

Workshop Manual

Audi A4 2008 ➤

Audi A5 Cabriolet 2009 ➤

Audi A5 Coupé 2008 ➤

Audi A5 Sportback 2010 ➤

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Fuel supply system, diesel engines									
Engine ID	CAM A	CAP A	CAM B	CAG A	CAG B	CAH B	CAG C	CAH A	CGK B
	CCW A	CCW B	CGK A	CCL A	CME A	CJCB	CDU C	CLAB	CKV B
	CGL C	CGL D	CJCA	CMF A	CJC C	CMG B	CMF B	CJC D	CKV C
	CNH A	CNH C	CSU A	CSU B	CKV D				

Edition 02.2016

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

(ARL004587; Edition 02.2016)

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

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

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

⇒ [“1.4 Safety precautions when working on the SCR system”, page 3](#)

1.1 Safety precautions when working on the fuel system

When working on the fuel system note the following warnings:

**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.*
- ◆ *Put on protective gloves.*
- ◆ *Put on 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.*
- ◆ *Put on protective gloves.*
- ◆ *Put on 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.*

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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 12](#) .
- ◆ 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 12](#) .

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.



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 working on vehicles with start/stop system

When performing repairs on vehicles with start/stop system, note the following:



WARNING

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

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

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

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



WARNING

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

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

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

1.4 Safety precautions when working on the SCR system

When working on the reducing agent metering system, note the following warnings:



WARNING

Reducing agent can cause skin irritation.

- ◆ *Avoid contact with the skin and eyes. Wear protective gloves.*
- ◆ *If your skin has come into contact with reducing agent, rinse it off with soap and water.*
- ◆ *If reducing agent gets into your eyes, rinse them out with water for several minutes.*
- ◆ *Do not breathe in or swallow reducing agent.*
- ◆ *If you have swallowed reducing agent, rinse your mouth, drink lots of water and consult a paramedic or doctor immediately.*

Automatic drawing back of reducing agent

- After the ignition is switched off, the reducing agent is automatically drawn back into the active tank from the metering line leading to the injector for reducing agent - N474- .
- Before performing work in this area, you must therefore wait until the reducing agent has been drawn back; this can take up to 10 minutes after the ignition has been switched off.
- It is also important to wait until the reducing agent has been drawn back (i.e. 10 minutes after the ignition is switched off) before disconnecting the battery ⇒ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .



WARNING

Safety risk due to escaping reducing agent.

- ◆ *To prevent large amounts of reducing agent from escaping when the metering line is opened, wait until the reducing agent has been drawn back automatically ➔ **page 3**.*



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2 Repair instructions

⇒ [“2.1 Rules for cleanliness”, page 5](#)

⇒ [“2.2 Test conditions”, page 5](#)

⇒ [“2.3 Contact corrosion”, page 5](#)

⇒ [“2.4 Routing and attachment of pipes, hoses and wiring”, page 6](#)

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.
- ◆ 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

- Battery in standby mode ⇒ Electrical system; Rep. gr. 27 ; Battery; Charging battery .
- 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 pump control unit - J538- OK; checking in Guided Fault Finding ⇒ Vehicle diagnostic tester.
- Fuel tank at least $\frac{1}{4}$ full.
- Fuel filter OK.
- Fuel lines OK (not obstructed or crushed).

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.

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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 tank

⇒ [“1.1 Exploded view - fuel tank”, page 7](#)

⇒ [“1.2 Draining fuel tank”, page 12](#)

⇒ [“1.3 Removing and installing fuel tank”, page 14](#)

⇒ [“1.4 Removing and installing misfuelling prevention device”, page 30](#)

1.1 Exploded view - fuel tank

⇒ [“1.1.1 Exploded view - fuel tank, vehicles with front-wheel drive”, page 7](#)

⇒ [“1.1.2 Exploded view - fuel tank, vehicles with four-wheel drive”, page 9](#)

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

1 - Bolt

- ☐ Tightening torque ⇒
 Rep. gr. 26 ; Exhaust
 pipes/silencers; Exploded
 view - silencers

2 - Mounting for exhaust system

3 - Buffer

- ☐ Mounting components
 ⇒ [page 9](#)

4 - Securing strap

- ☐ Different lengths
- ☐ Mounting components
 ⇒ [page 9](#)

5 - Fuel supply line

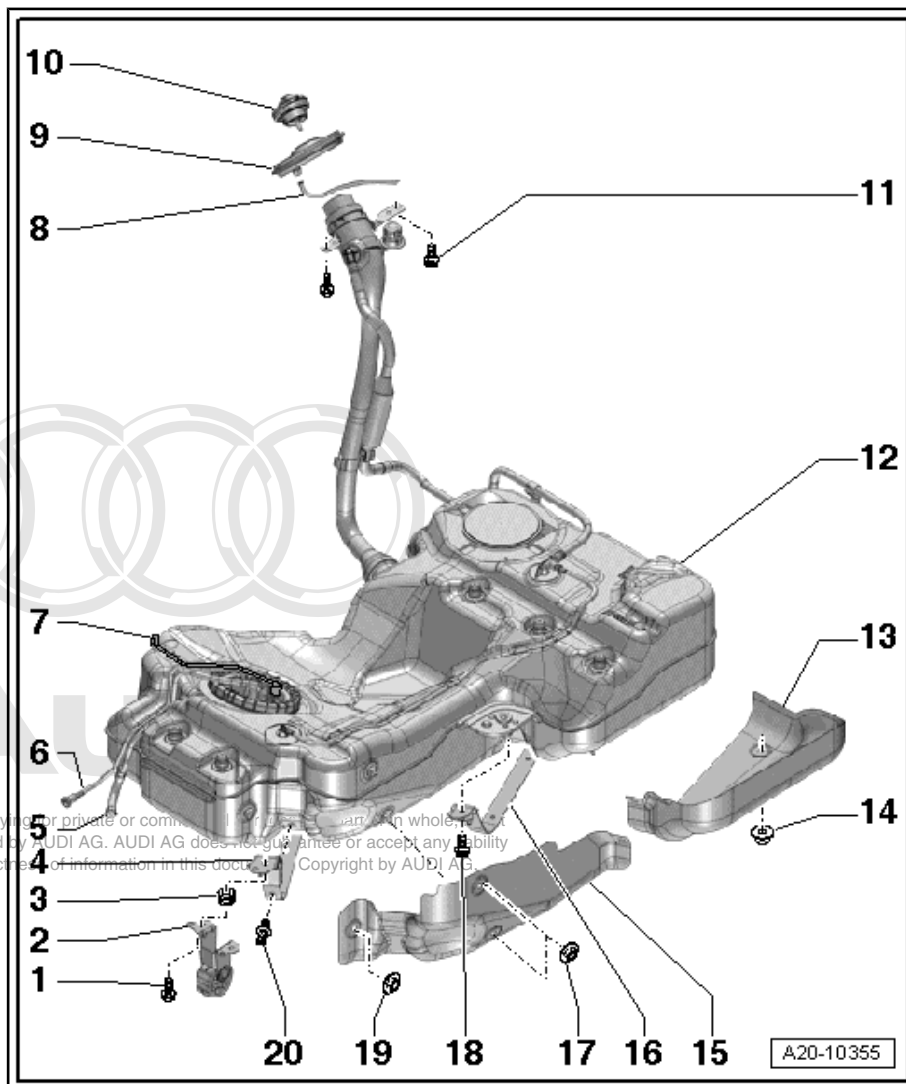
- ☐ To supplementary fuel
 pump - V393- /fuel filter
- ☐ Do not kink
- ☐ Clipped onto fuel tank

6 - Fuel return line

- ☐ From fuel cooler/engine
- ☐ Do not kink
- ☐ Clipped onto fuel tank
- ☐ Press release tab on
 connection piece to dis-
 connect

7 - Fuel line

- ☐ Only on vehicles with
 auxiliary heater: leading
 to metering pump for
 auxiliary heater
- ☐ Do not kink
- ☐ Clipped onto fuel tank
- ☐ Press release tab on connection piece to disconnect





8 - Overflow hose

- ☐ Attached to bracket for bumper

9 - Rubber cup

10 - Filler cap

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

11 - Bolt

- ☐ To secure fuel filler neck
- ☐ To eliminate electrostatic charge ⇒ [page 9](#)
- ☐ 20 Nm

12 - Fuel tank

- ☐ Removing and installing ⇒ [page 14](#)

13 - Heat shield for fuel tank

14 - Nut

- ☐ 2 Nm

15 - Heat shield for fuel tank

16 - Securing strap

- ☐ Note different lengths
- ☐ Mounting components ⇒ [page 9](#)

17 - Nut

- ☐ 2 Nm

18 - Bolt

- ☐ 20 Nm

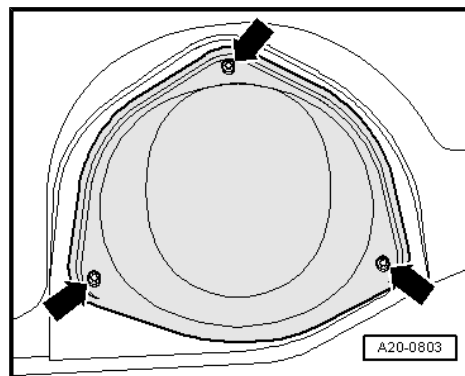
19 - Nut

- ☐ 2 Nm

20 - Fastener

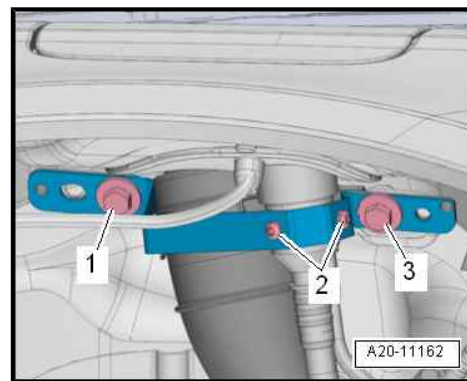
Cover for flange on fuel tank - tightening torque

- Tighten bolts -arrows- to 1.5 Nm.



Filler neck for reducing agent for vehicles with SCR catalytic converter - tightening torque

- Tighten bolts -2- for filler neck for reducing agent to 2.5 Nm.



Earth connection for fuel filler neck

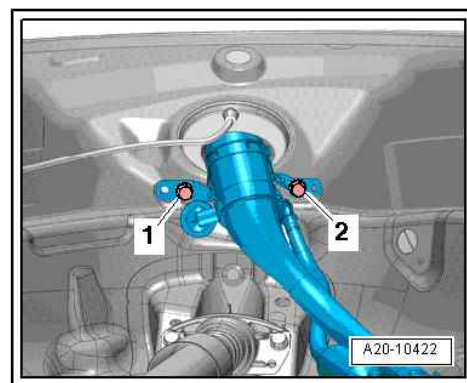
- Connections -1- and -2- on filler neck must be free of corrosion to ensure proper earth connection to body.



WARNING

Safety risk due to electrostatic discharge.

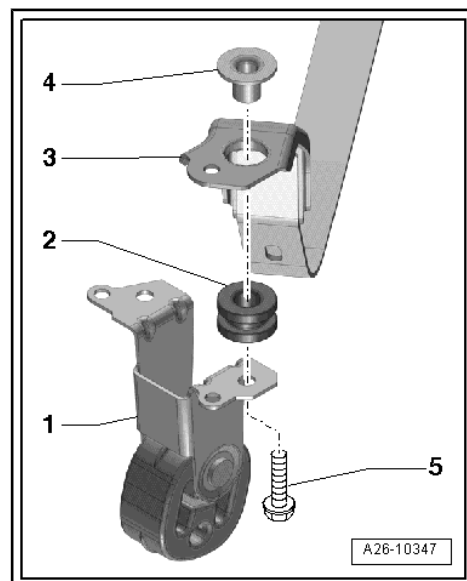
- ◆ *After installation, use an ohmmeter to check the electrical connection between the metal ring on the fuel filler neck and a bare metal part on the body:*
 - *Specification: approx. 0 Ω*



Mounting components for securing strap

- 1 - Mounting for exhaust system (front left)
- 2 - Buffer
- 3 - Securing strap
- 4 - Spacer sleeve
- 5 - Bolt

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

1 - Bolt

- ☐ Tightening torque ⇒ Rep. gr. 26 ; Exhaust pipes/silencers; Exploded view - silencers

2 - Mounting for exhaust system
3 - Buffer

- ☐ Mounting components ⇒ [page 12](#)

4 - Securing strap

- ☐ Mounting components ⇒ [page 12](#)

5 - Fuel supply line

- ☐ To fuel filter
- ☐ Do not kink
- ☐ Clipped onto fuel tank

6 - Fuel return line

- ☐ From fuel cooler/engine
- ☐ Do not kink
- ☐ Clipped onto fuel tank
- ☐ Press release tab on connection piece to disconnect

7 - Fuel line

- ☐ Only on vehicles with auxiliary heater: leading to metering pump for auxiliary heater
- ☐ Do not kink
- ☐ Clipped onto fuel tank
- ☐ Press release tab on connection piece to disconnect

8 - Overflow hose

- ☐ Attached to bracket for bumper

9 - Rubber cup
10 - Filler cap

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

11 - Bolt

- ☐ To secure fuel filler neck
- ☐ To eliminate electrostatic charge ⇒ [page 11](#)
- ☐ 20 Nm

12 - Fuel tank

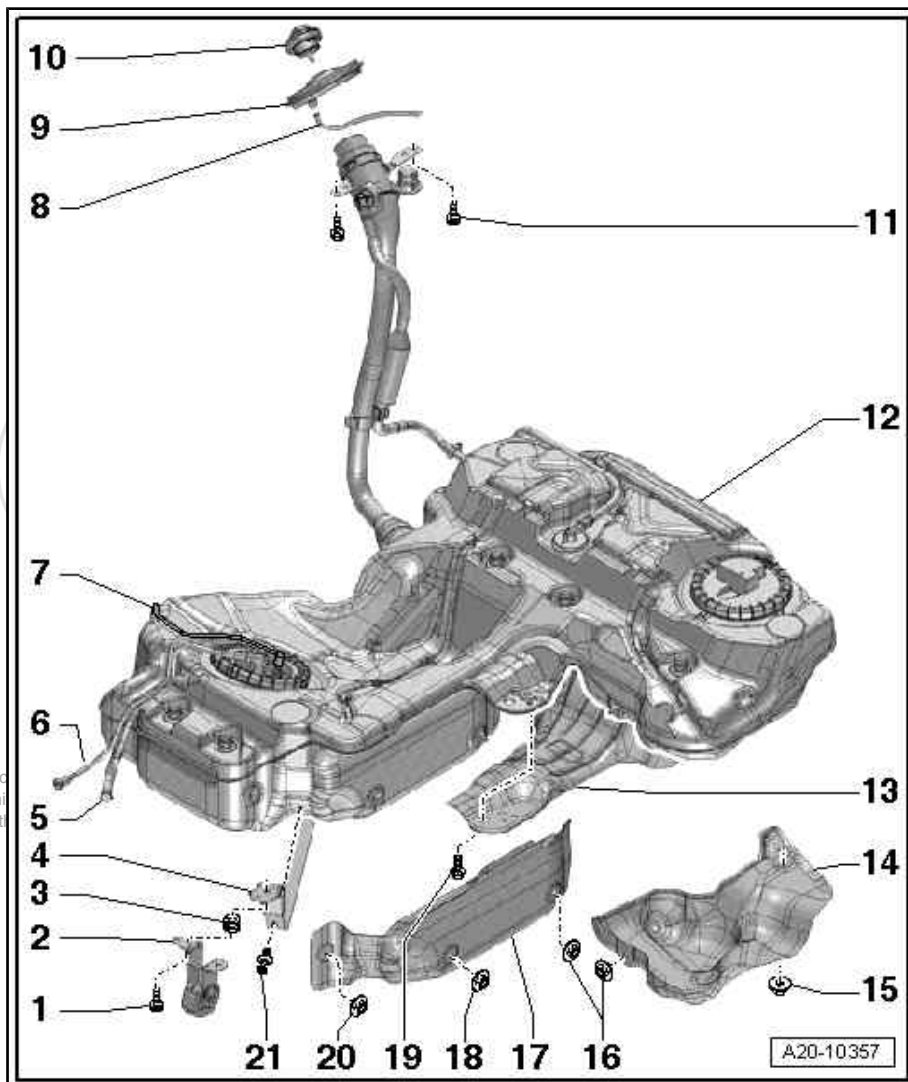
- ☐ Removing and installing ⇒ [page 22](#)

13 - Support bracket
14 - Heat shield for fuel tank
15 - Nut

- ☐ 2 Nm

16 - Nut

- ☐ 2 Nm



17 - Heat shield for fuel tank

18 - Nut

- 2 Nm

19 - Bolt

- 20 Nm

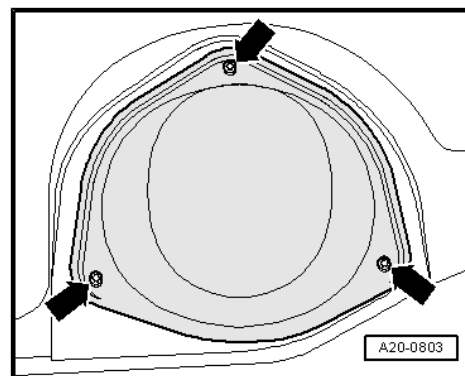
20 - Nut

- 2 Nm

21 - Fastener

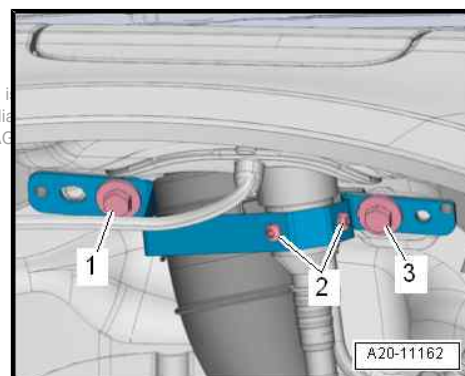
Cover for flange on fuel tank - tightening torque

- Tighten bolts -arrows- to 1.5 Nm.



Filler neck for reducing agent for vehicles with SCR catalytic converter - tightening torque

- Tighten bolts -2- for filler neck for reducing agent to 2.5 Nm.



Earth connection for fuel filler neck

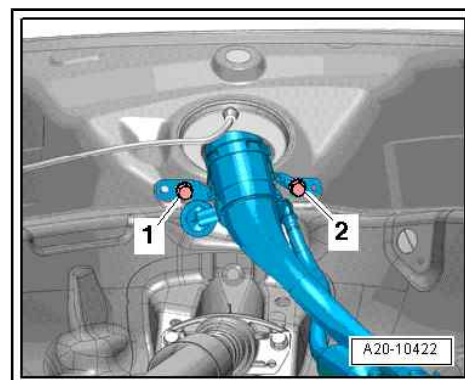
- Connections -1- and -2- on filler neck must be free of corrosion to ensure proper earth connection to body.



WARNING

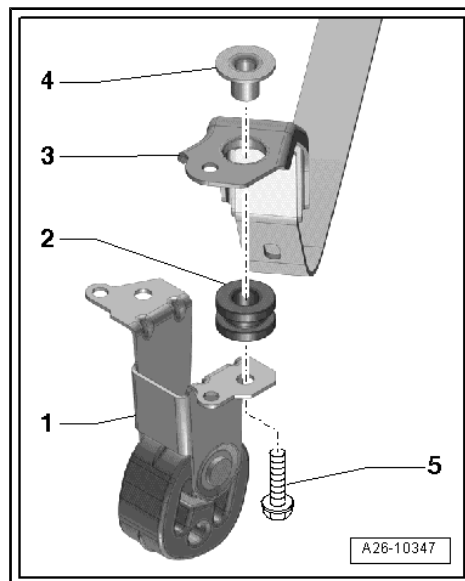
Safety risk due to electrostatic discharge.

- ◆ 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



Mounting components for securing strap

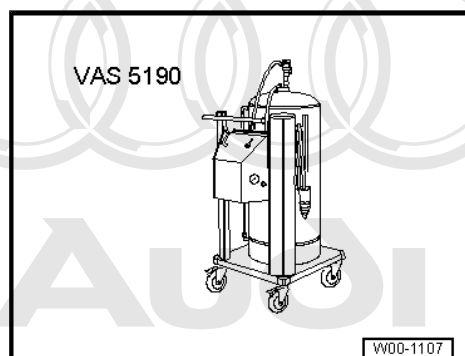
- 1 - Mounting for exhaust system (front left only)
- 2 - Buffer
- 3 - Securing strap
- 4 - Spacer sleeve
- 5 - Bolt



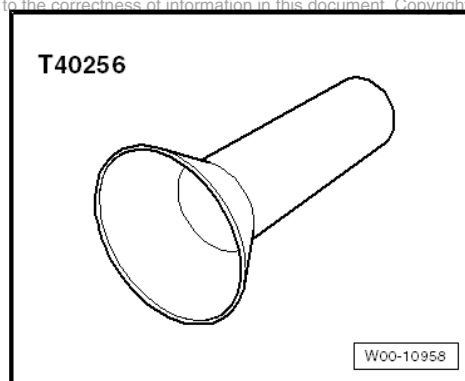
1.2 Draining fuel tank

Special tools and workshop equipment required

- ◆ Fuel extractor - VAS 5190-



- ◆ Release tool for misfuelling prevention device -T40256- for vehicles with misfuelling prevention device



Procedure

- Observe safety precautions ➔ [page 1](#) .
- Observe rules for cleanliness ➔ [page 5](#) .

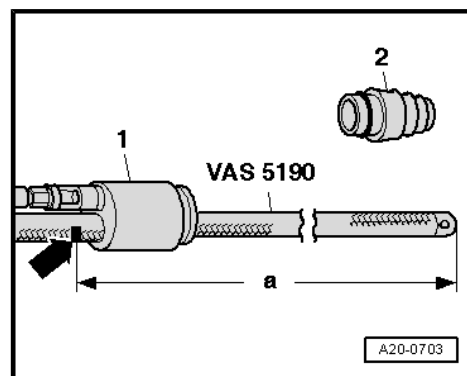


WARNING

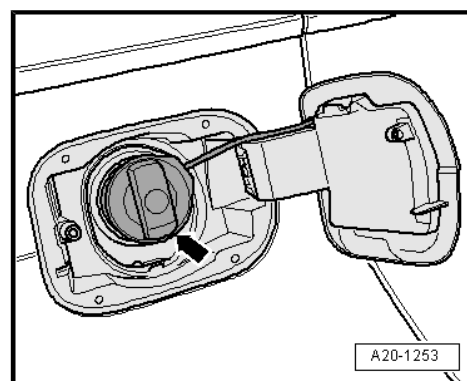
Safety risk due to electrostatic discharge.

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

- Detach tapered adapter -2- from shaft end -1- of fuel extractor unit -VAS 5190- .
- Use insulating tape to mark the extraction hose -arrow- at a distance of -a- = 1,300 mm from the end of the hose.

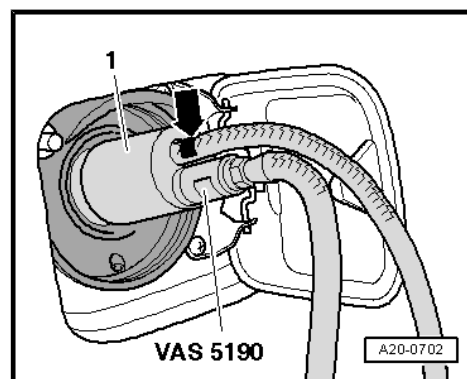


- Remove filler cap -arrow- from fuel filler neck.



Vehicles without misfuelling prevention device:

- Screw shaft end -1- of fuel extractor unit -VAS 5190- onto fuel filler neck.
- Push extraction hose into fuel tank until marking on hose -arrow- coincides with shaft end.

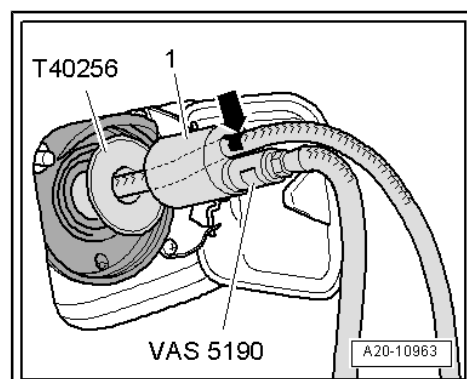


Vehicles with misfuelling prevention device:

- Insert release tool for misfuelling prevention device -T40256- in fuel filler neck.
- Push extraction hose into fuel tank until marking on hose -arrow- coincides with shaft end.

All vehicles (continued):

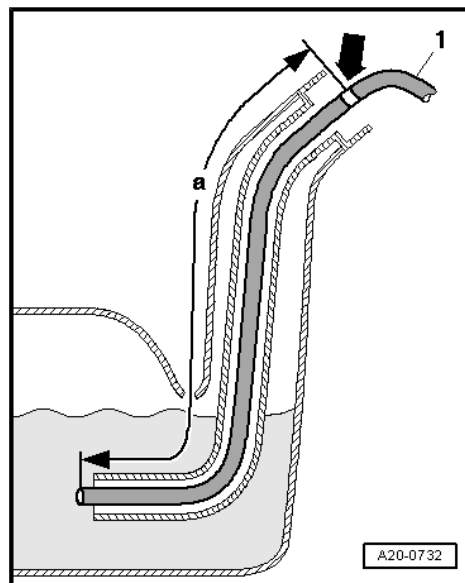
- Extract fuel from tank via fuel filler neck.
- Pull out extraction hose carefully.





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- = 1,235 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 rim of the filler neck.
- ◆ If hose is difficult to insert, apply a thin coat of engine oil. DO NOT use silicone-based lubricant.



1.3 Removing and installing fuel tank

⇒ "1.3.1 Removing and installing fuel tank - vehicles with front-wheel drive", page 14

⇒ "1.3.2 Removing and installing fuel tank - vehicles with four-wheel drive", page 22

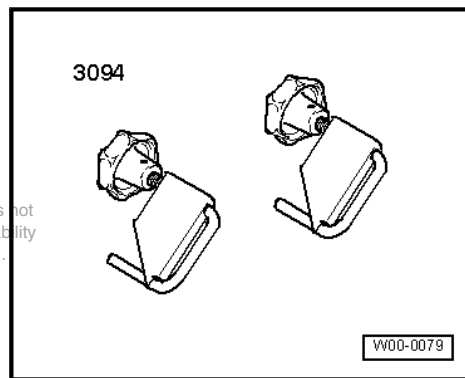
1.3.1 Removing and installing fuel tank - vehicles with front-wheel drive

Special tools and workshop equipment required

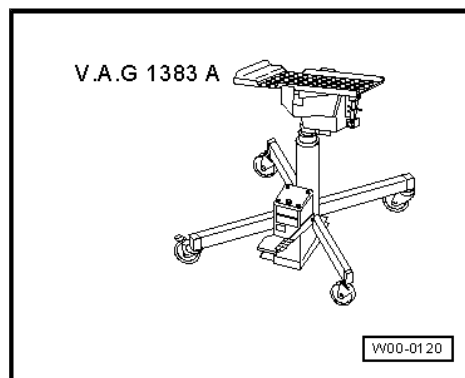
- ◆ Hose clamps, up to 25 mm - 3094- for vehicles with SCR catalytic converter



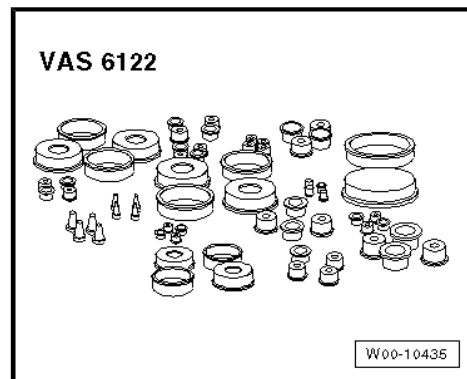
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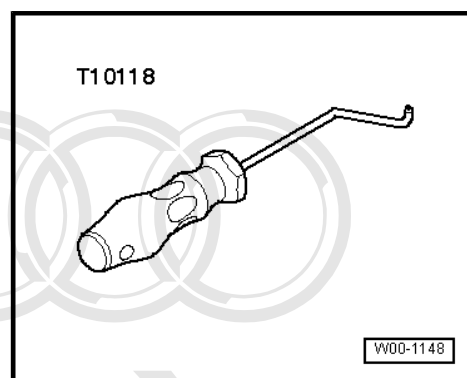
- ◆ Engine and gearbox jack - V.A.G 1383 A-



- ◆ Engine bung set - VAS 6122- for vehicles with SCR catalytic converter



- ◆ Assembly tool - T10118-



- ◆ Drip tray

Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 5](#) .

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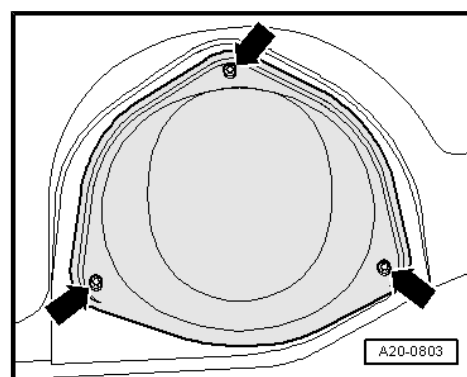


WARNING

Risk of accident caused by weight of fuel tank

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

- Drain fuel tank ⇒ [page 12](#) .
- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Unscrew cover for flange -arrows-.

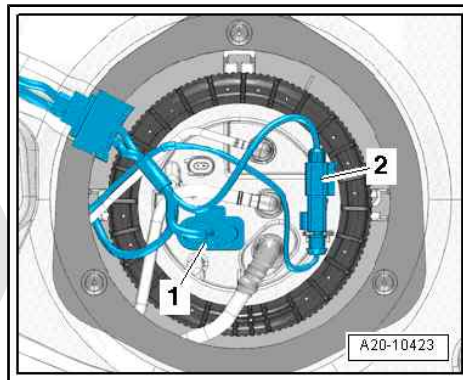


A5 models up to model year 2011, A4 models up to model year 2012:

- Release retainer catch with assembly tool - T10118- and unplug electrical connector -1- on flange.

Vehicles with auxiliary heater:

- Unplug electrical connector -2- for metering pump for auxiliary heater on flange.

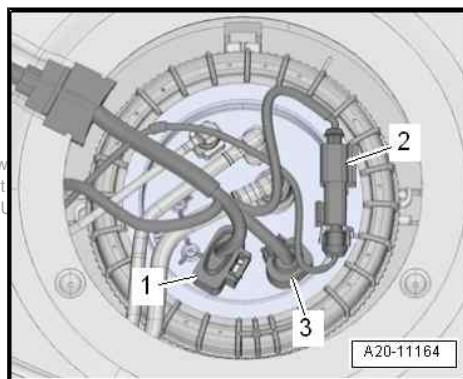


A5 models from model year 2012 onwards, A4 models from model year 2013 onwards:

- Release retainer catches with assembly tool - T10118- and unplug electrical connectors -1 and 3- on flange.

Vehicles with auxiliary heater:

- Unplug electrical connector -2- for metering pump for auxiliary heater on flange.



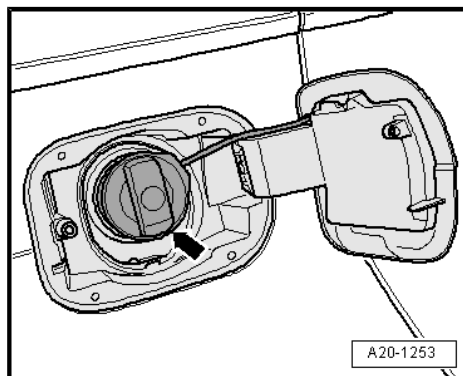
All vehicles (continued):

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

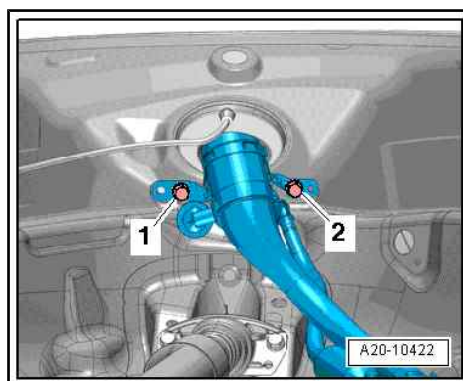


Note

Seal off opening of fuel filler neck with a piece of clean foam to prevent dirt from dropping into the tank.

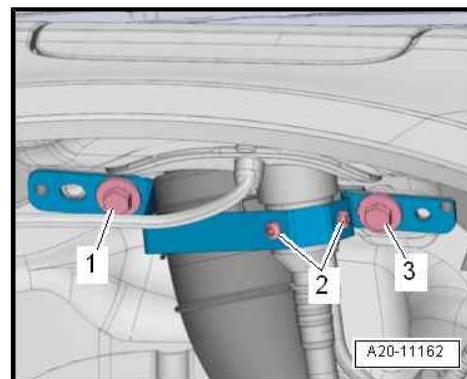


- Remove rear right wheel.
- Remove rear right wheel housing liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Exploded view - wheel housing liner (rear) .
- Remove bolts -1- and -2- for fuel filler neck.

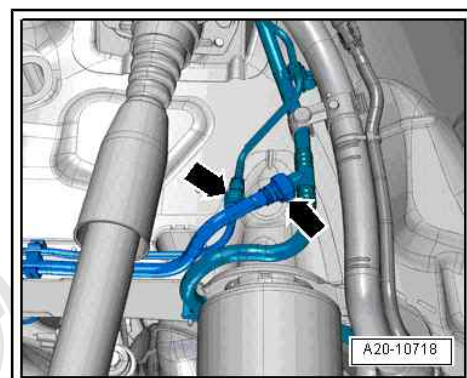


Vehicles with SCR catalytic converter:

- Remove bolts -2- for filler neck for reducing agent.
- Remove bolts -1- and -3- for fuel filler neck.



- Press release tabs and disconnect filler and draining lines -arrows-.



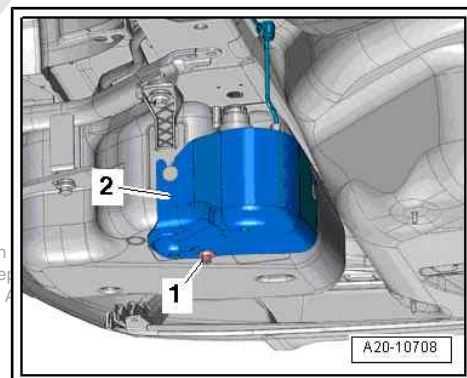
- Unscrew nut -1- and detach cover -2- for transfer pump for reducing agent - V436- .



WARNING

Reducing agent can cause skin irritation.

- ◆ **Avoid contact with the skin and eyes. Wear gloves and safety goggles.**
- ◆ **If your skin has come into contact with reducing agent, rinse it off with soap and water.**
- ◆ **If reducing agent gets into your eyes, rinse them out with water for several minutes.**
- ◆ **Do not breathe in or swallow reducing agent.**
- ◆ **If you have swallowed reducing agent, rinse your mouth, drink lots of water and consult a paramedic or doctor immediately.**



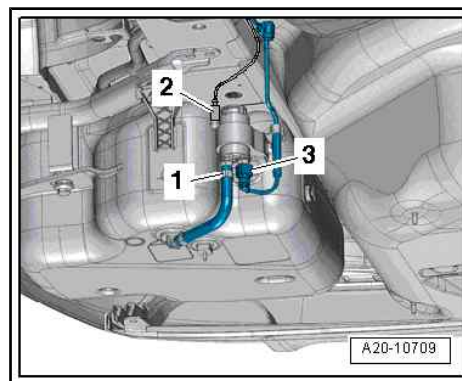
- Clamp off connecting hose -1- with hose clamp -3094- .



Note

Hold a clean cloth under the separating point to catch escaping reducing agent.

- Press release tab to disconnect transfer line -3- and move transfer line clear.
- Seal off open pipes/lines and connections with clean plugs from engine bung set - VAS 6122- .



Note

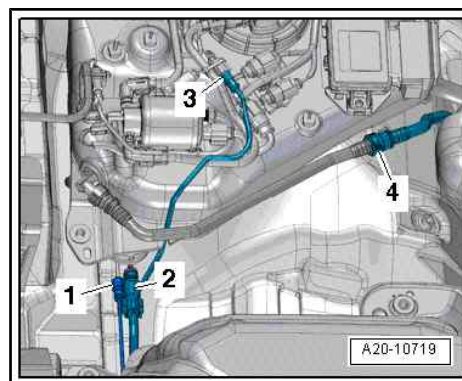
Disregard -item 2-.

- Unplug electrical connector -3- and move wiring clear.



Note

Hold a clean cloth under the separating point to catch escaping reducing agent.



WARNING

Safety risk due to escaping reducing agent.

- ♦ **Observe safety measures for handling reducing agent**
⇒ page 3 .

- Press release tabs and disconnect transfer line -1- and filler line -4-.
- Disconnect breather line -2-.



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- To disconnect breather line, press release catches in direction of -arrows-.
- Seal off open pipes/lines and connections with clean plugs from engine bung set - VAS 6122- .

All vehicles (continued):

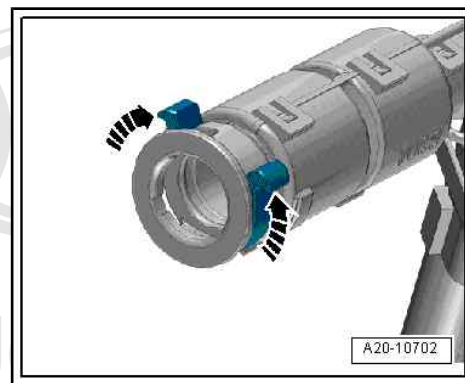
- Remove rear section of exhaust system ⇒ Rep. gr. 26 ; Exhaust pipes/silencer; Exploded view - silencer .



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 ⇒ Running gear, axles, steering; Rep. gr. 42 ; Rear axle; Removing and installing rear axle .



WARNING

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

- ◆ **In extreme cases the fuel lines and the fuel can reach a temperature of 100 °C. Allow the fuel to cool down before disconnecting the lines - danger of scalding.**
- ◆ **Put on protective gloves.**
- ◆ **Put on safety goggles.**

Risk of injury - fuel system operates under high pressure.

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

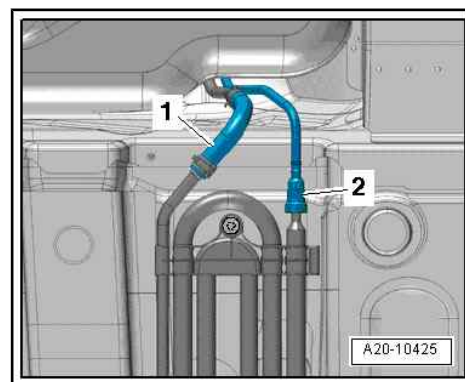
A5 models up to model year 2011, A4 models up to model year 2012:



Note

Place drip tray underneath to catch escaping fuel.

- Press release tab and disconnect fuel return line -2-.
- Detach fuel supply line -1-.

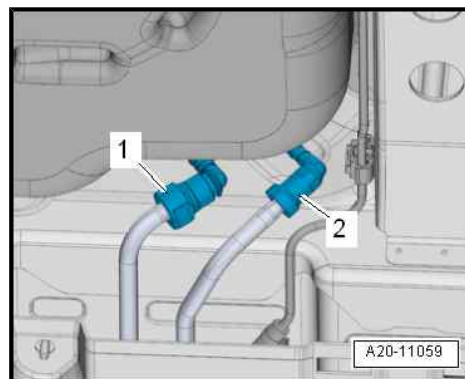


A5 models from model year 2012 onwards, A4 models from model year 2013 onwards:

- Press release tabs and disconnect fuel supply line -1- and fuel return line -2-.

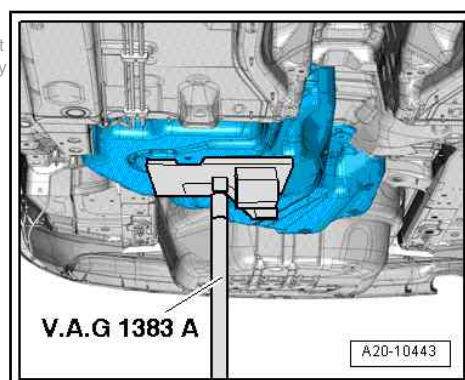
Vehicles with auxiliary heater:

- 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.
- Support fuel tank using engine and gearbox jack - V.A.G 1383 A-.



WARNING

Risk of accident caused by weight of fuel tank

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

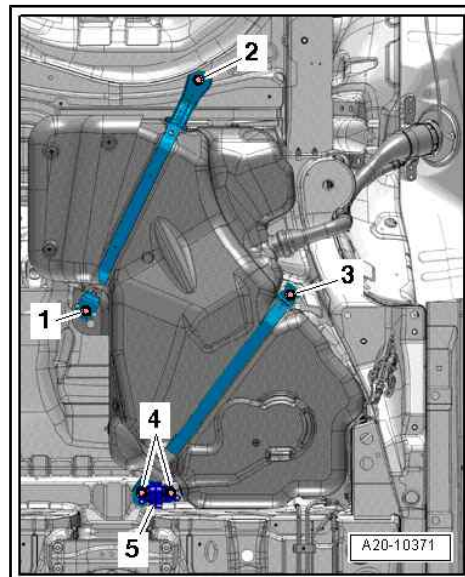
- Remove bolts -1 ... 4- and detach bracket -5- for exhaust system.
- Then lower fuel tank using engine and gearbox jack - V.A.G 1383 A- , simultaneously guiding fuel tank down by hand.

Installing

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

Tightening torques:

- ⇒ [“1.1.1 Exploded view - fuel tank, vehicles with front-wheel drive”, page 7](#) .
- ⇒ [Fig. ““Filler neck for reducing agent for vehicles with SCR catalytic converter - tightening torque””, page 9](#) .

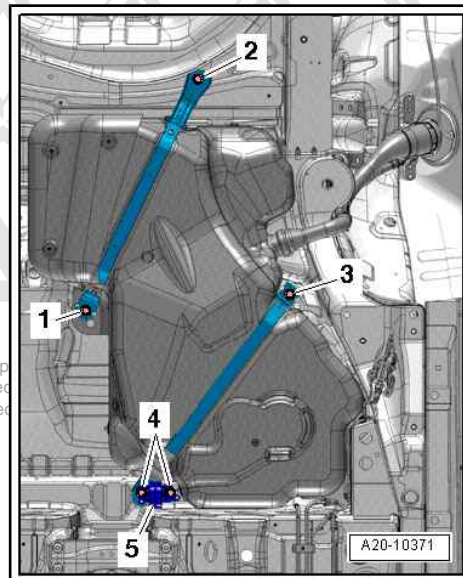


Note

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

- Check that fuel lines are clipped onto fuel tank.

