆ Fuel extractor - VAS 5190-



Procedure

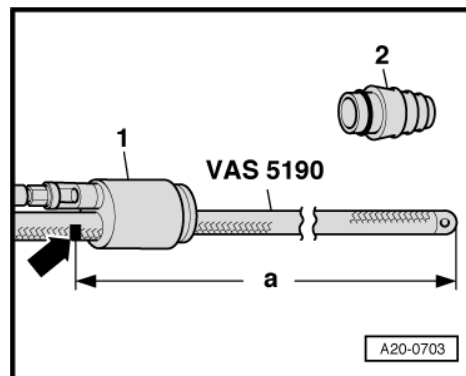
Observe safety precautions ➔ [page 1](#) .

Observe rules for cleanliness ➔ [page 3](#) .

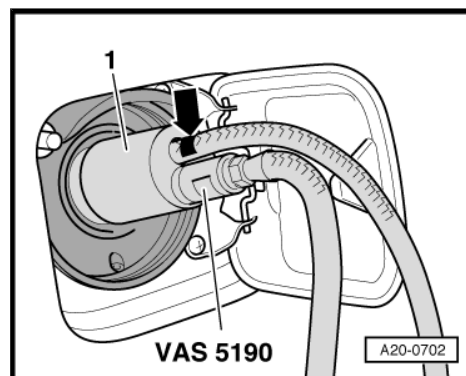
- Switch off ignition.

A - Procedure if fuel tank is more than $\frac{1}{4}$ full

- Detach tapered adapter -2- from shaft end -1- of fuel extractor -VAS 5190- .
- Use insulating tape to mark the extraction hose -arrow- at a distance of -a- = 1,365 mm from the end of the hose.



- Remove filler cap from fuel filler neck.
- Screw shaft end -1- of fuel extractor -VAS 5190- onto fuel filler neck.
- Push extraction hose into fuel tank until marking on hose -arrow- coincides with shaft end.
- Drain fuel tank as much as possible through fuel filler neck.
- Carefully remove extraction hose.
- Remove fuel delivery unit ➔ [page 44](#) .
- Extract remaining fuel from right chamber of fuel tank through opening for fuel delivery unit.
- Push hose into left chamber of fuel tank and extract remaining fuel.

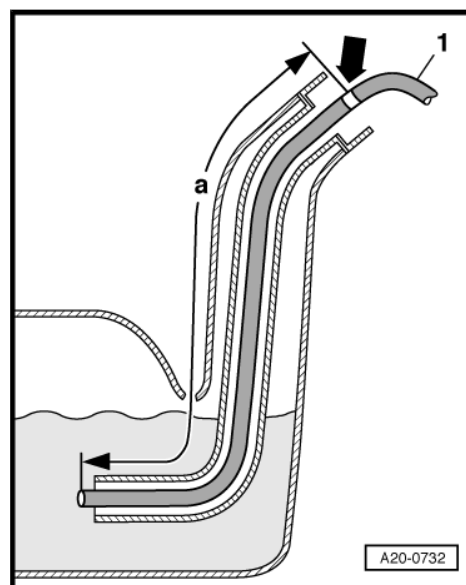


Note

- ◆ The procedure when using a fuel extractor without shaft end is basically the same.
- ◆ In this case, make a mark -arrow- on the hose at distance -a- = 1300 mm from end of extraction hose -1- using insulating tape. The extraction hose has been properly inserted when the affixed mark is level with the edge of the filler neck.
- ◆ If hose is difficult to insert, apply a thin coat of engine oil. DO NOT use silicone-based lubricant.

B - Procedure if fuel tank is less than $\frac{1}{4}$ full

- Remove fuel delivery unit ➔ [page 44](#) .
- Extract fuel from right chamber of fuel tank through opening for fuel delivery unit.
- Push hose into left chamber of fuel tank and extract remaining fuel.

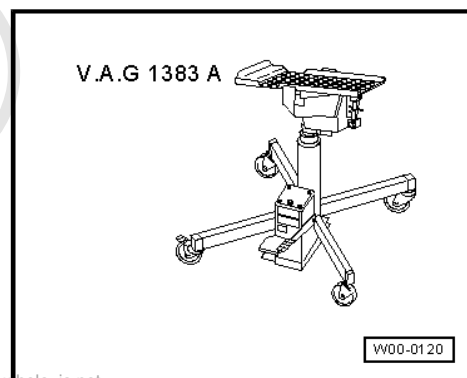


2.3 Removing and installing fuel tank with attached components

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Special tools and workshop equipment required

◆ Engine and gearbox jack - V.A.G 1383 A-



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Removing

Observe safety precautions ⇒ [page 1](#) .

Observe rules for cleanliness ⇒ [page 3](#) .



WARNING

Risk of accident caused by weight of fuel tank

- ◆ *Fuel tank must be empty when it is removed. Drain the tank if necessary. Procedure ⇒ [page 33](#)*

- Switch off ignition.
- If necessary, fold forward backrests of rear seat bench.

Saloon:

- Take out luggage compartment floor trim.

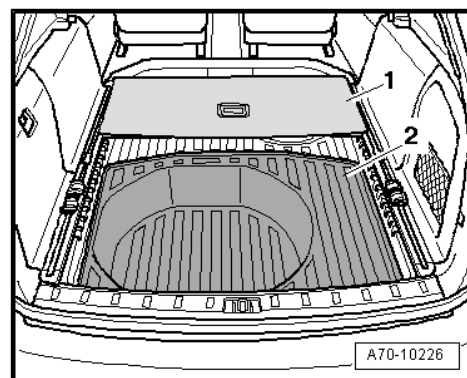
Avant:

- Remove luggage compartment load surface -1-.

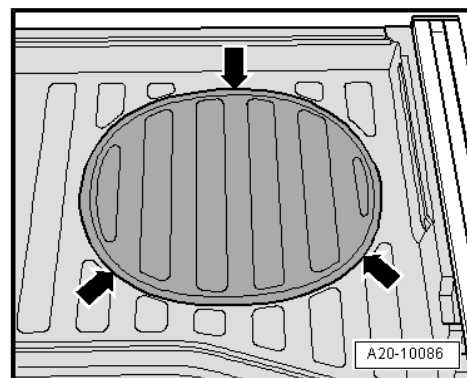


Note

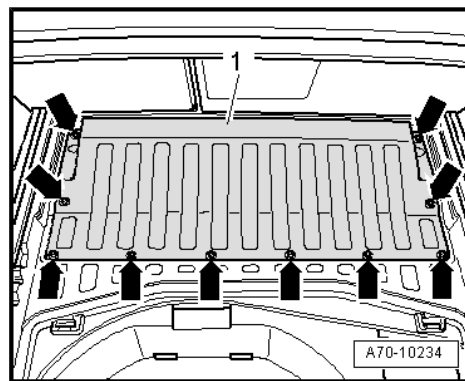
Disregard -item 2-.



- On vehicles without air suspension: unclip the retaining tabs -arrows- for the flange cover.



- On vehicles with air suspension: remove spreader pins -arrows- and take off cover -1-.



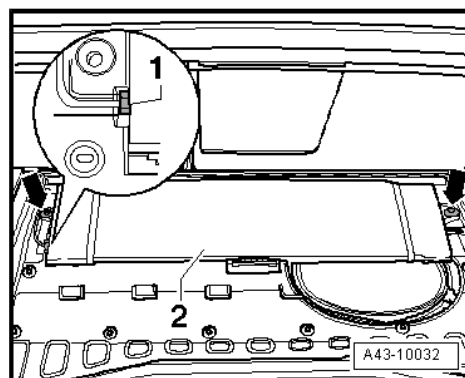
All vehicles (continued):

- On vehicles with air suspension: unscrew bolts -arrows-.
- Detach accumulator -2- and lay it aside with line -1- connected.



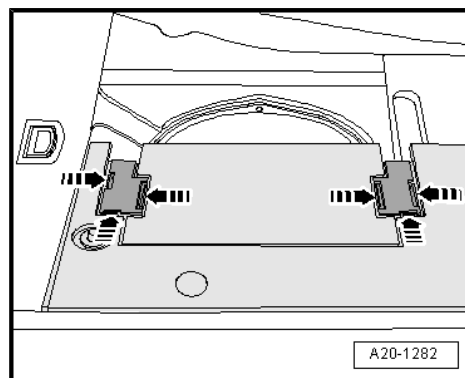
Note

Do not stretch or kink line.

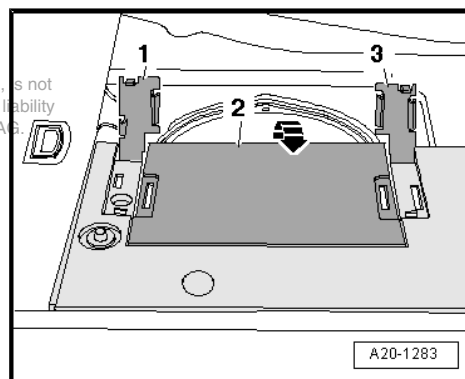


Saloon:

- Release retaining lugs -arrows-.



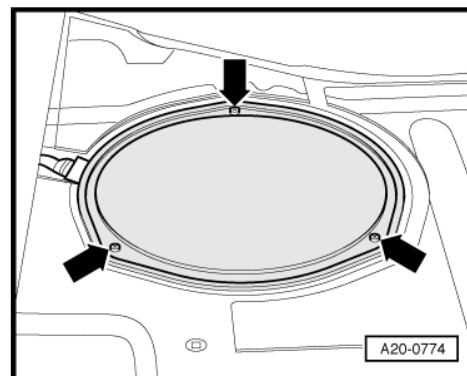
- Fold retaining lugs -1- and -3- open to rear.
- Fold cover -2- to front -arrow-.



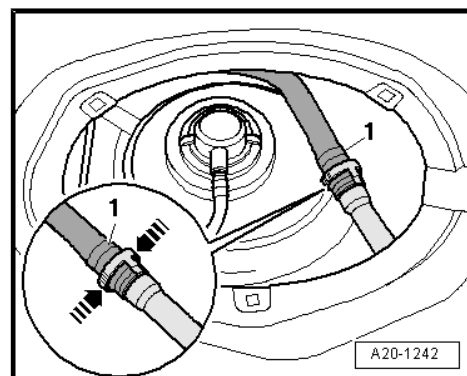
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All vehicles (continued):

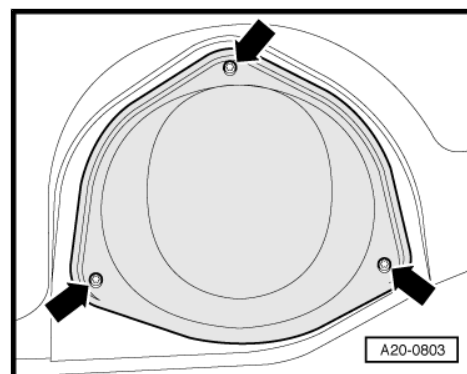
- Unbolt cover -arrows-.



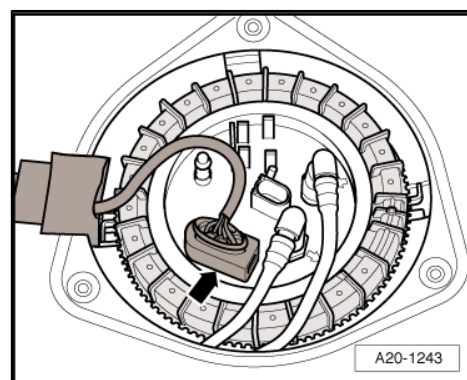
- Press release tabs -arrows- to disconnect breather pipe -1-.



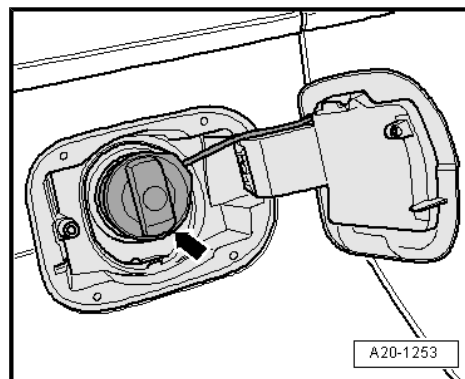
- Remove rear seat bench ⇒ Rep. gr. 72 .
- Unscrew cover for flange (right-side) -arrows-.



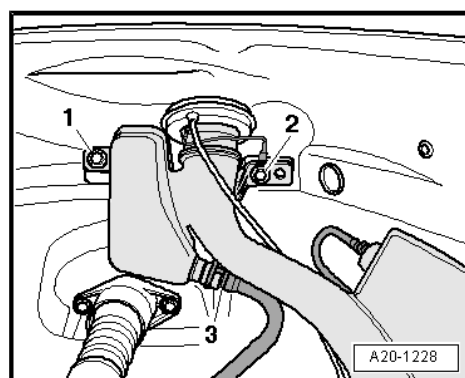
- Unplug electrical connector -arrow- at flange.



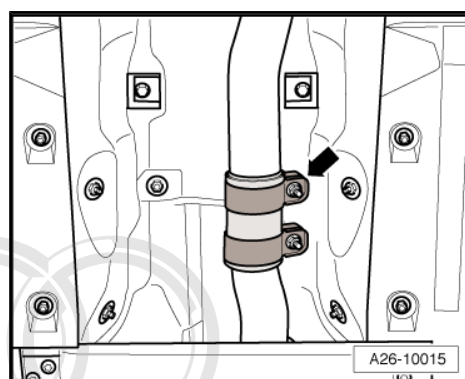
- Open the tank flap.
- Clean area around fuel filler neck.
- Remove filler cap -arrow- from fuel filler neck.
- Seal opening of fuel filler neck with a clean plug to prevent dirt from dropping into the tank.



- Remove rear wheel (right-side).
- Remove rear right wheel housing liner ⇒ Rep. gr. 66 .
- Disconnect breather pipe -3- from fuel filler neck (press release tabs).
- Unscrew bolts -1- and -2- for fuel filler neck.



- Slacken clamp -arrow-.
- Push the clamp back in order to separate the exhaust system.



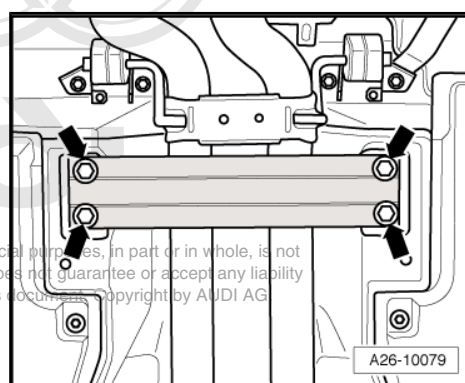
- Remove cross piece (rear) -arrows-.



Note

A second person will be required for detaching rear section of exhaust system.

- Disengage exhaust system at the rubber mountings and remove rear section of exhaust system.



- Remove cover -1- from underside of vehicle (rear left).
- Remove cover -1- from underside of vehicle (rear right).
- Remove propshaft ⇒ Rear final drive 01R; Rep. gr. 39.



WARNING

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

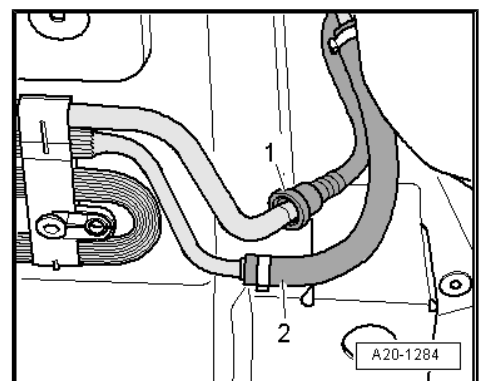
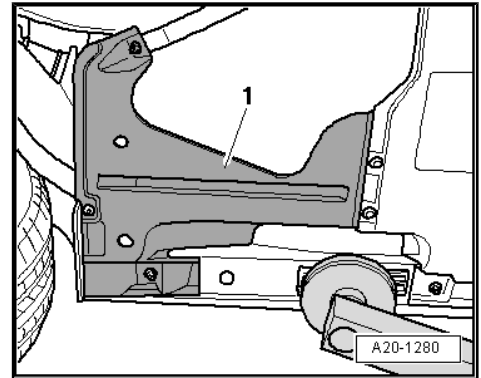
- ◆ **BEFORE loosening the subframe bolts, take steps to ensure that the vehicle does not tip forwards on the lifting platform (e.g. put a weight of about 50 kg in the luggage compartment).**

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- Remove rear axle ⇒ Rep. gr. 42.
- Disconnect fuel supply line -1- by pressing release tab.
- Detach fuel return line -2-.
- Catch escaping fuel.

Vehicles with auxiliary heater:

- In addition, disconnect fuel line leading to auxiliary heater at metering pump.
- Unplug electrical connector at metering pump.



All vehicles (continued):

- Position engine and gearbox jack - V.A.G 1383 A- below vehicle to support tank.



WARNING

Risk of accident caused by weight of fuel tank

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

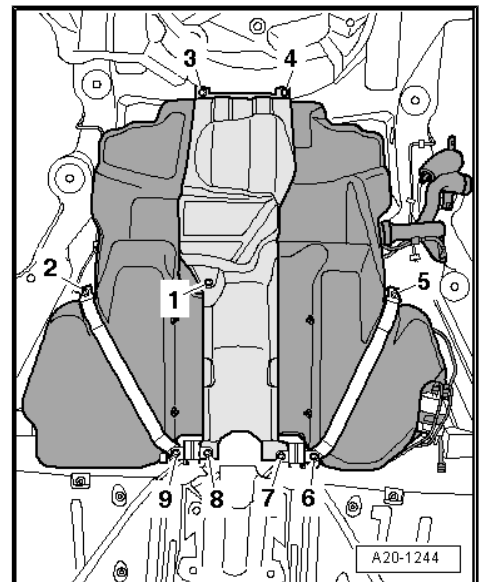
- Remove bolts -1 ... 9-.
- Then lower fuel tank using engine and gearbox jack - V.A.G 1383 A- , simultaneously guiding fuel tank down by hand.

Installing

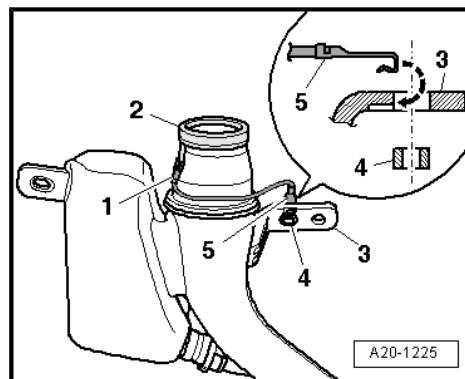
- Tightening torques ⇒ [page 32](#)

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

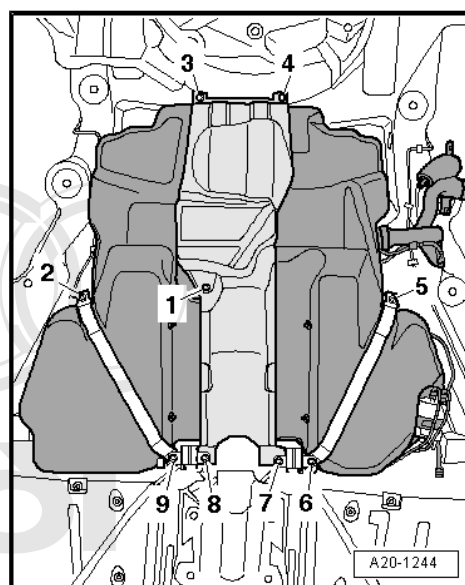
- Check that fuel lines are clipped onto fuel tank.



- Check the earth wiring at both ends for traces of oxidation. Remove any traces of oxidation if necessary.
- Check installation position of earth connection:
 - Connector -1- must be seated securely on metal ring -2-.
 - Contact tab -5- must be attached to fuel tank -3- and secured with spacer bush -4-.



- Position fuel tank with securing straps and support bracket on underbody, using engine and gearbox jack - V.A.G 1383 A- .
- When installing fuel tank, make sure that the fuel filler neck is correctly inserted into the opening on the body.
- Tighten bolts for securing straps and support bracket -1 ... 9-.



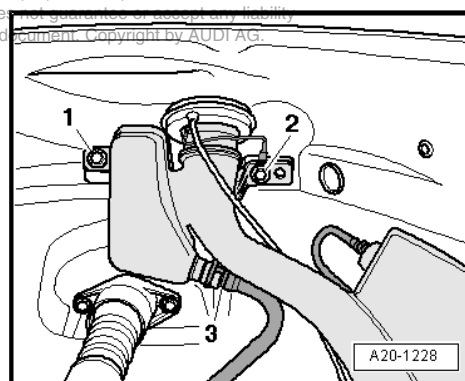
- Secure fuel filler neck with earth connection using securing bolts -1- and -2-.



WARNING

Safety risk due to 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**



- Fit breather pipe -3- to fuel filler neck.
- Install rear axle ⇒ Rep. gr. 42 .
- Install propshaft ⇒ Rear final drive 01R; Rep. gr. 39 .
- Install rear section of exhaust system ⇒ Rep. gr. 26 .
- Install rear right wheel housing liner ⇒ Rep. gr. 66 .
- Install rear seat bench ⇒ Rep. gr. 72 .
- Install accumulator ⇒ Rep. gr. 43 .

Vehicles with auxiliary heater:

- Let auxiliary heater run with full load for 10 minutes to bleed fuel line going to metering pump.

