

## Repair Manual Audi TT 2007 ➤

Fuel Supply System									
Engine ID	BUB	BPY	CBR A	CDM A	CCT A	CET A	CEP B		

Edition 05.2011



# Audi

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## List of Workshop Manual Repair GroupsList of Workshop Manual Repair GroupsList of Workshop Manual Repair Groups

### Repair Group

20 - Fuel Supply



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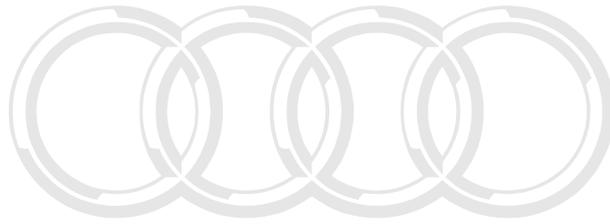


Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of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

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## 20 – Fuel Supply

### 1 General Information

⇒ [“1.1 Clean Working Conditions”, page 1](#)

⇒ [“1.2 Contact Corrosion”, page 1](#)

⇒ [“1.3 Leak Detection System”, page 2](#)

⇒ [“1.4 Safety Precautions”, page 3](#)

⇒ [“1.5 Test Conditions”, page 4](#)

⇒ [“1.6 All Wheel Drive”, page 5](#)

⇒ [“1.7 Front Wheel Drive”, page 8](#)

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#### 1.1 Clean Working Conditions

Even a little contamination can lead to faults. When working on the fuel supply and fuel injection system, observe the following guidelines for a clean working environment:

- ◆ Before loosening, connections and surrounding areas must be cleaned thoroughly with engine or brake cleaner, and then cleaned area must be dried completely.
- ◆ Seal the open lines and connections immediately with clean plugs, for example, from the engine bung set -VAS 6122- .
- ◆ Place removed parts on a clean surface and cover them. Use lint-free cloths.
- ◆ Carefully cover or plug unpacked components if repairs cannot be performed immediately.
- ◆ Only install clean components: Remove the replacement parts from their packaging just prior to installing them. Do not use parts that have been stored unpacked (for example in tool boxes etc.).
- ◆ When the system is open: Do not work with compressed air. Do not move vehicle unless absolutely necessary.
- ◆ Protect the disconnected connectors from dirt and moisture and only connect when they are dry.

#### 1.2 Contact Corrosion

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

For this reason, only connecting elements with a special surface coating are installed.

In addition, rubber or plastic parts and adhesive are made of materials that do not conduct electricity.

If you are not sure about the suitability of parts, install new parts. Refer to the Electronic Parts Catalog (ETKA).

**Note**

- ◆ *Only original replacement parts are recommended, they are checked and compatible with aluminum.*
- ◆ *It is recommended to use Audi accessories.*
- ◆ *Damage resulting from contact corrosion is not covered by the warranty.*

## 1.3 Leak Detection System

### Function

The leak detection system recognizes leaks in the complete fuel system, including the fuel tank, EVAP canister and Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 -N80- .

On the mechanical side, the leak detection system consists mainly of a vacuum-driven diaphragm pump, that is equipped with a reed contact on the actuation rod of the pump diaphragm. The pump is supplied with vacuum via the mechanical vacuum pump or the engine intake stroke.

- ◆ When the leak detection is activated, the diaphragm pump pumps the fuel system up to 20 to 30 mbar. The pump diaphragm is then moved out so that the reed contact at the operating rod remains in the "open" position.
- ◆ During leak diagnosis, the reed contact is monitored to check if it remains open within 15 seconds. This indicates the fuel system is sealed.
- ◆ If pressure falls (indicating a leak), the diaphragm moves back and the reed contact closes.
- ◆ If reed contact closes within 15 seconds of leak detection time, a further test is performed: In this case the diaphragm pump pumps 4 times again. The Engine Control Module (ECM) measures the time for each of the 4 pumps until the reed contact is closed again. From that, the control module can recognize a "small leak" (smaller than 1 mm in diameter) or a "large leak".

The leak detection is activated automatically, shortly after each cold engine start (under 35 °C (95 °F)) and a continual drive faster than 10 km/h. In case a fault is detected, a Diagnostic Trouble Code (DTC) will be stored to memory. The Malfunction Indicator Lamp (MIL) in the instrument cluster lights up if the malfunction is recognized for 2 subsequent starts. Leak diagnosis can also be activated using the vehicle diagnosis, testing and information system -VAS 5051B- . Refer to

⇒ ["4.1 Leak Detection Test, Performing", page 25](#) .

**Note**

- ◆ *After the cold start, the leak detection can be repeated up to 10 times within the first 20 minutes.*
- ◆ *It can be determined if an automatic leak diagnosis was recently performed by using the -VAS 5051B- in measured value block 071. Refer to*  
⇒ ["4.1 Leak Detection Test, Performing", page 25](#)

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## 1.4 Safety Precautions

⇒ [“1.4.1 Fuel System”, page 3](#)

⇒ [“1.4.2 For Test Drives with the use of Test and Measuring Devices”, page 4](#)

⇒ [“1.4.3 Full or Partially Full Fuel Tanks, Removing and Installing”, page 4](#)

### 1.4.1 Fuel System

Note the following when working on the fuel system:

	<p><b>WARNING</b></p> <p><i>The very high fuel pressure on vehicles with an FSI engine can cause serious personal injury.</i></p> <ul style="list-style-type: none"> <li>◆ <i>Let the fuel pressure come down before opening any high pressure components in the fuel injection system.</i></li> <li>◆ <i>To reduce any remaining pressure, place a clean cloth over the connections and carefully loosen the connections.</i></li> </ul>
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- Procedures before opening high pressure fuel injection system. Refer to ⇒ Fuel Injection and Ignition; Rep. Gr. 24 ; General Information .

Carry out the following measures before starting work on the fuel supply: file, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

	<p><b>WARNING</b></p> <p><i>Risk of explosion due to cell phones.</i></p> <ul style="list-style-type: none"> <li>◆ <i>Keep cell phones out of reach in the work space area.</i></li> </ul>
---	--

	<p><b>Caution</b></p> <p><i>Risk of destroying electronic components when disconnecting the battery.</i></p> <ul style="list-style-type: none"> <li>◆ <i>Observe measures for disconnecting battery.</i></li> <li>◆ <i>Only disconnect the battery with ignition switched off.</i></li> </ul>
---	---

- ◆ Disconnect the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .
- ◆ Open the fuel filler flap briefly and then close it again.

## 1.4.2 For Test Drives with the use of Test and Measuring Devices

If testing equipment must be used during a road test, observe the following:



### WARNING

*Distraction and testing equipment that is not secured properly can cause accidents.*

*The passenger airbag could pose a risk if it deploys in a collision.*

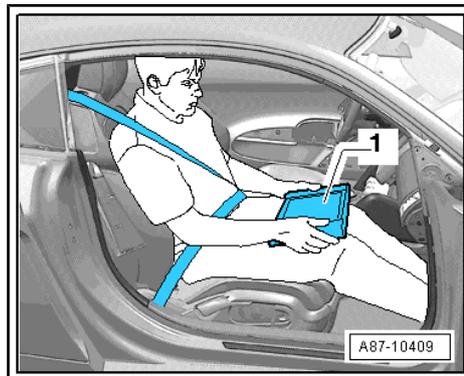
- *Operating testing equipment while driving causes it to shift position.*
- *There is an increased risk of injury due to unsecured testing equipment.*

*TT Coupe:*

*Always secure testing equipment on the rear seat using a strap and have a second person in the rear seat to operate it.*

*TT Roadster:*

- ◆ *Position passenger's seat as far back as possible.*
- ◆ *Only use the vehicle diagnosis and service information system -VAS 5052 A- or diagnostic system -VAS 5053- .*
- ◆ *Testing and measuring instruments -1- must lay flat on the passenger's thighs and be operated by him or her, as shown in the illustration.*



## 1.4.3 Full or Partially Full Fuel Tanks, Removing and Installing

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Note the following when removing and installing fuel tank components which are completely or partially filled:

- ◆ The fuel tank may only be partially full. How much fuel can remain in the fuel tank may be read in the respective work description. Empty fuel tank if necessary. Refer to vehicles with front wheel drive  
⇒ ["1.7.1 Fuel Tank, Draining", page 8](#) , for vehicles with all wheel drive ⇒ ["1.6.1 Fuel Tank, Draining", page 5](#) .
- ◆ Before starting work, switch on exhaust extraction system and place an extraction hose close to the installation opening of fuel tank to extract escaping fuel fumes. If no exhaust extraction system is available, a radial fan (as long as motor is not in air flow) with a displacement greater than 15 m<sup>3</sup>/h can be used.
- ◆ Prevent fuel from contacting skin! Wear fuel-resistant gloves!

Note the following when removing and installing the fuel tank:

- ◆ Fuel tank must be empty for weight reasons. Empty fuel tank if necessary. Refer to front-wheel drive  
⇒ ["1.7.1 Fuel Tank, Draining", page 8](#) , all-wheel drive  
⇒ ["1.6.1 Fuel Tank, Draining", page 5](#) .

## 1.5 Test Conditions

- Battery voltage at least 12.5 V.

- Fuel pump fuse OK, refer to ⇒ Wiring diagrams, Troubleshooting & Component locations.
- Fuel pump control module -J538- OK; check in “Guided Fault Finding” using a vehicle diagnostic tester operating mode.
- Fuel pump relay -J17- OK, refer to ⇒ Wiring diagrams, Troubleshooting & Component locations.
- Fuel tank minimum 1/4 full.
- Fuel filter OK.
- Fuel lines OK (not plugged, not kinked).
- Ignition switched off

## 1.6 All Wheel Drive

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⇒ [“1.6.1 Fuel Tank, Draining”, page 5](#)

⇒ [“1.6.2 Suction Jet Pump”, page 8](#)

### 1.6.1 Fuel Tank, Draining

#### Special tools and workshop equipment required

- ◆ Wrench -T10202-
- ◆ Fuel Extracting Device -VAS 5190-

#### Procedure

Follow all safety precautions. Refer to  
⇒ [“1.4 Safety Precautions”, page 3](#) .

Follow the guidelines for cleanliness. Refer to  
⇒ [“1.1 Clean Working Conditions”, page 1](#) .

- Open the fuel filler door.



#### Caution

*Risk of destroying electronic components when disconnecting the battery.*

- ◆ *Observe measures for disconnecting battery.*

- Disconnect the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .



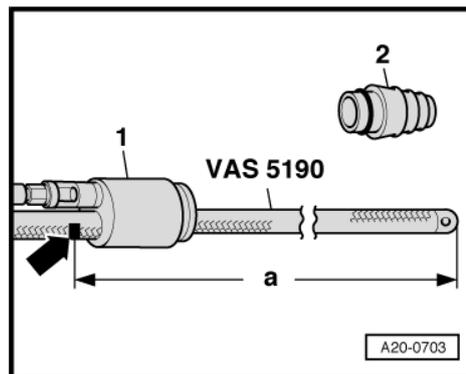
#### WARNING

*Risk of explosion due to electrostatic charge.*

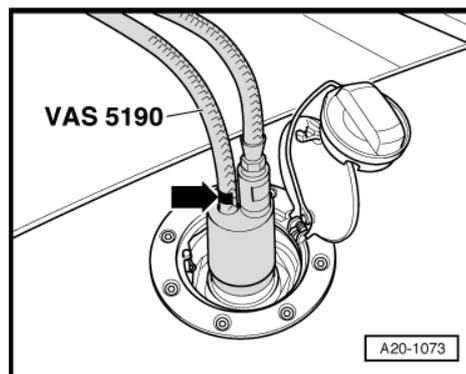
- ◆ *Secure the -VAS 5190- Ground (GND) wire to a bare area of the chassis.*



- Remove the cone piece -2- from the shaft piece -1- on the VAS 5190- .
- Using insulating tape, apply a mark -arrow- on hose at length -a- = 1370 mm from the end of suction hose.



- Remove the fuel cap from the fuel filler tube.
- Install the -VAS 5190- shaft piece on the fuel tank filler tube.
- Slide suction hose as far into the fuel tank until the mark applied earlier -arrow- stands on shaft piece.

**Note**

- ◆ *If using a fuel siphoning device without shaft piece, proceed principally in the same manner.*
- ◆ *In this case, apply a mark -arrow- using insulating tape on hose at length -a- = 1305 mm from end of suction hose. The suction hose is inserted correctly when the marking applied earlier aligns with the lip of the fuel filler neck.*
- ◆ *If the hose can only be inserted with difficulty, coat it thinly with engine oil. Never use lubricants containing silicon.*

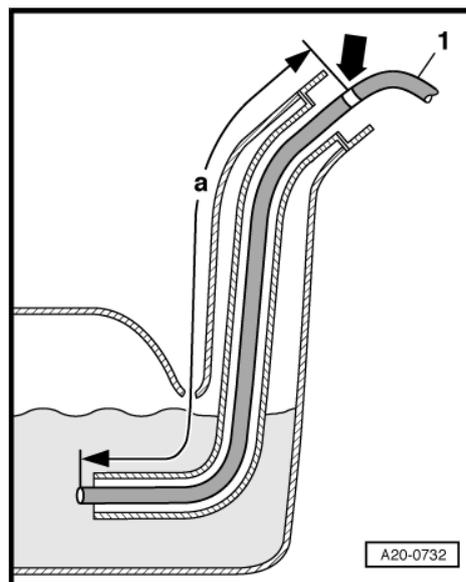
- Empty fuel tank as much as possible via fuel filler tube.
- Carefully pull out the suction hose.

**TT Coupe:**

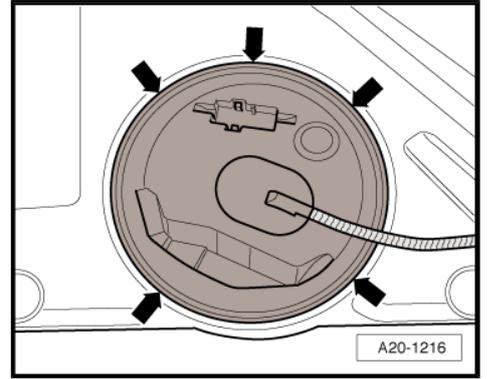
- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

**TT Roadster:**

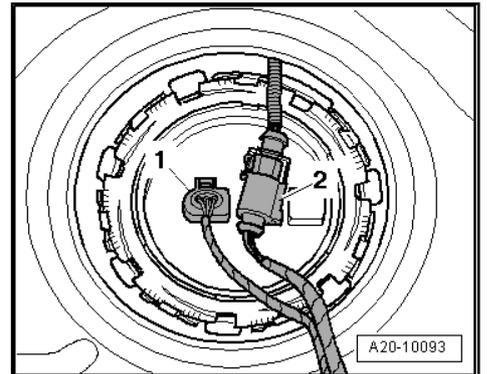
- Remove the left side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

**All Vehicles:**

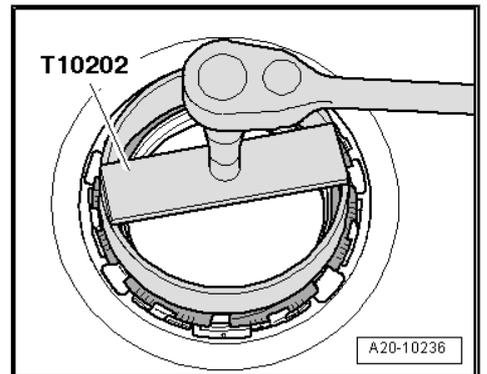
- Unclip the retainers -arrows- of the cover for left sealing flange.



- Disconnect electrical harness connector -1- at locking flange.
- Disengage electrical harness connector -2- and lay it aside.



- Remove locking ring with -T10202- .

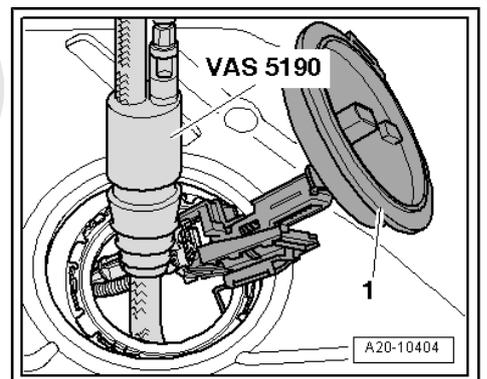


- Carefully pull the fuel level sensor 2 -G169- -1- and suction jet pump partially out of the fuel tank opening.

**i Note**

*When removing, be sure not to bend the floater arm of fuel level sensor 2.*

- Extract the fuel in the left half of the fuel tank through the opening using the -VAS 5190- .
- Push the hose into the right chamber and extract any fuel still there.



- Reinstall fuel level sensor 2 → [page 68](#) , observing notes for connecting the battery.

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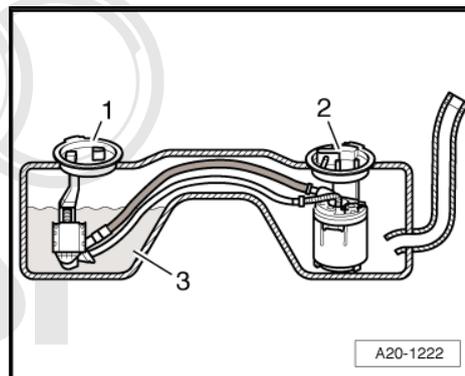
## 1.6.2 Suction Jet Pump

The fuel tank in a vehicle with all-wheel drive is divided into a left and right chamber. To move the volume of fuel from the left fuel tank chamber -3- to the right baffle housing of the fuel delivery unit -2-, a suction jet pump -1- is utilized.

### Function of Suction Jet Pump

Function of the suction jet pump is based on a simple physical principle: A suction jet from the electrical fuel pump is compressed by a nozzle in the suction jet pump and is thereby accelerated. This acceleration causes the surrounding fuel to be drawn in and be forced to the baffle housing of the fuel delivery unit.

### Malfunctions of Faulty Suction Jet Pump



#### Caution

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***Tow-in due to faulty suction jet pump.***

- ◆ ***If suction jet pump is faulty, the vehicle can stop running due to lack of fuel, though the fuel tank is up to  $\frac{1}{4}$  filled.***

If the suction jet pump does not function, up to 15 liters of fuel (up to approximately  $\frac{1}{4}$  tank) remain in left chamber of fuel tank, because it can not be extracted by the fuel delivery unit.

If the vehicle stops running, although the fuel tank is approximately  $\frac{1}{4}$  filled, proceed as follows:

- Check fuel pump. Refer to ["4.2.7 Fuel Pump Electrical, Checking", page 37](#).

If the fuel pump is OK, but no fuel is supplied:

- Fill fuel tank with approximately 5 liters of fuel.
- Start the engine.

If the engine starts now:

- Replace suction jet pump. Refer to ["5.6.7 Suction Jet Pump", page 69](#).

## 1.7 Front Wheel Drive

["1.7.1 Fuel Tank, Draining", page 8](#)

### 1.7.1 Fuel Tank, Draining

#### Special tools and workshop equipment required

- ◆ Fuel Extracting Device -VAS 5190-

#### Procedure

Follow all safety precautions. Refer to ["1.4 Safety Precautions", page 3](#).

Follow the guidelines for cleanliness. Refer to ["1.1 Clean Working Conditions", page 1](#).

- Open the fuel filler door.

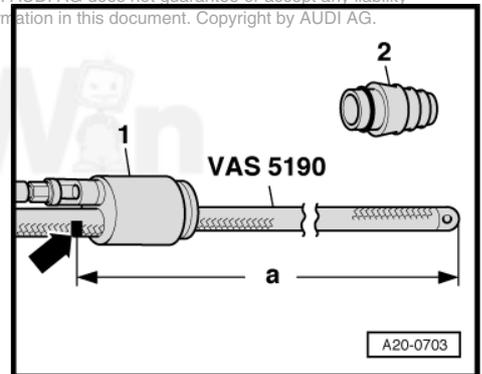
**Caution**  
*Risk of destroying electronic components when disconnecting the battery.*  
 ♦ *Observe measures for disconnecting battery.*

- Disconnect the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .

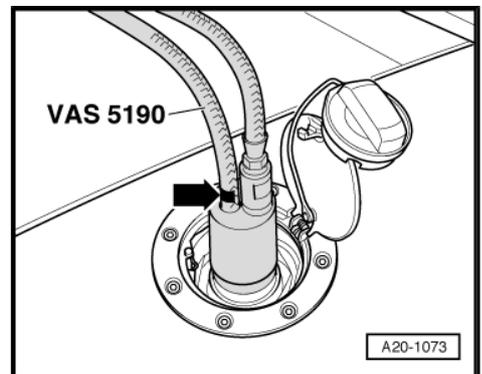
**WARNING**  
*Risk of explosion due to electrostatic charge.*  
 ♦ *Secure the -VAS 5190- Ground (GND) wire to a bare area of the chassis.*

- Remove the cone piece -2- from the shaft piece -1- on the VAS 5190- .
- Using insulating tape, apply a mark -arrow- on hose at length -a- = 1370 mm from end of suction hose.

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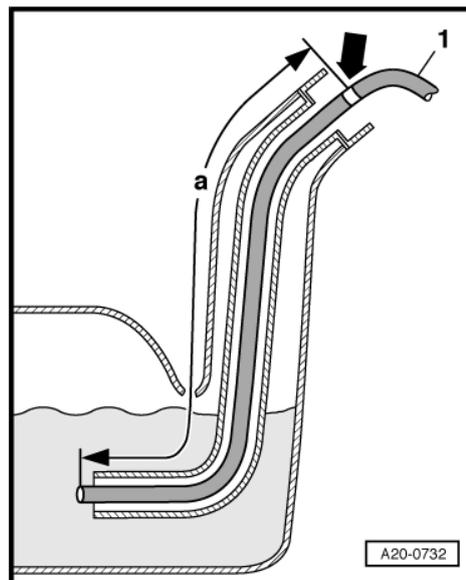


- Remove the fuel cap from the fuel filler tube.
- Install the -VAS 5190- shaft piece on the fuel tank filler tube.
- Slide suction hose as far into fuel tank until the mark applied earlier -arrow- stands on shaft piece.



**Note**

- ◆ *If using a fuel siphoning device without shaft piece, proceed principally in the same manner.*
  - ◆ *In this case, apply a mark -arrow- using insulating tape on hose at length -a- = 1305 mm from end of suction hose. The suction hose is inserted correctly when the marking applied earlier aligns with the lip of the fuel filler neck.*
  - ◆ *If the hose can only be inserted with difficulty, coat it thinly with engine oil. Never use lubricants containing silicon.*
- Drain fuel tank through fuel filler tube.
  - Carefully pull out the suction hose.
  - After completing work, connect battery. Observe safety precautions after connecting battery. Refer to → Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .



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## 2 Description and Operation

### TFSI Engines

⇒ ["2.1 EVAP Canister and Tank Leak Detection System, Hose Diagram", page 11](#)

### MPI Engines

⇒ ["2.2 EVAP Canister and Leak Detection System, Hose Diagram", page 12](#)

⇒ ["2.3 Fuel Filter Overview", page 13](#)

⇒ ["2.4 EVAP Canister and Leak Detection System Overview", page 14](#)

⇒ ["2.5 Accelerator Pedal Module Overview, Version 1", page 15](#)

⇒ ["2.6 Accelerator Pedal Module Overview, Version 2", page 16](#)

⇒ ["2.7 All Wheel Drive", page 17](#)

⇒ ["2.8 Front Wheel Drive", page 21](#)

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### 2.1 EVAP Canister and Tank Leak Detection System, Hose Diagram

#### 1 - Vacuum Line

- From the engine to the leak detection pump - V144-
- Clipped into the bracket on the underbody

#### 2 - Vent Line

- From EVAP canister to engine
- Clipped to fuel tank in fuel tank area
- Separating points at front and rear on fuel tank

#### 3 - Fuel Filler Tube

#### 4 - Vent Line

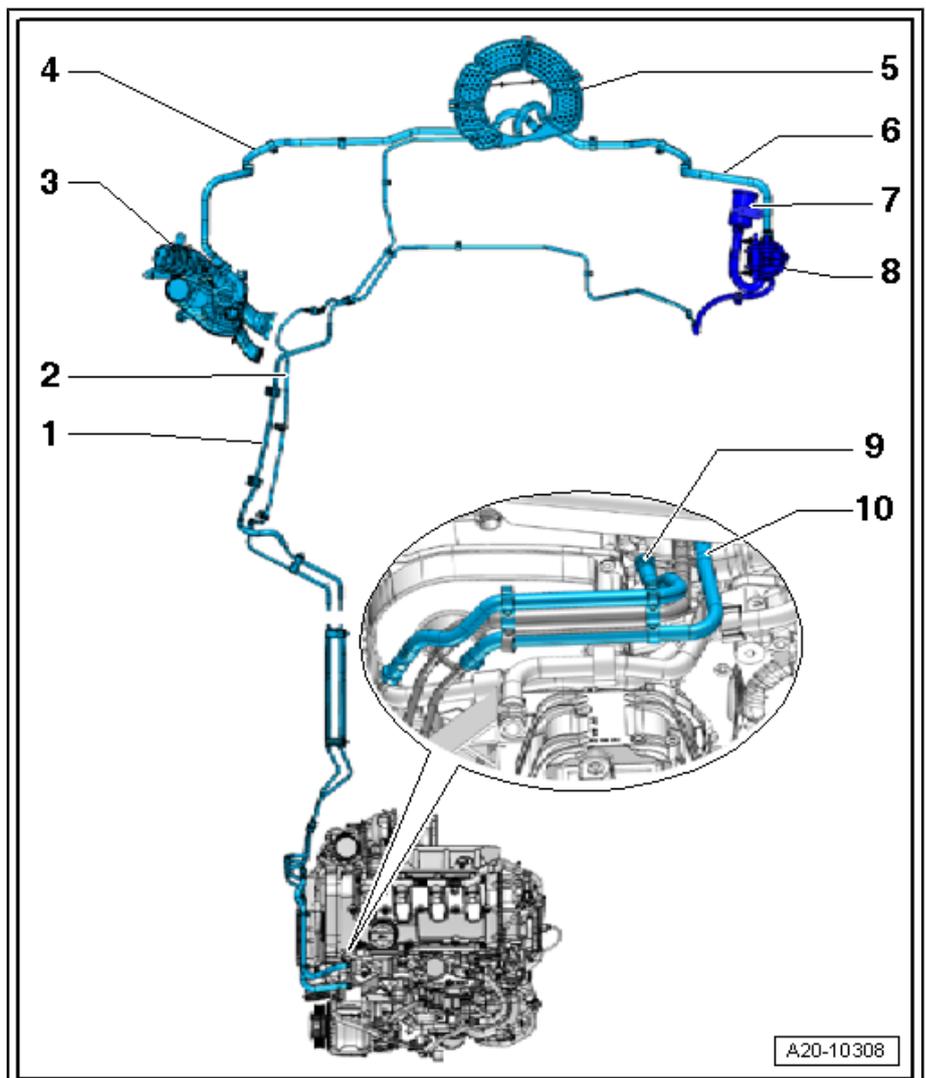
- From fuel filler tube to EVAP canister
- Clipped into the bracket on the underbody

#### 5 - EVAP Canister

- Installed location: In the bottom of the spare wheel well
- Removing and Installing, refer to ⇒ ["5.3 Evaporative Emission \(EVAP\) Canister", page 51](#)

#### 6 - Connecting Line

- From the leak detection pump to the EVAP canister
- Clipped into the bracket on the underbody



**7 - Air Filter Housing**

- For the leak detection pump

**8 - Leak Detection Pump -V144-**

- Installed location: Under wheel housing liner in left rear wheel housing
- Checking: In "Guided Fault Finding" using the vehicle diagnostic tester
- Removing and Installing, refer to => ["5.5 Leak Detection Pump \(LDP\) V144", page 53](#)

**9 - Vacuum Hose to Leak Detection Pump**

**10 - Vacuum Hose to Evaporative Emission (EVAP) Canister**

**2.2 EVAP Canister and Leak Detection System, Hose Diagram**

**1 - Vacuum Line**

- From the engine to the leak detection pump - V144-
- Clipped into the bracket on the underbody

**2 - Vent Line**

- From the EVAP canister to Evaporative Emission (EVAP) canister purge regulator valve 1 -N80-
- Clipped to fuel tank in fuel tank area
- Separating points at front and rear on fuel tank

**3 - Fuel Filler Tube**

**4 - Vent Line**

- From fuel filler tube to EVAP canister
- Clipped into the bracket on the underbody

**5 - EVAP Canister**

- Installed location: In the bottom of the spare wheel well
- Removing and Installing, refer to => ["5.3 Evaporative Emission \(EVAP\) Canister", page 51](#)

**6 - Connecting Line**

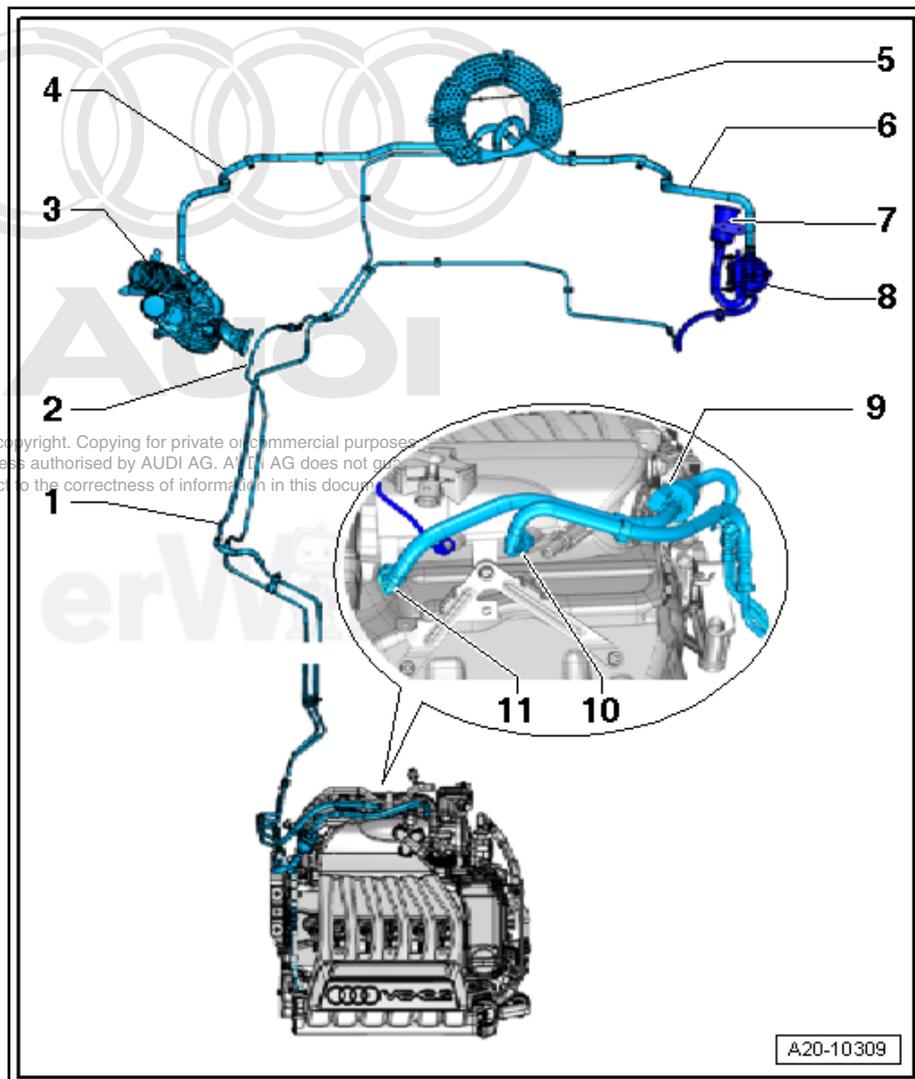
- From the leak detection pump to the EVAP canister
- Clipped into the bracket on the underbody

**7 - Air Filter Housing**

- For the leak detection pump

**8 - Leak Detection Pump -V144-**

- Installed location: Under wheel housing liner in left rear wheel housing
- Checking: In "Guided Fault Finding" using the vehicle diagnostic tester



- ❑ Removing and Installing, refer to ⇒ [“5.5 Leak Detection Pump \(LDP\) V144 “, page 53](#)

### 9 - Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 -N80-

- ❑ Installed location: At front in engine compartment

### 10 - Vacuum hose to Leak Detection Pump

- ❑ To disconnect, press release button on connection piece

### 11 - Vacuum hose to EVAP Canister

- ❑ To disconnect, press release button on connection piece

## 2.3 Fuel Filter Overview

The fuel system without return flow on the Audi TT, the fuel pressure regulator is located in the fuel filter. In this system, only the supply line is routed forward to the engine compartment. If the pressure in the fuel supply line goes above the specified maximum pressure, the fuel pressure regulator opens. Excess fuel is routed into a return line from the fuel filter and back into the fuel tank.

