Water Heater

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

E1 00 0002
E1 00 0003

Installation Documentation

Audi A3

Diesel - 1.9l TDi unit injector
from model year 1999
Left-hand drive vehicle
Not with 5-speed 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.

To install and repair Webasto heating and cooling systems you need to have completed a special company training course and have the appropriate technical documentation, special tools and special equipment.
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 start-up 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.

Table of Contents

Validity

Manufacturer	**Model**	**Type**	**EG-BE-No. / ABE**
Audi	A3	8L	e1 * 98 / 14 * 0042 * ...

Engine type	**Engine model**	**Output in kW**	**Displacement in cm³**
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 for *Thermo Top E / C*	see price list
1	Installation kit for Audi A3 1999 Diesel	1300368E
1	Heater control	see price list

Heater recommended for the respective vehicle class:

Vehicle	Heater
Compact car	Thermo Top E
Mid-size car, estate car	Thermo Top C

The selection of the heater is based on the passenger compartment size of the vehicle and the level of comfort required by the customer.

Foreword

This installation documentation applies to Audi A3 Diesel vehicles - 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 this "installation documentation", the "operating instructions" and "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 must audibly click into place during installation.

Sharp edges should be fitted 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

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- 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

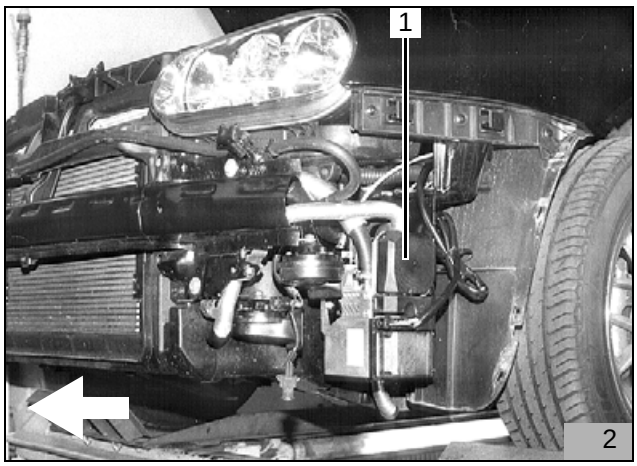
- Remove the outer and inner instrument panel trim in the driver's footwell.
- Remove the fuse box.
- Fold up the rear bench seat.
- Remove the tank-fitting service lid.

Vehicle underside

- Remove the underride protection.

Installation Location

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



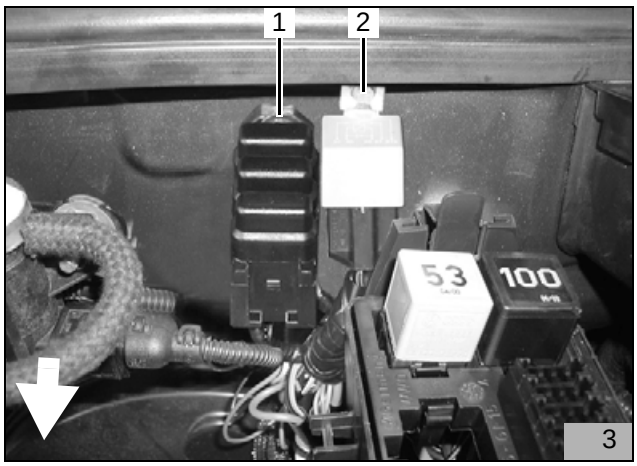
Blade-type Fuse Holder and Fan Relay

Only with Climatronic

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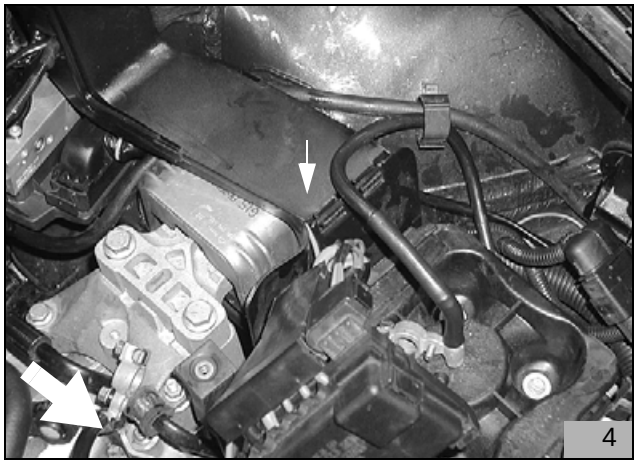
NOTE:
Make sure rub protection is installed for all cable pass-throughs!

- 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 positive battery 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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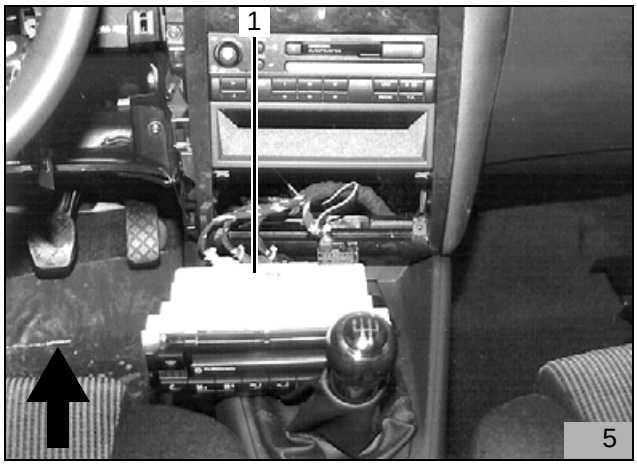
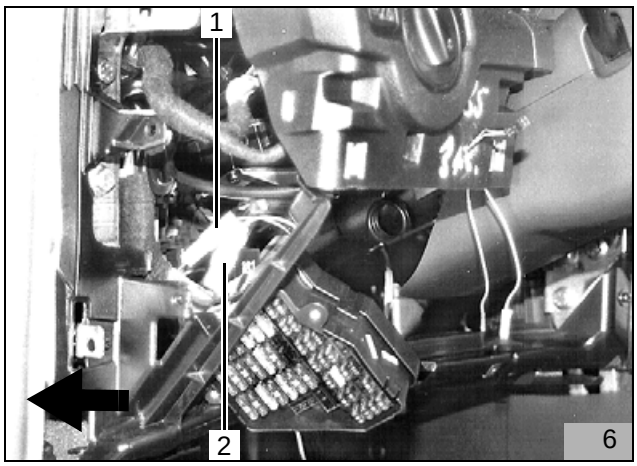
Fan Controller with Climatronic

- Remove A/C control panel (5/1)



- Remove the fuse carrier
- Disconnect the 4 mm^2 black/blue (sw/bl) wire approx. 50 mm after the vehicle fuse 30A
- Crimp on tab connector and tab receptacles, complete connector housing (5/1, 2)
- Produce connections as shown in wiring diagram Figure 9
- 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 to the fan switch

