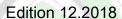


# Workshop Manual Octavia III 2013 ➤ Octavia III 2014 ➤

**Auxiliary heating** 









List of Workshop Manual Repair Groups

### Repair Group

00 - Technical data

82 - Auxiliary heating





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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.

## Contents

00 -	recni	ilcai data	
	1	Safety instructions	•
	1.1	Safety precautions when working on fuel supply system	•
	1.2	Safety precautions when working on vehicles with start-stop system	•
	1.3	Safety precautions when working on cooling system	2
	1.4	Safety measures when working on vehicles fitted with auxiliary heating	2
	2	General points	4
	2.1	Identification plates	4
	2.2	Notes when operating the auxiliary heating on vehicles with diesel engine.	4
	2.3	Starting conditions of the auxiliary heating	4
	3	Repair instructions	6
	3.1	Rules of cleanliness	6
	3.2	General points	6
	3.3	General repair instructions	7
	3.4	Cable routing and securing	8
00	A!!!		,
82 -	Auxili	ary heating Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted Auxiliary heating authorised by \$KQDA AUTQ A. S. \$KQDA AUTQ A. S. does not guarantee or accept any liability Fitting location overview - auxiliary heating	٤
	1	Auxiliary heating authorised by ŠKODÁ AUTO A. S. ŠKODÁ AUTO A. S. does not guarantee or accept any liability	(
	1.1	Fitting location overview - auxiliary heating	(
	1.2		11
	1.3		12
	1.4	, , , , , , , , , , , , , , , , , , ,	13
	1.5		14
	1.6		17
	1.7		17
	1.8		17
	1.9 1.10	· · · · · · · · · · · · · · · · · · ·	18
	1.10	·	19 19
	1.11		20
	1.12		2(
	1.14		2
	1.15	Removing and installing the temperature sensor G18 and the overheating sensor G189	_
	1.10		22
	1.16	Disassembling and assembling the burner unit	22
	2	Refrigerant circuit with auxiliary heating	24
	2.1		24
	2.2	Ventilating the refrigerant circuit of the auxiliary heating	25
	3	Fuel Supply	27
	3.1	•••	27
	3.2		27
	3.3		29
	3.4		30
	3.5		31
	4		33
	4.1	·	33
	4.2		33
	4.3		34
	4.4	Replacing the battery of the radio remote control	



### 00 – Technical data

### 1 Safety instructions

(SRL001339; Edition 12.2018)

- ⇒ "1.1 Safety precautions when working on fuel supply system", page 1
- ⇒ "1.2 Safety precautions when working on vehicles with startstop system", page 1
- ⇒ "1.3 Safety precautions when working on cooling system", page
- ⇒ "1.4 Safety measures when working on vehicles fitted with auxiliary heating.", page 2

# 1.1 Safety precautions when working on fuel supply system

There is a risk due to leaking fuel.

If the battery is connected, the fuel pump is activated by the door contact switch when the driver's door is opened. Escaping fuel can ignite and cause a fire.

 Interrupt the supply voltage to the fuel pump before opening the fuel system.

Risk of injury caused by fuel which is under high pressure.

The fuel system is under high pressure. Injuries caused by fuel splashes can occur.

- Reduce the fuel pressure before opening the fuel system.



Note

Observe the rules for cleanliness

- ⇒ "3.1 Rules of cleanliness", page 6 and the safety measures ⇒ "1.4 Safety measures when working on vehicles fitted with auxiliary heating.", page 2 when working on the opened fuel system.
- 1.2 Safety precautions when working on vehicles with start-stop system

When working on vehicles with start/stop system, please observe the following:



Caution

Risk of injury from automatic engine start.

- On vehicles with activated start-stop system (recognizable by a message in the dash panel insert) there is a risk that the engine can start automatically.
- It is therefore necessary to ensure that the start-stop system is deactivated when carrying out work on the vehicle (switch ignition off, if required switch ignition on again).

Conditions for activation/deactivation of the start-stop system ⇒ not permitted Karoq Owner's Manual AUTO A. S. SKODA AUTO A. S. does not guarantee or accept any liability with respect to the correctness of information in this document. Convigint by SKODA AUTO A. S.

# 1.3 Safety precautions when working on cooling system

### Risk of scalding from hot coolant

When the engine is warm, the cooling system is under overpressure. Danger of scalding due to hot steam and hot coolant.

- Wear safety gloves and safety goggles.
- Release the pressure in the cooling system: cover the cap of the coolant expansion tank with a cloth and open carefully.

# 1.4 Safety measures when working on vehicles fitted with auxiliary heating.

### Risk of fire or explosion

The auxiliary heating must not be on or be switched on in areas where there is a risk of fire or explosion.

 The auxiliary heating must not be switched off in areas where there is a risk of fire or explosion.

### Danger of poisoning due to exhaust gas.

The auxiliary heating generates exhaust gas. There is danger of poisoning and risk of injury of the respiratory tract.

The auxiliary heating must not be on or be switched on (also not via a preselected switch-on time) in closed rooms without exhaust gas suction.

 The auxiliary heating must not be switched off in closed rooms without exhaust gas suction.

### Risk of damage due to engine start

There is risk of damage to the auxiliary heating due to engine start if parts of the fuel system (e.g. dosing pump, fuel line, fuel gauge sender) are removed or opened.

 Never start the engine if parts of the fuel system are removed or opened.

# Risk of accidents and injuries with the auxiliary heating timer ac-document. Copyright by SKODA AUTO A. S. Translating timer accidents are injuries with the auxiliary heating timer accidents.

Heating can unexpectedly switch on during work on the vehicles in vehicles with activated auxiliary heating timer. Thus, there is danger of poisoning due to exhaust gas, danger of burns due to hot components of the auxiliary heating and risk of fire and explosion due to hot temperatures.

 The auxiliary heating timer must be switched off prior to work on the vehicle, see the ⇒ infotainment Owner's Manual .



### Note

Observe the relevant and applicable safety measures and the rules for cleanliness when working on the fuel system ⇒ Fuel system for diesel engines; Rep. gr. 00; Safety instructions and/or ⇒ Fuel system for petrol engines; Rep. gr. 00; Safety instructions.



### **WARNING**

The cooling system is under pressure, the coolant temperature can be over 100 °C when the engine is warm - risk of burning!

Before repairs, reduce pressure and temperature if necessary.



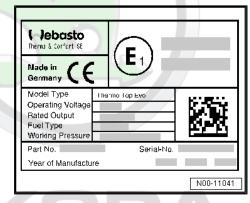
### 2 General points

- ⇒ "2.1 Identification plates", page 4
- ⇒ "2.2 Notes when operating the auxiliary heating on vehicles with diesel engine.", page 4
- ⇒ "2.3 Starting conditions of the auxiliary heating", page 4

### 2.1 Identification plates

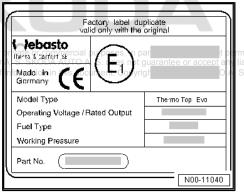
The manufacturer's plate is attached to the auxiliary heating and the second plate to the lock carrier.

Name plate on the auxiliary heating



Name plate at lock carrier

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# 2.2 Notes when operating the auxiliary heating on vehicles with diesel engine.

If PME or RME fuel (methyl ester of plants or rapeseed) is refueled during the cold season, it may cause malfunctions of the auxiliary heating.