### 1 - Fuel Filter with Pressure Regulator

- ❑ For TFSI engine with fuel pressure regulator 6.4 bar pressure
- ❑ For MPI engine with fuel pressure regulator 4 bar pressure
- ❑ Direction of flow is marked with arrows
- ❑ Do not interchange connections
- ❑ Installed position: Pin on filter housing must engage in recess of guide on filter bracket ⇒ [page 53](#) .
- ❑ Removing and Installing, refer to ⇒ [“5.4 Fuel Filter“, page 51](#)

### 2 - Fuel Supply Line

- ❑ From the fuel tank
- ❑ To disconnect, press release button on connection piece

### 3 - Fuel Return Line

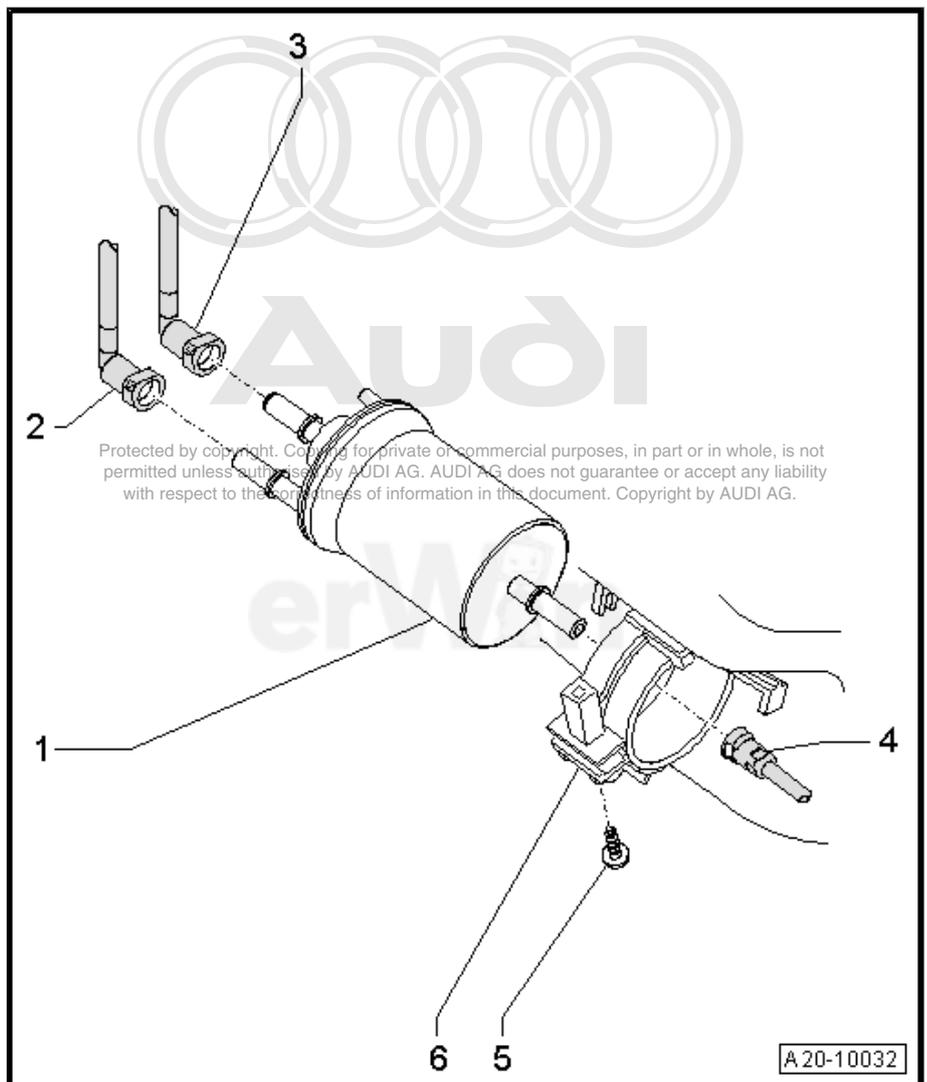
- ❑ To fuel tank
- ❑ To disconnect, press release button on connection piece

### 4 - Fuel Line

- ❑ To engine
- ❑ To disconnect, press release button on connection piece

### 5 - Bolt

- ❑ 1. Nm





- ❑ Removing and Installing, refer to ⇒ [“5.3 Evaporative Emission \(EVAP\) Canister”, page 51](#)

**16 - Bushing**

**17 - Bolt**

- ❑ 8 Nm

**2.5 Accelerator Pedal Module Overview, Version 1**

**1 - Wiring Router**

- ❑ Connected to accelerator pedal module

**2 - Electrical Harness Connector**

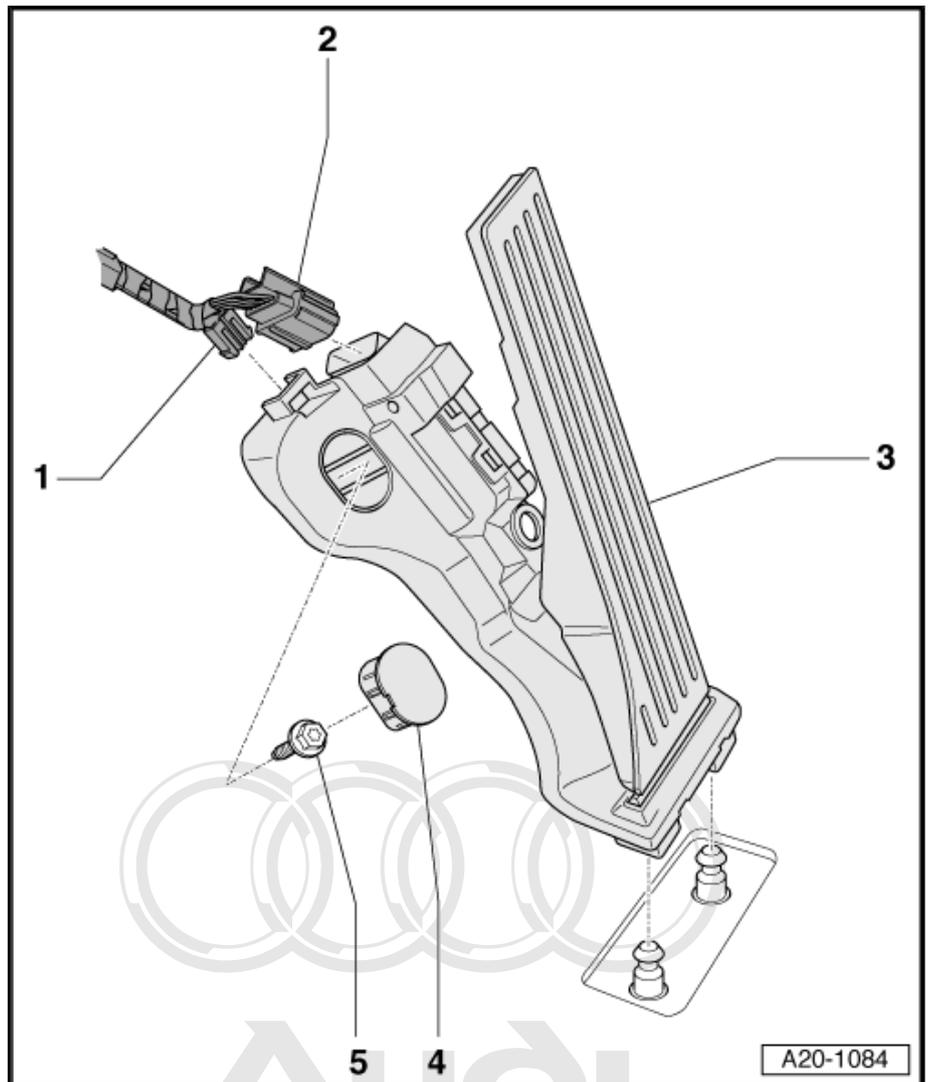
**3 - Accelerator Pedal Module**

- ❑ With accelerator pedal position sensor -G79- and accelerator pedal position sensor 2 -G185-
- ❑ Removing and Installing, refer to ⇒ [“5.1 Accelerator Pedal Module, Version 1”, page 48](#)

**4 - Cap**

**5 - Bolt**

- ❑ 9 Nm



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## 2.6 Accelerator Pedal Module Overview, Version 2

1 - Cap

2 - Bolt

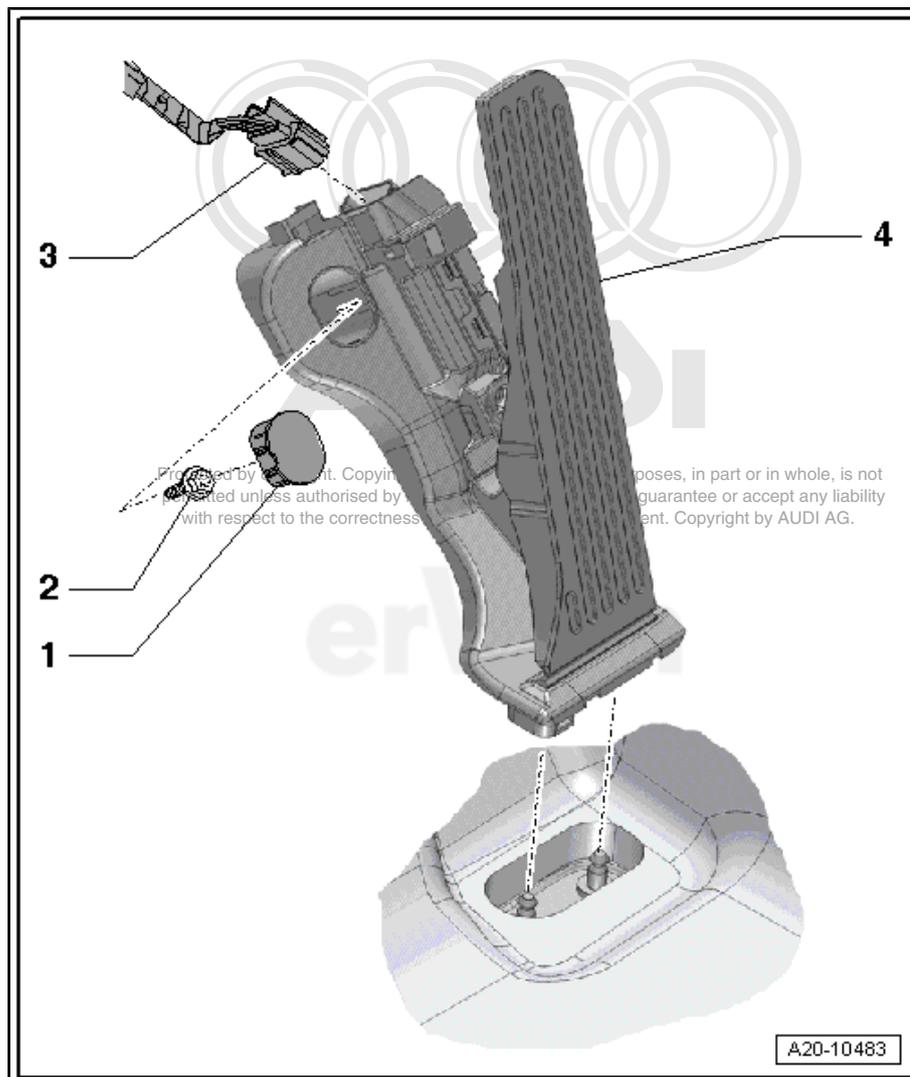
□ 9 Nm

3 - Electrical Harness Connector

4 - Accelerator Pedal Module

□ With accelerator pedal position sensor -G79- and accelerator pedal position sensor 2 - G185-

□ Removing and Installing, refer to [⇒ "5.2 Accelerator Pedal Module, Version 2", page 49](#)



## 2.7 All Wheel Drive

⇒ [“2.7.1 Fuel Tank with Attachments Overview”, page 17](#)

⇒ [“2.7.2 Fuel Delivery Unit and Fuel Level Sensor G Overview”, page 19](#)

### 2.7.1 Fuel Tank with Attachments Overview

#### 1 - Nut

- 23 Nm

#### 2 - Fuel Tank Heat Shield

- With carrier plate

#### 3 - Nut

- 23 Nm

#### 4 - Fuel Line

- To engine
- To disconnect, press release button on connection piece

#### 5 - Vent Line

- From the EVAP canister to Evaporative Emission (EVAP) canister purge regulator valve 1 -N80-
- Clipped in on fuel tank

#### 6 - Electrical Harness Connector

- For transfer fuel pump -G6- and fuel level sensor -G-

#### 7 - Protective Plate

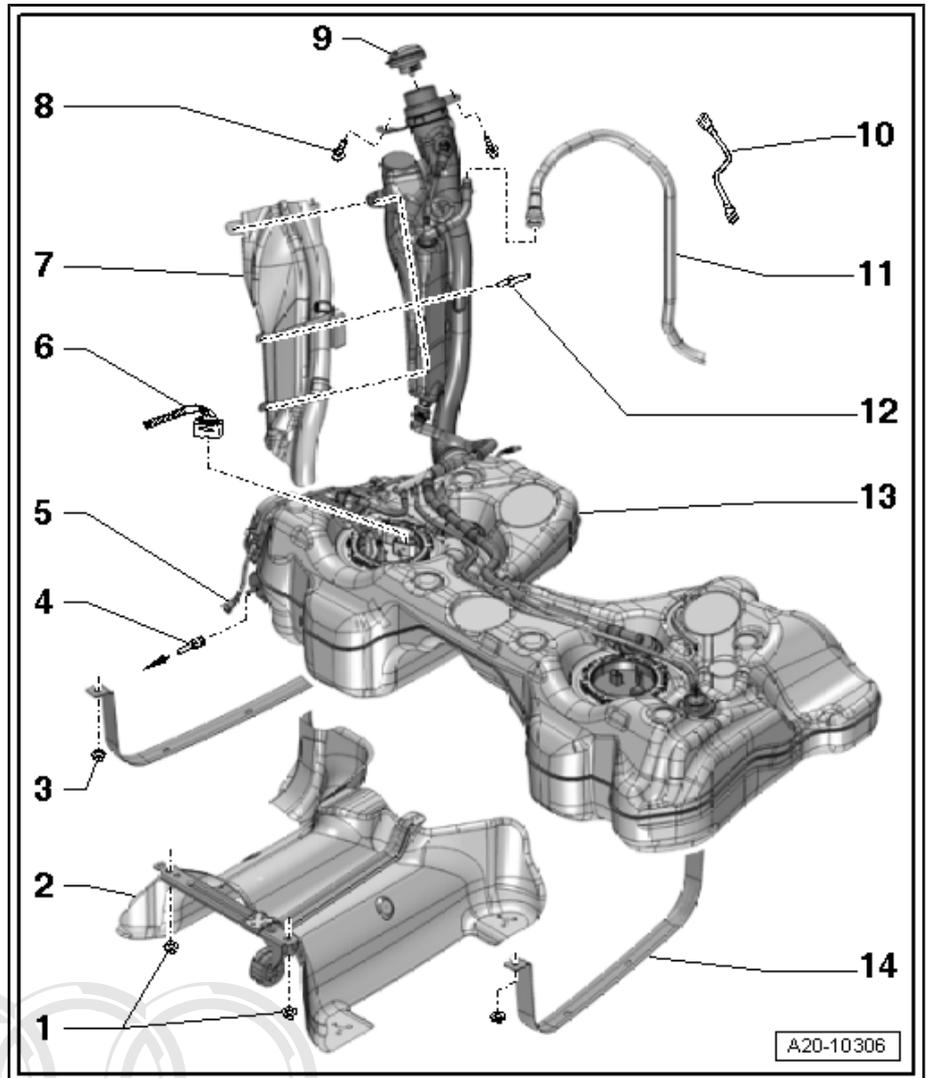
- For fuel delivery connection

#### 8 - Bolt

- 11 Nm

#### 9 - Cover

- Attached to the fuel tank insert with a fastening device



#### 10 - Ground Connection

- For discharging electrostatic charge
- Installed position, refer to ⇒ [Fig. “Fuel Filler Tube Ground Connection and Protective Plate”, page 18](#)
- Make sure the connector is securely seated.
- After installation, check electrical connection from fuel filler tube protective plate -7- to an empty place on the body using an Ohm meter; specified value: Approximately 0 Ω

#### 11 - Vent Line

- From gravity valve to EVAP canister
- Clipped in on bracket in wheel housing
- To disconnect, press release button on connection piece

## 12 - Pop Rivet

## 13 - Fuel Tank

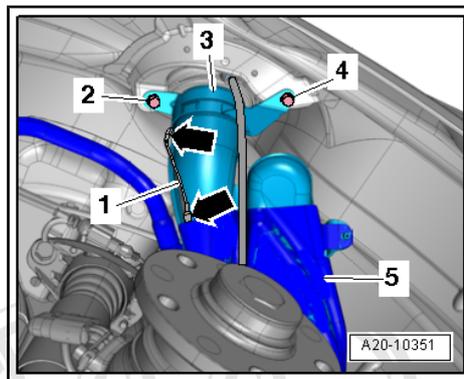
- ❑ Removing and Installing, refer to ⇒ [“5.6.1 Fuel Tank with Attachments”, page 54](#)

## 14 - Mounting Strap

- ❑ Installed position: Locating point (hole) points in driving direction

### Fuel Filler Tube Ground Connection and Protective Plate

- Ensure filler tube threaded connections -2 and 4- are free of corrosion so the Ground (GND) connection to the body is not affected.
- Route GND connection -1- as shown in illustration.
- Ensure GND connection connector -arrows- is seated firmly on protective plate -5- and on filler tube -3-.



#### WARNING

*Risk of explosion due to electrostatic charge.*

- ◆ *After installing, check electrical connection on fuel filler neck metal ring to an empty spot on the body using an Ohm meter.*
- *Specified value: Approximately 0 Ω.*

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## 2.7.2 Fuel Delivery Unit and Fuel Level Sensor -G- Overview

### 1 - Fuel Level Sensor -G-

- Check the resistance values. Refer to ⇒ ["4.2.1 Fuel Level Sensor G , Checking", page 27](#)
- Removing and Installing, refer to ⇒ ["5.6.5 Fuel Level Sensor G ", page 65](#)

### 2 - Fuel Delivery Unit with Locking Flange

- Fuel pump electrical, checking, refer to ⇒ ["4.2.7 Fuel Pump Electrical, Checking", page 37](#)
- Checking residual pressure, refer to ⇒ Fuel Injection and Ignition; Rep. Gr. 24 ; Diagnosis and Testing
- Removing and Installing, refer to ⇒ ["5.6.4 Fuel Delivery Unit", page 61](#)
- Fill the fuel tank with at least 5 liters of fuel.

### 3 - Seal

- Replace
- Install dry

### 4 - Fuel Supply Line

- To fuel filter
- Do not kink
- Attaches to connection with identification "V" at sealing flange
- To remove from locking flange, press release button

### 5 - Fuel Return Line

- From the fuel filter
- Do not kink
- Attaches to connection with identification "R" at sealing flange
- To remove from locking flange, press release button

### 6 - Electrical Harness Connector

- For transfer fuel pump -G6- and fuel level sensor

### 7 - Locking Ring

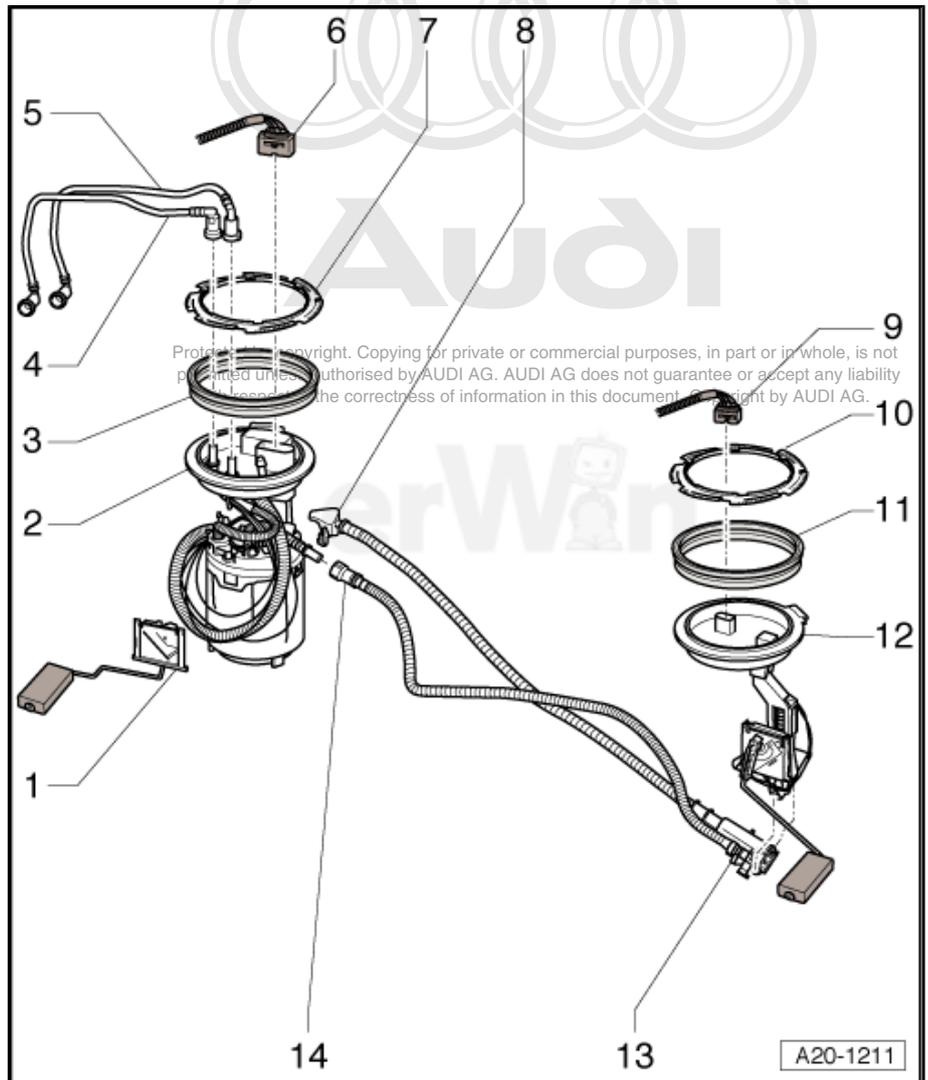
- 110 Nm
- Use wrench -T10202- for removing and installing

### 8 - Fuel Delivery Line

- From the suction jet pump to the fuel delivery unit
- Clipped to the fuel delivery unit

### 9 - Electrical Harness Connector

- For fuel level sensor 2 -G169-





#### 10 - Locking Ring

- 110 Nm
- Use -T10202- for removing and installing

#### 11 - Seal

- Replace
- Install dry

#### 12 - Fuel Level Sensor 2 -G169-

- Only available together with -13-
- Installed position ⇒ [page 69](#)
- Check the resistance values. Refer to ⇒ [“4.2.2 Fuel Level Sensor 2 G169 , Checking“, page 28](#)
- Removing and installing, refer to ⇒ [“5.6.6 Fuel Level Sensor 2 G169 “, page 66](#)

#### 13 - Suction Jet Pump

- With lines
- Only available together with -12-
- Removing and installing, refer to ⇒ [“5.6.7 Suction Jet Pump“, page 69](#)

#### 14 - Suction Jet Pipe

- From fuel pump to suction jet pump
- To disconnect, press release button on connection piece

## 2.8 Front Wheel Drive

⇒ ["2.8.1 Fuel Tank with Attachments Overview", page 21](#)

⇒ ["2.8.2 Fuel Delivery Unit and Fuel Level Sensor G Overview", page 23](#)

### 2.8.1 Fuel Tank with Attachments Overview

#### 1 - Nut

- 20 Nm

#### 2 - Mounting Strap

- Installed position: Locating point (hole) points in driving direction

#### 3 - Fuel Tank Heat Shield

#### 4 - Nut

- 20 Nm

#### 5 - Fuel Line

- To engine
- To disconnect, press release button on connection piece

#### 6 - Vent Line

- From the EVAP canister to Evaporative Emission (EVAP) canister purge regulator valve 1 -N80-
- Clipped in on fuel tank

#### 7 - Electrical Harness Connector

- For transfer fuel pump - G6- and fuel level sensor -G-

#### 8 - Protective Plate

- For fuel delivery connection

#### 9 - Bolt

- 11 Nm

#### 10 - Cover

- Attached to the fuel tank insert with a fastening device

#### 11 - Bolt

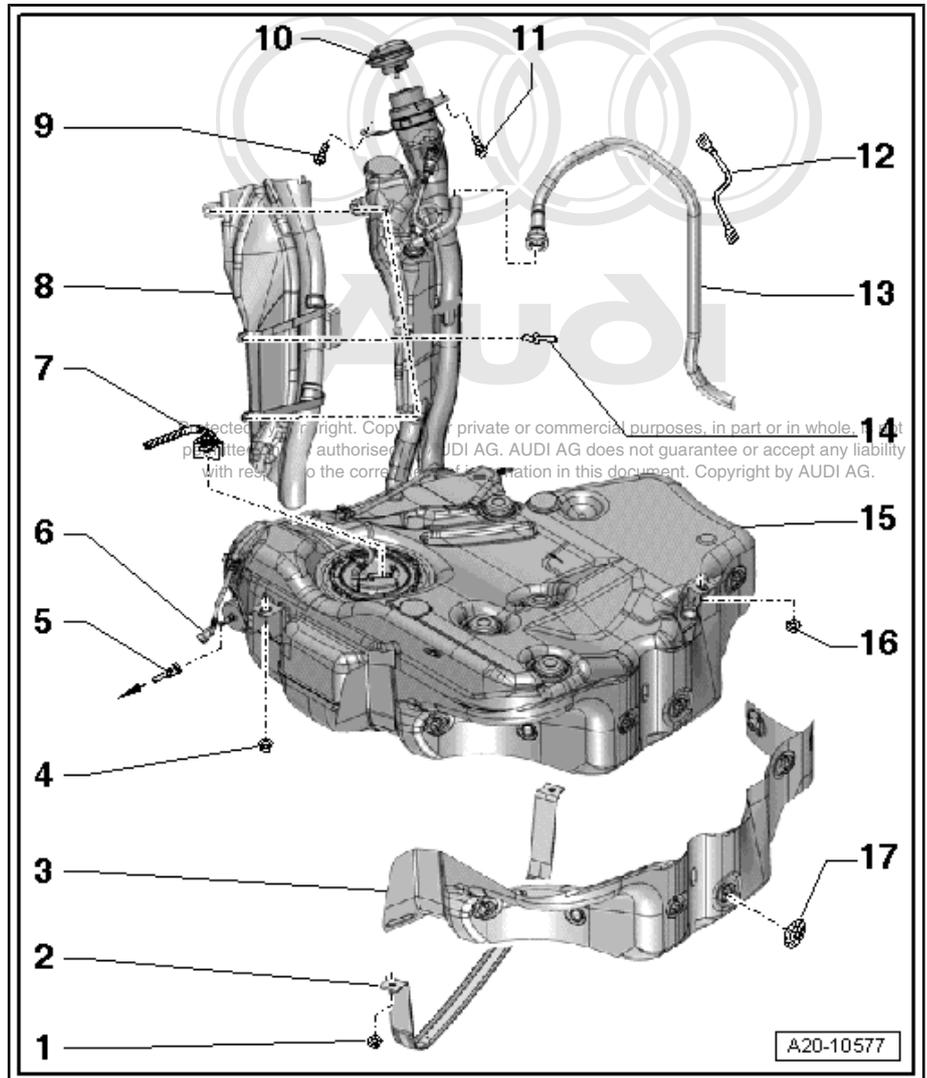
- 11 Nm

#### 12 - Ground (GND) Connection

- For discharging electrostatic charge
- Installed position, refer to ⇒ [Fig. "Fuel Filler Tube Ground Connection and Protective Plate", page 22](#)
- Ensure connector is seated securely
- After installation, check electrical connection from fuel filler tube protective plate -7- to an empty place on the body using an Ohm meter; specified value: Approximately 0 Ω

#### 13 - Vent Line

- From gravity valve to EVAP canister



- Clipped in on bracket in wheel housing
- To disconnect, press release button on connection piece

#### 14 - Pop Rivet

#### 15 - Fuel Tank

- Removing and Installing, refer to ⇒ ["5.7.1 Fuel Tank with Attachments", page 74](#)

#### 16 - Nut

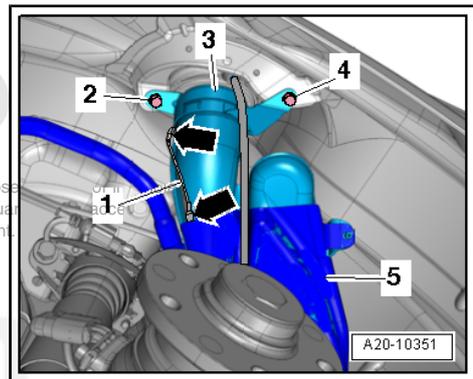
- 20 Nm

#### 17 - Lock Washer

- 3 Nm
- Turn toward left to remove

#### Fuel Filler Tube Ground Connection and Protective Plate

- Ensure filler tube threaded connections -2 and 4- are free of corrosion so the Ground (GND) connection to the body is not affected.
- Route GND connection -1- as shown in illustration.
- Ensure GND connection connector **arrows** is seated firmly on protective plate -5- and on filler tube -3-.



