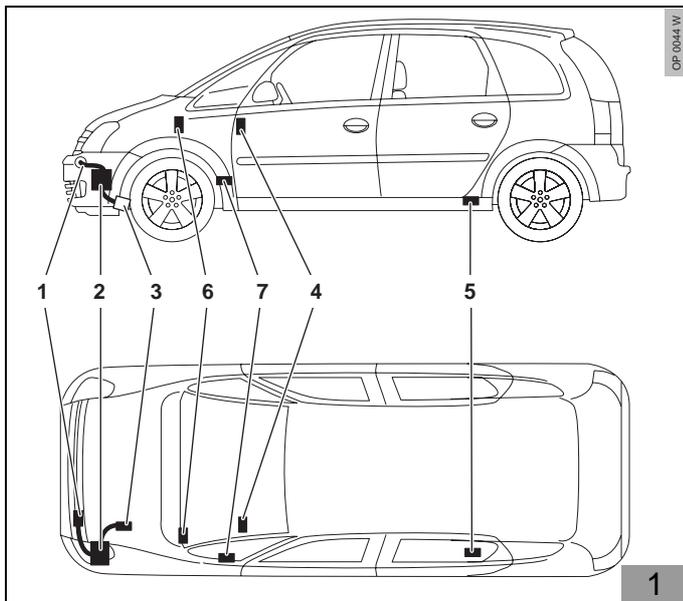


## Thermo Top E Additional Heater

e1  
00 0003



## Installation Instructions

### OPEL Meriva

Gasoline and 1.7 liter diesel

From model year 2003

only applies to left-hand drive vehicles

See Page 2 for validity

#### Legend for Figure 1

- 1 Combustion-air intake muffler
- 2 *Thermo Top E* heater unit
- 3 Exhaust muffler
- 4 Digital timer
- 5 Metering pump
- 6 Blade-Type Fuse Holder and Fan Relay
- 7 Receiver Telestart T70/80



#### **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.**

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## Validity

Manufacturer	Model	Type	EG-BE No.
Opel	Meriva		e1*2001/116*0215

Engine code	Engine model	Output in kW	Displacement in cm <sup>3</sup>
Z14XE	Gasoline	66	1364
Z16SE	Gasoline	64	1598
Z16XE	Gasoline	74	1598
Z16XEP	Gasoline	77	1598
Z18XE	Gasoline	92	1796
Y17DT	Diesel	55	1686
Z17DTH	Diesel	74	1686

**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	Order No.
1	<i>Thermo Top E - B</i> water heater unit with delivery scope	70681C
	Opel Part No.	1734014
or		
1	<i>Thermo Top E - D</i> water heater unit with delivery scope	70682C
	Opel Part No.	1734590

**Other required parts:**

1	Installation kit OPEL Meriva <i>Thermo Top E</i>	1301953C
	Opel Part No.	1734301
1	Clamp for fuel-tank sending unit	
	Opel Part No.	93177633

**Foreword**

These installation instructions apply to the OPEL Meriva passenger car gasoline and diesel passenger cars for validity, see page 2 - 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 E* 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 - 10 Nm  
 Riveting pliers  
 Blind rivet tool  
 Angle drill

**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

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

## Engine compartment

### Attention

Disconnect the battery "earth" or "ground" connection.

- Open the radiator cap.
- Release pressure from cooling system.
- Close the radiator cap again.
- Remove the battery.
- Remove the engine cover.
- Drain the coolant.
- Remove the front coolant reservoir cap.

## Outside of vehicle

- Open the fuel tank cap.
- Release the pressure from the fuel tank system.
- Close the fuel tank cap again.
- Remove the bumper.
- Remove the left-hand headlight.
- Detach the wheel well trim on both sides.

## Vehicle interior

- Remove the center rear seat bench.
- Remove the service cover of the fuel-tank sending unit.
- Remove the steering column trim.
- Remove the footwell trim on the driver's side.
- Remove the lower A-pillar trim on the front passenger side.
- Remove the radio in accordance with the manufacturers specifications.
- Remove the glove compartment (only with Thermo Call).

## Heater unit installation location

- The heater unit (1) is installed at the front left on the frame side member, between the bumper and the wheel well
- The installation position is vertical, perpendicular to the driving direction

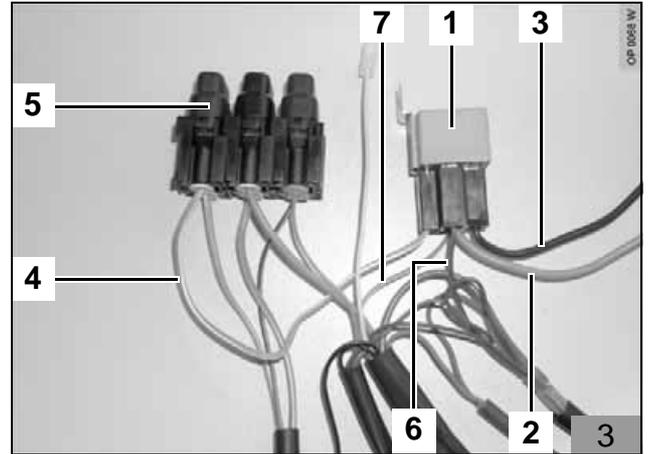


## Premounting wiring harness

### Only for vehicles with automatic air-conditioning

Produce connections according to wiring diagram as shown in Figure 4

- Uncrimp all wires from socket of fan relay K3 (1) (fan relay K3 is no longer required)
- Remove red (rt) wire (2) and black (sw) wire (3) from protective sleeving (protective sleeving will be reused, wires are no longer required)
- Cut off red/white (rt/ws) wire (4) from fuse F3, 25 A, at outlet of blade-type fuse holder (5) and discard
- Remove fuse F3, 25 A, from blade-type fuse holder (5) (socket remains free)
- Tie back brown (br) ground wire (6)
- Connect green/white (gn/ws) wire (7) from heater unit to included green/white (gn/ws) wire, 2500 mm long, using red (rt) connector (crimp and shrink)
- Pull green/white (gn/ws) wire into protective sleeving.

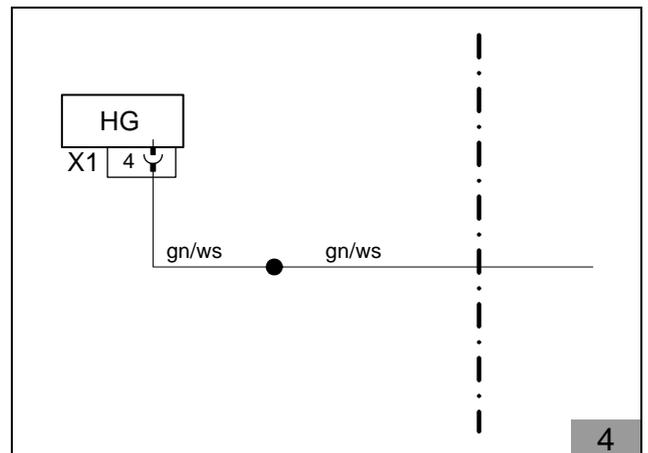


### Legend for wiring diagram in figure 4

6-pin connector X1Webasto heater unit

#### Cable colors

gn green  
ws white



### Blade-type fuse holder and fan relay

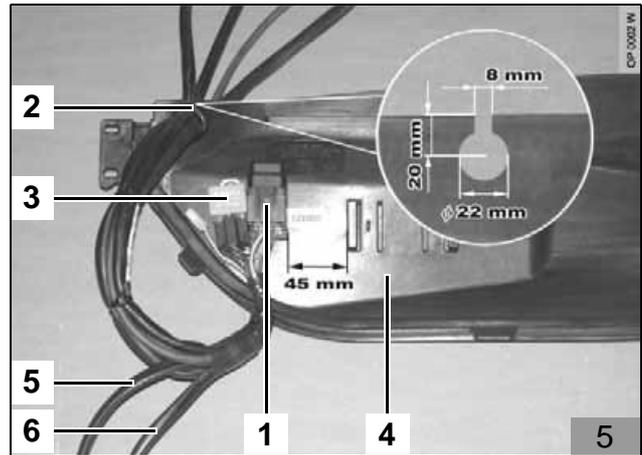
#### Premounting blade-type fuse holder and fan relay

**NOTE**

Make sure scuff guards are used for all cable pass throughs!  
 Watch the components and lines located behind the drilling point when drilling!

The fan relay K3 (3) is only used on vehicles without automatic air-conditioning!

- Drill 22 mm dia. hole in coolant reservoir cap (4) at position 2 and mount included protective rubber plug
- Drill 5 mm dia. holes in coolant reservoir cap (4) for blade-type fuse holder (1) and fan relay K3 (3)
- Fasten mounting plate for blade-type fuse holder (1) and fan relay K3 (3) with included spreader blind rivets on front coolant reservoir cap (4)
- Route all wiring harnesses except wiring harness of digital timer (5) and wiring harness of fan controller (6) through protective rubber plug (2) (slit protective rubber plug)



#### Installing wiring harnesses

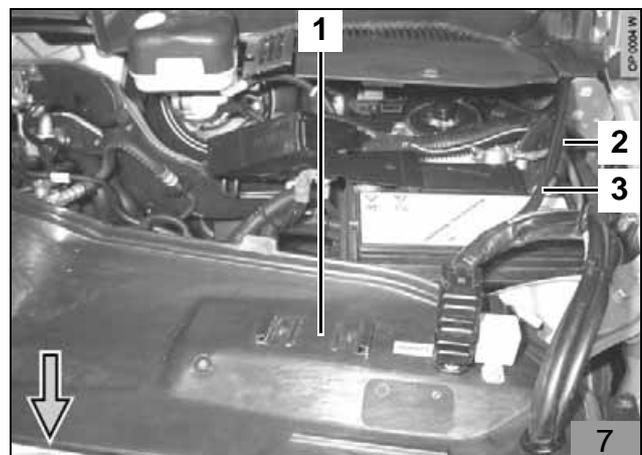
**NOTE**

Watch wiring harness located behind when drilling!