### Reasons:

 If PME or RME fuel (methyl ester of plants or rapeseed) is refueled during the cold season, it may cause malfunctions of the auxiliary heating. The deposits can lead to malfunctions during the combustion process (no more flame formation and deflagration in the combustion chamber) after prolonged operation with PME or RME fuel.

# 2.3 Starting conditions of the auxiliary heating

- ◆ Engine type is O.K. (diesel/petrol)
- Auxiliary heating coded in Gateway
- ♦ No undervoltage shut-off
- No Crash shut-off

- ◆ No fuel reserve operation
- ♦ No event memory entries which prevent start-up



Note

The AC button does not influence the auxiliary heating operation.



### 3 Repair instructions

- ⇒ "3.1 Rules of cleanliness", page 6
- ⇒ "3.2 General points", page 6
- ⇒ "3.3 General repair instructions", page 7
- ⇒ "3.4 Cable routing and securing", page 8

### 3.1 Rules of cleanliness

Pay careful attention to the following rules of cleanliness when working on the fuel supply:

- Thoroughly clean the connection points and their surroundings before releasing.
- Place removed parts on a clean surface and cover. Use lintfree cloths!
- Carefully cover or seal opened or removed components if the repair is not carried out immediately.
- Only install clean parts: remove spare parts from their wrapping immediately before fitting. Do not use any parts which have been stored unwrapped (e.g. in tool boxes).
- ♦ On an open fuel system, the following is not allowed:
- Working with compressed air.
- Start the engine.
- Switch on auxiliary heating.
- Avoid moving the vehicle.

### 3.2 General points

Description of the function and control of auxiliary heating

Other information and further description of function:

- ♦ ⇒ Self-study programme No. 79; Auxiliary heating
- ♦ ⇒ Owner's manual Octavia III
- ◆ Connect ⇒ Current flow diagrams, Electrical fault finding and Fitting locations

Switching on horised by SKODA AUTO A. S. ŠKODA AUTO A. S. does not guarantee or accept any liab

Starting the auxiliary heating is carried out optionally via the remote control, the instant heat button - E537-, a corresponding programming in the Infotainment menu or direct switch-on in the cover of the air conditioning actuator. The auxiliary heating is switched on automatically via the vehicle electronics, if all the necessary requirements are present

⇒ "2.3 Starting conditions of the auxiliary heating", page 4

Detailed description for programming as well as switching on/off the auxiliary heating ⇒ Owner's manual Octavia III .

First of all the functional testing of the fresh air blower - V2- and the combined glow plug with flame monitoring - Q8- is carried out, then the glow plug with flame monitoring - Q8- passes through the preheating phase.

The subsequent start procedure depends, among other things, on the coolant temperature and can therefore vary over time. In addition, the fuel is supplied, the glow plug with flame monitoring - Q8- is gradually switched off and the flame detector is activated.

After completing the initial phase, the device is burning at full load and the additional load control (operating mode, full load, partial

load and control pause) is based on the following thresholds of the coolant temperature.

- Change from full load to partial load: approx. 82 °C
- ♦ Change from partial load to control pause: approx. 88 °C

If the coolant temperature drops during the control pause within 15 minutes to below 71 °C, the heater unit starts in full load mode.

The reference resistance of the glow plug with flame monitoring - Q8- is automatically redefined depending on the device in order to compensate the age-related changes during the start-up phase or during the after-run at regular intervals.

As a result of this calibration process, the affected processes can also take a long time.

### Switching off

After the maximum possible duration of 60 min has elapsed or after manual shutdown by remote control or instant heat button - E537-, the auxiliary heating is switched off.

The auxiliary heating switches off when at least one of the defined switching requirements is no longer fulfilled ⇒ "2.3 Starting conditions of the auxiliary heating", page 4.

After switching off, the operation of the dosing pump - V54- is immediately stopped.

The combustion air blower - V6- and the glow plug with flame monitoring - Q8- continue to operate within a limited period of time, in order to completely burn the remaining fuel in the system and to cool the burner components.

The after-run of the circulating pump - V55- is also carried out.

The after-run of the heater unit can last different lengths of time depending on the software version and the load level at the time of shutdown:

175 seconds when switching off from full load mode

110 seconds when switching off from partial load mode

Depending on the software versions in the control unit, this can lead to deviations of the above after-running times.

### 3.3 General repair instructions

- ◆ The auxiliary heating is available in different versions; therefore when replacing pay attention to the exact assignment ⇒ Electronic Catalogue of Original Parts "ETKA".
- There is a second type plate located in the engine compart-part or in whole, is no ment at the lock carrier. In case of uncertainty of the type of guarantee or accept auxiliary heating, check the type plate attached to the auxiliary heating heating as well as the part number of the auxiliary heating control unit J364-, which is shown in the function "Self-diagnosis" ⇒ Vehicle diagnostic tester.
- ◆ Observe the notes for connecting and disconnecting the battery ⇒ Electrical system; Rep. gr. 27; Battery; connecting and disconnecting the battery.
- ◆ The control unit for auxiliary heating J364- and other components are equipped with a self-diagnosis system; inspect ⇒ Vehicle diagnostic tester.
- ◆ Certain inspections may cause the control unit to detect and store a fault. It is therefore necessary to query the event memory after having completed all inspections and repairs, and if necessary delete the entries ⇒ Vehicle diagnostic tester.



# Octavia III 2013 ➤ , Octavia III 2014 ➤ Auxiliary heating - Edition 12.2018

- If there is too little fuel in the fuel tank (fuel gauge is in the red field), the control unit for auxiliary heating - J364- does not switch on the auxiliary heating.
- A minimum voltage of 11.5 V is required for perfect functioning of the electrical components.
- If parts of the fuel system were removed or replaced, make sure that all the components for the fuel removal of the auxiliary heating are properly installed.
- The function of the auxiliary heating must be inspected after finishing the repair work on the auxiliary heating or the fuel system.
- If the auxiliary heating is replaced by a new one, it must run at full load mode for at least 10 minutes before handing it over to the customer. There can still be lubricant residues in or on the components of the auxiliary heating fitted at the factory, which evaporate after it is switched on for the first time. The smoke which occurs may worry the customer and he might look upon the auxiliary heating as defective.

### Safety measures

 $\Rightarrow$  "1.4 Safety measures when working on vehicles fitted with auxiliary heating.", page 2



### Note

In the event of complaints about the operation of the auxiliary heating on vehicles with diesel engine at the start of the heating period - it is probably caused by frozen fuel in the line from the fuel tank to the auxiliary heating (summer diesel is still present in the fuel system of the auxiliary heating).

### 3.4 Cable routing and securing



### Caution

The fuel lines (pipes and hoses) from the fuel tank to the auxiliary heating must be routed flush with the underfloor in such a way that they do not come in contact with those parts which become warm and they must be protected against heat. If it heats up, the operation of the auxiliary heating could be impaired.