#### WARNING

*Risk of explosion due to electrostatic charge.*

- ◆ *After installing, check electrical connection on fuel filler neck metal ring to an empty spot on the body using an Ohm meter.*
- *Specified value: Approximately 0 Ω.*

## 2.8.2 Fuel Delivery Unit and Fuel Level Sensor -G- Overview

### 1 - Fuel Delivery Unit

- Different version, refer to the Electronic Parts Catalog (ETKA)
- Fuel pump, vehicles with TFSI engine, checking electrically, refer to [⇒ "4.3.1 Fuel Pump, Testing Electrically", page 40](#)
- Checking residual pressure, refer to ⇒ Fuel Injection and Ignition; Rep. Gr. 24 ; Diagnosis and Testing
- Removing and installing, refer to [⇒ "5.7.3 Fuel Delivery Unit", page 80](#)
- Fill the fuel tank with at least 5 liters of fuel.

### 2 - Seal

- Replace
- Install dry

### 3 - Fuel Supply Line

- To fuel filter
- Do not kink
- Attaches to connection with identification "V" at sealing flange
- To remove from locking flange, press release button

### 4 - Fuel Return Line

- Do not kink
- Attaches to connection with identification "R" at sealing flange
- To remove from locking flange, press release button

### 5 - Electrical Harness Connector

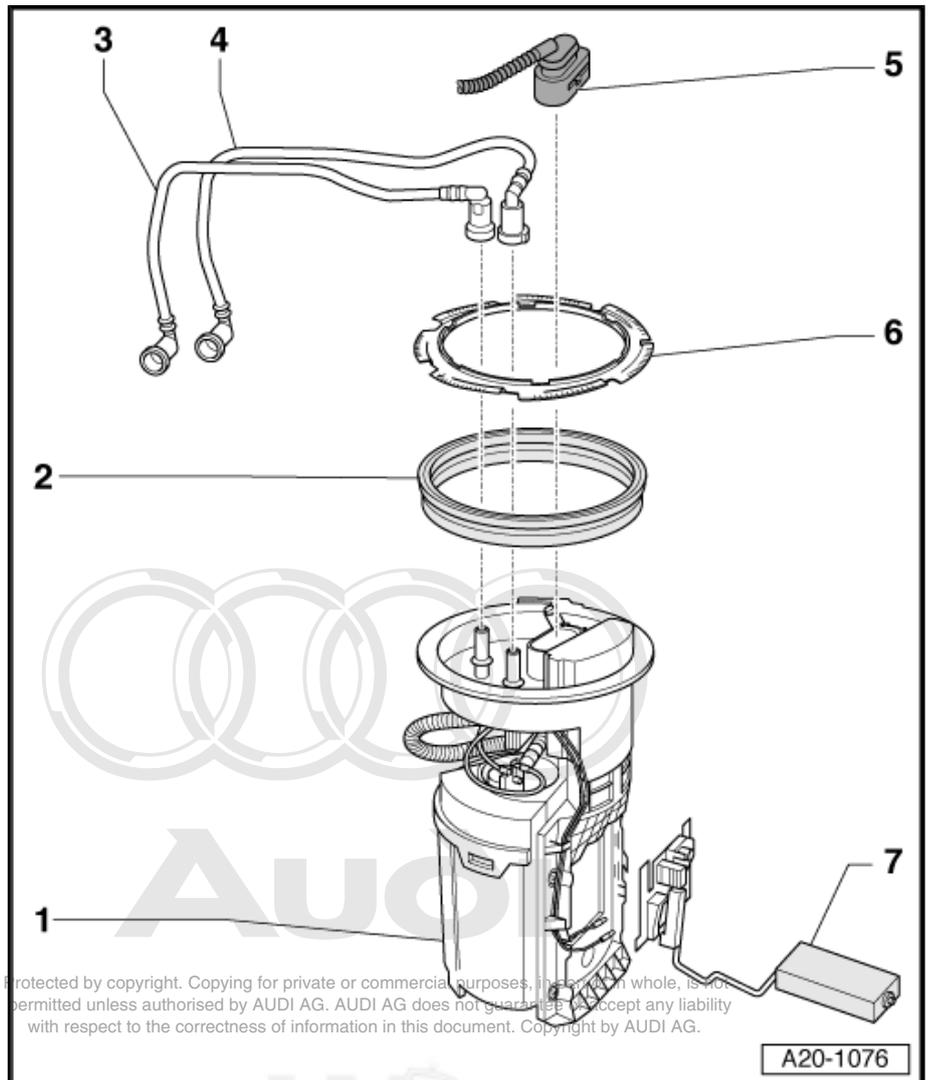
- For transfer fuel pump -G6- and fuel level sensor -G-

### 6 - Locking Ring

- 110 Nm
- Use wrench -T10202- for removing and installing

### 7 - Fuel Level Sensor -G-

- Different versions, refer to the Electronic Parts Catalog (ETKA)
- Check the resistance values. Refer to [⇒ "4.3.5 Fuel Level Sensor G , Checking", page 46](#)
- Removing and installing, refer to [⇒ "5.7.4 Fuel Level Sensor G ", page 83](#)





### 3 Specifications

⇒ "3.1 Fastener Tightening Specifications", page 24

#### 3.1 Fastener Tightening Specifications

Component	Fastener Size	Nm
Accelerator Pedal Module to Body Bolt	-	9
Air Filter Housing to Bracket Bolt	-	4
Bracket to Body Nut	-	4
Bracket to Leak Detection Pump Bolt	-	4
EVAP Canister to Underbody Bolt	-	8
Fuel Filter Bracket Bolt	-	1
Front Wheel Drive Vehicles		
Fuel Tank Filler Tube to Underbody Bolt	-	11
Fuel Tank to Underbody Nut	-	20
Heat Shield to Fuel Tank Lock Washer	-	3
Locking Ring to Fuel Tank	-	110
Securing Strap to Underbody Nut	-	20
All Wheel Drive Vehicles		
Fuel Tank Filler Tube to Underbody Bolt	-	11
Heat Shield to Underbody Nut	-	23
Locking Ring to Fuel Tank	-	110
Securing Strap to Underbody Nut	-	23



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## 4 Diagnosis and Testing

⇒ [“4.1 Leak Detection Test, Performing”, page 25](#)

⇒ [“4.2 All Wheel Drive”, page 27](#)

⇒ [“4.3 Front Wheel Drive”, page 40](#)

### 4.1 Leak Detection Test, Performing

Special tools and workshop equipment required

- ◆ Hose Clamps Up to 25 mm Dia. -3094-

Diagnostic leak test occurs in “Guided Fault Finding” using the vehicle diagnostic tester.

Checking Fuel Supply and Tank Ventilation Systems for Leaks

#### Note

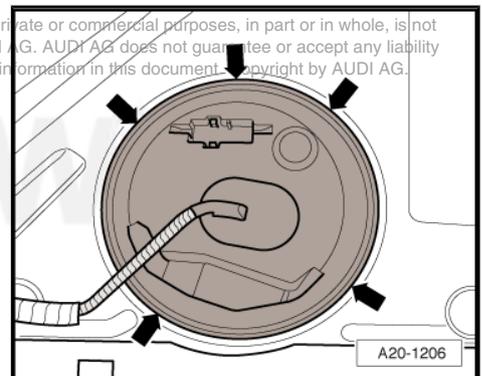
*The following describes individual areas in the fuel supply and ventilation systems where leaks are possible. After repairing a possible leak, perform a leak test to ensure that leak was successfully repaired.*

- Turn off ignition.
- Check whether the fuel filler cap of the fuel tank was completely sealed for the test.
- Check whether seal of fuel filler cap was damaged or crimped. Replace if necessary.
- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .
- Unclip catches -arrows- of right connector flange cover.

#### Note

*Observe installation notes for locking flanges ⇒ [page 82](#) and ⇒ [page 64](#) .*

AWD Vehicles:





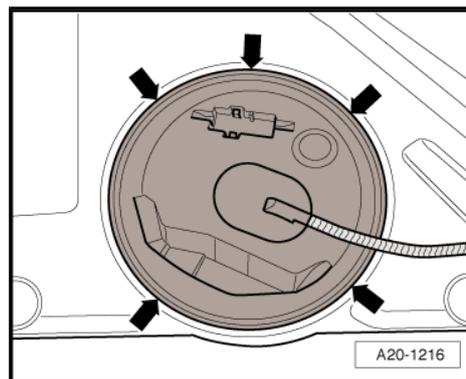
- Unclip the retainers -arrows- of the cover for left sealing flange.

**Note**

Follow the installation instructions for the locking flange  
⇒ [page 68](#).

**All Vehicles:**

- Check sealing rings seals under locking flanges are OK and lock rings are properly tightened on fuel tank. Also check the fuel line connections.
- Visually check all wires and hose connections of fuel supply system and replace leaking lines, for example:
  - ◆ Line from EVAP canister to Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 -N80-
  - ◆ Lines from EVAP canister to Leak Detection Pump (LDP) - V144- .
  - ◆ Line from fuel tank to EVAP canister (below heat shield for EVAP canister).
  - ◆ Lines for tank ventilation (beneath right rear wheel housing liner).
  - ◆ Fuel lines to engine.

**Note**

Leaks at lines and components of the tank system can sometimes be located using a nonflammable, environmentally compliant leak detection spray. For this, initiate leak diagnostic several times in sequence to build up pressure in the system. At leaking areas, bubbles will form.

- Perform a visual inspection on the fuel system components and tank ventilation system:
  - ◆ Fuel tank
  - ◆ EVAP canister
  - ◆ Leak detection pump
  - ◆ EVAP canister purge regulator valve 1

**Note**

Due to the form or function of the components, leaking areas may not always be localized by spraying on leak detection spray. It may be necessary to clamp off the relevant component using -3094- and initiate tank leak detection diagnostic. If the leak is no longer indicated, the component that was clamped off is faulty. If clamped off directly at the leak detection pump and a leak is still indicated, the leak detection pump itself is leaking.

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## 4.2 All Wheel Drive

⇒ [“4.2.1 Fuel Level Sensor G , Checking”, page 27](#)

⇒ [“4.2.2 Fuel Level Sensor 2 G169 , Checking”, page 28](#)

### TFSI Engines

⇒ [“4.2.3 Fuel Pump Control Module, Checking”, page 30](#)

### TFSI Engines

⇒ [“4.2.4 Fuel Pump Delivery Rate, Checking”, page 30](#)

### 2.5L TFSI

⇒ [“4.2.5 Fuel Pump Delivery Rate, Checking”, page 33](#)

### 3.2L MPI

⇒ [“4.2.6 Fuel Pump Delivery Rate, Checking”, page 35](#)

⇒ [“4.2.7 Fuel Pump Electrical, Checking”, page 37](#)

### TFSI Engines

⇒ [“4.2.8 Toothed Belt Drive, Performing a Fuel Pump Adaptation after Replacing Fuel Delivery Unit”, page 40](#)

## 4.2.1 Fuel Level Sensor -G- , Checking

### Special tools and workshop equipment required

- ◆ Multimeter -V.A.G 1526D-
- ◆ Connector Test Set -V.A.G 1594C-

### Procedure

#### TT Coupe:

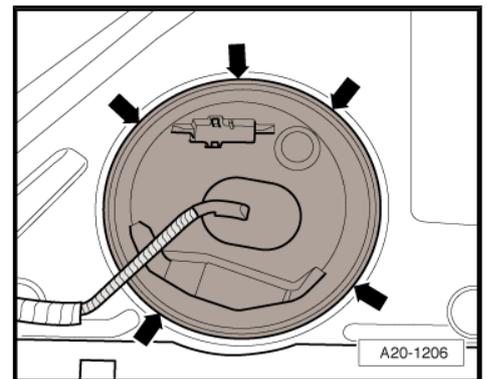
- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

#### TT Roadster:

- Remove the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

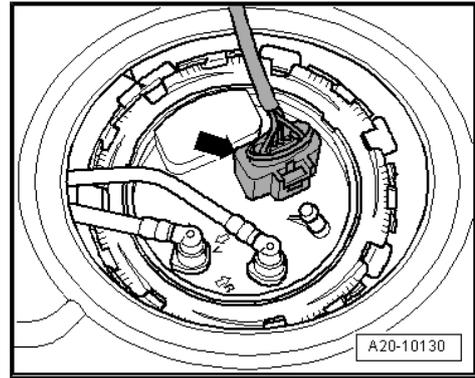
#### All Vehicles:

- Unclip catches -arrows- of right connector flange cover.



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- Disconnect the connector -arrow- from the locking flange.



- Connect multimeter between terminals -2 and 3- to measure resistance.

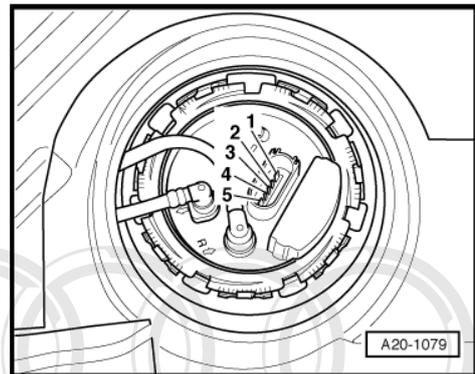
Fuel level sensor installed:

- Sensor at lower stop: Approximately 270  $\Omega$ .
- Sensor at upper stop: Approximately 70  $\Omega$ .



**Note**

- ◆ *To check resistance values "tank full" or "tank empty", the fuel delivery unit must be removed and the sensor floater must be placed in upper or lower end position. Refer to ["5.6.4 Fuel Delivery Unit", page 61](#).*
- ◆ *If measured value is 0  $\Omega$  there is a short circuit. If measured value is there, there is an open circuit in the wiring.*
- ◆ *With fuel level sensor removed, the following values are obtained because of the greater deflection of the floater arm:*



Fuel level sensor removed:

- Sensor at lower stop: Approximately 290  $\Omega$ .
- Sensor at upper stop: Approximately 60  $\Omega$ .
- Connect multimeter between terminals -3 and 4- to measure resistance.

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Fuel level sensor installed or removed:

- Any sensor position: Approximately 340  $\Omega$ .

Assemble in reverse order of disassembling. Note the following:

**TT Coupe:**

- Install rear seat bench. Refer to  $\Rightarrow$  Body Interior; Rep. Gr. 72 ; Removal and Installation .

**TT Roadster:**

- Install the right side rear panel trim panel. Refer to  $\Rightarrow$  Body Interior; Rep. Gr. 70 ; Removal and Installation .

## 4.2.2 Fuel Level Sensor 2 -G169- , Checking

### Special tools and workshop equipment required

- ◆ Multimeter -V.A.G 1526D-
- ◆ Connector Test Set -V.A.G 1594C-

## Procedure

### TT Coupe:

- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

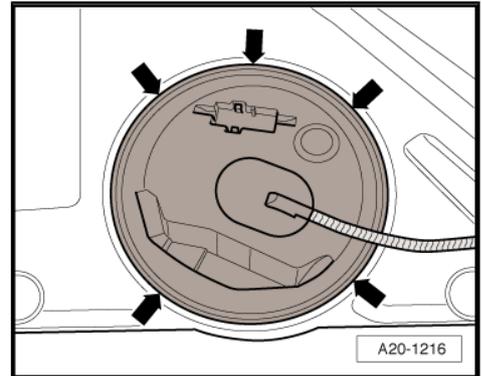
### TT Roadster:

- Remove the left side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

### All Vehicles:

- Unclip the retainers -arrows- of the cover for left sealing flange.

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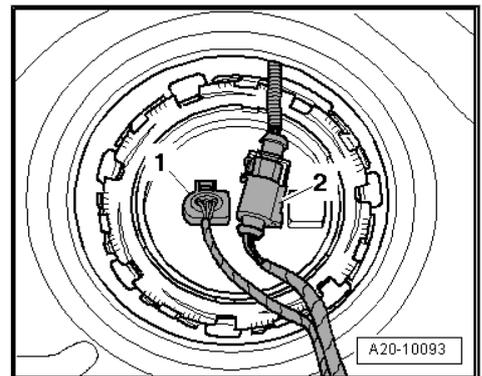


- Disconnect electrical harness connector -1- at locking flange.



### Note

Ignore -2-.





- Connect multimeter between terminals -1 and 2- to measure resistance.

Fuel level sensor 2 installed:

- Sensor at lower stop: Approximately 270  $\Omega$ .
- Sensor at upper stop: Approximately 70  $\Omega$ .



#### Note

- ◆ To check resistance values "tank full" or "tank empty", the fuel level sensor 2 must be removed and the sensor floater must be placed in upper or lower end position. Refer to ["5.6.6 Fuel Level Sensor 2 G169", page 66](#).
- ◆ If measured value is 0  $\Omega$  there is a short circuit. If measured value is there, there is an open circuit in the wiring.
- ◆ With fuel level sensor 2 removed, the following values are obtained because of the greater deflection of the floater arm:

Fuel level sensor 2 removed:

- Sensor at lower stop: Approximately 286  $\Omega$ .
- Sensor at upper stop: Approximately 50  $\Omega$ .
- Connect multimeter between terminals -2 and 3- to measure resistance.

Fuel level sensor 2 installed or removed:

- Any sensor position: Approximately 340  $\Omega$ .

Assemble in reverse order of disassembling. Note the following:

#### TT Coupe:

- Install rear seat bench. Refer to  $\Rightarrow$  Body Interior; Rep. Gr. 72 ; Removal and Installation .

#### TT Roadster:

- Install the left side rear panel trim panel. Refer to  $\Rightarrow$  Body Interior; Rep. Gr. 70 ; Removal and Installation .

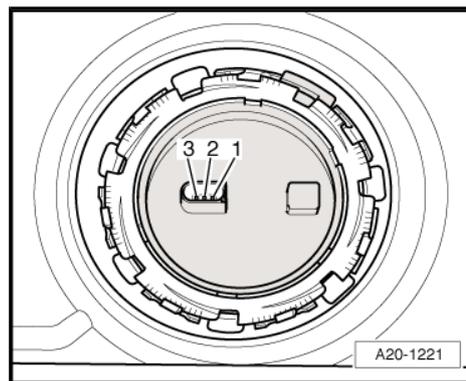
### 4.2.3 Fuel Pump Control Module, Checking

- ◆ On vehicles with the TFSI engine, the fuel pump is supplied with voltage via the fuel pump control module -J538- .
- ◆ Fuel Pump (FP) Control Module -J538- testing occurs in "Guided Fault Finding" operating mode using the vehicle diagnostic tester.

### 4.2.4 Fuel Pump Delivery Rate, Checking

#### Special tools and workshop equipment required

- ◆ Fuel Inj. Pressure Gauge-CIS -V.A.G 1318-
- ◆ Adapter -V.A.G 1318/11-
- ◆ Adapter -V.A.G 1318/17-1A-
- ◆ Fuel Line Feed Adapter -V.A.G 1318/23-
- ◆ Remote Control -V.A.G 1348/3A- with Remote Control -V.A.G 1348/3-3-
- ◆ Connector Test Set -V.A.G 1594C-
- ◆ Measuring container, fuel-resistant



## Procedure

Observe test conditions, refer to  
 ⇒ ["1.5 Test Conditions", page 4](#) .

### TT Coupe:

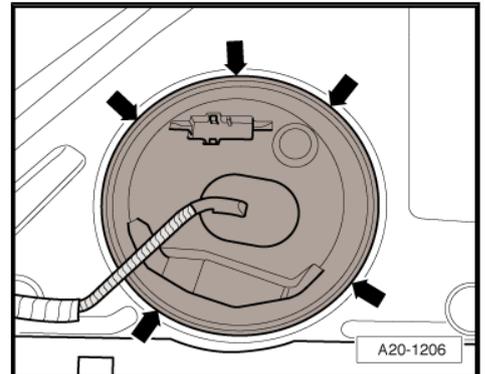
- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

### TT Roadster:

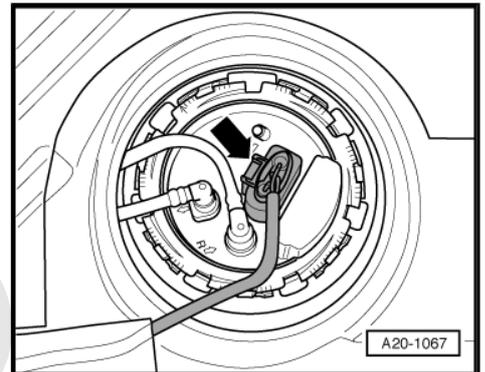
- Remove the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

### All Vehicles:

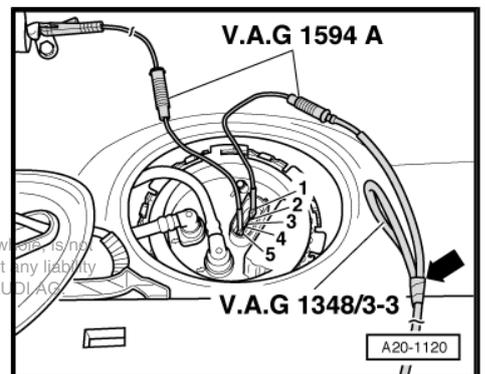
- Unclip the retainers -arrows- of the cover for sealing flange.



- Disconnect the connector -arrow- from the locking flange.



- Connect -V.A.G 1348/3A- with -V.A.G 1348/3-3- with an adapter cable from -V.A.G 1594C- at terminal -1-.
- Cover the second connector terminal of -V.A.G 1348/3-3- with insulating tape to prevent short circuit -arrow-.
- Connect contact -5- to vehicle Ground (GND) using a jumper cable from the -V.A.G 1594C- .
- Connect alligator clip to battery positive (positive terminal pick-off in engine compartment).
- Remove the fuel cap from the fuel filler tube.



### Vehicles with Toothed Belt Drive:

- Disengage fuel line on bracket and remove heat shield -1- on fuel line separating point.



**WARNING**

*There is a risk of injury because the fuel is under high pressure.*

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

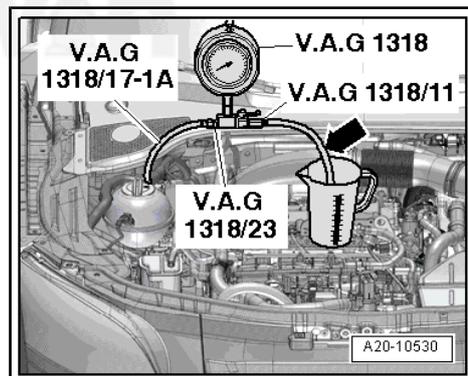
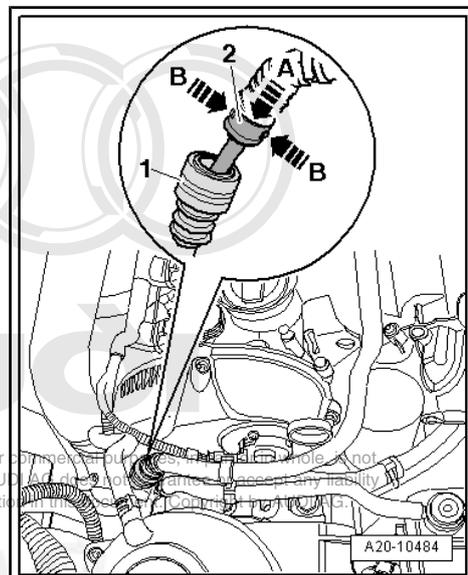
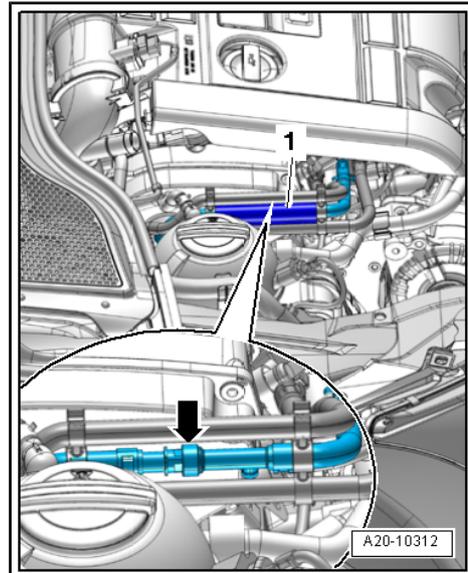
- Disconnect fuel line -arrow- by pulling release ring.

**Vehicles with Timing Chain Drive:**

- Disconnect the fuel line by first stretching the boot -1- downward.
- First push the hose coupling -2- downward -arrow A-, then press the release buttons -arrow B-.
- Remove the hose coupling with the release buttons pressed.

**All Vehicles:**

- Attach the -V.A.G 1318/23- and -V.A.G 1318/17-1A- to -V.A.G 1318- .
- Push -V.A.G 1318/17-1A- onto disconnected fuel line.
- Attach -V.A.G 1318/11- to -V.A.G 1318- .
- Push an assisting hose -arrow- onto it and hold it into a measuring container.
- Open shut-off valve of pressure gauge set.
  - The lever points in the direction of flow.
- Generate pressure in the fuel system by pressing the switch of the remote control and slowly closing the shut-off valve of the pressure gauge.
  - Specified value: 4 bar positive pressure.
- From this point on do not move position of shut-off valve.
- Empty the measuring container.
- Press the switch on the remote control for 15 seconds.



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- Compare quantity of the fuel delivered with minimum delivery rate in diagram (cm<sup>3</sup>/15s).

 **Note**

*Voltage at fuel pump with engine stopped and pump running is approximately 2 volts less than battery voltage.*

If minimum delivery quantity is not obtained, the following malfunctions may be present:

- ◆ Fuel lines pinched.
- ◆ Fuel filter clogged.
- ◆ Fuel pump faulty.

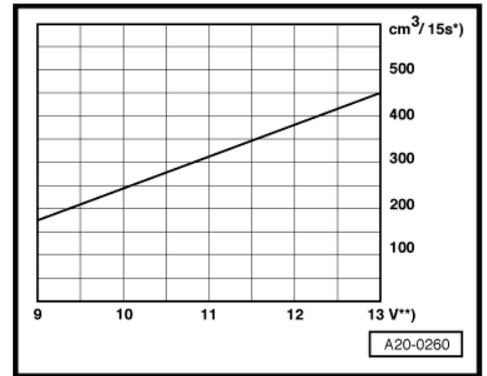
Assemble in reverse order of disassembling. Note the following:

**TT Roadster:**

- Install the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

**TT Coupe:**

- Install rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .



## 4.2.5 Fuel Pump Delivery Rate, Checking

### Special tools and workshop equipment required

- ◆ Fuel Inj. Pressure Gauge-CIS -V.A.G 1318-
- ◆ Adapter -V.A.G 1318/11-
- ◆ Adapter -V.A.G 1318/17-1A-
- ◆ Fuel Line Feed Adapter -V.A.G 1318/23-
- ◆ Remote Control -V.A.G 1348/3A- with Remote Control -V.A.G 1348/3-3-
- ◆ Connector Test Set -V.A.G 1594C-
- ◆ Measuring container, fuel-resistant

### Procedure

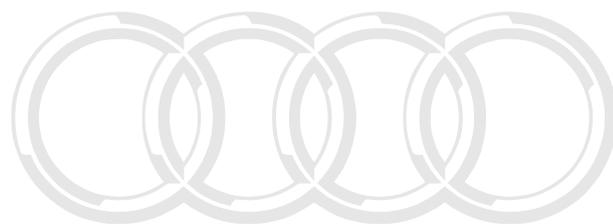
Observe test conditions, refer to ⇒ ["1.5 Test Conditions", page 4](#) .

**TT Coupe:**

- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

**TT Roadster:**

- Remove the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .



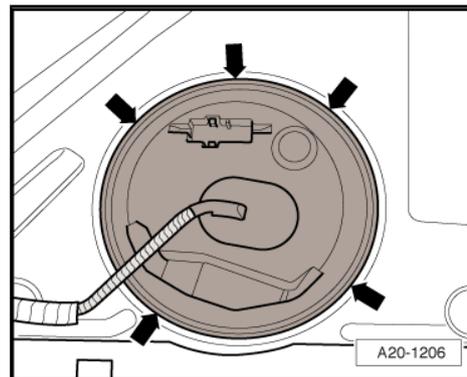
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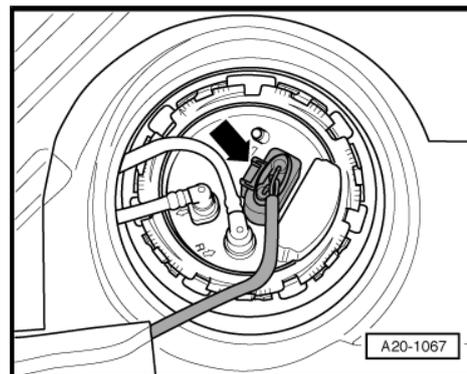
erWin

**All Vehicles:**

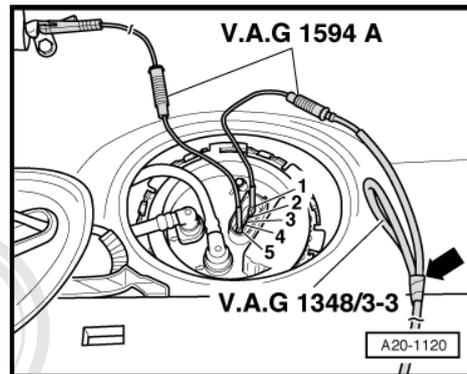
- Unclip the retainers -arrows- of the cover for sealing flange.