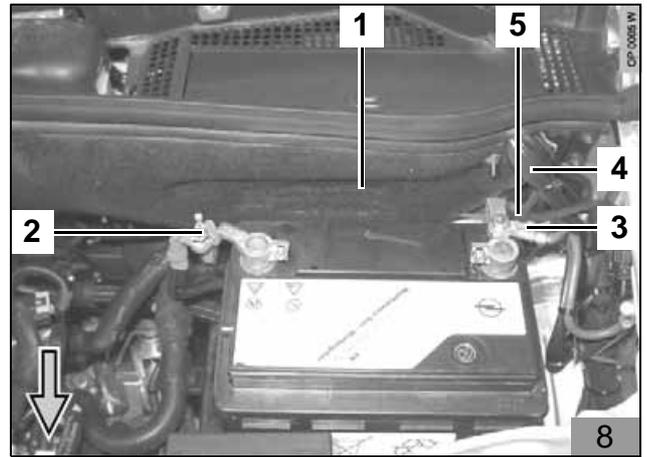
- Remove cover from relay box and unlock control unit
- Drill 10 mm dia. hole in upper window of rubber pass through (1) from original vehicle wiring harness on relay box



- Lay coolant reservoir cap (1) on engine block; route wiring harness of digital timer (2) and wiring harness of fan controller (3) through prepared hole in relay box and from there further into passenger compartment



- Remount control unit and cover of relay box
- Mount coolant reservoir cap (1)
- Route wiring harness of heater unit (4) to installation location of heater unit
- Route positive wire (2) to battery and connect to positive terminal of battery
- Route ground wire (3) to battery and connect to negative terminal of battery
- Route wiring harness of metering pump (5) along original vehicle wires to firewall and from there to underbody

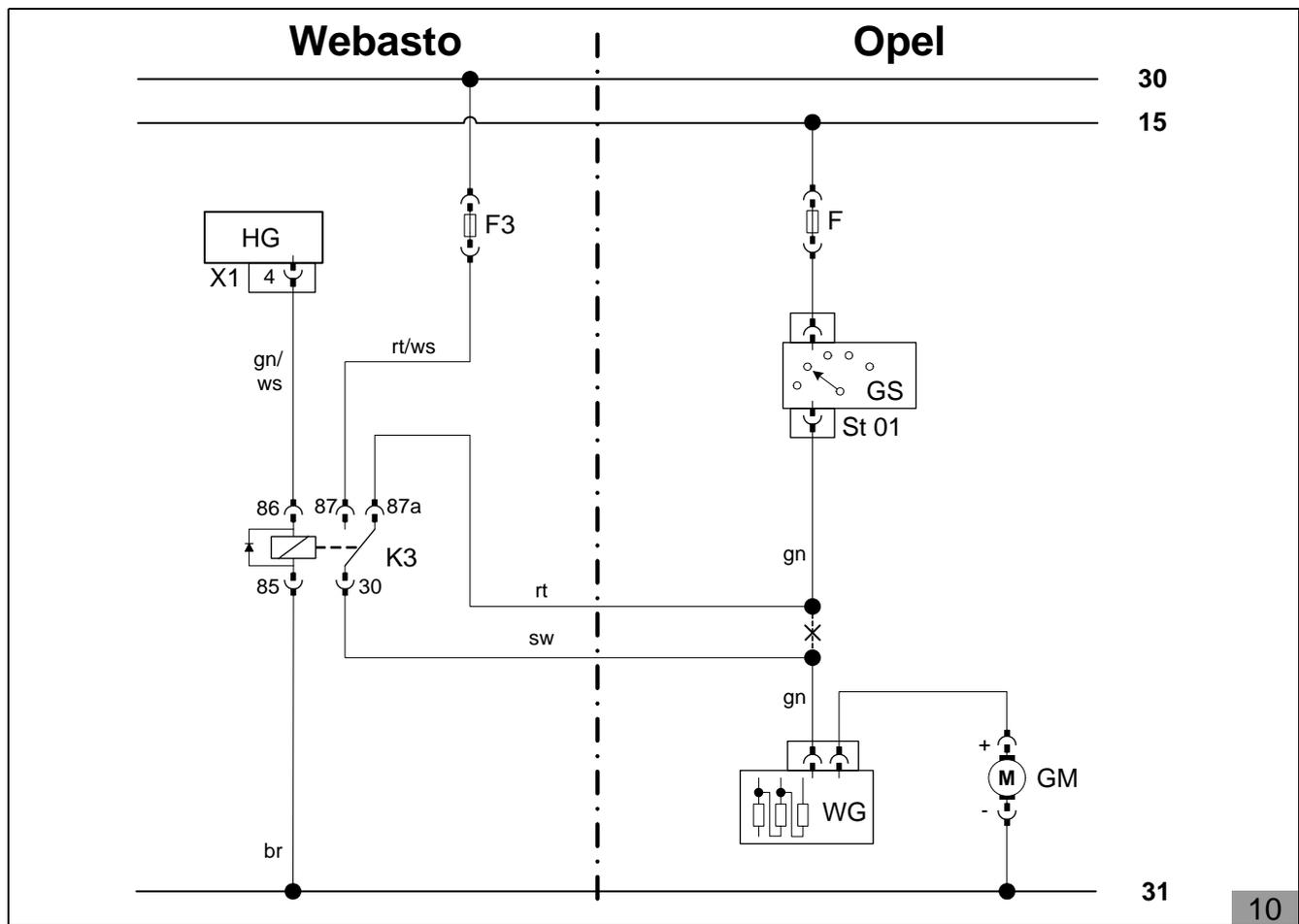
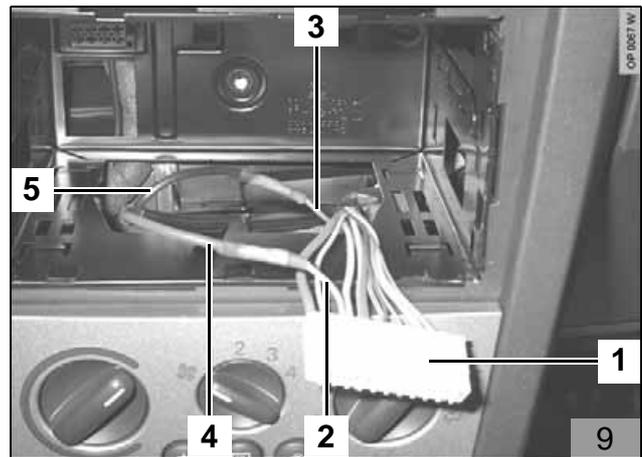


Fan controller

Only for vehicles with manual air conditioning

Fan control is carried out on the output of the fan switch Level 2. Produce connections as shown in the wiring diagram, Figure 10, with the blue (bl) connector (crimp and shrink).

- Disconnect connector (1) from fan switch
- Cut off green (gn) line (2, 3) from fan switch output (Level 2) to resistor group approx. 50 mm behind connector (1)
- Connect red (rt) wire (4) from fan relay K3/87a to green (gn) wire (2) from fan switch
- Connect black (sw) wire (5) from fan relay K3/30 to green (gn) wire (3) to resistor group
- Remount connector (1) on fan switch



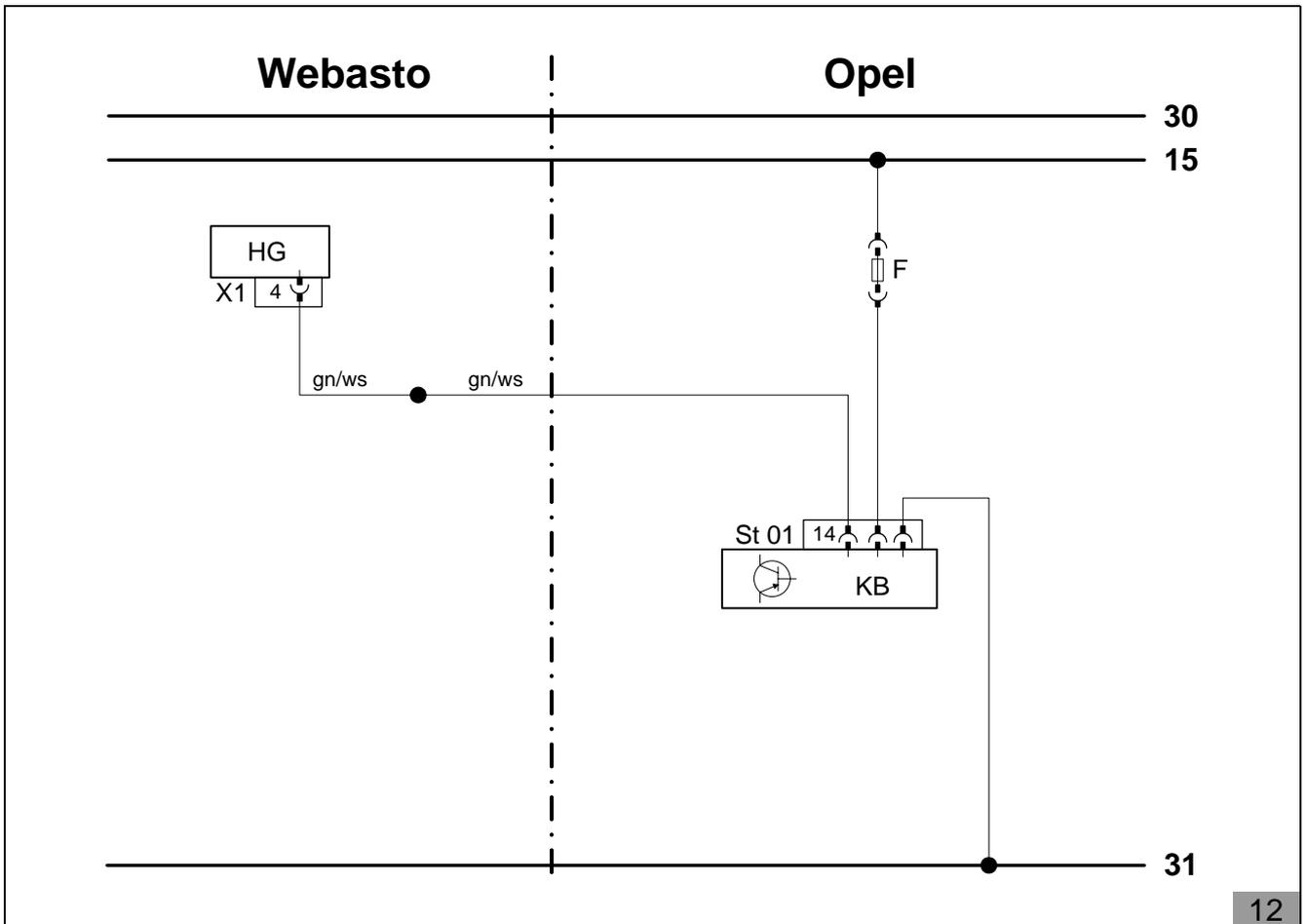
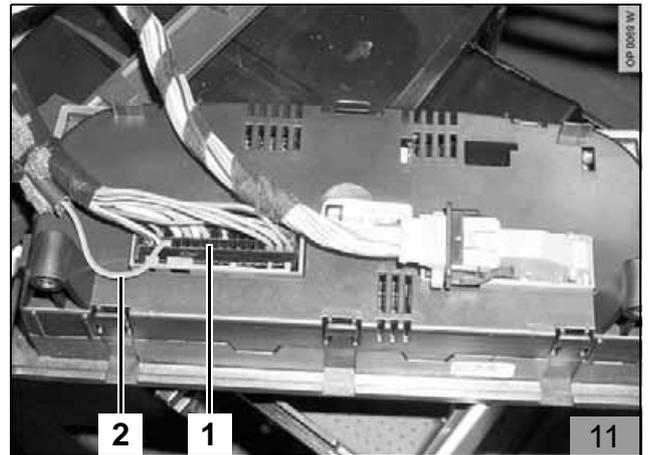
Legend for Figure 10