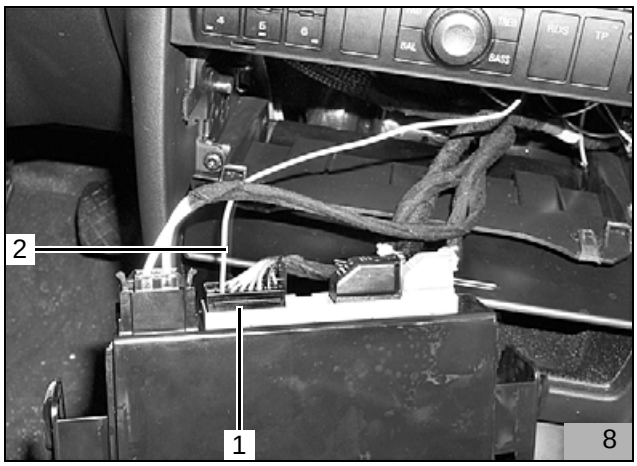


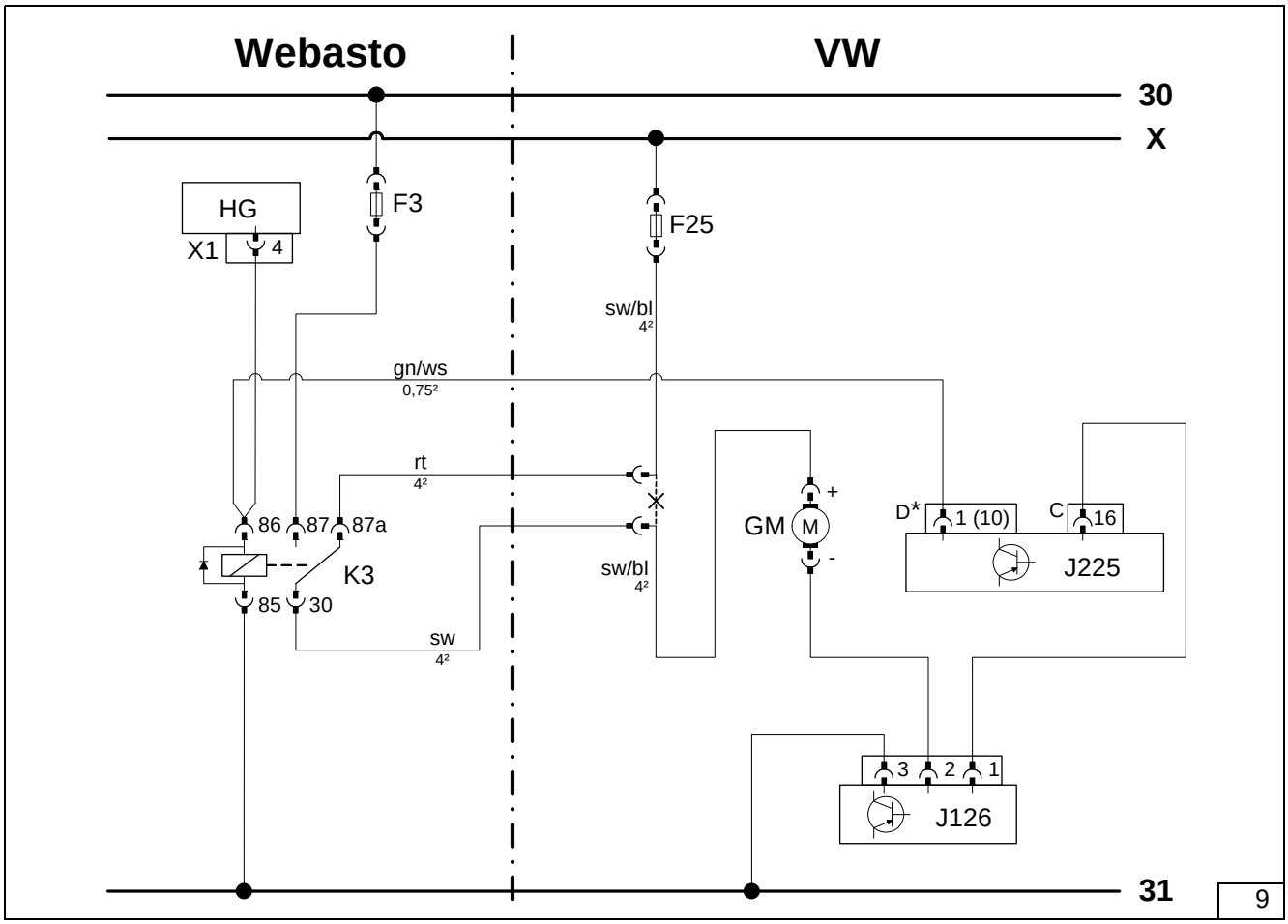
A/C control panel with 4 connectors

- Produce connections as shown in wiring diagram Figure 9
- Route additional 1.0 mm^2 green/white (gn/ws) wire (7/1) to A/C control panel, cut to length and crimp on the microtimer contact
- Pull out black D connector (7/2) (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 pin 1 (free socket)
- Secure the connector housing with the (small) cable tie and wires with cable ties

A/C control panel with 3 connectors

- Produce connections as shown in wiring diagram Figure 9
- Route additional 1.0 mm^2 green/white (gn/ws) wire (8/1) to A/C control panel, cut to length and crimp on the microtimer contact
- Pull out black D connector (8/1) (16-pin) and open according to the manufacturer's instructions
- Connect additional 1.0 mm2 green/white (gn/ws) wire (8/2) to the connection pin 10 (pin 10)
- Secure wires using cable ties





Legend:

Vehicle

F25	Original vehicle 30A fuse
GM	Fan motor
J126	Fan controller
J225	A/C control panel
D*	connector for A/C control panel (Pin 1 for J225 with 4 connectors and pin 10 for J225 with 3 connectors)

Webasto

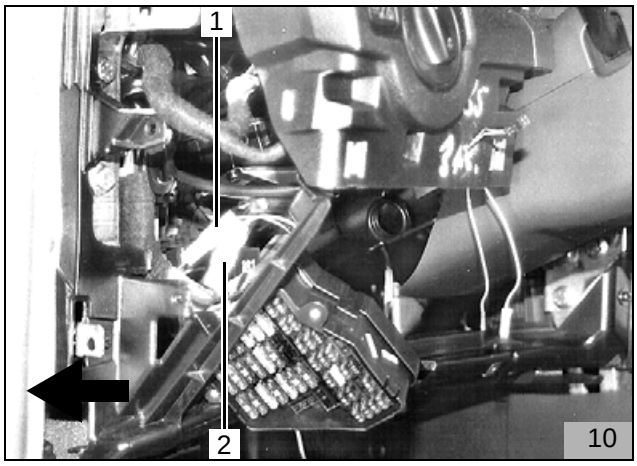
HG	Heater
X1	6-pin heater connector HG
F3	25A fuse
K3	Fan relay

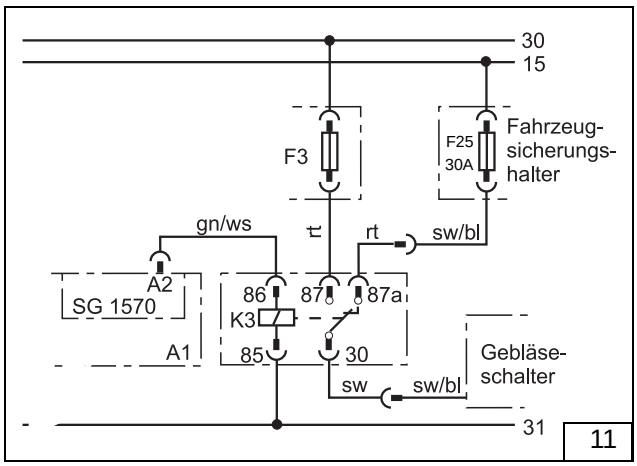
Colours/Symbols

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

Fan Controller without Climatronic

- Remove the fuse carrier
- Disconnect the 4 mm^2 black/blue (sw/bl) wire approx. 50 mm after the vehicle 30A fuse
- Crimp on tab connector and tab receptacles, complete connector housing (10/1, 2)
- Produce connections as shown in wiring diagram Figure 11
- 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 to the fan switch



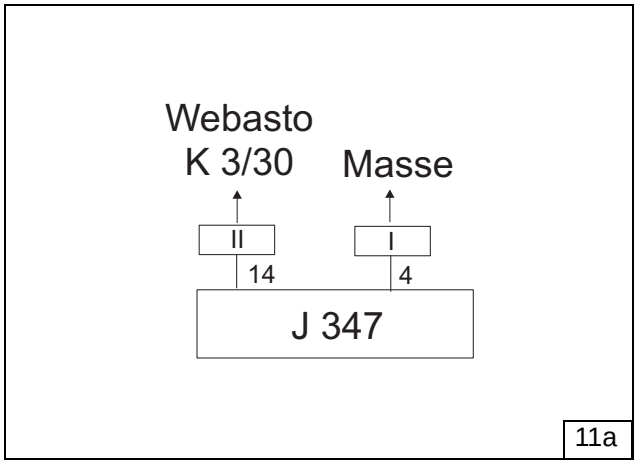


Vehicle with Passenger Compartment Monitoring

See wiring diagram Fig. 11a

NOTE:
The control unit for the ultrasound sensors is located above the left wheel well trim behind the boot side trim!

