Workshop Manual Audi TT 2007 ➤

Fuel supply system, petrol engines									
Engine ID		BWA		CBR A	_		CDM A	CCT A	CCZ A
	CDA A	CEP A	CES A	CET A					

Edition 11.2010



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

Repair Group

00 - Technical data

20 - Fuel supply system



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

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Technical data 00 –

Safety precautions 1

1.1 Working on the fuel system

When working on the fuel system note the following warnings:



WARNING

The fuel system of vehicles with FSI engine operates at very high pressure. This can cause injury.

- The fuel pressure in the high-pressure section of the injection system must be reduced to a residual pressure prior to opening the system.
- Wrap a clean clothe around the connection and carefully not guarantee or accept any liability the connection to allow the residual pressure to current. Copyright by AUDI AG. dissipate.

Procedure before opening high-pressure section of injection system ⇒ Rep. gr. 24.

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



WARNING

Mobile phones can cause an explosion risk.

♦ Ensure that any mobile phones are well clear of the work-



Caution

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

- Observe notes on procedure for disconnecting the battery.
- Always switch off the ignition before disconnecting the battery.
- Disconnect battery ⇒ Rep. gr. 27.
- Briefly open filler cap for fuel tank and close again.

1.2 Working on vehicles with start/stop system

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



WARNING

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

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

1.3 Using testers and measuring instruments during a road test

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



WARNING

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

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

- The use of test equipment while driving causes distraction.
- There is an increased risk of injury if test equipment is not secured.

TT Coupé:

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Test equipment must always be secured on the rear seat with a strap and operated from the rear seat by a second person.

TT Roadster:

- ♦ Move the passenger's seat back as far as it will go.
- ◆ Use only vehicle diagnosis and service information system -VAS 5052 A- or diagnosis system -VAS 5053-.
- The test equipment -1- must rest flat on the passenger's thighs (as shown in illustration) and must be operated by the passenger.

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1.4 Removing and installing components from a full or partly full fuel tank

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

◆ Fuel tank must not be full. The amount of fuel which can be left in the fuel tank is indicated in the corresponding procedure description. Drain the tank if necessary. Procedure on vehicles with front-wheel drive ⇒ page 7, on vehicles with fourwheel drive ⇒ page 40.

- Before commencing work, switch on exhaust extraction system and place an extraction hose close to the sender opening in the fuel tank to extract escaping petrol fumes. If no exhaust extraction system is available, a radial fan with a displacement of at least 15 m³/h can be used (the fan motor must be clear of the air stream).
- ◆ Avoid skin contact with fuel. Wear fuel-resistant gloves.

When removing and installing the fuel tank, note the following:

◆ Fuel tank must be empty to reduce weight. Drain the tank if necessary. Procedure for vehicles in rest-of-world (front-wheel drive) \Rightarrow page 7, vehicles in rest-of-world (four-wheel drive) \Rightarrow page 40, USA vehicles (front-wheel drive) \Rightarrow page 15, Protected USA/vehicles (four wheel drive) puppage 49 or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability

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2 General repair instructions

2.1 Rules for cleanliness

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

- Carefully clean connection points and the surrounding area with engine cleaner or brake cleaner and dry thoroughly before opening.
- Seal off open pipes/lines and connections immediately with clean plugs, e.g. from engine bung set -VAS 6122-.
- Place parts that have been removed on a clean surface and cover them over. Do not use fluffy cloths.
- Carefully cover or seal open components if repairs cannot be carried out immediately.
- Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not
 Only install clean components; replacement parts should only authorised by AUDI AG. AUDI AG does not guarantee or accept any liability be unpacked immediately prior to installation. Do not use parts that correctness of information in this document. Copyright by AUDI AG. that have been previously unpacked and stored away loose (e.g. in toolboxes, etc.).
- When the system is open: Do not work with compressed air.
 Do not move the vehicle unless absolutely necessary.
- Protect unplugged electrical connectors against dirt and moisture and make sure connections are dry when attaching.

2.2 Contact corrosion!

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

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

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

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

Note the following:

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

2.3 Test conditions

- Battery voltage at least 12.5 V.
- Fuel pump fuse OK ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Fuel pump control unit -J538- OK; checking via "Guided Fault Finding" ⇒ Vehicle diagnostic, testing and information system VAS 5051.
- Fuel pump relay -J17- OK ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Fuel tank at least ¹/₄ full.



- Fuel filter OK.
- Fuel lines OK (not obstructed or crushed).
- Ignition off.



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20 - Fuel supply system

1 Fuel tank with attached components

 rest-of-world vehicles with frontwheel drive

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permitted unless authorised by AUDI AG, AUDI AG does not guarantee or accept any liability 1.1 Fuel tank with attached components exploded viewent. Copyright by AUDI AG.

1 - Nut

□ 20 Nm

2 - Securing strap

 Installation position: Fixing point (hole) points in direction of travel

3 - Heat shield for fuel tank

4 - Nut

□ 20 Nm

5 - Fuel line

- □ To engine
- Press release tab on pipe connector to disconnect

6 - Breather line

- ☐ From fuel filler neck to activated charcoal filter
- ☐ Clip onto fuel tank

7 - Electrical connector

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

8 - Protective plate

☐ For fuel filler neck

9 - Bolt

☐ 11 Nm

10 - Filler cap

□ Secured to tank flap unit

11 - Earth connection

- ☐ To eliminate electrostatic charge
- □ Installation position ⇒ page 7
- ☐ Ensure that connector is seated properly
- After installation, use an ohmmeter to check the electrical connection between the protective plate -item 7- on the fuel filler neck and a bare metal part on the body. Specification: approx. 0 Ω

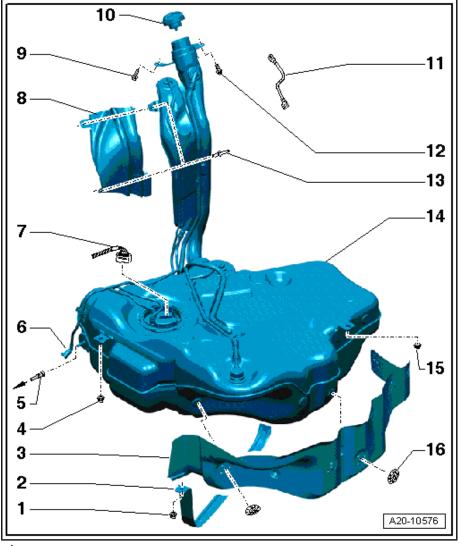
12 - Bolt

□ 11 Nm

13 - Pop rivet

14 - Fuel tank

□ Removing and installing ⇒ page 8



15 - Nut

□ 20 Nm

16 - Locking washer

- □ Removing: turn anti-clockwise
- □ 3 Nm

Earth connection for fuel filler neck and protective plate

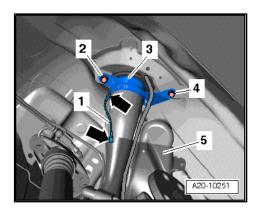
- The connections -2- and -4- on filler neck must be free from corrosion to ensure earth connection to body is not impaired.
- Position the earth connection as illustrated -1-.
- Ensure that connectors -arrows- for earth connection are properly seated on protective plate -5- and on fuel filler neck -3-.



WARNING

Risk of explosion caused by electrostatic discharge.

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



1.2 Draining fuel tank

Special tools and workshop equipment required

◆ Fuel extractor -VAS 5190-

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Procedure

Observe safety precautions <u>⇒ page 4</u>.

Observe rules for cleanliness ⇒ page 4.

Release the tank flap.



Caution

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

Observe notes on procedure for disconnecting the battery.

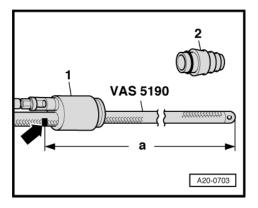
Disconnect battery ⇒ Rep. gr. 27.

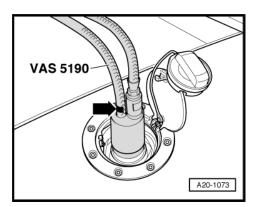


WARNING

Risk of explosion caused by electrostatic discharge.

- Secure earth wire of fuel extractor -VAS 5190- to a bare metal part on the body.
- Detach tapered adapter -2- from shaft end -1- of fuel extractor -VAS 5190- .
- Use insulating tape to mark the extraction hose -arrow- at a distance of -a- = 1,370 mm from the end of the hose.
- Remove filler cap from fuel filler neck.
- Screw shaft end of fuel extractor -VAS 5190- onto fuel filler neck.
- Push extraction hose into fuel tank until marking on hose -arrow- coincides with shaft end.

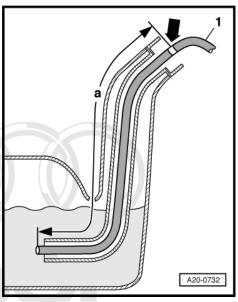






Note

- ♦ The procedure when using a fuel extractor without a shaft end is fundamentally the same.
- ♦ In this case, make a mark -arrow- on the extraction hose at distance -a- = 1,305 mm from the end of the hose using insulating tape. The extraction hose has been properly inserted when the affixed mark is level with the edge of the filler neck.
- If hose is difficult to insert, apply a thin coat of engine oil. DO NOT use silicone-based lubricant.
- Drain fuel tank via fuel filler neck.
- Carefully remove extraction hose.
- Connect battery after completing work. Observe notes on procedures required after connecting battery ⇒ Rep. gr. 27.



1.3 Removing and installing fuel tank with Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not attached components rmitted 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.

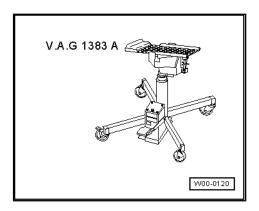
Special tools and workshop equipment required

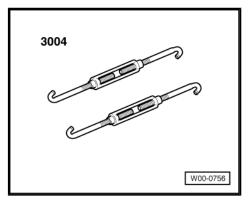
◆ Engine and gearbox jack -V.A.G 1383 A-





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Removing

Observe safety precautions ⇒ page 4.

Observe rules for cleanliness ⇒ page 4.

Release the tank flap.



Caution

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

- ♦ Observe notes on procedure for disconnecting the battery.
- Disconnect battery ⇒ Rep. gr. 27.

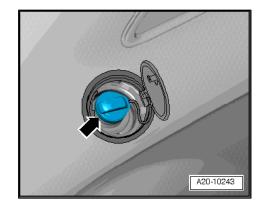


WARNING

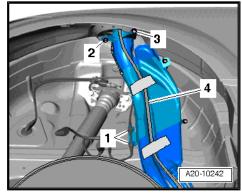
Risk of accident caused by weight of fuel tank

- ♦ Fuel tank must be empty when it is removed.
- Drain fuel tank <u>⇒ page 7</u>.

- Clean area around fuel filler neck.
- Remove filler cap -arrow- from fuel filler neck.
- Seal opening of fuel filler neck with a piece of clean foam or similar to prevent dirt from dropping into the tank.

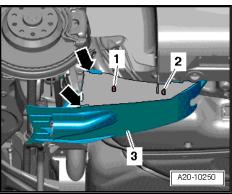


- Remove rear right wheel housing liner ⇒ Rep. gr. 66.
- Detach electrical wire -1- for ABS speed sensor from bracket on fuel filler neck.
- Remove bolts -2- and -3- for fuel filler neck.
- Move overflow hose -4- on fuel filler neck clear.



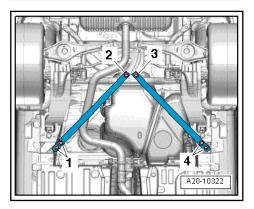
- Pull out spreader pins -1- and -2-.
- Disengage stone deflector -3- on trailing arm (right-side) -arrows- and remove.

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TT Roadster:

- Remove bolts -1 ... 4- and detach diagonal struts.



All vehicles (continued):



Caution

Risk of damage to flexible joints in front exhaust pipe

- The flexible joints in the front exhaust pipe must not be bent more than 10°.
- ♦ Before slackening clamp on exhaust pipe, secure front section of exhaust system to underbody of vehicle with a

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- Disconnect exhaust system at clamp -1-.
- Secure front section of exhaust system with a chain. To do so, engage hooks -3004- into openings on underside of vehicle (remove plugs if fitted).
- Push the clamp back in order to separate the exhaust system.



Note

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

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



WARNING

Risk of injury - fuel system operates under high pressure.

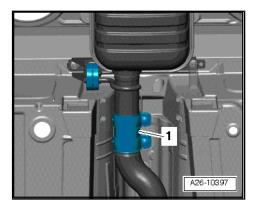
- To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.
- Disconnect fuel line -2- and breather line -1- from front right of fuel tank by pressing release tabs.

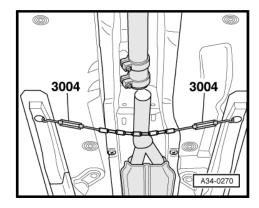


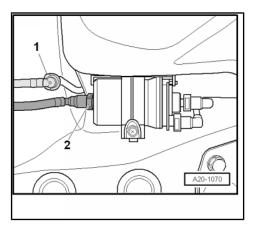
WARNING

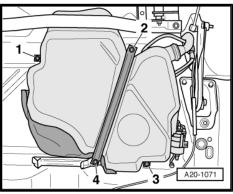
Risk of accident caused by weight of fuel tank

- ◆ Fuel tank must be empty when it is removed.
- First unscrew bolts -1- and -3-.
- Position engine and gearbox jack -V.A.G 1383 A- below vehicle to support tank.
- Remove bolts -2- and -4-.







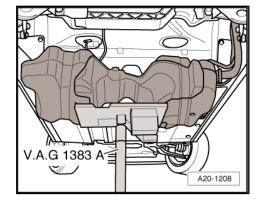


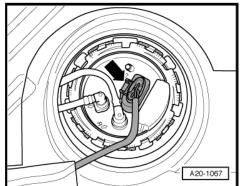


Caution

Risk of overstretching electrical wiring.

- ♦ Subsequently, when lowering fuel tank, make sure that electrical wiring is not under tension.
- Lower fuel tank using engine and gearbox jack -V.A.G 1383
 A- only until you can reach electrical connector on flange with your hand.







Note

Illustration shows electrical connector on flange in installation position.

- Unplug electrical connector -arrow- at flange.
- Remove fuel tank downwards (turning it sideways as required).

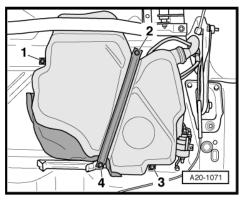
Installing

Tightening torques ⇒ page 6

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

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





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- The connections -2- and -4- on filler neck must be free from corrosion to ensure earth connection to body is not impaired.
- Tighten bolts -2- and -4- for fuel filler neck.
- Check the earth wiring at both ends for traces of oxidation and remove oxidation if necessary.
- Position the earth connection as illustrated -1-.
- Ensure that connectors -arrows- for earth connection are properly seated on protective plate -5- and on fuel filler neck -3-.



WARNING

Risk of explosion caused by electrostatic discharge.

- ♦ After installation, use an ohmmeter to check the electrical connection between the metal ring on the fuel filler neck and a bare metal part on the body:
- Specification: approx. 0 Ω.
- Attach electrical wire for ABS speed sensor to bracket on fuel filler neck.
- Install rear section of exhaust system ⇒ Rep. gr. 26.
- Install rear right wheel housing liner ⇒ Rep. gr. 66..

TT Roadster:

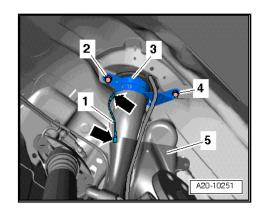
Install diagonal struts ⇒ Rep. gr. 42.

All vehicles (continued):

Connect battery. Observe notes on procedures required after connecting battery ⇒ Rep. gr. 27.



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Audi TT 2007 ➤

Fuel tank with attached componentsUSA vehicles with front-wheel drive

2.1 Fuel tank with attached components - exploded view

1 - Nut

□ 20 Nm

2 - Securing strap

 Installation position: Fixing point (hole) points in direction of travel

3 - Heat shield for fuel tank

4 - Nut

□ 20 Nm

5 - Fuel line

- To engine
- Press release tab on pipe connector to disconnect

6 - Breather line

- ☐ From activated charcoal filter to activated charcoal filter solenoid valve 1 -N80-
- ☐ Clip onto fuel tank

7 - Electrical connector

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

8 - Protective plate

☐ For fuel filler neck

Boltmitted unless authorised by AUDI AG with respect to the correctness of information.

□ 11 Nm

10 - Filler cap

☐ Secured to tank flap unit

11 - Bolt

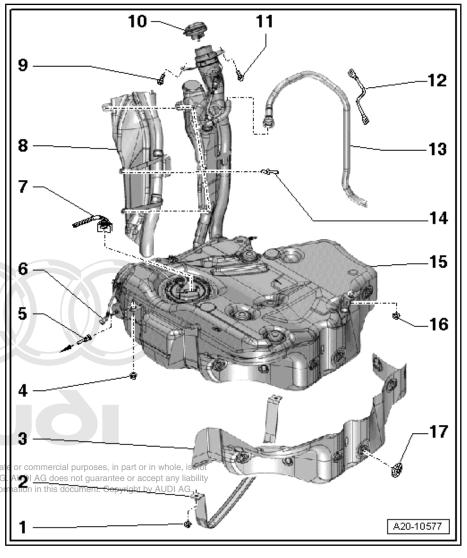
□ 11 Nm

12 - Earth connection

- ☐ To eliminate electrostatic charge
- □ Installation position ⇒ page 15
- Ensure that connector is seated properly
- \Box After installation, use an ohmmeter to check the electrical connection between the protective plate -item 7- on the fuel filler neck and a bare metal part on the body. Specification: approx. 0 Ω

13 - Breather line

- ☐ From gravity valve to activated charcoal filter
- Clip onto bracket in wheel housing
- Press release tab on pipe connector to disconnect



- 14 Pop rivet
- 15 Fuel tank
 - □ Removing and installing ⇒ page 16
- 16 Nut
 - □ 20 Nm
- 17 Locking washer
 - ☐ Removing: turn anti-clockwise
 - □ 3 Nm

Earth connection for full of pile for private and appropertive place or accept any liability

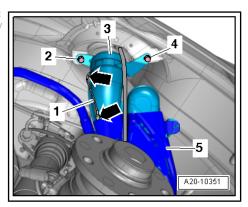
- The connections -2- and -4- on filler neck must be free from corrosion to ensure earth connection to body is not impaired.
- Position the earth connection as illustrated -1-.
- Ensure that connectors -arrows- for earth connection are properly seated on protective plate -5- and on fuel filler neck -3-.



WARNING

Risk of explosion caused by electrostatic discharge.