Webasto components		Components of Opel Meriva		Colors and symbols	
HG	Heater unit TT-C/E	GS	Fan switch	rt	red
X1	6-pin heater unit connector	St 01	12-pin connector GS	ws	white
F3	25 A fuse	WG	Resistor group	sw	black
K3	Fan relay	GM	Fan motor	br	brown
		F	Fuse	gn	green
				X	Cutting point
				Wiring colors may vary.	

**Only for vehicles with automatic air-conditioning**

The fan control is carried out on the 32-pin connector (1), PIN 14, of the A/C control panel. Produce connections with included plug-in contact as shown in wiring diagram in Figure 12.

- Disconnect connector (1) from air-conditioning panel
- Route green/white wire (2) from heater unit to connector
- Mount green/white (gn/ws) wire (2) from heater unit in free chamber (PIN 14) of connector (1)
- Remount connector (1) from air-conditioning panel



Legend for Figure 12

Webasto components		Components of Opel Meriva		Colors and symbols	
HG	Heater unit TT-C/E	KB	Air-conditioning control panel	gn	green
X1	6-pin heater unit connector	St 01	32-pin connector KB	ws	white

**Only for vehicles with passenger compartment monitoring**

**Note:**

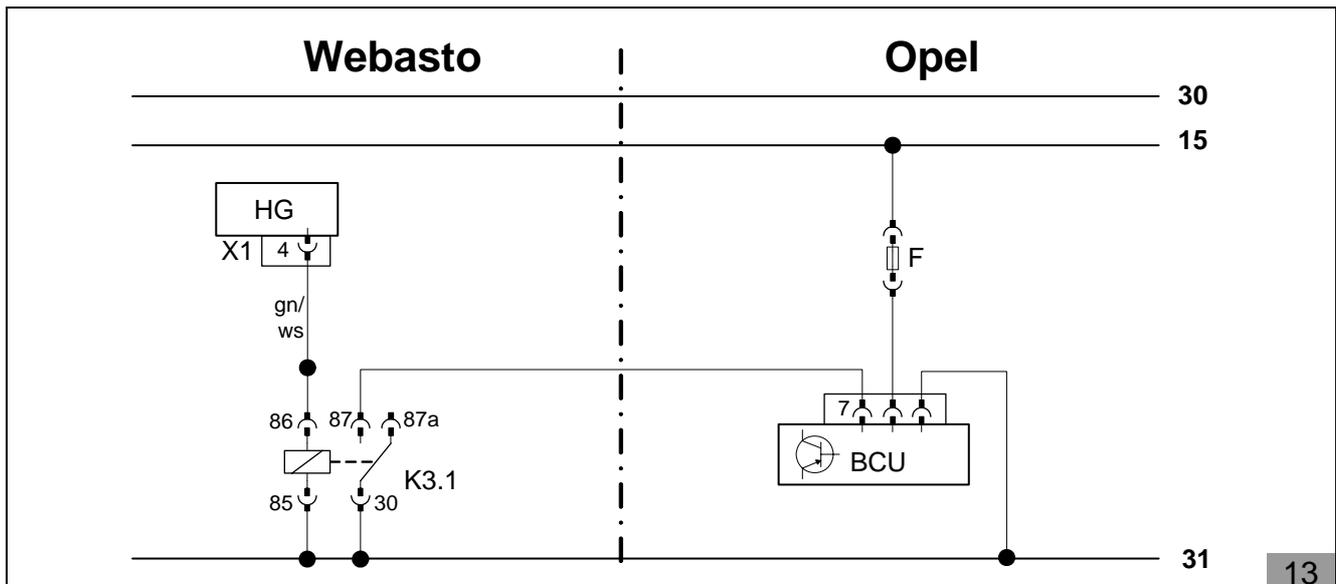
The version coordination of the BCU (Body Control Unit) must be reprogrammed from "not present" to "present" with Tech 2 (software version 12.600 - Tis 46) in the Additional heater submenu!

- Remove alarm-system control unit
- Connect additional relay K3.1 as shown in wiring diagram, Figure 13
- Connect additional relay K3.1/87 to PIN 7 on alarm-system control unit

Passenger compartment monitoring is switched off by additional relay K3.1 during heating by ground connection on PIN 7 on alarm-system control unit.

**Attention**

Point out to your customer that the passenger compartment monitoring of the vehicle is switched off during heating!



Legend for Figure 13

Webasto components		Components of Opel Meriva		Colors and symbols	
HG	Heater unit TT-C/E	BCU	Body control module	gn	green
X1	6-pin heater unit connector	F	Fuse	ws	white

## Digital Timer and Summer/Winter Switch Option

### Attention

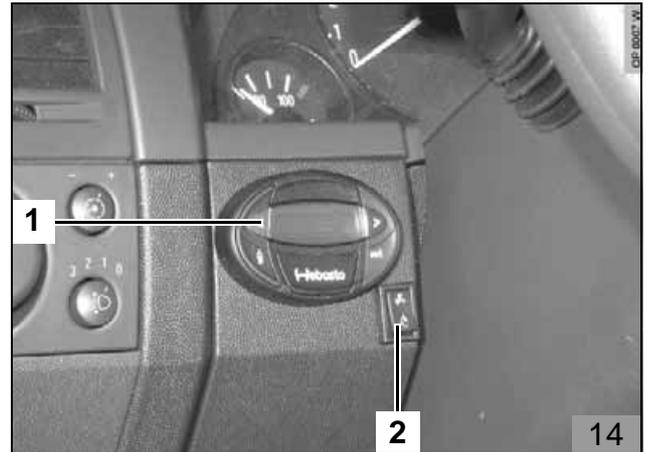
Do not press the LCD display when installing the digital timer

### NOTE

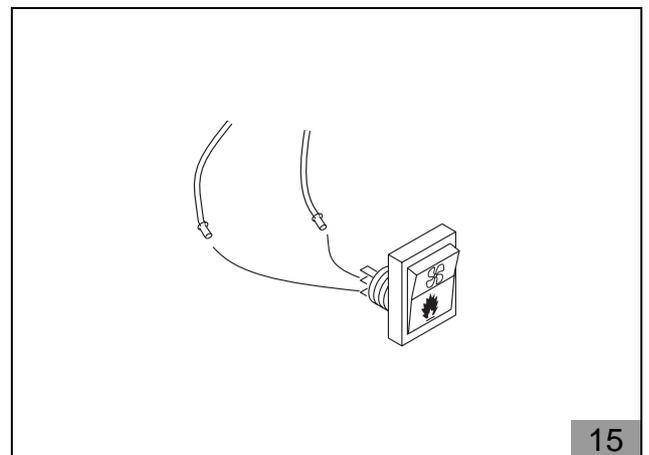
The illustrated installation location of the digital timer (1) and the summer/winter switch (2) is a recommendation!

Before assembly, please coordinate the installation location with your customer!

- Glue on drilling template for digital timer (1) at desired position
- Drill two holes according to template
- Remove template
- Connect wiring harness of digital timer to connector on digital timer (1)
- Fasten digital timer (1) to instrument panel with self-tapping screw



- Copy hole pattern of summer/winter switch (14/2) at desired position and drill 12 mm dia. hole
- Guide nut and toothed washer over both lines
- Detach tied back brown (br) and violet (vi) wires from wiring harness of additional heater, guide through hole and connect to switch as shown (lower contacts)
- Fasten summer/winter switch with toothed washer and nut



## Telestart T70/T80 Option

### Installing Telestart receiver

**NOTE**

Observe the included general installation instructions for the Telestart T70/T80 option.

The Telestart receiver (17/1) is installed in the footwell area of the left-hand A-pillar!

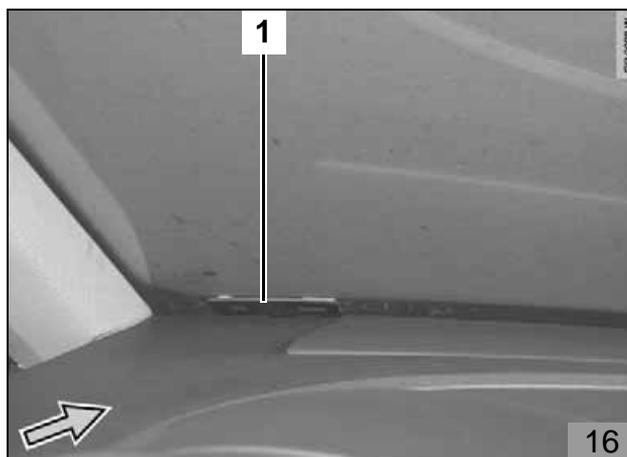
### Installing Telestart antenna

**NOTE**

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

The installation location of the Telestart antenna (1) is on the windshield at the lower left!