- Connect connection pin 4 for the passenger compartment monitoring control unit to the earth
- Connect the 1.0 mm² wire to the wire of fan relay K3/Kl.30 and route to the passenger compartment monitoring control unit
- Connect the 1.0 mm² wire to pin 14 of the passenger compartment monitoring control unit

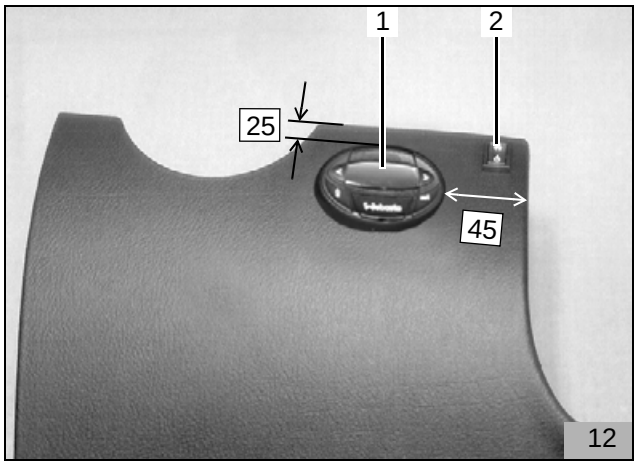


Digital Timer and Summer/Winter Switch Option

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

NOTE:
The shown installation location of digital timer (12/1) and the summer/winter switch (12/2) is a recommendation! Please coordinate the installation location with your customer prior to the installation

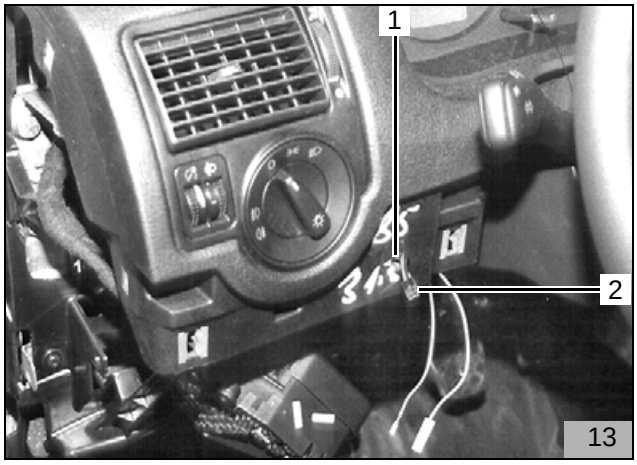
- Affix the drilling template for digital timer (12/1) to the instrument panel trim as per Fig. 12
- Drill two holes according to the template
- Remove the template
- Mount the securing sleeve with a self-tapping screw



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

- Mount digital timer

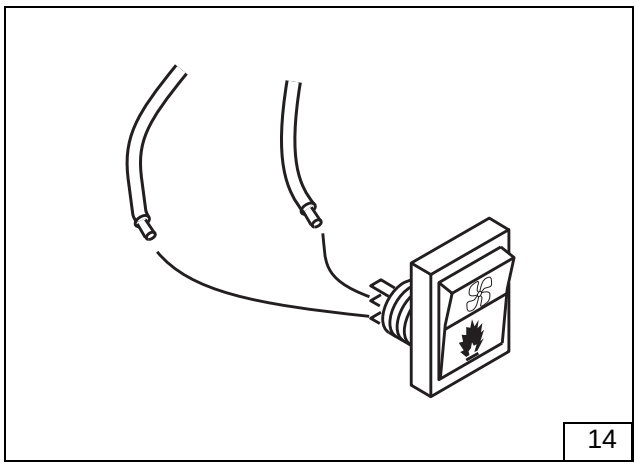
- Position the instrument panel trim and copy the hole pattern for the digital timer wiring harness onto the instrument panel
- Drill 12 mm dia. hole (13/1) in the instrument panel
- Pass the wiring harness for digital timer (13/2) through the hole



Optional for summer/winter switch

- Copy hole pattern of summer/winter switch (12/2) at the desired position and drill a 12 mm dia. hole
- Fasten the summer/winter switch with toothed washer and nut
- Connect the brown (br) and violet (vi) wires as shown in Fig. 14 to the switch (bottom contacts)

Digital Timer
- Pass the digital timer wiring harness with connector through the hole in the instrument panel trim and connect to the digital timer
- Mount digital timer
- Mount instrument panel trim

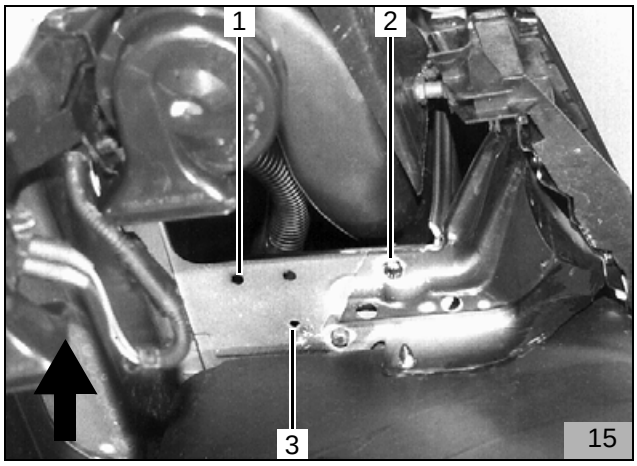


Install Bracket

Fig. 15: View from below!

- Remove existing bolt (15/2)
- On vehicles with a self-tapping screw, drill out the existing hole to a 7 mm diameter
- Secure bracket (16/1) to existing hole (15/1) and secure in position (15/2) using M6x20 bolts
- Copy the hole pattern for hole (15/3)
- Remove the bracket again and drill 7 mm dia. hole (15/3)

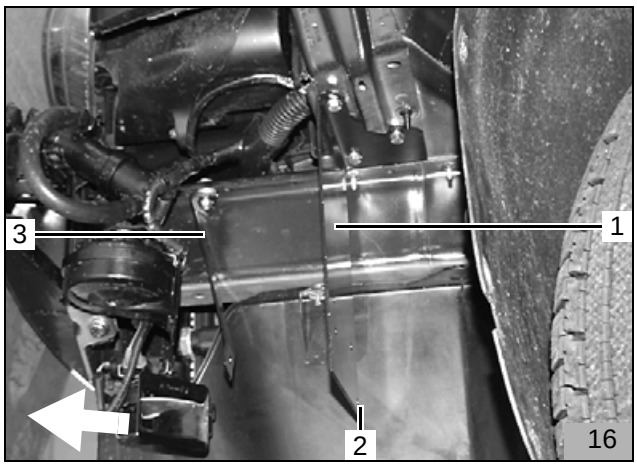
WARNING:
Pay attention to the earth wires cables and wiring harness during drilling!



