Water Heater

Thermo Top E **Parking Heater**
Thermo Top C **Parking Heater**

E1 00 0002
E1 00 0003

Installation Documentation

VW Golf IV / Bora

Diesel - 1.9l TDi unit injector
from model year 1999
Left-hand drive vehicle
Not for 5-gear automatic Tiptronic transmission

WARNING!

Hazard warning:

The improper installation or repair of Webasto heating and cooling systems can cause fire or the leakage of deadly carbon monoxide, leading to serious injury or death.

Specialist company training, technical documentation, specialized tools and equipment are required to install and repair Webasto heating and cooling systems.

Only use genuine Webasto parts. See the Webasto air and water heaters accessories catalogue for this purpose.

NEVER attempt to install or repair Webasto heating or cooling systems if you have not successfully completed the company training and thereby acquired the required technical skills, or if you do not have access to the required technical documentation, tools and equipment needed to carry out correct installation and repairs.

ALWAYS follow all Webasto installation and repair instructions and observe all warnings.

The initial startup is to be executed with the Webasto Thermo Test Diagnosis.

Webasto does not accept any liability for defects and damage that are attributable to installation by untrained staff.

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Tested Vehicles

Manufacturer	**Type**	**Model**	**EG-BE No.**
VW	1J	Golf IV / Bora	e1 * 98 / 14 * 0071 * ...

Engine type	**Engine model**	**Output in kW**	**Displacement in cm^3**
AJM	Diesel	85	1896
AUY	Diesel	85	1896
AXR	Diesel	74	1896
ASZ	Diesel	96	1896

Vehicle and engine types, equipment variants and national specifications not listed in this installation documentation have not been tested. However, installation according to this installation documentation may be possible.

The installation location of the digital timer should be confirmed with the end customer before installation.

Heater / Installation Kit

Quantity	Description	Order No.:
1	Retail accessories *Thermo Top E / C*	see price list
1	Installation kit VW Golf IV / Bora 1999 Diesel	1300368E
1	Heater control	see price list

to be ordered additionally with Climatronic without parking heater program:

Quantity	Description	Order No.:
1	IPCU kit	9013645A

Foreword

This installation documentation applies to VW Golf IV / Bora vehicles with a 1.9l TDi nozzle pump - for validity, see page 2 - from model year 1999 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this installation documentation.

However, the stipulations in the "installation documentation", the "operating instructions" and the "installation instructions" for the *Thermo Top E / C* must always be observed.
The corresponding rules of technology and any information from the vehicle manufacturer should be observed during the installation work.

General Instructions

Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and wiring harnesses to original vehicle lines and wiring harnesses using cable ties. Insulate loose wire ends and tie back. Connectors on electronic components have to audibly click into place.

Sharp edges must be provided with rub protection . Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

When installing an IPCU, check or adjust the corresponding settings before installation.

Special Tools

- Hose clamping pliers
- Torque wrench for 2.0 - 10 Nm
- 3/8" Torx E5 nut
- Metric thread-setter kit

Preliminary Work

- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.

Outside of the vehicle

- Open the fuel tank cap, ventilate the tank, close the fuel tank cap.
- Remove the bumper.
- Remove the fanfare horn.

WARNING:
Disconnect and remove the battery.

Engine compartment

- Release the pressure from the cooling system.
- Completely remove the air filter with the intake ducts.
- Clip on the cable duct (left in driving direction).
- Remove the battery carrier.

Passenger compartment

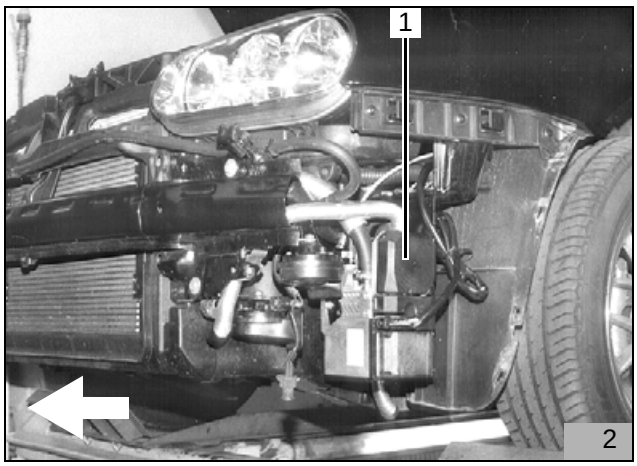
- Remove the outer and inner instrument panel trim in the driver's footwell.
- Remove the fuse box.
- On vehicles with Climatronic, remove the A/C control panel.
- Fold up the rear bench seat.
- Remove the tank-fitting service lid.

Vehicle underside

- Remove the underride protection.

Installation Location and Installation Position

Heater (2/1) is installed in the driving direction on the left behind the bumper. The installation position is vertical.



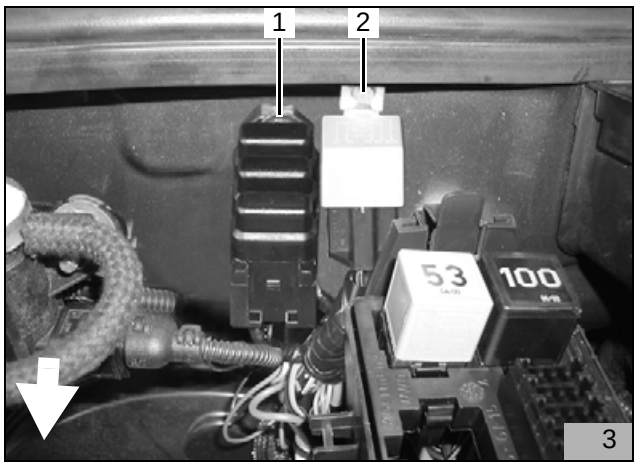
Blade-Type Fuse Holder and Fan Relay

On vehicles with Climatronic without parking heater program

- Uncrimp green/white (gn/ws) wire from fan relay K3 terminal 86, remove the tab receptacle and crimp together with the provided 0.75mm green/white (gn/ws) wire (3000 mm long), install in fan relay socket terminal 86

All vehicles

- Copy hole pattern for fan relay K3 (3/2) and fuse holder mounting plate (3/1) onto the firewall according to the position in Fig. 3
- Drill holes with a 5.5 mm diameter for the fan relay and the fuse holder mounting plate
- Secure fan relay K3 (3/2) and fuse holder mounting plate (3/1) with a M5x16 bolt, a large diameter washer and a nut for each
- Mount the fuse holder on mounting plate (3/1)



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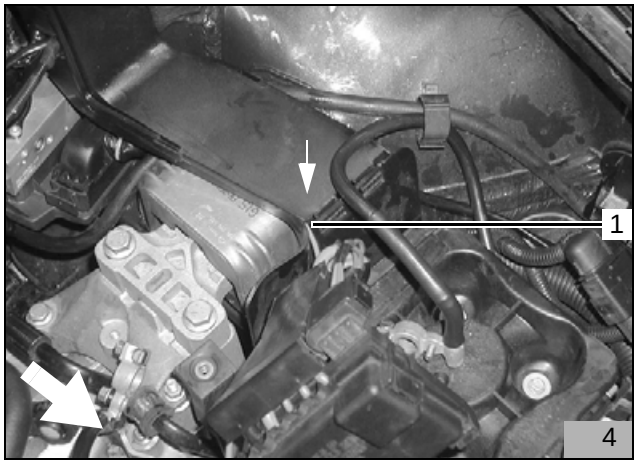
NOTE:
Make sure rub protection is installed for all cable pass throughs!

- Route the wiring harness for the digital timer and fan controller through the existing cable pass-through in the firewall into the passenger compartment
- Guide the metering pump wiring harness to the vehicle underbody on the left side of the vehicle
- Guide the wiring harness to the heater and the red (rt) positive wire and brown (br) earth wire into cable duct (4/1) as shown in Fig. 4
- Connect the red (rt) positive wire to the battery positive terminal
- Connect the brown (br) earth wire to the minus battery terminal
- Route the heater wiring harness towards the heater installation position



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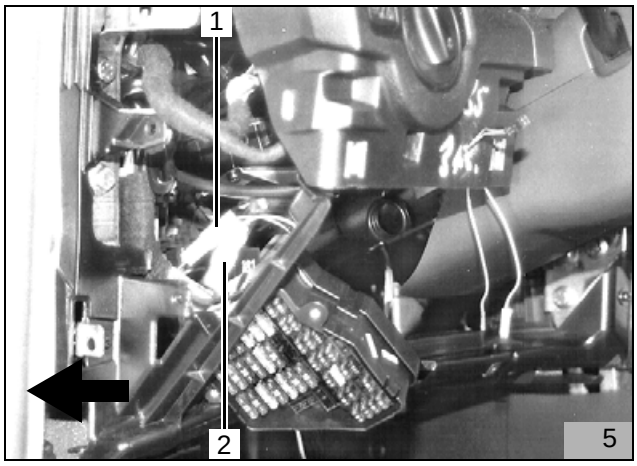
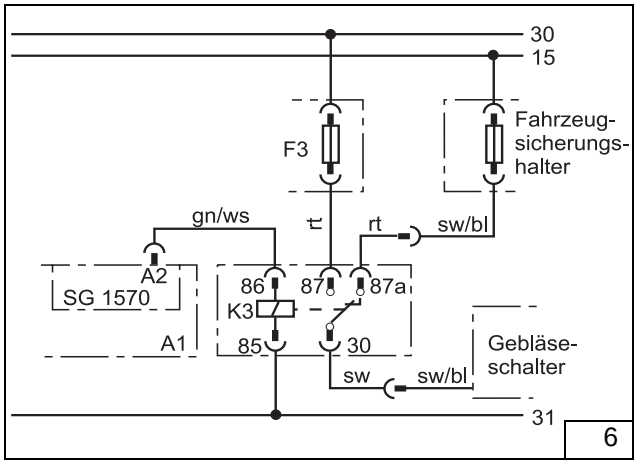
Fan Controller Without Climatronic