2.4 Exploded view - fuel delivery unit and fuel gauge senders

1 - Fuel delivery unit

- ☐ Checking fuel pump (electrical test)
⇒ [page 42](#)
- ☐ Removing and installing
⇒ [page 44](#)
- ☐ Put at least 5 litres of fuel into tank after installing

2 - Fuel gauge sender - G-

- ☐ Checking resistance values ⇒ [page 51](#)
- ☐ Removing and installing
⇒ [page 52](#)

3 - Threaded ring

4 - Seal

- ☐ Renew
- ☐ Install dry

5 - Union nut

- ☐ Remove and install with union nut tool - T40068 A-
- ☐ Renew
- ☐ Tighten to 120 Nm

6 - Fuel return line

- ☐ From fuel filter and fuel cooler
- ☐ Do not kink
- ☐ Mark before removing
- ☐ Note direction of arrow (fuel supply or fuel return system) on flange when installing

- ☐ To disconnect from flange, press release tab on connection piece
- ☐ Clip onto fuel tank

7 - Fuel supply line

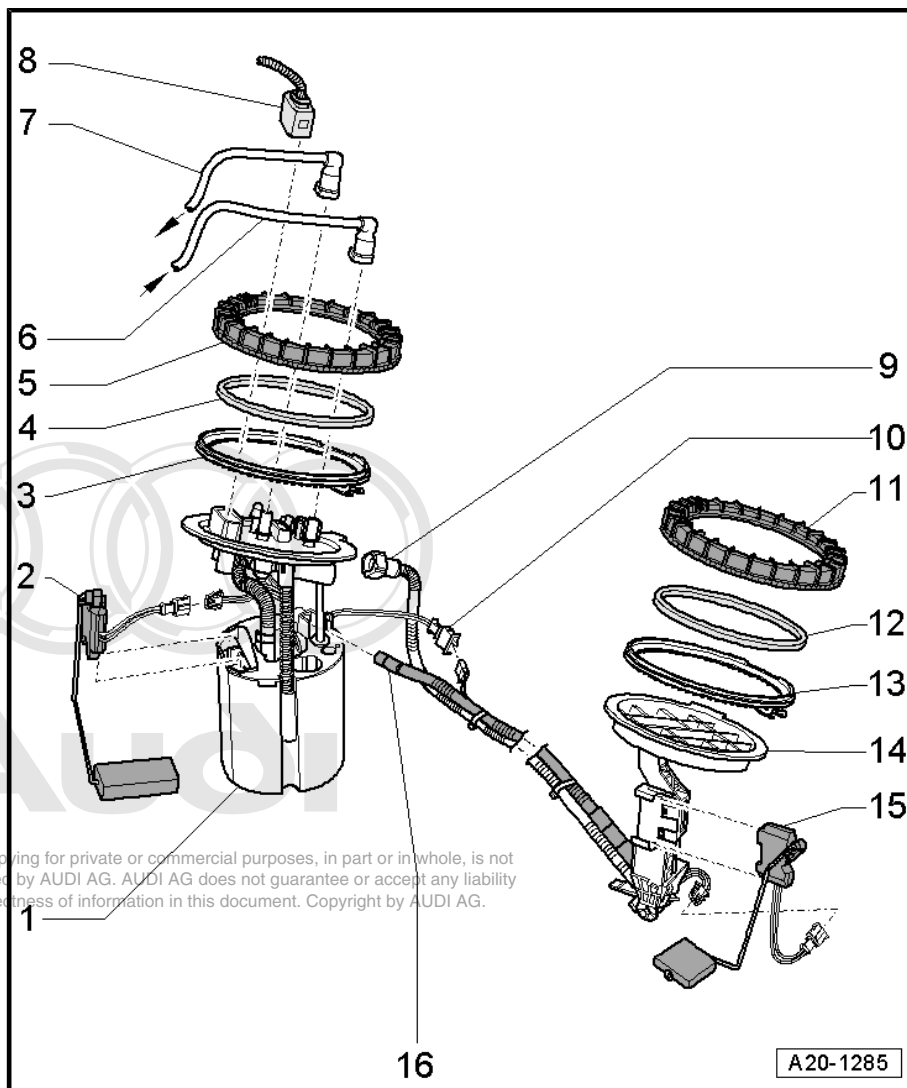
- ☐ To fuel filter
- ☐ Do not kink
- ☐ Mark before removing
- ☐ Note direction of arrow (fuel supply or fuel return system) on flange when installing
- ☐ To disconnect from flange, press release tab on connection piece
- ☐ Clip onto fuel tank

8 - Electrical connector

- ☐ For fuel pump - G23-
- ☐ For fuel gauge sender - G- and fuel gauge sender 2 - G169-

9 - Supply line for suction-jet pump

- ☐ To suction-jet pump
- ☐ Attached to flange
- ☐ Press release tab on connection piece to disconnect



- ☐ Secure to fuel supply line using a total of 3 cable ties
- ☐ Observe fitting instructions ⇒ [page 63](#)

10 - Electrical connector

- ☐ For fuel gauge sender 2 - G169-

11 - Union nut

- ☐ Remove and install with union nut tool - T40068 A-
- ☐ Renew
- ☐ Tighten to 120 Nm

12 - Seal

- ☐ Renew
- ☐ Install dry

13 - Threaded ring**14 - Suction-jet pump**

- ☐ Checking suction-jet pump ⇒ [page 59](#)
- ☐ Removing and installing ⇒ [page 60](#)
- ☐ Put at least 5 litres of fuel into tank after installing

15 - Fuel gauge sender 2 - G169-

- ☐ Checking resistance values ⇒ [page 53](#)
- ☐ Removing and installing ⇒ [page 55](#)

16 - Fuel supply line

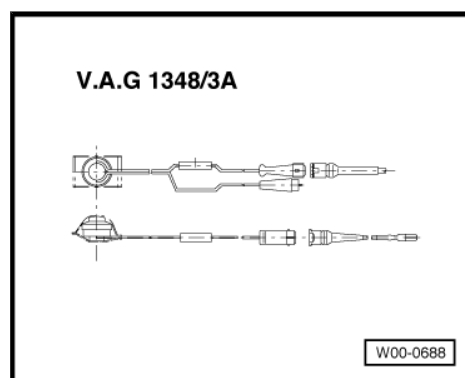
- ☐ From suction-jet pump to fuel delivery unit
- ☐ Clipped onto fuel delivery unit
- ☐ Secure to supply line for suction-jet pump using a total of 3 cable ties
- ☐ Observe fitting instructions ⇒ [page 63](#)

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2.5 Fuel pump (in fuel tank) - electrical test

Special tools and workshop equipment required

- ◆ Remote control - V.A.G 1348/3A- for V.A.G 1348 with adapter cable - V.A.G 1348/3-2-



◆ Hand-held multimeter - V.A.G 1526D-



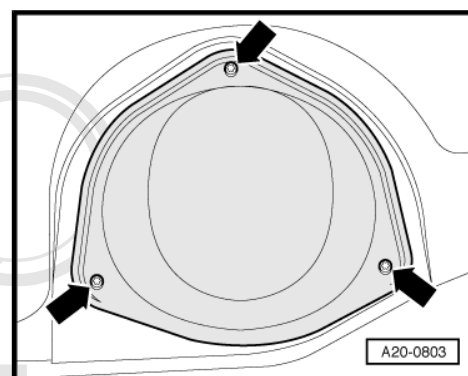
◆ Auxiliary measuring set - V.A.G 1594C-



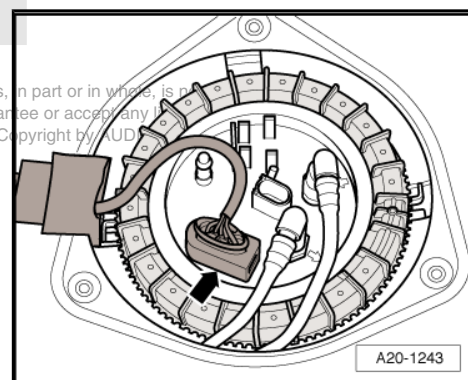
Procedure

Observe test conditions ⇒ [page 3](#).

- Remove rear seat bench ⇒ Rep. gr. 72.
- Unscrew cover for flange (right-side) -arrows-.



- Unplug electrical connector -arrow- at flange.



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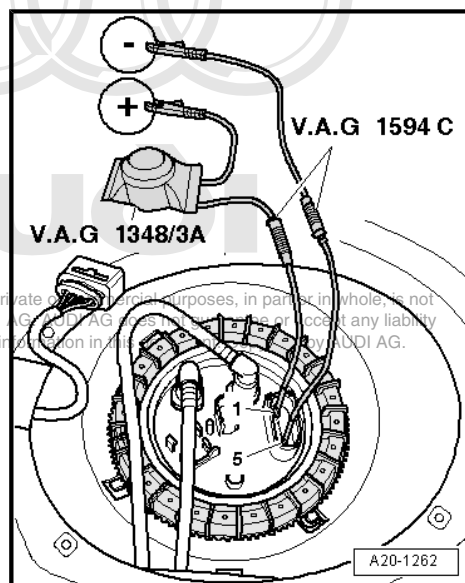
- Connect remote control for V.A.G 1348 - V.A.G 1348/3A- to contact -1- using adapter cable - V.A.G 1348/3-2- and test lead from auxiliary measuring set - V.A.G 1594C- .
- Connect contact -5- to the body (earth) using a test lead from auxiliary measuring set - V.A.G 1594C- .
- Connect crocodile clip to positive (+) terminal of battery.
- Press remote control button.
- Pump should start running audibly.



Note

The fuel pump runs very quietly. Where possible, avoid noisy surroundings for this test.

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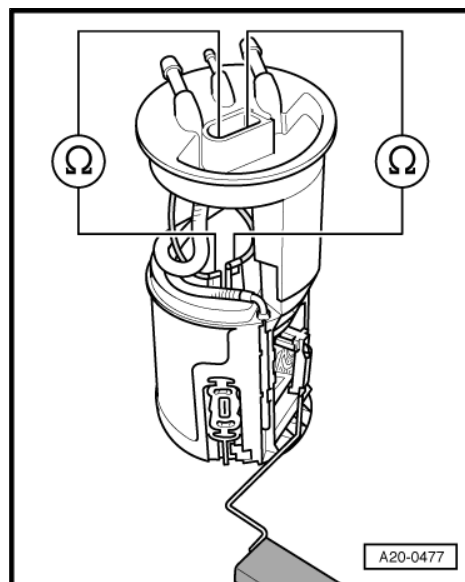


If no noise can be heard from pump:

- Remove fuel delivery unit ⇒ [page 44](#) .
- Check that the electrical wires between flange and fuel pump are connected and test for continuity.

If no fault is found in wiring, fuel pump is defective. Renew fuel delivery unit.

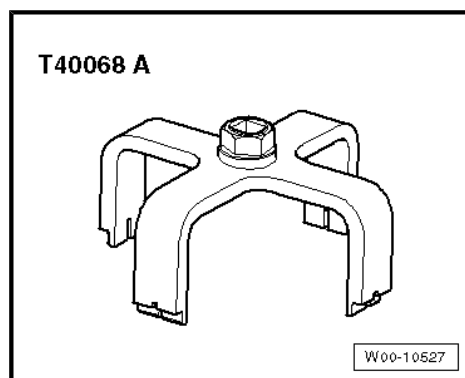
- Install fuel delivery unit ⇒ [page 47](#) .



2.6 Removing and installing fuel delivery unit

Special tools and workshop equipment required

- ♦ Union nut tool - T40068 A-



Removing

Observe safety precautions ⇒ [page 1](#) .

Observe rules for cleanliness ⇒ [page 3](#) .

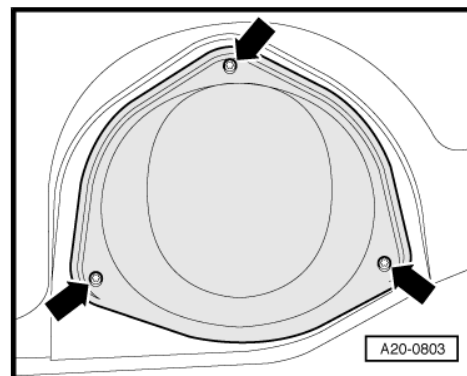


WARNING

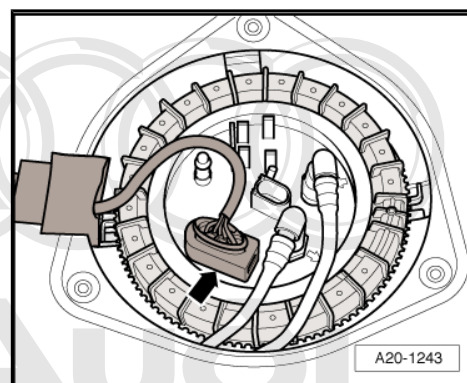
Danger! Fuel may escape.

- ◆ ***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 the tank if necessary. Procedure ⇒ [page 33](#)***

- Remove rear seat bench ⇒ Rep. gr. 72 .
- Unscrew cover for flange (right-side) -arrows-.



- Unplug electrical connector -arrow- at flange.



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- Mark fuel supply line -1- and fuel return line -2-.



WARNING

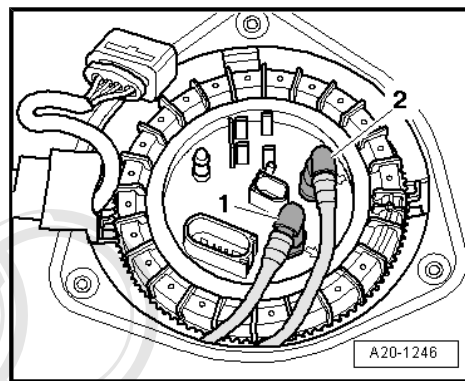
Risk of injury - fuel system operates under pressure.

- ◆ **Wrap a clean cloth around the connection before opening the fuel system. Then release pressure by carefully loosening the connection.**
- ◆ **Wear protective gloves.**
- ◆ **Wear safety goggles.**

The fuel can become extremely hot. This can cause injuries.

- ◆ **In extreme cases the temperature of the fuel lines and the fuel can be up to 100 °C after the engine is switched off. Allow the fuel to cool down before disconnecting the lines - danger of scalding.**
- ◆ **Wear protective gloves.**
- ◆ **Wear safety goggles.**

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- Detach both lines from flange (press release tabs).

Vehicles with auxiliary heater:

- In addition, disconnect fuel line leading to metering pump for auxiliary heater by pressing release tab.

All vehicles (continued):

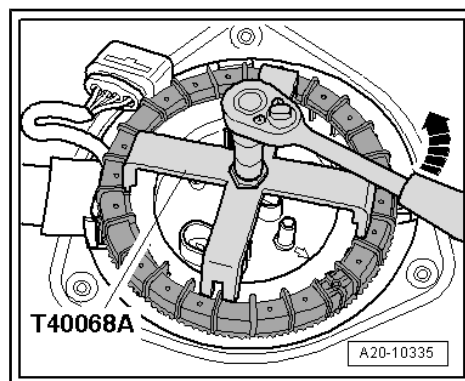


WARNING

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.**

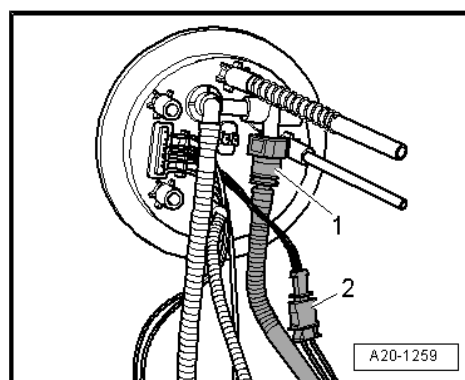
- Use union nut tool - T40068 A- to unscrew union nut -arrow-.



Note

The plastic detent on the threaded ring will break off when the union nut is unscrewed - this can be disregarded.

- Disconnect supply line -1- for suction-jet pump at flange by pressing release tab.
- Unplug electrical connector -2- for fuel gauge sender 2 - G169- .
- Move flange to side (hoses remain attached).



- Disengage fuel supply line -1-.
- Remove fuel delivery unit.

 Note

- ◆ *When removing fuel delivery unit, make sure you do not bend float arm of fuel gauge sender -G- .*
- ◆ *Keep in mind that the fuel delivery unit still contains fuel.*

Installing

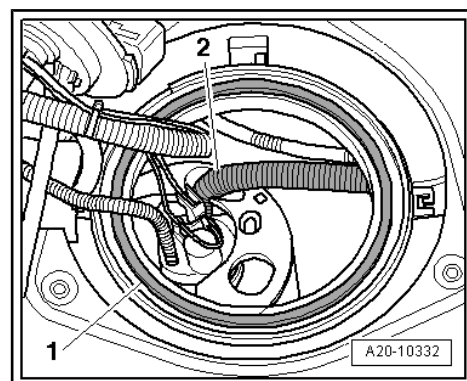
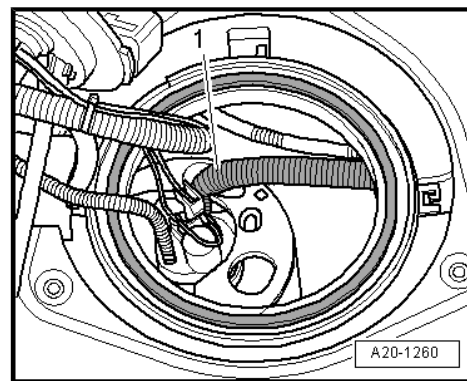
- Tightening torque ⇒ [page 41](#)

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

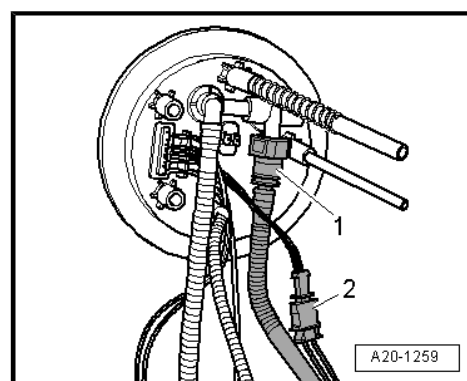
 Note

- ◆ *Renew seal and union nut.*
- ◆ *Take care not to bend the fuel gauge sender - G- when fitting the fuel delivery unit.*
- ◆ *Ensure that fuel hoses are securely seated.*

- Insert fuel delivery unit into fuel tank, with flange set aside.
- Engage fuel supply line -2-.
- Slip new seal -1- over flange and insert it in groove on fuel tank.



- Fit supply line -1- leading to suction-jet pump so that it engages audibly.
- Plug in electrical connector -2- for fuel gauge sender 2 - G169- .

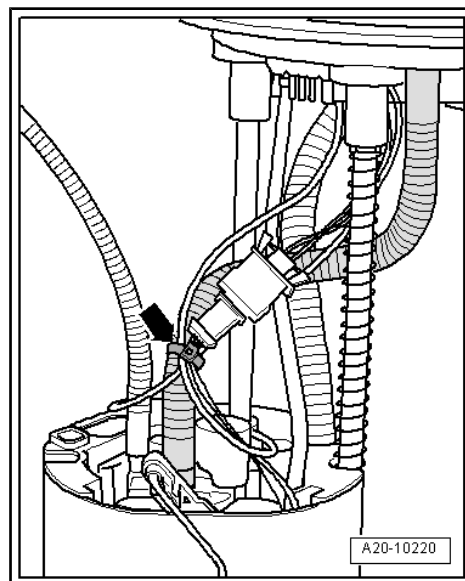


Vehicles up to vehicle identification no. 4F-8N-147018:

- Make sure electrical wiring is properly routed:
- Wiring for fuel pump and fuel gauge sender - G- must be secured to fuel supply line just slightly behind electrical connector with a cable tie -arrow-, as illustrated.


Note

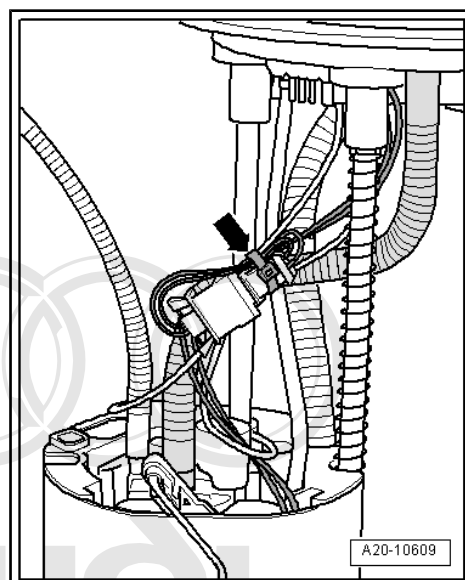
The illustration shows the fuel delivery unit for vehicles with front-wheel drive.


Vehicles from vehicle identification no. 4F-8N-147019 onwards and retrofitted vehicles:

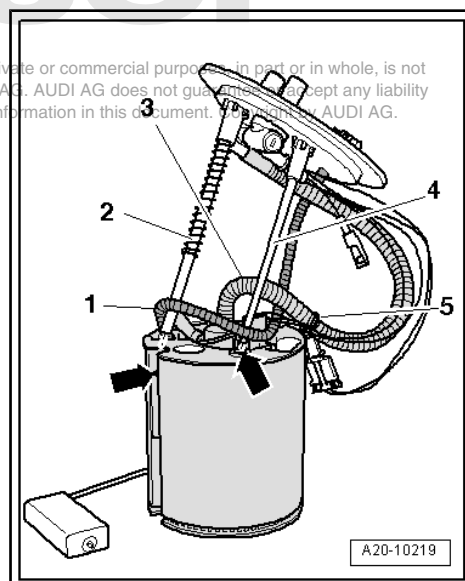
- Make sure electrical wiring is properly routed:
- Turn the connector 180° before securing so that the wires cross each other and thus become shorter.
- Secure electrical wiring for fuel pump with -arrow-.
- Wrap cable tie around electrical connector only at position indicated.


Note

The illustration shows the fuel delivery unit for vehicles with front-wheel drive.


All vehicles (continued):

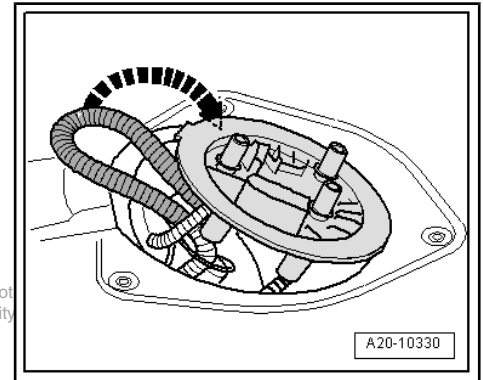
- Make sure fuel hoses are properly routed:
- Guide out fuel supply line -3- behind guide tube -4- and route it in a wide arc towards flange.
- Route supply line -1- for auxiliary heater around outside of both guide tubes -2- and -4-.
- Insert guide tubes -2- and -4- on flange into corresponding holes -arrows- in fuel delivery unit.



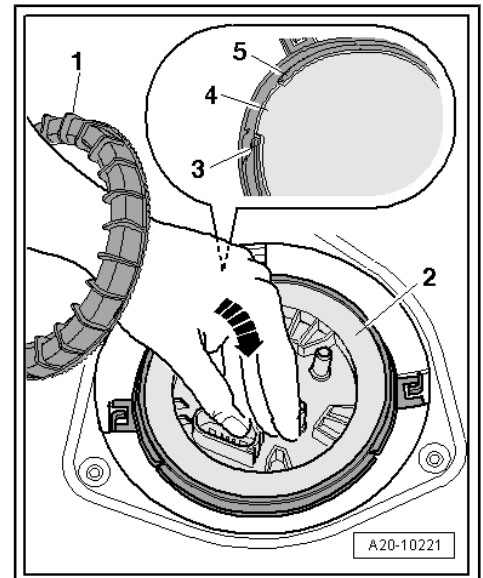
- While fitting flange push fuel supply line in clockwise direction under flange to avoid obstructing movement of fuel gauge sender -G- .