- Secure bracket (16/1) using a M6x20 bolt and a spring lockwasher to the existing welding nuts and a M6x20 bolt, a washer A7,4 and a flanged nut in position (15/2)

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

- Secure bracket (16/1) using two M6x20 bolts, 4 A7 washers and flanged nuts in holes (15/1, 15/3), in doing so insert two large diameter washers between the bracket and the body in position (15/1, 15/3) respectively



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

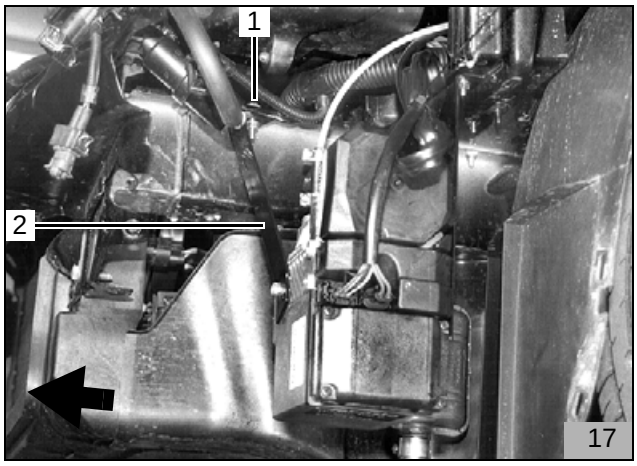
- Loosely secure mounting strut (16/3), as shown in Fig. 16 using a M6x30 bolt, a 10 mm shim and a flanged nut in the existing hole in the frame side member

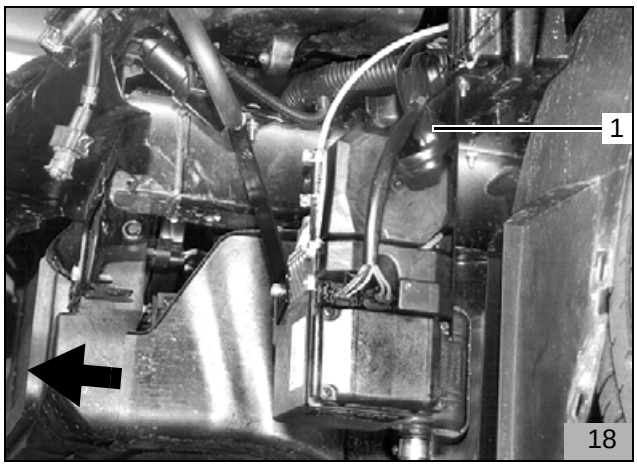
- Secure angle bracket (20/2) for mounting the exhaust silencer in position (16/2) using a M6x20 bolt with flanged nut on the bracket so that the bolt points towards the wheel well inner panel (see Fig. 20)

Installing Heater

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

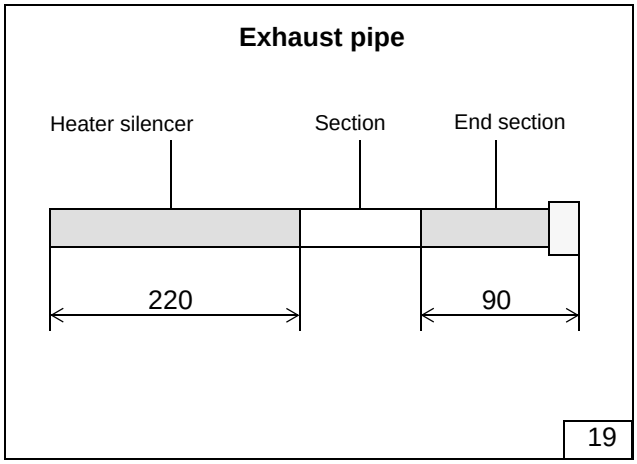
- Secure the heater as shown in Fig. 17 to the bracket using three bolts of type EJOT PT and a 5 mm washer (in the area around the individual threaded hole in the heater for height compensation) (tightening torque 10 Nm)
- Secure mounting strut (17/2) to the heater using a bolt of type EJOT PT
- Tighten bolt (17/1)
- Connect the wiring harness to the heater
- Loop up remaining wiring harness (18/1) and tie back using cable ties



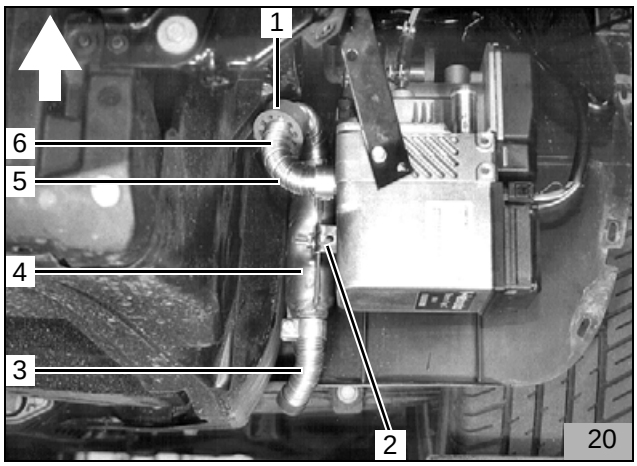


Exhaust Gas

- Cut the exhaust pipe and the exhaust pipe end section to length as shown in Fig. 19



- Secure exhaust silencer (20/1) to angle bracket (20/2) using a M6x20 bolt and flanged nut
- Attach red (rt) rubber isolator (20/1) to exhaust pipe (20/5)
- Shape exhaust pipe (20/6) as shown in Fig. 20, connect to exhaust silencer (20/4) and heater and secure using hose clamps
- Align red (rt) rubber isolator (20/1) according to Fig. 20
- Use a hose clamp to secure exhaust pipe end section (20/3) to exhaust silencer (20/4) and mould as shown in Fig. 20
- Drill a 3 mm dia. hole (20/5) approx. 30 mm below the exhaust outlet-heater for drainage of condensed water (at the lowest point of the exhaust pipe)

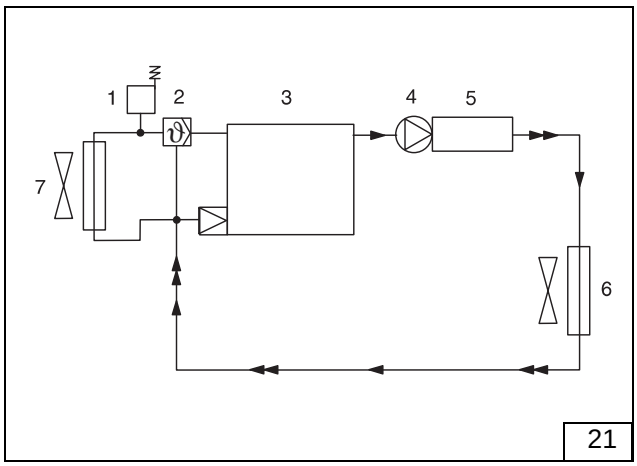


Coolant Circuit

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 (Fig. 21)

Legend for Fig. 21:

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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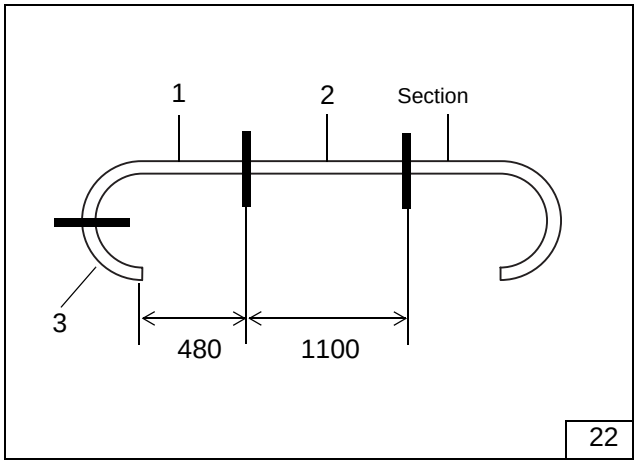
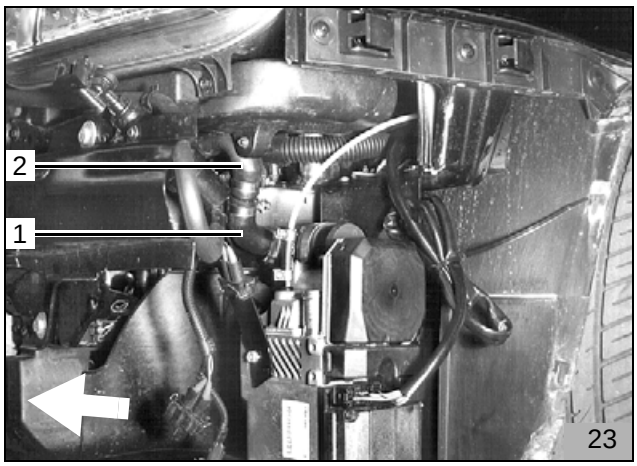
- Cut off 3 hose sections from the coolant hose included in the delivery scope as shown in Fig. 22