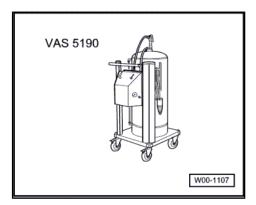
- ♦ After installation, use an ohmmeter to check the electrical connection between the metal ring on the fuel filler neck and a bare metal part on the body:
- Specification: approx. 0 Ω .



2.2 Draining fuel tank

Special tools and workshop equipment required

♦ Fuel extractor -VAS 5190-



Procedure

Observe safety precautions <u>⇒ page 4</u>.

Observe rules for cleanliness ⇒ page 4.

Release the tank flap.



Caution

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

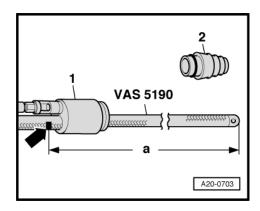
- ♦ Observe notes on procedure for disconnecting the battery.
- Disconnect battery ⇒ Rep. gr. 27.

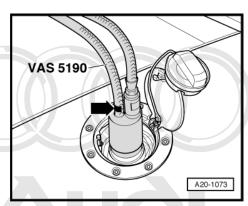


WARNING

Risk of explosion caused by electrostatic discharge.

- Secure earth wire of fuel extractor -VAS 5190- to a bare metal part on the body.
- Detach tapered adapter -2- from shaft end -1- of fuel extractor -VAS 5190- .
- Use insulating tape to mark the extraction hose -arrow- at a distance of -a- = 1,370 mm from the end of the hose.
- Remove filler cap from fuel filler neck.
- Screw shaft end of fuel extractor -VAS 5190- onto fuel filler neck.
- Push extraction hose into fuel tank until marking on hose -arrow- coincides with shaft end.







Note

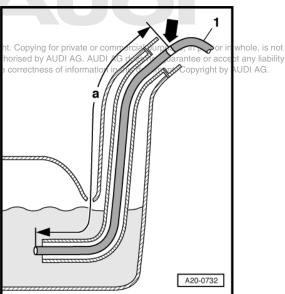
The procedure when using a fuel extractor without a sharff end is fundamentally the same.

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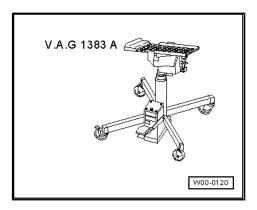
- ♦ In this case, make a mark -arrow- on the extraction hose at distance -a- = 1,305 mm from the end of the hose using insulating tape. The extraction hose has been properly inserted when the affixed mark is level with the edge of the filler neck.
- If hose is difficult to insert, apply a thin coat of engine oil. DO NOT use silicone-based lubricant.
- Drain fuel tank via fuel filler neck.
- Carefully remove extraction hose.
- Connect battery after completing work. Observe notes on procedures required after connecting battery ⇒ Rep. gr. 27.

2.3 Removing and installing fuel tank with attached components

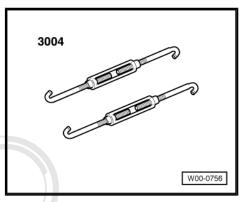
Special tools and workshop equipment required



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



♦ Hook -3004-



Removing

Observe safety precautions ⇒ page 4.

Observe rules for cleanliness ⇒ page 4.

Release the tank flap.



Caution

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

♦ Observe notes on procedure for disconnecting the battery.

Disconnect battery ⇒ Rep. gr. 27.

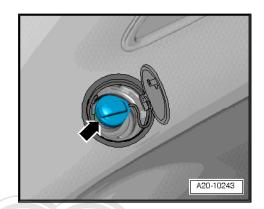


WARNING

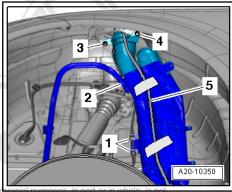
Risk of accident caused by weight of fuel tank

- ♦ Fuel tank must be empty when it is removed.
- Drain fuel tank ⇒ page 15.

- Clean area around fuel filler neck.
- Remove filler cap -arrow- from fuel filler neck.
- Seal opening of fuel filler neck with a piece of clean foam or similar to prevent dirt from dropping into the tank.

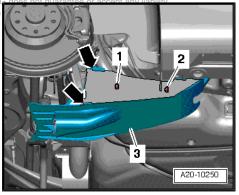


- Remove rear right wheel housing liner ⇒ Rep. gr. 66.
- Remove bolts -3- and -4- for fuel filler neck.
- Remove breather line -2- going to activated charcoal filter (press release tab).
- Detach electrical wire -1- for ABS speed sensor from bracket on fuel filler neck.
- Move overflow hose -5- on fuel filler neck clear.



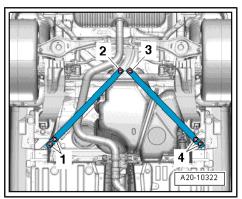
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- Pull out spreader pins -1- and -2-. with respect to the correctness of information in
- Disengage stone deflector -3- on trailing arm (right-side) -arrows- and remove.



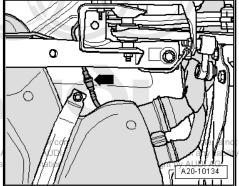
TT Roadster:

- Remove bolts -1 ... 4- and detach diagonal struts.



All vehicles (continued):

Press release tab and disconnect breather line -arrow-leading to activated charcoal filter.



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Caution

Risk of damage to flexible joints in front exhaust pipe

- The flexible joints in the front exhaust pipe must not be bent more than 10°.
- Before slackening clamp on exhaust pipe, secure front section of exhaust system to underbody of vehicle with a chain.



- Secure front section of exhaust system with a chain. To do so, engage hooks -3004- into openings on underside of vehicle (remove plugs if fitted).
- Push the clamp back in order to separate the exhaust system.



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

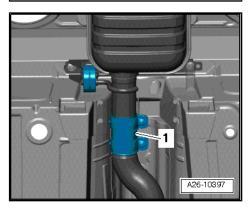
- Disengage rear silencer at the rubber mountings and remove rear section of exhaust system.
- Press release tab and disconnect breather line -2- at front right of fuel tank.

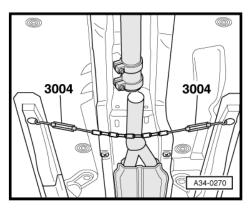


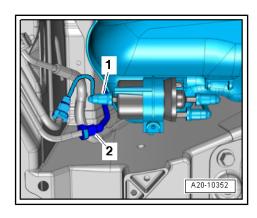
WARNING

Risk of injury - fuel system operates under high pressure.

- To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.
- Press release tabs and disconnect fuel line -1- at front right of fuel tank.









WARNING

Risk of accident caused by weight of fuel tank

- ◆ Fuel tank must be empty when it is removed.
- First unscrew bolts -1- and -3-.
- Position engine and gearbox jack -V.A.G 1383 A- below vehicle to support tank.
- Remove bolts -2- and -4-.



Caution

Risk of overstretching electrical wiring.

- Subsequently, when lowering fuel tank, make sure that ny electrical wiring is not under tension.
- Lower fuel tank using engine and gearbox jack -V.A.G 1383
 A- only until you can reach electrical connector on flange with your hand.



Note

Illustration shows electrical connector on flange in installation position.

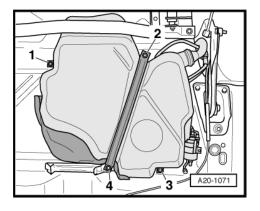
- Unplug electrical connector -arrow- at flange.
- Remove fuel tank downwards (turning it sideways as required).

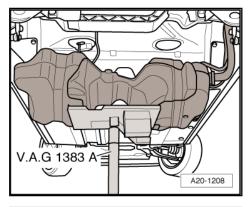
Installing

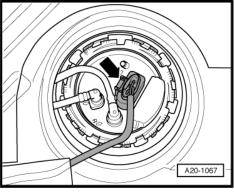
Tightening torques ⇒ page 14

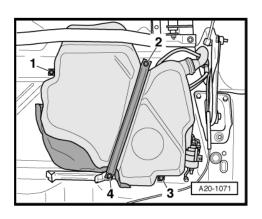
Installation is carried out in the reverse order; note the following:

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









- The connections -2- and -4- on filler neck must be free from corrosion to ensure earth connection to body is not impaired.
- Tighten bolts -2- and -4- for fuel filler neck.
- Check the earth wiring at both ends for traces of oxidation and remove oxidation if necessary.
- Position the earth connection as illustrated -1-.
- Ensure that connectors -arrows- for earth connection are properly seated on protective plate -5- and on fuel filler neck -3-.



WARNING

Risk of explosion caused by electrostatic discharge.

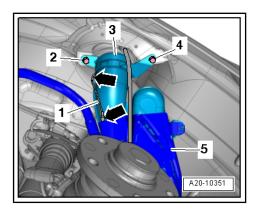
- ♦ After installation, use an ohmmeter to check the electrical connection between the metal ring on the fuel filler neck and a bare metal part on the body:
- Specification: approx. 0 Ω.
- Attach electrical wire for ABS speed sensor to bracket on fuel filler neck.
- Install breather line (leading to activated charcoal filter) at filler neck.
- Install rear section of exhaust system ⇒ Rep. gr. 26.
- Install rear right wheel housing liner ⇒ Rep. gr. 66.

TT Roadster:

Install diagonal struts ⇒ Rep. gr. 42.

All vehicles (continued):

Connect battery. Observe notes on procedures required after connecting battery ⇒ Rep. gr. 27.





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Fuel delivery unit and fuel gauge sender - all vehicles with front-wheel drive

3.1 Fuel delivery unit and fuel gauge sender - exploded view

1 - Fuel delivery unit

- ☐ Different versions available ⇒ Electronic parts catalogue
- ☐ Checking fuel pump (electrical test) - vehicles with TFSI engine ⇒ page 23
- □ Checking residual pressure ⇒ Rep. gr. 24
- □ Removing and installing⇒ page 30
- Put at least 5 litres of fuel into tank after installing

2 - Seal

- ☐ Renew
- Install dry

3 - Fuel supply line

- □ To fuel filter
- □ Do not kink
- Attached to connection marked "V" on flange
- ☐ To disconnect from flange, press release tab on connection

4 - Fuel return line

- □ Do not kink
- ☐ Attached to connection marked "R" on flange
- ☐ To disconnect from flange, press release tab on connection

5 - Electrical connector

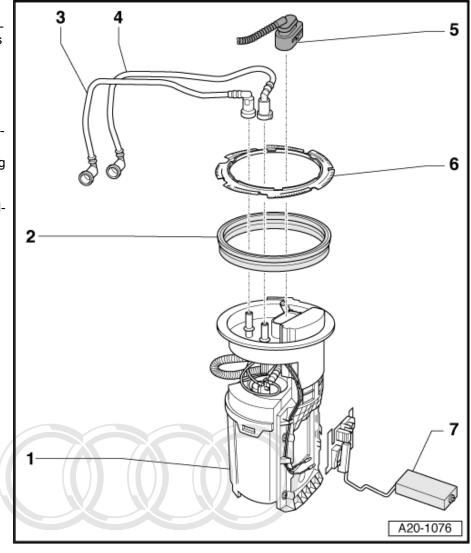
☐ For fuel system pressurisation pump -G6- and fuel gauge sender -G-

6 - Locking ring

- ☐ Remove and install using wrench -T10202-
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7 - Fuel gauge sender -G-

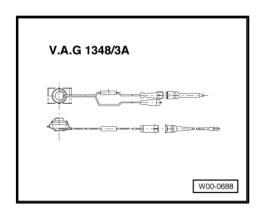
- ☐ Different versions available ⇒ Electronic parts catalogue
- □ Checking resistance values ⇒ page 34
- ☐ Removing and installing ⇒ page 36



Checking fuel pump (electrical test) - ve-3.2 hicles with TFSI engine

Special tools and workshop equipment required

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



♦ Hand-held multimeter -V.A.G 1526D-



Auxiliary measuring set -V.A.G 1594C

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Procedure

Observe test conditions ⇒ page 4.

TT Coupé:

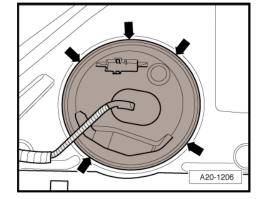
- Remove rear seat bench ⇒ Rep. gr. 72 .

TT Roadster:

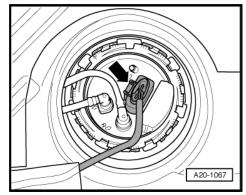
- Remove back panel side trim (right-side) ⇒ Rep. gr. 70.

All vehicles (continued):

- Unclip retaining tabs -arrows- for flange cover.



Unplug electrical connector -arrow- at flange.

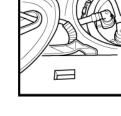


V.A.G 1594 A

.A.G 1348/3-3

A20-1120

- Connect remote control -V.A.G 1348/3A- for V.A.G 1348 to contact -1- using adapter cable -V.A.G 1348/3-3- and test lead from auxiliary measuring set -V.A.G 1594C-.
- Tape off 2nd connector contact of adapter cable -V.A.G 1348/3-3- with insulating tape -arrow- to prevent short circuits.
- Connect contact -5- to the body (earth) using a test lead from auxiliary measuring set -V.A.G 1594C-.
- Connect crocodile clip to battery "+".
- Press remote control button.
- Pump should start running audibly.





Note

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

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If no noise can be heard from pump:

- Remove fuel delivery unit ⇒ page 30.
- Check that the electrical wires between flange and fuel pump are connected and test for continuity.

If no faults are found in the wiring:

Fuel pump is defective. Renew fuel delivery unit.

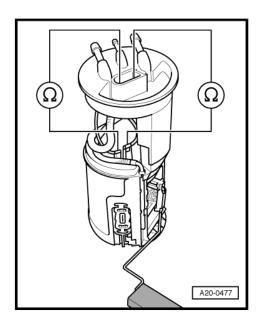
Installation is carried out in the reverse order; note the following:

TT Roadster:

Install back panel side trim (right-side) ⇒ Rep. gr. 70.

TT Coupé:

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



3.3 Checking fuel pump control unit -J538- vehicles with TFSI engine

- On vehicles with TFSI engine, voltage for the fuel pump is supplied via fuel pump control unit -J538- .
- Check fuel pump control unit -J538- in "Guided Fault Finding" ⇒ Vehicle diagnostic, testing and information system VAS 5051.

Removing and installing fuel pump con-3.4 trol unit -J538- - vehicles with TFSI engine

Removing

TT Coupé:

Remove rear seat bench ⇒ Rep. gr. 72.

TT Roadster:

Remove back panel side trim (right-side) ⇒ Rep. gr. 70.

All vehicles (continued):

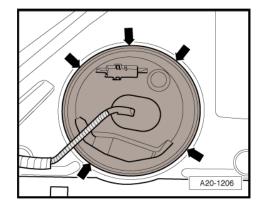
Remove fuel pump control unit -J538- from cover for flange and unplug electrical connector -arrow-.

A20-10261

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Fuel supply system, petrol engines - Edition 11.2010

Unclip the retaining tabs -arrows- for the flange cover (right-



- Unplug electrical connector -arrow- at flange.

Installing

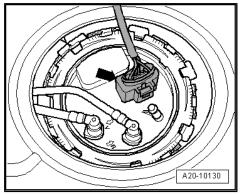
Installation is carried out in the reverse order; note the following:

TT Coupé:

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

TT Roadster:

Install back panel side trim (right-side) ⇒ Rep. gr. 70.



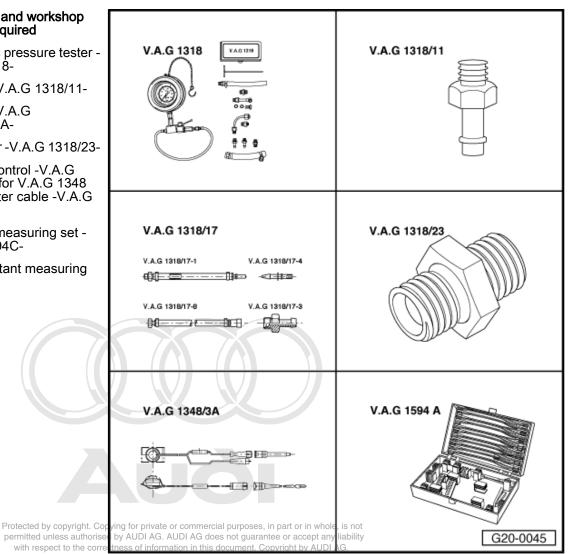


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Checking fuel pump delivery rate - vehicles with TFSI engine 3.5

Special tools and workshop equipment required

- K-Jetronic pressure tester -V.A.G 1318-
- ♦ Adapter -V.A.G 1318/11-
- Adapter -V.A.G 1318/17-1A-
- ♦ Connector -V.A.G 1318/23-
- Remote control -V.A.G 1348/3A- for V.A.G 1348 with adapter cable -V.A.G 1348/3-3-
- Auxiliary measuring set -V.A.G 1594C-
- Fuel-resistant measuring container



Procedure

Observe test conditions <u>⇒ page 4</u>.

TT Coupé:

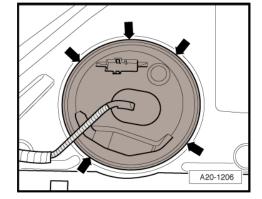
- Remove rear seat bench ⇒ Rep. gr. 72 .

TT Roadster:

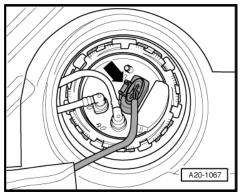
- Remove back panel side trim (right-side) ⇒ Rep. gr. 70.

All vehicles (continued):

- Unclip retaining tabs -arrows- for flange cover.



- Unplug electrical connector -arrow- at flange.



- Connect remote control -V.A.G 1348/3A- for V.A.G 1348 to contact -1- using adapter cable -V.A.G 1348/3-3- and test lead from auxiliary measuring set -V.A.G 1594C- .
- Tape off 2nd connector contact of adapter cable -V.A.G
 1348/3-3- with insulating tape -arrow- to prevent short circuits.
- Connect contact -5- to the body (earth) using a test lead from auxiliary measuring set -V.A.G 1594C-.
- Connect crocodile clip to battery "+" (positive terminal in engine compartment).
- Remove filler cap from fuel filler neck.

V.A.G 1594 A V.A.G 1348/3-3 A20-1120

Rest-of-world vehicles with toothed belt drive:

 Detach fuel line from retainer and remove heat insulation sleeve at fuel line connection.

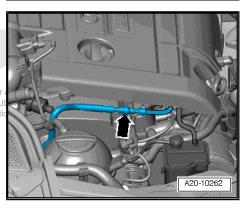


WARNING

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Risk of injury - fuel system operates under high pressure.

- To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.
- Pull release ring and disconnect fuel line -arrow-.



USA vehicles with toothed belt drive:

Detach fuel line from retainer and remove heat insulation sleeve -1- at fuel line connection.