- Position fuel tank and securing straps on underbody using engine and gearbox jack - V.A.G 1383 A- .
- When installing fuel tank, make sure that fuel filler neck is correctly inserted into opening on body.
- Attach bracket -5- for exhaust system and tighten securing strap bolts -1 ... 4-.



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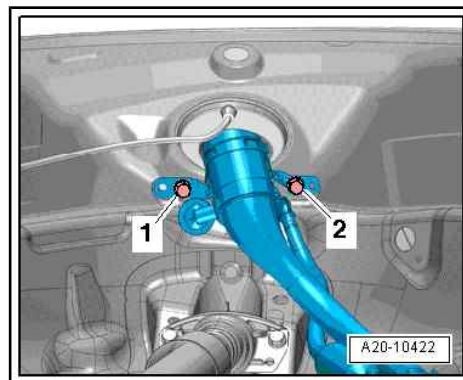
- Connections -1- and -2- on filler neck must be free of corrosion to ensure proper earth connection to body.
- Tighten bolts -1- and -2- for fuel filler neck.



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**



Vehicles with SCR catalytic converter:

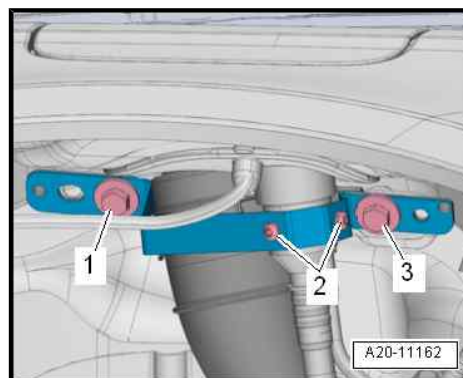
- Connections -1- and -3- on filler neck must be free of corrosion to ensure proper earth connection to body.
- Tighten bolts -1, 2 and 3-.



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**



- Route reducing agent lines -2 and 3- at fuel filler neck -1- as shown in illustration.
- Secure reducing agent lines to fuel filler neck with cable ties -arrows-.
- Install cover for transfer pump for reducing agent - V436- ➔ Rep. gr. 26 ; SCR (selective catalytic reduction) system .

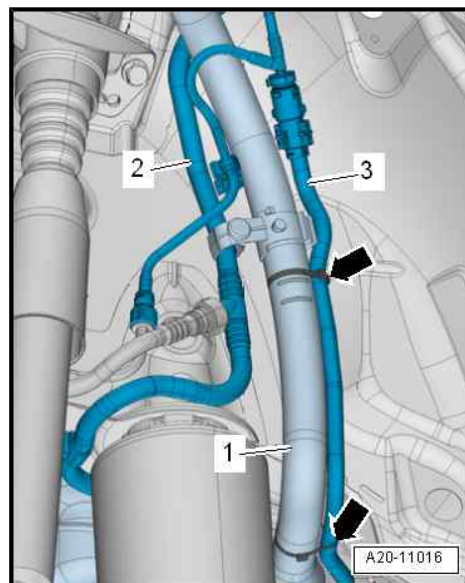
All vehicles (continued):

- Install rear axle ➔ Running gear, axles, steering; Rep. gr. 42 ; Rear axle; Removing and installing rear axle .
- Install rear section of exhaust system ➔ Rep. gr. 26 ; Exhaust pipes/silencer; Exploded view - silencer .
- Install rear right wheel housing liner ➔ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Exploded view - wheel housing liner (rear) .
- Install cover for flange ➔ [page 8](#) .
- Install rear seat bench ➔ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .

Vehicles with auxiliary heater:

- Vehicles with auxiliary heater: Bleed fuel supply line leading to metering pump ➔ Auxiliary heater, supplementary heater; Rep. gr. 82 ; Fuel supply system .

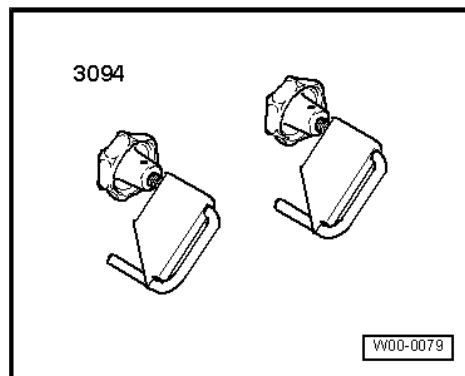
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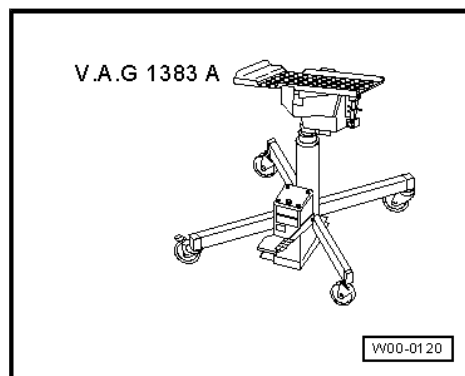
1.3.2 Removing and installing fuel tank - vehicles with four-wheel drive

Special tools and workshop equipment required

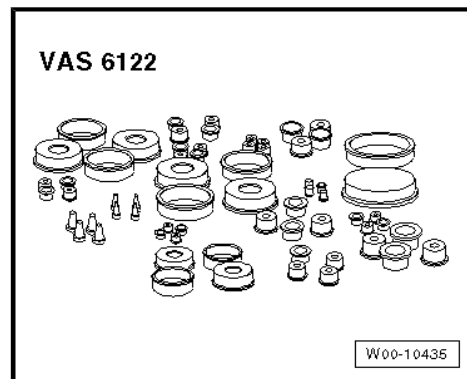
- ◆ Hose clamps, up to 25 mm - 3094- for vehicles with SCR catalytic converter



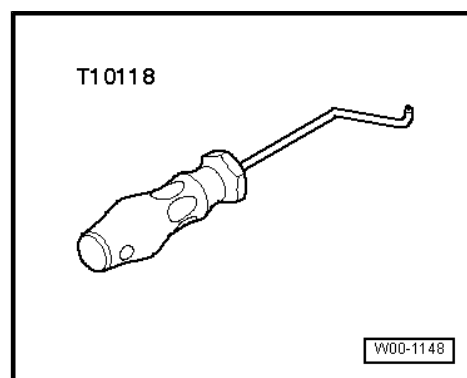
- ◆ Engine and gearbox jack - V.A.G 1383 A-



- ◆ Engine bung set - VAS 6122- for vehicles with SCR catalytic converter



- ◆ Assembly tool - T10118-



Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 5](#) .



WARNING

Risk of accident caused by weight of fuel tank

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

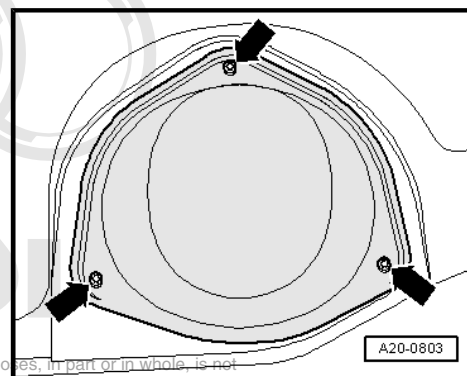
- Drain fuel tank ⇒ [page 12](#) .

Vehicles with SCR catalytic converter:

- Drain active tank for reducing agent ⇒ Rep. gr. 26 ; SCR (selective catalytic reduction) system .

All vehicles (continued):

- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Unscrew cover for flange -arrows-.



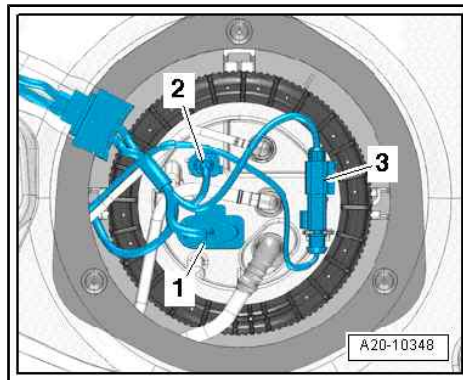
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A5 models up to model year 2011, A4 models up to model year 2012:

- Release retainer catches with assembly tool - T10118- and unplug electrical connectors -1 and 2- on flange.

Vehicles with auxiliary heater:

- Unplug electrical connector -3- for metering pump for auxiliary heater on flange.

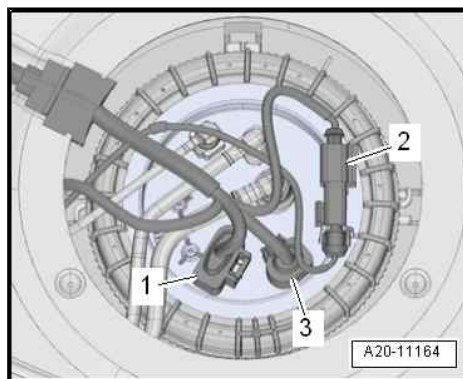


A5 models from model year 2012 onwards, A4 models from model year 2013 onwards:

- Release retainer catches with assembly tool - T10118- and unplug electrical connectors -1 and 3- on flange.

Vehicles with auxiliary heater:

- Unplug electrical connector -2- for metering pump for auxiliary heater on flange.



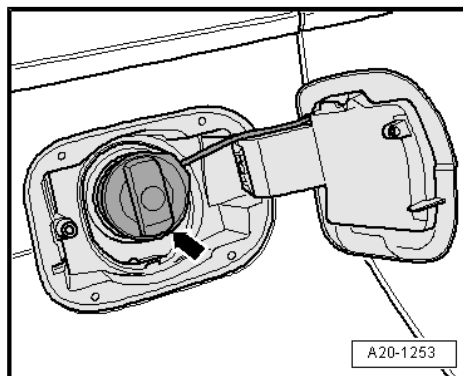
All vehicles (continued):

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

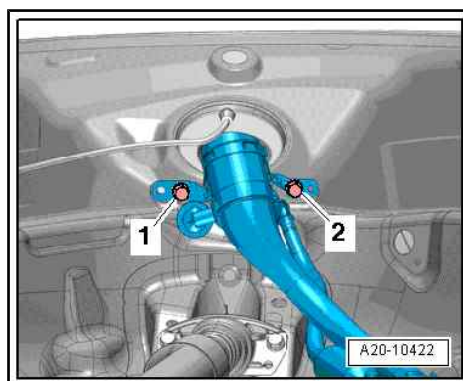


Note

Seal off opening of fuel filler neck with a piece of clean foam to prevent dirt from dropping into the tank.

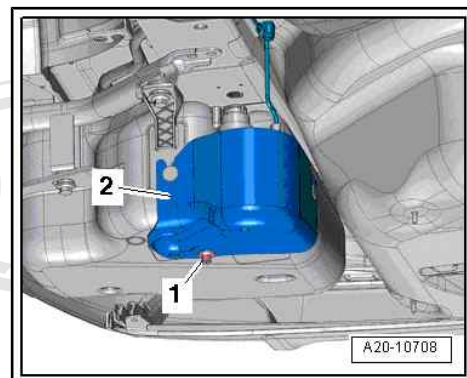
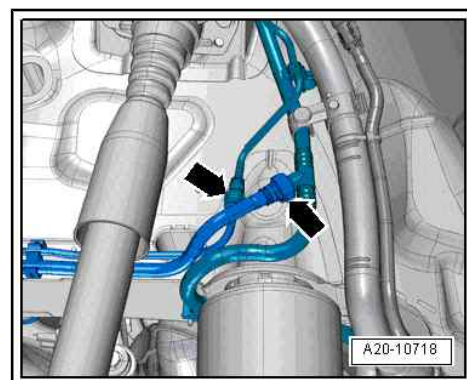
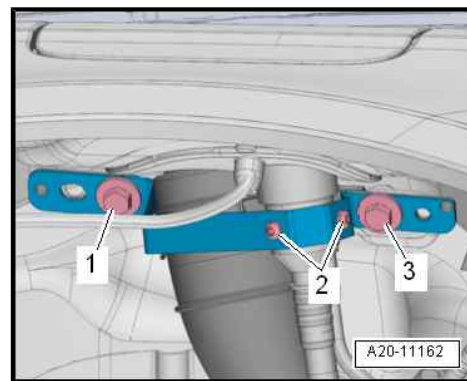


- Remove rear right wheel.
- Remove rear right wheel housing liner ⇒ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Exploded view - wheel housing liner (rear) .
- Remove bolts -1- and -2- for fuel filler neck.



Vehicles with SCR catalytic converter:

- Remove bolts -2- for filler neck for reducing agent.
 - Remove bolts -1- and -3- for fuel filler neck.
-
- Press release tabs and disconnect filler and draining lines -arrows-.
-
- Unscrew nut -1- and detach cover -2- for transfer pump for reducing agent - V436- .



WARNING

Reducing agent can cause skin irritation.

- ◆ *Avoid contact with the skin and eyes. Wear gloves and safety goggles.*
- ◆ *If your skin has come into contact with reducing agent, rinse it off with soap and water.*
- ◆ *If reducing agent gets into your eyes, rinse them out with water for several minutes.*
- ◆ *Do not breathe in or swallow reducing agent.*
- ◆ *If you have swallowed reducing agent, rinse your mouth, drink lots of water and consult a paramedic or doctor immediately.*

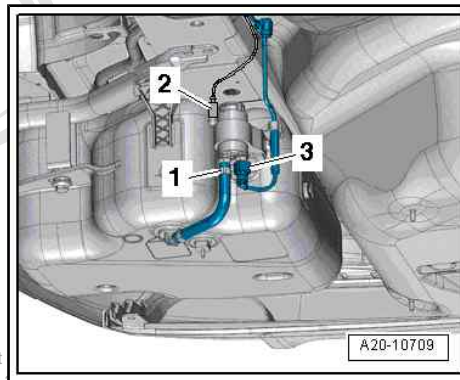
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- Clamp off connecting hose -1- with hose clamp -3094- .


Note

Hold a clean cloth under the separating point to catch escaping reducing agent.

- Press release tab to disconnect transfer line -3- and move clear transfer line.
- Seal off open pipes/lines and connections with clean plugs from engine bung set -VAS 6122-

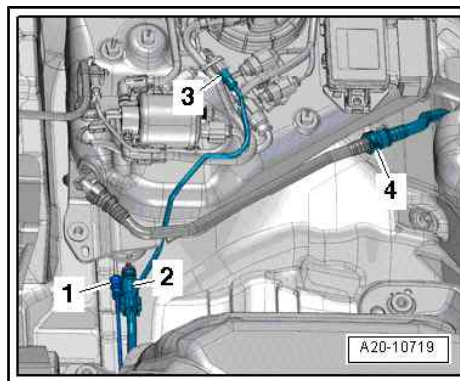

Note

Disregard -item 2-.

- Unplug electrical connector -3- and move electrical wire clear.


Note

Hold a clean cloth under the separating point to catch escaping reducing agent.


WARNING

Safety risk due to escaping reducing agent.

- ♦ ***Observe safety measures for handling reducing agent***
⇒ page 3 .

- Press release tabs and disconnect transfer line -1- and filler line -4-.
- Disconnect breather line -2-.

- To disconnect breather line, press release catches in direction of -arrows-.
- Seal off open pipes/lines and connections with clean plugs from engine bung set - VAS 6122- .

All vehicles (continued):

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

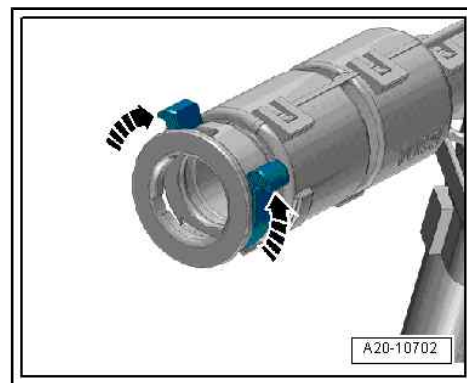


WARNING

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

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- ◆ ***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 ⇒ Running gear, axles, steering; Rep. gr. 42 ; Rear axle; Removing and installing rear axle .



WARNING

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

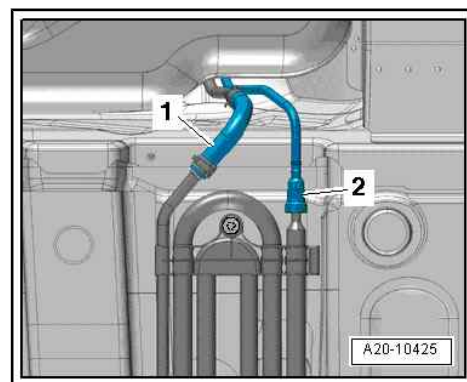
- ◆ ***In extreme cases the fuel lines and the fuel can reach a temperature of 100 °C. Allow the fuel to cool down before disconnecting the lines - danger of scalding.***
- ◆ ***Put on protective gloves.***
- ◆ ***Put on safety goggles.***

Risk of injury - fuel system operates under high pressure.

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

A5 models up to model year 2011, A4 models up to model year 2012:

- Press release tab and disconnect fuel return line -2-.
- Disconnect fuel supply line -1-.

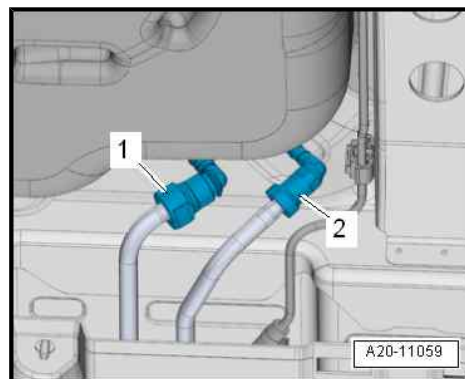


A5 models from model year 2012 onwards, A4 models from model year 2013 onwards:

- Press release tabs and disconnect fuel supply line -1- and fuel return line -2-.

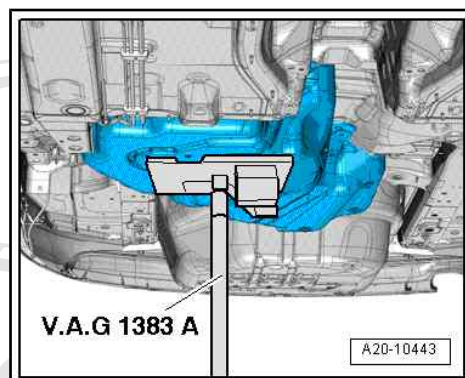
Vehicles with auxiliary heater:

- 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.
- Support fuel tank using engine and gearbox jack - V.A.G 1383 A- .



WARNING

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Risk of accident caused by weight of fuel tank

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

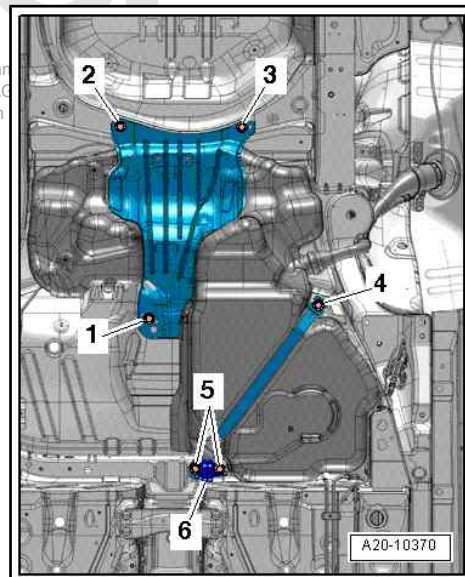
- Remove bolts -1 ... 5- and detach bracket -6- for exhaust system.
- Then lower fuel tank using engine and gearbox jack - V.A.G 1383 A- , simultaneously guiding fuel tank down by hand.

Installing

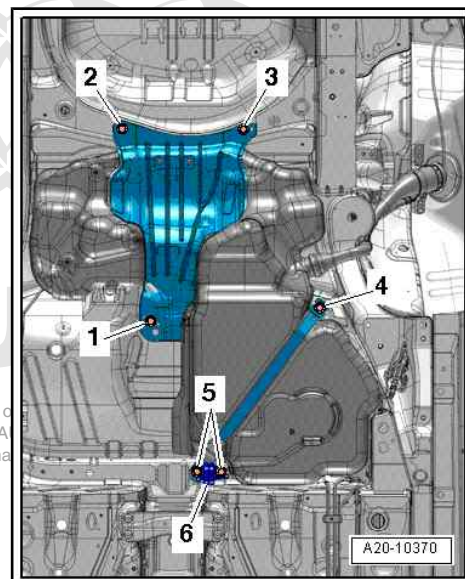
Installation is carried out in the reverse order; note the following:

Tightening torques:

- ⇒ [“1.1.2 Exploded view - fuel tank, vehicles with four-wheel drive”, page 9](#) .
- ⇒ [Fig. ““Filler neck for reducing agent for vehicles with SCR catalytic converter - tightening torque””, page 11](#) .
- Check that fuel lines and breather lines are clipped onto fuel tank.



- Position fuel tank with securing strap and support bracket on underbody using engine and gearbox jack - V.A.G 1383 A- .
- When installing fuel tank, make sure that fuel filler neck is correctly inserted into opening on body.
- Attach bracket -6- for exhaust system and tighten bolts -1 ... 5- for securing strap and support bracket.



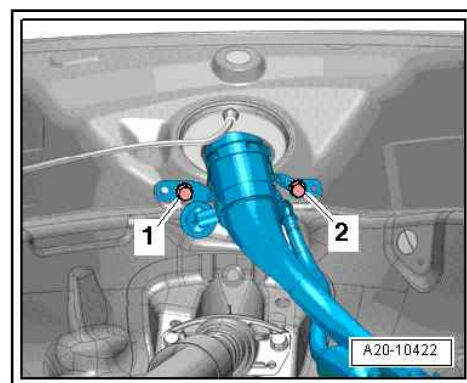
- Connections -1- and -2- on filler neck must be free of corrosion to ensure proper earth connection to body.
- Tighten bolts -1- and -2- for fuel filler neck.



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**



Vehicles with SCR catalytic converter:

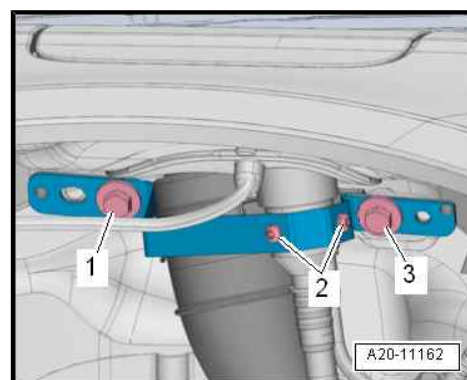
- Connections -1- and -3- on filler neck must be free of corrosion to ensure proper earth connection to body.
- Tighten bolts -1, 2 and 3-.



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**



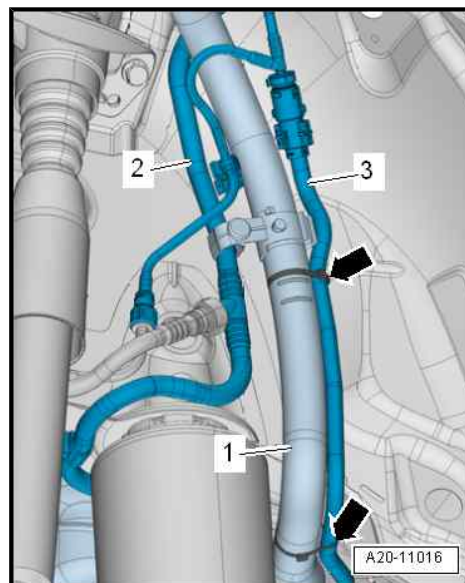
- Route reducing agent lines -2 and 3- at fuel filler neck -1- as shown in illustration.
- Secure reducing agent lines to fuel filler neck with cable ties -arrows-.
- Install cover for transfer pump for reducing agent - V436- ➔ Rep. gr. 26 ; SCR (selective catalytic reduction) system .

All vehicles (continued):

- Install rear axle ➔ Running gear, axles, steering; Rep. gr. 42 ; Rear axle; Removing and installing rear axle .
- Install rear section of exhaust system ➔ Rep. gr. 26 ; Exhaust pipes/silencer; Exploded view - silencer .
- Install rear right wheel housing liner ➔ General body repairs, exterior; Rep. gr. 66 ; Wheel housing liners; Exploded view - wheel housing liner (rear) .
- Install cover for flange ➔ [page 11](#) .
- Install rear seat bench ➔ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .

Vehicles with auxiliary heater:

- Vehicles with auxiliary heater: Bleed fuel supply line leading to metering pump ➔ Auxiliary heater, supplementary heater; Rep. gr. 82 ; Fuel supply system .



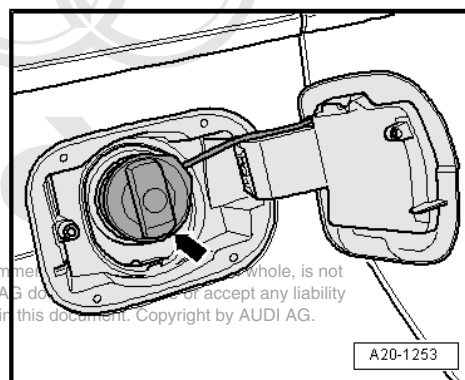
1.4 Removing and installing misfuelling prevention device

Special tools and workshop equipment required

- ◆ Release strips from repair kit

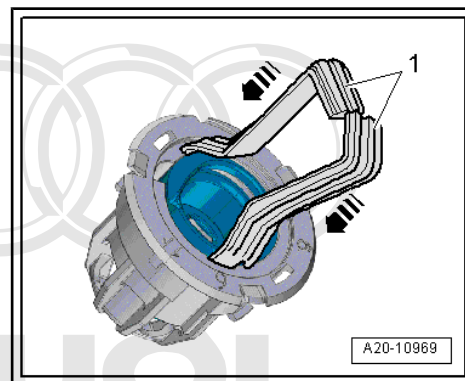
Removing

- Observe safety precautions ➔ [page 1](#) .
- Observe rules for cleanliness ➔ [page 5](#) .
- Open tank flap.
- Clean area around fuel filler neck.
- Remove filler cap -arrow- for fuel filler neck.



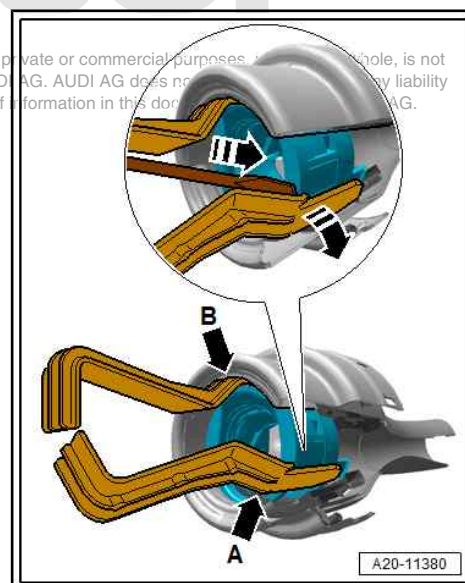
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- Insert release strips -1- into both guides in fuel filler neck as far as stop -arrows-, as shown in illustration.
- Bent sections of release strips must point toward each other.
- Release strips must engage audibly.
- When release strips are inserted, misfuelling prevention device -1- is released and can be pulled back slightly.
- Pull release strips -1- with misfuelling prevention device back slightly.

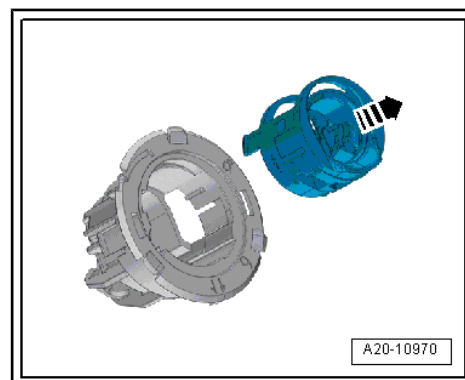


- Prise off release strip -A- and then -B- with a small screwdriver (as shown in illustration) and remove release strips.

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- Remove misfuelling prevention device from fuel filler neck -arrow-.



Installing

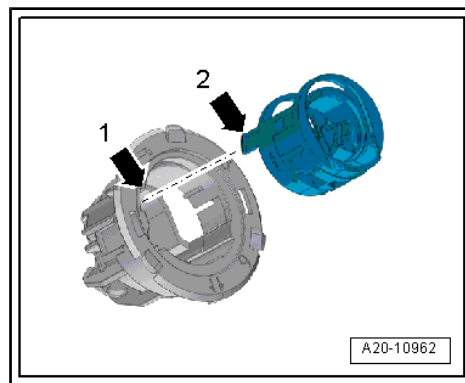
- Insert misfuelling prevention device in fuel filler neck.
- Catch -arrow 2- must engage in guide -arrow 1- on misfuelling prevention device.
- It is not possible to insert the component the wrong way around.
- Press misfuelling prevention device into fuel filler neck so that it engages audibly.



Caution

Safety risk due to electrostatic discharge.

- ◆ ***The fuel tank is connected to earth via the misfuelling prevention device.***
- ◆ ***If the misfuelling prevention device is to be rendered in-operative, it is not sufficient to merely remove it. A deactivated misfuelling prevention device must be fitted to reconnect the fuel tank to earth; see ➔ Electronic parts catalogue .***



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2 Fuel delivery unit/fuel gauge senders

⇒ "2.1 Exploded view - fuel delivery unit/fuel gauge senders", page 33

⇒ "2.2 Removing and installing fuel delivery unit/fuel gauge sender", page 41

⇒ "2.3 Checking fuel gauge sender G ", page 65

⇒ "2.4 Removing and installing fuel gauge sender G ", page 75

⇒ "2.5 Checking fuel gauge sender 2 G169 ", page 79

⇒ "2.6 Removing and installing fuel gauge sender 2 G169 ", page 84

2.1 Exploded view - fuel delivery unit/fuel gauge senders

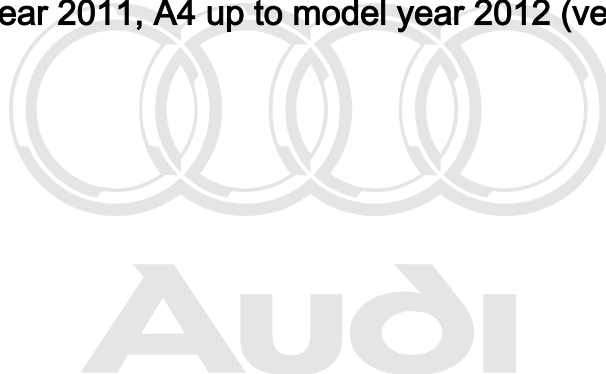
⇒ "2.1.1 Exploded view - fuel delivery unit and fuel gauge sender, A5 up to model year 2011, A4 up to model year 2012 (vehicles with front-wheel drive)", page 33

⇒ "2.1.2 Exploded view - fuel delivery unit and fuel gauge sender, A5 from model year 2012 onwards, A4 from model year 2013 onwards (vehicles with front-wheel drive)", page 35

⇒ "2.1.3 Exploded view - fuel delivery unit and fuel gauge senders, A5 up to model year 2011, A4 up to model year 2012 (vehicles with four-wheel drive)", page 37

⇒ "2.1.4 Exploded view - fuel delivery unit and fuel gauge senders, A5 from model year 2012 onwards, A4 from model year 2013 onwards (vehicles with four-wheel drive)", page 39

2.1.1 Exploded view - fuel delivery unit and fuel gauge sender, A5 up to model year 2011, A4 up to model year 2012 (vehicles with front-wheel drive)



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1 - Threaded ring
2 - Seal

- ☐ Renew
- ☐ Install dry

3 - Union nut

- ☐ Renew
- ☐ Loosen and tighten with union nut tool - T40068 A-
- ☐ 120 Nm

4 - Electrical connector

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

5 - Electrical connector

- ☐ Only on vehicles with auxiliary heater: for metering pump for auxiliary heater

6 - Fuel supply line

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

7 - Fuel return line

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

8 - Fuel line

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- ☐ Only on vehicles with auxiliary heater: leading to metering pump for auxiliary heater
- ☐ Do not kink
- ☐ To disconnect from flange, press release tab on connection piece
- ☐ Clipped onto fuel tank

9 - Cap

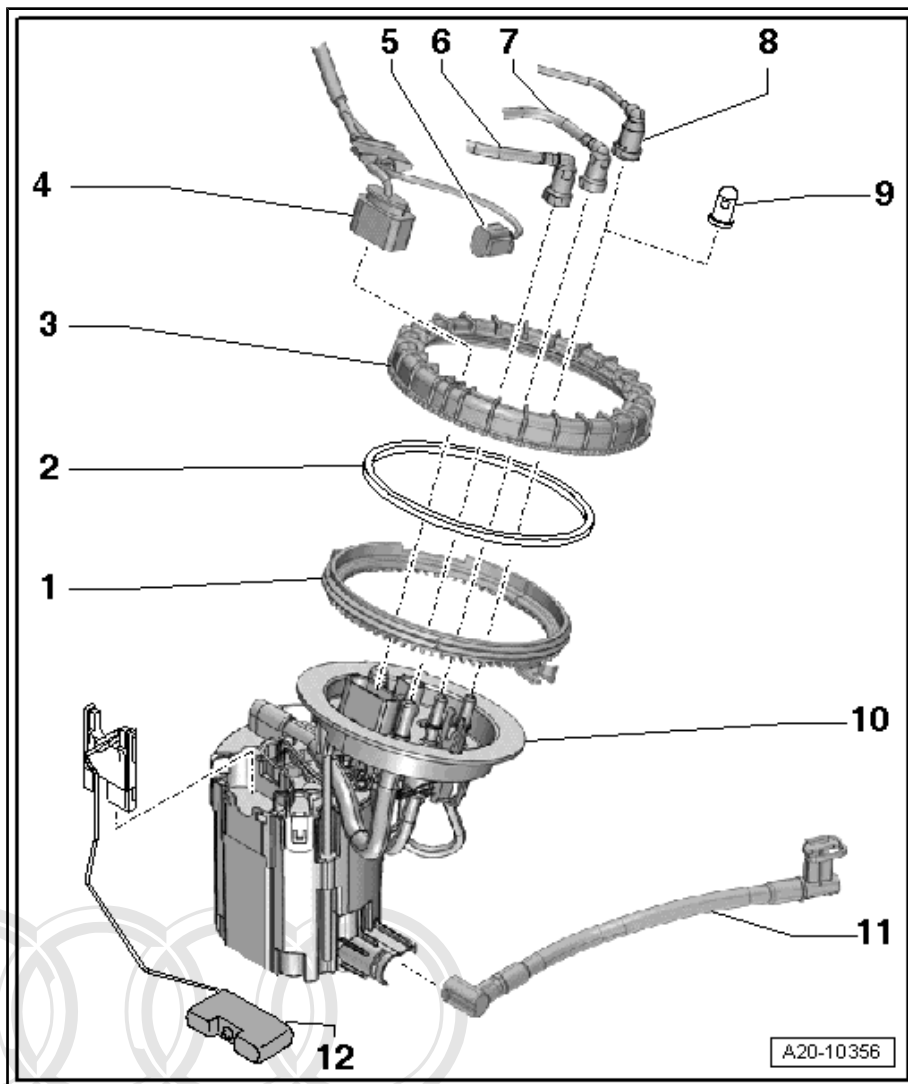
- ☐ For vehicles without auxiliary heater

10 - Fuel delivery unit

- ☐ Checking fuel system pressurisation pump - G6- (electrical test) ➔ [page 105](#)
- ☐ Checking delivery rate of fuel system pressurisation pump - G6- ➔ [page 105](#)
- ☐ Removing and installing ➔ [page 41](#)
- ☐ Put at least 5 litres of fuel into tank after installing

11 - Suction pipe

- ☐ Fitted on some vehicle versions only



A20-10356

12 - Fuel gauge sender - G-

- ☐ Checking resistance values ➔ [page 65](#)
- ☐ Removing and installing ➔ [page 75](#)

2.1.2 Exploded view - fuel delivery unit and fuel gauge sender, A5 from model year 2012 onwards, A4 from model year 2013 onwards (vehicles with front-wheel drive)

1 - Fuel gauge sender - G-

- ☐ Checking resistance values ➔ [page 65](#)
- ☐ Removing and installing ➔ [page 75](#)

2 - Fuel pump control unit - J538-

- ☐ Removing and installing ➔ [page 133](#)

3 - Bolt

- ☐ 2.5 Nm

4 - Electrical connector

- ☐ For fuel gauge sender - G-

5 - Electrical connector

- ☐ For fuel system pressurisation pump - G6-

6 - Electrical connector

- ☐ For fuel pump control unit - J538-

7 - Electrical connector

- ☐ Only on vehicles with auxiliary heater: for metering pump for auxiliary heater

8 - Fuel line

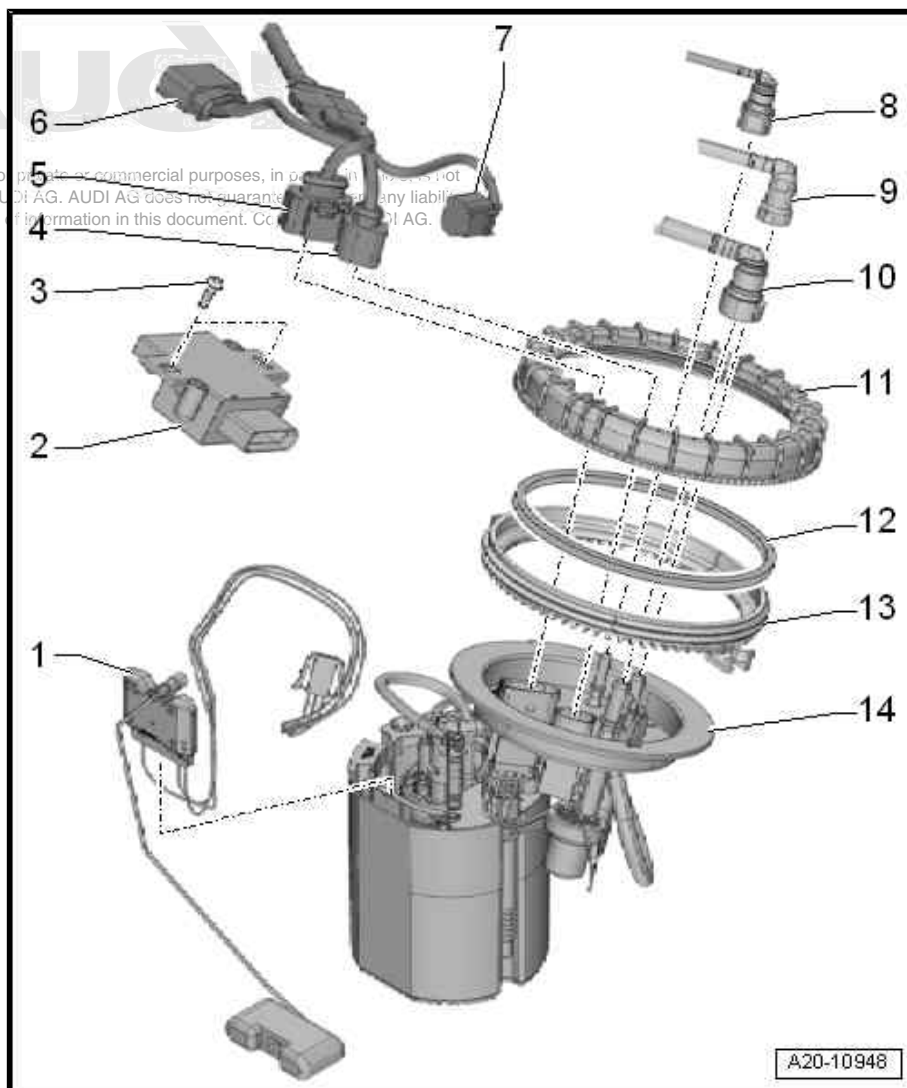
- ☐ To metering pump (on vehicles with auxiliary heater)
- ☐ Do not kink
- ☐ To disconnect from flange, press release tab on connection piece
- ☐ Clipped onto fuel tank

9 - Fuel return line

- ☐ From engine
- ☐ Do not kink
- ☐ To disconnect from flange, press release tab on connection piece
- ☐ Note direction of arrow (fuel supply or fuel return system) on flange when installing
- ☐ Clipped onto fuel tank

10 - Fuel supply line

- ☐ To fuel filter
- ☐ Do not kink



A20-10948

- ☐ To disconnect from flange, press release tab on connection piece
- ☐ Note direction of arrow (fuel supply or fuel return system) on flange when installing
- ☐ Clipped onto fuel tank

11 - Union nut

- ☐ Renew
- ☐ Loosen and tighten with union nut tool - T40068 A-
- ☐ 120 Nm

12 - Seal

- ☐ Renew
- ☐ Install dry

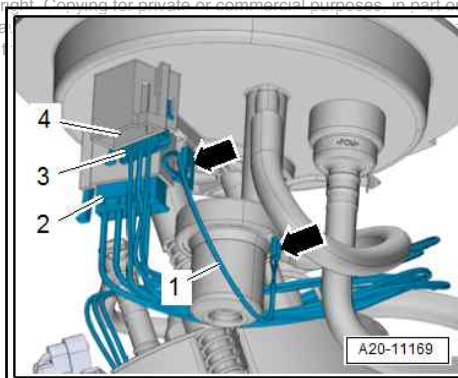
13 - Threaded ring

14 - Fuel delivery unit

- ☐ Checking fuel system pressurisation pump - G6- (electrical test) ➔ [page 105](#)
- ☐ Checking delivery rate of fuel system pressurisation pump - G6- ➔ [page 105](#)
- ☐ Removing and installing ➔ [page 41](#)
- ☐ Put at least 5 litres of fuel into tank after installing

Connector for fuel delivery unit

- Route earth connection -1- as shown in illustration.
- Make sure that the following connectors are securely seated:
 - ◆ Connectors -arrows- for earth connection on fuel pressure regulator and flange
 - ◆ Connector -2- for fuel system pressurisation pump - G6- on flange
 - ◆ Connector -3- for fuel gauge sender - G- on flange
- Make sure connectors are attached properly; pull to check that they are correctly engaged.



