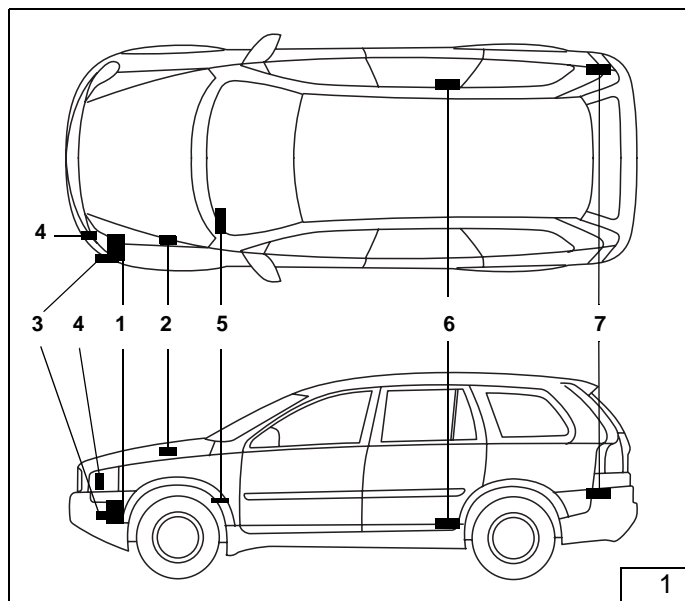


Thermo Top C Additional Heater

e1
00 0002



Legend for Figure 1

- 1 Thermo Top C -B heater unit
- 2 Blade-type fuse holder
- 3 Exhaust muffler
- 4 Combustion-air intake pipe
- 5 Telestart receiver, Thermo Call
- 6 Metering pump
- 7 Gateway control unit



WARNING!

Hazard warning:

Incorrect installation or repair of Webasto heating and cooling systems may cause a fire or result in the emission of carbon monoxide, which can be fatal. Serious or fatal injuries can be caused as a result.

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

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.

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

Installation Instructions

Volvo XC 90

Gasoline

From model year 03

For left-hand drive vehicles only

See Page 2 for validity

Note:

Only in conjunction with Webasto Gateway!

Only in conjunction with the corresponding Volvo vehicle software!

For combination with Telestart and/or Thermo Call, the Volvo AEM must also be used with the corresponding software!

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Validity

Manufacturer	Type	Model	EG-BE No.
Volvo	T6	XC90	e9*2001/116*0046*..

Engine type	Engine model	Output in kW	Displacement in cm ³
B5254T2	Gasoline	154	2521
B6294T	Gasoline	200	2922
B6324S	Gasoline	175	3192

Note:

Vehicle models, engine types, equipment variants as well as national specifications, which are not listed in these installation instructions, have not been tested.

However, installation according to these installation instructions may be possible.

Heater Unit/Installation Kit

Quantity	Description	Volvo Order No.:
1	Thermo Top C -B water heater unit with vehicle-specific delivery scope	12000093

Depending on vehicle equipment, if not present:

Quantity	Description	Volvo Order No.:
1	Volvo heater software in accordance with equipment	Various

When using Telestart and/or Thermo Call:

1	Volvo AEM (if not present in vehicle equipment) up to Model Year '04	8666691
1	Volvo AEM (if not present in vehicle equipment) from Model Year '05	30660541
1	Volvo Y-Adapter Telestart-ThermoCall	12001637

Foreword

These installation instructions apply to the Volvo XC 90 gasoline passenger cars - for validity, see title page - from model year 2003 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 these installation instructions.

However, where this is the case the stipulations in the "installation instructions" and "operating and maintenance instructions" for the Thermo Top C should be observed.

The corresponding rules of technology and any information from the vehicle manufacturer should be observed during the installation work.

Special Tools

Hose clamping pliers
Torque wrench for 2.0 - 10 Nm

General Instructions

- Provide bare areas on body, e.g. on holes, with corrosion protection
- Secure hoses, lines and wiring harnesses with cable ties and provide them with a protective hose in rubbing areas
- Provide sharp edges with edge protection (cut-open fuel hose)

Preliminary Work

General Preliminary Work

- Remove years that do not apply from the duplicate label
- Attach duplicate label (type label) in an easily visible place
- Apply the filling station sticker in an easily visible location

Engine compartment

WARNING:

- Open radiator cap, release pressure and close radiator cap again.
- Remove the wiper arms.
- Remove the coolant reservoir cap.
- Remove the wiper unit.
- Remove the air filter housing and the intake hose.

Outside of vehicle

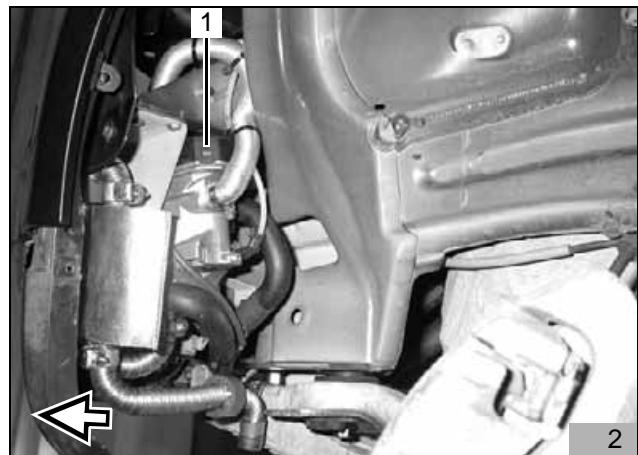
- Open fuel tank cap, release pressure from fuel tank system and close fuel tank cap again
- Remove left front wheel
- Remove the underride protection
- Remove left front wheel well trim
- Remove left bumper trim
- Remove the left-hand headlight.

Vehicle interior

- Remove left/right lower instrument panel cover (on right only with installation of Thermo Call 1.1)
- Remove rear corner trim at left/right in cargo space
- Remove left rear and front door sill trim
- Remove floor cover in cargo space
- Remove bracket and battery cover
- Disconnect battery
- Remove cover of fuel-tank sending unit behind second seat row at right

Heater unit installation location

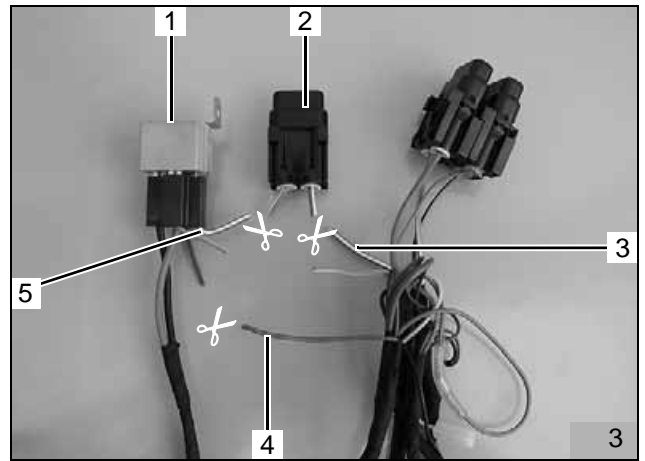
- The heater unit (1) is installed at the front left between the wheel well and the bumper. The installation position is horizontal, lengthwise in the driving direction.



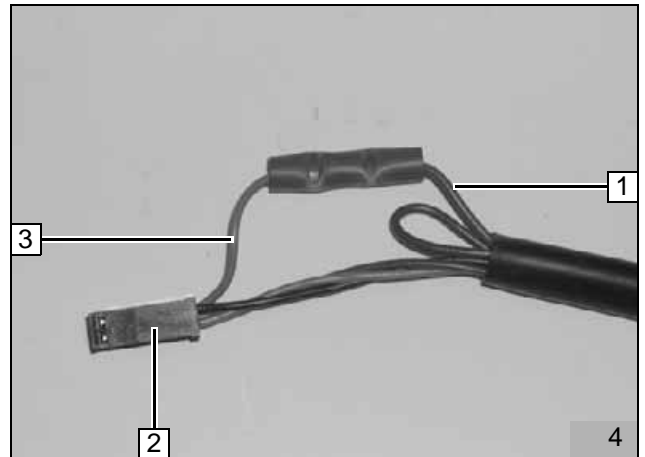
Electrical Connections

Preparing wiring harness for all vehicles

- Cut off brown (br) wire (4) to fan relay
- Insulate wire section to wiring harness and tie back
- Cut off green/white (gn/ws) wire (5) from fan relay
- Cut off red/white (rt/ws) wire (3) to blade fuse (2)
- Insulate wire section to wiring harness and tie back
- Cut open cable tie and discard entire fan relay (1) together with blade fuse (2)

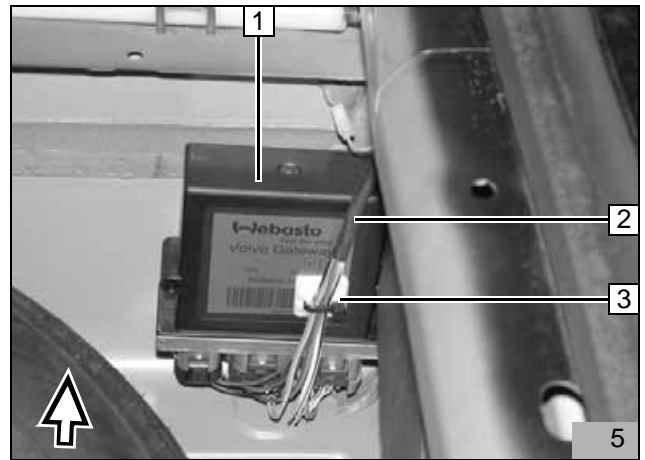


- Connect included purple (li) wire (3) to purple (li) wire from wiring harness of digital timer (1) with connector.
- Connect violet (li) wire (3) to connector of digital timer (2).



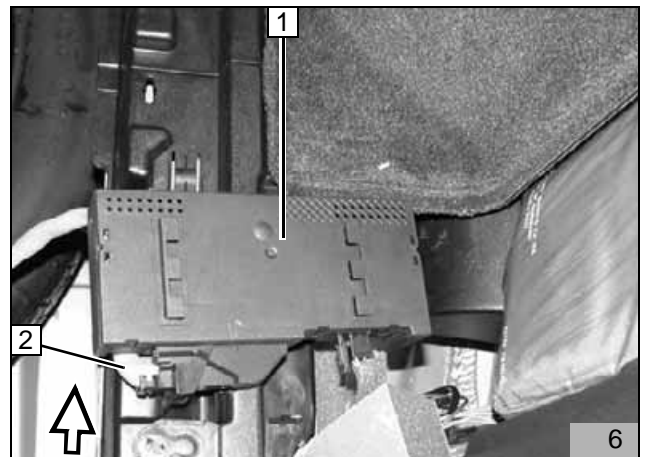
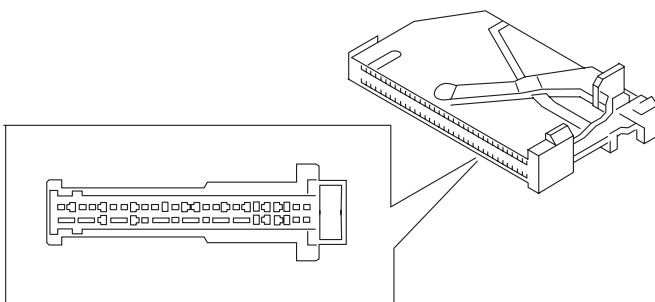
Installing gateway control unit

- Connect wiring harness (2) to gateway control unit (1) and route to left-hand side of vehicle.
- Glue wiring harness (2) onto control unit (1) with socket (3).
- Fasten gateway control unit (1) with cable tie.



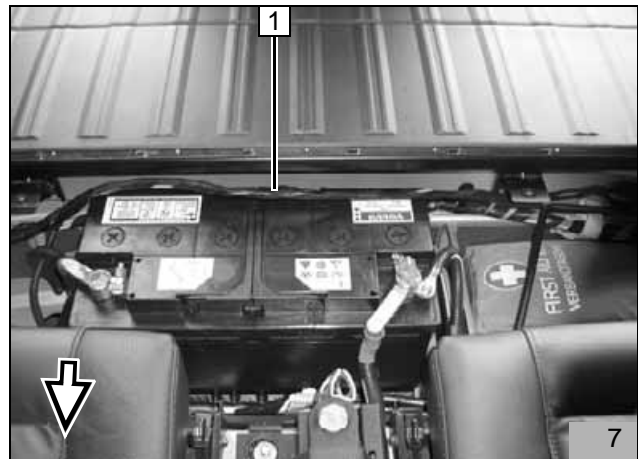
Only with Telestart

- If no AEM is installed, route AEM wiring harness and connect in accordance with separate installation instructions.
- Connect blue (bl) wire (2) from gateway wiring harness with microtimer to Pin 3 of 50-pin connector of AEM (1).
- Fasten AEM control unit with included bracket or suitable means.



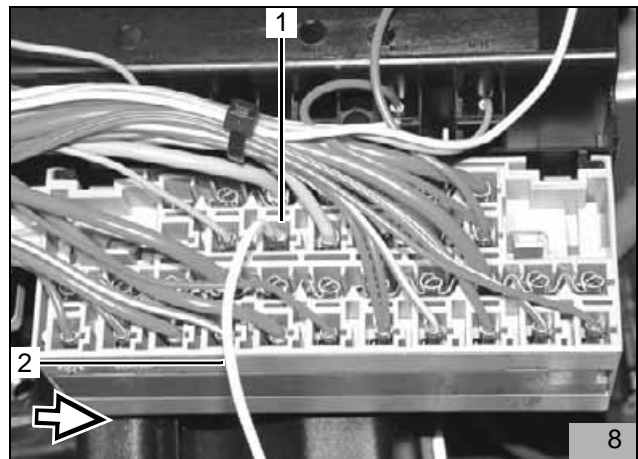
Routing wiring harness for gateway control unit

- Route wiring harness (1) behind battery to left-hand side to REM.
- Route white (ws) 0.5 mm² wiring harness (branch) to REM at rear left.
- Route wiring harness further under side trim to front, along original vehicle wiring harness in left-hand door sill into footwell on driver's side.

