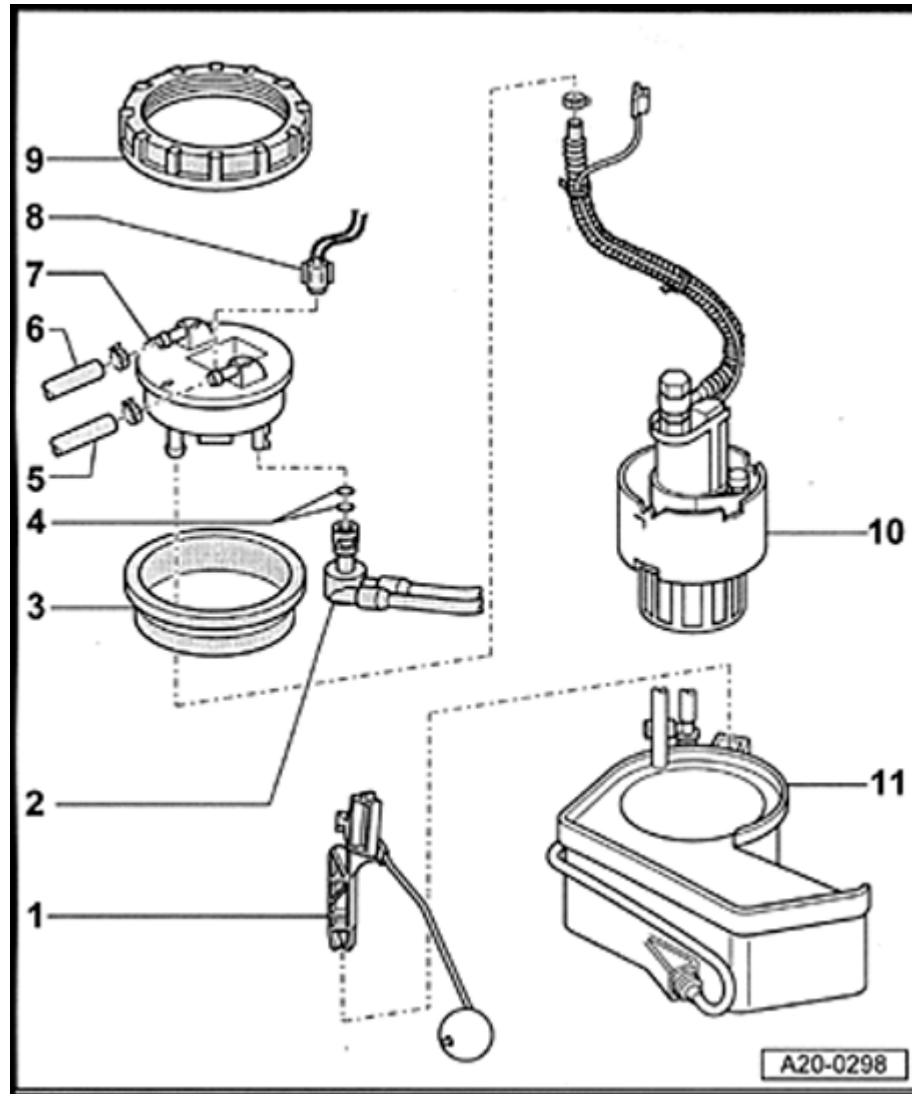


20-107



Fuel supply system, servicing (vehicles with 2.7 ltr. turbo engine)

WARNING!

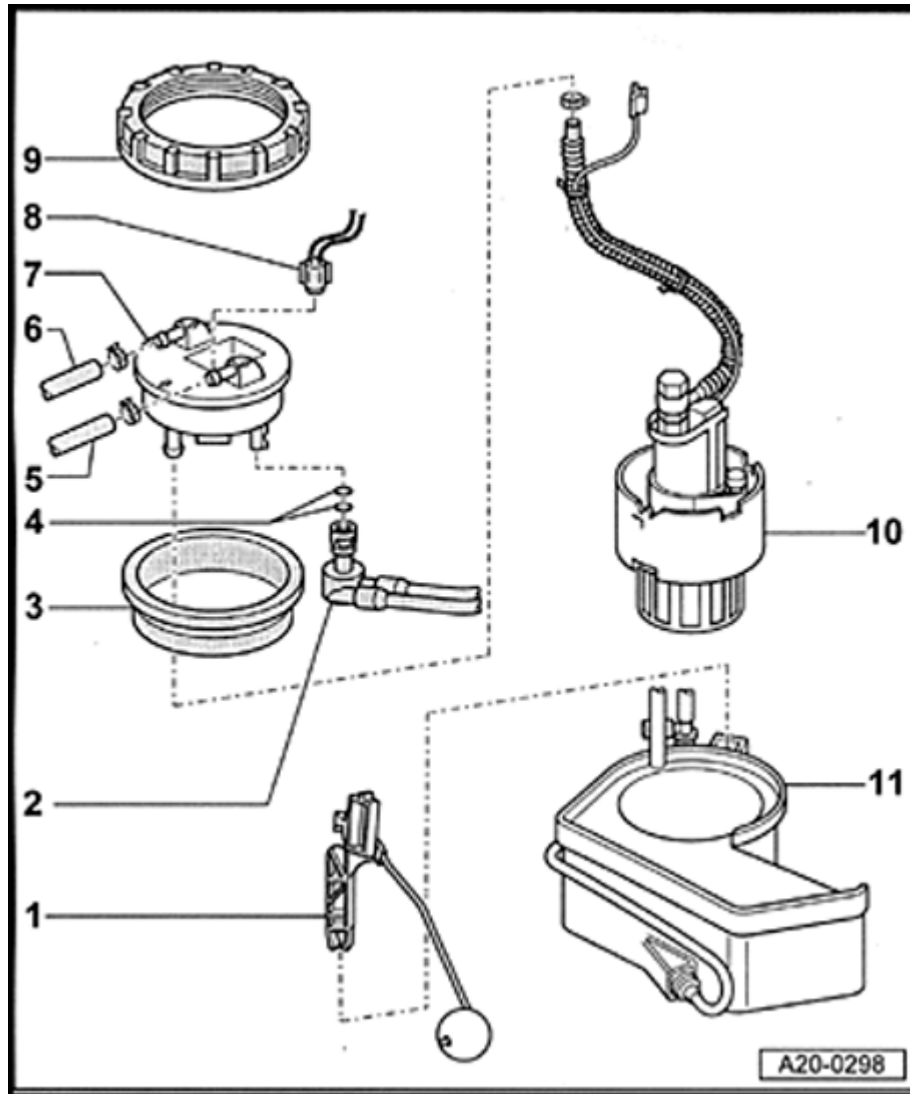
Always comply with all applicable safety precautions when working on the fuel system