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2.1.3 Exploded view - fuel delivery unit and fuel gauge senders, A5 up to model year 2011, A4 up to model year 2012 (vehicles with four-wheel drive)

1 - Fuel delivery unit

- ☐ Checking fuel system pressurisation pump - G6- (electrical test)
⇒ [page 105](#)
- ☐ Checking delivery rate of fuel system pressurisation pump - G6-
⇒ [page 105](#)
- ☐ Removing and installing
⇒ [page 41](#)
- ☐ Put at least 5 litres of fuel into tank after installing

2 - Threaded ring

3 - Seal

- ☐ Renew
- ☐ Install dry

4 - Union nut

- ☐ Renew
- ☐ 120 Nm
- ☐ Loosen and tighten with union nut tool - T40068 A-

5 - Fuel supply line

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

6 - Fuel return line

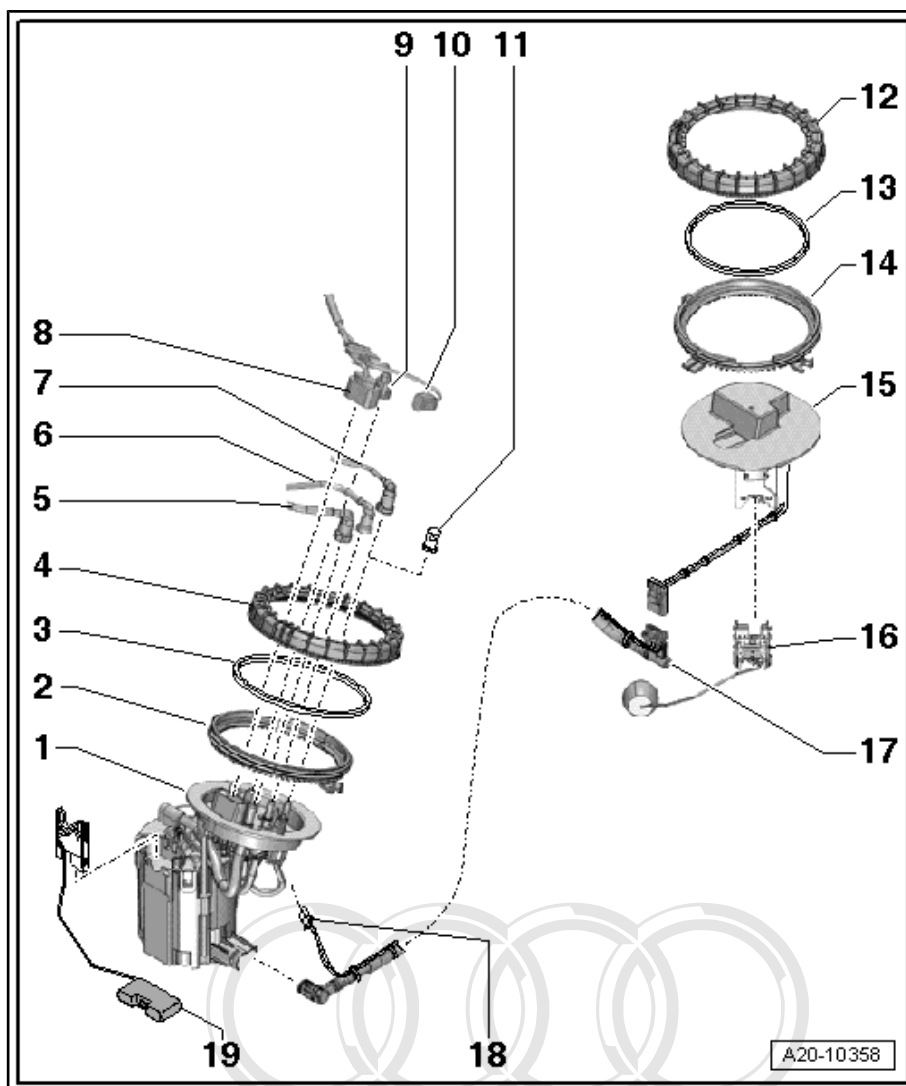
- ☐ From fuel cooler
- ☐ Do not kink
- ☐ To disconnect from flange, press release tab on connection piece
- ☐ Note direction of arrow (fuel supply or fuel return system) on flange when installing
- ☐ Clipped onto fuel tank

7 - Fuel line

- ☐ Only on vehicles with auxiliary heater: leading to metering pump for auxiliary heater
- ☐ Do not kink
- ☐ To disconnect from flange, press release tab on connection piece
- ☐ Clipped onto fuel tank

8 - Electrical connector

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





9 - Electrical connector

- ☐ For fuel gauge sender 2 - G169-

10 - Electrical connector

- ☐ Only on vehicles with auxiliary heater: for metering pump for auxiliary heater

11 - Cap

- ☐ For vehicles without auxiliary heater

12 - Union nut

- ☐ Renew
- ☐ 120 Nm
- ☐ Loosen and tighten with union nut tool - T40068 A-

13 - Seal

- ☐ Renew
- ☐ Install dry

14 - Threaded ring

15 - Flange

16 - Fuel gauge sender 2 - G169-

- ☐ Checking resistance values ⇒ [page 79](#)
- ☐ Removing and installing ⇒ [page 84](#)
- ☐ Put at least 5 litres of fuel into tank after installing

17 - Suction pipe

- ☐ Removing and installing ⇒ [page 131](#)
- ☐ Put at least 5 litres of fuel into tank after installing

18 - Electrical connector

- ☐ For fuel gauge sender 2 - G169-

19 - Fuel gauge sender - G-

- ☐ Checking resistance values ⇒ [page 65](#)
- ☐ Removing and installing ⇒ [page 75](#)



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2.1.4 Exploded view - fuel delivery unit and fuel gauge senders, A5 from model year 2012 onwards, A4 from model year 2013 onwards (vehicles with four-wheel drive)

1 - Fuel delivery unit

- ☐ Checking fuel system pressurisation pump - G6- (electrical test)
⇒ [page 105](#)
- ☐ Checking delivery rate of fuel system pressurisation pump - G6-
⇒ [page 105](#)
- ☐ Removing and installing
⇒ [page 41](#)
- ☐ Put at least 5 litres of fuel into tank after installing

2 - Fuel gauge sender - G-

- ☐ Checking resistance values ⇒ [page 65](#)
- ☐ Removing and installing
⇒ [page 75](#)

3 - Threaded ring

4 - Seal

- ☐ Renew
- ☐ Install dry

5 - Fuel pump control unit -

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- ☐ Removing and installing

6 - Bolt

- ☐ 2.5 Nm

7 - Electrical connector

- ☐ For fuel system pressurisation pump - G6-

8 - Electrical connector

- ☐ For fuel pump control unit - J538-

9 - Electrical connector

- ☐ For fuel gauge sender - G-

10 - Electrical connector

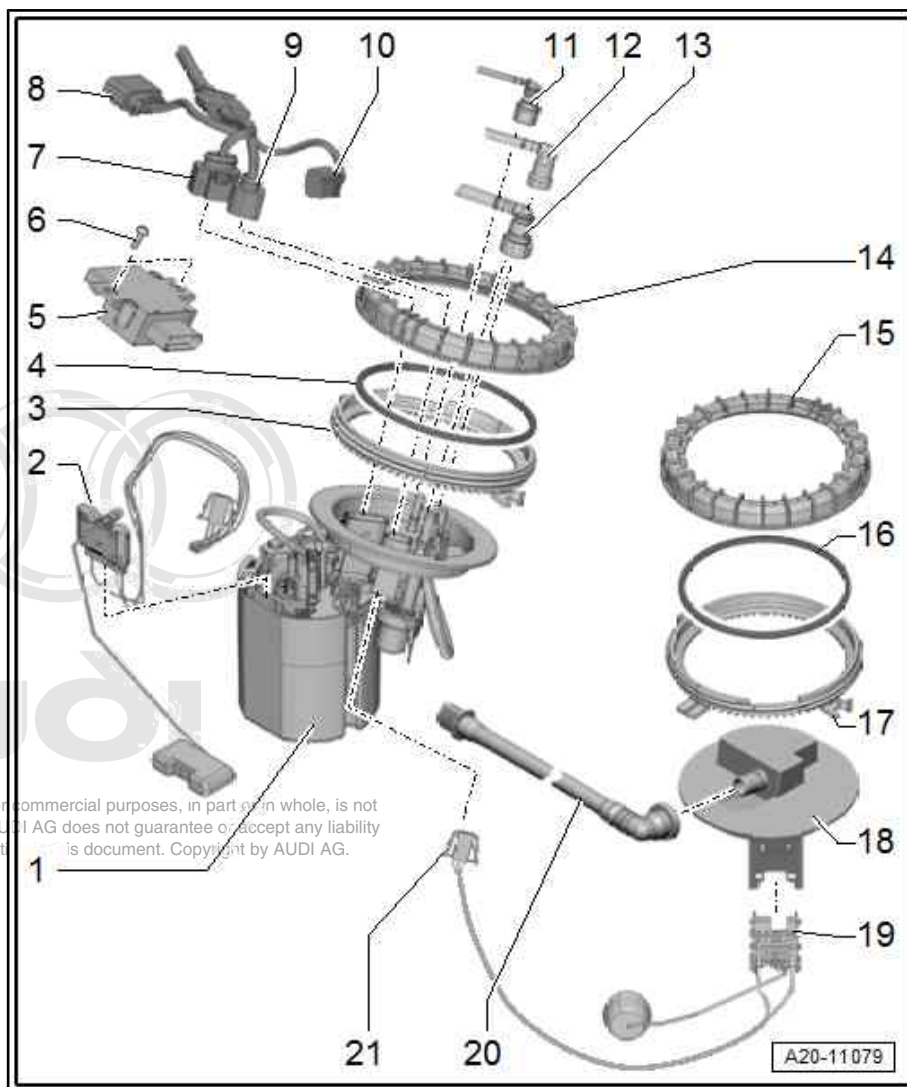
- ☐ Only on vehicles with auxiliary heater: for metering pump for auxiliary heater

11 - Fuel line

- ☐ To metering pump (on vehicles with auxiliary heater)
- ☐ Do not kink
- ☐ To disconnect from flange, press release tab on connection piece
- ☐ Clipped onto fuel tank

12 - Fuel return line

- ☐ From engine
- ☐ Do not kink
- ☐ To disconnect from flange, press release tab on connection piece



- ☐ Note direction of arrow (fuel supply or fuel return system) on flange when installing
- ☐ Clipped onto fuel tank

13 - Fuel supply line

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

14 - Union nut

- ☐ Renew
- ☐ 120 Nm
- ☐ Loosen and tighten with union nut tool - T40068 A-

15 - Union nut

- ☐ Renew
- ☐ Loosen and tighten with union nut tool - T40068 A-
- ☐ 120 Nm

16 - Seal

- ☐ Renew
- ☐ Install dry

17 - Threaded ring

18 - Flange

19 - Fuel gauge sender 2 - G169-

- ☐ Checking resistance values ➔ [page 79](#)
- ☐ Removing and installing ➔ [page 84](#)
- ☐ Put at least 5 litres of fuel into tank after installing

20 - Breather line

- ☐ Only fitted on vehicles with SCR system

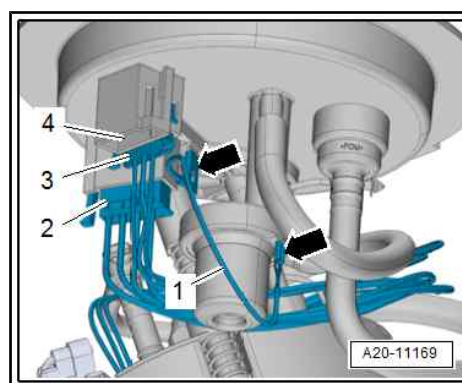
21 - Electrical connector

- ☐ For fuel gauge sender 2 - G169-

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Connector for fuel delivery unit

- Route earth connection -1- as shown in illustration.
- Make sure that the following connectors are securely seated:
 - ◆ Connectors -arrows- for earth connection on fuel pressure regulator and flange
 - ◆ Connector -2- for fuel system pressurisation pump - G6- on flange
 - ◆ Connector -3- for fuel gauge sender - G- on flange
 - ◆ Socket -4- for fuel gauge sender 2 - G169- on flange
- Make sure connectors are attached properly; pull to check that they are correctly engaged.



2.2 Removing and installing fuel delivery unit/fuel gauge sender

⇒ [“2.2.1 Removing and installing fuel delivery unit - A5 up to model year 2011, A4 up to model year 2012 \(vehicles with front-wheel drive\)”, page 41](#)

⇒ [“2.2.2 Removing and installing fuel delivery unit - A5 from model year 2012 onwards, A4 from model year 2013 onwards \(vehicles with front-wheel drive\)”, page 47](#)

⇒ [“2.2.3 Removing and installing fuel delivery unit - A5 up to model year 2011, A4 up to model year 2012 \(vehicles with four-wheel drive\)”, page 53](#)

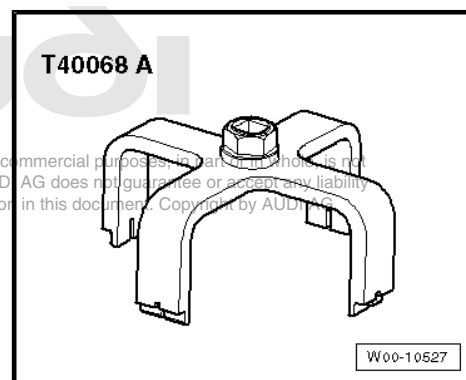
⇒ [“2.2.4 Removing and installing fuel delivery unit - A5 from model year 2012 onwards, A4 from model year 2013 onwards \(vehicles with four-wheel drive\)”, page 59](#)

2.2.1 Removing and installing fuel delivery unit - A5 up to model year 2011, A4 up to model year 2012 (vehicles with front-wheel drive)

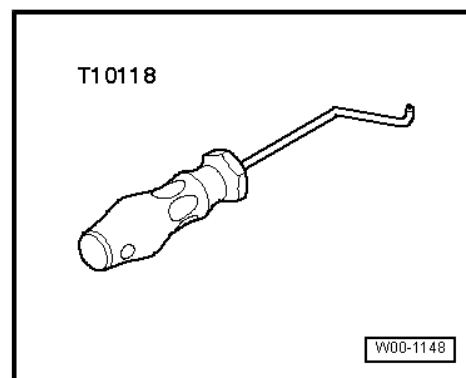
Special tools and workshop equipment required

◆ Union nut tool - T40068 A-

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◆ Assembly tool - T10118-



Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 5](#) .

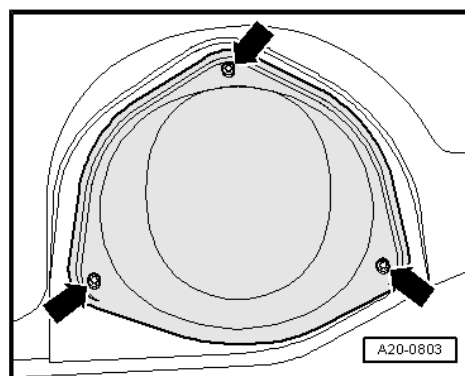


WARNING

Danger! Fuel may escape.

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

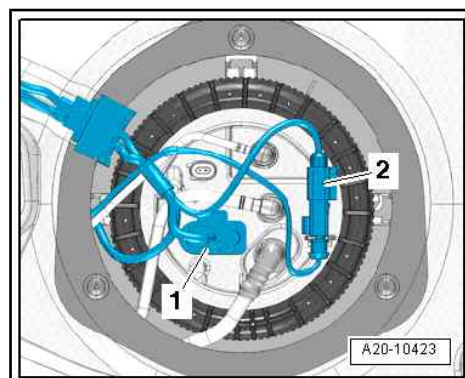
- Drain fuel tank if necessary ➤ [page 12](#) .
- Move passenger's seat as far to front as possible (if necessary).
- Remove rear seat bench ➤ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Unscrew cover for flange -arrows-.



- Release retainer catch with assembly tool - T10118- and unplug electrical connector -1- on flange.

Vehicles with auxiliary heater:

- Disengage electrical connector -2- for metering pump for auxiliary heater on flange and move clear.



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All vehicles (continued):



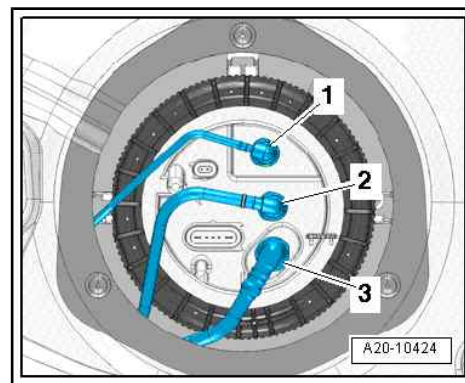
WARNING

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

- ◆ *In extreme cases the fuel lines and the fuel can reach a temperature of 100 °C. Allow the fuel to cool down before disconnecting the lines - danger of scalding.*
- ◆ *Put on protective gloves.*
- ◆ *Put on safety goggles.*

Risk of injury - fuel system operates under high pressure.

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



- Press release tabs and disconnect fuel lines -2- and -3- on flange.

Vehicles with auxiliary heater:

- Press release tab and disconnect fuel line -1- leading to metering pump for auxiliary heater at flange.

All vehicles (continued):

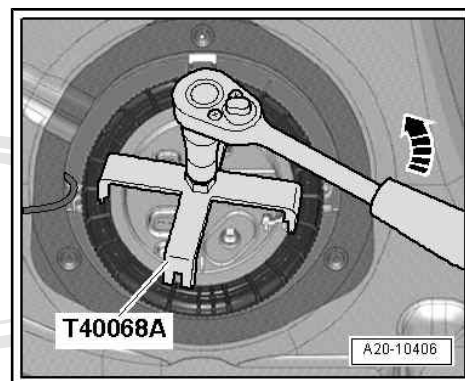


WARNING

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.*

- Unscrew union nut using union nut tool - T40068 A- -arrow-.



Note

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

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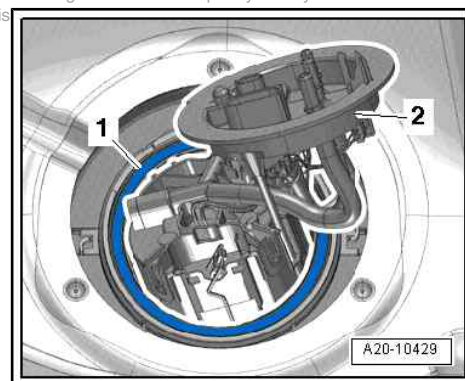
- Take flange -2- out of fuel tank and detach seal -1-.



WARNING

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

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



- Swivel fuel delivery unit -1- to left side of vehicle -arrow- and tilt slightly out of fuel tank.



Note

When removing fuel delivery unit, make sure you do not bend float arm of fuel gauge sender -G- -2-.

- Guide fuel gauge sender - G- -item 2- out of opening in fuel tank and remove fuel delivery unit with suction pipe from fuel tank.

Installing

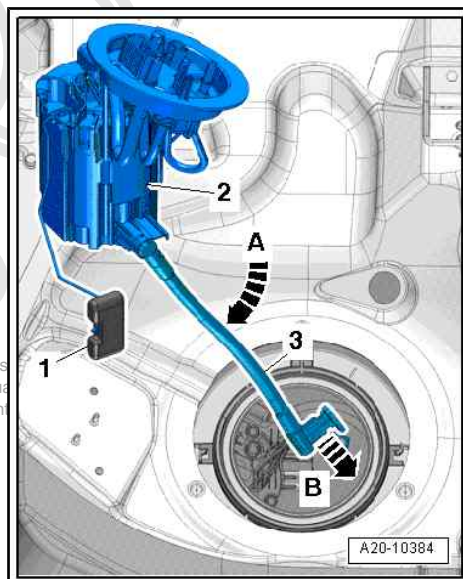
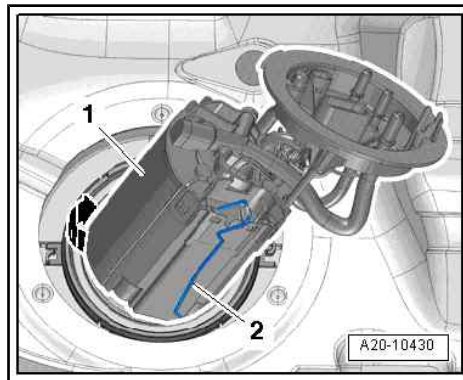
Installation is carried out in the reverse order; note the following:

- Tightening torque
⇒ ["2.1 Exploded view - fuel delivery unit/fuel gauge senders", page 33](#)

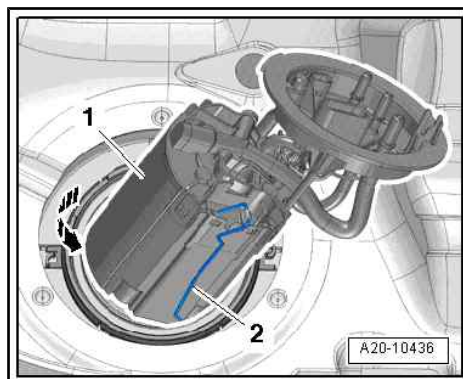


Note

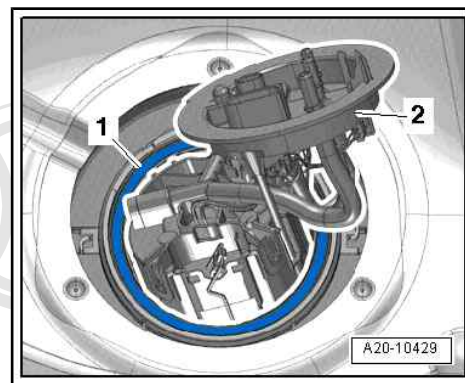
- ◆ *Renew seal and union nut.*
- ◆ *Take care not to bend float arm of fuel gauge sender -G- when fitting fuel delivery unit.*
- ◆ *Ensure that fuel hoses are securely seated.*
- Pivot suction pipe -3- on fuel delivery unit -2- downwards -arrow A-.
- First guide suction pipe into fuel tank -arrow B-.
- Then insert float -1- on fuel gauge sender - G- into fuel tank.



- Swivel fuel delivery unit -1- to left side of vehicle and guide into fuel tank -arrow- (make sure fuel gauge sender -2- is not damaged).

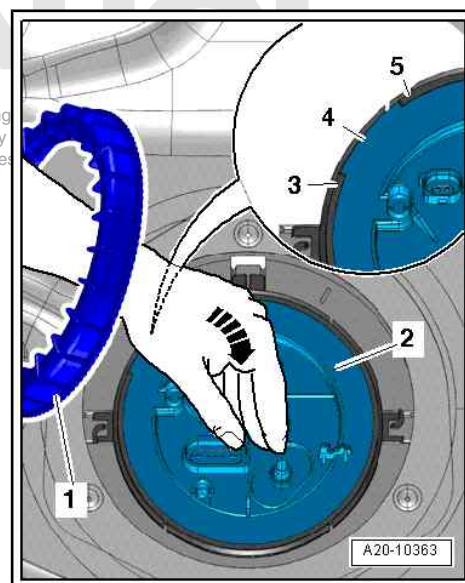


- Slip new seal -1- onto flange -2- and insert in groove on fuel tank.

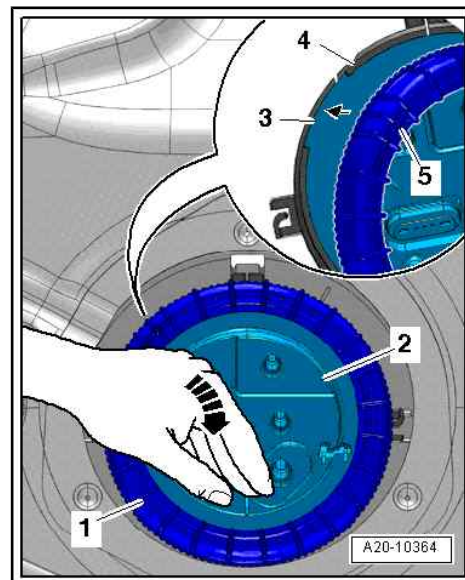


- Slip union nut -1- over your left arm and press flange -2- firmly into installation position -arrow- with your left hand.
- Lug -4- on flange must be between tabs -3- and -5- on threaded ring.

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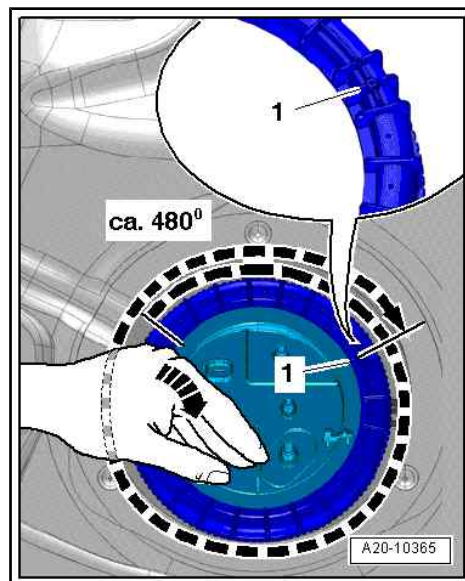


- Take union nut -1- off your left arm with your right hand and at the same time keep pressing down flange -2- firmly with your left hand -arrow-.
- Position union nut -1- with your right hand in such a way that double ridge -5- on ribs aligns with lug -3- of flange (approx. "ten o'clock position").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



- Keep pressing flange downwards firmly -arrow-.
- Turn union nut approx. 480° with your right hand until double ridge -1- is in approx. "two o'clock position" and at the same time keep on pressing flange downwards firmly with your left hand.

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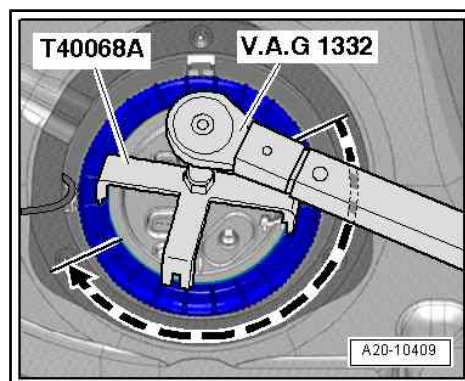


Caution

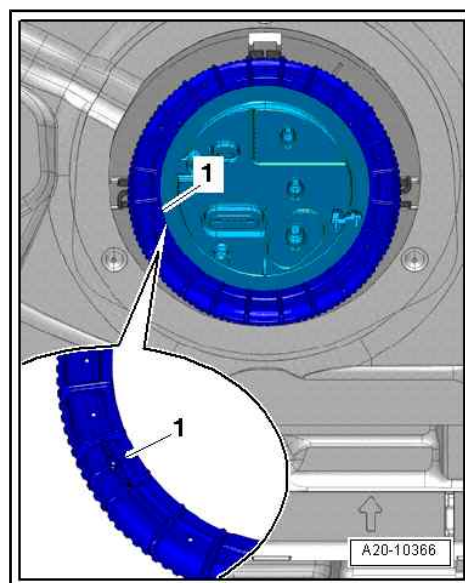
Take care to avoid leakage at flange.

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

- Tighten union nut for flange using union nut tool - T40068 A- .



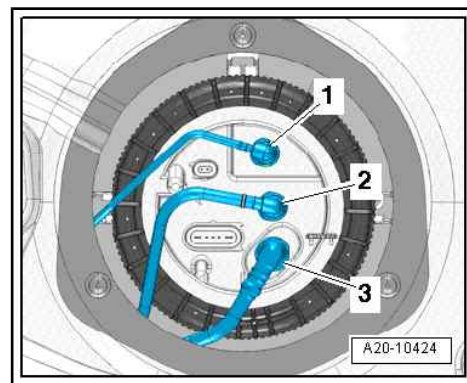
- Checking: Double ridge -1- must now be aligned between "seven o'clock and eight o'clock position".



- Connect fuel lines -1, 2, 3-.
- Connect electrical connectors.
- Install cover for flange ⇒ [page 8](#) .
- Install rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .
- Put at least 5 litres of fuel into tank after installing fuel delivery unit.

Vehicles with auxiliary heater:

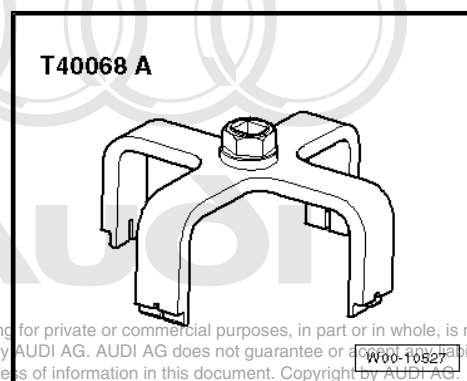
- Vehicles with auxiliary heater: Bleed fuel supply line leading to metering pump ⇒ Auxiliary heater, supplementary heater; Rep. gr. 82 ; Fuel supply system .



2.2.2 Removing and installing fuel delivery unit - A5 from model year 2012 onwards, A4 from model year 2013 onwards (vehicles with front-wheel drive)

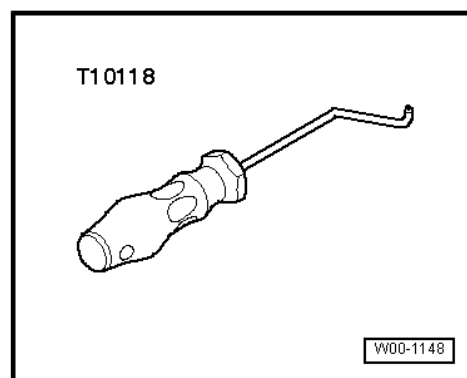
Special tools and workshop equipment required

- ◆ Union nut tool - T40068 A-



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- ◆ Assembly tool - T10118-



Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 5](#) .

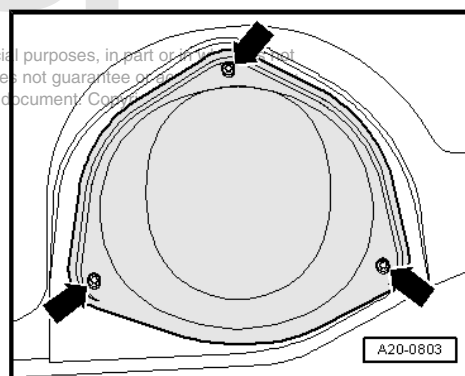


WARNING

Danger! Fuel may escape.

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

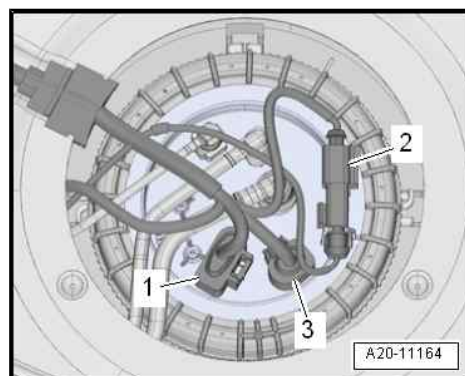
- Drain fuel tank if necessary ➤ [page 12](#) .
- Move passenger's seat as far to front as possible (if necessary).
- Remove rear seat bench ➤ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .
- Unscrew cover for flange -arrows-.



- Release retainer catches with assembly tool - T10118- and unplug electrical connectors -1 and 3- on flange.

Vehicles with auxiliary heater:

- Disengage electrical connector -2- for metering pump for auxiliary heater on flange and move clear.



All vehicles (continued):



WARNING

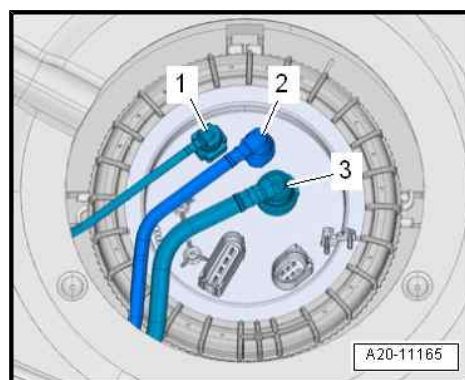
Risk of injury - fuel system operates under high pressure.

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

- Press release tabs and disconnect fuel lines -2- and -3- on flange.

Vehicles with auxiliary heater:

- Press release tab and disconnect fuel line -1- leading to metering pump for auxiliary heater at flange.



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.***

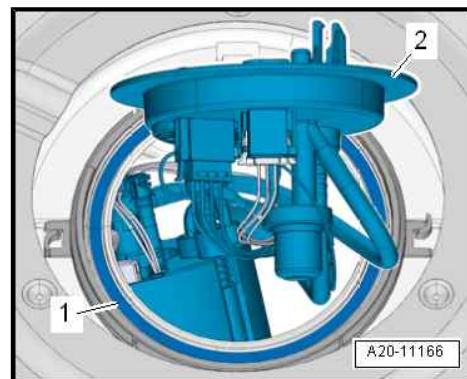
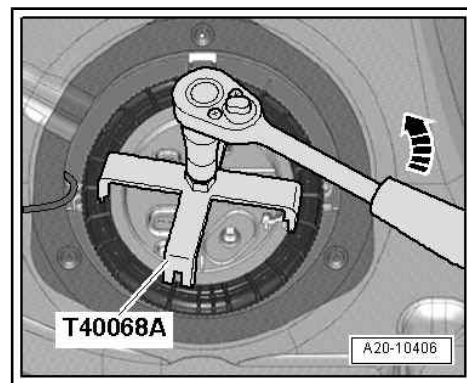
- Unscrew union nut using union nut tool - T40068 A- -arrow-.



Note

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

- Take flange -2- out of fuel tank and detach seal -1-.
- Carefully pull fuel delivery unit slightly out of fuel tank.



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WARNING

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

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

- Swivel fuel delivery unit -2- to left side of vehicle -arrow- and tilt slightly out of fuel tank.



Note

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

- Guide fuel gauge sender - G- -item 1- out of opening in fuel tank and take fuel delivery unit out of fuel tank.

Installing

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

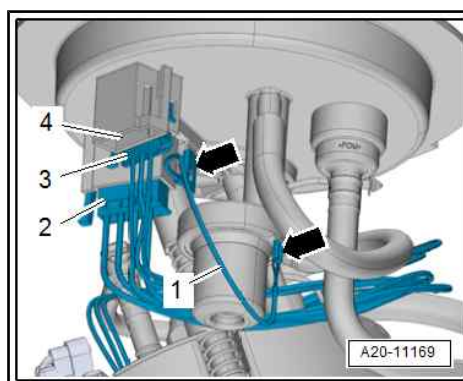
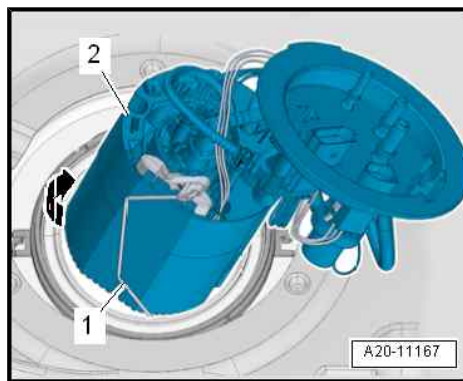
- **Tightening torque** copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorized by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.
⇒ **"2.1 Exploded view - fuel delivery unit/fuel gauge senders"**
page 33



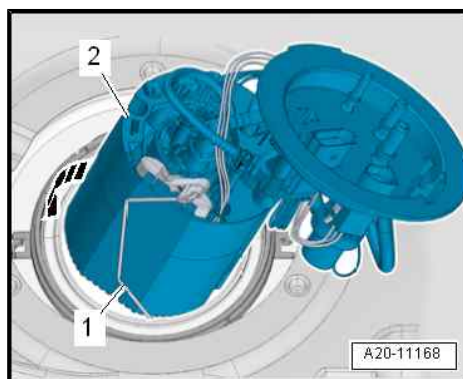
Note

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

- Make sure that earth connection -1- is securely attached to fuel pressure regulator and flange -arrows-.
- Make sure that the following connectors are securely seated:
 - Connectors -2 and 3- must be seated securely on flange.
- Make sure connectors are attached properly; pull to check that they are correctly engaged.

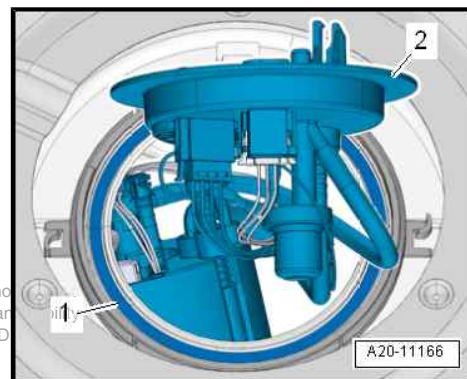


- Insert float on fuel gauge sender - G- -item 1- in fuel tank.
- Swivel fuel delivery unit -2- to left side of vehicle and guide it into fuel tank -arrow- (pay attention to fuel gauge sender).

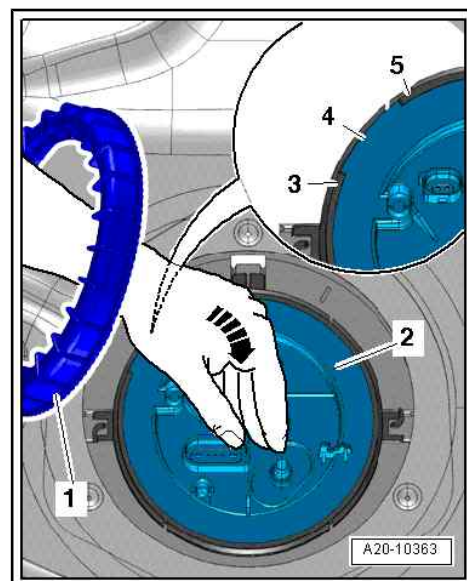


- Slip new seal -1- onto flange -2- and insert in groove on fuel tank.

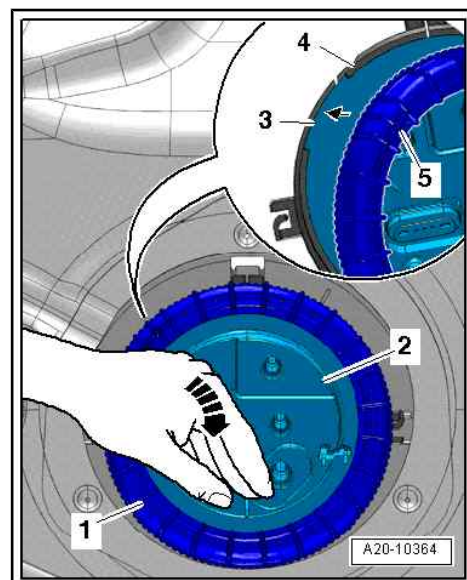
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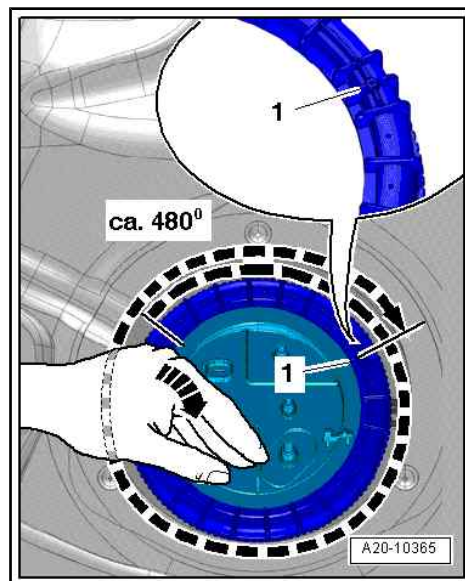
- Slip union nut -1- over your left arm and press flange -2- firmly into installation position -arrow- with your left hand.
- Lug -4- on flange must be between tabs -3- and -5- on threaded ring.



- 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 -arrow-.
- Turn union nut approx. 480° with your right hand until double ridge -1- is in approx. "two o'clock position" and at the same time keep on pressing flange downwards firmly with your left hand.

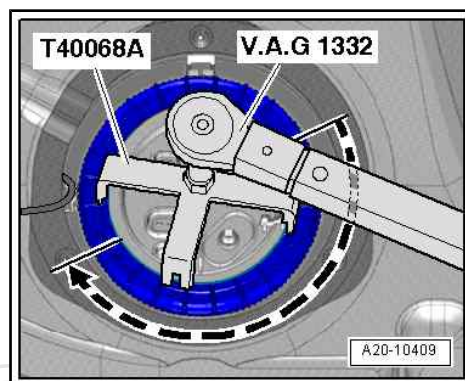


Caution

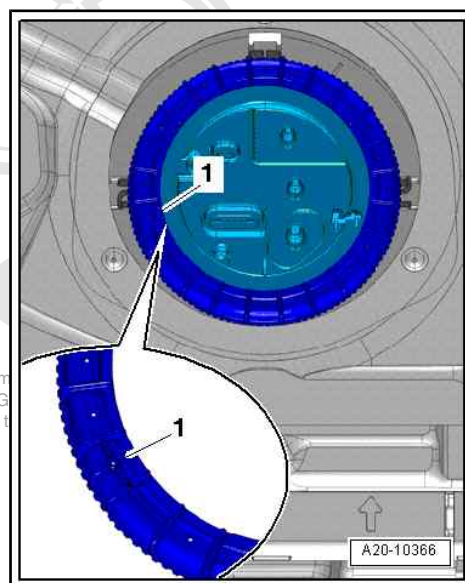
Take care to avoid leakage at flange.

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

- Tighten union nut for flange using union nut tool - T40068 A- .



- Checking: Double ridge -1- must now be aligned between "seven o'clock and eight o'clock position".

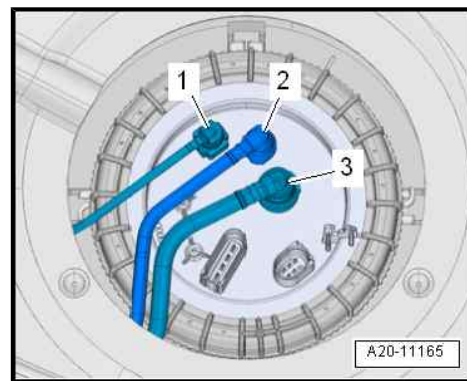


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- Connect fuel lines -1, 2, 3-.
- Connect electrical connectors.
- Install cover for flange ⇒ [page 8](#) .
- Install rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .
- Put at least 5 litres of fuel into tank after installing fuel delivery unit.

Vehicles with auxiliary heater:

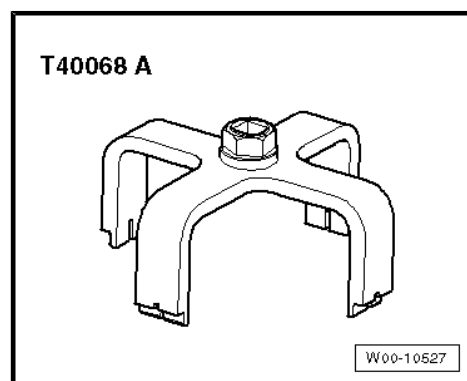
- Vehicles with auxiliary heater: Bleed fuel supply line leading to metering pump ⇒ Auxiliary heater, supplementary heater; Rep. gr. 82 ; Fuel supply system .