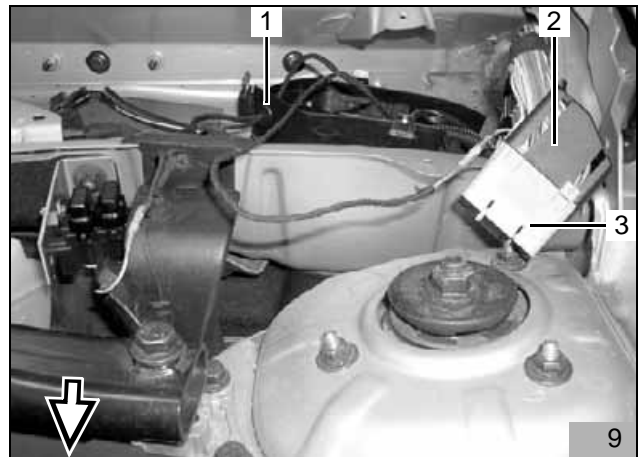


Gateway wiring harness up to 2004 model

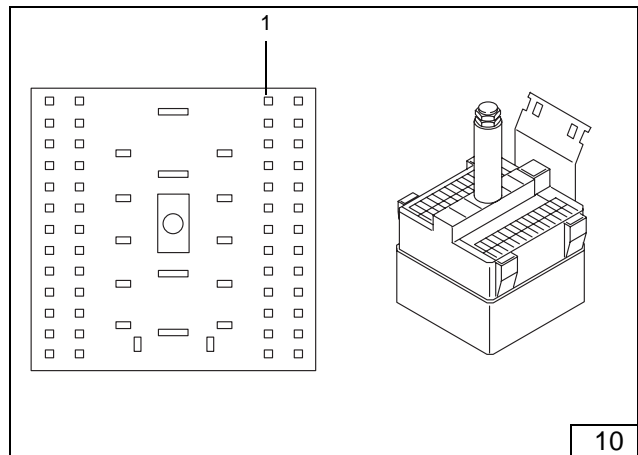
- Unclip fuse box and fold forward
- Unlock secondary lock of fuse box
- Connect white (ws) wire with microtimer (2) to free socket of fuse 16 (1) on back of fuse box
- Lock secondary lock of fuse box again and clip in fuse box
- Fasten all wiring harnesses with cable ties
- Insert 5 ampere fuse in fuse slot 16



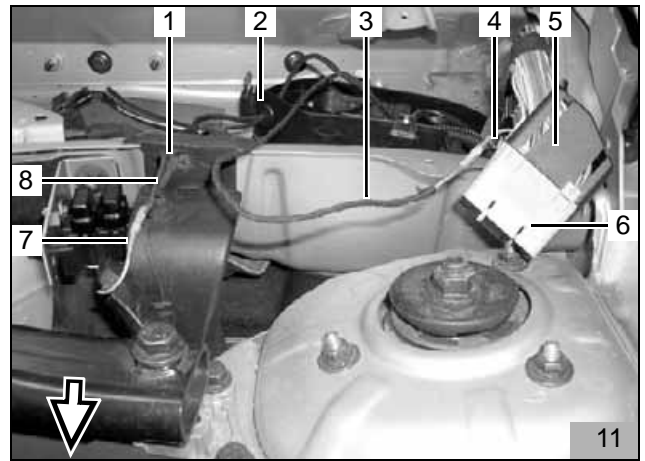
- Route green (gn) and green/white (gn/ws) wiring harnesses (branch) through existing opening into coolant reservoir
- Pull connector trim (2) off connector (3)
- Seal off cable pass through (grommet) (1) with butyl tape, e.g. with following part numbers: 1161780, 1161783, 1161784.



- Cut off green/white (gn/ws) wire, Pin F13 (1) approx. 50 mm before connector
- Insulate green/white (gn/ws) wire end to wiring harness and tie back

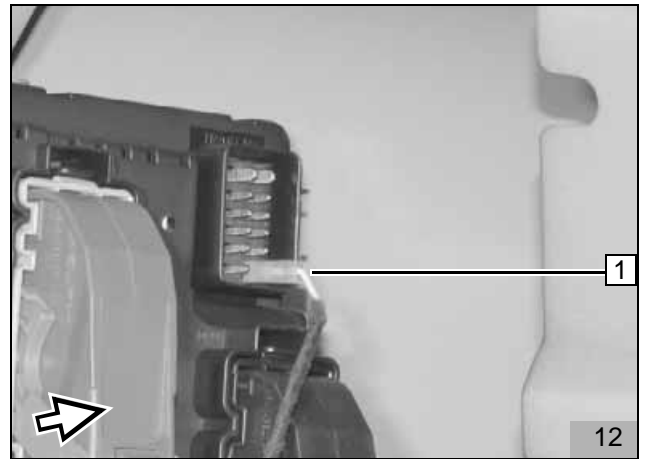


- Connect green/white (gn/ws) wire end (4) to connector and green/white (gn/ws) wiring harness (3) from gateway with connector (crimp and shrink)
- Route green (gn) wire (8) from gateway through cable pass throughs (1,2)
- Connect green (gn) wire (8) and green/white (gn/ws) wire (7) from wiring harness of heater unit with connector (crimp and shrink)
- Complete connector (6) with trim (5) and reconnect

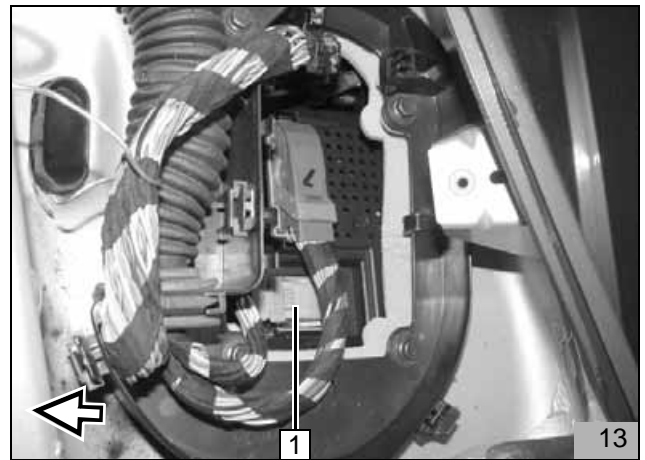


Gateway wiring harness from to 2005 model

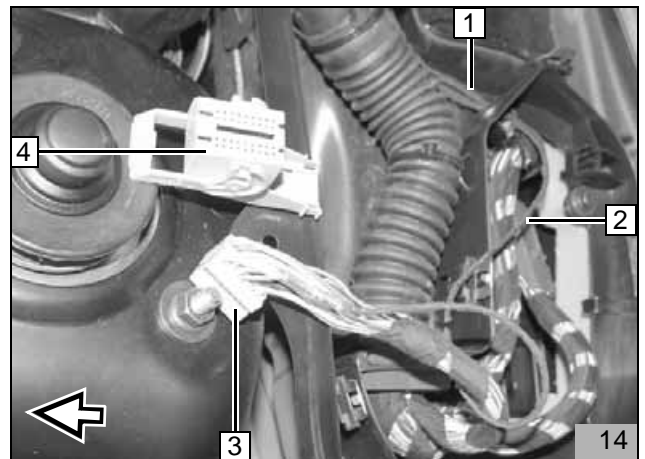
- Connect white (ws) wire (1) from gateway with microtimer to Pin F from connector E of REM (lower right socket, terminal 15).
- If Pin F is occupied (e.g. when a trailer towing device is installed), then connect white (ws) wire (1) from gateway to white (ws) 2.5 mm² wire from Pin F.



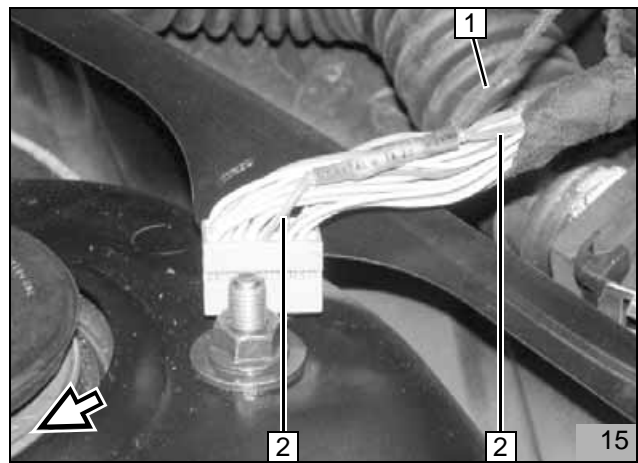
- Route green (gn) and green/white (gn/ws) wire from gateway wiring harness through existing opening from passenger compartment into coolant reservoir.
- Green (gn) wire will be routed to K3 relay later.
- Remove connector C (gray) (1) from CEM



- Pull compact housing (blue) (4) out of cover with locking device (light blue)
- 36-pin connector C (gray) (3)
- Green/white (gn/ws) wire (2)
- Green (gn) wire (1)

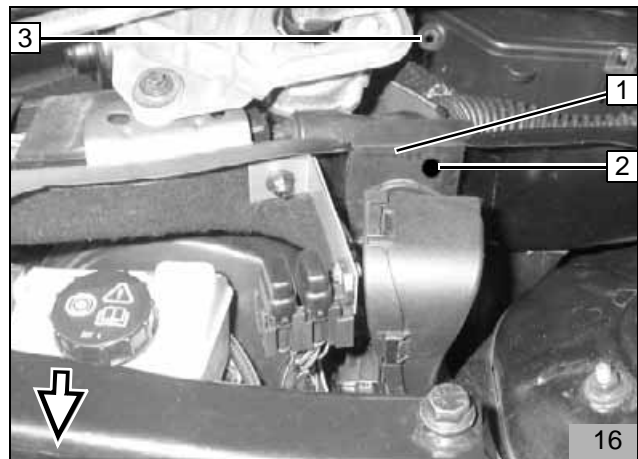


- Connect green/white (gn/ws) wire (1) from gateway wiring harness to green/white (gn/ws) wire (2) from connector C, Pin 32 as shown in wiring diagram.
- Produce connection according to wiring diagram with included connector.

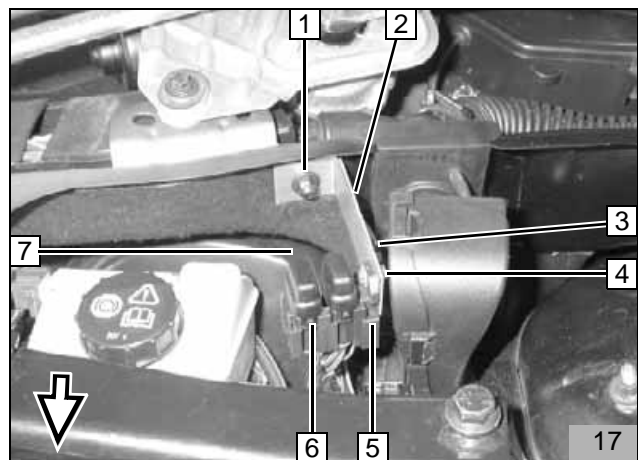


Installing fuse holder for all vehicles

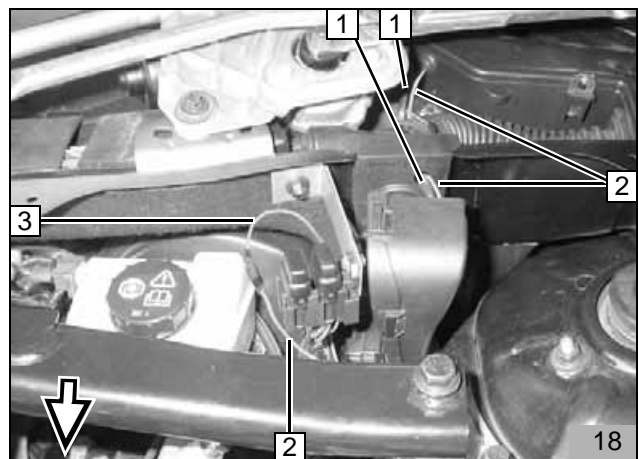
- Drill 18 mm dia. hole in plastic trim and insert protective rubber plug (3).
- Detach protective rubber plug (1).
- 10 mm dia. hole at Position (2). When drilling, watch components located behind!



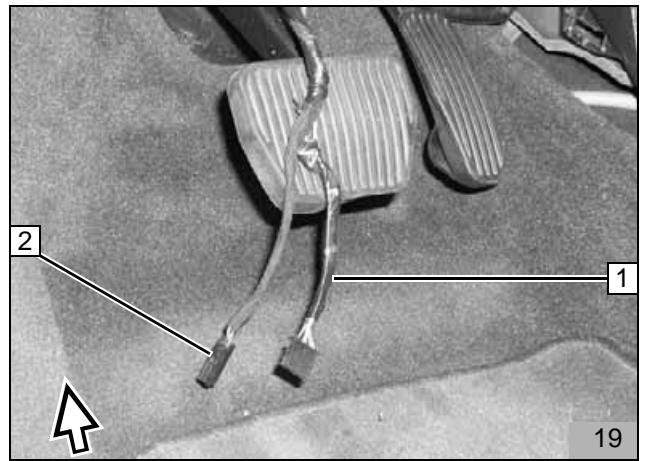
- Fasten fuse holder (2) with original vehicle stud bolt and plastic nut (1).
- Fasten prepared K3 relay (7) on fuse holder (2) with M5x16 bolt and flanged nut (3).
- Fasten retaining plate of fuse holder (5) on fuse holder (2) with washer and flanged nut (4).
- Mount fuses F1 and F2 (6).



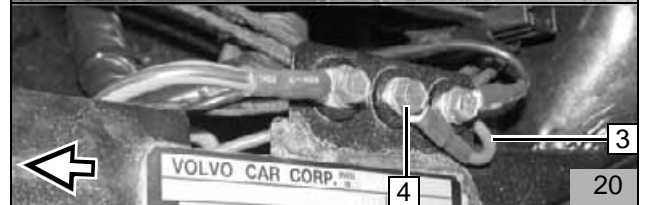
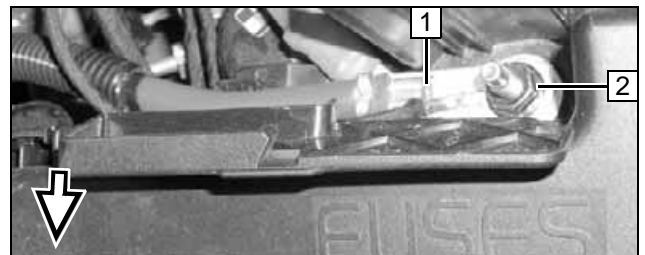
- Route wiring harness of digital timer (1) through prepared protective rubber plugs into passenger compartment.
- route green (gn) wire from gateway wiring harness (2) along wiring harness of digital timer through prepared protective rubber plugs to K3 relay and connect to green /white (gn/ws) wire from heater unit (3).