- Glue antenna (1) onto windshield at lower left



- Route antenna cable (5) on A-pillar downward and engage on Telestart receiver (1)
- Extend wiring harness of digital timer with included Y-adapter (2) and engage on Telestart receiver (1)

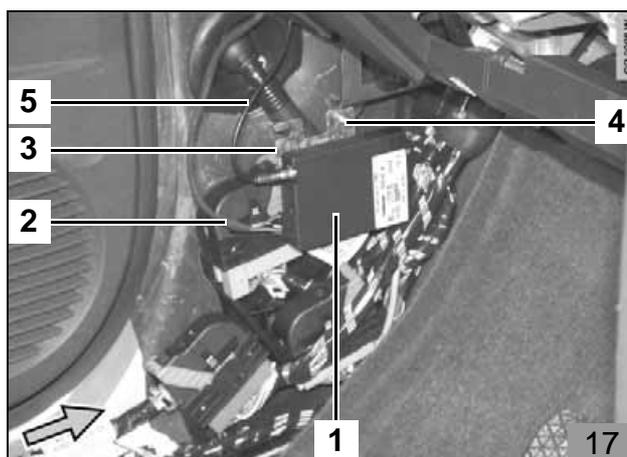
**Attention**

Use an I-adapter when installing without a digital timer!

- Complete bracket (3) with Telestart receiver (1) and mount on original vehicle stud bolt (4) (will be fastened later with A-pillar trim)

**NOTE**

Produce connections according to general installation instructions and fasten lines with cable ties.



## ThermoCall Option

### NOTE

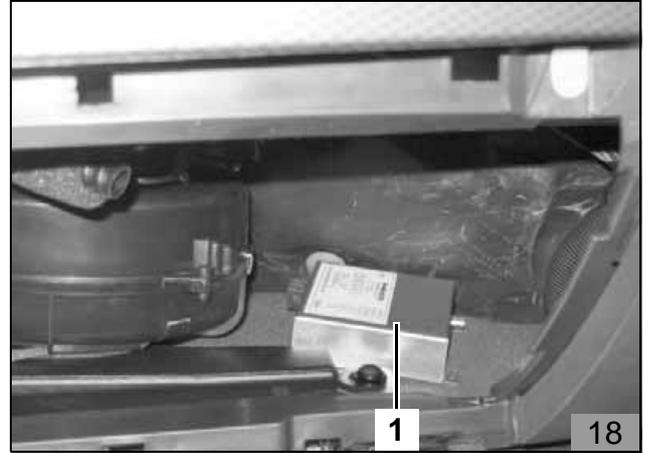
Follow included general installation instructions.

The ThermoCall receiver is installed behind the glove compartment on the front passenger side.

- Lay ThermoCall receiver (1) on support behind glove compartment
- Engage wiring harness of ThermoCall receiver (1)

### Attention

Use Y-adapter when installing with other heater control!



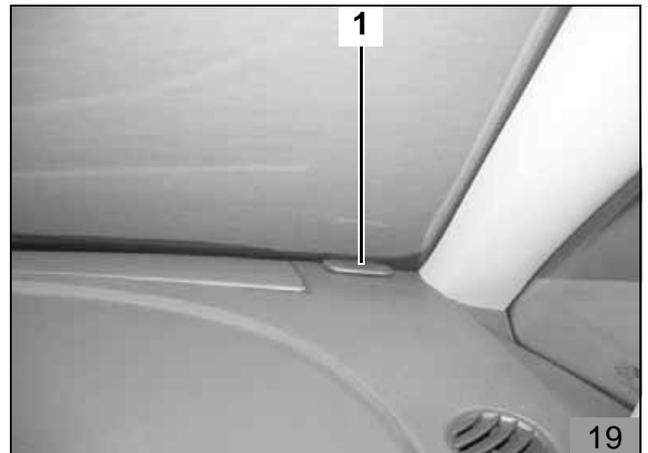
### NOTE

Clean and degrease the bonding surface for the Thermo Call antenna prior to mounting. The installation location of the Thermo Call antenna (1) is on the windshield at the lower right!

- Glue antenna (1) onto windshield at lower right
- Route antenna cable on A-pillar downward and engage on Telestart receiver (18/1)

### NOTE

Produce connections according to general installation instructions and fasten lines with cable ties.

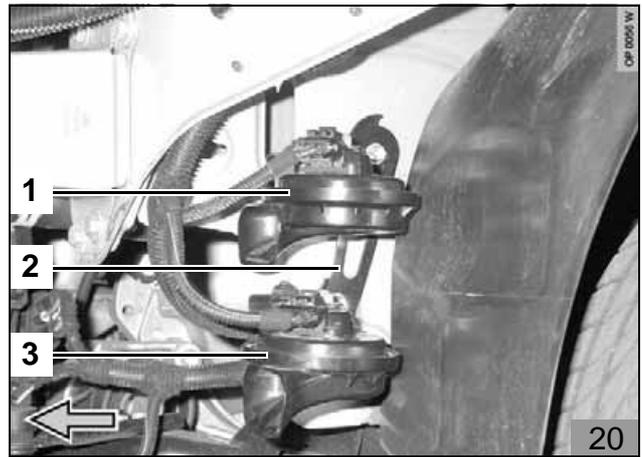


**Installing Horns**

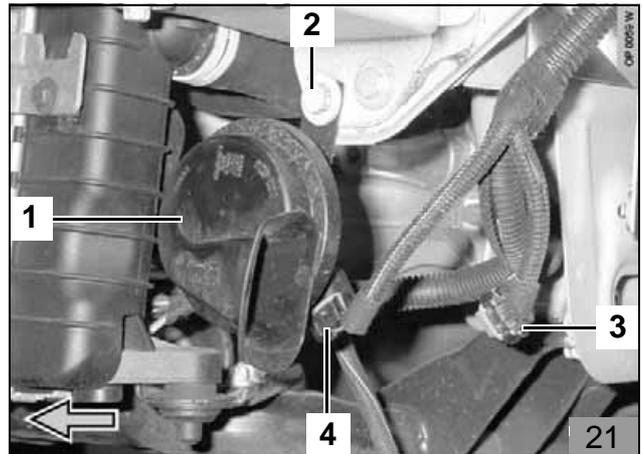
**Moving horns**

Only for vehicles equipped with two horns

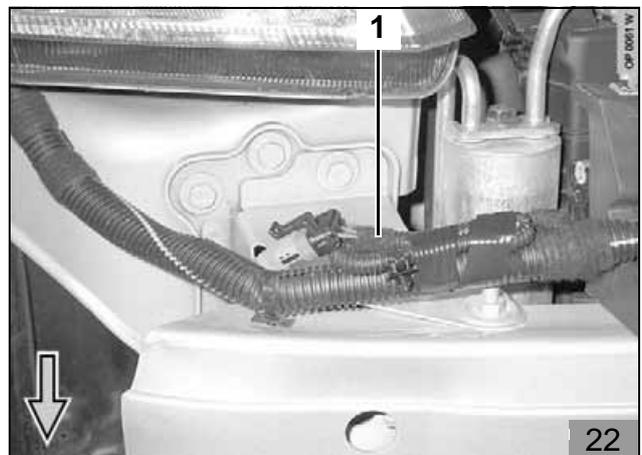
- Remove horns (1, 3) and discard bracket (2)



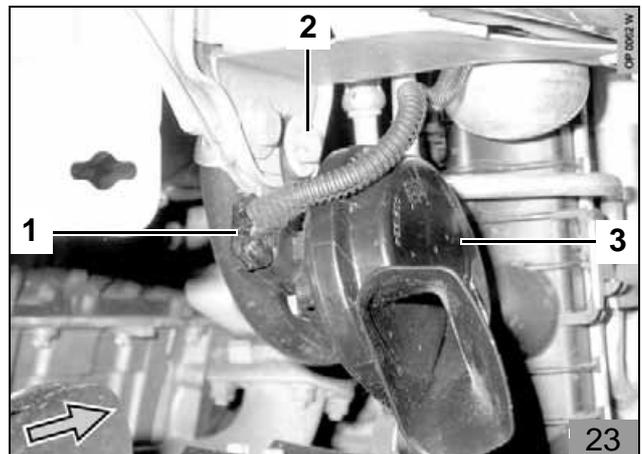
- First fasten horn (1) as shown on left-hand side of vehicle with original vehicle M8 bolt (2) and mount connector (4)
- Insulate connector (3) and tie back



- Disconnect existing wiring harness (1)



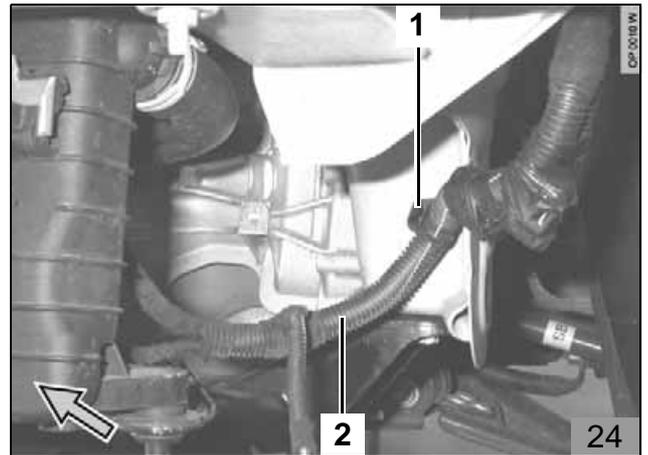
- Fasten second horn (3) on right-hand side of vehicle with original vehicle M8 bolt (2)
- Mount connector (1) on horn



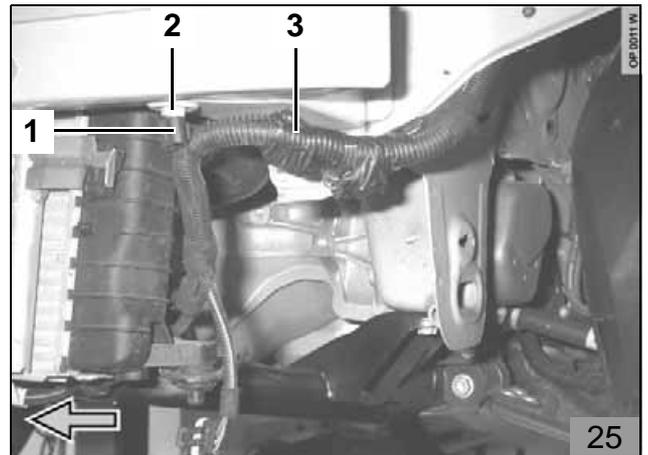
## Installing Heater Unit

### Installing bracket

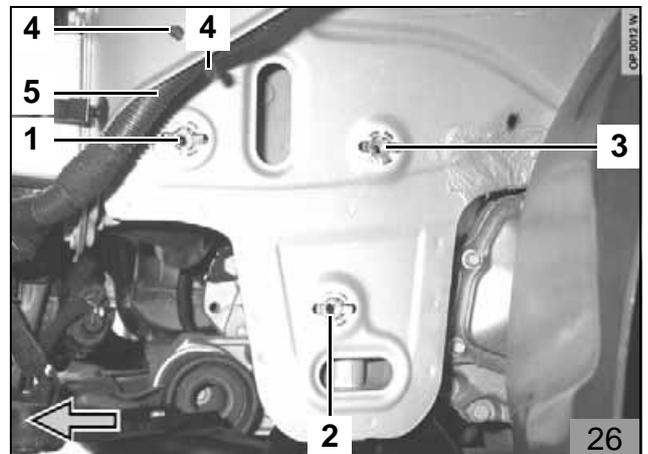
- Remove retaining clip (1) on original vehicle wiring harness (2)