Audi

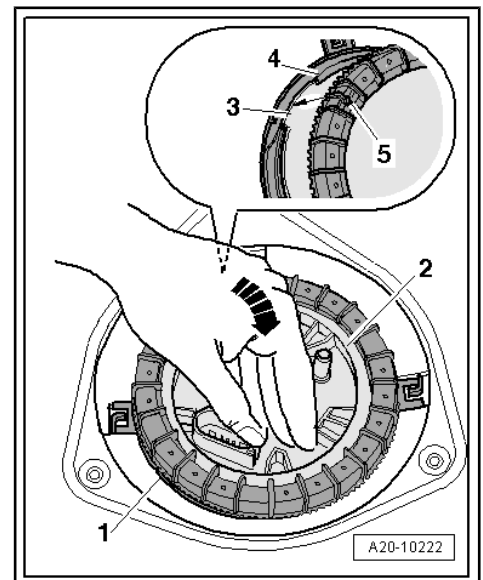
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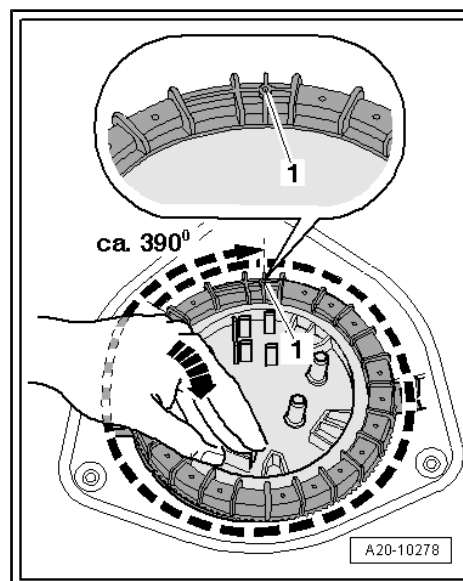
- Slip union nut -1- over your left arm and press flange -2- firmly into installation position -arrow- with your left hand.
- Lug -4- on flange must be between tabs -3- and -5- on threaded ring.



- Take union nut -1- off your left arm with your right hand and at the same time keep pressing down flange -2- firmly with your left hand -arrow-.
- Position union nut -1- with your right hand in such a way that double ridge -5- on ribs aligns with lug -3- of flange (approx. ten o'clock position). This will make union nut engage immediately with beginning of thread -4- when tightening.



- Keep pressing flange downwards firmly.
- Turn locking ring approx. 390° with your right hand until double ridge -1- is in approx. twelve o'clock position and at the same time keep on pressing flange downwards firmly with your left hand.

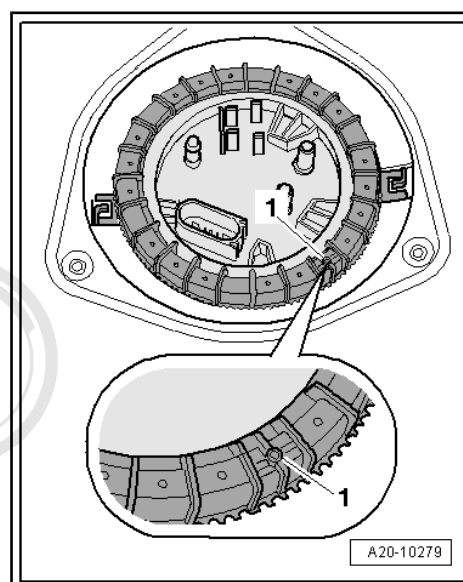
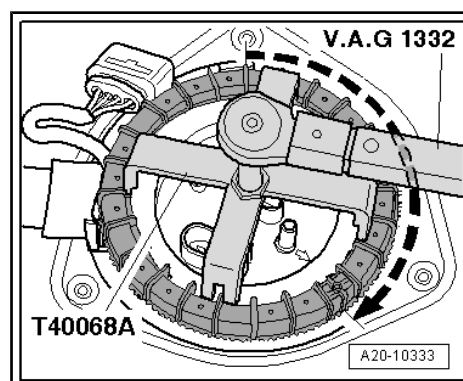


Caution

Take care to avoid leakage at flange.

- ◆ *Press flange downwards firmly when tightening union nut to make sure flange does not also turn.*

- Use union nut tool - T40068 A- to tighten union nut for flange (right-side).
- Tightening torque: 120 Nm
- Checking: Double ridge -1- must now be aligned between five o'clock and six o'clock position.

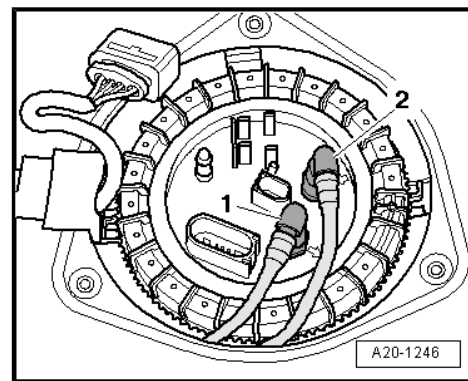


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- Install fuel supply line -1- and fuel return line -2- according to markings.
- Plug in electrical connector.
- Install rear seat bench ⇒ Rep. gr. 72 .
- Put at least 5 litres of fuel into tank after installing fuel delivery unit.

Vehicles with auxiliary heater:

- Let auxiliary heater run with full load for 10 minutes to bleed fuel line going to metering pump.



2.7 Checking fuel gauge sender - G-

Special tools and workshop equipment required

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

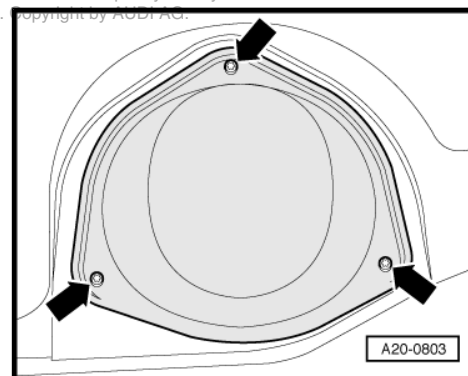


- ◆ Auxiliary measuring set - V.A.G 1594C-



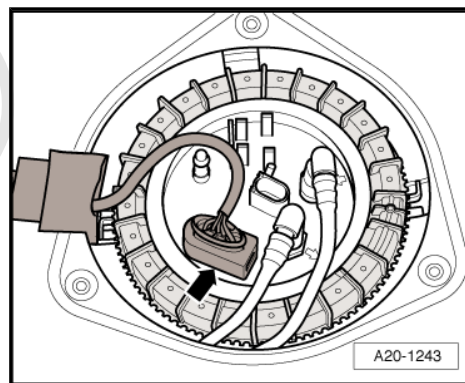
Procedure

- Remove rear seat bench ⇒ Rep. gr. 72 .
- Unscrew cover for flange (right-side) -arrows-.



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- Unplug electrical connector -arrow- at flange.



- Connect hand-held multimeter - V.A.G 1526D- to measure resistance between contacts 2- and 3-

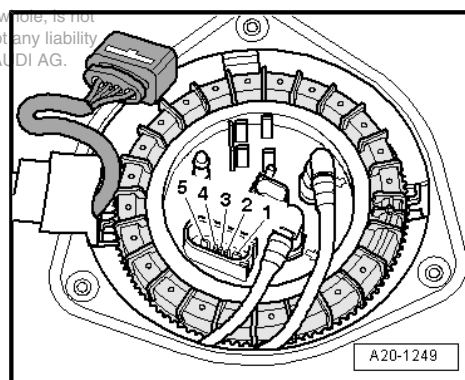
Fuel gauge sender - G- installed:

- Sender at lower stop: approx. 760 ... 1003 Ω .
- Sender at upper stop: approx. 70 ... 105 Ω .



Note

- ◆ If the resistance is 0 Ω , there is a short circuit. If the resistance is $\infty \Omega$, there is an open circuit in the wiring.
- ◆ To test the maximum and minimum resistance values for "tank full" and "tank empty", remove the fuel delivery unit [⇒ page 44](#) 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:



Fuel gauge sender - G- removed:

- Sender at lower stop: approx. 1004 Ω .
- Sender at upper stop: approx. 50 Ω .

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

- Install rear seat bench $\Rightarrow$ Rep. gr. 72 .

2.8 Removing and installing fuel gauge sender - G-

Removing



Note

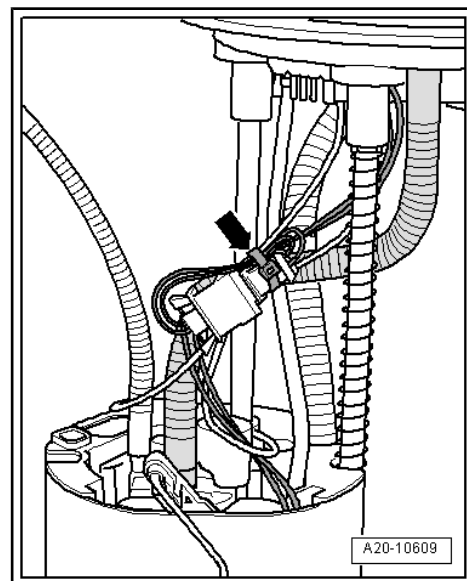
All cable ties which are released or cut open when removing must be refitted in the same position when installing.

Observe safety precautions [⇒ page 1](#) .

Observe rules for cleanliness [⇒ page 3](#) .

- Remove fuel delivery unit [⇒ page 44](#) .

- Cut through cable tie -arrow- and unplug electrical connector.



- Use screwdriver to release retaining tabs -arrows- and lift out fuel gauge sender - G- .

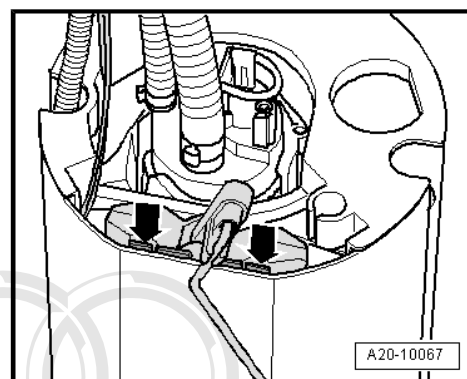
Installing

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



Note

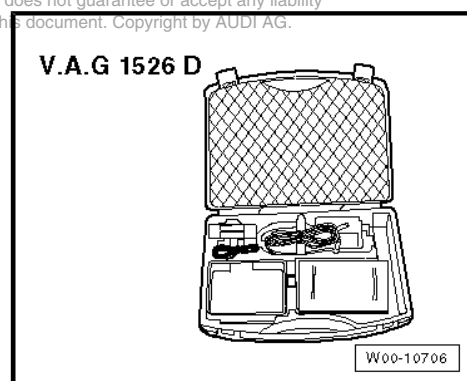
- ◆ *Fit cable tie in the original position (just slightly behind the electrical connector) when installing.*
- ◆ *Make sure the wiring does not block the lever-type sender.*
- Insert fuel gauge sender - G- into guides on fuel delivery unit and press downwards until it clicks into place.
- Plug in electrical connector and check that it has engaged properly.
- Install fuel delivery unit ⇒ [page 47](#) .



2.9 Checking fuel gauge sender 2 - G169-

Special tools and workshop equipment required

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

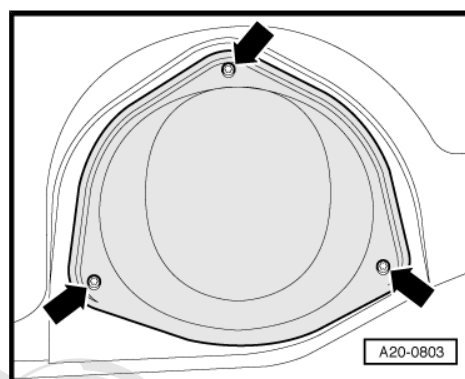


◆ Auxiliary measuring set - V.A.G 1594C-

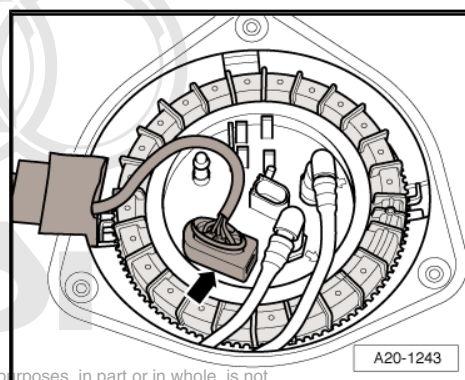


Procedure

- Remove rear seat bench ⇒ Rep. gr. 72 .
- Unscrew cover for flange (left-side) -arrows-.



- Unplug electrical connector -arrow- at flange.



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- Connect hand-held multimeter - V.A.G 1526D- to measure resistance between contacts -3- and -4-.

With fuel gauge sender 2 - G169- installed:

- Sender at lower stop: approx. 790 ... 975 Ω .
- Sender at upper stop: approx. 50 ... 86 Ω .



Note

- ◆ *If the resistance is 0 Ω , there is a short circuit. If the resistance is $\infty \Omega$, there is an open circuit in the wiring.*
- ◆ *In order to test the maximum and minimum values for "tank full" and "tank empty", remove the fuel gauge sender 2 - G169- ➔ [page 55](#) and move the 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:*

With fuel gauge sender 2 - G169- removed:

- Sender at lower stop: approx. 1004 Ω .
- Sender at upper stop: approx. 50 Ω .

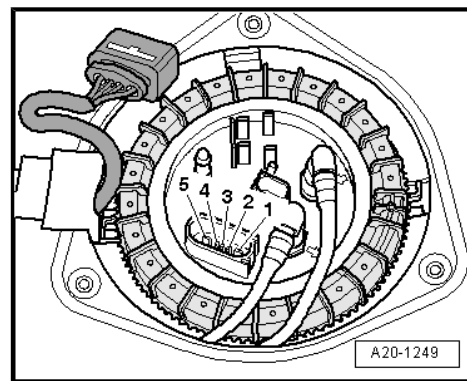
Assembly is carried out in the reverse order; note the following:

- Install rear seat bench ➔ Rep. gr. 72 .

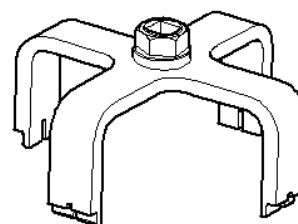
2.10 Removing and installing fuel gauge sender 2 - G169-

Special tools and workshop equipment required

- ◆ Union nut tool - T40068 A-



T40068 A



W00-10527

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Procedure

Observe safety precautions ➔ [page 1](#) .

Observe rules for cleanliness ➔ [page 3](#) .

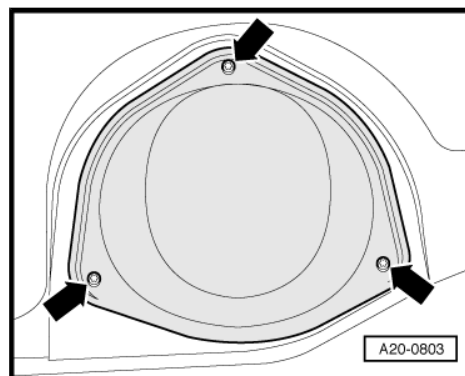


WARNING

Large amounts of fuel can escape.

- ◆ ***The fuel tank must not be more than 1/4 full when removing the fuel gauge sender 2 -G169- ; otherwise a large amount of fuel will escape. Drain the tank if necessary. Procedure ➔ [page 33](#)***

- Briefly open filler cap for fuel tank and close again.
- Remove rear seat bench ⇒ Rep. gr. 72 .
- Detach cover for flange (left-side) -arrows-.

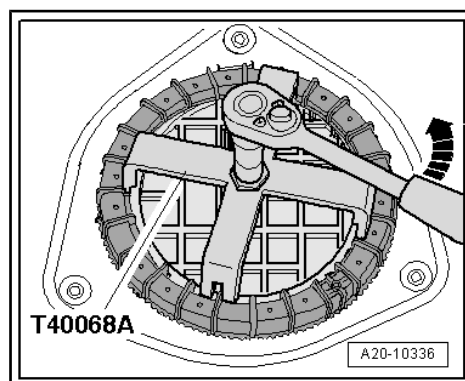

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Large amounts of fuel can escape.

- ◆ *The fuel tank must not be more than $\frac{1}{4}$ full when removing the fuel gauge sender 2 -G169- ; otherwise a large amount of fuel will escape.*

- Use union nut tool - T40068 A- to unscrew union nut (left-side) -arrow-.

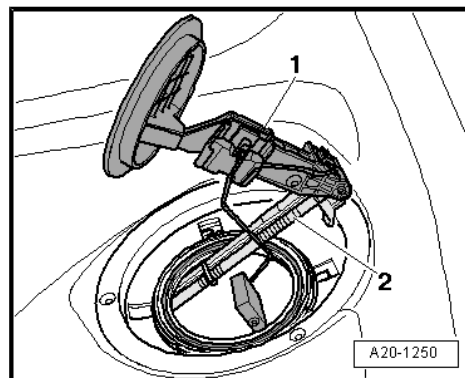

Note

The plastic detent on the threaded ring will break off when the union nut is unscrewed - this can be disregarded.

- Carefully pull fuel gauge sender 2 - G169- -item 1- and suction-jet pump -2- towards left, out of opening in fuel tank.


Note

Make sure you do not bend float arm of fuel gauge sender 2 - G169- when removing suction-jet pump.



- Unclip suction-jet pump from flange.
- Unplug electrical connector -1-.
- Use screwdriver to release retaining tabs -arrows- and detach fuel gauge sender 2 - G169- .

Installing

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



Note

Renew seal and union nut.

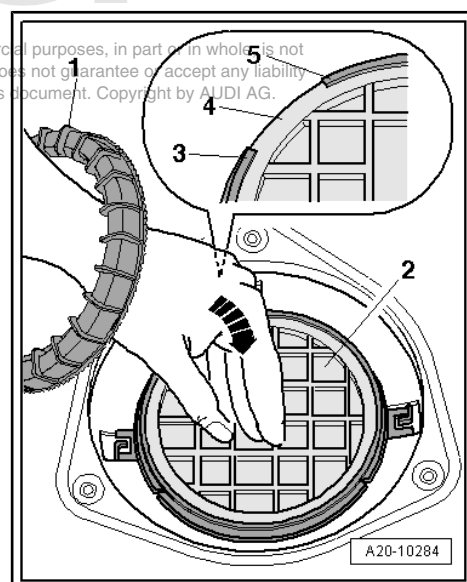
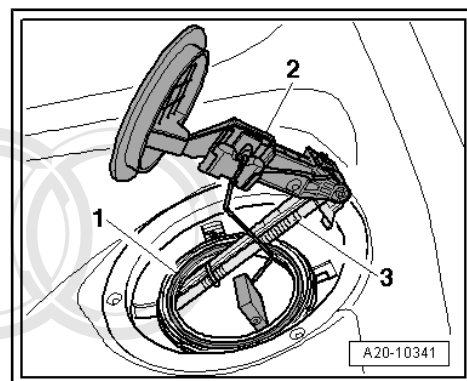
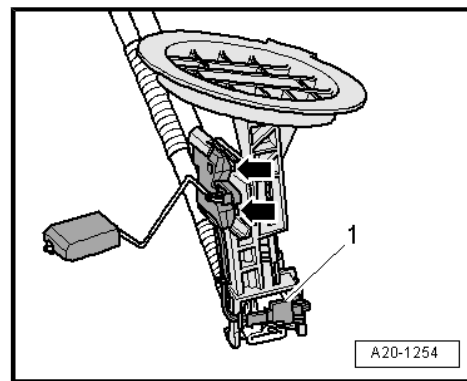
- Insert fuel gauge sender 2 - G169- into guides on flange and press in until it engages.
- Plug in electrical connector and check that it has engaged properly.
- Clip suction-jet pump -3- onto flange -2-, so that you hear it click into place.
- Make sure that fuel supply line is connected to supply line for suction-jet pump with at least 3 cable ties.



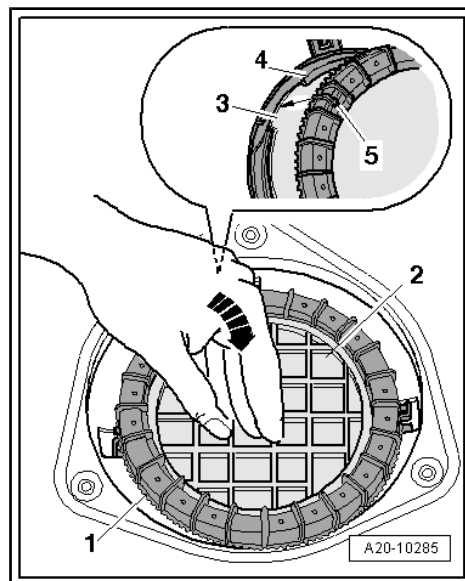
Note

When installing, make sure you do not bend float arm of fuel gauge sender 2 -G169- .

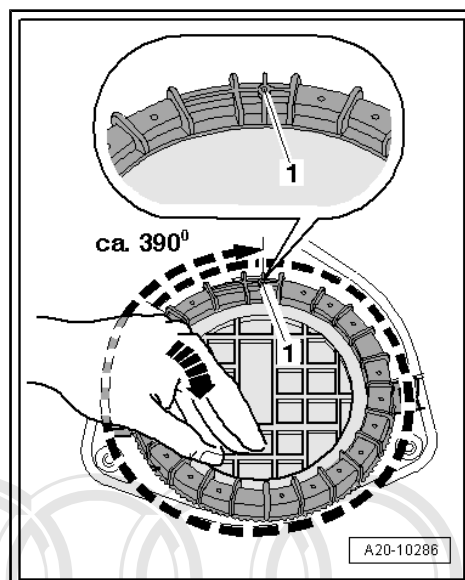
- Carefully insert fuel gauge sender 2 - G169- into opening in fuel tank.
- Slip new seal -1- over flange and insert it in groove on fuel tank.
- Slip union nut -1- over your left arm and press flange -2- firmly into installation position -arrow- with your left hand.
- Lug -4- on flange must be between tabs -3- and -5- on threaded ring.



- Take union nut -1- off your left arm with your right hand and at the same time keep pressing down flange -2- firmly with your left hand -arrow-.
- Position union nut -1- with your right hand in such a way that double ridge -5- on ribs aligns with lug -3- of flange (approx. ten o'clock position). This will make union nut engage immediately with beginning of thread -4- when tightening.



- Keep pressing flange downwards firmly.
- Turn locking ring approx. 390° with your right hand until double ridge -1- is in approx. twelve o'clock position and at the same time keep on pressing flange downwards firmly with your left hand.