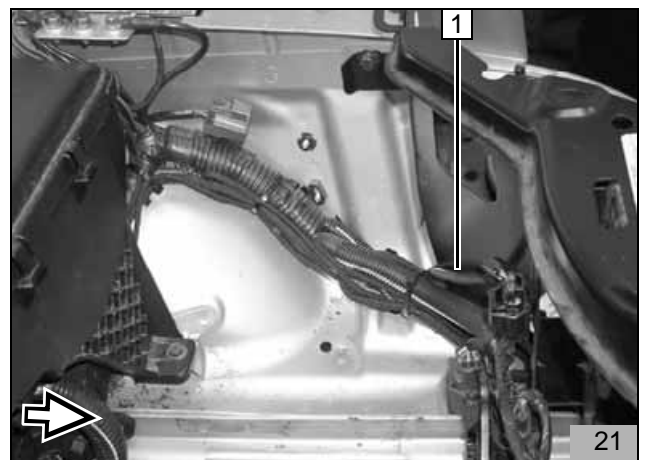
- Connect connector (2) to wiring harness of additional heater
- Connect connector (1) to Telestart receiver (see Telestart option)



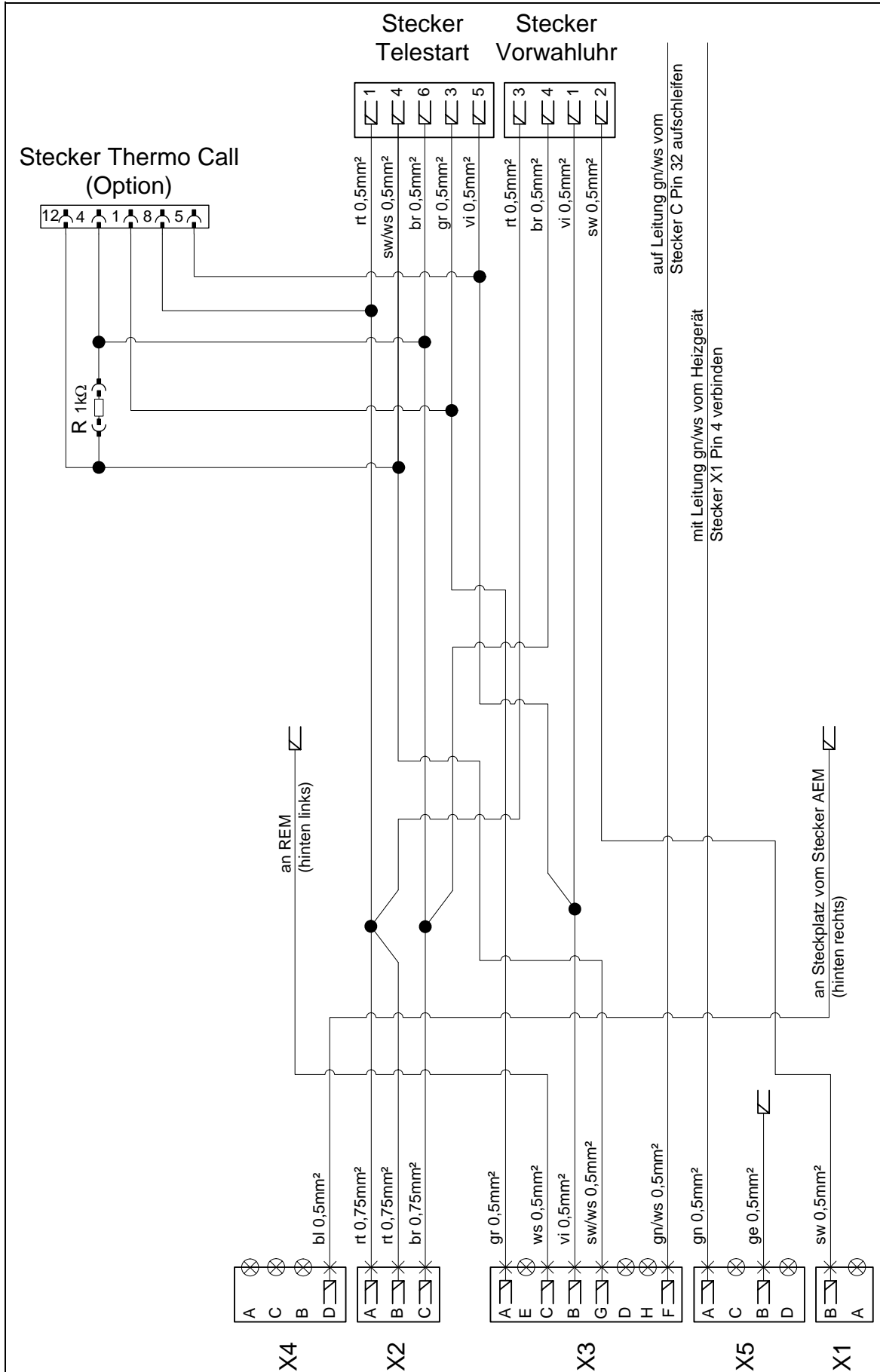
- Connect positive wire (8 mm dia. ring eye) (1) to positive support point (2)
- Connect ground wire (3) to ground support point (4)



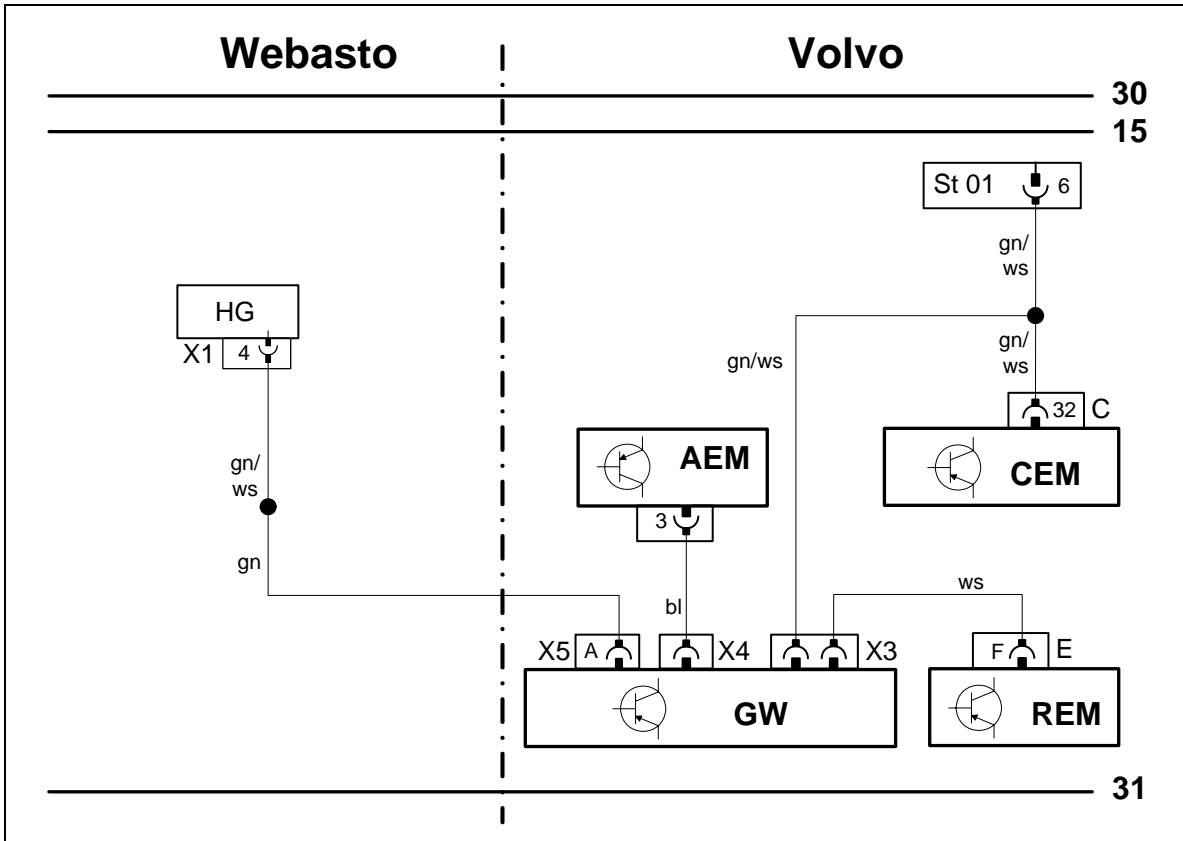
- Route wiring harness of heater unit (1) along original vehicle lines to left-hand headlight and further to installation location of heater unit.
- Fasten wiring harness with cable ties.



Gateway wiring harness



Wiring diagram



Legend for wiring diagram:

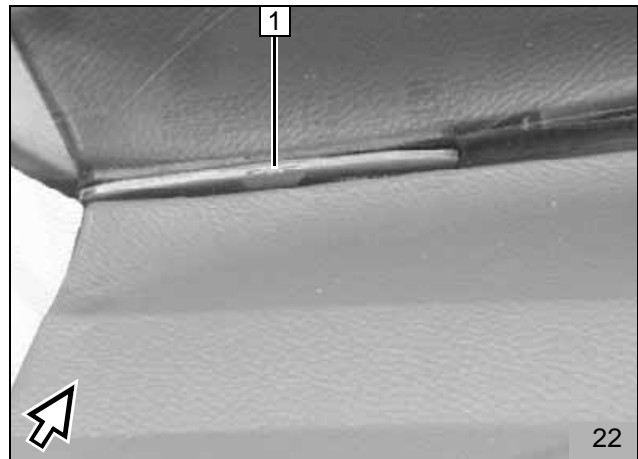
Webasto components		Volvo components		Colors and symbols	
HG	Heater unit TT-C/E	GW	Gateway	ws	white
X1	Connector on heater unit	X3	Connector on gateway	gn	green
		X4	Connector on gateway	bl	blue
		X5	Connector on gateway		
		AEM	Comfort electronics module		
		CEM	Central electronics module		
		C	36-pin connector, gray		
		REM	Rear electronics module		
		E	Connector on REM		
		ST01	Connector for CPM		

Remote option (Telestart)

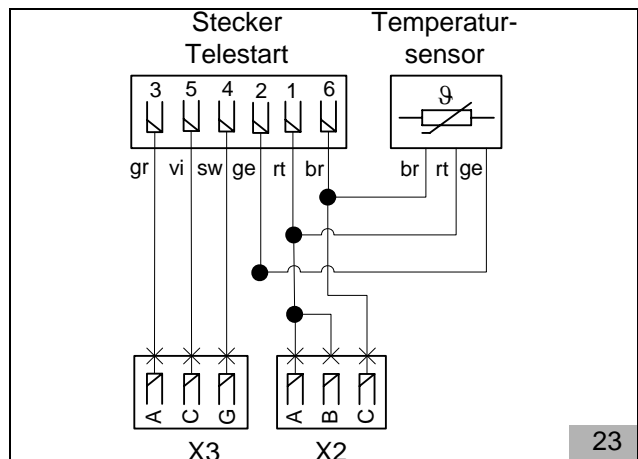
Note:

The installation location of the Telestart antenna (1) is on the windshield at the lower left!
Produce connections according to general installation instructions and fasten lines with cable ties.

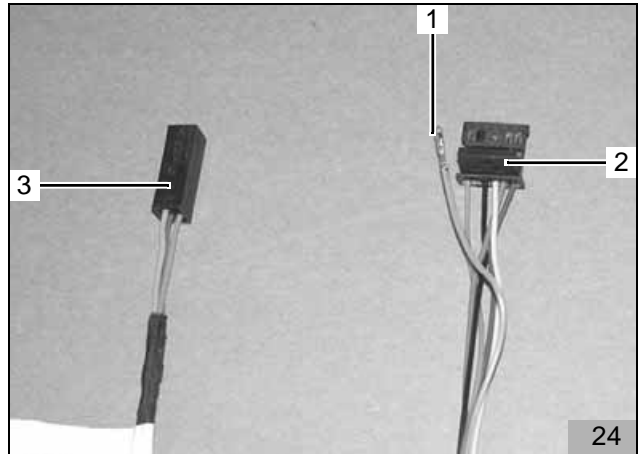
- Clean and degrease bonding surface on windshield
- Glue on Telestart antenna (1)



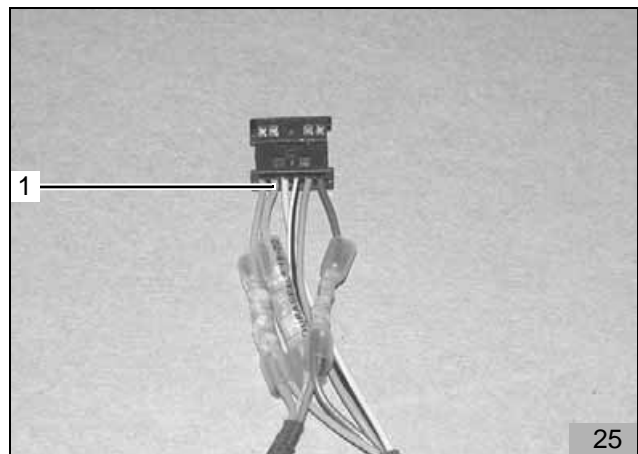
Preparations only with Telestart T100 HTM



- Disconnect yellow (ge) wire (1) from 6-pin connector (2) of Telestart T100 HTM Y-cable
- Cut yellow (ge) wire to length after approx. 60 mm
- Discard remaining Y-cable
- Cut off and discard connector of temperature sensor (3)



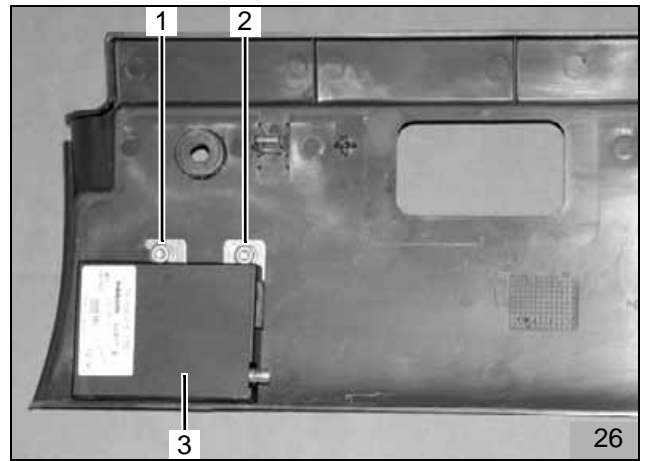
- Engage yellow (ge) additional line ge (1) in Telestart connector from gateway wiring harness
- Produce connections as shown in wiring diagram



- Lay receiver (3) on trim as shown and copy hole pattern 1,2)
- Drill two 5.5 mm dia. holes
- Fasten receiver and bracket with two M5x12 bolts, washers, spring lockwashers and nuts
- Connect antenna cable and Telearstart connector to receiver
- Reinstall trim

Note:

To teach the Telearstart, the connector must be disconnected at the Telearstart receiver so that the connection to the gateway is separated!