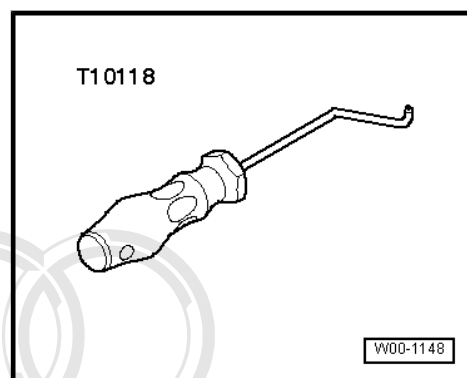
2.2.3 Removing and installing fuel delivery unit - A5 up to model year 2011, A4 up to model year 2012 (vehicles with four-wheel drive)

Special tools and workshop equipment required

- ◆ Union nut tool - T40068 A-



- ◆ Assembly tool - T10118-



Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 5](#) .

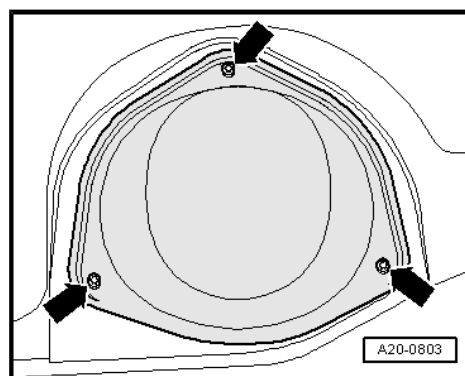


WARNING

Danger! Fuel may escape.

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

- Drain fuel tank if necessary ➤ [page 12](#) .
- Move passenger's seat as far to front as possible (if necessary).
- Remove rear seat bench ➤ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .
- Unscrew cover for flange -arrows-.



- Release retainer catches with assembly tool - T10118- and unplug electrical connectors **1 and 2** on flange.

Vehicles with auxiliary heater:

- Disengage electrical connector **-3-** for metering pump for auxiliary heater on flange and move clear.

All vehicles (continued):



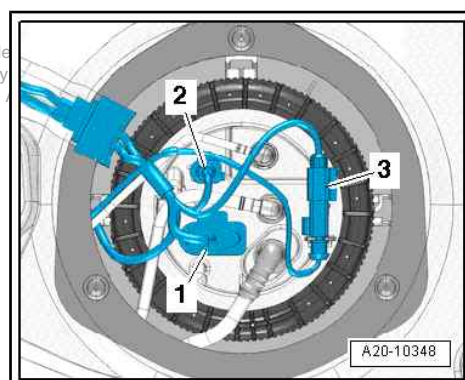
WARNING

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

- ◆ **In extreme cases the fuel lines and the fuel can reach a temperature of 100 °C. Allow the fuel to cool down before disconnecting the lines - danger of scalding.**
- ◆ **Put on protective gloves.**
- ◆ **Put on safety goggles.**

Risk of injury - fuel system operates under high pressure.

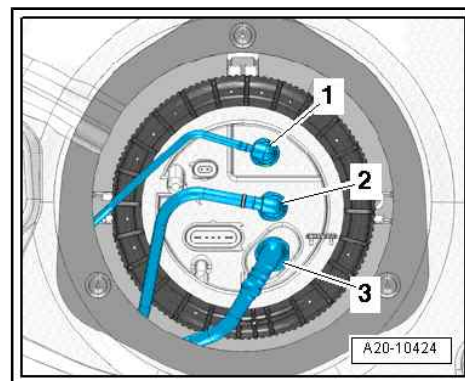
- ◆ **To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.**



- Disconnect fuel lines -2- and -3- on flange (press release tabs).

Vehicles with auxiliary heater:

- Press release tab and disconnect fuel line -1- leading to metering pump for auxiliary heater at flange.



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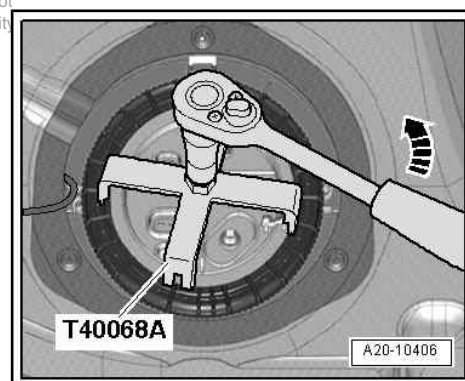
All vehicles (continued):



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.*



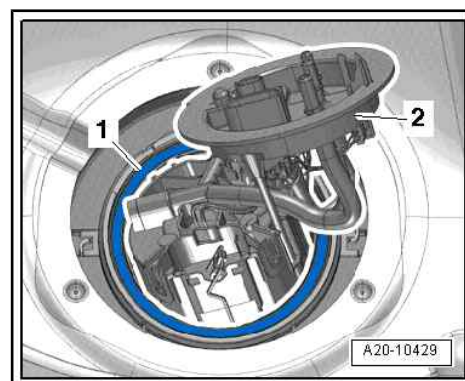
- Unscrew union nut using union nut tool - T40068 A- -arrow-.



Note

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

- Take flange -2- out of fuel tank and detach seal -1-.





WARNING

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

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

- Swivel fuel delivery unit -1- to left side of vehicle -arrow- and tilt slightly out of fuel tank.



Note

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

- Take out fuel gauge sender - G- -item 2- from opening in fuel tank.
- Detach suction pipe -3- (press release tab -1-).
- Press release tab -arrow- and unplug electrical connector -2- for fuel gauge sender 2 - G169- .



Note

The fuel delivery unit is shown without the fuel tank for illustration purposes.

Installing

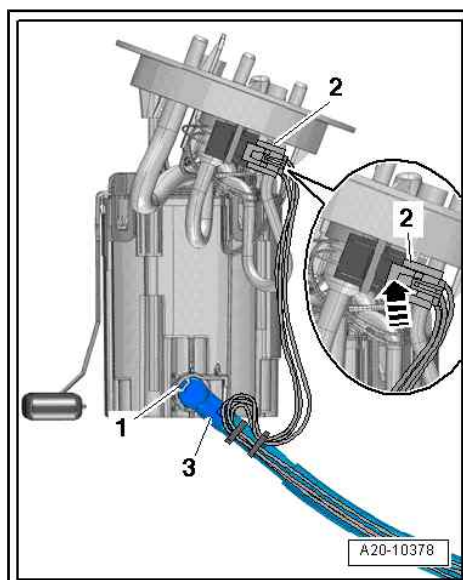
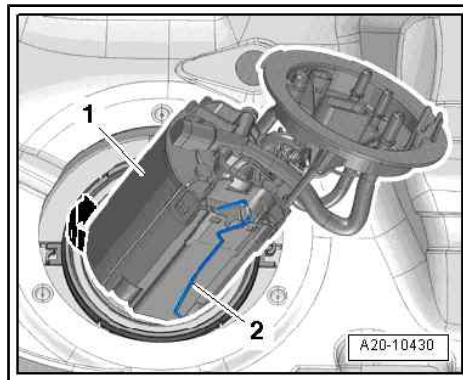
Installation is carried out in the reverse order; note the following:

- Tightening torque
⇒ ["2.1 Exploded view - fuel delivery unit/fuel gauge senders", page 33](#)

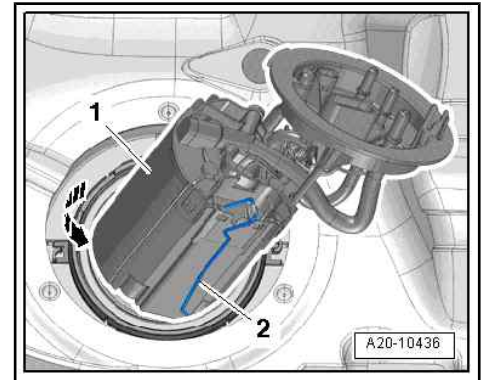


Note

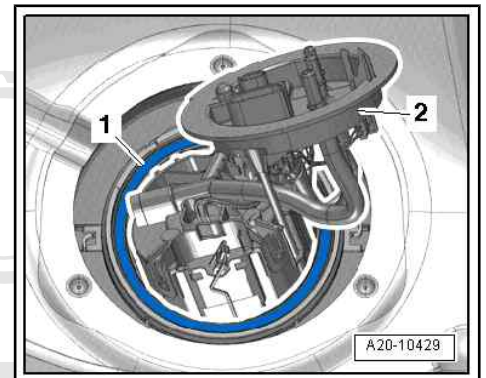
- ◆ **Renew seal and union nut.**
- ◆ **Take care not to bend float arm of fuel gauge sender -G- when fitting fuel delivery unit.**
- ◆ **Ensure that fuel hoses are securely seated.**
- Guide suction pipe -3- out of fuel tank and connect suction pipe so it engages audibly.
- Plug in electrical connector -2- for fuel gauge sender 2 - G169- .



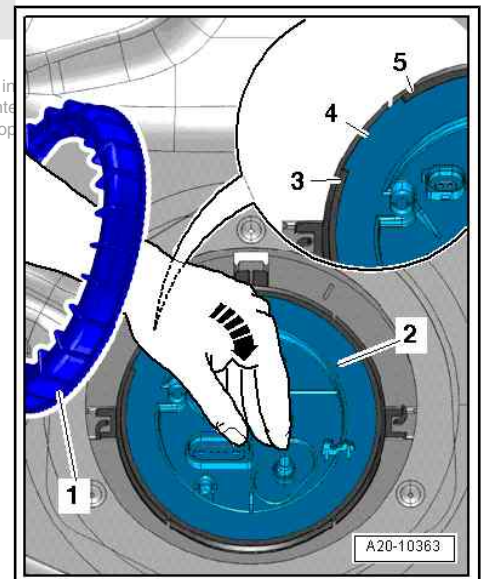
- Insert fuel gauge sender - G- -item 2- in fuel tank.
- Swivel fuel delivery unit -1- to left side of vehicle and guide into fuel tank -arrow- (make sure fuel gauge sender -2- is not damaged).



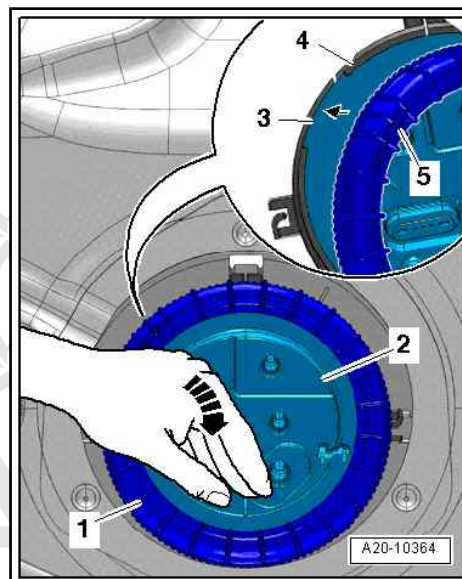
- Slip new seal -1- onto flange -2- and insert in groove on fuel tank.



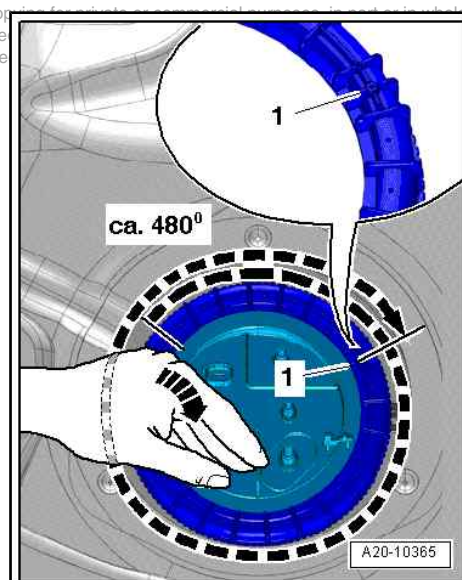
- Slip union nut -1- over your left arm and press flange -2- firmly into installation position -arrow- with your left hand.
- Lug -4- on flange must be between tabs -3- and -5- on threaded ring.



- 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 -arrow-.
- Turn union nut approx. 480° with your right hand until double ridge -1- is in approx. “two o'clock position” and at the same time keep on pressing flange downwards firmly with your left hand.

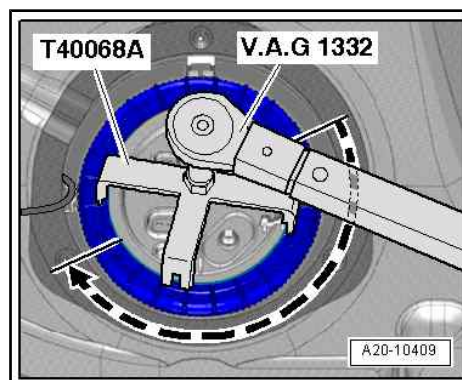


Caution

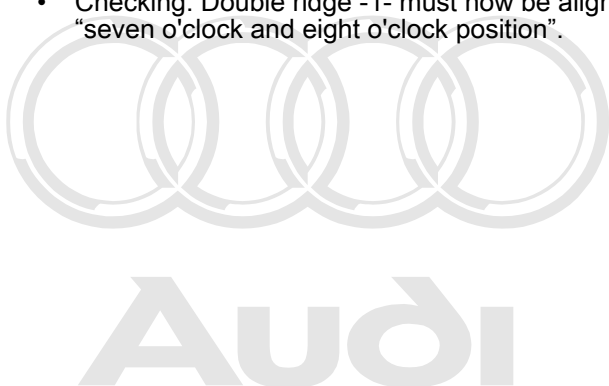
Take care to avoid leakage at flange.

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

- Tighten union nut for flange using union nut tool - T40068 A- .



- Checking: Double ridge -1- must now be aligned between “seven o'clock and eight o'clock position”.



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- Connect fuel lines -1, 2, 3-.
- Connect electrical connectors.
- Install cover for flange ⇒ [page 11](#) .
- Install rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .
- Put at least 5 litres of fuel into tank after installing fuel delivery unit.

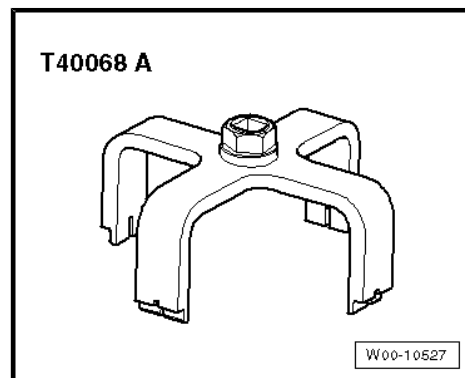
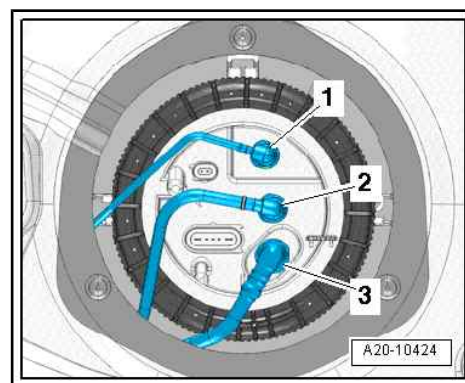
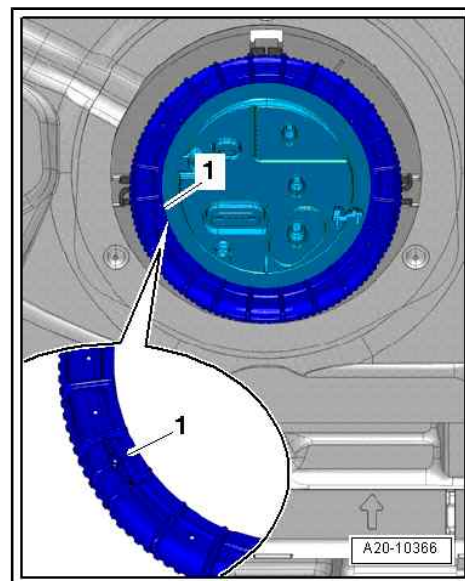
Vehicles with auxiliary heater:

- Vehicles with auxiliary heater: Bleed fuel supply line leading to metering pump ⇒ Auxiliary heater, supplementary heater; Rep. gr. 82 ; Fuel supply system .

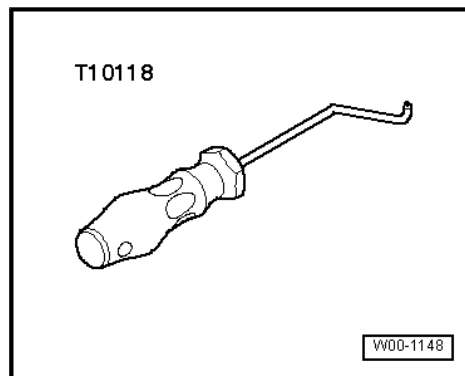
2.2.4 Removing and installing fuel delivery unit - A5 from model year 2012 onwards, A4 from model year 2013 onwards (vehicles with four-wheel drive)

Special tools and workshop equipment required

- ◆ Union nut tool - T40068 A-



◆ Assembly tool - T10118-



Removing

- Observe safety precautions ➔ [page 1](#) .
- Observe rules for cleanliness ➔ [page 5](#) .

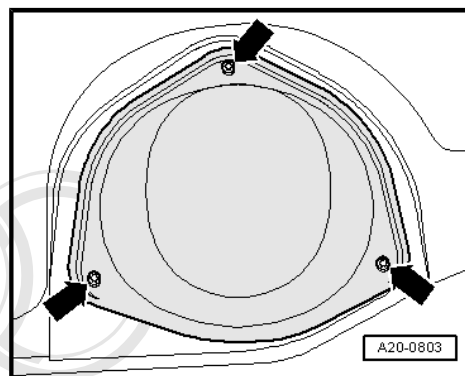


WARNING

Danger! Fuel may escape.

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

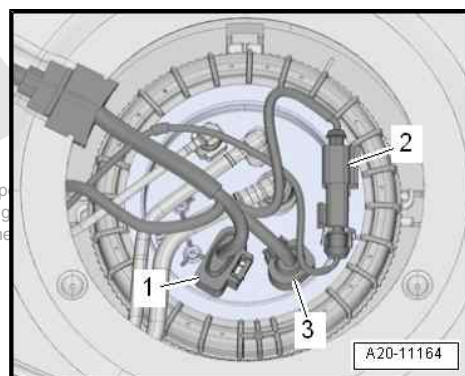
- Drain fuel tank if necessary ➔ [page 12](#) .
- Move passenger's seat as far to front as possible (if necessary).
- Remove rear seat bench ➔ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Unscrew cover for flange -arrows-.



- Release retainer catches with assembly tool - T10118- and unplug electrical connectors -1 and 3- on flange.

Vehicles with auxiliary heater:

- Disengage electrical connector -2- for metering pump for auxiliary heater on flange and move clear.



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All vehicles (continued):



WARNING

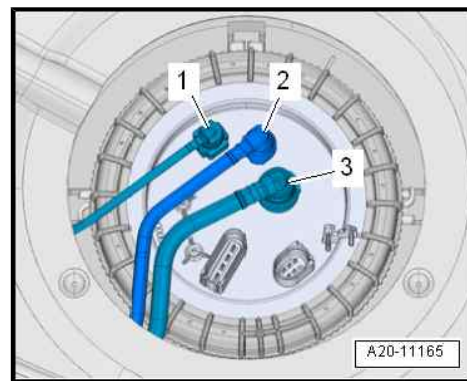
Risk of injury - fuel system operates under high pressure.

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

- Press release tabs and disconnect fuel lines -2- and -3- on flange.

Vehicles with auxiliary heater:

- Press release tab and disconnect fuel line -1- leading to metering pump for auxiliary heater at flange.



All vehicles (continued):

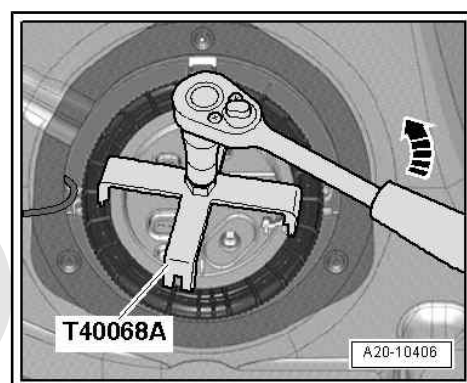


WARNING

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.*

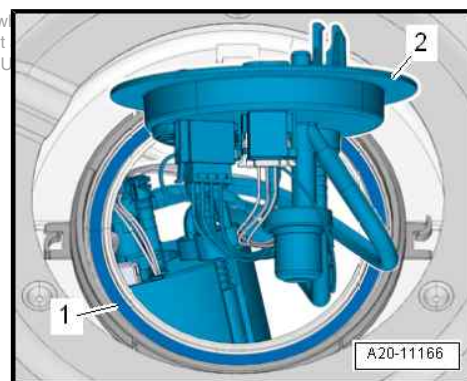
- Unscrew union nut using union nut tool - T40068 A- -arrow-.



Note

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

- Take flange 2 out of fuel tank and detach seal 1.
- Unplug electrical connector -3- for fuel gauge sender 2 - G169- and move wiring clear.
- Carefully pull fuel delivery unit slightly out of fuel tank.





WARNING

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

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

- Swivel fuel delivery unit -2- to left side of vehicle -arrow- and tilt slightly out of fuel tank.



Note

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

- Guide fuel gauge sender - G- -item 1- out of opening in fuel tank and take fuel delivery unit out of fuel tank.

Installing

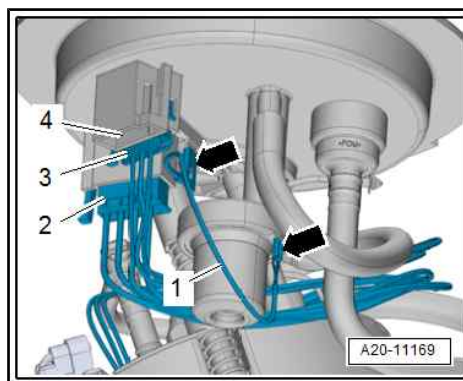
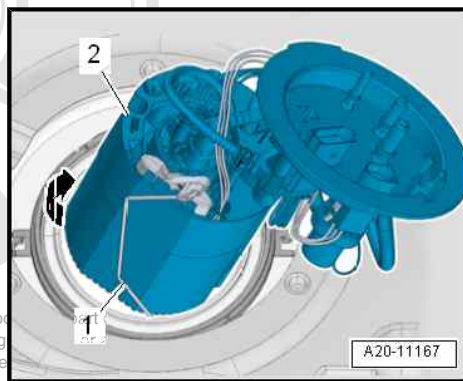
Installation is carried out in the reverse order; note the following:

- Tightening torque
⇒ ["2.1 Exploded view - fuel delivery unit/fuel gauge senders", page 33](#)

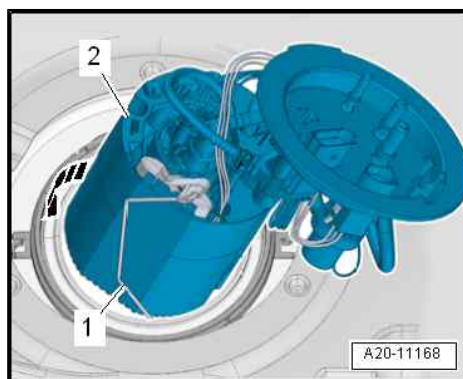


Note

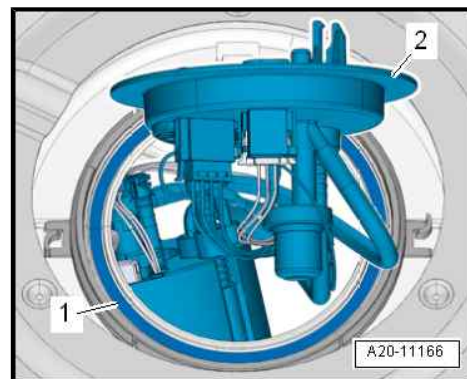
- ◆ *Renew seal and union nut.*
- ◆ *Take care not to bend float arm of fuel gauge sender -G- when fitting fuel delivery unit.*
- ◆ *Ensure that fuel hoses are securely seated.*
- Make sure that earth connection -1- is securely attached to fuel pressure regulator and flange -arrows-.
- Check that the following connectors are securely seated:
 - Connectors -2 and 3- must be seated securely on flange.
- Make sure connectors are attached properly; pull to check that they are correctly engaged.



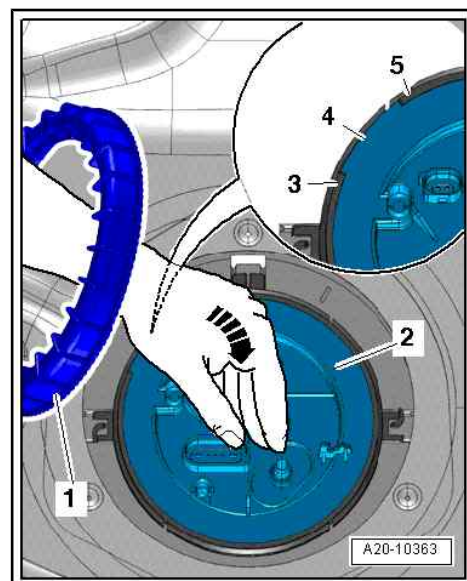
- Insert float on fuel gauge sender - G- -item 1- in fuel tank.
- Swivel fuel delivery unit -2- to left side of vehicle and guide it into fuel tank -arrow- (pay attention to fuel gauge sender).



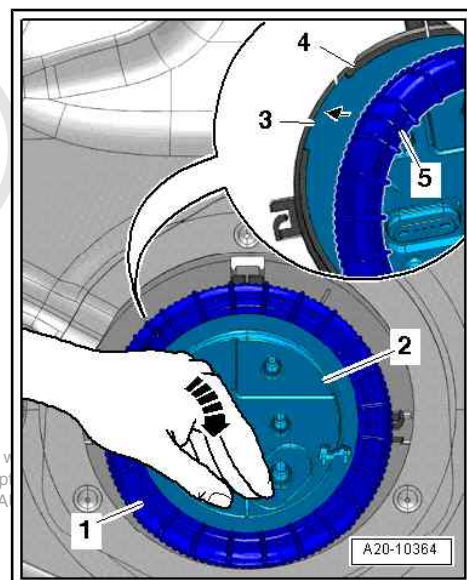
- Slip new seal -1- onto flange -2- and insert in groove on fuel tank.
- Plug in electrical connector -3- for fuel gauge sender 2 - G169- .



- 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.

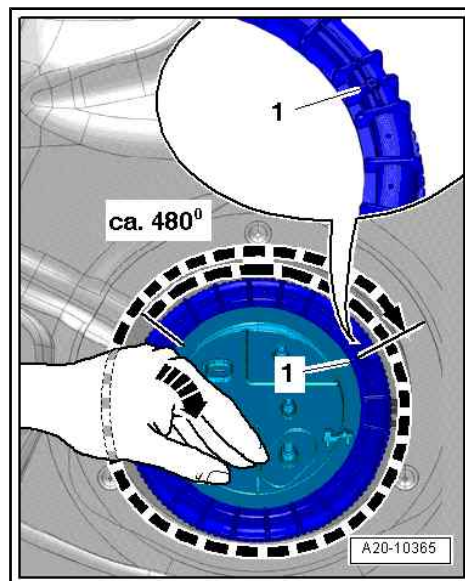


- Take union nut -1- off your left arm with your right hand and at the same time keep pressing down flange -2- firmly with your left hand -arrow-.
- Position union nut -1- with your right hand in such a way that double ridge -5- on ribs aligns with lug -3- of flange (approx. "ten o'clock position").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



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- Keep pressing flange downwards firmly -arrow-.
- Turn union nut approx. 480° with your right hand until double ridge -1- is in approx. "two o'clock position" and at the same time keep on pressing flange downwards firmly with your left hand.

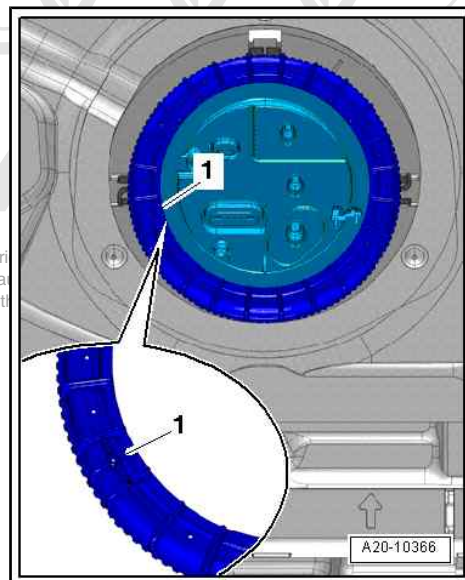
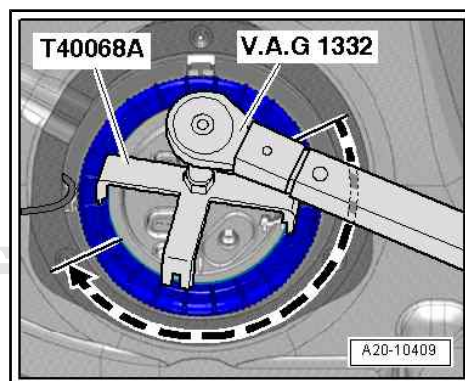


Caution

Take care to avoid leakage at flange.

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

- Tighten union nut for flange using union nut tool - T40068 A-
- Checking: Double ridge -1- must now be aligned between "seven o'clock and eight o'clock position".



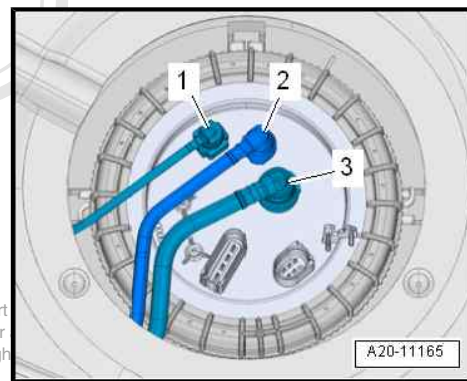
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- Connect fuel lines -1, 2, 3-.
- Connect electrical connectors.
- Install cover for flange ⇒ [page 8](#) .
- Install rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .
- Put at least 5 litres of fuel into tank after installing fuel delivery unit.

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- Vehicles with auxiliary heater: Bleed fuel supply line leading to metering pump ⇒ Auxiliary heater, supplementary heater; Rep. gr. 82 ; Fuel supply system .



2.3 Checking fuel gauge sender - G-

⇒ [“2.3.1 Checking fuel gauge sender G - A5 up to model year 2011, A4 up to model year 2012 \(vehicles with front-wheel drive\)”, page 65](#)

⇒ [“2.3.2 Checking fuel gauge sender G - A5 from model year 2012 onwards, A4 from model year 2013 onwards \(vehicles with front-wheel drive\)”, page 67](#)

⇒ [“2.3.3 Checking fuel gauge sender G - A5 up to model year 2011, A4 up to model year 2012 \(vehicles with four-wheel drive\)”, page 70](#)

⇒ [“2.3.4 Checking fuel gauge sender G - A5 from model year 2012 onwards, A4 from model year 2013 onwards \(vehicles with four-wheel drive\)”, page 72](#)

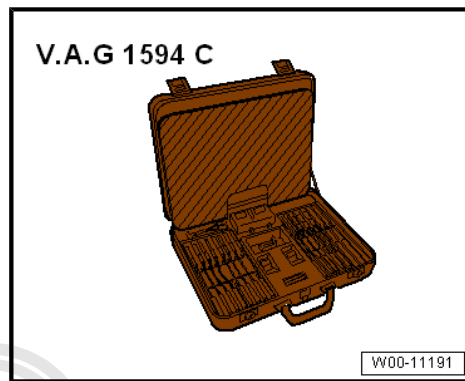
2.3.1 Checking fuel gauge sender - G- - A5 up to model year 2011, A4 up to model year 2012 (vehicles with front-wheel drive)

Special tools and workshop equipment required

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



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



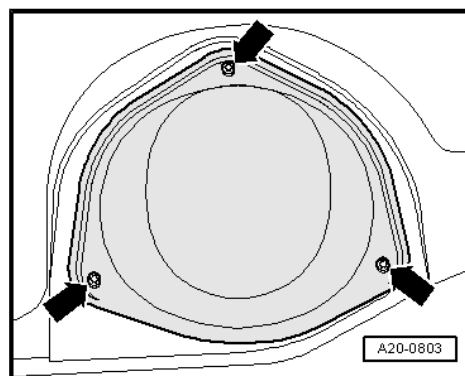
- ◆ Assembly tool - T10118-



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Procedure

- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Unscrew cover for flange -arrows-.

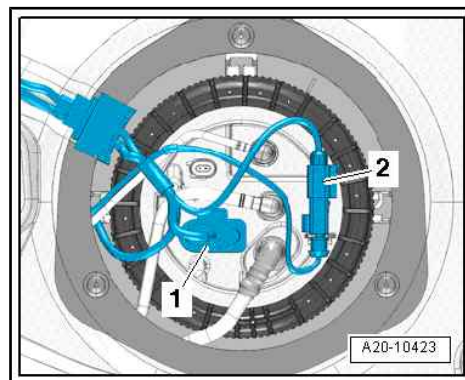


- Release retainer catch with assembly tool - T10118- and unplug electrical connector -1- on flange.



Note

Disregard -item 2-.



Fuel gauge sender - G- installed:

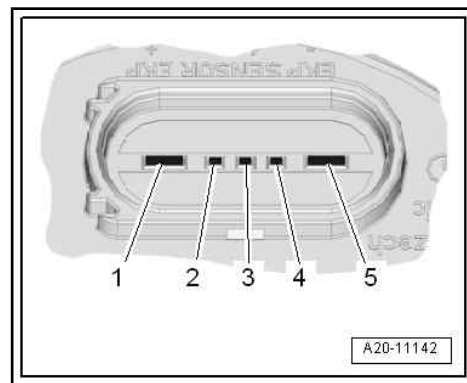
- Connect multimeter (resistance test) between contacts -2- and -4-.
- Sender at lower stop: approx. 280 Ω .
- Sender at upper stop: approx. 65 Ω .



Note

- ◆ *If the resistance is 0 Ω , there is a short circuit. If the resistance is ∞ Ω , 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 $\Rightarrow$ [page 41](#) 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.*

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Fuel gauge sender - G- removed:

- Sender at lower stop: approx. 288 Ω .
- Sender at upper stop: approx. 57 Ω .
- Connect multimeter (resistance test) between contacts -3- and -4-.

Fuel gauge sender - G- installed or removed:

- Sender in any position: approx. 340 Ω .

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

- Install cover for flange $\Rightarrow$ [page 8](#) .
- Install rear seat bench $\Rightarrow$ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .

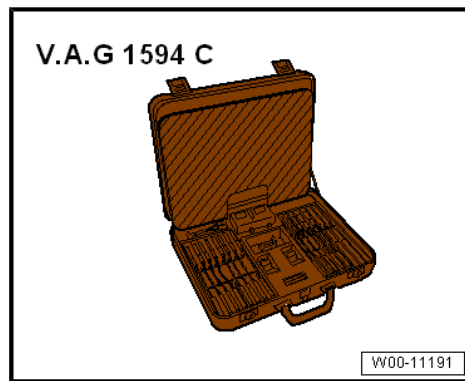
2.3.2 Checking fuel gauge sender - G- - A5 from model year 2012 onwards, A4 from model year 2013 onwards (vehicles with front-wheel drive)

Special tools and workshop equipment required

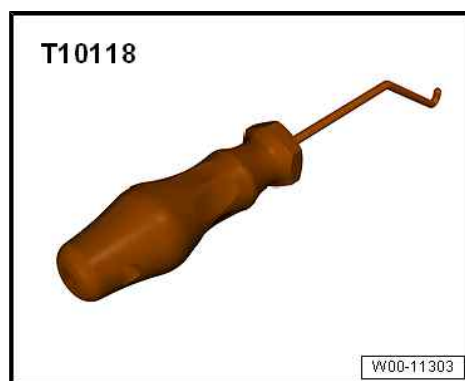
- ◆ Hand-held multimeter - V.A.G 1526E-



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

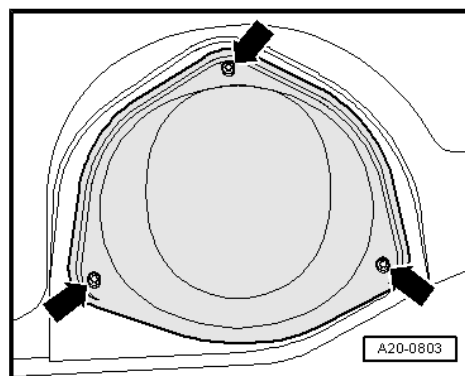


◆ Assembly tool - T10118-



Procedure

- Remove rear seat bench ➔ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Unscrew cover for flange -arrows-.



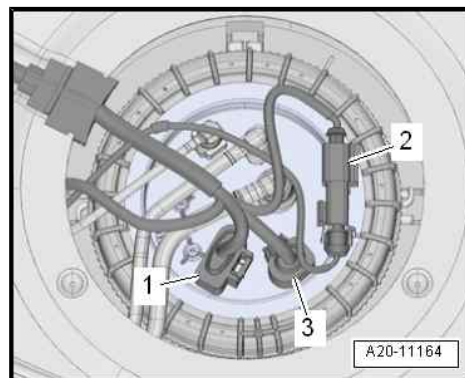
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- Release retainer catch with assembly tool - T10118- and unplug electrical connector -3- on flange.



Note

Disregard -items 1, 2-.



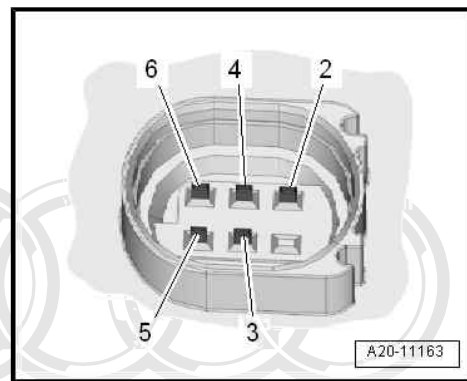
Fuel gauge sender - G- installed:



Note

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

- Connect multimeter (resistance test) between contacts -2- and -4-.
- Tank empty: approx. 280 Ω .
- Tank full: approx. 65 Ω .
- Connect multimeter (resistance test) between contacts -2- and -6-.
- Tank empty: approx. 65 Ω .
- Tank full: approx. 280 Ω .
- Connect multimeter (resistance test) between contacts -4- and -6-.
- Sender in any position: approx. 340 Ω .



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Fuel gauge sender - G- removed:



Note

- ◆ *In order to test the maximum and minimum resistance values for "tank full" and "tank empty", remove the fuel gauge sender - G- 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:*
 - Connect multimeter (resistance test) between contacts -2- and -4-.
 - Tank empty: approx. 288 Ω .
 - Tank full: approx. 57 Ω .
 - Connect multimeter (resistance test) between contacts -2- and -6-.
 - Tank empty: approx. 57 Ω .
 - Tank full: approx. 288 Ω .
 - Connect multimeter (resistance test) between contacts -4- and -6-.
 - Sender in any position: approx. 340 Ω .

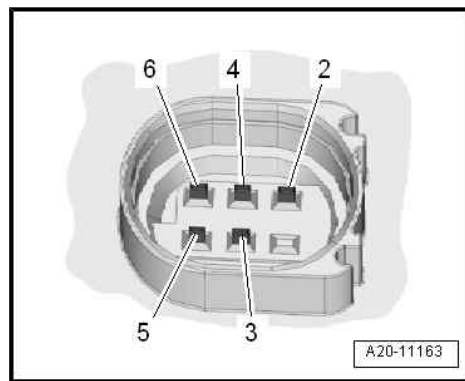
Fuel gauge sender - G- is defective in the following cases:

- ◆ Large differences in test readings
- ◆ Reading: 0 Ω (short circuit)
- ◆ Reading ∞ Ω (open circuit)
- ◆ No fault in electrical wiring
- Install fuel delivery unit ➔ [page 50](#) .
- Install cover for flange ➔ [page 8](#) .
- Install rear seat bench ➔ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .

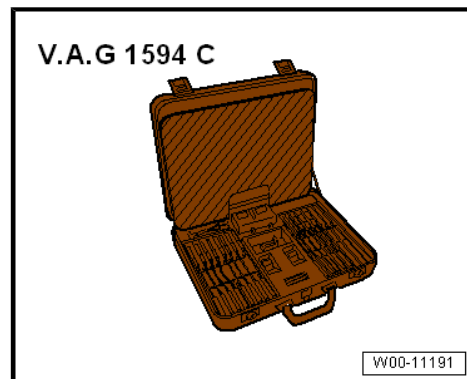
2.3.3 Checking fuel gauge sender - G- - A5 up to model year 2011, A4 up to model year 2012 (vehicles with four-wheel drive)

Special tools and workshop equipment required

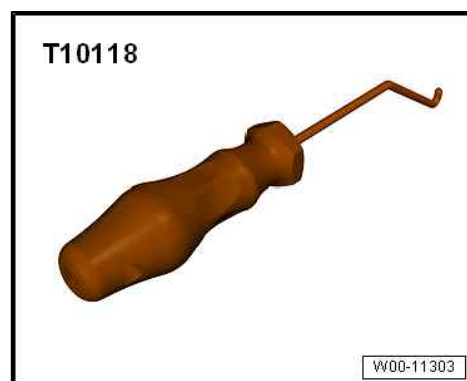
- ◆ Hand-held multimeter - V.A.G 1526E-



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

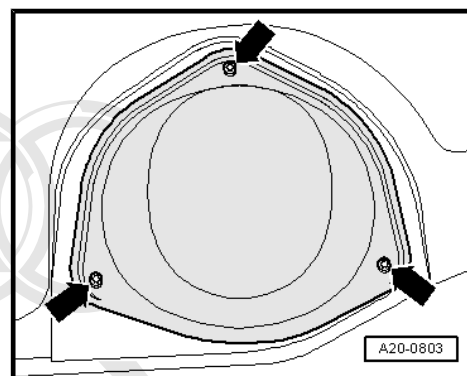


◆ Assembly tool - T10118-



Procedure

- Remove rear seat bench ⇒ General body repairs, interior;
 Rep. gr. 72 ; Rear seats; Removing and installing seat bench/
 individual seats .
- Unscrew cover for flange -arrows-.



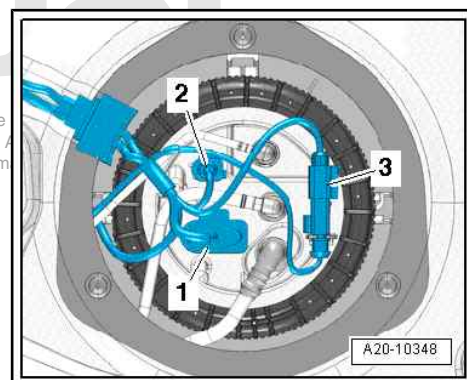
- Release retainer catch with assembly tool - T10118- and un-
 plug electrical connector -1- on flange.



Note

Disregard -items 2, 3-.