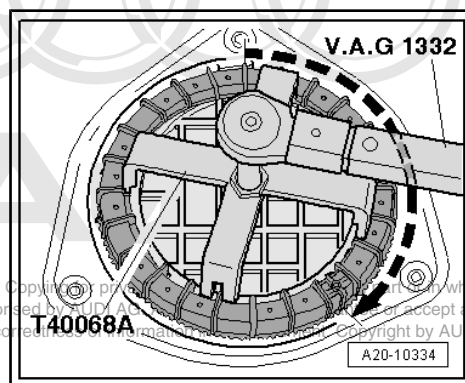


Caution

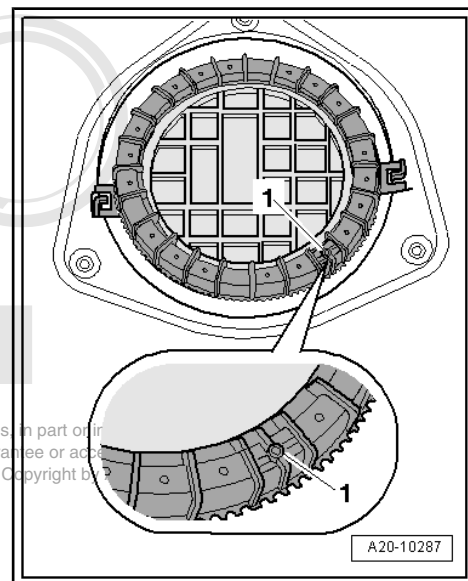
Take care to avoid leakage at flange.

- ◆ *Press flange downwards firmly when tightening union nut to make sure flange does not also turn.*

- Use union nut tool - T40068 A- to tighten union nut for flange (left-side).
- Tightening torque: 120 Nm



- Checking: Double ridge -1- must now be aligned between five o'clock and six o'clock position.
- Install rear seat bench ⇒ Rep. gr. 72 .
- Put at least 5 litres of fuel into tank after installing fuel gauge sender 2 - G169- .



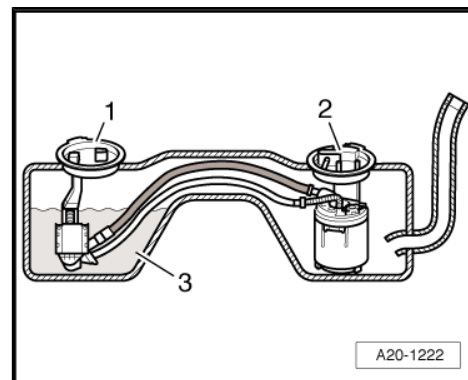
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2.11 Suction-jet pump

On vehicles with four-wheel drive the fuel tank is divided into a left and a right chamber. A so-called suction-jet pump -1- is used for delivering the fuel from the left fuel tank chamber -3- to the baffle housing of the fuel delivery unit -2- 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 20 litres of fuel (up to about $\frac{1}{4}$ 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 ⇒ [page 42](#) .

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

- Put another 5 litres (approx.) of fuel into tank.
- Start engine.

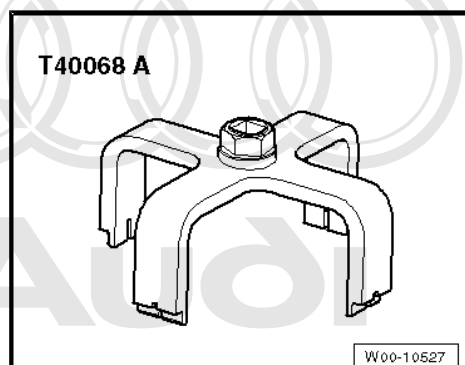
If engine now starts:

- Renew suction-jet pump ⇒ [page 60](#) .

2.12 Removing and installing suction-jet pump

Special tools and workshop equipment required

- ◆ Union nut tool - T40068 A-



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Removing

Observe safety precautions ⇒ [page 1](#) .

Observe rules for cleanliness ⇒ [page 3](#) .

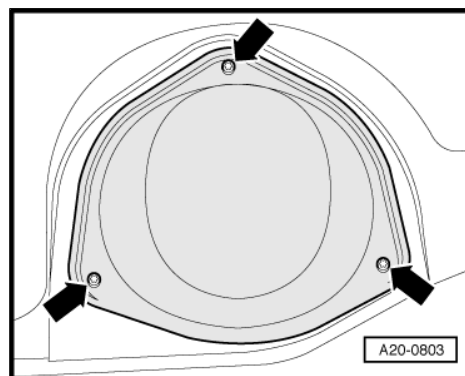


WARNING

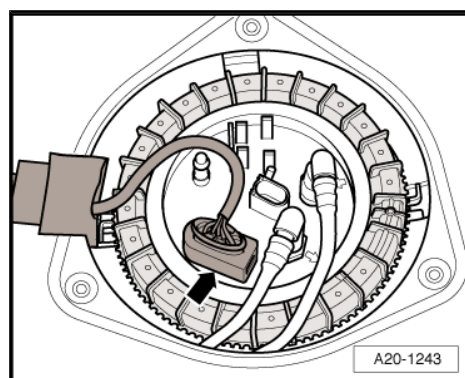
Danger! Fuel may escape.

- ◆ ***The fuel tank must not be more than 1/4 full when removing the suction-jet pump, otherwise a large amount of fuel will escape. Drain the tank if necessary. Procedure ⇒ [page 33](#)***

- Briefly open filler cap for fuel tank and close again.
- Remove rear seat bench ⇒ Rep. gr. 72 .
- Unscrew cover for flange (right-side) -arrows-.



- Unplug electrical connector -arrow- at flange.



- Mark fuel supply line -1- and fuel return line -2-.



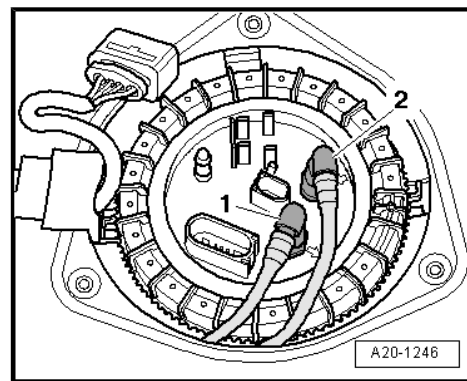
WARNING

Risk of injury - fuel system operates under pressure.

- ◆ *Wrap a clean cloth around the connection before opening the fuel system. Then release pressure by carefully loosening the connection.*
- ◆ *Wear protective gloves.*
- ◆ *Wear safety goggles.*

The fuel can become extremely hot. This can cause injuries.

- ◆ *In extreme cases the temperature of the fuel lines and the fuel can be up to 100 °C after the engine is switched off. Allow the fuel to cool down before disconnecting the lines - danger of scalding.*
- ◆ *Wear protective gloves.*
- ◆ *Wear safety goggles.*



- Detach both lines from flange (press release tabs).

Vehicles with auxiliary heater:

- In addition, disconnect fuel line leading to metering pump for auxiliary heater by pressing release tab.

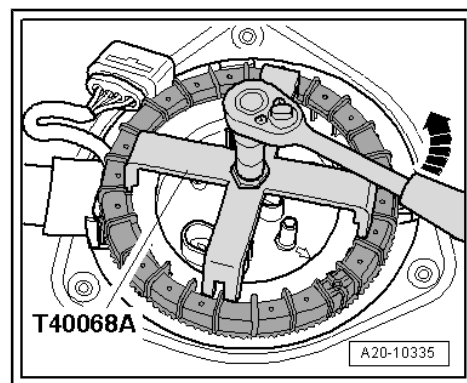
All vehicles (continued):



WARNING

Danger! Fuel may escape.

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



- Use union nut tool - T40068 A- to unscrew union nut (right-side) -arrow-.

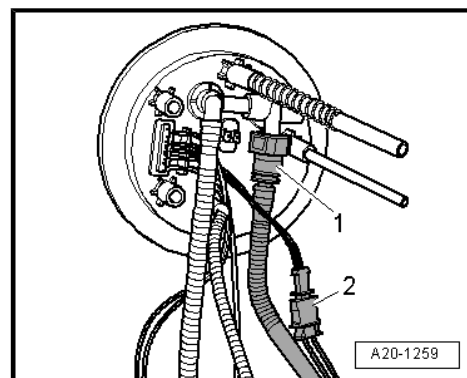


Note

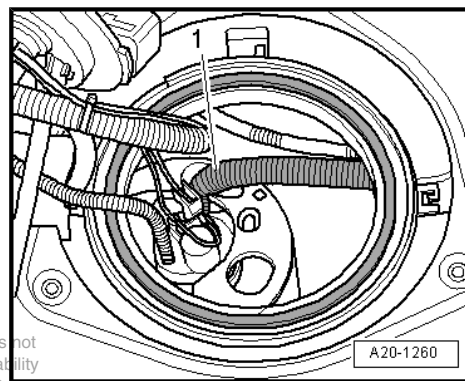
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The plastic detent on the threaded ring will break off when the union nut is unscrewed - this can be disregarded.

- Disconnect supply line -1- for suction-jet pump at flange by pressing release tab.
- Unplug electrical connector -2- for fuel gauge sender 2 - G169- .
- Move flange to side (hoses remain attached).

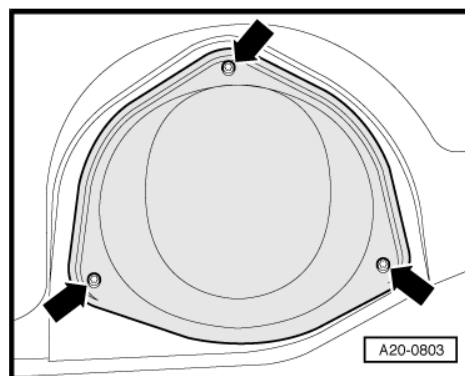


- Disengage fuel supply line -1-.



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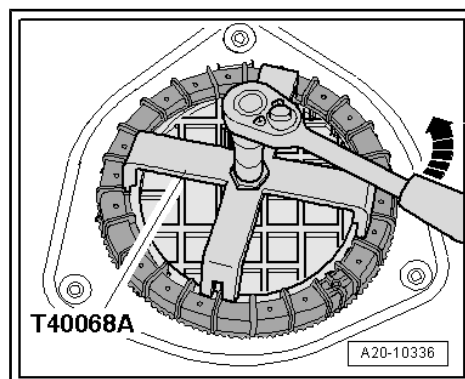
- Detach cover for flange (left-side) -arrows-.



- Use union nut tool - T40068 A- to unscrew union nut (left-side) -arrow-.


Note

The plastic detent on the threaded ring will break off when the union nut is unscrewed - this can be disregarded.



- Carefully pull fuel gauge sender 2 - G169- -item 1- and suction-jet pump -2- towards left, out of opening in fuel tank.

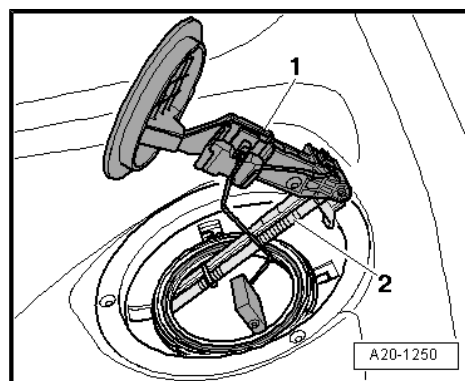

Note

Make sure you do not bend float arm of fuel gauge sender 2 - G169- when removing suction-jet pump.

Installing

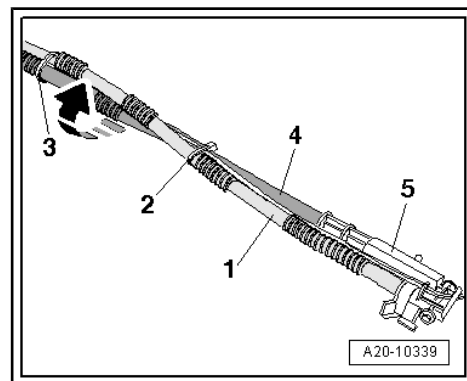
- Tightening torque ⇒ [page 41](#)

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


Note

Renew seals and union nuts.

- Prepare suction-jet pump -5- for installing:
- Guide supply line for suction-jet pump -1- over top of supply line -4- -arrow-, as shown in illustration.
- Secure supply line for suction-jet pump and fuel supply line with a total of 3 cable ties (two of them are visible in illustration -items 2 and 3-).

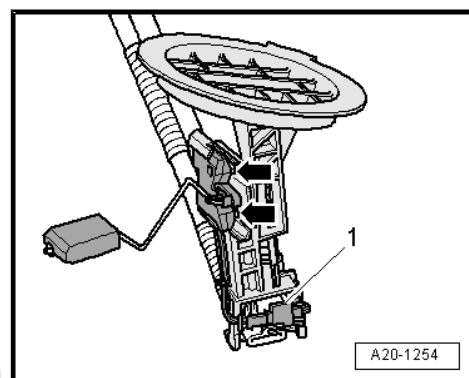


- Plug in electrical connector -1- and check that it has engaged properly.
- Connector must be inserted in retaining tabs from above.



Note

Disregard -arrows-.



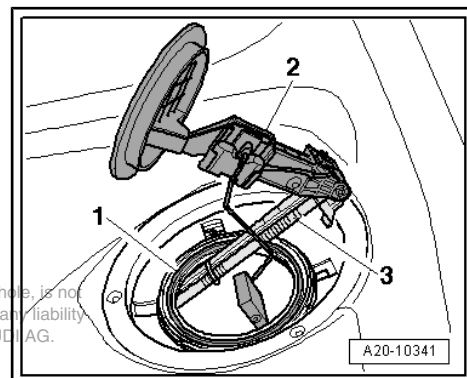
- Clip suction-jet pump -3- onto flange -2-, so that you hear it click into place.



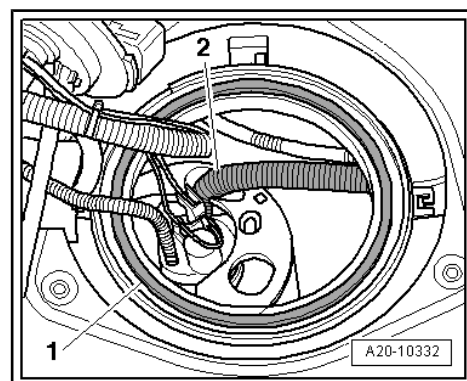
Note

When installing, make sure you do not bend float arm of fuel gauge sender 2 -G169-.

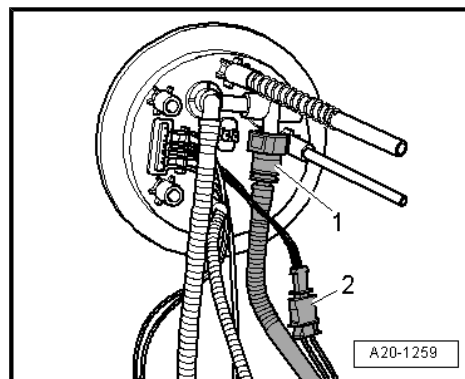
- Push suction-jet pump (with pipes attached) into fuel tank opening on left side of vehicle.
- Slip new seal -1- over flange and insert it in groove on fuel tank.



- Reach into fuel tank opening on right side of vehicle and pull suction-jet pump with pipes into the installation position.
- Engage fuel supply line -2-.
- Slip new seal -1- over flange and insert it in groove on fuel tank.



- Fit supply line -1- leading to suction-jet pump so that it engages audibly.
- Plug in electrical connector -2- for fuel gauge sender 2 - G169- .



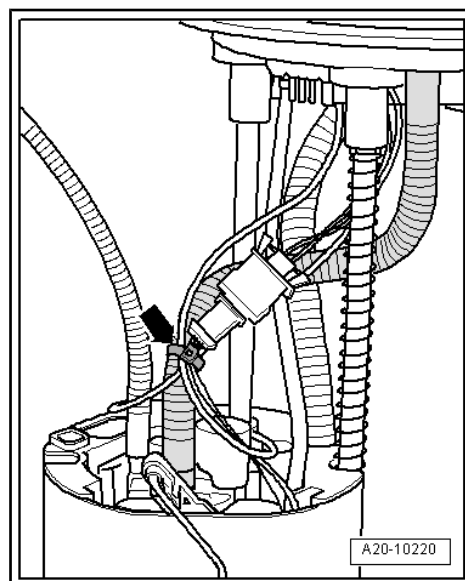
Vehicles up to vehicle identification no. 4F-8N-147018:

- Make sure electrical wiring is properly routed:
- Wiring for fuel pump and fuel gauge sender - G- must be secured to fuel supply line just slightly behind electrical connector with a cable tie -arrow-, as illustrated.



Note

The illustration shows the fuel delivery unit for vehicles with front-wheel drive.



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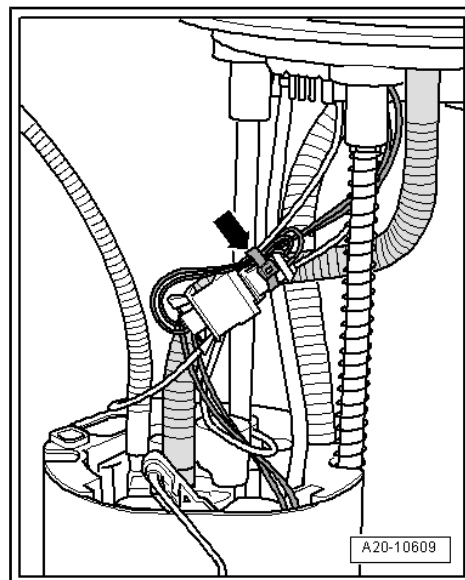
Vehicles from vehicle identification no. 4F-8N-147019 onwards and retrofitted vehicles:

- Make sure electrical wiring is properly routed:
- Turn the connector 180° before securing so that the wires cross each other and thus become shorter.
- Secure electrical wiring for fuel pump with -arrow-.
- Wrap cable tie around electrical connector only at position indicated.



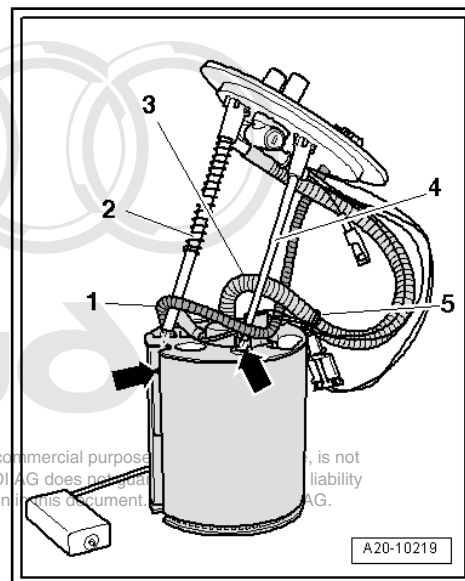
Note

The illustration shows the fuel delivery unit for vehicles with front-wheel drive.

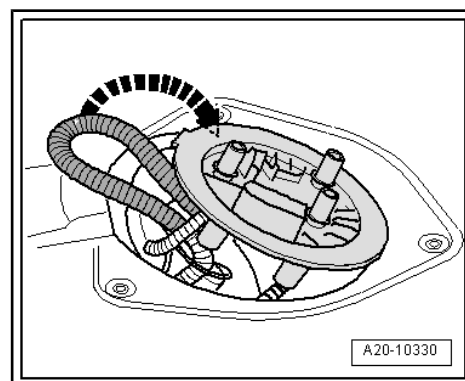


All vehicles (continued):

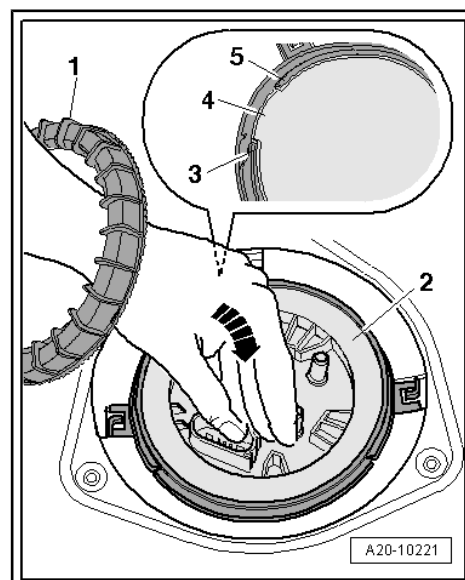
- Make sure fuel hoses are properly routed:
 - Guide out fuel supply line -3- behind guide tube -4- and route it in a wide arc towards flange.
 - Route supply line -1- for auxiliary heater around outside of both guide tubes -2- and -4-.
- Insert guide tubes -2- and -4- on flange into corresponding holes -arrows- in fuel delivery unit.



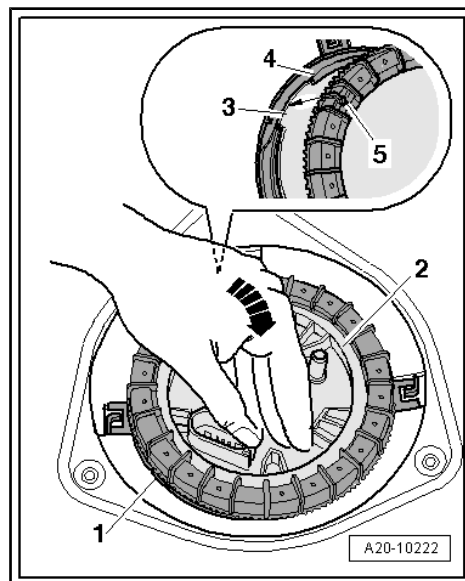
- While fitting flange push fuel supply line in clockwise direction under flange to avoid obstructing movement of fuel gauge sender -G-.



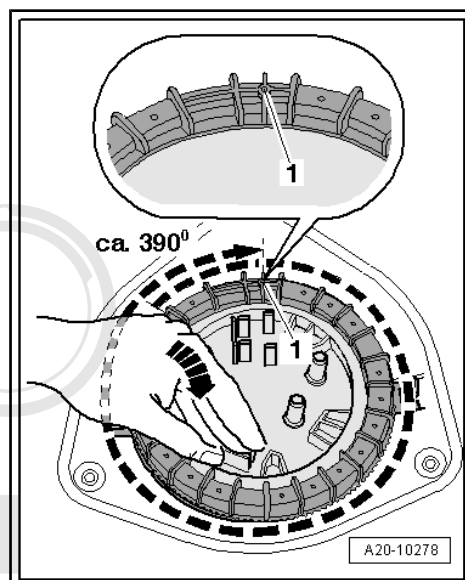
- Slip union nut -1- over your left arm and press flange -2- firmly into installation position -arrow- with your left hand.
- Lug -4- on flange must be between tabs -3- and -5- on threaded ring.