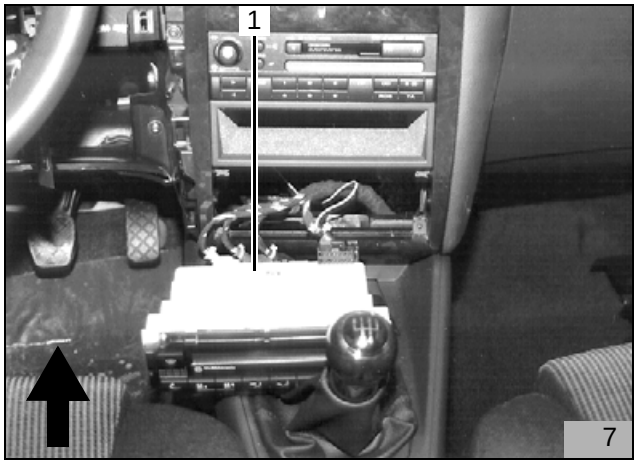
- Remove the fuse carrier
- Disconnect the 4 mm^2 black/blue (sw/bl) wire approx. 50 mm after the 30A vehicle fuse
- Crimp on tab connector and tab receptacles, complete connector housing (5/1, 2)
- Produce connections as shown in wiring diagram Figure 6
- Connect the 4 mm^2 red (rt) wire from Webasto fan relay K3/87a with the black/blue (sw/bl) wire to the vehicle fuse
- Connect the 4 mm^2 black (sw) wire from Webasto fan relay K3/30 with the black/blue (sw/bl) wire for the fan switch



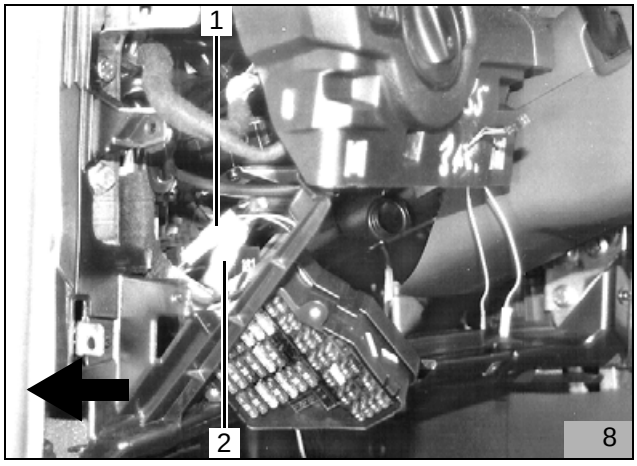


Climatronic fan controller with parking heater program

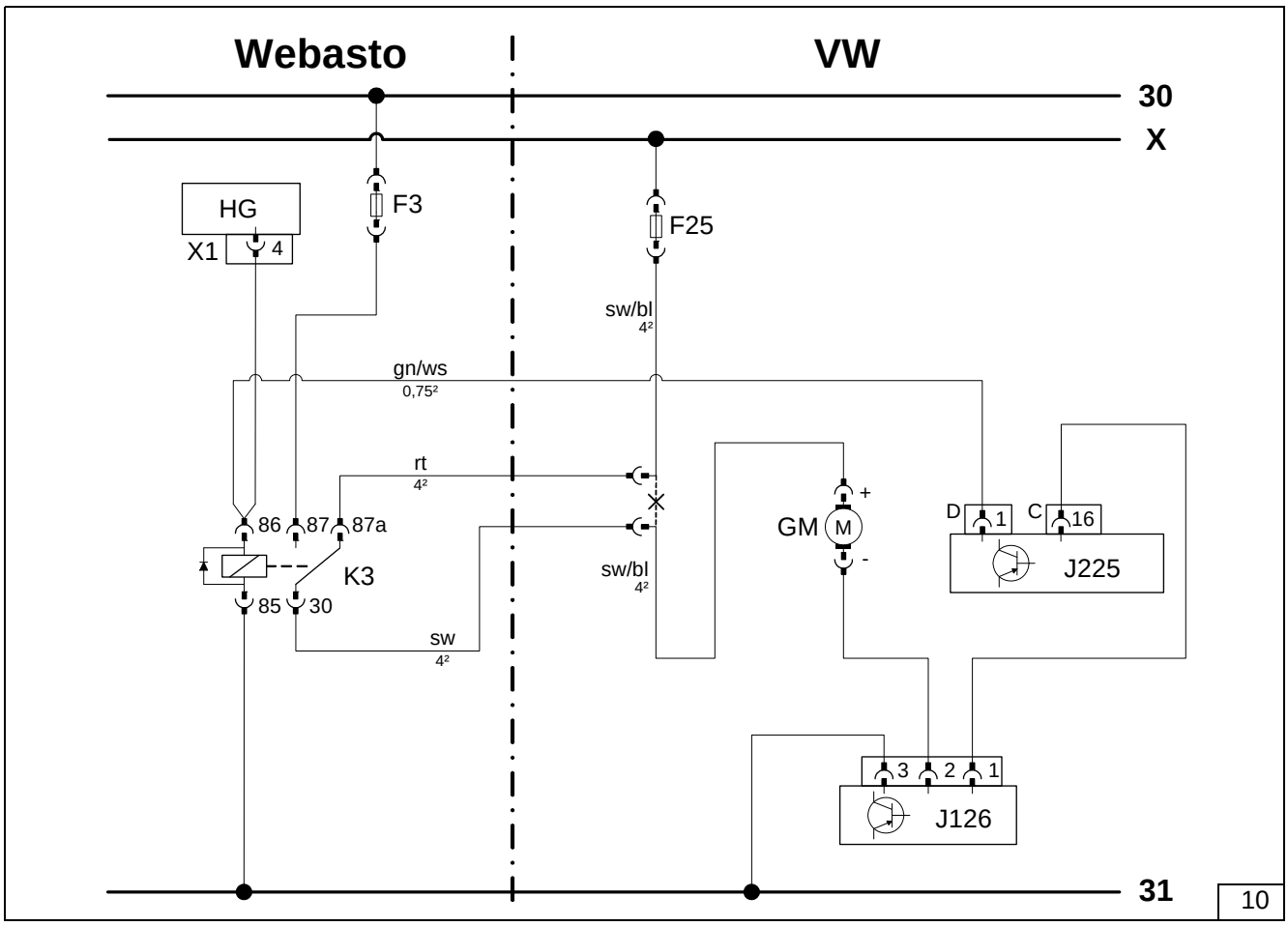
- Remove A/C control panel (7/1)



- Remove the fuse carrier
- Disconnect the 4 mm^2 black/blue (sw/bl) wire approx. 50 mm after the 30A vehicle fuse
- Crimp on tab connector and tab receptacles, complete connector housing (5/1, 2)
- Produce connections as shown in wiring diagram Figure 10
- Connect the 4 mm^2 red (rt) wire from Webasto fan relay K3/87a with the black/blue (sw/bl) wire to the vehicle fuse
- Connect the 4 mm^2 black (sw) wire from Webasto fan relay K3/30 with the black/blue (sw/bl) wire for the A/C control panel



- Produce connections as shown in wiring diagram Figure 10
- Route additional 0.75 mm^2 green/white (gn/ws) wire (7/1) to E 87 control and display unit for Climatronic
- Pull out black (sw) D connector (9/2) (16-pin) and open according to the manufacturer's instructions
- Connect additional 0.75 mm^2 green/white (gn/ws) wire (7/1) to connection D1 (free socket)
- Secure connector housing with cable tie (small) and wires with cable ties



Legend:

Vehicle

F25	Original vehicle 30A fuse
GM	Fan motor
J225	A/C control panel
J126	Fan controller

Webasto

HG	Heater
X1	6-pin heater connector
F3	25A fuse
K3	Fan relay

Colours/Symbols

rt	red
sw	black
gn	green
ws	white
bl	blue
X	Cutting point

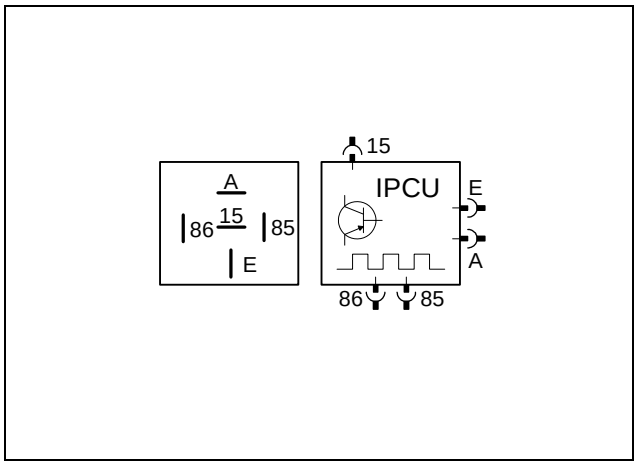
Climatronic fan controller without parking heater program

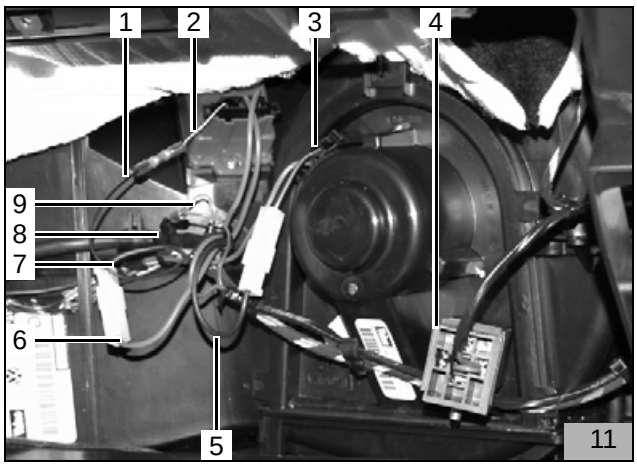
Note:
Fig.: IPCU view on contact side.
The IPCU provided in the kit must be programmed with the following settings:

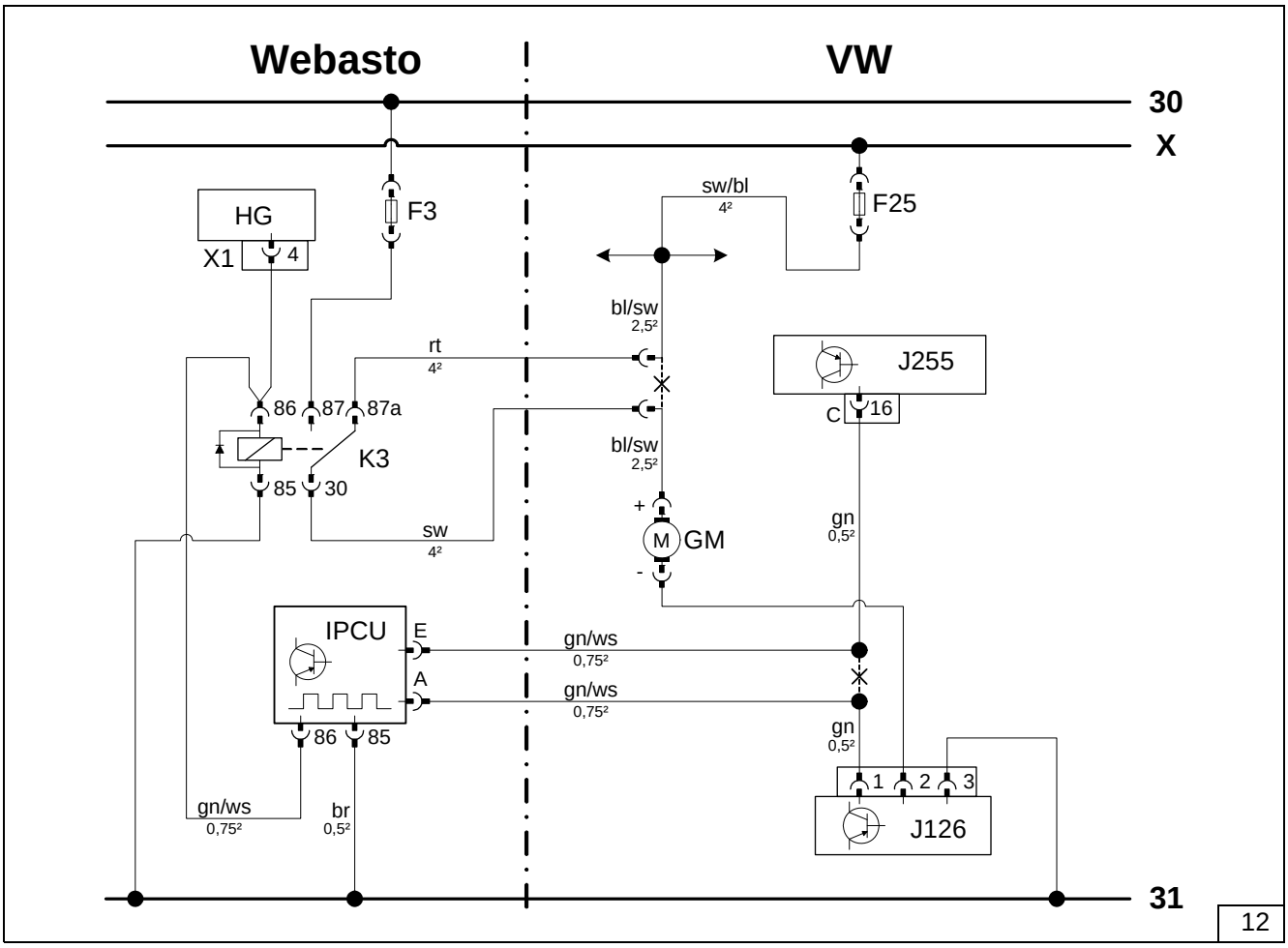
Duty cycle: 100%
Frequency: 1 kHz
Voltage: 2-3 V
Function: High side active

The settings must be checked during the function check of the vehicle and adjusted, if necessary. Check < 5 A current consumption for fan motor!

- Produce connections as shown in wiring diagram Fig. 12
- Disconnect 2.5 mm^2 blue/black (bl/sw) (11/3,7) wire approx. 50 mm above the connector at the fan motor
- Crimp on blade connectors
- Connect 4 mm^2 red (rt) wire (11/6) from Webasto fan relay K3/87a with blue/black (bl/sw) wire (11/7) to the vehicle fuse
- Connect 4 mm^2 black (sw) wire (11/5) from Webasto fan relay K3/30 with blue/white (bl/ws) wire (11/3) to the fan motor
- Disconnect 0.5 mm^2 green (gn) wire (11/2,9) from the A/C control unit to the fan controller approx. 100 mm in front of the fan controller
- Cut to length 0.75 mm^2 green/white (gn/ws) wire from Webasto fan relay K3/86 to socket IPCU/86 (11/4) and connect
- From the 0.75 mm^2 green/white (gn/ws) remaining wire, produce a connection between 0.5 mm^2 green (gn) wire (11/2) from the fan controller and socket IPCU/A by means of a connector
- From the 0.75 mm^2 green/white (gn/ws) remaining wire, produce a connection between 0.5 mm^2 green (gn) wire (11/9) from the A/C control unit and socket IPCU/E by means of a connector
- Shrink the connector
- Produce a connection using the brown (br) 0.5 mm^2 wire provided (1000 mm long) between the original vehicle earth point and the socket of IPCU/85
- Secure socket IPCU (11/4) at an appropriate point and mount IPCU







Legend:

Vehicle

F25	Original vehicle 30A fuse
GM	Fan motor
J225	A/C control panel
J126	Fan controller

Webasto

HG	Heater
X1	6-pin heater connector
F3	25A fuse
K3	Fan relay
IPCU	Pulse width modulator

Colours/Symbols

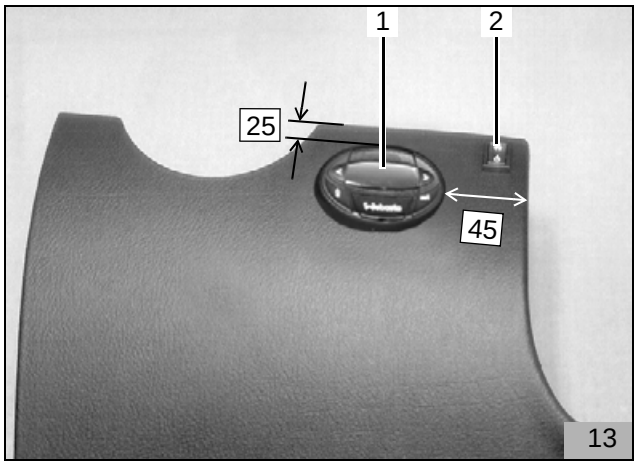
rt	red
sw	black
gn	green
ws	white
br	brown
bl	blue
X	Cutting point

Digital Timer and Summer/Winter Switch Option

WARNING:
Do not press the LCD display when installing the digital timer

NOTE:
The shown installation location of digital timer (13/1) and summer/winter switch (13/2) is a recommendation! Please coordinate the installation location with your customer prior to the installation

- Affix drilling template for digital timer (13/1) to the instrument panel trim as per Fig. 13
- Drill two holes according to the template
- Remove the template
- Mount the securing sleeve with a self-tapping screw



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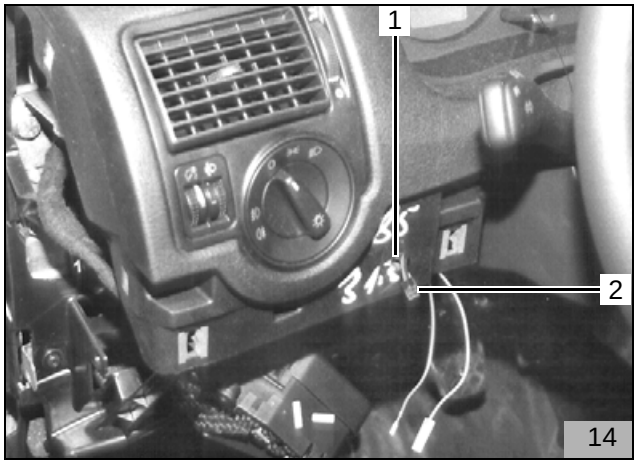
NOTE:
Ensure proper direction of locking teeth (see Installation Instructions)! Ensure rub protection is provided when routing the wiring harness!

- Mount digital timer

- Position the instrument panel trim and copy the hole pattern for the digital timer wiring harness onto the instrument panel
- Drill 12 mm dia. hole (14/1) in the instrument panel
- Pass wiring harness for the digital timer (14/2) through the hole

Optional for summer/winter switch

- Copy hole pattern of summer/winter switch (13/2) at the desired position and drill a 12 mm dia. hole
- Fasten the summer/winter switch with toothed washer and nut



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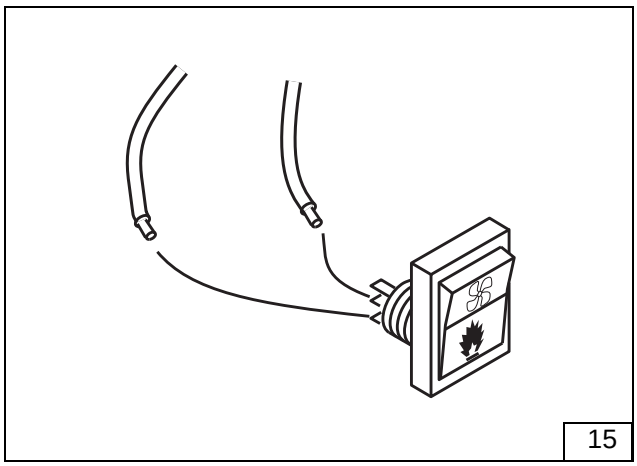
- Connect the brown (br) and violet (vi) wires as shown in Fig. 15 to the switch (bottom contacts)

- Connect the digital timer wiring harness to the digital timer using the connector
- Mount instrument panel trim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Bracket Installation

Fig. 16: View from below!

- Remove existing bolt (16/2)
- Remove welding nut (16/2) and reinstall the body protection
- Secure bracket (17/1) in existing hole (16/1) and mount on welding nut (16/2)
- Align bracket (17/1) according to Fig. 17 and copy the hole pattern for drill hole (16/3)
- Dismantle bracket again

WARNING:
Pay attention to the earth cables and wiring harness during drilling!

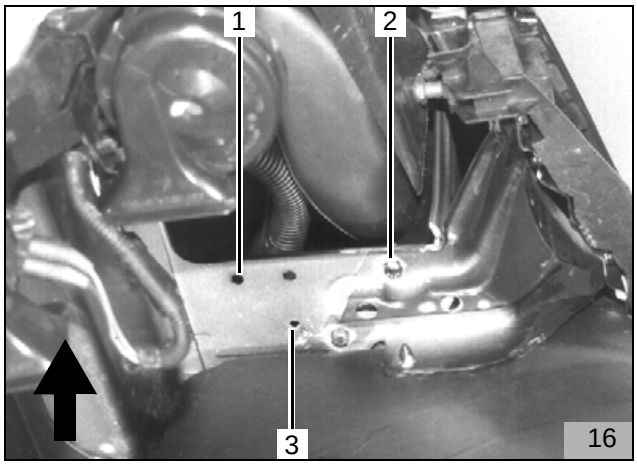
- Drill 7 mm dia. hole (16/3)

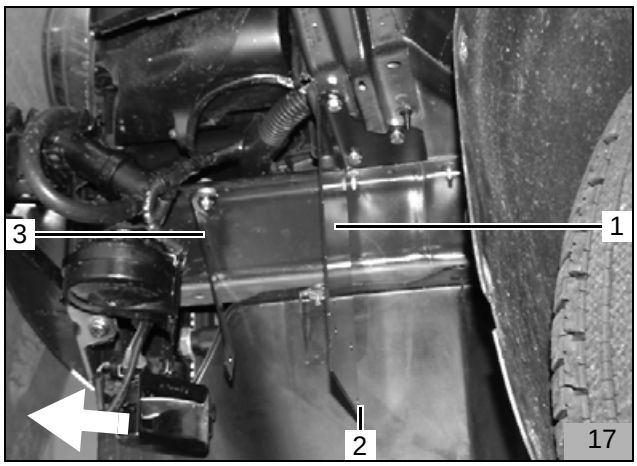
NOTE:
Insert two large diameter washers between the bracket and the body panel

- Secure bracket (17/1) using a M6x20 bolt, a large diameter washer and a spring lockwasher in existing hole (16/2)
- Secure bracket (17/1) in holes (16/1, 16/3) using two M6X20 bolts, four large diameter washers and flanged nuts
- Fix M6x20 bolt (17/2) to secure the exhaust silencer with flanged nut to the bracket so that bolt (17/2) points towards the wheel-well inner panel

NOTE:
Insert a 10 mm shim between the mounting strut and the frame side member to compensate!