  1 x 480 mm + 90° elbow (22/1) heater coolant inlet
  1 x 1100 mm straight heater coolant outlet (22/2)
  1 x 90° elbow heater coolant inlet (22/3) (circulating pump)



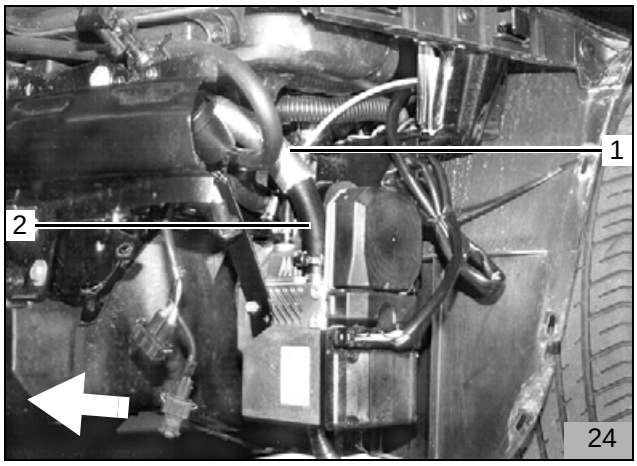
22

- Connect 90° elbow (23/1) to the heater coolant inlet (circulating pump) as shown in Fig. 23 and secure using a hose clamp
- Insert connecting pipe 20/20 in 90° elbow (23/1) and secure using a hose clamp
- Guide 480 mm long coolant hose (23/2) with the straight side facing upwards into the engine compartment
- Connect 90° elbow of coolant hose (23/2) to 90° elbow (23/1) and secure using a hose clamp

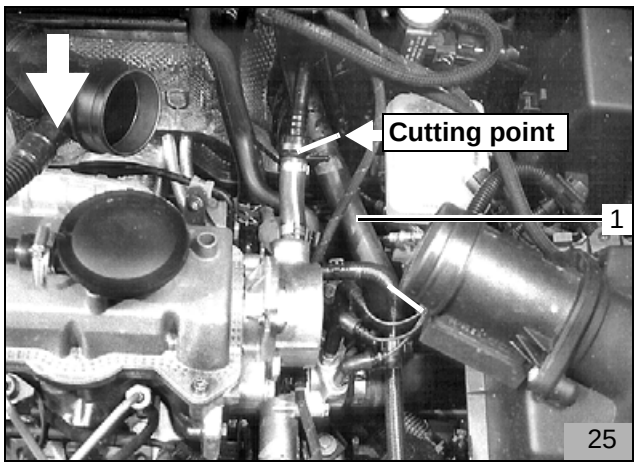


23

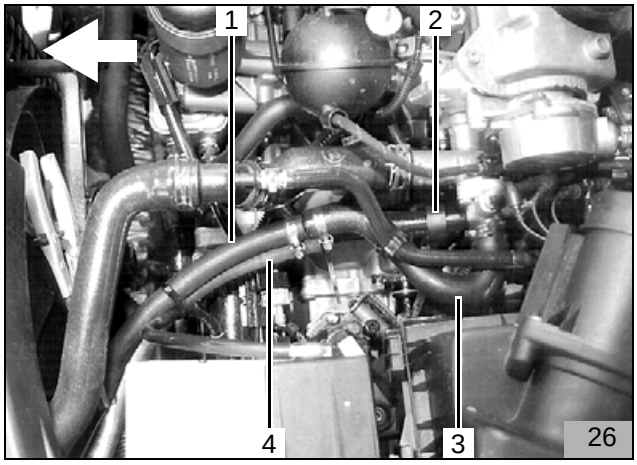
- Push 600 mm long heat protection hose (24/1) onto 1100 mm long coolant hose (24/2) and position according to Fig. 24
- Connect 1100 mm long coolant hose (24/2) to the heater coolant outlet, secure using a hose clamp and guide into the engine compartment



- Disconnect vehicle-side coolant hose (25/1) from the engine outlet to the vehicle heat exchanger (on the firewall on the left in the driving direction) as shown in Fig. 25

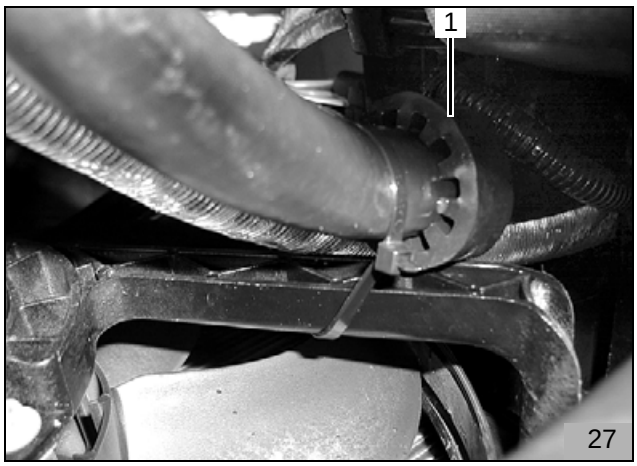


- Loosen the hose clamp on the engine outlet, turn hose elbow (26/3) to the front as shown in Fig. 26 and resecure the hose clamp
- Pass the coolant hoses from the heater in front of the battery holder to the left side of the engine, as shown in Fig. 26



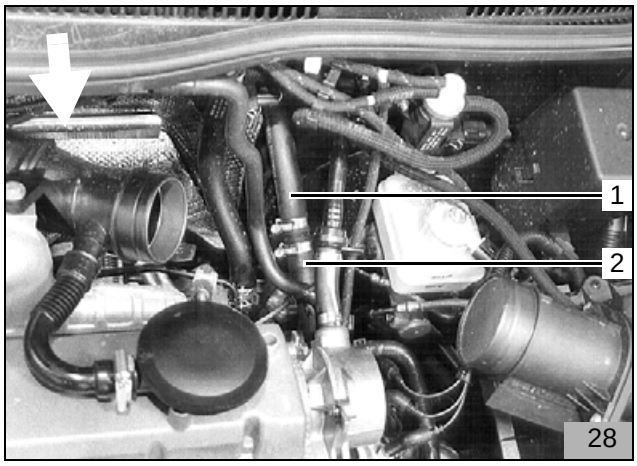
- Affix rub protection (27/1) to the coolant hose heater coolant inlet and position as shown in Fig 27
- Connect coolant hose (26/1) to heater coolant inlet using connecting pipe 20/20 with coolant hose (26/3) from engine outlet and secure using hose clamps

- Affix rub protection (26/2) to coolant hose (26/4) from the heater coolant outlet



- Connect coolant hose (28/2) from heater coolant outlet with coolant hose (28/1) from vehicle heater exchanger using connecting pipe 20/20 and secure using hose clamps
- Position rub protection (26/2) (27/1) as shown in Fig. 26 and Fig. 27
- Secure the coolant hoses using cable ties