- Take union nut -1- off your left arm with your right hand and at the same time keep pressing down flange -2- firmly with your left hand -arrow-.
- Position union nut -1- with your right hand in such a way that double ridge -5- on ribs aligns with lug -3- of flange (approx. ten o'clock position). This will make union nut engage immediately with beginning of thread -4- when tightening.



- Keep pressing flange downwards firmly.
- Turn locking ring approx. 390° with your right hand until double ridge -1- is in approx. twelve o'clock position and at the same time keep on pressing flange downwards firmly with your left hand.

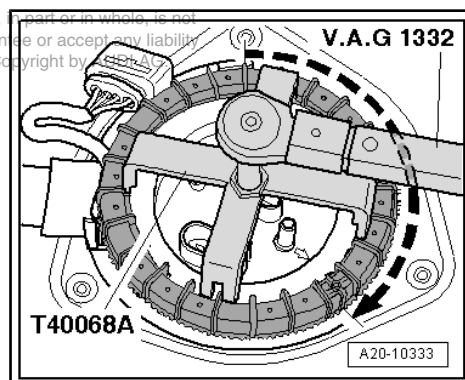


Caution

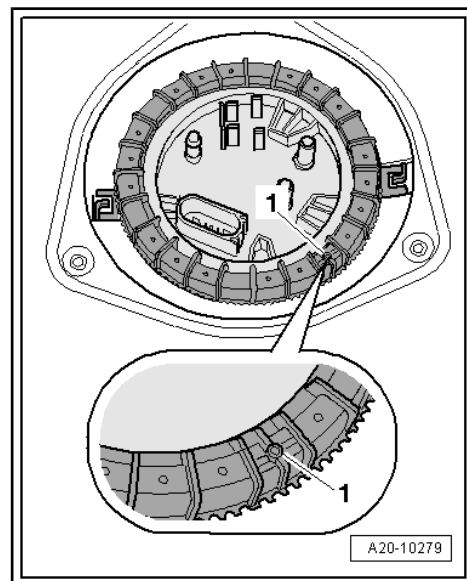
Take care to avoid leakage at flange.

- ◆ *Press flange downwards firmly when tightening union nut to make sure flange does not also turn.*

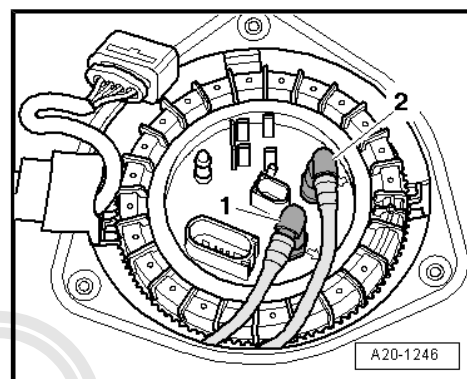
- Use union nut tool - T40068 A- to tighten union nut for flange (right-side).
- Tightening torque: 120 Nm



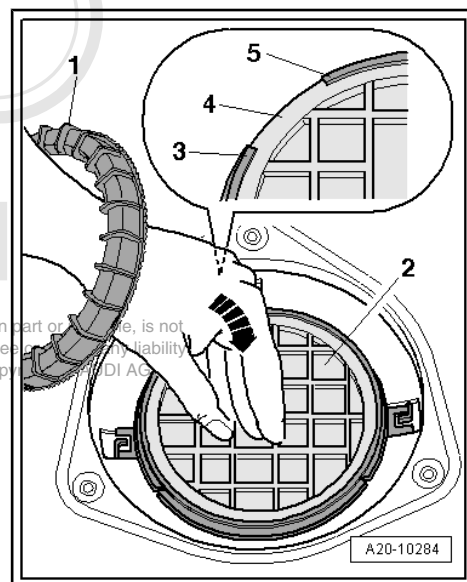
- Checking: Double ridge -1- must now be aligned between five o'clock and six o'clock position.



- Install fuel supply line -1- and fuel return line -2- according to markings.
- Plug in electrical connector.

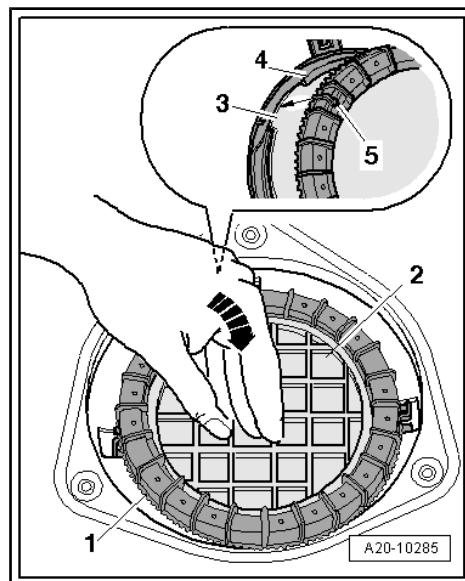


- Slip union nut -1- over your left arm and press flange -2- firmly into installation position -arrow- with your left hand.
- Lug -4- on flange must be between tabs -3- and -5- on threaded ring.

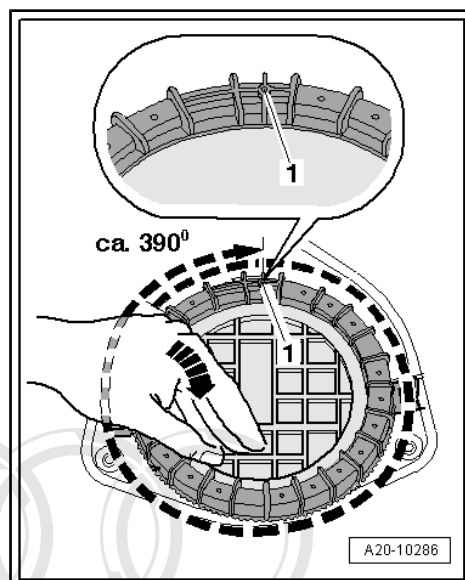


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- Take union nut -1- off your left arm with your right hand and at the same time keep pressing down flange -2- firmly with your left hand -arrow-.
- Position union nut -1- with your right hand in such a way that double ridge -5- on ribs aligns with lug -3- of flange (approx. ten o'clock position). This will make union nut engage immediately with beginning of thread -4- when tightening.



- Keep pressing flange downwards firmly.
- Turn locking ring approx. 390° with your right hand until double ridge -1- is in approx. twelve o'clock position and at the same time keep on pressing flange downwards firmly with your left hand.

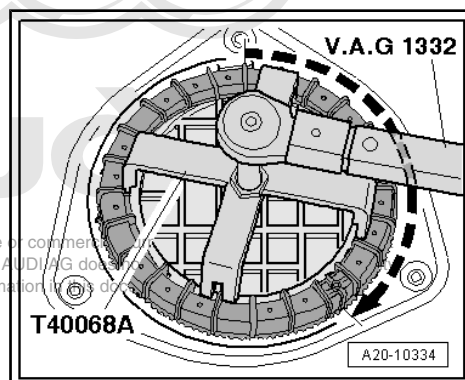


Caution

Take care to avoid leakage at flange.

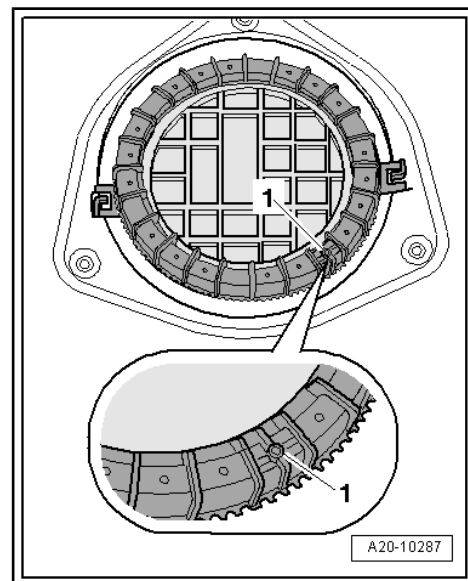
- ◆ **Press flange downwards firmly when tightening union nut to make sure flange does not also turn.**

- Use union nut tool - T40068 A- to tighten union nut for flange (left-side).
- Tightening torque: 120 Nm



Checking: Double ridge -1- must now be aligned between five o'clock and six o'clock position.

- Install rear seat bench ⇒ Rep. gr. 72 .
- Put at least 5 litres of fuel into tank after installing suction-jet pump



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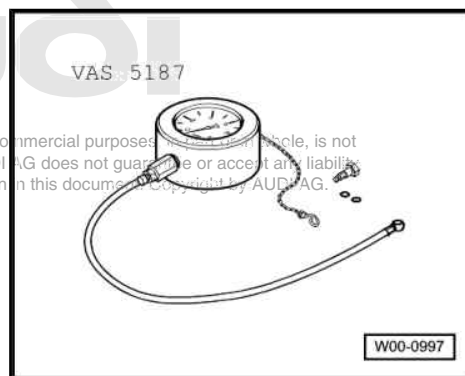
3 Tandem pump - vehicles with engine codes BLB, BNA, BRF, BRE, BVG

3.1 Checking tandem pump

Special tools and workshop equipment required

- ◆ Tandem pump tester - VAS 5187- with banjo bolt - VAS 5187/1A-

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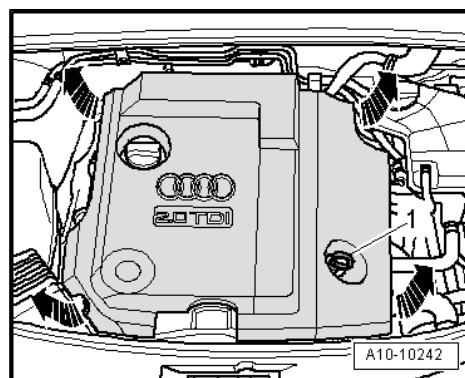


Procedure

Observe rules for cleanliness ⇒ [page 3](#) .

Observe test conditions ⇒ [page 3](#) .

- Pull dipstick -1- out of guide tube.
- Pull off engine cover panel -arrows-.
- Re-insert dipstick in guide tube.



WARNING

Risk of injury - fuel system operates under pressure.

- ◆ *Wrap a clean cloth around the connection before opening the fuel system. Then release pressure by carefully loosening the connection.*
- ◆ *Wear protective gloves.*
- ◆ *Wear safety goggles.*

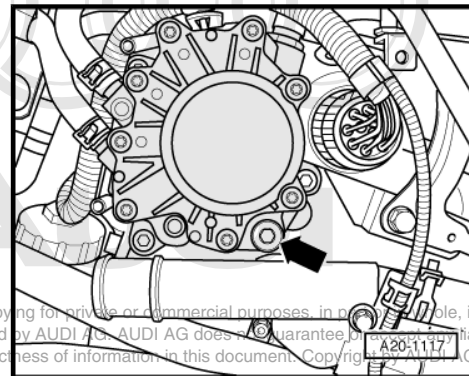
The fuel can become extremely hot. This can cause injuries.

- ◆ *In extreme cases the temperature of the fuel lines and the fuel can be up to 100 °C after the engine is switched off. Allow the fuel to cool down before disconnecting the lines - danger of scalding.*
- ◆ *Wear protective gloves.*
- ◆ *Wear safety goggles.*

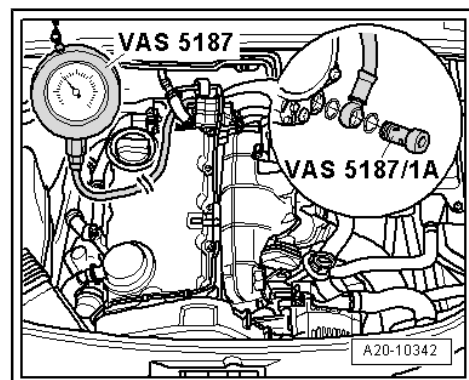
- Remove screw plug -arrow-.



Illustration shows tandem pump with engine removed from vehicle.



- Connect tandem pump tester - VAS 5187- as shown in the illustration.
- Start engine.
- Increase engine speed to 4000 rpm.
- Read off pressure indicated on pressure gauge:
 - Specification: min. 10.5 bar
- Clamp off return hose between fuel filter and tandem pump using hose clamp.
- Increase engine speed to 4000 rpm.
- Read off pressure indicated on pressure gauge:
 - Specification: min. 10.5 bar



If specification is now obtained: pressure is being lost at unit injectors.

- Renew O-rings at unit injectors.

If specification is not obtained:

- Renew tandem pump ⇒ [page 71](#) .

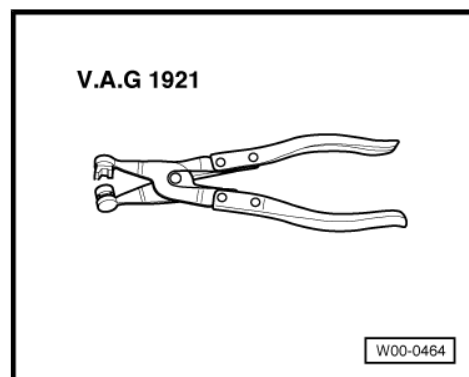


After removing pressure tester, tighten screw plug to 25 Nm. Renew seal.

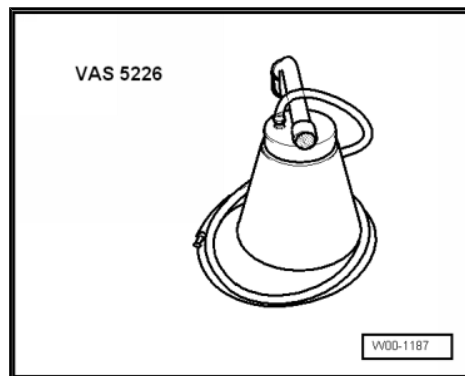
3.2 Removing and installing tandem pump

Special tools and workshop equipment required

- ◆ Hose clip pliers - V.A.G 1921-



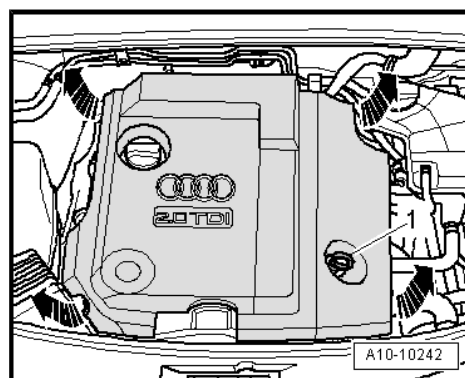
◆ Diesel extractor - VAS 5226-



Removing

Observe rules for cleanliness ⇒ [page 3](#) .

- Pull dipstick -1- out of guide tube.
- Pull off engine cover panel -arrows-.
- Re-insert dipstick in guide tube.



WARNING

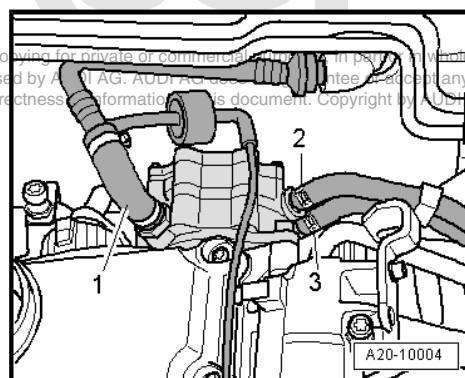
Risk of injury - fuel system operates under pressure.

- ◆ **Wrap a clean cloth around the connection before opening the fuel system. Then release pressure by carefully loosening the connection.**
- ◆ **Wear protective gloves.**
- ◆ **Wear safety goggles.**

The fuel can become extremely hot. This can cause injuries.

- ◆ **In extreme cases the temperature of the fuel lines and the fuel can be up to 100 °C after the engine is switched off. Allow the fuel to cool down before disconnecting the lines - danger of scalding.**
- ◆ **Wear protective gloves.**
- ◆ **Wear safety goggles.**

- Mark the installation position of fuel hoses.
- Disconnect fuel supply hose -2- and fuel return hose -3- from tandem pump.
- Detach vacuum hose -1- going to brake servo from tandem pump.



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- Connect compressed air line to diesel extractor - VAS 5226- .
- Connect diesel extractor - VAS 5226- to fuel return connection on tandem pump.

i Note

Empty the bleeder container before it becomes full. Do not allow fuel to enter hand vacuum pump.

- Operate diesel extractor - VAS 5226- until no more fuel comes out of return connection.
- Remove bolts -arrows-.

i Note

Illustration shows tandem pump with engine removed from vehicle.

- Remove tandem pump from cylinder head.

Installing

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

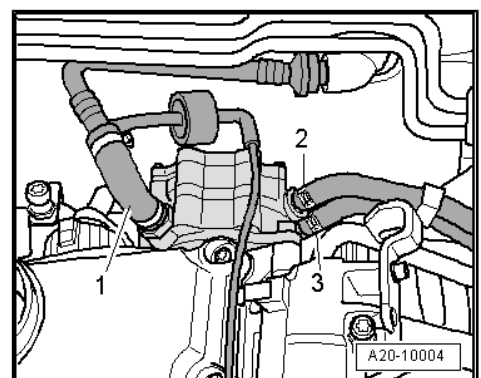
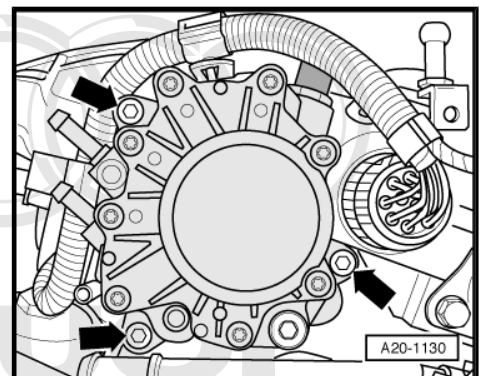
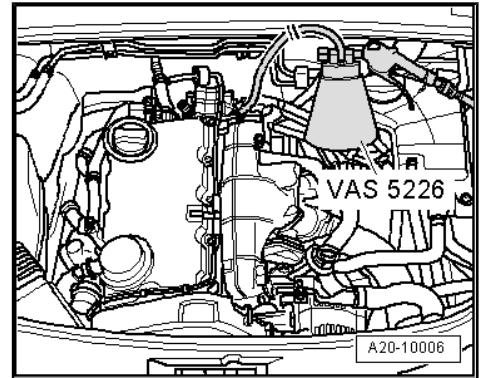
i Note

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- ◆ *Renew tandem pump gaskets.*
- ◆ *Ensure proper seating of tandem pump actuator in camshaft.*
- ◆ *Secure all hose connections with the correct version of spring-type clips (same as original equipment) ⇒ Electronic parts catalogue .*
- Install tandem pump and tighten the flange bolts -arrows-.
- Attach fuel supply hose -2- (white marking) and fuel return hose -3- (blue marking) to tandem pump according to markings.
- Attach vacuum hose -1- (going to brake servo) to tandem pump.

Tightening torque

Component	Nm
Tandem pump to cylinder head	20



4 Supplementary fuel pump - vehicles with engine codes CAGB, CAHA, CANA, CANB, CANC, CAND, CDYA, CDYB, CDYC



Caution

Running when dry causes irreparable damage to high-pressure pump.

- ◆ *If the fuel filter, the fuel lines or the supplementary fuel pump - V393- are renewed, it is important to bleed the fuel system before the engine is started for the first time.*

- Bleed fuel system ⇒ Rep. gr. 23 ; Performing first fuel filling after installing high-pressure pump .

4.1 Exploded view - supplementary fuel pump - V393-

1 - Nut

- 9 Nm

2 - Fuel hose

- To fuel filter

3 - Spring-type clip

4 - Supplementary fuel pump - V393-

- Checking fuel delivery rate ⇒ [page 75](#)
- Removing and installing ⇒ [page 77](#)

5 - Fuel hose

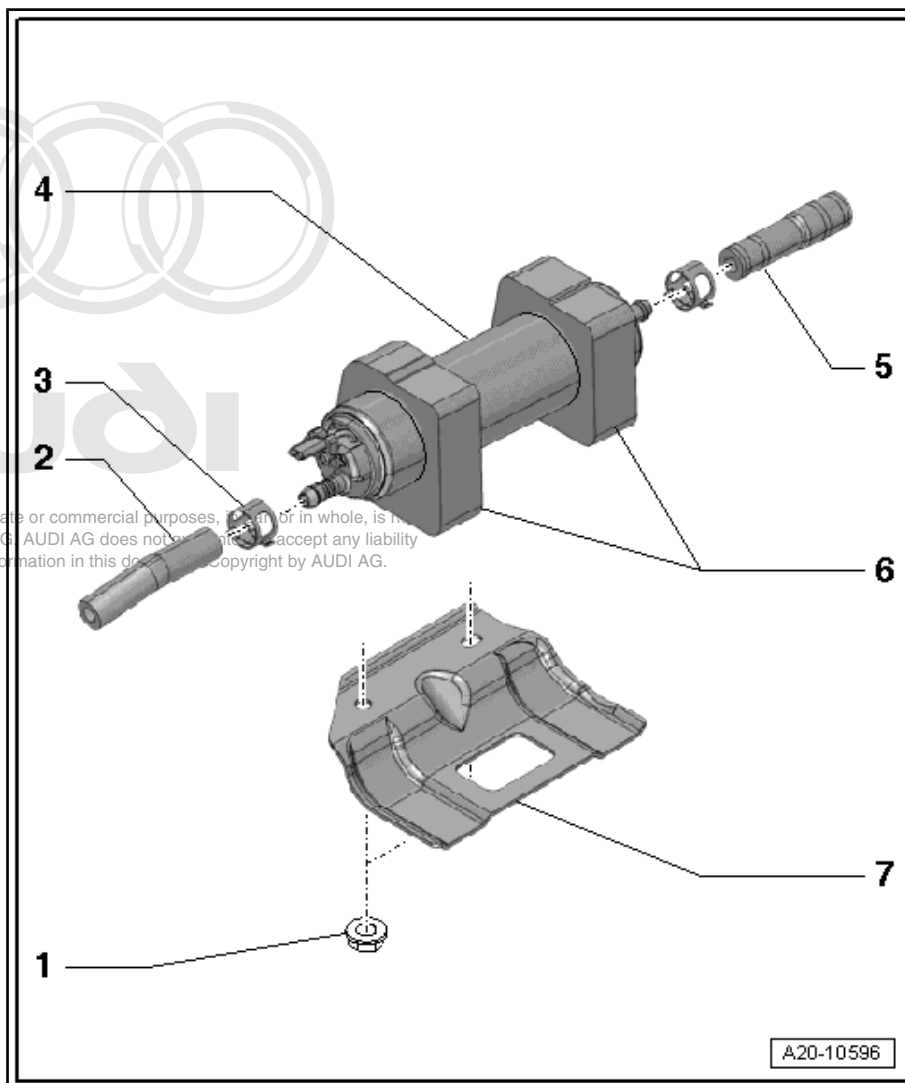
- From fuel tank

6 - Buffer

- For supplementary fuel pump - V393-

7 - Bracket

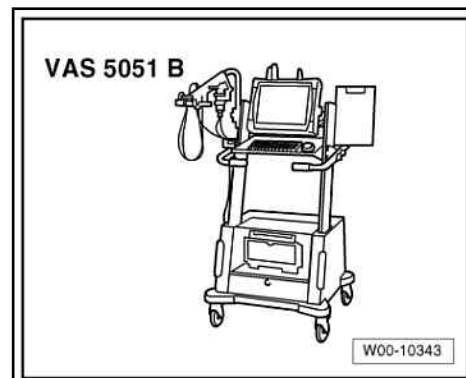
- For supplementary fuel pump - V393-



4.2 Checking delivery rate of supplementary fuel pump - V393-

Special tools and workshop equipment required

- ◆ Vehicle diagnostic, testing and information system, e.g. vehicle diagnostic, testing and information system - VAS 5051B-



- ◆ Fuel-resistant hose with inner $\varnothing$ of 8 mm
- ◆ Fuel-resistant measuring container

Procedure

- Fuel system pressurisation pump - G6- okay: vehicles with front-wheel drive [⇒ page 15](#) ; vehicles with four-wheel drive [⇒ page 42](#) .