- Loosely secure mounting strut (17/3), as shown in Fig. 17 using a M6x30 bolt, 10 mm shim and flanged nut in the existing hole in the frame side member

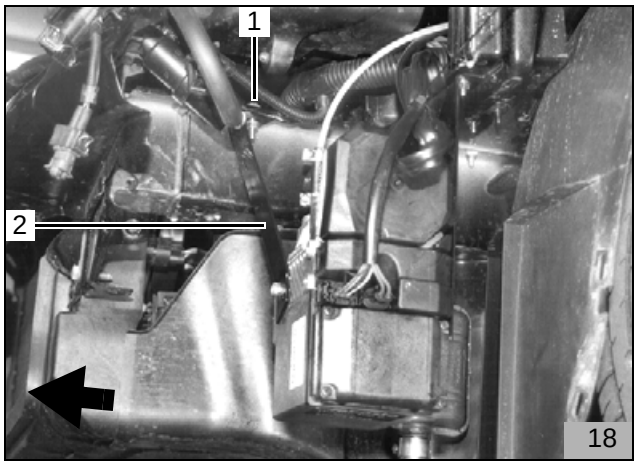


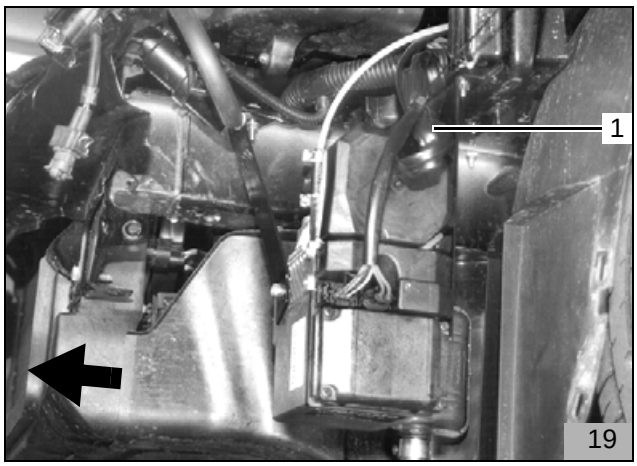


Installing Heater

NOTE:
To secure the heater, use only the special bolts of type EJOT PT which are included in the scope of delivery.

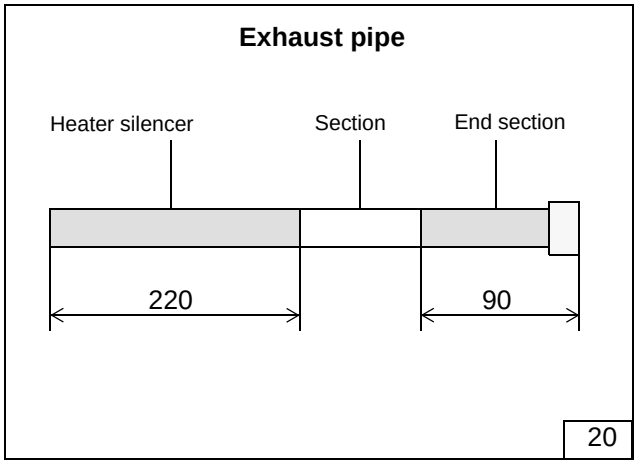
- Secure the heater as shown in Fig. 18 to the bracket using the three bolts of type EJOT PT and the 5 mm washer (around the individual threaded hole in the heater for height compensation) (tightening torque 10 Nm)
- Secure strut (18/2) to the heater using a bolt of type EJOT PT
- Tighten bolt (18/1)
- Connect the wiring harness to the heater
- Loop up remaining wiring harness (19/1) and tie back using cable ties



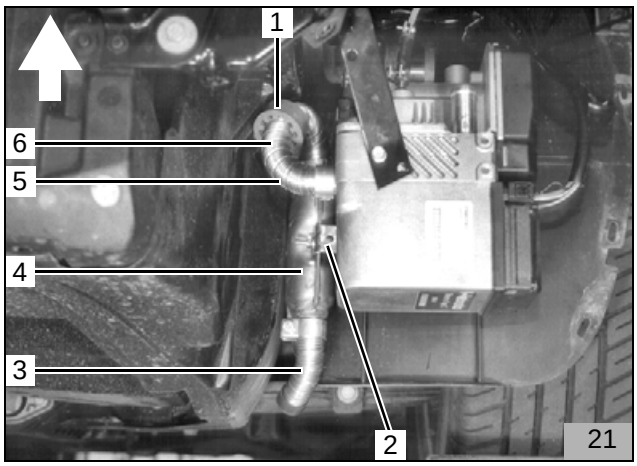


Exhaust System

- Cut the exhaust pipe and the exhaust pipe end section to length as shown in Fig. 20



- Remove nut (17/2) from the premounted bolt
- Secure angle bracket (21/2) with a flanged nut to premounted bolt (17/2) according to Fig. 21
- Secure exhaust silencer (21/1) to angle bracket (21/2) using a M6x20 bolt and flanged nut
- Attach red (rt) rubber isolator (21/1) to exhaust pipe (21/5)
- Shape exhaust pipe (21/6) as shown in Fig. 21, connect to exhaust silencer (21/4) and heater and secure using hose clamps
- Align red (rt) rubber isolator (21/1) according to Fig. 21
- Use a hose clamp to secure exhaust pipe end section (21/3) to exhaust silencer (21/4) and mould as shown in Fig. 21
- Approx. 30 mm downstream of the heater exhaust outlet, drill 3 mm dia. hole (21/5) for condensed water drainage

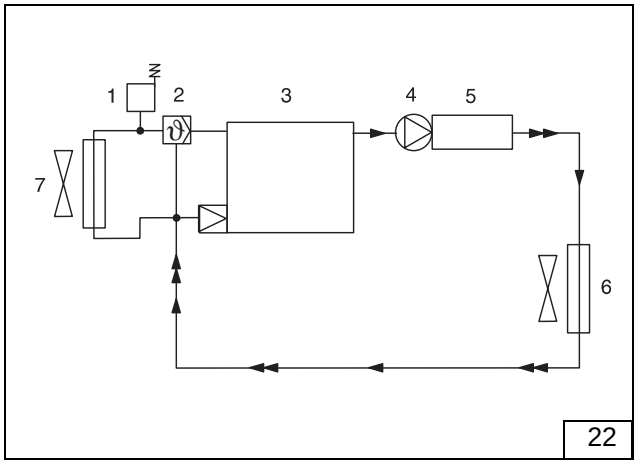


Coolant Circuit

NOTE:
Tighten all hose clamps to 2.0 + 0.5 Nm. Any coolant running off should be collected using an appropriate container!
The connection of the heater "in series" (inline) in the vehicle coolant circuit is described hereunder (Figure 22).

Legend for Fig. 22:

1 Expansion tank
2 Radiator thermostat
3 Vehicle engine
4 Heater circulating pump
5 Heater
6 Heat exchanger (vehicle)
7 Radiator



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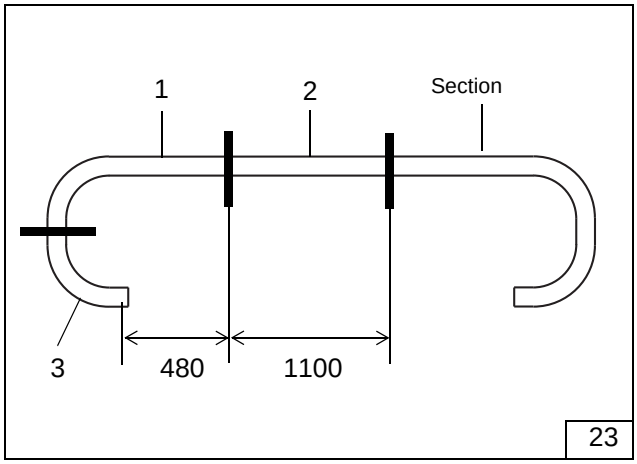
All vehicles except AXR engine

- Cut 3 hose sections from the supplied coolant hose, as shown in Fig. 23

  1 x 480 mm + 90° elbow (23/1)
  (from engine outlet to 90° elbow (23/3)

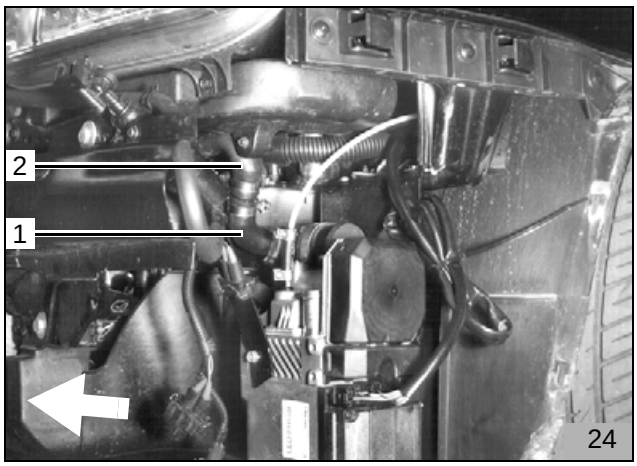
  1 x 1100 mm straight (23/2)
  (from heater coolant outlet to heat exchanger coolant inlet)

  1 x 90° elbow (23/3)
  (from heater coolant inlet to 480 mm long coolant hose (23/1))



23

- Connect 90° elbow (24/1) to the heater coolant inlet (circulating pump) as shown in Fig. 24 and secure using a hose clamp
- Insert connecting pipe 20/20 in a 90° elbow (24/1) and secure using a hose clamp
- Guide 480 mm long coolant hose (24/2) with the straight side facing upwards into the engine compartment
- Connect 90° elbow of coolant hose (24/2) to 90° elbow (24/1) and secure using a hose clamp