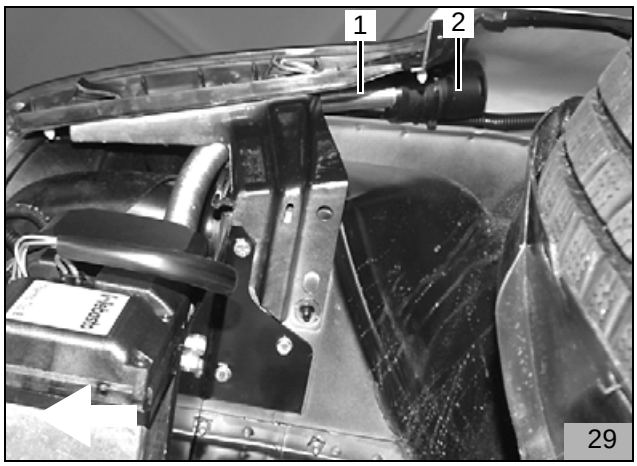
- Install the battery carrier



Combustion Air

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

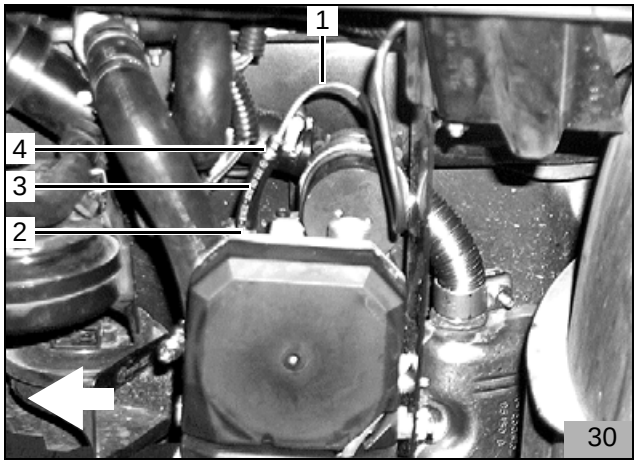
- Connect combustion air intake line (29/1) with the slotted side to the heater combustion air connection piece and secure with a hose clamp
- Insert air intake silencer (29/2) into the combustion air intake pipe as far as the stop
- Install the combustion air intake pipe as per Fig. 29
- Secure the combustion air intake pipe using cable ties



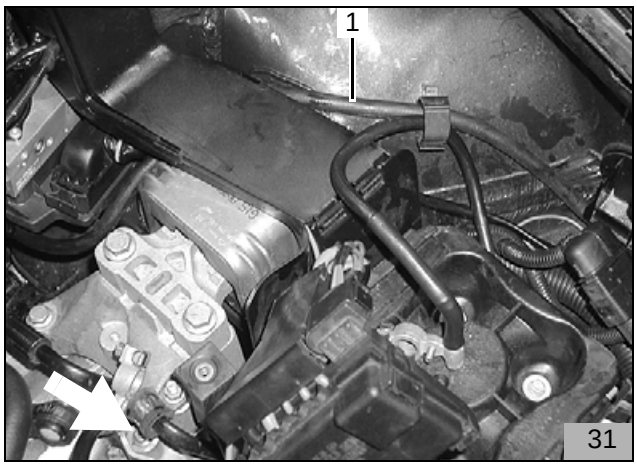
Fuel

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 fuel line and wiring harness in areas where there are sharp edges.

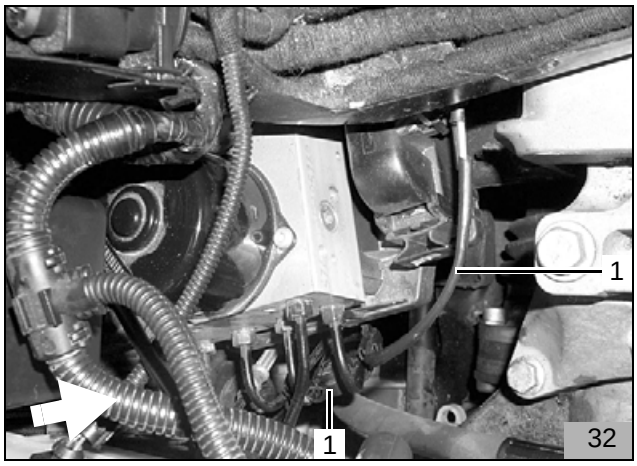
- Connect Mecanyl fuel line (30/1) to the heater using hose section (30/3) and 10 mm hose clamp (30/2,4)



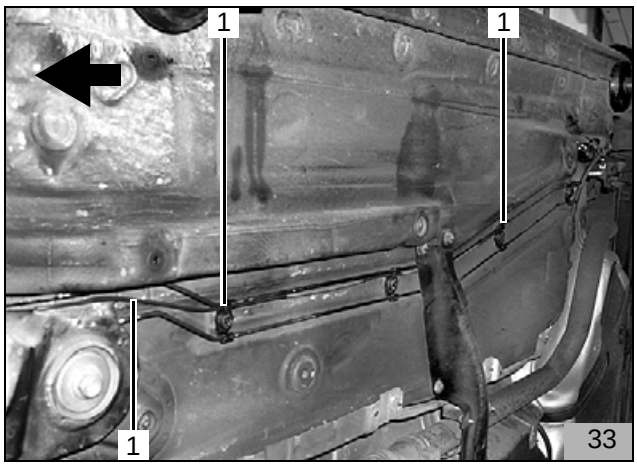
- Route Mecanyl fuel line (31/1) at the wheel well as shown in Fig. 31
- Slide the 1780 mm long protective hose over the Mecanyl fuel line up to the ABS unit



- Route Mecanyl fuel line (32/1) downwards as shown in Fig. 32 in the area around the brake lines at the ABS unit



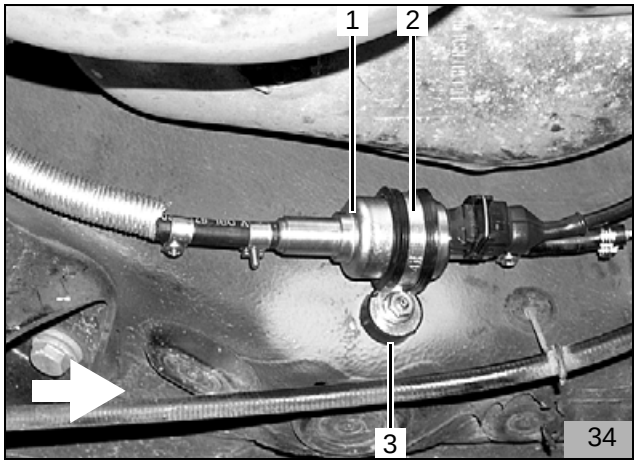
- Attach Mecanyl fuel line and metering pump wiring harness (33/1) to the original vehicle brake line using a cable tie



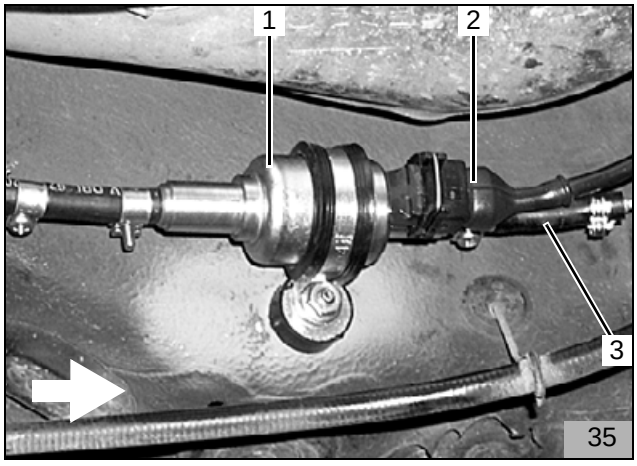
Metering pump

NOTE:
Ensure the correct installation position of metering pump (34/1), see "Installation Instructions"

- Drill a 9 mm dia. hole to secure silent block (34/3) at the position shown in Fig. 34
- Insert a M6 rivet nut in the hole
- Screw silent block (34/3) into the rivet nut
- Secure metering pump (34/1) to silent block (34/3) using rubber-coated P-clamp (34/2) and flanged nut



- Route wiring harness (35/2) to metering pump (35/1)
- Cut wiring harness (35/2) to length, complete plugs and connect plugs to metering pump
- Connect Mecanyl fuel line (35/1) with hose section (35/3) and 10 mm hose clamp [2x] to the pressure side of metering pump (35/1) (side with connector)