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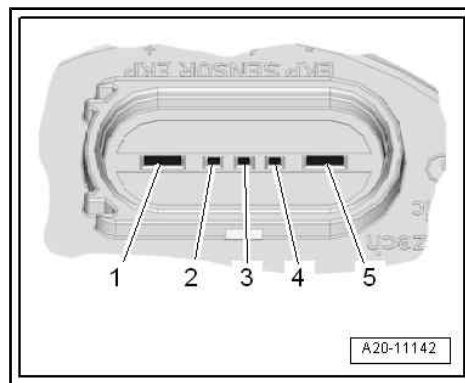
Fuel gauge sender - G- installed:

- Connect multimeter (resistance test) between contacts -2- and -4-.
- Sender at lower stop: approx. 280 Ω .
- Sender at upper stop: approx. 65 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 41](#) 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. 288 Ω .
- Sender at upper stop: approx. 57 Ω .
- Connect multimeter (resistance test) between contacts -3- and -4-.

Fuel gauge sender - G- installed or removed:

- Sender in any position: approx. 340 Ω .

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

- Install cover for flange ➔ [page 11](#) .
- Install rear seat bench ➔ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .

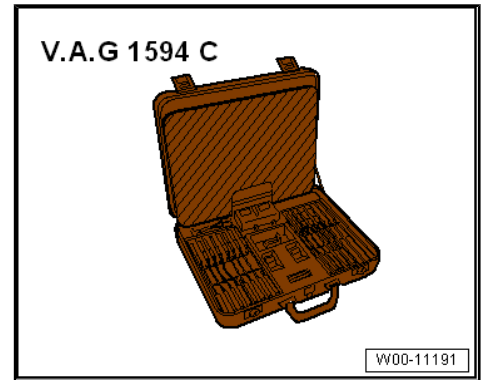
2.3.4 Checking fuel gauge sender - G- A5 from model year 2012 onwards, A4 from model year 2013 onwards (vehicles with four-wheel drive)

Special tools and workshop equipment required

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



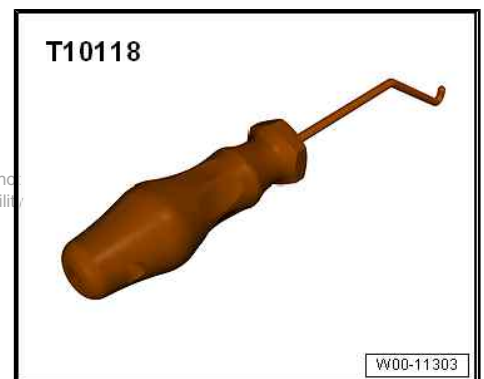
◆ Auxiliary measuring set - V.A.G 1594C-



◆ Assembly tool - T10118-

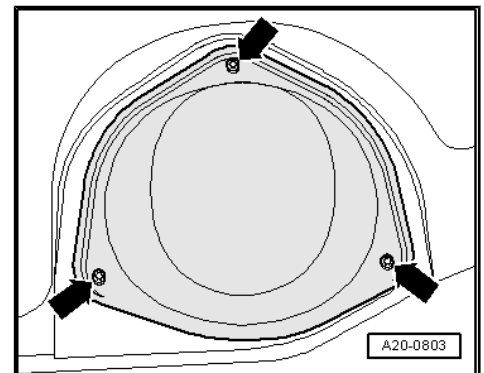


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Procedure

- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Unscrew cover for flange -arrows-.

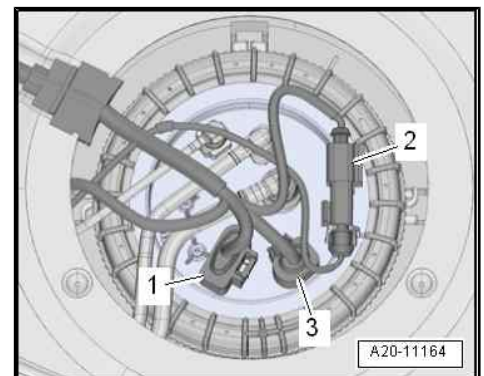


- Release retainer catch with assembly tool - T10118- and unplug electrical connector -3- on flange.



Note

Disregard -items 1, 2-.



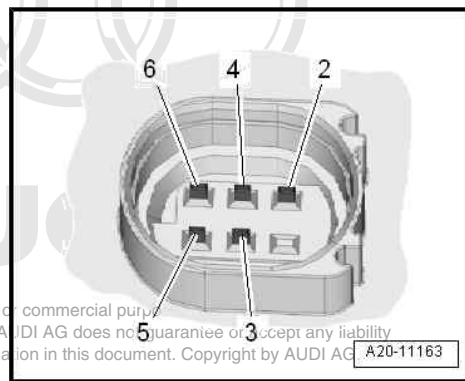
Fuel gauge sender - G- installed:



Note

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

- Connect multimeter (resistance test) between contacts -2- and -4-.
- Tank empty: approx. 280 Ω .
- Tank full: approx. 65 Ω .
- Connect multimeter (resistance test) between contacts -2- and -6-.
- Tank empty: approx. 65 Ω .
- Tank full: approx. 280 Ω .
- Connect multimeter (resistance test) between contacts -4- and -6-.
- Sender in any position: approx. 340 Ω .



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Fuel gauge sender - G- removed:



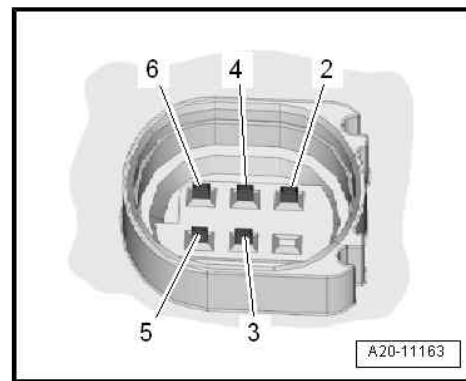
Note

- ◆ In order to test the maximum and minimum resistance values for "tank full" and "tank empty", remove the fuel gauge sender - G- 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:

- Connect multimeter (resistance test) between contacts -2- and -4-.
- Tank empty: approx. 288 Ω .
- Tank full: approx. 57 Ω .
- Connect multimeter (resistance test) between contacts -2- and -6-.
- Tank empty: approx. 57 Ω .
- Tank full: approx. 288 Ω .
- Connect multimeter (resistance test) between contacts -4- and -6-.
- Sender in any position: approx. 340 Ω .

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

- ◆ Large differences in test readings
- ◆ Reading: 0 Ω (short circuit)
- ◆ Reading ∞ Ω (open circuit)
- ◆ No fault in electrical wiring
- Install fuel delivery unit ⇒ [page 41](#) .
- Install cover for flange ⇒ [page 11](#) .
- Install rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .



2.4 Removing and installing fuel gauge sender - G-

⇒ ["2.4.1 Removing and installing fuel gauge sender G - A5 models up to model year 2011, A4 models up to model year 2012 \(vehicles with front-wheel drive\)", page 75](#)

⇒ ["2.4.2 Removing and installing fuel gauge sender G - A5 models from model year 2012 onwards, A4 models from model year 2013 onwards \(vehicles with front-wheel drive\)", page 76](#)

⇒ ["2.4.3 Removing and installing fuel gauge sender G - A5 models up to model year 2011, A4 models up to model year 2012 \(vehicles with four-wheel drive\)", page 77](#)

⇒ ["2.4.4 Removing and installing fuel gauge sender G - A5 models from model year 2012 onwards, A4 models from model year 2013 onwards \(vehicles with four-wheel drive\)", page 78](#)

2.4.1 Removing and installing fuel gauge sender - G- - A5 models up to model

year 2011, A4 models up to model year 2012 (vehicles with front-wheel drive)

Removing

- Observe safety precautions ➤ [page 1](#) .
- Observe rules for cleanliness ➤ [page 5](#) .



Note

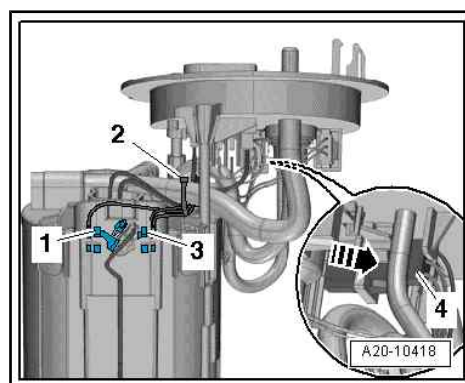
Fit cable tie in the original position when installing.

- Remove fuel delivery unit ➤ [page 41](#) .
- Press release tab -arrow- and unplug electrical connector -4-.
- Cut through cable tie -2- and move electrical connector clear.
- Release retaining tabs -1- and -3- and lift out fuel gauge sender - G- .

Installing

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

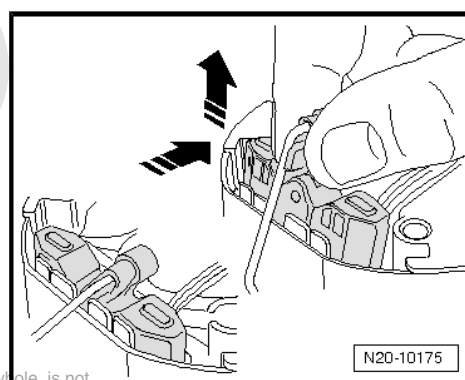
- Insert fuel gauge sender - G- into guides on fuel delivery unit and press downwards until it clicks into place.
- Plug in electrical connector and make sure it is correctly engaged.
- Install fuel delivery unit ➤ [page 44](#) .



2.4.2 Removing and installing fuel gauge sender - G- - A5 models from model year 2012 onwards, A4 models from model year 2013 onwards (vehicles with front-wheel drive)

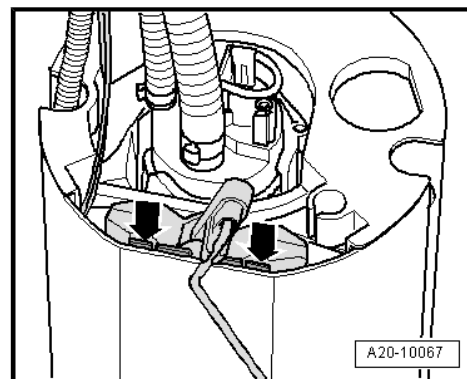
Removing

- Observe safety precautions ➤ [page 1](#) .
- Observe rules for cleanliness ➤ [page 5](#) .
- Remove fuel delivery unit ➤ [page 41](#) .
- Pull fuel gauge sender - G- inwards slightly and then lift out -arrows-.



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- If necessary, release retaining tabs -arrows- using a screw-driver.



Caution

Risk of damage.

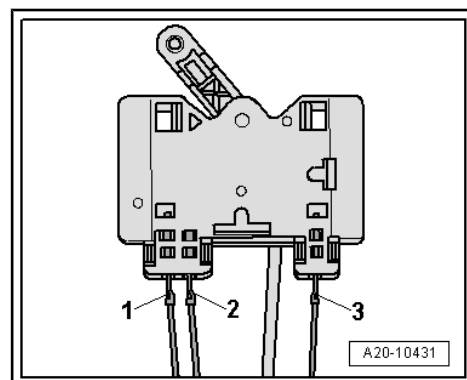
- ◆ *First release retainer tabs on connector contact before detaching electrical connectors on fuel gauge sender - G-.*

- Release and unplug electrical connectors -1 ... 3-.
- Or: Unplug electrical connector on flange.

Installing

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

- Plug in electrical connectors -1 ... 3- and check that they have engaged properly.
- Insert fuel gauge sender -G- into guides on fuel delivery unit and press downwards until it clicks into place.
- Install fuel delivery unit ➔ [page 50](#) .



2.4.3 Removing and installing fuel gauge sender - G- - A5 models up to model year 2011, A4 models up to model year 2012 (vehicles with four-wheel drive)

Removing

- Observe safety precautions ➔ [page 1](#) .
- Observe rules for cleanliness ➔ [page 5](#) .



Note

Fit cable tie in the original position when installing.

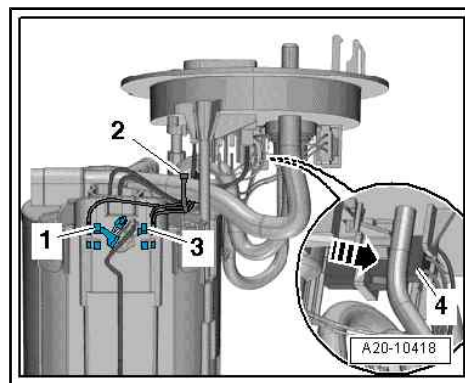
- Remove fuel delivery unit ➔ [page 53](#) .

- Press release tab -arrow- and unplug electrical connector -4-.
- Cut through cable tie -2- and move electrical connector clear.
- Release retaining tabs -1- and -3- and lift out fuel gauge sender - G- .

Installing

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

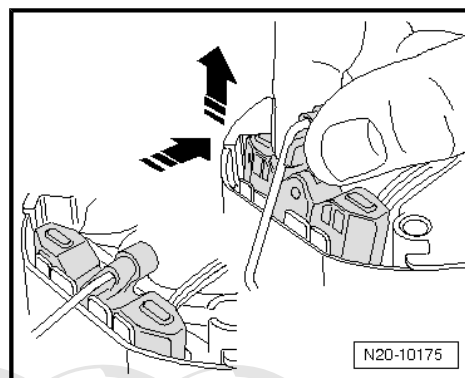
- Insert fuel gauge sender - G- into guides on fuel delivery unit and press downwards until it clicks into place.
- Plug in electrical connector and make sure it is correctly engaged.
- Install fuel delivery unit ➔ [page 41](#) .



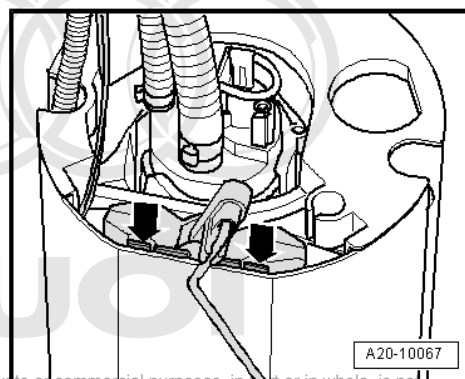
2.4.4 Removing and installing fuel gauge sender - G- - A5 models from model year 2012 onwards, A4 models from model year 2013 onwards (vehicles with four-wheel drive)

Removing

- Observe safety precautions ➔ [page 1](#) .
- Observe rules for cleanliness ➔ [page 5](#) .
- Remove fuel delivery unit ➔ [page 59](#) .
- Pull fuel gauge sender - G- inwards slightly and then lift out -arrows-.



- If necessary, release retaining tabs -arrows- using a screwdriver.



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Caution

Risk of damage.

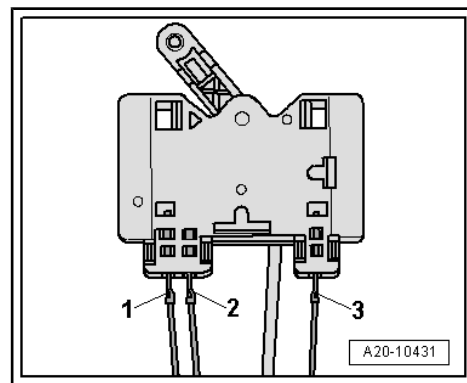
- ◆ *First release retainer tabs on connector contact before detaching electrical connectors on fuel gauge sender - G-.*

- Release and unplug electrical connectors -1 ... 3-.
- Or: Unplug electrical connector on flange.

Installing

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

- Plug in electrical connectors -1 ... 3- and check that they have engaged properly.
- Insert fuel gauge sender - G- into guides on fuel delivery unit and press downwards until it clicks into place.
- Install fuel delivery unit ➔ [page 59](#) .



2.5 Checking fuel gauge sender 2 - G169-

➔ [“2.5.1 Checking fuel gauge sender 2 G169 - A5 up to model year 2011, A4 up to model year 2012 \(vehicles with four-wheel drive\)”, page 79](#)

➔ [“2.5.2 Checking fuel gauge sender 2 G169 - A5 from model year 2012 onwards, A4 from model year 2013 onwards \(vehicles with four-wheel drive\)”, page 81](#)

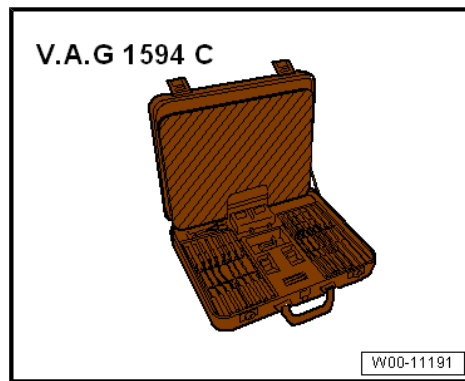
2.5.1 Checking fuel gauge sender 2 - G169- - A5 up to model year 2011, A4 up to model year 2012 (vehicles with four- wheel drive)

Special tools and workshop equipment required

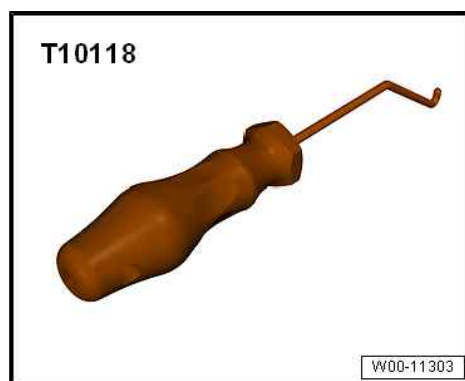
- ◆ Hand-held multimeter - V.A.G 1526E-



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



◆ Assembly tool - T10118-

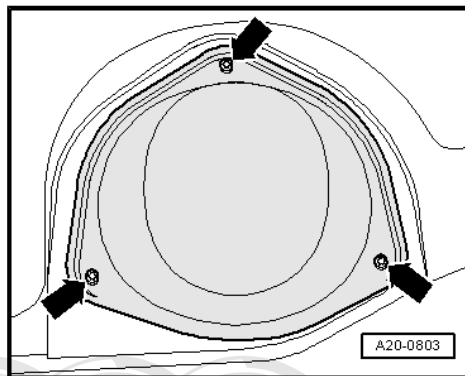


Procedure



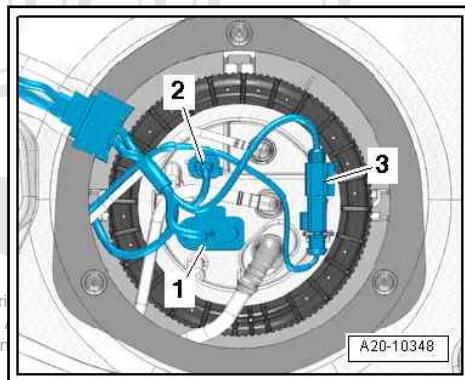
Note

- ◆ Fuel gauge sender 2 - G169- can only be checked at fuel delivery unit.
- ◆ The electrical wiring for the fuel gauge sender 2 - G169- is routed to the fuel pump flange along the inside of the fuel tank.
- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Unscrew cover for flange -arrows-.
- Release retainer catches with assembly tool - T10118- and unplug electrical connectors -1 and 2- on flange.



Note

Disregard -item 3-.

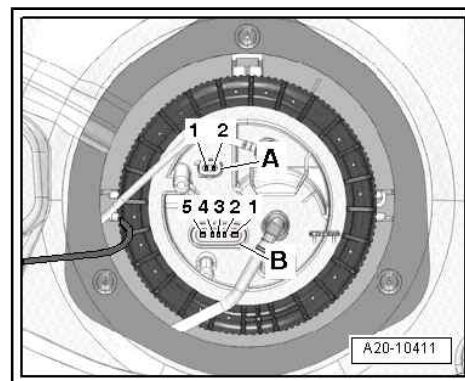


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- Connect multimeter (resistance test) between contact -2- on connector -A- and contact -2- on connector -B-.

With fuel gauge sender 2 - G169- installed:

- Sender at lower stop: approx. 290 Ω .
- Sender at upper stop: approx. 45 Ω .
- Connect multimeter (resistance test) between contacts -1- and -2- on connector -A-.
- Sender in any position: approx. 340 Ω .

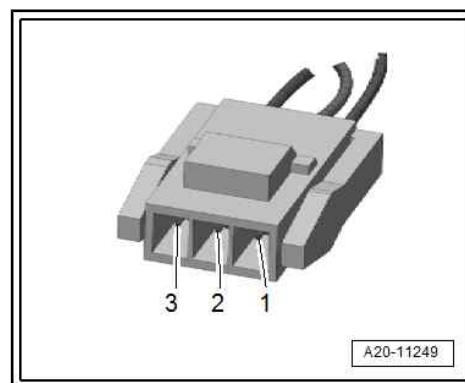


With fuel gauge sender 2 - G169- removed:



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 84](#) 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:
- Connect multimeter (resistance test) between contacts -1- and -2-.
- Sender at lower stop: approx. 290 Ω .
- **Sender at upper stop: approx. 16 Ω .**
- Connect multimeter (resistance test) between contacts -2- and -3-.
- Sender in any position: approx. 340 Ω .



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

- Install cover for flange ➔ [page 11](#) .
- Install rear seat bench ➔ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .

2.5.2 Checking fuel gauge sender 2 - G169- - A5 from model year 2012 onwards, A4 from model year 2013 onwards (vehicles with four-wheel drive)

Special tools and workshop equipment required

◆ Hand-held multimeter - V.A.G 1526E-

V.A.G 1526 E



W00-11266

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

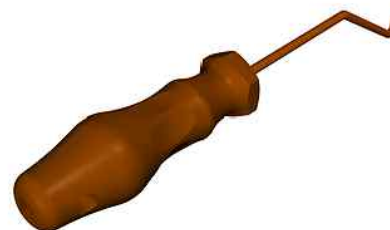
V.A.G 1594 C



W00-11191

◆ Assembly tool - T10118-

T10118



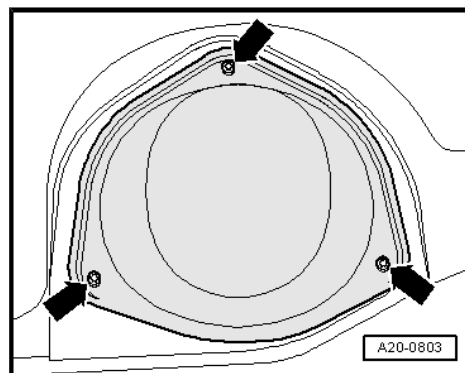
W00-11303

Procedure



Note

- ◆ *Fuel gauge sender 2 - G169- can only be checked at fuel delivery unit.*
- ◆ *The electrical wiring for the fuel gauge sender 2 - G169- is routed to the fuel pump flange along the inside of the fuel tank.*
- Remove rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Unscrew cover for flange -arrows-.

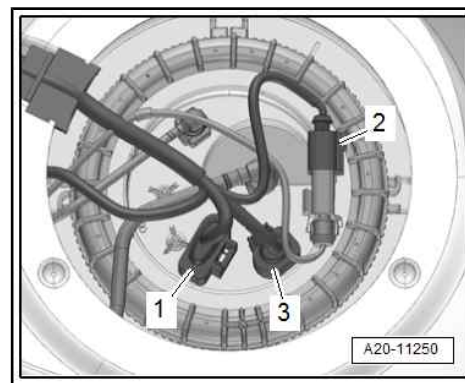


A20-0803

- Release retainer catch with assembly tool - T10118- and unplug electrical connector -3- on flange.

 Note

Disregard -items 1, 2-.



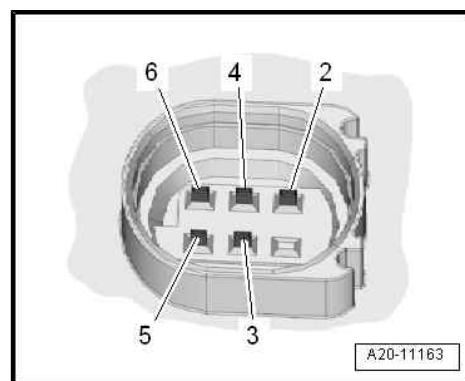
With fuel gauge sender 2 - G169- installed:

 Note

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

- Connect multimeter (resistance test) between contacts -2- and -3-.
- Tank empty: approx. 290 Ω.
- Tank full: approx. 45 Ω.
- Connect multimeter (resistance test) between contacts -3- and -5-.
- Sender in any position: approx. 340 Ω.

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With fuel gauge sender 2 - G169- removed:



Note

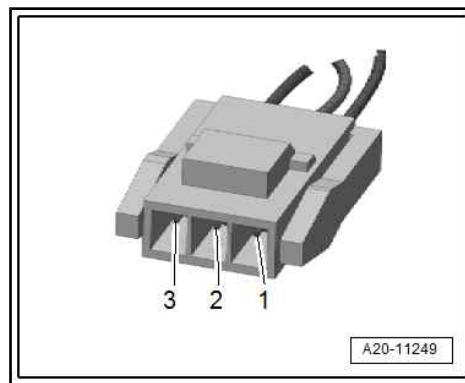
- ◆ In order to test the maximum and minimum values for "tank full" and "tank empty", remove the fuel gauge sender 2 - G169- ➔ "2.6.2 Removing and installing fuel gauge sender 2 G169 - A5 from model year 2012 onwards, A4 from model year 2013 onwards (vehicles with four-wheel drive)", page 89 , and move 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:

- Connect multimeter (resistance test) between contacts -2- and -3-.
- Sender at lower stop: approx. 290 Ω.
- Sender at upper stop: approx. 16 Ω.
- Connect multimeter (resistance test) between contacts -1- and -2-.
- Sender in any position: approx. 340 Ω.

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

- Install cover for flange ➔ page 11 .
- Install rear seat bench ➔ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .



2.6 Removing and installing fuel gauge sender 2 - G169-

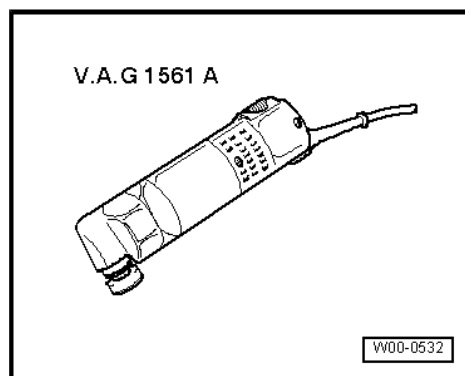
➔ "2.6.1 Removing and installing fuel gauge sender 2 G169 - A5 up to model year 2011, A4 up to model year 2012 (vehicles with four-wheel drive)", page 84

➔ "2.6.2 Removing and installing fuel gauge sender 2 G169 - A5 from model year 2012 onwards, A4 from model year 2013 onwards (vehicles with four-wheel drive)", page 89

2.6.1 Removing and installing fuel gauge sender 2 - G169- - A5 up to model year 2011, A4 up to model year 2012 (vehicles with four-wheel drive)

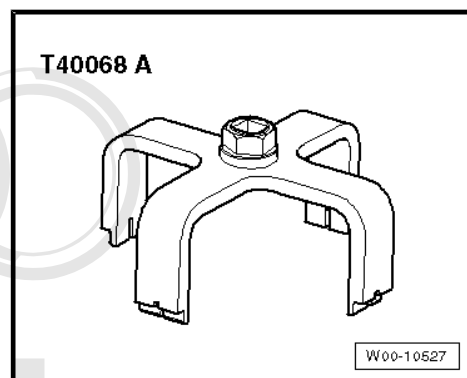
Special tools and workshop equipment required

- ◆ Electric cutter - V.A.G 1561A-



- ◆ Blade (L-shaped, 25.4 mm) - V.A.G 1561/22-

- ◆ Adhesive sealant ⇒ Electronic parts catalogue
- ◆ Union nut tool - T40068 A-



Removing

- Observe safety precautions ⇒ [page 1](#).
- Observe rules for cleanliness ⇒ [page 5](#).



WARNING

Danger! Fuel may escape.

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

- Drain fuel tank if necessary ⇒ [page 12](#).
- Fold backrest of rear seat forwards.

A4 (saloon), A5 (all):

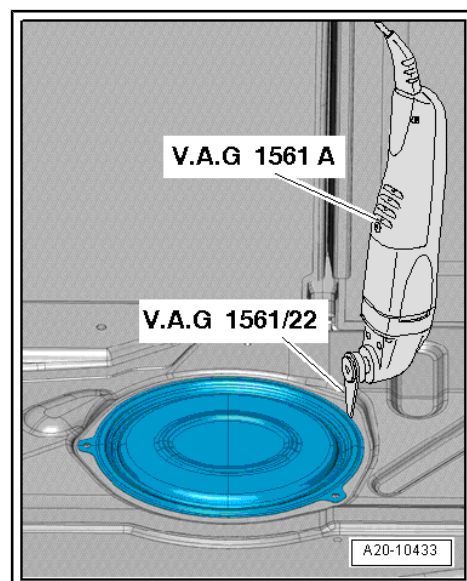
- Remove mounting frame for loading aid ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing mounting frame for loading aid .

A4 Avant:

- Remove luggage compartment floor (front) (holder for vehicle tool kit) ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing luggage compartment floor .

All vehicles (continued):

- Use electric cutter - V.A.G 1561A- and blade (L-shaped, 25.4 mm) - V.A.G 1561/22- to cut through adhesive sealant around cover for flange.
- Detach cover for flange.
- Repair painted surfaces ⇒ Paintwork manual .
- Apply anti-corrosion coating as necessary ⇒ Surface treatment/chemical materials .





WARNING

Danger! Fuel may escape.

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

- Unscrew union nut using union nut tool - T40068 A- -arrow-.



Note

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

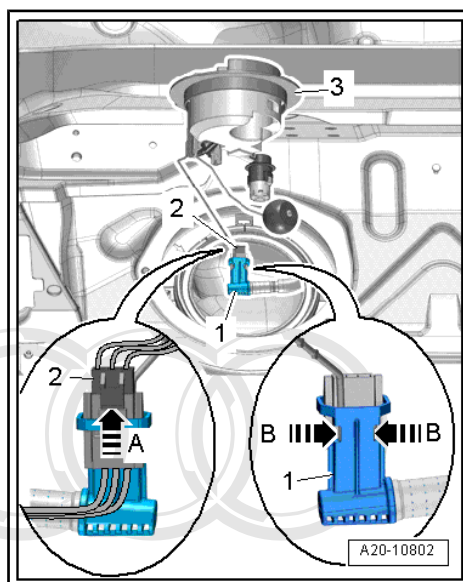
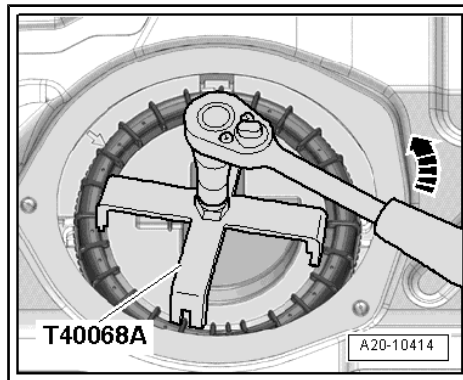
- Carefully take fuel gauge sender 2 - G169- -item 3- out of opening in fuel tank.



Note

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

- Press release tab -arrow A- and unplug electrical connector -2-.
- Use long-nose pliers to compress catches -arrows B- and pull off suction pipe -1-.



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Installing

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

- Tightening torque
⇒ ["2.1 Exploded view - fuel delivery unit/fuel gauge senders", page 33](#)



Note

Renew seal and union nut.

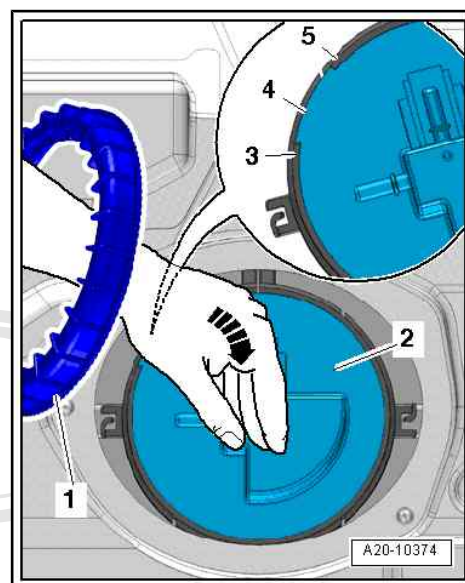
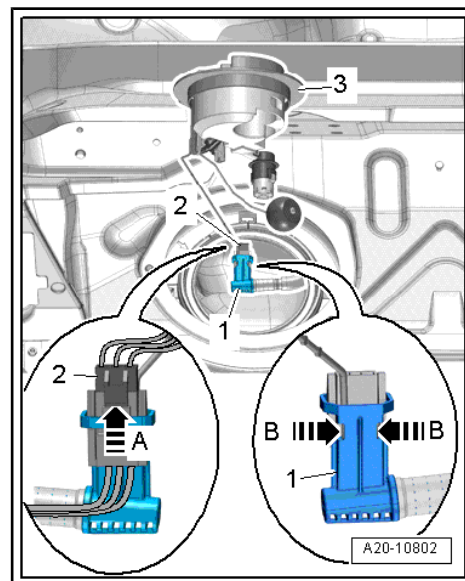
- Connect suction pipe -1- so it engages audibly.
- Plug in electrical connector -2- and make sure it is correctly engaged.



Note

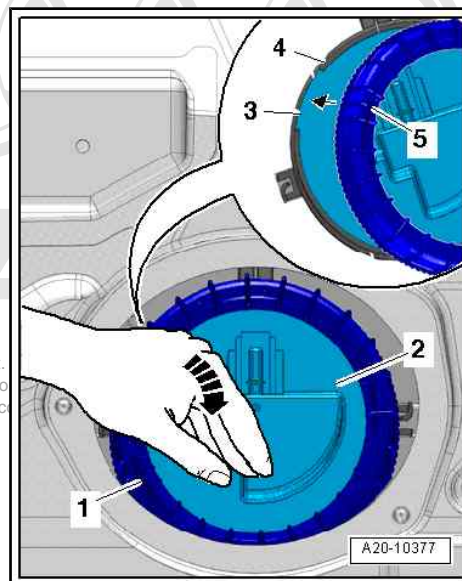
When installing, make sure you do not bend float arm of fuel gauge sender 2 -G169- .

- Carefully insert fuel gauge sender 2 - G169- -item 3- into opening in fuel tank.
- Slip new seal onto flange and insert 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.

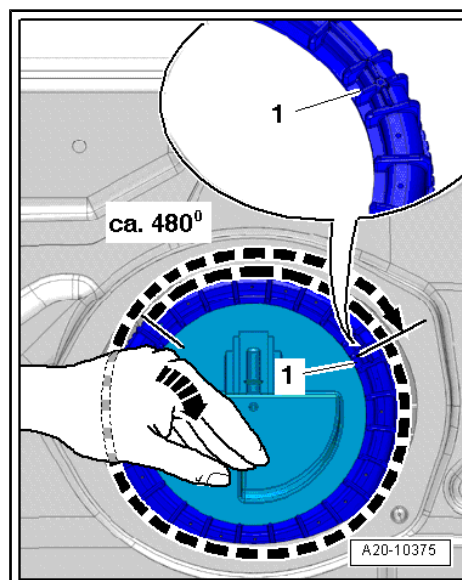


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- Take union nut -1- off your left arm with your right hand and at the same time keep pressing down flange -2- firmly with your left hand -arrow-.
- Position union nut -1- with your right hand in such a way that double ridge -5- on ribs aligns with 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 -arrow-.
- Turn union nut approx. 480° with your right hand until double ridge -1- is in approx. “two o'clock position” and at the same time keep on pressing flange downwards firmly with your left hand.

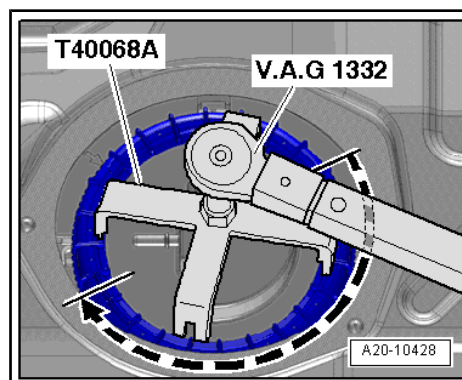


Caution

Take care to avoid leakage at flange.

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

- Tighten union nut for flange using union nut tool - T40068 A- .



- Checking: Double ridge -1- must now be aligned between “seven o'clock and eight o'clock position”.
- Just before re-installing cover for flange, trim down remaining adhesive sealing material on cover for flange and on body with carpet knife to give a smooth surface; do NOT remove sealant completely.



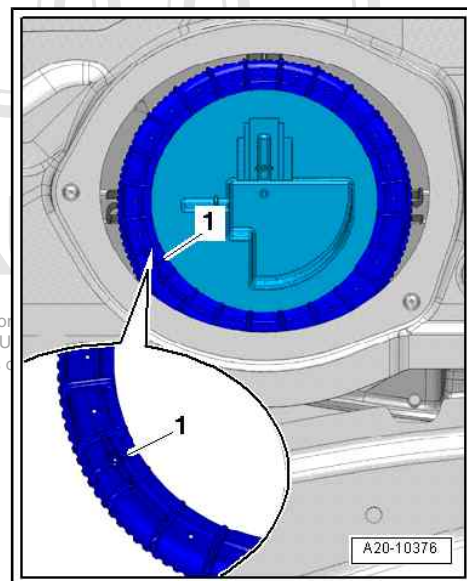
Note

The remaining material serves as a bonding surface when applying the new adhesive sealing material.

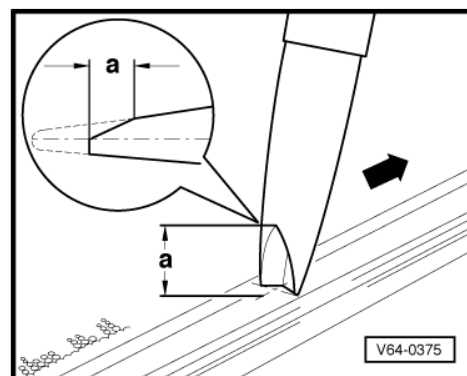


Caution

- ◆ *Keep bonding surface clean and free from grease.*
- ◆ *Do not trim bonding surface until shortly before installation.*
- ◆ *Do not prime bonding surface and do not treat with cleaning fluid.*
- ◆ *Application of primer is only required when fitting a new cover for flange.*



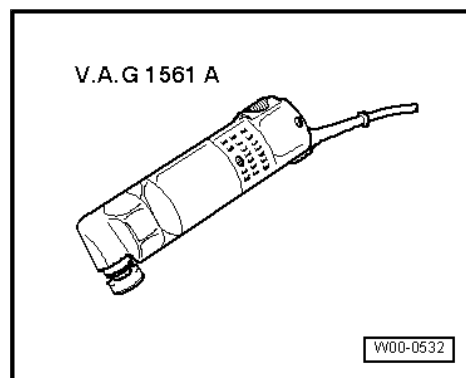
- Cut off tip of nozzle of adhesive sealant cartridge as shown in illustration.
- Dimension -a- = 7 mm
- Apply new adhesive sealant onto trimmed-down adhesive sealant on cover for flange and fit cover.
- Arrow on cover points in direction of travel.
- Install mounting frame for loading aid ➔ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing mounting frame for loading aid .
- Put at least 5 litres of fuel into tank after installing fuel gauge sender 2 -G169- .



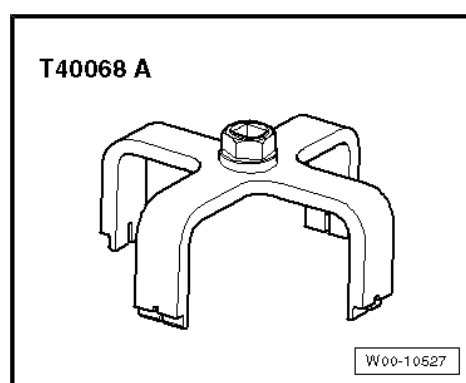
2.6.2 Removing and installing fuel gauge sender 2 - G169- - A5 from model year 2012 onwards, A4 from model year 2013 onwards (vehicles with four-wheel drive)

Special tools and workshop equipment required

◆ Electric cutter - V.A.G 1561A-



- ◆ Blade (L-shaped, 25.4 mm) - V.A.G 1561/22-
- ◆ Adhesive sealant ⇒ Electronic parts catalogue
- ◆ Union nut tool - T40068 A-



Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 5](#) .



WARNING

Danger! Fuel may escape.

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

- Drain fuel tank if necessary ⇒ [page 12](#) .

- Fold backrest of rear seat forwards.

A4 (saloon), A5 (all):

- Remove mounting frame for loading aid ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing mounting frame for loading aid .

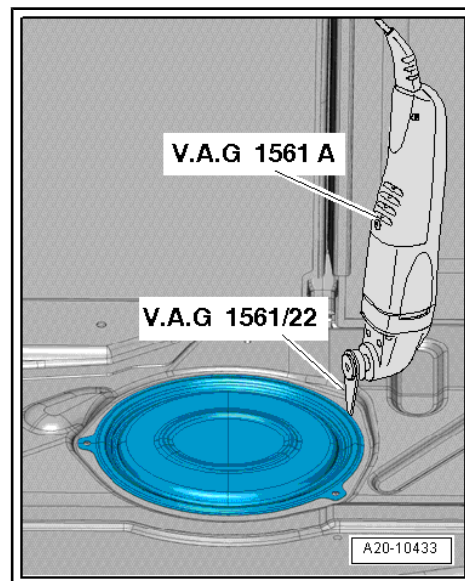
A4 Avant:

- Remove luggage compartment floor (front) (holder for vehicle tool kit) ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing luggage compartment floor .

All vehicles (continued):

- Remove fuel delivery unit ⇒ [page 59](#) .

- Use electric cutter - V.A.G 1561A- and blade (L-shaped, 25.4 mm) - V.A.G 1561/22- to cut through adhesive sealant around cover for flange.
- Detach cover for flange.
- Repair painted surfaces ⇒ Paintwork manual .
- Apply anti-corrosion coating as necessary ⇒ Surface treatment/chemical materials .

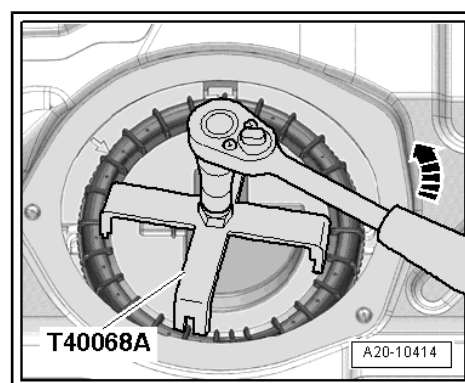


- On vehicles with SCR system: disconnect breather line on flange.

 **WARNING**

Danger! Fuel may escape.

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



- Unscrew union nut using union nut tool - T40068 A- -arrow-

 Note

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

- Lift out flange -2- with fuel gauge sender 2 - G169- -item 1- and move electrical wiring clear.
- Unclip fuel gauge sender 2 - G169- -item 1- from flange -2-.

