

Audi A8 1994 ➤

Fuel supply system - Petrol engines									
Engine ID	AAH	ABZ	ACK	AEJ	AEM	AEW	AGE	AGH	AHC
	AKB	AKC	AKD	AKG	AKH	AKJ	ALG	AMX	APR
	AQD	AQF	AQG	AQH	ARU	AUW	AUX	AVN	AVP
	AYS	AZC	BCS						

Edition 12.2001



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

Audi A8 1994 ➤

Fuel supply system - Petrol engines

Repair Group

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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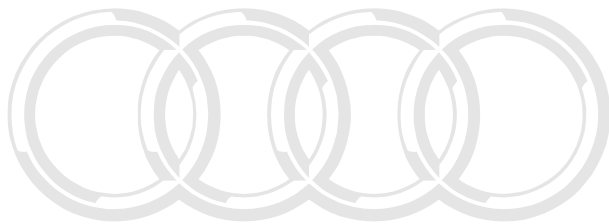
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Audi Fuel supply system - Petrol engines - Edition 12.2001



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20 - Fuel supply system

1 - Notes for working on fuel supply system

1.1 - Notes for working on fuel supply system

1.2 - General repair instructions

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Observe safety precautions=> Page 1 .

Observe rules for cleanliness => Page 1 .

Checking fuel pump relay and activation:

=> Motronic injection and ignition system; Repair group 24

1.3 - Safety precautions when working on the fuel supply system

Warning

Fuel system is under pressure. Before opening the system place a cloth around the connection. Then release pressure by carefully loosening the connection.

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

- ◆ With ignition switched off, disconnect earth strap from battery.
Exception: draining fuel tank - with intact fuel delivery unit.
Procedure => Page 4 .
- ◆ Open fuel filler cap briefly to release pressure, then close it again.

When removing and installing the fuel gauge sender note the following:

- ◆ 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 fuel fumes.
If no exhaust extraction system is available, a radial fan (as long as motor is not in air flow) with a displacement greater than 15 m³/h can be used.
- ◆ Prevent skin contact with fuel! Wear fuel-resistant gloves!

Drain the fuel tank before removal from the vehicle in order to reduce weight.

- ◆ If necessary, drain the fuel tank:
=> Page 6 .

1.4 - Rules for cleanliness

When working on the fuel supply/injection system, pay careful attention to the following "basic rules":

- ◆ Thoroughly clean all unions and the adjacent areas before disconnecting.
- ◆ Place parts that have been removed on a clean surface and cover. Do not use fluffy cloths!
- ◆ Carefully cover opened components or seal, if the repair cannot be carried out immediately.
- ◆ Only install clean components:



Only unpack replacement parts immediately prior to installation.
Do not use parts that have been stored loose (e.g. in tool boxes etc.).

- ◆ When the system is open:
Do not work with compressed air.
Do not move vehicle unless absolutely necessary.

2 - Fuel tank

2.1 - Fuel tank

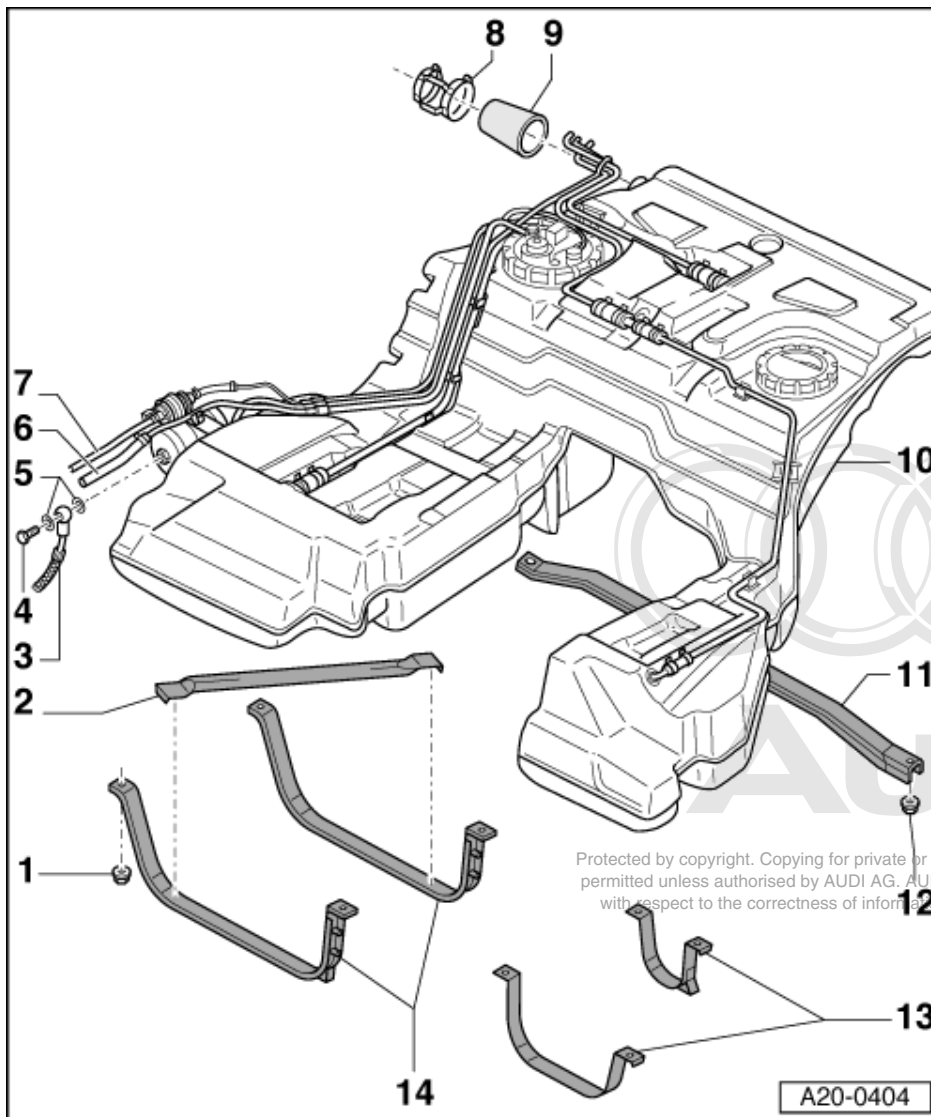
Notes:

- ◆ Secure all hose connections with the correct hose clips (same as original equipment)

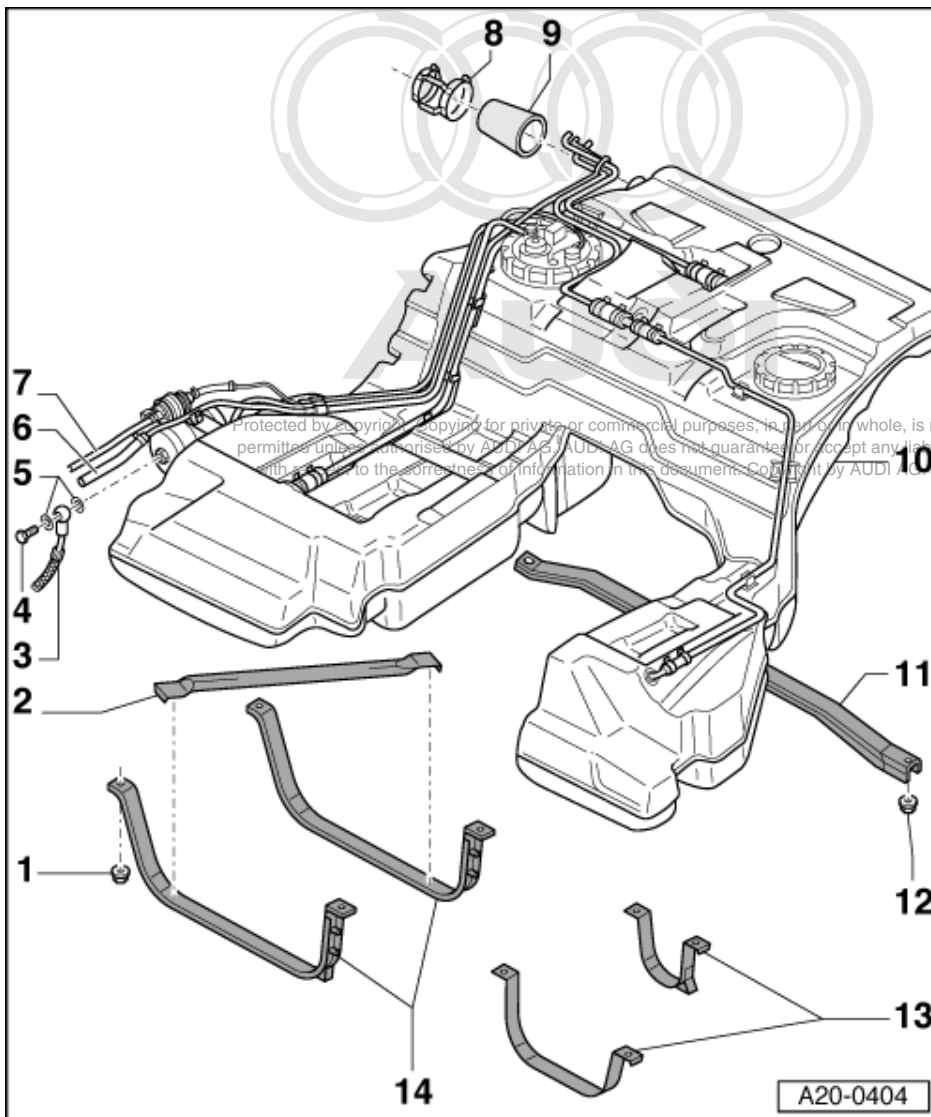
=> Parts catalogue

- ◆ Hose clip pliers V.A.G 1921 are recommended when installing spring-type clips.
- ◆ Always renew sealing rings and gaskets when assembling.
- ◆ The arrows on the hose and pipe connections should be aligned with each other.
- ◆ Removing, installing fuel expansion chamber

=>Page **83**



- 1 23 Nm
- 2 Cross brace
 - ◆ Position => Fig. 1
 - ◆ Flexible packing pieces must be fitted between cross brace and securing straps.
- 3 Fuel supply pipe
 - ◆ To injection system
- 4 Banjo bolt - 23 Nm
- 5 Seal
 - ◆ Renew
- 6 Fuel return pipe
 - ◆ From injection system
- 7 Fuel supply pipe
 - ◆ To auxiliary heater



- 8 Double hose clip
 - ◆ Position => Fig. 2
- 9 Connecting hose, lower
- 10 Fuel tank
 - ◆ Removing and installing
=> Page 7
- 11 Cross member
 - ◆ For tank



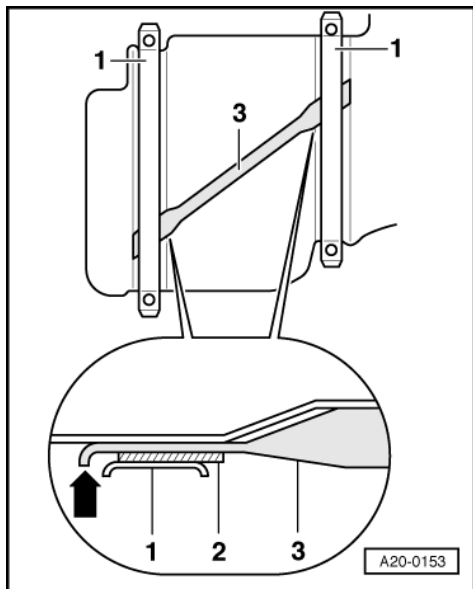
12 23 Nm

13 Securing strap

- ◆ Note differing length

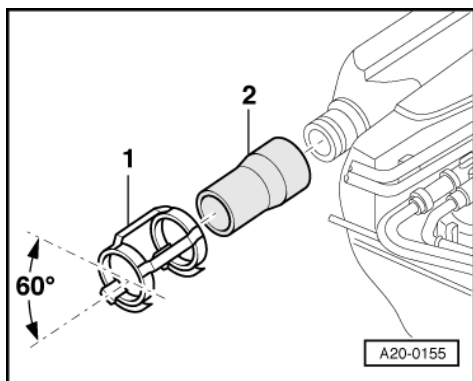
14 Securing strap

- ◆ Note differing length



-> Fig.1 Position of cross brace

- ◆ Bent-over ends -arrow- of cross brace -3- face downwards.
- ◆ Flexible packing pieces -2- must be fitted between cross brace and securing straps -1-.



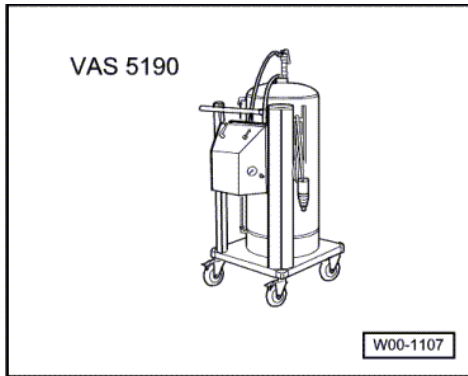
-> Fig.2 Position of double hose clip

- ◆ Screw clamps on double hose clip -1- for lower connecting hose -2- should face downwards at an angle of 60°.

2.2 - Draining fuel tank - with intact fuel delivery unit

Observe safety precautions=> Page 1 .

Observe rules for cleanliness => Page 1 .



Special tools and workshop equipment required

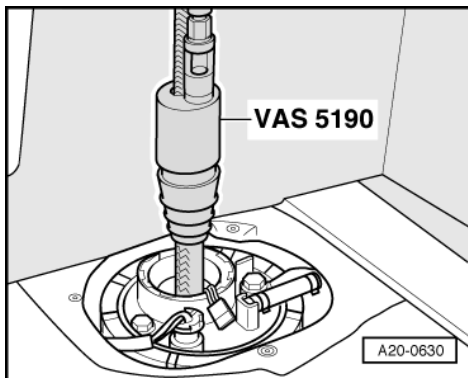
- ◆ VAS 5190
- or
- ◆ V.A.G 1433 A

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Work sequence

Warning!
Turn off the ignition and remove the ignition key to prevent the ignition being switched on accidentally while working.

- Briefly open fuel tank filler cap to release pressure.
- Remove fuel gauge sender -G (right) => Page 77 .



Warning
Secure earth wire VAS 5190 or V.A.G 1433

- -> Extract all remaining fuel in right-hand chamber through opening for fuel gauge sender using VAS 5190 or V.A.G 1433 A.
- Re-insert ignition key and start engine.
- Allow engine to run at idle for 6 to 8 minutes so that the suction jet pump can pump the remaining fuel in the left-hand chamber to the right-hand chamber of the fuel tank.

Warning!
Turn off the ignition and remove the ignition key to prevent the ignition being switched on accidentally while working.

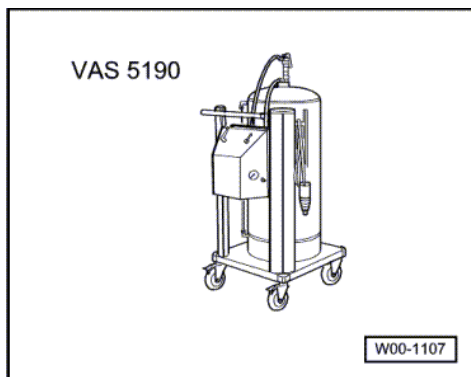


- Extract once again all remaining fuel in right-hand chamber through opening for fuel gauge sender using VAS 5190 or V.A.G 1433 A.
- Install fuel gauge sender -G (right side) => Page 79 .

2.3 - Draining fuel tank - with defective fuel delivery unit

Observe safety precautions=> Page 1 .

Observe rules for cleanliness => Page 1 .



Special tools and workshop equipment required

- ♦ VAS 5190

or

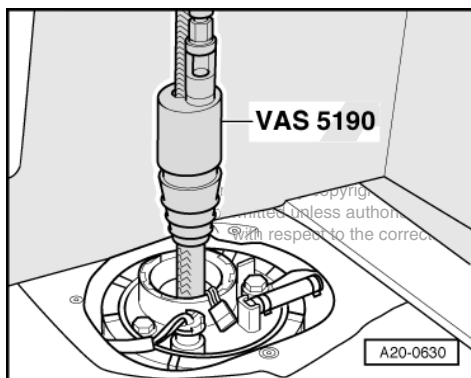
- ♦ V.A.G 1433 A

Work sequence

Warning!

Turn off the ignition and remove the ignition key to prevent the ignition being switched on accidentally while working.

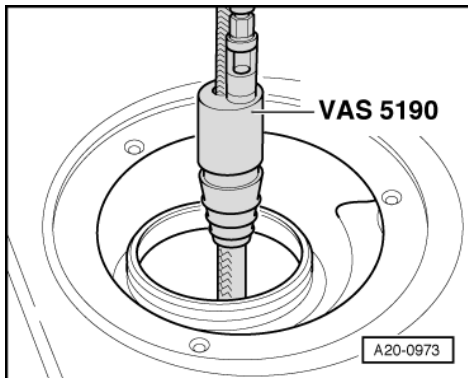
- Briefly open fuel tank filler cap to release pressure.
- Remove fuel gauge sender -G (right) => Page 77 .



Warning

Secure earth wire VAS 5190 or V.A.G 1433

- -> Extract all remaining fuel in right-hand chamber through opening for fuel gauge sender using VAS 5190 or V.A.G 1433 A.

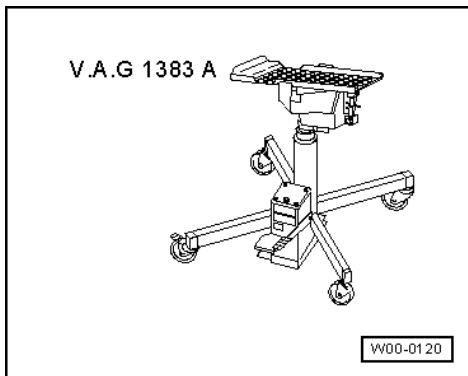


- Remove fuel gauge sender 2 (-G169, left side) => Page 80 .
- -> Extract remaining fuel in left-hand section of tank through opening for fuel gauge sender 2.
- Install fuel gauge sender -G (right side) => Page 81

2.4 - Removing and installing fuel tank with attachments

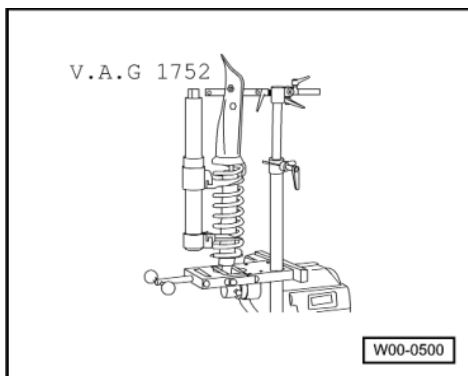
Observe safety precautions=> Page 1 .

Observe rules for cleanliness => Page 1 .



Special tools and workshop equipment required

- ◆ V.A.G 1383 A and V.A.G 1359/2





♦ V.A.G 1752

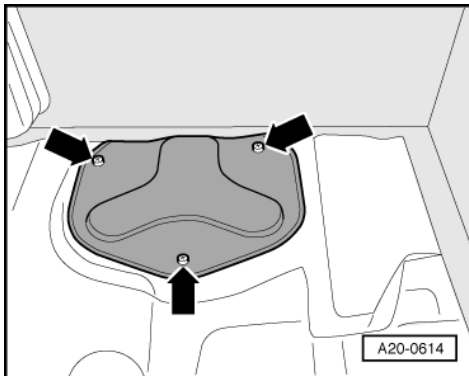
Removing

- The fuel tank must be empty when it is removed from the vehicle in order to reduce weight. Drain fuel tank if necessary (procedure => Page 4).

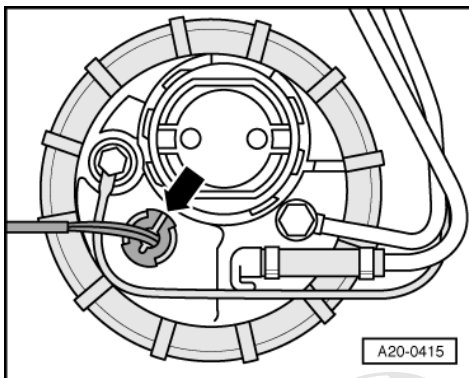
Caution!

On vehicles equipped with telematics the telematics control unit must be switched to service mode before the battery terminals are disconnected. => Radio, telephone and navigation system; Repair group 91

- Obtain code on vehicles with coded radio/integrated radio and navigation system.
- With the ignition switched off disconnect the battery earth strap.
- Open fuel filler cap briefly, then close it again.



- -> Remove covers for fuel gauge senders and fuel delivery unit on left and right sides under floor covering in boot -arrows-.



- -> Unplug electrical connectors on both flanges -arrow-.

Note:

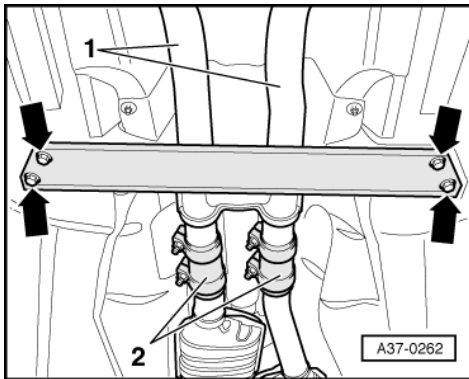
In the Fig. the right-hand flange is illustrated.

- Move loose wiring clear and secure in boot.

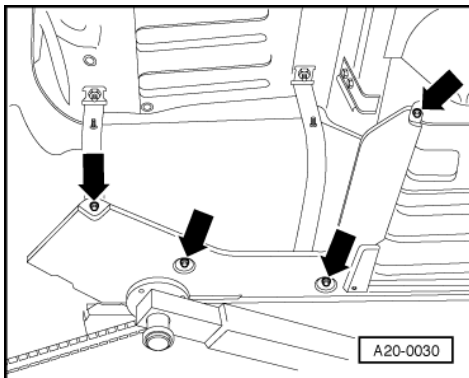


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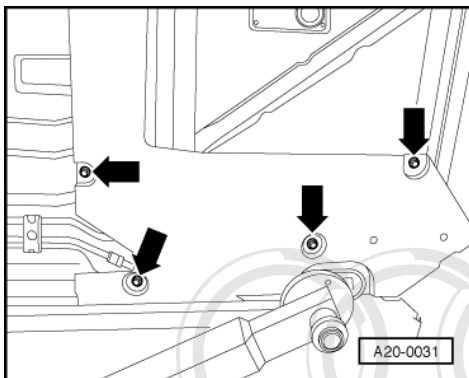
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- Remove both rear wheels.
- If fitted, remove cross member below exhaust system -arrows-.
- -> Loosen clamps -2-.
- Detach rear section of exhaust system -1- and remove.



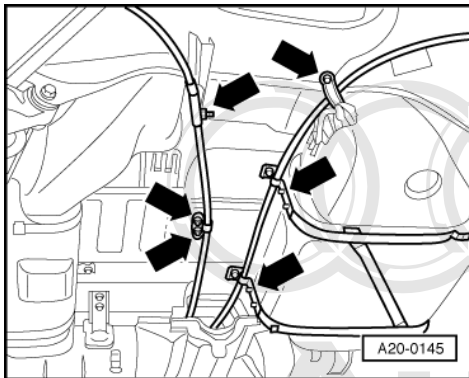
- Remove both heat shields (in front of and behind rear axle).
- -> Unbolt cover panel on underside of vehicle (left side) -arrows-.



- -> Unbolt cover panel on underside of vehicle (right side) -arrows-.

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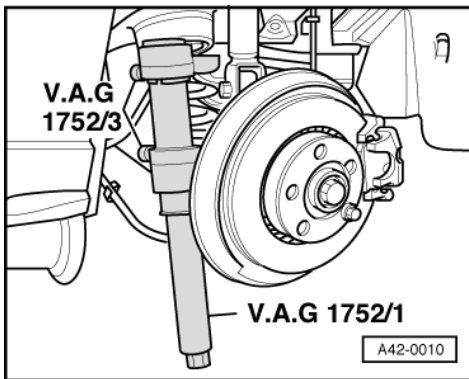
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- -> Unfasten handbrake cable retainers -arrows- and move handbrake cables clear.
- Disconnect handbrake cables from brake calipers

=> Running gear, Front-wheel drive and four-wheel drive; Repair group 46; Brakes, brake mechanics; Removing and installing handbrake cables Brakes, brake mechanics Removing and installing handbrake cables

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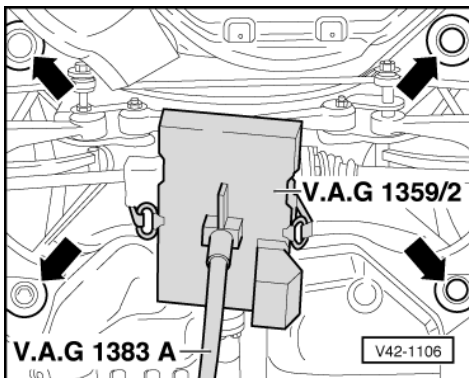
Vehicles with front-wheel drive:

- -> Apply spring compressor V.A.G 1752/1 with spring attachments V.A.G 1752/3 to rear coil springs.

Caution

Ensure that coil springs are properly located in spring attachments V.A.G 1752/3 - accident risk.

- Compress spring until it can be removed.
- Remove both rear springs by this method.



- -> Position gearbox jack V.A.G 1383 A with plate V.A.G 1359/2 under subframe.
- Remove the four subframe bolts -arrows-.
- Lower subframe carefully and leave it suspended from shock absorbers.

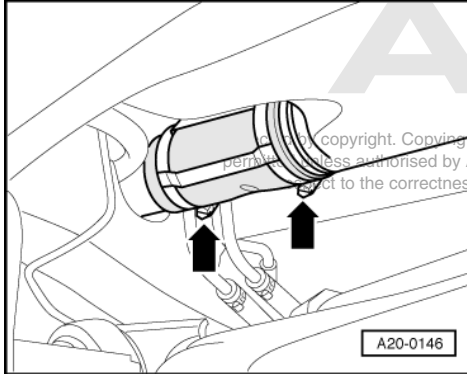
Note:

The subframe must be secured with bolts if the tank is removed for a long period.

Vehicles with four-wheel drive:

- Remove rear axle:

=> Running gear, front-wheel drive and four-wheel drive; Repair group 42

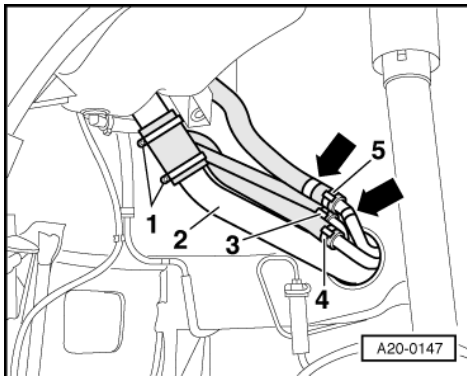


All models

- -> Release double hose clip on lower connecting hose between fuel tank and fuel filler pipe -arrows-.

Note:

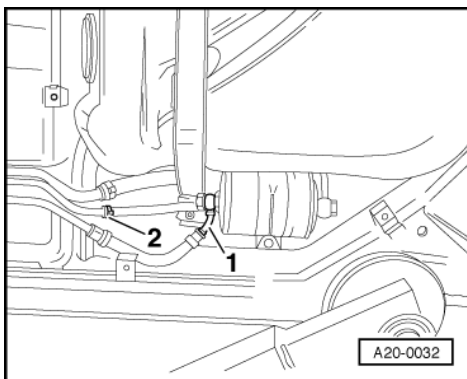
The lower connecting hose must remain on the hose connection on the tank.



- -> Release hose clips -1- on upper connecting hose between expansion chamber and fuel filler pipe -2-.
- Push upper connecting hose from expansion chamber onto fuel filler pipe -2- and pull fuel filler pipe off fuel tank through opening in longitudinal member.
- If no identification is provided, mark breather hoses -3 ... 5- for subsequent installation.
- Pull breather hoses -3-, -4- and -5- off pipes.

Vehicles with auxiliary heater

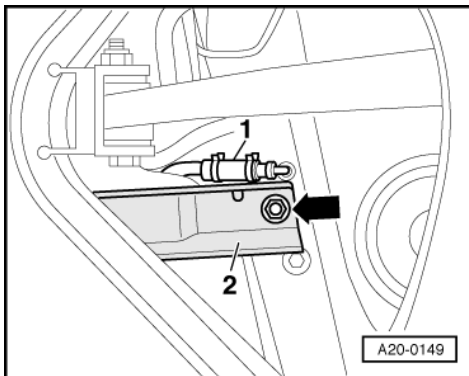
- Unplug connector from metering pump for auxiliary heater.
- Disconnect supply pipe for auxiliary heater.



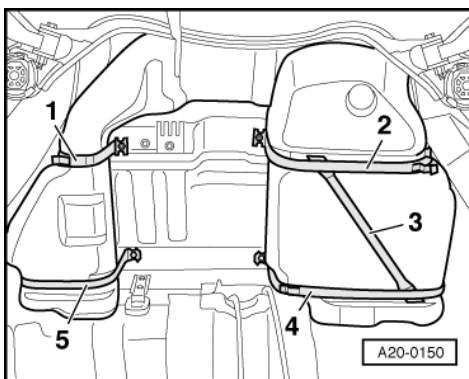


All models

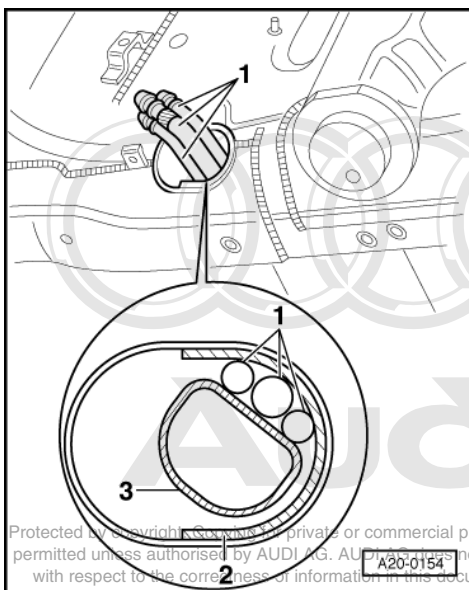
- -> Disconnect supply pipe -1- from fuel filter.
- Disconnect fuel return pipe -2-.



- -> Disengage connector -1- from bracket on fuel tank cross member -2- (on left and right sides).
- Unscrew nuts -arrow- on fuel tank cross member (on left and right sides).
- Take off cross member.



- -> Detach front securing straps -4- and -5-.
- Position gear jack V.A.G 1383 A with plate V.A.G 1359/2 under right-hand section of tank.
- Take up weight of tank and then remove securing straps -1- and -2-.
- With the help of a second mechanic, lower the tank and guide the breather pipes through the opening in the longitudinal member. Breather pipes must not be bent.
- Detach cross brace -3-.

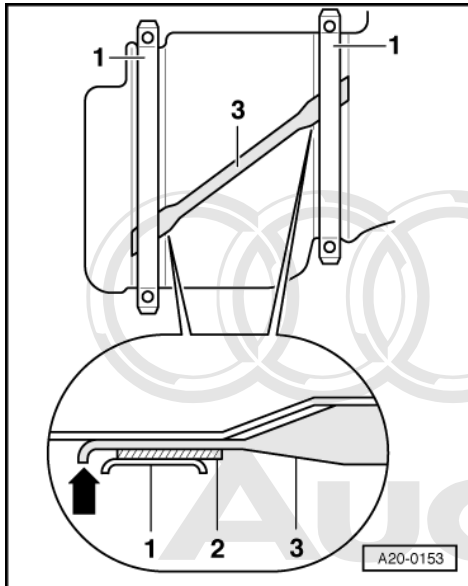


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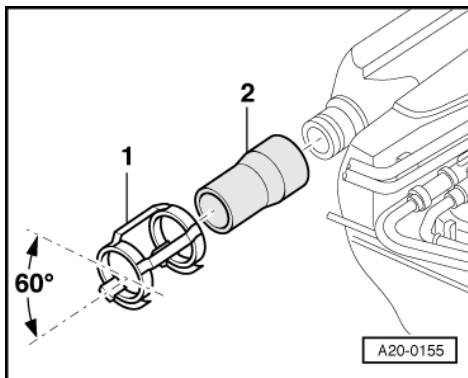
Installing

Install in reverse sequence; note the following points:

- Ensure that wiring for ABS sensors is routed correctly.
- -> Run breather pipes -1- through opening in longitudinal member before bringing fuel tank into its final position.
- Ensure that flexible packing piece -2- is fitted in opening as illustrated.
- Fit fuel filler pipe -3- onto lower connecting hose on fuel tank.



- -> When fitting securing straps -1- insert cross brace -3- with its bent-over ends facing downwards -arrow-.
- Ensure that flexible packing pieces -2- are fitted.



- -> Fit double hose clip -1- for connecting hose -2- so that screw clamps face downwards at an angle of 60°.
- Install subframe or rear axle:

=> Running gear, Front-wheel drive and four-wheel drive; Repair group 42; Rear suspension; Removing and installing subframe Rear suspension Removing and installing subframe

Notes:

- ◆ When the battery is reconnected, re-activate electrical equipment (radio, combined radio/navigation system, clock, electric windows) as described in the Owner's Manual.
- ◆ De-activate service mode in telematics control unit.