# 82 - Auxiliary heating

### 1 Auxiliary heating

- ⇒ "1.1 Fitting location overview auxiliary heating", page 9
- ⇒ "1.2 Summary of components component parts of the auxiliary heating system", page 11
- ⇒ "1.3 Summary of components component parts of the auxiliary heating", page 12
- ⇒ "1.4 Summary of components auxiliary heating, interior", page 13
- ⇒ "1.5 Removing and installing auxiliary heating", page 14
- ⇒ "1.6 Disassembling and assembling auxiliary heating", page 17
- ⇒ "1.7 Removing and installing air intake silencer", page 17
- ⇒ "1.8 Removing and installing circulating pump V55 ", page 17
- ⇒ "1.9 Removing and installing exhaust system" page 18 opping for private or commercial purposes, in part or in whole, is not permitted and auto A. S. SKODA AUTO A. S. does not guarantee or accept any liability
- ⇒ "1.10 Removing and installing holder for auxiliary heating", page 19
- ⇒ "1.11 Removing and installing cover for auxiliary heating control unit J364", page 19
- ⇒ "1.12 Plug assignment at the auxiliary heating control unit J364 ", page 20
- ⇒ "1.13 Removing and installing cover for auxiliary heating", page 20
- ⇒ "1.14 Removing and installing glow plug with flame monitoring Q8 ", page 21
- ⇒ "1.15 Removing and installing the temperature sensor G18 and the overheating sensor G189 ", page 22
- ⇒ "1.16 Disassembling and assembling the burner unit", page 22
- 1.1 Fitting location overview auxiliary heating

### 1 - Fuel delivery unit with connection for fuel removal of the auxiliary heating and the fuel gauge sensor - G-

- Removing and installing, ⇒ Fuel system Diesel engines; Rep. gr.
   20; Fuel delivery unit /
   encoder for fuel gauge
   Diesel engines or ⇒
   Fuel system petrol engines; Rep. gr. 20; Fuel delivery unit / encoder for fuel gauge, petrol engines.
- Installation location: below the rear seat

# 2 - Auxiliary heating radio controlled receiver - R64-

- under the left luggage compartment trim panel
- □ Removing and installing ⇒ "4.2 Removing and installing radio receiver for auxiliary water heating R149", page 33

# 3 - Roof aerial for signal reception from the radio remote control of the auxiliary heating

- □ Remove and installing
   ⇒ Communication;
   Rep. gr. 91; Antenna
   systems; removing and installing roof aerial
- 4 Control for heating and air conditioning system
- 5 Display unit for infotainment
- 6 Fuse holder and relay carrier
- 7 Duplicate plate of auxiliary heating
  - □ specifies the technical data in addition to the type of auxiliary heating ⇒ "2.1 Identification plates", page 4
- 8 Fuse holder and relay carrier in engine compartment
- 9 Ambient temperature sensor G17-
  - □ Removing and installing ⇒ "4.1 Removing and installing ambient temperature sensor", page 33
  - ☐ Check ⇒ Vehicle diagnostic tester
  - ☐ Fitting location: below the front left bumper

### 10 - Exhaust system of auxiliary heating

□ Removing and installing ⇒ "1.9 Removing and installing exhaust system", page 18

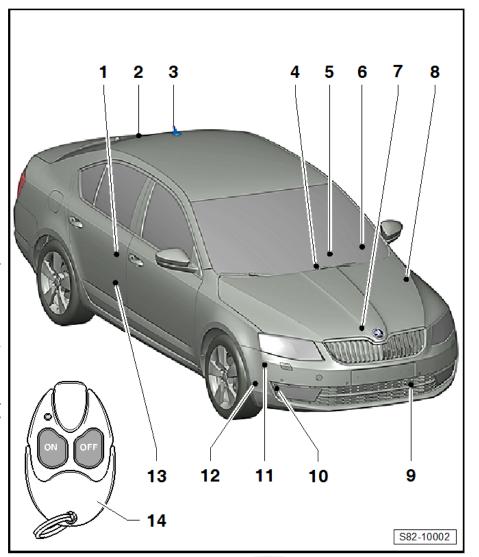
### 11 - Auxiliary heating with auxiliary heating control unit - J364-

- ☐ Removing and installing ⇒ "1.5 Removing and installing auxiliary heating", page 14
- ☐ Fitting location: below the front right bumper
- □ the type plate is located at the auxiliary heating as well as at the lock carrier ⇒ "2.1 Identification plates", page 4

### 12 - Circulating pump - V55-

□ Removing and installing ⇒ "1.8 Removing and installing circulating pump V55", page 17

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### 13 - Dosing pump - V54-

- □ Summary of components
  - ⇒ "3.3 Summary of components dosing pump V54 with component parts", page 29
- ☐ Removing and installing ⇒ "3.4 Removing and installing the dosing pump V54", page 30
- ☐ Check fuel flow rate ⇒ "3.5 Check fuel flow rate", page 31

### 14 - Remote control of auxiliary heating

- ☐ Detailed description of function ⇒ Owner's manual Octavia III
- □ Replacing battery ⇒ "4.4 Replacing the battery of the radio remote control ", page 34

### 1.2 Summary of components - component parts of the auxiliary heating system

# 1 - Auxiliary heating with auxiliary heating control unit - J364-

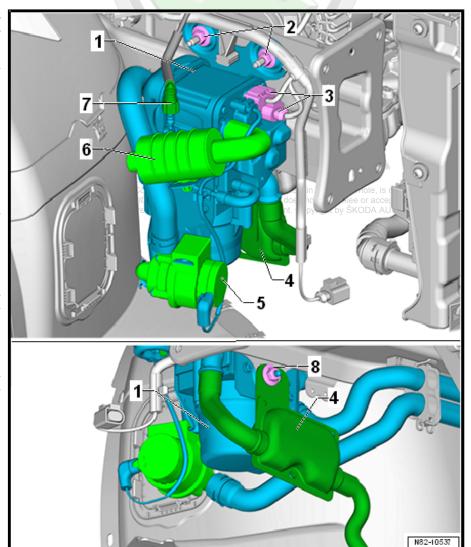
- □ Removing and installing ⇒ "1.5 Removing and installing auxiliary heating", page 14
- 2 Nut
  - □ 20 Nm
- 3 Plug connection
- 4 Exhaust System
  - □ Removing and installing ⇒ "1.9 Removing and installing exhaust system", page 18

### 5 - Circulating pump - V55-

□ Removing and installing ⇒ "1.8 Removing and installing circulating pump V55 ", page 17

### 6 - Air intake silencer

- □ Removing and installing
   ⇒ "1.7 Removing and installing air intake silencer", page 17
- 7 Fuel line with quick coupling
- 8 Nut
  - □ 20 Nm



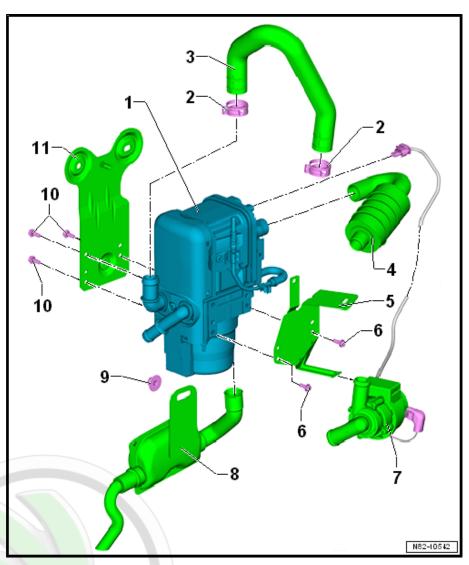
### 1.3 Summary of components - component parts of the auxiliary heating