Note:

- ◆ Always replace gaskets, seals and hose clamps when working on the fuel system.
- ◆ Hose connections are secured either with screw-type or spring-type clamps. Always replace clamps with factory clamps, see Parts catalogue.

1 - Sender for fuel gauge -G

- ◆ Ball-shaped float
- ◆ Check resistance ⇒ [Page 20-125](#)
- ◆ Removing and installing ⇒ [Page 20-128](#)



2 - Fuel return line

- ◆ With Fuel Pump (FP)
- ◆ Attached from the inside to fuel pump flange
- ◆ To remove depress tab at connector

3 - Seal

- ◆ Replace
- ◆ When installing, insert dry into opening of fuel tank

4 - O-Rings

- ◆ Replace
- ◆ Check for correct installation

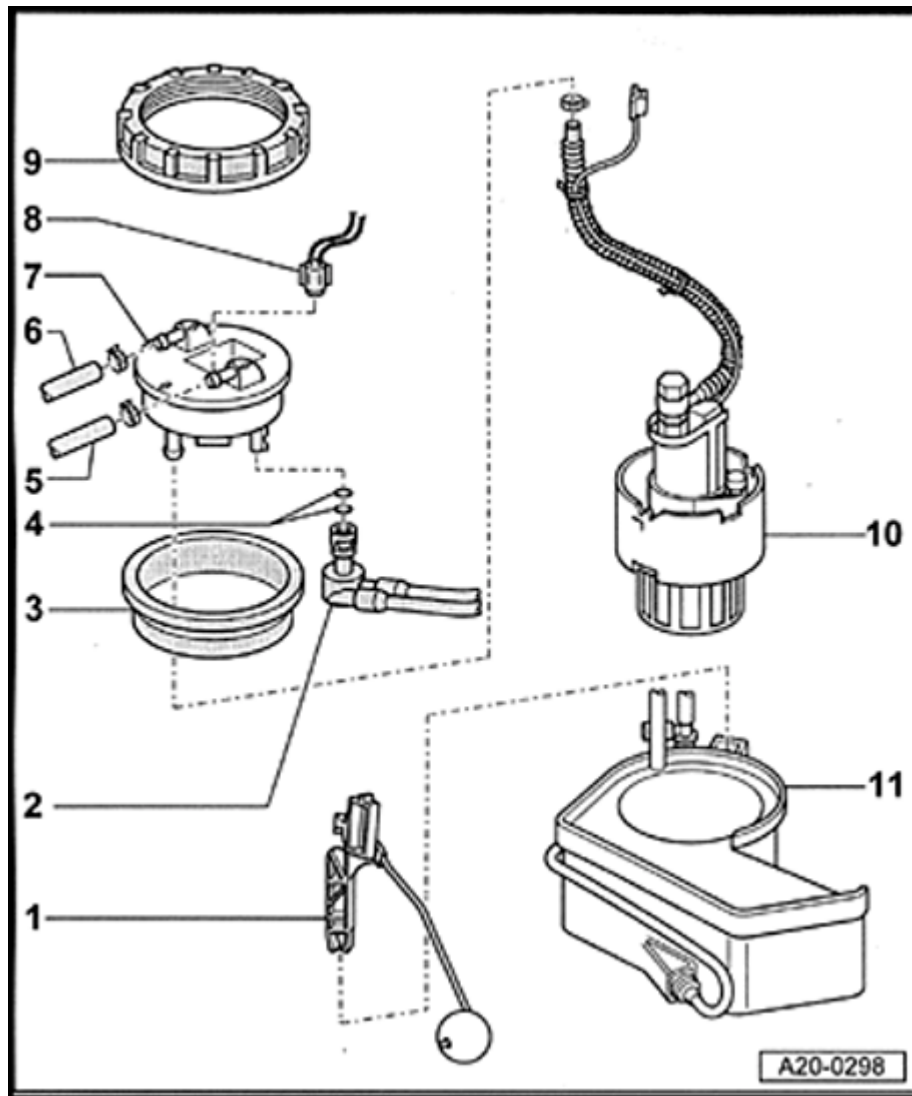
5 - Fuel return line

- ◆ From fuel distributor
- ◆ Mark before disconnecting
- ◆ Look for arrow on fuel pump flange

6 - Fuel supply line

- ◆ To fuel distributor
- ◆ Mark before disconnecting
- ◆ Look for arrow on fuel pump flange