WARNING

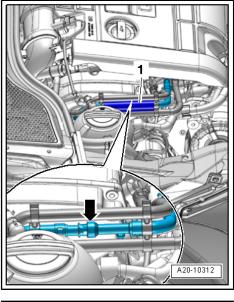
Risk of injury - fuel system operates under high pressure.

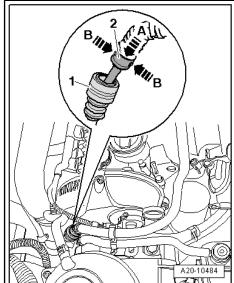
- To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.
- Pull release ring and disconnect fuel line -arrow-.

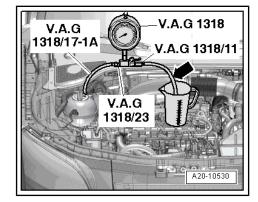
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Vehicles with timing chain:

- Push down protective sleeve -1- and disconnect fuel line.
- First press hose connector -2- downwards -arrow A-, then press release tabs -arrow B-.
- Pull off hose connector, keeping release tabs depressed.







All vehicles (continued):

- Screw connector -V.A.G 1318/23- and adapter -V.A.G 1318/17-1A- onto K-Jetronic pressure tester -V.A.G 1318- .
- Fit adapter -V.A.G 1318/17-1A- onto disconnected fuel line.
- Screw adapter -V.A.G 1318/11- onto K-Jetronic pressure tester -V.A.G 1318- .
- Attach test hose -arrow- and hold end of hose in measuring container.
- Open cut-off valve on pressure tester.
- Lever must point in direction of flow.
- Build up pressure in fuel system by pressing the remote control and slowly closing the cut-off valve on the pressure tester.
- Specification: 4 bar
- From this point on do not move position of cut-off valve.
- Empty the measuring container.
- Press remote control button for 15 seconds.

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



Note

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

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

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

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

TT Roadster:

Install back panel side trim (right-side) ⇒ Rep. gr. 70.

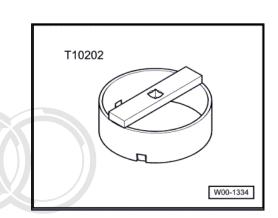
TT Coupé:

Install rear seat bench ⇒ Rep. gr. 72.

3.6 Removing and installing fuel delivery unit

Special tools and workshop equipment required

♦ Wrench -T10202-



Removing

Observe safety precautions <u>⇒ page 4</u>

Observe rules for cleanliness ⇒ page 4

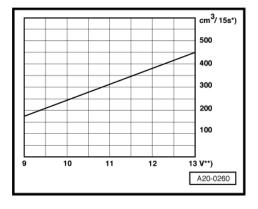
TT Roadster:



Caution

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- On the TT Roadster, the fuel tank must first be removed before removing the fuel delivery unit.
- Remove fuel tank: Rest-of-world vehicles with front-wheel drive ⇒ page 8 , USA vehicles with front-wheel drive ⇒ page 16 .



TT Coupé:



Caution

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

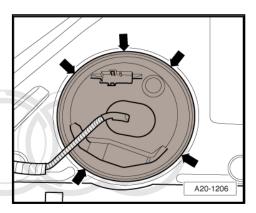
- ♦ Observe notes on procedure for disconnecting the battery.
- Disconnect battery ⇒ Rep. gr. 27.



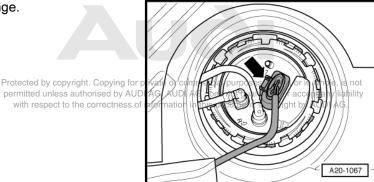
WARNING

Large amounts of fuel can escape.

- ◆ The fuel tank must not be more than 3/4 full when removing the fuel delivery unit, otherwise a large amount of fuel will escape.
- Drain fuel tank if necessary: Rest-of-world vehicles with front-wheel drive \Rightarrow page 7, USA vehicles with front-wheel drive ⇒ page 15 .
- Remove rear seat bench ⇒ Rep. gr. 72.
- Unclip retaining tabs -arrows- for flange cover.



- Unplug electrical connector -arrow- at flange.



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



WARNING

Risk of injury - fuel system operates under high pressure.

- To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.
- Detach both pipes from flange (press release tabs).

TT Roadster:

- With fuel tank removed, mark fuel supply line -1- and fuel return line -2-.
- Detach both pipes from flange (press release tabs).

TT Coupé:



WARNING

Large amounts of fuel can escape.

◆ The fuel tank must not be more than ³/₄ full when removing the fuel delivery unit, otherwise a large amount of fuel will escape.

All vehicles (continued):

- Unscrew locking ring using wrench -T10202- .
- Pull fuel delivery unit with seal out of opening in fuel tank.



Note

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

Installing

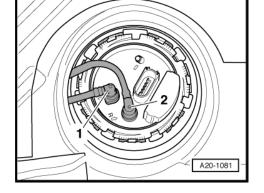
Tightening torque ⇒ page 22

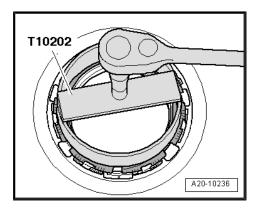
Installation is carried out in the reverse order; note the following:



Note

- Renew seal.
- ◆ Take care not to bend float arm of fuel gauge sender -G- when fitting fuel delivery unit.
- Insert fuel delivery unit into fuel tank.







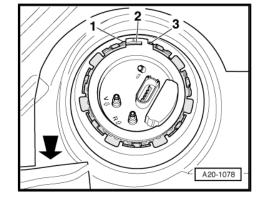
Install new seal for flange (seal must be installed dry).



Caution

Leakage risk

- The seal must not be pinched or damaged when installing the flange.
- Press flange down against spring pressure and move flange into installation position.
- Lug -2- on flange must be between tabs -1- and -3- on fuel





Note

The -arrow- points in direction of travel.

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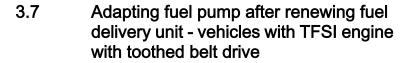
- Install rear seat bench ⇒ Rep. gr. 72.
- Connect battery. Observe notes on procedures required after connecting battery ⇒ Rep. gr. 27.

TT Roadster:

Install fuel tank: Rest-of-world vehicles with front-wheel drive ⇒ page 12, USA vehicles with front-wheel drive ⇒ page 20.

All vehicles (continued):

- Put at least 5 litres of fuel into tank after installing fuel delivery
- On vehicles with TFSI engine with toothed belt drive, the fuel pump must be adapted after renewing the fuel delivery unit

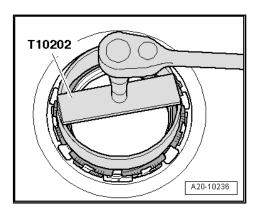




Note

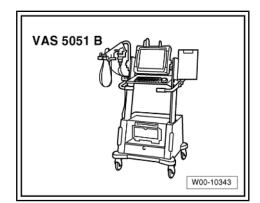
- On vehicles with TFSI engine with toothed belt drive, the fuel delivery unit must be adapted to the engine control unit after renewing the fuel delivery unit.
- This operation is not required on vehicles with TFSI engine with timing chain.

Special tools and workshop equipment required



Vehicle diagnostic, testing and information system -VAS 5051B-





Procedure

- No faults stored in event memory.
- Connect vehicle diagnostic, testing and information system -VAS 5051B- to diagnostic connection -arrow- and start engine.
- Select following menu options:
- Protected by copyright. Copying for private or commercial purposes, in part or in whole, is "Vehicle self-diagnosis sed by AUDI AG. AUDI AG does not guarantee or accept any liab with respect to the correctness of information in this document. Copyright by AUDI AG. "01 - Engine electronics"
- "Basic setting, display group 103"
- "Activate"
- Check display in zone "4".

Indicated on display: "ADP runs". When the fuel pump has been successfully adapted, the display will show "ADP OK".



Note

If display shows "ADP n.OK": interrogate event memory.

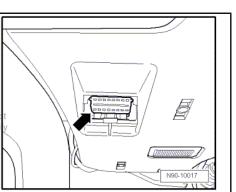
- End "vehicle self-diagnosis".
- Switch off ignition and unplug diagnostic connector.

Checking fuel gauge sender -G-3.8

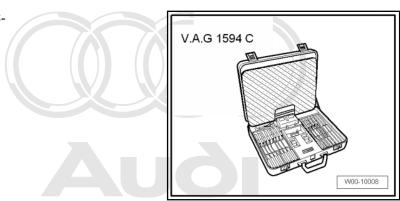
Special tools and workshop equipment required

♦ Hand-held multimeter -V.A.G 1526D-





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



Procedure

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TT Coupé:

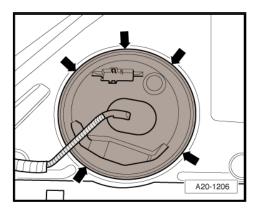
- Remove rear seat bench ⇒ Rep. gr. 72 .

TT Roadster:

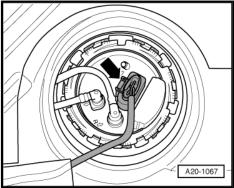
- Remove back panel side trim (right-side) ⇒ Rep. gr. 70.

All vehicles (continued):

- Unclip retaining tabs -arrows- for flange cover.



- Unplug electrical connector -arrow- at flange.



 Connect multimeter (resistance test) between contacts -2- and -3-.

Fuel gauge sender -G- installed:

- Sender at lower stop: approx. 270 Ω.
- Sender at upper stop: approx. 70 Ω.



Note

- To test the maximum and minimum resistance values for "tank full" and "tank empty", remove the fuel delivery unit ⇒ page 30 and move the sender float all the way to its top or bottom position.
 - permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability

 If the resistance is 0 Ω, there is a short circuit. If the resistance correctness of information in this document. Copyright by AUDI AG.
- The following values are obtained with the fuel gauge sender -G- removed, due to the greater travel of the float arm:

Fuel gauge sender -G- removed:

Sender at lower stop: approx. 290 Ω.

is ∞ Ω , there is an open circuit in the wiring.

- Sender at upper stop: approx. 50 Ω.
- Connect multimeter (resistance test) between contacts -3- and -4-.

Fuel gauge sender -G- installed or removed:

Sender in any position: approx. 340 Ω.

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

TT Coupé:

Install rear seat bench ⇒ Rep. gr. 72.

TT Roadster:

Install back panel side trim (right-side) ⇒ Rep. gr. 70.

3.9 Removing and installing fuel gauge sender -G-

Removing

Observe safety precautions ⇒ page 4.

Observe rules for cleanliness ⇒ page 4.

TT Roadster:

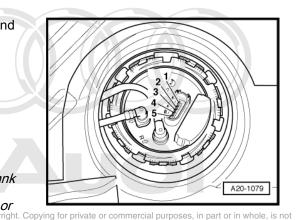


Caution

- On the TT Roadster, the fuel tank must be removed before removing the fuel gauge sender -G-.
- Remove fuel tank: Rest-of-world vehicles ⇒ page 8 , USA vehicles ⇒ page 16 .

All vehicles (continued):

- Remove fuel delivery unit ⇒ page 30.



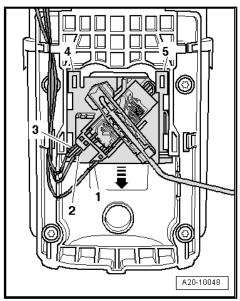
Version 1:



Caution

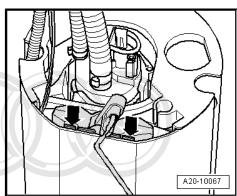
Risk of damage.

- ♦ First release retainer tabs on connector contact before detaching electrical connectors on fuel gauge sender -G-.
- Release and detach electrical connectors -1 ... 3-.
- Lift retaining tabs -4- and -5- with a screwdriver and pull fuel gauge sender -G- off downwards -arrow-.



Version 2:

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





Caution

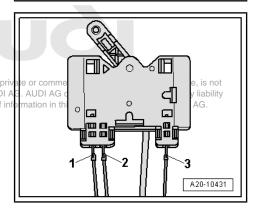
Risk of damage.

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- ◆ First release retainer tabs on connector contact before sed by AUDI A detaching electrical connectors on fuel gauge sender -G-:
- Release and detach electrical connectors -1 ... 3-.

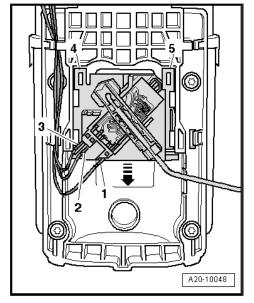
Installing

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



Version 1:

- Insert fuel gauge sender -G- into guides on fuel delivery unit and press upwards until it clicks into place.
- Plug in electrical connectors -1 ... 3- and check that they have engaged properly.

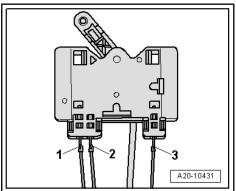


Version 2:

- Plug in electrical connectors -1 ... 3- and check that they have engaged properly.
- Insert fuel gauge sender -G- into guides on fuel delivery unit and press upwards until it clicks into place.

All versions (continued):

Install fuel delivery unit <u>⇒ page 32</u>; observe instructions for connecting battery.





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8

4 Fuel tank with attached components - rest-of-world vehicles with fourwheel drive

4.1 Fuel tank with attached components - exploded view

1 - Nut

□ 23 Nm

2 - Heat shield for fuel tank

■ With support bracket

3 - Fuel line

- □ To engine
- Press release tab on pipe connector to disconnect

4 - Breather line

- ☐ From gravity valve to activated charcoal filter
- Clip onto fuel tank

5 - Electrical connector

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

6 - Protective plate

☐ For fuel filler neck

7 - Filler cap

Secured to tank flap unit

8 - Earth connection

- ☐ To eliminate electrostatic charge
- ☐ Installation position ⇒ page 40
- Make sure that connector is securely fitted
- After installation, use an ohmmeter to check the electrical connection

9 10 11 A20-10255 between the protective plate -item 6- on the fuel filler neck and a bare metal part on the body. Specifi-

cation: approx. 0 Ω

9 - Bolt

☐ 11 Nm

10 - Pop rivet

11 - Fuel tank

□ Removing and installing ⇒ page 42

12 - Securing strap

☐ Installation position: Fixing point (hole) points in direction of travel

Earth connection for fuel filler neck and protective plate

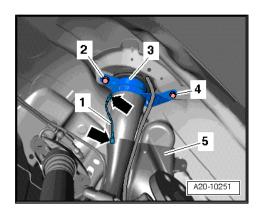
- The connections -2- and -4- on filler neck must be free from corrosion to ensure earth connection to body is not impaired.
- Position the earth connection as illustrated -1-.
- Ensure that connectors -arrows- for earth connection are properly seated on protective plate -5- and on fuel filler neck -3-.



WARNING

Risk of explosion caused by electrostatic discharge.

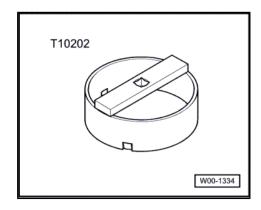
- After installation, use an ohmmeter to check the electrical connection between the metal ring on the fuel filler neck and a bare metal part on the body:
- Specification: approx. 0 Ω.



4.2 Draining fuel tank

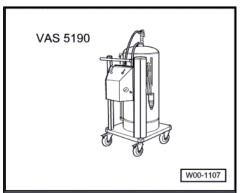
Special tools and workshop equipment required

♦ Wrench -T10202-



Fuel extractor -VAS 5190-





Procedure

Observe safety precautions ⇒ page 4

Observe rules for cleanliness ⇒ page 4.

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Caution

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

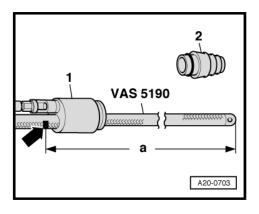
- ♦ Observe notes on procedure for disconnecting the battery.
- Disconnect battery ⇒ Rep. gr. 27.

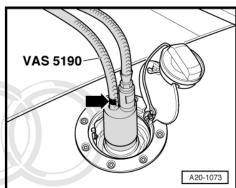


WARNING

Risk of explosion caused by electrostatic discharge.

- Secure earth wire of fuel extractor -VAS 5190- to a bare metal part on the body.
- Detach tapered adapter -2- from shaft end -1- of fuel extractor -VAS 5190- .
- Use insulating tape to mark the extraction hose -arrow- at a distance of -a = 1.370 mm from the end of the hose.
- Remove filler cap from fuel filler neck.
- Screw shaft end of fuel extractor -VAS 5190- onto fuel filler neck.
- Push extraction hose into fuel tank until marking on hose -arrow- coincides with shaft end.







Note

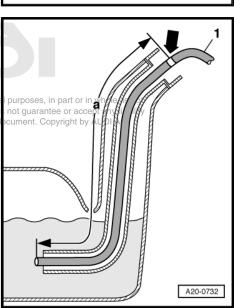
- The procedure when using a fuel extractor without a shaft end is fundamentally the same.
- ♦ In this case, make a mark -arrow+on the extraction hose at DIAG doe distance -a- = 1,305 mm from the end of the hose using insu-in this lating tape. The extraction hose has been properly inserted when the affixed mark is level with the edge of the filler neck.
- ♦ If hose is difficult to insert, apply a thin coat of engine oil. DO NOT use silicone-based lubricant.
- Drain fuel tank as much as possible through fuel filler neck.
- Carefully remove extraction hose.

TT Coupé:

- Remove rear seat bench ⇒ Rep. gr. 72 .

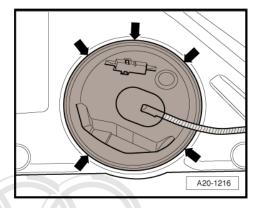
TT Roadster:

Remove back panel side trim (left-side) ⇒ Rep. gr. 70.

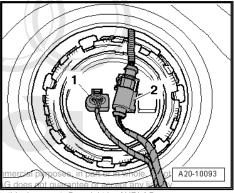


All vehicles (continued):

 Unclip the retaining tabs -arrows- for the flange cover (leftside).

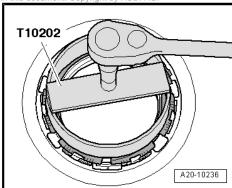


- Unplug electrical connector -1- at flange.
- Disengage electrical connector -2- and move it clear to the side.



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Unscrew locking ring using wrench -T10202- .



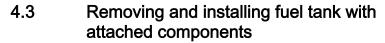
 Carefully pull fuel gauge sender 2 -G169--item 1- with suctionjet pump just slightly out of aperture in fuel tank.



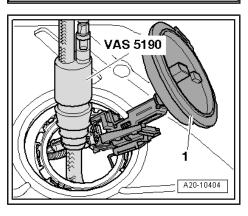
Note

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

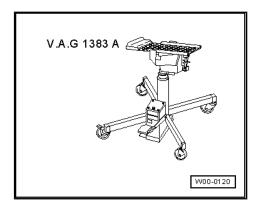
- Extract fuel from left fuel tank chamber through fuel tank opening using fuel extractor -VAS 5190-.
- Push hose into right-hand chamber of fuel tank and extract remaining fuel.
- Re-install fuel gauge sender 2 -G169- ⇒ page 85; observe notes on procedure for connecting battery.