Remote option (Thermo-Call)

Note:

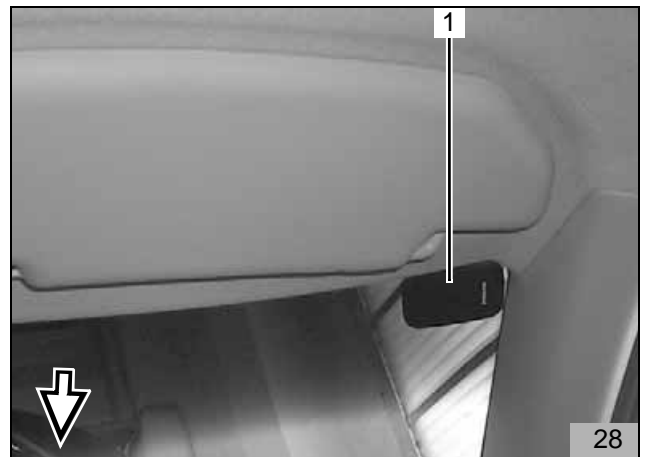
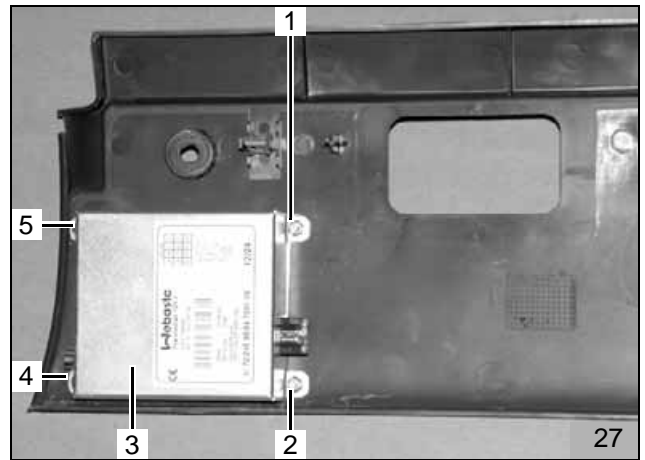
Observe the included general installation instructions for the Thermo Call option.

- Copy hole pattern (1,2,4,5) of receiver (3) to footwell trim on driver's side as shown
- Drill hole in accordance with bolts to be used
- Fasten receiver bracket with suitable bolts (1,2,4,5)
- Connect receiver (3) to bracket

Note:

Clean and degrease the bonding surface for the antenna prior to mounting.

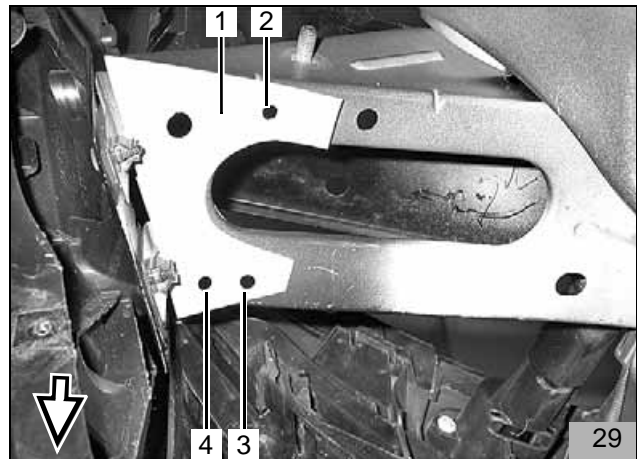
- Glue antenna (1) onto windshield at upper right as shown
- Route antenna cable downward through trim of A-pillar and then into footwell on driver's side
- Produce connections to adapter wiring harness Order No. 12001637, or connect Thermo Call as shown in wiring diagram, Pg. 10. Fasten all wiring harnesses with cable ties.
- When installing Telearstart and Thermo Call, installation location of Telearstart receiver must be specified in coordination with customer.



Installing Heater Unit

Preparing installation location

- Lay on included template (1) as shown
- Copy hole pattern (2,3,4)
- Drill three 7.0 mm dia. holes

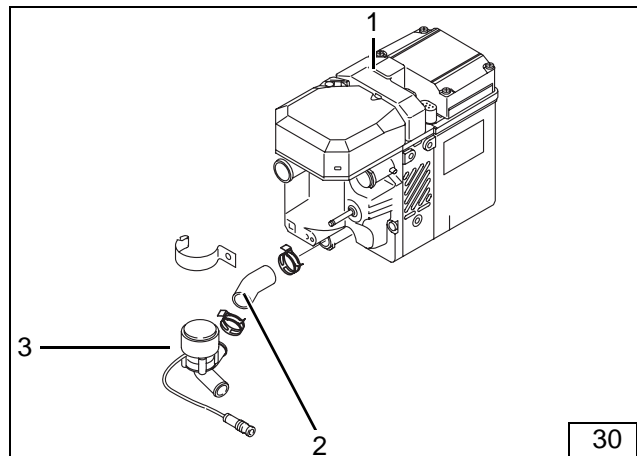


- Pry off central cover (1) on heater unit
- Cut off connector of circulating pump
- Remove circulating pump (/3) and coolant hose (2) on heater unit
- Connect adapter wiring harness of circulating pump on heater unit connector of circulating pump and route through groove in heater unit

Note:

When mounting the central cover, ensure freedom of movement of the adapter wiring harness of the circulating pump!

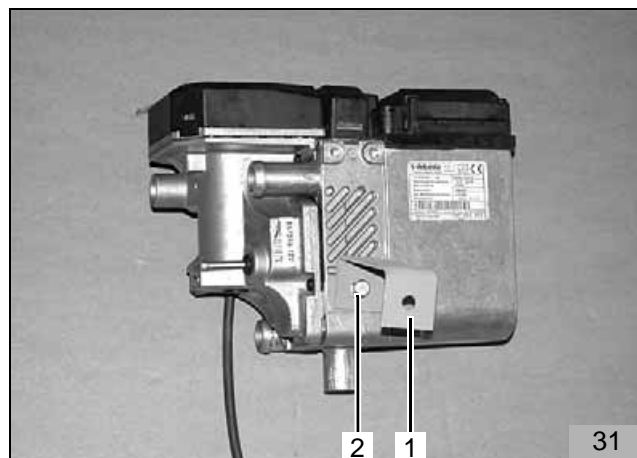
- Mount central cover (1) on heater unit again



Note:

Use only special bolt of the type EJOT PT to fasten the strut (1) on the heater unit (Tightening torque 10 Nm)!

Fasten strut (1) on heater unit with special bolt of the type EJOT PT (2) as shown

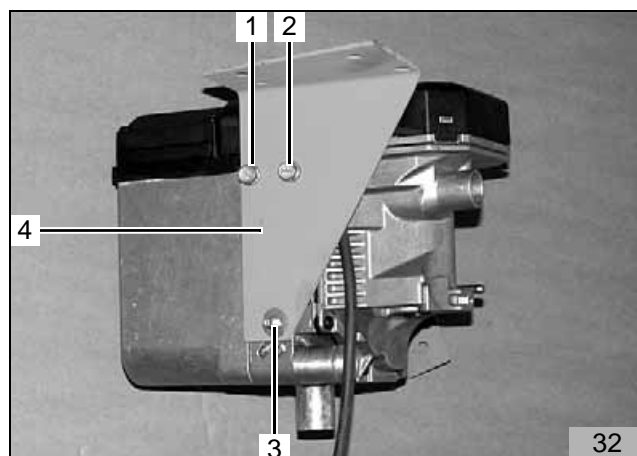


Note:

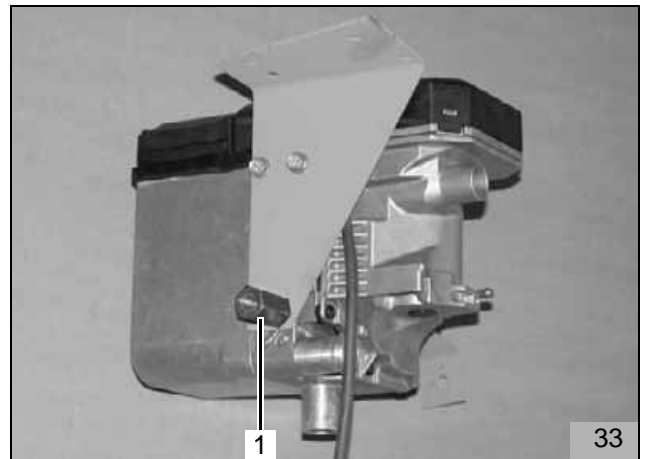
Use only the special bolts and special stud bolts of type EJOT PT included in the delivery scope to fasten the bracket on the heater unit (Tightening torque 10 Nm)!

Insert two washers between bracket and heater unit at Position (3).

- Screw Ejot stud (3) into heater unit
- Lay 2 B6.3 washers on stud bolt (3)
- Mount bracket (4) on stud bolt (3)
- Fasten bracket (4) on heater unit with 2 Ejot screws (1,2) (tightening torque 10 Nm)

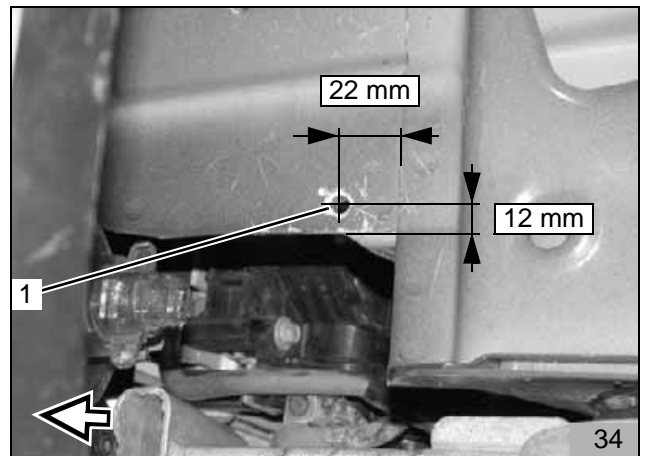


- Fasten 30 mm spacer nut (1) on stud bolt

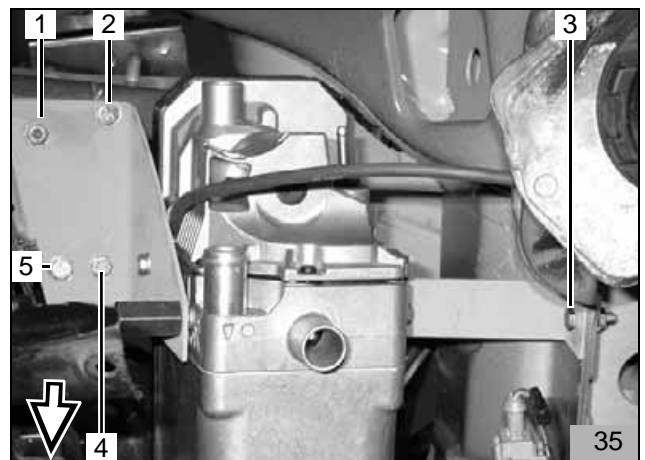


Installing heater unit

- Drill 7 mm dia. hole (1) as shown



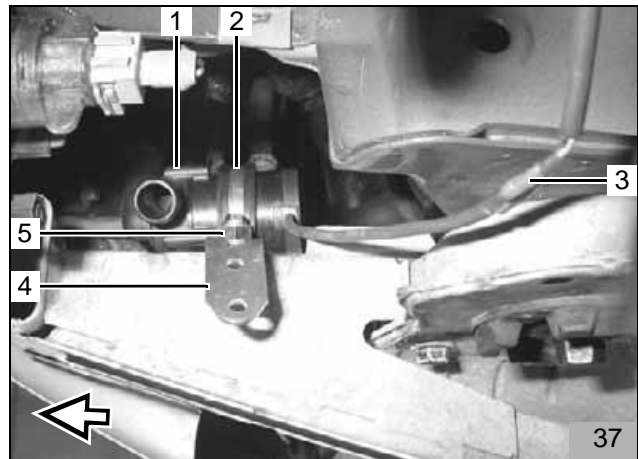
- Connect wiring harness of heater unit
- Fasten premounted heater unit with four M6x20 bolts (1,2,4,5), A7.4 washers and flanged nuts
- Fasten strut to hole with M6x20 bolt (3) and flanged nut



- Wiring harness of heater unit (1)



- Angle down perforated bracket (4) by 45° at center
- Fasten water pump (1) on existing hole on engine support with M6x85 bolt, rubber-coated p-clamp (4), 15 mm spacer nut (5), perforated bracket (4), A7.4 washer and flanged nut
- Drill out hole to 7 mm dia. if necessary
- Connect water pump wire with extension (3) to same color

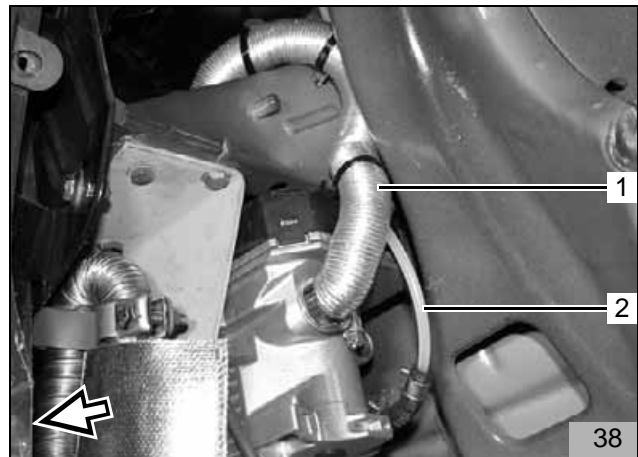


Combustion-Air Intake Pipe

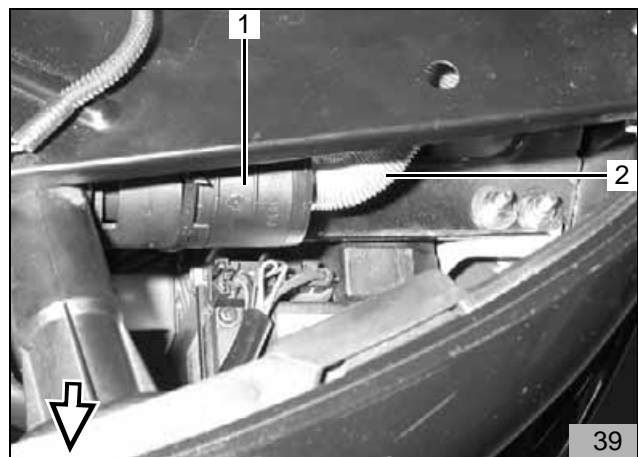
Note:

Ensure proper installation position of combustion-air intake muffler, see "Installation Instructions"!