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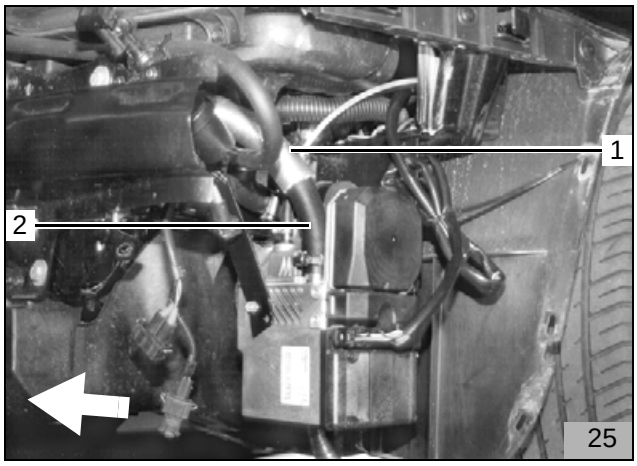
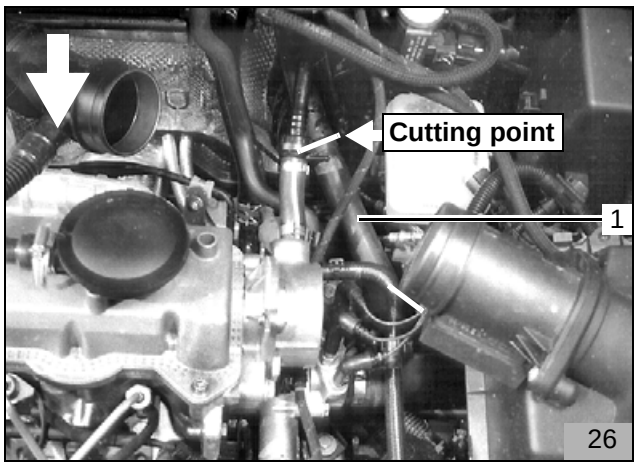
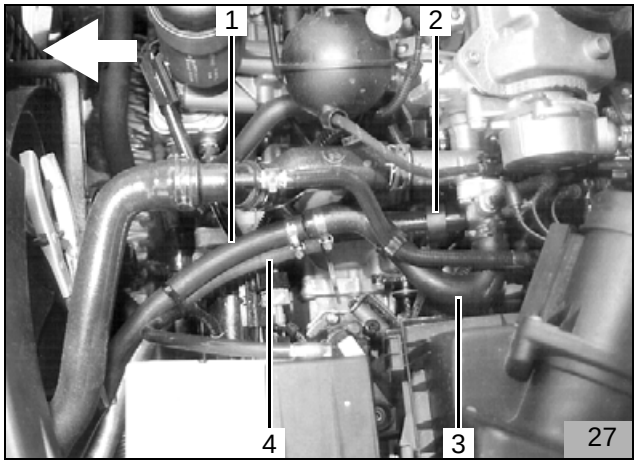
- Slide 600 mm long heat protection hose (25/1) onto 1100 mm long coolant hose (25/2) and position according to Fig. 25
- Connect 1100 mm long coolant hose (25/2) to the heater water outlet, secure using a hose clamp and guide into the engine compartment



- Disconnect original vehicle coolant hose (26/1) from the engine outlet to the vehicle heat exchanger (on the firewall in the driving direction on the left) as shown in Fig. 26

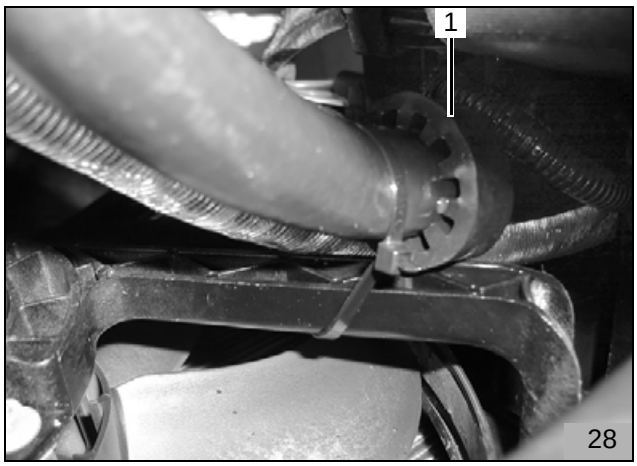


- Loosen the hose clamp on the engine outlet, turn curved hose (27/3) to the front as shown in Fig. 27 and resecure the hose clamp
- Pass the coolant hoses in front of the battery holder to the left side of the engine, as shown in Fig. 27

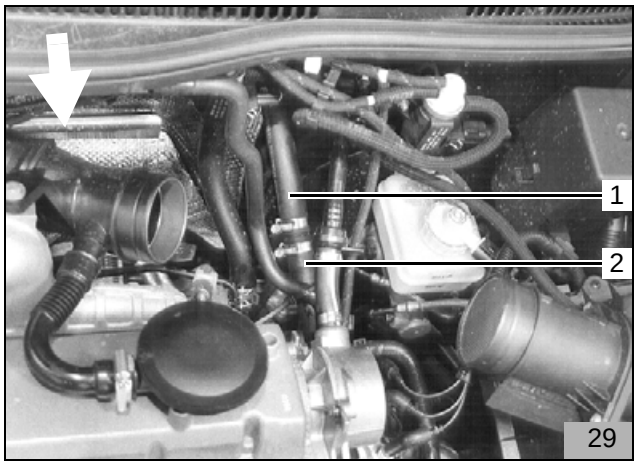


- Affix rub protection (28/1) to the coolant hose of the heater coolant inlet and position as shown in Fig 28
- Connect coolant hose (27/1) from heater coolant inlet with coolant hose (27/3) from engine outlet using connecting pipe 20/20 and secure using hose clamps

- Affix rub protection (27/2) to coolant hose (27/4) from the heater coolant outlet



- Connect coolant hose (29/2) from heater coolant outlet with coolant hose (29/1) from vehicle heater exchanger using connecting pipe 20/20 and secure using hose clamps
- Position rub protection (27/2) (28/1) as shown in Fig. 27 and Fig. 29
- Secure the coolant hoses with cable ties
- Install the battery carrier



AXR engine

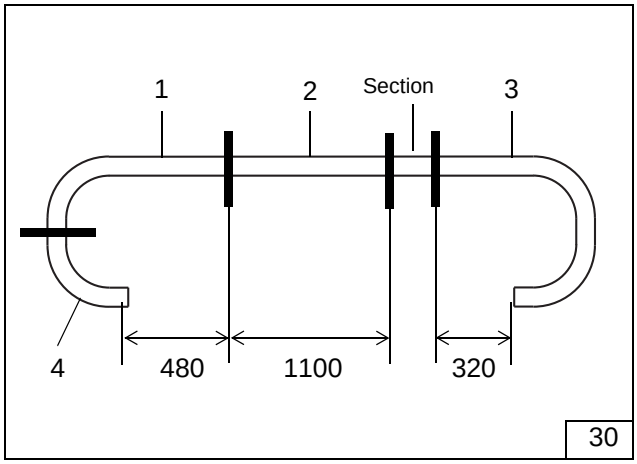
- Cut four hose sections from the supplied coolant hose as shown in Fig. 30

  1 x 480 mm + 90° elbow (30/1)
  (from 90° elbow (30/4) to 320 mm long coolant hose (30/3))

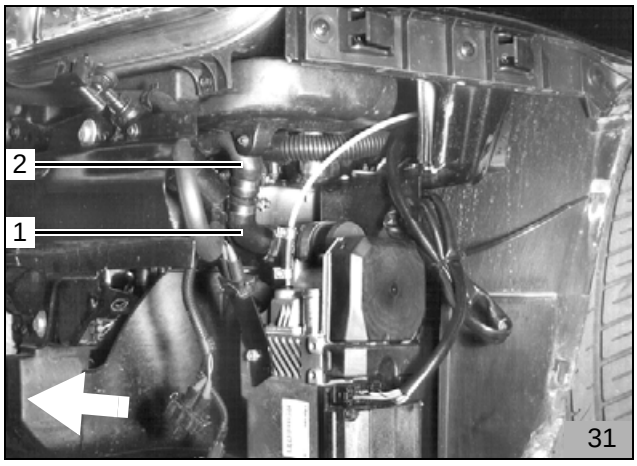
  1 x 1100 mm straight (30/2)
  (from heater coolant outlet to original vehicle hose section to heat exchanger coolant inlet)

  1 x 320 mm + 180° elbow (30/3)
  (from 320 mm long coolant hose (30/1) to original vehicle hose section from engine outlet)

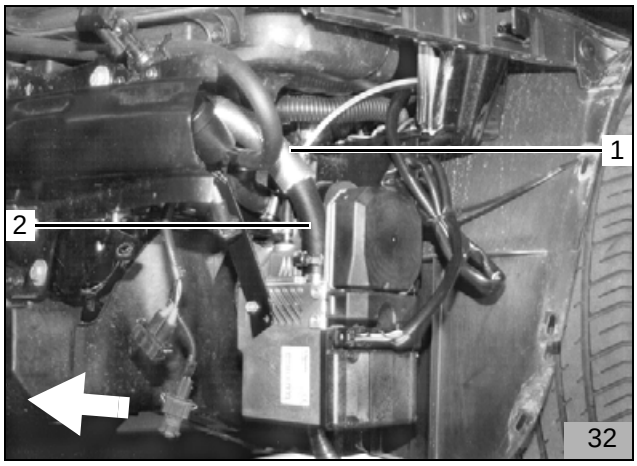
  1 x 90° elbow (30/4)
  (from heater coolant inlet to 480 mm long coolant hose (23/1))



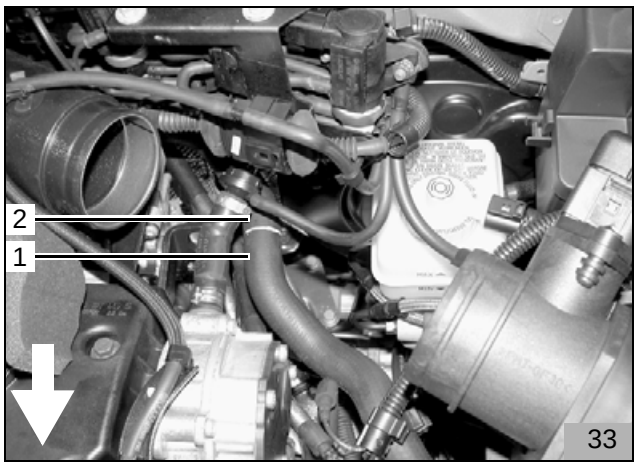
- Connect 90° elbow (31/1) to the heater coolant inlet (circulating pump) as shown in Fig. 31 and secure using a hose clamp
- Insert connecting pipe 20/20 in a 90° elbow (31/1) and secure using a hose clamp
- Guide 480 mm long coolant hose (31/2) with the straight side facing upwards into the engine compartment
- Connect 90° elbow of coolant hose (31/2) to 90° elbow (31/1) and secure using a hose clamp