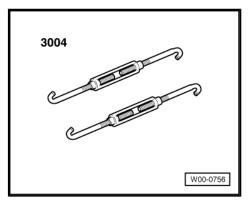
Special tools and workshop equipment required



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



♦ Hook -3004-



Removing

Observe safety precautions ⇒ page 4.

Observe rules for cleanliness ⇒ page 4.

Release the tank flap.



Caution

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

- ♦ Observe notes on procedure for disconnecting the battery.
- Disconnect battery ⇒ Rep. gr. 27.



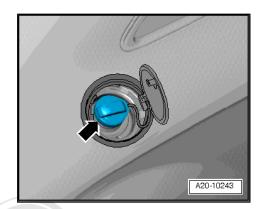
WARNING

Risk of accident caused by weight of fuel tank

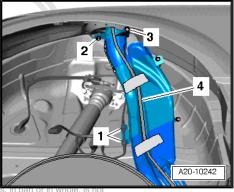
◆ Fuel tank must be empty when it is removed all purposes, in part or in whole, is not permitted unless additionable by AUDI AG. AUDI AG does not guarantee or accept any liability ccept any liability

Drain fuel tank ⇒ page 40.

- Clean area around fuel filler neck.
- Remove filler cap -arrow- from fuel filler neck.
- Seal opening of fuel filler neck with a piece of clean foam or similar to prevent dirt from dropping into the tank.



- Remove rear right wheel housing liner ⇒ Rep. gr. 66.
- Detach electrical wire -1- for ABS speed sensor from bracket on fuel filler neck.
- Remove bolts -2- and -3- for fuel filler neck.
- Move overflow hose -4- on fuel filler neck clear.
- Remove diagonal struts ⇒ Rep. gr. 42.



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 \mathbf{M}

Caution

Risk of damage to flexible joints in front exhaust pipe

- ♦ The flexible joints in the front exhaust pipe must not be bent more than 10°.
- Before slackening clamp on exhaust pipe, secure front section of exhaust system to underbody of vehicle with a chain.



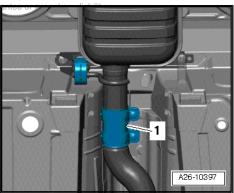
- Secure front section of exhaust system with a chain. To do so, engage hooks -3004- into openings on underside of vehicle (remove plugs if fitted).
- Push the clamp back in order to separate the exhaust system.

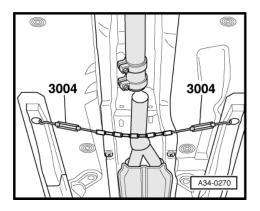


Note

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

- Disengage rear silencer at the rubber mountings and remove rear section of exhaust system.
- Remove propshaft ⇒ Rear final drive 02D/0AV/0BR/0BY; Rep. gr. 39.





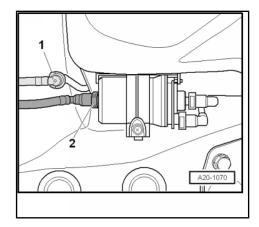
A20-1209



WARNING

Risk of injury - fuel system operates under high pressure.

- To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.
- Disconnect fuel line -2- and breather line -1- from front right of fuel tank by pressing release tab.





WARNING

Risk of accident caused by weight of fuel tank

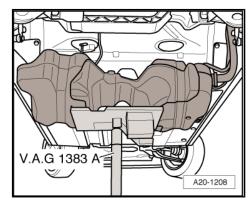
- ◆ Fuel tank must be empty when it is removed.
- First remove bolts -2, 5, 6-. Protected by
- permitted unl Diseingage wiring harness arrows and move clearly with rest
 - Position engine and gearbox jack -V.A.G 1383 A- below vehicle to support tank.
 - Remove bolts -1, 3, 4, and 7-.



Caution

Risk of overstretching electrical wiring.

- Subsequently, when lowering fuel tank, make sure that electrical wiring is not under tension.
- Lower fuel tank using engine and gearbox jack -V.A.G 1383 A- only until you can reach electrical connectors on flanges with your hand.

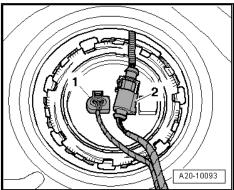




Note

The following two illustrations show the electrical connectors on the flanges in their installation position.

- Unplug electrical connector -1- on flange (left-side).
- Disengage electrical connector -2- for Haldex coupling.



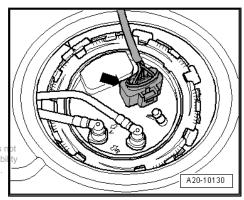
- Unplug electrical connector -arrow- at flange (right-side).
- Then lower fuel tank using engine and gearbox jack -V.A.G 1383 A-, simultaneously guiding fuel tank down by hand.
- Remove fuel tank downwards (turning it sideways as required).
- In addition, a 2nd mechanic will be required to guide the fuel filler neck on trailing arm out by hand.

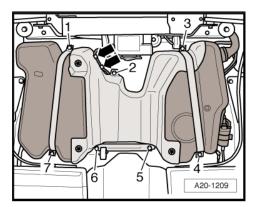
 Installing
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 • Tightening torques page 39 information in this document. Copyright by AUDI AG.

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

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





- The connections -2- and -4- on filler neck must be free from corrosion to ensure earth connection to body is not impaired.
- Tighten bolts -2- and -4- for fuel filler neck.
- Check the earth wiring at both ends for traces of oxidation and remove oxidation if necessary.
- Position the earth connection as illustrated -1-.
- Ensure that connectors -arrows- for earth connection are properly seated on protective plate -5- and on fuel filler neck -3-.



WARNING

Risk of explosion caused by electrostatic discharge.

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

Specification: approx. 0 Ω. authorised by AUDI AG. AUDI AG does not guarantee or accept any liability

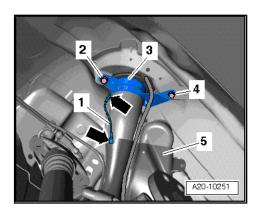
- ss of information in this document. Copyright by AUDI AG. Attach electrical wire for ABS speed sensor to bracket on fuel filler neck.
- Install rear right wheel housing liner ⇒ Rep. gr. 66.
- Install propshaft ⇒ Rear final drive 02D/0AV/0BR/0BY; Rep.
- Install rear section of exhaust system ⇒ Rep. gr. 26.

TT Roadster:

Install diagonal struts ⇒ Rep. gr. 42.

All vehicles (continued):

Connect battery. Observe notes on procedures required after connecting battery ⇒ Rep. gr. 27.



5 Fuel tank with attached components

- USA vehicles with four-wheel drive

5.1 Fuel tank with attached components - exploded view

1 - Nut

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2 - Heat shield for fuel tank

□ With support bracket

3 - Nut

□ 23 Nm

4 - Fuel line

- □ To engine
- Press release tab on pipe connector to disconnect

5 - Breather line

- ☐ From activated charcoal filter to activated charcoal filter solenoid valve 1 -N80-
- ☐ Clip onto fuel tank

6 - Electrical connector

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

7 - Protective plate

☐ For fuel filler neck

8 - Bolt

□ 11 Nm

9 - Filler cap

Secured to tank flap unit

10 - Earth connection

- ☐ To eliminate electrostatic charge
- ☐ Installation position ⇒ page 49
- ☐ Make sure that connector is securely fitted
- \square After installation, use an ohmmeter to check the electrical connection between the protective plate -item 7- on the fuel filler neck and a bare metal part on the body. Specification: approx. 0 Ω

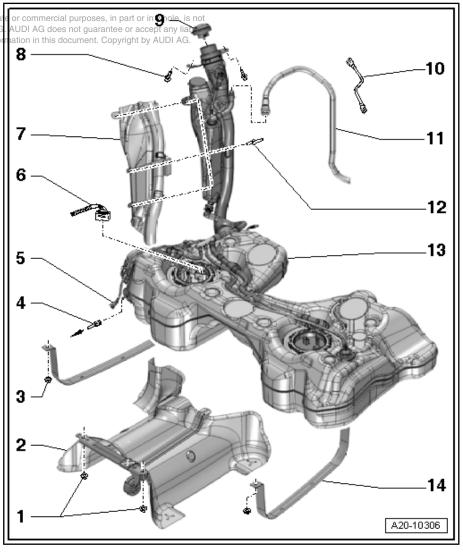
11 - Breather line

- □ From gravity valve to activated charcoal filter
- Clip onto bracket in wheel housing
- Press release tab on pipe connector to disconnect

12 - Pop rivet

13 - Fuel tank

□ Removing and installing ⇒ page 51



14 - Securing strap

☐ Installation position: Fixing point (hole) points in direction of travel

Earth connection for fuel filler neck and protective plate

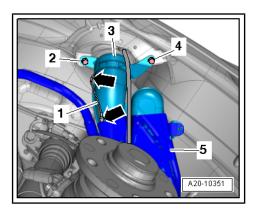
- The connections -2- and -4- on filler neck must be free from corrosion to ensure earth connection to body is not impaired.
- Position the earth connection as illustrated -1-.
- Ensure that connectors -arrows- for earth connection are properly seated on protective plate -5- and on fuel filler neck -3-.



WARNING

Risk of explosion caused by electrostatic discharge.

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

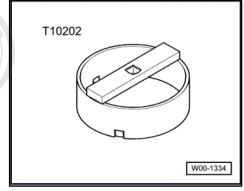


5.2 Draining fuel tank

Special tools and workshop equipment required

♦ Wrench -T10202-





Fuel extractor provides 5790 ight. Copying for private or commercial purposes, in part or in permitted by AUDI AG. AUDI AG does not guarantee or acceptable. with respect to the correctness of information in this document. Copyright by A



Procedure

Observe safety precautions <u>⇒ page 4</u>.

Observe rules for cleanliness ⇒ page 4.

Release the tank flap.

Caution

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

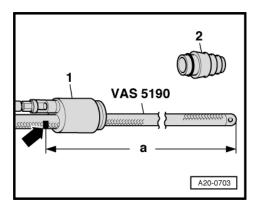
- Observe notes on procedure for disconnecting the battery.
- Disconnect battery ⇒ Rep. gr. 27.

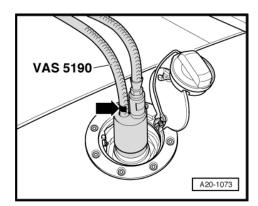


WARNING

Risk of explosion caused by electrostatic discharge.

- Secure earth wire of fuel extractor -VAS 5190- to a bare metal part on the body.
- Detach tapered adapter -2- from shaft end -1- of fuel extractor -VAS 5190- .
- Use insulating tape to mark the extraction hose -arrow- at a distance of -a- = 1,370 mm from the end of the hose.
- Remove filler cap from fuel filler neck.
- Screw shaft end of fuel extractor -VAS 5190- onto fuel filler neck.
- Push extraction hose into fuel tank until marking on hose -arrow- coincides with shaft end.







Note

- The procedure when using a fuel extractor without a shaft end is fundamentally the same.
- In this case, make a mark -arrow- on the extraction hose at distance -a- = 1,305 mm from the end of the hose using insulating tape. The extraction hose has been properly inserted when the affixed mark is level with the edge of the filler neck.
- If hose is difficult to insert, apply a thin coat of engine oil. DO NOT use silicone-based lubricant.
- Carefully remove extraction hose.

TT Coupé:

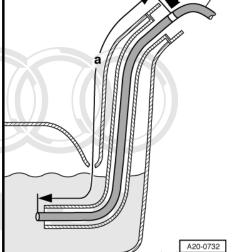
Remove rear seat bench ⇒ Rep. gr. 72

TT Roadster:

Remove back panel side trim (left-side) ⇒ Rep. gr. 70 . the correctness of information in this document. Copyright by AUDI AG.

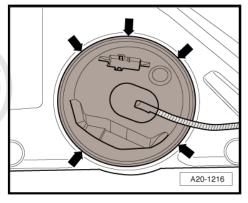
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Drain fuel tank as much as possible through fuel filler neck.



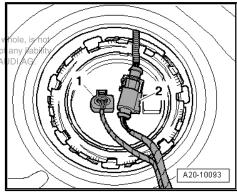
All vehicles (continued):

Unclip the retaining tabs -arrows- for the flange cover (leftside).

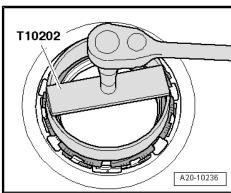


- Unplug electrical connector -1- at flange.
- Disengage electrical connector -2- and move it clear to the side. permitted unless authorised by AUDI AG. AUDI AG does not guarantee or acce

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- Unscrew locking ring using wrench -T10202- .



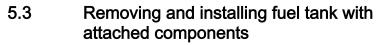
Carefully pull fuel gauge sender 2 -G169--item 1- with suctionjet pump just slightly out of aperture in fuel tank.



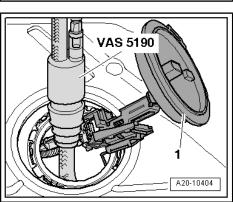
Note

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

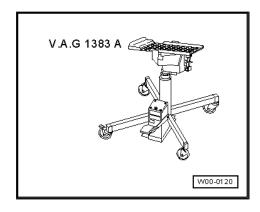
- Extract fuel from left fuel tank chamber through fuel tank opening using fuel extractor -VAS 5190-.
- Push hose into right-hand chamber of fuel tank and extract remaining fuel.
- Re-install fuel gauge sender 2 -G169- ⇒ page 85; observe notes on procedure for connecting battery.



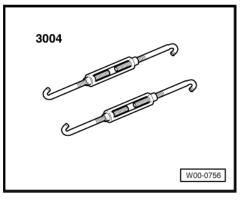
Special tools and workshop equipment required



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



♦ Hook -3004-



Removing

Observe safety precautions \Rightarrow page 4.

Observe rules for cleanliness <u>⇒ page 4</u>.

Release the tank flap.



Caution

To prevent irreparable damage to the electronic components
when disconnecting the battery; ivate or commercial purposes, in part or in who e, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability

♦ Observe notes on procedure for disconnecting the battery.

AG.

Disconnect battery ⇒ Rep. gr. 27.



WARNING

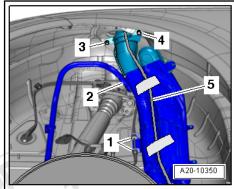
Risk of accident caused by weight of fuel tank

- ◆ Fuel tank must be empty when it is removed.
- Drain fuel tank ⇒ page 49.

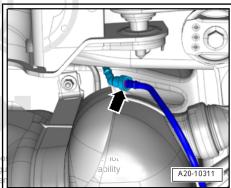
- Clean area around fuel filler neck.
- Remove filler cap -arrow- from fuel filler neck.
- Seal opening of fuel filler neck with a piece of clean foam or similar to prevent dirt from dropping into the tank.



- Remove rear right wheel housing liner ⇒ Rep. gr. 66.
- Remove bolts -3- and -4- for fuel filler neck.
- Remove breather line -2- going to activated charcoal filter (press release tab).
- Detach electrical wire -1- for ABS speed sensor from bracket on fuel filler neck.
- Move overflow hose -5- on fuel filler neck clear.



- Remove diagonal struts ⇒ Rep. gr. 42.
- Press release tab and disconnect breather line -arrow-leading to activated charcoal filter.



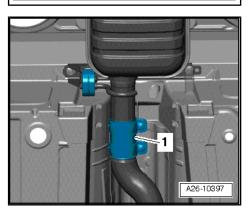
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Caution

Risk of damage to flexible joints in front exhaust pipe

- The flexible joints in the front exhaust pipe must not be bent more than 10°.
- Before slackening clamp on exhaust pipe, secure front section of exhaust system to underbody of vehicle with a chain.
- Disconnect exhaust system at clamp -1-.



- Secure front section of exhaust system with a chain. To do so, engage hooks -3004- into openings on underside of vehicle (remove plugs if fitted).
- Push the clamp back in order to separate the exhaust system.



Note

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

- Disengage rear silencer at the rubber mountings and remove rear section of exhaust system.
- Remove propshaft ⇒ Rear final drive 02D/0AV/0BR/0BY; Rep. gr. 39.
- Press release tab and disconnect breather line -2- at front right of fuel tank.



WARNING

Risk of injury - fuel system operates under high pressure.

- To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.
- Press release tab and disconnect fuel line -1- at front right of fuel tank.



WARNING

Risk of accident caused by weight of fuel tank

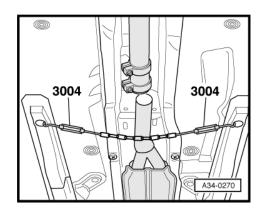
- ◆ Fuel tank must be empty when it is removed.
- First remove bolts -2, 5, 6-.
- Disengage wiring harness -arrows- and move clear.
- Position engine and gearbox jack -V.A.G 1383 A- below vehicle to support tank.
- Remove bolts -1, 3, 4, and 7-.

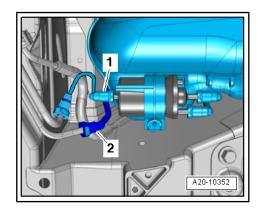


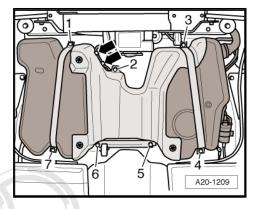
Caution

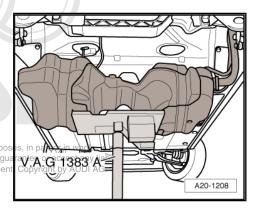
Risk of overstretching electrical wiring.

- Subsequently, when lowering fuel tank, make sure that electrical wiring is not under tension.
- Lower fuel tank using engine and gearbox jack plyan G 1383 all purpos
 A- only until you can reach electrical connectors on flanges document
 with your hand.







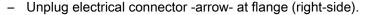




Note

The following two illustrations show the electrical connectors on the flanges in their installation position.

- Unplug electrical connector -1- on flange (left-side).
- Disengage electrical connector -2- for Haldex coupling.



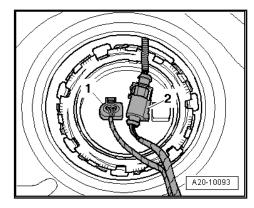
- Then lower fuel tank using engine and gearbox jack -V.A.G 1383 A-, simultaneously guiding fuel tank down by hand.
- Remove fuel tank downwards (turning it sideways as required).
- In addition, a 2nd mechanic will be required to guide the fuel filler neck on trailing arm out by hand.