- Mount combustion-air intake pipe (1) with slotted side on heater unit combustion-air connection piece and secure with hose clamp
- Route combustion-air intake pipe as shown
- Fasten mecanyl fuel line (2) on heater unit with hose section and hose clamps



- Screw combustion-air intake muffler (1) as far as possible into combustion-air intake pipe (2)
- Fasten combustion-air intake muffler and combustion-air intake pipe with cable ties

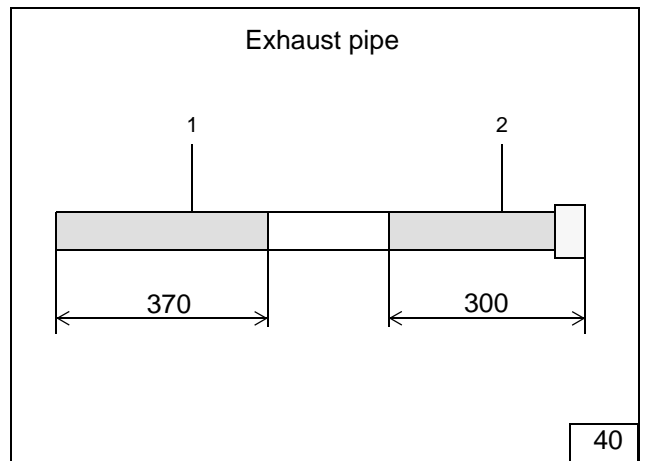


Exhaust system

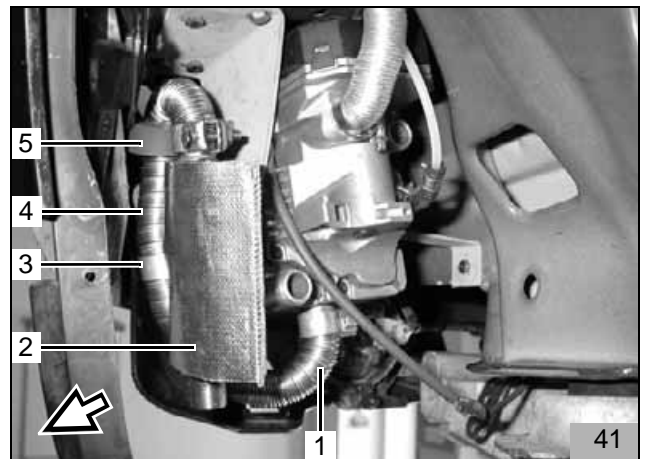
WARNING:

Ensure sufficient spacing to hoses and lines when installing exhaust system.

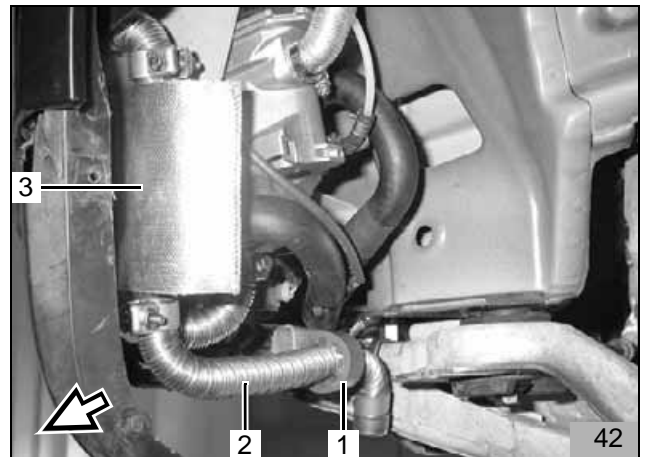
- Cut exhaust pipe (1) and exhaust-pipe end section (2) to length as shown



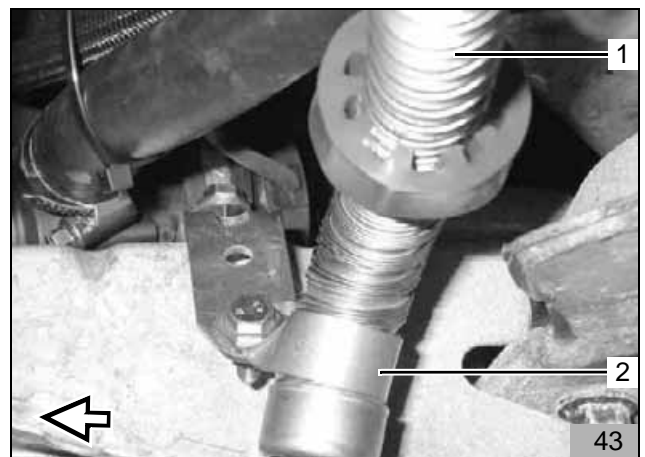
- Mount 370 mm long exhaust pipe (1,4) on exhaust muffler (2) and secure with hose clamp
- Shape exhaust pipe as shown and push on rubber isolator (5)
- Push heat shield (2) onto muffler
- Fasten 370 mm long exhaust pipe (1,4) on premounted spacer nut with p-clamp (3), M6x16 bolt and A6 spring lockwasher
- Connect exhaust pipe to heater unit and secure with hose clamp



- Connect 300 mm long exhaust-pipe end section (2) to exhaust muffler (3) and fasten with hose clamp
- Connect red (rt) rubber isolator (1) to exhaust-pipe end section



- Fasten 300 mm long exhaust-pipe end section (1) on perforated bracket with p-clamp (2), M6x20 bolt and flanged nut



Integration in Water Circuit

Note:

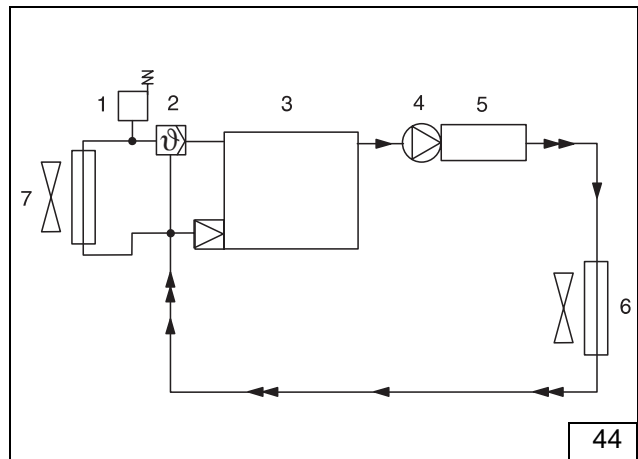
Tighten all hose clamps to 2.0 + 0.5 Nm. Any coolant running off should be collected with an appropriate container!

Install hoses so that they are kink-free.

The connection of the heater unit "in series" (inline) in the vehicle coolant circuit is described in the following.

Legend:

- 1 Expansion tank
- 2 Radiator thermostat
- 3 Vehicle engine
- 4 Circulating pump (heater unit)
- 5 Heater unit
- 6 Heater heat exchanger (vehicle)
- 7 Radiator



Coolant connection for 2.5 liter and 3.0 liter engine

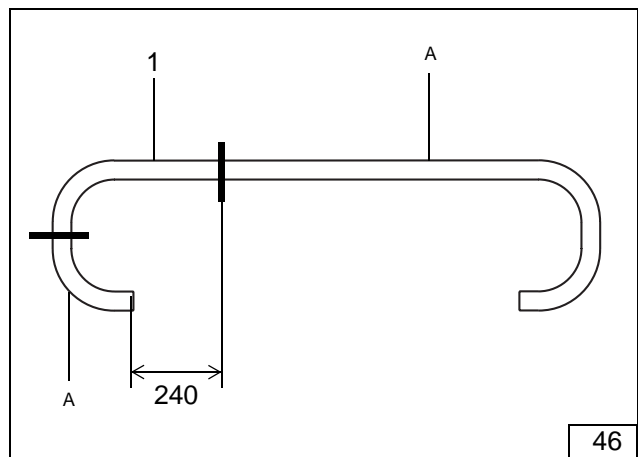
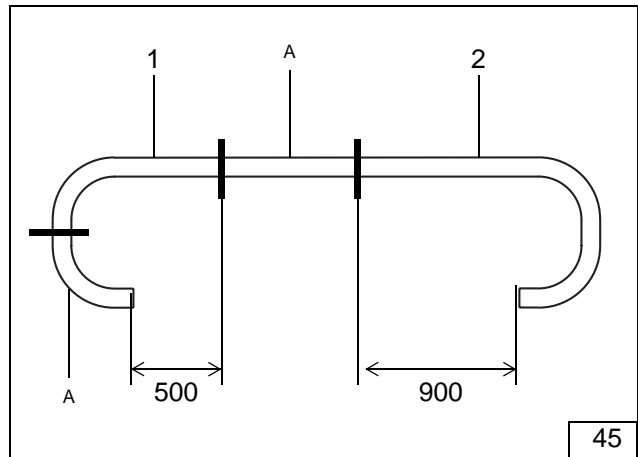
Cut off hose sections from included coolant hoses as shown in Figure 45 and 46:

- 1 x 500 mm long + 90° elbow (1)
(from engine outlet to water-pump coolant inlet)
- 1 x 900 mm long + 180° elbow (2)
(from heater-unit coolant outlet to heat-exchanger coolant inlet)

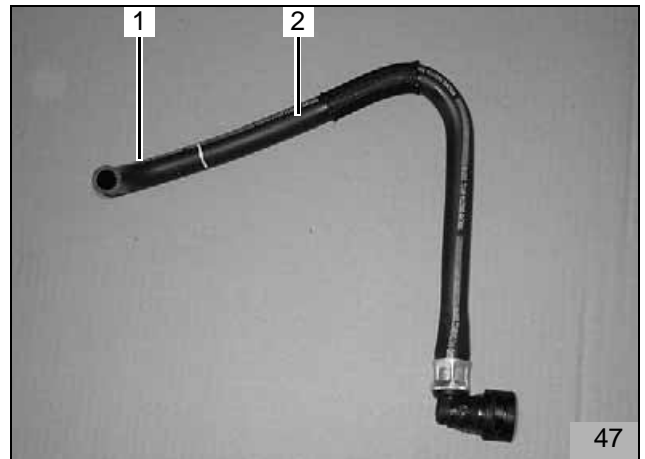
- Push included braided protection hose onto 500 mm long coolant hose (1), cut to length and fasten ends with heat shrink plastic tubing
- Push included braided protection hose onto 900 mm long coolant hose (2), cut to length and fasten ends with heat shrink plastic tubing

- 1 x 240 mm long + 90° elbow (1)
(from water-pump coolant outlet to heater-unit coolant inlet)

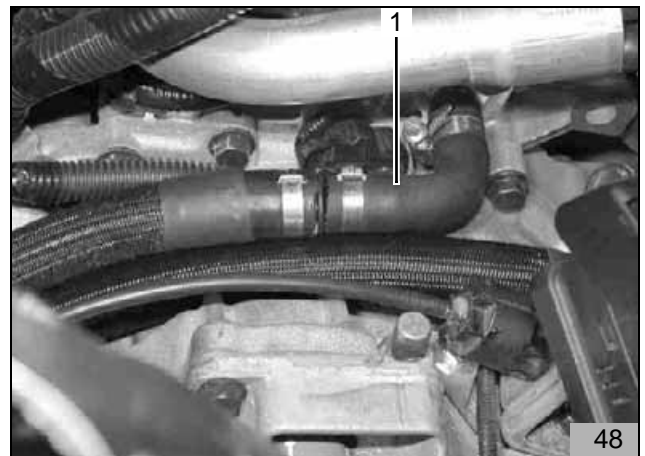
a = section



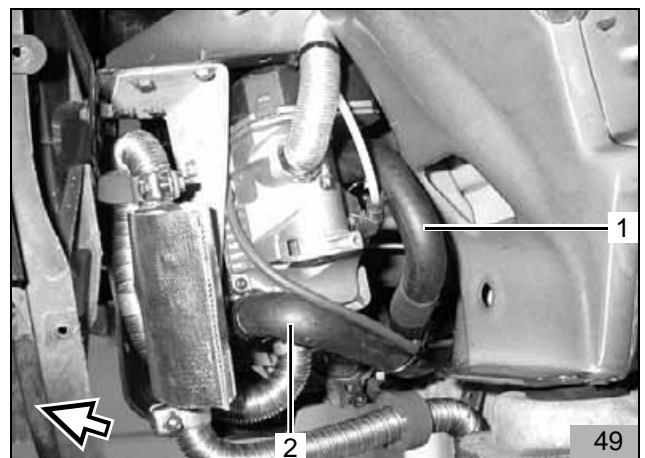
- Cut off original vehicle coolant hose (1,2) as shown