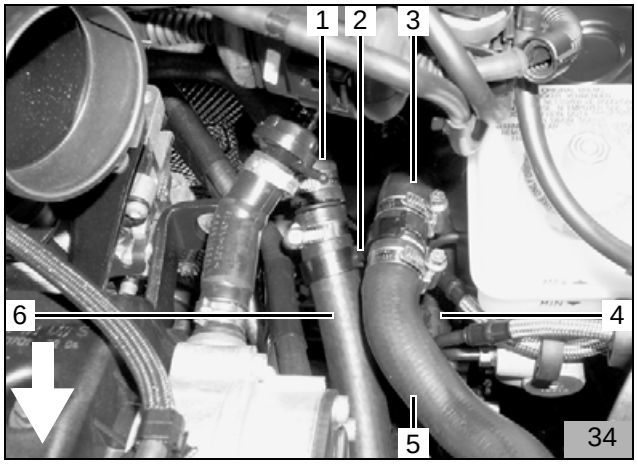
- Slide 600 mm long heat protection hose (32/1) onto 1100 mm long coolant hose (32/2) and position according to Fig. 32
- Connect 1100 mm long coolant hose (32/2) to the heater water outlet, secure using a hose clamp and guide into the engine compartment



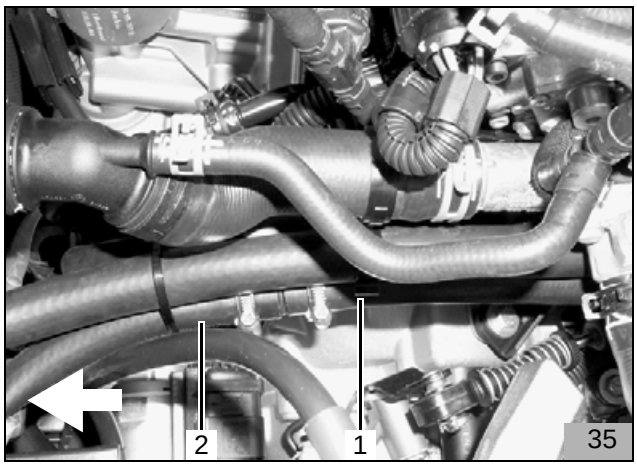
- Disconnect original vehicle coolant hose (33/1,2) using hose clamping pliers
- Disconnect original vehicle coolant hose (33/1,2) from engine outlet to heat exchanger coolant inlet at the marking (on the firewall, on the left) as shown in Fig. 33



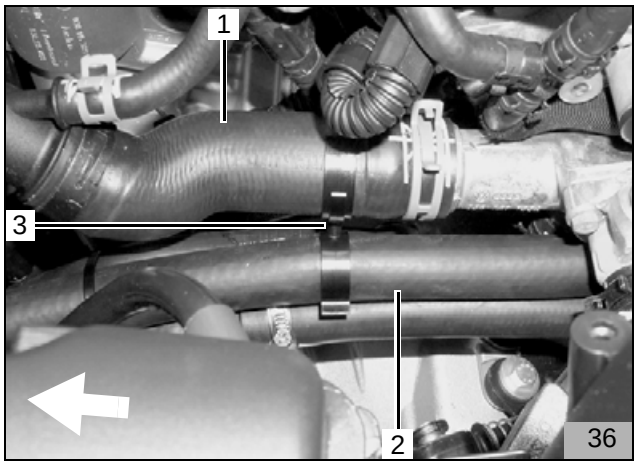
- Connect 320 mm long coolant hose (34/3,4) with 180° elbow and original vehicle hose section (34/5; 33/1) from engine outlet with connecting pipe 20/20 and hose clamps as shown in Fig. 34
- Connect 1100 mm long coolant hose (34/6) and original vehicle hose section (34/1; 33/2) with connecting pipe 20/20 and hose clamps as shown in Fig. 34



- Connect 480 mm long coolant hose (35/2) from heater coolant inlet and 320 mm long coolant hose (35/1) from engine outlet with connecting pipe 20/20 and hose clamps as shown in Fig. 35



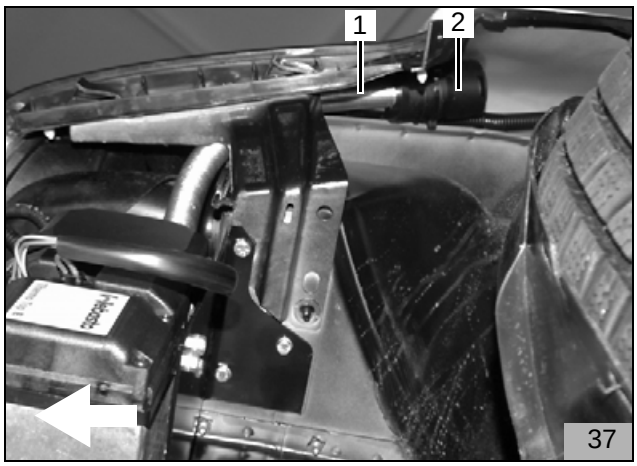
- Insert provided spacer bracket (36/3) between 1100 mm long coolant hose (36/2) and original vehicle hose (36/1) as shown in Fig. 36
- Insert provided spacer bracket (34/2) between 1100 mm long coolant hose (34/6) and original vehicle hose section (34/5) as shown in Fig. 34
- Secure the coolant hoses with cable ties
- Install the battery carrier



Combustion Air

NOTE:
Observe the installation position of the air intake silencer, see "Installation Instructions"

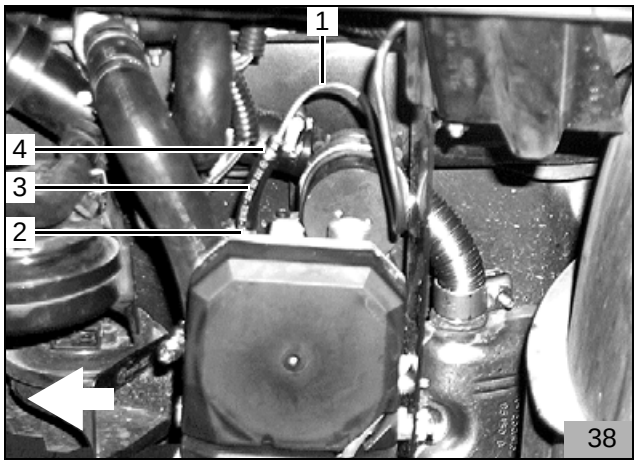
- Connect combustion air intake line (37/1) with the slotted side to the heater combustion air connection piece and secure with a hose clamp
- Insert air intake silencer (37/2) into the combustion air intake pipe as far as the stop
- Install the combustion air intake pipe as per Fig. 37
- Secure the combustion air intake pipe using cable ties



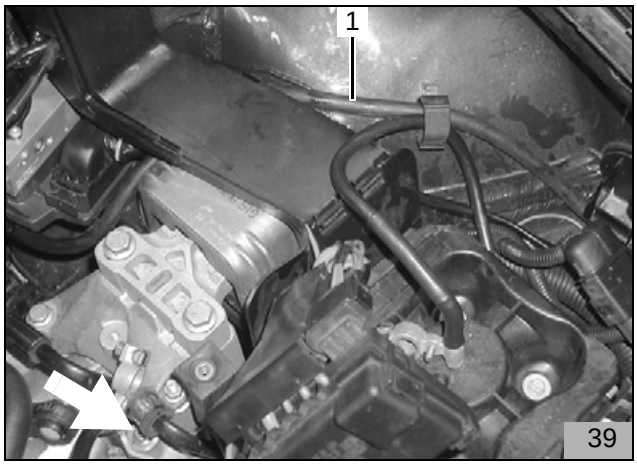
Fuel

WARNING:
Make sure that the fuel line is installed in such a way that it is protected from the impact of stones.
Provide rub protection for the fuel line and the wiring harness in areas where there are sharp edges.

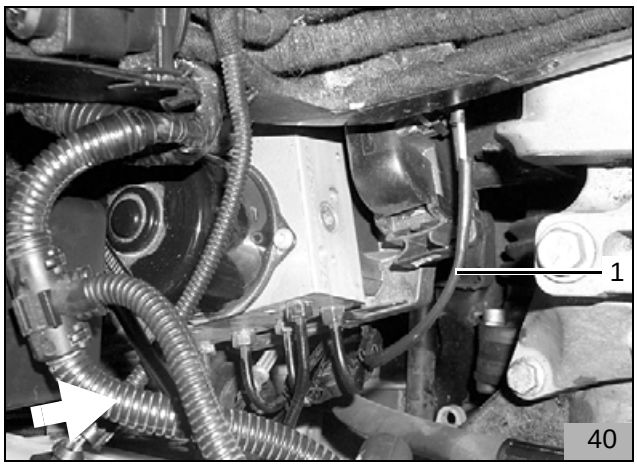
- Connect Mecanyl fuel line (38/1) to the heater using hose section (38/3) and 10 mm hose clamp (38/2,4)



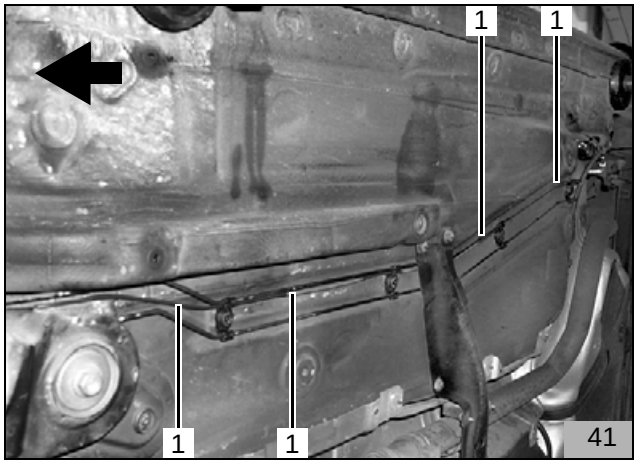
- Route Mecanyl fuel line (39/1) at the wheel well as shown in Fig. 39
- Slide the 1780 mm long protective hose over the Mecanyl fuel line up to the ABS unit