=> Radio, telephone and navigation system; Repair group 91

- ◆ Further procedures after reconnecting the voltage supply:



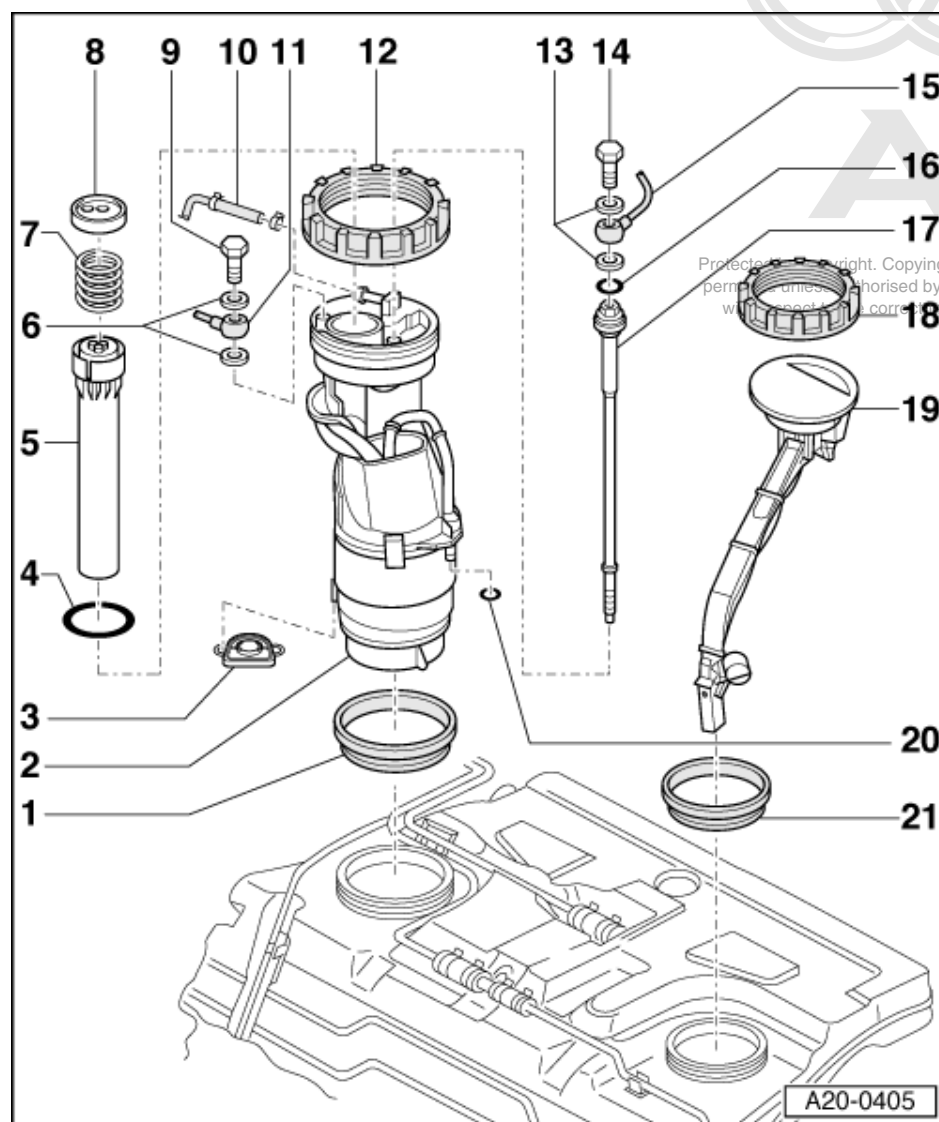
=> Motronic injection and ignition system; Repair group 24

Tightening torques

Component	Nm
Securing straps to body	23
Rear cross member for fuel tank	23
Battery terminal to terminal post	6

3 - Fuel delivery unit -

3.1 - Fuel delivery unit -



3.2 - Fuel delivery unit - 6-cyl. and 8-cyl. engine

1 Flange seal

- ◆ Renew
- ◆ When installing, fit seal (dry) in opening in fuel tank

2 Fuel delivery unit

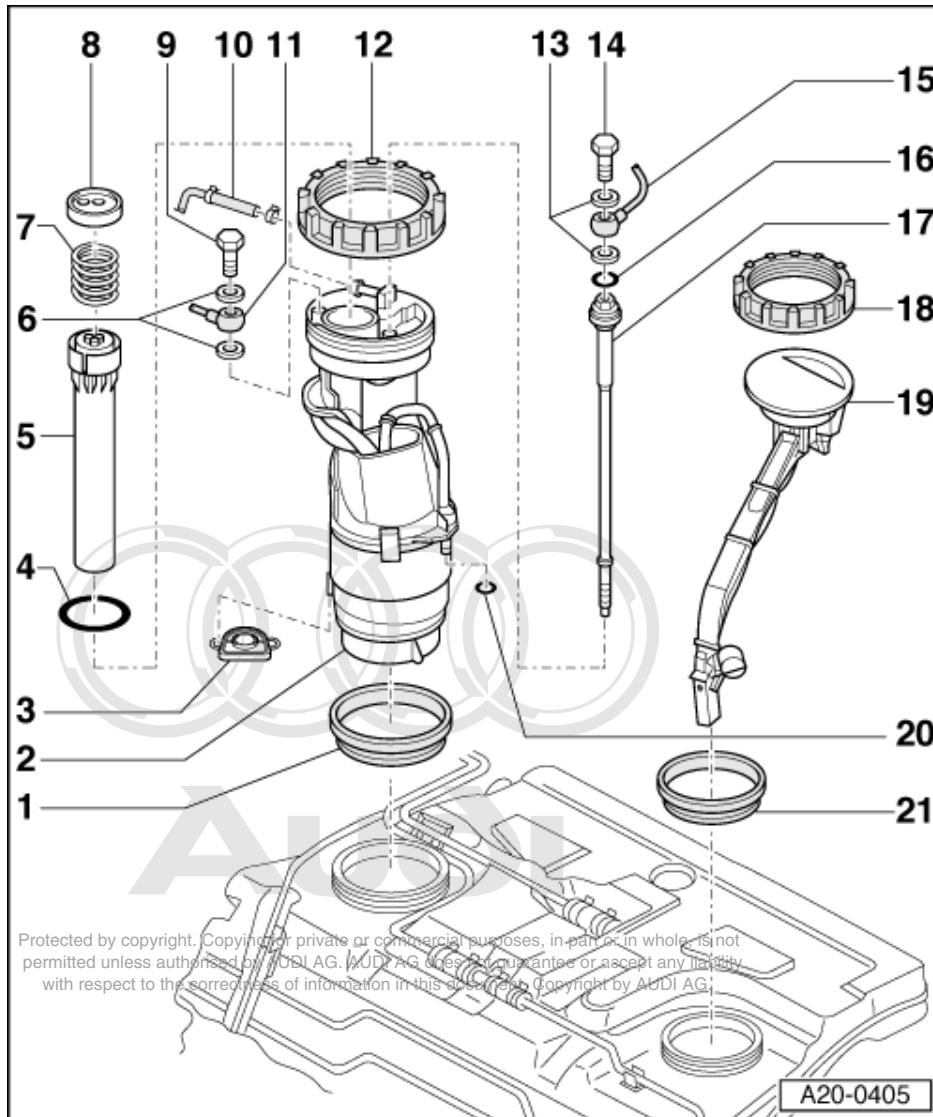
- ◆ Checking fuel pump (electrical test)
=> Page 21
- ◆ Checking delivery rate => Page 27
- ◆ Checking holding pressure:

=> Motronic injection and ignition system; Repair group 24

- ◆ Removing and installing
=> Page 31

3 Sealing plug

- ◆ Renew



4 O-ring

- ◆ Renew

5 Fuel gauge sender -G

- ◆ Checking resistance values
=> Page 76
- ◆ Removing and installing
=> Page 77

6 Ring seals

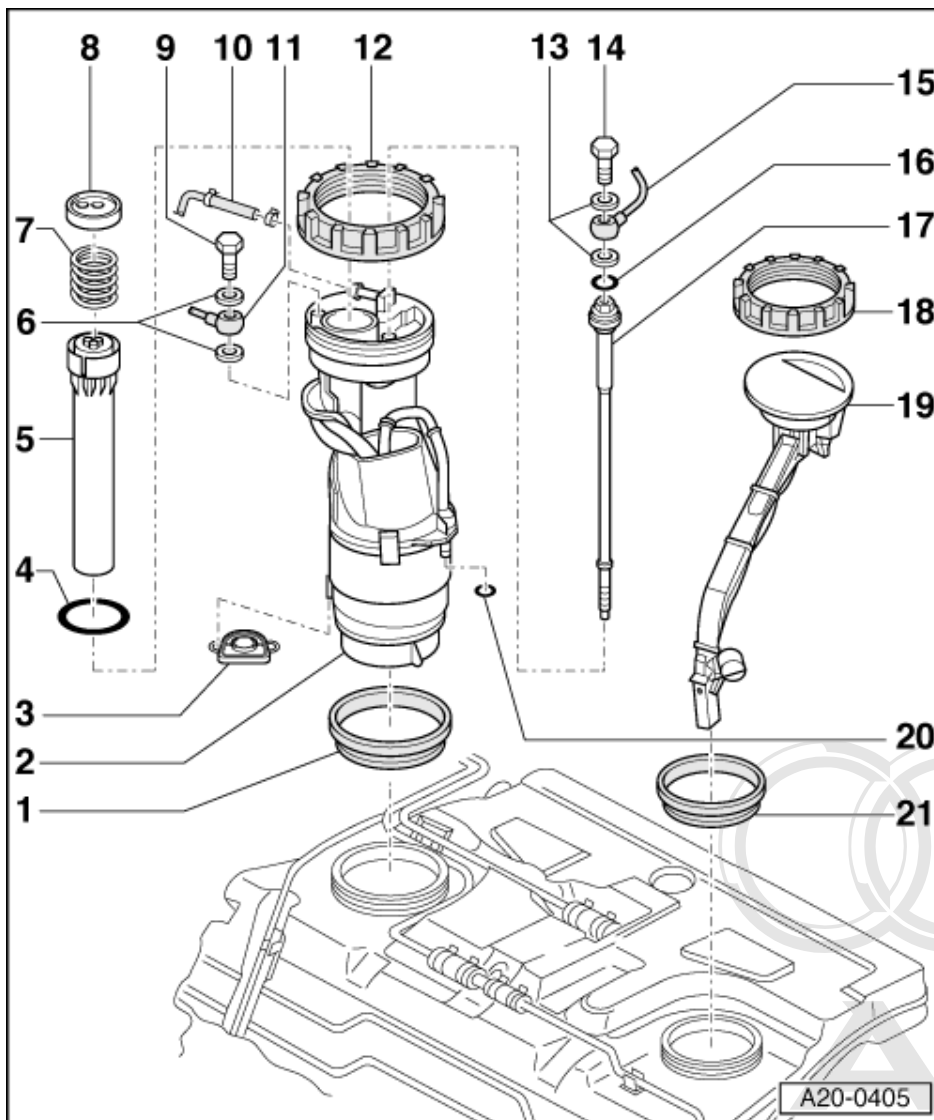
- ◆ Renew

7 Spring



8 Flange for fuel gauge sender -G

- ◆ Remove and install using spanner 2012 A =>Page 77
- ◆ Turn clockwise to open; turn anti-clockwise to close



9 Banjo bolt - 23 Nm

10 Fuel return pipe

- ◆ From injection system
- ◆ Clipped onto fuel tank

11 Fuel supply pipe

- ◆ To fuel filter
- ◆ Clipped onto fuel tank

12 Union nut, 70 Nm

- ◆ Remove and install with spanner 3342

13 Ring seals

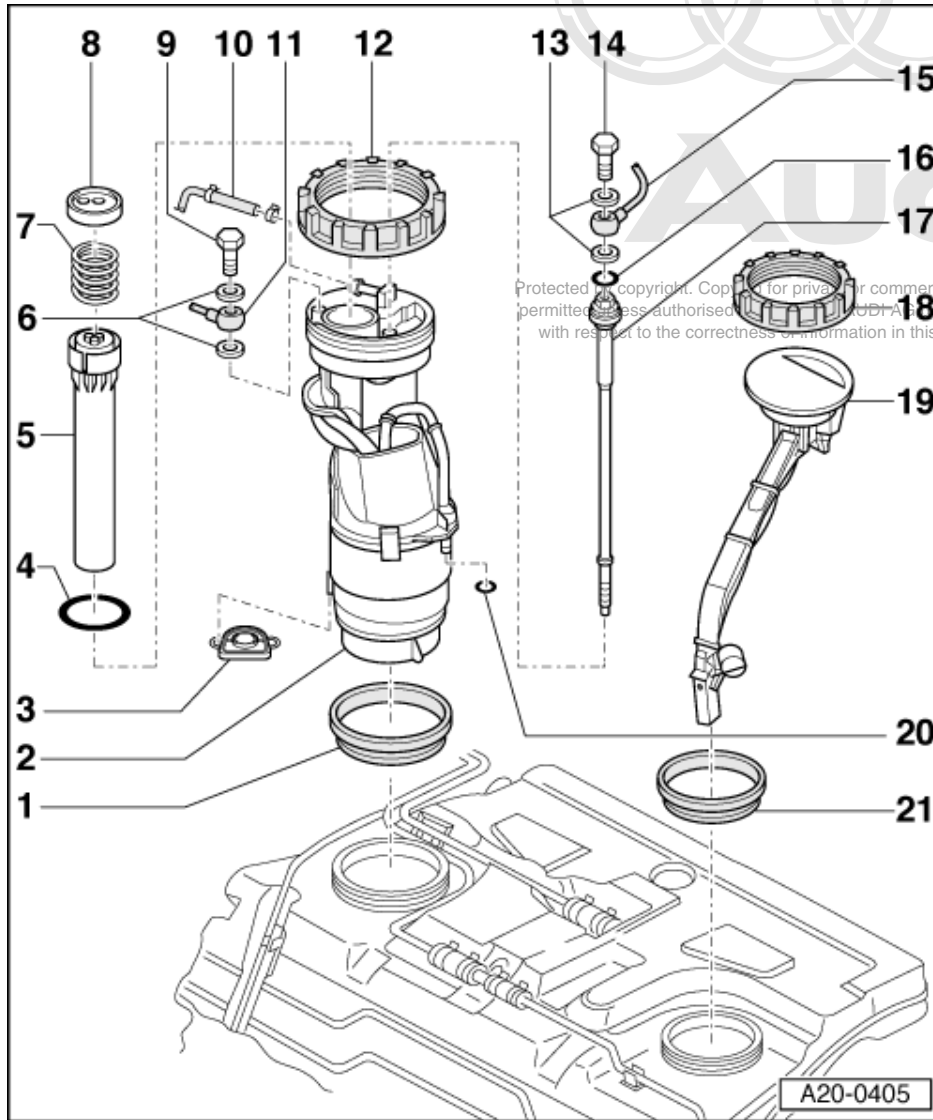
- ◆ Renew

14 Banjo bolt, 13 Nm

15 Fuel supply pipe

- ◆ To auxiliary heater

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16 O-ring

- ◆ Renew

17 Securing bolt - 20 Nm

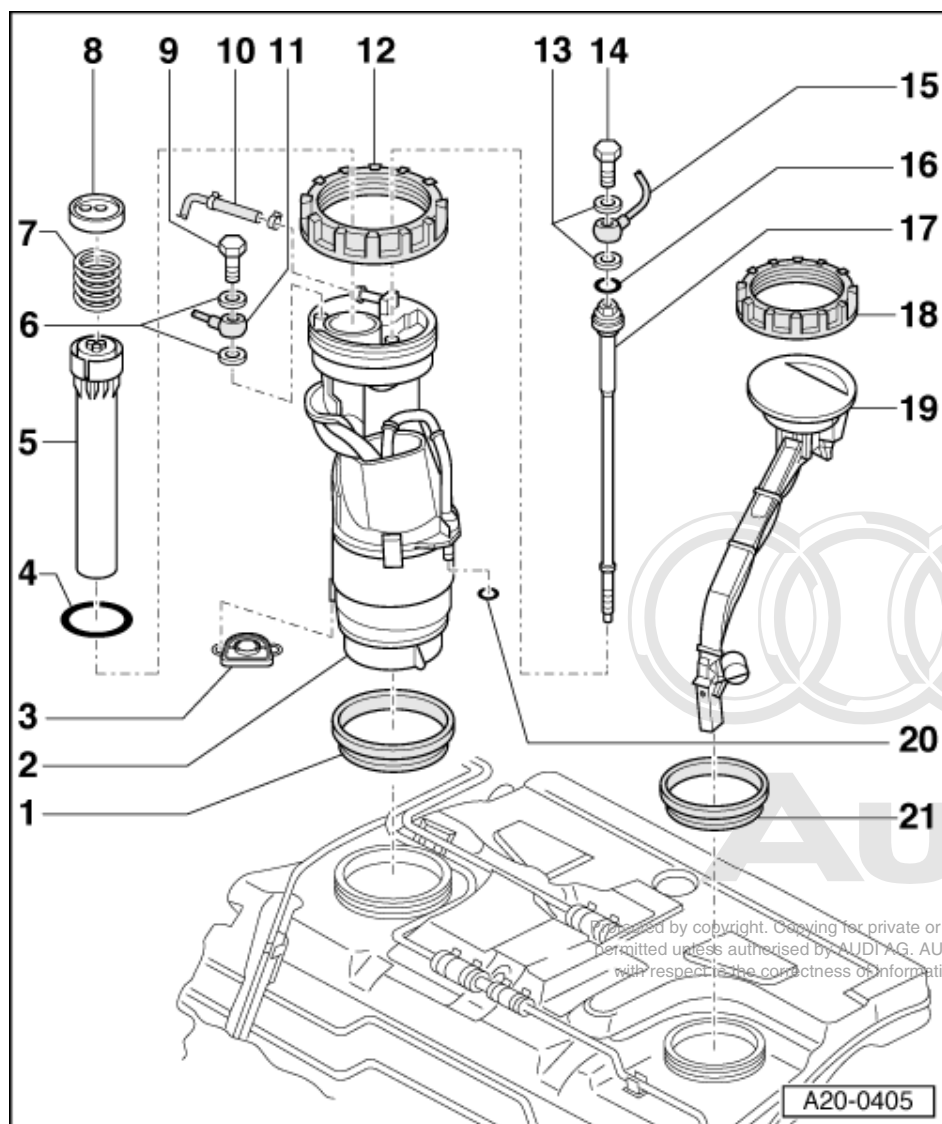
- ◆ On vehicles with auxiliary heater: tubular bolt with inserted reduced diameter sleeve

18 Union nut, 60 Nm

- ◆ Remove and install with spanner 3217

19 Fuel gauge sender 2 -G169

- ◆ Checking resistance values
=> Page [76](#)
- ◆ Removing and installing
=> Page [80](#)



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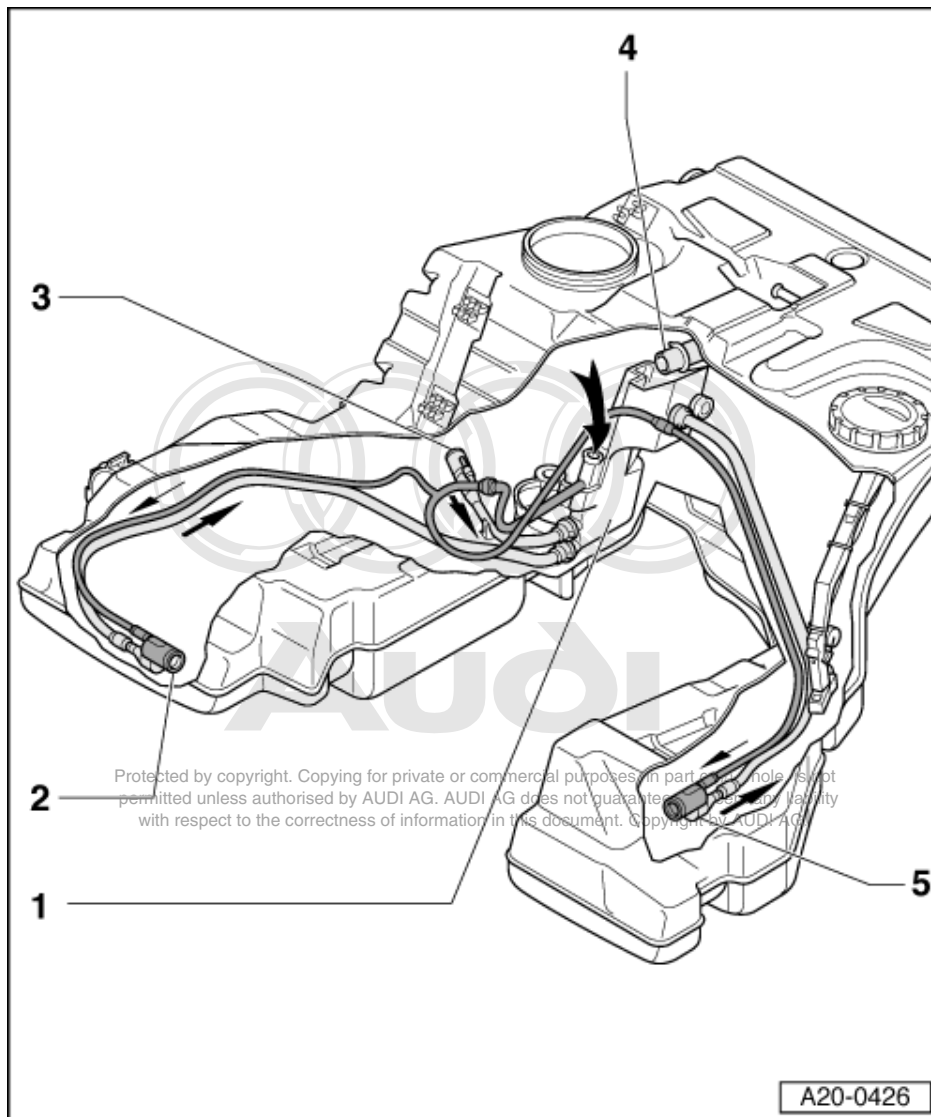
20 O-ring

- ◆ Renew

21 Flange seal

- ◆ Renew
- ◆ When installing, fit seal (dry) in opening in fuel tank

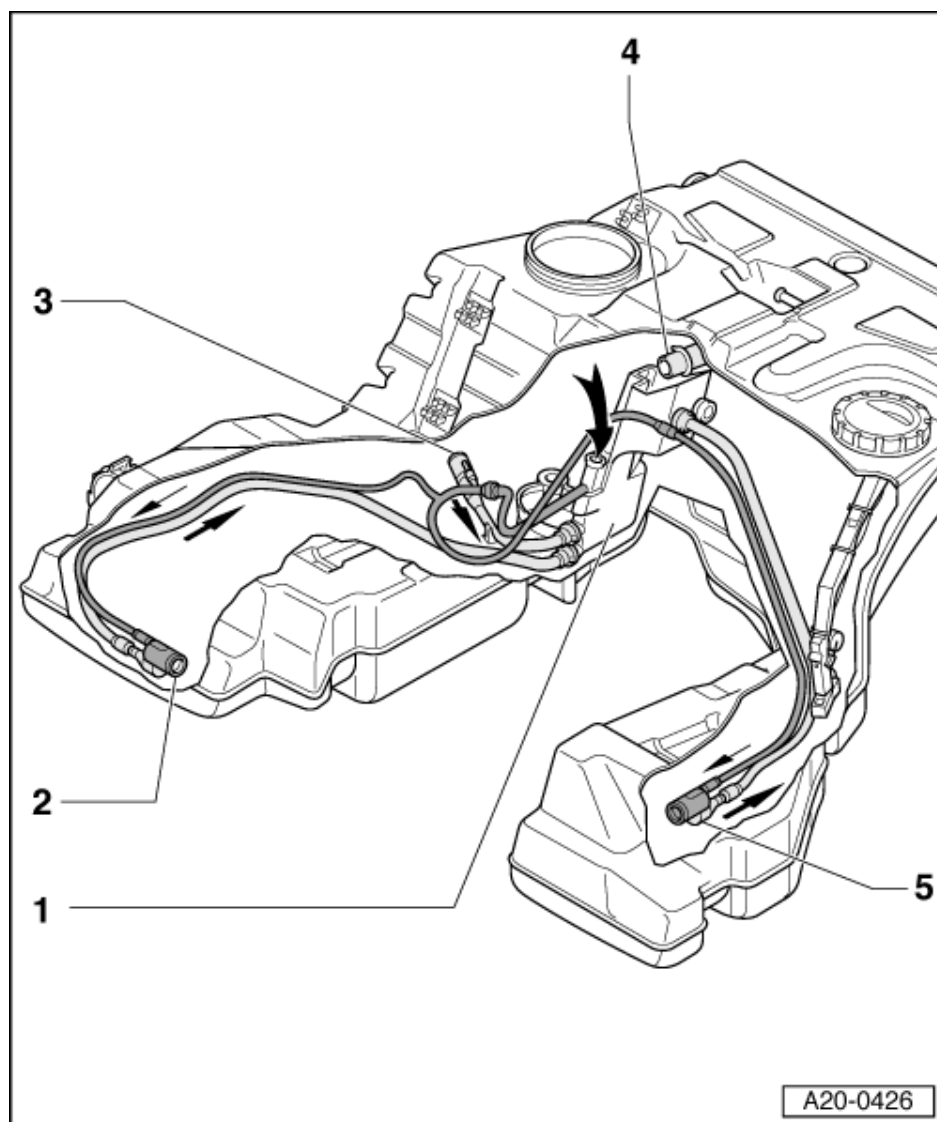
3.3 - Function of fuel system



The fuel tank employs a multi-chamber system.

The dual-stage electric fuel pump is located in a baffle housing (not shown in illustration).

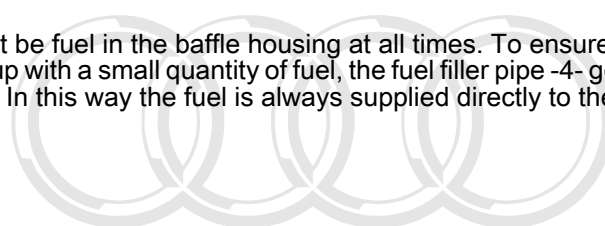
The first stage of the fuel pump produces a stream of fuel (large arrow in illustration) which is directed to the three suction jet pumps -2-, -3- and -5-, where it is passed through a nozzle and thus accelerated. The accelerated jet of fuel draws off the surrounding fuel in the individual chambers (fluid entrainment principle) and delivers it to the adapter plate -1- in the baffle housing via a system of pipes.



The second stage of the electric fuel pump delivers the fuel from the baffle housing to the engine.

The first stage of the electric fuel pump, the system of suction jet pumps and the baffle housing together form a closed circuit inside the fuel tank.

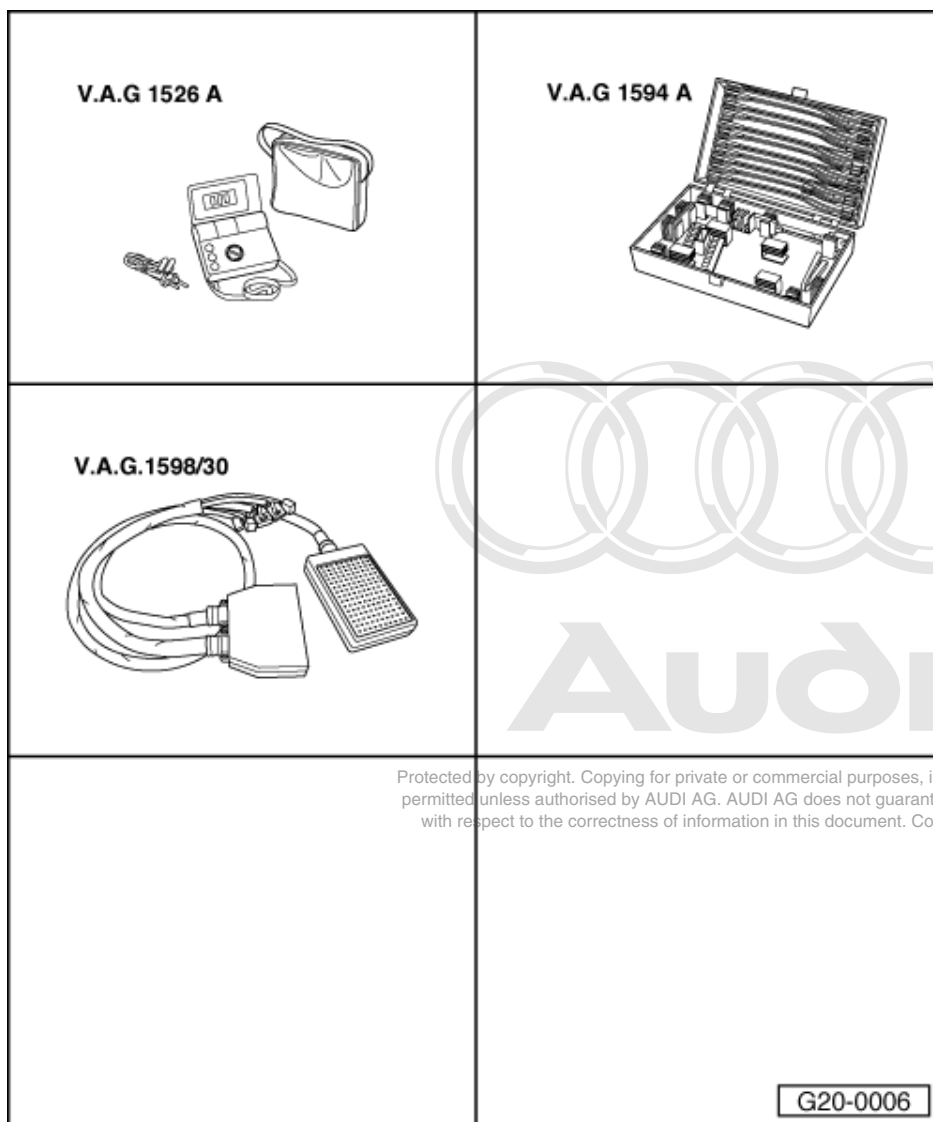
For reliable starting, there must be fuel in the baffle housing at all times. To ensure that this is the case, even when an empty tank is topped up with a small quantity of fuel, the fuel filler pipe -4- goes directly into the adapter plate -1- on the baffle housing. In this way the fuel is always supplied directly to the fuel delivery unit.



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3.4 - Testing fuel pump (electrical test)

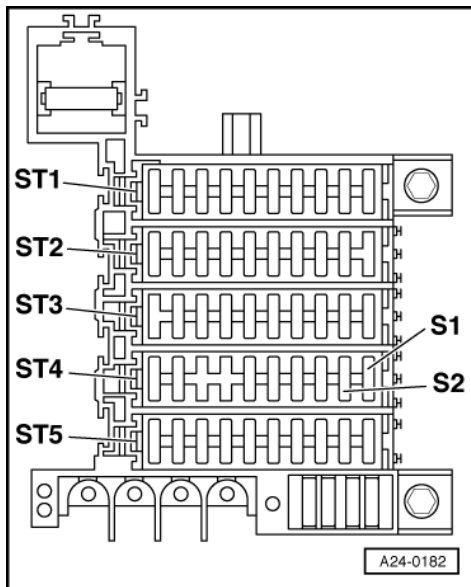


Special tools and workshop equipment required

- ◆ V.A.G 1348/3A with V.A.G 1348/3-2
- ◆ V.A.G 1526 A
- ◆ V.A.G 1594 A
- ◆ VAS 5051 with VAS 5051/9

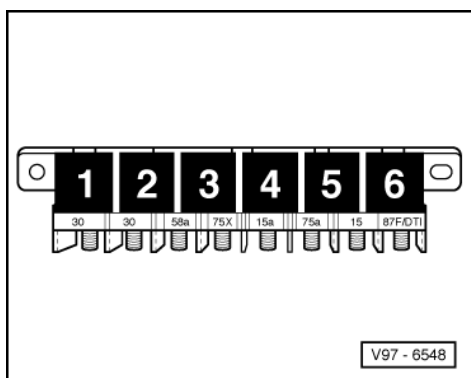
or

- ◆ V.A.G 1715



Requirements for test:

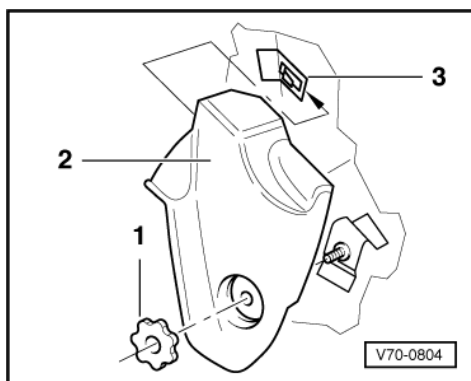
- Battery voltage not less than 12.7 V
- -> Fuse S1 OK (in fuse box, blue fuse carrier ST4)



- -> Fuel pump relay OK (on central electrics unit in electronics box; passenger's footwell, relay position 6).
Testing:

=> Motronic injection and ignition system; Repair group 24

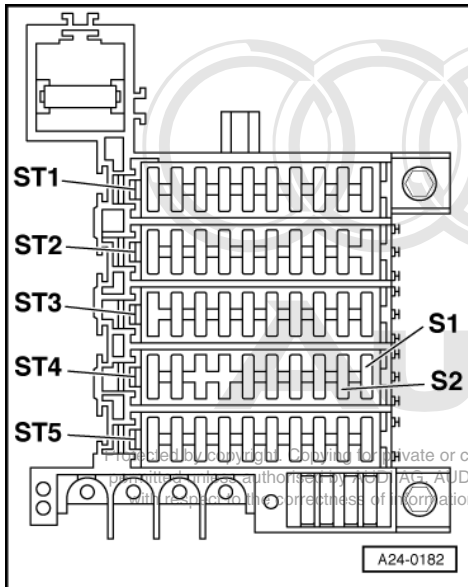
- Fuel filter OK
- Ignition switched off



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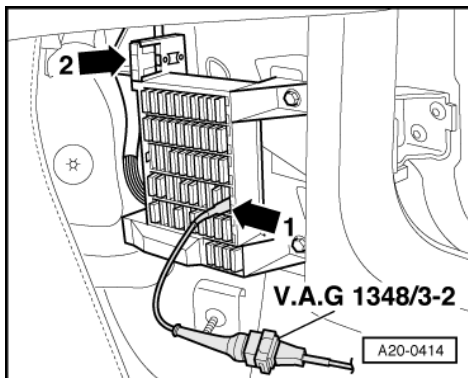
Checking voltage supply

- Detach floor covering at front of passenger's footwell.
- -> Unscrew knurled screw -1-.
- Pull trim -2- out of clip -3- towards the rear.
- Detach trim.



- -> Pull fuse No. S1 out of fuse carrier ST4 in fuse box.

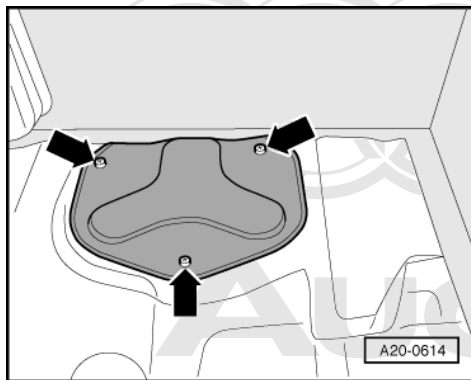
ST4 - blue fuse carrier



- -> Connect remote control V.A.G 1348/3A with adapter cable V.A.G 1348/3-2 to lower terminal of socket for fuse No. S1 in fuse carrier ST4 -arrow 1-.
- Connect clamp to positive battery supply (e.g. socket of 60 Amp fuse -arrow 2- at top of fuse box).
- Press remote control switch.
 - Pump should start running audibly.

Note:

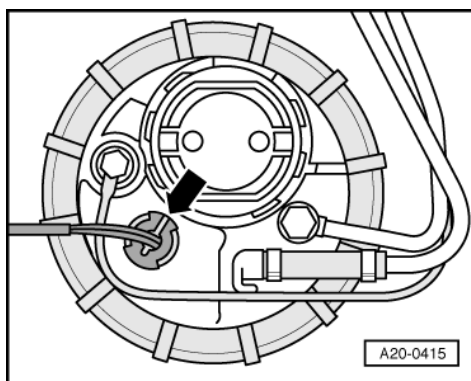
The fuel pump runs very quietly. Where possible, avoid noisy surroundings for this test. If necessary, perform the test with a 2nd mechanic.



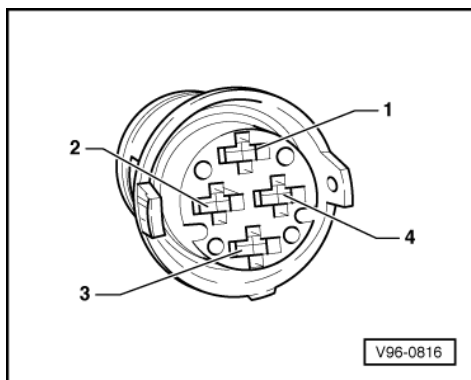
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If pump does not start running:

- -> Remove cover for fuel gauge sender and fuel delivery unit (right side) under floor covering in boot -arrows-.



- -> Release 4-pin connector -arrow- and unplug.