- Disconnect the connector -arrow- from the locking flange.



- Connect -V.A.G 1348/3A- with -V.A.G 1348/3-3- with an adapter cable from -V.A.G 1594C- at terminal -1-.
- Cover the second connector terminal of -V.A.G 1348/3-3- with insulating tape to prevent short circuit -arrow-.
- Connect contact -5- to vehicle ground (GND) using a jumper cable from the -V.A.G 1594C- .
- Connect alligator clip to battery positive (positive terminal pick-off in engine compartment).
- Remove the fuel cap from the fuel filler tube.



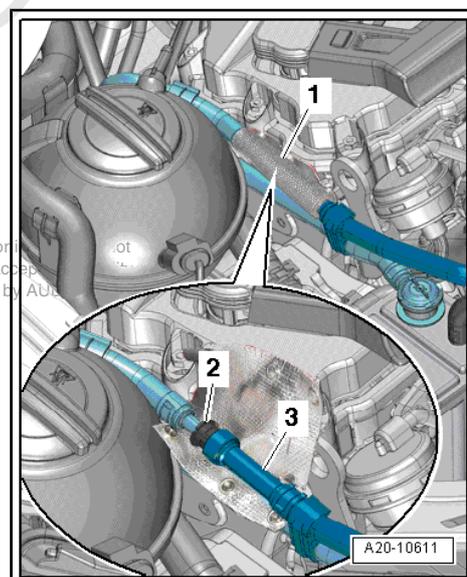
- Disengage fuel line on bracket and remove heat shield -1- on fuel line separating point.

 **WARNING**

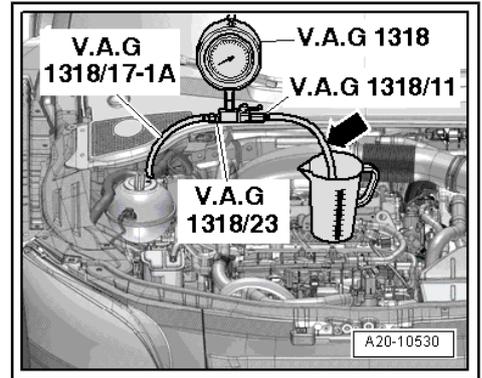
*There is a risk of injury because the fuel is under high pressure.*

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

- Disconnect the fuel line -3- by pulling release ring -2-.



- Attach the -V.A.G 1318/23- and -V.A.G 1318/17-1A- to -V.A.G 1318- .
- Push -V.A.G 1318/17-1A- onto disconnected fuel line.
- Attach the -V.A.G 1318/11- to -V.A.G 1318- .
- Push an assisting hose -arrow- onto it and hold it into a measuring container.
- Open shut-off valve of pressure gauge set.
  - The lever points in the direction of flow.
- Generate pressure in the fuel system by pressing the switch of the remote control and slowly closing the shut-off valve of the pressure gauge.
  - Specified value: 4 bar positive pressure.
- From this point on do not move position of shut-off valve.
- Empty the measuring container.
- Press the switch on the remote control for 15 seconds.
- Compare quantity of fuel delivered with minimum delivery rate in diagram (cm<sup>3</sup>/15s).



**Note**

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*Voltage at fuel pump with engine stopped and pump running is approximately 2 volts less than battery voltage.*

If minimum delivery quantity is not obtained, the following malfunctions may be present:

- ◆ Fuel lines pinched.
- ◆ Fuel filter clogged.
- ◆ Fuel pump faulty.

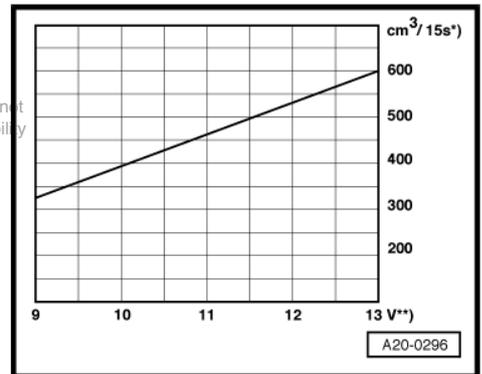
Assemble in reverse order of disassembling. Note the following:

**TT Roadster:**

- Install the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

**TT Coupe:**

- Install rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .



## 4.2.6 Fuel Pump Delivery Rate, Checking

### Special tools and workshop equipment required

- ◆ Adapter -V.A.G 1318/17-1- from Adapter for VAG 1318 -V.A.G 1318/17-
- ◆ Remote Control -V.A.G 1348/3A- with Remote Control -V.A.G 1348/3-3-
- ◆ Connector Test Set -V.A.G 1594C-
- ◆ Measuring container, fuel-resistant

### Procedure

Observe test conditions, refer to ⇒ "1.5 Test Conditions", page 4 .

- Remove the fuel cap from the fuel filler tube.

**TT Coupe:**

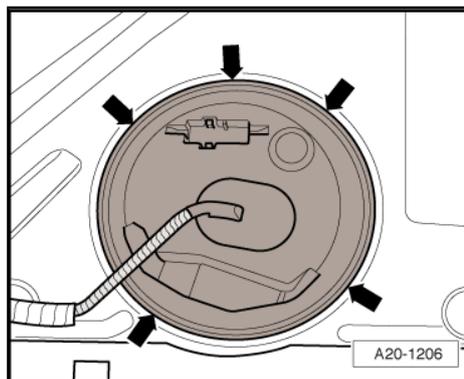
- Remove rear seat bench. Refer to => Body Interior; Rep. Gr. 72 ; Removal and Installation .

**TT Roadster:**

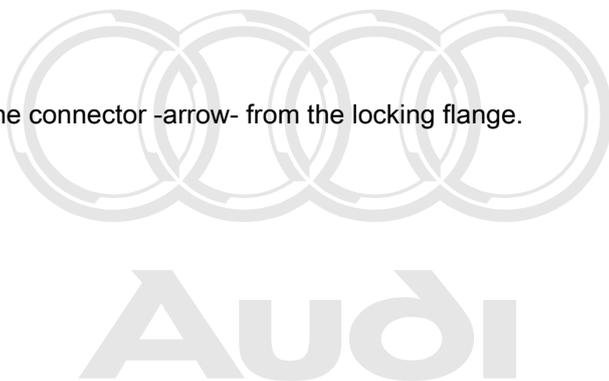
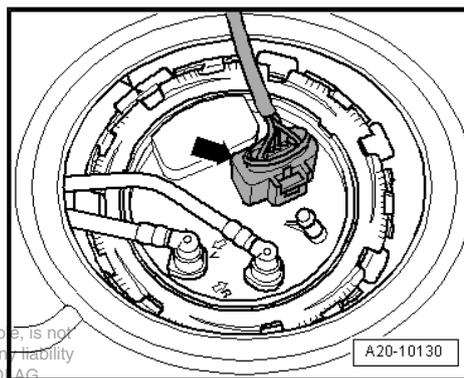
- Remove the right side rear panel trim panel. Refer to => Body Interior; Rep. Gr. 70 ; Removal and Installation .

**All Vehicles:**

- Unclip catches -arrows- of right connector flange cover.

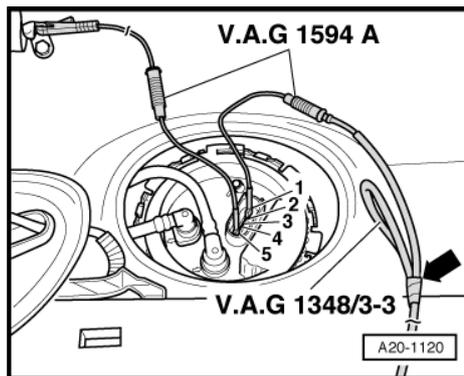


- Disconnect the connector -arrow- from the locking flange.



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- Connect -V.A.G 1348/3A- with -V.A.G 1348/3-3- with an adapter cable from -V.A.G 1594C- at terminal -1-.
- Cover the second connector terminal of -V.A.G 1348/3-3- with insulating tape to prevent short circuit -arrow-.
- Connect contact -5- to vehicle Ground (GND) using a jumper cable from the -V.A.G 1594C- .
- Connect alligator clip to battery positive.

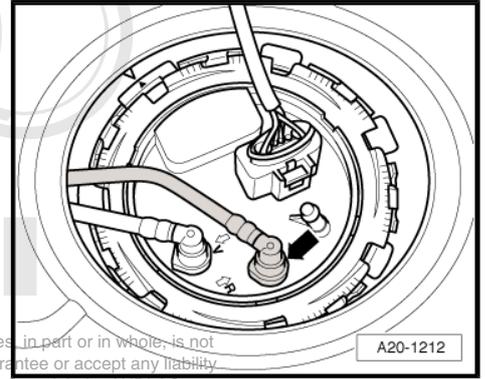


**WARNING**

*There is a risk of injury because the fuel is under high pressure.*

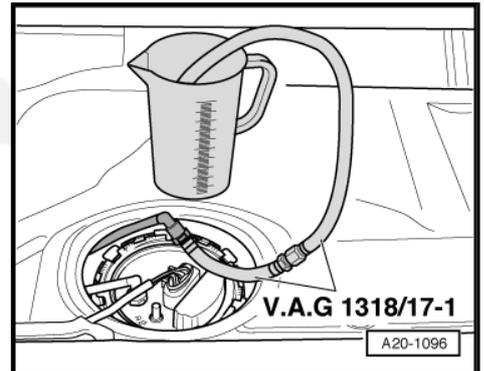
- ◆ *To reduce pressure in the fuel system, lay a clean cloth around the connector and carefully loosen connector.*

- Press the release button and disconnect the fuel return line -arrow-.



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- Connect -V.A.G 1318/17-1- to disconnected fuel return line and hold it in a measuring container.
- Press the switch on the remote control for 15 seconds.



- Compare quantity of fuel delivered with minimum delivery rate in diagram (cm<sup>3</sup>/15s).

**i Note**

*Voltage at fuel pump with engine stopped and pump running is approximately 2 volts less than battery voltage.*

If minimum delivery quantity is not obtained, the following malfunctions may be present:

- ◆ Fuel lines pinched.
- ◆ Fuel filter clogged.
- ◆ Fuel pump faulty.

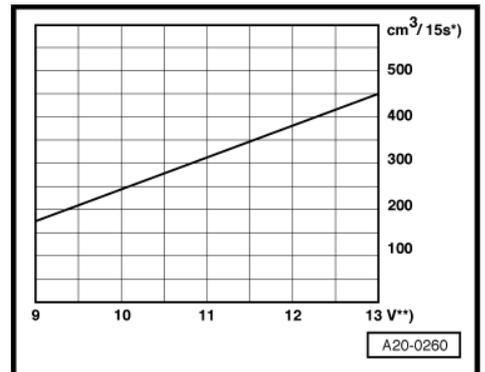
Assemble in reverse order of disassembling. Note the following:

**TT Coupe:**

- Install rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

**TT Roadster:**

- Install the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .



## 4.2.7 Fuel Pump Electrical, Checking

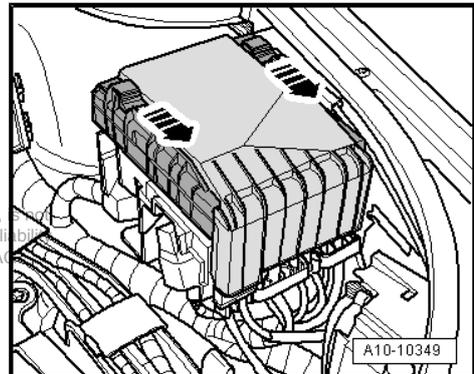
### Special tools and workshop equipment required

- ◆ Remote Control -V.A.G 1348/3A- with Adapter Cable - V.A.G 1348/3-2-
- ◆ Multimeter -V.A.G 1526D-
- ◆ Connector Test Set -V.A.G 1594C-

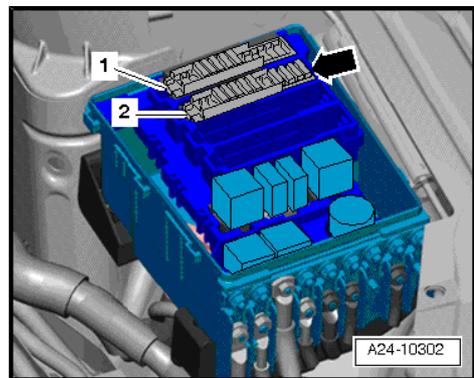
## Procedure

Observe test conditions, refer to  
⇒ ["1.5 Test Conditions", page 4](#) .

- Press both latches in direction of -arrow- and remove engine compartment E-box cover.



- Remove fuse -arrow- at position 1 from "fuse carrier ST2" (brown) -2-.



- Connect -V.A.G 1348/3A- with -V.A.G 1348/3-2- to terminal on fuse to fuel pump and battery positive.
- Press switch on the -V.A.G 1348/3 A- .
- Running noise of pump must be audible.



### Note

*The fuel pump runs quietly. Avoid surrounding noises while testing the fuel pump.*

If no operating noise can be heard:

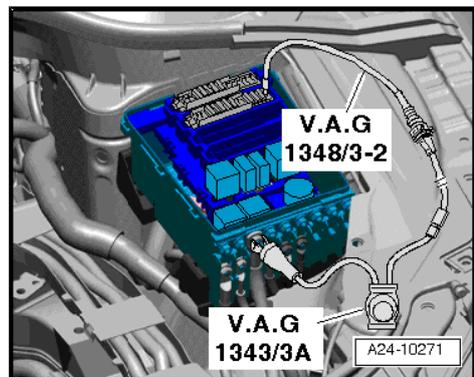
### TT Coupe:

- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

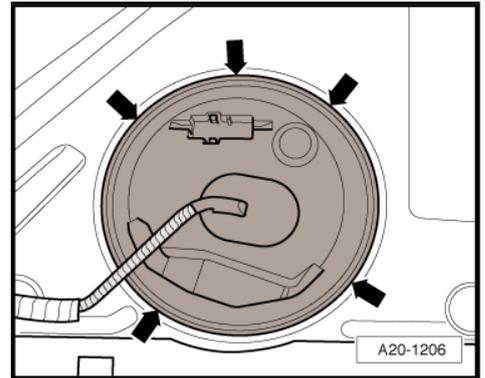
### TT Roadster:

- Remove the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

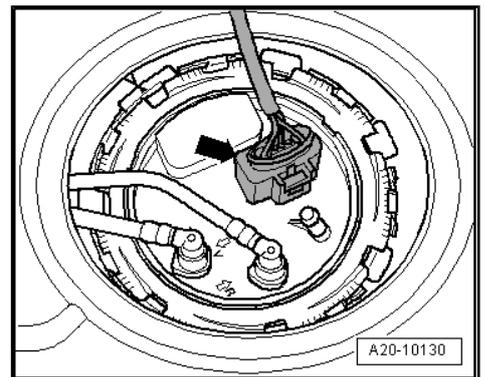
### All Vehicles:



- Unclip catches -arrows- of the right connector flange cover.



- Disconnect the connector -arrow- from the locking flange.



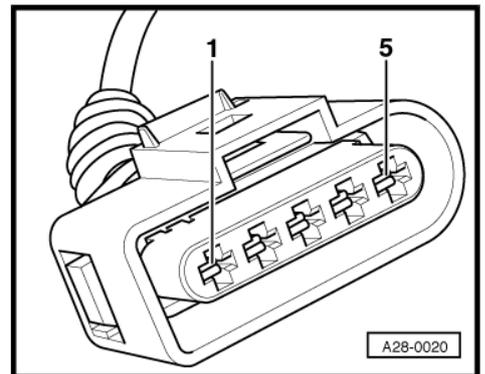
- Connect multimeter between terminal -1 and 5- of harness connector for voltage measurement.
- Press the switch on the remote control.
- Specified value: approximately battery voltage.

If the specification is not obtained:

- Repair open circuit in wiring according to wiring diagram.

If specified value is obtained, although no running-noise can be heard at pump:

- Install the fuel delivery unit. Refer to [⇒ "5.6.4 Fuel Delivery Unit", page 61](#) .



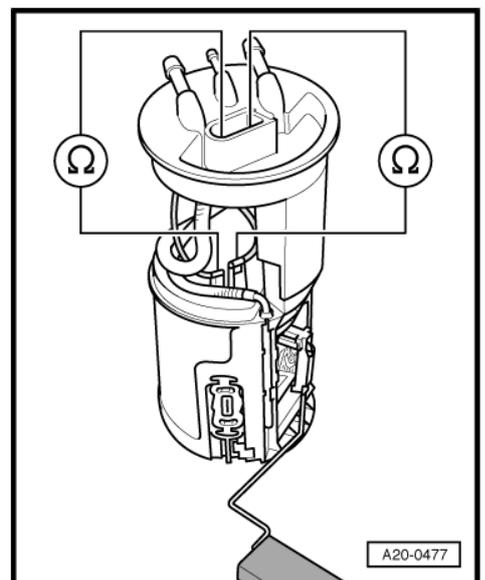
- Check if the electrical wiring between the flange and fuel pump is connected and has continuity.

If no fault is detected in the wiring:

- Fuel pump faulty. Replace the fuel delivery unit, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability for damage to property or personal injury caused by incorrect use of the vehicle.

Assemble in reverse order of disassembling. Note the following:

- Install the fuel delivery unit. Refer to [⇒ page 64](#) .



## 4.2.8 Toothed Belt Drive, Performing a Fuel Pump Adaptation after Replacing Fuel Delivery Unit



### Note

- ◆ On vehicles with the TFSI engine with toothed belt drive, the Engine Control Module (ECM) must be adapted after replacing the fuel delivery unit.
- ◆ This is not necessary on vehicle equipped with a TFSI engine with timing chain drive.

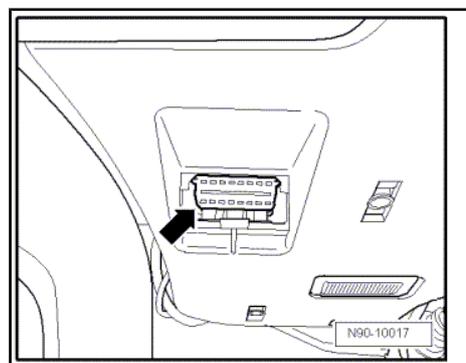
### Special tools and workshop equipment required

- ◆ Vehicle Diagnostic, Testing, and Information System -VAS 5051B-

### Procedure

- No faults in Diagnostic Trouble Code (DTC) memory.
- Connect the -VAS 5051B- to the Data Link Connector (DLC) -arrow- and start the engine.
- Select the following menu entries:
  - ◆ “OBD”
  - ◆ “01- Engine electronics”
  - ◆ “Basic setting display group 103”
  - ◆ “Activate”
- Check reading in display field “4”.

Scan tool display: “ADP in progress”. After the fuel pump adaptation is completed, the display shows “ADP OK”.



### Note

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If “ADP not OK” is displayed: **Check the DTC memory.**

- End the “OBD”.
- Turn the ignition off and disconnect the DLC.

## 4.3 Front Wheel Drive

### TFSI Engines

⇒ [“4.3.1 Fuel Pump, Testing Electrically”, page 40](#)

### TFSI Engines

⇒ [“4.3.2 Fuel Pump Control Module, Checking”, page 42](#)

### TFSI Engines

⇒ [“4.3.3 Fuel Pump Delivery Rate, Checking”, page 42](#)

### TFSI Engines

⇒ [“4.3.4 Toothed Belt Drive, Performing a Fuel Pump Adaptation after Replacing Fuel Delivery Unit”, page 45](#)

⇒ [“4.3.5 Fuel Level Sensor G, Checking”, page 46](#)

### 4.3.1 Fuel Pump, Testing Electrically

#### Special tools and workshop equipment required

- ◆ Remote Control -V.A.G 1348/3A- with Adapter Cable - V.A.G 1348/3-2-
- ◆ Multimeter -V.A.G 1526D-
- ◆ Connector Test Set -V.A.G 1594C-
- ◆ Remote Control -V.A.G 1348/3-3-

**Procedure**

Observe test conditions, refer to  
 ⇒ ["1.5 Test Conditions", page 4](#) .

**TT Coupe:**

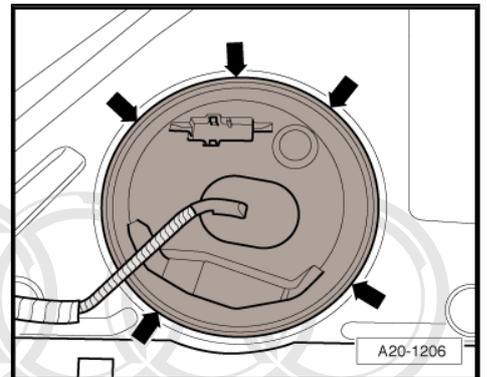
- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

**TT Roadster:**

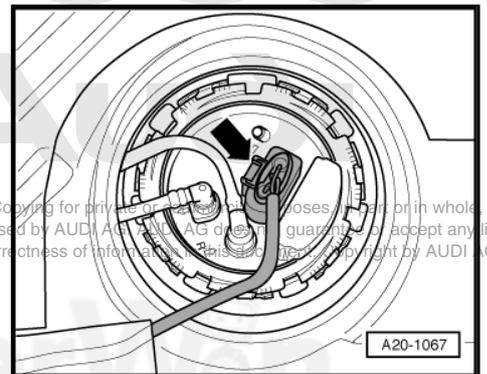
- Remove the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

**All Vehicles:**

- Unclip the retainers -arrows- of the cover for sealing flange.

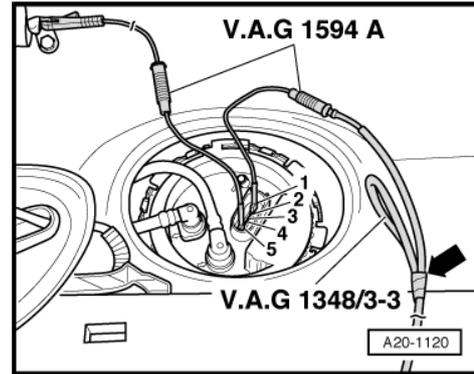


- Disconnect the connector -arrow- from the locking flange.



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- Connect the -V.A.G 1348/3A- with -V.A.G 1348/3-3- with an adapter cable from -V.A.G 1594C- at terminal -1-.
- Cover the second connector terminal of -V.A.G 1348/3-3- with insulating tape to prevent short circuit -arrow-.
- Connect contact -5- to vehicle Ground (GND) using a jumper cable from the -V.A.G 1594C- .
- Connect alligator clip to battery positive.
- Press the switch on the remote control.
- Running noise of pump must be audible.



**Note**

*The fuel pump runs quietly. Avoid surrounding noises while testing the fuel pump.*

If no operating noise can be heard:

- Install the fuel delivery unit. Refer to ⇒ [“5.7.3 Fuel Delivery Unit“, page 80](#) .
- Check if the electrical wiring between the flange and fuel pump is connected and has continuity.

If no fault is detected in the wiring:

- Fuel pump faulty. Replace the fuel delivery unit.

Assemble in reverse order of disassembling. Note the following:

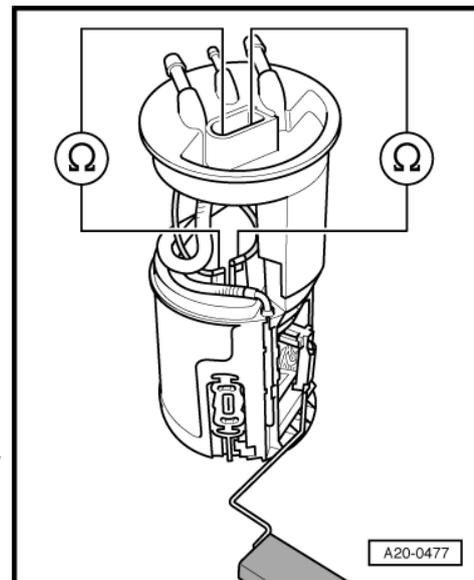
**TT Roadster:**

- Install the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

**TT Coupe:**

- Install rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

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### 4.3.2 Fuel Pump Control Module, Checking

- ◆ On vehicles with the TFSI engine, the fuel pump is supplied with voltage via the Fuel Pump (FP) control module -J538- .
- ◆ FP control module testing occurs in “Guided Fault Finding“ operating mode using the vehicle diagnostic tester.

### 4.3.3 Fuel Pump Delivery Rate, Checking

**Special tools and workshop equipment required**

- ◆ Fuel Inj. Pressure Gauge-CIS -V.A.G 1318-
- ◆ Adapter -V.A.G 1318/11-
- ◆ Adapter -V.A.G 1318/17-1A-
- ◆ Fuel Line Feed Adapter -V.A.G 1318/23-
- ◆ Remote Control -V.A.G 1348/3A- with Remote Control -V.A.G 1348/3-3-

- ◆ Connector Test Set -V.A.G 1594C-
- ◆ Measuring container, fuel-resistant

**Procedure**

Observe test conditions, refer to  
 ⇒ ["1.5 Test Conditions", page 4](#) .

**TT Coupe:**

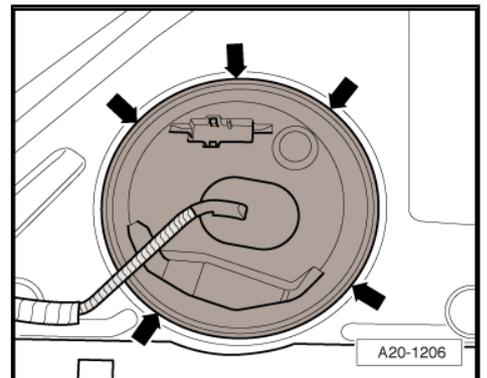
- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

**TT Roadster:**

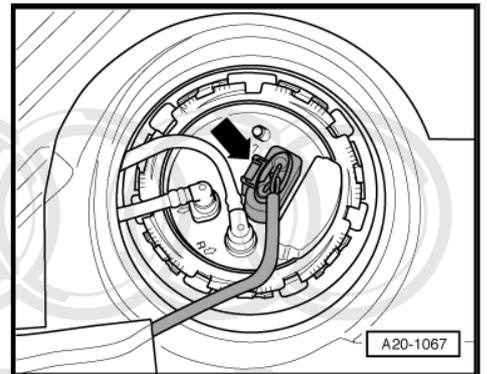
- Remove the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

**All Vehicles:**

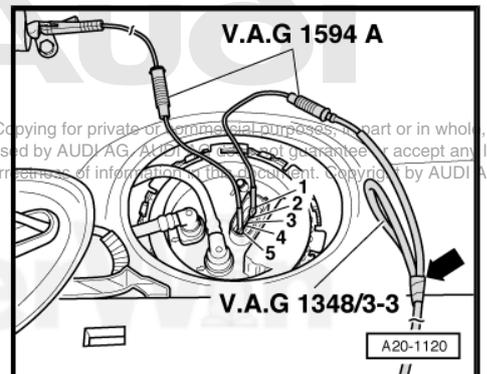
- Unclip the retainers -arrows- of the cover for sealing flange.



- Disconnect the connector -arrow- from the locking flange.



- Connect the -V.A.G 1348/3A- with -V.A.G 1348/3-3- with an adapter cable from -V.A.G 1594C- at terminal -1-.
- Cover the second connector terminal of -V.A.G 1348/3-3- with insulating tape to prevent short circuit -arrow-.
- Connect contact -5- to vehicle Ground (GND) using a jumper cable from the -V.A.G 1594C- .
- Connect alligator clip to battery positive (positive terminal pick-off in engine compartment).
- Remove the fuel cap from the fuel filler tube.



**Vehicles with Toothed Belt Drive:**

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- Disengage fuel line on bracket and remove heat shield -1- on fuel line separating point.



**WARNING**

*There is a risk of injury because the fuel is under high pressure.*

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

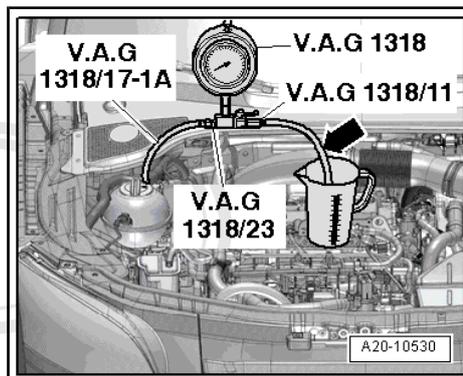
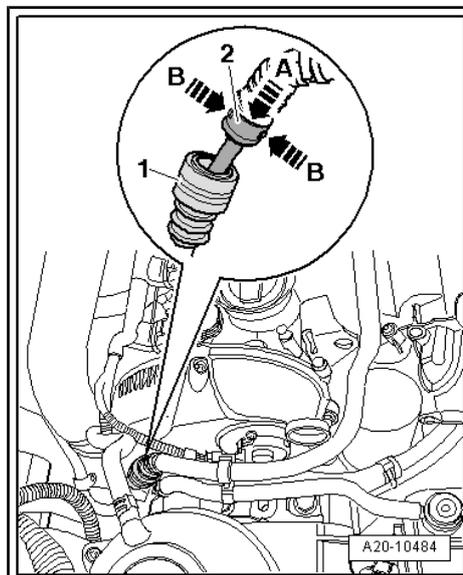
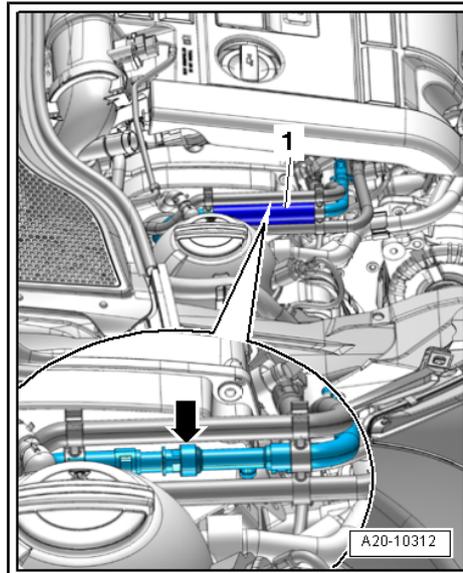
- Disconnect fuel line -arrow- by pulling release ring.

**Vehicles with Timing Chain Drive:**

- Disconnect the fuel line by first stretching the boot -1- downward.
- First push the hose coupling -2- downward -arrow A-, then press the release buttons -arrow B-.
- Remove the hose coupling with the release buttons pressed.