# 1 - Auxiliary heating with auxiliary heating control unit - J364-

- □ Removing and installing ⇒ "1.5 Removing and installing auxiliary heating", page 14
- 2 Hose clamp
- 3 Coolant hose
- 4 Air intake silencer
  - □ Removing and installing ⇒ "1.7 Removing and installing air intake silencer", page 17
- 5 Bracket for circulating pump V55-
- 6 Bolts
  - □ 8 Nm
- 7 Circulating pump V55-
  - Removing and installing ⇒ "1.8 Removing and installing circulating pump V55", page 17

### 8 - Exhaust System

- Removing and installing
   ⇒ "1.9 Removing and installing exhaust system", page 18
- 9 Nut
  - □ 20 Nm
- 10 Bolts
  - □ 8 Nm
- 11 Bracket for auxiliary heating





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19

### 1.4 Summary of components - auxiliary heating, interior

### 1 - Bolts

□ 7 Nm

### 2 - Heat exchanger

### 3 - Gasket

- ☐ replace after each removal
- □ Check fitting position

### 4 - Combustion pipe

### 5 - Glow plug with flame monitoring - Q8-

- check correct fitting
- □ remove and install, test ⇒ "1.14 Removing and installing glow plug with flame monitoring Q8 ", <u>page 21</u>



### Note

For vehicles with diesel engines; the heating element for fuel preheating - Z66- is installed firmly at the com bustion pipe The cables are connected with the cables of the glow plug with flame monitoring - Q8-. In the case of this version the complete combustion pipe must be replaced, if the glow plug with flame monitor ing - Q8- is defective.

### 6 - Cover for auxiliary heating control unit - J364-

Removing and installing ⇒ "1.11 Removing and installing cover for auxiliary heating control unit J364", page 19

13 12

### 7 - Cover

### 8 - Auxiliary heating control unit - J364- with combustion air blower - V6-

15

14

- □ both parts form one component and cannot be disassembled
- □ Removing and installing ⇒ "1.16 Disassembling and assembling the burner unit", page 22

11

10

9

8

### 9 - Cover

### 10 - Cover for noise insulation

☐ Removing and installing ⇒ "1.13 Removing and installing cover for auxiliary heating", page 20

### 11 - Coolant hose supports

☐ Mark the fitting position before loosening

### 12 - Sealing rings

□ Replace after disassembly

### 13 - Retaining plate

### 14 - Screw

□ 4 Nm

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15 -	Cool	lant	hose	sup	ports
------	------	------	------	-----	-------

■ Mark the fitting position before loosening

### 16 - Temperature sensor - G18-

remove and install, test

 $\Rightarrow$  "1.15 Removing and installing the temperature sensor G18 and the overheating sensor G189 ", page 22

### 17 - Retaining spring

18 - Screw

□ 4 Nm

### 19 - Overheating sensor - G189-

☐ remove and install, test

⇒ "1.15 Removing and installing the temperature sensor G18 and the overheating sensor G189 ", page 22

# Removing and installing auxiliary heating



### Note

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- If the auxiliary heating is replaced, first connect the diagnostic SKODA AUTO A. S. unit ⇒ Vehicle diagnostic tester and the function "replace control unit" is called up under the guided functions of the relevant control unit.
- Install all cable ties and other fasteners for the electrical cables at the same places from which they were detached/cut when they were removed.

### Special tools and workshop equipment required

♦ Hose clamps - MP7-602 (3094)-

### Removing

- With ignition switched off, disconnect battery earth strap ⇒ Electrical system; Rep. gr. 27; Battery; Disconnecting and connecting battery.
- Remove the front right wheelhouse liner ⇒ General body repairs, exterior; Rep. gr. 66; Wheelhouse liner.



### **WARNING**

The cooling system is under pressure, the coolant temperature can be over 100 °C when the engine is warm - risk of burning!

Before repairs, reduce pressure and temperature if necessary.

Parts of the exhaust system can be hot.

Let the exhaust system cool down before the removal.

- Remove exhaust system of auxiliary heating
   ⇒ "1.9 Removing and installing exhaust system", page 18
- Place the catch pan under the auxiliary heating.

- Disconnect the coolant hoses from the hose clamps -MP7-602 (3094)- .
- Slacken the clamps -1- and detach the coolant hoses from the pipes.



### Note

Observe safety measures when working on the fuel system ⇒ "1.4 Safety measures when working on vehicles fitted with auxiliary heating.", page 2.

Unlock the fuel line from the clips -3- and -4-.

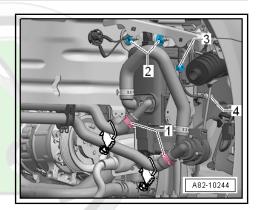


### **WARNING**

There is a risk of fuel escaping.

The fuel system is under pressure!

Lay a clean cloth on the connection point and carefully disconnect the connection point in order to relieve the pressure in the fuel system.





- Close the fuel line with a suitable screw plug after detaching \$KODA AUTO A. S. does not guarantee or accept any liability it.
- Release the nuts -2- and remove the auxiliary heating from the frame side rail.



### Caution

Stress can occur on the plugs and the auxiliary heating control unit - J364- can get damaged.

First of all unplug the 6-pin connector.

- Carefully tilt the auxiliary heating towards the rear, first unplug and remove the connector -1- (6-pin) and then the connector
- Remove auxiliary heating.

### Installing

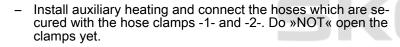
Installation is performed in the reverse order; pay attention to the following points:

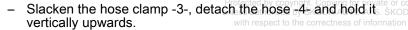


### Caution

When undertaking all installation work, particularly in the engine compartment due to its cramped construction, please observe the following:

- Lay lines of all kinds (for fuel, cooling fluid and refrigerant, electrical lines) in such a way that the original line guide is re-established.
- Ensure that there is adequate free access to all moving or hot components.



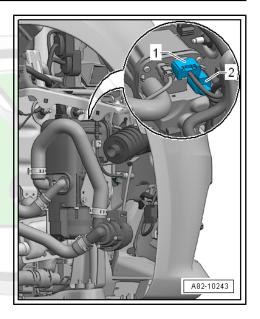


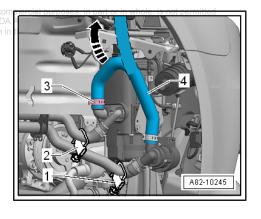
- Only loosen the hose clamp -2- when coolant begins to flow
- Close hose clamp -2- again.
- Only when coolant begins to flow out the hose -4-, loosen the hose clamp -1-.
- Close hose clamp -1- again.
- Reinstall the hose -4- and remove the hose clamps -1- and
- Ventilate the refrigerant circuit of the auxiliary heating ⇒ "2.2 Ventilating the refrigerant circuit of the auxiliary heating", page 25.
- Interrogate event memory and if necessary erase entries ⇒ Vehicle diagnostic tester.