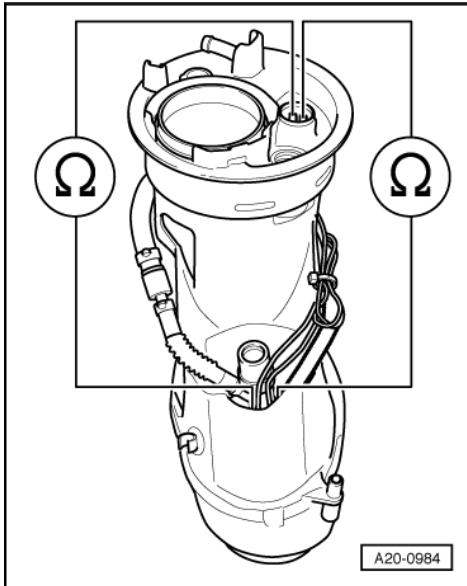


- -> Connect multimeter (voltage range) between contacts 1 and 4 of connector.
- Press remote control switch.
 - Specification: approx. battery voltage

If the specification is not obtained:

- Locate and eliminate open circuit using current flow diagram:

=> Current flow diagrams, Electrical fault finding and Fitting locations binder

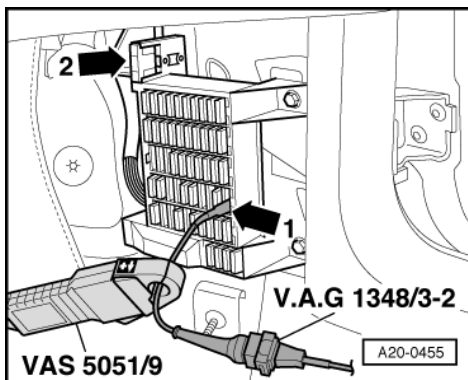


If the specification is obtained, even though the fuel pump did not run:

- Remove fuel delivery unit =>Page **31** .
- -> Check if the electric wires between flange and fuel pump are disconnected or broken (test continuity).

If no fault is detected in the wiring:

- Fuel pump is defective. Renew fuel delivery unit =>Page **31** .



Testing current draw

Test requirement:

- Supply voltage for fuel pump OK
=> Page **23**
- -> Connect remote control V.A.G 1348/3A with adapter cable V.A.G 1348/3-2 to lower terminal of socket for fuse No. S1 in fuse carrier ST4 -arrow 1-.
- Connect clamp to positive battery supply (e.g. socket of 60 A fuse -arrow 2- at top of fuse box).
- Connect vehicle diagnostic, testing and information system VAS 5051 with current clamp VAS 5051/9 (or alternatively multimeter V.A.G 1715 with current clamp) to connecting lead for remote control switch.
- Press remote control switch.
- Measure the current draw of the fuel pump.
 - Specification: approx 8 A

If the specification is not attained:

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**Note:**

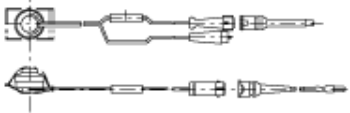

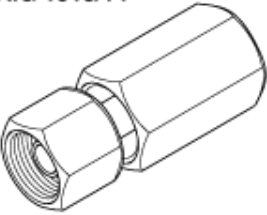

If the indicated current draw is 4 amps, this means the fuel pump is running dry (without fuel).

Meter reading	Cause of fault	Rectification
approx. 4 A	- Tank empty	- Fill up with fuel
	- Fuel delivery unit incorrectly installed	- Check installation of fuel delivery unit => Page 36
	- Baffle housing leaking	- Perform leak test on baffle housing => Page 43
	- Fuel gauge sender 2 incorrectly installed	- Check installation of fuel gauge sender 2 => Page 81
0 A	- Fuel pump defective	- Renew fuel delivery unit => Page 31



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3.5 - Testing fuel pump delivery rate

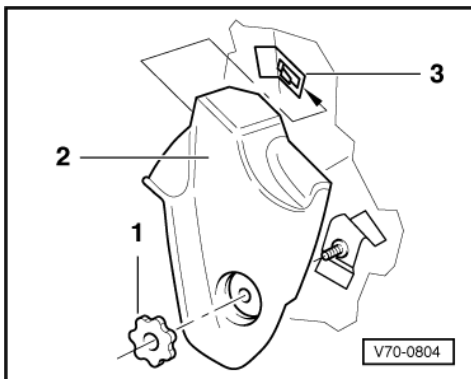
<p>V.A.G 1348/3A</p> 	<p>V.A.G 1318/10</p> 
<p>V.A.G 1318/14</p> 	
	<p>G20-0004</p>

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- ◆ V.A.G 1348/3A with V.A.G 1348/3-2
- ◆ V.A.G 1318/10
- ◆ V.A.G 1318/14
- ◆ Measuring container (fuel-resistant)

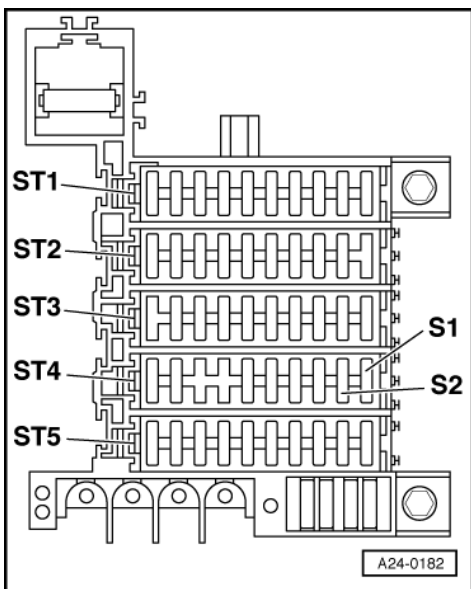
Requirements for test:

- Battery voltage not less than 12.7 V
- Fuel filter OK
- Ignition switched off



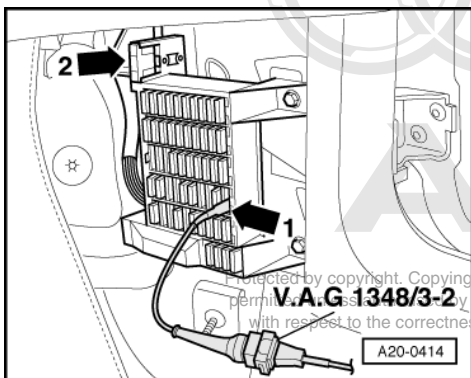
Test sequence

- Detach floor covering at front of passenger's footwell.
- -> Unscrew knurled screw -1-.
- Pull trim -2- out of clip -3- towards the rear.
- Detach trim.



- -> Pull fuse No. S1 out of fuse carrier ST4 in fuse box.

ST4 - blue fuse carrier

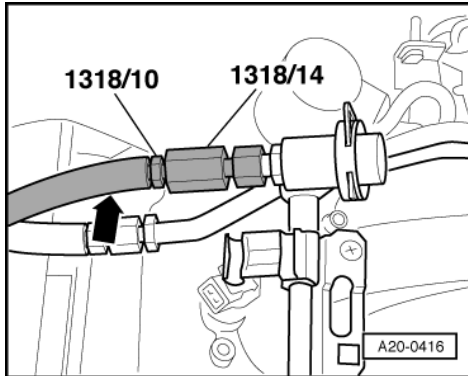


- -> Connect remote control V.A.G 1348/3A with adapter cable V.A.G 1348/3-2 to lower terminal of socket for fuse No. S1 in fuse carrier ST4 -arrow 1-.

- Connect clamp to positive battery supply (e.g. socket of 60 A fuse -arrow 2- at top of fuse box).
- Remove engine cover panel.

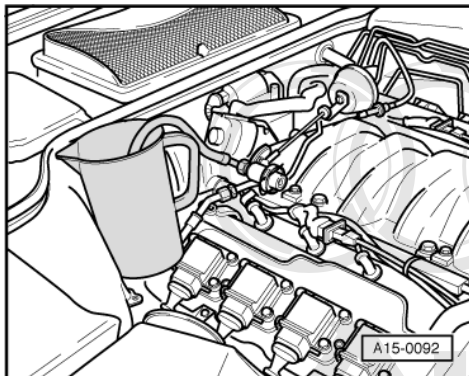
Warning

Fuel system is under pressure. Before opening the system place a cloth around the connection. Then release pressure by carefully loosening the connection.



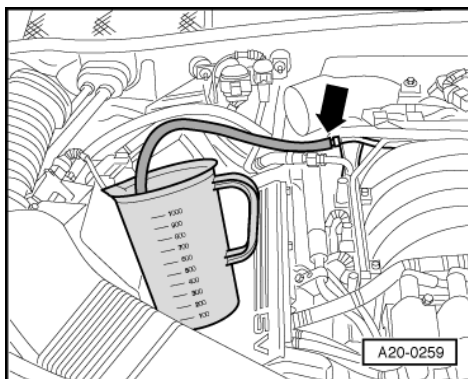
Vehicles with 6-cylinder engine and screw connection on return hose:

- -> Unscrew fuel return hose at fuel pressure regulator.
- Attach adapter V.A.G 1318/14 and V.A.G 1318/10 at fuel pressure regulator.
- Connect extension hose -arrow- and hold end of hose in measuring container.



Vehicles with 8-cylinder engine and screw connection on return hose:

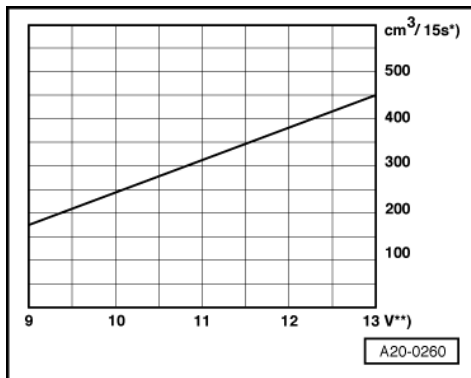
- -> Unscrew fuel return hose at fuel pressure regulator.
- Screw on extension hose (Part No. 8A0 201 351 A) and hold end of hose in measuring container.





Vehicles with push-fit connection on return hose:

- -> Pull off fuel return hose at connection on fuel distribution pipe.
- Connect extension hose -arrow- to fuel distribution pipe and hold end of hose in measuring container.



All models

- Operate remote control for 15 seconds (keep button pressed).
 - -> Compare the quantity of fuel delivered with specification.
- *) Minimum delivery cm³/15 seconds
- ***) Voltage at fuel pump with engine stopped and pump running (approx. 2 volts less than battery voltage).

Vehicles with screw connection on return hose:

- Connect return hose and tighten to 23 Nm.

Vehicles with push-fit connection on return hose:

- Attach return hose and secure with new hose clamp.

Note:

Secure all hose connections with the correct hose clips (same as original equipment)

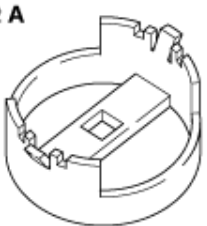
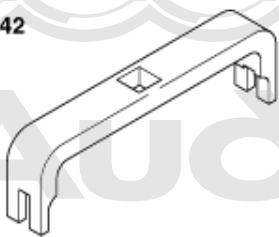

=> Parts catalogue



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3.6 - Removing and installing fuel delivery unit

<p>2012 A</p> 	<p>3342</p>  <p style="font-size: small; text-align: center;">Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.</p>
<p>V.A.G 1275</p> 	
	<div style="border: 1px solid black; display: inline-block; padding: 2px 5px;">G20-0040</div>

Special tools and workshop equipment required

- ◆ Removal and assembly tool 2012 A
- ◆ Union nut tool 3342
- ◆ Hose clip pliers V.A.G 1275

Observe safety precautions=> Page [1](#) .

Observe rules for cleanliness => Page [1](#) .

Notes:

- ◆ Before beginning work, be sure to view video film No. 23 "Audi TV special from June 25, 1997, Repairing A8 fuel tank."
- ◆ A leak test must be performed after re-installing the fuel delivery unit => Page [43](#) . This is necessary to ensure that the baffle housing is not leaking.
- ◆ If the baffle housing is not fuel-tight the engine will cut out due to fuel starvation when the tank is still 1/3 ... 1/4full.
- ◆ The chambers of the fuel tank must be completely emptied before performing the leak test.



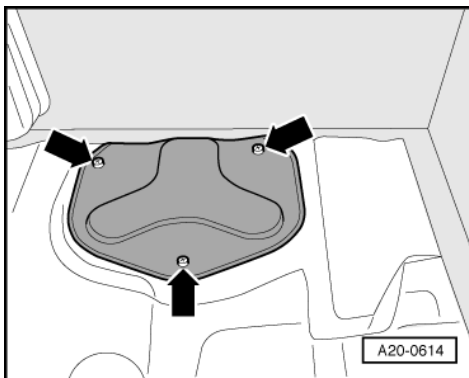
Removing

- Drain fuel tank completely.
Procedure =>Page 6 .

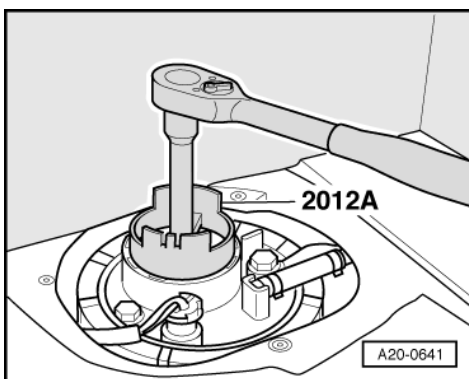
Caution!

On vehicles equipped with telematics the telematics control unit must be switched to service mode before the battery terminals are disconnected.=>Radio, telephone and navigation system; Repair group 91

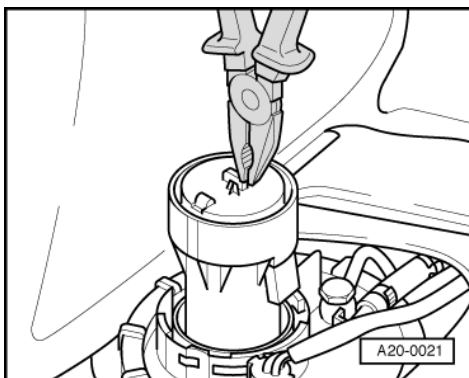
- Obtain code on vehicles with coded radio/integrated radio and navigation system.
- With the ignition switched off disconnect the battery earth strap.
- For the removal and installation of the fuel delivery unit, remove the tools and spare wheel from the boot. This enables you to sit or kneel in the wheel well, which will allow for more exact insertion and removal of the fuel delivery unit.



- -> Remove cover for fuel gauge sender and fuel delivery unit (right side) under floor covering in boot -arrows-.



- -> Using special tool 2012 A, release flange for fuel gauge sender by turning it clockwise, detach flange and take out the spring below it.



- -> Using pliers, carefully lift fuel gauge sender slightly.
- Hold sender with your hand and unplug connector -arrow-.

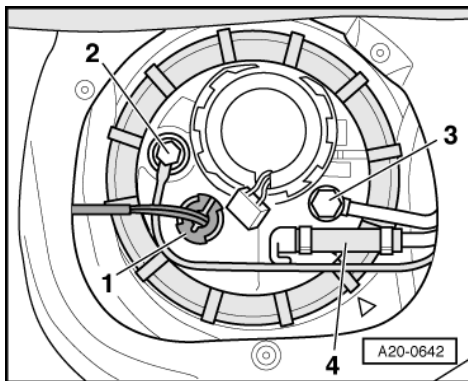


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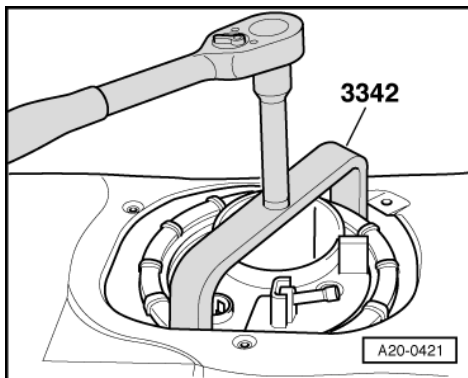
- Pull out fuel gauge sender partially and wait until the fuel has completely drained from the sender back into the fuel tank.
- Pull out fuel gauge sender completely.
- Secure plug connector to prevent it dropping back into fuel tank.

Notes:

- ◆ If the top cover on the sender should come loose when pulling it out, the housing of the sender must be removed separately.
- ◆ If the top cover comes loose, the sender must be renewed.



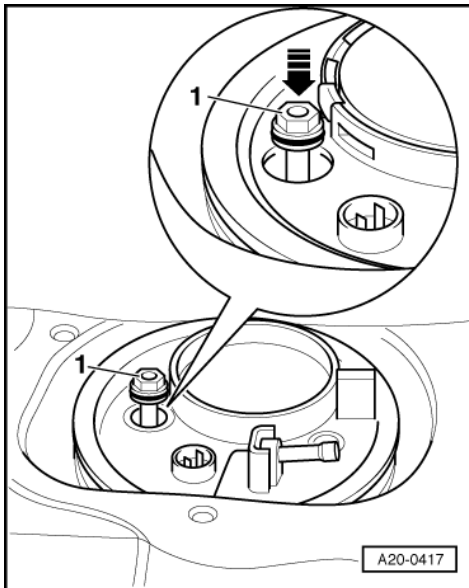
- -> Unplug electrical connector -1-.
- If fitted, unscrew banjo bolt -2- for supply pipe to auxiliary heater.
- Unscrew banjo bolt -3- for fuel supply pipe.
- Disconnect fuel return pipe -4-.



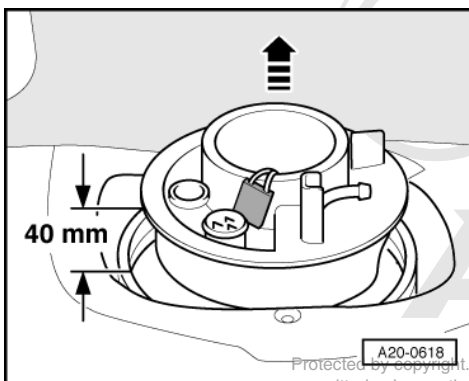
- -> Unscrew and remove union nut with special tool 3342.



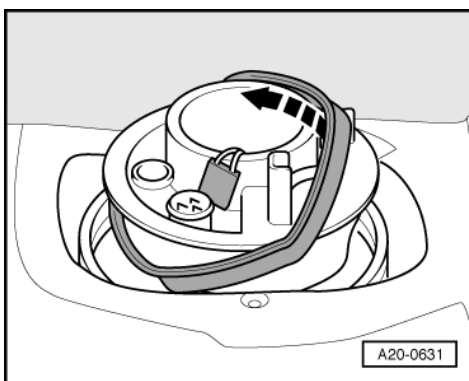
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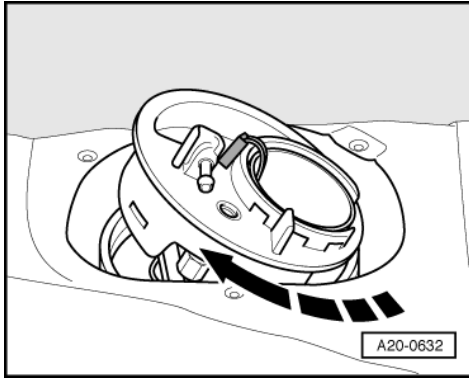
- -> Unscrew securing bolt -1- several turns, but do not remove.
- Press securing bolt down firmly -arrow- to separate fuel delivery unit from adapter plate in fuel tank (can be felt).
- Unscrew securing bolt completely and pull out.



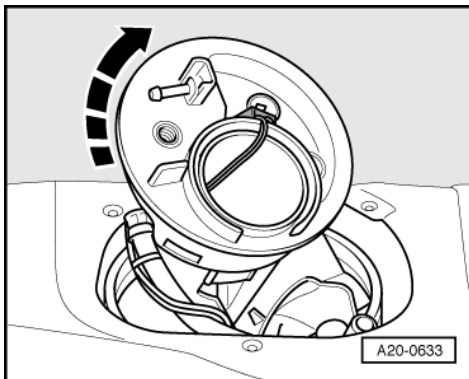
- -> Pull the fuel delivery unit upwards approx 40 mm while slightly turning side to side.



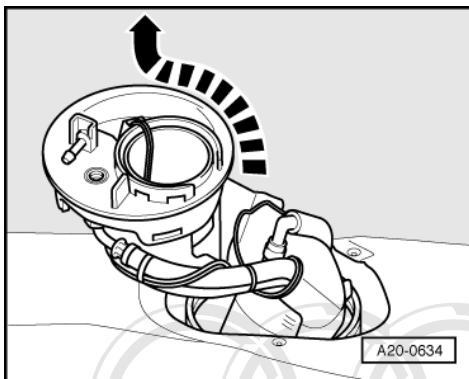
- -> Remove flange seal from edge of opening.



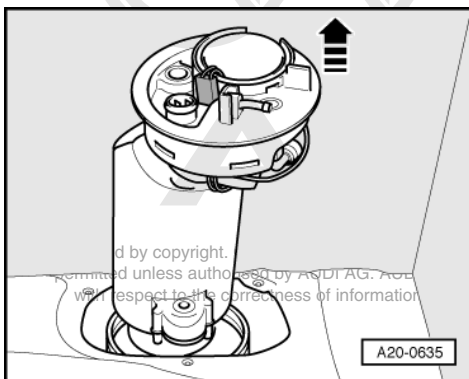
- -> Turn fuel delivery unit clockwise approx. 45°.
- Flange will swing upwards



- -> Turn fuel delivery unit clockwise 45° more while pulling upwards.



- -> Now turn fuel delivery unit anti-clockwise 45° while pulling upwards...



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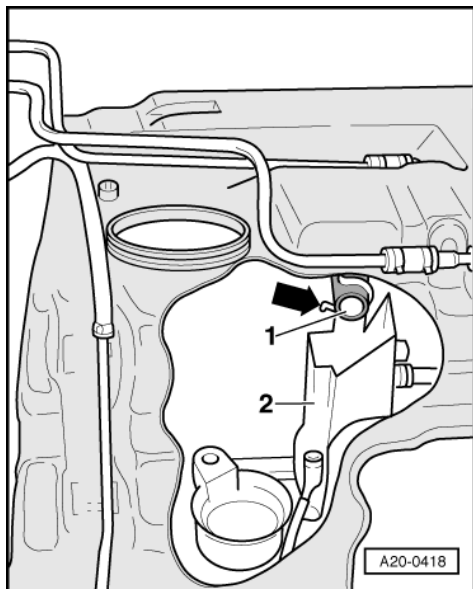
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- -> ... and when finally in this position pull it out of the fuel tank.
- When removing fuel delivery unit from boot, hold a cloth under unit to catch any leaking fuel.
- Drain fuel delivery unit in a suitable container.

Note:

Following regulations for disposal of fuel.



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Installing

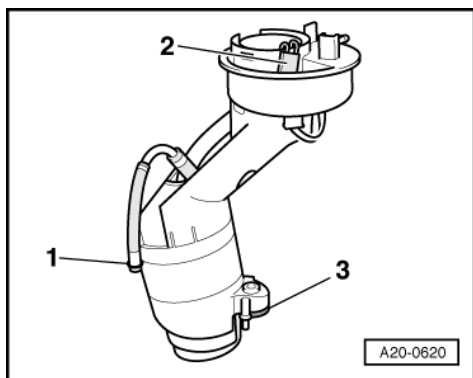
- The fuel tank must be empty => Notes, Page 31 .

Install in reverse sequence; note the following points:

- -> Before installing, check whether filler pipe -1- is clipped onto pipe retainer -arrow- on adapter plate -2-.

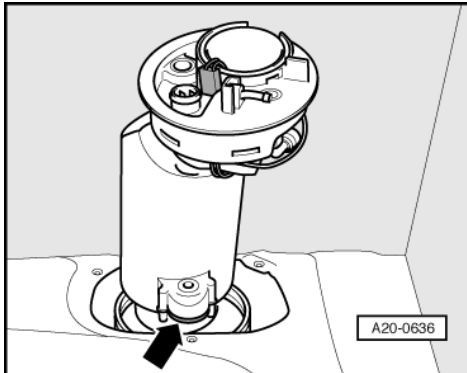
Notes:

- ♦ The cut-away shows the fuel tank from the front.
- ♦ A battery lamp and mirror can be used to check whether the filler pipe is clipped in properly.
- ♦ If the adapter plate and filler pipe are not clipped together it will not be possible to install the fuel delivery unit properly, and the adapter plate can be damaged when installing.
- Before inserting fuel delivery unit, visually inspect baffle housing, lower section of baffle housing, and pipe connections for suction jet pumps.

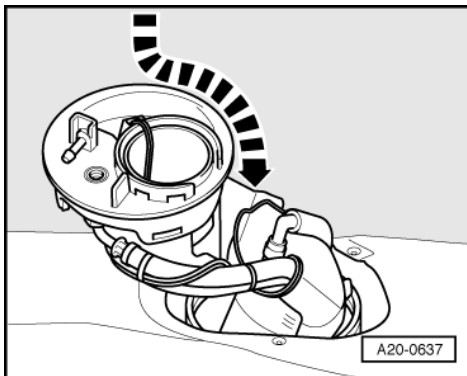


- -> Renew O-ring -1- and sealing plug - 3 - and check their fitting location carefully.

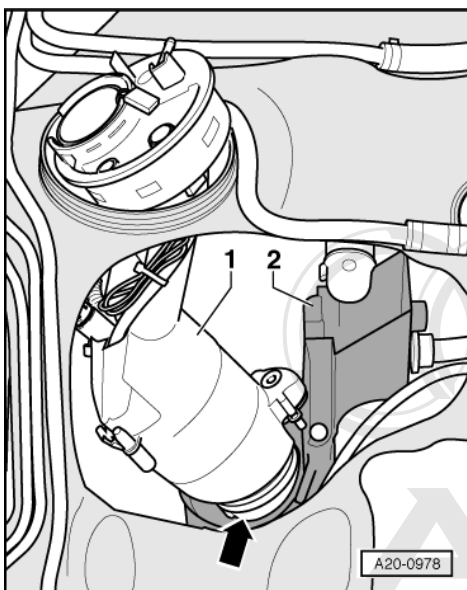
- Secure wiring with connector -2- for fuel gauge sender, as illustrated. The connector is not accessible once delivery unit is installed.



- Install fuel delivery unit first without flange seal:
- -> Hold fuel delivery unit in starting position as shown:
 - The sealing plug -arrow- faces opposite the direction of travel.



- -> Place fuel delivery unit in fuel tank and turn clockwise approx. 90°.

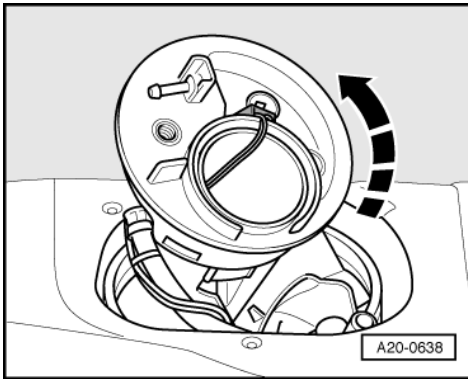


- -> Tip flange of fuel delivery unit -1- as shown in illustration so that the lower section of the delivery unit swings as far as possible to the left.

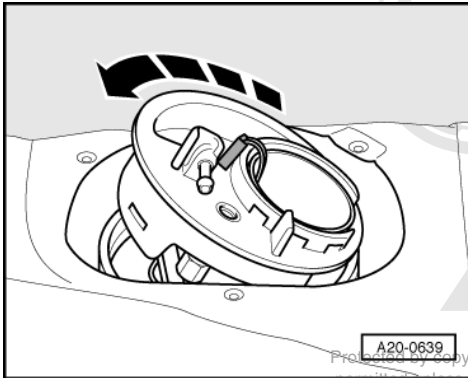
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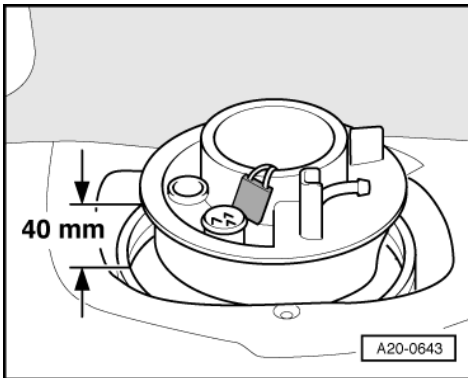
- In this position the fuel delivery unit can be placed into the well -arrow- of the adapter plate -2- inside the fuel tank.



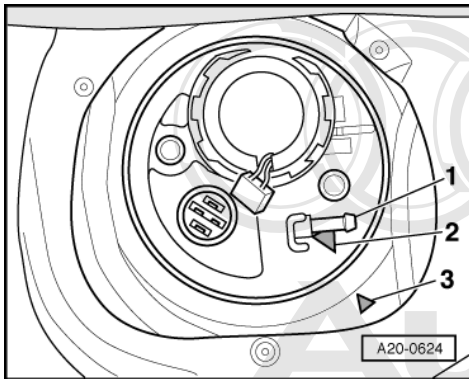
- -> Now turn fuel delivery unit anti-clockwise 45°, which will lower the delivery unit into the fuel tank.



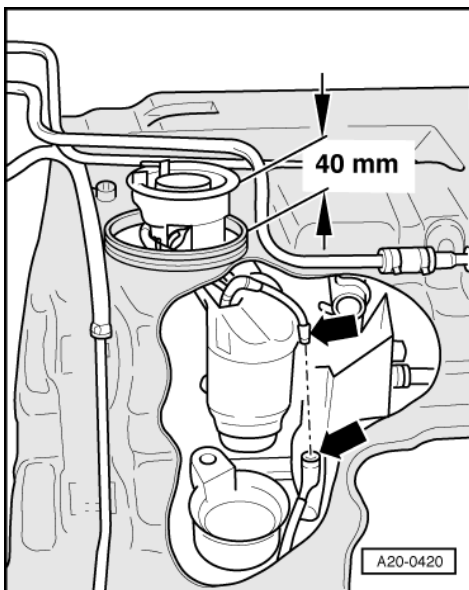
- -> Turn the fuel delivery unit anti-clockwise 45° further to its fitting position.



- -> Hold flange in fitting position approx. 40 mm over opening.



- -> Check the fitting position:
 - Hose connection -1- faces to right
 - -Arrow 2 and arrow 3- face each other
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- -> Press fuel delivery unit downwards.
- The output pipe from the fuel delivery unit to the suction jet pumps will then be pressed down into the funnel on the adapter plate -arrows-.

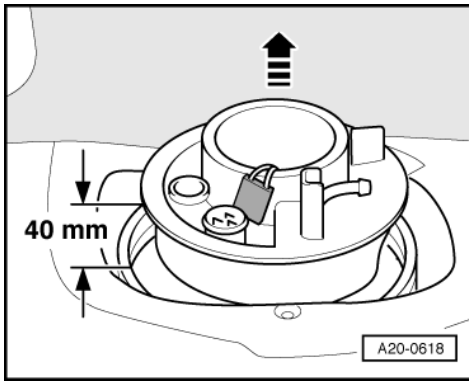
Notes:

- ◆ If the output pipe from the fuel delivery unit to the suction jet pumps is not pressed down into the funnel on the adapter plate, the suction jet pumps will not work and the fuel delivery unit will not seal against the adapter plate.
- ◆ If the baffle housing is not fuel-tight or the suction jet pumps are not working, the engine will cut out due to fuel starvation when the tank is still 1/3 ... 1/4 full.

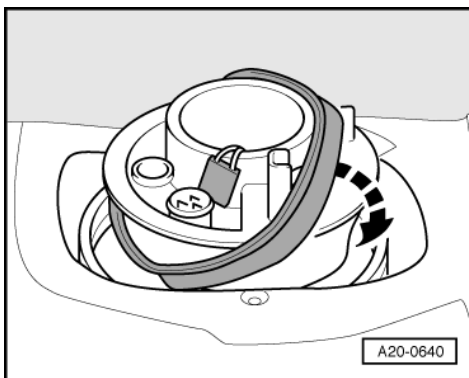
Warning

Proper installation is only guaranteed if the following criteria are fulfilled:

- ◆ **The flange of fuel delivery unit must sit level and not on edge of opening in fuel tank.**
- ◆ **The retaining bolt must easily be inserted into the bolt hole on adapter plate without catching, and it should be easily screwed into threaded bolt hole without snagging.**



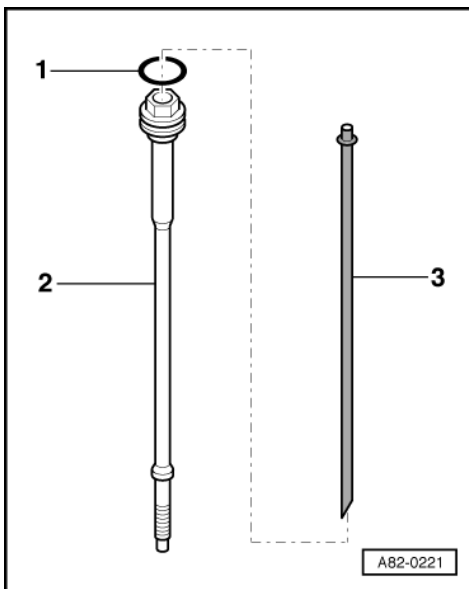
- -> After checking the installation, lift out fuel delivery unit approx. 40 mm.



- -> Fit new flange seal on rim of opening in fuel tank.
- Insert the fuel delivery unit again.



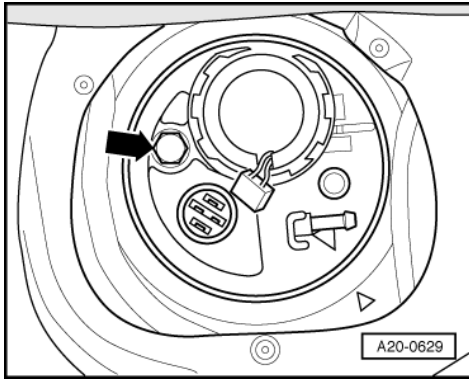
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- -> Fit new O-ring -1- on securing bolt -2-.

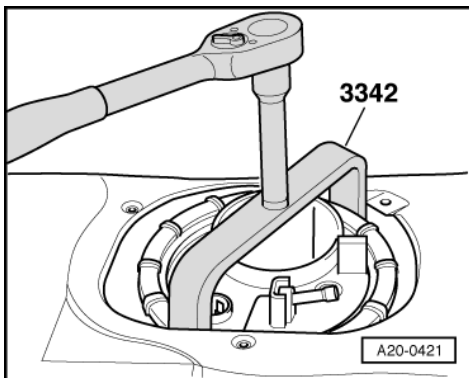
Vehicles with auxiliary heater:

- Be sure that the reduced diameter sleeve -3- is inserted in the tubular bolt.

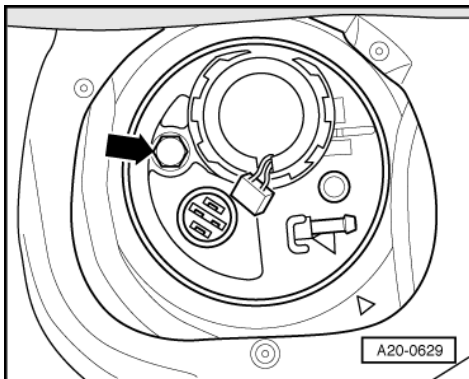


All models

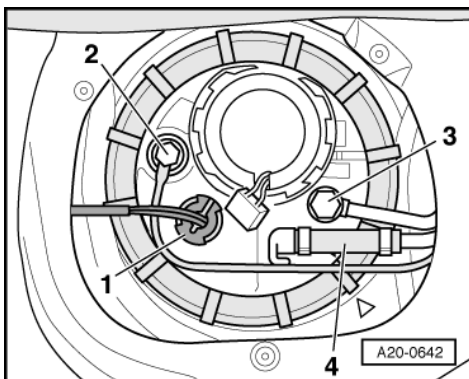
- -> Tighten securing bolt -arrow- finger-tight to start with.



- -> Fit locking ring and tighten to 70 Nm using special tool 3342.