**All Vehicles:**

- Attach -V.A.G 1318/23- and -V.A.G 1318/17-1A- to -V.A.G 1318- .
- Push -V.A.G 1318/17-1A- onto disconnected fuel line.
- Attach the -V.A.G 1318/11- to -V.A.G 1318- .
- Push an assisting hose -arrow- onto it and hold it into a measuring container.
- Open shut-off valve of pressure gauge set.
  - The lever points in the direction of flow.
- Generate pressure in the fuel system by pressing the switch of the remote control and slowly closing the shut-off valve of the pressure gauge.
  - Specified value: 4 bar positive pressure.
- From this point on do not move position of shut-off valve.
- Empty the measuring container.
- Press the switch on the remote control for 15 seconds.



- Compare quantity of fuel delivered with minimum delivery rate in diagram (cm<sup>3</sup>/15s).

**i Note**

*Voltage at fuel pump with engine stopped and pump running is approximately 2 volts less than battery voltage.*

If minimum delivery quantity is not obtained, the following malfunctions may be present:

- ◆ Fuel lines pinched.
- ◆ Fuel filter clogged.
- ◆ Fuel pump faulty.

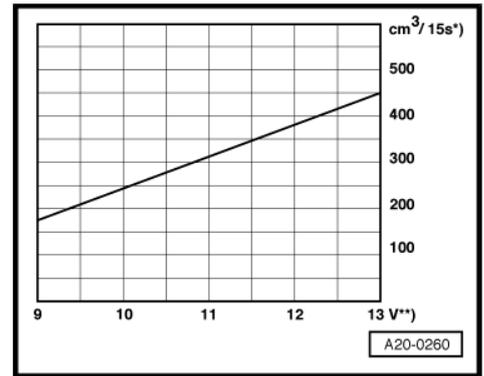
Assemble in reverse order of disassembling. Note the following:

**TT Roadster:**

- Install the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

**TT Coupe:**

- Install rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .



### 4.3.4 Toothed Belt Drive, Performing a Fuel Pump Adaptation after Replacing Fuel Delivery Unit

**i Note**

- ◆ *On vehicles with the TFSI engine with toothed belt drive, the Engine Control Module (ECM) must be adapted after replacing the fuel delivery unit.*
- ◆ *This is not necessary on vehicle equipped with a TFSI engine with timing chain drive.*

**Special tools and workshop equipment required**

- ◆ Vehicle Diagnostic, Testing, and Information System -VAS 5051B-

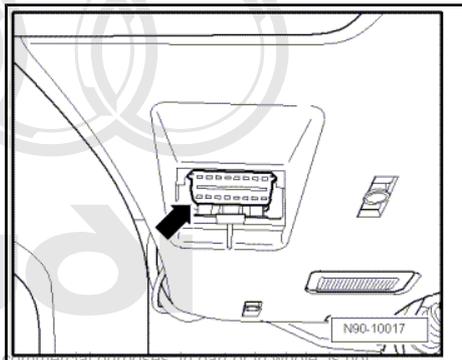
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**Procedure**

- No faults in DTC memory.



- Connect the -VAS 5051B- to the Data Link Connector (DLC) -arrow- and start the engine.
- Select the following menu entries:
  - ◆ "OBD"
  - ◆ "01- Engine electronics"
  - ◆ "Basic setting display group 103"
  - ◆ "Activate"
- Check reading in display field "4".



Scan tool display: "ADP in progress". After the fuel pump adaptation is completed, the display shows "ADP OK".

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**Note**

*If "ADP not OK" is displayed: Check the DTC memory.*

- End the "OBD".
- Turn the ignition off and disconnect the DLC.

### 4.3.5 Fuel Level Sensor -G-, Checking

#### Special tools and workshop equipment required

- ◆ Multimeter -V.A.G 1526D-
- ◆ Connector Test Set -V.A.G 1594C-

#### Procedure

##### TT Coupe:

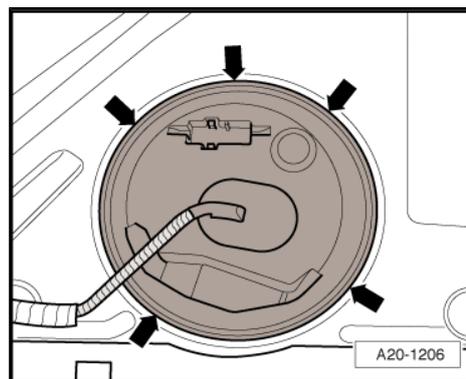
- Remove rear seat bench. Refer to => Body Interior; Rep. Gr. 72 ; Removal and Installation .

##### TT Roadster:

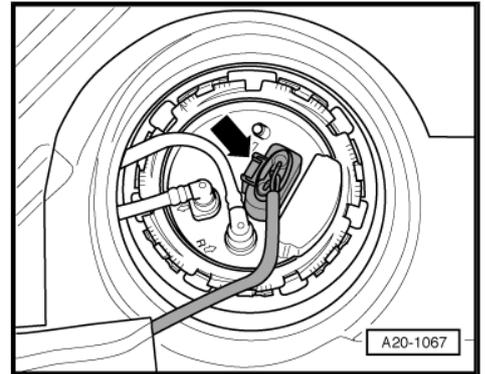
- Remove the right side rear panel trim panel. Refer to => Body Interior; Rep. Gr. 70 ; Removal and Installation .

##### All Vehicles:

- Unclip the retainers -arrows- of the cover for sealing flange.



- Disconnect the connector -arrow- from the locking flange.



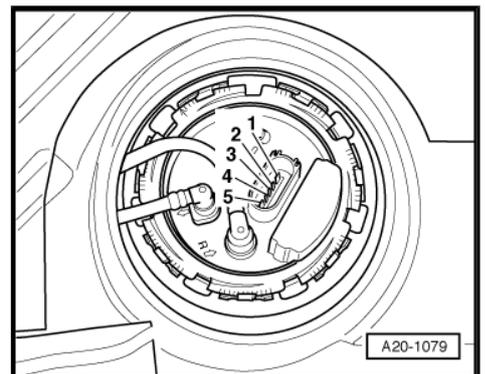
- Connect multimeter between terminals -2 and 3- to measure resistance.

Fuel level sensor installed:

- Sensor at lower stop: Approximately 270  $\Omega$ .
- Sensor at upper stop: Approximately 70  $\Omega$ .

**i** Note

- ◆ *To check resistance values "tank full" or "tank empty", the fuel delivery unit must be removed and the sensor floater must be placed in upper or lower end position. Refer to ⇒ "5.7.3 Fuel Delivery Unit", page 80 .*
- ◆ *If measured value is 0  $\Omega$  there is a short circuit. If measured value is there, there is an open circuit in the wiring.*
- ◆ *With fuel level sensor removed, the following values are obtained because of the greater deflection of the floater arm:*



Fuel level sensor removed:

- Sensor at lower stop: Approximately 290  $\Omega$ .
- Sensor at upper stop: Approximately 50  $\Omega$ .
- Connect multimeter between terminals -3 and 4- to measure resistance.

Fuel level sensor installed or removed:

- Any sensor position: Approximately 340  $\Omega$ .

Assemble in reverse order of disassembling. Note the following:

**TT Coupe:**

- Install rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

**TT Roadster:**

- Install the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

## 5 Removal and Installation

- ⇒ ["5.1 Accelerator Pedal Module, Version 1", page 48](#)
- ⇒ ["5.2 Accelerator Pedal Module, Version 2", page 49](#)
- ⇒ ["5.3 Evaporative Emission \(EVAP\) Canister", page 51](#)
- ⇒ ["5.4 Fuel Filter", page 51](#)
- ⇒ ["5.5 Leak Detection Pump \(LDP\) V144 ", page 53](#)
- ⇒ ["5.6 All Wheel Drive", page 54](#)
- ⇒ ["5.7 Front Wheel Drive", page 74](#)

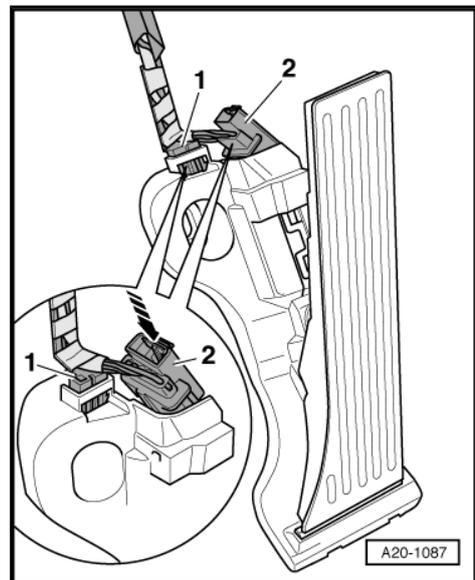
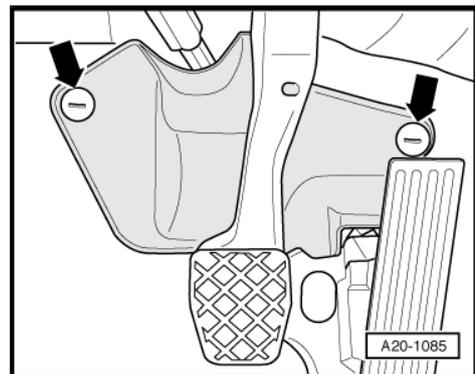
### 5.1 Accelerator Pedal Module, Version 1

#### Special tools and workshop equipment required

- ◆ Release Tool -T10238-

#### Removing

- Remove cover for steering column -arrows-.
- Disconnect electrical harness connector -2-, by pressing release button to the stop -arrow-.
- Where necessary, pull the wiring router -1- off from the accelerator pedal module.
- Pry off the cover using a screwdriver.
- Remove the bolt.



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- Push the -T10238- into the intended openings -arrow- as far as the stop, as shown, and remove the accelerator pedal module.

### Installing

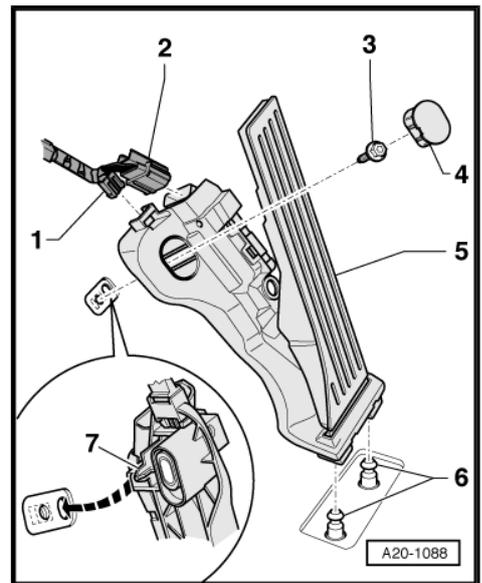
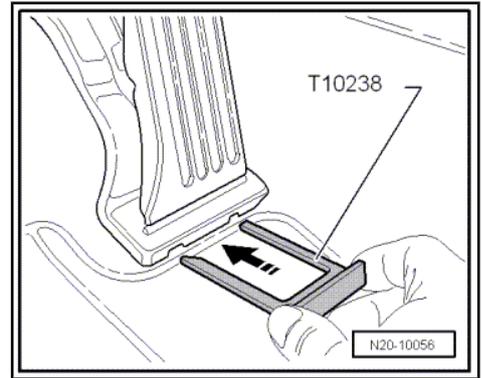
- Tightening specification, refer to [⇒ "2.5 Accelerator Pedal Module Overview, Version 1", page 15](#).

Install in reverse order, paying attention to the following:

- Connect the wiring router -1- and the electrical connector -2- to the accelerator pedal module -5-.
- The connector must engage audibly.
- Push the accelerator pedal module onto the securing studs -6-.
- Insert centering pin -7- into hole on the underbody.
- Secure the accelerator pedal module with the bolt -3- and install the cap -4-.

### Vehicles with Dual Clutch Transmission:

- Perform after the first kick-down adaptation in "Guided Functions" using the vehicle diagnostic tester.



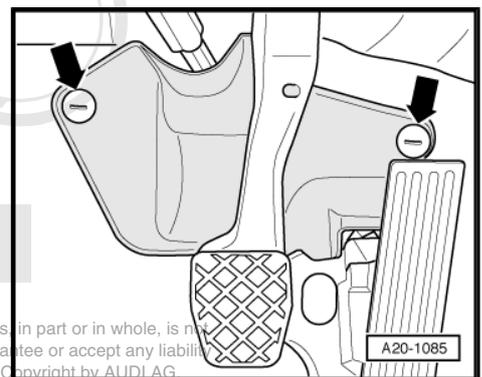
## 5.2 Accelerator Pedal Module, Version 2

### Special tools and workshop equipment required

- ◆ Release Tool -T10238-

### Removing

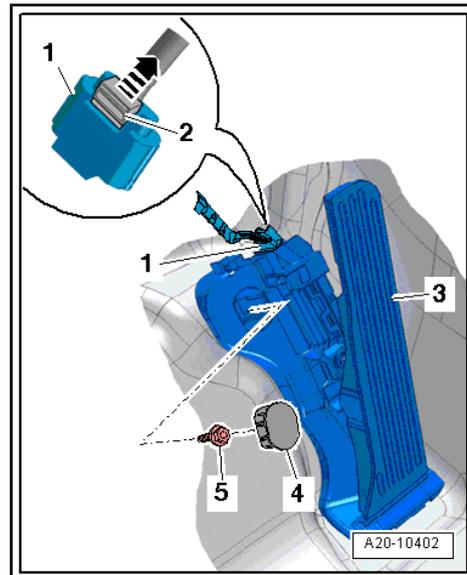
- Remove cover for steering column -arrows-.



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erWin

- Disconnect the connector -1- on the accelerator pedal module -3- by pulling the release -2- all the way up -arrow-.
- Pry off the cap -4- using a screwdriver.
- Remove the bolt -5-.

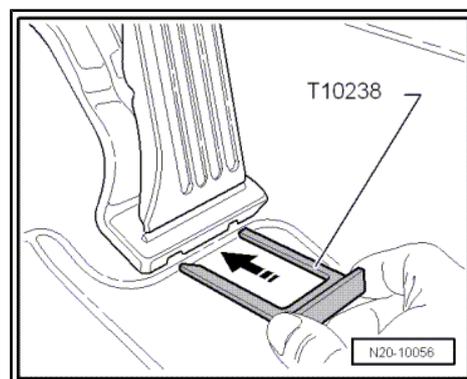


- Push the -T10238- into the intended openings -arrow- as far as the stop, as shown, and remove the accelerator pedal module.

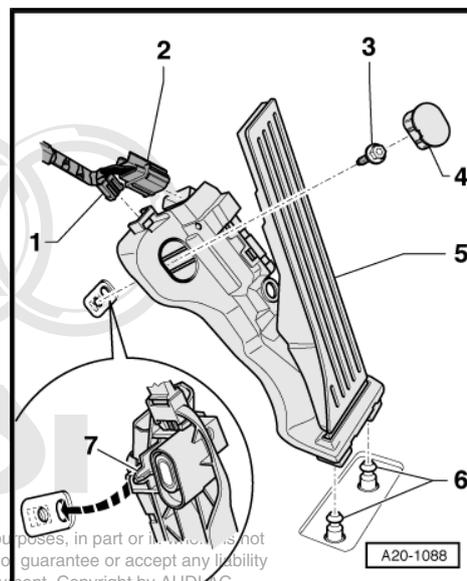
**Installing**

- Tightening specification, refer to [⇒ "2.6 Accelerator Pedal Module Overview, Version 2", page 16](#).

Install in reverse order, paying attention to the following:



- Connect the connector -2- on the accelerator pedal module -5-.
- The connector must engage audibly.
- Push the accelerator pedal module onto the securing studs -6-.
- Insert centering pin -7- into hole on the underbody.
- Secure the accelerator pedal module with the bolt -3- and install the cap -4-.



 **Note**

Ignore -1-.

**Vehicles with Dual Clutch Transmission:**

- Perform after the first kick-down adaptation in "Guided Functions" using the vehicle diagnostic tester.

## 5.3 Evaporative Emission (EVAP) Canister

### Removing



#### Note

Checking for leaks, refer to  
 ⇒ ["4.1 Leak Detection Test, Performing", page 25](#).

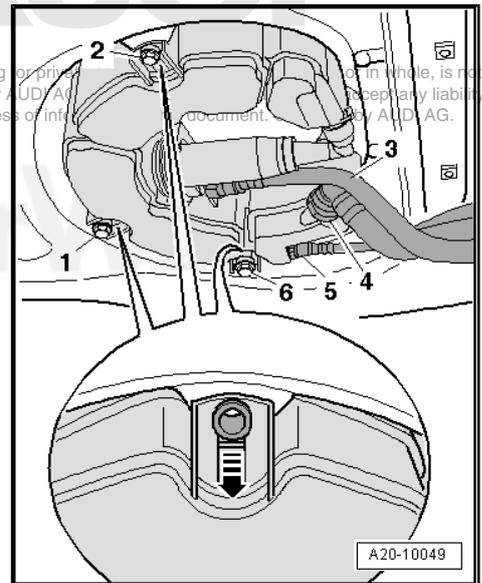
- Remove rear section of the exhaust system. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Description and Operation .
- Remove the heat shield from the rear muffler. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Removal and Installation .
- Disconnect the vent lines and connecting lines -3, 4 and 5- by pressing the release button.
- Remove bolts -1, 2 and 6-.
- Release the retaining tabs in direction of -arrow- with a screwdriver and remove the EVAP canister.

### Installing

- Tightening specification, refer to  
 ⇒ ["2.4 EVAP Canister and Leak Detection System Overview", page 14](#) .

Installation is carried out in the reverse order while noting the following:

- Press on the vent and connecting lines until they engage audibly.
- Install the heat shield on the rear muffler. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Removal and Installation .
- Install exhaust system. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Removal and Installation .



## 5.4 Fuel Filter

### Special tools and workshop equipment required

- ◆ Reservoir

### Removing

Follow all safety precautions. Refer to  
 ⇒ ["1.4 Safety Precautions", page 3](#) .

Follow the guidelines for cleanliness. Refer to  
 ⇒ ["1.1 Clean Working Conditions", page 1](#) .

#### TT Coupe:

- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

#### TT Roadster:

- Remove the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

**Vehicles with a 2.0L TFSI Engine:****WARNING**

*Risk of escaping fuel.*

- ◆ *To prevent the fuel pump from running when the driver's door is opened, Fuel Pump (FP) control module -J538- must not be receiving any current.*

- Remove FP control module from locking flange cover and disconnect electrical connector -arrow-.

**Vehicles with MPI Engine:****WARNING**

*Risk of escaping fuel.*

- ◆ *To prevent the fuel pump from running when the driver's door is opened, the fuel pump must not be receiving any current.*

- Unclip catches -arrows- of the right connector flange cover.

- Disconnect the connector -arrow- from the locking flange.

**Note**

*Remove the fuel pump connector, this prevents the fuel pump from running when the driver's door is opened.*

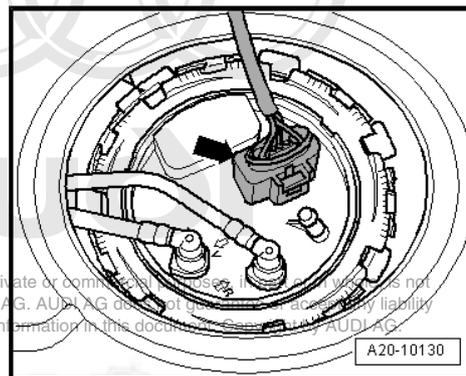
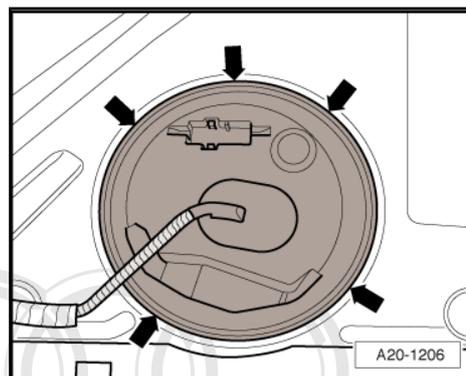
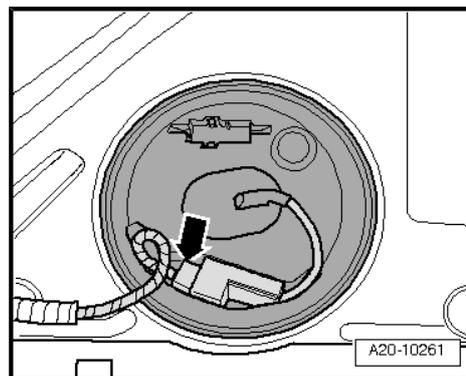
**All Vehicles:**

- Place the drip tray under the fuel filter.

**WARNING**

*There is a risk of injury because the fuel is under high pressure.*

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



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- Remove fuel lines -1, 2, 3- by pressing release button.
- Remove the bolt -4-.
- Remove fuel filter.

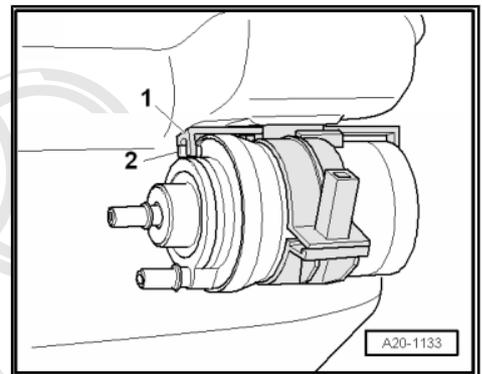
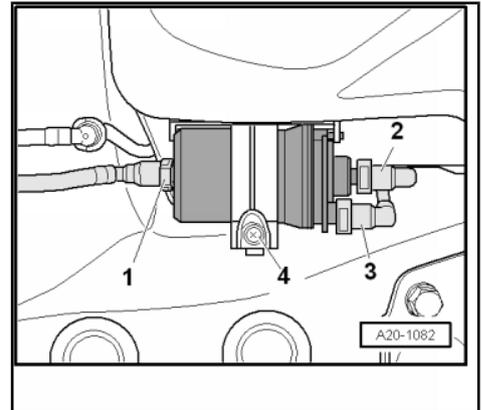
**Installing**

- Tightening specification, refer to [⇒ "2.3 Fuel Filter Overview", page 13](#) .

Install in reverse order, paying attention to the following:

**Installed location:**

- The direction of flow is marked on filter housing with arrows.
- Pin -2- on filter housing must engage in recess of guide -1- on filter bracket.



**5.5 Leak Detection Pump (LDP) -V144-**

**Removing**

- Remove rear left wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Removal and Installation .
- Disconnect the bleed line -2- from the diagnosis pump and disengage it from the bracket -arrow-.
- Disconnect electrical connector -3-.
- Disconnect vent line -5- by pressing release button.
- Remove nuts -1 and 4-.
- Disengage diagnostic pump with bracket.

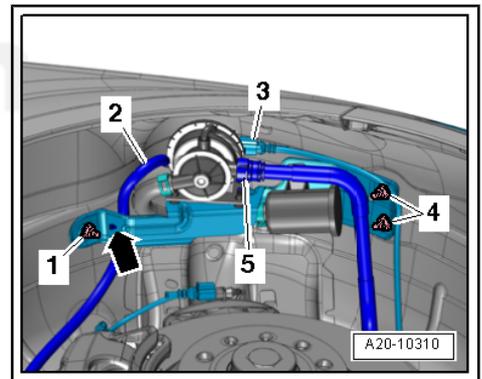
**Installing**

- Tightening specification, refer to [⇒ "2.4 EVAP Canister and Leak Detection System Overview", page 14](#) .

Installation is carried out in the reverse order while noting the following:

- Vent line -5- must engage audibly.
- Install left rear wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Removal and Installation .

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## 5.6 All Wheel Drive

⇒ [“5.6.1 Fuel Tank with Attachments”, page 54](#)

2.0L TFSI ⇒ [“5.6.2 Fuel Pump \(FP\) Control Module”, page 58](#)

2.5L TFSI ⇒ [“5.6.3 Fuel Pump \(FP\) Control Module”, page 59](#)

⇒ [“5.6.4 Fuel Delivery Unit”, page 61](#)

⇒ [“5.6.5 Fuel Level Sensor G”, page 65](#)

⇒ [“5.6.6 Fuel Level Sensor 2 G169”, page 66](#)

⇒ [“5.6.7 Suction Jet Pump”, page 69](#)

### 5.6.1 Fuel Tank with Attachments

Special tools and workshop equipment required

- ◆ Engine/Transmission Jack -V.A.G 1383 A-
- ◆ Hooks -3004-

#### Removing

Follow all safety precautions. Refer to

⇒ [“1.4 Safety Precautions”, page 3](#).

Follow the guidelines for cleanliness. Refer to

⇒ [“1.1 Clean Working Conditions”, page 1](#).

- Open the fuel filler door.



#### Caution

*Risk of destroying electronic components when disconnecting the battery.*

- ◆ *Observe measures for disconnecting battery.*

- Disconnect the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .

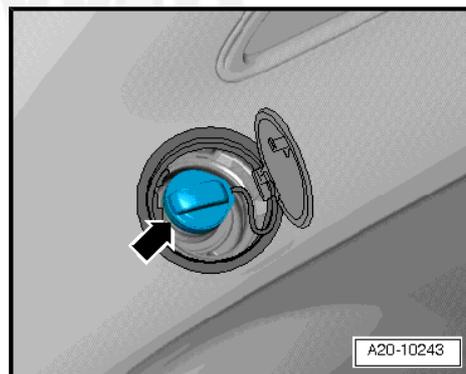


#### WARNING

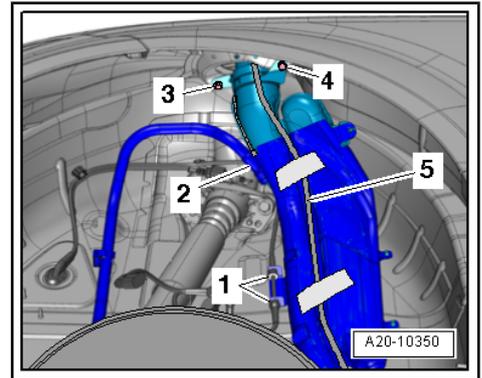
*Risk of accident due to weight of fuel tank.*

- ◆ *The fuel tank must be empty when removing it.*

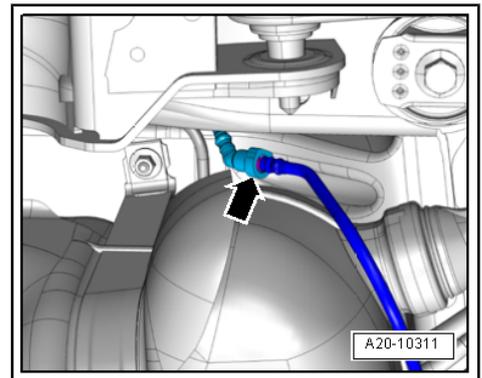
- Drain the fuel tank. Refer to ⇒ [“1.6.1 Fuel Tank, Draining”, page 5](#).
- Clean the area around the fuel filler tube.
- Remove fuel filler cap -arrow- from fuel filler tube.
- Close off the opening of the fuel filler tube with a clean piece of foam to prevent dirt from falling in.



- Remove the right rear wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Removal and Installation .
- Remove the bolts -3 and 4- from the fuel filler tube.
- Remove the ventilation line -2- from the EVAP canister.
- Remove the electrical wiring -1- for the ABS speed sensor from the fuel filler tube bracket.
- Free up overflow hose -5- on fuel filler tube.



- Remove diagonal braces. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Removal and Installation .
- Disconnect the vent line -arrow- to EVAP canister by pressing release button.

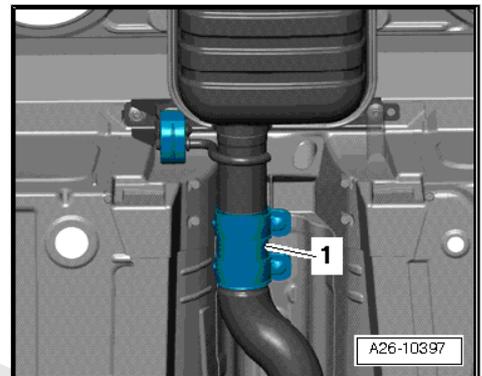


 **Caution**

*The decoupling elements in the front exhaust pipe could get damaged.*

- ◆ *Flex joints in front exhaust pipe must not be bent more than 10°.*
- ◆ *Secure front section of the exhaust system on the underbody with a chain before loosening clamping sleeve bolts.*

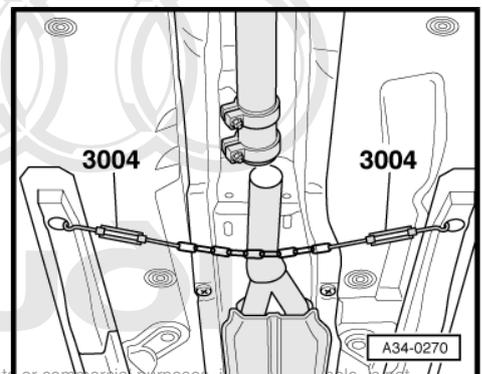
- Separate exhaust system at clamping sleeve -1-.



- Tie up the front section of the exhaust system with a chain. To do this, engage -3004- in openings on underbody (remove plugs if necessary).
- Push the clamping sleeve rearward to separate the exhaust system.

 **Note**

*A second technician is needed to help remove the rear section of the exhaust system.*



- Unhook the rear muffler from the retaining loops and remove rear portion of exhaust system.
- Remove the driveshaft. Refer to ⇒ Rear Final Drive 02D, 0AV, 0BR and 0BY; Rep. Gr. 39 ; Removal and Installation .

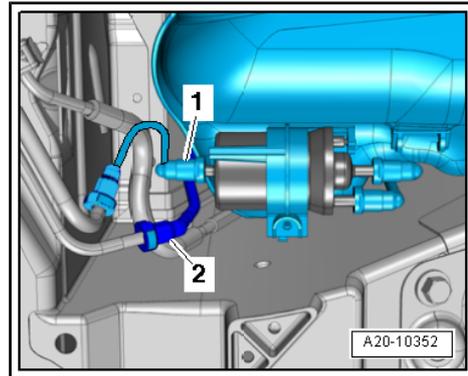
- Disconnect the right front vent line -2- on the fuel tank by pressing release button.



**WARNING**

*There is a risk of injury because the fuel is under high pressure.*

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



- Disconnect right front fuel line from the fuel tank.