- Route Mecanyl fuel line (40/1) downwards as shown in Fig. 40 in the area around the brake lines on the ABS unit



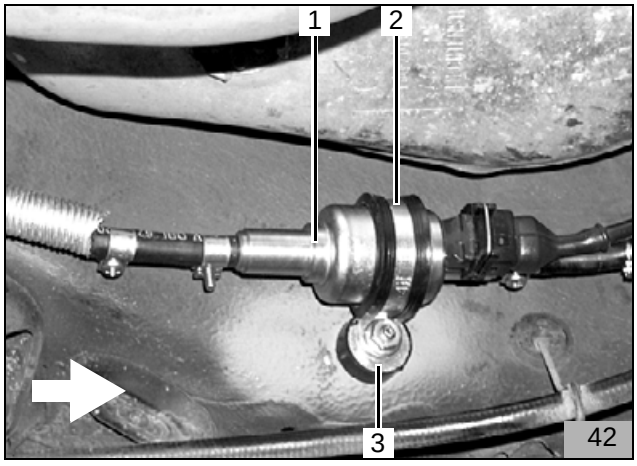
- Attach Mecanyl fuel line and metering pump wiring harness (41/1) to the original vehicle brake line using a cable tie



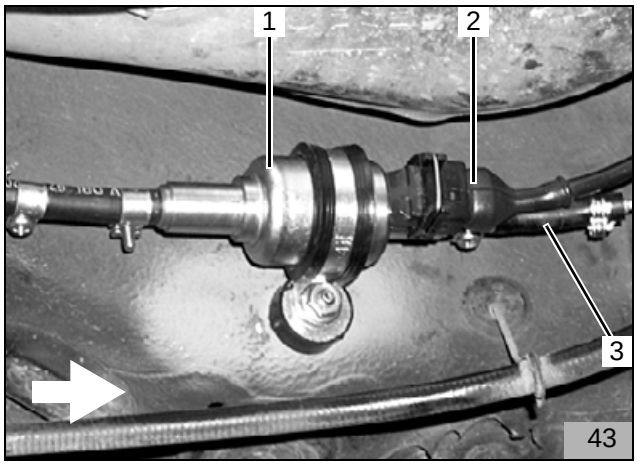
Metering pump

NOTE:
Ensure the correct installation position of metering pump (42/1), see "Installation Instructions"

- Drill a 9 mm dia. hole to secure silent block (42/3) at the position shown in Fig. 42
- Insert a M6 rivet nut in the hole
- Screw silent block (42/3) into the rivet nut
- Secure metering pump (42/1) to silent block (42/3) using rubber-coated p-clamp (42/2) and flanged nut



- Route wiring harness (43/2) to metering pump (43/1)
- Cut wiring harness (43/2) to length, complete plugs and connect plugs to metering pump
- Connect Mecanyl fuel line (43/1) with hose section (43/3) and 10 mm hose clamp [2x] to the pressure side of the metering pump (43/1) (side with connector)

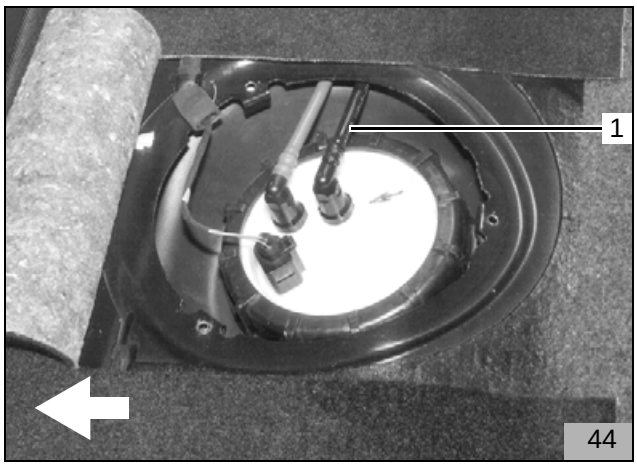


Fuel extraction without pre-feed pump

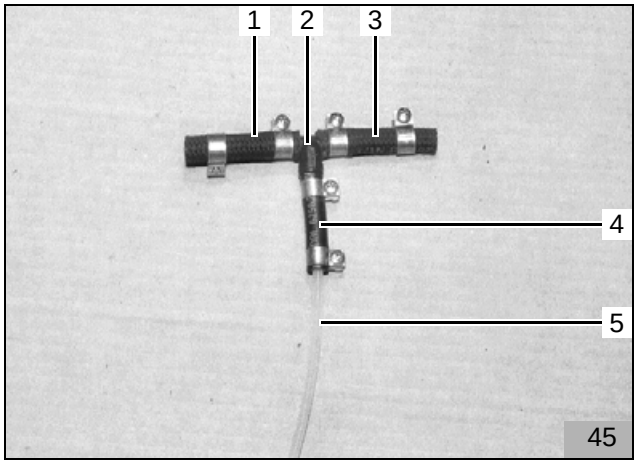
WARNING:
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the fuel tank cap.

Catch any fuel running off with an appropriate container.

- Separate fuel supply line (44/1) after the coupling
- Mount the support sleeves

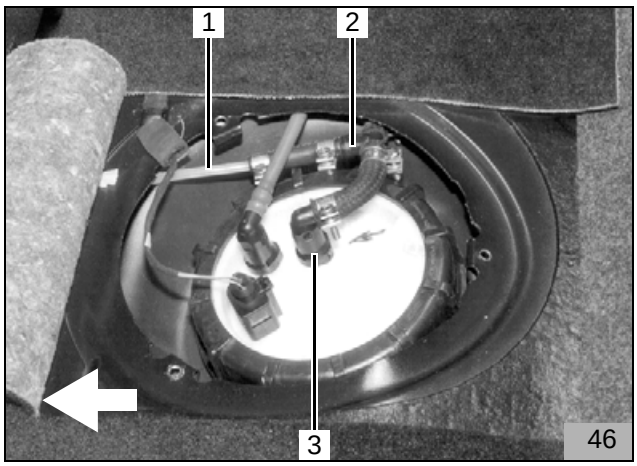


- Premount fuel standpipe (45/2) using 2 hose sections (45/1,3) and hose clamps
- Connect Mecanyl fuel line (45/5) to the fuel standpipe using hose section (45/4) and hose clamps

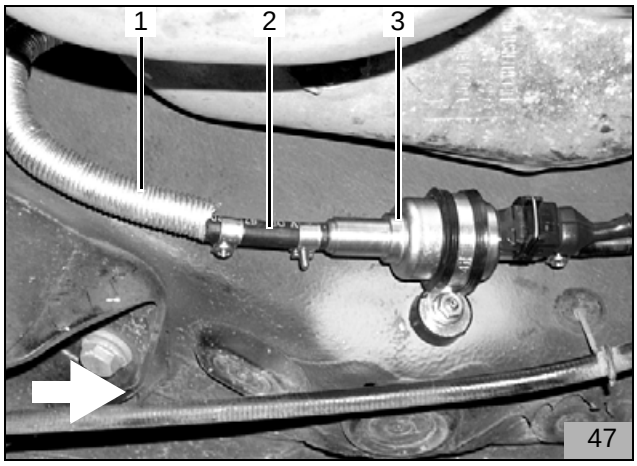


NOTE:
Ensure the proper installation position of the fuel standpipe, see "Installation Instructions".

- Insert fuel standpipe (46/2) between the supply line and coupling (46/3) as shown in Fig. 46 and secure with hose clamps
- Guide the Mecanyl fuel line (46/1) down in front of the tank



- Guide the Mecanyl fuel line from the fuel standpipe to the metering pump (47/3) and cut to length
- Slide heat protection hose (47/1) onto the Mecanyl fuel line
- Connect Mecanyl fuel line with hose section (47/2) on the intake side of the metering pump (47/3) using hose clamps



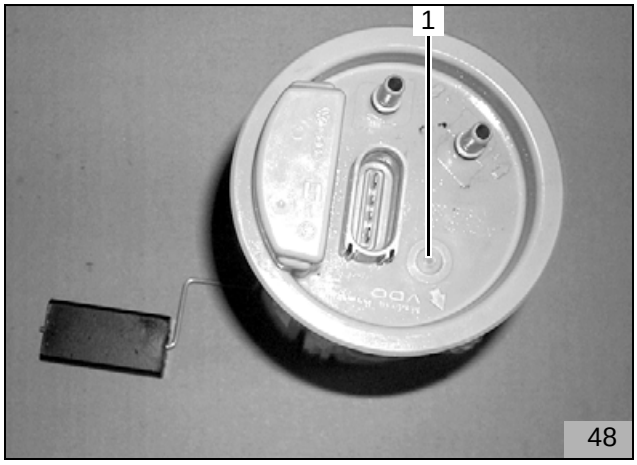
Fuel extraction with pre-feed pump

WARNING:
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the fuel tank cap.

Catch any fuel running off with an appropriate container.

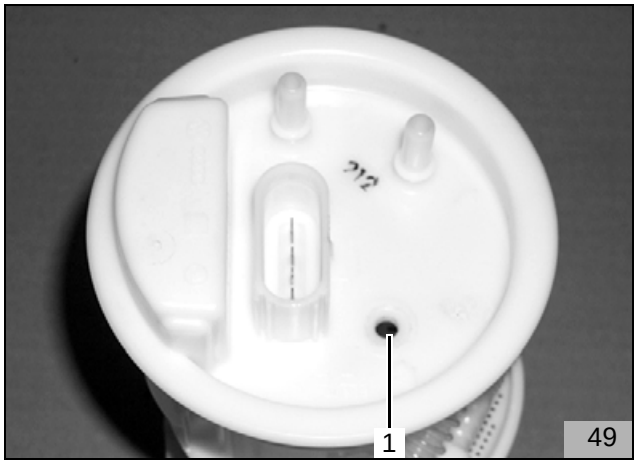
Protect the delivery unit from falling shavings or chippings!