20-109



7 - Fuel pump flange

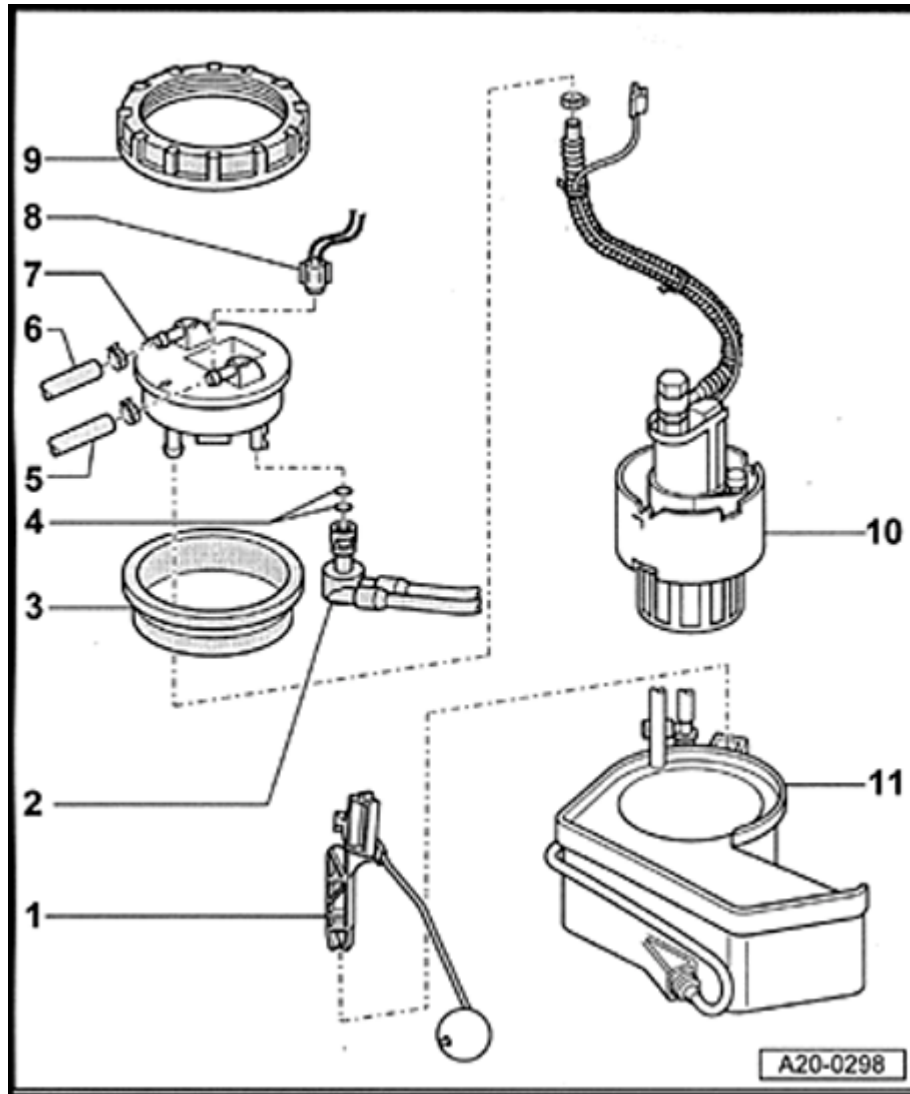
- ◆ Can only be installed together with fuel pump.
- ◆ Removing and installing ⇒ [Page 20-118](#)
- ◆ Installation position: Note arrow ⇒ [Page 20-123](#)

8 - Connector

- ◆ For fuel pump and sender for fuel gauge -G

9 - Threaded cap nut - 60 Nm

20-110



10 - Fuel Pump (FP)

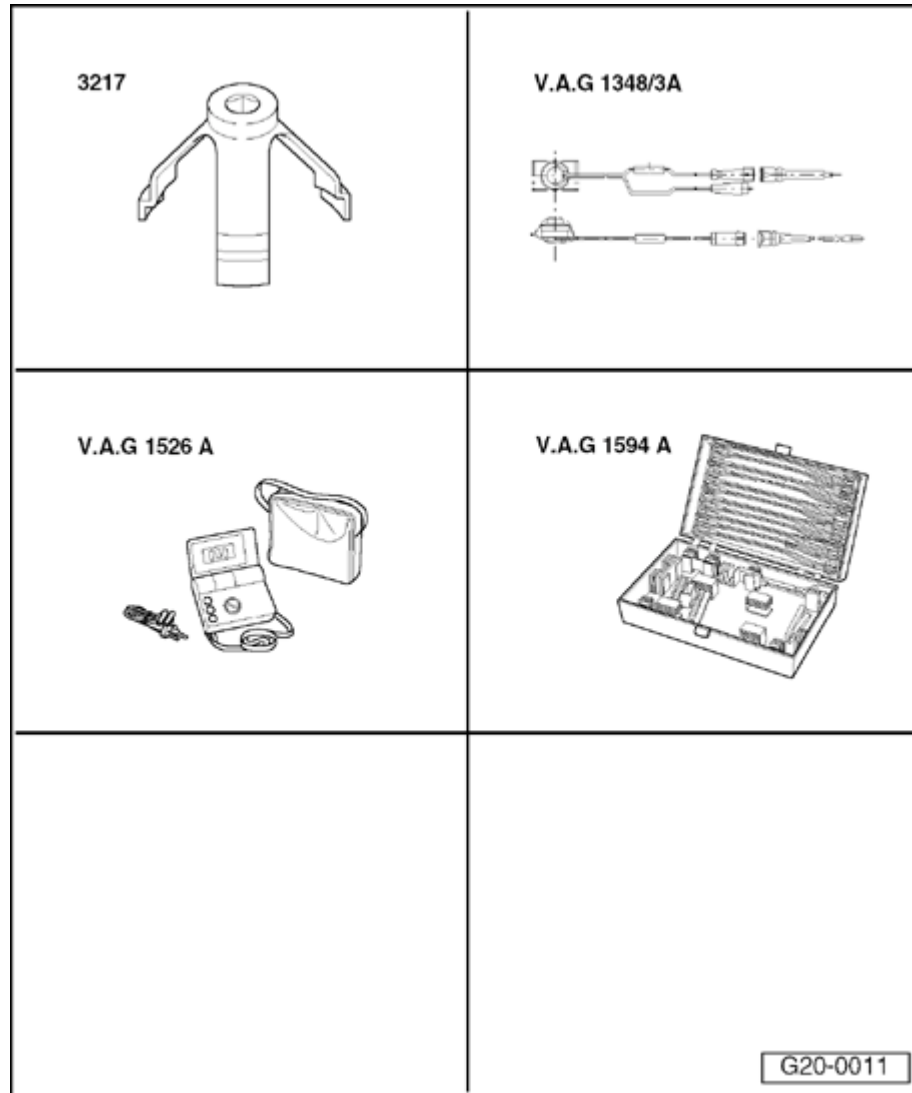
- ◆ With fuel screen
- ◆ Can only be replaced with fuel pump flange
- ◆ Removing and installing ⇒ [Page 20-118](#)
- ◆ Fuel pump, electrical check ⇒ [Page 20-111](#)
- ◆ Pressure test:

⇒ *Repair Manual, Fuel Injection & Ignition, Repair Group 24*

11 - Fuel accumulator housing, lower part

- ◆ Part of fuel tank
- ◆ Cannot be replaced separately

20-111



Fuel pump, checking electrically

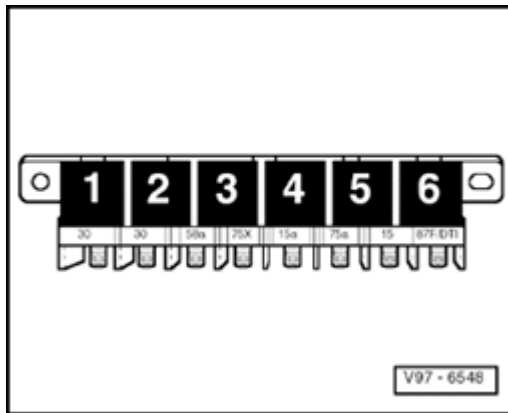
Vehicles with 2.7 ltr. turbo engine

Special tools needed:

- ◆ VAG3217
- ◆ VAG1348/3A with VAG1348/3-2
- ◆ VAG1526 A
- ◆ VAG1594 A

Test conditions:

- Battery voltage at least 12 V
- Fuse 28 OK
- Relay 6 in central electric OK
- Fuel filter OK
- Ignition switched off.

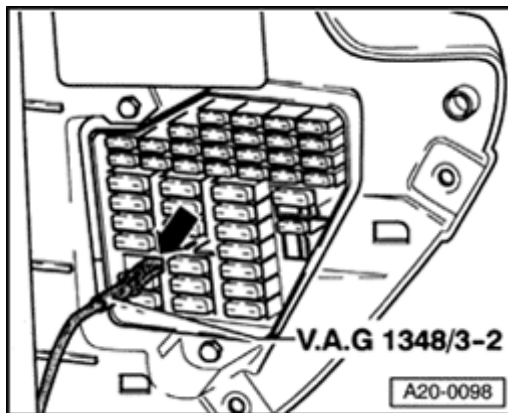


A

Test sequence

- Open cover for fuse panel on left side of instrument panel.
- Remove fuse 28 from fuse panel (left row, fifth large fuse from the top).
- Connect remote switch VAG1348/3A with adapter wire VAG1348/3-2 to right terminal of fuse socket 28 -arrow-.
- Connect alligator clip to vehicle battery (+).
- Press remote switch button.
- Fuel pump must be heard to run.

A

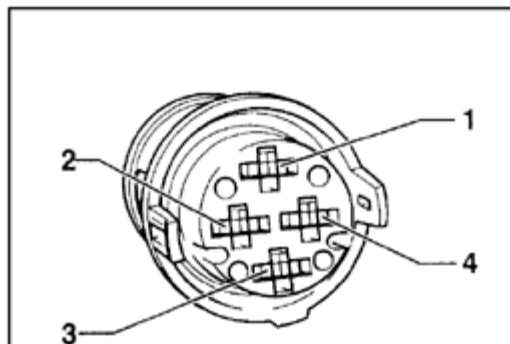
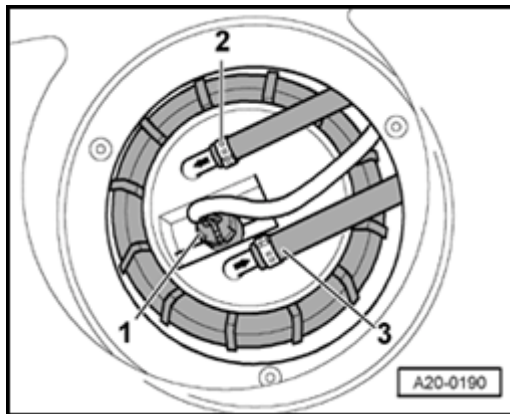


Note:

The fuel pump runs very quietly. Be sure to keep outside noise low when testing the fuel pump.

If you cannot hear the fuel pump run:

- Remove carpet liner in luggage compartment.
- Unscrew cover fuel pump flange.
- A** - Unclip 4-pin connector and disconnect connector.