- -> Tighten securing bolt -arrow- to 20 Nm.



Audi

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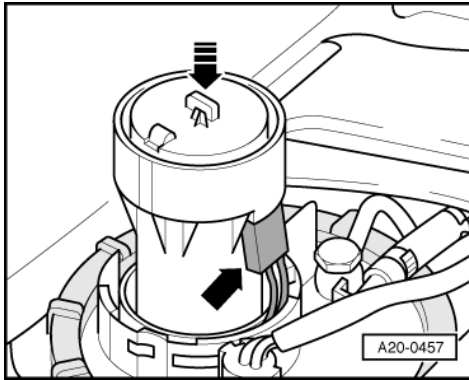
- Replace ring seals for banjo bolts.
- -> Tighten banjo bolt -3- for fuel supply pipe to 23 Nm.

Vehicles with auxiliary heater:

- Tighten banjo bolt -2- for fuel supply pipe to auxiliary heater to 13 Nm.

All models

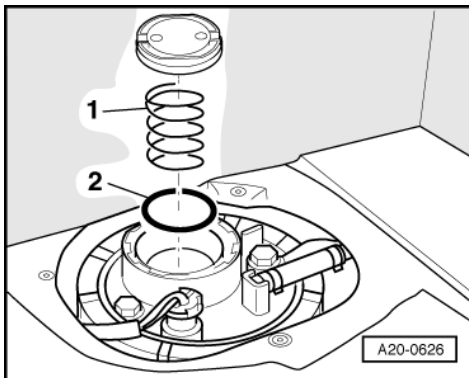
- Connect fuel return hose -4- and secure with new hose clamp with aid of hose clip pliers V.A.G 1275.
- Plug in connector -1-.



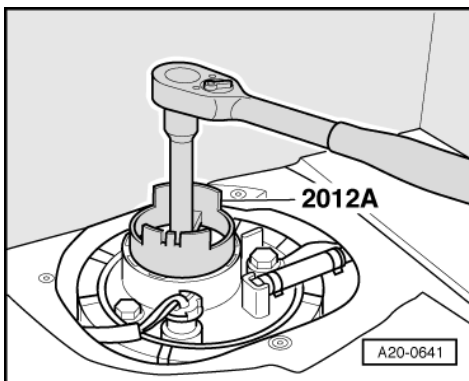
- -> Insert fuel gauge sender.
- Reconnect electrical connector -arrow- when sliding fuel gauge sender back into tank.

Note:

The fuel gauge sender -G can only be inserted in a certain position; turn if necessary.

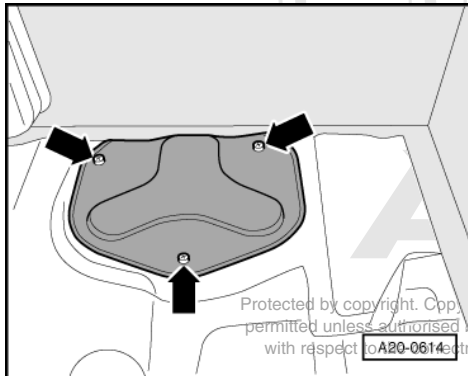


- -> Renew O-ring -2- on fuel gauge sender.
- Fit spring -1-.



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- -> Using special tool 2012 A, carefully tighten flange for fuel gauge sender by turning it anti-clockwise as far as it will go.



- -> Install cover for fuel gauge sender and fuel delivery unit (right side) under floor covering in boot -arrows-.
- Check fuel delivery unit for leaks => Page 43 .

Notes:

- ◆ A leak test must be performed after re-installing the fuel delivery unit => Page 43 . This is necessary to ensure that the baffle housing is not leaking.
- ◆ If the baffle housing is not fuel-tight the engine will cut out due to fuel starvation when the tank is still 1/3 ... 1/4 full.
- ◆ When the battery is reconnected, re-activate electrical equipment (radio, combined radio/navigation system, clock, electric windows) as described in the Owner's Manual.
- ◆ De-activate service mode in telematics control unit.

=> Radio, telephone and navigation system; Repair group 91

- ◆ Further procedures after reconnecting the voltage supply:

=> Motronic injection and ignition system; Repair group 24

Leak test

Test requirement:

- Fuel tank drained.
- Put in 5 litres of fuel.
- Take the vehicle for a test drive of at least 10 km (take spare canister of fuel).
- Leave vehicle standing overnight (or at least 12 hours).

If the engine starts readily after the vehicle has been standing for this period, this means the fuel delivery unit is not leaking.

- Fill up tank and take the vehicle for a final test drive.

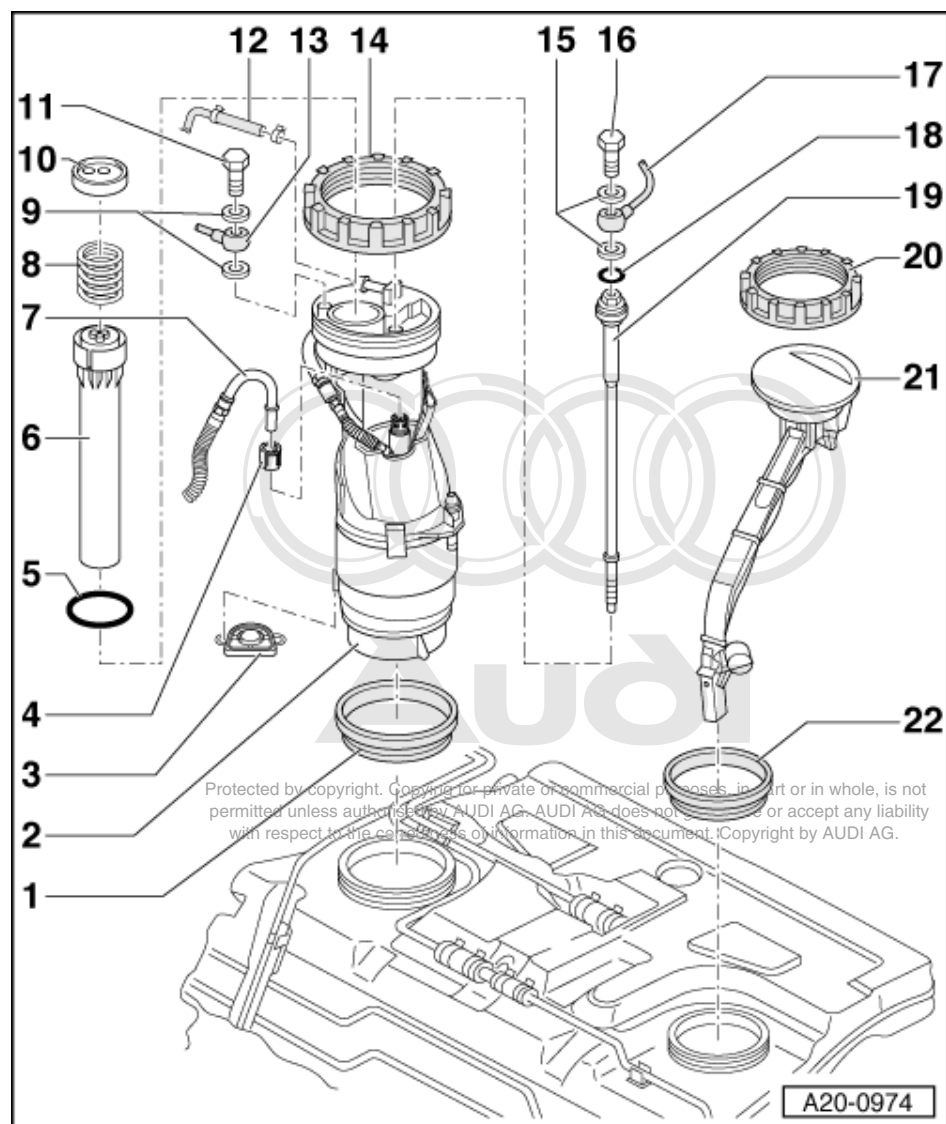
If the engine does not start:

- Check whether fuel delivery unit has been installed properly => Page 36 .



4 - Fuel delivery unit -

4.1 - Fuel delivery unit -



4.2 - Fuel delivery unit - 12-cyl. engine

1 Flange seal

- ◆ Renew
- ◆ When installing, fit seal (dry) in opening in fuel tank

2 Fuel delivery unit

- ◆ Checking fuel pump (electrical test)
=> Page 51
- ◆ Checking delivery rate => Page 56
- ◆ Checking holding pressure:

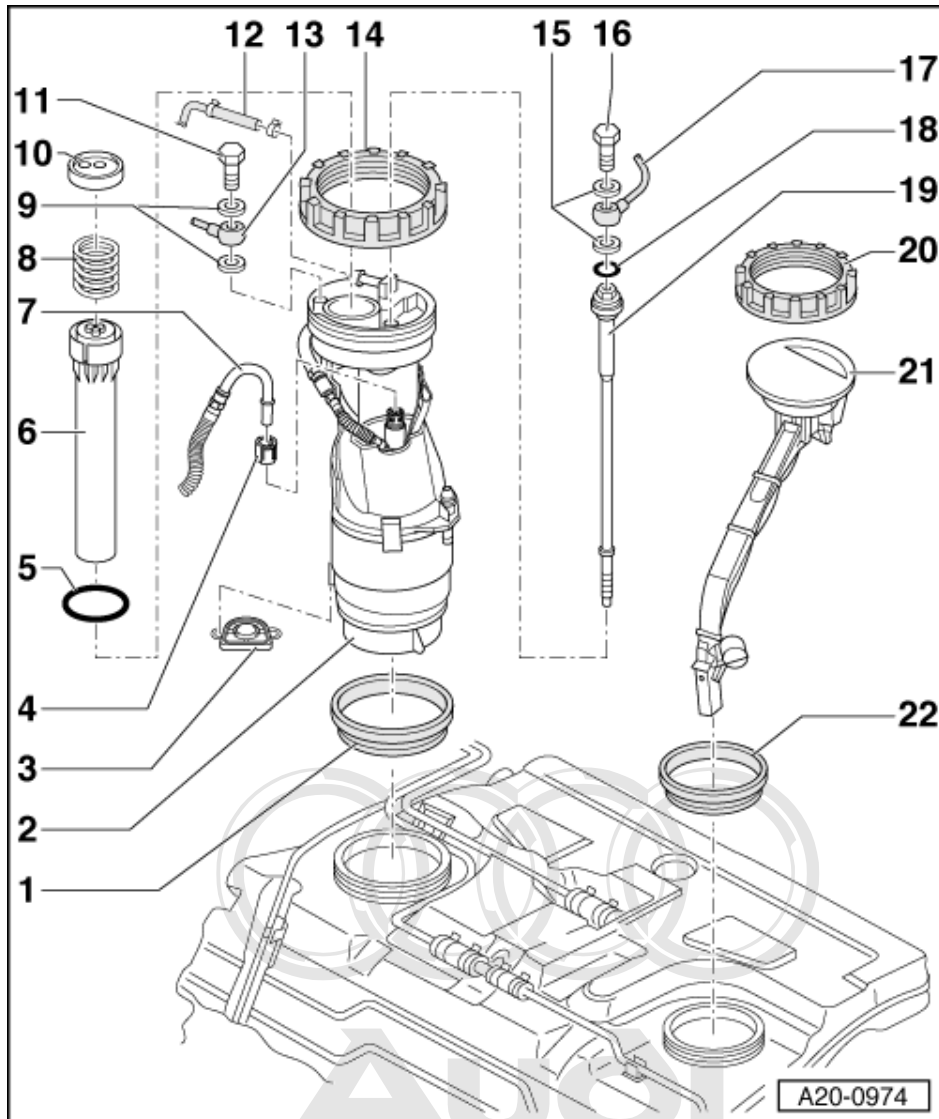
=> Injection and ignition system; Repair Group 24

- ◆ Removing and installing

=> Page 59

3 Sealing plug

- ◆ Renew



4 Retaining clip

5 O-ring

- ◆ Renew
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6 Fuel gauge sender -G

- ◆ Checking resistance values
=> Page 76
- ◆ Removing and installing
=> Page 77

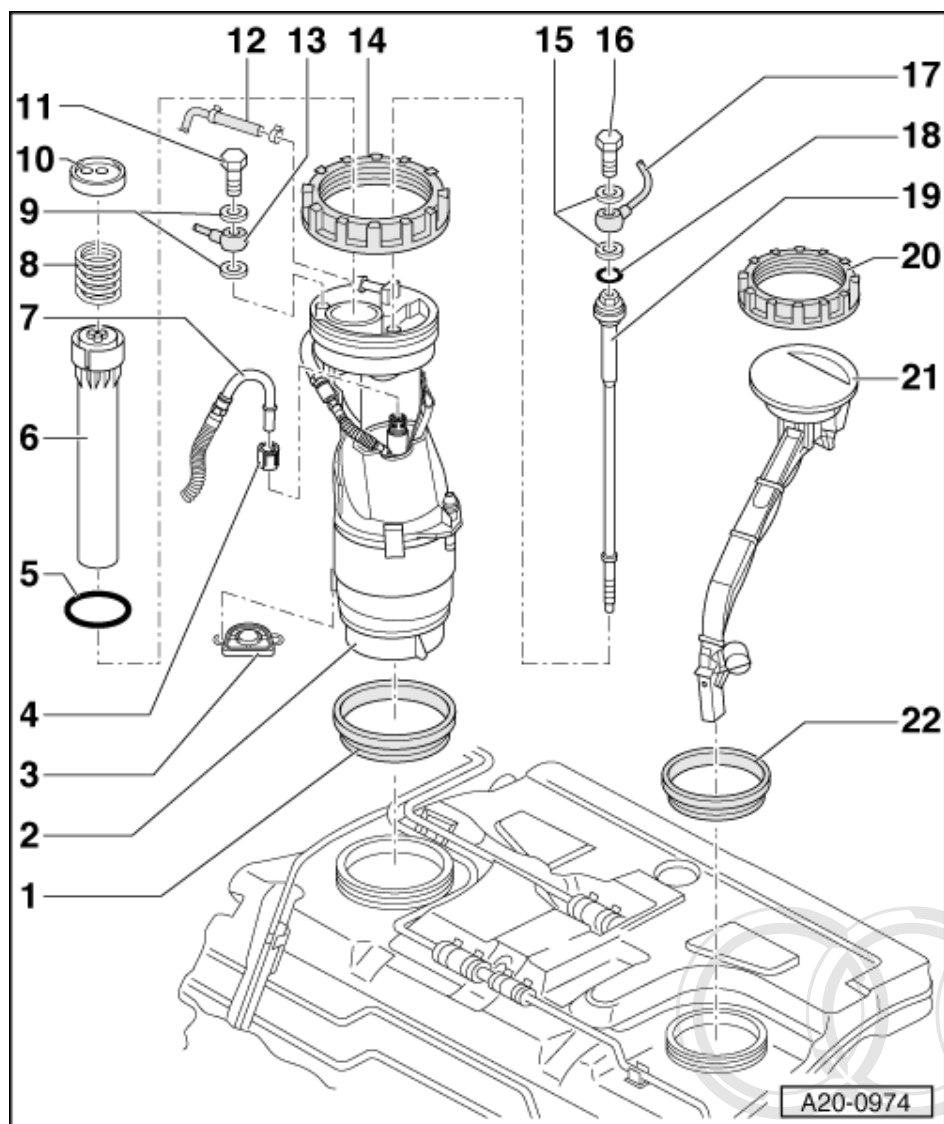
7 Fuel supply pipe

- ◆ For suction jet pumps
- ◆ Clipped onto fuel delivery unit

8 Spring

9 Ring seals

- ◆ Renew



10 Flange for fuel gauge sender -G

- ◆ Remove and install using spanner 2012 A =>Page 77
- ◆ Turn clockwise to open; turn anti-clockwise to close

11 Banjo bolt - 23 Nm

12 Fuel return pipe

- ◆ From injection system
- ◆ Clipped onto fuel tank

13 Fuel supply pipe

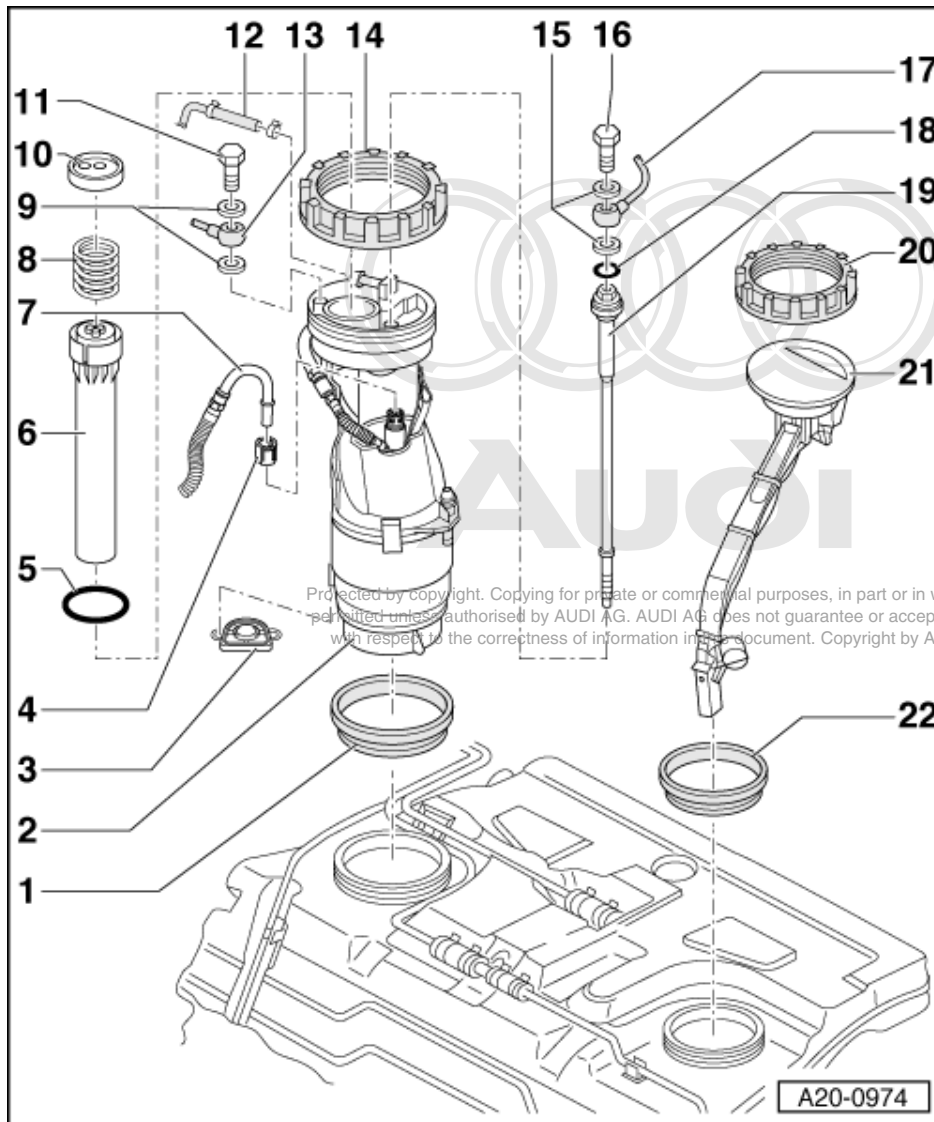
- ◆ To fuel filter
- ◆ Clipped onto fuel tank

14 Union nut, 70 Nm

- ◆ Remove and install with spanner 3342



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15 Ring seals

- ◆ Renew

16 Banjo bolt, 13 Nm

17 Fuel supply pipe

- ◆ To auxiliary heater

18 O-ring

- ◆ Renew

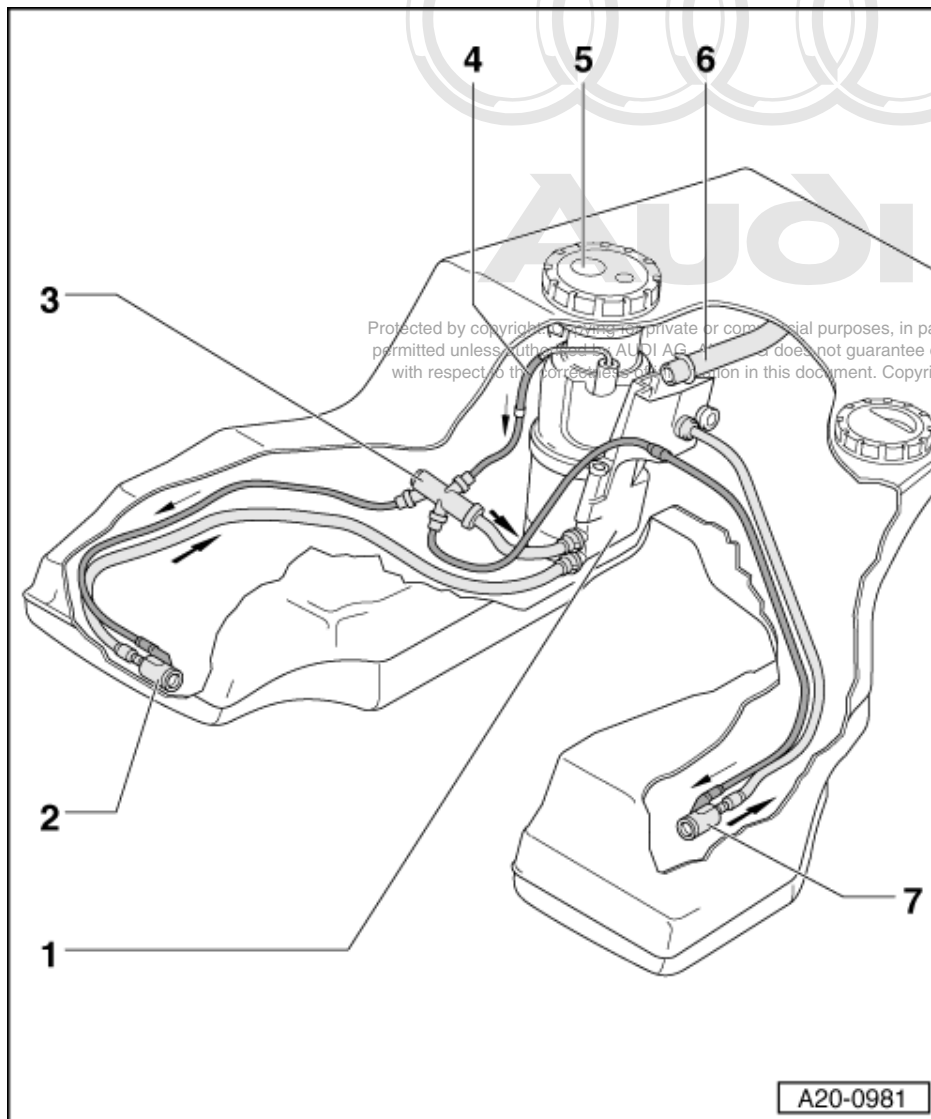
19 Securing bolt - 20 Nm

- ◆ On vehicles with auxiliary heater: tubular bolt with inserted reduced diameter sleeve

20 Union nut, 60 Nm

- ◆ Remove and install with spanner 3217

4.3 - Function of fuel system

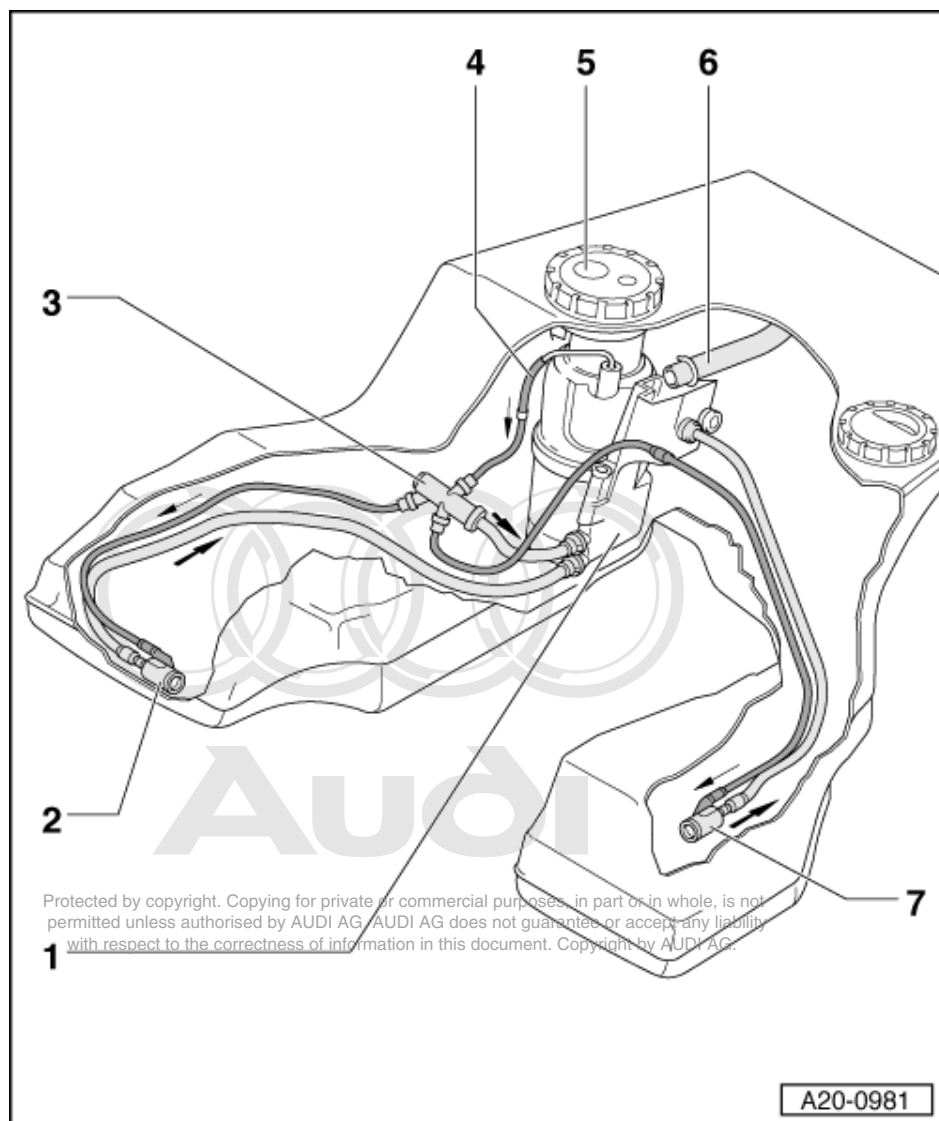


The fuel tank employs a multi-chamber system.

The dual-stage electric fuel pump -5- is located in a baffle housing.

The first stage of the fuel pump produces a stream of fuel through the fuel supply pipe -4- which is directed to the suction jet pumps -2-, -3- and -7-.

In the suction jet pumps the stream of fuel passes through a nozzle and is thus accelerated. The accelerated jet of fuel draws off the surrounding fuel in the individual chambers (fluid entrainment principle) and delivers it to the adapter plate -1- in the baffle housing via a system of pipes.

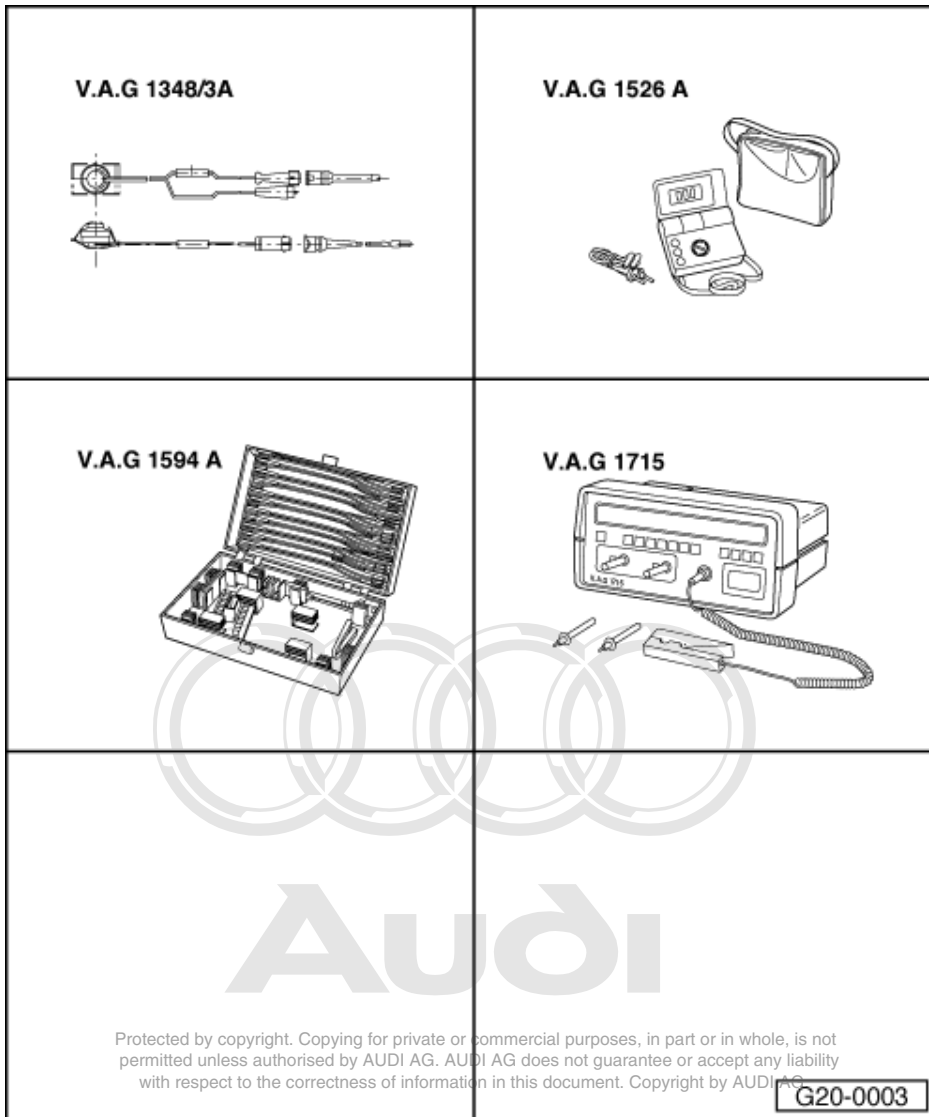


The second stage of the electric fuel pump delivers the fuel from the baffle housing to the engine.

The first stage of the electric fuel pump, the system of suction jet pumps and the baffle housing together form a closed circuit inside the fuel tank.

For reliable starting, there must be fuel in the baffle housing at all times. To ensure this, even when an empty tank is filled with a small quantity of fuel, the fuel filler pipe -6- goes directly into the adapter plate -1- on the baffle housing. In this way the fuel is always supplied directly to the fuel delivery unit.

4.4 - Testing fuel pump (electrical test)

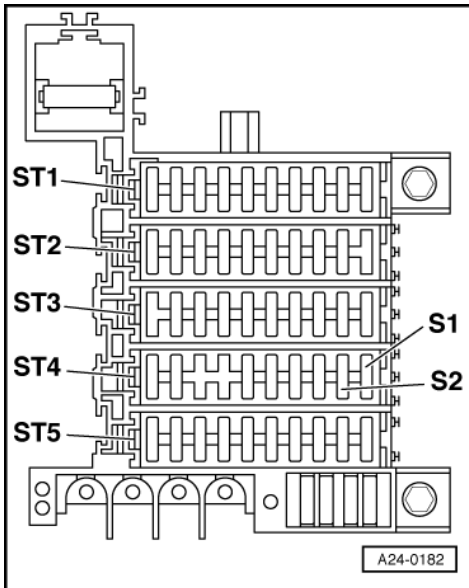


Special tools and workshop equipment required

- ◆ V.A.G 1348/3A with V.A.G 1348/3-2
- ◆ V.A.G 1526 A
- ◆ V.A.G 1594 A
- ◆ VAS 5051 with VAS 5051/9

or

- ◆ V.A.G 1715



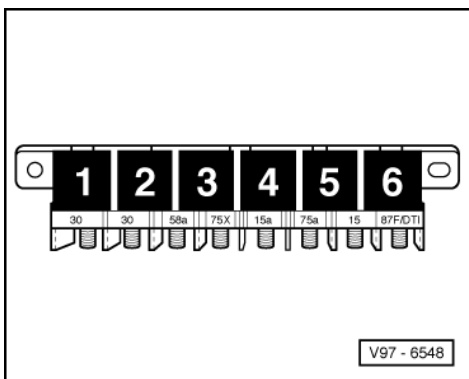
Requirements for test:

- Battery voltage not less than 12.7 V
- -> Fuse S1 OK (in fuse box, blue fuse carrier ST4)



Audi

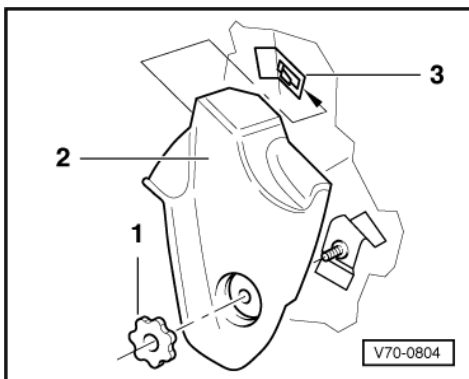
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- -> Fuel pump relay OK (on central electrics unit in electronics box; passenger's footwell, relay position 6).
Testing:

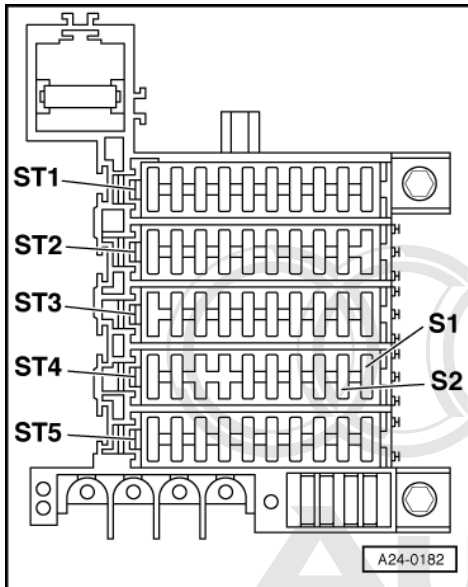
=> Motronic injection and ignition system; Repair group 24

- Fuel filter OK
- Ignition switched off



Checking voltage supply

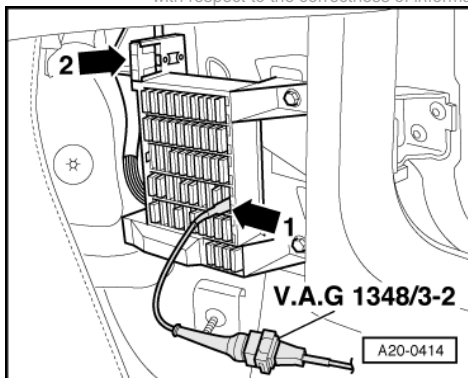
- Detach floor covering at front of passenger's footwell.
- -> Unscrew knurled screw -1-.
- Pull trim -2- out of clip -3- towards the rear.
- Detach trim.



- -> Pull fuse No. S1 out of fuse carrier ST4 in fuse box.