- Remove the fuel-tank sending unit in accordance with the manufacturer's instructions.
- Predrill point (48/1) on the sealing surface in its centre to 3 mm diameter

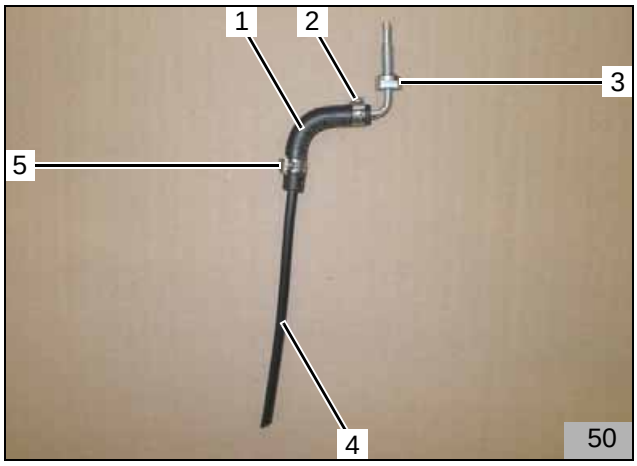


- Drill hole (49/1) centrally to 6 mm dia. using a step drill as shown in Fig. 49

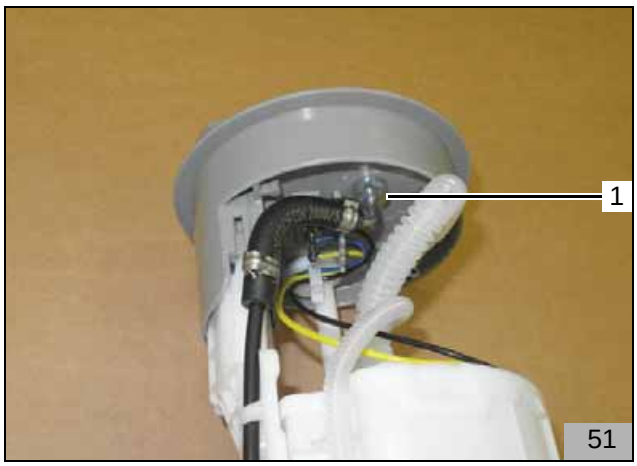
WARNING:
Do not damage the sealing surface. Watch out for shavings or chippings.

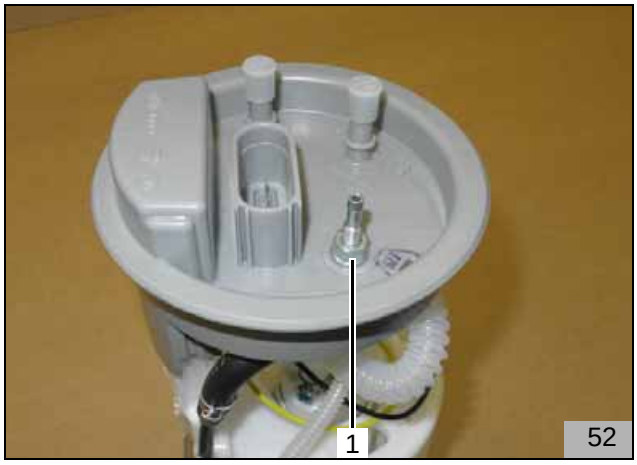


- Preassemble 90° fuel standpipe (50/3) as shown
- Slide 90° moulded hose (50/1) with inner dia. d_i = 3.5 x 4.5 mm with inner dia. d_i = 3.5 mm onto fuel standpipe (50/3) and secure using 9 mm dia. Caillau clamp (50/3)
- Insert black standpipe (50/4) in 90° moulded hose (50/1) with inner dia. d_i = 4.5 mm and secure using 10 mm dia.Caillau clamp (50/5)
- Black standpipe (50/4) will be cut to length later



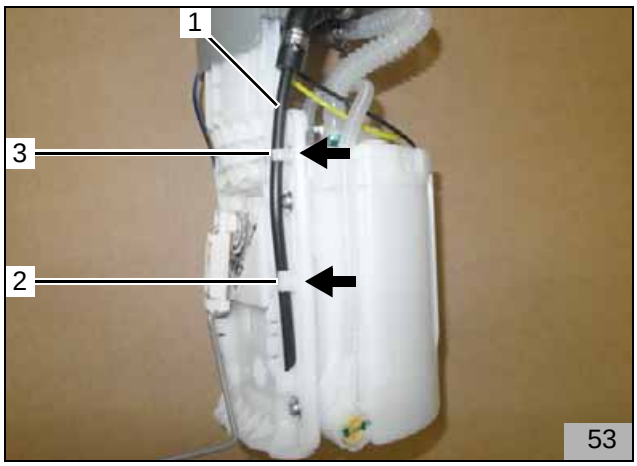
- Insert premounted fuel standpipe (51/1) from below with the sealing ring in the fuel tank sending unit, align as shown and secure from above using flange nut (52/1) (tightening torque 10 Nm)



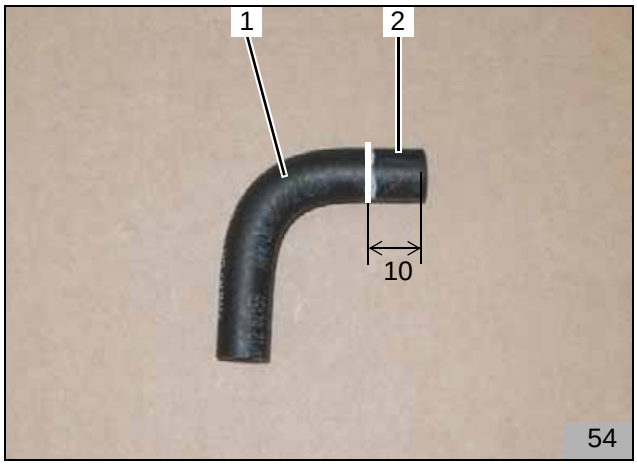


- Insert black standpipe (53/1) in the retaining clips (53/2, 3) as shown in Fig. 53
- Align black standpipe (53/1) (cut to length) in such a way that there is a distance of 10 mm to the underside of the fuel tank sending unit or the tank bottom

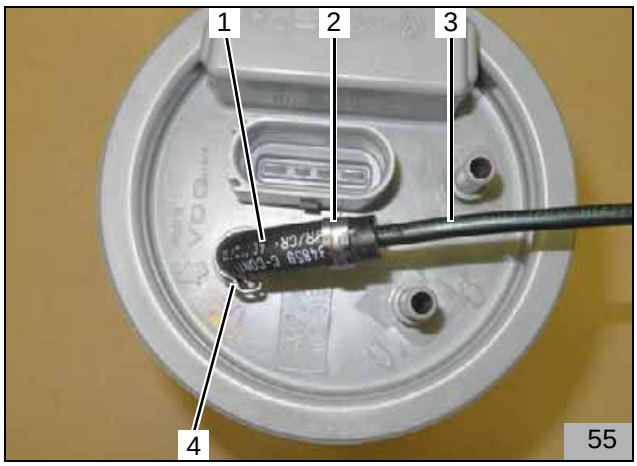
WARNING:
To check the correct position of the fuel standpipe and hose, compress the upper flange of the delivery unit! The assembled parts must not prevent the flange from being compressed and in particular, must not come into contact with any other components of the delivery unit.



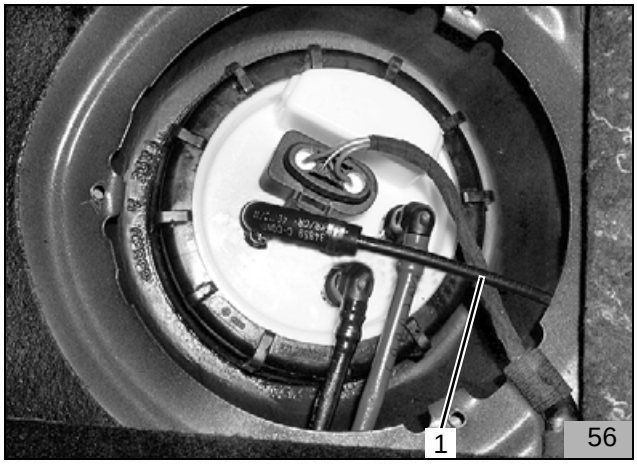
- Shorten 90° moulded hose (54/1) with inner dia. d_i = 4.5 x 4.5 mm by 10 mm
- Discard section (54/2)



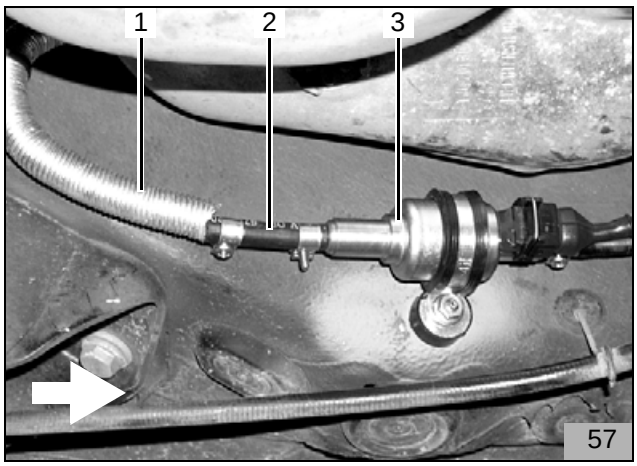
- Secure 90° moulded hose (55/1) with the shortened side to the fuel standpipe using 10 mm dia. Caillau clamp (55/4)
- Insert Mecanyl fuel line (55/3) in 90° moulded hose (55/1) and secure using 10 mm dia. Caillau clamp (55/2)



- Install the fuel-tank sending unit in accordance with the manufacturer's instructions.
- Route Mecanyl fuel line (56/1) along the original vehicle fuel lines to the metering pump



- Guide the Mecanyl fuel line from the fuel standpipe on the left above the tank to metering pump (57/3) and cut to length
- Slide heat protection hose (57/1) onto the Mecanyl fuel line
- Connect Mecanyl fuel line with hose section (57/2) on the intake side of the metering pump (57/3) using hose clamps



Final Work

- Connect vehicle battery
- Reassemble the removed components in reverse order.
- Assemble the fanfare horn (free floating), tie back fanfare horn wiring harness. Make sure there is sufficient distance from the exhaust system.
- Check all hoses, hose clamps and p-clamps and all electrical connections for firm seating.
- Secure all loose cables using cable ties
- Spray the heater components with anti-corrosion wax (Tectyl ML, Order No. 111329).

WARNING:
Use original VW coolant fluid only!

- Start engine, bleed coolant circuit according to instructions of vehicle manufacturer and add coolant.
- Set vehicle heater to "warm" and fan to speed 2, on vehicles with air-conditioning system, switch off the A/C button
- For Climatronic with ignition ON, set to "DEF". Automatic setting (22°C fixed setting)
- Switch on the Webasto heater, see "Operating Instructions/Installation Instructions"
- Check the current consumption of the fan motor. Adapt the IPCU settings if necessary (current at fan motor measured at 4² black (sw) wire K3/30 < 5 A)
- Vehicle settings on A/C control panel: defrost and max. temperature

Webasto Thermo & Comfort SE
Postfach 1410
82199 Gilching
Germany
Internet: www.webasto.com
Technical Extranet:
http://dealers.webasto.com