### Note

- If more air enters the coolant system during the installation, the complete refrigerant circuit must be ventilated ⇒ Rep. gr. 19; Cooling system/coolant; Draining and filling coolant.
- Pay attention to the sequence when connecting the battery earth strap ⇒ Electrical system; Rep. gr. 27; Battery; Disconnecting and connecting the battery .
- If the auxiliary heating is replaced by a new one, it must run at full load mode for at least 10 minutes before handing it over to the customer. There can still be lubricant residues in or on the components of the auxiliary heating fitted at the factory, which evaporate after it is switched on for the first time. The smoke which occurs may worry the customer and he might look upon the auxiliary heating as defective.





# 1.6 Disassembling and assembling auxiliary heating

### Dismantling

- Removing auxiliary heating
   ⇒ "1.5 Removing and installing auxiliary heating", page 14.
- Remove the cover

   ⇒ "1.13 Removing and installing cover for auxiliary heating", page 20.
- Disconnect plug connection -1-.
- Loosen the cable -2- from the cable terminal.
- Unscrew the screws -arrows- and detach the heat exchanger from the blower housing in axial direction of the screwed connection.
- Clean the inside and the outside of the heat exchanger.

### **Assembling**

Installation is carried out in the reverse order.

### **Specified torques**

Component	Specified torque
Fixing screws of the heat exchanger -arrows-	7 Nm

# A82-10252

# 1.7 Removing and installing air intake silencer

### Removing

- Switch off auxiliary heating.
- Remove the front right wheelhouse liner ⇒ General body repairs, exterior; Rep. gr. 66; Wheelhouse liner.
- Press together the spreader clip -1- and loosen from the bracket.
- Detach the damper -2- from the auxiliary heating.

### Installing

Installation is performed in the reverse order; pay attention to the following points:



### Note

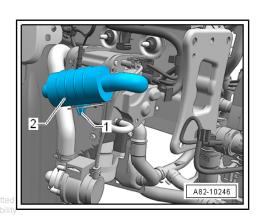
- ♦ The noise damper for intake air must not rest against the not permit housing of the auxiliary heating. Alto Also does not guarantee or accept any lia
- ♦ Do not kink or press together the aluminium pipe.

# Removing and installing circulating pump - V55-

### Removing

### Special tools and workshop equipment required

♦ Hose clamps - MP7-602 (3094)-





### **WARNING**

The cooling system is under pressure, the coolant temperature can be over 90 °C when the engine is warm - risk of burning!

Before repairs, reduce pressure and temperature if necessary.

- Remove the front right wheelhouse liner ⇒ General body repairs, exterior; Rep. gr. 66; Wheelhouse liner.
- Close the coolant hoses with hose clamps MP 7-602 (3094)-.
- Slacken clamps -1- and pull off the coolant hoses from the circulating pump - V55- .
- Separate the plug connection -3- and detach the circulating pump - V55- Pos. -2- from the bracket.

### Installing

- Push the circulating pump onto the bracket.
- Fit the plug connection -3- onto the auxiliary heating or the circulating pump (depending on the version). Pay attention to secure catch.
- Fit the bottom coolant hose.
- Hold the bottom hose clamp -arrow- open until the coolant reaches the upper edge of the circulating pump - V55-.
- Fit the top coolant hose and remove the hose clamps.



### Note

- ◆ Pay attention to the correct routing of the cables.
- ♦ There should be no humidity in the plug connector housing.
- Protect the housing against knocks and bumps.
- Further installation is carried out in reverse order.
- If more air has entered the coolant system during the assembly, the refrigerant circuit must be ventilated
   ⇒ "2.2 Ventilating the refrigerant circuit of the auxiliary heating", page 25
- Interrogate event memory and erase entries ⇒ Vehicle diagnostic tester.
- Start the auxiliary heating and let it run at full load mode for at least 10 minutes, in order to completely ventilate the fuel line and inspect the function of the auxiliary heating.

### 1.9 Removing and installing exhaust system

### Removing unless authorised by \$KODA AUTO A. S. \$KODA AUTO A. S. does not guarantee or acc. with respect to the correctness of information in this document. Copyright by \$KODA A

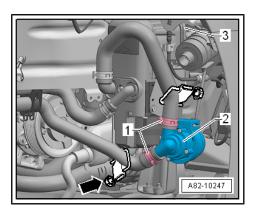


### WARNING

The exhaust system can be hot - risk of burning.

Let the exhaust system cool down before the removal.

Switch off the ignition and all electrical components.



ŠKODA.

- Remove the front right wheelhouse liner ⇒ General body repairs, exterior; Rep. gr. 66; Wheelhouse liner.
- Screw down fixing nut -1-.
- Slide out exhaust system -2- in direction of arrow -A- and remove from the heater unit in direction of arrow -B-.

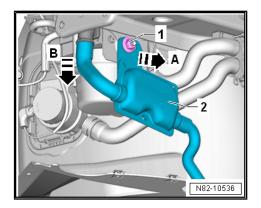
### Installing

Installation is performed in the reverse order; pay attention to the following points:



### Caution

Lay the exhaust system in such a way that it does not come in contact with the electrical cables.



# 1.10 Removing and installing holder for auxiliary heating

### Removing

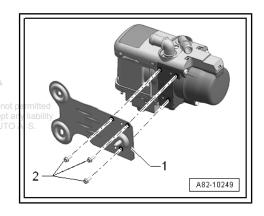
- Removing auxiliary heating
   ⇒ "1.5 Removing and installing auxiliary heating", page 14.
- Release screws -2- and remove bracket -1-.

### Installing

Installation is carried out in the reverse order.

### **Specified torques**

Protected by copyright. Copying for private of Component authorised by ŠKODA AUTO A. S. ŠK	Specified torque guarantee or
Screws, Pos. 2	8 Nm



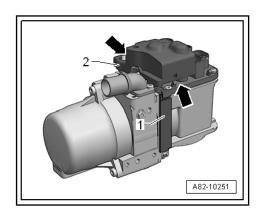
# 1.11 Removing and installing cover for auxiliary heating control unit - J364-

### Removing

- Removing auxiliary heating
   ⇒ "1.5 Removing and installing auxiliary heating", page 14.
- Remove cable cover -1-.
- Unclip cover -2- -arrows- and remove.

### Installing

Installation is carried out in the reverse order.

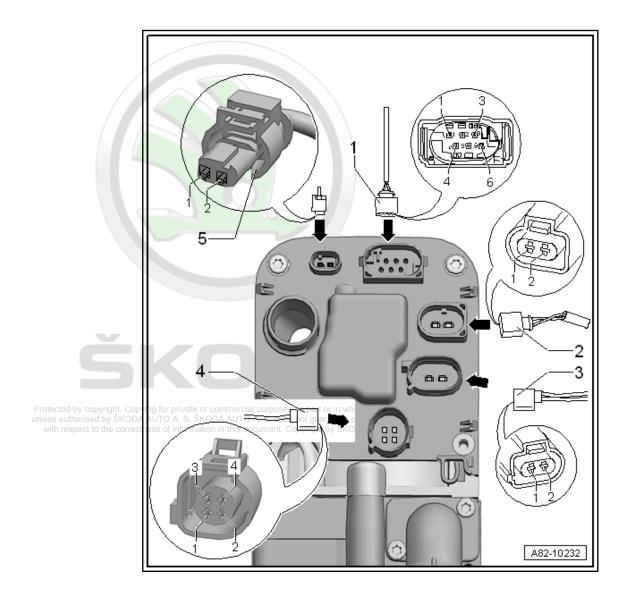


### 1.12 Plug assignment at the auxiliary heating control unit - J364-



Note

Information on plug assignment can be found in the latest current flow diagram ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.