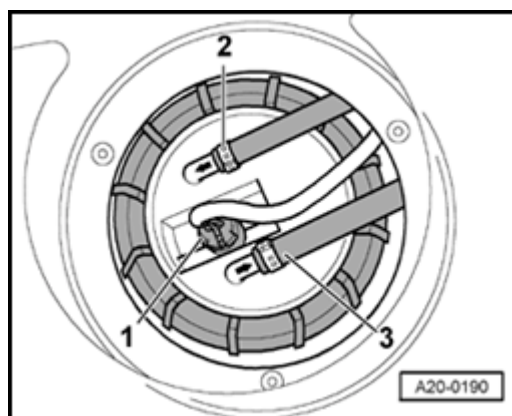


- A** - Switch multimeter Fluke 83 to DC voltage range 20 V and using test wire from VAG1594 A, connect to terminal 1 (green/yellow) and 4 (brown) of connector.
- Press remote switch continuously and read voltage.
 - Specified value: Approx. battery voltage

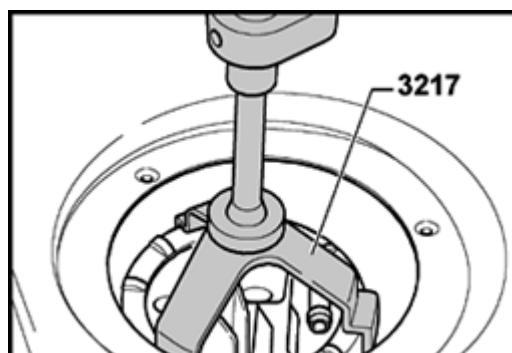
If specified value was obtained even so you could not hear the fuel pump run, remove the fuel pump flange as follows:

WARNING!

Fire hazard! Remove everything from the area that could ignite fuel or fuel vapor. fuel system is under pressure. Cover connection with rag and carefully release pressure by slowly opening the connection.

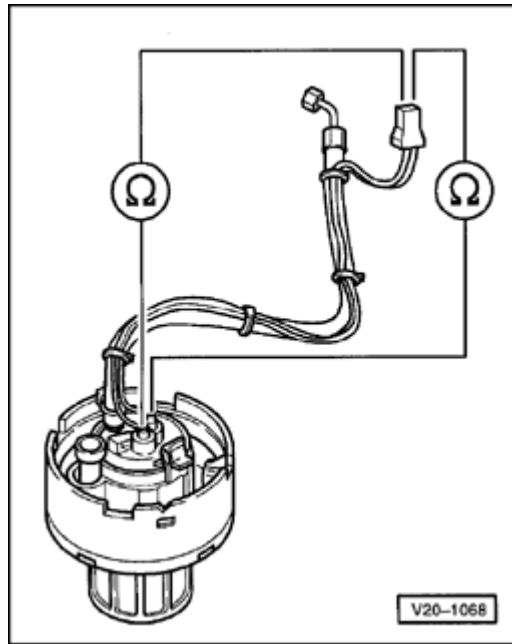


- A**
- Mark fuel return line -2- and fuel supply line -3- and remove from fuel pump flange.



- A**
- Remove threaded cap nut with wrench 3217.
 - Lift flange and seal from tank opening.

20-115



A

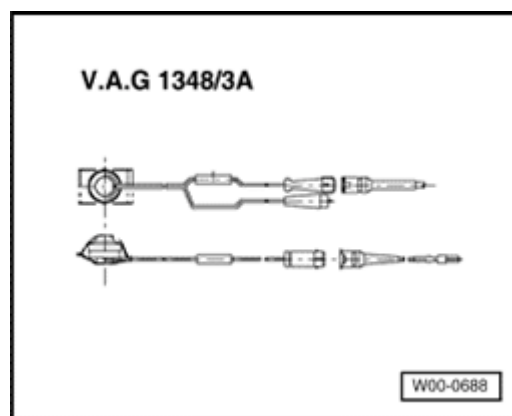
- Check electrical connections between flange and fuel pump, check for continuity.

If wiring and connections are OK:

- Fuel pump is faulty; replace pump ⇒ [Page 20-118](#) .

Fuel pump delivery volume, checking

Vehicles with 2.7 ltr. turbo engine



Special tools needed:

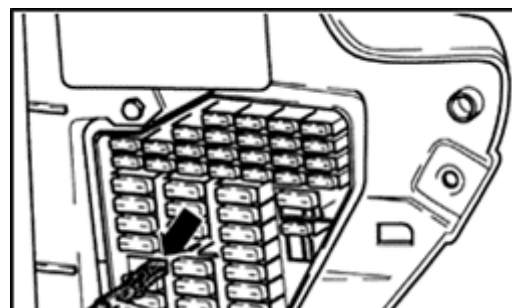
- ◆ Remote switch VAG1348/3A with adapter wire VAG1348/3-2
- ◆ Measuring cup

Test conditions:

- Battery voltage at least 12 V
- Fuel filter OK
- Ignition switched off.

Test sequence

- Open fuse panel cover at left side of instrument panel.
- Remove fuse 28 from fuse panel (left row, fifth. large fuse from the top).



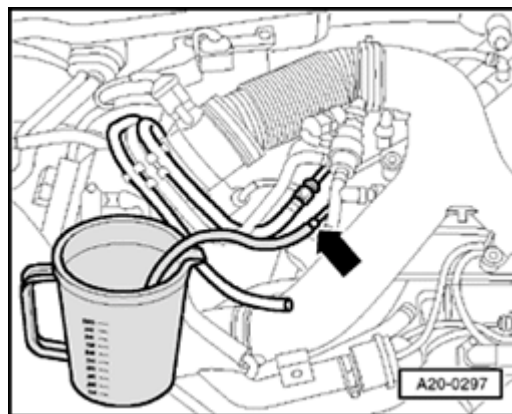
- Connect remote switch VAG1348/3A with adapter wire VAG1348/3-2 to right terminal of fuse socket 28 -arrow-.