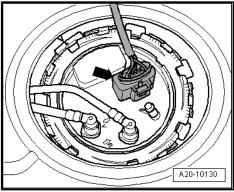
Installing

Tightening torques ⇒ page 48

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

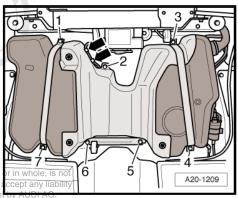
- Position fuel tank with securing straps on underbody, using engine and gearbox jack -V.A.G 1383 A- .
- Attach wiring harness at top of fuel tank.
- When installing fuel tank, make sure that the fuel filler neck is correctly inserted into the opening on the body.
- Secure fuel tank by first tightening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







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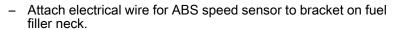
- The connections -2- and -4- on filler neck must be free from corrosion to ensure earth connection to body is not impaired.
- Tighten bolts -2- and -4- for fuel filler neck.
- Check the earth wiring at both ends for traces of oxidation and remove oxidation if necessary.
- Position the earth connection as illustrated -1-.
- Ensure that connectors -arrows- for earth connection are properly seated on protective plate -5- and on fuel filler neck -3-.



WARNING

Risk of explosion caused by electrostatic discharge.

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



- Install breather line (leading to activated charcoal filter) at filler
- Install rear right wheel housing liner ⇒ Rep. gr. 66.
- Install propshaft ⇒ Rear final drive 02D/0AV/0BR/0BY; Rep. gr. 39.
- Install rear section of exhaust system ⇒ Rep. gr. 26.

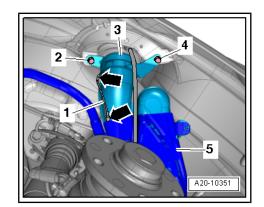
TT Roadster:

Install diagonal struts ⇒ Rep. gr. 42.

All vehicles (continued):

Connect battery. Observe notes on procedures required after connecting battery ⇒ Rep. gr. 27.

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6 Fuel delivery unit and fuel gauge senders - all vehicles with four-wheel drive

6.1 Fuel delivery unit and fuel gauge senders - exploded view

1 - Fuel gauge sender -G-6 8 □ Checking resistance values ⇒ page 78 □ Removing and installing ⇒ page 80 2 - Fuel delivery unit with flange □ Checking fuel pump (electrical test) ⇒ page 58 9 Checking residual pressure ⇒ Rep. gr. 24 Removing and installing 10 ⇒ page 73 ☐ Put at least 5 litres of fuel into tank after instal-11 ling 3 - Seal □ Renew 12 ☐ Install dry 4 - Fuel supply line □ To fuel filter cted by copyright. vate or commercial purposes, in part or in whole, is not ☐ Do not kinkmitted unle o by AUO AG. AUDI AG does not guarantee or accept any liability coness of information in this document. Copyright by AUDI AG. Attached to connection marked "V" on flange To disconnect from flange, press release tab on connection 5 - Fuel return line □ From fuel filter □ Do not kink 14 13 A20-1211

marked "R" on flange ☐ To disconnect from flange, press release tab on connection

6 - Electrical connector

Attached to connection

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

7 - Locking ring

- ☐ Remove and install using wrench -T10202-
- □ 110 Nm

8 - Fuel supply pipe

- ☐ From suction-jet pump to fuel delivery unit
- Clipped onto fuel delivery unit

9 - Electrical connector

☐ For fuel gauge sender 2 -G169-

10 - Locking ring

- ☐ Remove and install using wrench -T10202-
- ☐ 110 Nm

11 - Seal

- ☐ Renew
- □ Install dry

12 - Fuel gauge sender 2 -G169-

- ☐ Only available together with -item 13-.
- ☐ Installation position ⇒ page 86
- ☐ Checking resistance values ⇒ page 81
- □ Removing and installing ⇒ page 83

13 - Suction-jet pump

- With pipes
- ☐ Only available together with -item 12-.
- □ Removing and installing ⇒ page 87

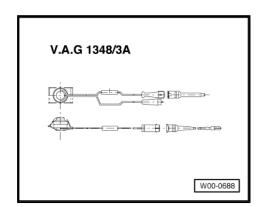
14 - Supply pipe for suction-jet pump

- ☐ From fuel pump to suction-jet pump
- Press release tab on pipe connector to disconnect



Special tools and workshop equipment required

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



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





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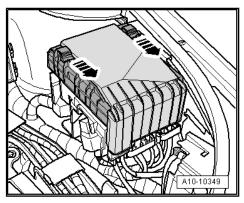
Auxiliary measuring set -V.A.G 1594C-



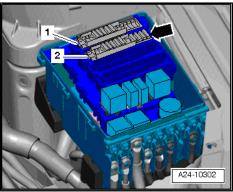
Procedure

Observe test conditions ⇒ page 4.

Press the two clips in direction of the -arrows- and remove cover from electronics box in engine compartment.



Detach fuse at position 1 -arrow- from "fuse holder ST2" (brown) -item 2-.



- Connect remote control -V.A.G 1348/3A- for V.A.G 1348 with adapter cable -V.A.G 1348/3-2- to fuse contact for fuel pump and to the positive "+" battery terminal.
- Press remote control button -V.A.G 1348/3 A- .
- Pump should start running audibly.



Note

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

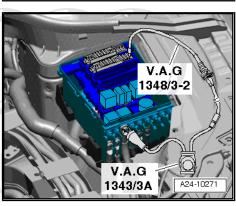
If no noise can be heard from pump:

TT Coupé:

- Remove rear seat bench ⇒ Rep. gr. 72.

TT Roadster:

Remove back panel side trim (right-side) ⇒ Rep. gr. 70.



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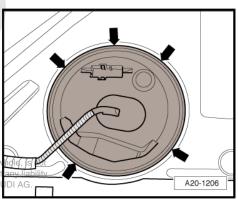
All vehicles (continued):

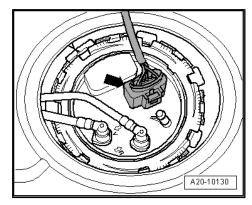
 Unclip the retaining tabs -arrows- for the flange cover (rightside).



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Unplug electrical connector -arrow- at flange.

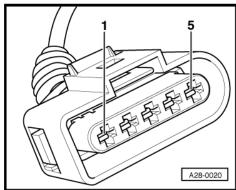




- Connect multimeter between contacts -1- and -5- of connector to measure voltage.
- Press remote control button.
- · Specification: approx. battery voltage

If specification is not obtained:

Eliminate open circuit in wiring (refer to current flow diagram).



If reading matches specification although no noise can be heard from pump:

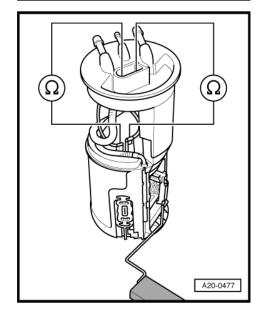
- Remove fuel delivery unit ⇒ page 73.
- Check that the electrical wires between flange and fuel pump are connected and test for continuity.

If no faults are found in the wiring:

Fuel pump is defective. Renew fuel delivery unit.

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

Install fuel delivery unit ⇒ page 76.



6.3 Checking fuel pump control unit -J538- vehicles with TFSI engine

- On vehicles with TFSI engine, voltage for the fuel pump is supplied via fuel pump control unit -J538- .
- Check fuel pump control unit -J538- in "Guided Fault Finding" ⇒ Vehicle diagnostic, testing and information system VAS 5051.

Removing and installing fuel pump con-6.4 trol unit -J538- - vehicles with 1.8 ltr./ 2.0 ltr. TFSI engine

Removing

TT Coupé:

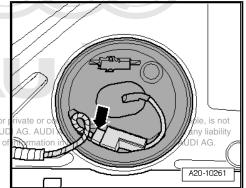
Remove rear seat bench ⇒ Rep. gr. 72.

TT Roadster:

Remove back panel side trim (right-side) ⇒ Rep. gr. 70.

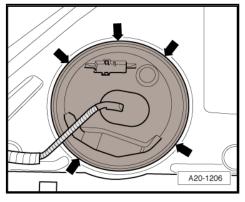
All vehicles (continued):

Remove fuel pump control unit -J538- from cover for flange and unplug electrical connector -arrow-.



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Unclip the retaining tabs -arrows- for the flange cover (rightside).



Unplug electrical connector -arrow- at flange.

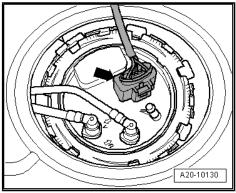
Installation is carried out in the reverse order; note the following:

TT Coupé:

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

TT Roadster:

Install back panel side trim (right-side) ⇒ Rep. gr. 70.



6.5 Removing and installing fuel pump control unit -J538- - vehicles with 2.5 ltr. TFSI engine

Removing

TT Coupé:

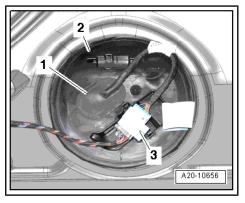
- Remove rear seat bench ⇒ Rep. gr. 72 .

TT Roadster:

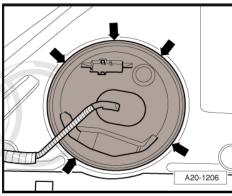
Remove back panel side trim (right-side) ⇒ Rep. gr. 70.

All vehicles (continued):

- Take electrical connector -3- out of flange cover and unplug (press release tab).
- Pull grommet -1- off flange cover -2-.

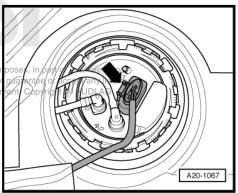


- Unclip retaining tabs -arrows- for flange cover.
- Detach flange cover.

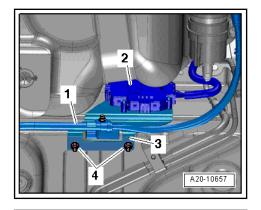


Unplug electrical connector -arrow- at flange.





- Disengage handbrake cable -1- from bracket.
- Remove bolts -4-.

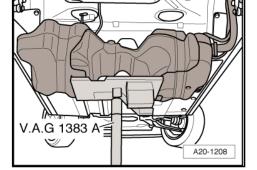




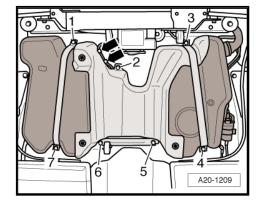
Caution

Risk of overstretching electrical wiring.

Lower fuel tank using engine and gearbox jack -V.A.G 1383 A- by max. 20 mm so that fuel pump control unit can be detached together with electrical wiring harness and connector.



- Remove bolts -3, 4, 5-.
- Lower fuel tank with engine and gearbox jack -V.A.G 1383 Aby max. 20 mm.





Detach bracket 3 with control unit 2 mand at the same time ole, is guide out electrical connector and wiring harness for fuel pumpor AG. control unit.

Installing

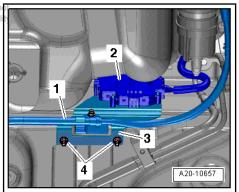
Installation is carried out in the reverse order; note the following:

TT Coupé:

Install rear seat bench ⇒ Rep. gr. 72.

TT Roadster:

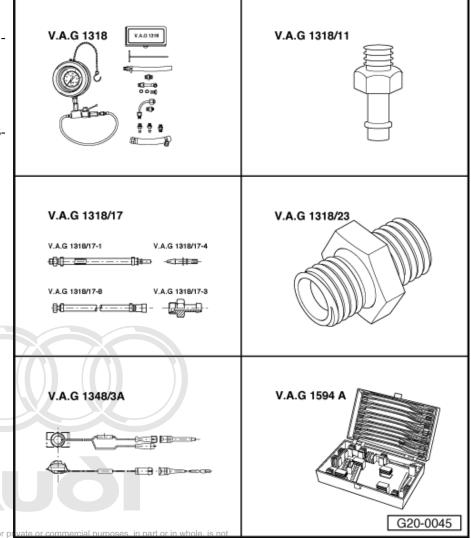
Install back panel side trim (right-side) ⇒ Rep. gr. 70.



6.6 Checking fuel pump delivery rate - vehicles with 1.8 ltr./2.0 ltr. TFSI engine

Special tools and workshop equipment required

- K-Jetronic pressure tester -V.A.G 1318-
- ♦ Adapter -V.A.G 1318/11-
- Adapter -V.A.G 1318/17-1A-
- ♦ Connector -V.A.G 1318/23-
- Remote control -V.A.G 1348/3A- for V.A.G 1348 with adapter cable -V.A.G 1348/3-3-
- Auxiliary measuring set -V.A.G 1594C-
- Fuel-resistant measuring container



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Procedure

Observe test conditions ⇒ page 4.

TT Coupé:

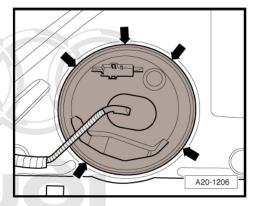
- Remove rear seat bench ⇒ Rep. gr. 72 .

TT Roadster:

- Remove back panel side trim (right-side) ⇒ Rep. gr. 70.

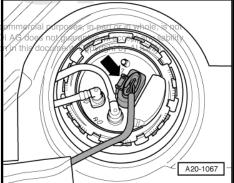
All vehicles (continued):

- Unclip retaining tabs -arrows- for flange cover.



Unplug electrical connector -arrow- at flange.

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- Connect remote control -V.A.G 1348/3A- for V.A.G 1348 to contact -1- using adapter cable -V.A.G 1348/3-3- and test lead from auxiliary measuring set -V.A.G 1594C-.
- Tape off 2nd connector contact of adapter cable -V.A.G 1348/3-3- with insulating tape -arrow- to prevent short circuits.
- Connect contact -5- to the body (earth) using a test lead from auxiliary measuring set -V.A.G 1594C- .
- Connect crocodile clip to battery "+" (positive terminal in engine compartment).
- Remove filler cap from fuel filler neck.

V.A.G 1594 A .A.G 1348/3-3 A20-1120

Rest-of-world vehicles with toothed belt drive:

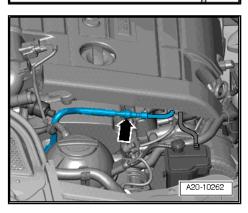
Detach fuel line from retainer and remove heat insulation sleeve at fuel line connection.



WARNING

Risk of injury - fuel system operates under high pressure.

- To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.
- Pull release ring and disconnect fuel line -arrow-.



USA vehicles with toothed belt drive:

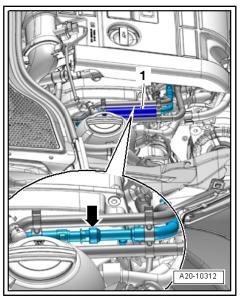
Detach fuel line from retainer and remove heat insulation sleeve -1- at fuel line connection.



WARNING

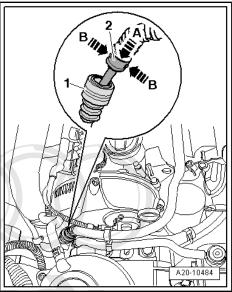
Risk of injury - fuel system operates under high pressure.

- To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.
- Pull release ring and disconnect fuel line -arrow-.



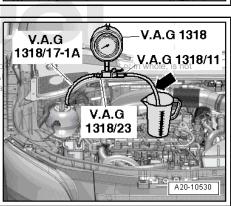
Vehicles with timing chain:

- Push down protective sleeve -1- and disconnect fuel line.
- First press hose connector -2- downwards -arrow A-, then press release tabs -arrow B-.
- Pull off hose connector, keeping release tabs depressed.



All vehicles (continued):

- Screw connector -V.A.G 1318/23- and adapter -V.A.G 1318/17-1A- onto K-Jetronic pressure tester by A.G. 1318-
- Fit adapter -V.A.G 1318/17-1A- onto disconnected fuel lines of information of the state of the s
- Screw adapter -V.A.G 1318/11- onto K-Jetronic pressure tester -V.A.G 1318- .
- Attach test hose -arrow- and hold end of hose in measuring container.
- Open cut-off valve on pressure tester.
- Lever must point in direction of flow.
- Build up pressure in fuel system by pressing the remote control and slowly closing the cut-off valve on the pressure tester.
- Specification: 4 bar
- From this point on do not move position of cut-off valve.
- Empty the measuring container.
- Press remote control button for 15 seconds.





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



Note

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

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

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

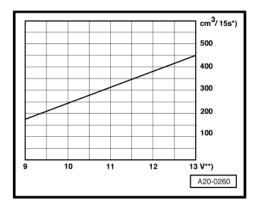
Installation is carried out in the reverse order; note the following:

TT Roadster:

Install back panel side trim (right-side) ⇒ Rep. gr. 70.

TT Coupé:

Install rear seat bench ⇒ Rep. gr. 72.

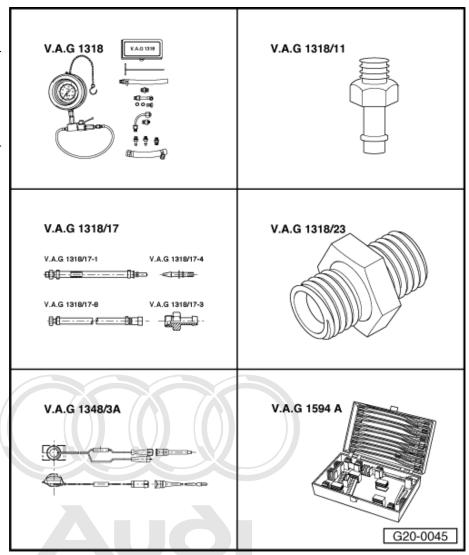


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6.7 Checking fuel pump delivery rate - vehicles with 2.5 ltr. TFSI engine

Special tools and workshop equipment required

- K-Jetronic pressure tester -V.A.G 1318-
- Adapter -V.A.G 1318/11-
- Adapter -V.A.G 1318/17-1A-
- Connector -V.A.G 1318/23-
- Remote control -V.A.G 1348/3A- for V.A.G 1348 with adapter cable -V.A.G 1348/3-3-
- Auxiliary measuring set -V.A.G 1594C-
- Fuel-resistant measuring container



Procedure

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TT Coupé:

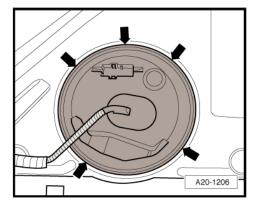
- Remove rear seat bench ⇒ Rep. gr. 72 .

TT Roadster:

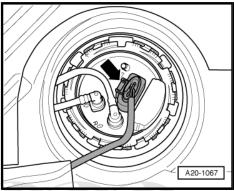
Remove back panel side trim (right-side) ⇒ Rep. gr. 70.

All vehicles (continued):

- Unclip retaining tabs -arrows- for flange cover.



Unplug electrical connector -arrow- at flange.