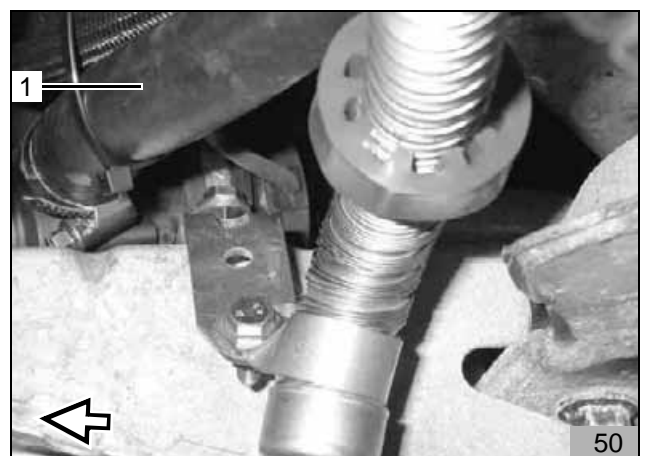
- Connect cut-off 90° elbow (1) to engine outlet, turn toward front in driving direction and fasten with hose clamp



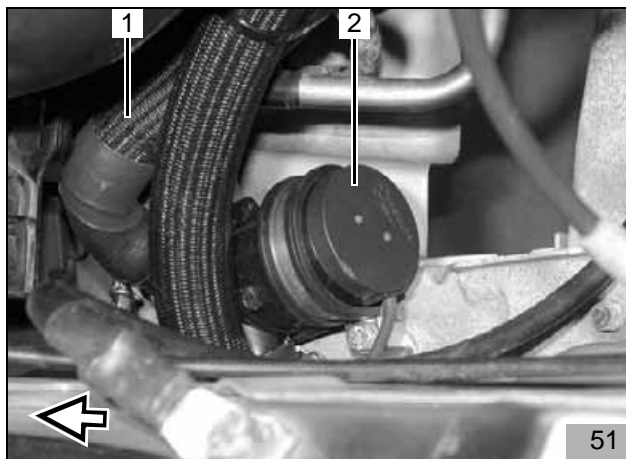
- Connect coolant hose, 900 mm long (1) to heater-unit coolant outlet with 180° elbow, align and fasten with hose clamp as shown
- Connect coolant hose, 240 mm long (2) to heater-unit coolant inlet with 90° elbow, align and fasten with hose clamp as shown



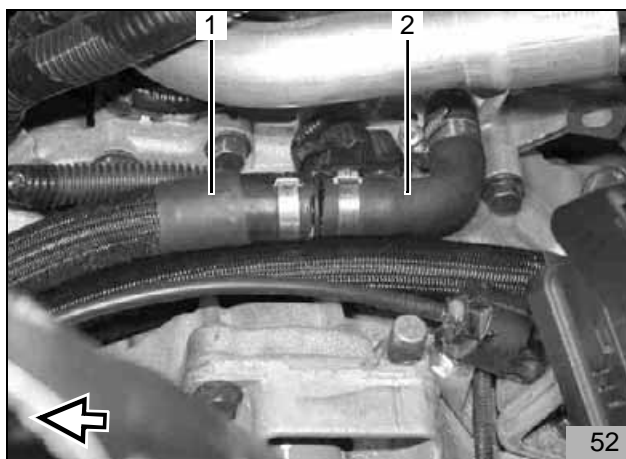
- Connect 240 mm long coolant hose (1) with straight end to water-pump coolant outlet and fasten with hose clamp



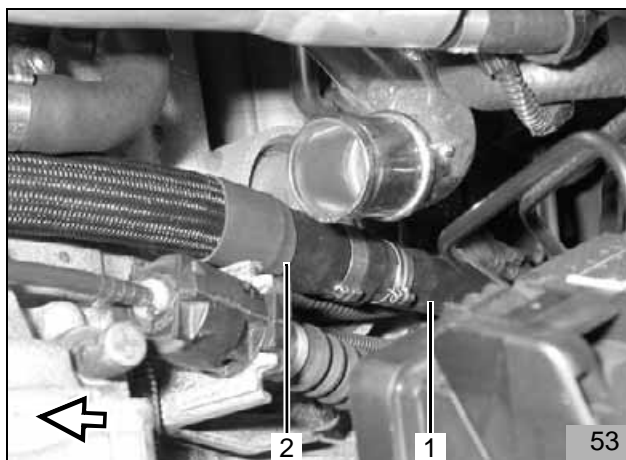
- Connect 500 mm long coolant hose (1) with 90° elbow to water-pump coolant inlet, route to cutting point and fasten with hose clamp as shown



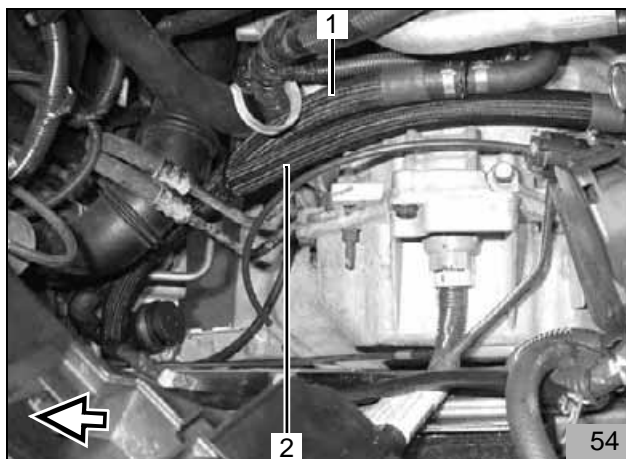
- Connect 500 mm long coolant hose (1) from water-pump coolant inlet and original vehicle 90° elbow (2) with 18/20 connecting pipe and spring clips



- Connect 900 mm long coolant hose (2) from heater-unit coolant inlet and coolant hose (1) to heat-exchanger coolant inlet with 18/20 connecting pipe and spring clips



- Align coolant hoses (1,2) in engine compartment and fasten with cable ties as shown

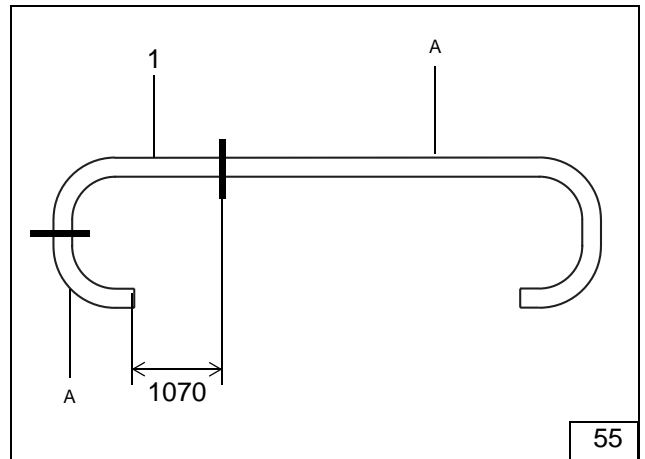


Coolant connection for 3.2 liter engine

Cut off hose sections from included coolant hoses as shown in Figure 55 and 56:

1 x 1,070 mm long + 90° elbow (1)
(from engine outlet to water-pump coolant inlet)

- Push included braided protection hose onto 1070 mm long coolant hose (1) up to first elbow and fasten ends with heat shrink plastic tubing

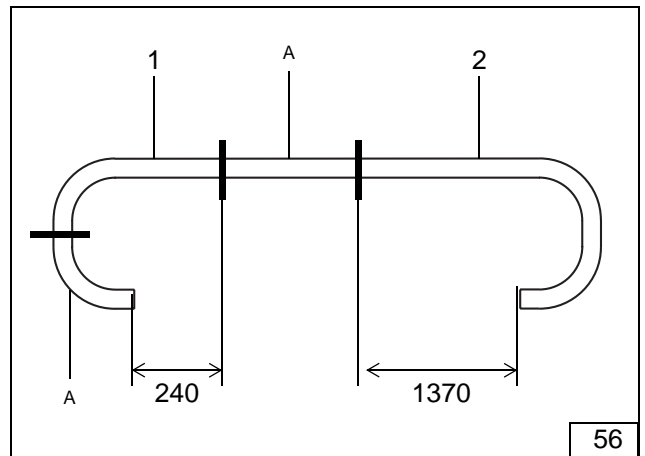


1 x 240 mm long + 90° elbow (1)
(from water-pump coolant outlet to heater-unit coolant inlet)

1 x 1,370 mm long + 180° elbow (2)
(from heater-unit coolant outlet to heat-exchanger coolant inlet)

- Push included braided protection hose onto 1,370 mm long coolant hose (2) up to first elbow and fasten ends with heat shrink plastic tubing

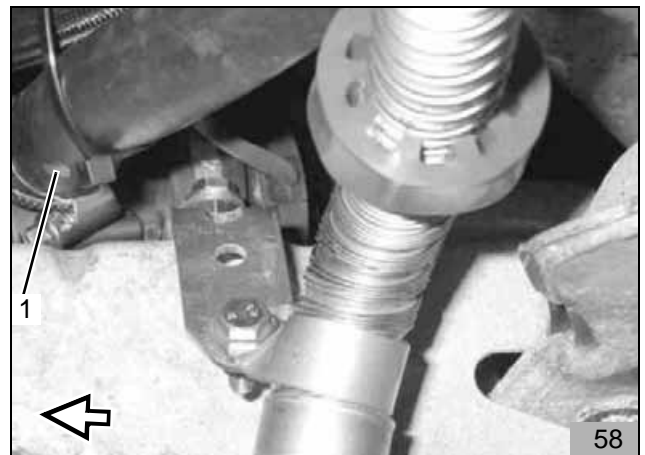
a = section



- Connect coolant hose, 240 mm long (1) to heater-unit coolant inlet with 90° elbow, align and fasten with hose clamp as shown



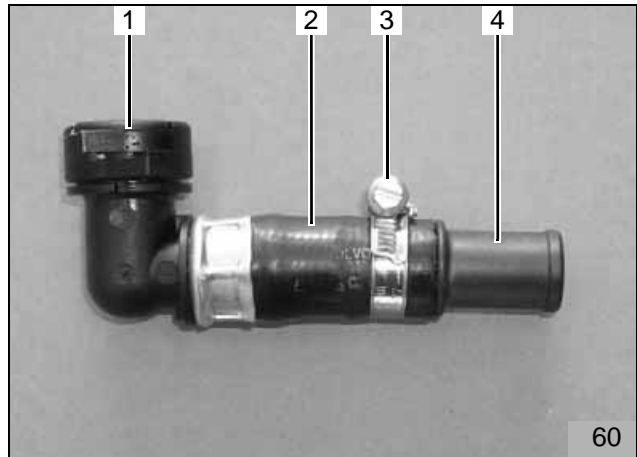
- Connect 240 mm long coolant hose (1) with straight end to water-pump coolant outlet and fasten with hose clamp



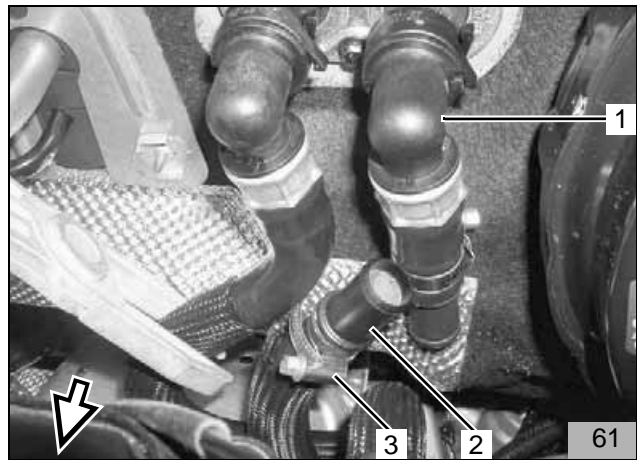
- Cut off original vehicle coolant hose as shown. Discard hose elbow. Loosen coupling (1) and pull off.



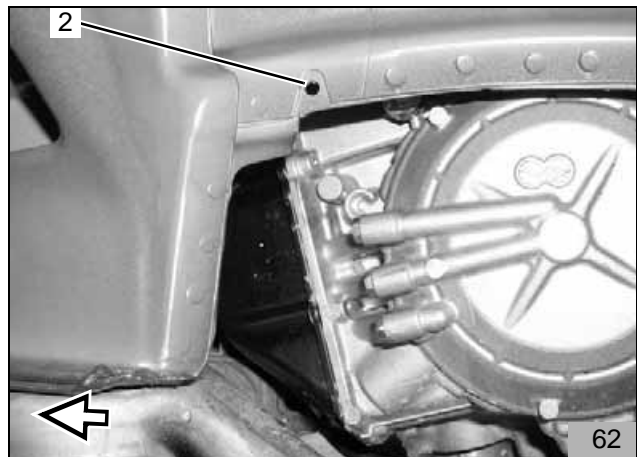
- Connect shortened hose (2) to coupling (1) with 18/20 connecting pipe (4) and hose clamp (3).



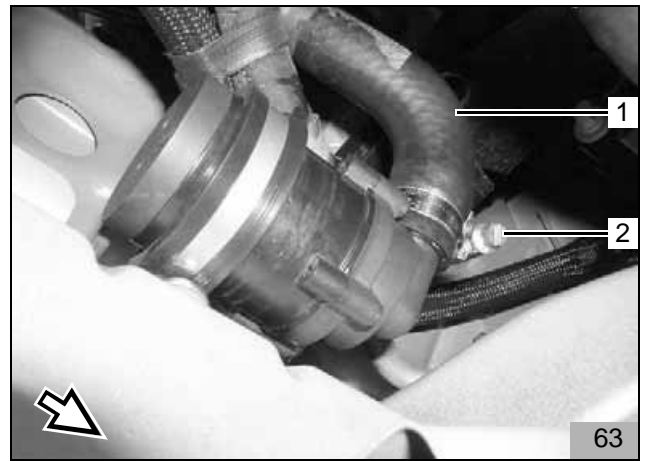
- Mount coupling (1) and engage. Connect original vehicle hose from engine outlet with 15/20 connecting pipe (2) and hose clamp (3).