20-117

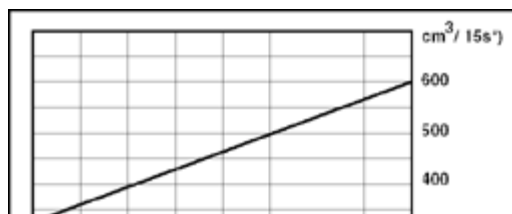
- Connect alligator clip to battery (+) .
- Remove fuel filler cap
- Remove engine cover

WARNING!

Fire hazard! Remove everything from the area that could ignite fuel or fuel vapor. fuel system is under pressure. Cover connection with rag and carefully release pressure by slowly opening the connection.



- A - Disconnect fuel return line from line connection at fuel distributor.
- Connect test hose -arrow- at fuel distributor line and place other hose end into measuring cup.
- Operate remote switch for 15 seconds (press button continuously).



- A - Compare collected fuel with specified value.

*) Volume of fuel delivered in $\text{cm}^3/15 \text{ s}$

**) Voltage at fuel pump with engine not running but pump running (approx. 2 Volt less than battery voltage).

Fuel pump, removing and installing

Vehicles with 2.7 ltr. turbo engine

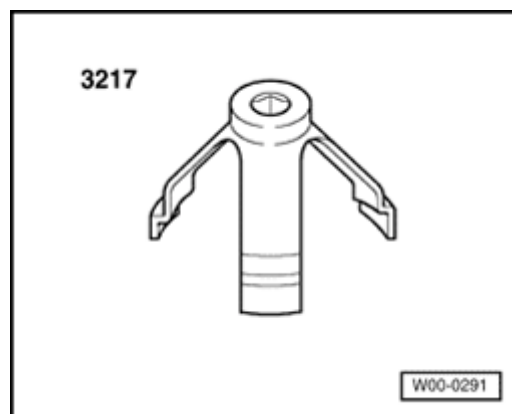
Observe all safety precautions ⇒ [Page 20-1](#) .

Observe rules of cleanliness ⇒ [Page 20-4](#) .

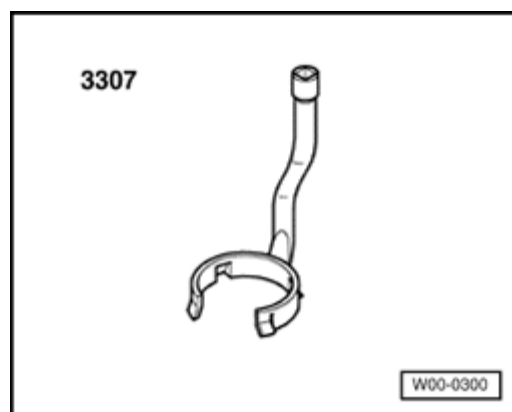


Special tools needed:

- ◆ Wrench 3217 for threaded cap nut



- ◆ Wrench 3307 for fuel pump



Removing

- Obtain radio code for radio with anti-theft coding.
- Switch off ignition and disconnect battery ground (GND) cable.
- Briefly open fuel filler cap and then close it again.
- Empty fuel tank if necessary using fuel evacuator unit VAG1433 A.
 - ◆ Front wheel drive ⇒ [Page 20-18](#) .
 - ◆ All wheel drive ⇒ [Page 20-66](#) .

Note:

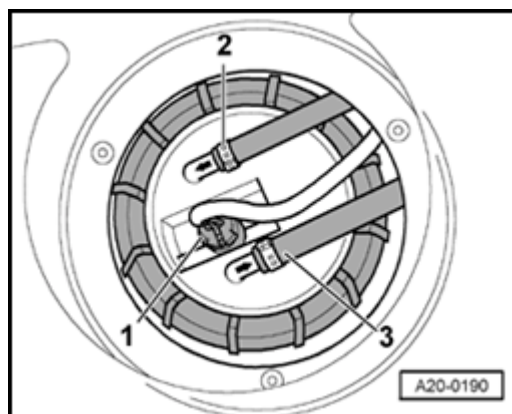
The fuel tank may not be filled more than $\frac{1}{3}$.

- Remove luggage compartment liner.
- Remove cover for fuel pump flange.

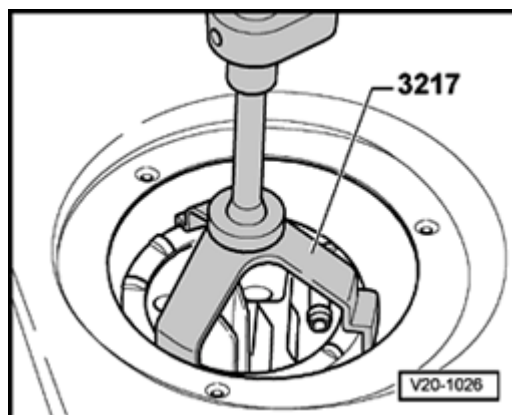
WARNING!

Fire hazard! Remove everything from the area that could ignite fuel or fuel vapor. fuel system is under pressure. Cover connection with rag and carefully release pressure by slowly opening the connection.