V.A.G 1594 A

V.A.G 1348/3-3

A20-1120

- Connect remote control -V.A.G 1348/3A- for V.A.G 1348 to contact -1- using adapter cable -V.A.G 1348/3-3- and test lead from auxiliary measuring set -V.A.G 1594C-.
- Tape off 2nd connector contact of adapter cable -V.A.G 1348/3-3- with insulating tape -arrow- to prevent short circuits.
- Connect contact -5- to the body (earth) using a test lead from auxiliary measuring set -V.A.G 1594C- .
- Connect crocodile clip to battery "+" (positive terminal in engine compartment).
- Remove filler cap from fuel filler neck.

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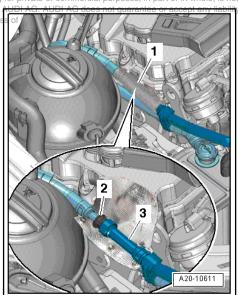
Detach fuel line from retainer and remove heat insulation the correctne sleeve -1- at fuel line connection.



WARNING

Risk of injury - fuel system operates under high pressure.

- ♦ To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.
- Disconnect fuel line -3- by pulling release ring -2-.



- Screw connector -V.A.G 1318/23- and adapter -V.A.G 1318/17-1A- onto K-Jetronic pressure tester -V.A.G 1318- .
- Fit adapter -V.A.G 1318/17-1A- onto disconnected fuel line.
- Screw adapter -V.A.G 1318/11- onto K-Jetronic pressure tester -V.A.G 1318- .
- Attach test hose -arrow- and hold end of hose in measuring container.
- Open cut-off valve on pressure tester.
- · Lever must point in direction of flow.
- Build up pressure in fuel system by pressing the remote control and slowly closing the cut-off valve on the pressure tester.
- Specification: 4 bar
- From this point on do not move position of cut-off valve.
- Empty the measuring container.
- Press remote control button for 15 seconds.
- Compare amount of fuel delivered with minimum delivery shown in diagram (cm³/15 sec.).



Note

Voltage at fuel pump with engine stationary and pump running is approx. 2 volts less than battery voltage purposes, in part or in whole, is not not approxed by the pump with the pump w

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

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

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

TT Roadster:

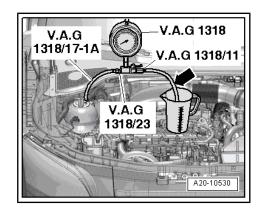
Install back panel side trim (right-side) ⇒ Rep. gr. 70.

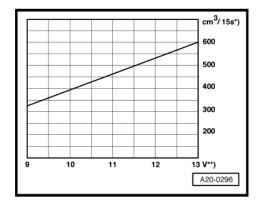
TT Coupé:

Install rear seat bench ⇒ Rep. gr. 72.

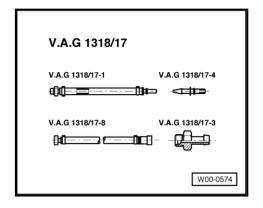
6.8 Checking fuel pump delivery rate - vehicles with 3.2 ltr. MPI engine

Special tools and workshop equipment required

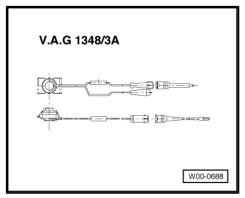




◆ Adapter -V.A.G 1318/17-1- from adapter set -V.A.G 1318/17-



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



◆ Fuel-resistant measuring container

Procedure

Observe test conditions <u>⇒ page 4</u>.

Remove filler cap from fuel filler neck.

TT Coupé:

Remove rear seat bench ⇒ Rep. gr. 72 .

TT Roadster:

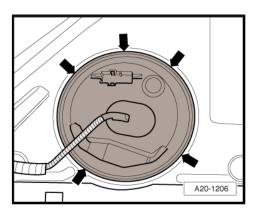
Remove back panel side trim (right-side) ⇒ Rep. gr. 70.

All vehicles (continued):

Unclip the retaining tabs -arrows- for the flange cover (rightside).



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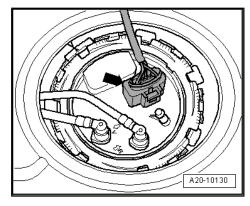
Audi TT 2007 ➤

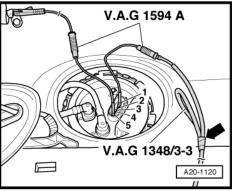
Unplug electrical connector -arrow- at flange.

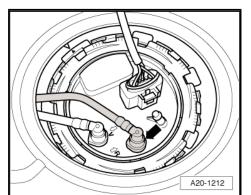


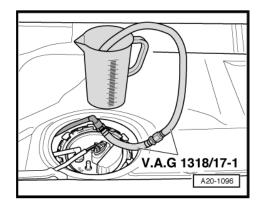
- Connect remote control -V.A.G 1348/3A- for V.A.G 1348 to contact -1- using adapter cable -V.A.G 1348/3-3- and test lead from auxiliary measuring set -V.A.G 1594C- .
- Tape off 2nd connector contact of adapter cable -V.A.G 1348/3-3- with insulating tape -arrow- to prevent short circuits.
- Connect contact -5- to the body (earth) using a test lead from auxiliary measuring set -V.A.G 1594C-.
- PConnect crocodile clip to battery + "

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WARNING

Risk of injury - fuel system operates under high pressure.

- To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.
- Press release tab and disconnect fuel return line -arrow-.
- Fit adapter -V.A.G 1318/17-1- onto disconnected fuel return line and hold adapter hose in measuring container.
- Press remote control button for 15 seconds.

cm³/15s*)

500 400

300

200

100

13 V**) A20-0260

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



Note

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

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

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

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

TT Coupé:

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

TT Roadster:

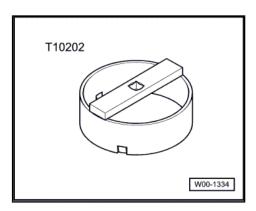
Install back panel side trim (right-side) ⇒ Rep. gr. 70.

6.9 Removing and installing fuel delivery unit

Special tools and workshop equipment required

♦ Wrench -T10202-





Removina

Observe safety predatitions to piage your mercial purposes, in part or in whole, is not permitted thiss authorised by Author and Author Author Author and I all lists authorised by Author Author Author and I all lists authorised by Author Au Observe rules for cleanliness ⇒ page 4.



Caution

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

- Observe notes on procedure for disconnecting the battery.
- Disconnect battery ⇒ Rep. gr. 27.



TT Roadster:



Caution

- On the TT Roadster, the fuel tank must first be removed before removing the fuel delivery unit.
- Remove fuel tank: Rest-of-world vehicles ⇒ page 42, USA vehicles ⇒ page 51.

TT Coupé:

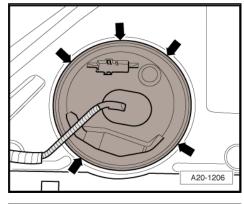
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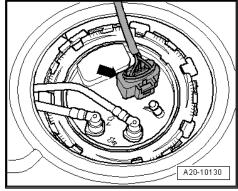
WARNING

Large amounts of fuel can escape.

- The fuel tank must not be more than 1/3 full when removing the fuel delivery unit, otherwise a large amount of fuel will escape.
- Drain fuel tank if necessary: Rest-of-world vehicles ⇒ page 40, USA vehicles ⇒ page 49.
- Remove rear seat bench ⇒ Rep. gr. 72.
- Unclip the retaining tabs -arrows- for the flange cover (rightside).



Unplug electrical connector -arrow- at flange.



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



WARNING

Risk of injury - fuel system operates under high pressure.

- To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.
- Detach both pipes from flange (press release tabs).

TT Roadster:

- With fuel tank removed, mark fuel supply line -1- and fuel return line -2-.
- Detach both pipes from flange (press release tabs).

TT Coupé:



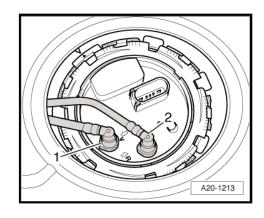
WARNING

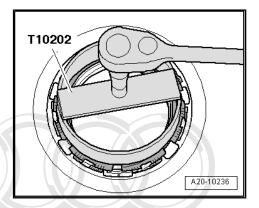
Large amounts of fuel can escape.

The fuel tank must not be more than 1/3 full when removing the fuel delivery unit, otherwise a large amount of fuel will escape.

All vehicles (continued):

- Unscrew locking ring using wrench -T10202- .
- Take flange (right-side) and seal of fuel delivery unit out of opening in fuel tank and move clear, leaving pipes connected.





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- In opening in fuel tank, press release tab to disconnect supply pipe -2- to suction-jet pump.
- Disconnect fuel supply pipe -1- (press release catch -arrow-).
- Remove fuel delivery unit.



Note

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

Installing

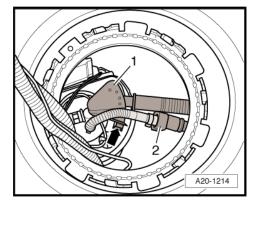
Tightening torque <u>⇒ page 57</u>

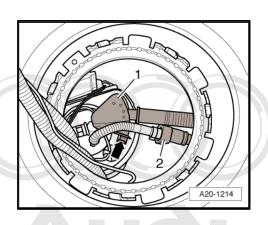
Installation is carried out in the reverse order; note the following:



Note

- Renew seal.
- Take care not to bend the fuel gauge sender -G- when fitting the fuel delivery unit.
- Ensure that fuel hoses are securely seated.
- Insert fuel delivery unit into fuel tank, with flange set aside.
- Fit fuel supply pipe -1-, so that it engages (you should hear it click into place).
- Fit supply pipe -2- leading to suction-jet pump so that it engages audibly.





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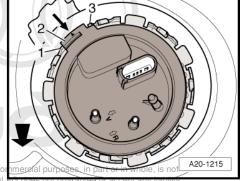
- Install new seal for flange (seal must be installed dry).
- Slot guide sleeve on flange into guide sleeve on fuel delivery unit; make sure spring is not damaged.



Caution

Leakage risk

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



- Press flange down against spring pressure and move flangeg. AUDI into installation position. with respect to the correctness of information in this document. Copyright by AUDI AG
- Lug -2- on flange points towards arrow marking, and must be between tabs -1- and -3- on fuel tank.



Note

The -arrow- points in direction of travel.

Tighten locking ring.

TT Coupé:

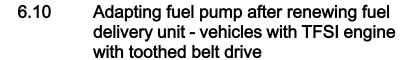
- Install rear seat bench ⇒ Rep. gr. 72.
- Connect battery. Observe notes on procedures required after connecting battery ⇒ Rep. gr. 27.

TT Roadster:

Install fuel tank: Rest-of-world vehicles with four-wheel drive ⇒ page 46 , USA vehicles with four-wheel drive ⇒ page 55 .

All vehicles (continued):

- Put at least 5 litres of fuel into tank after installing fuel delivery unit.
- On vehicles with TFSI engine with toothed belt drive, the fuel pump must be adapted after renewing the fuel delivery unit ⇒ page 77 .

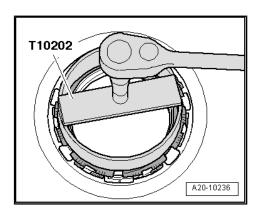




Note

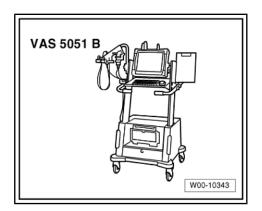
- On vehicles with TFSI engine with toothed belt drive, the fuel delivery unit must be adapted to the engine control unit after renewing the fuel delivery unit.
- This operation is not required on vehicles with TFSI engine with timing chain.

Special tools and workshop equipment required



(Audi TT 2007 ➤

 Vehicle diagnostic, testing and information system -VAS 5051B-



Procedure

- · No faults stored in event memory.
- Connect vehicle diagnostic, testing and information system -VAS 5051B- to diagnostic connection -arrow- and start engine.
- Select following menu options:
- "Vehicle self-diagnosis"
- "01 Engine electronics"
- "Basic setting, display group 103"
- "Activate"
- Check display in zone "4".

Indicated on display: "ADP runs". When the fuel pump has been successfully adapted, the display will show "ADP OK".



Note

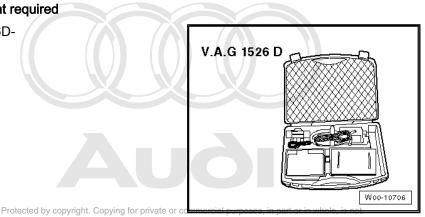
If display shows "ADP n.OK": interrogate event memory.

- End "vehicle self-diagnosis".
- Switch off ignition and unplug diagnostic connector.

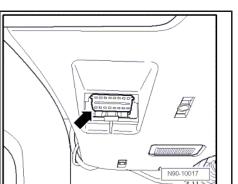
6.11 Checking fuel gauge sender -G-

Special tools and workshop equipment required

♦ Hand-held multimeter -V.A.G 1526D-



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



Procedure

TT Coupé:

- Remove rear seat bench ⇒ Rep. gr. 72 .

TT Roadster:

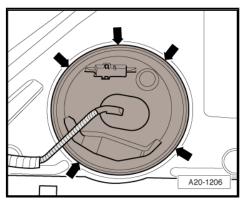
- Remove back panel side trim (right-side) ⇒ Rep. gr. 70.

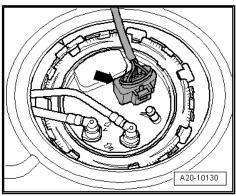
All vehicles (continued):

- Unclip the retaining tabs -arrows- for the flange cover (rightside).
- Unplug electrical connector -arrow- at flange.



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 Connect multimeter (resistance test) between contacts -2- and -3-.

Fuel gauge sender -G- installed:

- Sender at lower stop: approx. 270 Ω.
- Sender at upper stop: approx. 70 Ω.



Note

- ◆ To test the maximum and minimum resistance values for "tank full" and "tank empty", remove the fuel delivery unit ⇒ page 73 and move the sender float all the way to its top or bottom position.
- If the resistance is 0 Ω, there is a short circuit. If the resistance is ∞ Ω, there is an open circuit in the wiring.
- ◆ The following values are obtained with the fuel gauge sender -G- removed, due to the greater travel of the float arm:

Fuel gauge sender -G- removed:

- Sender at lower stop: approx. 290 Ω.
- Sender at upper stop: approx. 60 Ω.
- Connect multimeter (resistance test) between contacts -3- and -4-.

Fuel gauge sender -G- installed or removed:

Sender in any position: approx. 340 Ω.

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

TT Coupé:

Install rear seat bench ⇒ Rep. gr. 72.

TT Roadster:

Install back panel side trim (right-side) ⇒ Rep. gr. 70.

6.12 Removing and installing fuel gauge sender -G Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not

Removing

Observe safety precautions ⇒ page 4.

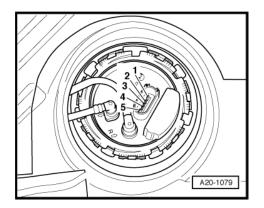
Observe rules for cleanliness ⇒ page 4.

TT Roadster:



Caution

- On the TT Roadster, the fuel tank must first be removed before removing the fuel delivery unit.
- Remove fuel tank: Rest-of-world vehicles ⇒ page 42, USA vehicles ⇒ page 51.



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All vehicles (continued):

Remove fuel delivery unit ⇒ page 73.



Caution

Risk of damage.

- ♦ First release retainer tabs on connector contact before detaching electrical connectors on fuel gauge sender -G-.
- Release and detach electrical connectors -1 ... 3-.
- Lift retaining tabs -4- and -5- with a screwdriver and pull fuel gauge sender -G- off downwards -arrow-.

Installing

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

- Insert fuel gauge sender -G- into guides on fuel delivery unit and press upwards until it clicks into place.
- Plug in electrical connectors and check that they have engaged properly.
- Install fuel delivery unit <u>⇒ page 76</u>; observe instructions for connecting battery.



Special tools and workshop equipment required

♦ Hand-held multimeter -V.A.G 1526D-

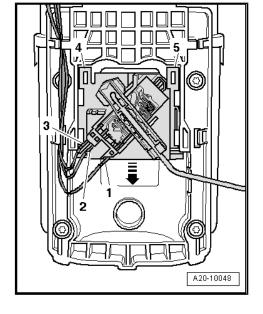


Auxiliary measuring set -V.A.G 1594C-



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Procedure

TT Coupé:

Remove rear seat bench \Rightarrow Rep. gr. 72.

TT Roadster:

Remove back panel side trim (left-side) ⇒ Rep. gr. 70.

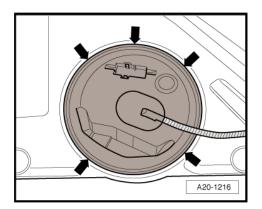
All vehicles (continued):

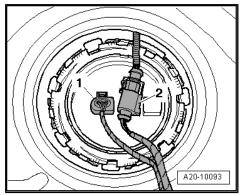
- Unclip the retaining tabs -arrows- for the flange cover (leftside).
- Unplug electrical connector -1- at flange.



Note

Disregard -item 2-.







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Connect multimeter (resistance test) between contacts -1- and

With fuel gauge sender 2 -G169- installed:

- Sender at lower stop: approx. 270 Ω .
- Sender at upper stop: approx. 70 Ω .



Note

- In order to test the maximum and minimum values for "tank full" and "tank empty", remove the fuel gauge sender 2 -G169-⇒ page 83 and move the float all the way to its top or bottom position.
- If the resistance is 0Ω , there is a short circuit. If the resistance is ∞ Ω , there is an open circuit in the wiring.
- The following values are obtained with the fuel gauge sender 2 -G169- removed, due to the greater travel of the float arm:

With fuel gauge sender 2 -G169- removed:

- Sender at lower stop: approx. 286 Ω .
- Sender at upper stop: approx. 50 Ω .
- Connect multimeter (resistance test) between contacts -2- and

With fuel gauge sender 2 -G169- installed or removed:

Sender in any position: approx. 340 Ω .

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

TT Coupé:

Install rear seat bench ⇒ Rep. gr. 72.

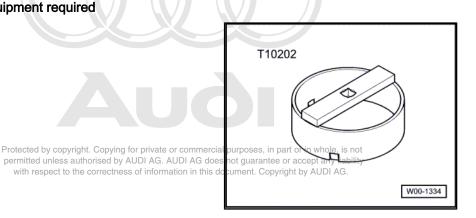
TT Roadster:

Install back panel side trim (left-side) ⇒ Rep. gr. 70.

6.14 Removing and installing fuel gauge sender 2 -G169-

Special tools and workshop equipment required

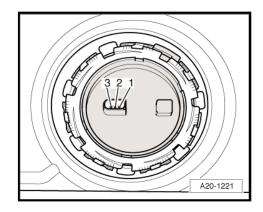
♦ Wrench -T10202-



Removing

Observe safety precautions ⇒ page 4.

Observe rules for cleanliness <u>⇒ page 4</u>.