- Mount retaining clip (1) on original vehicle bolt (2)
- Align wiring harness (3)

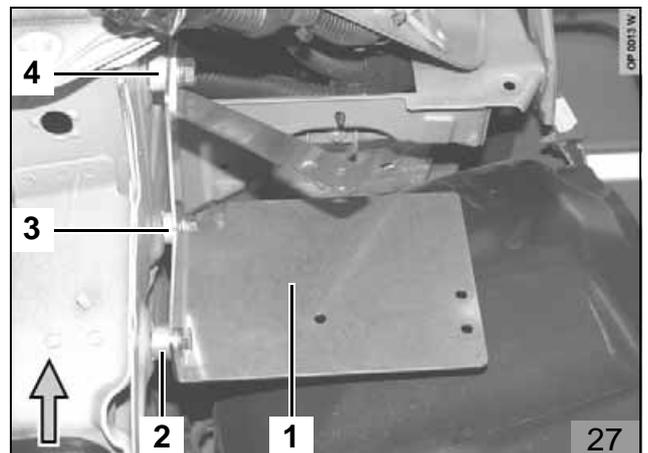


- Insert cage nuts (1, 2, 3) in existing holes
- Replace cable tie of original vehicle wiring harness (5) with included cable tie (4)
- Fasten original vehicle wiring harness (5) behind bulb socket as shown

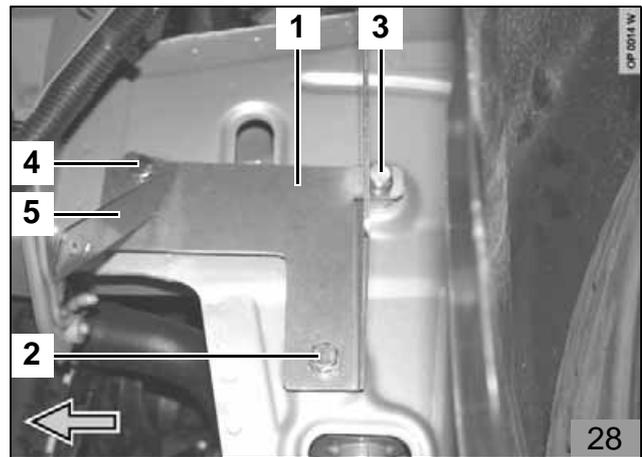


### NOTE

One 10 mm shim (2, 3, 4) each must be inserted between bracket (1) and frame side member.



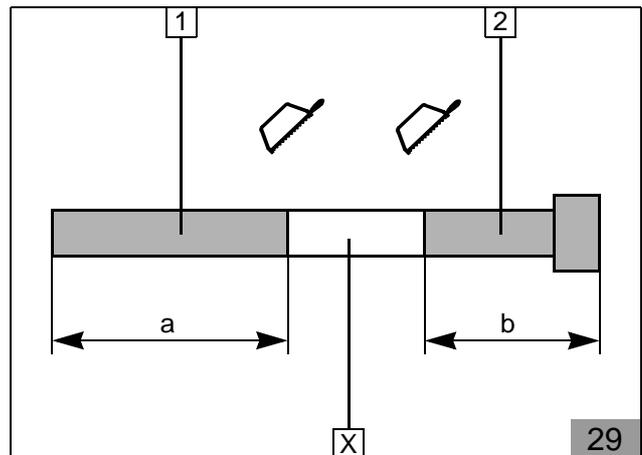
- Fasten bracket (1) with M8 x 40 mm hexagon bolt (2, 3), spring lockwashers and washers on prepared cage nuts
- Loosely mount strut (5) with M8 x 40 mm hexagon bolt (4), spring lockwasher and washer



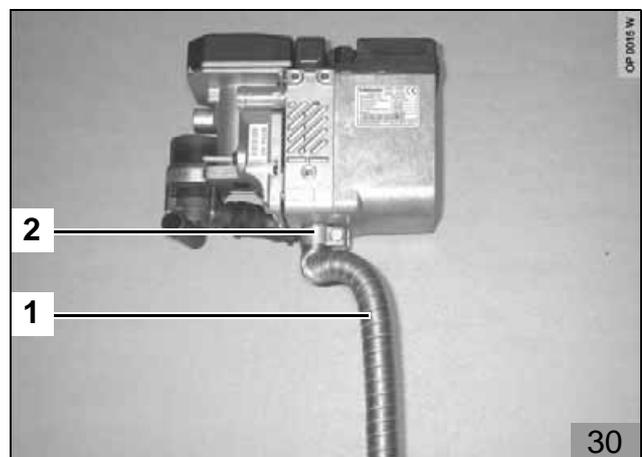
**Preparing heater unit**

Cut off two sections of exhaust pipe included in delivery scope for exhaust pipe and exhaust-pipe end section as shown:

- 1 Exhaust pipe
- 2 Exhaust-pipe end section
- X Section (no longer required)



- Mount exhaust pipe (1) on heater unit and secure with hose clamp (2)



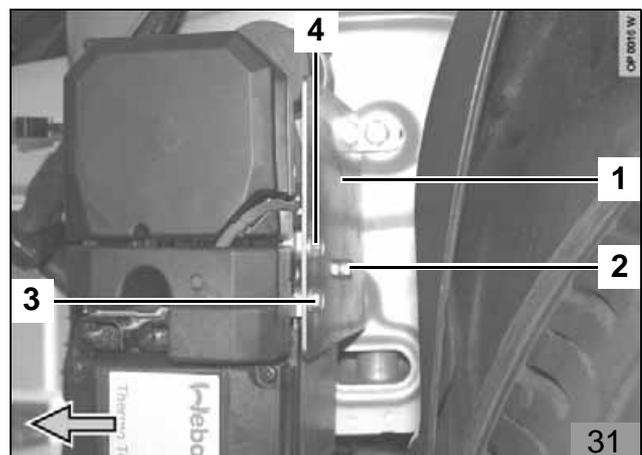
**Installing heater unit**

**NOTE**

Only the special screws, type EJOT PT, included in the delivery scope may be used to fasten the bracket on the heater unit (tightening torque: 10 Nm)!

Insert two washers between heater unit and bracket (1) at position 2.  
Ensure sufficient distance to neighboring components during the installation work.

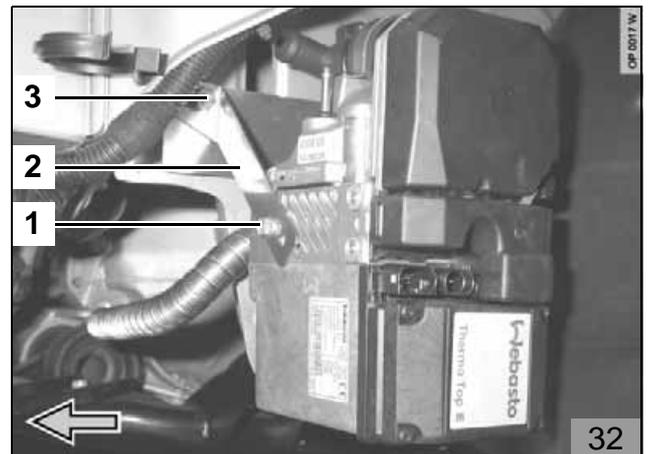
- Fasten premounted heater unit with Ejot screws (2,3,4) to bracket (1)



**NOTE**

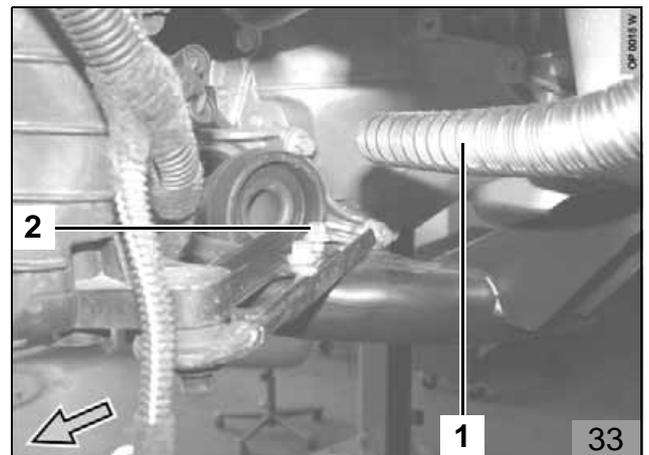
Align heater unit in driving direction.  
Ensure correct position of wheel-well inner panel!