20-120

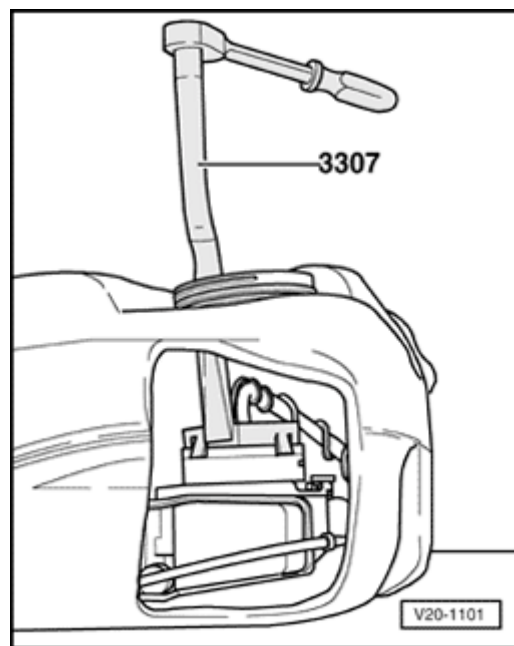


- A
- Mark fuel return line -2- and fuel supply line -3- and disconnect from flange.
 - Unclip 4-pin connector -1- and disconnect connector.



- A
- Remove threaded cap nut with wrench 3217.
 - Remove fuel pump flange and seal from fuel tank opening.
 - On inside of flange disconnect connector for fuel gauge sender.
 - Disconnect fuel return line on inside of flange (press release tabs).

20-121



A

- Insert wrench 3307 through fuel tank opening and place on inner part of fuel accumulator housing.
- Turn wrench 3307 approx. 15° to the left to stop and remove fuel pump with inner part of fuel accumulator housing.

Installing

Installation is in reverse order of removal, but do the following:

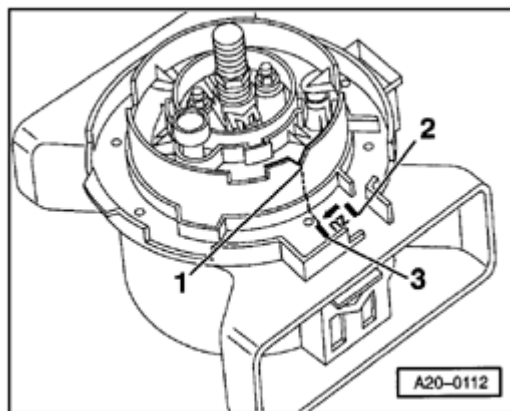
Note:

Secure all hose connections with hose clamps identical to factory-installed clamps.

⇒ *Parts catalog.*

- Install inner fuel accumulator housing, fuel supply hose and fuel pump flange in fuel tank.

20-122



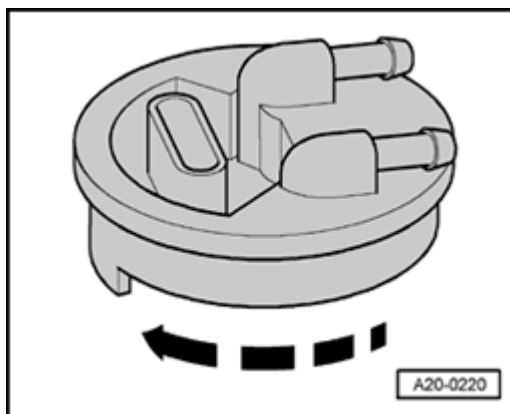
- A**
- Install outer fuel accumulator housing in fuel tank by aligning notch -1- on inner accumulator housing with notch -2- at outer accumulator housing.

The inner accumulator housing can be pushed down noticeably.

- Apply wrench 3307 and turn inner fuel accumulator housing with pump approx. 15° to the right to stop. Notch -1- is then aligned with marking -3- (bayonet-type connection).

Note:

The fuel accumulator housing is shown in the illustration without fuel tank.



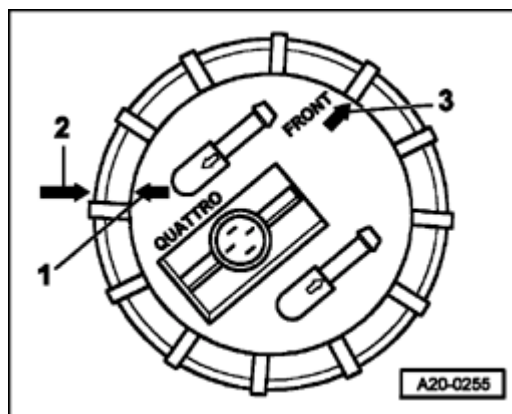
- A**
- When installing, turn flange to the right (direction of arrow).
 - Connect fuel return line on the inside of flange.

Note:

Lubricate O-rings with fuel before installing.

20-123

- Wrap wire for fuel gauge sensor around fuel supply line (inside fuel tank) and connect to flange.
- Seal for flange must be dry when inserted in opening of fuel tank.

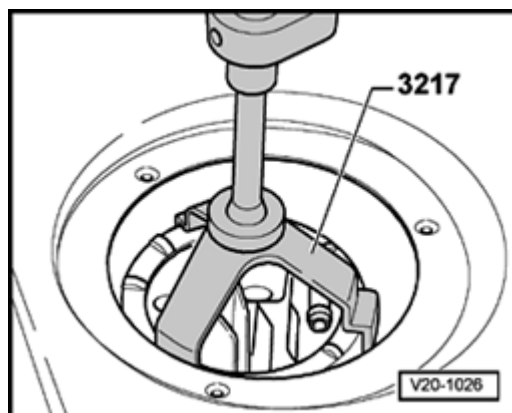


A

- Insert flange in fuel tank.
- Installation position for vehicles with all-wheel drive: -arrow 1- must be opposite -arrow 2-.

Note:

-Arrow 3- applies for vehicles with front wheel drive.



A

- Tighten threaded cap nut to 60 Nm with wrench 3217.
- Connect wiring and connector.

Note:

Check that all fuel line and hose connections are securely seated.