Caution

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

- ♦ Observe notes on procedure for disconnecting the battery.
- Disconnect battery ⇒ Rep. gr. 27.

TT Roadster:



Caution

- On the TT Roadster, the fuel tank must first be removed before removing the fuel gauge sender 2 -G169- .
- Remove fuel tank: Rest-of-world vehicles ⇒ page 42 , USA vehicles ⇒ page 51 .

TT Coupé:

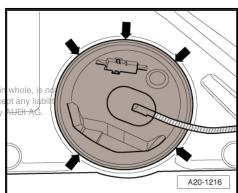


WARNING

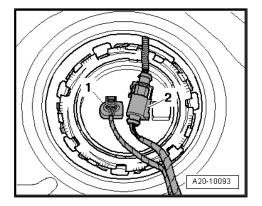
Large amounts of fuel can escape.

- ◆ The fuel tank must not be more than ¹/₃ full when removing the fuel gauge sender 2 -G169-; otherwise a large amount of fuel will escape.
- Drain fuel tank if necessary: Rest-of-world vehicles
 ⇒ page 40 , USA vehicles ⇒ page 49 .
- Briefly open filler cap for fuel tank and close again.
- Remove rear seat bench ⇒ Rep. gr. 72.
- Unclip the retaining tabs -arrows- for the flange cover (leftside).

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- Unplug electrical connector -1- at flange.
- Disengage electrical connector -2- and move it clear to the side.





WARNING

Large amounts of fuel can escape.

The fuel tank must not be more than 1/3 full when removing the fuel gauge sender 2 -G169-; otherwise a large amount of fuel will escape.

All vehicles (continued):

- Unscrew locking ring using wrench -T10202- .
- Carefully pull fuel gauge sender 2 -G169- -item 2- together with suction-jet pump -1- just slightly out of opening in fuel tank.
- Detach seal.
- Unclip suction-jet pump from flange -arrows-.



Note

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

Installing

Tightening torque ⇒ page 57

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

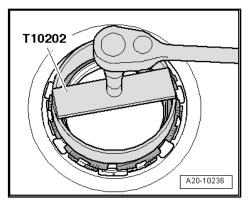


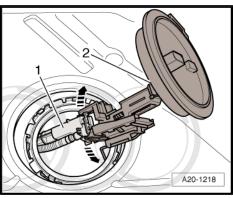
Note

Renew seal.

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

- Carefully insert fuel gauge sender 2-G169- into opening in fuel
- Clip suction-jet pump -1- onto flange, so that you hear it click into place.







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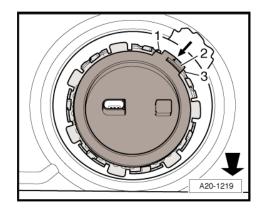
Install new seal for flange (seal must be installed dry).



Caution

Leakage risk

- The seal must not be pinched or damaged when installing the flange.
- Press flange down against spring pressure and move flange into installation position.
- Lug -2- on flange points towards arrow marking, and must be between tabs -1- and -3- on fuel tank.





Note

The -arrow- points in direction of travel.

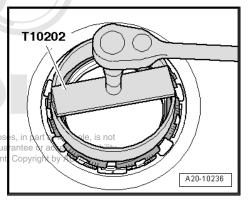
Tighten locking ring.

TT Coupé:

- Install rear seat bench ⇒ Rep. gr. 72.
- Observe notes on procedures required after connecting battery ⇒ Rep. gr. 27.

TT Roadster:

Install fuel tank: Rest-of-World Vehicles With four wheel drives not gu ⇒ page 46 , USA vehicles with four-wheel drive ⇒ page 55 s documer



6.15 Suction-jet pump

On vehicles with four-wheel drive the fuel tank is divided into a left and a right chamber. A so-called suction-jet pump -1- is used for delivering the fuel from the left fuel tank chamber -3- to the baffle housing of the fuel delivery unit -2- on the right.

Suction-jet pump: operation

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

Faults caused by defective suction-jet pump



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

♦ If the suction-jet pump is defective, the engine can stop due to fuel starvation when the tank is still 1/₄ full.

If the suction-jet pump is not working, up to 15 litres of fuel (up to about ¹/₄ of tank capacity) may remain in the left chamber of the tank, where it cannot be drawn into the fuel delivery unit.

If the engine stops due to fuel starvation with the tank up to about ¹/₄ full, proceed as follows:

Check fuel pump ⇒ page 58.

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

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

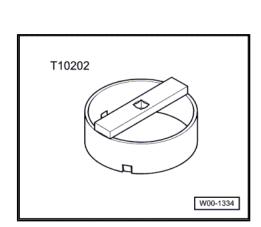
If engine now starts:

Renew suction-jet pump ⇒ page 87.

6.16 Removing and installing suction-jet pump

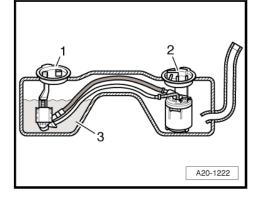
Special tools and workshop equipment required

♦ Wrench -T10202-



Removing

Observe safety precautions ⇒ page 4.



Observe rules for cleanliness ⇒ page 4.



Caution

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

- ♦ Observe notes on procedure for disconnecting the battery.
- Disconnect battery ⇒ Rep. gr. 27.

TT Roadster:



Caution

- On the TT Roadster, the fuel tank must first be removed before removing the suction-jet pump.
- Remove fuel tank: Rest-of-world vehicles ⇒ page 42 , USA vehicles ⇒ page 51 .

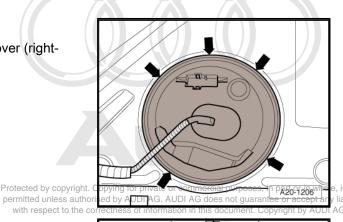
TT Coupé:



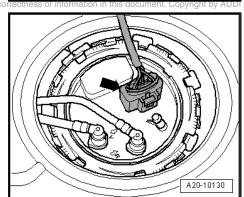
WARNING

Large amounts of fuel can escape.

- ◆ The fuel tank must not be more than ¹/₃ full when removing the suction-jet pump, otherwise a large amount of fuel will escape.
- Drain fuel tank if necessary: Rest-of-world vehicles
 ⇒ page 40 , USA vehicles ⇒ page 49 .
- Remove rear seat bench ⇒ Rep. gr. 72.
- Unclip the retaining tabs -arrows- for the flange cover (rightside).



Unplug electrical connector -arrow- at flange.



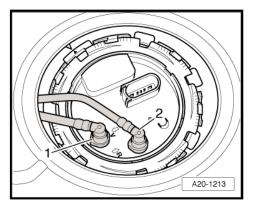
Mark fuel supply line -1- and fuel return line -2-.

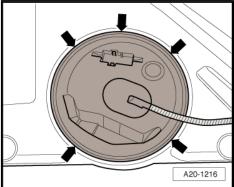


WARNING

Risk of injury - fuel system operates under high pressure.

- To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.
- Detach both pipes from flange (press release tabs).
- Unclip the retaining tabs -arrows- for the flange cover (leftside).

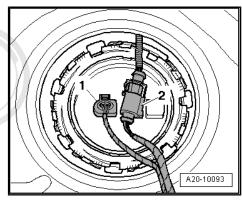




- Unplug electrical connector -1- at flange.
- Disengage electrical connector -2- and move it clear to the

TT Roadster:

- With fuel tank removed, mark fuel supply line and fuel return line on flange (right-side).
- Detach both pipes from flange (press release tabs).



TT Coupé:



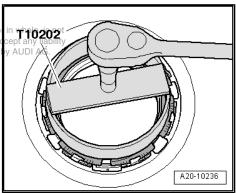
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Large amounts of fuel can escape.

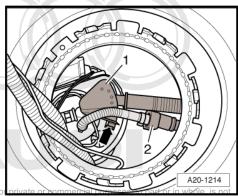
The fuel tank must not be more than 1/3 full when removing the suction-jet pump, otherwise a large amount of fuel will escape.

All vehicles (continued):

- Unscrew locking ring (right-side) using wrench -T10202- .

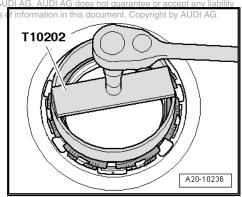


- (III
- Take flange and seal of fuel delivery unit out of opening in fuel tank and move clear, leaving pipes connected.
- In opening in fuel tank, press release tab to disconnect supply pipe -2- to suction-jet pump.
- Disconnect fuel supply pipe -1- (press release catch -arrow-).



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Unscrew locking ring (left-side) using wrench will 10202 the correctness



- Carefully pull fuel gauge sender 2 -G169- -item 2- together with suction-jet pump -1- just slightly out of opening in fuel tank.
- Detach seal.
- Unclip suction-jet pump from flange -arrows-.



Note

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

 Reach into fuel tank opening on left side of vehicle and pull out suction-jet pump, with pipes pointing towards the left.

Installing

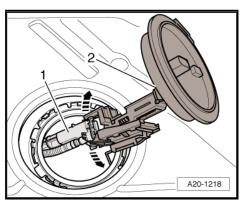
Tightening torque ⇒ page 57

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



Note

- ♦ Renew seals.
- When installing, make sure you do not bend float arm of fuel gauge sender 2 -G169-.
- Push suction-jet pump (with pipes attached) into fuel tank opening on left side of vehicle.



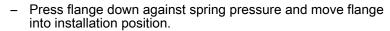
- Reach into fuel tank opening on right side of vehicle and pull suction-jet pump with pipes into the installation position.
- Fit supply pipe -1-, so that it engages (you should hear it click into place).
- Fit supply pipe -2- leading to suction-jet pump so that it engages audibly.
- A20-1214
- Install new seal for flange (seal must be installed dry).
- Slot guide sleeve on flange into guide sleeve on fuel delivery unit; make sure spring is not damaged.



Caution

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



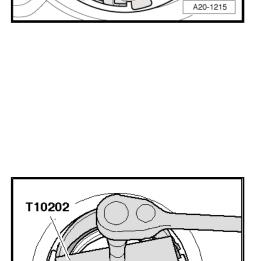
Lug -2- on flange points towards arrow marking, and must be between tabs -1- and -3- on fuel tank.



Note

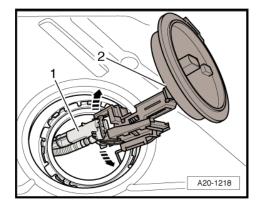
The -arrow- points in direction of travel.

Tighten locking ring.



A20-10236

- Carefully insert fuel gauge sender 2 -G169- into opening in fuel
- Clip suction-jet pump -1- onto flange -2-, so that you hear it click into place.



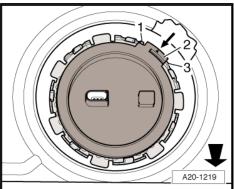
- Install new seal for flange (seal must be installed dry).



Caution

Leakage risk

- The seal must not be pinched or damaged when installing the flange.
- Press flange down against spring pressure and move flange into installation position.
- Lug -2- on flange points towards arrow marking, and must be between tabs -1- and -3- on fuel tank.





Note

The -arrow- points in direction of travel.

Tighten locking ring.

TT Coupé:

- Install rear seat bench ⇒ Rep. gr. 72.
- Observe notes on procedures required after connecting battery \Rightarrow Rep. gr. 27.

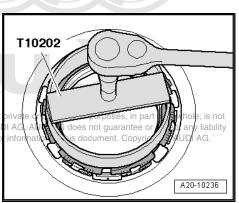
TT Roadster:

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Install fuel tank: Rest-of-world vehicles with four-wheel drive ⇒ page 46, USA vehicles with four-wheel drive ⇒ page 55.

All vehicles (continued):

Put at least 5 litres of fuel into tank after installing suction-jet pump



5

6

7 Fuel filter - all vehicles

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

Fuel filter - exploded view 7.1

1 - Fuel filter with fuel pressure 3 regulator For TFSI engine with fuel pressure regulator: 6.4 bar ☐ For MPI engine with fuel pressure regulator: 4 □ Flow direction is marked by arrows ■ Do not interchange connections ☐ Installation position: Pin on filter housing must engage in opening on filter bracket guide ⇒ page 95 y copyright. Copying in whole is not private or commercial purpose DI AG. AUDI AG does not guarante □ Removing and installing cept any liability f information in this document. Cop AUDI AG. ⇒ page 9 2 - Fuel supply line □ From fuel tank Press release tab on pipe connector to disconnect 3 - Fuel return line To fuel tank Press release tab on pipe connector to disconnect 4 - Fuel line □ To engine Press release tab on

5 - Bolt

☐ 1.5 Nm

6 - Bracket for fuel filter

connect

Attached to fuel tank

pipe connector to dis-

7.2 Removing and installing fuel filter

Special tools and workshop equipment required

Drip tray

A 20-10032

Removing

Observe safety precautions ⇒ page 4.

Observe rules for cleanliness <u>⇒ page 4</u>.

TT Coupé:

Remove rear seat bench ⇒ Rep. gr. 72.

TT Roadster:

Remove back panel side trim (right-side) ⇒ Rep. gr. 70.

Vehicles with 1.8 ltr./2.0 ltr. TFSI engine:



WARNING

Fuel can escape.

- Fuel pump control unit -J538- must be disconnected from the power supply to prevent the fuel pump from starting up when the driver's door is opened.
- Remove fuel pump control unit -J538- from cover for flange and unplug electrical connector -arrow-.

Vehicles with MPI engine:



WARNING

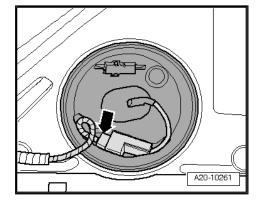
Fuel can escape.

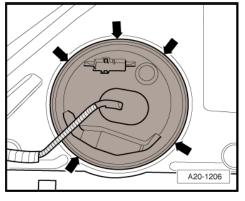
- The fuel pump must be disconnected from the power supply to prevent it from starting up when the driver's door is opened.
- Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not punclip, the retaining tabsacarrows for the tlange covera (right side) spect to the correctness of information in this document. Copyright by AUDI AG.
- Unplug electrical connector -arrow- at flange.

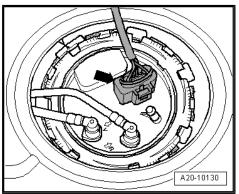


Note

Unplugging the connector for the fuel pump will prevent the fuel pump from being activated when the driver's door is opened.







All vehicles (continued):

- Place drip tray below fuel filter.



WARNING

Risk of injury - fuel system operates under high pressure.

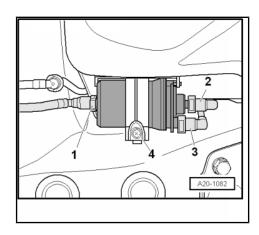
- ♦ To reduce the pressure in the fuel system, wrap a clean cloth around the connection and carefully loosen the connection.
- Disconnect fuel lines -1, 2, 3- by pressing the release tab.
- Remove bolt -4-.
- Remove fuel filter.

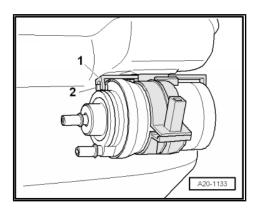
Installing

Tightening torque ⇒ page 93

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

- Flow direction is marked with arrows on filter housing.
- Pin -2- on filter housing must engage in opening on filter bracket guide -1-.





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8 Activated charcoal filter system - restof-world vehicles

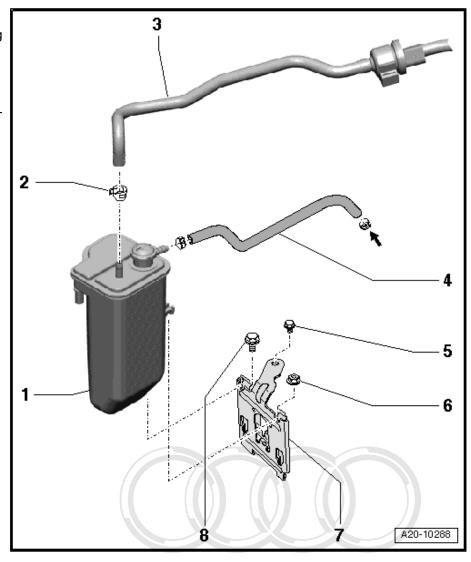
8.1 Activated charcoal filter system - exploded view



Note

Illustration shows version for vehicles with 3.2 ltr. MPI engine as an example.

- 1 Activated charcoal filter
 - □ Removing and installing⇒ page 96
- 2 Spring-type clip
- 3 Breather line
 - ☐ To activated charcoal filter solenoid valve 1 -N80-
- 4 Breather line
 - □ To fuel tank
- 5 Bolt
 - □ 8 Nm
- 6 Nut
 - □ 8 Nm
- 7 Bracket for activated charcoal filter
- 8 Bolt
 - □ 8 Nm

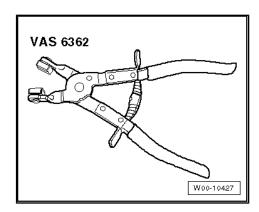


8.2 Removing and installing activated charcoal filter

Special tools and workshop equipment required

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♦ Hose clip pliers -VAS 6362-



Removing

Observe safety precautions ⇒ page 4.

Observe rules for cleanliness ⇒ page 4.

- Detach vacuum hoses -1- and -2- at activated charcoal filter.
- Pull the activated charcoal filter upwards out of the retainer -arrow-.



Note

Illustration shows vehicle with 3.2 ltr. MPI engine.