- Fasten heater unit on strut (2) with Ejoyt screw (1) (use inner hole pattern)
- Align heater unit and fasten with M8 x 40 mm hexagon bolt (3)

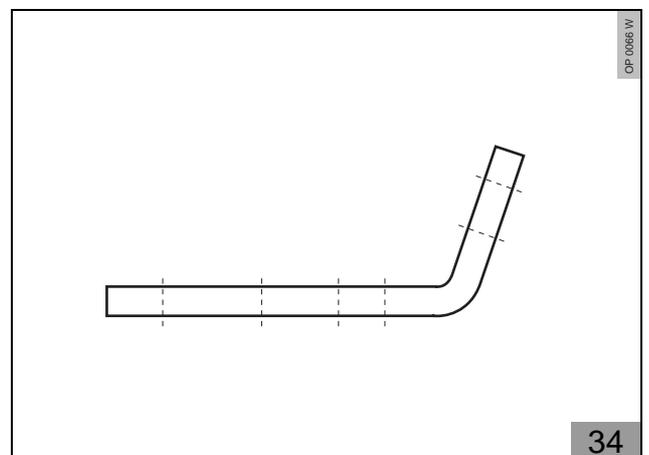
**Exhaust-gas connection****Attention**

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

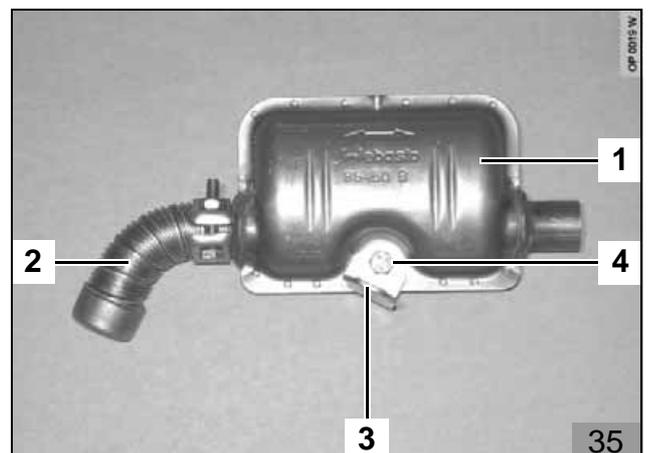
- Shape exhaust pipe (1)
- Screw out original vehicle Torx screw (2) and discard

**Only for vehicle with diesel engine**

- Shape angle bracket as shown

**For all vehicles**

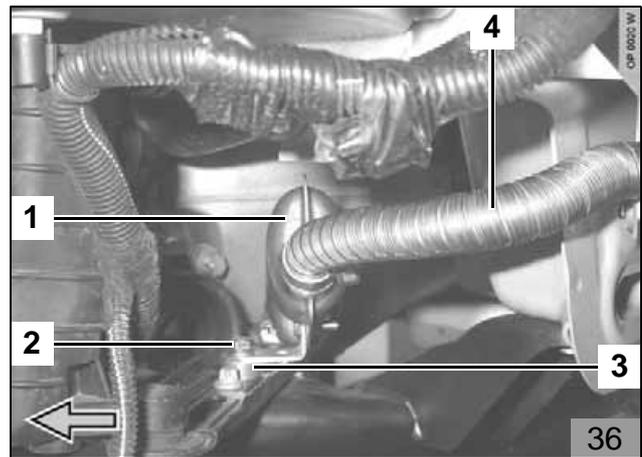
- Mount exhaust-pipe end section (2) on exhaust muffler (1) and secure with hose clamp
- Shape exhaust-pipe end section (2)
- Fasten angle bracket (3) with M6 x 20 mm hexagon bolt (4) and flanged nut on exhaust muffler



**NOTE**

The figure shows a gasoline vehicle!

- Fasten premount exhaust muffler (1) with M8 x 40 mm hexagon bolt (2), spring lockwasher, washer and 10 mm shim (3) on original vehicle threaded hole as shown
- Mount exhaust pipe (4) on exhaust muffler (1) and secure with hose clamp



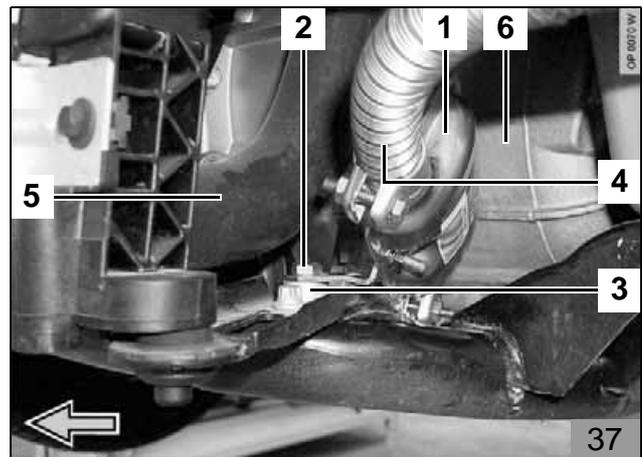
**NOTE**

The figure shows a diesel vehicle!

- Fasten premount exhaust muffler (1) with M8 x 40 mm hexagon bolt (2), spring lockwasher, washer and 10 mm shim (3) on original vehicle threaded hole as shown
- Mount exhaust pipe (4) on exhaust muffler (1) and secure with hose clamp

**Attention**

Ensure freedom of movement relative to coolant hose (5) and transmission (6)!



## Coolant connection

### WARNING!

Tighten all hose clamps to  $2.0 + 0.5$  Nm.

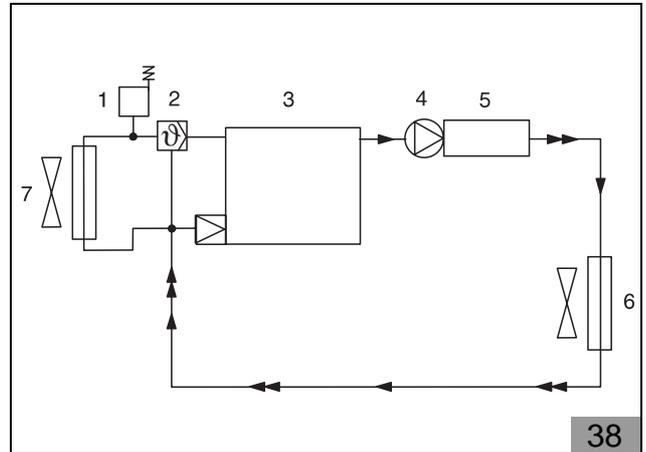
Any coolant running off should be collected using an appropriate container!

Install coolant hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position hose clamps and spring band clamps so that no other hose can be damaged.

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

### Legend for Figure 38

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



### Only for vehicle with Z14XE engine

#### Hose A

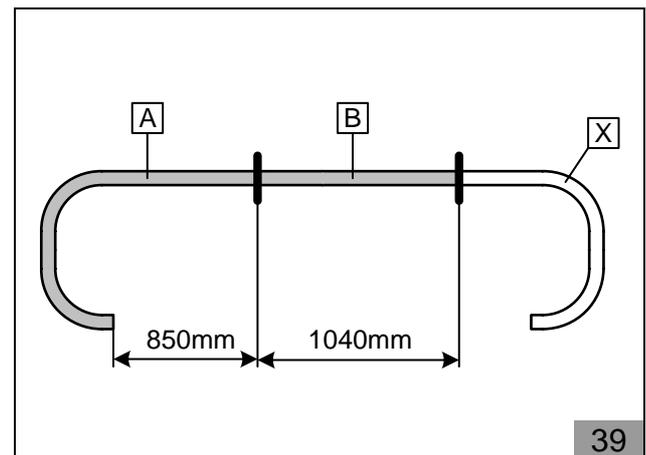
- 850 mm with 180° elbow (from heater unit inlet to original vehicle coolant hose on engine outlet)

#### Hose B

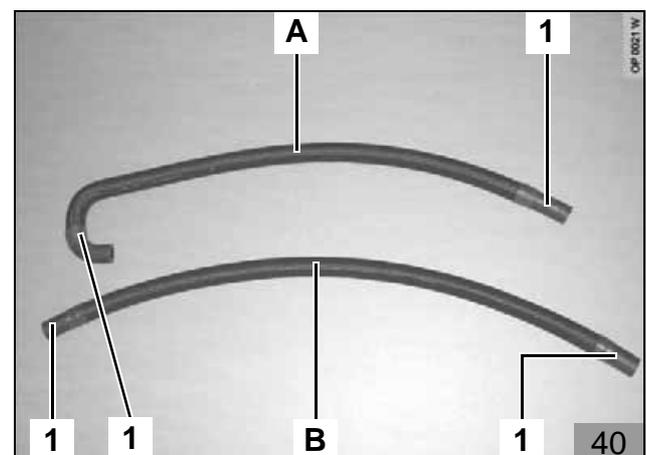
- 1040 mm with 180° elbow (from heater unit outlet to original vehicle coolant hose on heat-exchanger inlet)

#### Section X

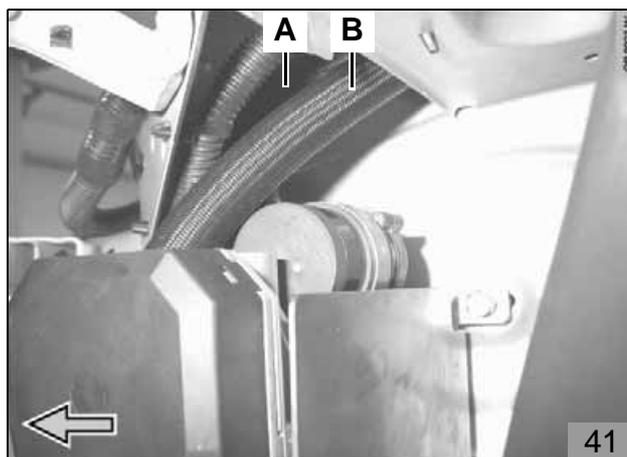
- Not required



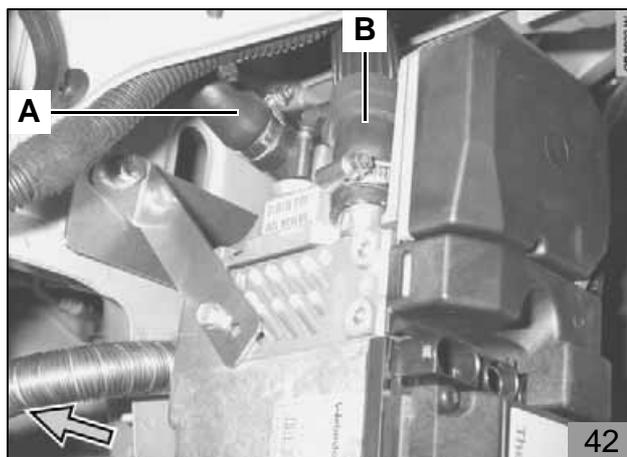
- Slide braided protection hoses, 1500 mm long, onto hose A and hose B respectively
- Cut included heat shrink plastic tubing, 100 mm long, into four equal sections
- Slide heat shrink plastic tubing (1) onto ends of braided protection hose and shrink down as shown