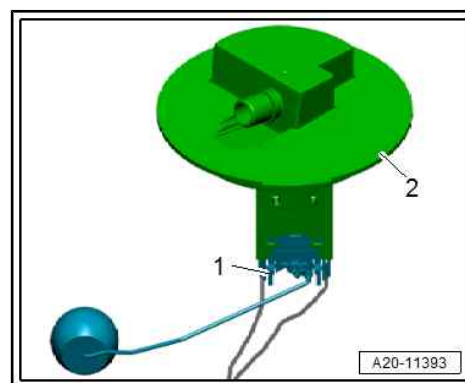
 Note

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

Installing

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

- Tightening torque
 ⇒ ["2.1.4 Exploded view - fuel delivery unit and fuel gauge senders, A5 from model year 2012 onwards, A4 from model year 2013 onwards \(vehicles with four-wheel drive\)", page 39](#)

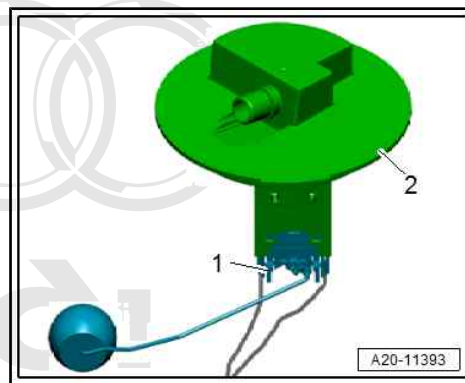


- Clip fuel gauge sender 2 - G169- -item 1- onto flange -2-.
- Route electrical wiring from fuel gauge sender 2 - G169- -item 1- to fuel delivery unit.

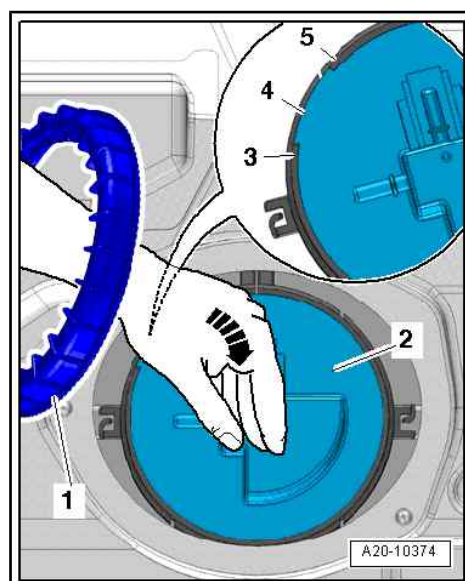


Note

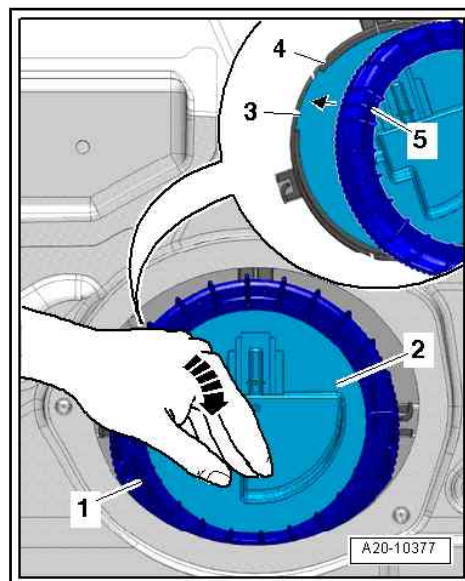
- ◆ *Renew seal and union nut.*
- ◆ *When installing, make sure you do not bend float arm of fuel gauge sender 2 - G169- .*
- Carefully insert fuel gauge sender 2 - G169- into opening in fuel tank.
- Slip new seal onto flange and insert in groove on fuel tank.
- Slip union nut -1- over your left arm 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.



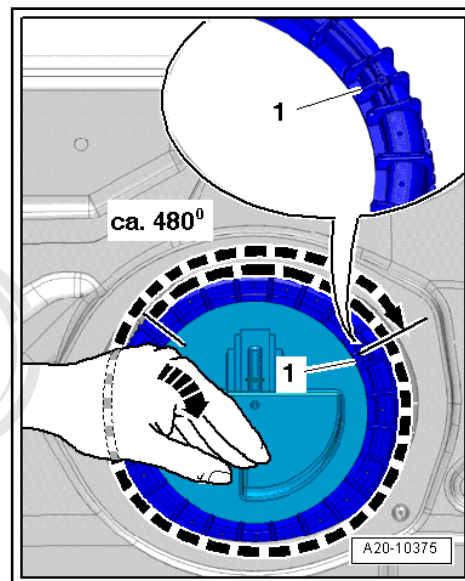
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- Take union nut -1- off your left arm with your right hand and at the same time keep pressing down flange -2- firmly with your left hand -arrow-.
- Position union nut -1- with your right hand in such a way that double ridge -5- on ribs aligns with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



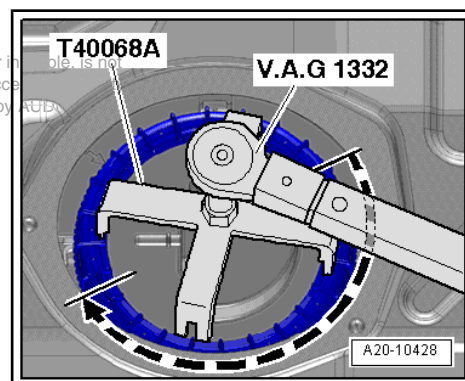
- Keep pressing flange downwards firmly -arrow-.
- Turn union nut approx. 480° with your right hand until double ridge -1- is in approx. “two o'clock position” and at the same time keep on pressing flange downwards firmly with your left hand.



Caution

Take care to avoid leakage at flange.

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



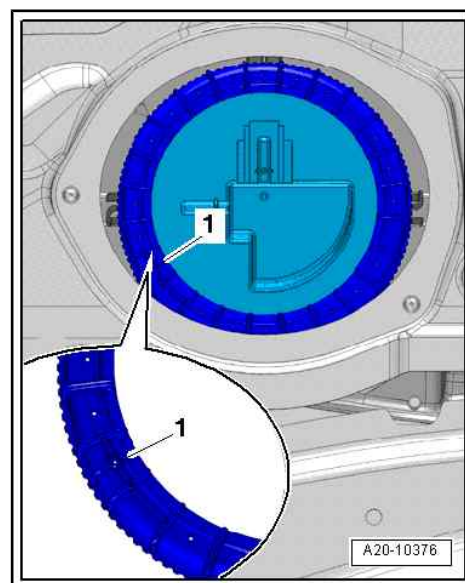
- Tighten union nut for flange using union nut tool - T40068 A- .

- Checking: Double ridge -1- must now be aligned between “seven o'clock and eight o'clock position”.
- Just before re-installing cover for flange, trim down remaining adhesive sealing material on cover for flange and on body with carpet knife to give a smooth surface; do NOT remove sealant completely.



Note

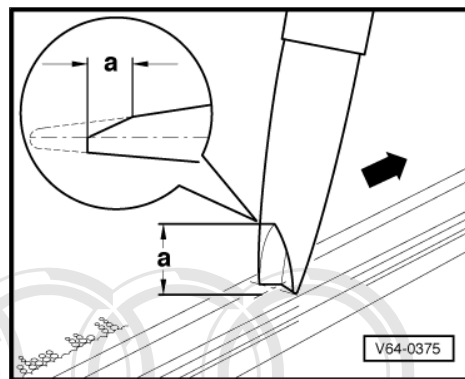
The remaining material serves as a bonding surface when applying the new adhesive sealing material.



Caution

- ◆ **Keep bonding surface clean and free from grease.**
- ◆ **Do not trim bonding surface until shortly before installation.**
- ◆ **Do not prime bonding surface and do not treat with cleaning fluid.**
- ◆ **Application of primer is only required when fitting a new cover for flange.**

- Cut off tip of nozzle of adhesive sealant cartridge as shown in illustration.
- Dimension -a- = 7 mm
- Apply new adhesive sealant onto trimmed-down adhesive sealant on cover for flange and fit cover.
- Arrow on cover points in direction of travel.
- Install fuel delivery unit ⇒ [page 59](#) .
- Install mounting frame for loading aid ⇒ General body repairs, interior; Rep. gr. 70 ; Luggage compartment trim panels; Removing and installing mounting frame for loading aid .
- Put at least 5 litres of fuel into tank after installing fuel gauge sender 2 -G169- .



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3 Fuel cooler

⇒ [“3.1 Exploded view - fuel cooler”, page 95](#)

⇒ [“3.2 Removing and installing fuel cooler”, page 95](#)

3.1 Exploded view - fuel cooler



Note

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

1 - Fuel supply line

- ☐ To fuel filter

2 - Fuel return line

- ☐ To fuel cooler

3 - Bolt

- ☐ 1.5 Nm

4 - Fuel cooler

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

5 - Fuel return line

- ☐ To fuel tank
- ☐ Clipped onto fuel tank
- ☐ Press release tab on connection piece to disconnect

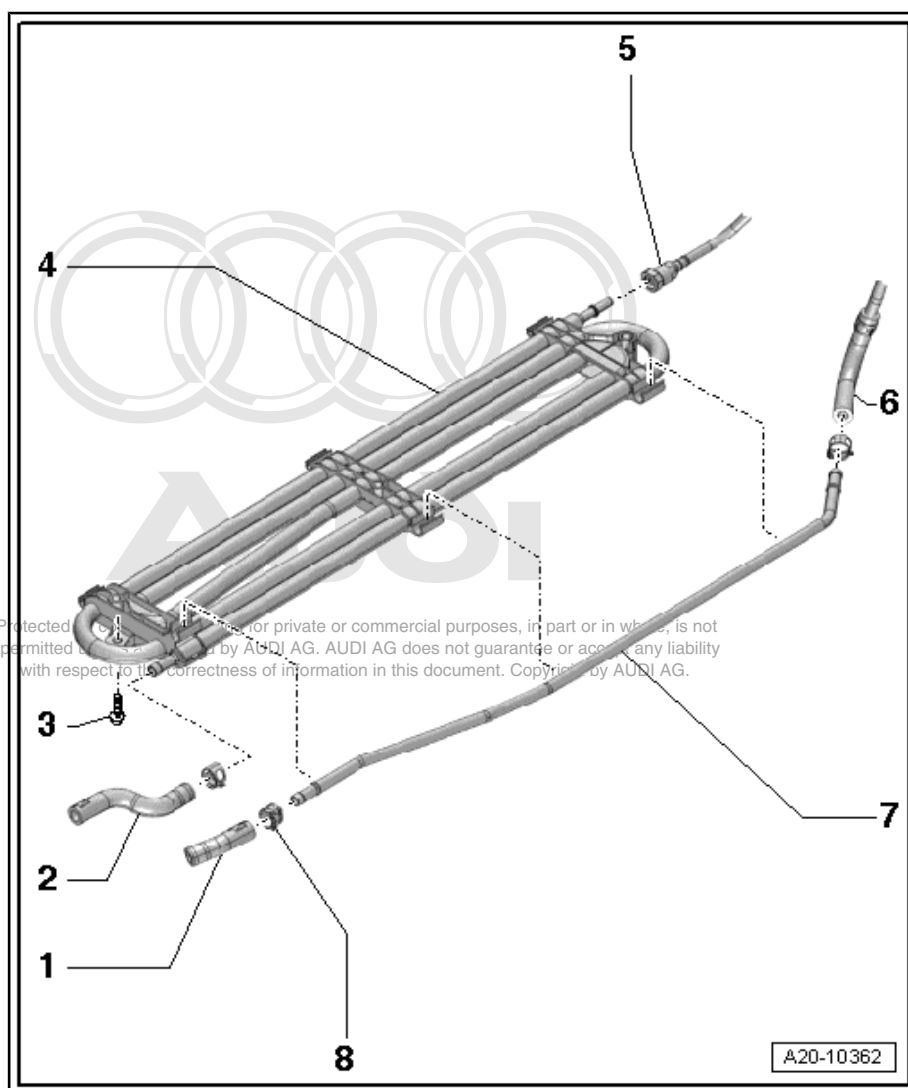
6 - Fuel supply line

- ☐ From fuel tank
- ☐ Clipped onto fuel tank

7 - Fuel supply line

- ☐ To fuel filter
- ☐ Clipped onto fuel cooler

8 - Spring-type clip



3.2 Removing and installing fuel cooler



Note

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

Special tools and workshop equipment required

- ◆ Drip tray

Removing

- Observe rules for cleanliness ➔ [page 5](#) .
- Remove underbody trim panels (right-side) ➔ General body repairs, exterior; Rep. gr. 66 ; Underbody trim; Exploded view - underbody trim panels .



WARNING

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

- ◆ *In extreme cases the fuel lines and the fuel can reach a temperature of 100 °C. Allow the fuel to cool down before disconnecting the lines - danger of scalding.*
- ◆ *Put on protective gloves.*
- ◆ *Put on safety goggles.*

Risk of injury - fuel system operates under high pressure.

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

- Place drip tray under fuel cooler.
- Detach fuel return line -2- from front of fuel cooler.
- Press release tab and disconnect fuel line -4- from rear of fuel cooler.
- Remove bolts -3- (Qty. 3).
- Unclip fuel supply line -1- from fuel cooler -arrows- and detach fuel cooler.

Installing

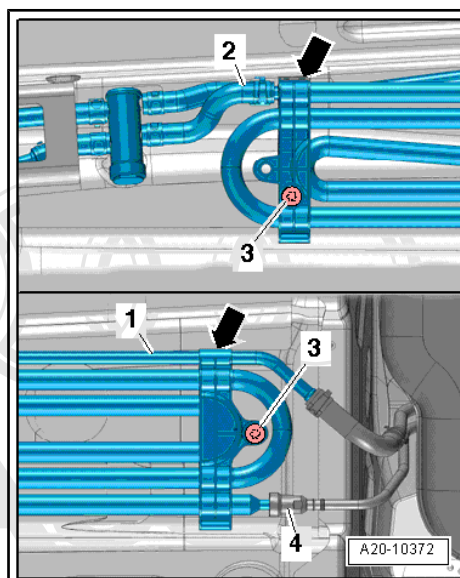
Installation is carried out in the reverse order; note the following:

- Tightening torque
➔ ["3.1 Exploded view - fuel cooler", page 95](#)



Note

Secure all hose connections with the correct type of hose clips (same as original equipment) ➔ [Electronic parts catalogue](#)



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4 Fuel filter

⇒ [“4.1 Exploded view - fuel filter”, page 97](#)

⇒ [“4.2 Removing and installing fuel filter”, page 99](#)

⇒ [“4.3 Removing and installing regulating valve”, page 100](#)

4.1 Exploded view - fuel filter



Note

The supplementary fuel pump - V393- is installed on vehicles with 4-cyl. or 6-cyl. engine (generation I) except those with engine code CAPA.



Caution

The high-pressure pump has very close tolerances and must not be allowed to run without fuel. To prevent this and to enable the engine to start quickly after parts have been renewed, it is important to observe the following:

- Bleed fuel system ⇒ Engine; Rep. gr. 23 ; Injection system; Filling and bleeding fuel system .



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1 - Bracket

- ☐ For fuel filter and supplementary fuel pump - V393- (only on vehicles with 4-cyl. or 6-cyl. engine, generation I, except those with engine code CAPA)

2 - Fuel hose

3 - Spring-type clip

4 - Fuel filter

- ☐ Flow direction is marked by arrows
- ☐ Do not interchange connections
- ☐ Removing and installing ➤ [page 99](#)

5 - Supplementary fuel pump - V393-

- ☐ For vehicles with 4-cyl. or 6-cyl. engine (generation I) except those with engine code CAPA
- ☐ Flow direction is marked by arrows
- ☐ Do not interchange connections
- ☐ Checking fuel delivery rate ➤ [page 127](#)
- ☐ Removing and installing ➤ [page 129](#)

6 - Rubber mounting

- ☐ For supplementary fuel pump - V393-

7 - Fuel return line

- ☐ To engine

8 - Fuel hose

9 - Fuel hose

10 - Fuel hose

11 - Regulating valve

- ☐ For vehicles with 4-cyl. or 6-cyl. engine (generation I) except those with engine code CAPA
- ☐ Flow direction is marked with "VL" (supply), "RL" (return) and arrows.
- ☐ Do not interchange connections
- ☐ Removing and installing ➤ [page 100](#)

12 - Fuel hose

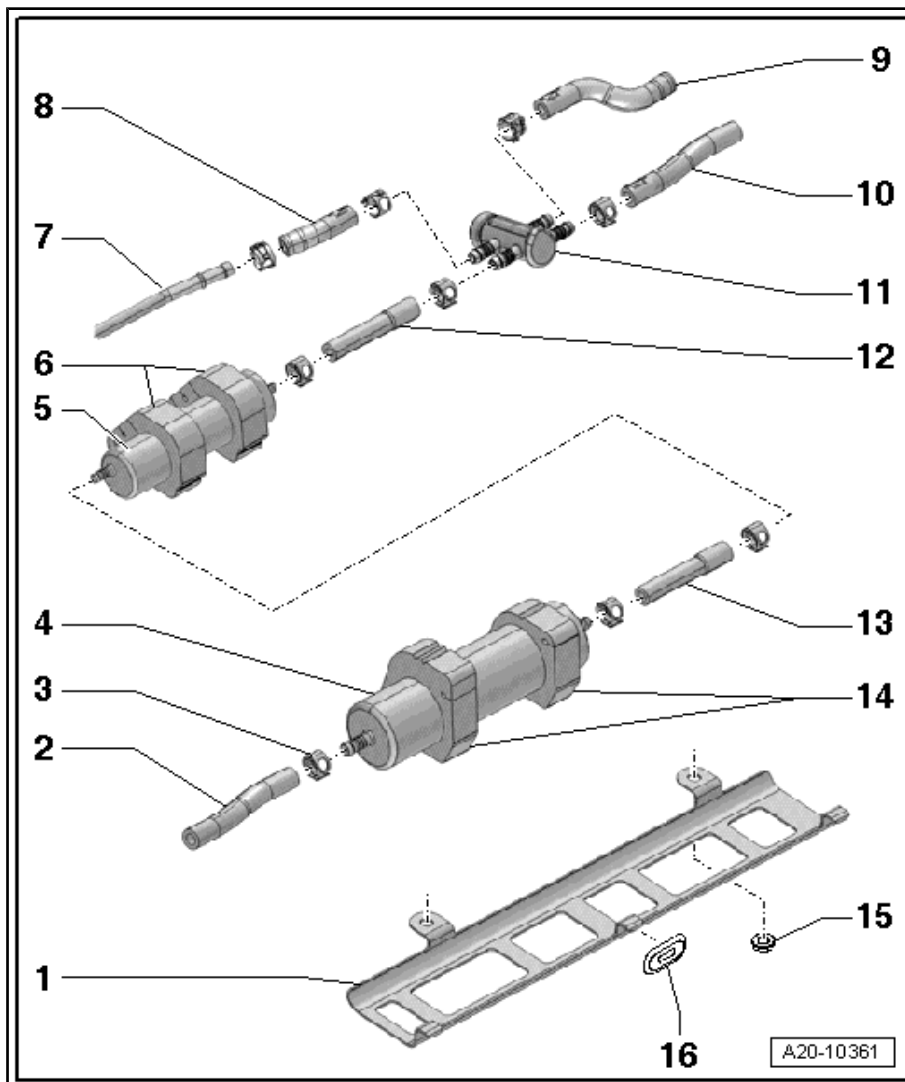
13 - Fuel hose

14 - Rubber mounting

- ☐ For fuel filter

15 - Nut

- ☐ 8 Nm



16 - Rubber grommet

- ☐ Inserted in body

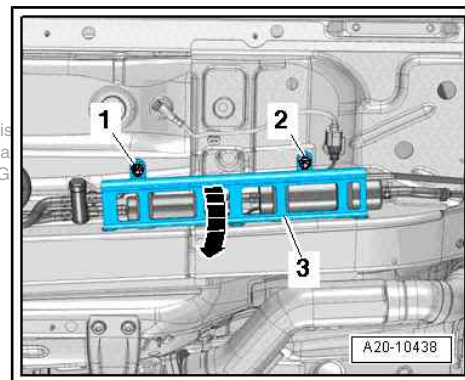
4.2 Removing and installing fuel filter

Special tools and workshop equipment required

- ◆ Drip tray

Removing

- Observe safety precautions ➔ [page 1](#) .
- Observe rules for cleanliness ➔ [page 5](#) .
- Remove underbody trim panels (right-side) ➔ General body repairs, exterior; Rep. gr. 66 ; Underbody trim; Exploded view - underbody trim panels .
- Remove nuts -1- and -2-.
- Move bracket -3- downwards -arrow-, disengage from body and detach.



WARNING

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

- ◆ *In extreme cases the fuel lines and the fuel can reach a temperature of 100 °C. Allow the fuel to cool down before disconnecting the lines - danger of scalding.*
- ◆ *Put on protective gloves.*
- ◆ *Put on safety goggles.*

Risk of injury - fuel system operates under high pressure.

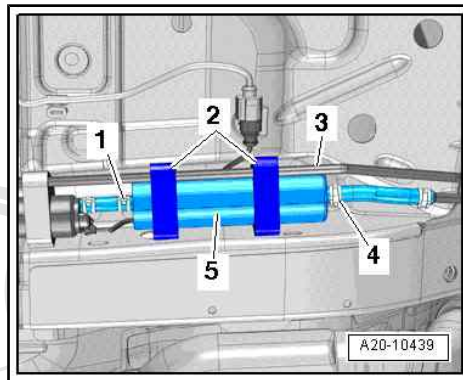
- ◆ *To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.*

- Place drip tray under fuel filter.
- Remove fuel supply hoses -1- and -4-.
- Disengage fuel return line -3- from buffer -2-.
- Detach fuel filter -5- with buffer.



Note

Illustration shows vehicle with 2.7 ltr. engine.



Installing

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

- Tightening torque ⇒ ["4.1 Exploded view - fuel filter", page 97](#)
- Flow direction is marked with arrows on filter housing.



Caution

The high-pressure pump has very close tolerances and must not be allowed to run without fuel. To prevent this and to enable the engine to start quickly after parts have been renewed, it is important to observe the following:

- ◆ *If components of the fuel system between the fuel tank and the high-pressure pump have been removed or renewed, the fuel system must be filled and bled before the engine is started for the first time.*
- ◆ *After installing the high-pressure pump, the pump must first be filled with fuel before the engine is started for the first time.*

On vehicles with engine code CAPA, it is not necessary to bleed the system.

- Bleed fuel system ⇒ Engine; Rep. gr. 23 ; Injection system; Filling and bleeding fuel system .

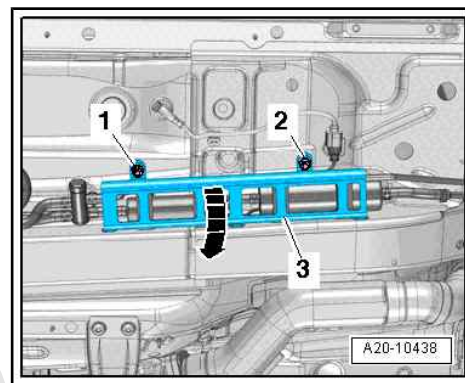
4.3 Removing and installing regulating valve

Special tools and workshop equipment required

- ◆ Drip tray

Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 5](#) .
- Remove underbody trim panels (right-side) ⇒ General body repairs, exterior; Rep. gr. 66 ; Underbody trim; Exploded view - underbody trim panels .
- Remove nuts -1- and -2-.
- Move bracket -3- downwards -arrow-, disengage from body and detach.



WARNING

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

- ◆ *In extreme cases the fuel lines and the fuel can reach a temperature of 100 °C. Allow the fuel to cool down before disconnecting the lines - danger of scalding.*
- ◆ *Put on protective gloves.*
- ◆ *Put on safety goggles.*

Risk of injury - fuel system operates under high pressure.

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

- Place drip tray under regulating valve.
- Detach fuel hoses -1 ... 4- and regulating valve.



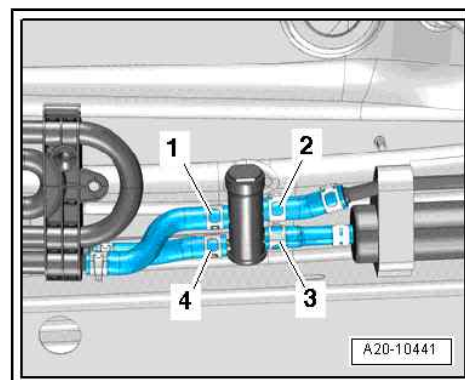
Note

Illustration shows vehicle with 2.7 ltr. engine.

Installing

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

- Tightening torque ⇒ [“4.1 Exploded view - fuel filter”, page 97](#)
- Allocation of fuel hoses and flow direction are marked with “VL” (supply), “RL” (return) and arrows on regulating valve.



5 Accelerator mechanism

⇒ ["5.1 Exploded view - accelerator pedal module", page 102](#)

⇒ ["5.2 Removing and installing accelerator pedal module with accelerator position sender G79 / G185", page 103](#)

5.1 Exploded view - accelerator pedal module

1 - Accelerator pedal module

- ❑ With accelerator position sender - G79- and accelerator position sender 2 - G185-
- ❑ Depending on engine/gearbox type, adaption may need to be performed in "Guided Functions" mode after renewal. If this menu item is available in "Guided Functions", perform adaption ⇒ Vehicle diagnostic tester.

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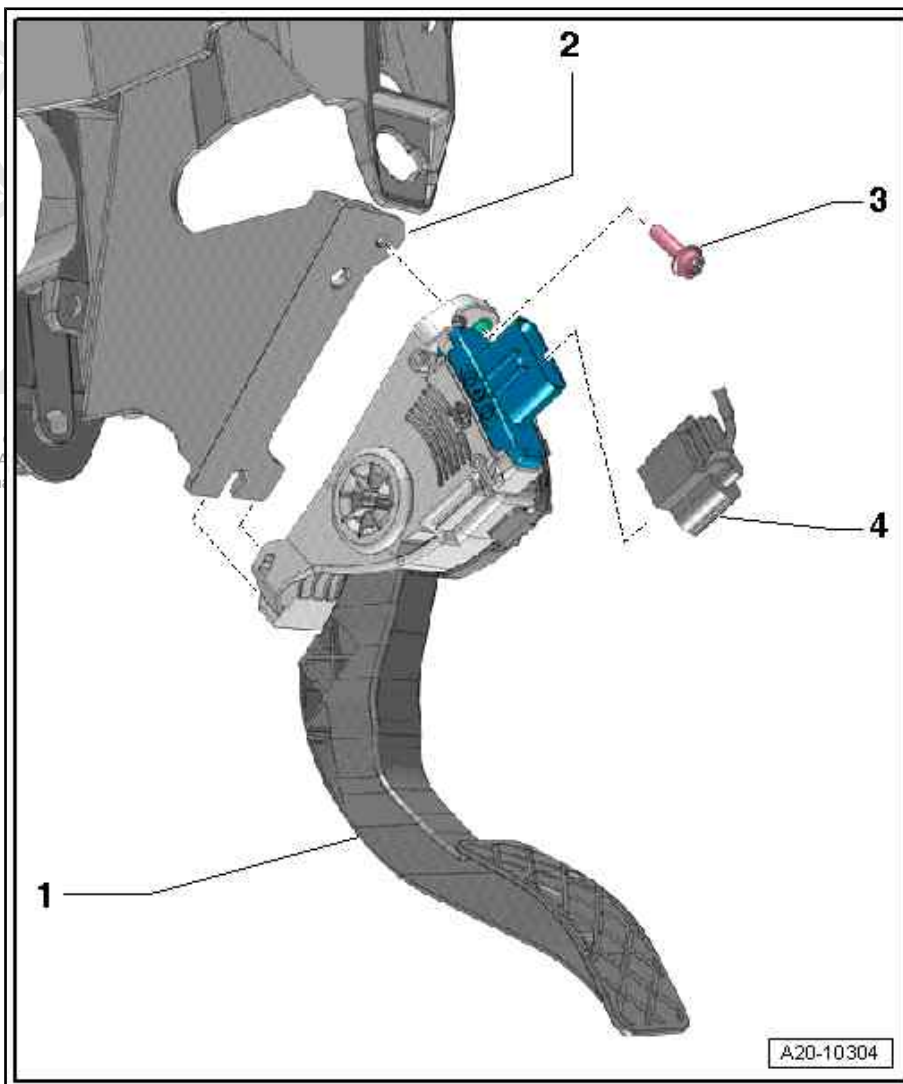
❑ [Removing and installing](#)
⇒ [page 103](#)

2 - Pedal bracket

3 - Bolt

- ❑ 8 Nm

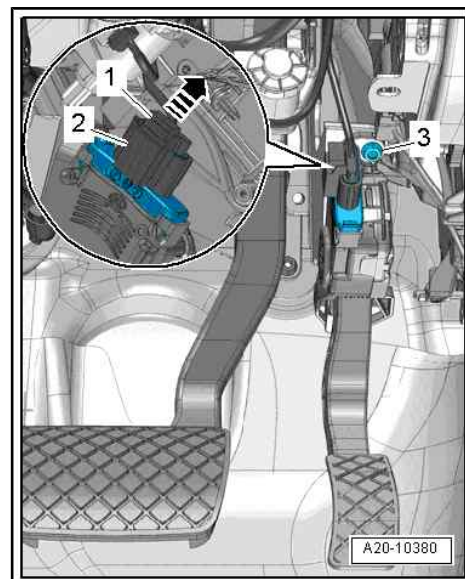
4 - Electrical connector



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

Removing

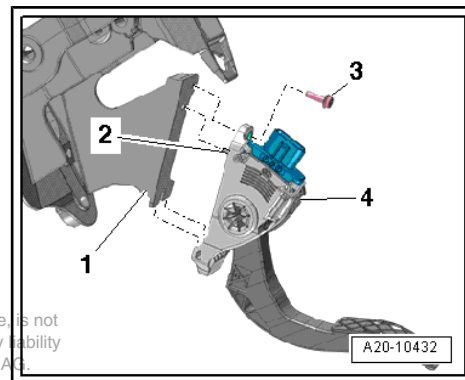
- Remove dash panel cover (bottom) on driver's side ⇒ General body repairs, interior; Rep. gr. 68 ; Shelves / trim panels; Exploded view - dash panel cover (driver side) .
- Push release tab -1- upwards -arrow- and unplug electrical connector -2-.
- Remove bolt -3- and take out accelerator pedal module downwards.



Installing

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

- Tightening torque
 ⇒ ["5.1 Exploded view - accelerator pedal module", page 102](#)
- Attach accelerator pedal module -4- to bottom of pedal bracket -1-, insert centring pin -2- and tighten bolt -3-.
- Install dash panel cover (bottom) on driver's side ⇒ General body repairs, interior; Rep. gr. 68 ; Shelves / trim panels; Exploded view - dash panel cover (driver side).



Note

- ◆ Depending on engine/gearbox type, adaption may need to be performed in "Guided Functions" mode after renewal.
- ◆ If this menu item is available in "Guided Functions", perform adaption ⇒ Vehicle diagnostic tester.

6 Checking fuel system for leaks

Observe rules for cleanliness ⇒ [page 5](#) .

A leaking fuel system can cause:

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

Checking fuel system and fuel lines for leaks

- Check whether the seals on the flanges are damaged and whether the union nuts on the fuel tank flanges are properly tightened.
- Perform a visual check of all fuel lines, fuel tank components and hose connections:
 - ◆ Fuel lines to engine
 - ◆ Fuel lines to fuel tank
 - ◆ Fuel cooler
 - ◆ Fuel filter
 - ◆ Fuel tank

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7 Fuel pump

⇒ [“7.1 Checking fuel system pressurisation pump G6 ”, page 105](#)

⇒ [“7.2 Exploded view - supplementary fuel pump V393 ”, page 125](#)

⇒ [“7.3 Checking delivery rate of supplementary fuel pump V393 ”, page 127](#)

⇒ [“7.4 Removing and installing fuel pump”, page 129](#)

⇒ [“7.5 Removing and installing suction pipe”, page 131](#)

⇒ [“7.6 Removing and installing fuel pump control unit J538 ”, page 133](#)

⇒ [“7.7 Checking fuel pump control unit J538 ”, page 143](#)

7.1 Checking fuel system pressurisation pump - G6-

⇒ [“7.1.1 Checking fuel delivery rate of fuel system pressurisation pump G6 \(in fuel tank\) - A5 up to model year 2011, A4 up to model year 2012 \(vehicles with front-wheel drive\)”, page 105](#)

⇒ [“7.1.2 Checking fuel delivery rate of fuel system pressurisation pump G6 - A5 up to model year 2011, A4 up to model year 2012 \(vehicles with four-wheel drive\)”, page 109](#)

⇒ [“7.1.3 Checking fuel system pressurisation pump G6 \(in fuel tank\) - A5 from model year 2012 onwards, A4 from model year 2013 onwards \(vehicles with front-wheel drive and vehicles with four-wheel drive\)”, page 113](#)

⇒ [“7.1.4 Checking fuel system pressurisation pump G6 \(electrical test\) - A5 up to model year 2011, A4 up to model year 2012 \(vehicles with front-wheel drive\)”, page 119](#)

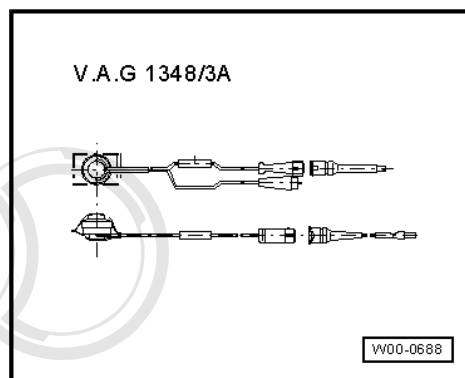
⇒ [“7.1.5 Checking fuel system pressurisation pump G6 \(electrical test\) - A5 up to model year 2011, A4 up to model year 2012 \(vehicles with four-wheel drive\)”, page 122](#)

⇒ [“7.1.6 Checking fuel system pressurisation pump G6 \(electrical test\) - A5 from model year 2012 onwards, A4 from model year 2013 onwards \(vehicles with front-wheel drive and vehicles with four-wheel drive\)”, page 125](#)

7.1.1 Checking fuel delivery rate of fuel system pressurisation pump - G6- (in fuel tank) - A5 up to model year 2011, A4 up to model year 2012 (vehicles with front-wheel drive)

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 1526E-

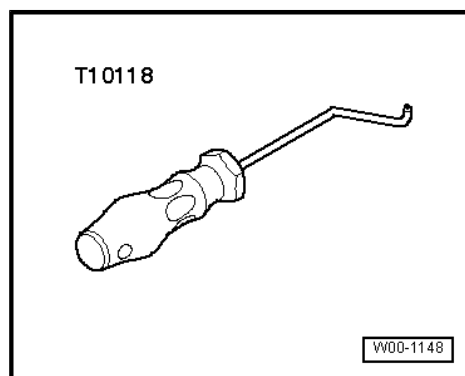
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- ◆ Auxiliary measuring set - V.A.G 1594C-

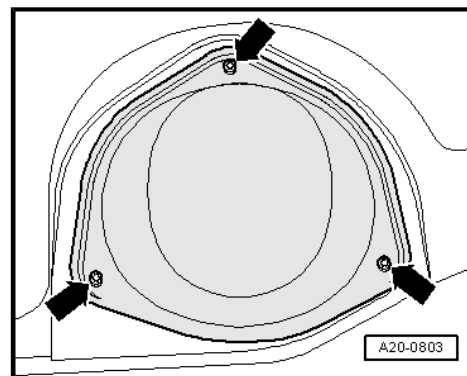


- ◆ Assembly tool - T10118-



Procedure

- Observe test conditions ➔ [page 5](#) .
- Remove rear seat bench ➔ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Unscrew cover for flange -arrows-.

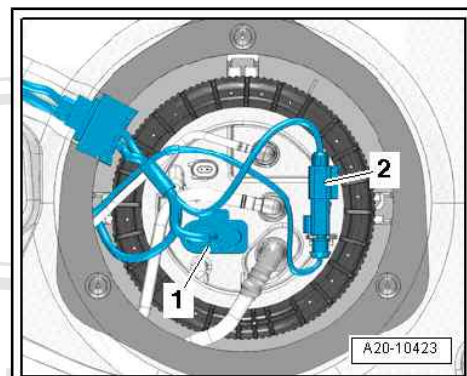


- Release retainer catch with assembly tool - T10118- and unplug electrical connector -1- on flange.

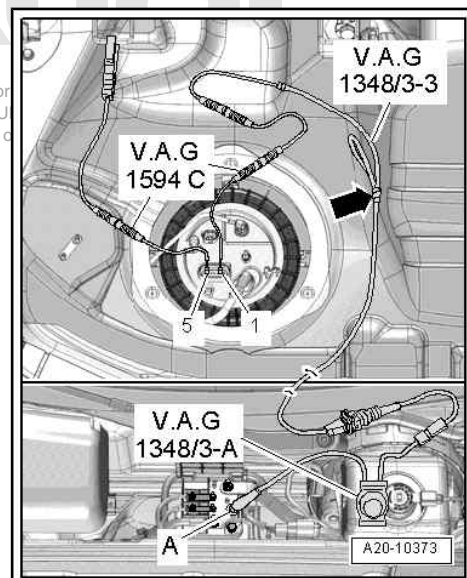


Note

Disregard -item 2-.



- Connect remote control - V.A.G 1348/3A- for V.A.G 1348 to contact -1- using adapter cable -V.A.G 1348/3-3- and test lead from auxiliary measuring set - V.A.G 1594C-.
- Tape off 2nd connector contact of adapter cable -V.A.G 1348/3-3- with insulating tape -arrow- to prevent short circuits.
- Connect contact -5- to vehicle body (earth) using a test lead from auxiliary measuring set - V.A.G 1594C- .
- Move switch of remote control - V.A.G 1348/3A- for V.A.G 1348 to front of engine compartment.

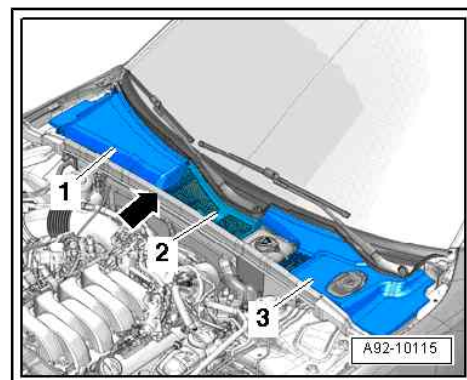


- Remove seal -arrow-.
- Unclip entire plenum chamber cover (depending on equipment version) or single component -2- and detach.

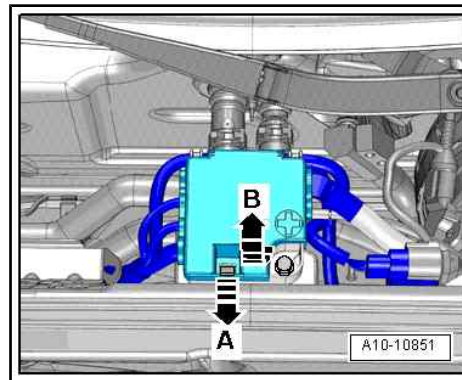


Note

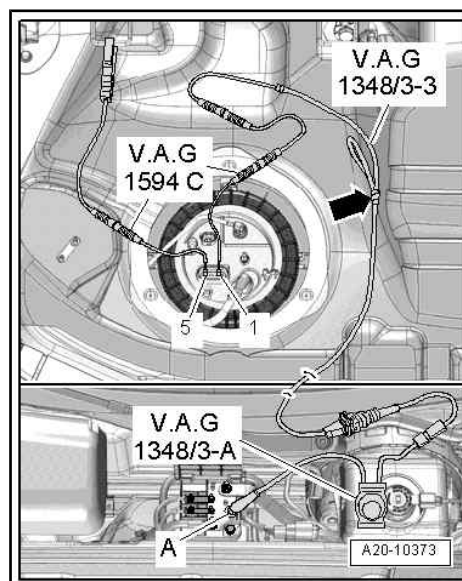
Disregard -items 1, 3-.



- Release retainer -arrow A- and open cover -arrow B-.



- Connect crocodile clip to jump start socket - U6- -item A- in terminal 30 wiring junction 2 - TV22- located in plenum chamber.



WARNING

Risk of injury - fuel system operates under high pressure.

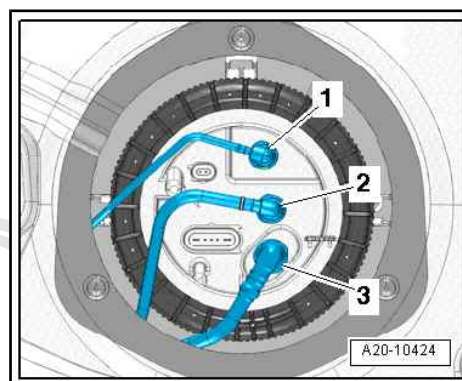
- ♦ *To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.*

- Press release tab and disconnect fuel line -3- at flange.

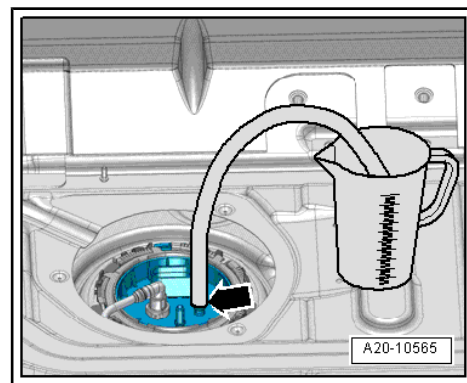


Note

Disregard -items 1, 2-.



- Attach fuel-resistant hose with inner $\varnothing$ of 8 mm to free connection on flange -arrow- and hold into fuel-resistant measuring container.
- Press remote control switch for 15 seconds.



- Compare amount of fuel delivered with minimum delivery shown in diagram (cm³/15 sec.).



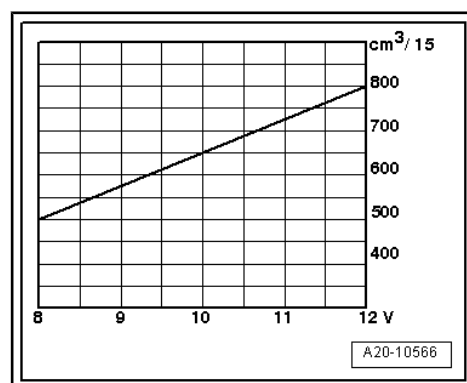
Note

Voltage at fuel pump with engine stationary and fuel pump running is approx. 2 volts less than battery voltage.

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

- ◆ There is not enough fuel in fuel tank.
- ◆ Fuel system pressurisation pump - G6- is defective.