# 1.13 Removing and installing cover for auxiliary heating

### Removing

Removing auxiliary heating
 ⇒ "1.5 Removing and installing auxiliary heating", page 14



- Mark the fitting location of the supports for the coolant hoses, remove screw -1- and take out the supports.
- Unclip cover at the catches -arrows- and pull over the catch pegs -2-.

### Installing

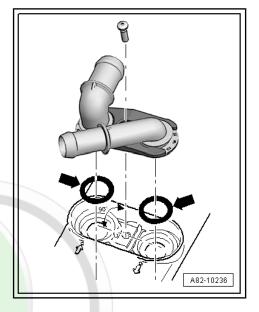
Installation is performed in the reverse order; pay attention to the following points:

S82-0010

- Replace gasket rings -arrows-.
- Check sealing surfaces for contamination or damage.
- Moisten sealing rings with coolant before installing.

### **Specified torques**

Component	Specified torque
Fixing screw of the pipe holder	4 Nm



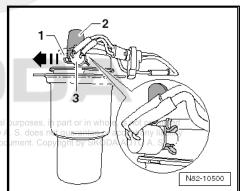
### Removing and installing glow plug with 1.14 flame monitoring - Q8-

### Removing

- Dismantle auxiliary heating ⇒ "1.6 Disassembling and assembling auxiliary heating", page
- Pull out retaining spring -1- -arrow-.
- Remove retaining bracket -2-.
- Removing glow plug with flame monitoring Q8- Pos. -3-.

### Installing

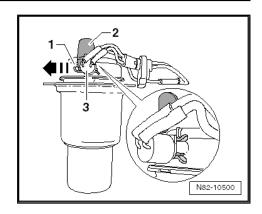
Installation is performed in the reverse order; pay attention to the following points:





### Note

- ♦ Observe the fitting position of the retaining spring -1- as well as the retaining bracket -2-.
- The non-insulated connecting lines to the glow plug must not touch or rest against any other components (risk of short circuit).
- Proper functioning of the glow plug with flame monitoring Q8can be checked using the ⇒ Vehicle diagnostic tester in the function "Targeted fault finding".



# 1.15 Removing and installing the temperature sensor - G18- and the overheating sensor - G189-



### Note

Proper functioning can be checked using the ⇒ Vehicle diagnostic tester in the function "Targeted fault finding".

Removing

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- Removing auxiliary heating
   ⇒ "1.5 Removing and installing auxiliary heating", page 14.
- Release screw -1- and remove retaining spring -2-.
- Pull out temperature sensor G18 - 3 and overheating sensor
   G189 - 4 using a set of pointed pliers.

### Installing

Installation is performed in the reverse order; pay attention to the following points:

- Replace gasket.
- Check sealing surfaces and clean if necessary.



### Note

- Pay attention to the correct location of the retaining spring
- ♦ The sensors cannot be replaced individually.

### Specified torques

Component	Specified torque	
Fixing screw for retaining clip	4 Nm	

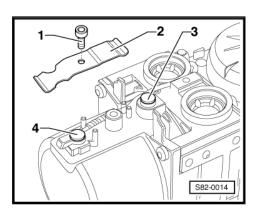
# 1.16 Disassembling and assembling the burner unit

### Dismantling

- Removing auxiliary heating

⇒ "1.5 Removing and installing auxiliary heating", page 14 and then disassembling

⇒ "1.6 Disassembling and assembling auxiliary heating", page



- Remove seal -1- from blower housing.
- Unlock and disconnect plug connection -2-.
- Pull the grommet -3- out of the blower housing by applying slight pressure on the fuel pipe -4- and while doing so lift the burner unit in vertical direction upwards.

### Assembling

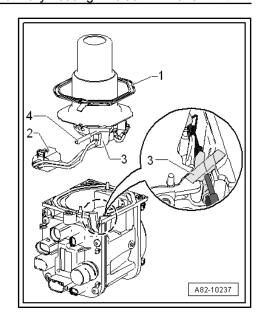
Installation is performed in the reverse order; pay attention to the following points:

- Replace gasket -1- and grommet -3-.
- Check sealing surfaces and clean if necessary.
- Pay attention to the correct position of the gasket -1- for the grommet -3- and the secure catch of the plug connection -2-.



### Caution

Risk of short circuit on the glow plug if the grommet was not correctly fitted.







# 2 Refrigerant circuit with auxiliary heating

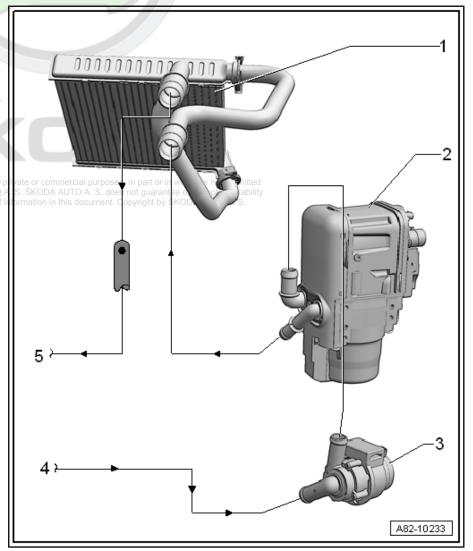
- ⇒ "2.1 Connection diagram coolant hoses", page 24
- $\Rightarrow$  "2.2 Ventilating the refrigerant circuit of the auxiliary heating", page 25

### 2.1 Connection diagram - coolant hoses



### Note

- ◆ The complete connection diagram of the refrigerant circuit, top up the coolant and ventilate the refrigerant circuit "Engine" ⇒ Rep. gr. 19; Cooling system/coolant.
- ♦ The -arrows- point in the flow direction of the coolant.
- 1 Heat exchanger for heating in the heating and air conditioning unit
- 2 Auxiliary heating
  - Removing and installing
     ⇒ "1.5 Removing and installing auxiliary heating", page 14
- 3 Circulating pump V55-
  - □ Removing and installing
    ⇒ "1.8 Removing and installing circulating pump
    V55" [page 17 correctness of
- 4 Coolant feed of engine
- 5 Coolant return-flow to engine



### 2.2 Ventilating the refrigerant circuit of the auxiliary heating



### Note

- The procedure for the removal and installation of the auxiliary heating and the circulating pump - V55- is described in this workshop manual in such a way that only little air enters or remains in the refrigerant circuit.
- Therefore, it is necessary to ventilate the complete refrigerant circuit after the removal and installation of the auxiliary heating or the circulating pump.
- Only if there is a complaint, e.g. if a large amount of coolant has flown out due to a leaky hose or after replacing the coolant pipes, the complete refrigerant circuit must be ventilated ⇒ Rep. gr. 19; Cooling system/coolant; Draining and filling cool-
- After ventilating and topping up the refrigerant circuit, it is necessary to ventilate the auxiliary heating.

### Ventilating the refrigerant circuit of the auxiliary heating



### Caution

The circulating pump - V55- must be filled with coolant, otherwise the pump can run dry and get damaged.