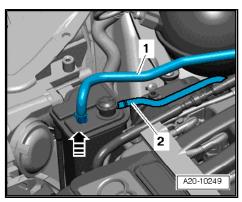
Installation is carried out in the reverse order; note the following:



Note

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

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9 Activated charcoal filter system and tank leak diagnostic system - USA vehicles

9.1 Activated charcoal filter system and tank leak diagnostic system - exploded view

1 - Breather line

- ☐ To filler neck on fuel tank
- Press release tab on pipe connector to disconnect

2 - Breather line

- □ To activated charcoal filter solenoid valve 1 -N80-
- Press release tab on pipe connector to disconnect

3 - Clip

■ Use correct type of clip (as original equipment) ⇒ Electronic parts catalogue

4 - Connecting hose

5 - Nut

□ 4 Nm

6 - Vacuum line

□ To engine

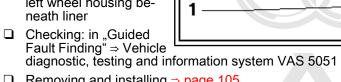
7 - Rubber bush

8 - Bracket

9 - Fuel system diagnostic pump -V144-

- ☐ Fitting location: in rear left wheel housing be-

□ Removing and installing ⇒ page 105



10 - Connecting pipe

☐ Press release tab on pipe connector to disconnect ying for private or commercial purposes, in part or in whole, is not

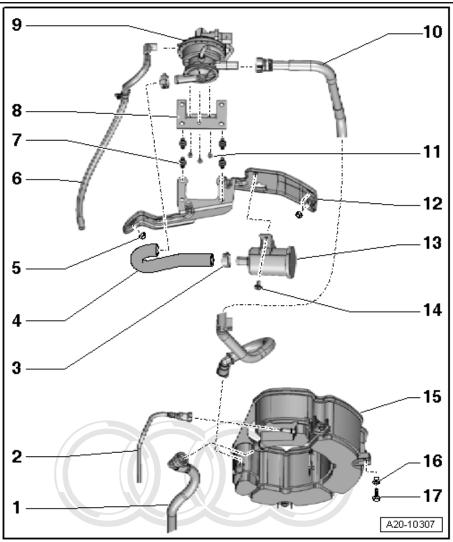
11 - Bolt

□ 4 Nm

12 - Bracket

13 - Air cleaner

☐ For fuel system diagnostic pump -V144-



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14 - Bolt

□ 4 Nm

15 - Activated charcoal filter

- ☐ Fitting location: at bottom of spare wheel well
- ☐ Removing and installing ⇒ page 99

16 - Bush

17 - Bolt

□ 8 Nm

9.2 Removing and installing activated charcoal filter

Removing



Note

Checking for leaks

⇒ "9.6 Performing tank leak diagnosis", page 102

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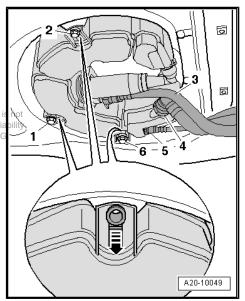
- Remove rear section of exhaust invited in the Repring Copyright by AUDI AG does not quarantee or accept any in Repring Copyright by AUDI AG
- Remove heat shield for rear silencer ⇒ Rep. gr. 66.
- Disconnect breather pipes and connecting pipes -3-, -4- and -5- (press release tabs).
- Remove bolts -1-, -2- and -6-.
- Use screwdriver to release retaining tabs in direction of -arrow- and take off activated charcoal filter.

Installing

Tightening torque ⇒ page 98

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

- Connect breather pipes and connecting pipes so that they engage audibly.
- Install heat shield for rear silencer ⇒ Rep. gr. 66.
- Install exhaust system ⇒ Rep. gr. 26.



9.3 Routing of pipes/hoses for activated charcoal filter system and tank leak diagnostic system - TFSI engine

1 - Vacuum line

- ☐ From engine to fuel system diagnostic pump -
- Clipped into bracket on underbody

2 - Breather line

- □ rolErrom/activated charcoal perfilter toeenginesed by AUDI A
- Section running along fuel tank is clipped onto fuel tank
- Connection points at front and rear of fuel tank

3 - Filler neck

4 - Breather line

- ☐ From fuel filler neck to activated charcoal filter
- Clipped into bracket on underbody

5 - Activated charcoal filter

- ☐ Fitting location: at bottom of spare wheel well
- □ Removing and installing <u>⇒ page 99</u>

6 - Connecting pipe

- ☐ From fuel system diagnostic pump -V144- to activated charcoal filter
- Clipped into bracket on underbody

7 - Air cleaner

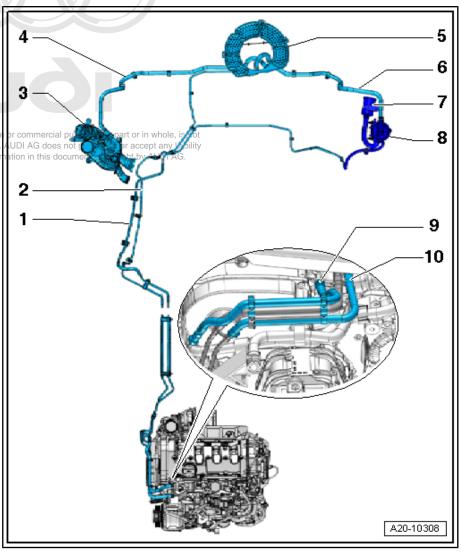
☐ For fuel system diagnostic pump -V144-

8 - Fuel system diagnostic pump -V144-

- ☐ Fitting location: in rear left wheel housing beneath liner
- ☐ Checking: in "Guided Fault Finding" ⇒ Vehicle diagnostic, testing and information system VAS 5051
- ☐ Removing and installing ⇒ page 105

9 - Vacuum hose to tank leak diagnostic pump

10 - Vacuum hose to activated charcoal filter



9.4 Routing of pipes/hoses for activated charcoal filter system and tank leak diagnostic system - 3.2 ltr. MPI engine

1 - Vacuum line

- From engine to fuel system diagnostic pump -V144-
- Clipped into bracket on underbody

2 - Breather line

- □ From activated charcoal filter to activated charcoal filter solenoid valve 1 -N80-
- Section running along fuel tank is clipped onto fuel tank
- Connection points at front and rear of fuel tank

3 - Filler neck

4 - Breather line

- ☐ From fuel filler neck to activated charcoal filter
- Clipped into bracket on underbody

5 - Activated charcoal filter

- ☐ Fitting location: at bottom of spare wheel well
- □ Removing and installing ⇒ page 99 permitted

6 - Connecting pipe

- From fuel system diagnostic pump -V144- to activated charcoal filter
- Clipped into bracket on underbody

6 9 2 10 pyright. Copying for private whole, is not ss authorised by AUDI AG. Al pt any liability AUDI AG. to the correctness of informa-A20-10309

7 - Air cleaner

☐ For fuel system diagnostic pump -V144-

8 - Fuel system diagnostic pump -V144-

- ☐ Fitting location: in rear left wheel housing beneath liner
- □ Checking: in "Guided Fault Finding" ⇒ Vehicle diagnostic, testing and information system VAS 5051
- □ Removing and installing ⇒ page 105

9 - Activated charcoal filter solenoid valve 1 -N80-

☐ Fitting location: engine compartment (front)

10 - Vacuum hose to tank leak diagnostic pump

Press release tab on pipe connector to disconnect

11 - Vacuum hose to activated charcoal filter

Press release tab on pipe connector to disconnect

9.5 Tank leak diagnostic system

Function

The tank leak diagnostic system detects leaks in the entire fuel system, including the fuel tank, activated charcoal filter and activated charcoal filter solenoid valve 1 -N80-.

The mechanical components of the tank leak diagnostic system consist primarily of a vacuum-driven diaphragm pump, with a reed contact located on the operating rod of the pump diaphragm. The vacuum required is supplied to the pump from the mechanical vacuum pump or from the engine intake.

- The diaphragm pump delivers a pressure of 20 ... 30 mbar to the fuel system when the tank leak diagnostic system starts up. In this condition the pump diaphragm is extended, so the reed contact located on the operating rod is in the gopen apor Sitionspect to the correctness of information in this document. Copyright by AUDI AG
- The diagnostic system detects whether the reed contact remains open for 15 seconds. In this case the fuel system is free of leaks.
- If the pressure drops (indicating a leak), the diaphragm returns and the reed contact closes.
- If the reed contact closes within 15 seconds, a further test is performed. The diaphragm pump is then activated for another 4 strokes. For each of these strokes the engine control unit measures the period of time it takes for the reed contact to close again after pressure delivery. In this way the control unit can distinguish between a "small leak" (smaller than 1 mm diameter) and a "large leak".

The automatic diagnosis function is activated shortly after every cold start (below 35°C) when the vehicle reaches a constant speed above 10 km/h. Any faults detected are stored in the memory. A fault message is displayed in the instrument cluster if the fault is detected during two consecutive road trips. The diagnosis function can also be activated with the vehicle diagnostic, testing and information system -VAS 5051B- ⇒ page 102.



Note

- The diagnosis can be repeated up to 10 times during the first 20 minutes after a cold start.
- By selecting measured value block 071 with vehicle diagnostic, testing and information system -VAS 5051B- connected, you can see whether the automatic tank leak diagnosis is being performed ⇒ page 102.

9.6 Performing tank leak diagnosis

Check the fuel tank leak diagnosis system using the "Guided Fault Finding function ⇒ Vehicle diagnostic, testing and information system VAS 5051.

Checking fuel tank system and tank breather system for leaks



Note

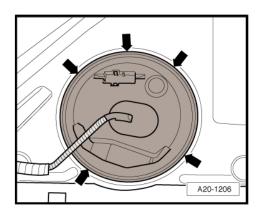
The following locations/components must be checked when checking the fuel tank system and tank breather system for leaks. Initiate a tank leak diagnosis after eliminating a suspected leak to make sure the diagnosed leak has been eliminated.

- Switch off ignition.
- Check whether the filler cap of the fuel tank was properly closed when performing the diagnosis.
- Check whether the seal of the filler cap is damaged or deformed. Renew if necessary.
- Remove rear seat bench ⇒ Rep. gr. 72.
- Unclip the retaining tabs -arrows- for the flange cover (rightside).



Note

Observe notes on installing flanges ⇒ page 32 and ⇒ page 76.





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Vehicles with four-wheel drive:

 Unclip the retaining tabs -arrows- for the flange cover (leftside).



Note

Observe notes on installing flange ⇒ page 85.

All vehicles (continued):

- Check that the seals under the fuel tank flanges are undamaged and that the locking rings on the flanges are properly tightened. Also check whether the fuel lines are connected properly.
- Perform a visual check on all pipe/hose connections of the fuel tank system and replace leaking pipes/hoses, e.g.:
- Line between activated charcoal filter and activated charcoal filter solenoid valve 1 -N80-
- Lines between activated charcoal filter and fuel system diagnostic pump -V144-
- Line between fuel tank and activated charcoal filter (below heat shield for activated charcoal filter).
- ◆ Fuel tank breather lines behind wheel housing liner (rear right).
- Fuel lines to engine.



Note

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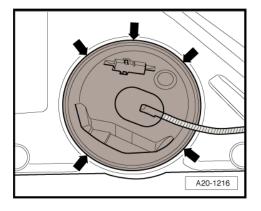
Leaks in pipes and components of the fuel tank system can sometimes be detected by applying a non-flammable, environment-friendly leak detecting spray. Initiate a tank leak diagnosis repeatedly to build up pressure in the system. Bubbles will form at the leak.

- Perform a visual check on the components of the fuel tank system/fuel tank breather system:
- ♦ Fuel tank
- Activated charcoal filter
- Fuel system diagnostic pump -V144-
- ◆ Activated charcoal filter solenoid valve 1 -N80-



Note

Due to the shape or function of these components it is not always possible to detect leaks by applying leak detecting spray. If this is the case, clamp off hoses going to the respective component using hose clamps up to 25 mm -3094- and initiate tank leak diagnosis. If no leak is then found after clamping off the hoses, the corresponding component is defective. If the hoses are clamped off directly at the diagnostic pump and a leak is still indicated, there is a leak in the diagnostic pump itself.



9.7 Removing and installing fuel system diagnostic pump -V144-

Removing

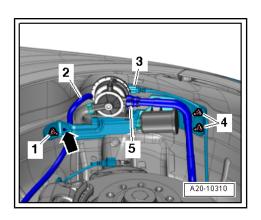
- Remove rear left wheel housing liner ⇒ Rep. gr. 66.
- Disconnect breather line -2- at diagnostic pump and detach from bracket -arrow-.
- Unplug electrical connector -3-.
- Press release tab and disconnect breather pipe -5-.
- Unscrew nuts -1- and -4-.
- Detach diagnostic pump with bracket.

Installing

Tightening torque ⇒ page 98

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

- The breather line -5- should engage audibly.
- Install rear left wheel housing liner ⇒ Rep. gr. 66 .





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10 Accelerator pedal module

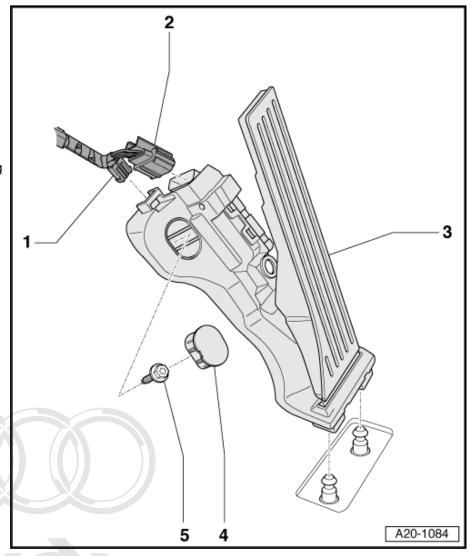
10.1 Accelerator pedal module (version 1) - exploded view

1 - Cable guide

- □ Attached to accelerator pedal module
- 2 Electrical connector

3 - Accelerator pedal module

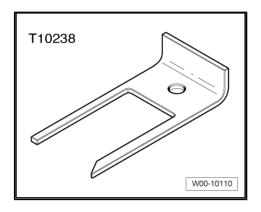
- With accelerator position sender -G79- and accelerator position sender 2 -G185-
- □ Removing and installing ⇒ page 106
- 4 Cap
- 5 Bolt
 - □ 9 Nm



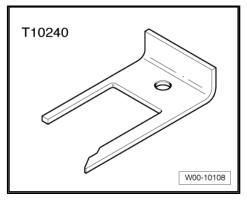
10.2 Removing and installing accelerator pedal module - version 1

Special tools and workshop equipment required pyright by AUDI AG.

♦ Release tool -T10238- for LHD vehicles

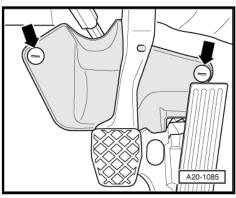


♦ Release tool -T10240- for RHD vehicles



Removing

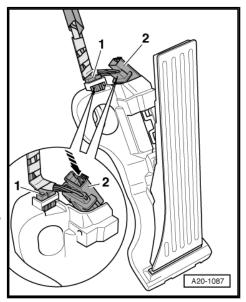
- Remove cover for steering column -arrows-.



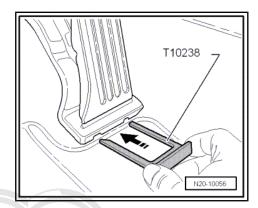
- Detach electrical connector -2- by pressing release tab as far the stop -arrow-.
- If fitted, detach cable guide clip -1- at accelerator pedal mod-
- Use screwdriver to prise off cap.
- Remove bolt.



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Push release tool -T10238- (or release tool -T10240- for RHD vehicles) fully into the slots provided, as illustrated -arrow-, and detach accelerator pedal module.



Installing

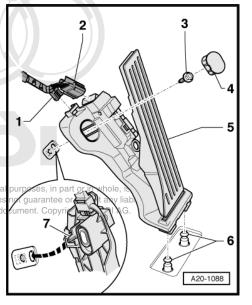
Tightening torque ⇒ page 106

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

- Attach cable guide clip -1- and electrical connector -2- to accelerator pedal module -5-.
- The connector must audibly engage.
- Press accelerator pedal module onto retaining studs -6-.
- Insert centring pin -7- into hole in underbody.
- Secure accelerator pedal module with bolt 3- and press on ommercial cap -4-. permitted unless authorised by AUDI AG. AUDI AG doe with respect to the correctness of information in this of

Vehicles with dual clutch gearbox:

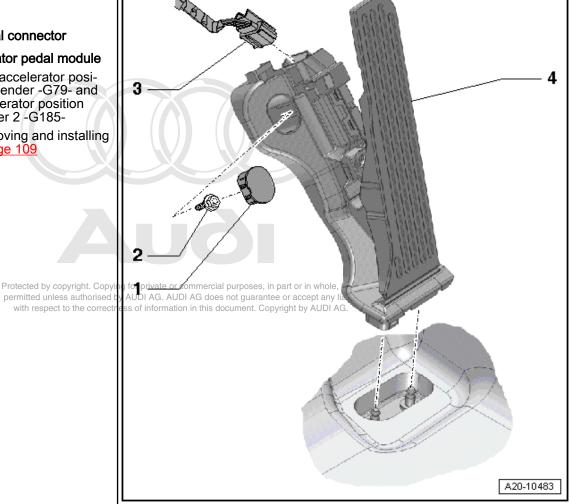
After renewing, perform kick-down adaption in "Guided Functions" mode \Rightarrow Vehicle diagnostic, testing and information system VAS 5051.





10.3 Accelerator pedal module (version 2) - exploded view

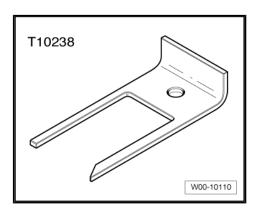
- 1 Cap
- 2 Bolt
 - □ 9 Nm
- 3 Electrical connector
- 4 Accelerator pedal module
 - With accelerator position sender -G79- and accelerator position sender 2 -G185-
 - □ Removing and installing ⇒ page 109



Removing and installing accelerator 10.4 pedal module - version 2

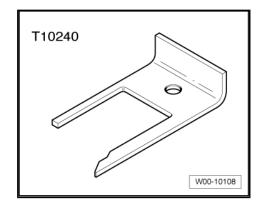
Special tools and workshop equipment required

♦ Release tool -T10238- for LHD vehicles



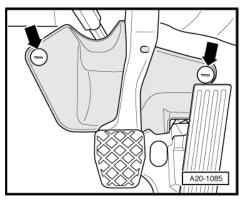
Audi TT 2007 ➤

Release tool -T10240- for RHD vehicles

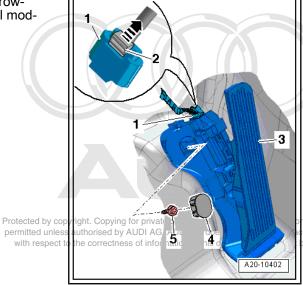


Removing

- Remove cover for steering column -arrows-.



- Pull out release tab -2- as far as stop in direction of -arrowand unplug electrical connector -1- at accelerator pedal module -3-.
- Use screwdriver to prise off cap -4-.
- Remove bolt -5-.

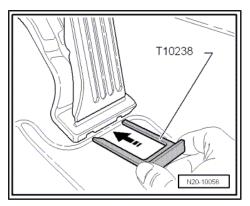


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Push release tool -T10238- (or release tool -T10240- for RHD vehicles) fully into the slots provided, as illustrated -arrow-, and detach accelerator pedal module.



Installing

• Tightening torque <u>⇒ page 109</u>

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

- Plug in electrical connector -2- at accelerator pedal module -5-.
- The connector must audibly engage.
- Press accelerator pedal module onto retaining studs -6-.
- Insert centring pin -7- into hole in underbody.
- Secure accelerator pedal module with bolt -3- and press on cap -4-.

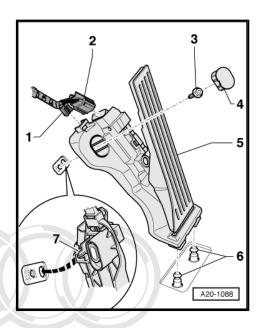


Note

Disregard -item 1-.

Vehicles with dual clutch gearbox:

After renewing, perform kick-down adaption in "Guided Functions" mode ⇒ Vehicle diagnostic, testing and information system VAS 5051.



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