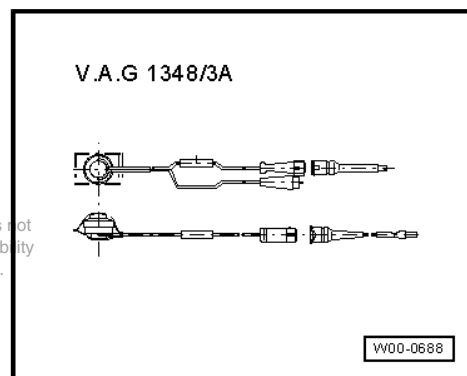
Assemble in reverse order.



7.1.2 Checking fuel delivery rate of fuel system pressurisation pump - G6- - A5 up to model year 2011, A4 up to model year 2012 (vehicles with four-wheel drive)

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-

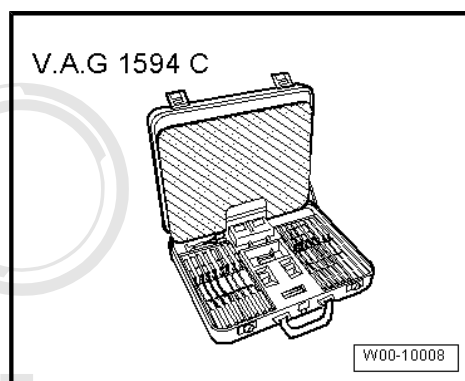


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◆ Hand-held multimeter - V.A.G 1526E-

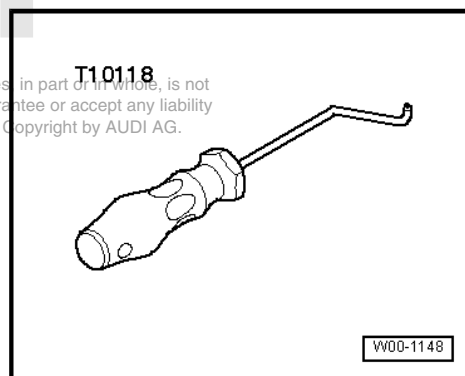


◆ Auxiliary measuring set - V.A.G 1594C-



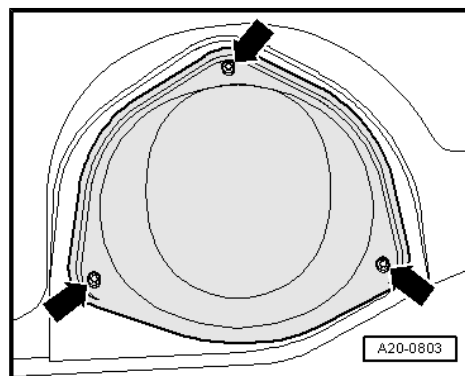
◆ Assembly tool - T10118-

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Procedure

- Observe test conditions ➔ [page 5](#) .
- Remove rear seat bench ➔ General body repairs, interior;
Rep. gr. 72 ; Rear seats; Removing and installing seat bench/
individual seats .
- Unscrew cover for flange -arrows-.

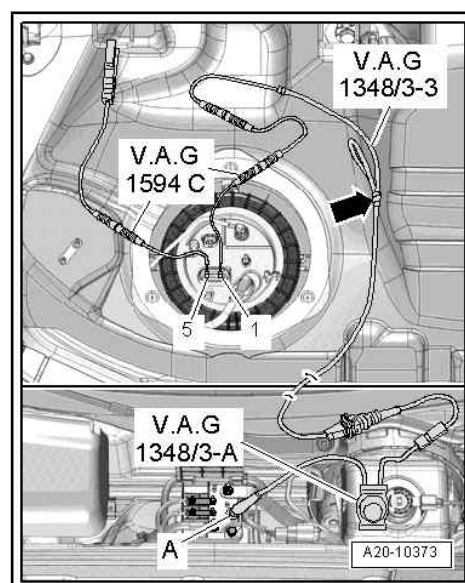
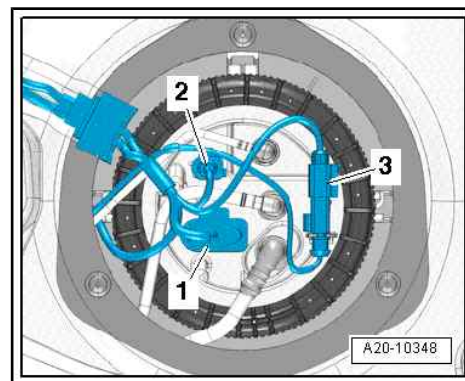


- Release retainer catch with assembly tool - T10118- and unplug electrical connector -1- on flange.

 Note

Disregard -items 2, 3-.

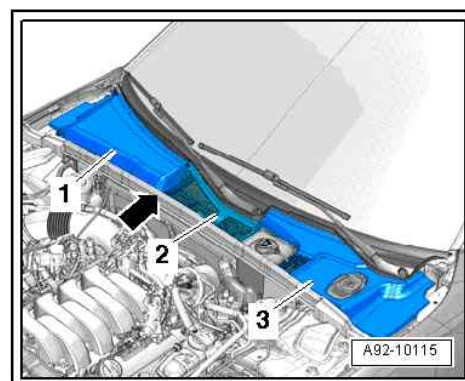
- Connect remote control - V.A.G 1348/3A- for V.A.G 1348 to contact -1- using adapter cable -V.A.G 1348/3-3- and test lead from auxiliary measuring set - V.A.G 1594C- .
- Tape off 2nd connector contact of adapter cable -V.A.G 1348/3-3- with insulating tape -arrow- to prevent short circuits.
- Connect contact -5- to vehicle body (earth) using a test lead from auxiliary measuring set - V.A.G 1594C- .
- Move switch of remote control - V.A.G 1348/3A- for V.A.G 1348 to front of engine compartment.



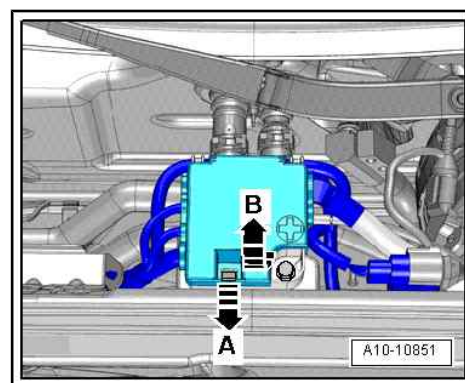
- Remove seal -arrow-.
- Unclip entire plenum chamber cover (depending on equipment version) or single component -2- and detach.

 Note

Disregard -items 1, 3-.

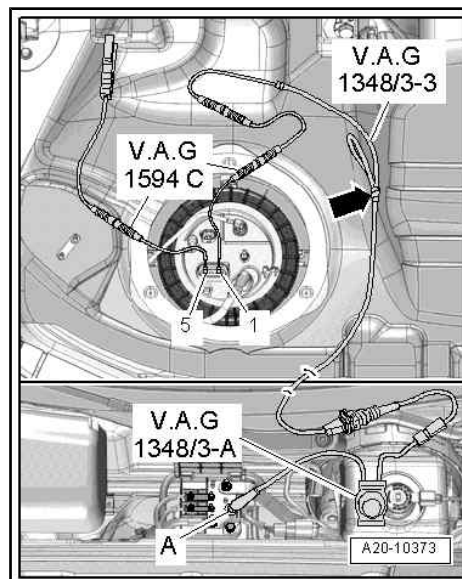


- Release retainer -arrow A- and open cover -arrow B-.



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- Connect crocodile clip to jump start socket - U6- -item A- in terminal 30 wiring junction 2 - TV22- located in plenum chamber.


WARNING

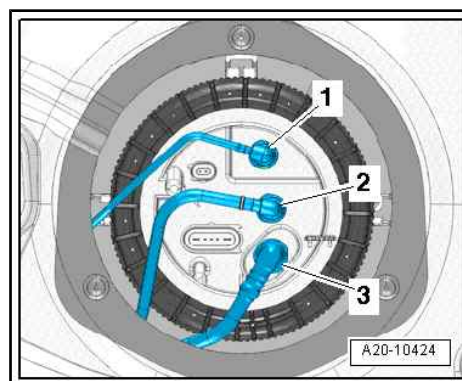
Risk of injury - fuel system operates under high pressure.

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

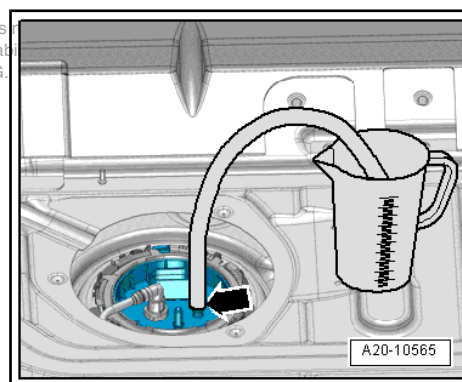
- Press release tab and disconnect fuel line -3- at flange.


Note

Disregard -items 1, 2-.



- Attach fuel-resistant hose with inner Ø of 8 mm to free connection on flange -arrow- and hold into fuel-resistant measuring container.
- Press remote control switch for 15 seconds.



- Compare amount of fuel delivered with minimum delivery shown in diagram (cm³/15 sec.).



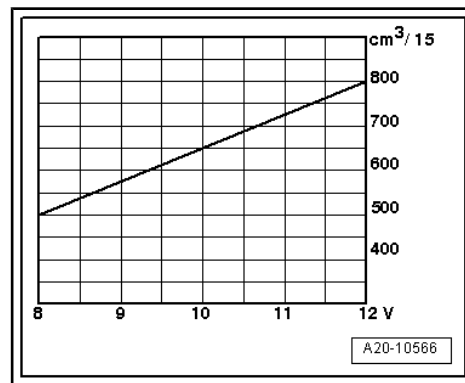
Note

Voltage at fuel pump with engine stationary and fuel pump running is approx. 2 volts less than battery voltage.

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

- ◆ There is not enough fuel in fuel tank.
- ◆ Fuel system pressurisation pump - G6- is defective.

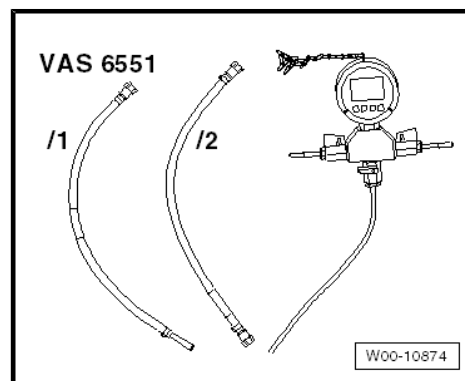
Assemble in reverse order.



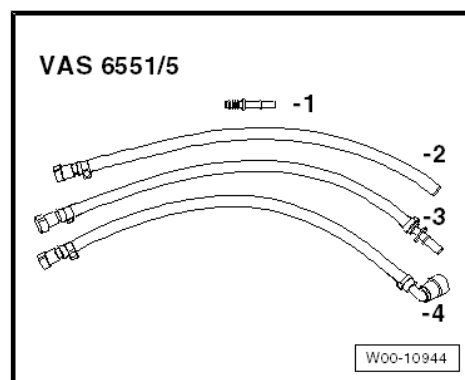
7.1.3 Checking fuel system pressurisation pump - G6- (in fuel tank) - A5 from model year 2012 onwards, A4 from model year 2013 onwards (vehicles with front-wheel drive and vehicles with four-wheel drive)

Special tools and workshop equipment required

- ◆ Pressure tester (diesel) - VAS 6551-

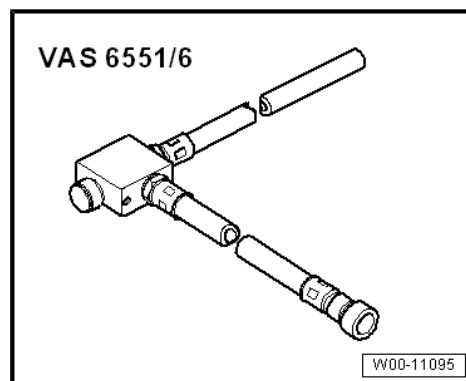


- ◆ Adapter set - VAS 6551/5-



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◆ Pressure control valve - VAS 6551/6-



- ◆ Vehicle diagnostic tester
- ◆ Fuel-resistant measuring container

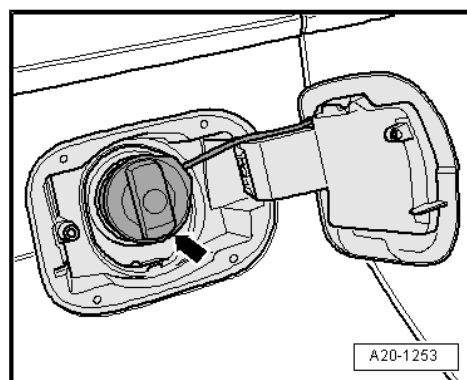
A - Checking fuel delivery rate



Note

The test procedure for the 3.0 ltr. TDI engine is shown as an example.

- Observe test conditions ➔ [page 5](#) .
- Open tank flap.
- Remove filler cap -arrow- for fuel filler neck.



WARNING

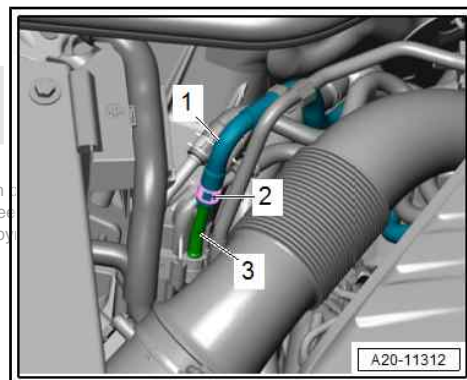
The fuel can become extremely hot. This can cause injuries.

- ◆ *In extreme cases the fuel lines and the fuel can reach a temperature of 100 °C. Allow the fuel to cool down before disconnecting the lines - danger of scalding.*
- ◆ *Put on protective gloves.*
- ◆ *Put on safety goggles.*

Risk of injury - fuel system operates under high pressure.

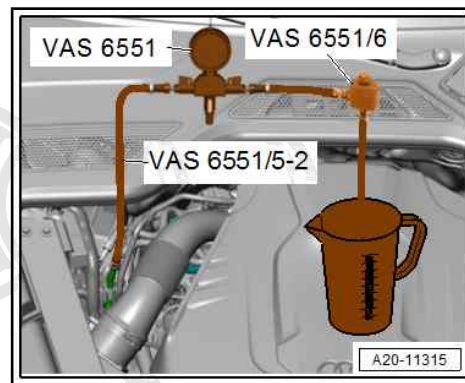
- ◆ *To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.*

- Release hose clip -2- and detach fuel supply hose -1- leading to high-pressure pump from fuel supply line -3-.



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- Connect pressure tester (diesel) - VAS 6551- to fuel supply line with connecting line - VAS 6551/5-2- and secure with hose clip.
- Attach pressure control valve - VAS 6551/6- and hold end of hose into fuel-resistant measuring container.



- Switch on pressure tester (diesel) - VAS 6551- -item 1- by pressing **On/Off** button.

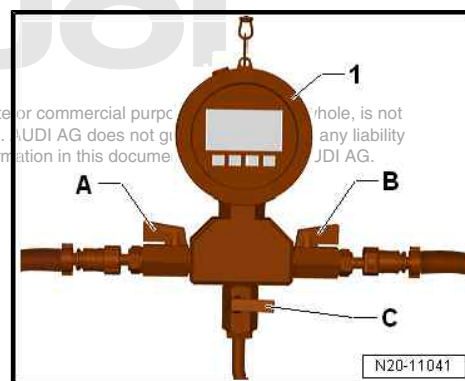


Note

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To measure the fuel delivery rate, pressure must first be built up in the fuel supply line; the fuel pump must then operate against this pressure during the measurement. This pressure can be built up using the pressure control valve - VAS 6551/6- as follows:

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



Caution

Risk of fuel escaping.

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

- Connect vehicle diagnostic tester .
- Switch on the ignition and select the following menu options on the vehicle diagnostic tester:
 - ◆ **Vehicle self-diagnosis**
 - ◆ **Engine electronics**
 - ◆ **Basic setting**
 - ◆ **Checking fuel system pressurisation pump**
- Press **Start**: The fuel pump will start running.

- Build up pressure in fuel system by turning adjuster screw -1- on pressure control valve - VAS 6551/6- until correct pressure is reached.
- Specification: 4 bar
- From this point on, do not turn adjuster screw -1-.
- Press **Stop**.
- Drain measuring container.
- For measurement, press **Start** again and let fuel pump run for 15 seconds.
- Press **Stop** after 15 seconds.
- Check amount of fuel delivered in measuring container.
- Specification: minimum delivery rate 630 cm³/15 sec.

If the minimum delivery rate is attained:

- ◆ Fuel supply line and fuel pump are OK
- ◆ However, there may be a fault in the return line. For Fault Finding, perform "Pressure test for entire system"
⇒ [page 118](#).

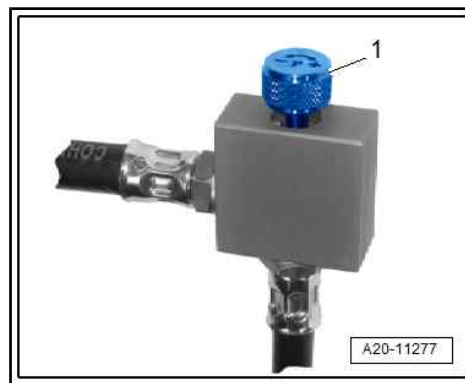
If minimum delivery rate is not achieved, check for the following causes:

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



Note

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



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B - Pressure test on fuel supply line

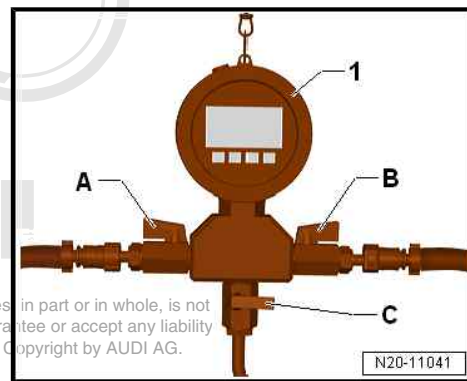
- Leave measuring equipment connected in the same way as for measuring the fuel delivery rate.
- Vehicle diagnostic tester still connected.
- Switch on pressure tester (diesel) - VAS 6551- -item 1- by pressing **On/Off** button.
- Open cut-off valve -A-.
- Lever must point in direction of flow.



Caution

Risk of fuel escaping.

- ◆ *Cut-off valves -B and C- must be closed.*
- ◆ *The levers should point perpendicular to direction of flow.*



- Press **Start** on vehicle diagnostic tester display to start the fuel pump.
- Press **Stop** after 15 seconds.
- Read fuel pressure off pressure tester (diesel) - VAS 6551- .
- Specification: at least 6.0 bar

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

- ◆ Blocked fuel filter or crushed fuel supply line.

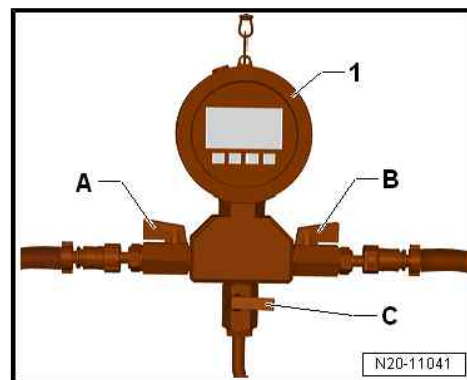
If specification is not attained:

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

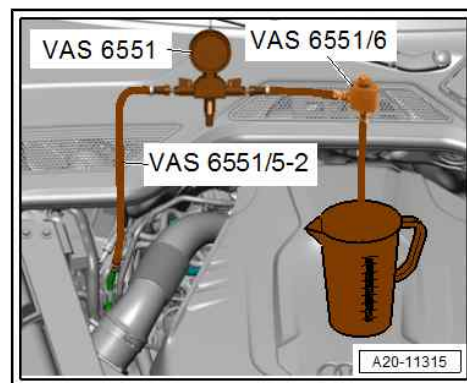


Note

- ◆ *To detect any faults in the fuel return line or in the relief valve of the high-pressure pump, a pressure test must be performed on the entire system as described below.*
- ◆ *Before disconnecting the measuring equipment, release the fuel pressure by opening the cut-off valves -B and C- and allowing fuel to drain off into a measuring container.*



- Detach pressure control valve - VAS 6551/6- and remove together with measuring container.



C - Pressure test for entire system

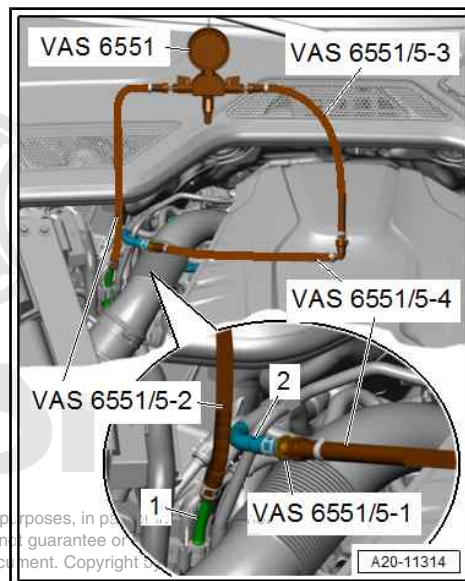
- Fuel delivery rate and pressure test on fuel supply line OK
- Connecting line - VAS 6551/5-2- connected to fuel supply line -1- and to pressure tester (diesel) - VAS 6551- .
- Vehicle diagnostic tester connected.
- Attach connection fitting - VAS 6551/5-1- to fuel supply hose -2- leading to high-pressure pump, secure with hose clip and attach connecting line - VAS 6551/5-4- .
- Attach connecting line - VAS 6551/5-3- and -VAS 6551/5-4- to pressure tester (diesel) - VAS 6551- .



Note

In this way the pressure tester (diesel) - VAS 6551- is connected into the fuel supply line.

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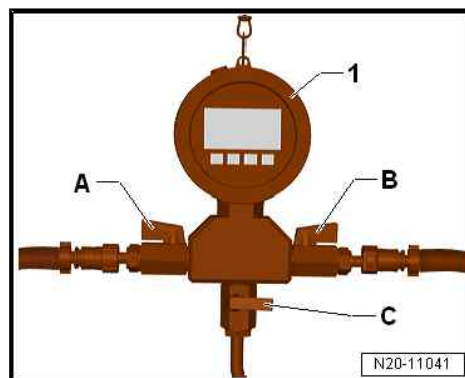
- Switch on pressure tester (diesel) - VAS 6551- -item 1- by pressing **On/Off** button.
- Open cut-off valves -A and B-.
- Levers must point in direction of flow.



Caution

Risk of fuel escaping.

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



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

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

- Press **Start**: The fuel pump will start running.
- Read fuel pressure off pressure tester (diesel) - VAS 6551- .
- Specification: at least 3.8 bar

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

- ◆ Relief valve in high-pressure pump not OK

Assembling

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

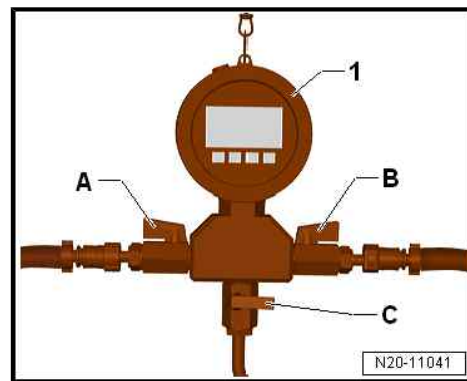
- The ignition must be switched off.



Note

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

- Detach pressure tester (diesel) - VAS 6551- together with connecting lines.
- Secure fuel supply line with hose clip and then pull to check that fuel supply line is properly secured.



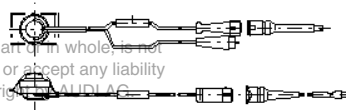
7.1.4 Checking fuel system pressurisation pump - G6- (electrical test) - A5 up to model year 2011, A4 up to model year 2012 (vehicles with front-wheel drive)

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-

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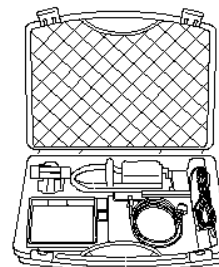
V.A.G 1348/3A



W00-0688

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

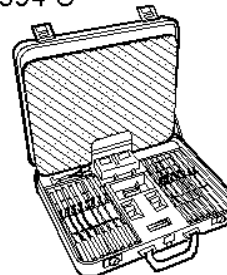
V.A.G 1526 E



W00-10861

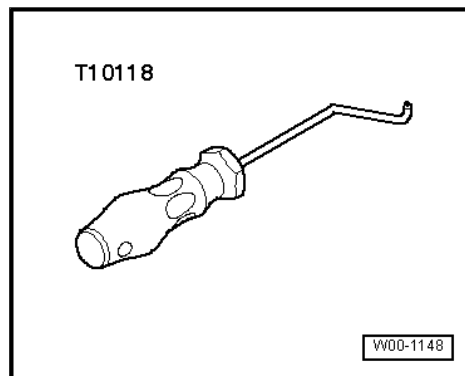
- ◆ Auxiliary measuring set - V.A.G 1594C-

V.A.G 1594 C



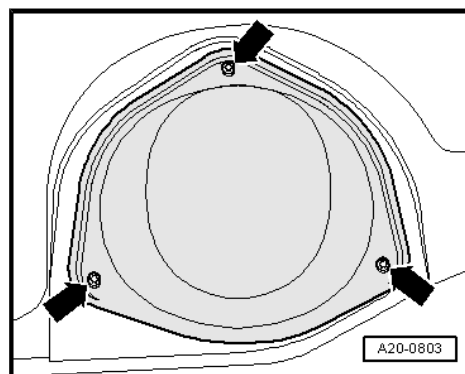
W00-10008

◆ Assembly tool - T10118-



Procedure

- Observe test conditions ➔ [page 5](#) .
- Remove rear seat bench ➔ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Unscrew cover for flange -arrows-.

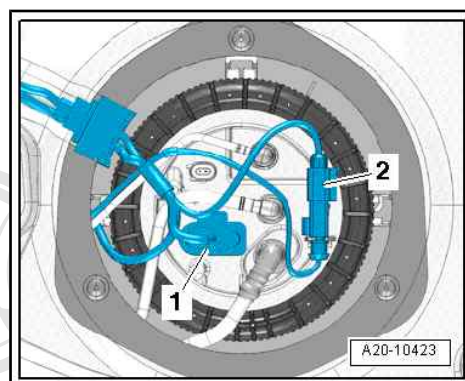


- Release retainer catch with assembly tool - T10118- and unplug electrical connector -1- on flange.

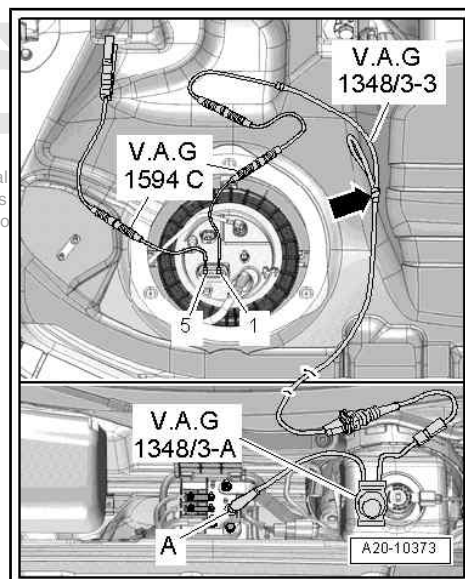


Note

Disregard -item 2-.



- Connect remote control - V.A.G 1348/3A- for V.A.G 1348 to contact -1- using adapter cable -V.A.G 1348/3-3- and test lead from auxiliary measuring set - V.A.G 1594C- .
- Tape off 2nd connector contact of adapter cable -V.A.G 1348/3-3- with insulating tape -arrow- to prevent short circuits.
- Connect contact -5- to vehicle body (earth) using a test lead from auxiliary measuring set - V.A.G 1594C- .
- Move switch of remote control - V.A.G 1348/3A- for V.A.G 1348 to front of engine compartment.

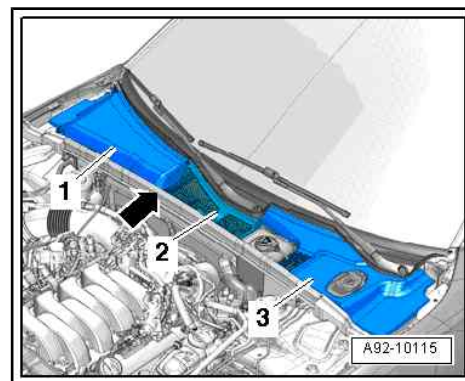


- Remove seal -arrow-.
- Unclip entire plenum chamber cover (depending on equipment version) or single component -2- and detach.

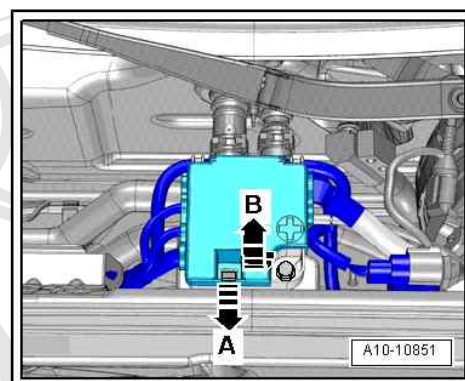


Note

Disregard -items 1, 3-.



- Release retainer -arrow A- and open cover -arrow B-.

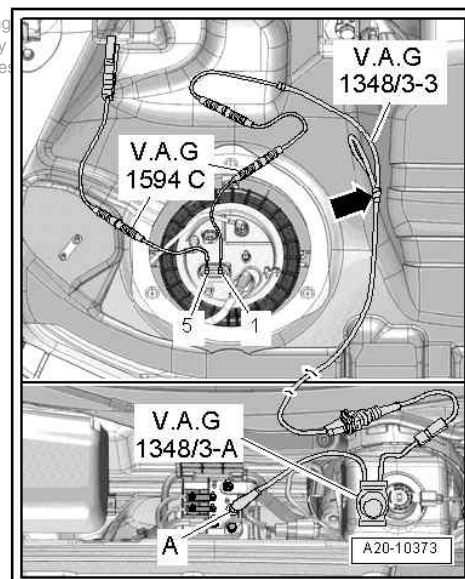


- Connect crocodile clip to jump start socket - U6-item A- in terminal 30 wiring junction 2 - TV22- located in plenum chamber.
- Press remote control switch.
- Fuel system pressurisation pump - G6- should start running audibly.

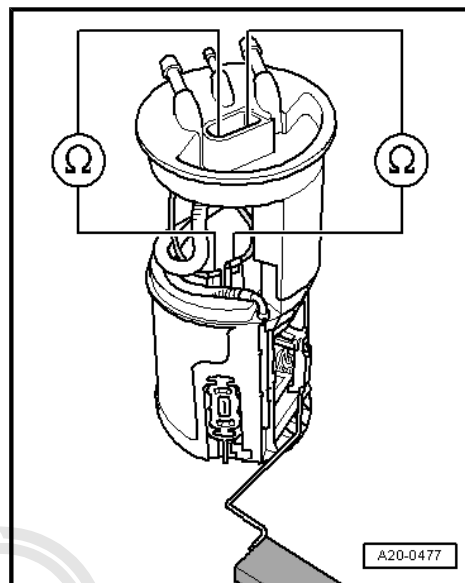


Note

The fuel pump runs very quietly. Where possible, avoid noisy surroundings when testing the fuel pump.



- If no noise can be heard from pump, remove fuel delivery unit ➔ [page 41](#) .
- Check that wiring between flange and fuel pump is connected and test for continuity.
- Renew fuel delivery unit if no wiring fault is detected.
- Install fuel delivery unit ➔ [page 44](#) .

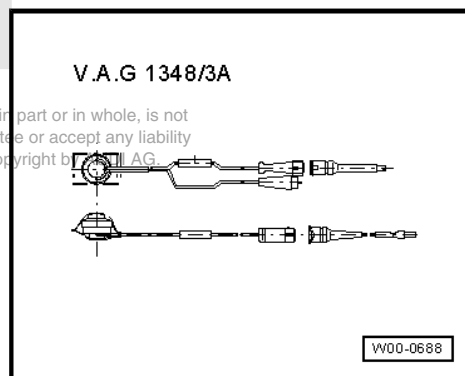


7.1.5 Checking fuel system pressurisation pump - G6- (electrical test) - A5 up to model year 2011, A4 up to model year 2012 (vehicles with four-wheel drive)

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-

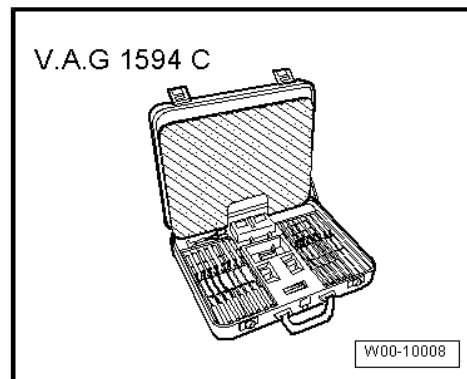
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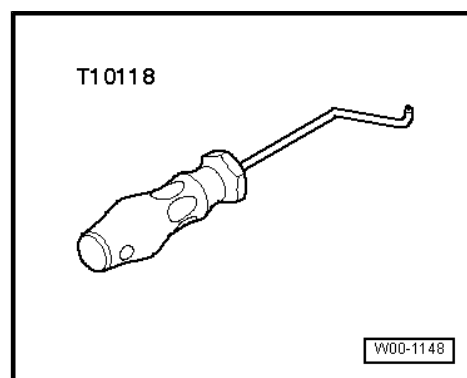
- ◆ Hand-held multimeter - V.A.G 1526E-



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

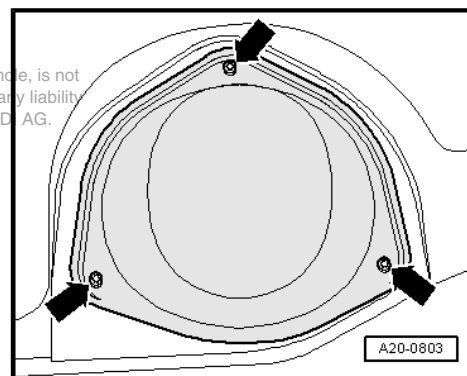


◆ Assembly tool - T10118-



Procedure

- Observe test conditions ➔ [page 5](#)
- Remove rear seat bench ➔ General body repairs, interior;
Rep. gr. 72 ; Rear seats; Removing and installing seat bench/
individual seats .
- Unscrew cover for flange -arrows-.

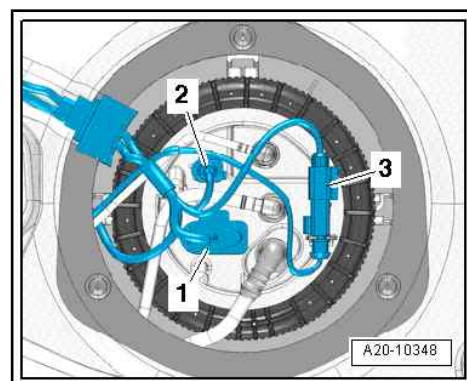


- Release retainer catch with assembly tool - T10118- and unplug electrical connector -1- on flange.

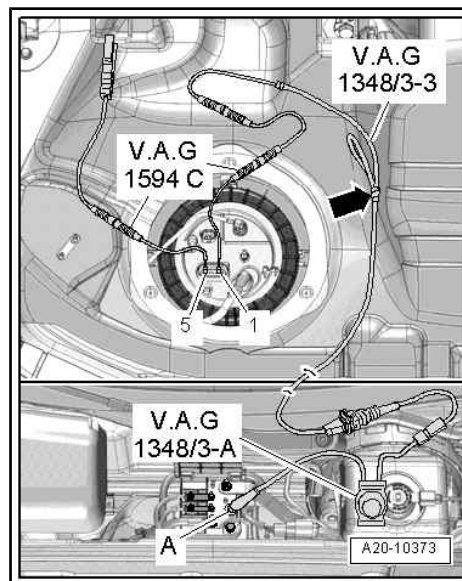


Note

Disregard -items 2, 3-.



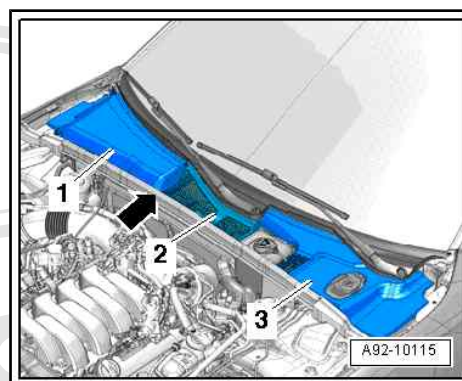
- Connect remote control - V.A.G 1348/3A- for V.A.G 1348 to contact -1- using adapter cable -V.A.G 1348/3-3- and test lead from auxiliary measuring set - V.A.G 1594C- .
- Tape off 2nd connector contact of adapter cable -V.A.G 1348/3-3- with insulating tape -arrow- to prevent short circuits.
- Connect contact -5- to vehicle body (earth) using a test lead from auxiliary measuring set - V.A.G 1594C- .
- Move switch of remote control - V.A.G 1348/3A- for V.A.G 1348 to front of engine compartment.



- Remove seal -arrow-.
- Unclip entire plenum chamber cover (depending on equipment version) or single component -2- and detach.

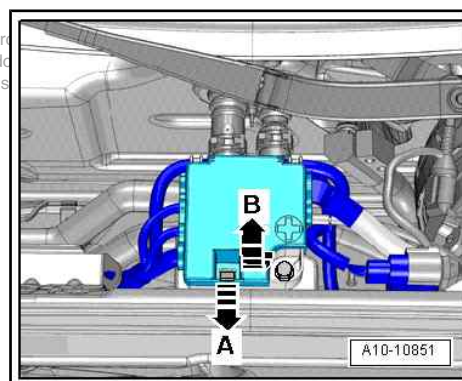

Note

Disregard -items 1, 3-.



- Release retainer -arrow A- and open cover -arrow B-.

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- Connect crocodile clip to jump start socket - U6- -item A- in terminal 30 wiring junction 2 - TV22- located in plenum chamber.
- Press remote control switch.
- Fuel system pressurisation pump - G6- should start running audibly.

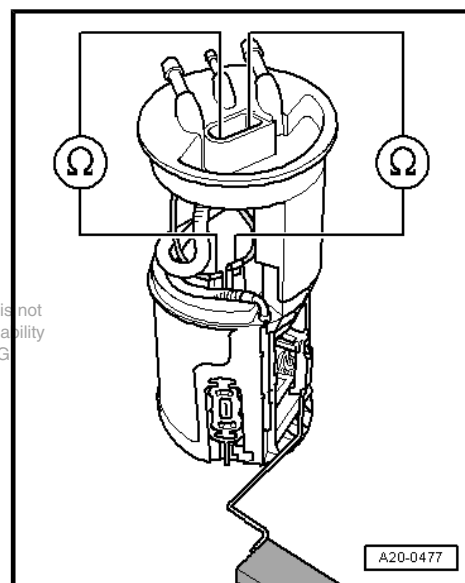
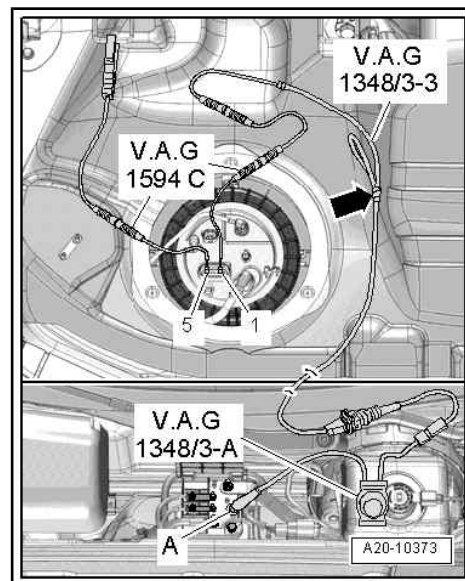


Note

The fuel pump runs very quietly. Where possible, avoid noisy surroundings when testing the fuel pump.

- If no noise can be heard from pump, remove fuel delivery unit ➔ [page 41](#) .
- Check that wiring between flange and fuel pump is connected and test for continuity.
- Renew fuel delivery unit if no wiring fault is detected.
- Install fuel delivery unit ➔ [page 56](#) .

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7.1.6 Checking fuel system pressurisation pump - G6- (electrical test) - A5 from model year 2012 onwards, A4 from model year 2013 onwards (vehicles with front-wheel drive and vehicles with four-wheel drive)

Perform electrical test of fuel pump using Guided Fault Finding function ➔ vehicle diagnostic tester .

7.2 Exploded view - supplementary fuel pump - V393-



Note

The supplementary fuel pump - V393- is installed on vehicles with 4-cyl. or 6-cyl. engine (generation I) except those with engine code CAPA.



Caution

The high-pressure pump has very close tolerances and must not be allowed to run without fuel. To prevent this and to enable the engine to start quickly after parts have been renewed, it is important to observe the following:

- Bleed fuel system ⇒ Engine; Rep. gr. 23 ; Injection system; Filling and bleeding fuel system .