**WARNING**

*Risk of accident due to fuel tank weight.*

- ◆ *The fuel tank must be empty when removing it.*

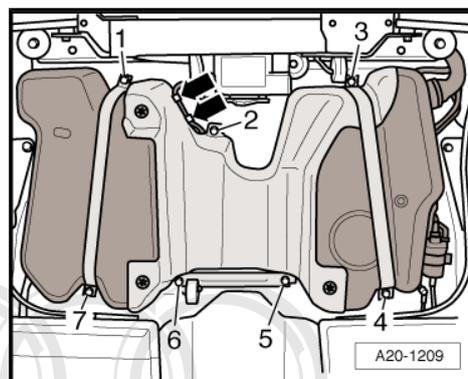
- First remove bolts -2, 5 and 6-.
- Detach and free up the wiring harness -arrows-.
- Place the -V.A.G 1383 A- under the fuel tank for support.
- Remove bolts -1, 3, 4 and 7-.



**Caution**

*Danger of twisting the electric wires too much.*

- ◆ *Do not pull on the electric wires when lowering the fuel tank.*



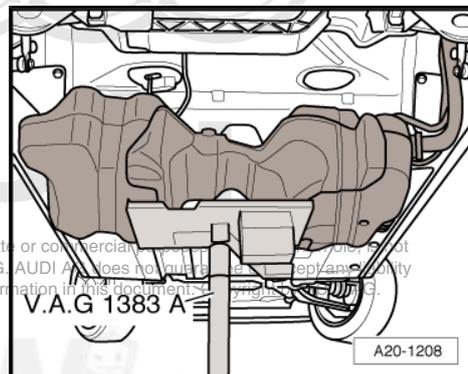
- Lower the fuel tank with the -V.A.G 1383 A- until the connectors on the locking flanges are accessible.



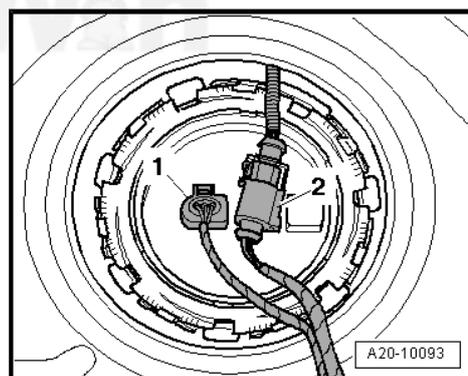
**Note**

*Both illustrations show the connectors installed on the locking flanges.*

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- Disconnect electrical harness connector -1- at left locking flange.
- Disengage the connector -2- from the Haldex clutch.



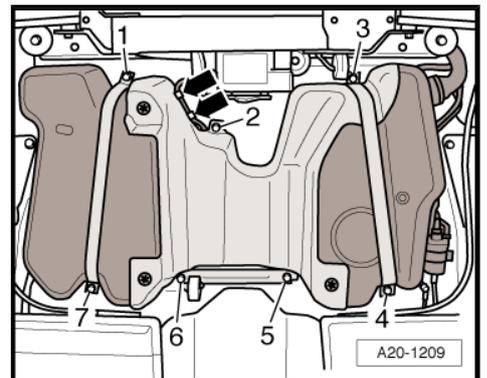
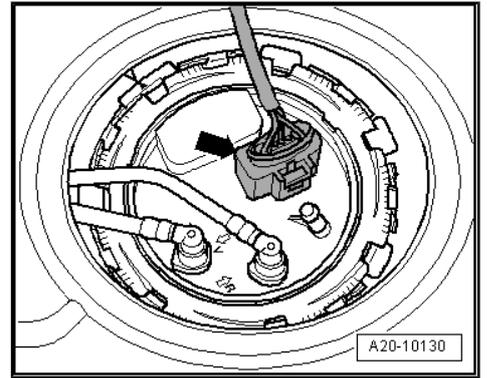
- Disconnect electrical harness connector -arrow- at right locking flange.
- Lower the fuel tank with the -V.A.G 1383 A- , thereby guiding it by hand.
- By turning it accordingly, lower the fuel tank sideways and remove it.
- A second technician is required to guide out the fuel filler tube by hand at the longitudinal member.

**Installing**

- For the correct tightening specifications, refer to [⇒ "2.7.1 Fuel Tank with Attachments Overview", page 17](#) .

Install in reverse order, paying attention to the following:

- Position the fuel tank with mounting straps to underbody using the -V.A.G 1383 A- .
- Attach wiring harness at top of the fuel tank.
- Make sure the fuel tank is positioned so that the filler tube can be correctly guided into the opening of the body.
- First tighten fuel tank at securing points -1, 3, 4 and 7- and then at -2, 5 and 6-.



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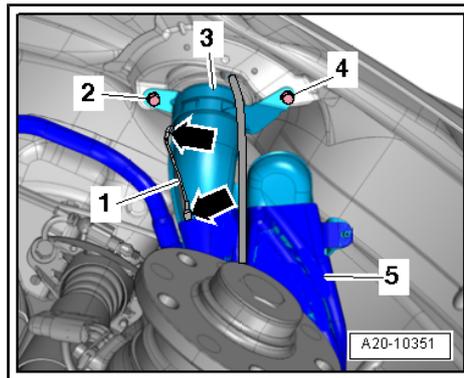


- Ensure filler tube threaded connections -2 and 4- are free of corrosion so the Ground (GND) connection to the body is not affected.
- Tighten fuel filler tube bolts -4- and -5-.
- Check if the GND wiring on both connections show signs of oxidation, remove if necessary.
- Route GND connection -1- as shown in illustration.
- Ensure GND connection connector -arrows- is seated firmly on protective plate -5- and on filler tube -3-.

**WARNING**

*Risk of explosion due to electrostatic charge.*

- ◆ *After installing, check electrical connection on fuel filler neck metal ring to an empty spot on the body using an Ohm meter.*
- *Specified value: Approximately 0 Ω.*



- Attach the electrical wiring for the ABS speed sensor to the fuel filler tube bracket.
- Install ventilation line to EVAP canister on filler tube.
- Install rear right wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Removal and Installation .
- Install the driveshaft. Refer to ⇒ Rear Final Drive 02D, 0AV, 0BR and 0BY; Rep. Gr. 39 ; Removal and Installation .
- Install the rear section of the exhaust system. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Removal and Installation .

**TT Roadster:**

- Install diagonal braces. Refer to ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Removal and Installation .

**All Vehicles:**

- Connect the battery. Observe safety precautions after connecting battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .

## 5.6.2 Fuel Pump (FP) Control Module

**Removing****TT Coupe:**

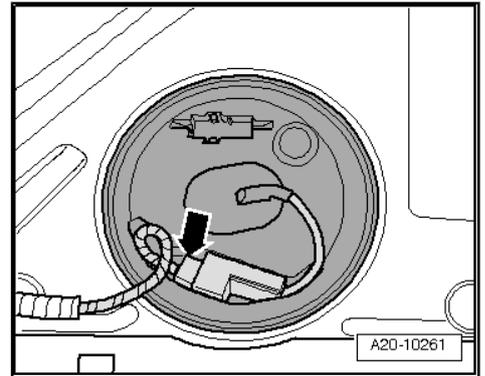
- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

**TT Roadster:**

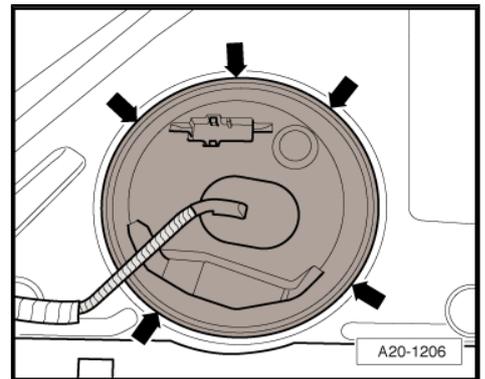
- Remove the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

**All Vehicles:**

- Remove Fuel Pump (FP) control module -J538- from locking flange cover and disconnect electrical connector -arrow-.



- Unclip catches -arrows- of right connector flange cover.



- Disconnect the connector -arrow- from the locking flange.

**Installing**

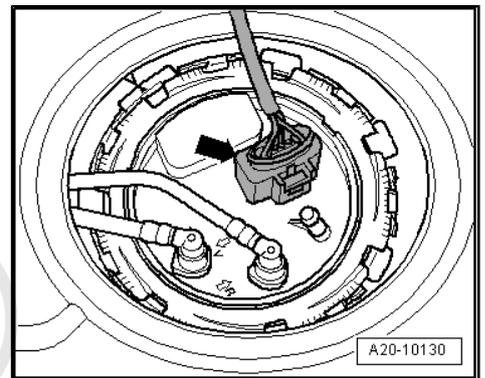
Install in reverse order, paying attention to the following:

**TT Coupe:**

- Install rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

**TT Roadster:**

- Install the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .



**5.6.3 Fuel Pump (FP) Control Module**

**Special tools and workshop equipment required**

- ◆ Engine/Transmission Jack -V.A.G 1383 A-

**Removing**

**TT Coupe:**

- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

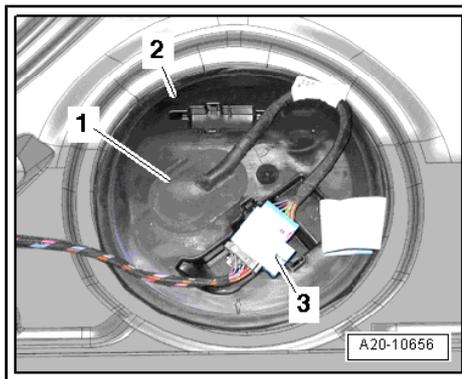
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**TT Roadster:**

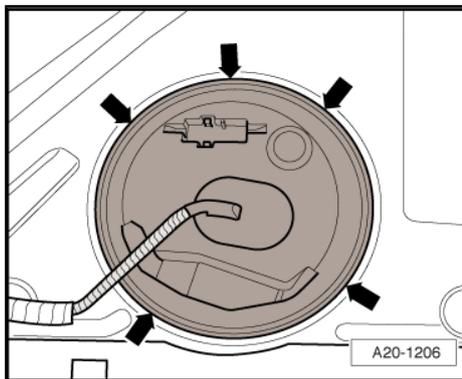
- Remove the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

**All Vehicles:**

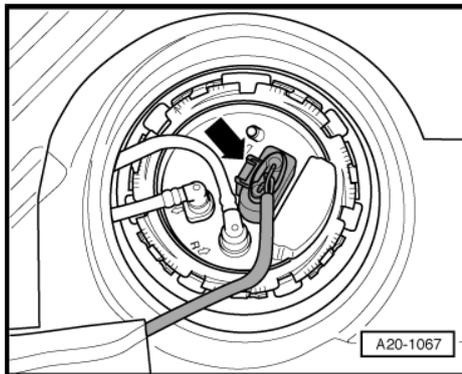
- Disconnect the connector -3- from the locking flange cover.
- Remove the grommet -1- from the locking flange cover -2-.



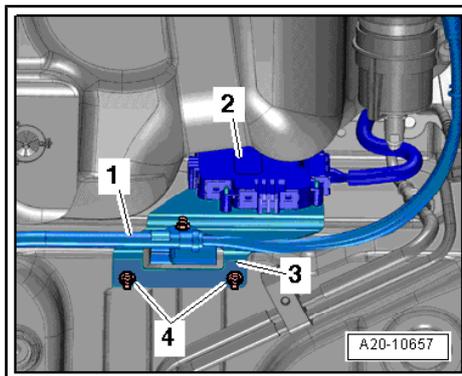
- Unclip the retainers -arrows- of the cover for sealing flange.
- Remove the locking flange cover.



- Disconnect the connector -arrow- from the locking flange.



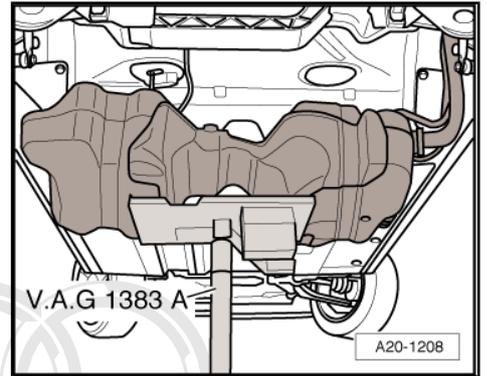
- Disengage the parking brake cable -1- from the bracket.
- Remove the bolts -4-.



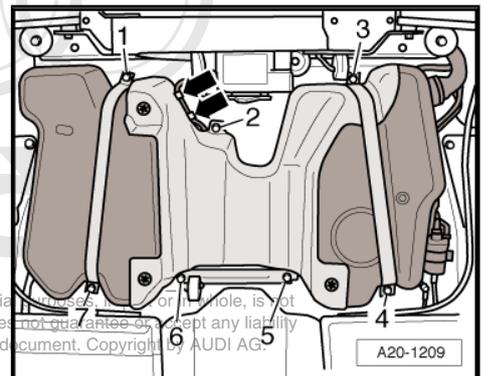
**Caution**

***Danger of twisting the electric wires too much.***

- ◆ ***Lower the fuel tank maximum 20 mm using the -V.A.G 1383 A- so that is it possible to remove the Fuel Pump (FP) control module with the wiring harness and connector.***



- Remove the bolts -3, 4 and 5-.
- Lower the fuel tank maximum 20 mm using the -V.A.G 1383 A- .



- Remove the bracket -3- and control module -2-.

#### Installing

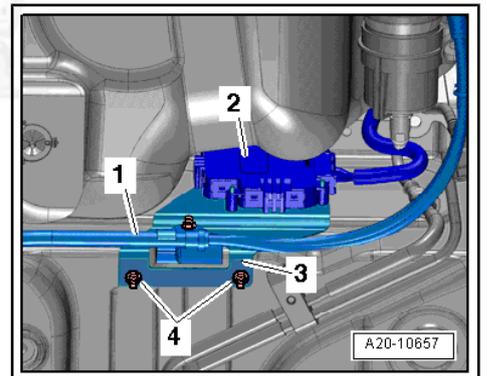
Install in reverse order, paying attention to the following:

#### TT Coupe:

- Install rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

#### TT Roadster:

- Install the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .



## 5.6.4 Fuel Delivery Unit

### Special tools and workshop equipment required

- ◆ Wrench -T10202-

### Removing

Follow all safety precautions. Refer to ⇒ ["1.4 Safety Precautions", page 3](#) .

Follow the guidelines for cleanliness. Refer to ⇒ ["1.1 Clean Working Conditions", page 1](#) .

 **Caution**

*Risk of destroying electronic components when disconnecting the battery.*

◆ *Observe measures for disconnecting battery.*

- Disconnect the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .

TT Roadster:



Caution

- *It is necessary to remove the fuel tank first in order to be able to remove the fuel delivery unit on the Audi TT Roadster.*

- Removing fuel tank, refer to  
⇒ ["5.6.1 Fuel Tank with Attachments", page 54](#) .

TT Coupe:

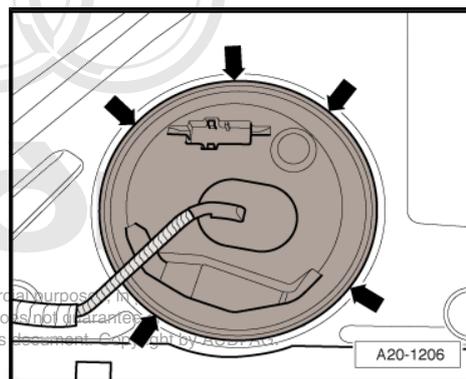


WARNING

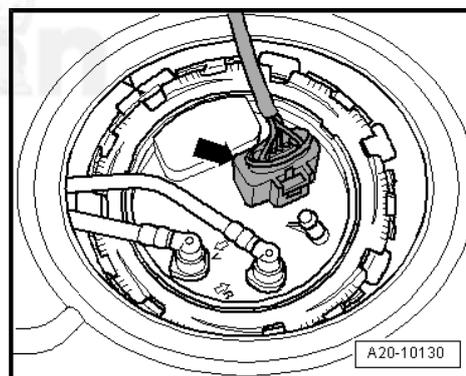
*Danger due to escaping fuel.*

- ◆ *To prevent large quantities of fuel from coming out of fuel delivery unit when removing, fuel tank may only be a maximum of 1/3 full.*

- Empty fuel tank if necessary, refer to  
⇒ ["1.6.1 Fuel Tank, Draining", page 5](#) .
- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .
- Unclip catches -arrows- of right connector flange cover.



- Disconnect the connector -arrow- from the locking flange.

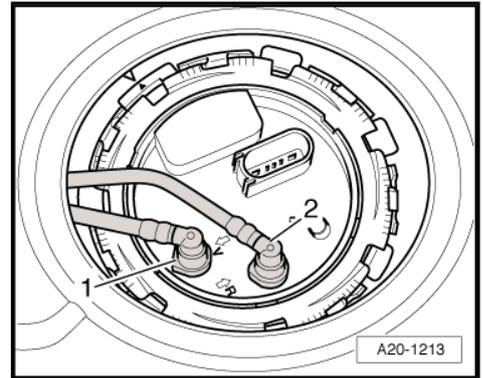


- Mark the fuel supply line -1- and fuel return line -2-.

**WARNING**

*There is a risk of injury because the fuel is under high pressure.*

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



- Pull both lines from locking flange, by pressing the release buttons, unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**TT Roadster:**

- Mark the fuel supply -1- and the fuel return -2- lines on the removed fuel tank.
- Pull both lines from locking flange, by pressing the release buttons.

**TT Coupe:**

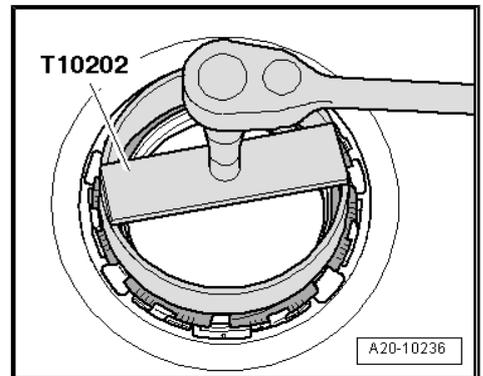
**WARNING**

*Danger due to escaping fuel.*

◆ *To prevent large quantities of fuel from coming out of fuel delivery unit when removing, fuel tank may only be a maximum of 1/3 full.*

**All Vehicles:**

- Remove locking ring with -T10202- .
- Pull the right sealing flange and seal of the fuel delivery unit out from the opening in the fuel tank and lay aside with lines still attached.



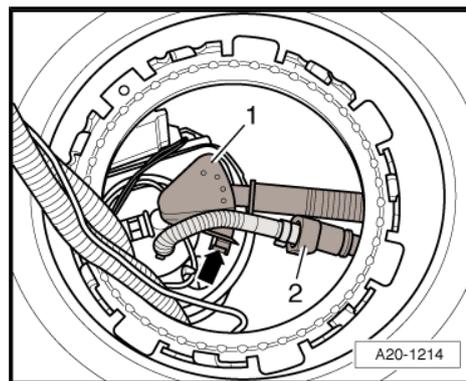


- Through the fuel tank opening, separate the suction jet pipe -2- from suction jet pump, by pressing release button.
- Disconnect fuel delivery line -1- by pressing the release arrow-.
- Remove the fuel delivery unit.



**Note**

- ◆ *When removing fuel delivery unit, be sure not to bend floater arm on the fuel level sensor -G- .*
- ◆ *Be sure there is still some fuel inside the fuel delivery unit.*



**Installing**

- Tightening specification, refer to [⇒ "2.7.2 Fuel Delivery Unit and Fuel Level Sensor G Overview", page 19](#) .

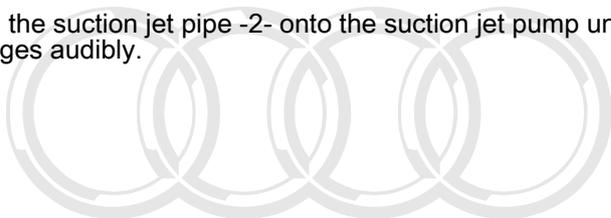
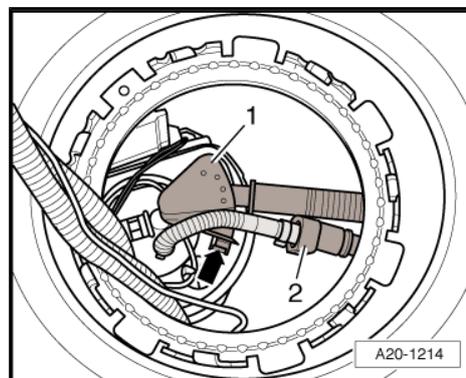
Install in reverse order, paying attention to the following:



**Note**

- ◆ *Replace seal.*
- ◆ *Do not bend the fuel level sensor when inserting the fuel delivery unit.*
- ◆ *Make sure the fuel hoses are secure.*

- Insert the fuel delivery unit into fuel tank with locking flange set aside.
- Push the fuel delivery line -1- on until it engages audibly.
- Push the suction jet pipe -2- onto the suction jet pump until it engages audibly.



**Audi**

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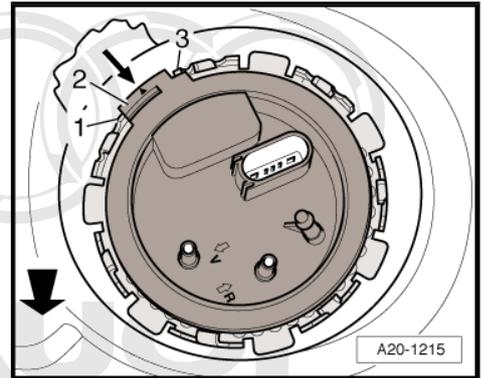


- Install the new locking flange seal dry.
- Insert guide of locking flange into guide at fuel delivery unit, observing spring while doing so.

**Caution**

**Risk of leaking.**

- ◆ *When inserting sealing flange, sealing ring must not be damaged or crushed.*



- Press locking flange down against spring pressure and bring it into installation position.
- The tab -2- on the locking flange faces toward the arrow marking and must lie between tabs -1 and 3- on the fuel tank.

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**Note**

-Arrow- points in direction of travel.

- Tighten locking ring.

**TT Coupe:**

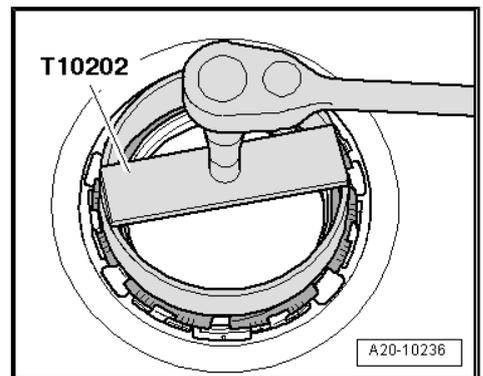
- Install rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .
- Connect the battery. Observe safety precautions after connecting battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .

**TT Roadster:**

- Installing fuel tank: Refer to vehicles with all wheel drive ⇒ [page 57](#) .

**All Vehicles:**

- After installing fuel delivery unit, fill vehicle with at least 5 liters of fuel.
- On vehicles with TFSI engine with toothed belt drive, a fuel pump adaptation must be performed after replacing the fuel delivery unit. Refer to ⇒ ["4.2.8 Toothed Belt Drive, Performing a Fuel Pump Adaptation after Replacing Fuel Delivery Unit"](#), [page 40](#) .



## 5.6.5 Fuel Level Sensor -G-

### Removing

Follow all safety precautions. Refer to ⇒ ["1.4 Safety Precautions"](#), [page 3](#) .

Follow the guidelines for cleanliness. Refer to ⇒ ["1.1 Clean Working Conditions"](#), [page 1](#) .

**TT Roadster:**

**Caution**

- *It is necessary to remove the fuel tank first in order to be able to remove the fuel delivery unit on the Audi TT Roadster.*

- Removing fuel tank. Refer to  
⇒ ["5.6.1 Fuel Tank with Attachments", page 54](#) .

**All Vehicles:**

- Install the fuel delivery unit. Refer to  
⇒ ["5.6.4 Fuel Delivery Unit", page 61](#) .

**Caution*****Risk of damage.***

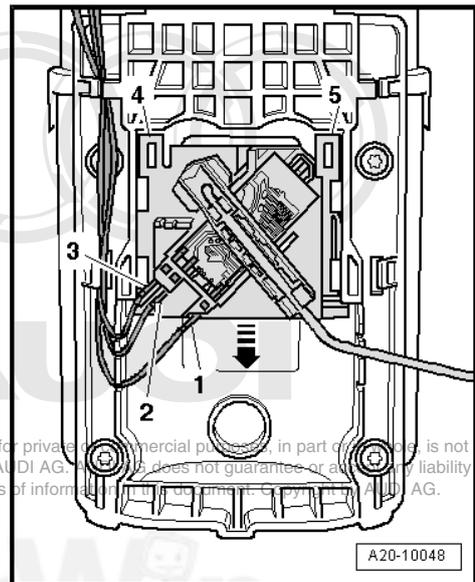
- ◆ ***Before disconnecting electrical connectors on the fuel level sensor, first release connector contact retaining tab.***

- Disconnect the connectors -1 through 3-.
- Pry on the retaining tabs -4 and 5- with a screwdriver and pull the fuel level sensor off downward -arrow-.

**Installing**

Install in reverse order, paying attention to the following:

- Insert the fuel level sensor in the guides on the fuel delivery unit and push upward until it engages.
- Connect the electrical connections and check that they are securely engaged.
- Install fuel delivery unit ⇒ [page 64](#) . Follow the instructions for connecting the battery.



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## 5.6.6 Fuel Level Sensor 2 -G169-

**Special tools and workshop equipment required**

- ◆ Wrench -T10202-

**Removing**

Follow all safety precautions. Refer to  
⇒ ["1.4 Safety Precautions", page 3](#) .

Follow the guidelines for cleanliness. Refer to  
⇒ ["1.1 Clean Working Conditions", page 1](#) .

**Caution*****Risk of destroying electronic components when disconnecting the battery.***

- ◆ ***Observe measures for disconnecting battery.***

- Disconnect the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .

TT Roadster:

**Caution**

- *It is necessary to remove the fuel tank first in order to remove fuel level sensor 2 on the Audi TT Roadster.*

- Removing fuel tank. Refer to ⇒ "5.6.1 Fuel Tank with Attachments", page 54 .

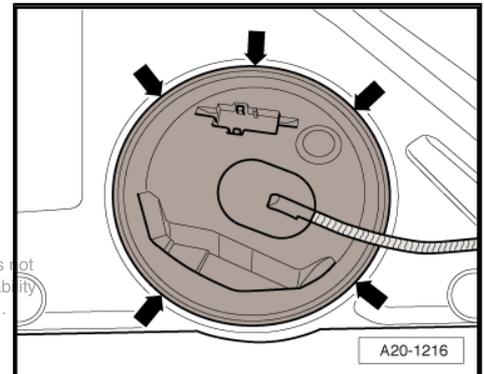
TT Coupe:

**WARNING**

*Danger due to escaping fuel.*

- ◆ *To prevent large quantities of fuel from escaping when removing fuel level sensor 2, fuel tank may only be a maximum of 1/3 full.*

- Empty fuel tank if necessary. Refer to ⇒ "1.6.1 Fuel Tank, Draining", page 5 .
- Open the fuel filler flap briefly and then close it again.
- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .
- Unclip the retainers -arrows- of the cover for left sealing flange.



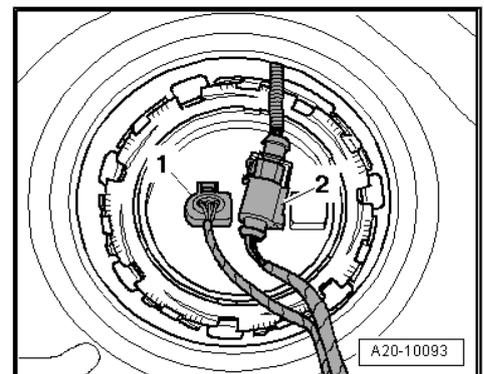
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- Disconnect electrical harness connector -1- at locking flange.
- Disengage electrical harness connector -2- and lay it aside.

**WARNING**

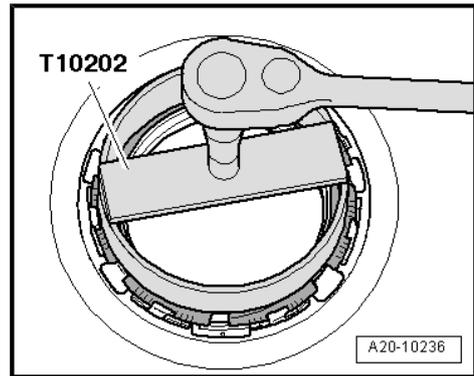
*Danger due to escaping fuel.*

- ◆ *To prevent large quantities of fuel from escaping when removing fuel level sensor 2, fuel tank may only be a maximum of 1/3 full.*



All Vehicles:

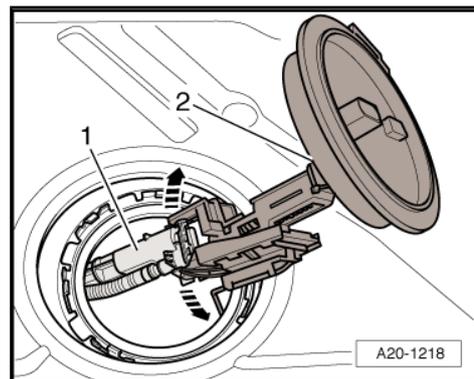
- Remove locking ring with -T10202- .



- Carefully pull fuel level sensor 2 - 2- and suction jet pump -1- partially out of the fuel tank opening.
- Remove seal.
- Unclip suction jet pump from locking flange -arrows-.

**Note**

When removing, be sure not to bend floater arm of fuel level sensor 2.

**Installing**

- Tightening specification, refer to [⇒ "2.7.2 Fuel Delivery Unit and Fuel Level Sensor G Overview", page 19](#) .

Install in reverse order, paying attention to the following:

**Note**

- ◆ Replace seal.
- ◆ When inserting, be sure not to bend floater arm on fuel level sensor 2.

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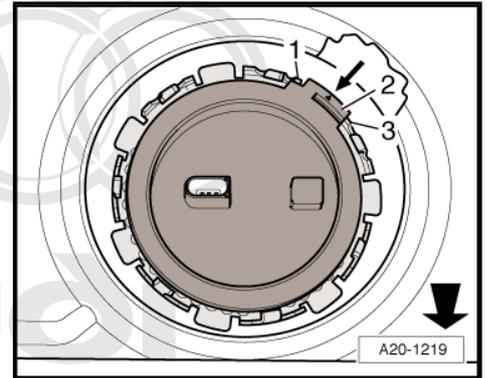
- Carefully insert fuel level sensor 2 in fuel tank opening.
- Clip the suction jet pump -1- to the locking flange so that it is audibly engaged.