Observe test conditions [⇒ page 3](#) .

Observe rules for cleanliness [⇒ page 3](#) .



WARNING

Risk of injury - fuel system operates under pressure.

- ◆ *Wrap a clean cloth around the connection before opening the fuel system. Then release pressure by carefully loosening the connection.*
- ◆ *Wear protective gloves.*
- ◆ *Wear safety goggles.*

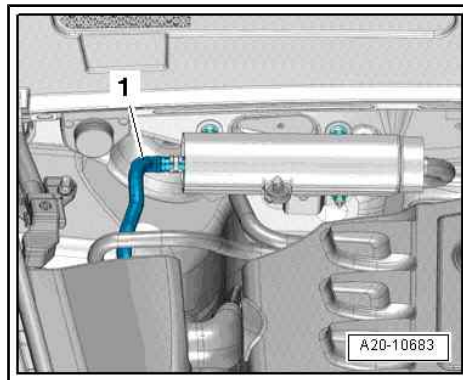
The fuel can become extremely hot. This can cause injuries.

- ◆ *In extreme cases the temperature of the fuel lines and the fuel can be up to 100 °C after the engine is switched off. Allow the fuel to cool down before disconnecting the lines - danger of scalding.*
- ◆ *Wear protective gloves.*
- ◆ *Wear safety goggles.*

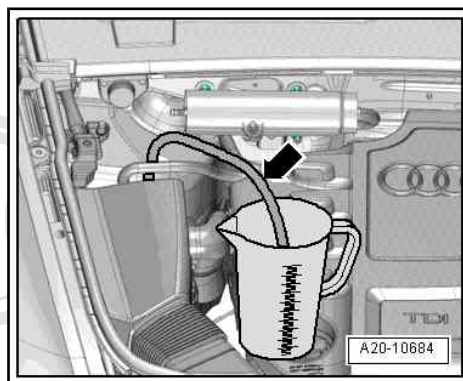
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Vehicles with engine codes CAGB, CAHA:

- Detach fuel supply hose -1- from fuel tank (at fuel filter).



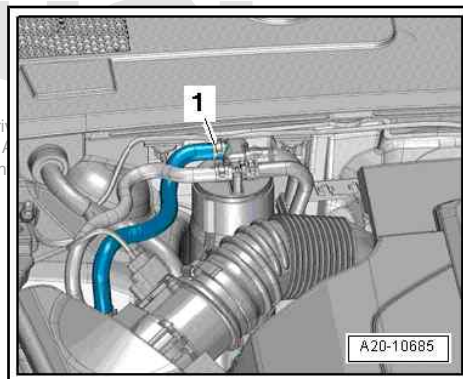
- Lengthen fuel supply hose with an auxiliary hose -arrow- and hold end of hose in measuring container.



Vehicles with engine codes CANA, CANB, CANC, CAND, CDYA, CDYB, CDYC:

- Detach fuel supply hose -1- from fuel tank (at fuel filter).

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- Lengthen fuel supply hose with an auxiliary hose -arrow- and hold end of hose in measuring container.

All vehicles (continued):

- Connect vehicle diagnostic, testing and information system (e.g. vehicle diagnostic, testing and information system - VAS 5051B-) and switch on ignition.

Start vehicle self-diagnosis
Self-diagnosis
01 - Engine electronics
Basic setting
Select test for fuel system pressurisation pump or display no. 35

- Press **Parameter** key.
- Press **Start** key and after 15 seconds press **Stop** key.
- Measure fuel delivery rate in measuring container.
- Specification: approx. 1 litre at battery voltage of at least 12.5 V.

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

- ◆ Fuel lines have been crushed.
- ◆ Fuel filter is blocked.
- ◆ Fuel pump is defective.

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



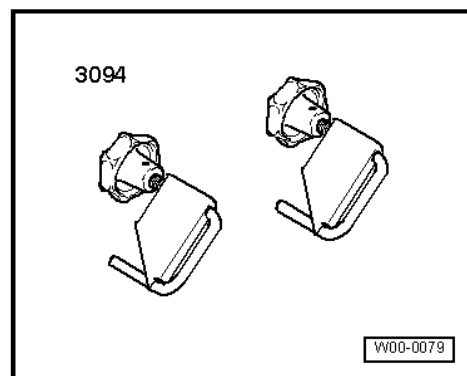
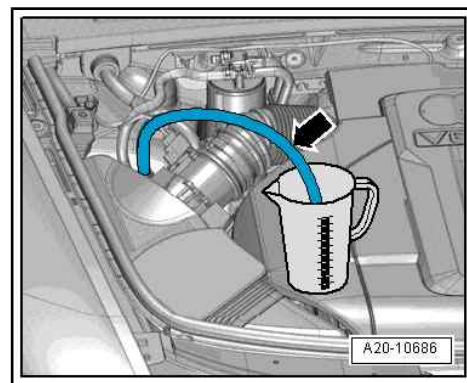
Note

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

4.3 Removing and installing supplementary fuel pump - V393-

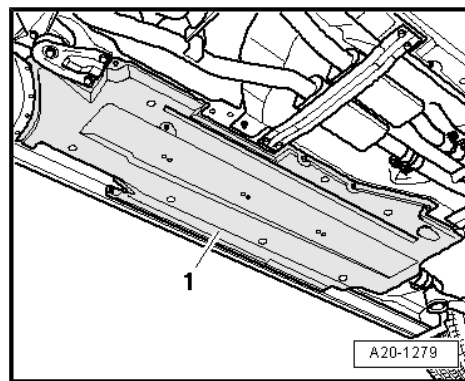
Special tools and workshop equipment required

- ◆ Hose clamps, up to 25 mm - 3094-

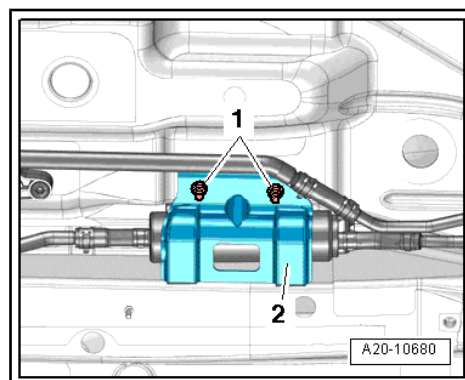


Removing

- Remove underbody cover (right-side) -1-.



- Remove nuts -1- and detach bracket -2-.



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- Place drip tray underneath supplementary fuel pump - V393- .
- Unplug electrical connector -4-.



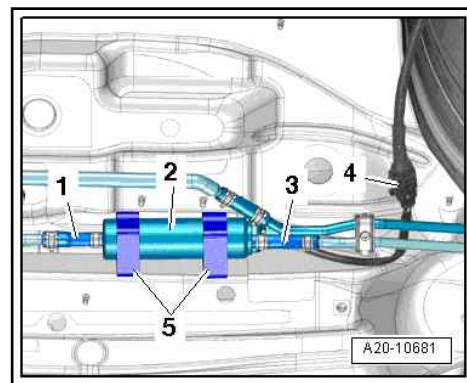
WARNING

Risk of injury - fuel system operates under pressure.

- ◆ ***Wrap a clean cloth around the connection before opening the fuel system. Then release pressure by carefully loosening the connection.***
- ◆ ***Wear protective gloves.***
- ◆ ***Wear safety goggles.***

The fuel can become extremely hot. This can cause injuries.

- ◆ ***In extreme cases the temperature of the fuel lines and the fuel can be up to 100 °C after the engine is switched off. Allow the fuel to cool down before disconnecting the lines - danger of scalding.***
- ◆ ***Wear protective gloves.***
- ◆ ***Wear safety goggles.***



- Remove fuel supply hoses -1- and -3-.
- Detach supplementary fuel pump - V393- -item 2- with buffer -5-.

Installing

- Tightening torque ➔ [page 74](#)

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

- Flow direction is marked with arrows on fuel pump housing.

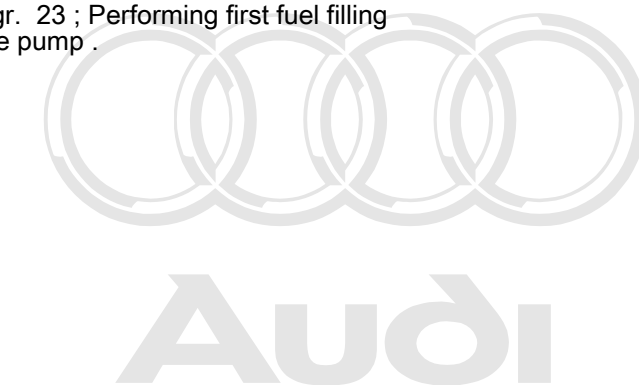


Caution

Running when dry causes irreparable damage to high-pressure pump.

- ◆ ***If the fuel filter, the fuel lines or the supplementary fuel pump - V393- are renewed, it is important to bleed the fuel system before the engine is started for the first time.***

- Bleed fuel system ➔ Rep. gr. 23 ; Performing first fuel filling after installing high-pressure pump .



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5 Fuel cooler

5.1 Exploded view - fuel cooler



Note

The fuel cooler is located on the underbody (right-side).

1 - Fuel cooler

- ☐ Removing and installing
⇒ [page 81](#)

2 - Fuel return hose

- ☐ To fuel tank

3 - Fuel supply line

- ☐ From fuel tank
- ☐ Press release tab on connection piece to disconnect

4 - Fuel supply line

- ☐ Clipped onto fuel cooler

5 - Bolt

- ☐ 1.5 Nm

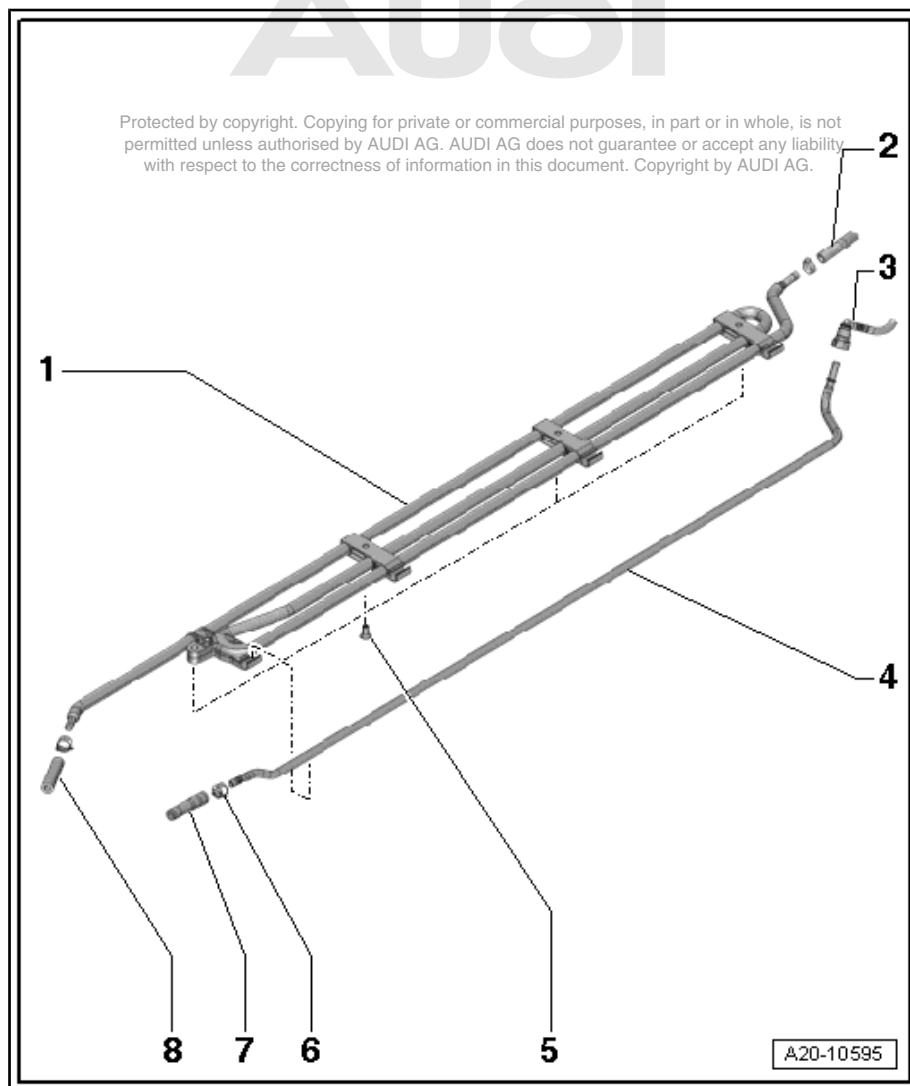
6 - Spring-type clip

7 - Fuel supply hose

- ☐ To fuel filter or supplementary fuel pump

8 - Fuel return hose

- ☐ From engine



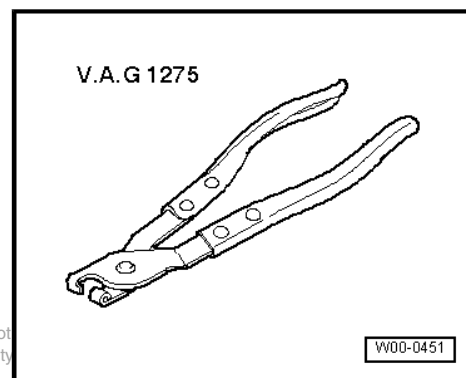
5.2 Removing and installing fuel cooler



Note

The fuel cooler is located on the underbody (right-side).

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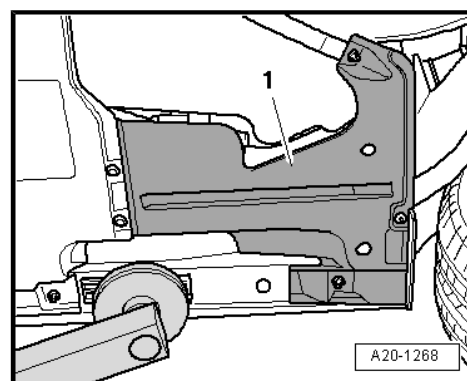
Special tools and workshop equipment required

- ◆ Hose clip pliers - V.A.G 1275-
- ◆ Drip tray

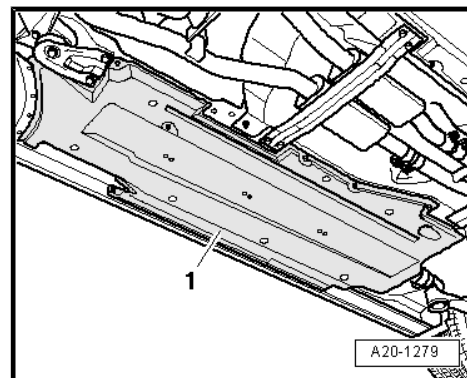
Removing

Observe rules for cleanliness ⇒ [page 3](#) .

- Remove cover -1- on rear right side of fuel tank.



- Remove underbody cover (right-side) -1-.



WARNING

Risk of injury - fuel system operates under pressure.

- ◆ ***Wrap a clean cloth around the connection before opening the fuel system. Then release pressure by carefully loosening the connection.***
- ◆ ***Wear protective gloves.***
- ◆ ***Wear safety goggles.***

The fuel can become extremely hot. This can cause injuries.

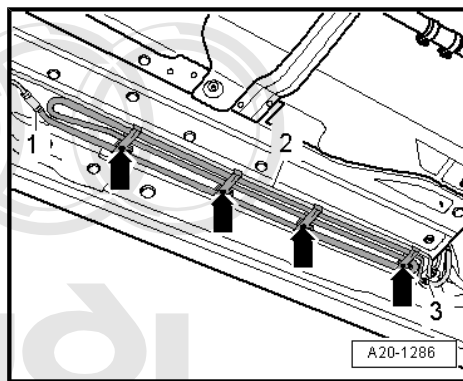
- ◆ ***In extreme cases the temperature of the fuel lines and the fuel can be up to 100 °C after the engine is switched off. Allow the fuel to cool down before disconnecting the lines - danger of scalding.***
- ◆ ***Wear protective gloves.***
- ◆ ***Wear safety goggles.***

- Place drip tray below underbody.
- Disconnect fuel return line -1- (front) and fuel return line -3- (rear) from fuel cooler.
- Catch escaping fuel.
- Remove bolts -arrows-.
- Unclip fuel supply line -2- using a screwdriver and detach fuel cooler.

Installing

- Tightening torque ⇒ [page 80](#)

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

**Note**

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

6 Fuel filter

6.1 Exploded view - fuel filter on vehicles with engine codes BLB, BNA, BRE, BRF, BVG



Note

Fitting location of fuel filter: in engine compartment (rear left) under coolant expansion tank

1 - Protective cap

2 - Nut

- ☐ 8 Nm

3 - Nut

- ☐ 8 Nm

4 - Nut

- ☐ 8 Nm

5 - Retaining clip

6 - Regulating valve

- ☐ Installation position: arrow points towards fuel tank
- ☐ When changing filter, remove retaining clip and take off regulating valve with fuel hoses still attached.
- ☐ Make sure O-ring in filter housing is in correct position when fitting regulating valve
- ☐ Temperatures below + 15 °C: Passage to filter open
- ☐ Temperatures over + 31 °C: Passage to filter closed

7 - Fuel return hose

- ☐ To fuel cooler
- ☐ Blue marking

8 - Bolt

- ☐ 8 Nm

9 - Fuel return line

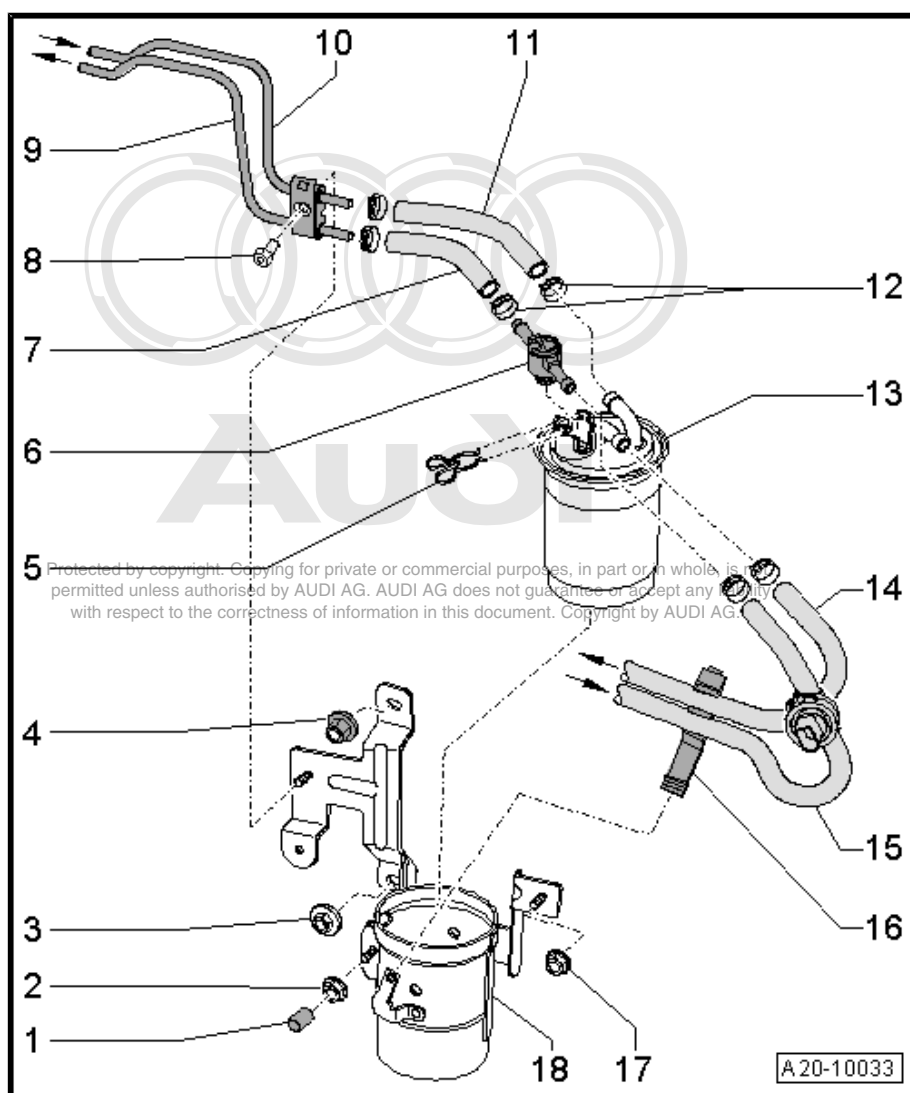
- ☐ To fuel cooler

10 - Fuel supply line

- ☐ From fuel tank

11 - Fuel supply hose

- ☐ From fuel tank
- ☐ White marking



A 20-10033

12 - Spring-type clips

13 - Fuel filter

- ☐ With seal for regulating valve
- ☐ Flow direction is marked by arrows
- ☐ Do not interchange connections
- ☐ Renew filter at intervals specified in Service Schedule ⇒ Maintenance ; Booklet 405
- ☐ Fill with diesel before installing
- ☐ Removing and installing ⇒ [page 84](#)

14 - Fuel supply hose

- ☐ To tandem pump
- ☐ White marking

15 - Fuel return hose

- ☐ From tandem pump
- ☐ Blue marking

16 - Retainer

- ☐ For fuel hoses

17 - Nut

- ☐ 8 Nm

18 - Bracket

- ☐ For fuel filter

6.2 Removing and installing fuel filter - vehicles with engine codes BLB, BNA, BRE, BRF, BVG



Note

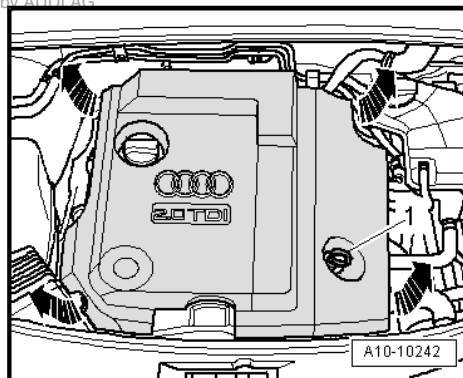
- ◆ *Please ensure that no diesel fuel contacts coolant hoses. If necessary clean hoses immediately.*
- ◆ *Please observe requirements for disposal.*

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Removing

Observe rules for cleanliness ⇒ [page 3](#) .