- Top up the coolant expansion reservoir up to the top marking with coolant.
- ⇒ Vehicle diagnostic tester connect and actuate the circulating pump V55- in the mode "Targeted fault finding" via the function "Actuator diagnosis". The refrigerant circuit of the heat exchanger in the heating and air conditioning unit to the circulating pump - V55- is additionally ventilated herewith.
- Start the engine and set the highest temperature pre-selection "HI" on the control and display unit of the heating and air conditioning system (on the driver and front passenger side for Climatronic).
- Let the auxiliary heating run at full load mode for at least 2 minutes (the circulating pump - V55- starts running).
- Let the engine run at fast idling for at least 2 minutes (approx. 2000 to 2500 rpm).
- Switch off the engine and the auxiliary heating.



### **WARNING**

Danger of scalding due to hot steam and hot coolant!

- The cooling system is below overpressure. The coolant temperature can be over 90 °C when the engine is warm.
- Remove the pressure in the refrigerant circuit ⇒ Rep. gr. 19; Cooling system/coolant; draining and topping up coolant .



Inspect coolant level in the coolant expansion reservoir, top up if necessary  $\Rightarrow$  Rep. gr. 19; Cooling system, coolant; Draining and filling up coolant.





### 3 **Fuel Supply**

- ⇒ "3.1 General instructions for working on the auxiliary heating fuel supply system", page 27
- ⇒ "3.2 Fuel system module of auxiliary heating", page 27
- ⇒ "3.3 Summary of components dosing pump V54 with component parts", page 29
- ⇒ "3.4 Removing and installing the dosing pump V54", page 30
- ⇒ "3.5 Check fuel flow rate", page 31
- 3.1 General instructions for working on the auxiliary heating fuel supply system



### Note

- Observe safety measures ⇒ "1 Safety instructions", page 1.
- Observe rules for cleanliness *⇒ "3.1 Rules of cleanliness", page 6* .
- Fuel lines must be secured only with spring strap clips. The use of clamp-type or screw-type clips is not allowed.
- ♦ Use pliers for spring strap clips to remove and fit the spring strap clips.
- ♦ If parts of the fuel system were removed or replaced, make sure that all the components for the fuel removal of the auxil- > iary heating are properly installed.
- The fuel line (pipes and hoses) from the fuel tank to the auxiliary heating must be routed in such a way that it does not come in contact with those parts which become warm and it must be protected against heat. If it heats up, the operation of the auxiliary heating could be impaired.
- 3.2 Fuel system module of auxiliary heating

### 1 - Fuel delivery unit with connection for fuel removal of the auxiliary heating and the fuel gauge sensor - G-

- Removing and installing, ⇒ Fuel system Diesel engines; Rep. gr.
   20; Fuel delivery unit /
   encoder for fuel gauge
   Diesel engines or ⇒
   Fuel system petrol engines; Rep. gr. 20; Fuel delivery unit / encoder for fuel gauge, petrol engines.
- ☐ Installation location: below the rear seat
- □ Connection of the fuel line to the fuel delivery unit ⇒ page 29

### 2 - standpipe

with grommet and clamps

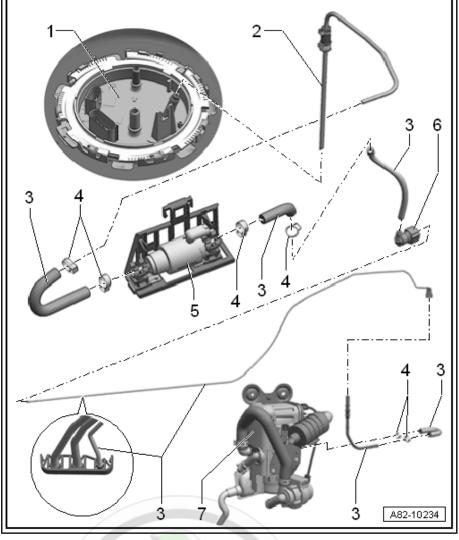
### 3 - fuel line/fuel hose

☐ different fuel lines, depending on the vehicle equipment ⇒ Electronic catalogue of original parts "ETKA"



### Caution

Fuel lines which rest flush against the body, can transmit noise.



 After installing, check the fuel lines for routing; they must not rest flush against the body.

### 4 - Warm-type clamps

□ Replace after disassembly

### 5 - Dosing pump - V54-

- Removing and installing
   ⇒ "3.3 Summary of components dosing pump V54 with component parts", page 29
- 6 Quick coupling

### 7 - Auxiliary heating

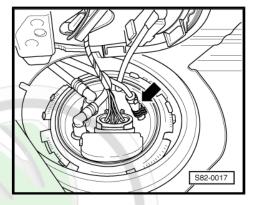
□ Removing and installing ⇒ "1.5 Removing and installing auxiliary heating", page 14



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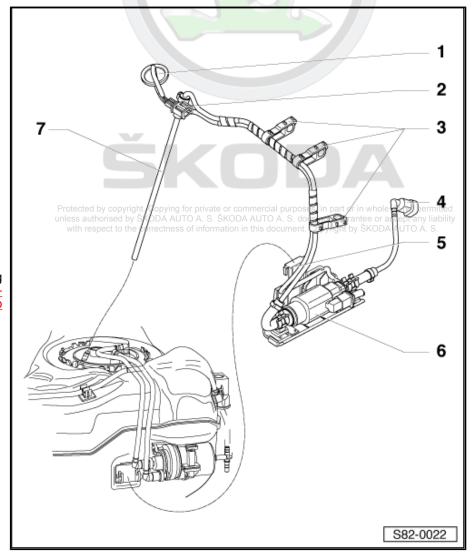
### Connection of the fuel line to the fuel delivery unit

The fuel removal of the auxiliary heating is performed via the connection to the fuel delivery unit -arrow-.



### Summary of components - dosing pump - V54- with component parts 3.3

- 1 Gasket at fuel reservoir
- 2 Plug connection of dosing pump V54-
- 3 Clips
- 4 Quick coupling
- 5 Bracket for dosing pump -V54-
- 6 Dosing pump V54-
  - Dosing pump and related components are a replacement part
  - ☐ For different versions. see ⇒ Electronic Catalogue of Original Parts"ETKA"
  - □ Removing and installing ⇒ "3.4 Removing and installing the dosing pump V54 ", page 30
- 7 Fuel extraction pipe



# 3.4 Removing and installing the dosing pump - V54-

### Removing



Note

Observe safety measures ⇒ "1 Safety instructions", page 1



Note

In order to remove the dosing pump - V54-, it is necessary to slightly lower the fuel reservoir ⇒ Rep. gr. 20; Fuel reservoir.

 Switch off the auxiliary heating as well as all the electrical components.



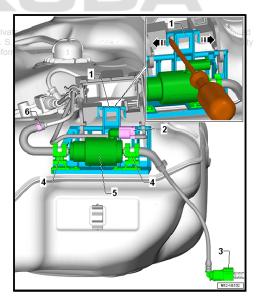
### **WARNING**

The fuel line is under pressure! Place cleaning cloths around the connection point before detaching hose connections. Reduce pressure by carefully removing the hose.

- Unplug connector -2-.
- Press off the catches -arrows- using a suitable tool and push the dosing pump -5- with bracket -1- upwards and out of the fuel tank.
- Remove the dosing pump -5- from the support guides -4-.
- Slacken the fuel quick coupling -3- and close the fuel lines with suitable screw plugs.