- Install the new locking flange seal dry.

**Caution**

**Risk of leaking.**

◆ *When inserting sealing flange, sealing ring must not be damaged or crushed.*



- Press locking flange down against the spring pressure and bring it into installation position.
- The tab -2- on locking flange faces toward the arrow marking and must lie between tabs -1 and 3- on fuel tank.

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**Note**

-Arrow- points in direction of travel.

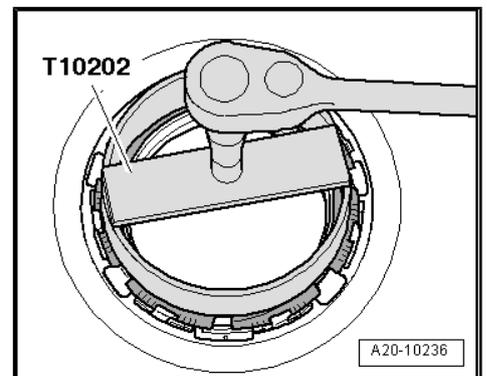
- Tighten locking ring.

**TT Coupe:**

- Install rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .
- Observe safety precautions after connecting battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .

**TT Roadster:**

- Installing fuel tank vehicles with all wheel drive ⇒ [page 57](#) .



**5.6.7 Suction Jet Pump**

**Special tools and workshop equipment required**

- ◆ Wrench -T10202-

**Removing**

Follow all safety precautions. Refer to ⇒ ["1.4 Safety Precautions", page 3](#) .

Follow the guidelines for cleanliness. Refer to ⇒ ["1.1 Clean Working Conditions", page 1](#) .

**Caution**

**Risk of destroying electronic components when disconnecting the battery.**

◆ *Observe measures for disconnecting battery.*

- Disconnect the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .

## TT Roadster:

**Caution**

- *It is necessary to remove the fuel tank first in order to remove the suction jet pump on the Audi TT Roadster.*

- Removing fuel tank. Refer to ⇒ ["5.6.1 Fuel Tank with Attachments", page 54](#) .

## TT Coupe:

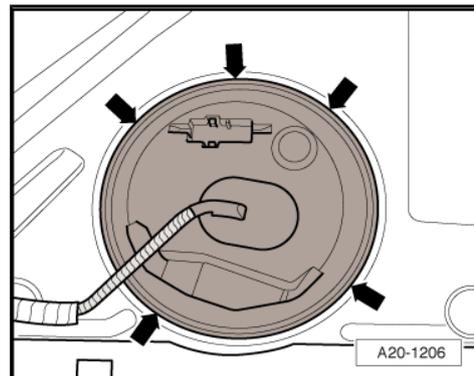
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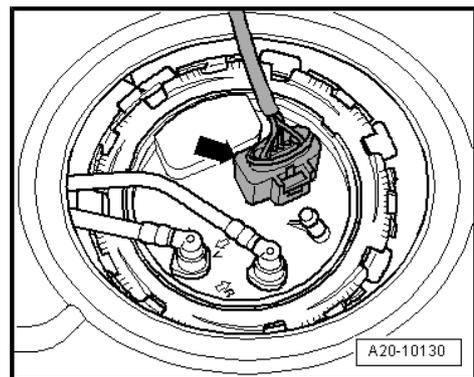
***Danger due to escaping fuel.***

- ◆ *To prevent large quantities of fuel from coming out of the suction jet pump when removing, fuel tank may only be a maximum of  $\frac{1}{3}$  full.*

- Empty fuel tank if necessary. Refer to ⇒ ["1.6.1 Fuel Tank, Draining", page 5](#) .
- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .
- Unclip catches -arrows- of the right connector flange cover.



- Disconnect the connector -arrow- from the locking flange.



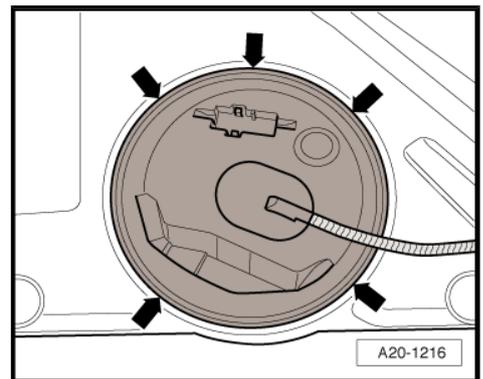
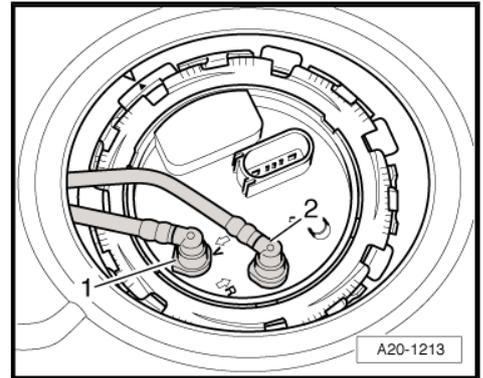
- Mark the fuel supply line -1- and fuel return line -2-.

**! WARNING**

*There is a risk of injury because the fuel is under high pressure.*

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

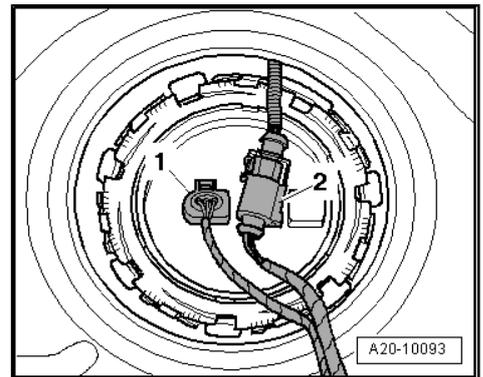
- Pull both lines from locking flange, by pressing the release buttons.
- Unclip the retainers -arrows- of the cover for left sealing flange.



- Disconnect electrical harness connector -1- at locking flange.
- Disengage electrical harness connector -2- and lay it aside.

**TT Roadster:**

- Mark the fuel supply and return lines on the right locking flange when the fuel tank is removed.
- Pull both lines from locking flange, by pressing the release buttons.



**TT Coupe:**

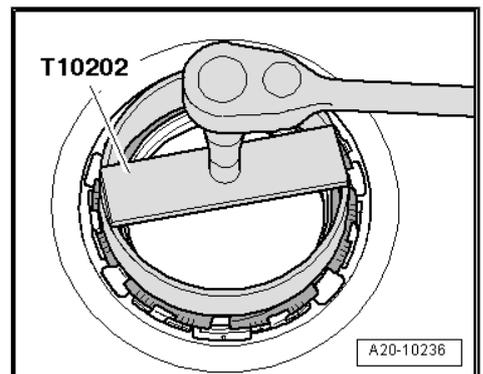
**! WARNING**

*Danger due to escaping fuel.*

◆ *To prevent large quantities of fuel from coming out of suction jet pump when removing, fuel tank may only be a maximum of 1/3 full.*

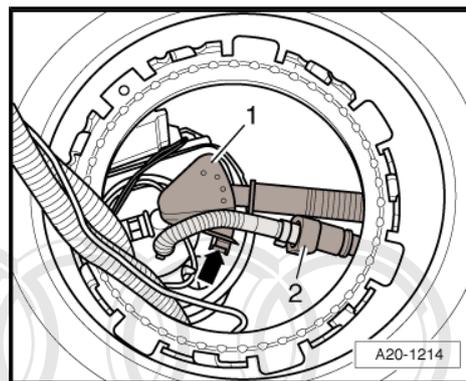
**All Vehicles:**

- Remove right locking ring with -T10202- .

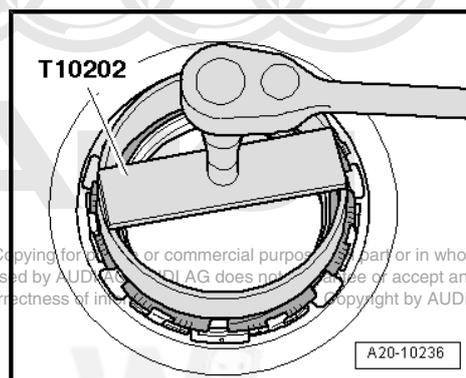




- Pull the sealing flange and seal of fuel delivery unit out from the opening in the fuel tank and lay aside with lines still attached.
- Through the fuel tank opening, separate the suction jet pipe -2- from suction jet pump, by pressing release button.
- Disconnect fuel delivery line -1- by pressing the release arrow-.



- Remove left locking ring with -T10202- .



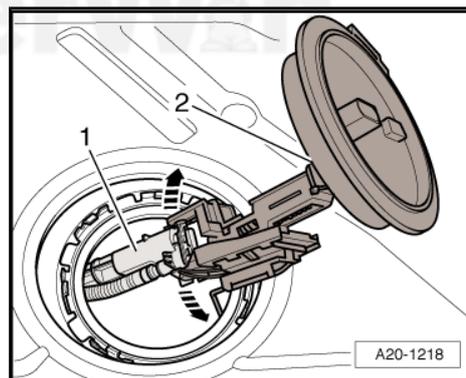
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- Carefully pull the fuel level sensor 2 -G169- -2- and suction jet pump -1- partially out of the fuel tank opening.
- Remove seal.
- Unclip the suction jet pump from the locking flange -arrows-.

**Note**

When removing, be sure not to bend floater arm of fuel level sensor 2.

- Reach into the fuel tank opening on left side of the vehicle and pull the suction jet pump with lines out toward the left.

**Installing**

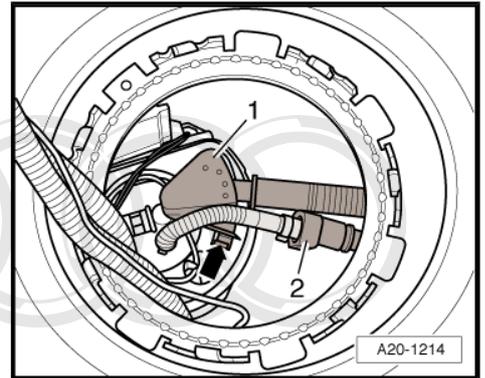
- Tightening specification, refer to [⇒ "2.7.2 Fuel Delivery Unit and Fuel Level Sensor G Overview", page 19](#) .

Install in reverse order, paying attention to the following:

**Note**

- ◆ Replace seals.
- ◆ When inserting, be sure not to bend floater arm on fuel level sensor 2.
- Push suction jet pump with lines at left side of vehicle into fuel tank opening.

- Reach into the fuel tank opening on the right side of the vehicle and pull the suction jet pump with lines into installed position.
- Push the fuel delivery line -1- on until it engages audibly.
- Push the suction jet pipe -2- onto the suction jet pump until it engages audibly.



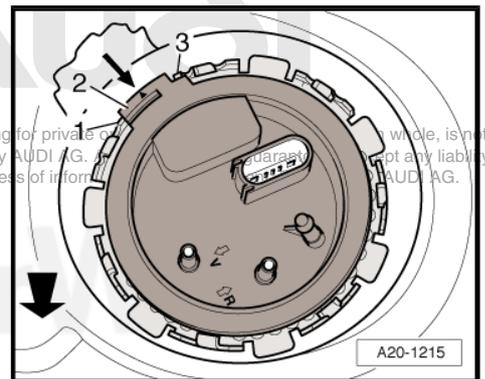
- Install the new locking flange seal dry.
- Insert guide of locking flange into guide at fuel delivery unit, observing spring while doing so.

**Caution**

**Risk of leaking.**

◆ **When inserting sealing flange, sealing ring must not be damaged or crushed.**

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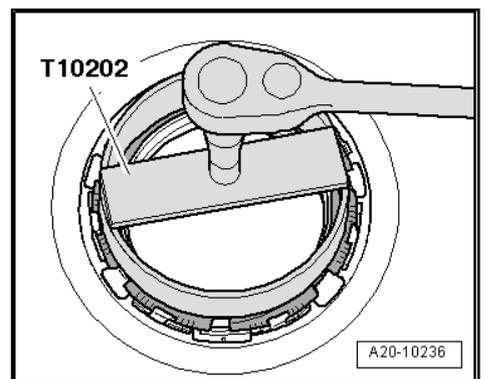


- Press locking flange down against spring pressure and bring it into installation position.
- The tab -2- on locking flange faces toward the arrow marking and must lie between tabs -1 and 3- on the fuel tank.

**Note**

-Arrow- points in direction of travel.

- Tighten locking ring.
- Carefully insert fuel level sensor 2 in fuel tank opening.



- Clip the suction jet pump -1- to the locking flange -2- so that it is audibly engaged.
- Install the new locking flange seal dry.

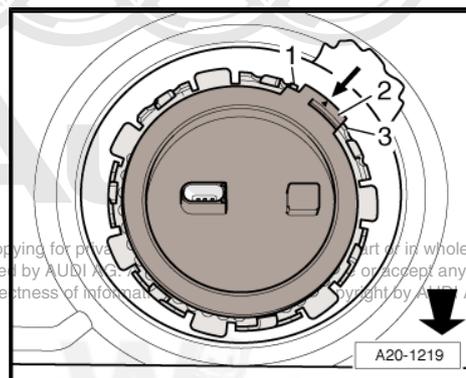
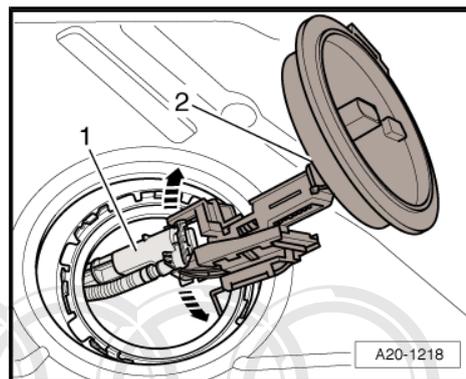
**Caution****Risk of leaking.**

- ◆ **When inserting sealing flange, sealing ring must not be damaged or crushed.**

- Press locking flange down against spring pressure and bring it into installation position.
- The tab -2- on locking flange faces toward the arrow marking and must lie between tabs -1 and 3- on fuel tank.

**Note**

-Arrow- points in direction of travel.



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- Tighten locking ring.

**TT Coupe:**

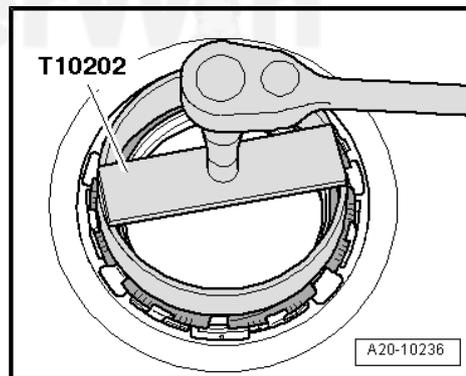
- Install rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .
- Observe safety precautions after connecting battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .

**TT Roadster:**

- Installing fuel tank vehicles with all wheel drive ⇒ [page 57](#) .

**All Vehicles:**

- After installing suction jet pump, fill vehicle with at least 5 liters of fuel.



## 5.7 Front Wheel Drive

⇒ ["5.7.1 Fuel Tank with Attachments"](#), page 74

TFSI Engines ⇒ ["5.7.2 Fuel Pump Control Module"](#), page 79

⇒ ["5.7.3 Fuel Delivery Unit"](#), page 80

⇒ ["5.7.4 Fuel Level Sensor G "](#), page 83

### 5.7.1 Fuel Tank with Attachments

**Special tools and workshop equipment required**

- ◆ Engine/Transmission Jack -V.A.G 1383 A-
- ◆ Hooks -3004-

## Removing

Follow all safety precautions. Refer to  
 ⇒ ["1.4 Safety Precautions", page 3](#) .

Follow the guidelines for cleanliness. Refer to  
 ⇒ ["1.1 Clean Working Conditions", page 1](#) .

- Open the fuel filler door.

 **Caution**

*Risk of destroying electronic components when disconnecting the battery.*

◆ *Observe measures for disconnecting battery.*

- Disconnect the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .

 **WARNING**

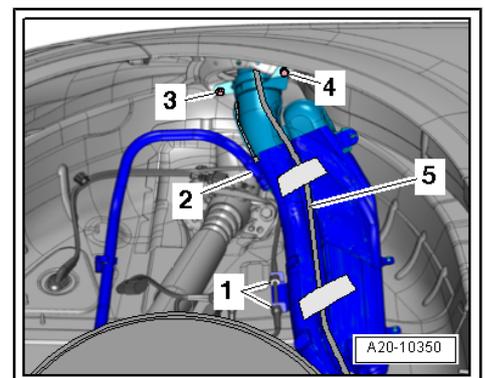
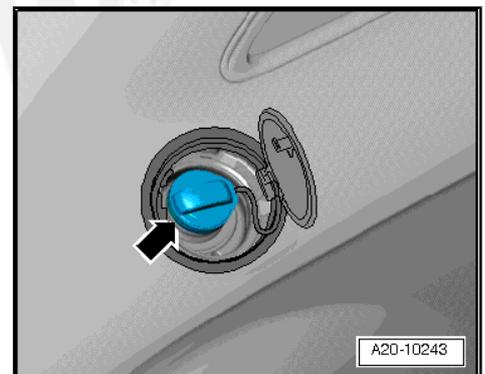
*Risk of accident due to fuel tank weight.*

◆ *The fuel tank must be empty when removing it.*

- Drain the fuel tank. Refer to  
 ⇒ ["1.7.1 Fuel Tank, Draining", page 8](#) .
- Clean the area around the fuel filler tube.
- Remove fuel filler cap -arrow- from fuel filler tube.
- Close off the opening of the fuel filler tube with a clean piece of foam to prevent dirt from falling in.
- Remove the right rear wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Removal and Installation .

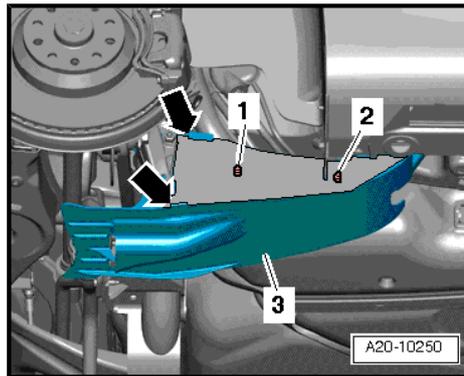
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- Remove the bolts -3 and 4- from the fuel filler tube.
- Remove the ventilation line -2- from the EVAP canister.
- Remove the electrical wiring -1- for the ABS speed sensor from the fuel filler tube bracket.
- Free up the overflow hose -5- on the fuel filler tube.



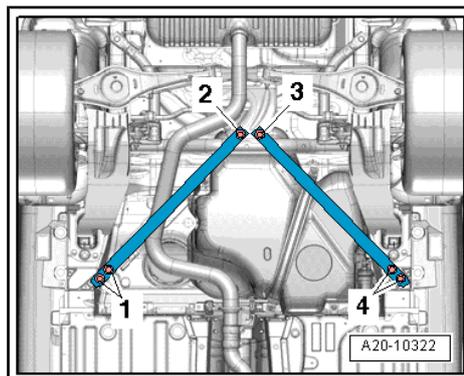
- Remove spreader pins -1 and 2-
- Disengage stone impact protection -3- on the right of longitudinal member -arrows- remove it.

**TT Roadster:**

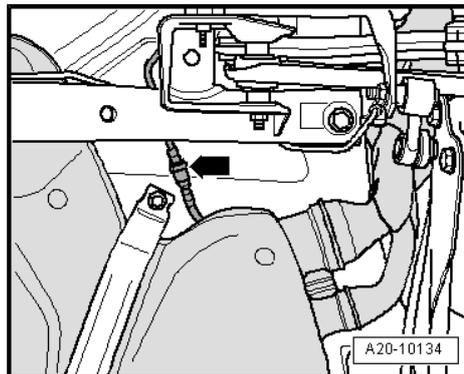


- Remove bolts -1 through 4- and remove pendulum support.

**All Vehicles:**



- Disconnect the vent line -arrow- to EVAP canister by pressing release button.

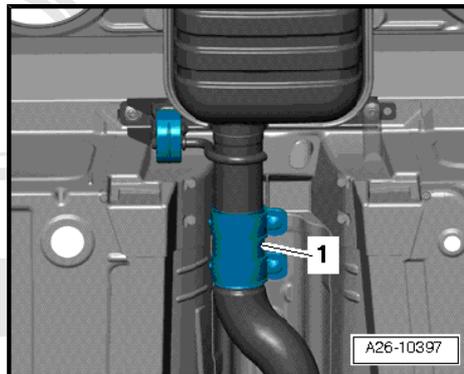


**Caution**

*The decoupling elements in the front exhaust pipe could get damaged.*

- ◆ *Flex joints in front exhaust pipe must not be bent more than 10°.*
- ◆ *Secure front part of exhaust system on underbody with a chain before loosening clamping sleeve bolts.*

- Separate exhaust system at clamping sleeve -1-.



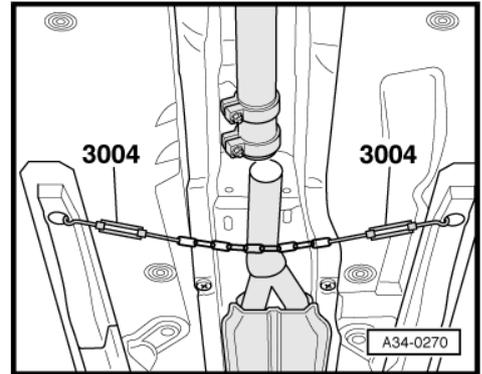
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- Tie up front part of exhaust system with a chain. To do this, engage -3004- in openings on underbody (remove plugs if necessary).
- Push the clamping sleeve rearward to separate the exhaust system.

**i Note**

*A second technician is needed to help remove the rear section of the exhaust system.*

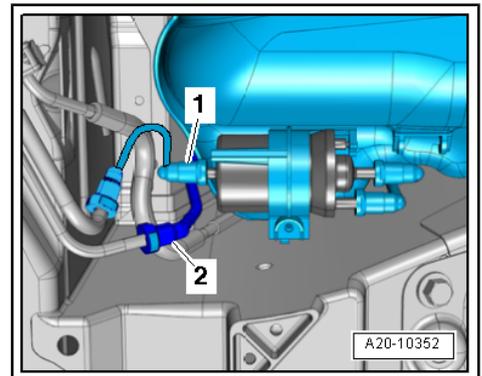
- Unhook rear muffler from retaining loops and remove rear portion of exhaust system.
- Disconnect the right front vent line -2- on fuel tank by pressing release button.



**! WARNING**

*There is a risk of injury because the fuel is under high pressure.*

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

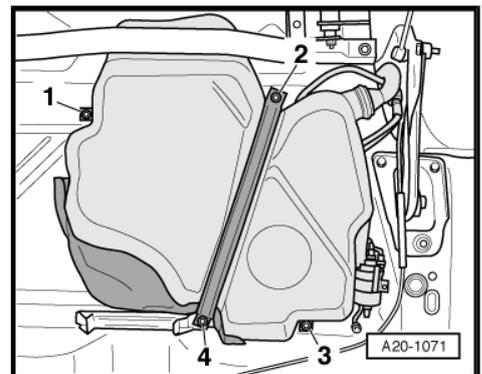


- Disconnect right front fuel line -1- on fuel tank by pressing release buttons.

**! WARNING**

*Risk of accident due to fuel tank weight.*

◆ *The fuel tank must be empty when removing it.*

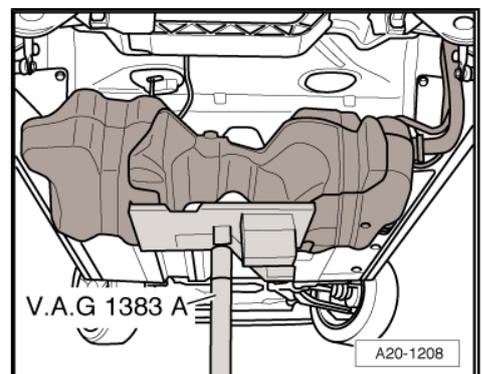


- First remove the bolts -1 and 3-.
- Place the -V.A.G 1383 A- under the fuel tank for support.
- Remove the bolts -2 and 4-.

**! Caution**

*Danger of twisting the electric wires too much.*

◆ *Do not pull on the electric wires when lowering the fuel tank.*



- Lower the fuel tank with the -V.A.G 1383 A- until the connector on the locking flange is accessible.

 **Note**

*The illustration shows the connectors installed on the locking flange.*

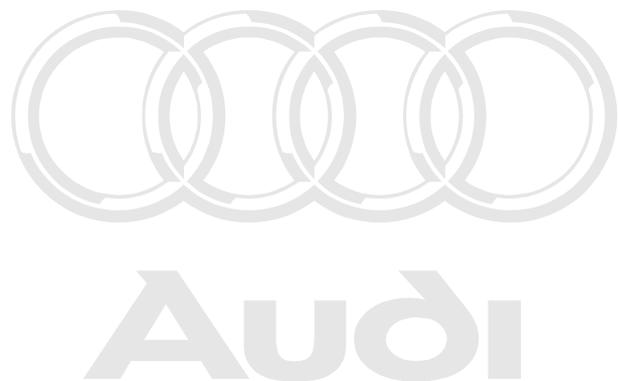
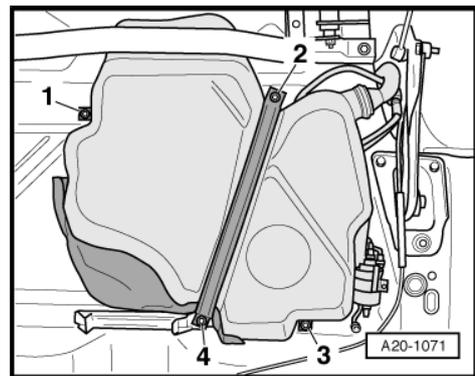
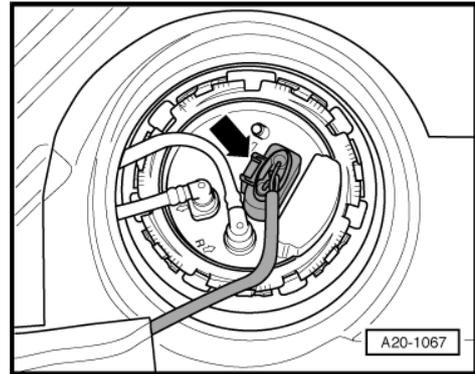
- Disconnect the connector -arrow- from the locking flange.
- By turning it accordingly, lower the fuel tank sideways and remove it.

**Installing**

- For the correct tightening specifications, refer to [⇒ "2.8.1 Fuel Tank with Attachments Overview", page 21](#) .

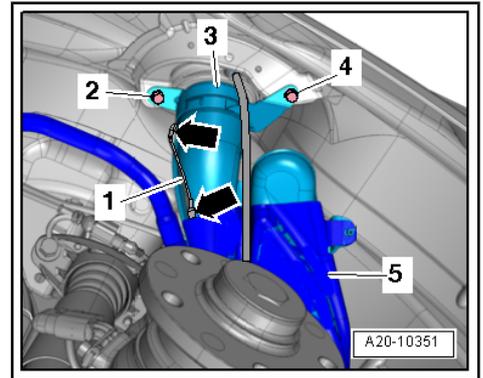
Install in reverse order, paying attention to the following:

- Position the fuel tank with mounting strap to underbody using the -V.A.G 1383 A- .
- Make sure the fuel tank is positioned so that the filler tube can be correctly guided into the opening of the body.
- Fasten the fuel tank to the fastening points -2 and 4- first, and then to -1 and 3-.



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- Ensure filler tube threaded connections -2 and 4- are free of corrosion so the Ground (GND) connection to the body is not affected.
- Tighten fuel filler tube bolts -4 and 5-.
- Check if the GND wiring on both connections show signs of oxidation, remove if necessary.
- Route GND connection -1- as shown in illustration.
- Ensure GND connection connector -arrows- is seated firmly on protective plate -5- and on filler tube -3-.



**WARNING**

*Risk of explosion due to electrostatic charge.*

- ◆ *After installing, check electrical connection on fuel filler neck metal ring to an empty spot on the body using an Ohm meter.*
- *Specified value: Approximately 0 Ω.*

- Attach the electrical wiring for the ABS speed sensor to the fuel filler tube bracket.
- Install ventilation line to EVAP canister on filler tube.
- Install the rear section of the exhaust system. Refer to ⇒ Engine Mechanical; Rep. Gr. 26 ; Removal and Installation .
- Install rear right wheel housing liner. Refer to ⇒ Body Exterior; Rep. Gr. 66 ; Removal and Installation .

**TT Roadster:**

- Install diagonal braces ⇒ Suspension, Wheels, Steering; Rep. Gr. 42 ; Removal and Installation .

**All vehicles:**

- Connect the battery. Observe safety precautions after connecting battery. Refer to⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .

## 5.7.2 Fuel Pump Control Module

**Removing**

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**TT Coupe:**

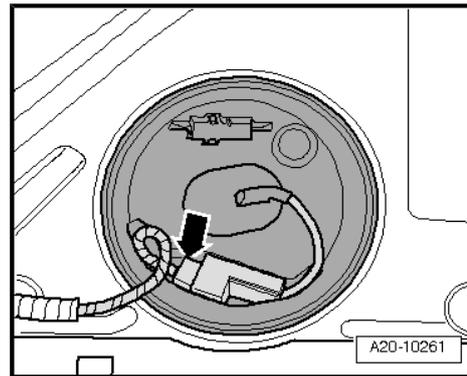
- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

**TT Roadster:**

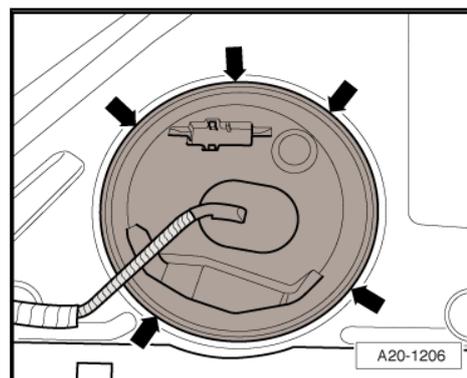
- Remove the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .

**All Vehicles:**

- Remove Fuel Pump (FP) control module -J538- from locking flange cover and disconnect electrical connector -arrow-.



- Unclip catches -arrows- of right connector flange cover.



- Disconnect the connector -arrow- from the locking flange.