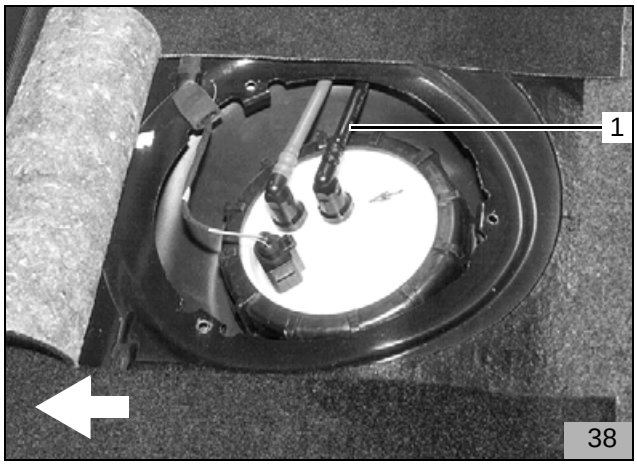


Fuel extraction without pre-feed pump

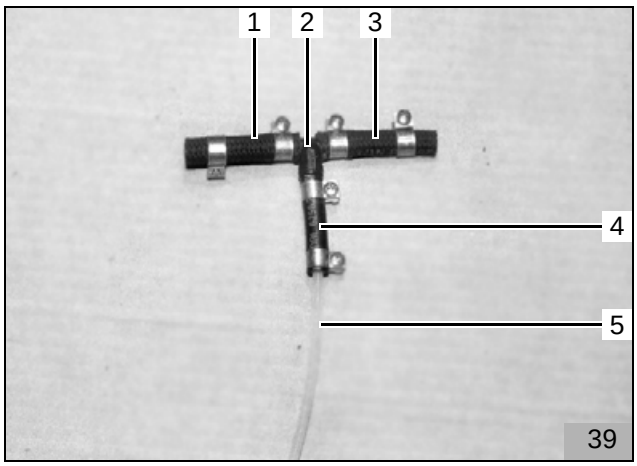
WARNING:
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the fuel tank cap.

Catch any fuel running off in an appropriate container.

- Pull fuel supply line (38/1) from the coupling
- Insert the support sleeve in the fuel line

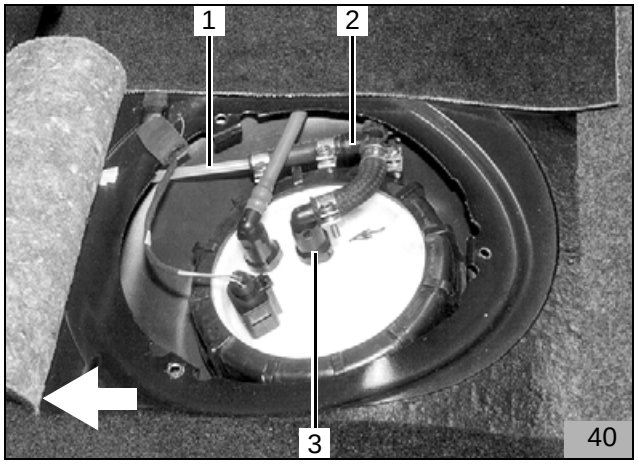


- Premount fuel standpipe (39/2) using two hose sections (39/1,3) and hose clamps
- Connect Mecanyl fuel line (39/5) to the fuel standpipe using hose section (39/4) and hose clamps

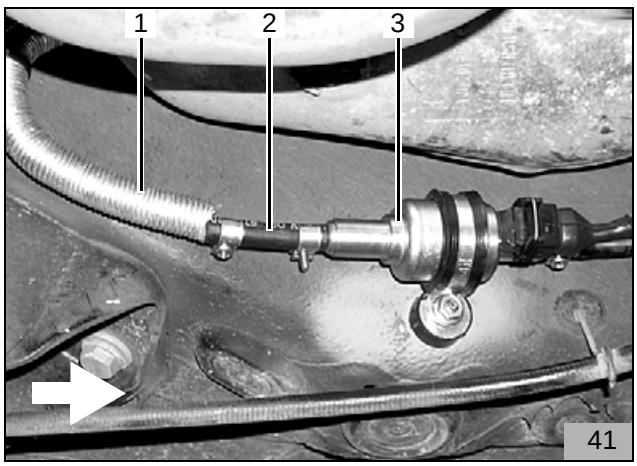


NOTE:
Observe the installation position of the fuel standpipe, see Installation Instructions

- Insert fuel standpipe (40/2) between the supply line and coupling (40/3) as shown in Fig. 40 and secure with hose clamps
- Guide Mecanyl fuel line (40/1) down in front of the tank



- Guide the Mecanyl fuel line from the fuel standpipe on the left above the tank to metering pump (41/3) and cut to length
- Slide heat protection hose (41/1) onto the Mecanyl fuel line
- Connect Mecanyl fuel line with hose section (41/2) on the intake side of metering pump (41/3) using Caillau clamps



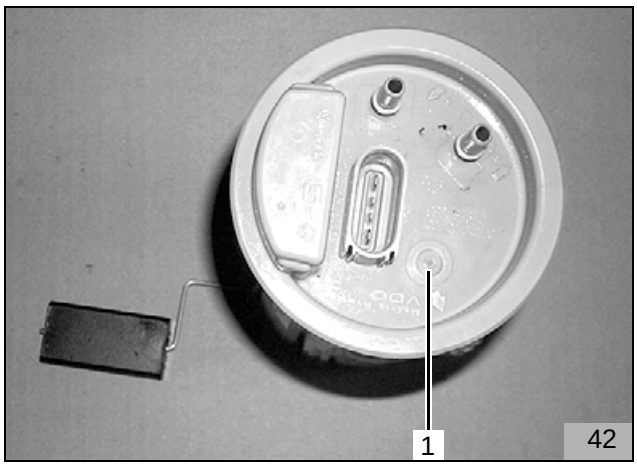
Fuel extraction with pre-feed pump

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

Catch any fuel running off in an appropriate container.

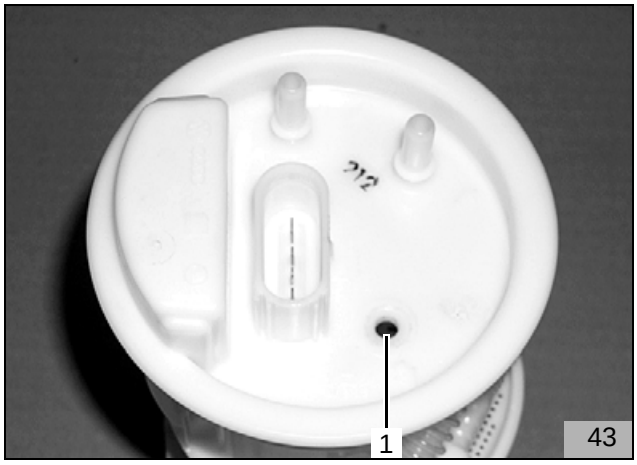
Protect the delivery unit from falling shavings or chippings!

- Remove the fuel-tank sending unit in accordance with the manufacturer's instructions
- Predrill point (42/1) on the sealing surface in its centre to 3 mm dia.

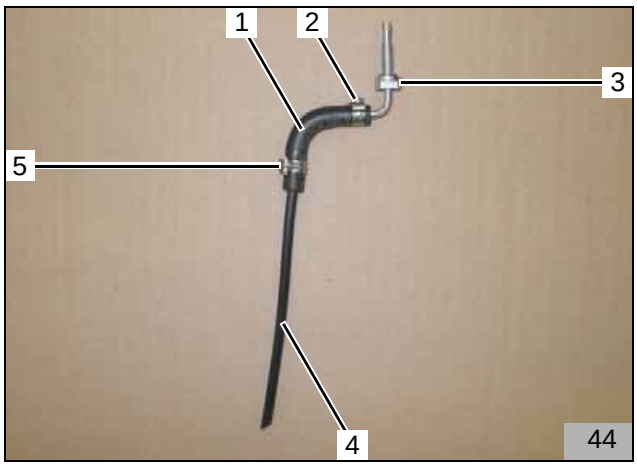


- Drill hole (43/1) centrally to 6 mm dia. using a step drill as shown in Fig. 43

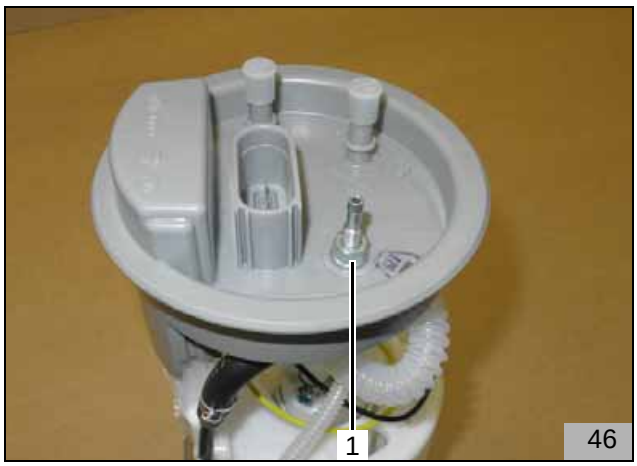
WARNING:
Do not damage the sealing surface. Watch out for shavings and chippings!