ST4 - blue fuse carrier

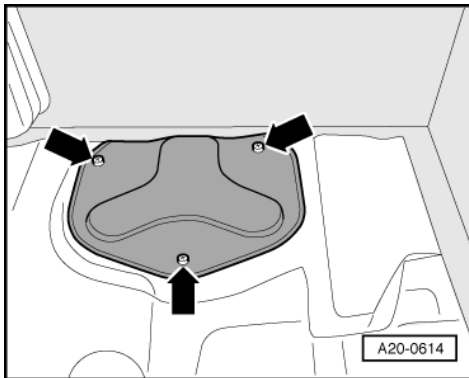
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- -> Connect remote control V.A.G 1348/3A with adapter cable V.A.G 1348/3-2 to lower terminal of socket for fuse No. S1 in fuse carrier ST4 -arrow 1-.
- Connect clamp to positive battery supply (e.g. socket of 60 Amp fuse -arrow 2- at top of fuse box).
- Press remote control switch.
 - Pump should start running audibly.

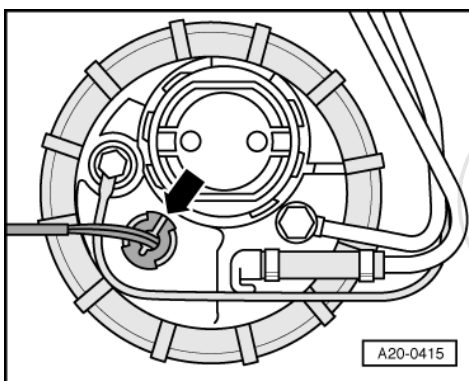
Note:

The fuel pump runs very quietly. Where possible, avoid noisy surroundings for this test. If necessary, perform the test with a 2nd mechanic.

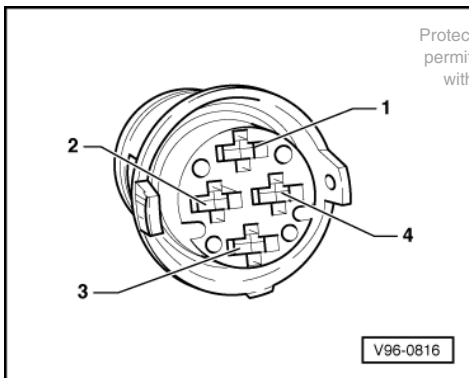


If pump does not start running:

- -> Remove cover for fuel gauge sender and fuel delivery unit (right side) under floor covering in boot -arrows-.



- -> Release 4-pin connector -arrow- and unplug.



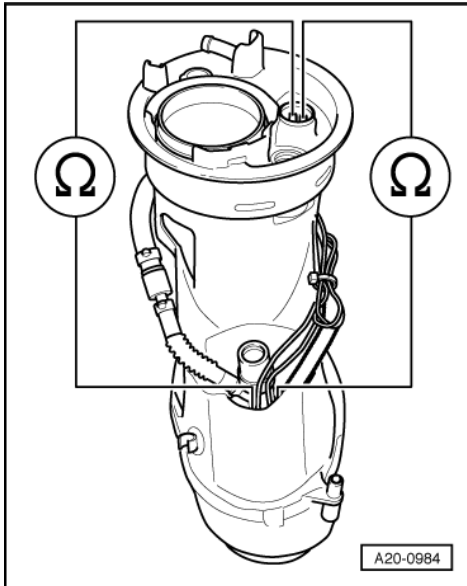
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- -> Connect multimeter (voltage range) between contacts 1 and 4 of connector.
- Press remote control switch.
 - Specification: approx. battery voltage

If the specification is not obtained:

- Locate and eliminate open circuit using current flow diagram:

=> Current flow diagrams, Electrical fault finding and Fitting locations binder

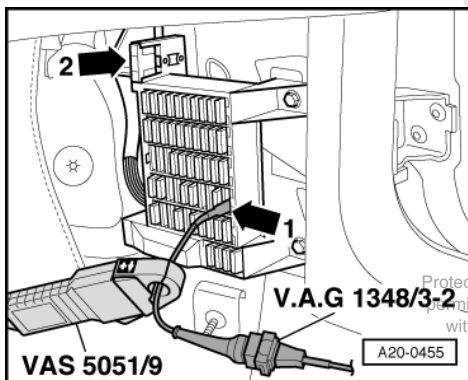


If the specification is obtained, even though the fuel pump did not run:

- Remove fuel delivery unit =>Page 31 .
- -> Check if the electric wires between flange and fuel pump are disconnected or broken (test continuity).

If no fault is detected in the wiring:

- Fuel pump is defective. Renew fuel delivery unit =>Page 31 .



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Testing current draw

Test requirement:

- Supply voltage for fuel pump OK
=> Page 23
- -> Connect remote control V.A.G 1348/3A with adapter cable V.A.G 1348/3-2 to lower terminal of socket for fuse No. S1 in fuse carrier ST4 -arrow 1-.
- Connect clamp to positive battery supply (e.g. socket of 60 A fuse -arrow 2- at top of fuse box).
- Connect vehicle diagnostic, testing and information system VAS 5051 with current clamp VAS 5051/9 (or alternatively multimeter V.A.G 1715 with current clamp) to connecting lead for remote control switch.
- Press remote control switch.
- Measure the current draw of the fuel pump.
 - Specification: approx 8 A

If the specification is not attained:

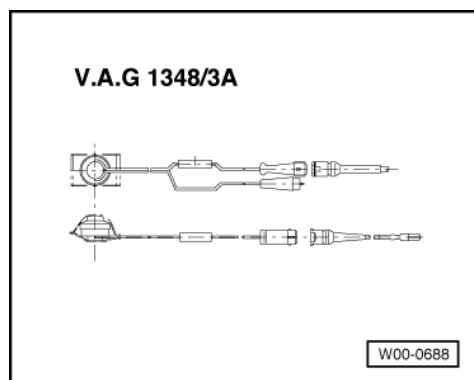


Note:

If the indicated current draw is 4 amps, this means the fuel pump is running dry (without fuel).

Meter reading	Cause of fault	Rectification
approx. 4 A	- Tank empty	- Fill up with fuel
	- Fuel delivery unit incorrectly installed	- Check installation of fuel delivery unit => Page 74
	- Baffle housing leaking	- Perform leak test on baffle housing => Page 74
	- Fuel gauge sender 2 incorrectly installed	- Check installation of fuel gauge sender 2 => Page 81
0 A	- Fuel pump defective	- Renew fuel delivery unit =>Page 31

4.5 - Testing fuel pump delivery rate

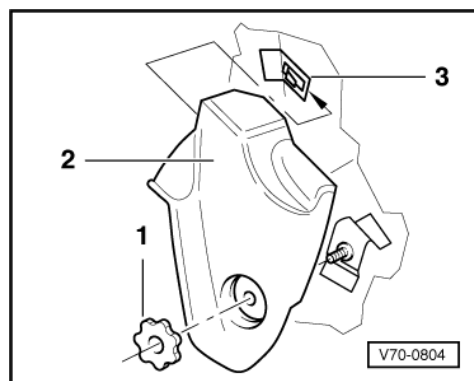


Special tools and workshop equipment required

- ♦ V.A.G 1348/3A and V.A.G 1348/3-2
- ♦ Measuring container (fuel safe)

Requirements for test:

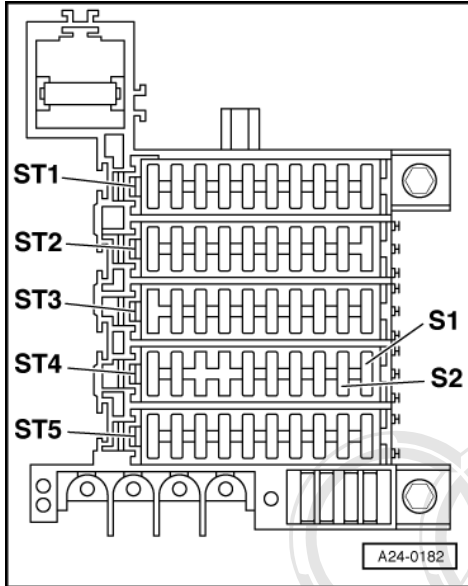
- Battery voltage not less than 12.7 V
- Fuel filter OK
- Ignition switched off



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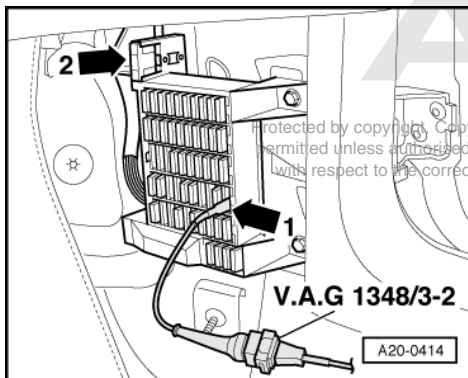
Test sequence

- Detach floor covering at front of passenger's footwell.
- -> Unscrew knurled screw -1-.
- Pull trim -2- out of clip -3- towards the rear.
- Detach trim.

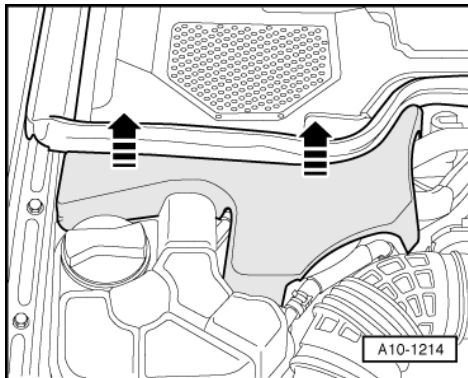


- -> Pull fuse No. S1 out of fuse carrier ST4 in fuse box.

ST4 - blue fuse carrier

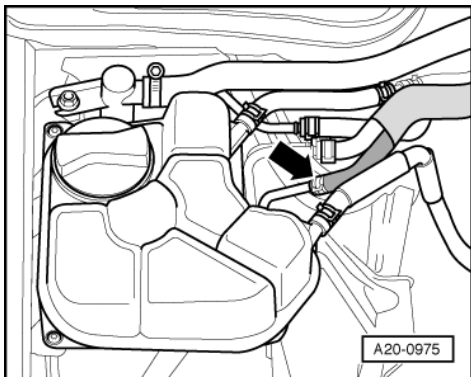


- -> Connect remote control V.A.G 1348/3A with adapter cable V.A.G 1348/3-2 to lower terminal of socket for fuse No. S1 in fuse carrier ST4 -arrow 1-.
- Connect clamp to positive battery supply (e.g. socket of 60 A fuse -arrow 2- at top of fuse box).





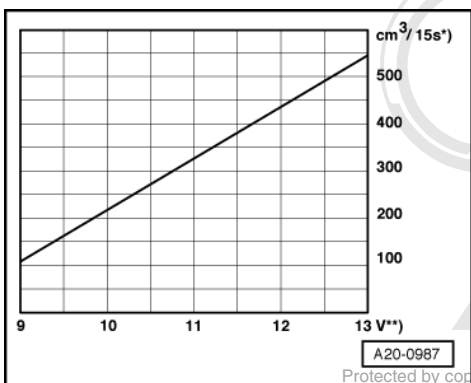
- -> Remove cover (right side) in engine compartment -arrows-.



Warning

Fuel system is under pressure. Before opening the system place a cloth around the connection. Then release pressure by carefully loosening the connection.

- -> Disconnect fuel return hose -arrow- from pipe connection.
- Connect extension hose to fuel return hose and place in measuring container.



- Operate remote control for 15 seconds (keep button pressed).
- -> Compare the quantity of fuel delivered with specification.

*) Minimum delivery cm³/15 seconds

***) Voltage at fuel pump with engine stopped and pump running (approx. 2 volts less than battery voltage).

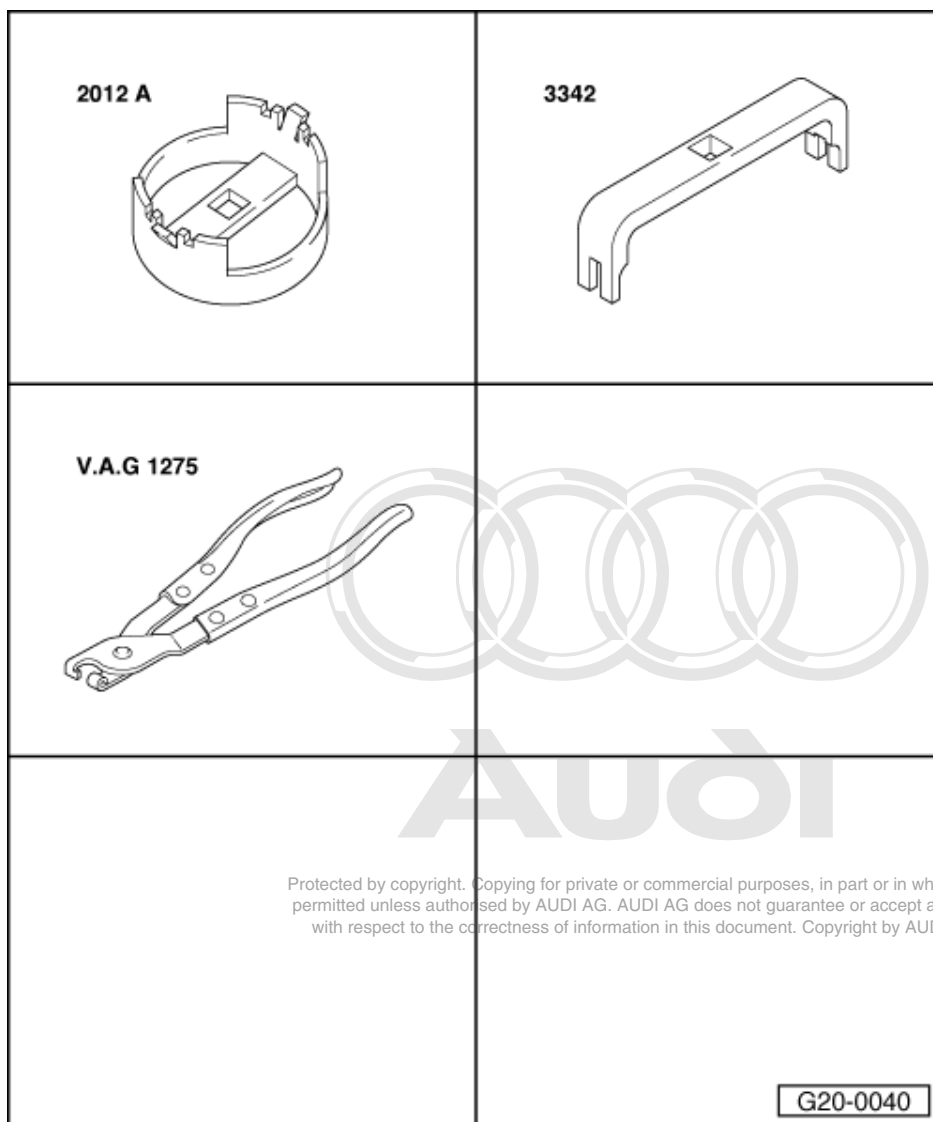
- Attach return hose and secure with new hose clamp.

Note:

Secure all hose connections with the correct hose clips (same as original equipment)

=> Parts catalogue

4.6 - Removing and installing fuel delivery unit



Special tools and workshop equipment required

- ◆ Removal and assembly tool 2012 A
- ◆ Union nut tool 3342
- ◆ Hose clip pliers V.A.G 1275

Observe safety precautions=> Page [1](#) .

Observe rules for cleanliness => Page [1](#) .

Notes:

- ◆ Before beginning work, be sure to view video film No. 23 "Audi TV special from June 25, 1997, Repairing A8 fuel tank."
- ◆ A leak test must be performed after re-installing the fuel delivery unit => Page [43](#) . This is necessary to ensure that the baffle housing is not leaking.
- ◆ If the baffle housing is not fuel-tight the engine will cut out due to fuel starvation when the tank is still 1/3 ... 1/4 full.
- ◆ The chambers of the fuel tank must be completely emptied before performing the leak test.



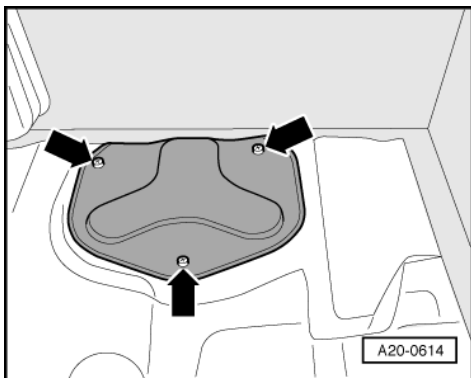
Removing

- Drain fuel tank completely
Procedure => Page 6 .

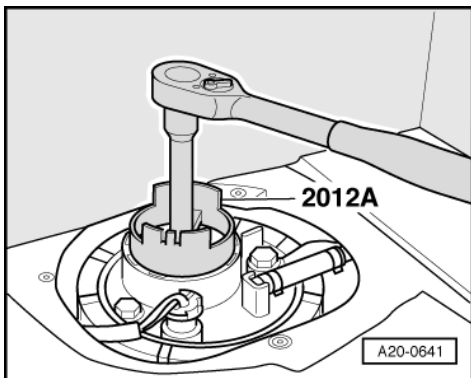
Caution!

On vehicles equipped with telematics the telematics control unit must be switched to service mode before the battery terminals are disconnected.=>Radio, telephone and navigation system; Repair group 91

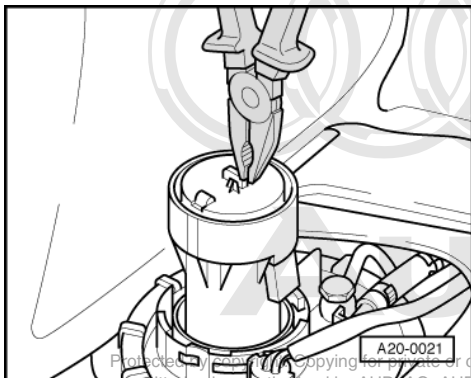
- Obtain code on vehicles with coded radio/integrated radio and navigation system.
- With the ignition switched off disconnect the battery earth strap.
- For the removal and installation of the fuel delivery unit, remove the tools and spare wheel from the boot. This enables you to sit or kneel in the wheel well, which will allow for more exact removal and insertion of the fuel delivery unit.



- -> Remove cover for fuel gauge sender and fuel delivery unit (right side) under floor covering in boot -arrows-.



- -> Using special tool 2012 A, release flange for fuel gauge sender by turning it clockwise, detach flange and take out the spring below it.

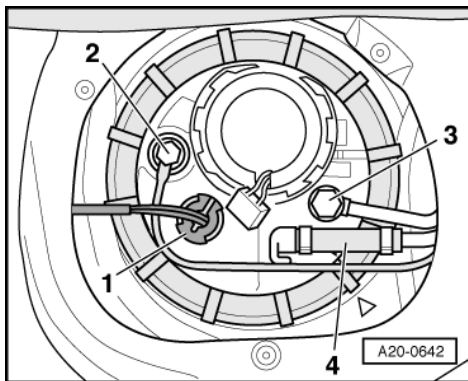


- -> Using pliers, carefully lift fuel gauge sender slightly.
- Hold sender with your hand and unplug connector -arrow-.

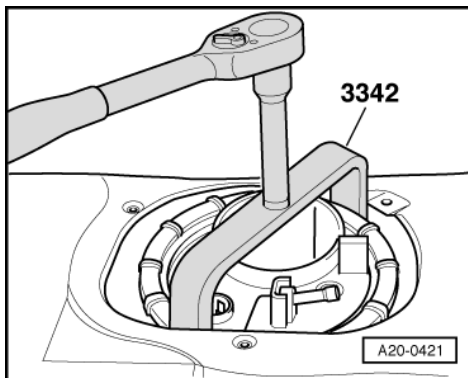
- Pull out fuel gauge sender partially and wait until the fuel has completely drained from the sender back into the fuel tank.
- Pull out fuel gauge sender completely.
- Secure plug connector to prevent it dropping back into fuel tank.

Notes:

- ◆ If the top cover on the sender should come loose when pulling it out, the housing of the sender must be removed separately.
- ◆ If the top cover comes loose, the sender must be renewed.



- -> Unplug electrical connector -1-.
- If fitted, unscrew banjo bolt -2- for supply pipe to auxiliary heater.
- Unscrew banjo bolt -3- for fuel supply pipe.
- Disconnect fuel return pipe -4-.

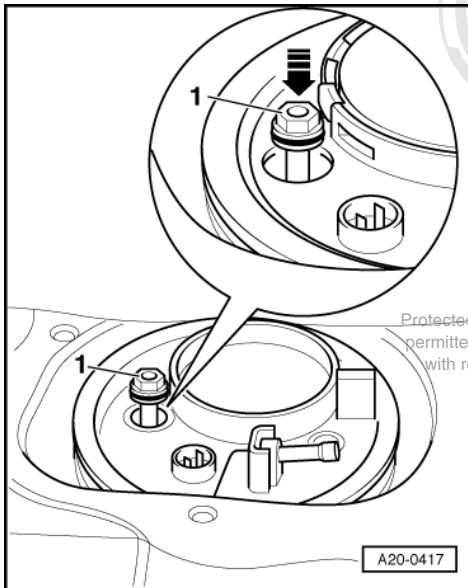


- -> Unscrew and remove union nut with special tool 3342.

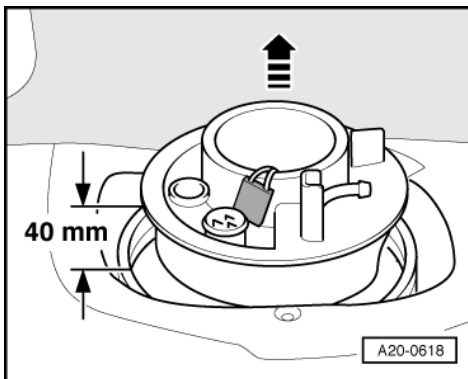


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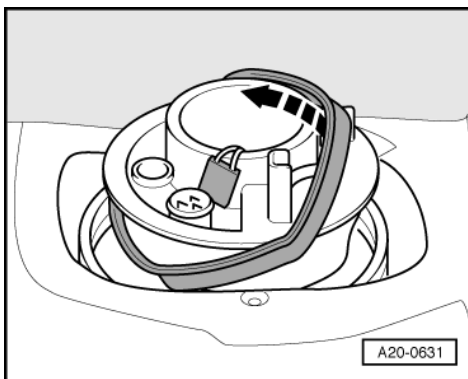
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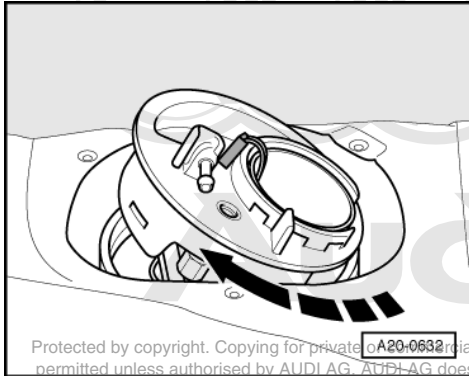
- -> Unscrew securing bolt -1- several turns, but do not remove.
- Press securing bolt down firmly -arrow- to separate fuel delivery unit from adapter plate in fuel tank (can be felt).
- Unscrew securing bolt completely and pull out.



- -> Pull the fuel delivery unit upwards approx. 40 mm while slightly turning side to side.



- -> Remove flange seal from edge of opening.



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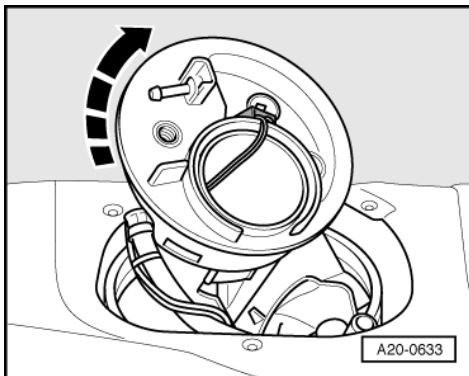
- -> Turn fuel delivery unit clockwise approx. 45°.
- Flange will swing upwards



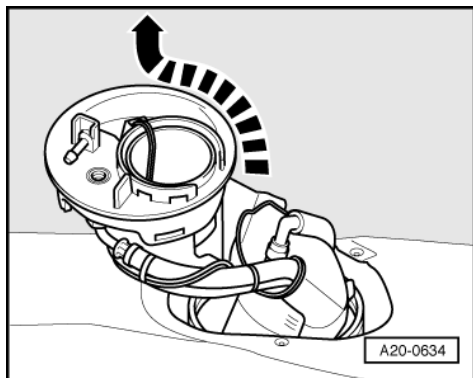
Note:

In the illustration the fuel tank is shown from the front.

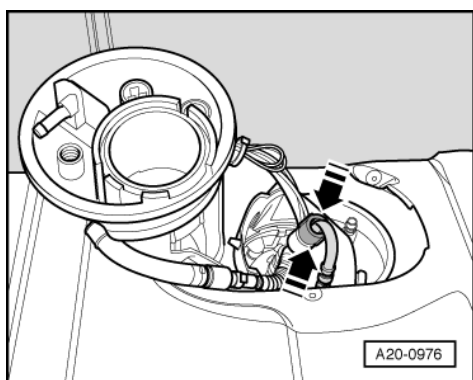
- -> Reach past flange and into fuel tank. For more turning space, swing supply pipe of suction jet pumps clockwise -arrow-.



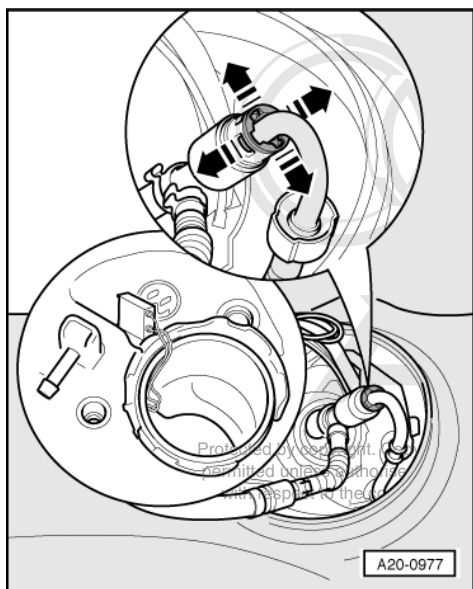
- -> Turn fuel delivery unit clockwise 45° more while pulling upwards.



- -> Turn fuel delivery unit anti-clockwise 45° while pulling upwards.



- -> Press the release tabs -arrows- on retaining clip for supply pipe to suction jet pumps and pull retaining clip back onto bend of supply pipe.

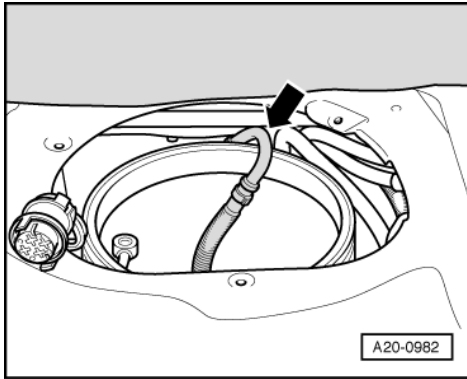


- -> Release the 4 clips on coupling piece of supply pipe with a small screwdriver -arrows-.
- Pull pipe out of connection piece for fuel delivery unit.

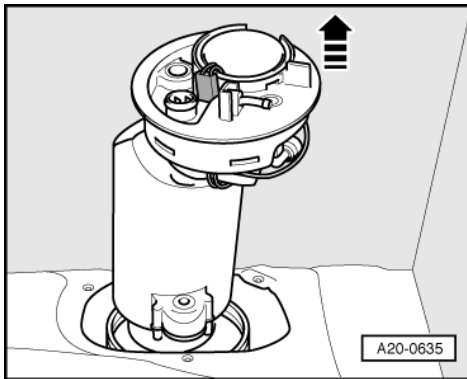
Note:

Be sure that the retaining clip does not fall into fuel tank. Remove it from pipe bend and place immediately back onto connection piece for fuel delivery unit.

- Detach supply pipe for suction jet pumps from retaining clip on side of fuel delivery unit.



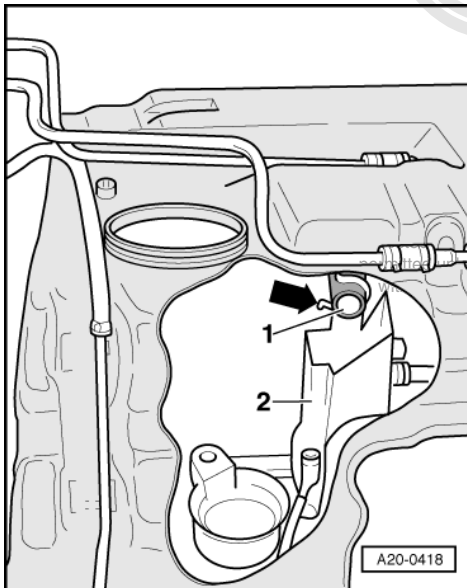
- -> Hang bent supply pipe -arrow- on side of opening in fuel tank so that pipe does not fall back into tank.



- -> Take fuel delivery unit in this position out of fuel tank.
- When removing fuel delivery unit from boot, hold a cloth under unit to catch any leaking fuel.
- Drain fuel delivery unit in a suitable container.

Note:

Following regulations for disposal of fuel.



Installing

- The fuel tank must be empty => Notes, Page 59 .

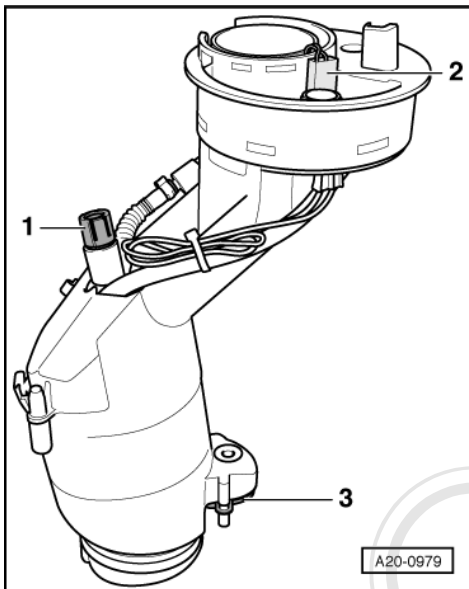


Install in reverse sequence; note the following points:

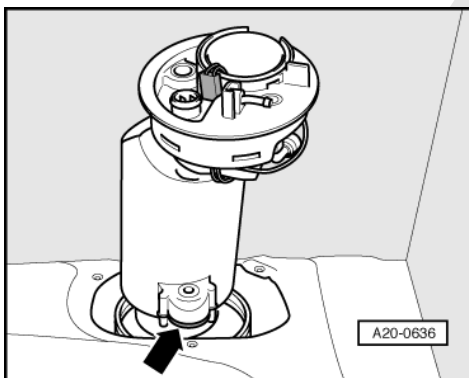
- -> Before installing, check whether filler pipe -1- is clipped onto pipe retainer -arrow- on adapter plate -2-.

Notes:

- ◆ The cut-away shows the fuel tank from the front.
- ◆ A battery lamp and mirror can be used to check whether the filler pipe is clipped in properly.
- ◆ If the adapter plate and filler pipe are not clipped together it will not be possible to install the fuel delivery unit properly, and the adapter plate can be damaged when installing.

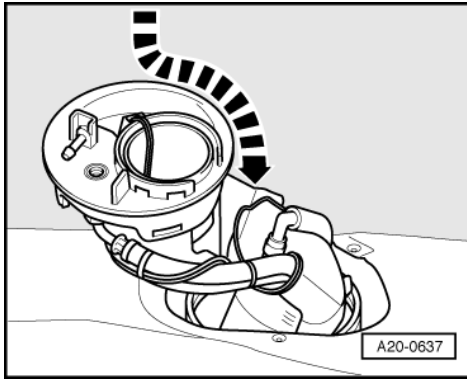


- Before inserting fuel delivery unit, visually inspect baffle housing, lower section of baffle housing, and pipe connections for suction jet pumps.
- -> Check if retaining clip -1- is correctly mounted.
- Secure wiring with connector -2- for fuel gauge sender, as illustrated. The connector is not accessible once delivery unit is installed.
- Replace sealing plug -3- and check fitting position.

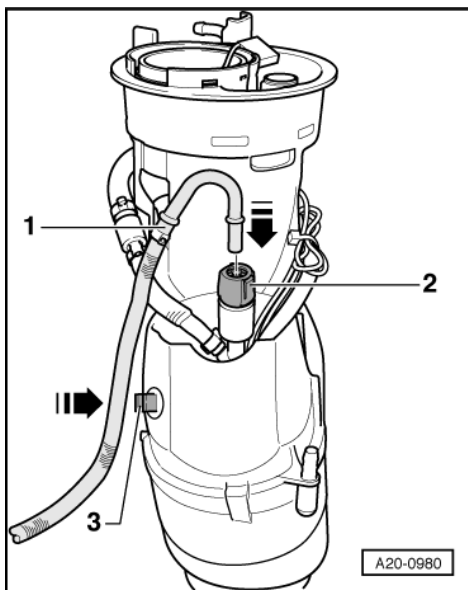


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- Install fuel delivery unit first without flange seal:
- -> Hold fuel delivery unit in starting position as shown:
 - The sealing plug -arrow- faces opposite the direction of travel.



- -> Place fuel delivery unit in fuel tank and turn clockwise approx. 90°.



- -> Place bent supply pipe -1- for suction jet pumps in connection piece -2- on fuel delivery unit.
- Check for proper installation by carefully pulling on bent pipe.
- Attach supply pipe for suction jet pumps to retaining clip -3- on fuel delivery unit.

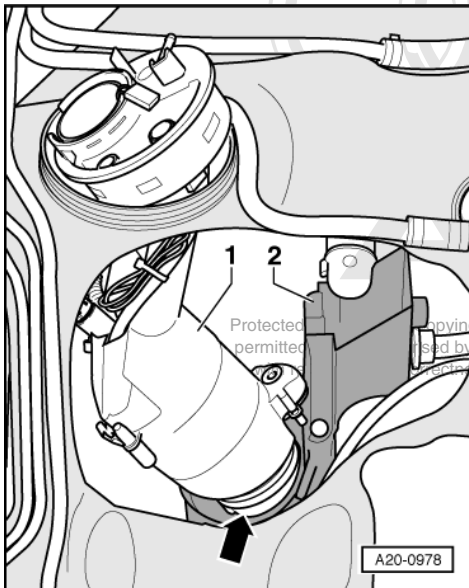
Note:

Illustrated in the Fig. with fuel delivery unit removed.

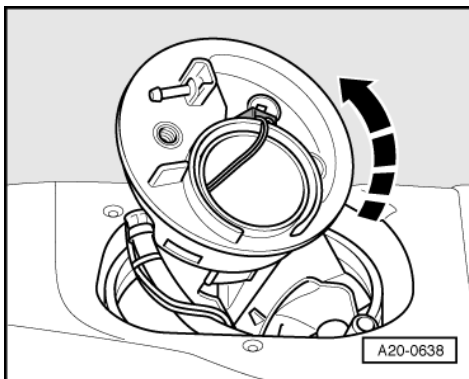


Audi

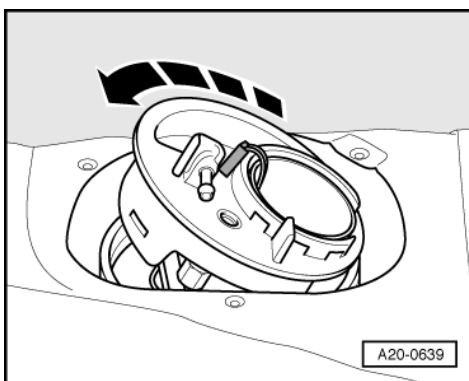
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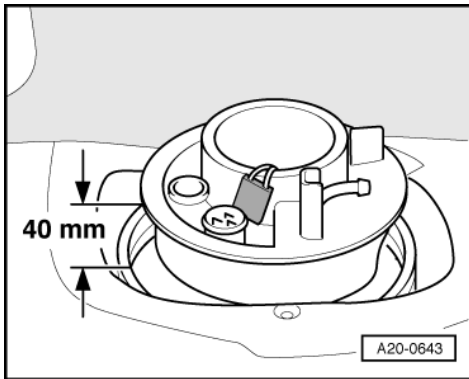
- -> Tip flange of fuel delivery unit -1- as shown in illustration so that the lower section of the delivery unit swings as far as possible to the left.
- In this position the fuel delivery unit can be placed into the well -arrow- of the adapter plate -2- inside the fuel tank.