**Installing**

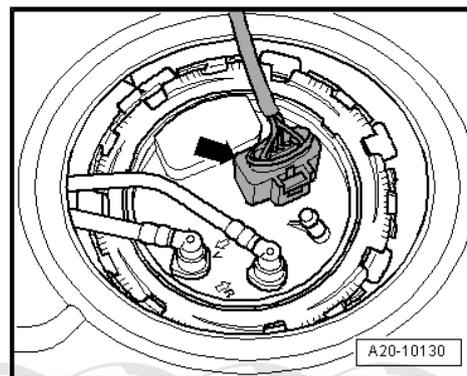
Install in reverse order, paying attention to the following:

**TT Coupe:**

- Install rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .

**TT Roadster:**

- Install the right side rear panel trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Removal and Installation .



**5.7.3 Fuel Delivery Unit**

**Special tools and workshop equipment required**

- ◆ Wrench -T10202-

**Removing**

Follow all safety precautions. Refer to ⇒ ["1.4 Safety Precautions"](#), page 3 .

Follow the guidelines for cleanliness. Refer to ⇒ ["1.1 Clean Working Conditions"](#), page 1 .

**TT Roadster:**

	<p><b>Caution</b></p> <ul style="list-style-type: none"> <li>• <i>It is necessary to remove the fuel tank first in order to be able to remove the fuel delivery unit on the Audi TT Roadster.</i></li> </ul>
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- Removing fuel tank, refer to ⇒ ["5.7.1 Fuel Tank with Attachments"](#), page 74 .

TT Coupe:

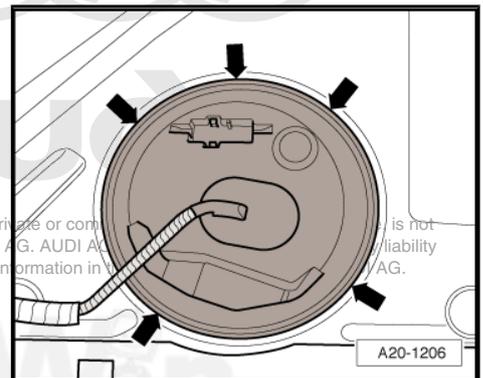
 **Caution**  
*Risk of destroying electronic components when disconnecting the battery.*  
 ♦ *Observe measures for disconnecting battery.*

- Disconnect the battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .

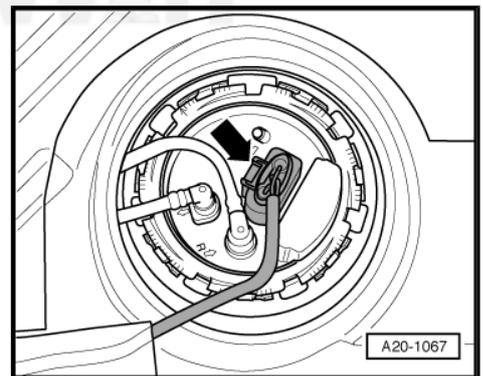
 **WARNING**  
*Danger due to escaping fuel.*  
 ♦ *To prevent large quantities of fuel from coming out of fuel delivery unit when removing, fuel tank may only be a maximum of <sup>3</sup>/<sub>4</sub> full.*

- Empty fuel tank if necessary. Refer to ⇒ ["1.7.1 Fuel Tank, Draining", page 8](#) .
- Remove rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .
- Unclip the retainers -arrows- of the cover for sealing flange.

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- Disconnect the connector -arrow- from the locking flange.

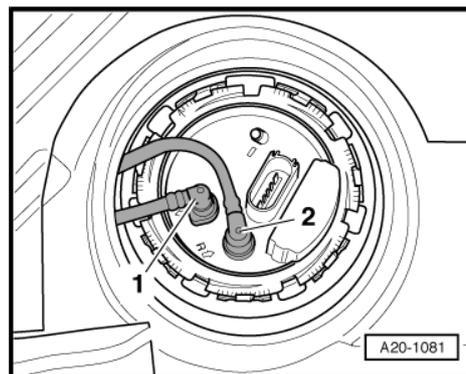


- Mark the fuel supply line -1- and fuel return line -2-.

**WARNING**

*There is a risk of injury because the fuel is under high pressure.*

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



- Pull both lines from locking flange, by pressing the release buttons.

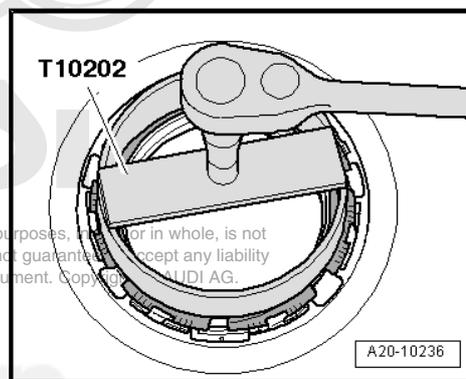
**TT Roadster:**

- Mark the fuel supply -1- and the fuel return -2- lines on the removed fuel tank.
- Pull both lines from locking flange, by pressing the release buttons.

**TT Coupe:****WARNING**

*Danger due to escaping fuel.*

- ◆ *To prevent large quantities of fuel from coming out of fuel delivery unit when removing, fuel tank may only be a maximum of  $\frac{3}{4}$  full.*

**All vehicles:**

- Remove locking ring with -T10202- .
- Remove the fuel delivery unit and seal trough the opening in the fuel tank.

**Note**

- ◆ *When removing fuel delivery unit, be sure not to bend floater arm on the fuel level sensor -G- .*
- ◆ *Be sure there is still some fuel inside the fuel delivery unit.*

**Installing**

- Tightening specification, refer to [⇒ "2.8.2 Fuel Delivery Unit and Fuel Level Sensor G Overview", page 23](#) .

Install in reverse order, paying attention to the following:

**Note**

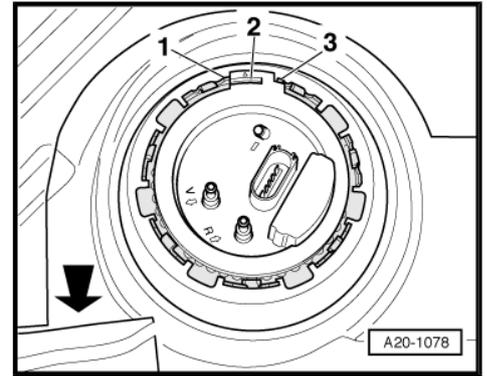
- ◆ *Replace seal.*
- ◆ *When inserting fuel delivery unit, be sure not to bend floater arm on the fuel level sensor -G- .*
- Install the fuel delivery unit into the fuel tank.

- Install the new locking flange seal dry.

**Caution**

**Risk of leaking.**

- ◆ **When inserting sealing flange, sealing ring must not be damaged or crushed.**



- Press locking flange down against spring pressure and bring it into installation position.
- The tab -2- on locking flange must lie between tabs -1 and 3- on fuel tank.

**Note**

-Arrow- points in direction of travel.

- Tighten locking ring.

**TT Coupe:**

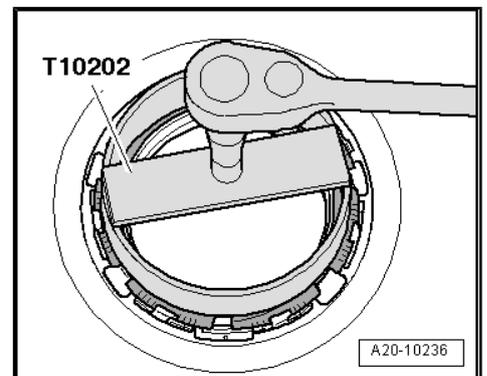
- Install rear seat bench. Refer to ⇒ Body Interior; Rep. Gr. 72 ; Removal and Installation .
- Connect the battery. Observe safety precautions after connecting battery. Refer to ⇒ Electrical Equipment; Rep. Gr. 27 ; Removal and Installation .

**TT Roadster:**

- Installing fuel tank. Refer to ⇒ [page 78](#) .

**All Vehicles:**

- After installing fuel delivery unit, fill vehicle with at least 5 liters of fuel.
- On vehicles with TFSI engine, with toothed belt drive, a fuel pump adaptation must be performed after replacing the fuel delivery unit. Refer to ⇒ [“4.3.4 Toothed Belt Drive, Performing a Fuel Pump Adaptation after Replacing Fuel Delivery Unit”](#), [page 45](#) .



## 5.7.4 Fuel Level Sensor -G-

### Removing

Follow all safety precautions. Refer to ⇒ [“1.4 Safety Precautions”](#), [page 3](#) .

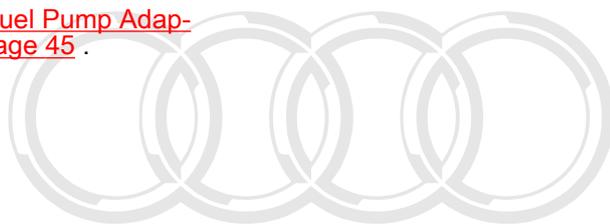
Follow the guidelines for cleanliness. Refer to ⇒ [“1.1 Clean Working Conditions”](#), [page 1](#) .

**TT Roadster:**

**Caution**

- **It is necessary to remove the fuel tank in order to remove the fuel level sensor -G- on the Audi TT Roadster.**

- Removing the fuel tank, refer to ⇒ [“5.7.1 Fuel Tank with Attachments”](#), [page 74](#) .



Audi



**All Vehicles:**

- Install the fuel delivery unit. Refer to ["5.7.3 Fuel Delivery Unit", page 80](#).

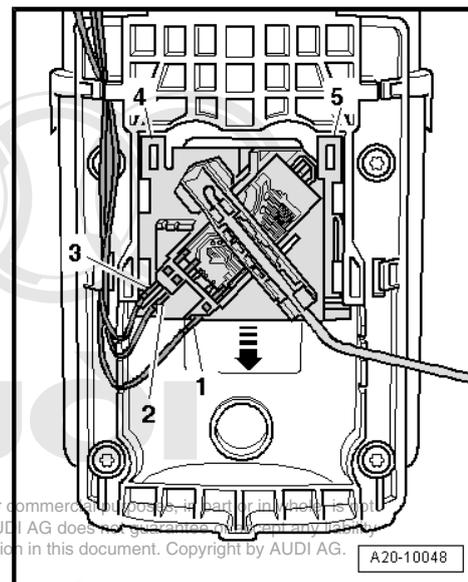
**Version 1:**

 **Caution**

*Risk of damage.*

◆ *Before disconnecting electrical connectors on the fuel level sensor, first release the connector contact retaining tab.*

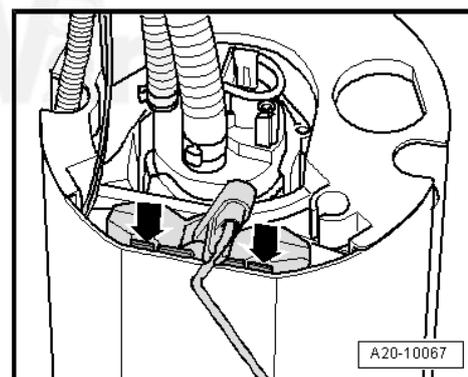
- Disconnect the connectors -1 through 3-.
- Pry on the retaining tabs -4 and 5- with a screwdriver and pull the fuel level sensor off downward -arrow-.



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**Version 2:**

- Release the retaining tabs -arrows- with a screwdriver and pull the fuel level sensor upward and out.



 **Caution**

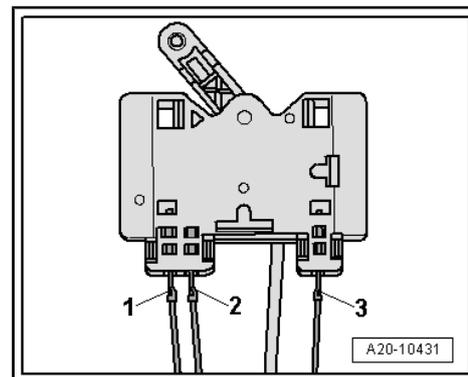
*Risk of damage.*

◆ *Before disconnecting electrical connectors on fuel level sensor, first release connector contact retaining tab.*

- Disconnect the connectors -1 through 3-.

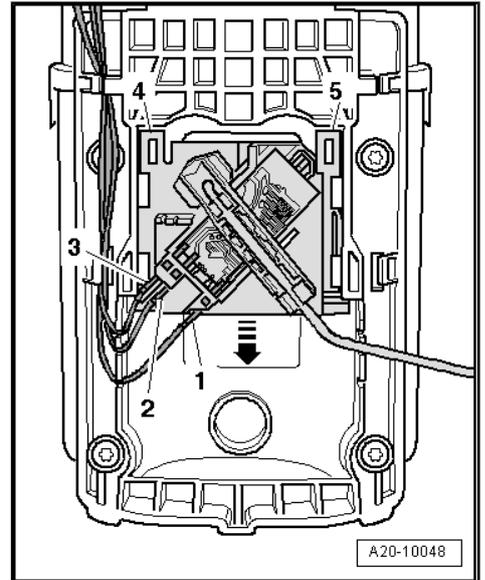
**Installing**

Install in reverse order, paying attention to the following:



**Version 1:**

- Insert the fuel level sensor in the guides on the fuel delivery unit and push upward until it engages.
- Connect the electrical connections -1 through 3- and make sure they are securely engaged.

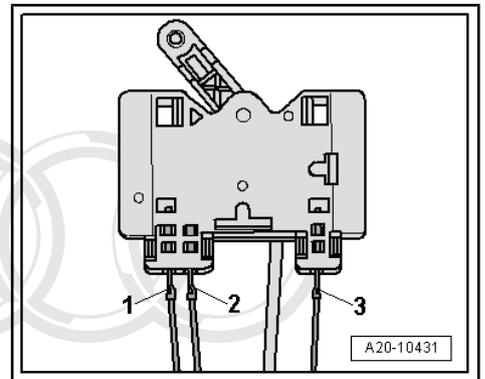


**Version 2:**

- Connect the electrical connections -1 through 3- and make sure they are securely engaged.
- Insert the fuel level sensor -G- in the guides on the fuel delivery unit and push upward until it engages.

**Continuation for All Versions:**

- Install fuel delivery unit. => [page 82](#) , observing notes for connecting battery.

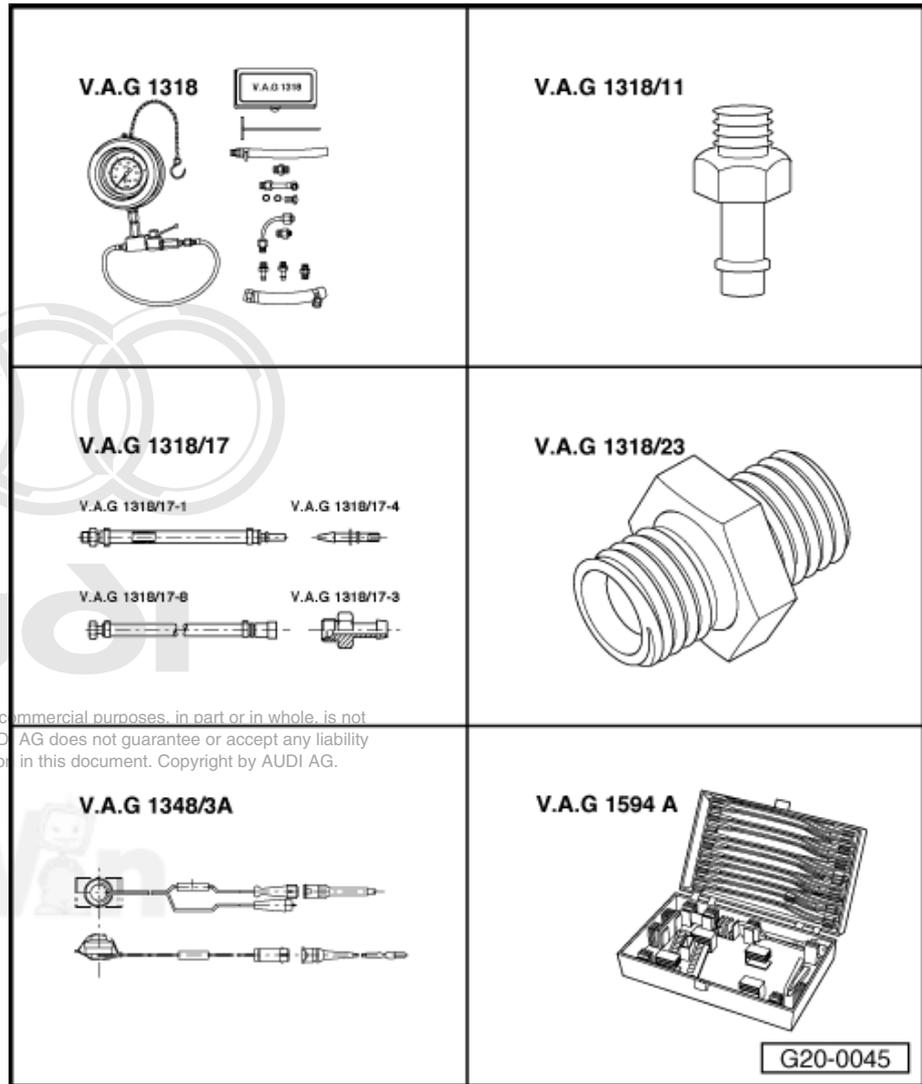


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## 6 Special Tools

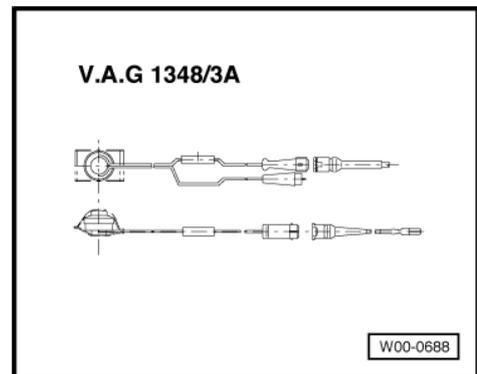
### Special tools and workshop equipment required

- ◆ Fuel Inj. Pressure Gauge-CIS -V.A.G 1318-
- ◆ Adapter -V.A.G 1318/11-
- ◆ Adapter -V.A.G 1318/17-1A-
- ◆ Fuel Line Feed Adapter - V.A.G 1318/23-
- ◆ Remote Control -V.A.G 1348/3A- with Remote Control -V.A.G 1348/3-3-
- ◆ Connector Test Set -V.A.G 1594C-

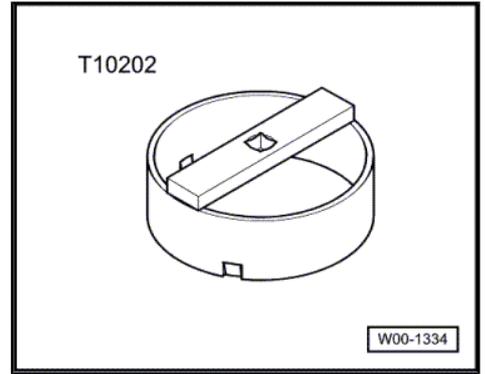


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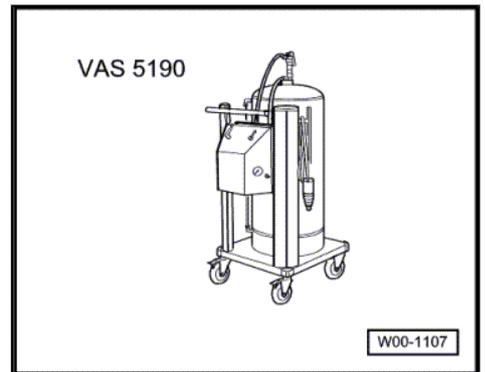
- ◆ Remote Control -V.A.G 1348/3A- with Remote Control -V.A.G 1348/3-3-



◆ Wrench -T10202-



◆ Fuel Extracting Device -VAS 5190-  
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◆ Multimeter -V.A.G 1526D-

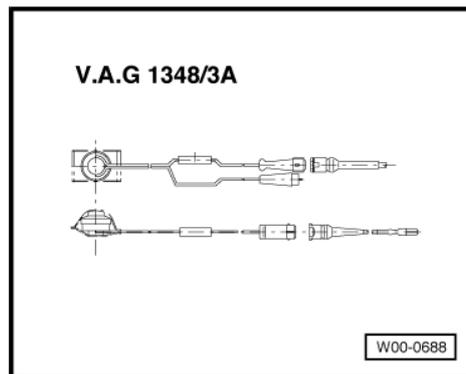


◆ Connector Test Set -V.A.G 1594C-

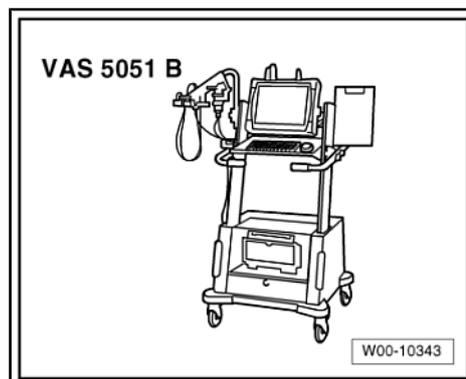




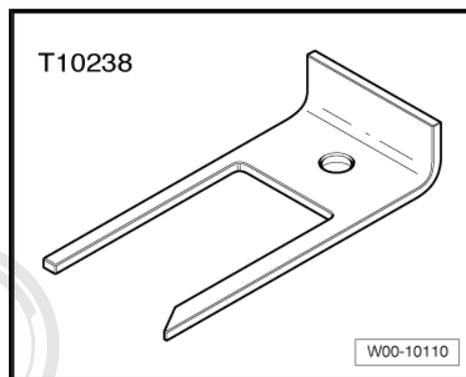
- ◆ Remote Control -V.A.G 1348/3A- with Adapter Cable - V.A.G 1348/3-2-



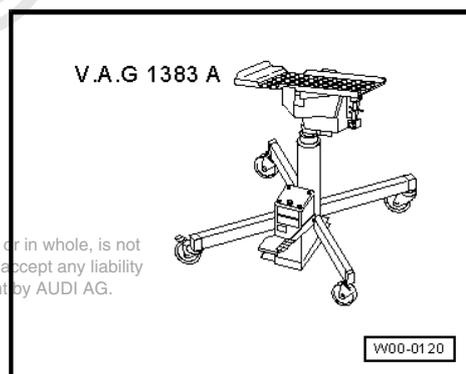
- ◆ Vehicle Diagnostic, Testing, and Information System -VAS 5051B-



- ◆ Release Tool -T10238-

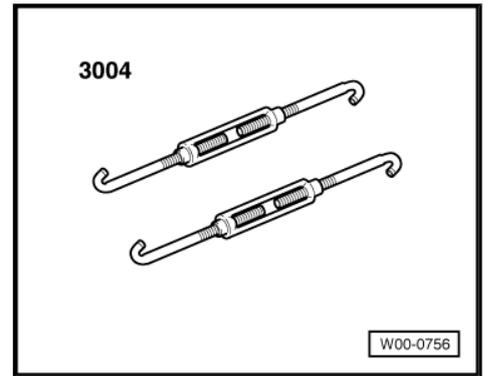


- ◆ Engine/Transmission Jack -V.A.G 1383 A-

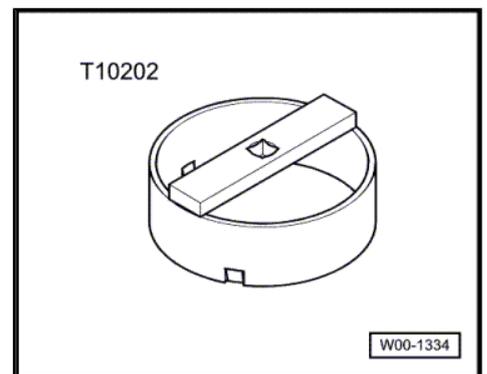


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◆ Hooks -3004-



◆ Wrench -T10202-



◆ Not illustrated:

◆ Hose Clamps Up to 25 mm Dia. -3094-

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# Cautions & Warnings

**Please read these WARNINGS and CAUTIONS before proceeding with maintenance and repair work. You must answer that you have read and you understand these WARNINGS and CAUTIONS before you will be allowed to view this information.**

- If you lack the skills, tools and equipment, or a suitable workshop for any procedure described in this manual, we suggest you leave such repairs to an authorized Audi retailer or other qualified shop. We especially urge you to consult an authorized Audi retailer before beginning repairs on any vehicle that may still be covered wholly or in part by any of the extensive warranties issued by Audi.
- Disconnect the battery negative terminal (ground strap) whenever you work on the fuel system or the electrical system. Do not smoke or work near heaters or other fire hazards. Keep an approved fire extinguisher handy.
- Audi is constantly improving its vehicles and sometimes these changes, both in parts and specifications, are made applicable to earlier models. Therefore, part numbers listed in this manual are for reference only. Always check with your authorized Audi retailer parts department for the latest information.
- Any time the battery has been disconnected on an automatic transmission vehicle, it will be necessary to reestablish Transmission Control Module (TCM) basic settings using the VAG 1551 Scan Tool (ST).
- Never work under a lifted vehicle unless it is solidly supported on stands designed for the purpose. Do not support a vehicle on cinder blocks, hollow tiles or other props that may crumble under continuous load. Never work under a vehicle that is supported solely by a jack. Never work under the vehicle while the engine is running.
- For vehicles equipped with an anti-theft radio, be sure of the correct radio activation code before disconnecting the battery or removing the radio. If the wrong code is entered when the power is restored, the radio may lock up and become inoperable, even if the correct code is used in a later attempt.
- If you are going to work under a vehicle on the ground, make sure that the ground is level. Block the wheels to keep the vehicle from rolling. Disconnect the battery negative terminal (ground strap) to prevent others from starting the vehicle while you are under it.
- Do not attempt to work on your vehicle if you do not feel well. You increase the danger of injury to yourself and others if you are tired, upset or have taken medicine or any other substances that may impair you or keep you from being fully alert.
- Never run the engine unless the work area is well ventilated. Carbon monoxide (CO) kills.  
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- Always observe good workshop practices. Wear goggles when you operate machine tools or work with acid. Wear goggles, gloves and other protective clothing whenever the job requires working with harmful substances.
- Tie long hair behind your head. Do not wear a necktie, a scarf, loose clothing, or a necklace when you work near machine tools or running engines. If your hair, clothing, or jewelry were to get caught in the machinery, severe injury could result.

# Cautions & Warnings

- Do not re-use any fasteners that are worn or deformed in normal use. Some fasteners are designed to be used only once and are unreliable and may fail if used a second time. This includes, but is not limited to, nuts, bolts, washers, circlips and cotter pins. Always follow the recommendations in this manual - replace these fasteners with new parts where indicated, and any other time it is deemed necessary by inspection.
- Illuminate the work area adequately but safely. Use a portable safety light for working inside or under the vehicle. Make sure the bulb is enclosed by a wire cage. The hot filament of an accidentally broken bulb can ignite spilled fuel or oil.
- Friction materials such as brake pads and clutch discs may contain asbestos fibers. Do not create dust by grinding, sanding, or by cleaning with compressed air. Avoid breathing asbestos fibers and asbestos dust. Breathing asbestos can cause serious diseases such as asbestosis or cancer, and may result in death.
- Finger rings should be removed so that they cannot cause electrical shorts, get caught in running machinery, or be crushed by heavy parts.
- Before starting a job, make certain that you have all the necessary tools and parts on hand. Read all the instructions thoroughly, do not attempt shortcuts. Use tools that are appropriate to the work and use only replacement parts meeting Audi specifications. Makeshift tools, parts and procedures will not make good repairs.
- Catch draining fuel, oil or brake fluid in suitable containers. Do not use empty food or beverage containers that might mislead someone into drinking from them. Store flammable fluids away from fire hazards. Wipe up spills at once, but do not store the oily rags, which can ignite and burn spontaneously.
- Use pneumatic and electric tools only to loosen threaded parts and fasteners. Never use these tools to tighten fasteners, especially on light alloy parts. Always use a torque wrench to tighten fasteners to the tightening torque listed.
- Keep sparks, lighted matches, and open flame away from the top of the battery. If escaping hydrogen gas is ignited, it will ignite gas trapped in the cells and cause the battery to explode.
- Be mindful of the environment and ecology. Before you drain the crankcase, find out the proper way to dispose of the oil. Do not pour oil onto the ground, down a drain, or into a stream, pond, or lake. Consult local ordinances that govern the disposal of wastes.
- The air-conditioning (A/C) system is filled with a chemical refrigerant that is hazardous. The A/C system should be serviced only by trained automotive service technicians using approved refrigerant recovery/recycling equipment, trained in related safety precautions, and familiar with regulations governing the discharging and disposal of automotive chemical refrigerants.
- Before doing any electrical welding on vehicles equipped with anti-lock brakes (ABS), disconnect the battery negative terminal (ground strap) and the ABS control module connector.
- Do not expose any part of the A/C system to high temperatures such as open flame. Excessive heat will increase system pressure and may cause the system to burst.

# Cautions & Warnings

- When boost-charging the battery, first remove the fuses for the Engine Control Module (ECM), the Transmission Control Module (TCM), the ABS control module, and the trip computer. In cases where one or more of these components is not separately fused, disconnect the control module connector(s).
- Some of the vehicles covered by this manual are equipped with a supplemental restraint system (SRS), that automatically deploys an airbag in the event of a frontal impact. The airbag is operated by an explosive device. Handled improperly or without adequate safeguards, it can be accidentally activated and cause serious personal injury. To guard against personal injury or airbag system failure, only trained Audi Service technicians should test, disassemble or service the airbag system.
- Do not quick-charge the battery (for boost starting) for longer than one minute, and do not exceed 16.5 volts at the battery with the boosting cables attached. Wait at least one minute before boosting the battery a second time.
- Never use a test light to conduct electrical tests of the airbag system. The system must only be tested by trained Audi Service technicians using the VAG 1551 Scan Tool (ST) or an approved equivalent. The airbag unit must never be electrically tested while it is not installed in the vehicle.
- Some aerosol tire inflators are highly flammable. Be extremely cautious when repairing a tire that may have been inflated using an aerosol tire inflator. Keep sparks, open flame or other sources of ignition away from the tire repair area. Inflate and deflate the tire at least four times before breaking the bead from the rim. Completely remove the tire from the rim before attempting any repair.
- When driving or riding in an airbag-equipped vehicle, never hold test equipment in your hands or lap while the vehicle is in motion. Objects between you and the airbag can increase the risk of injury in an accident.

**I have read and I understand these Cautions and Warnings.**

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