- Preassemble 90° fuel standpipe (44/3) as shown
- Slide on 90°moulded hose (44/1) with an inner dia. d_i = 3.5 x 4.5 mm with inner dia. d_i = 3.5 mm onto fuel standpipe (44/3) and secure using 9 mm dia. Caillau clamp (44/3)
- Insert black standpipe (44/4) in 90° moulded hose (44/1) with inner dia. d_i = 4.5 mm and secure using a 0 mm dia. Caillau clamp (44/5)
- Black standpipe (44/4) will be cut to length later

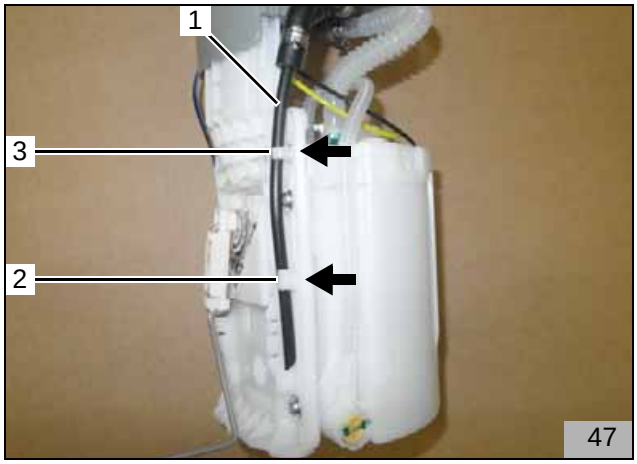


- Insert premounted fuel standpipe (45/1) from below with the sealing ring in the fuel tank sending unit, align as shown and secure from above using flanged nut (46/1) (tightening torque 10 Nm)

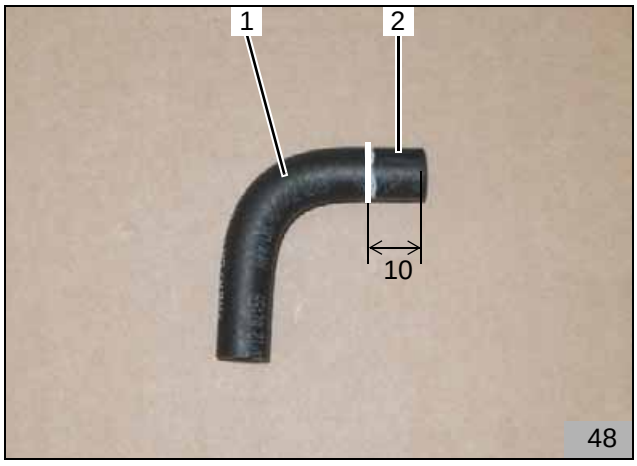


- Insert black standpipe (47/1) in retaining clips (47/2, 3) as shown in Fig. 47
- Align black standpipe (47/1) (cut to length) in such a way that there is a distance of 10 mm from the underside of the fuel tank sending unit or the tank bottom

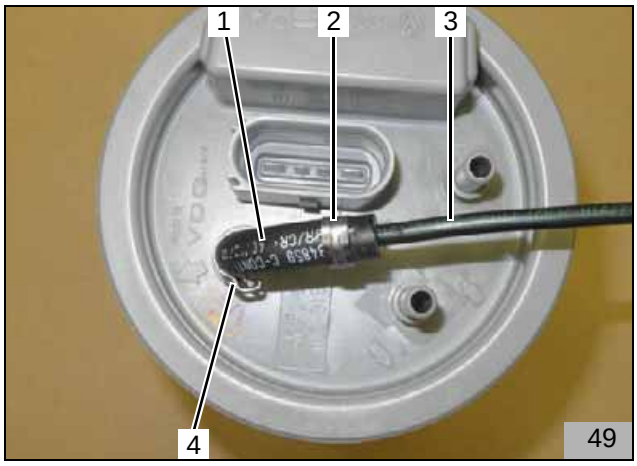
WARNING:
To check the correct position of the fuel standpipe and hose, compress the upper flange of the delivery unit The assembled parts must not prevent the flange from being compressed and in particular, must not come into contact with any other components of the delivery unit.



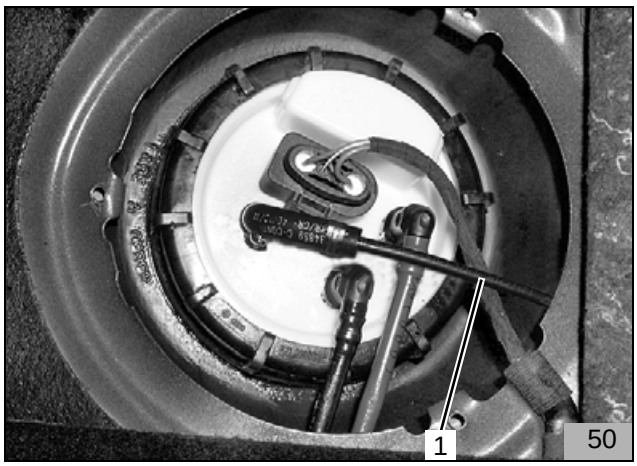
- Shorten 90° moulded hose (48/1) with inner dia. d_i = 4.5 x 4.5 mm by 10 mm
- Dispose of the cut section (48/2)



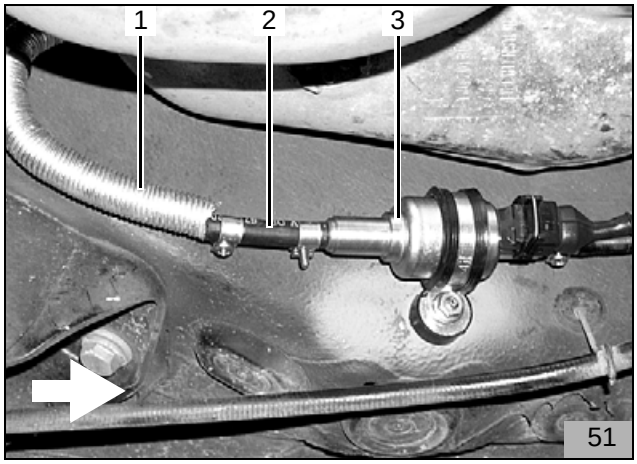
- Secure 90° moulded hose (49/1) with the shortened side to the fuel standpipe using 10 mm dia. Caillau clamp (49/4)
- Insert Mecanyl fuel line (49/3) in 90° moulded hose (49/1) and secure using10 mm dia. Caillau clamp (49/2)



- Install the fuel-tank sending unit in accordance with the manufacturer's instructions.
- Route Mecanyl fuel line (50/1) 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 (51/3) and cut to length
- Slide heat protection hose (51/1) onto the Mecanyl fuel line
- Connect Mecanyl fuel line with hose section (51/2) on the intake side of metering pump (51/3) 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:
Only use manufacturer-approved coolant.

- Start the engine, bleed the coolant circuit according to the vehicle manufacturer's instructions and top up coolant
- Set the vehicle heater to "warm" and the 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)
- Place the "Switch off parking heater before refuelling" caution label in the area of the filler neck
- For initial start-up and function check, see installation instructions

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