1 - Bracket

- ☐ For fuel filter and supplementary fuel pump - V393- (only on vehicles with 4-cyl. or 6-cyl. engine, generation I, except those with engine code CAPA)

2 - Fuel hose

3 - Spring-type clip

4 - Fuel filter

- ☐ Flow direction is marked by arrows
- ☐ Do not interchange connections
- ☐ Removing and installing ⇒ [page 99](#)

5 - Supplementary fuel pump - V393-

- ☐ For vehicles with 4-cyl. or 6-cyl. engine (generation I) except those with engine code CAPA
- ☐ Flow direction is marked by arrows
- ☐ Do not interchange connections
- ☐ Checking fuel delivery rate ⇒ [page 127](#)
- ☐ Removing and installing ⇒ [page 129](#)

6 - Rubber mounting

- ☐ For supplementary fuel pump - V393-

7 - Fuel return line

- ☐ To engine

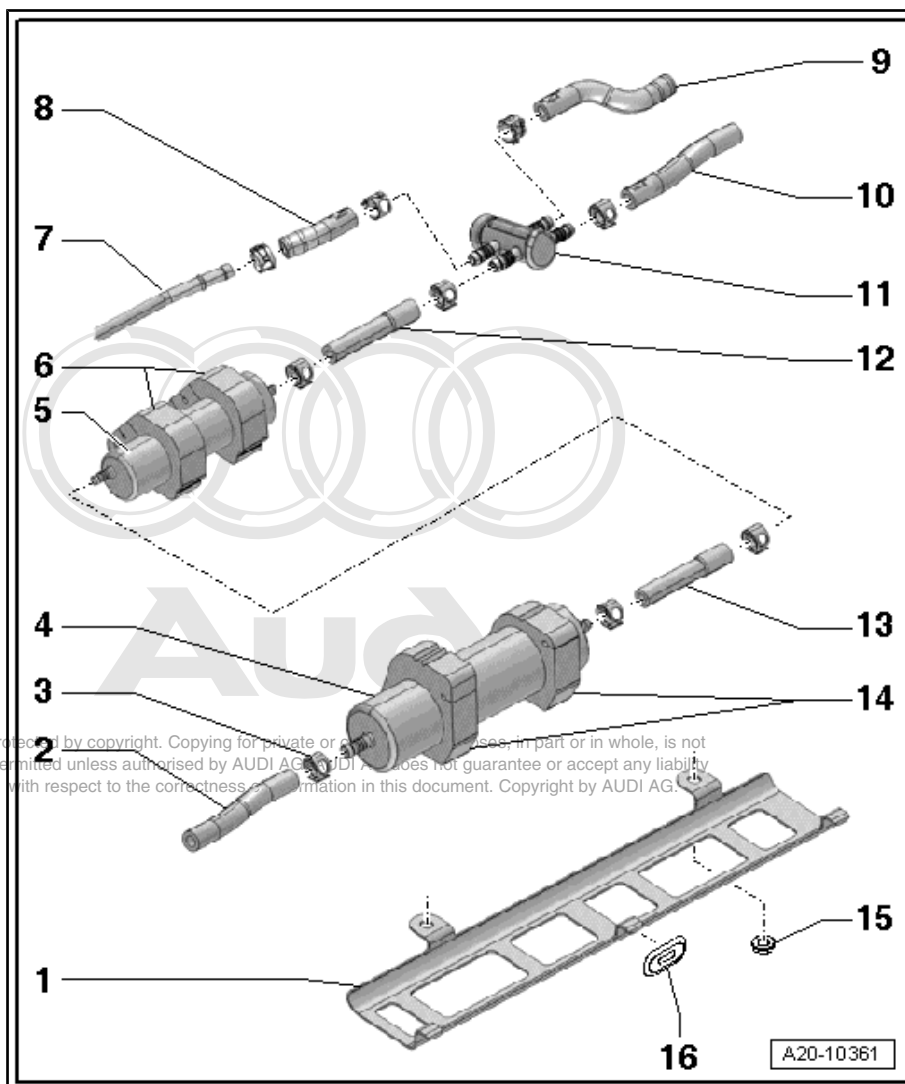
8 - Fuel hose

9 - Fuel hose

10 - Fuel hose

11 - Regulating valve

- ☐ For vehicles with 4-cyl. or 6-cyl. engine (generation I) except those with engine code CAPA
- ☐ Flow direction is marked with "VL" (supply), "RL" (return) and arrows.
- ☐ Do not interchange connections



- ☐ Removing and installing ⇒ [page 100](#)

12 - Fuel hose

13 - Fuel hose

14 - Rubber mounting

- ☐ For fuel filter

15 - Nut

- ☐ 8 Nm

16 - Rubber grommet

- ☐ Inserted in body

7.3 Checking delivery rate of supplementary fuel pump - V393-

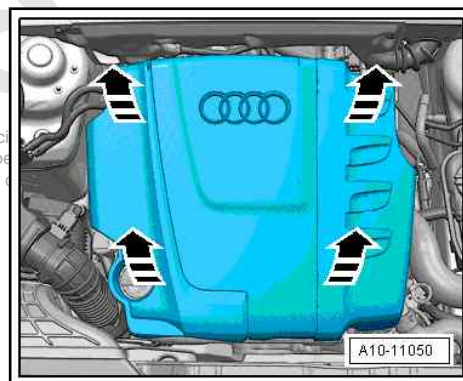
Special tools and workshop equipment required

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

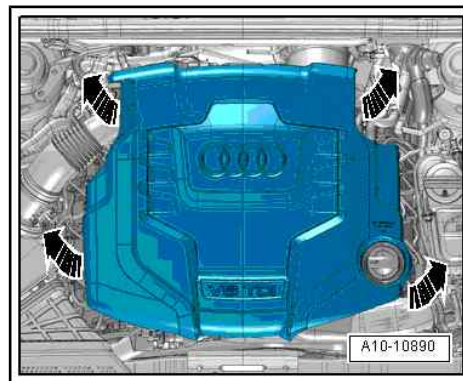
Procedure

- Delivery rate of fuel system pressurisation pump - G6- OK
⇒ [page 105](#) .
- Observe test conditions ⇒ [page 5](#) .
- Observe rules for cleanliness ⇒ [page 5](#) .
- 4-cylinder engine: remove engine cover panel -arrows-.

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- 6-cylinder engine: remove engine cover panel -arrows-.

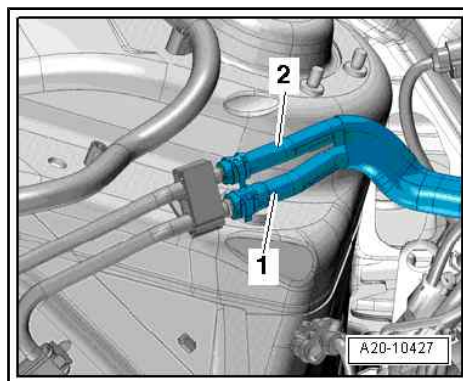


- Disconnect fuel supply hose -1-.

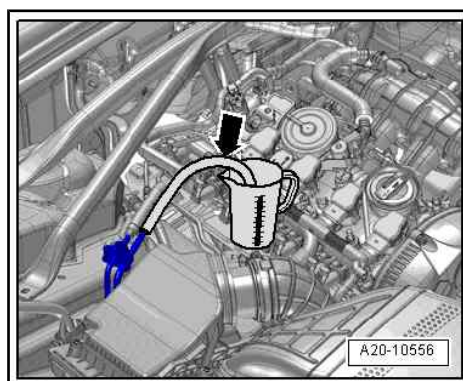


Note

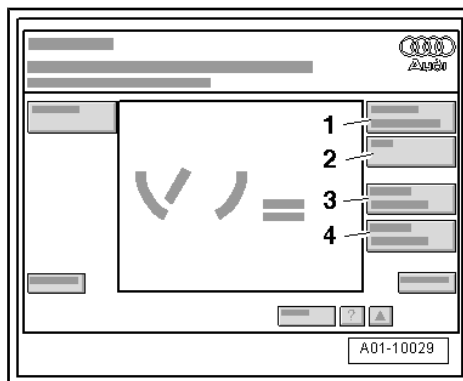
Disregard -item 2-.



- Connect fuel-resistant hose to fuel supply line -arrow- and hold into fuel-resistant measuring container.

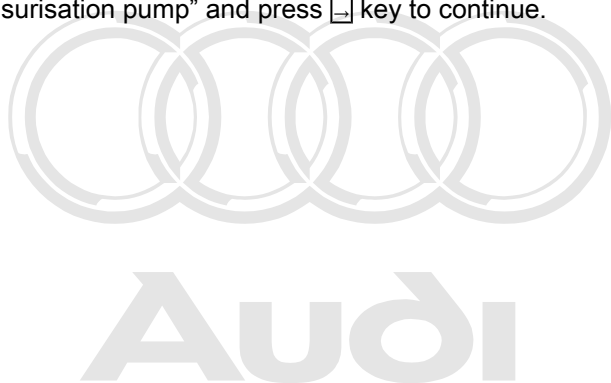


- Connect vehicle diagnostic tester, switch on ignition and select Vehicle self-diagnosis -item 1-.
- Select the following menu items in vehicle self-diagnosis:
 - ◆ “01 - Engine electronics”
 - ◆ “Basic setting”



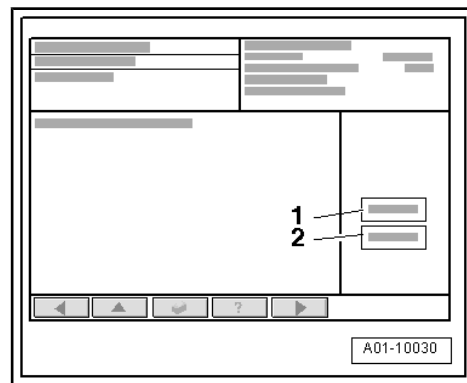
Display on vehicle diagnostic tester (example):

- From menu -1-, select function “Checking fuel system pressurisation pump” and press key to continue.



Display on vehicle diagnostic tester (example):

- Press **Parameter** key -1-.

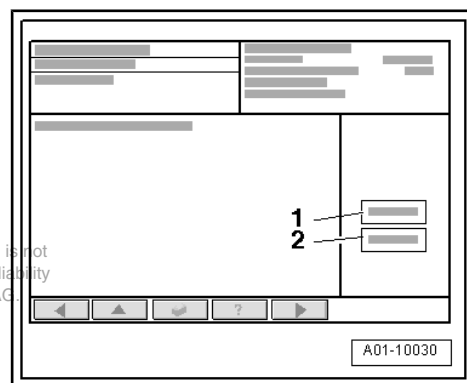


Display on vehicle diagnostic tester (example):

- Press **Start** key -1-, and after 15 seconds press **Stop** key -2-.
- Measure fuel delivery rate in measuring container.
- Specification: approx. 1 litre.

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.



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 .

7.4 Removing and installing fuel pump

⇒ [“7.4.1 Removing and installing supplementary fuel pump V393”, page 129](#)

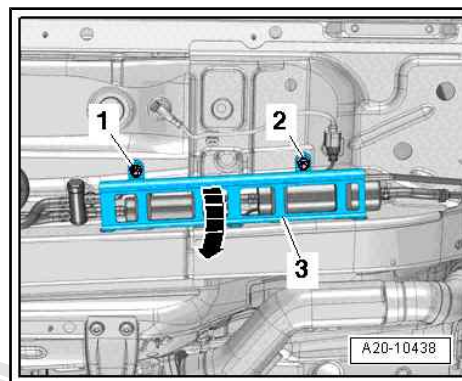
7.4.1 Removing and installing supplementary fuel pump - V393-

Special tools and workshop equipment required

- ◆ Drip tray

Removing

- Observe safety precautions ➔ [page 1](#) .
- Observe rules for cleanliness ➔ [page 5](#) .
- Remove underbody trim panels (right-side) ➔ General body repairs, exterior; Rep. gr. 66 ; Underbody trim; Exploded view - underbody trim panels .
- Remove nuts -1- and -2-.
- Move bracket -3- downwards -arrow-, disengage from body and detach.



WARNING

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

- ◆ ***In extreme cases the fuel lines and the fuel can reach a temperature of 100 °C. Allow the fuel to cool down before disconnecting the lines - danger of scalding.***
- ◆ ***Put on protective gloves.***
- ◆ ***Put on safety goggles.***

Risk of injury - fuel system operates under high pressure.

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

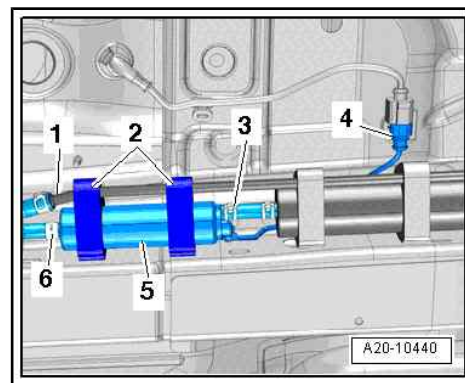
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- Place drip tray underneath supplementary fuel pump - V393- .
- Unplug electrical connector -4-.
- Remove fuel supply hoses -3- and -6-.
- Disengage fuel return line -1- from buffer -2-.
- Detach supplementary fuel pump - V393- -item 5- with buffer.

Installing

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

- Tightening torque
 ⇒ ["7.2 Exploded view - supplementary fuel pump V393 ", page 125](#)
- Flow direction is marked with arrows on fuel pump housing.



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The high-pressure pump has very close tolerances and must not be allowed to run without fuel. To prevent this and to enable the engine to start quickly after parts have been renewed, it is important to observe the following:

- ◆ ***If components of the fuel system between the fuel tank and the high-pressure pump have been removed or renewed, the fuel system must be filled and bled before the engine is started for the first time.***
- ◆ ***After installing the high-pressure pump, the pump must first be filled with fuel before the engine is started for the first time.***

- Bleed fuel system ⇒ Engine; Rep. gr. 23 ; Injection system; Filling and bleeding fuel system .

7.5 Removing and installing suction pipe



Note

A suction pipe is only fitted on four-wheel drive A5 models up to model year 2011 and A4 models up to model year 2012.

Removing

- Observe safety precautions ⇒ [page 1](#) .
- Observe rules for cleanliness ⇒ [page 5](#) .
- Remove fuel delivery unit ⇒ [page 53](#) .
- Remove fuel gauge sender 2 - G169- ⇒ [page 84](#) .

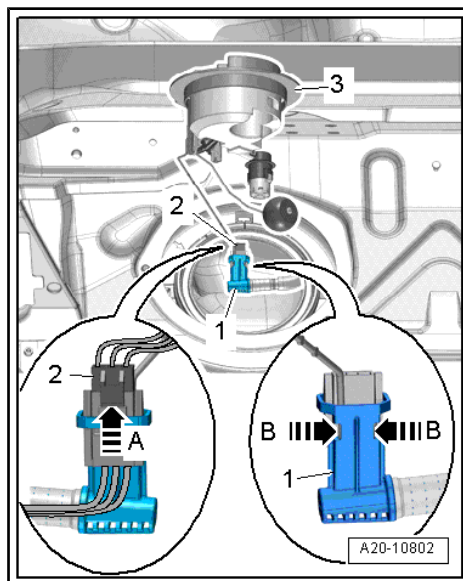
- Carefully take fuel gauge sender 2 - G169- -item 3- with suction pipe -1- out of opening in fuel tank.



Note

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

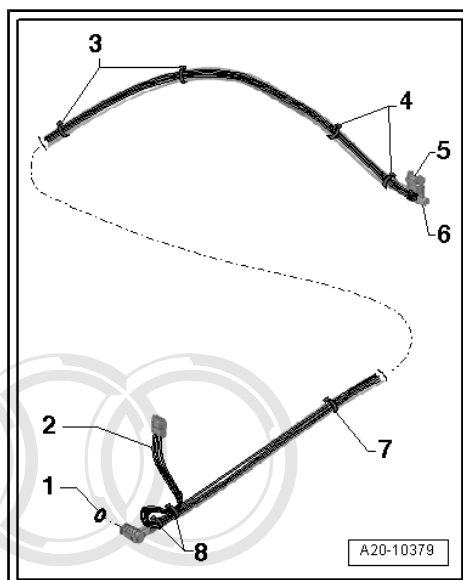
- Press release tab -arrow A- and unplug electrical connector -2-.
- Use long-nose pliers to compress wire catches -arrows B- and pull off suction pipe.



Installing

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

- Prepare suction pipe -6- for fitting:
- Clip electrical connector -5- onto suction pipe -6- as shown in illustration.
- Secure wiring -2- and suction pipe with a total of 7 cable ties -items 3, 4, 7, 8-.
- Attach O-ring -1- to suction pipe.



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- Clip suction pipe -1- onto wire catches so it engages audibly.
- Plug in electrical connector -2- and make sure it is correctly engaged.



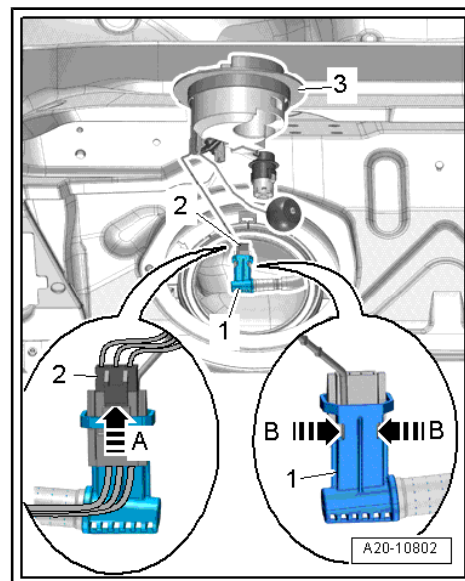
Note

When installing, take care not to bend float arm of fuel gauge sender 2 -G169- -item 3-.

- Working from luggage compartment, guide suction pipe into opening in fuel tank.
- Slip new seal onto flange and insert in groove on fuel tank.
- Reach into front fuel tank opening and move suction pipe into installation position.
- Install fuel gauge sender 2 - G169- ➔ [page 84](#) .
- Install fuel delivery unit ➔ [page 53](#) .
- Put at least 5 litres of fuel into tank after installing suction pipe.

Vehicles with auxiliary heater:

- Vehicles with auxiliary heater: Bleed fuel supply line leading to metering pump ➔ Auxiliary heater, supplementary heater; Rep. gr. 82 ; Fuel supply system .



7.6 Removing and installing fuel pump control unit - J538-

➔ [“7.6.1 Removing and installing fuel pump control unit J538 - vehicles with front-wheel drive”, page 133](#)

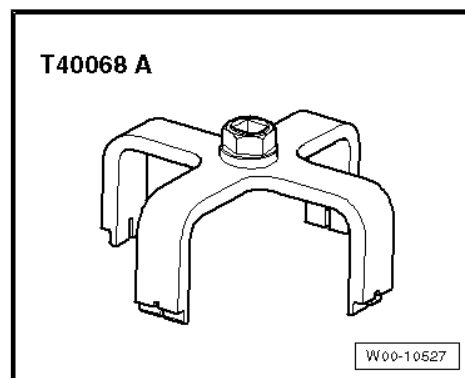
➔ [“7.6.2 Removing and installing fuel pump control unit J538 - vehicles with four-wheel drive”, page 138](#)

7.6.1 Removing and installing fuel pump control unit - J538- - vehicles with front-wheel drive

Special tools and workshop equipment required

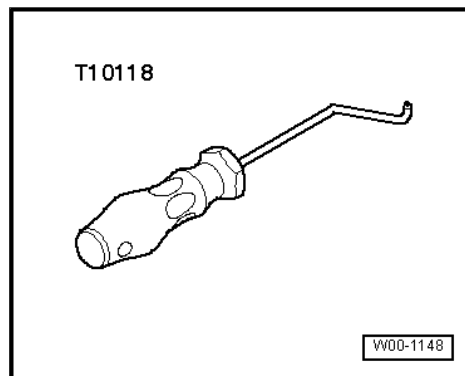
- ◆ Union nut tool - T40068 A-

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- ◆ Assembly tool - T10118-



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Removing

- Observe safety precautions ➔ [page 1](#) .
- Observe rules for cleanliness ➔ [page 5](#) .



WARNING

Danger! Fuel may escape.

- ◆ ***The fuel tank must not be more than $\frac{1}{4}$ full when removing the fuel pump control unit -J538- , otherwise a large amount of fuel will escape.***

- Drain fuel tank if necessary ➔ [page 12](#) .
- Move passenger's seat as far to front as possible (if necessary).

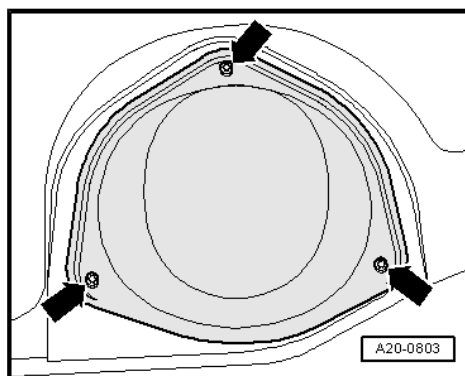


Caution

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

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

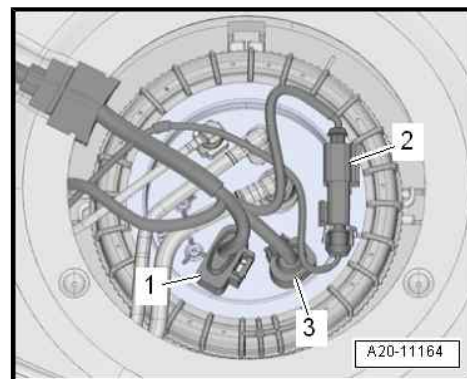
- Disconnect battery ➔ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .
- Remove rear seat bench ➔ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/ individual seats .
- Unscrew cover for flange -arrows-.



- Release retainer catches with assembly tool - T10118- and unplug electrical connectors -1 and 3- on flange.

Vehicles with auxiliary heater:

- Disengage electrical connector -2- for metering pump for auxiliary heater on flange and move clear.



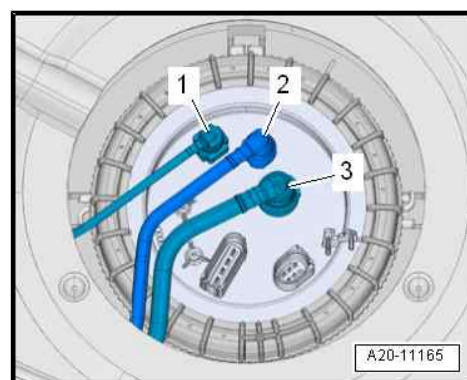
All vehicles (continued):



WARNING

Risk of injury - fuel system operates under high pressure.

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



- Press release tabs and disconnect fuel lines -2- and -3- on flange.

Vehicles with auxiliary heater:

- Press release tab and disconnect fuel line -1- leading to metering pump for auxiliary heater at flange.

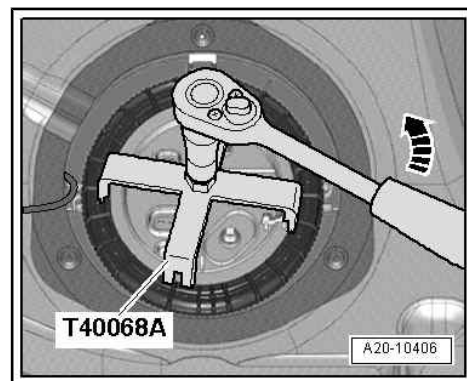
All vehicles (continued):



WARNING

Danger! Fuel may escape.

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



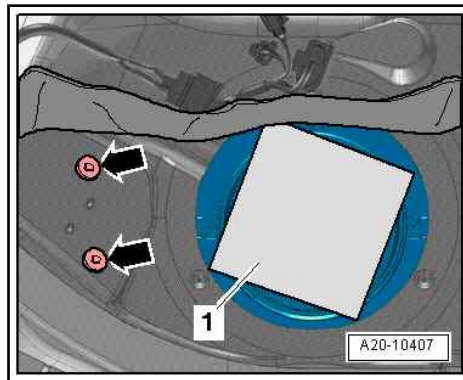
- Unscrew union nut using union nut tool - T40068 A- -arrow-.



Note

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

- Cover opening of fuel tank with clean cardboard -1- to prevent dirt particles from falling into the tank.
- Remove bolts -arrows-.



- Guide out fuel pump control unit - J538- -item 1- towards interior between fuel tank and underbody.
- Unplug electrical connector and remove fuel pump control unit.

Installing

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

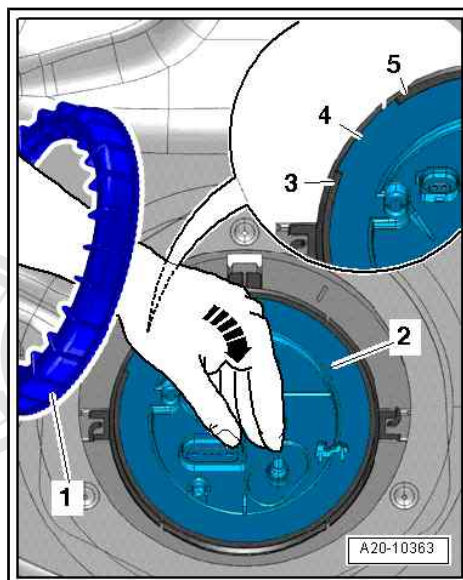
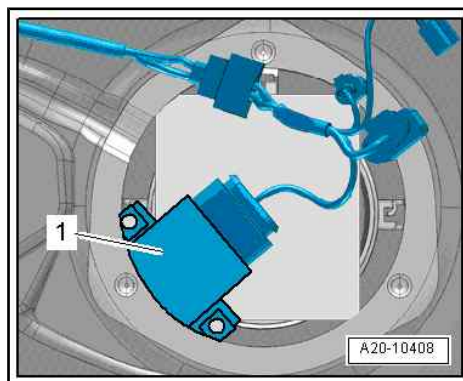
- Tightening torque
⇒ ["2.1 Exploded view - fuel delivery unit/fuel gauge senders", page 33](#)



Note

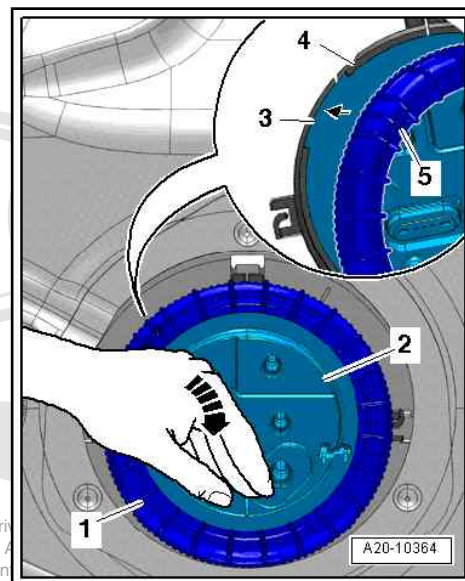
Renew seal and union nut.

- Bring fuel pump control unit - J538- into installation position and secure with bolts.
- 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.



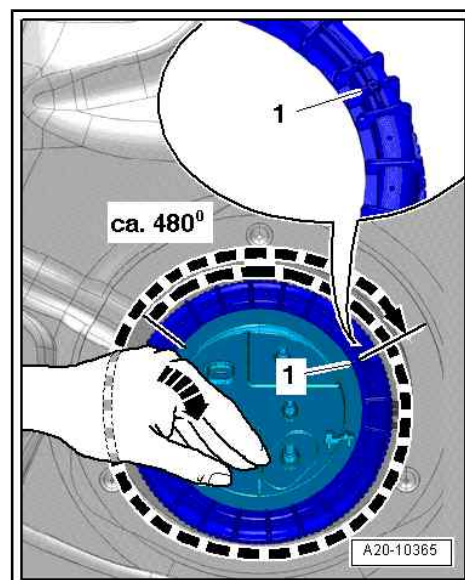
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- Take union nut -1- off your left arm with your right hand and at the same time keep pressing down flange -2- firmly with your left hand -arrow-.
- Position union nut -1- with your right hand in such a way that double ridge -5- on ribs aligns with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



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- Keep pressing flange downwards firmly -arrow-.
- Turn union nut approx. 480° with your right hand until double ridge -1- is in approx. "two o'clock position" and at the same time keep on pressing flange downwards firmly with your left hand.

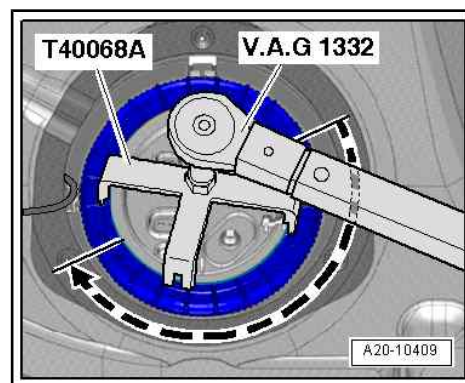


Caution

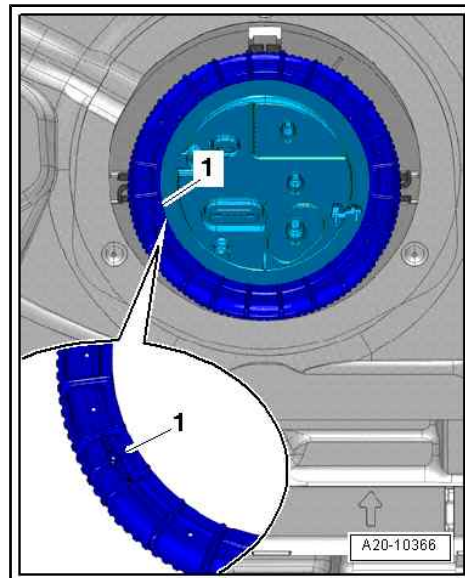
Take care to avoid leakage at flange.

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

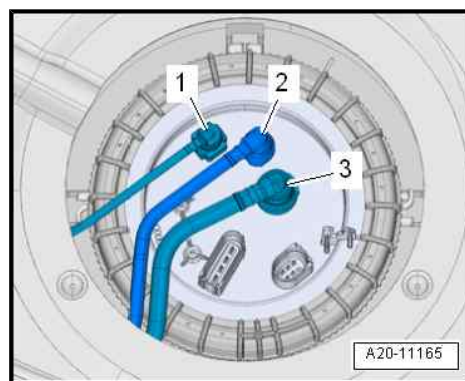
- Tighten union nut for flange using union nut tool - T40068 A- .



- Checking: Double ridge -1- must now be aligned between “seven o'clock and eight o'clock position”.



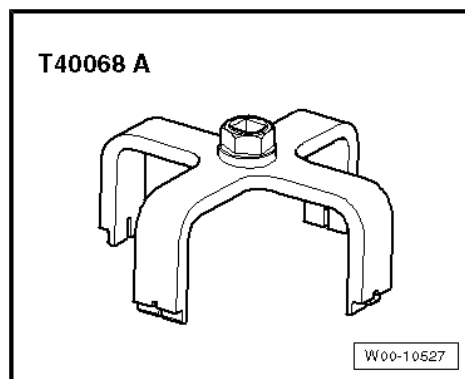
- Connect fuel lines -1, 2, 3-.
- Connect electrical connectors.
- Install cover for flange ➔ [page 8](#) .
- Install rear seat bench ➔ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .
- Connect battery and perform steps required after re-connecting battery ➔ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .
- Vehicles with auxiliary heater: Bleed fuel supply line leading to metering pump ➔ Auxiliary heater, supplementary heater; Rep. gr. 82 ; Fuel supply system



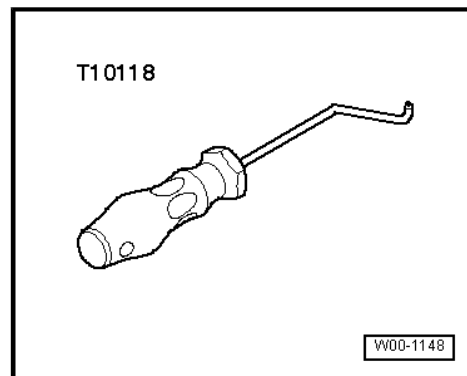
7.6.2 Removing and installing fuel pump control unit - J538- - vehicles with four-wheel drive

Special tools and workshop equipment required

- ◆ Union nut tool - T40068 A-



- ◆ Assembly tool - T10118-



Removing

- Observe safety precautions ➔ [page 1](#) .
- Observe rules for cleanliness ➔ [page 5](#) .



WARNING

Danger! Fuel may escape.

- ◆ ***The fuel tank must not be more than 1/4 full when removing the fuel pump control unit -J538-, otherwise a large amount of fuel will escape.***

- Drain fuel tank if necessary ➔ [page 12](#) .
- Move passenger's seat as far to front as possible (if necessary).

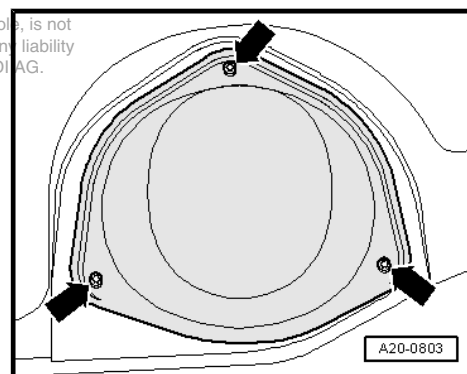


Caution

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

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

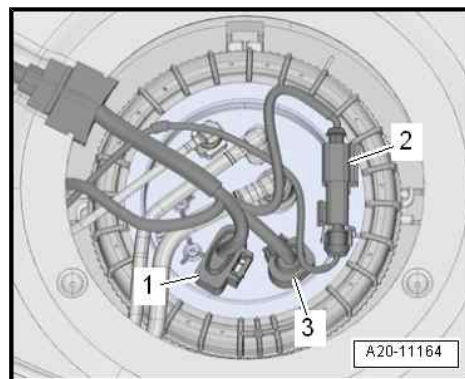
- Disconnect battery ➔ Electrical system; Rep. gr. 27 ; Battery; Disconnecting and connecting battery .
- Remove rear seat bench ➔ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .
- Unscrew cover for flange -arrows-.



- Release retainer catches with assembly tool - T10118- and unplug electrical connectors -1 and 3- on flange.

Vehicles with auxiliary heater:

- Disengage electrical connector -2- for metering pump for auxiliary heater on flange and move clear.



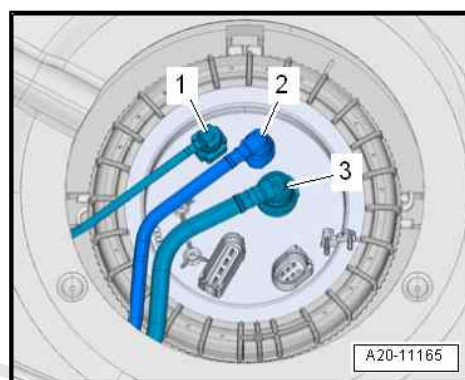
All vehicles (continued):



WARNING

Risk of injury - fuel system operates under high pressure.

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



- Press release tabs and disconnect fuel lines -2- and -3- on flange.

Vehicles with auxiliary heater:

- Press release tab and disconnect fuel line -1- leading to metering pump for auxiliary heater at flange.

All vehicles (continued):

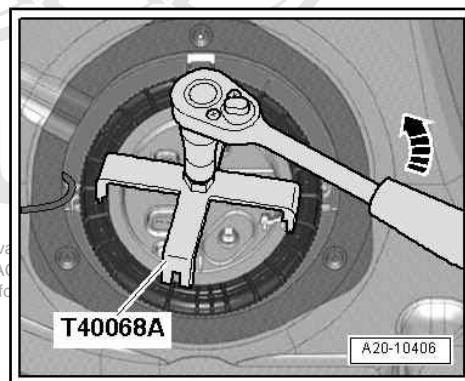


WARNING

Danger! Fuel may escape.

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

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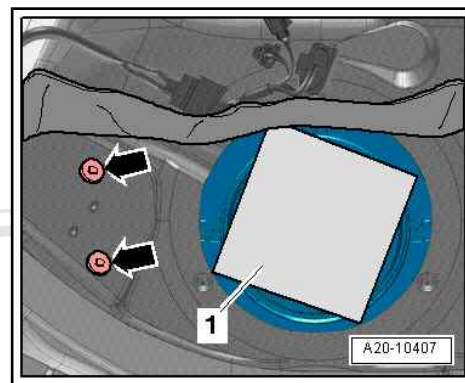
- Unscrew union nut using union nut tool - T40068 A- -arrow-.



Note

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

- Cover opening of fuel tank with clean cardboard -1- to prevent dirt particles from falling into the tank.
- Remove bolts -arrows-.



- Guide out fuel pump control unit - J538- -item 1- towards interior between fuel tank and underbody.
- Unplug electrical connector and remove fuel pump control unit.

Installing

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

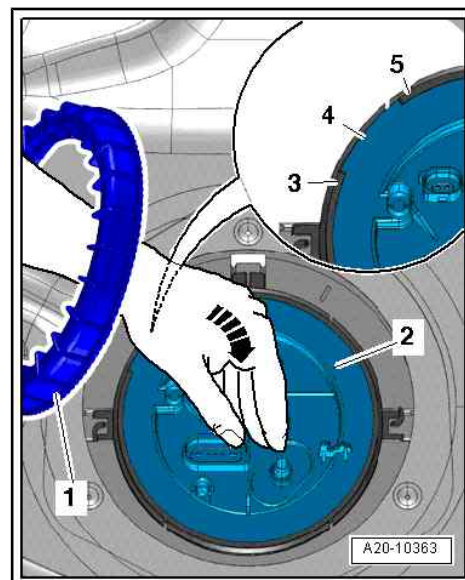
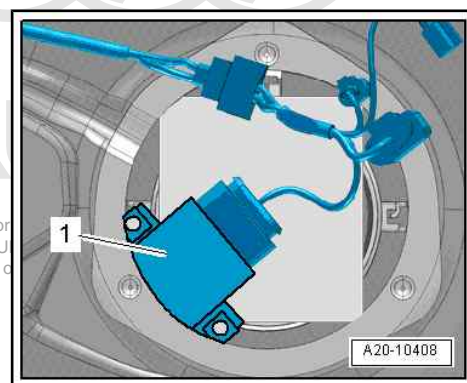
- Tightening torque
 ⇒ ["2.1 Exploded view - fuel delivery unit/fuel gauge senders", page 33](#)



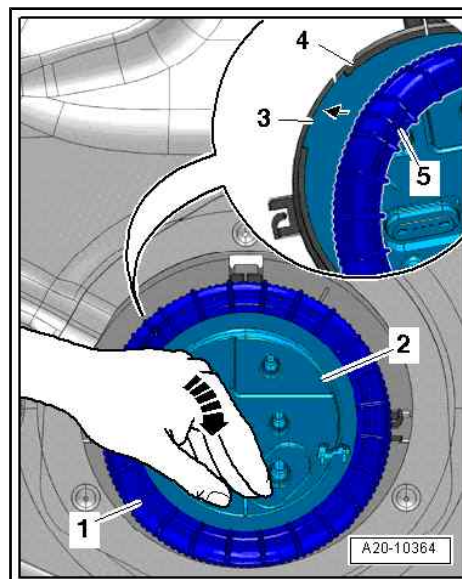
Note

Renew seal and union nut.

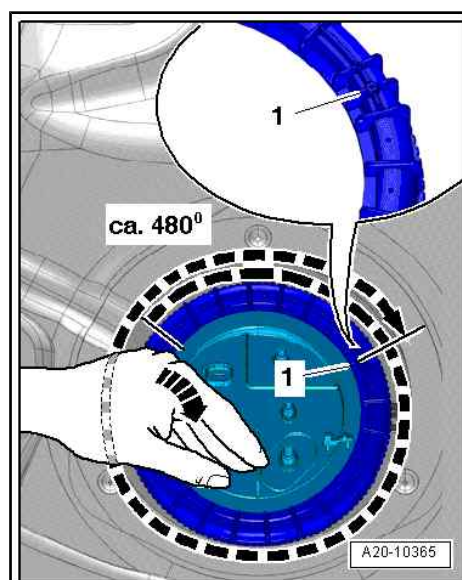
- Bring fuel pump control unit - J538- into installation position and secure with bolts.
- Slip union nut -1- over your left arm and press flange -2- firmly into installation position -arrow- with your left hand.
- Lug -4- on flange must be between tabs -3- and -5- on threaded ring.



- 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.



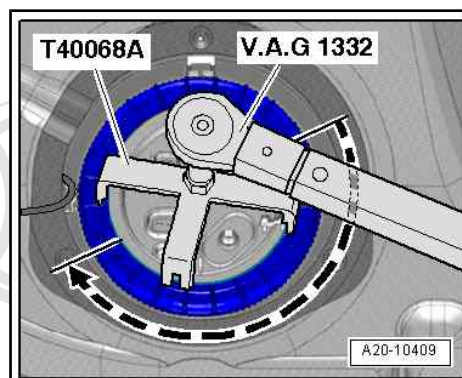
- Keep pressing flange downwards firmly -arrow-.
- Turn union nut approx. 480° with your right hand until double ridge -1- is in approx. “two o'clock position” and at the same time keep on pressing flange downwards firmly with your left hand.


Caution

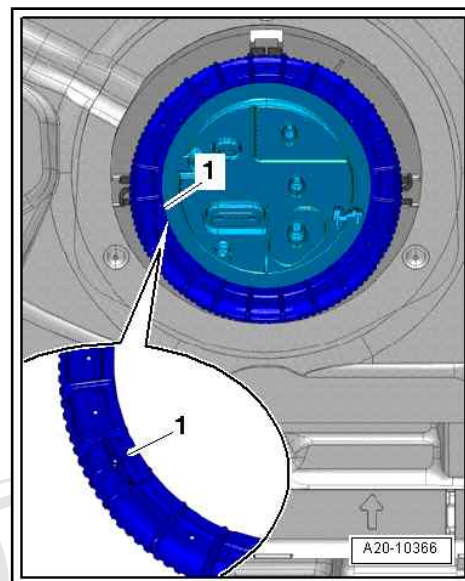
Take care to avoid leakage at flange.

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

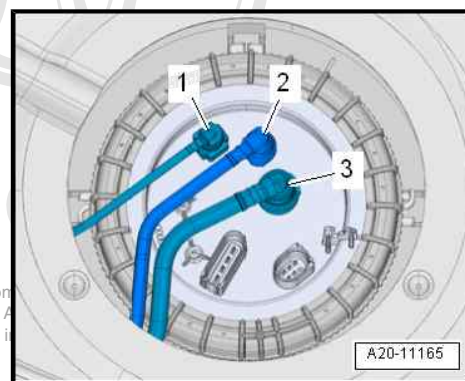
- Tighten union nut for flange using union nut tool - T40068 A- .



- Checking: Double ridge -1- must now be aligned between “seven o'clock and eight o'clock position”.



- Connect fuel lines -1, 2, 3-.
- Connect electrical connectors.
- Install cover for flange ⇒ [page 8](#) .
- Install rear seat bench ⇒ General body repairs, interior; Rep. gr. 72 ; Rear seats; Removing and installing seat bench/individual seats .
- Connect battery and perform steps required after re-connecting battery ⇒ Electrical system; Rep. gr. 27; Battery; Disconnecting and connecting battery.
- Vehicles with auxiliary heater: Bleed fuel supply line leading to metering pump ⇒ Auxiliary heater, supplementary heater; Rep. gr. 82 ; Fuel supply system .



7.7 Checking fuel pump control unit - J538-

⇒ [“7.7.1 Checking fuel pump control unit J538 - vehicles with front-wheel drive”, page 143](#)

⇒ [“7.7.2 Checking fuel pump control unit J538 - vehicles with four-wheel drive”, page 143](#)

7.7.1 Checking fuel pump control unit - J538- - vehicles with front-wheel drive

- ◆ The voltage supply for the fuel pump is taken from fuel pump control unit - J538- .
- ◆ Check fuel pump control unit -J538- in Guided Fault Finding function ⇒ vehicle diagnostic tester .

7.7.2 Checking fuel pump control unit - J538- - vehicles with four-wheel drive

- ◆ The voltage supply for the fuel pump is taken from fuel pump control unit - J538- .
- ◆ Check fuel pump control unit -J538- in Guided Fault Finding function ⇒ vehicle diagnostic tester .