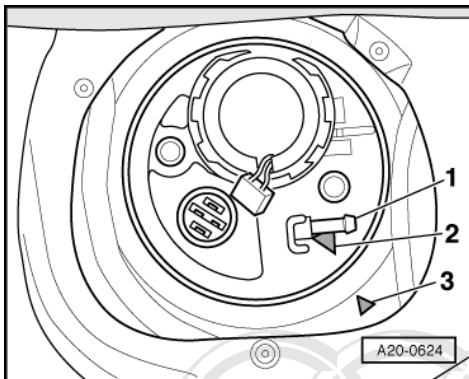
- -> Now turn fuel delivery unit anti-clockwise 45°, which will lower the delivery unit into the fuel tank.



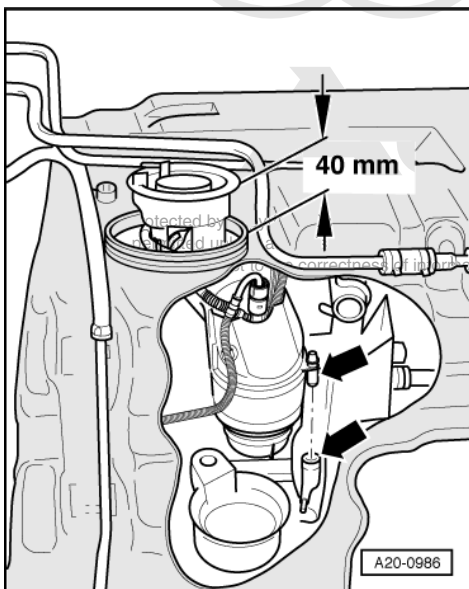
- -> Turn the fuel delivery unit anti-clockwise 45° further to its fitting position.



- -> Hold flange in fitting position approx. 40 mm over opening.



- -> Check the fitting position:
 - Hose connection -1- faces to right
 - -Arrow 2- and -arrow 3- face each other



- -> Press fuel delivery unit downwards.
 - The centering stud will then be pressed down into the funnel on the adapter plate -arrows-.

Notes:

- ◆ If the centering stud is not pressed into funnel, the fuel delivery unit will not seal against the adapter plate.



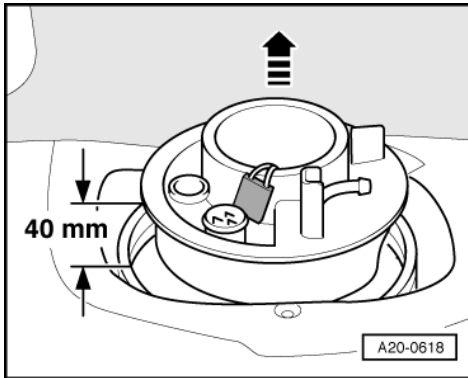
- ◆ If the baffle housing is not properly sealed, the engine will cut out due to fuel starvation when the tank is still 1/3 ... 1/4 full.

Warning

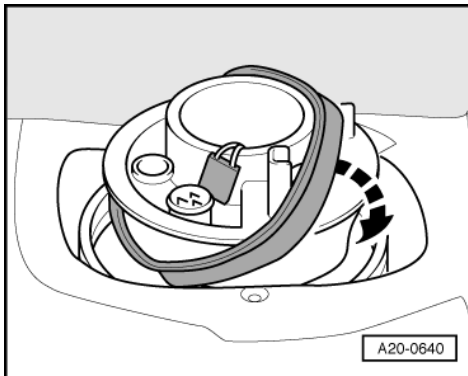
Proper installation is only guaranteed if the following criteria are fulfilled:

- ◆ **The flange of fuel delivery unit must sit level and not on edge of opening in fuel tank.**
- ◆ **The retaining bolt must easily be inserted into the bolt hole on adapter plate without catching, and it should be easily screwed into threaded bolt hole without snagging.**

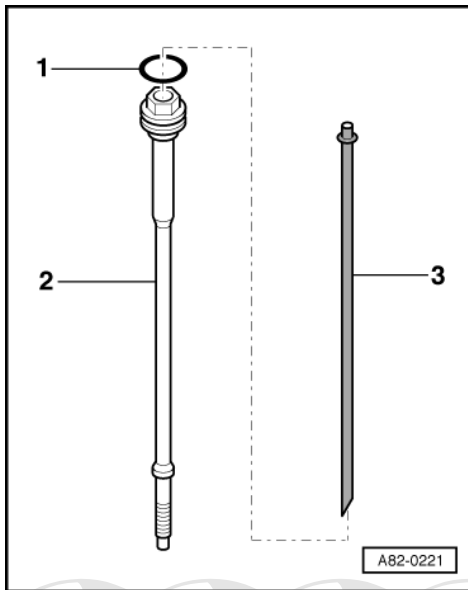
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- -> After checking the installation, lift out fuel delivery unit approx. 40 mm.



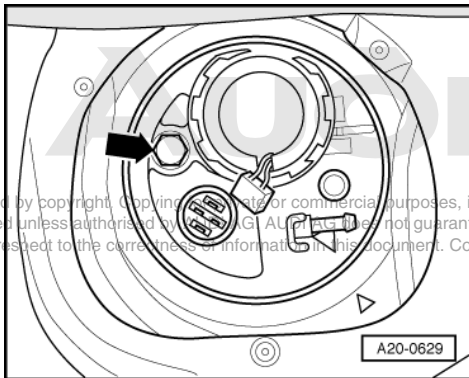
- -> Fit new flange seal on rim of opening in fuel tank.
- Insert the fuel delivery unit again.



- -> Fit new O-ring -1- on securing bolt -2-.

Vehicles with auxiliary heater:

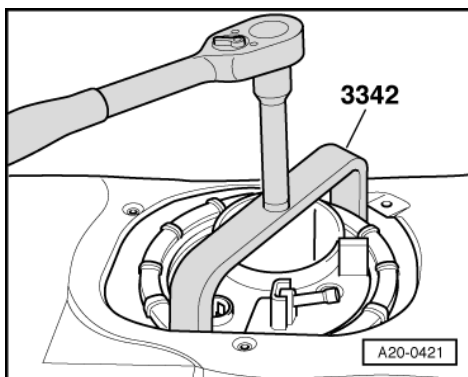
- Be sure that the reduced diameter sleeve -3- is inserted in the tubular bolt.



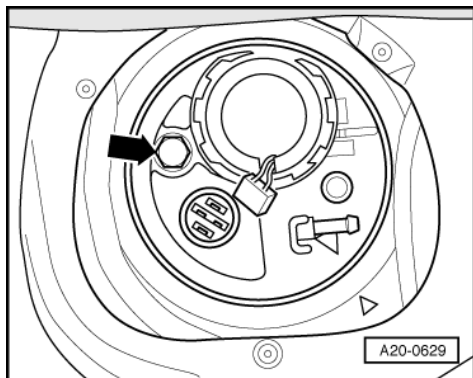
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All models

- -> Tighten securing bolt -arrow- finger-tight to start with.



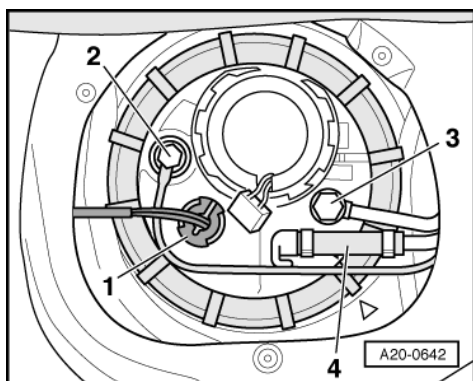
- -> Fit locking ring and tighten to 70 Nm using special tool 3342.



- -> Tighten securing bolt -arrow- to 20 Nm.



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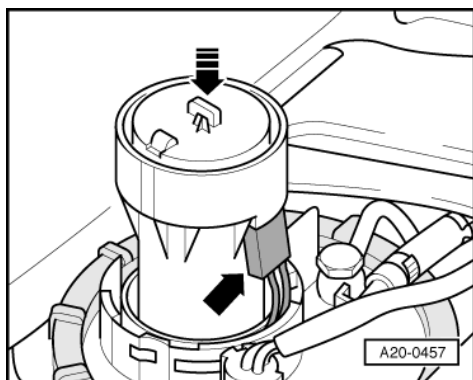
- Replace ring seals for banjo bolts.
- -> Tighten banjo bolt -3- for fuel supply pipe to 23 Nm.

Vehicles with auxiliary heater:

- Tighten banjo bolt -2- for fuel supply pipe to auxiliary heater to 13 Nm.

All models

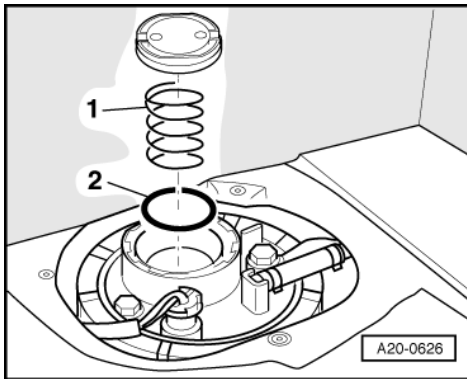
- Connect fuel return hose -4- and secure with new hose clamp with aid of hose clip pliers V.A.G 1275.
- Plug in connector -1-.



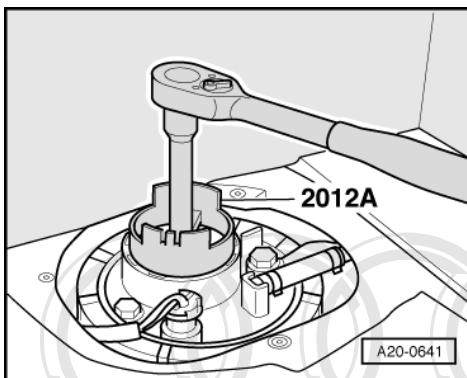
- -> Insert fuel gauge sender.
- Reconnect electrical connector -arrow- when sliding fuel gauge sender back into tank.

Note:

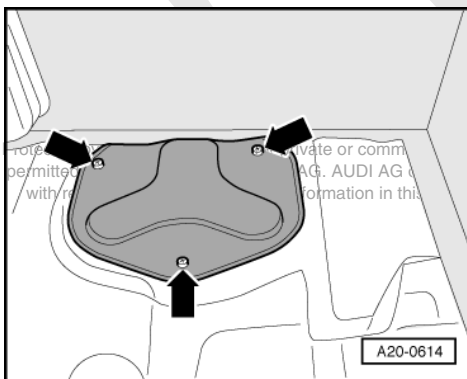
The fuel gauge sender -G can only be inserted in a certain position; turn if necessary.



- -> Renew O-ring -2- on fuel gauge sender.
- Fit spring -1-.



- -> Using special tool 2012 A, carefully tighten flange for fuel gauge sender by turning it anti-clockwise as far as it will go.



- -> Install cover for fuel gauge sender and fuel delivery unit (right side) under floor covering in boot -arrows-.
- Check fuel delivery unit for leaks => Page 74 .

Notes:

- ◆ A leak test must be performed after re-installing the fuel delivery unit => Page 74 . This is necessary to ensure that the baffle housing is not leaking.
- ◆ If the baffle housing is not fuel-tight the engine will cut out due to fuel starvation when the tank is still 1/3 ... 1/4 full.
- ◆ When the battery is reconnected, re-activate electrical equipment (radio, combined radio/navigation system, clock, electric windows) as described in the Owner's Manual.
- ◆ De-activate service mode in telematics control unit.



=> Radio, telephone and navigation system; Repair group 91

♦ Further procedures after reconnecting the voltage supply:

=> Motronic injection and ignition system; Repair group 24

Leak test

Test requirement:

- Fuel tank drained.
- Put in 5 litres of fuel.
- Take the vehicle for a test drive of at least 10 km (take spare canister of fuel).
- Leave vehicle standing overnight (or at least 12 hours).

If the engine starts readily after the vehicle has been standing for this period, this means the fuel delivery unit is not leaking.

- Fill up tank and take the vehicle for a final test drive.

If the engine does not start:

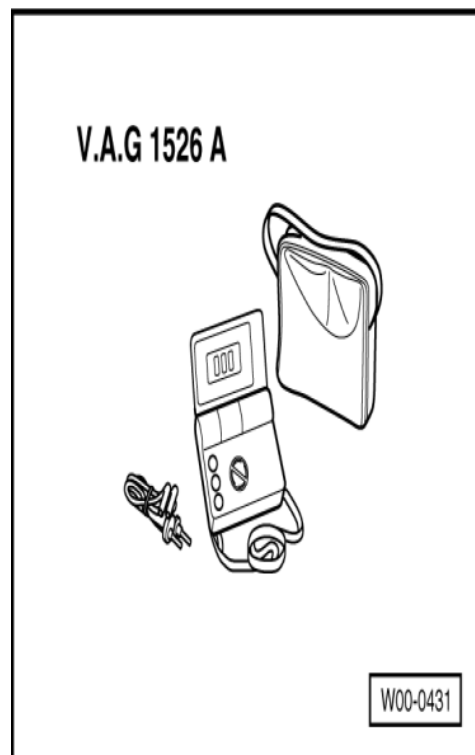
- Check whether fuel delivery unit has been installed properly => Page 65 .

5 - Fuel gauge sender

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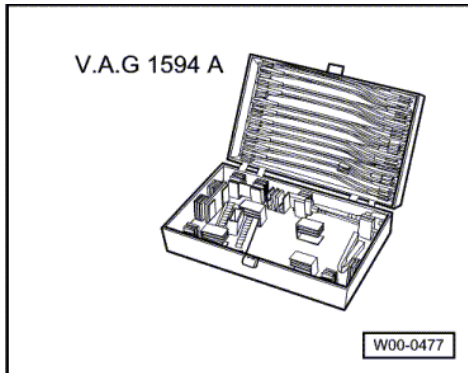
5.1 - Fuel gauge sender

5.2 - Testing fuel gauge sender



Special tools and workshop equipment required

- ◆ V.A.G 1526 A

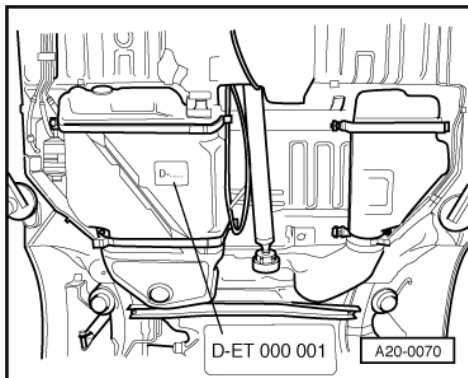


- ◆ V.A.G 1594 A

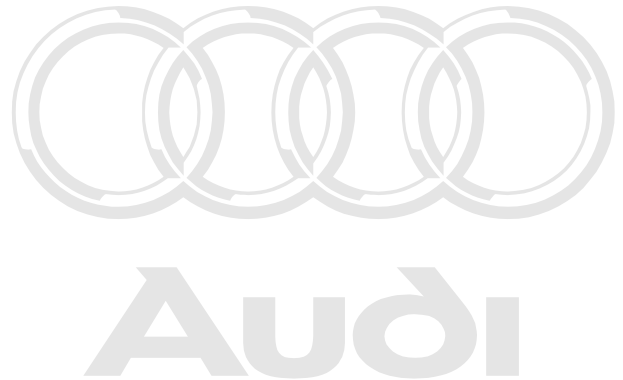
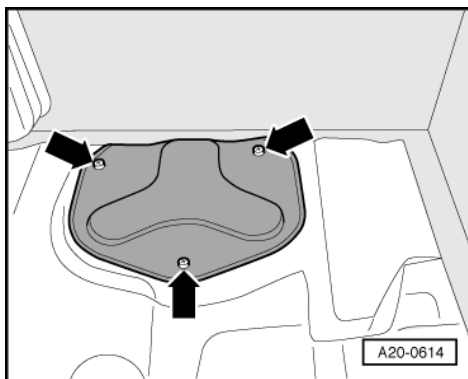
Notes:

- ◆ Testing signal from fuel gauge sender:

=> Electrical system; Repair group 90



- ◆ -> Fuel tanks installed in A8 vehicles with 6-cylinder can have a nominal capacity of either 80 or 90 litres. They can be distinguished by means of the 6-digit production number next to the manufacturer's identification stamp: e.g. 656694. The first digit of this number indicates the tank capacity as follows:
 1st digit 6: 80 litre tank;
 1st digit 0, 8 or 9: 90 litre tank.
- ◆ Fuel tanks supplied as replacement parts always have a capacity of 90 litres.
- ◆ Observe safety precautions => Page 1 .
- ◆ Before removing the two fuel gauge senders, use an ohmmeter to check whether the resistance values of the senders correspond with the fuel gauge reading. The two senders are wired in series, so the two resistance values must be added together in order to check the fuel gauge reading.

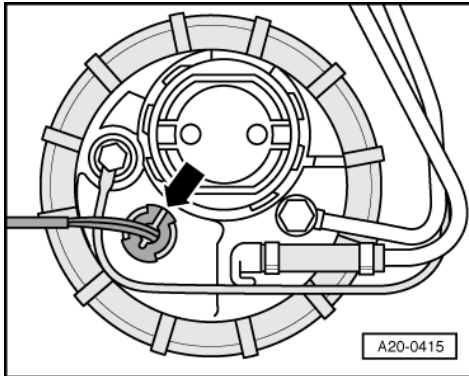


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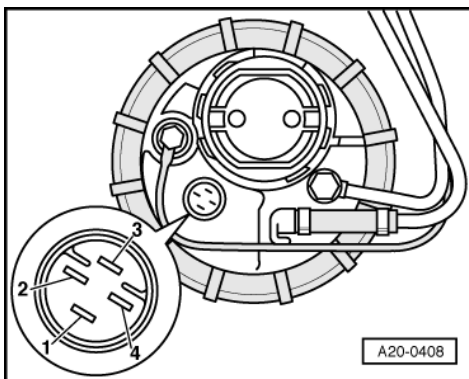


Checking resistance values of fuel gauge senders (two senders)

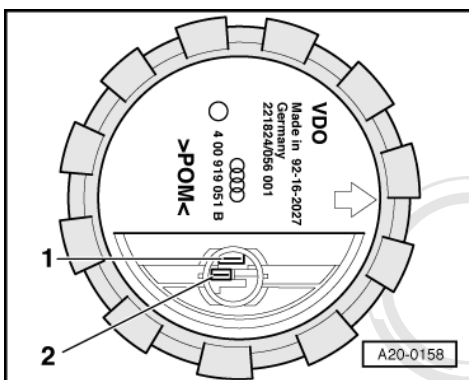
- -> Remove covers for fuel gauge senders and fuel delivery unit on left and right sides under floor covering in boot -arrows-.



- -> Release 4-pin connector -arrow- and unplug.



- -> Connect multimeter to contacts 2 and 3 on right-hand sender (resistance test range)



- Release and unplug 2-pin connector on left-hand sender.
- -> Connect multimeter (resistance measurement range) between contacts 1 and 2.
- Add the resistance values of the two senders together and compare with the following table.

Notes:

- ♦ The left-hand chamber of the tank is always drained first.
- ♦ When the tank is 1/4 full, you should therefore obtain a resistance of 80 ... 100 Ω at the right-hand sender and a resistance of 40 ... 44 Ω at the left-hand sender.
- ♦ A resistance of 40 ... 44 Ω at the left-hand sender means that the left-hand chamber is completely empty.

Fuel gauge reading	80 litre fuel tank		90 litre fuel tank	
	Resistance ω	Content litres	Resistance ω	Content litres
Empty	166 ± 7	0	166 ± 7	0
Res. 1 1)	154 ± 7	12	154 ± 7	12
1/4	136 ± 7	20	131 ± 7	22
1/2	94 ± 6	39	88 ± 6	42
1/1 2)	21 ± 4	79	12 ± 4	87
1/1 3)	19 ± 4	84	9 ± 4	92

- 1) Fuel gauge needle on first graduation in reserve zone
- 2) Fuel gauge needle exactly in line with top graduation
- 3) Fuel gauge needle above top graduation

Note:

In order to test the maximum and minimum values for "tank full" and "tank empty", remove both fuel gauge senders => Page 80, and pivot or slide the floats of the two senders all the way to their top and bottom positions.

When the fuel gauge sender is removed, the float will travel further and the specifications are:

Sender	Sender at top position	Sender at bottom position
Fuel gauge sender -G (at fuel delivery unit)	approx. 4.4 ω	approx. 125 ω
Fuel gauge sender 2 -G169 (left side)	approx. 5.8 ω	approx. 45 ω

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5.3 - Removing and installing fuel gauge sender

Observe safety precautions=> Page 1.

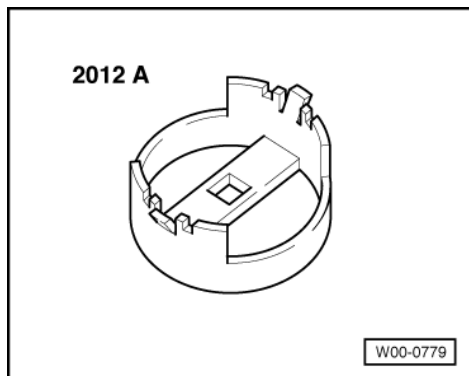
Observe rules for cleanliness => Page 1.

Caution!

On vehicles equipped with telematics the telematics control unit must be switched to service mode before the battery terminals are disconnected.=>Radio, telephone and navigation system; Repair group 91

- Obtain code on vehicles with coded radio/integrated radio and navigation system.
- With the ignition switched off disconnect the battery earth strap.
- Open fuel filler cap briefly, then close it again.

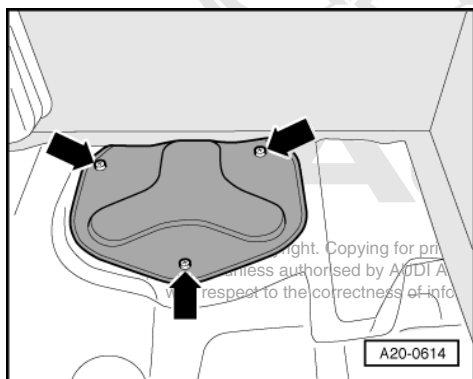
Removing and installing fuel gauge sender -G (right)





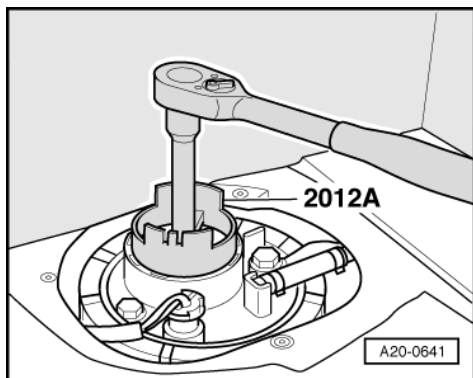
Special tools and workshop equipment required

- ◆ Removal and assembly tool 2012 A

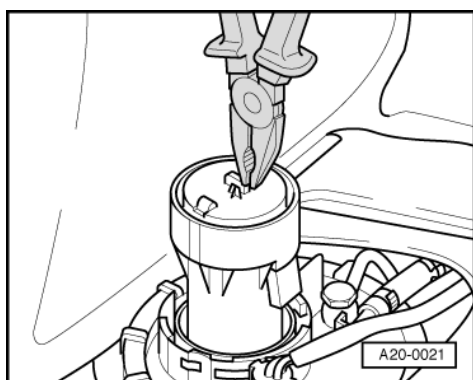


Removing

- -> Remove cover for fuel gauge sender and fuel delivery unit (right side) under floor covering in boot -arrows-.



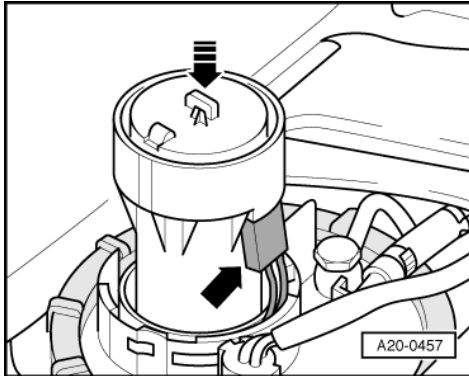
- -> Using special tool 2012 A, release flange for fuel gauge sender by turning it clockwise, detach flange and take out the spring below it.



- -> Using pliers, carefully lift fuel gauge sender slightly.
- Hold sender with your hand and unplug connector -arrow-.
- Pull out fuel gauge sender partially and wait until the fuel has completely drained from the sender back into the fuel tank.
- Pull out fuel gauge sender completely.
- Secure plug connector to prevent it dropping back into fuel tank.

Notes:

- ◆ If the top cover on the sender should come loose when pulling it out, the housing of the sender must be removed separately.
- ◆ If the top cover comes loose, the sender must be renewed.



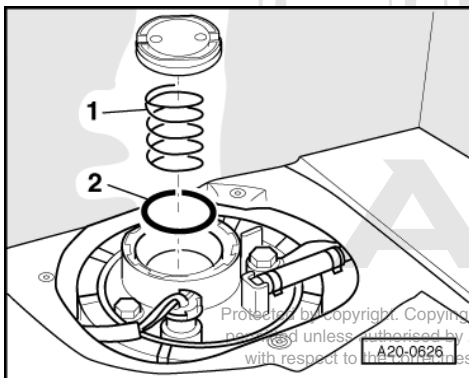
Installing

Install in reverse sequence; note the following points:

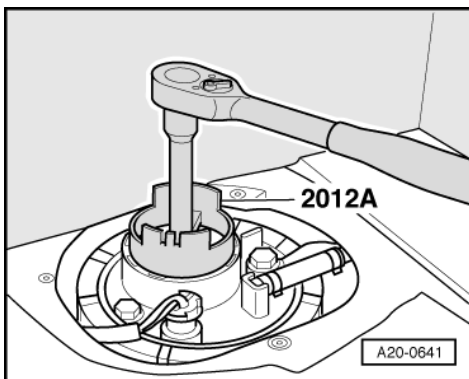
- -> Insert fuel gauge sender.
- Reconnect electrical connector -arrow- when sliding fuel gauge sender back into tank.

Note:

The fuel gauge sender -G can only be inserted in a certain position; turn if necessary.



- -> Renew O-ring -2- on fuel gauge sender.
- Fit spring -1-.





- -> Using special tool 2012 A, carefully tighten flange for fuel gauge sender by turning it anti-clockwise as far as it will go.

Notes:

- ◆ When the battery is reconnected, re-activate electrical equipment (radio, combined radio/navigation system, clock, electric windows) as described in the Owner's Manual.
- ◆ De-activate service mode in telematics control unit.

=> Radio, telephone and navigation system; Repair group 91

- ◆ Further procedures after reconnecting the voltage supply:

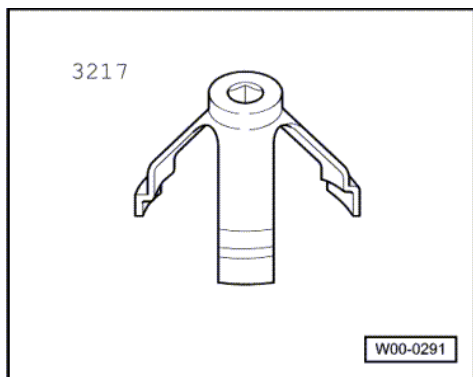
=> Motronic injection and ignition system; Repair group 24

Tightening torque

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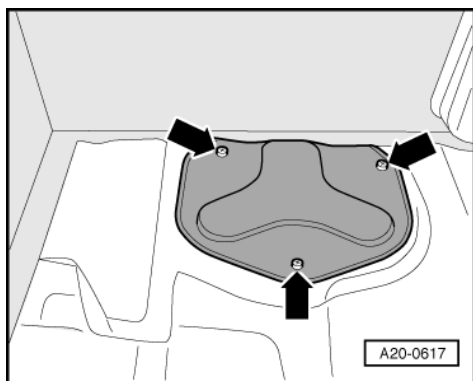
Component	Nm
Battery terminal to terminal post	6

Removing and installing fuel gauge sender 2 -G169 (left side)



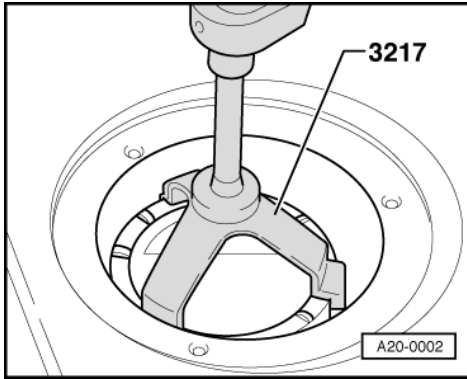
Special tools and workshop equipment required

- ◆ Union nut spanner 3217

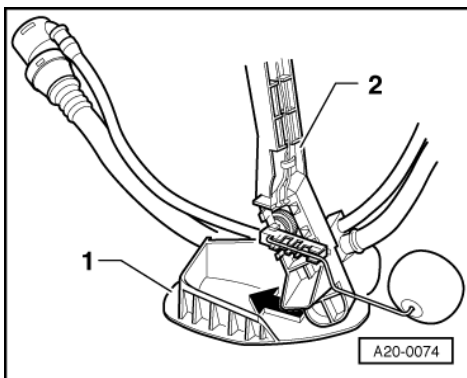


Removing

- -> Remove cover for fuel gauge sender (left side) under floor covering in boot -arrows-.
- Release and unplug 2-pin connector on left-hand sender.



- -> Unscrew union nut with special tool 3217.
- Carefully pull out sender and remove flange seal.

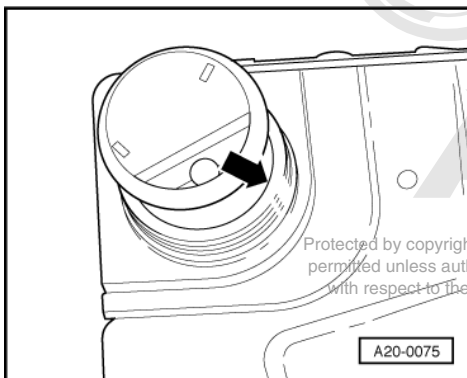


Installing

- Fit the new flange seal on the rim of the opening in the fuel tank.
- -> Insert left-hand fuel gauge sender.
 - Ensure that the lever-type sender -2- is fitted properly in retainer -1-.

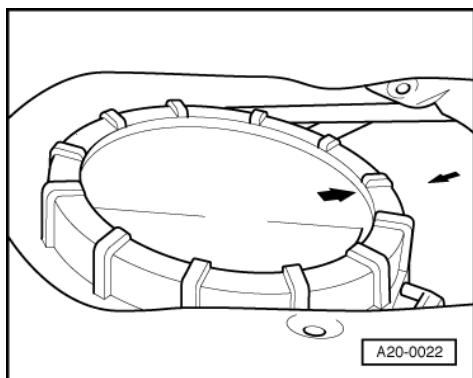
Notes:

- ◆ The sender should press down the retainer which is attached to the pipes for the suction jet pump on the left side of the tank. This presses the suction jet pump against the bottom of the tank.
- ◆ If this is not the case, the left-hand chamber of the tank will not be emptied properly and the engine will cut out due to fuel starvation when there are still 10 ... 14 litres of fuel left in the tank.

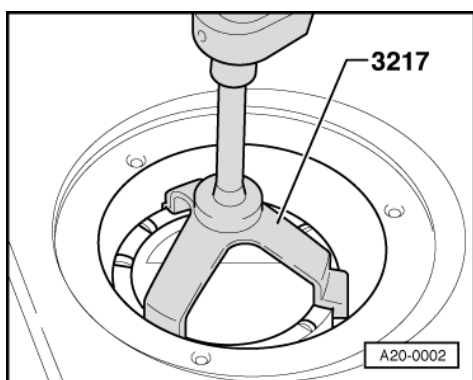


- -> To insert the sender, look down one side (see arrow) into the tank.

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- -> When the sender has been engaged properly in the retainer, press it into the opening and turn it until the two arrows coincide exactly.



- -> Tighten union nut to 60 Nm.

Notes:

- ◆ When the battery is reconnected, re-activate electrical equipment (radio, combined radio/navigation system, clock, electric windows) as described in the Owner's Manual.
- ◆ De-activate service mode in telematics control unit.