- After reconnecting the battery enter radio anti-theft code.

⇒ Radio operating manual

- Move power windows up to stop.

- Then operate power window closing switches again for at least 1 second to activate the automatic up-and-down run.

- Adjust time clock.

- Activate readiness code:

⇒ *Repair Manual, Fuel Injection & Ignition,
Repair Group 01*

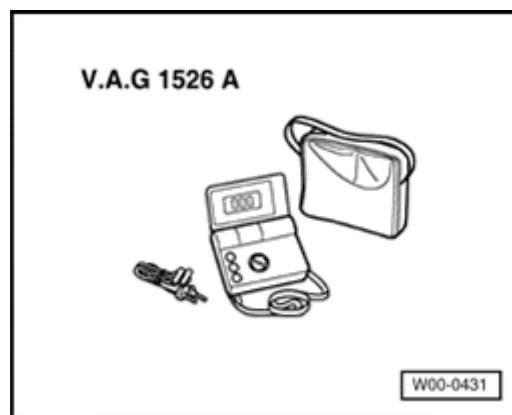
Sender for fuel gauge -G, checking

Vehicles with 2.7 ltr. turbo engine

Note:

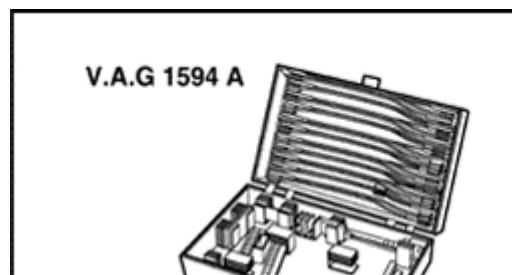
To check the signal/wiring between the sender -G and the fuel gauge:

⇒ [Repair Manual, Electrical Equipment, Repair Group 90](#)



Special tools needed:

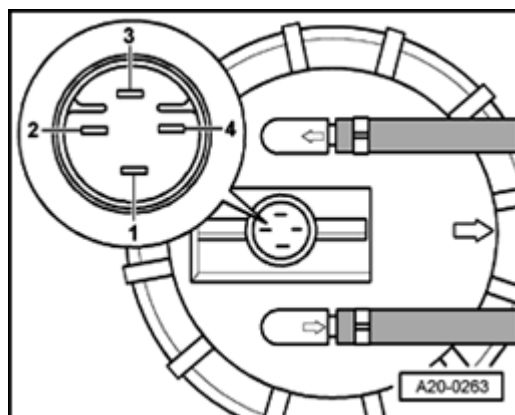
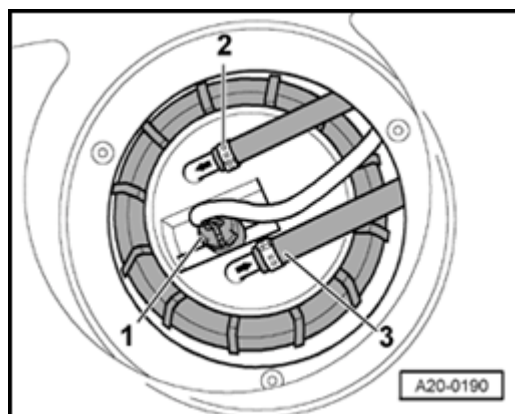
◆ VAG1526 A



◆ VAG1594 A

Test sequence

- Remove luggage compartment liner.
- Remove cover for fuel pump.
- A** - Unclip 4-pin connector and disconnect.



- A** - Measure resistance at both terminals -2- and -3- at fuel pump flange

Sender	Tank full	Tank empty
Sender for fuel gauge -G	40 Ω	280 Ω

If the fuel tank contains fuel, the measured value must be between the specified values for full and empty.

- If you measure 0Ω (continuity) or $\infty \Omega$ (no continuity), check for open circuit inside the tank or for short circuit.

Note:

To check resistance for "tank full" or "tank empty" you must move the float for fuel gauge sender to upper or lower stop. Removing sender ⇒ [Page 20-128](#)

Sender for fuel gauge -G, removing and installing

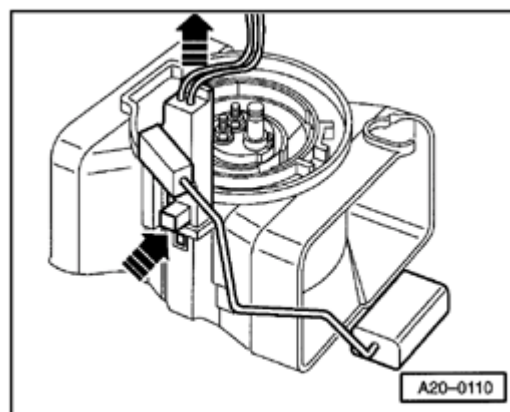
Vehicles with 2.7 ltr. turbo engine

Observe all safety precautions ⇒ [Page 20-1](#) .

Observe rules of cleanliness ⇒ [Page 20-4](#) .

Removing

- Fuel pump flange, removing ⇒ [Page 20-118](#) .
- Carefully lift out fuel pump flange with fuel supply line connected and set aside.
- On the inside of the fuel pump flange disconnect connector for fuel gauge sender.



A

- Remove sender by pressing tab -arrows-.

Note:

- ◆ The fuel accumulator housing is shown in the illustration without the fuel tank.
- ◆ The illustration shows the fuel gauge sender for vehicles with front wheel drive.

Installing

Installation is in reverse order of removal, but do the following:

- Install sender for fuel gauge in guides of outer fuel accumulator housing and press down until locked in place.

Fuel pump flange, installing ⇒ [Page 20-121](#) .
Observe note regarding disconnecting battery.