- Pull dipstick -1- out of guide tube.
- Pull off engine cover panel -arrows-.
- Re-insert dipstick in guide tube.



- Unbolt coolant expansion tank -arrow-.
- Lay aside coolant expansion tank with coolant hoses -1- and -2- connected.



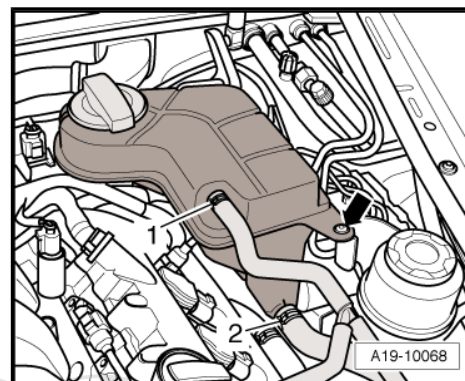
WARNING

Risk of injury - fuel system operates under pressure.

- ◆ **Wrap a clean cloth around the connection before opening the fuel system. Then release pressure by carefully loosening the connection.**
- ◆ **Wear protective gloves.**
- ◆ **Wear safety goggles.**

The fuel can become extremely hot. This can cause injuries.

- ◆ **In extreme cases the temperature of the fuel lines and the fuel can be up to 100 °C after the engine is switched off. Allow the fuel to cool down before disconnecting the lines - danger of scalding.**
- ◆ **Wear protective gloves.**
- ◆ **Wear safety goggles.**



- Detach retaining clip -2-.
- Detach regulating valve -3- with fuel hoses still connected.
- Disconnect fuel hoses -4- and -5- from hose connections.
- Slacken nut -1- at bracket and remove fuel filter from bracket.

Installing

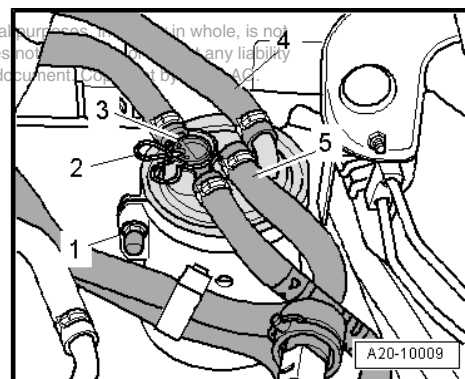
Installation is carried out in the reverse order; note the following:



Note

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

- Fill new filter with clean diesel. This will enable the engine to start more quickly.
- Fit fuel filter in bracket and tighten nut -1- to 8 Nm.
- Pay attention to O-ring when fitting regulating valve.
- Install regulating valve -3- with fuel hoses still connected.
- Attach retaining clip -2-.
- Fit fuel hoses -4- and -5- onto hose connections and secure hoses with spring-type hose clips.
- Start engine and check fuel system for leaks (visual inspection).



6.3 Exploded view - fuel filter on vehicles with engine codes CAGB, CAHA



Note

Fitting location of fuel filter: at rear right of engine compartment.

1 - Bottom section of bracket

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

2 - Nut

- ☐ 8 Nm

3 - Rubber sleeve

- ☐ For fuel filter

4 - Fuel supply hose

- ☐ From supplementary fuel pump
- ☐ White marking

5 - Nut

- ☐ 8 Nm

6 - Top section of bracket

- ☐ For fuel filter

7 - Fuel filter

- ☐ Flow direction is marked by arrow
- ☐ Do not interchange connections
- ☐ Renew filter at intervals specified in Service Schedule ⇒ Maintenance ; Booklet 405
- ☐ Removing and installing
⇒ [page 86](#)

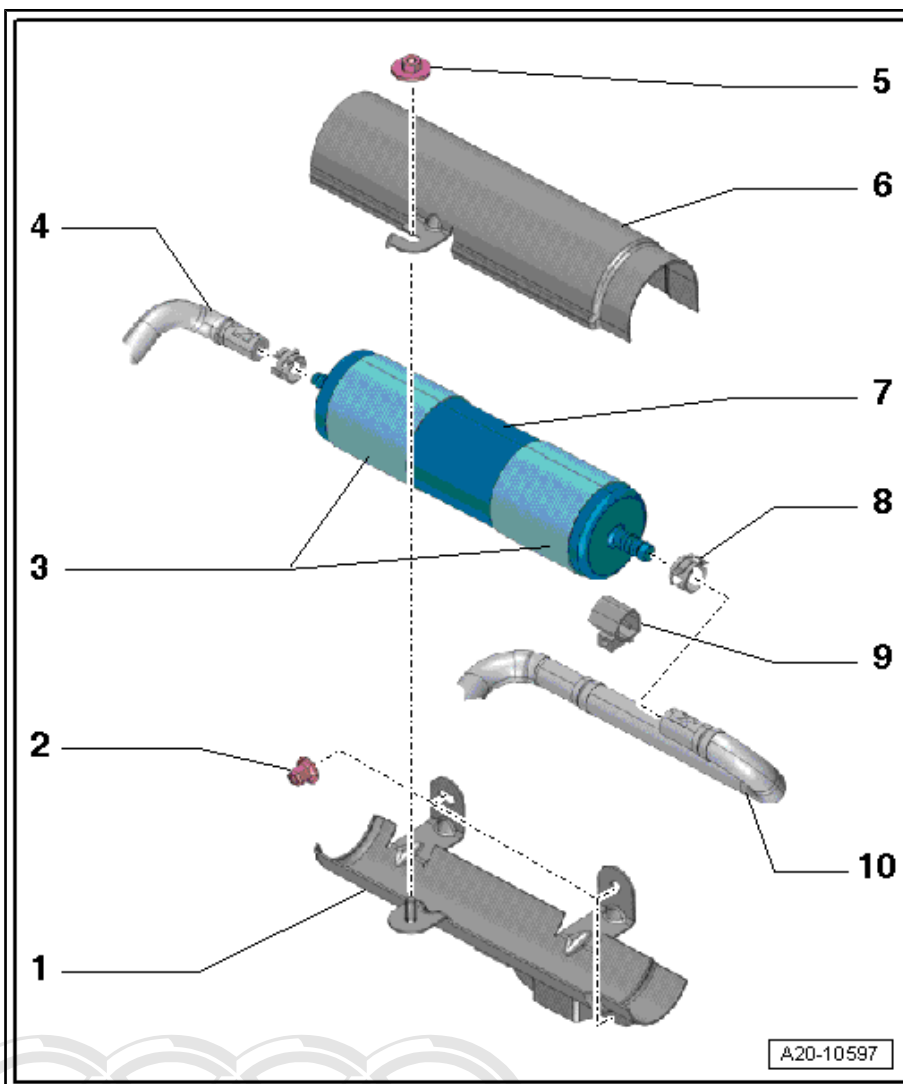
8 - Spring-type clip

9 - Clip

- ☐ For fuel hose

10 - Fuel supply hose

- ☐ To high-pressure pump
- ☐ White marking



6.4 Removing and installing fuel filter - vehicles with engine codes CAGB, CAHA



Note

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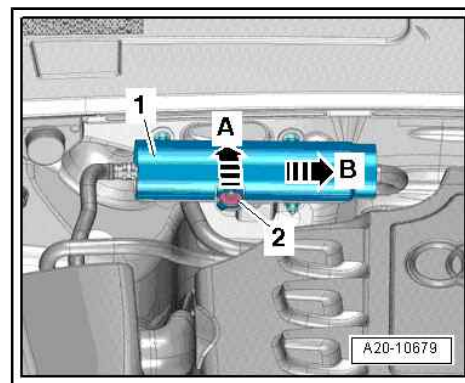
◆ Please ensure that no diesel fuel contacts coolant hoses. If necessary clean hoses immediately.

◆ Please observe requirements for disposal.

Removing

Observe rules for cleanliness ⇒ [page 3](#) .

- Remove nut -2-.
- Fold open top section of bracket -1- -arrow A-, disengage and detach in direction of -arrow B-.



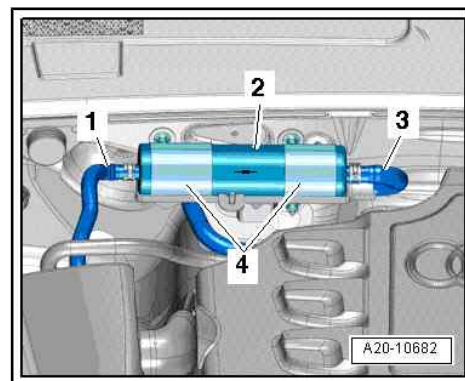
WARNING

Risk of injury - fuel system operates under pressure.

- ◆ *Wrap a clean cloth around the connection before opening the fuel system. Then release pressure by carefully loosening the connection.*
- ◆ *Wear protective gloves.*
- ◆ *Wear safety goggles.*

The fuel can become extremely hot. This can cause injuries.

- ◆ *In extreme cases the temperature of the fuel lines and the fuel can be up to 100 °C after the engine is switched off. Allow the fuel to cool down before disconnecting the lines - danger of scalding.*
- ◆ *Wear protective gloves.*
- ◆ *Wear safety goggles.*



- Disconnect fuel hoses -1, 3- from hose connections.
- Detach fuel filter -2- with rubber sleeves -4-.

Installing

- Tightening torque ⇒ [page 86](#)

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



Note

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



Caution

Running when dry causes irreparable damage to high-pressure pump.

- ◆ *If the fuel filter, the fuel lines or the supplementary fuel pump - V393- are renewed, it is important to bleed the fuel system before the engine is started for the first time.*

- Bleed fuel system ⇒ Rep. gr. 23 ; Performing first fuel filling after installing high-pressure pump .

6.5 Removing and installing bracket for fuel filter - vehicles with engine codes CAGB, CAHA

Removing

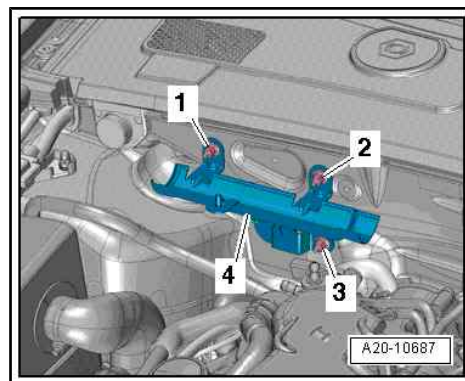
Observe rules for cleanliness ⇒ [page 3](#) .

- Remove fuel filter ⇒ [page 86](#) .
- Remove nuts -1, 2, 3- and detach bracket with fuel filter -4- from plenum chamber partition panel.

Installing

- Tightening torque ⇒ [page 86](#)

Install in reverse order.



6.6 Exploded view - fuel filter on vehicles with engine codes ASB, BHQ, BMK, BMZ, BNG, BPP, BSG



Note

Fitting location of fuel filter: at rear right of engine compartment.



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1 - Nut

- ☐ 8 Nm

2 - Nut

- ☐ 8 Nm

3 - Fuel filter

- ☐ With seal for regulating valve
- ☐ Flow direction is marked by arrows
- ☐ Do not interchange connections
- ☐ Renew filter at intervals specified in Service Schedule ⇒ Maintenance ; Booklet 405
- ☐ Fill with diesel before installing
- ☐ Removing and installing ⇒ [page 90](#)

4 - Retaining clip

5 - O-ring

- ☐ Inserted in filter housing

6 - Regulating valve

- ☐ Installation position: arrow points towards fuel tank
- ☐ When changing filter, remove retaining clip and take off regulating valve with fuel hoses still attached.
- ☐ Make sure O-ring in filter housing is in correct position when fitting regulating valve
- ☐ Temperatures below + 15 °C: Passage to filter open
- ☐ Temperatures over + 31 °C: Passage to filter closed

7 - Fuel return hose

- ☐ To fuel cooler
- ☐ Blue marking

8 - Fuel supply hose

- ☐ From fuel tank
- ☐ White marking

9 - Spring-type clip

10 - Bleeder screw

- ☐ 4 Nm

11 - Seal

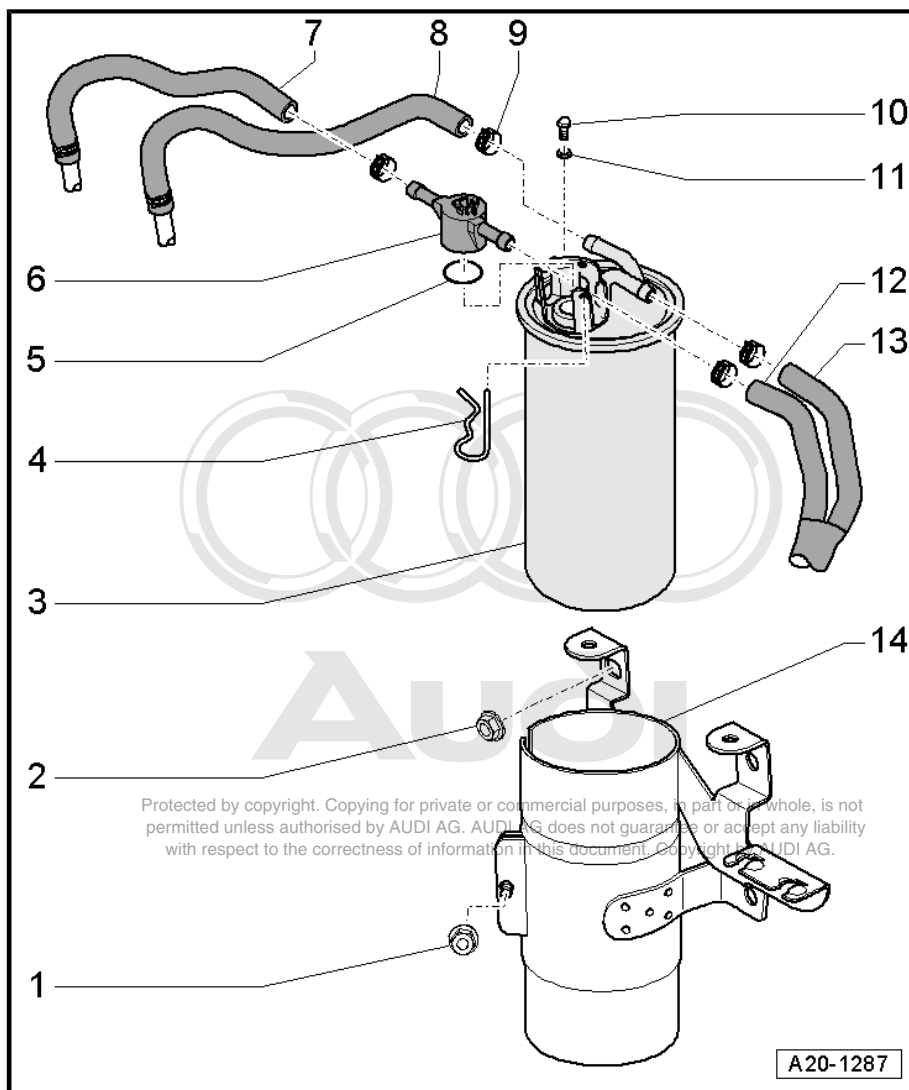
- ☐ Renew

12 - Fuel return hose

- ☐ From high-pressure pump
- ☐ Blue marking

13 - Fuel supply hose

- ☐ To high-pressure pump



- ☐ White marking

14 - Bracket

- ☐ For fuel filter

6.7 Removing and installing fuel filter - vehicles with engine codes ASB, BHQ, BMK, BMZ, BNG, BPP, BSG



Note

- ◆ Please ensure that no diesel fuel contacts coolant hoses. If necessary clean hoses immediately.
- ◆ Please observe requirements for disposal.

Removing

Observe rules for cleanliness ⇒ [page 3](#) .

- Detach retaining clip -5-.
- Detach regulating valve -2- with fuel hoses still connected.
- Disconnect fuel hoses -3- and -4- from hose connections.
- Slacken nut -1- at bracket and remove fuel filter from bracket.

Installing

- Tightening torque ⇒ [page 88](#)

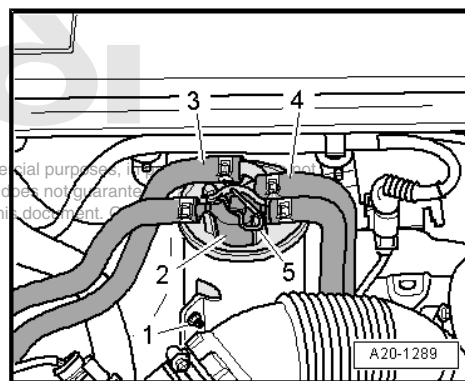
Installation is carried out in the reverse order; note the following:



Note

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

- Fill new filter with clean diesel. This will enable the engine to start more quickly.
- Fit fuel filter in bracket and tighten nut -1-.
- Pay attention to O-ring in filter housing when fitting regulating valve.
- Install regulating valve -2- with fuel hoses still connected.
- Attach retaining clip -5-.
- Fit fuel hoses -3- and -4- onto hose connections and secure hoses with spring-type clips.
- Start engine and check fuel system for leaks (visual inspection).



6.8 Exploded view - fuel filter on vehicles with engine codes CANA, CANB, CANC, CAND, CDYA, CDYB, CDYC



Note

Fitting location of fuel filter: at rear right of engine compartment.

1 - Nut

- ☐ 8 Nm

2 - Bracket

- ☐ For fuel filter
- ☐ Removing and installing
⇒ [page 93](#)

3 - Nut

- ☐ 8 Nm

4 - Fuel filter

- ☐ Do not interchange connections
- ☐ Renew filter at intervals specified in Service Schedule ⇒ Maintenance ; Booklet 405
- ☐ Removing and installing
⇒ [page 92](#)

5 - Fuel supply hose

- ☐ From supplementary fuel pump
- ☐ White marking

6 - Fuel return hose

- ☐ To fuel cooler
- ☐ Blue marking

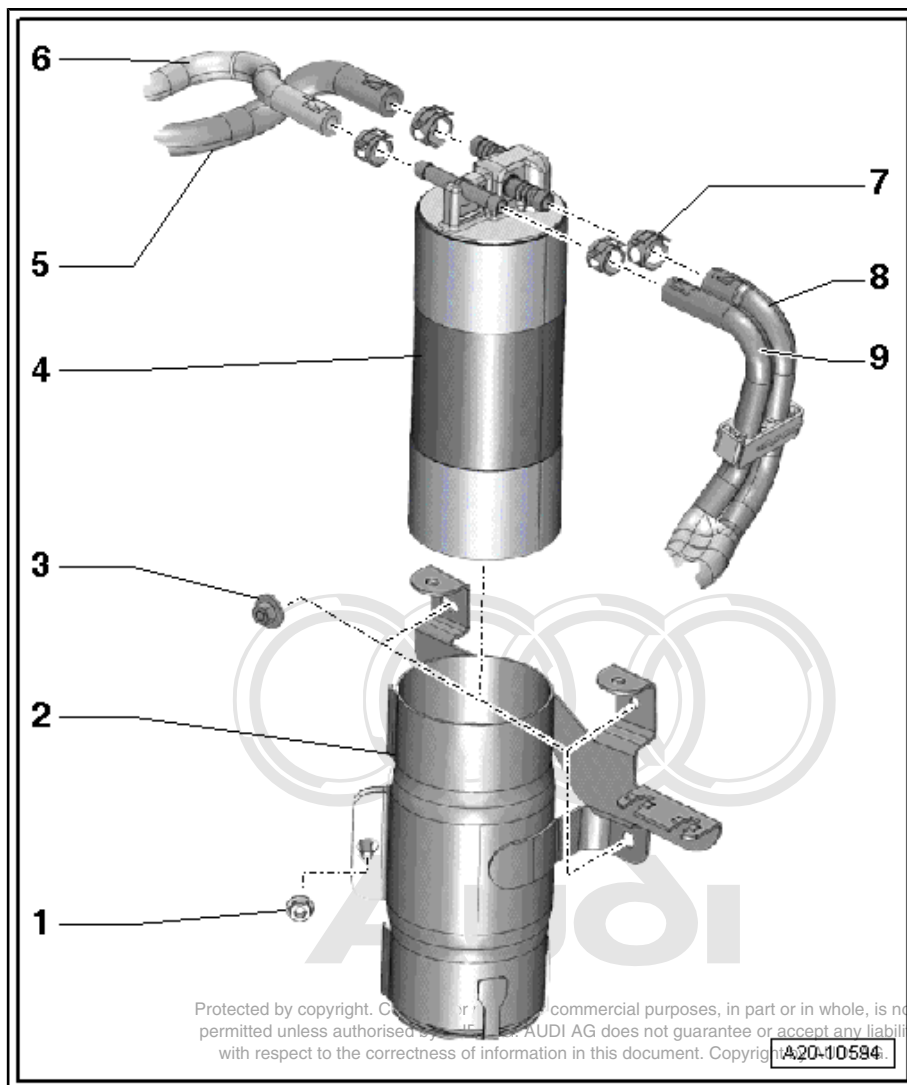
7 - Spring-type clip

8 - Fuel supply hose

- ☐ To high-pressure pump
- ☐ White marking

9 - Fuel return hose

- ☐ From high-pressure pump
- ☐ Blue marking



6.9 Removing and installing fuel filter - vehicles with engine codes CANA, CANB, CANC, CAND, CDYA, CDYB, CDYC



Note

- ◆ Please ensure that no diesel fuel contacts coolant hoses. If necessary clean hoses immediately.
- ◆ Please observe requirements for disposal.