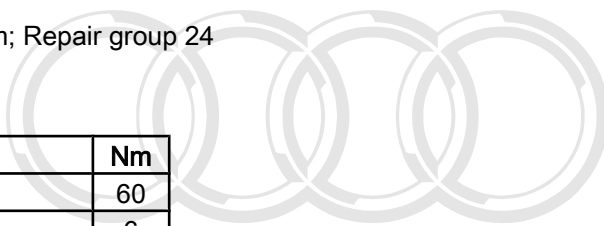
=> Radio, telephone and navigation system; Repair group 91

- ◆ Further procedures after reconnecting the voltage supply:

=> Motronic injection and ignition system; Repair group 24

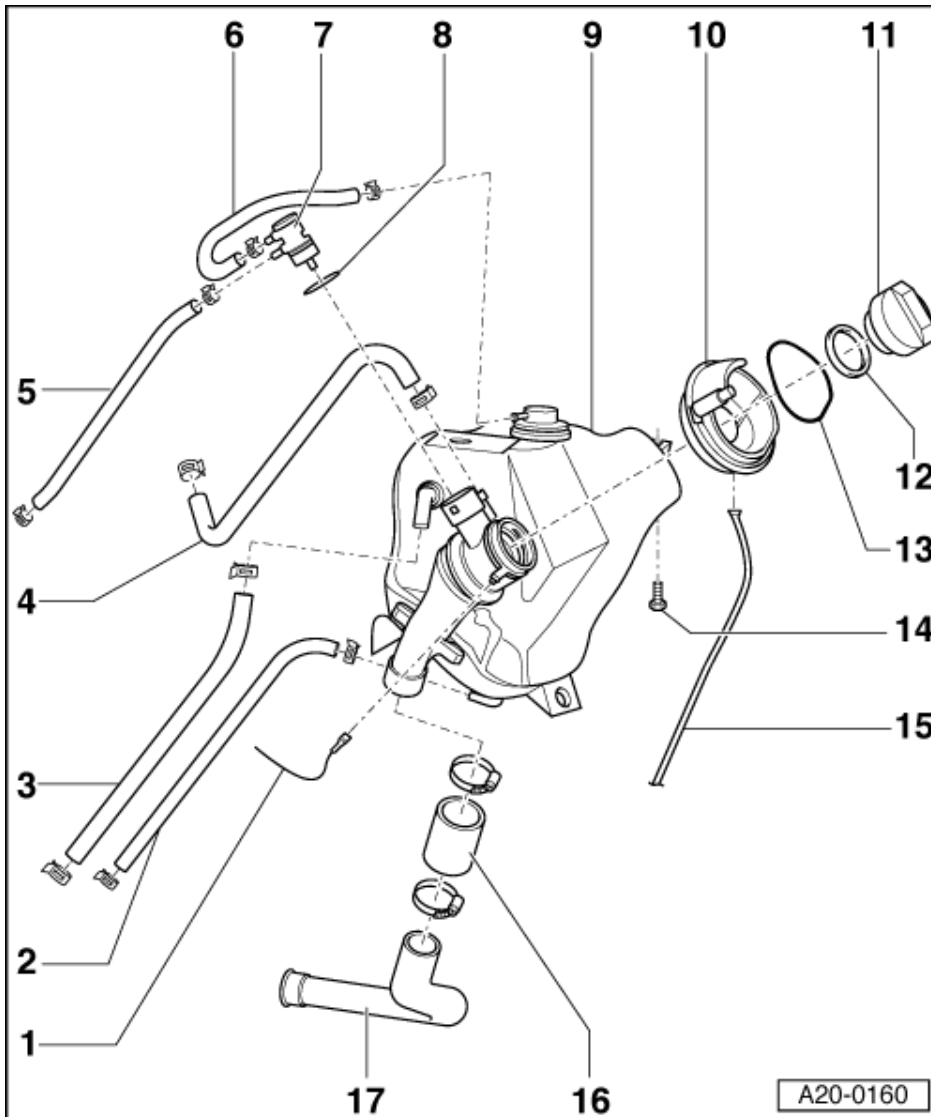
Tightening torques

Component	Nm
Flange to fuel tank	60
Battery terminal to terminal post	6



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5.4 - Removing and installing fuel expansion chamber



Notes:

- ◆ Observe safety precautions when working on fuel expansion chamber => Page 1.
- ◆ Remove wheel housing liner in order to remove fuel expansion chamber

=> General body repairs, Exterior; Repair group 66

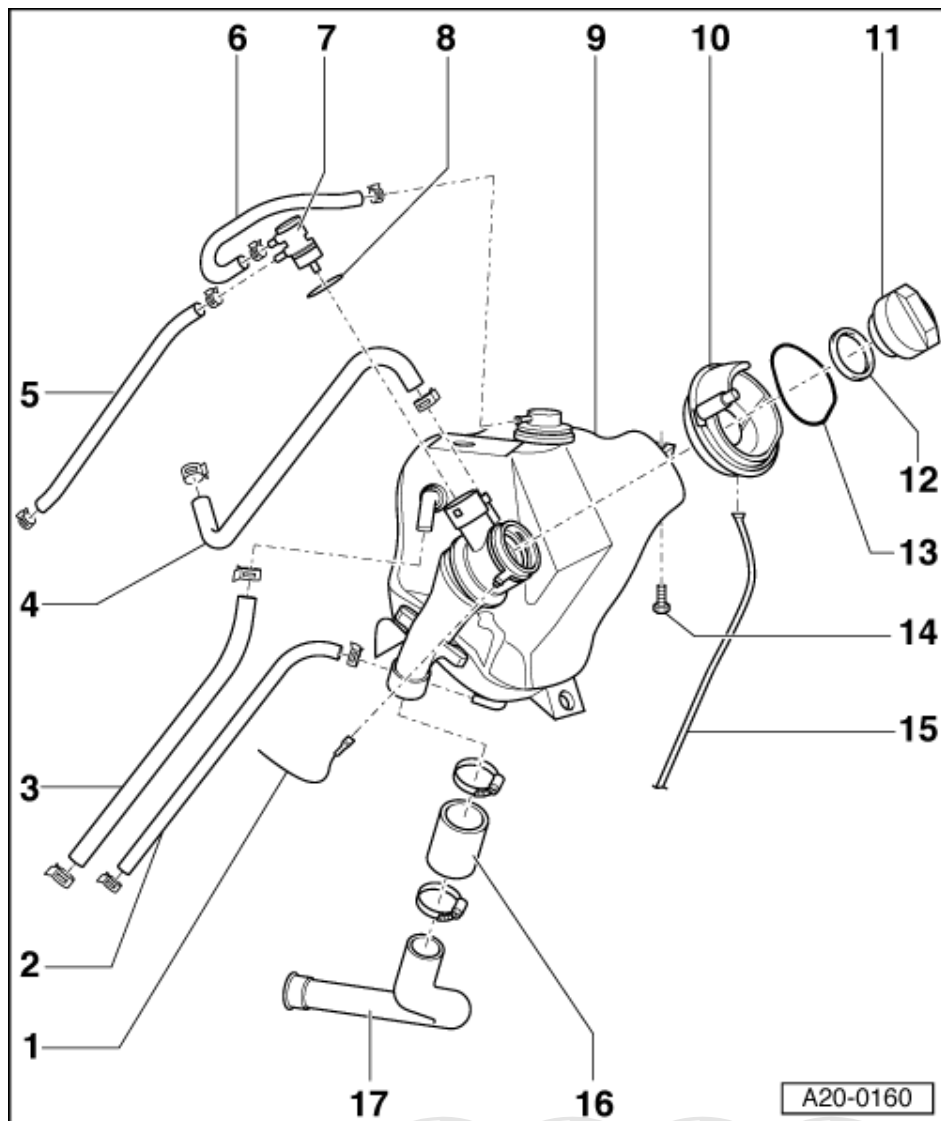
1 Earth connection

- ◆ Position => Fig. 1
- ◆ Ensure that connector is seated properly on metal ring of filler neck

2 Vent pipe

- ◆ From fuel tank

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3 Vent pipe

- ◆ From fuel tank

4 Vent pipe

- ◆ From fuel tank
- ◆ White marking

5 Vent pipe

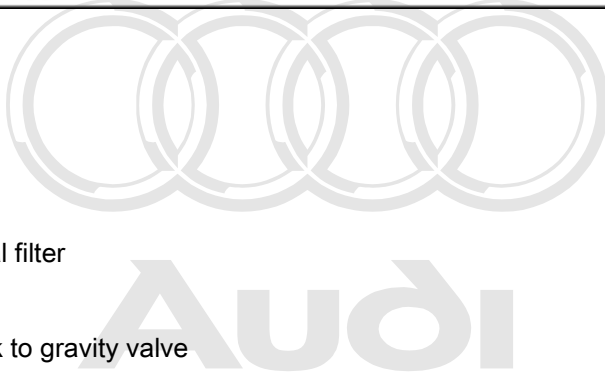
- ◆ From gravity valve
- ◆ To activated charcoal filter
=> Page 36

6 Vent pipe

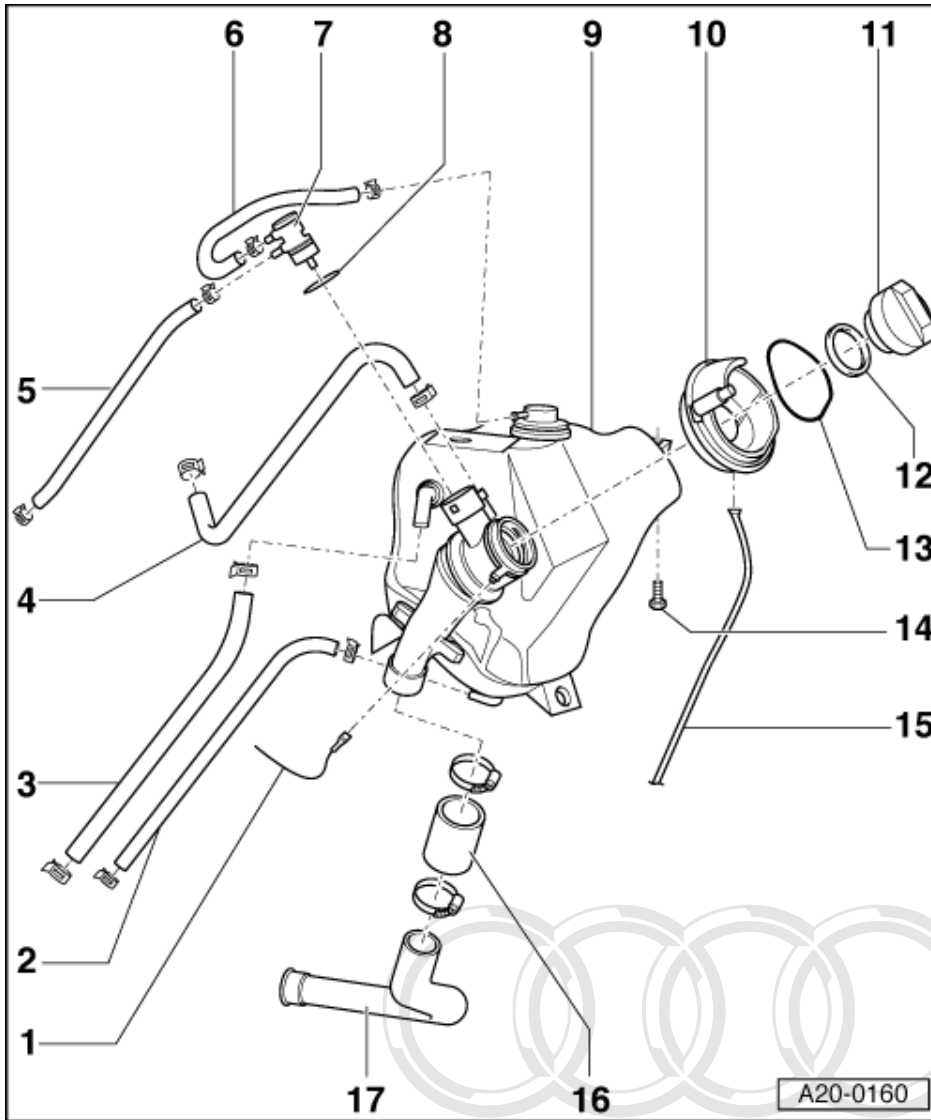
- ◆ From expansion tank to gravity valve

7 Gravity valve

- ◆ Not available separately as replacement part
- ◆ To remove valve, unclip upwards out of filler neck
- ◆ Check valve for through-flow
valve vertical: open,
valve tilted 45 °: closed

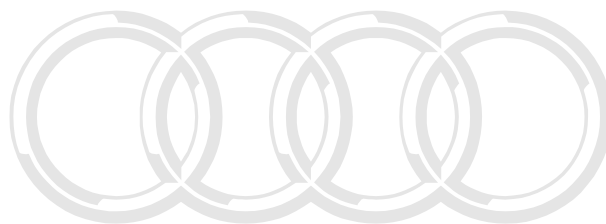
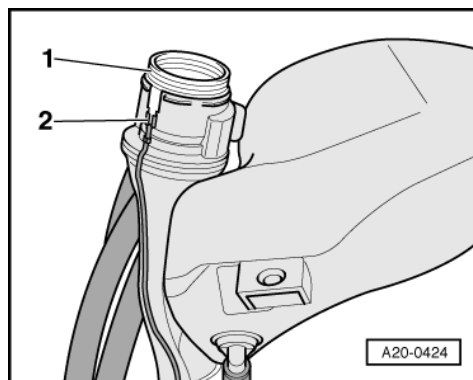


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- 8 O-ring
 - ◆ Not available separately as replacement part
- 9 Expansion tank
- 10 Rubber cup
- 11 Filler cap
- 12 Seal
 - ◆ Renew if damaged
- 13 Retaining ring
 - ◆ For rubber cup
- 14 10 Nm
- 15 Overflow hose
- 16 Connecting hose
 - ◆ To remove expansion chamber, push connecting hose over fuel filler pipe -Item 17 -.
- 17 Fuel filler pipe

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Audi

-> Fig.1 Installation position of earth connection

- Ensure that plug connector -2- for earth connection is properly seated on metal ring -1- on fuel filler neck.
- After installing the expansion chamber, 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

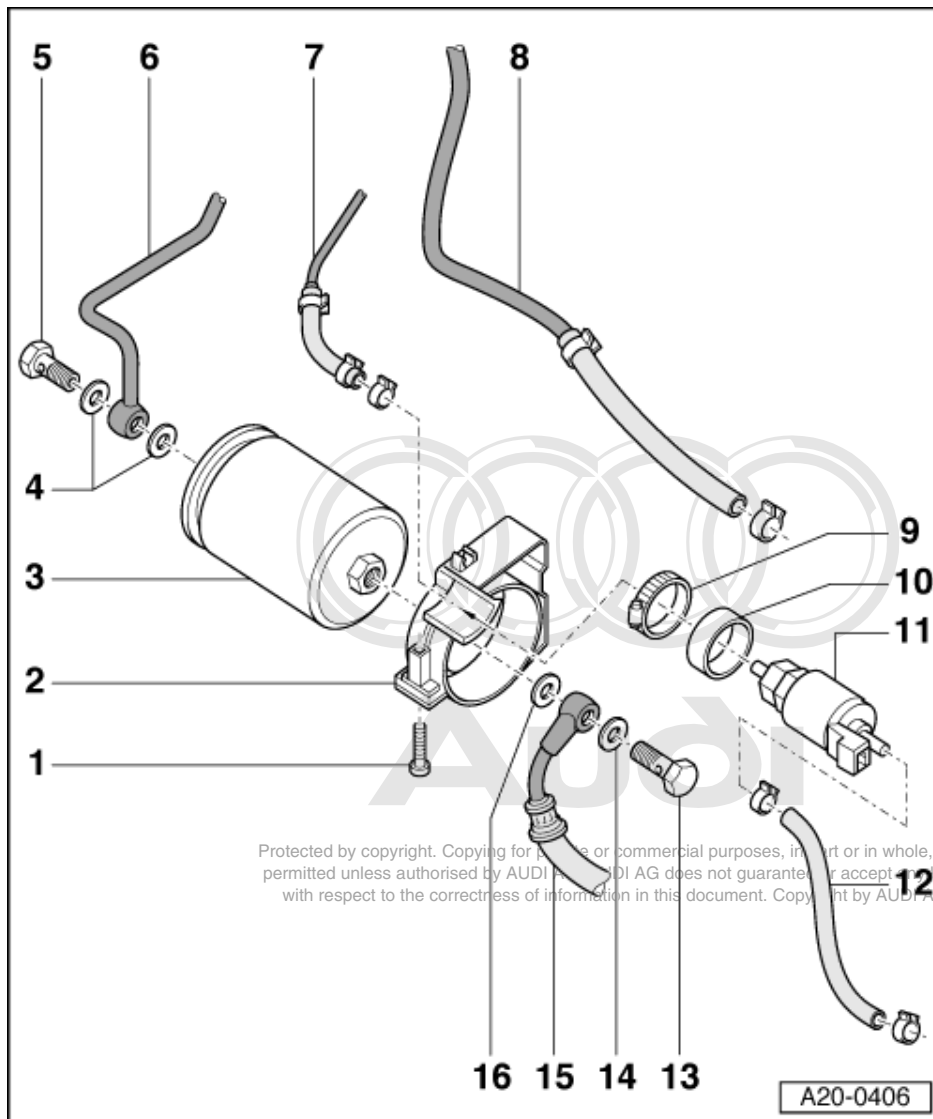
If the specification is not attained:

- Check that the earth connection is properly connected to the earthing point next to the battery.

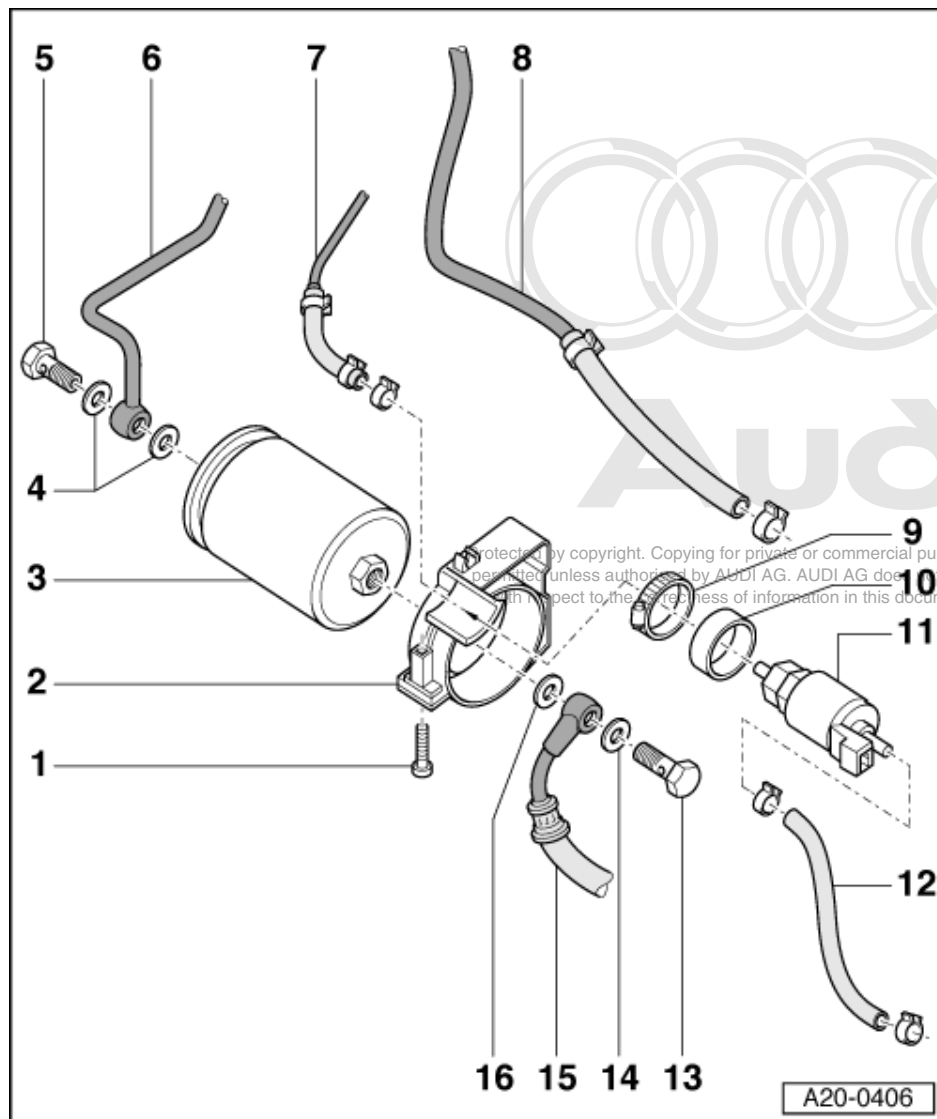
Caution

It is important to ensure that the earth connection is secured at the threaded terminal and the connector is properly seated at the fuel filler neck.

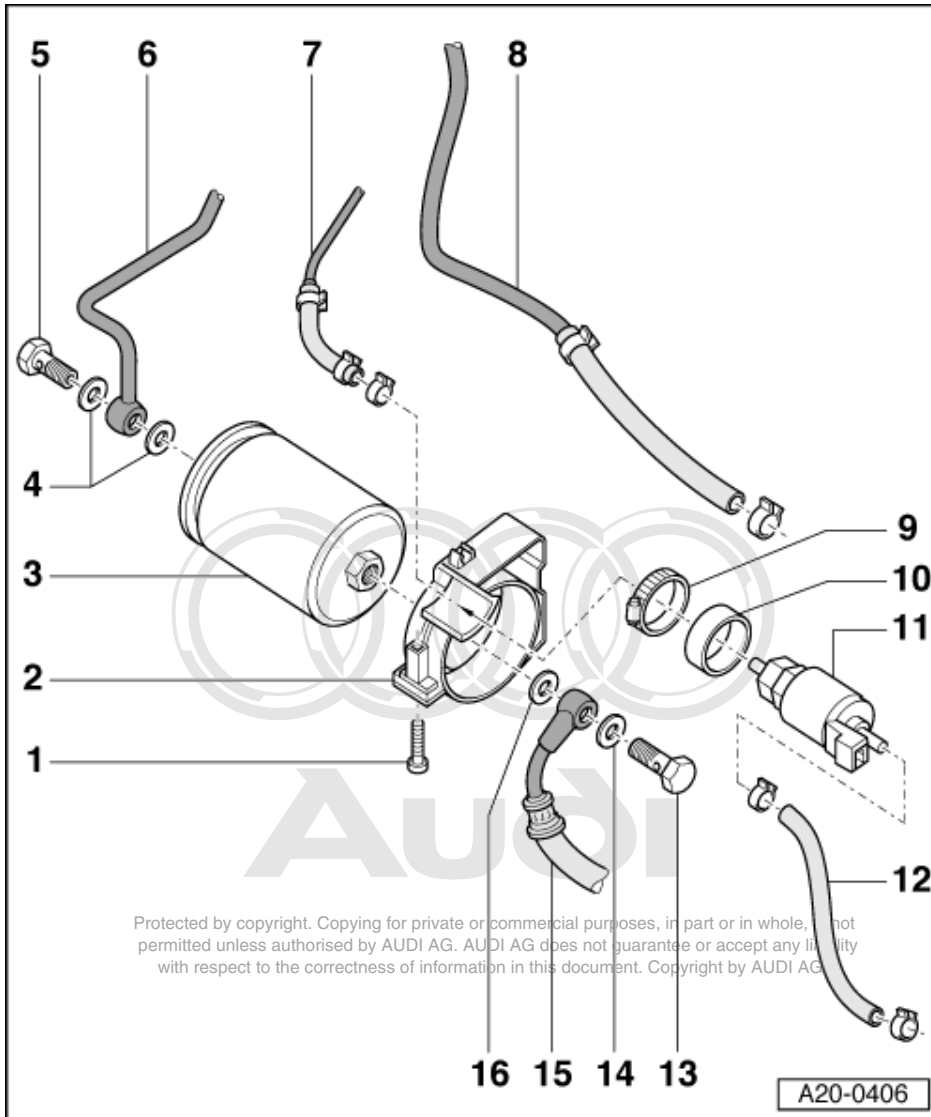
5.5 - Servicing fuel filter



- 1 2 Nm
- 2 Bracket
 - ◆ For fuel filter
- 3 Fuel filter
 - ◆ Flow direction is marked by an arrow
 - ◆ Do not interchange connections
- 4 Seal
 - ◆ Renew
- 5 Banjo bolt - 23 Nm
- 6 Supply pipe
 - ◆ From fuel tank



- 7 Supply pipe**
 - ◆ To metering pump for auxiliary heater
- 8 Return pipe**
 - ◆ From fuel manifold
- 9 Retaining clip**
- 10 Rubber inlay**
- 11 Metering pump**
 - ◆ For auxiliary heater
 - ◆ Secure to bracket -Item 2 - with retaining clip -Item 9 -
- 12 Supply pipe**
 - ◆ To auxiliary heater
- 13 Banjo bolt - 23 Nm**

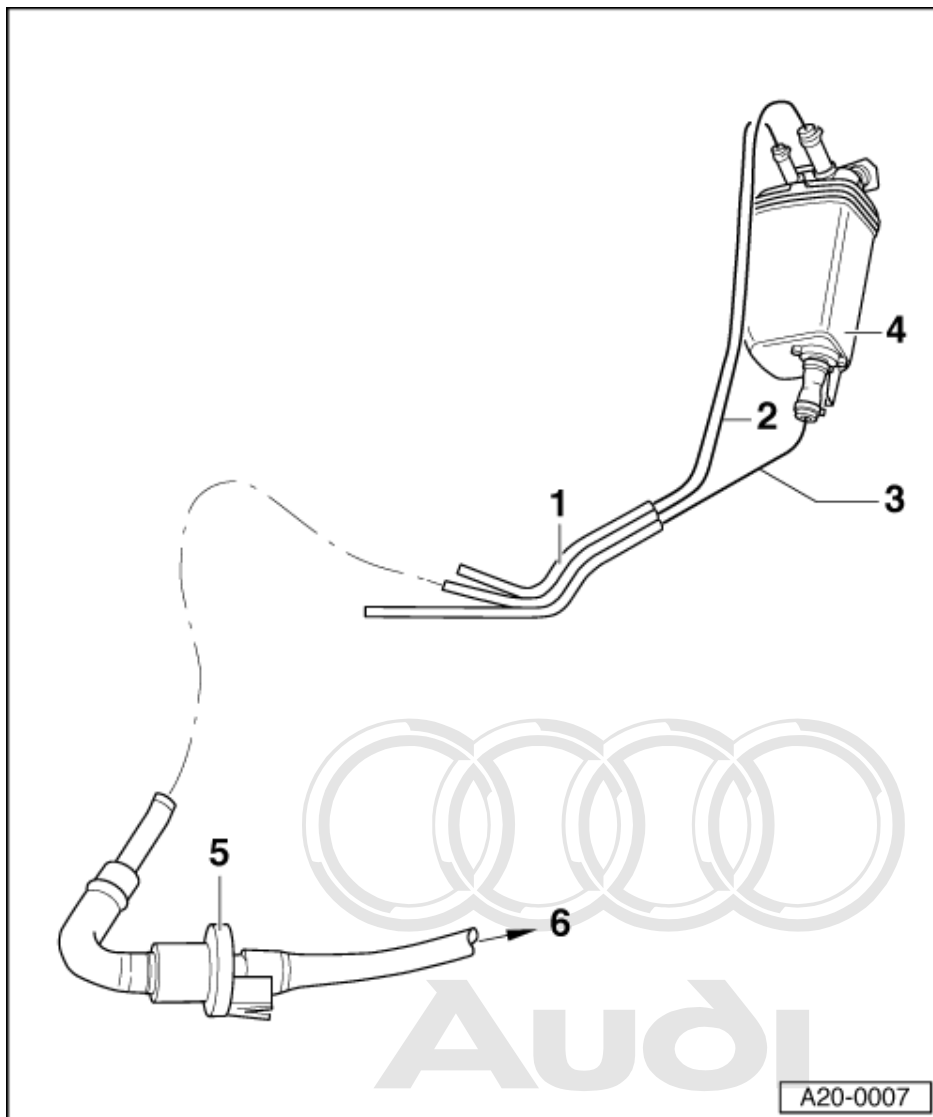


- 14 Seal**
 - ◆ Renew
- 15 Supply pipe**
 - ◆ To fuel manifold
- 16 Seal**
 - ◆ Renew



6 - Servicing components of activated charcoal filter system

6.1 - Servicing components of activated charcoal filter system



- 1 From expansion tank
- 2 To activated charcoal filter solenoid valve 1 (-N80)
- 3 Vent pipe
- 4 Activated charcoal filter
- ◆ Location: rear left wheel housing behind wheel housing liner
- 5 Activated charcoal filter solenoid valve 1 -N80
- ◆ Checking operation and activation:

=> Motronic injection and ignition system; Repair group 24

- 6 To throttle valve housing

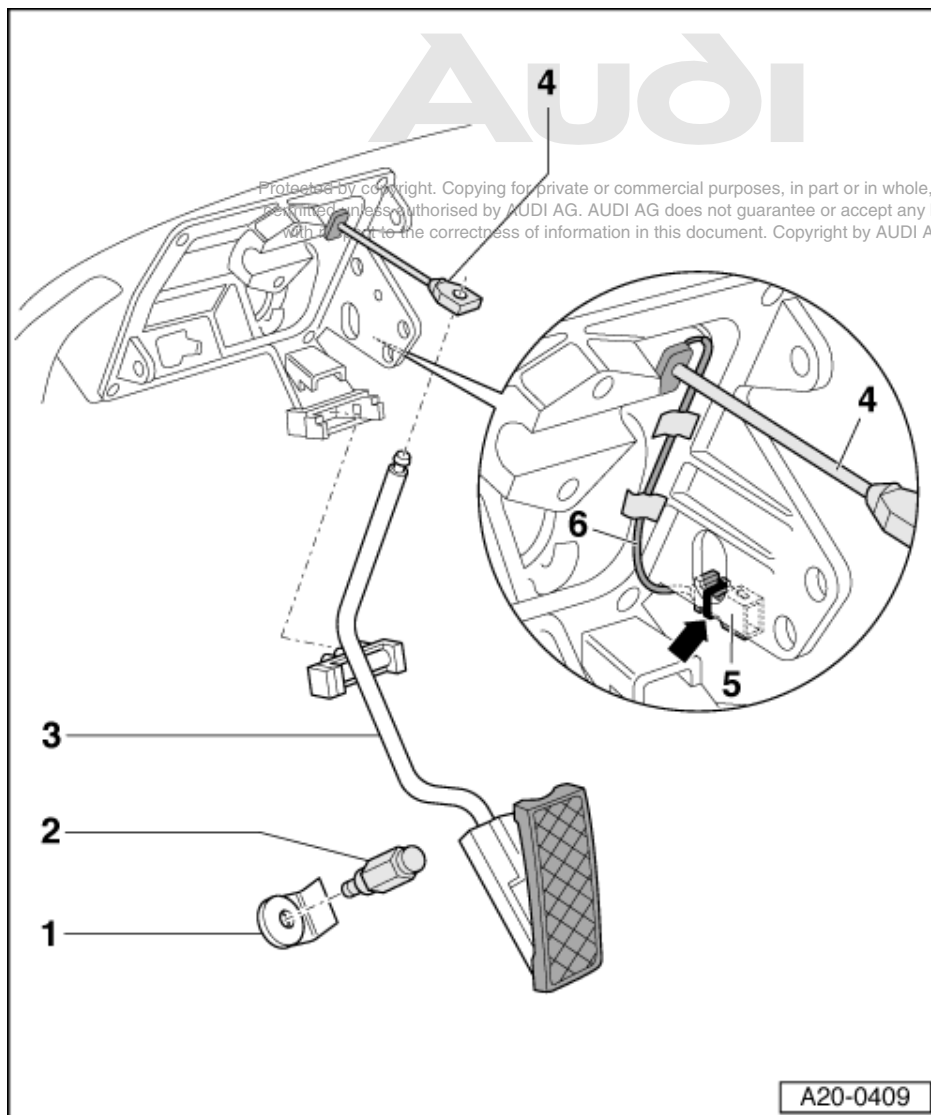
7 - Servicing throttle mechanism - vehicles with mechanical accelerator linkage

7.1 - Servicing throttle mechanism - vehicles with mechanical accelerator linkage

Notes:

- ◆ The throttle cable is very sensitive to kinking and must therefore be handled carefully when installing.
- ◆ A single slight kink can cause it to break when driving. Kinked cables must not be installed.
- ◆ When installing the throttle cable, ensure that it is aligned straight between its supporting mounts and the cable attachment points.

7.2 - Left-hand drive vehicles



- 1 Backing piece
- 2 Accelerator pedal stop
 - ◆ Different versions for manual and automatic gearbox
- 3 Accelerator pedal
- 4 Accelerator cable
 - ◆ Removing and installing
=> Page 95
 - ◆ Adjust by moving position of securing clip on retainer



=> Page 97

5 Connector

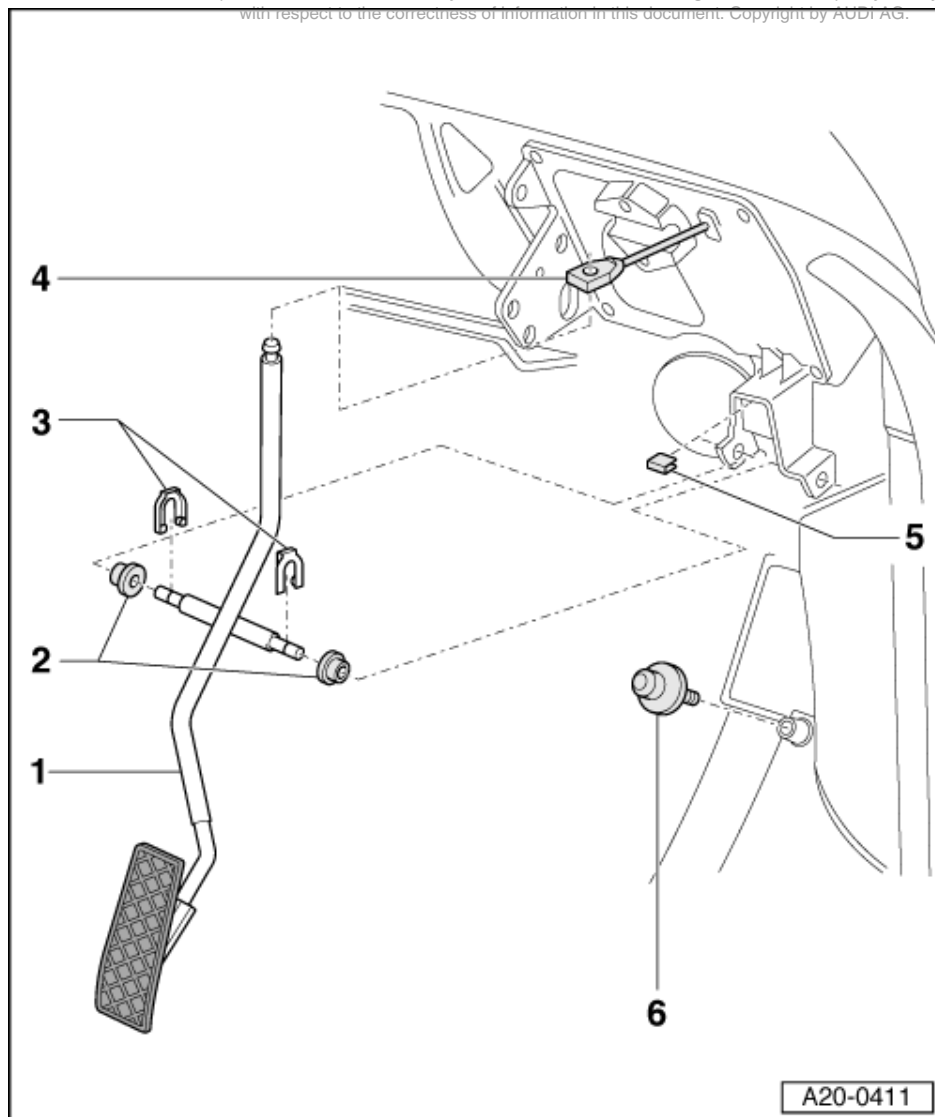
- ◆ For kickdown switch
- ◆ Secure with cable tie

6 Electrical wire

- ◆ For kickdown switch
- ◆ Secure with adhesive tape

7.3 - Right-hand drive vehicles

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1 Accelerator pedal

2 Bush

3 Securing clip

- ◆ Press onto shaft after installing accelerator pedal

4 Accelerator cable

- ◆ Removing and installing
=> Page 95
- ◆ Adjust by moving position of securing clip on retainer
=> Page 97

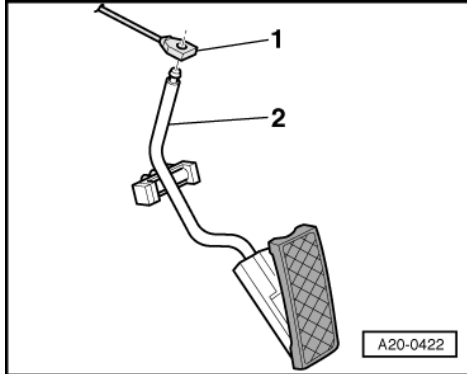
5 Beading

6 Accelerator pedal stop

- ◆ Different versions for manual and automatic gearbox

7.4 - Removing and installing throttle cable - vehicles with 6-cylinder engine

Removing



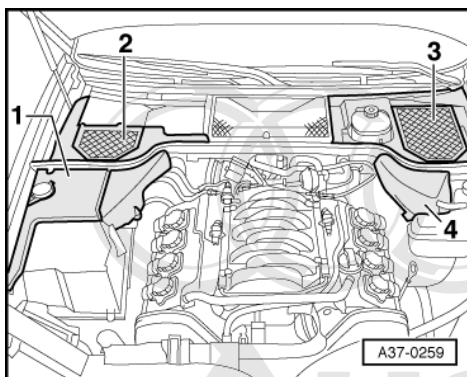
- Remove driver's storage compartment

=> General body repairs, Interior; Repair group 68; Storage compartments, covers; Removing driver's storage compartment Storage compartments, covers

- Remove footwell vent in driver's footwell.
- -> Disengage throttle cable -1- at top of accelerator pedal -2-.