### Installing

Installation is performed in the reverse order; pay attention to the following points:





### Note

- When replacing, pay attention to the correct type of dosing pump - V54- (different versions) (see ⇒ Electronic Catalogue of Original Pàrts "ETKA" ).
- Transport caps must be removed before installing.
- The fuel extraction pipe must not be bent when inserting into the fuel tank, so that it is not turned outside the banking up housing of the fuel delivery unit -D-.
- If the auxiliary heating operates without problems with a full fuel tank and in the event problems occur when operating with a partly filled fuel tank (fault message "No flame formation" or "Repeated flame-out"), this indicates a fault in the routing of the fuel extraction pipe (the pipe -A- is located outside the banking up housing -D-).
- Replace the bracket on broken or fractured fixing lugs -1- and
- Replace warm-type clamp -7-.
- Insert the dosing pump -6- into the support guides -5-.
- Lock electrical wiring loom -arrows-.
- Turn the dosing pump -6- so that the plug -2- does not rest flush against the bracket -1-.



### Caution

Fuel lines which rest flush against the body, can transmit noise.

After installing, check the fuel lines for routing; they must not rest flush against the body.

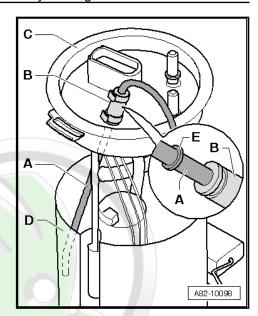
### 3.5 Check fuel flow rate

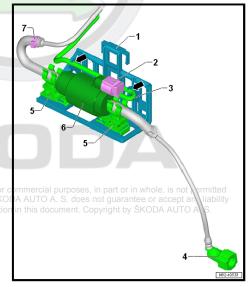
### Special tools and workshop equipment required

- ♦ ⇒ Vehicle diagnostic tester
- Commercial measuring glass

### Test requirements:

- Dosing pump voltage V54- : approx. battery voltage ⇒ Current flow diagrams. Electrical fault finding and Fitting locations
- Dosing pump resistance V54- : approx. 5.2  $\Omega$   $\Rightarrow$  Current flow diagrams, Electrical fault finding and Fitting locations
- No fault in event memory ⇒ Vehicle diagnostic tester
- Ambient temperature below 25°C
- Coolant temperature below 30 °C
- Fuel lines are not damaged or leaking
- Fuel tank is filled adequately (fuel gauge in the dash panel insert is not at the red level)





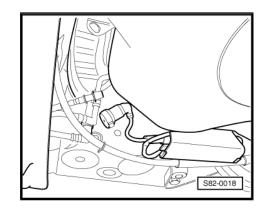
### Test sequence



### **WARNING**

The fuel line is under pressure! Place cleaning cloths around the connection point before detaching hose connections. Reduce pressure by carefully removing the hose.

 Disconnect fuel line at the dosing pump - V54- and close with suitable means.



Call up the guided function "check fuel flow rate" with the vehicle diagnosis, measurement and information system, open the fuel line and at the same time hold the measuring glass.

After approx. 30 seconds the fuel line is filled and ventilated.

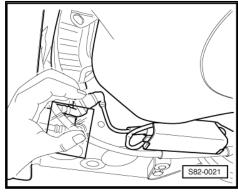
- Close fuel line.
- Empty measuring glass.
- Call up the guided function "check fuel flow rate" with the vehicle diagnosis, measurement and information system, open the fuel line and at the same time hold the measuring glass.

After approx. 120 seconds the fuel delivery is finished.

Reconnect the fuel line.

Target fuel flow rate: 22 to 28 ml.

If the nominal rate is not achieved, replace dosing pump - V54 ⇒ Item 6 (page 29)



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### 4 Other control components

- ⇒ "4.1 Removing and installing ambient temperature sensor", page 33
- ⇒ "4.2 Removing and installing radio receiver for auxiliary water heating R149", page 33
- ⇒ "4.3 Description of the function of the auxiliary heating remote control", page 34
- ⇒ "4.4 Replacing the battery of the radio remote control", page 34

### 4.1 Removing and installing ambient temperature sensor

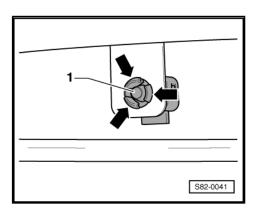
The outside temperature sensor - G17- is located behind the bottom grid of the front left bumper.

### Removing

- Remove the front bumper ⇒ General body repairs, exterior; Rep. gr. 63; Front bumper; removing and installing bumper.
- Unclip ambient temperature sensor G17--1- from the bracket -arrows- and disconnect the plug connection.

### Installing

Installation is carried out in the reverse order.



### 4.2 Removing and installing radio receiver for auxiliary water heating - R149-

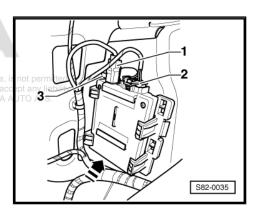
The radio receiver for auxiliary water heating - R149- is located behind the left luggage compartment trim panel.

- Removing left luggage compartment trim ⇒ General body repairs, interior; Rep. gr. 70; Luggage compartment trims; Removing and installing side panel trim for luggage compart-
- Disconnect aerial plug -1- and plug -2-.
- Press the latch clip -3- and push the radio receiver out of the holder -arrow-.
- Installation is performed in the reverse order; pay attention to the following points: the correctness of information in this document.



### Note

When replacing the radio receiver, adapt the new radio receiver with the > Vehicle diagnostic tester in the function "Targeted fault finding" to the auxiliary heating.



# 4.3 Description of the function of the auxiliary heating remote control

The auxiliary heating or the vehicle fan can be switched on and off wireless over a great distance with the radio control Telestart T91. A mode change must be performed in the menu of the dash panel insert in order to switch on the vehicle blower (ventilating the vehicle interior), see  $\Rightarrow$  Owner's manual Octavia III.

After switching on, the auxiliary heating switches off automatically after the expiration of the selected engaging duration or by means of the automatic heating.

An optimal signal transfer is obtained in a cleared area or from elevated locations. As a result, the operation of the auxiliary heating becomes possible if the distance from the vehicle is up to 600 m. Due to poor weather conditions, in heavily developed areas or as a result of a weak battery, the reception is restricted accordingly.



### Note

- ◆ Detailed description of the function of the remote control system ⇒ Owner's manual Octavia III .
- ♦ If the radio remote control is replaced, carry out the adaptation with ⇒ Vehicle diagnostic tester.

# 4.4 Replacing the battery of the radio re-iness of information in this document. Copyright by ŠKODA AUTO A. S. does not guarantee or accept any liable to the radio re-iness of information in this document. Copyright by ŠKODA AUTO A. S. mote control



### Note

- Observe the fitting position of the battery (see symbol "+" on the cover -1-).
- ♦ Only use a battery of the same type with a voltage of 3 V.
- ♦ The adaptation is ensured, a new adaptation is not necessary.
- Place a coin in the gap of the cover -1- and unlock the cover by turning -arrow- and remove it.
- Replace battery, insert cover and lock it by turning to the right.