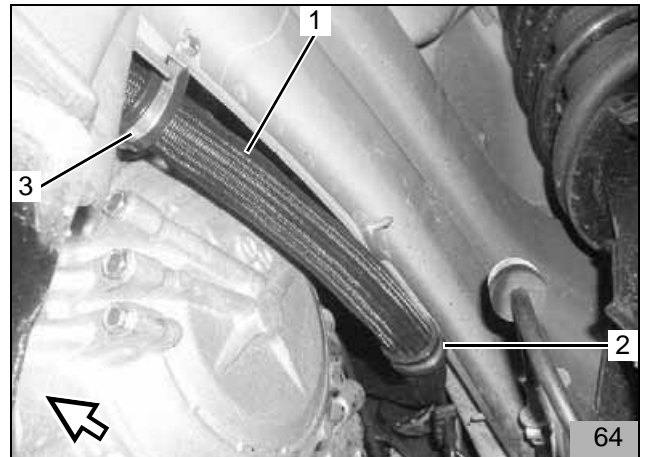
- 7.0 mm dia. hole in side section of wheel well on left



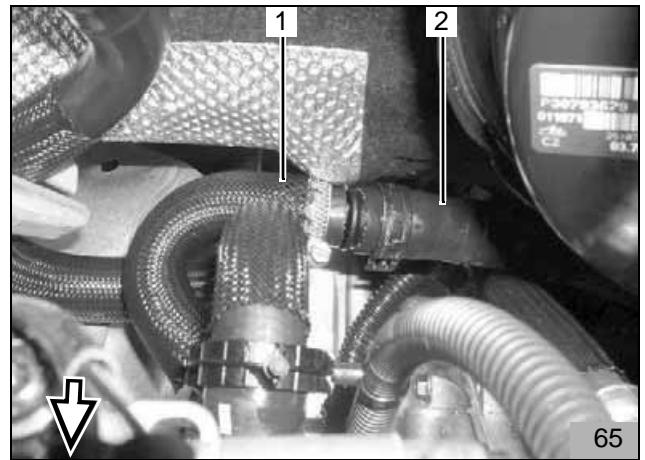
- Mount coolant hose, 1,070 mm long (1) on water-pump coolant inlet with 90° elbow and fasten with hose clamp (2)



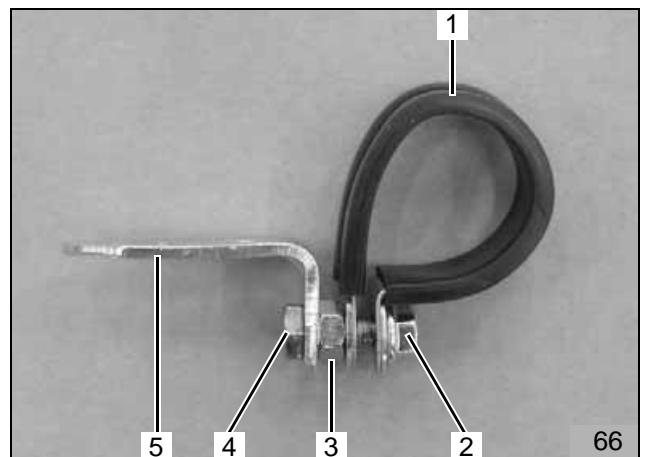
- Route 1,070 long coolant hose (1) below frame side member to firewall.
- Fasten to original vehicle stud bolt at Position (2) with 29 mm dia. rubber-coated p-clamp and plastic nut and at Position (3) with 29 mm dia. rubber-coated p-clamp, M6x20 bolt and flanged nut.



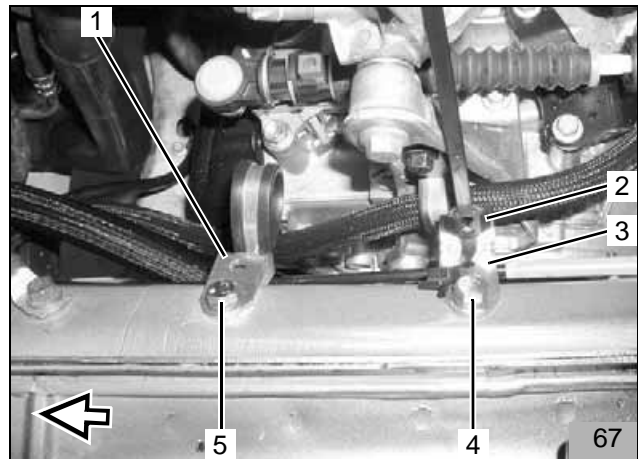
- Push 1,070 long coolant hose (2) onto connecting pipe to hose on engine outlet (1) and fasten with 27 mm dia. spring clip.



- Screw M6x20 bolt (4) with nut (3) onto angle bracket (5).
- Loosely fasten 29 mm dia. rubber-coated p-clamp (1) with M6 flanged nut (2).



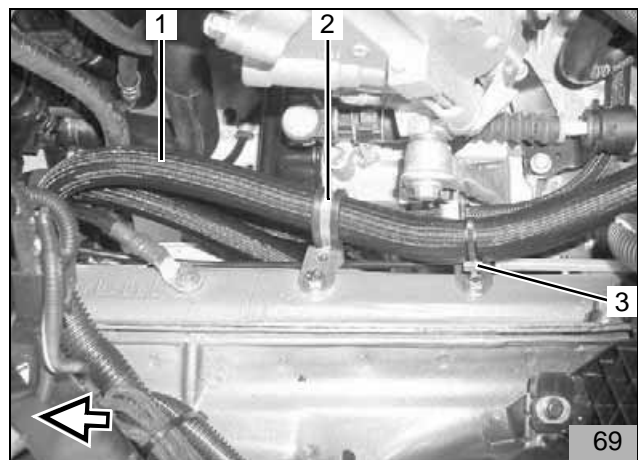
- Fasten premounted angle bracket (1) on original vehicle threaded hole with M8x20 (5) bolt and spring lockwasher as shown.
- Fasten angle bracket (3) on original vehicle threaded hole with M8x20 (4) bolt and spring lockwasher as shown.
- Clip cable tie clip (2) into hole of short leg.



- Mount 1,370 mm long coolant hose (1) with 180° elbow on heater-unit outlet and fasten with hose clamp.



- Route 1,370 mm long coolant hose (1) through rubber-coated p-clamp (2) to firewall
- Fasten hose at Position (3) with cable tie
- Align hose and tighten bolts



- Connect 1,370 long coolant hose (2) to connecting pipe to heat exchanger inlet and fasten with 27 mm dia. spring clip (1).



Fuel Connection

WARNING:

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

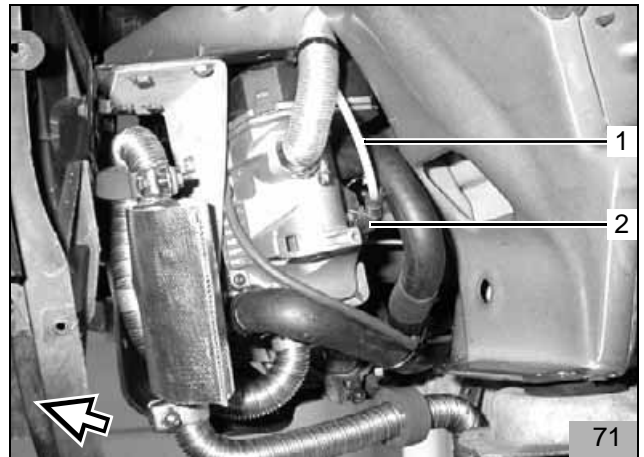
Catch any fuel running off with an appropriate container.

Route fuel line so that it is protected against stone impact. Mount the fuel line and wiring harness with rub protection on sharp edges.

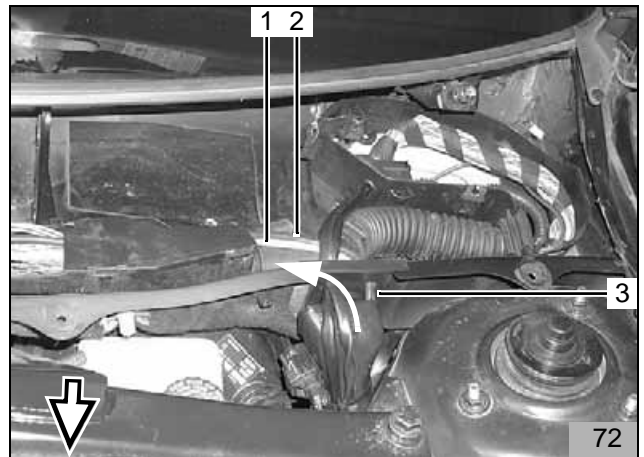
Note:

Connect 6,000 mm long Mecanyl fuel line to heater unit

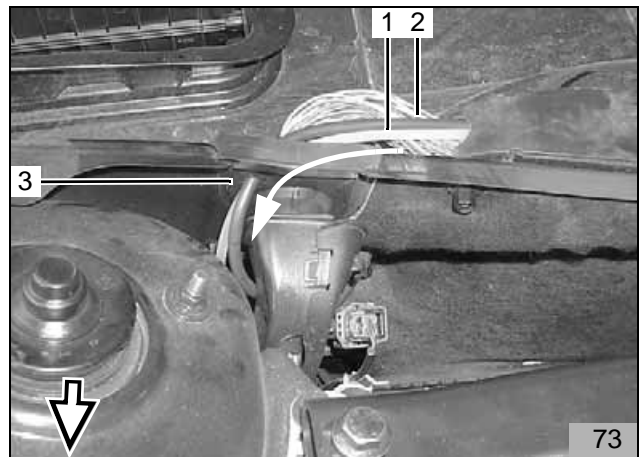
- Connect Mecanyl fuel line (1) to heater unit with hose section (2) and 10 mm dia. hose clamps
- Route Mecanyl fuel line (1) along heater-unit wiring harness to fuse/relay box



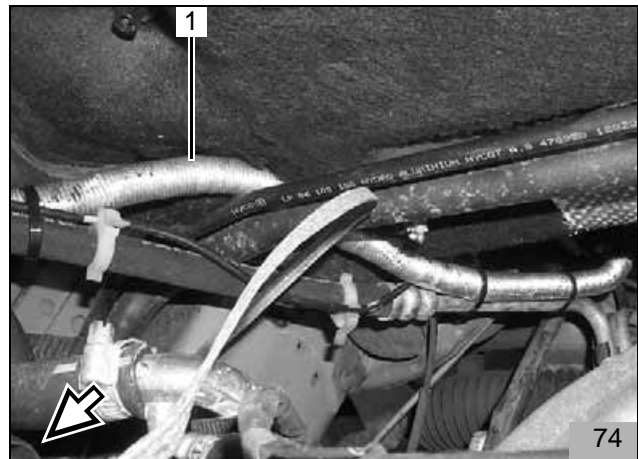
- Drill 10.0 mm dia. hole (3) in pass through to coolant reservoir
- Route Mecanyl fuel line (1) and wiring harness of metering pump (2) through hole (3) into coolant reservoir



- Drill 10.0 mm dia. hole (3) in pass through to coolant reservoir
- Route Mecanyl fuel line (1) and wiring harness of metering pump (2) from hole (57/3) in coolant reservoir to right and through hole (58/3) into engine compartment again as shown in Figure 57 and Figure 58



- Push included heat protection hose (1) onto Mecanyl fuel line and wiring harness of metering pump
- Route Mecanyl fuel line and wiring harness of metering pump along original vehicle fuel lines on firewall to underbody
- Position heat protection hose as shown



- Route Mecanyl fuel line (2) and wiring harness of metering pump (1) along original vehicle fuel lines to fuel tank as shown

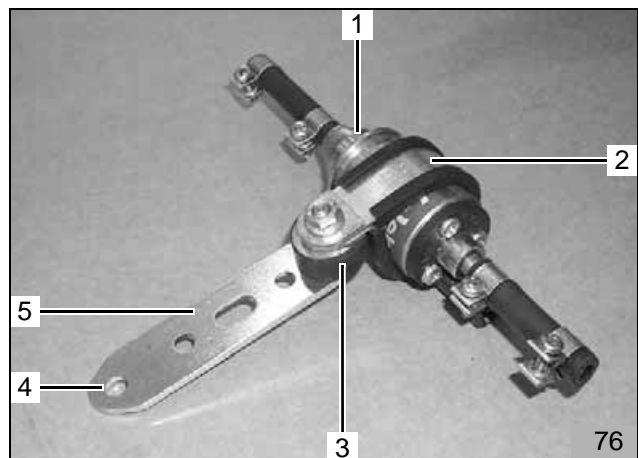


Metering pump

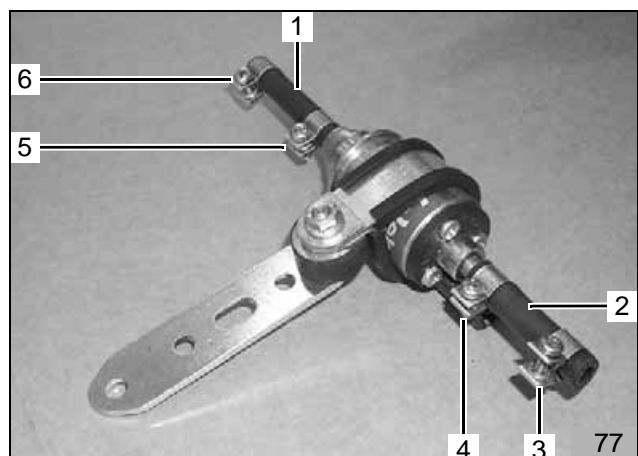
Note:

Ensure proper installation position of metering pump, see "Installation Instructions".