Vehicles with automatic gearbox

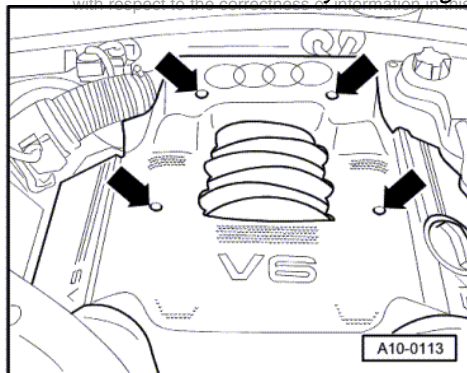
- Unplug connector on kickdown switch -Item 92 .



All models

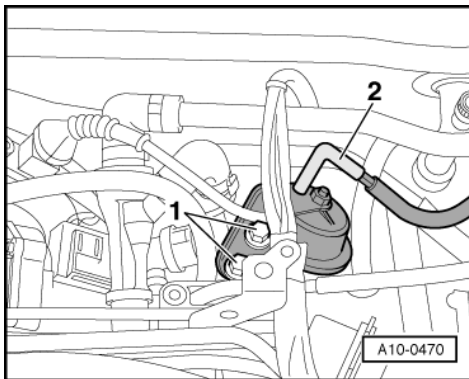
- -> Remove covers -3- and -4-.

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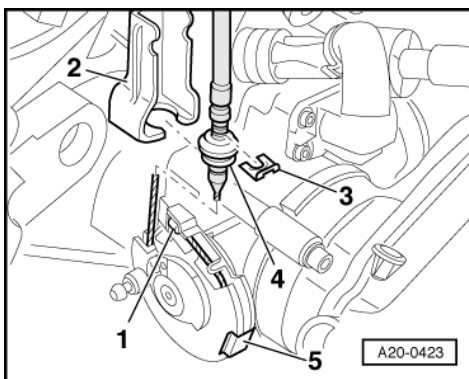


- -> Remove engine cover panel -arrows-.



Vehicles with cruise control system

- -> Pull vacuum hose -2- off vacuum unit for cruise control system.
- Loosen bolts -1- on bracket securing vacuum unit for cruise control system.
- Disengage actuator rod at throttle valve control part. To do this, lever ball socket of actuator rod off ball joint using an 8 mm open-end spanner.



All models

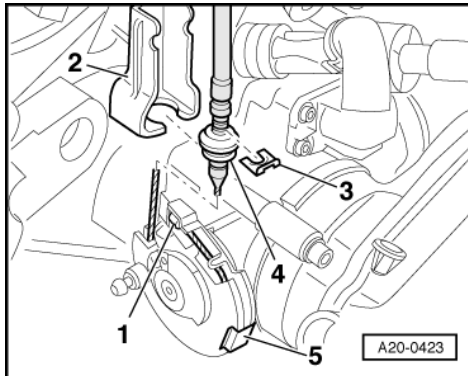
- -> Pull securing clip -3- off grooved section of throttle cable sheath.
- Disengage nipple -1- on end of throttle cable from cable cam.
- Prise off retaining clip -5-.
- Pull out throttle cable from engine compartment side.

Installing

Install in reverse sequence; note the following points:

- Refer to notes => Page 31 .
- Adjust throttle cable => Page 95 .

7.5 - Adjusting throttle cable - vehicles with 6-cylinder engine



- -> Throttle cable -1- is attached to accelerator pedal and cable cam on throttle valve control part. Retaining clip -5- is fitted.
- Pull securing clip -3- off grooved section of throttle cable sheath.
- Depress accelerator pedal into full throttle position.

Note:

A second mechanic is required for this step or use a spring tensioning rod braced against the steering wheel.

Vehicles with manual gearbox

- Adjust throttle cable by re-positioning securing clip -3- at rubber grommet -4- on support bracket -2- so that throttle valve is at full throttle position.

Vehicles with automatic gearbox

- Adjust throttle cable by re-positioning securing clip -3- at rubber grommet -4- on support bracket -2- so that throttle valve is fully open and kickdown switch clicks audibly.

All models

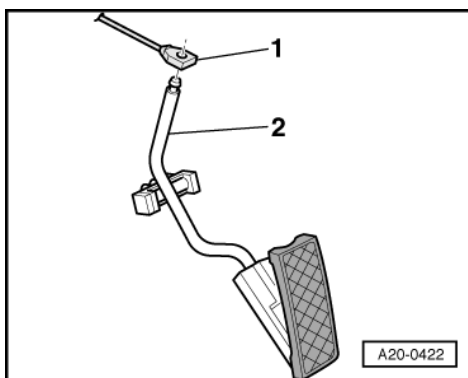
- Release accelerator pedal or remove spring tensioning rod.
- After adjusting the throttle cable, check position of throttle valve at idling speed and full throttle stops.

Vehicles with automatic gearbox

- Check adjustment of throttle cable
=> Page 98 .

7.6 - Removing and installing throttle cable - vehicles with 8-cylinder engine

Removing





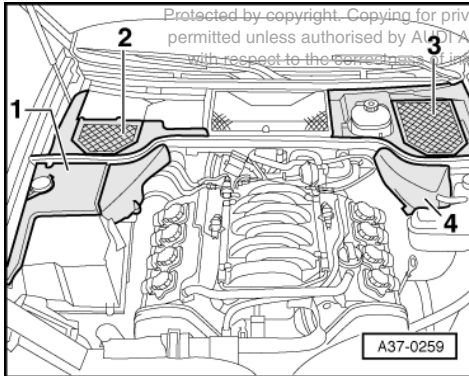
- Remove driver's storage compartment

=> General body repairs, Interior; Repair group 68; Storage compartments, covers; Removing driver's storage compartment Storage compartments, covers Removing driver's storage compartment

- Remove footwell vent in driver's footwell.
- -> Disengage throttle cable -1- at top of accelerator pedal -2-.

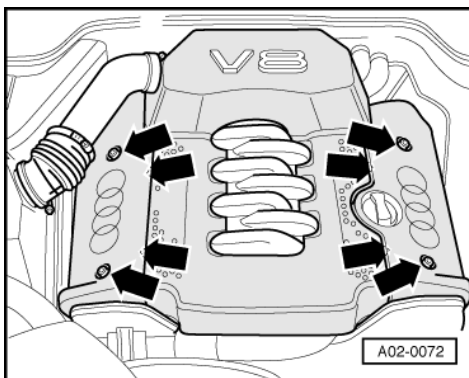
Vehicles with automatic gearbox

- Unplug connector on kickdown switch -Item 92 .

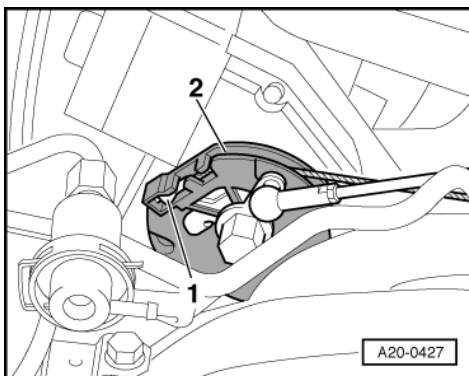


All models

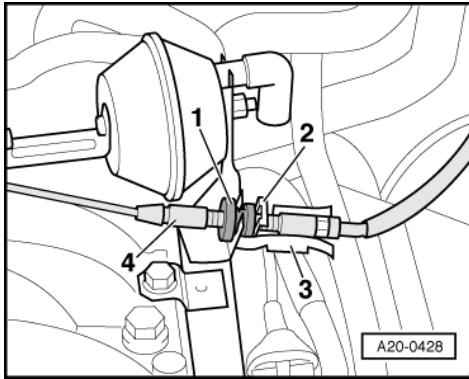
- -> Remove covers -3- and -4-.



- -> Remove engine cover panels -arrows-.



- -> Disengage nipple -1- on end of throttle cable from cable cam -2-.



- -> Pull securing clip -2- off grooved section of throttle cable sheath.
- Detach throttle cable -4- with rubber mount from support bracket -3-.
- Pull out throttle cable from engine compartment side.

Installing

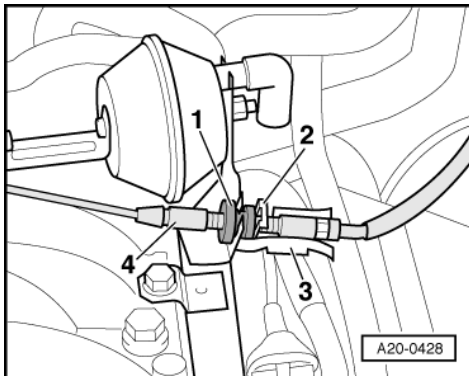
Install in reverse sequence; note the following points:

- Refer to notes => Page 91 .
- Adjust throttle cable => Page 97 .

7.7 - Adjusting throttle cable - vehicles with 8-cylinder engine

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- Throttle cable is attached to accelerator pedal and to cable cam on throttle valve control part



- -> Pull securing clip -2- off grooved section of throttle cable sheath.
- Depress accelerator pedal into full throttle position.

Note:

A second mechanic is required for this step or use a spring tensioning rod braced against the steering wheel.

Vehicles with manual gearbox

- Adjust throttle cable by re-positioning securing clip -2- at rubber grommet -1- on support bracket -3- so that throttle valve is at full throttle position.

Vehicles with automatic gearbox

- Adjust throttle cable by re-positioning securing clip -2- at rubber grommet -1- on support bracket -3- so that throttle valve is fully open and kickdown switch clicks audibly.

All models

- Release accelerator pedal or remove spring tensioning rod.

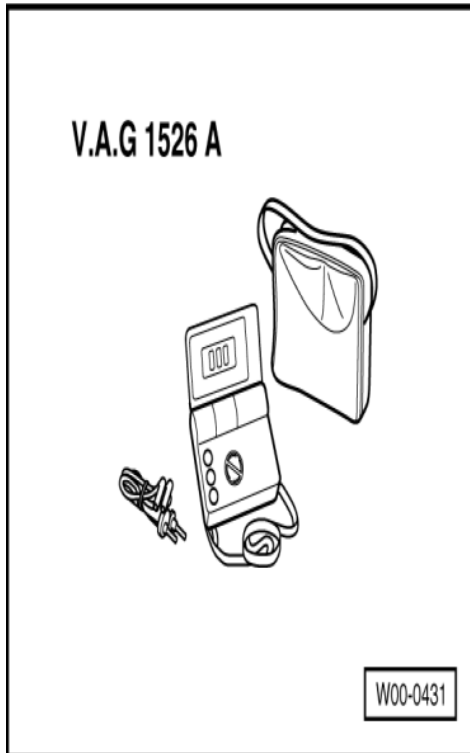


- After adjusting the throttle cable, check position of throttle valve at idling speed and full throttle stops.

Vehicles with automatic gearbox

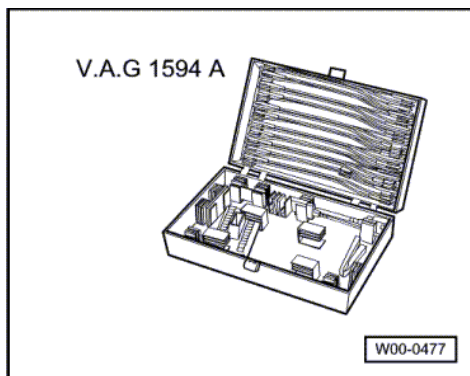
- Check adjustment of throttle cable
=> Page 98 .

7.8 - Checking adjustment of throttle cable on vehicles with automatic gearbox (checking kickdown switch)

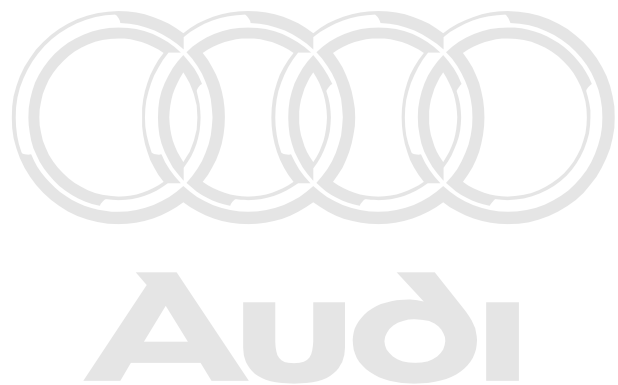


Special tools and workshop equipment required

- ◆ V.A.G 1526 A



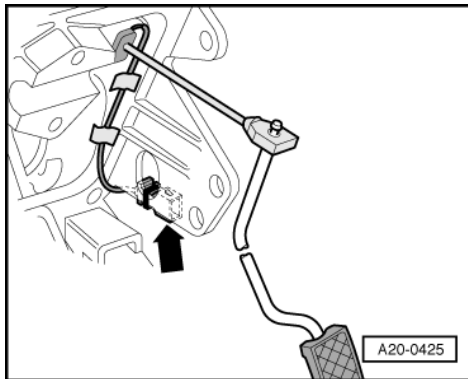
- ◆ V.A.G 1594 A
- Remove driver's storage compartment



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=> General body repairs, Interior; Repair group 68; Storage compartments, covers; Removing driver's storage compartment Storage compartments, covers Removing driver's storage compartment

- Remove footwell vent in driver's footwell.

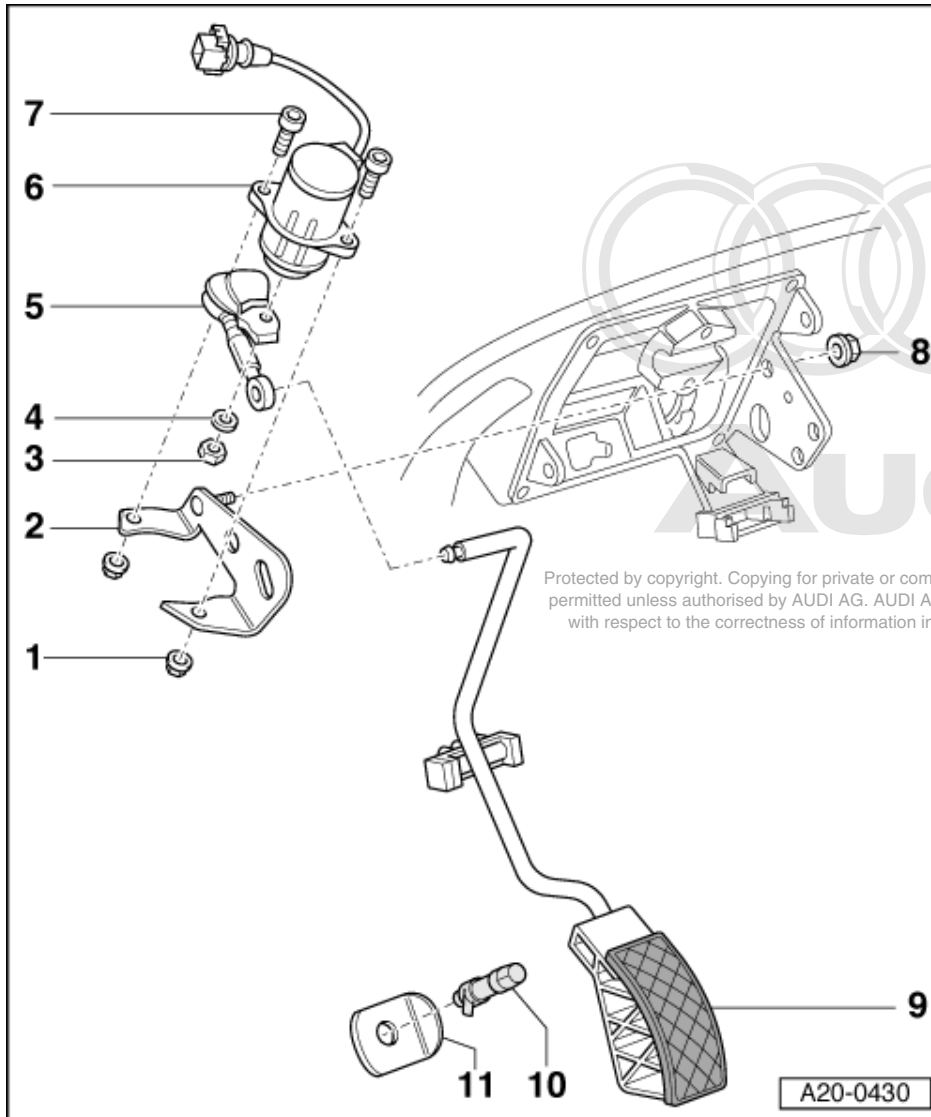


- -> Unplug connector -arrow- on kickdown switch.
- Connect multimeter to kickdown switch (resistance test range)
 - Specification: $\infty \omega$ (no continuity)
- Slowly move accelerator pedal in direction of full throttle.
 - The reading must drop to 0 ω shortly after resistance to movement is felt at kick-down point.
 - At this point the accelerator pedal should be just short of the end stop.



8 - Servicing accelerator linkage - vehicles with electronic throttle system (electronic power control)

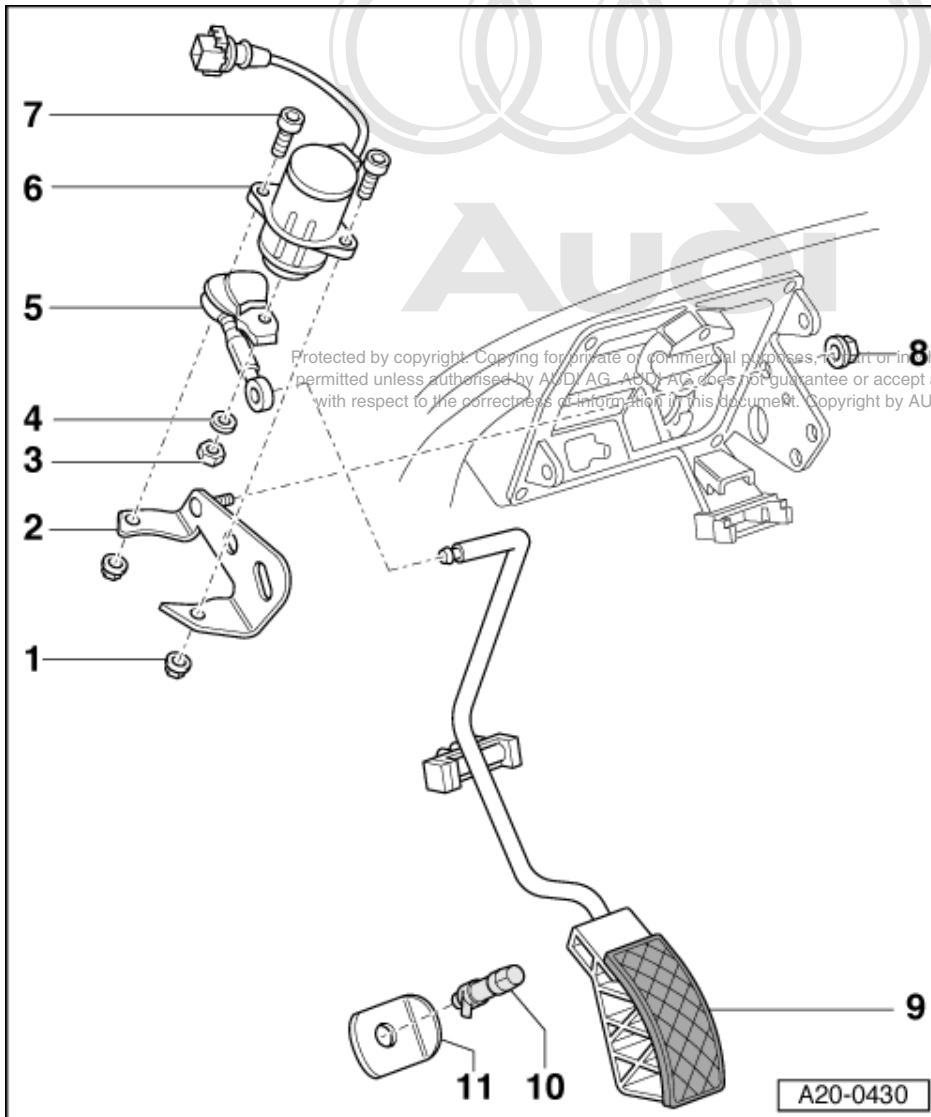
8.1 - Servicing accelerator linkage - vehicles with electronic throttle system (electronic power control)



8.2 - Left-hand drive vehicles

- 1 8 Nm
- 2 Bracket
- 3 8 Nm
- 4 Spring washer
- 5 Cable cam
 - ◆ With cable guide
 - ◆ Position => Page 104
- 6 Accelerator position sender -G79

♦ Adjusting =>Page 104



7 Hexagon socket head bolt
- 8Nm

8 8 Nm

9 Accelerator pedal

10 Accelerator pedal stop

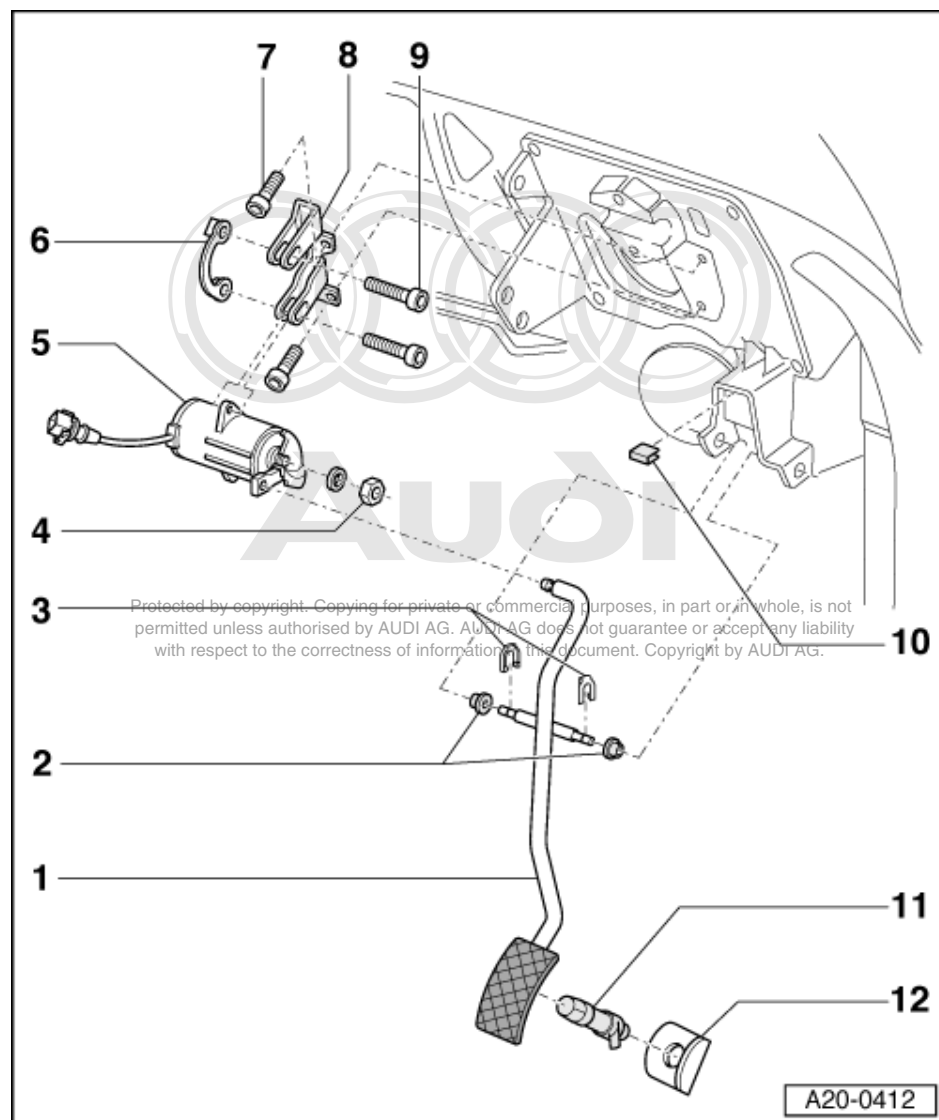
- ♦ Fixed stop for vehicles with manual gearbox
- ♦ Combined with kickdown switch for vehicles with automatic gearbox
- ♦ Testing kickdown switch:

=> Automatic gearbox, Self-diagnosis; Repair group 01

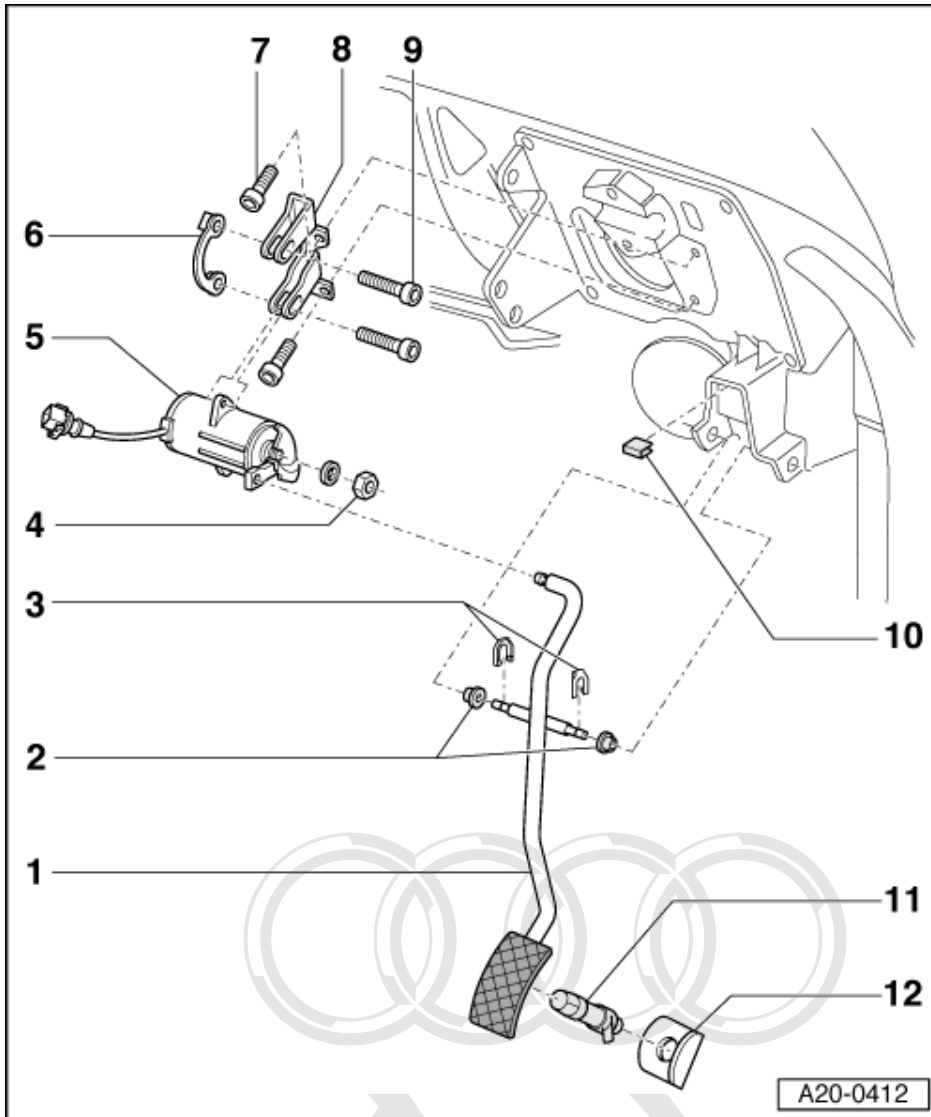
11 Packing



8.3 - Right-hand drive vehicles



- 1 Accelerator pedal
- 2 Bush
- 3 Securing clip
 - ◆ Press onto shaft after installing accelerator pedal
- 4 8 Nm
- 5 Accelerator position sender -G79
 - ◆ Adjusting =>Page 104
- 6 Cable cam
 - ◆ With cable guide
 - ◆ Position => Page 104
- 7 Hexagon socket head bolt
 - 8Nm



- 8 Bracket
- 9 Hexagon socket head bolt
- 8Nm

10 Beading

11 Accelerator pedal stop

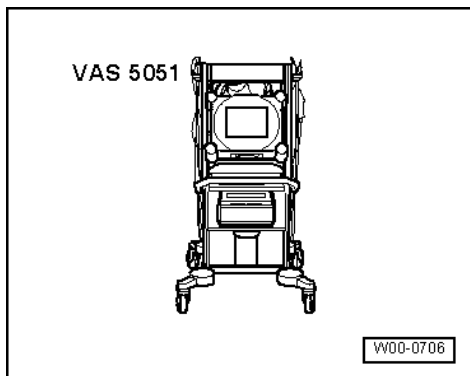
- ◆ Fixed stop for vehicles with manual gearbox
- ◆ Combined with kickdown switch for vehicles with automatic gearbox
- ◆ Testing kickdown switch:

=> Automatic gearbox, Self-diagnosis; Repair group 01

12 Packing



8.4 - Adjusting accelerator position sender



Special tools and workshop equipment required

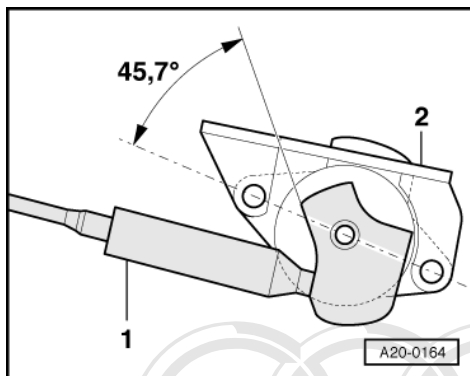
- ◆ VAS 5051 and VAS 5051/1

Work sequence

LHD vehicles

Requirement for test:

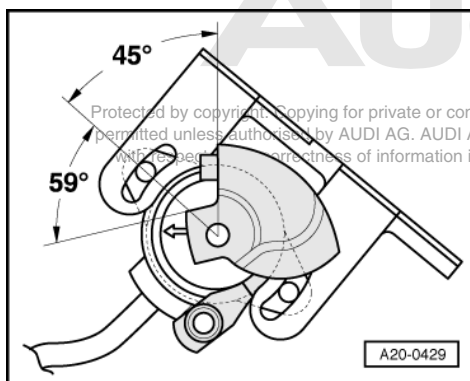
- Accelerator pedal stop installed -Item 101



Note:

If the acceleration position sender -G79 has been removed:

- -> Fit cable cam as shown.
- Install sender with cable cam already fitted.
 - 1 - Cable cam with cable guide
 - 2 - Bracket for accelerator position sender



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RHD vehicles

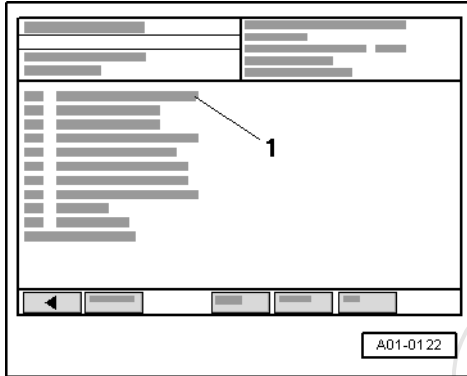
Requirement for test:

- Accelerator pedal stop installed -Item **103**

Note:

If the acceleration position sender -G79 has been removed:

- -> Fit cable cam as shown.
- Install sender with cable cam already fitted.

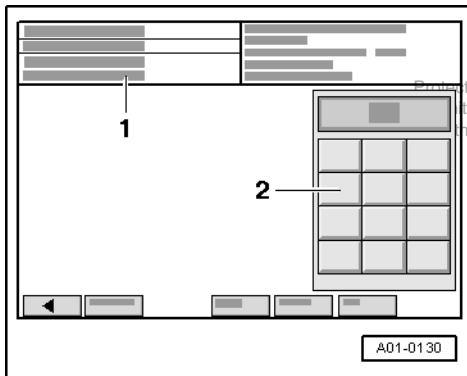


All models

- Connect the vehicle diagnostic, test and information system VAS 5051 and select the vehicle system "01 - Engine electronics". When doing this the ignition must be on.

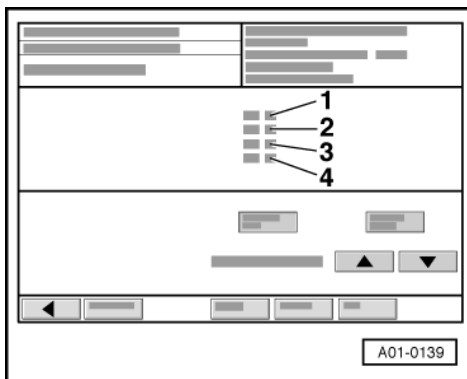
-> Display on VAS 5051:

- Select diagnosis function "08 - Read data block" from the menu -1-.



-> Display on VAS 5051:

- Using the keypad -2-, enter "062" to select Display group 062 and confirm entry with Q button.





-> Display on VAS 5051:

- Check display in display zone 3 (accelerator pedal position).

Vehicles with manual gearbox

- Press accelerator all the way down and hold in position.
 - Specification: 65 ... 69 % (accelerator pedal pressed down)

Vehicles with automatic gearbox

- Press accelerator all the way down (past kickdown point)
 - Specification: 70 ... 74 % (accelerator pedal pressed down past kickdown point)

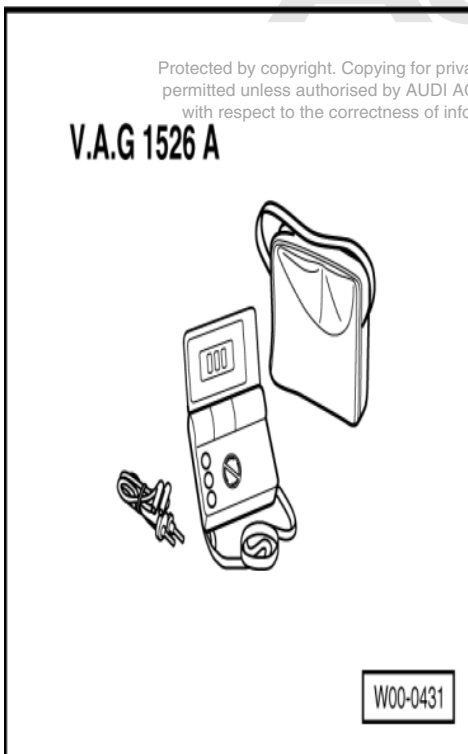
All models

- Press the ◀ button to exit from the function "08 - Read data block".
- Select diagnosis function "06 - End output".

If the specification is not attained:

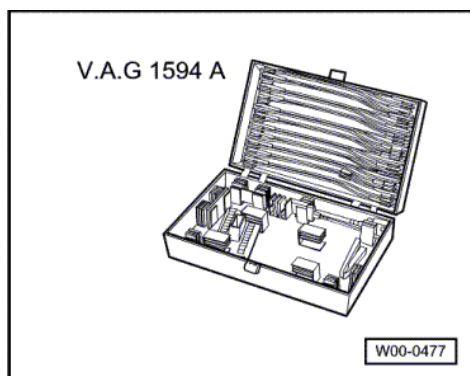
- Check installation position of cable cam, and adjust if necessary
=> Page 104 .

8.5 - Testing kickdown switch



Special tools and workshop equipment required

- ◆ V.A.G 1526 A



◆ V.A.G 1594 A

- Pull 2-pin connector off kick-down switch -F8 (-Item **103**).
- Connect multimeter to kickdown switch (resistance test range)
 - Specification: $\infty \omega$ (no continuity)
- Slowly move accelerator pedal in direction of full throttle.
 - The reading must drop to 0 ω shortly after resistance to movement is felt at kick-down point.



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