Removing

Observe rules for cleanliness ⇒ [page 3](#) .

- Disconnect fuel hoses -2, 3, 4, 5- from hose connections.
- Slacken nut -1- at bracket and remove fuel filter from bracket.

Installing

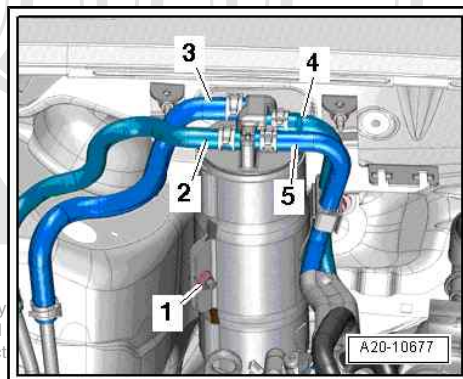
- Tightening torque ⇒ [page 91](#)

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



Note

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


not
bility


Caution

Running when dry causes irreparable damage to high-pressure pump.

- ◆ If the fuel filter, the fuel lines or the supplementary fuel pump - V393- are renewed, it is important to bleed the fuel system before the engine is started for the first time.

- Bleed fuel system ⇒ Rep. gr. 23 ; Performing first fuel filling after installing high-pressure pump .

6.10 Removing and installing bracket for fuel filter - vehicles with engine codes CANA, CANB, CANC, CAND, CDYA, CDYB, CDYC

Removing

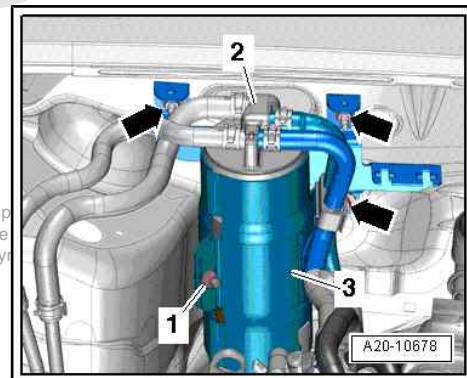
Observe rules for cleanliness ⇒ [page 3](#) .

- Slacken nut -1- at bracket for fuel filter.
- Remove nuts -arrows- and detach bracket with fuel filter from plenum chamber partition panel.
- Remove fuel filter -2- from bracket -3- with fuel hoses still connected.

Installing

- Tightening torque ⇒ [page 91](#)

Install in reverse order.



7 Bleeding fuel system

Vehicles with engine codes ASB, BHQ, BMK, BMZ, BNG, BPP, BSG, BLB, BNA, BRE, BRF, BVG:

- ◆ Due to the design of the engine, with a fuel system pressurisation pump located in the fuel tank, it is not necessary to bleed the fuel system.
- ◆ The fuel system bleeds itself when the starter is operated.

Vehicles with engine codes CAGB, CAHA, CANA, CANB, CANC, CAND, CDYA, CDYB, CDYC:



Caution

Running when dry causes irreparable damage to high-pressure pump.

- ◆ ***If the fuel filter, the fuel lines or the supplementary fuel pump - V393- are renewed, it is important to bleed the fuel system before the engine is started for the first time.***

- Bleed fuel system ⇒ Rep. gr. 23 ; Performing first fuel filling after installing high-pressure pump .

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8 Checking fuel system for leaks

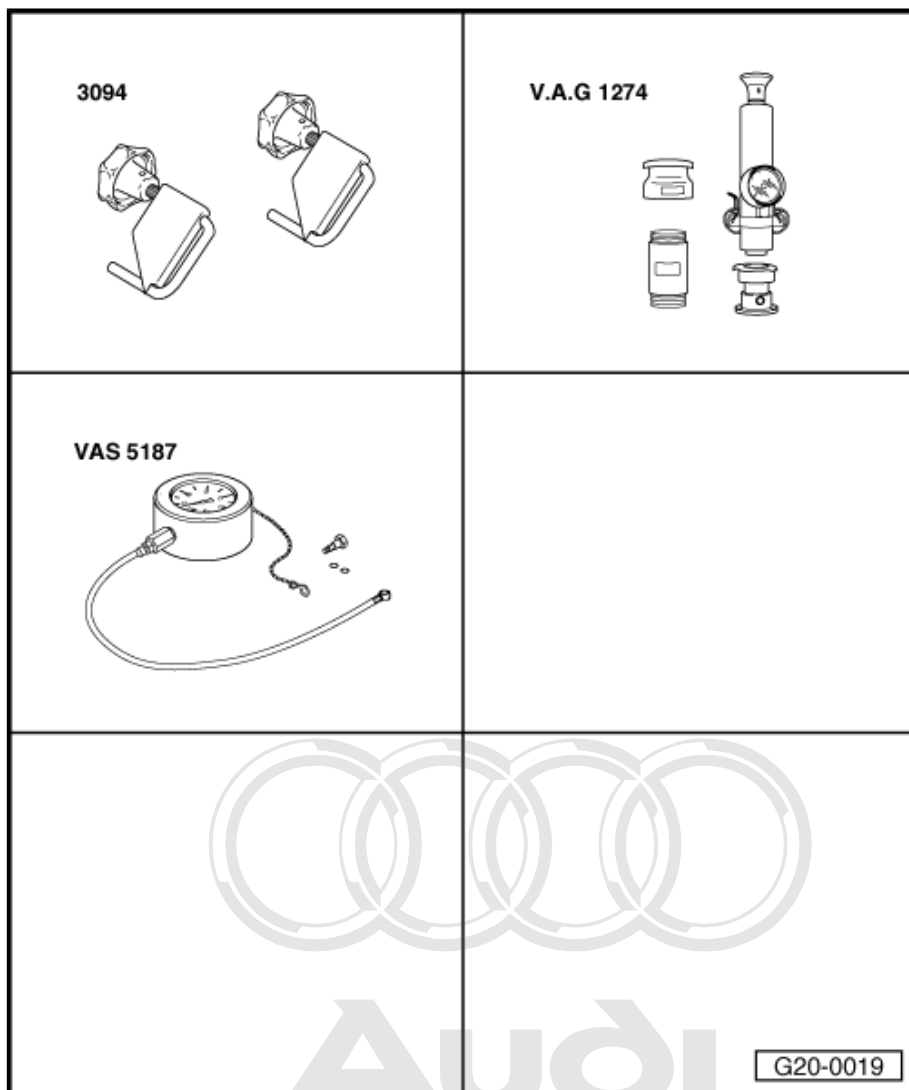
A leaking fuel system can cause:

- ◆ Foam build-up or air bubbles in the supply line
- ◆ Lack of power, misfiring
- ◆ Starting problems

8.1 Checking fuel system for leaks - vehicles with engine codes BLB, BNA, BRE, BRF, BVG

Special tools and workshop equipment required

- ◆ Hose clamps, up to 25 mm - 3094-
- ◆ Cooling system tester - V.A.G 1274- with adapter - V.A.G 1274/1A- and adapter for testing diesel fuel - V.A.G 1274/2-
- ◆ Tandem pump tester - VAS 5187- with banjo bolt with seals - VAS 5187/1A-



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Procedure

Observe rules for cleanliness ⇒ [page 3](#) .

- Pull dipstick -1- out of guide tube.
- Pull off engine cover panel -arrows-.
- Re-insert dipstick in guide tube.



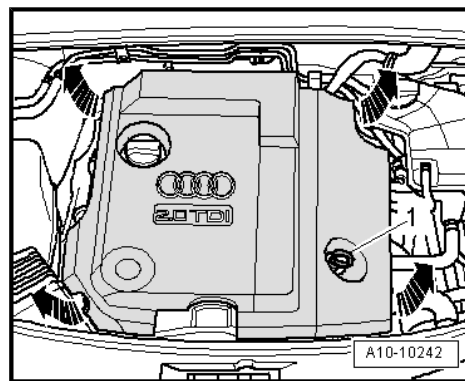
WARNING

Risk of injury - fuel system operates under pressure.

- ◆ **Wrap a clean cloth around the connection before opening the fuel system. Then release pressure by carefully loosening the connection.**
- ◆ **Wear protective gloves.**
- ◆ **Wear safety goggles.**

The fuel can become extremely hot. This can cause injuries.

- ◆ **In extreme cases the temperature of the fuel lines and the fuel can be up to 100 °C after the engine is switched off. Allow the fuel to cool down before disconnecting the lines - danger of scalding.**
- ◆ **Wear protective gloves.**
- ◆ **Wear safety goggles.**

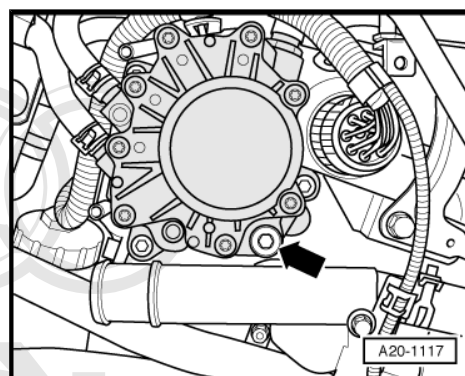


- Remove screw plug -arrow-.

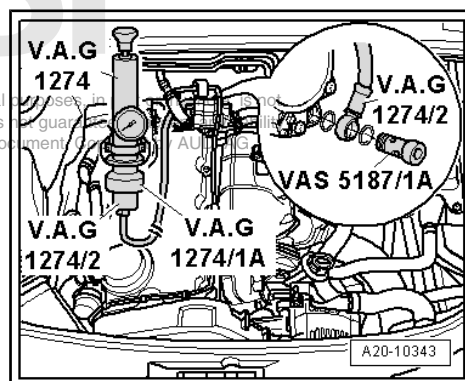


Note

Illustration shows tandem pump with engine removed from vehicle.



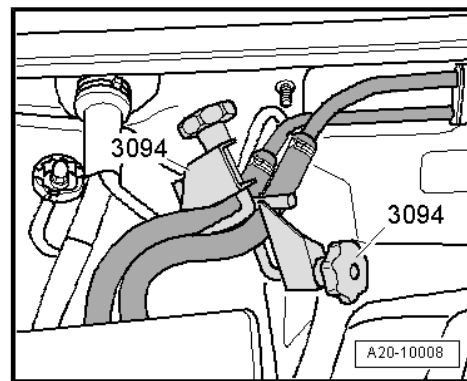
- Attach adapter -V.A.G 1274/2- with -V.A.G 1274/1A- to cooling system tester - V.A.G 1274- .
- Connect adapter -V.A.G 1274/2- to tandem pump using banjo bolt with seals - VAS 5187/1A-.



- Fit hose clamps -3094- in engine compartment (rear right) at the following points:
 - Supply hose to fuel filter.
 - Return hose to fuel tank.

 Note

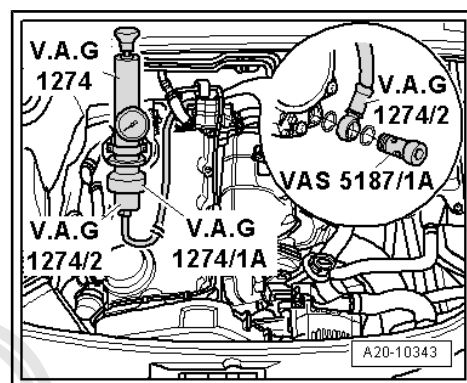
- ◆ *The hose clamps -3094- must not be applied directly to the fuel pipes themselves as this can cause damage.*
- ◆ *By moving the hose clamps -3094- towards the rear to the fuel tank connections it is also possible to check the fuel lines and the fuel cooler at the same time.*



- Use cooling system tester - V.A.G 1274- to create a pressure of between 1.0 ... 1.5 bar.
- If pressure drops constantly, locate leak and eliminate fault.

 Note

After removing pressure tester, tighten screw plug to 25 Nm. Re-new seal.

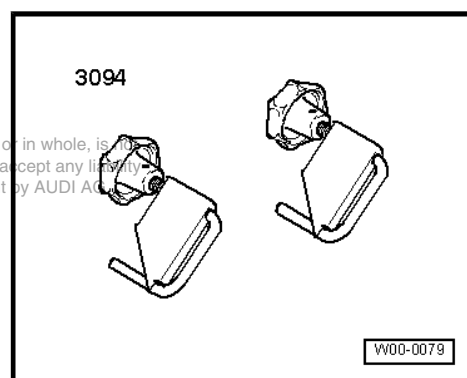


8.2 Checking fuel system for leaks - vehicles with engine codes ASB, BHQ, BMK, BMZ, BNG, BPP, BSG

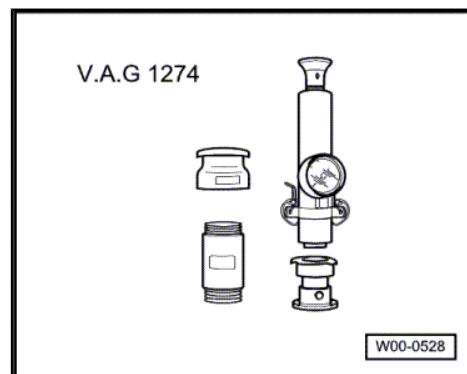
Special tools and workshop equipment required

- ◆ Hose clamps, up to 25 mm - 3094-

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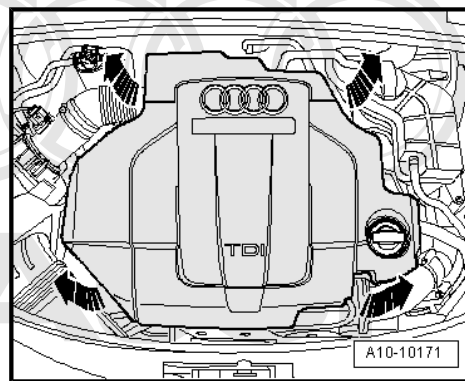
- ◆ Cooling system tester - V.A.G 1274- with adapter - V.A.G 1274/1A- and adapter for testing diesel fuel - V.A.G 1274/2-



Procedure

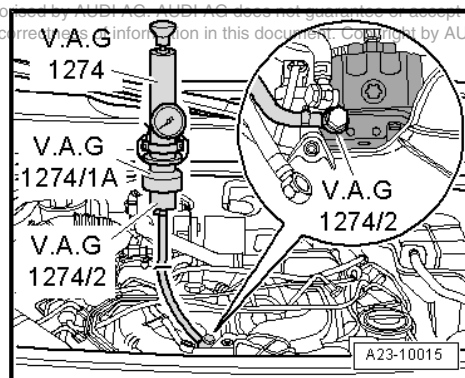
Observe rules for cleanliness ⇒ [page 3](#) .

- Carefully pull engine cover panel off four retaining pins one after the other -arrows-.



- Attach adapter -V.A.G 1274/2- with -V.A.G 1274/1A- to cooling system tester - V.A.G 1274- .
- Unscrew fuel supply line at high-pressure pump and connect up hose of adapter for leak testing on diesel fuel systems - V.A.G 1274/2- in its place.

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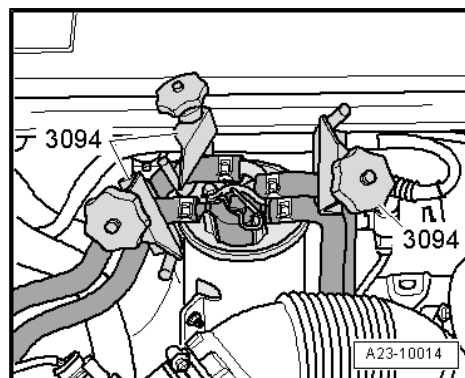


- Fit hose clamps -3094- at the following points:
 - Supply hose upstream of fuel filter.
 - Supply hose to high-pressure pump.
 - Return hose to fuel tank.

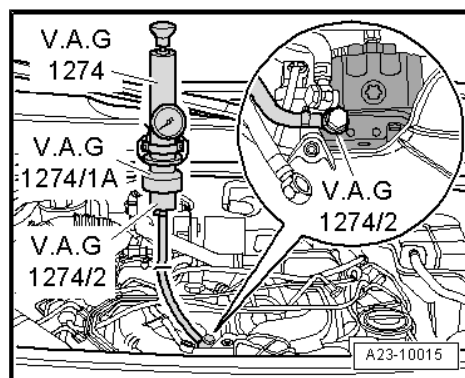


Note

By moving the hose clamps -3094- from the filter to the fuel tank connections it is also possible to check the fuel pipes and the fuel cooler at the same time.



- Use cooling system tester - V.A.G 1274- to create a pressure of between 1.0 ... 1.5 bar.
- If pressure drops constantly, locate leak and eliminate fault.



8.3 Checking fuel system for leaks - vehicles with engine codes CAGB, CAHA, CANA, CANB, CANC, CAND, CDYA, CDYB, CDYC

Checking fuel tank system and fuel lines for leaks

Observe rules for cleanliness ⇒ [page 3](#) .

- Check that seal under fuel tank flange is undamaged and that locking ring on fuel tank flange is properly tightened.
- Perform a visual check on all fuel lines, fuel tank components and hose connections:
 - ◆ Fuel lines to engine
 - ◆ Fuel lines to fuel tank
 - ◆ Fuel filter
 - ◆ Fuel tank



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9 Servicing accelerator mechanism

9.1 Exploded view - accelerator mechanism

1 - Accelerator pedal module

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



Note

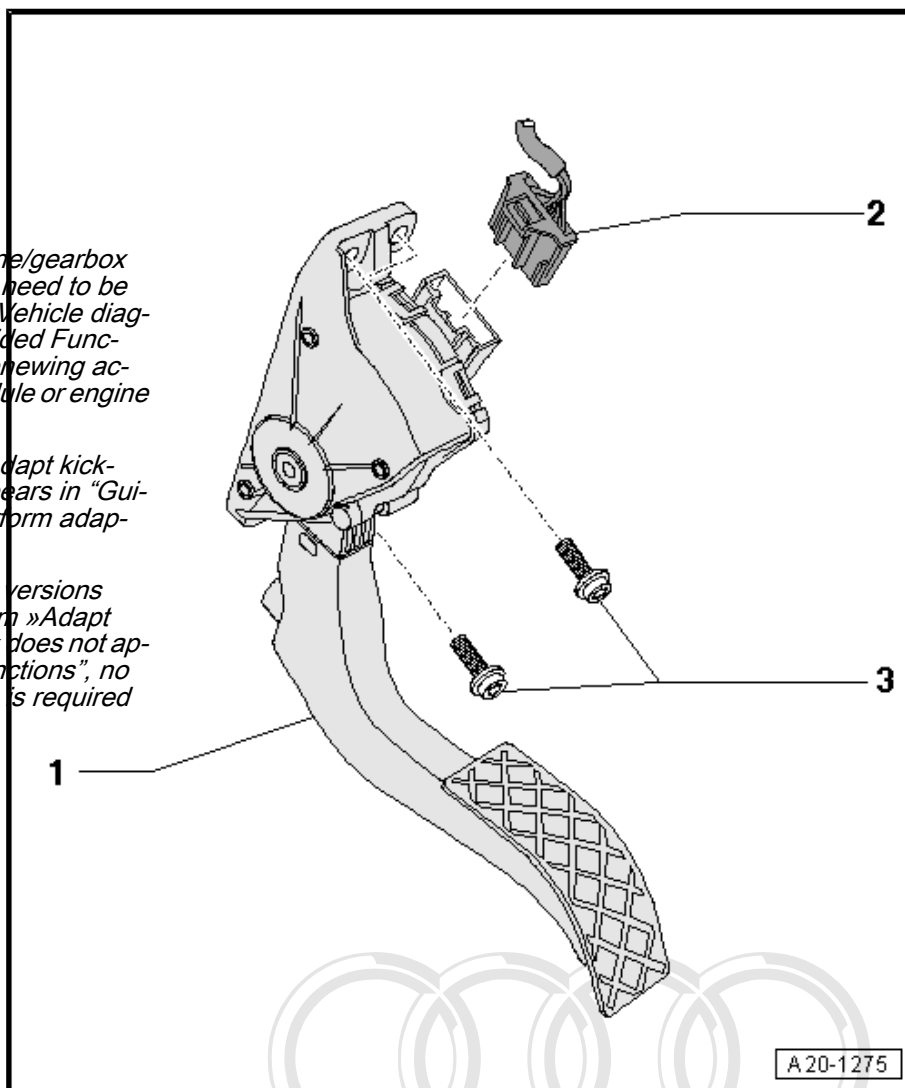
- ◆ Depending on engine/gearbox type, adaption may need to be performed using ⇒ Vehicle diagnostic tester in "Guided Functions" mode after renewing accelerator pedal module or engine control unit
- ◆ If the menu item »Adapt kick-down function« appears in "Guided Functions", perform adaption procedure
- ◆ On engine/gearbox versions where the menu item »Adapt kick-down function« does not appear in "Guided Functions", no adaption procedure is required

- Removing and installing
⇒ [page 101](#)

2 - Electrical connector

3 - Bolts

- 9 Nm



A 20-1275

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9.2 Removing and installing accelerator pedal module with accelerator position sender

Removing

- Remove dash panel cover (bottom) on driver's side ⇒ Rep. gr. 68 .
- Unplug electrical connector -2-.
- Remove bolts -1- and -3-.
- Remove accelerator pedal module.

Installing

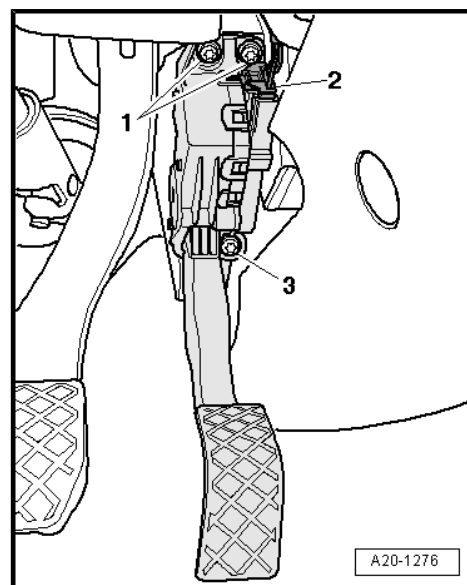
- Tightening torque ⇒ [page 100](#)

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



Note

- ◆ Depending on engine/gearbox type, adaption may need to be performed using ⇒ Vehicle diagnostic tester in "Guided Functions" mode after renewing accelerator pedal module or engine control unit
- ◆ If the menu item »Adapt kick-down function« appears in "Guided Functions", perform adaption procedure
- ◆ On engine/gearbox versions where the menu item »Adapt kick-down function« does not appear in "Guided Functions", no adaption procedure is required



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