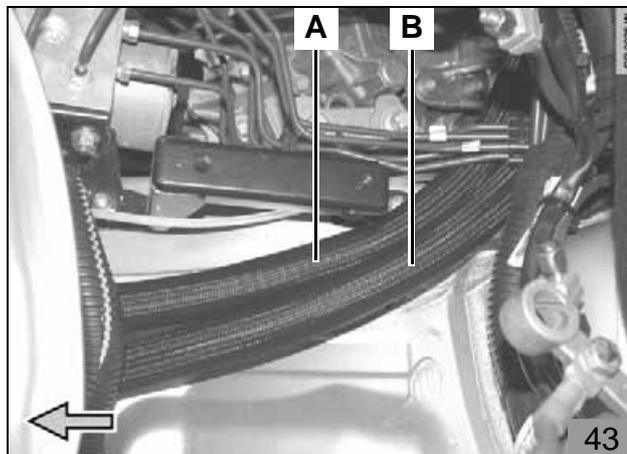
- Route hose **A** and hose **B** with straight ends through original vehicle pass through into engine compartment as shown



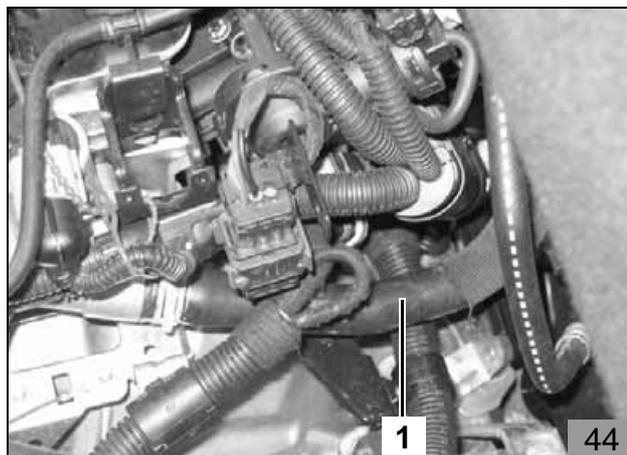
- Mount hose **A** with 180° elbow on heater unit inlet, align and fasten with hose clamp
- Mount hose **B** on heater unit outlet, align and fasten with hose clamp



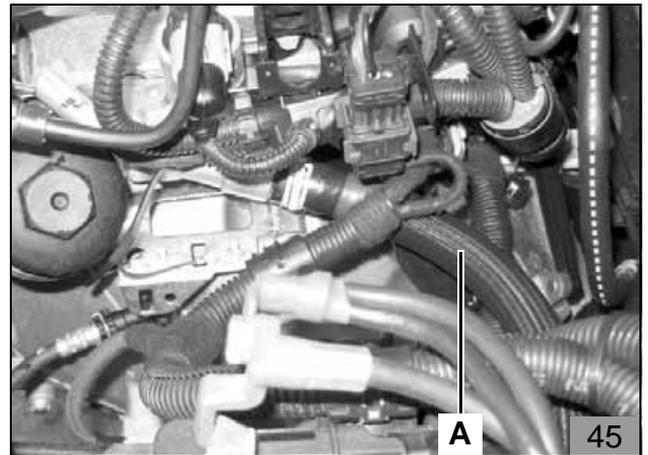
- Route hose **A** from heater unit inlet and hose **B** from heater unit outlet to cutting point



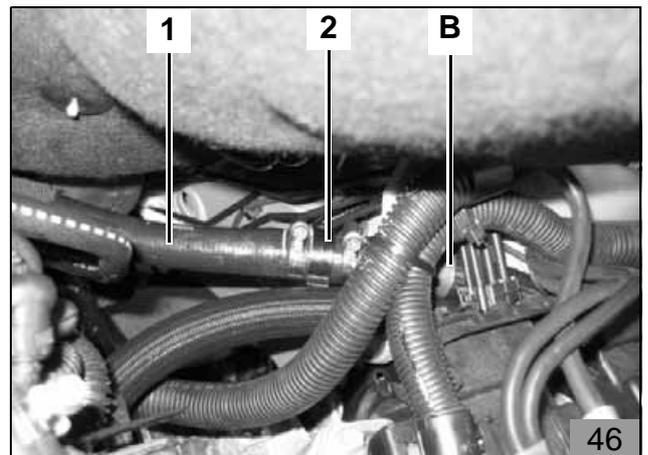
- Disconnect original vehicle coolant hose (1) from engine output to heat exchanger inlet from connection piece on engine outlet and route to left.



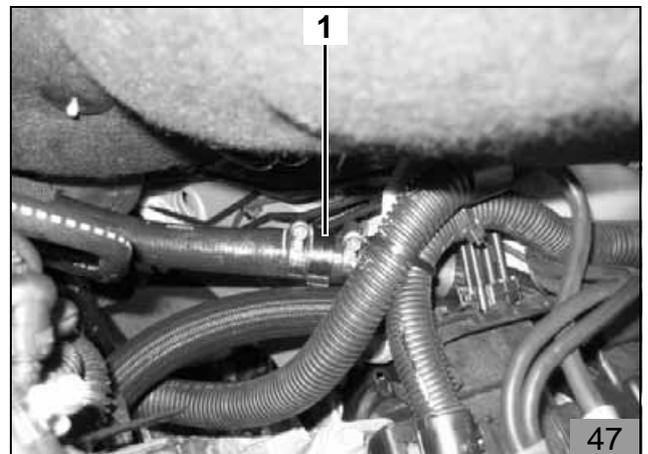
- Mount hose **A** on connection piece on engine outlet, align and fasten with original vehicle spring clip.



- Connect hose **B** from heater unit outlet and original vehicle coolant hose to heat exchanger inlet (1) with 20 x 20 mm connecting pipe (2) and hose clamps.



- Fasten included spacer bracket (1) to connection point.



**Only for vehicle with Z16SE engine**

**Hose A**

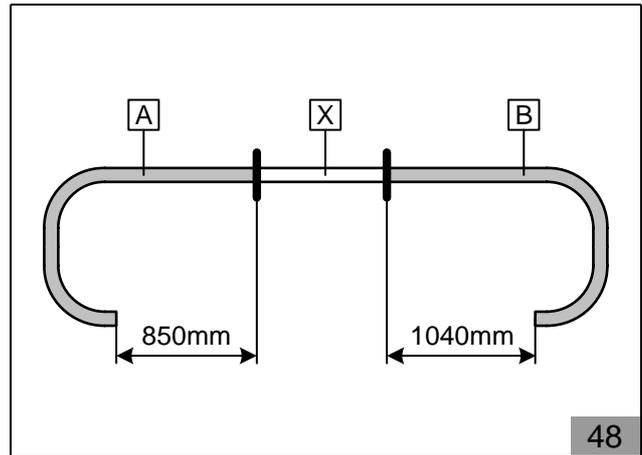
- 850 mm with 180° elbow (from heater unit inlet to original vehicle coolant hose on engine outlet)

**Hose B**

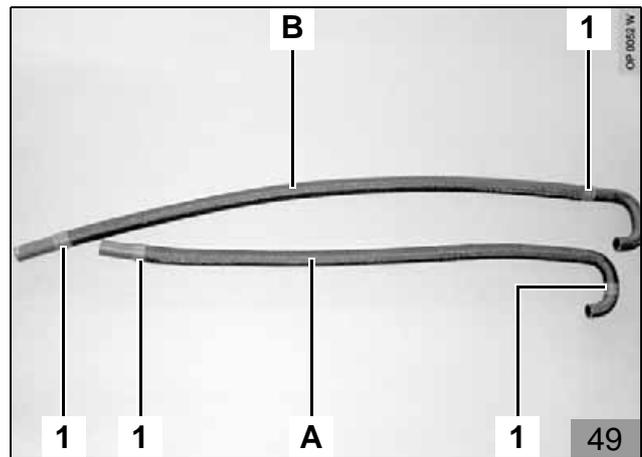
- 1040 mm with 180° elbow (from heater unit outlet to original vehicle coolant hose on heat-exchanger inlet)

**Section X**

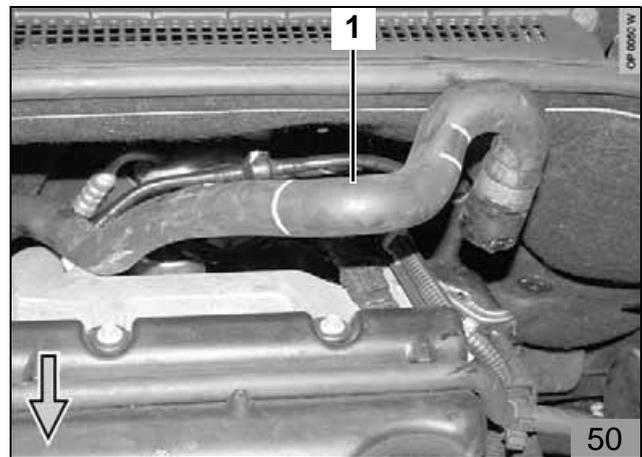
- Not required



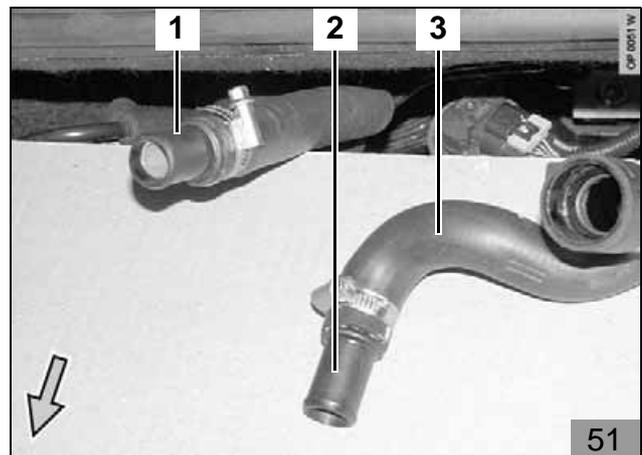
- Slide braided protection hoses, 1500 mm long, onto hose A and hose B respectively
- Cut included heat shrink plastic tubing, 100 mm long, into four equal sections
- Slide heat shrink plastic tubing (1) onto ends of braided protection hose and shrink down as shown