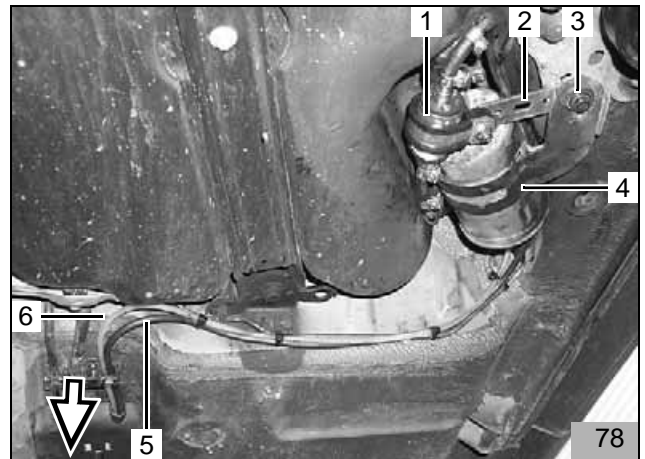
- Drill out perforated bracket (5) at one end (4) to 8.5 mm dia.
- Fasten silent block (3) on perforated bracket with flanged nut as shown
- Fasten metering pump (1) on silent block (3) with rubber-coated p-clamp (2) and flanged nut as shown



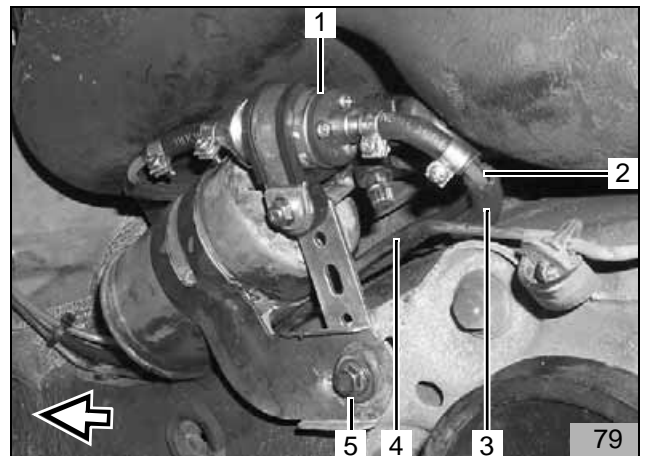
- Connect hose sections (1,2) to metering pump and fasten with 10 mm hose clamps (4,5)
- Push 10 mm hose clamps (3,6) loosely onto hose sections as shown



- Fasten perforated bracket (2) with metering pump (1) and fuel filter (4) with original vehicle bolt (3; 64/5) as shown in Figure 63 and Figure 64
- Route Mecanyl fuel line (6; 64/2) and wiring harness of metering pump (5; 64/4) along original vehicle lines to metering pump (1) as shown in Figure 63 and Figure 64



- Push included fabric-reinforced hose section (3) onto Mecanyl fuel line (2)
- Cut Mecanyl fuel line (2) on metering pump to length and connect to pressure side of metering pump (side with connector) using hose section and 10 mm dia. hose clamps
- Cut wiring harness of metering pump to length, push on protective rubber plug, crimp on tab connector, complete connector housing and connect wiring harness to metering pump
- Position fabric-reinforced hose section (3) as shown
- Fasten Mecanyl fuel line and wiring harness of metering pump with cable ties



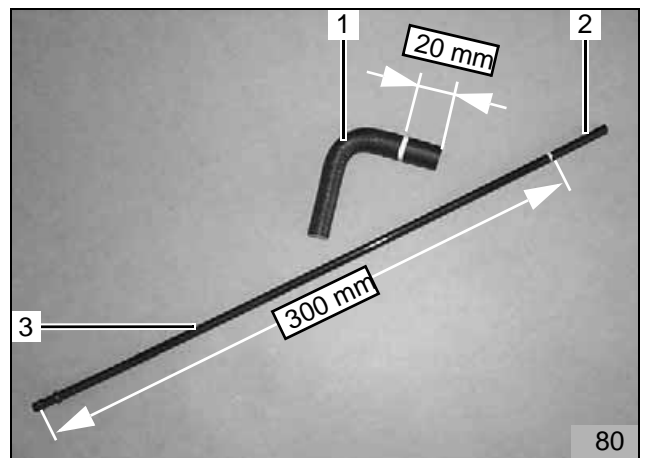
Removing fuel

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.

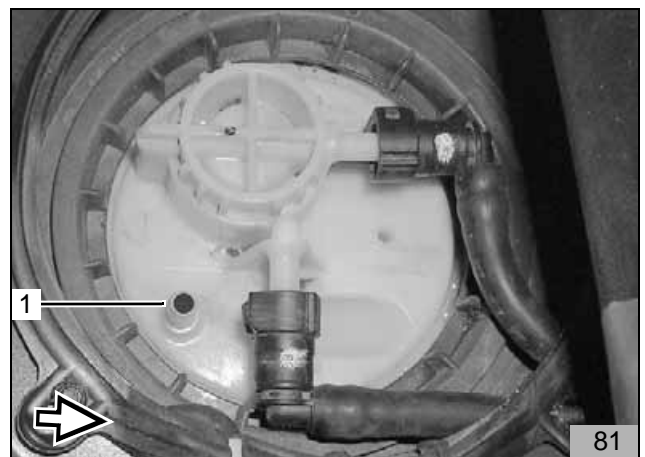
Fuel is removed via a standpipe (3) in the fuel-tank sending unit.



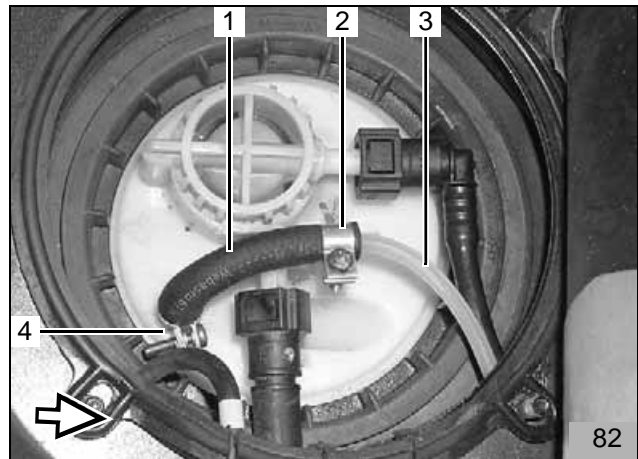
WARNING:

Drill out the connection piece (1) of the fuel-tank sending unit in the exact center!

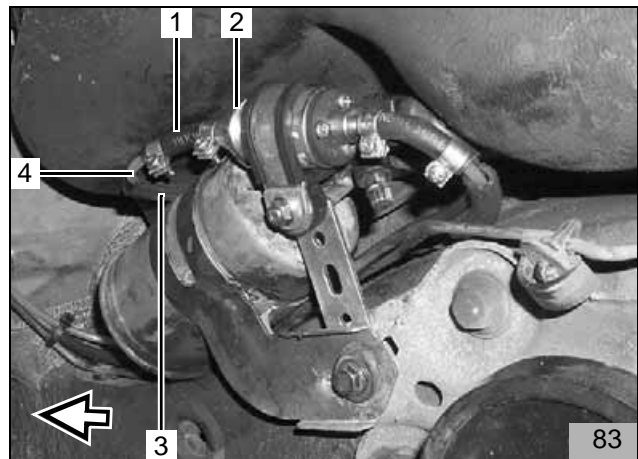
- Drill out existing connection piece (1) on fuel-tank sending unit with 5.1 mm dia. drill bit as shown
- Shorten included standpipe (65/2,3) at end without bead (65/2) to 300 mm as shown in Figure 65 (cut to length at an angle)
- Discard remaining section (65/2)
- Shorten included molded hose (65/1) at end with inside 8.0 mm dia. by 20 mm as shown in Figure 65
- Insert standpipe (65/3) as far as possible into drilled-out connection piece (1)



- Push molded hose (1) as far as possible onto standpipe and connection piece at end with inside 8.0 mm dia.
- Fasten molded hose (1) on connection piece with 12 mm hose clamp (4)
- Insert remaining Mecanyl fuel line (3) into molded hose (1) and fasten with 10 mm hose clamp (2) as shown



- Route Mecanyl fuel line (4; 67/3) along original vehicle fuel lines to intake side of metering pump (2) and cut to length
- Push included fabric-reinforced hose section (3) onto Mecanyl fuel line
- Connect Mecanyl fuel line to intake side of metering pump (side without connector) with hose section (1) and hose clamps
- Position fabric-reinforced hose section (3) as shown
- Fasten Mecanyl fuel line with cable ties



Installing software

- Depending on date of manufacture and equipment of vehicle, the corresponding Volvo software must be installed on the vehicle

Teaching Telestart option

Note:

- To teach the Telestart, the connector must be pulled off at the Telestart receiver!
- Teach Telestart as described in Telestart operating instructions

Operating Telestart with Thermo Call option

Note:

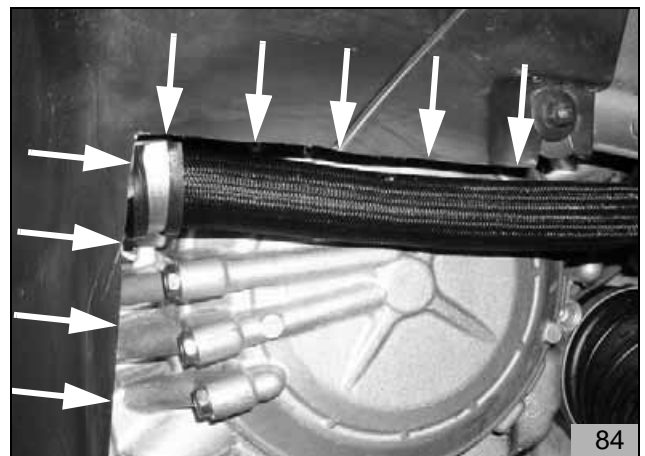
- The Thermo Call must be programmed to digital timer (factory setting push button). The acoustic menu guidance must be followed for this purpose.

Final Work

- Seal off all cable pass throughs with sealing compound.
 - Reassemble disassembled components in reverse order.
 - Check all hoses, hose clamps and p-clamps and all electrical connections for firm seating.
 - Secure all loose lines using cable clips.
 - Remove tools, e.g. hose clamping pliers etc. from the engine compartment.
 - Spray heater unit components with anti-corrosion wax (Tectyl ML, Order No. 111329).
 - Connect vehicle battery.
 - Set vehicle clock.
 - Fill and bleed coolant circuit according to vehicle manufacturer's specifications.
 - Switch on Webasto heater, see "Operating and Maintenance Instructions"
- Cut out wheel-well inner panel as shown if necessary

Note:

Fill out installation confirmation on back of included EC type approval and hand over to customer!

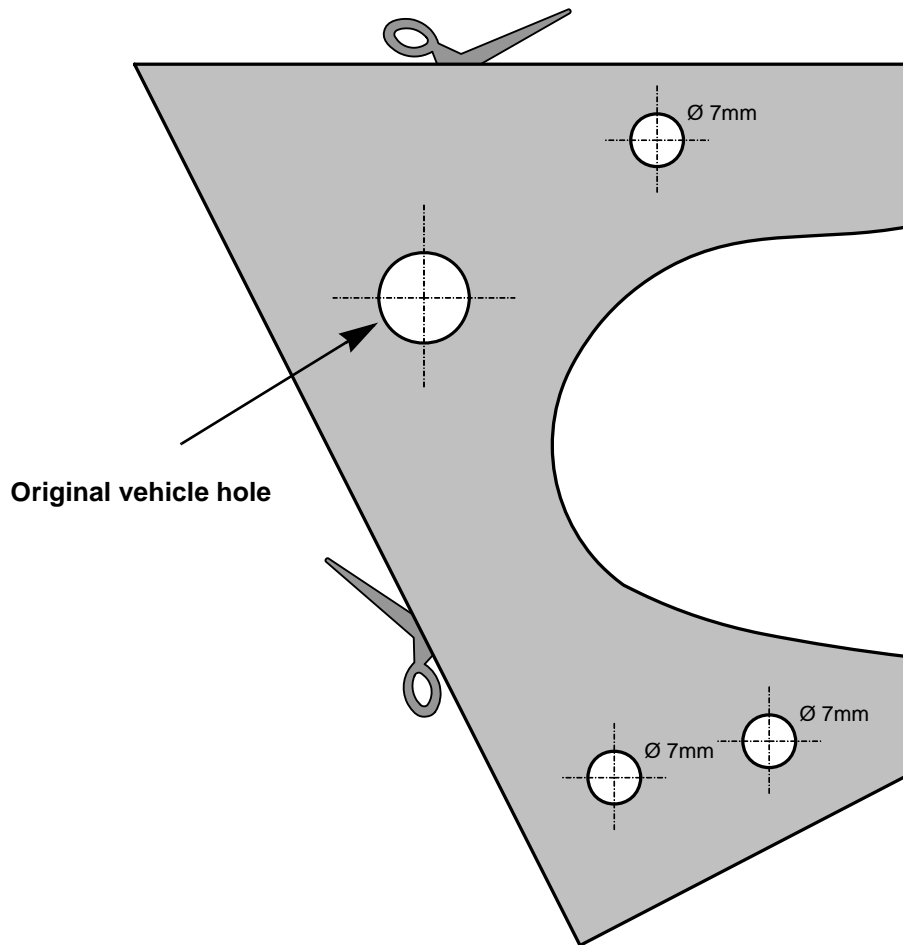


Webasto

Feel the drive

Webasto AG
Postfach 80 - D-82132 Stockdorf - Hotline 0 18 05 / 93 22 78
Hotfax (0395) 55 92-353 - <http://www.webasto.de>

Template for Bracket



100 mm



Scale 1:1

Compare the size of the printed version with dimension lines.
Permitted tolerance a maximum of 2%.

Set the printer settings to "no margin" or "minimize margins" and 100% of the normal size.

100 mm

0

Operating Instructions for End Customer

Please remove page and add to the vehicle operating instructions.

Additional heater can be switched with following heater controls:

- Steering column lever over original vehicle display in instrument panel (clock/direct start),
- "Telestart" radio remote control,
- "Thermo-Call" telephone remote control

Note!

If the additional heater has been switched on with the "Telestart" radio remote control or the "Thermo-Call" telephone remote control, then the heater can only be switched off again with **the same** heater control **or** with the steering column lever over the display! If the heater has been switched on with the steering column lever (clock/direct start) in the vehicle display, then it can **only** be deactivated again with this heater control!

Rule of thumb for operating additional heater: driving time = heating time!