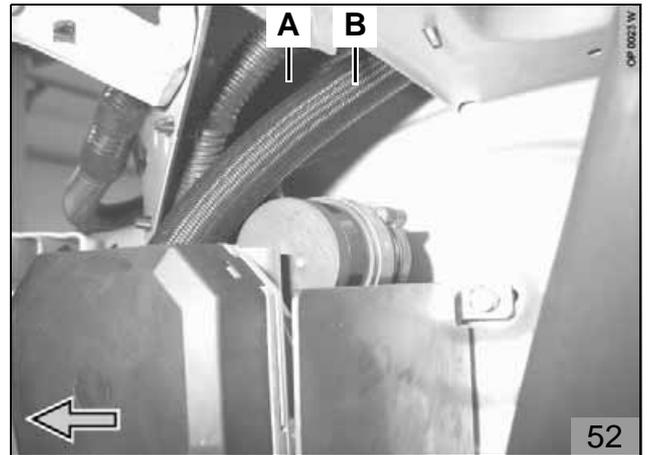
- Disconnect original vehicle coolant hose (1) from engine outlet to heat exchanger inlet on heat exchanger inlet and cut off as shown



- Mount 18 x 20 mm connecting pipe (1, 2) and fasten with hose clamps
- Remount hose section (3) on heat exchanger inlet



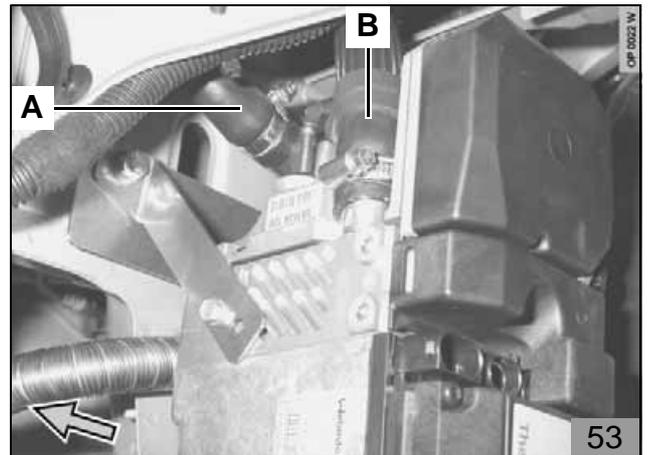
- Route hose **A** through original vehicle pass through into engine compartment and 180° elbow from hose **A** to heater unit inlet as shown
- Route hose **B** with 180° elbow through original vehicle pass through into engine compartment as shown



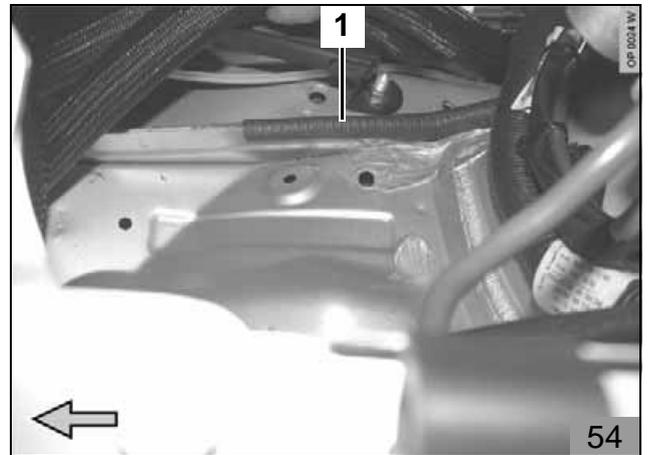
- Mount hose **A** with 180° elbow on heater unit inlet, align and fasten with hose clamp

**NOTE**

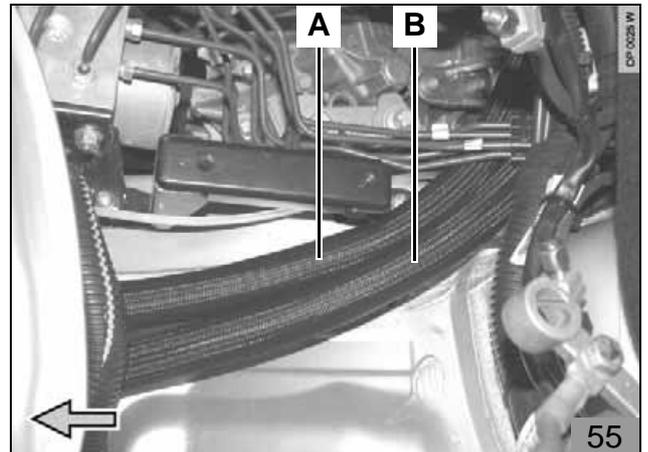
Do not mount hose **B** on heater unit outlet yet!



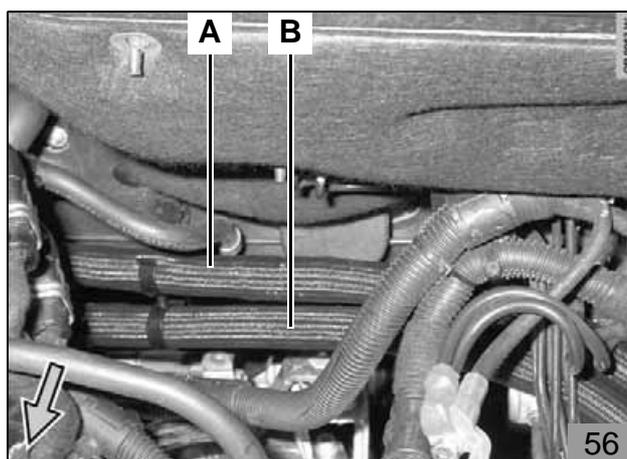
- Mount included edge protection (1) next to battery carrier



- Route hose **A** from heater unit inlet and hose **B** from heater unit outlet to cutting point



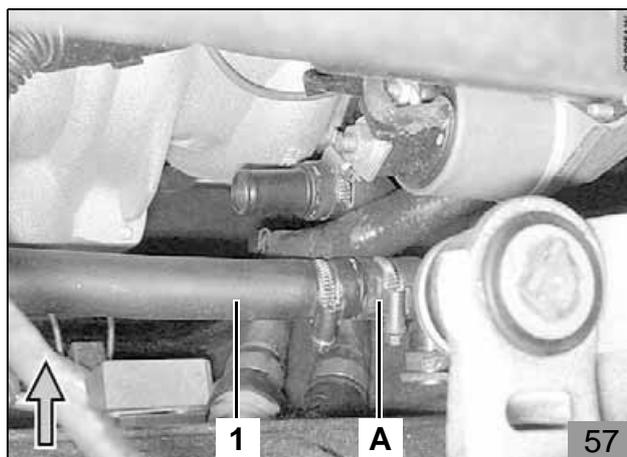
- Route hose **A** and hose **B** as shown



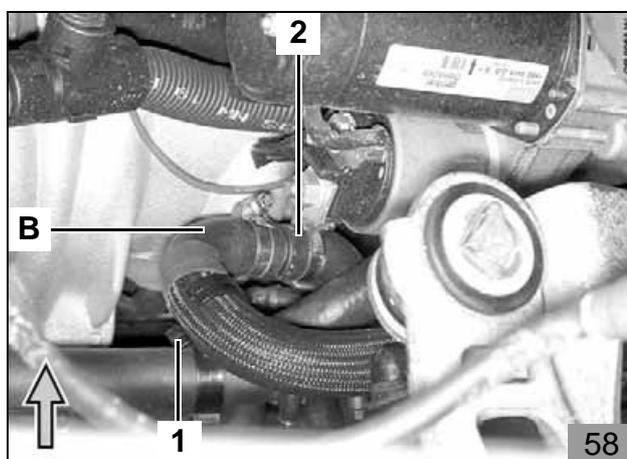
**NOTE**

Figures 57 and 58 show the view from the vehicle underside!

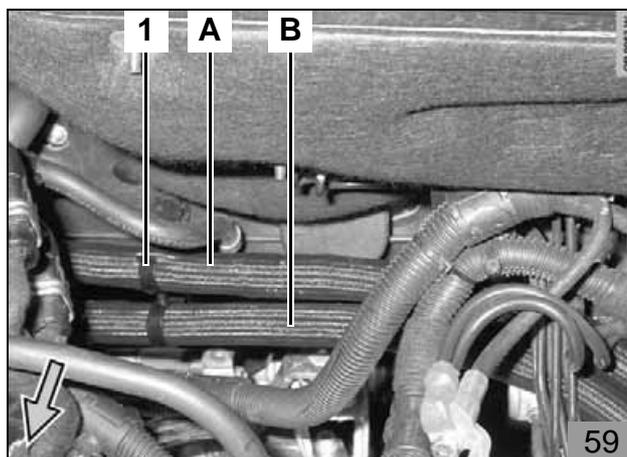
- Connect original vehicle coolant hose on engine outlet (1) to hose **A** and fasten with hose clamps



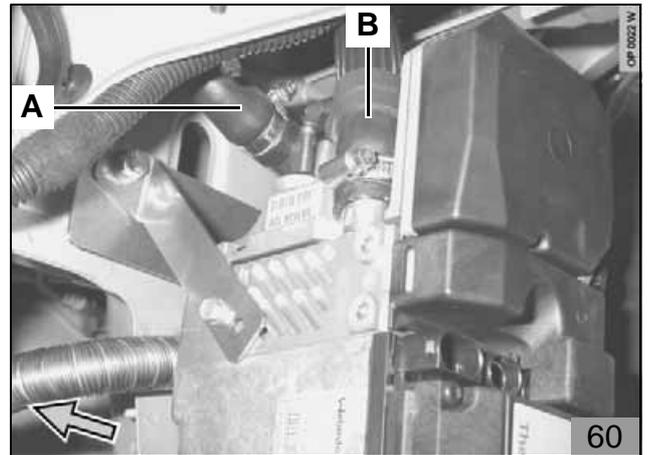
- Align hose **B** with 180° elbow as shown
- Connect hose **B** to original vehicle coolant hose on heat exchanger inlet (2) and fasten with hose clamp
- Insert hose bracket (1)



- Align hose **A** and hose **B** and mount hose bracket (1)



- Mount hose **B** on heater unit outlet and fasten with hose clamp
- Align all coolant hoses and fasten with cable ties



### Only for vehicles with Z16XE and Z16XEP engine

#### Hose A

- 650 mm with 180° elbow (from heater unit input to hose C)

#### Hose B

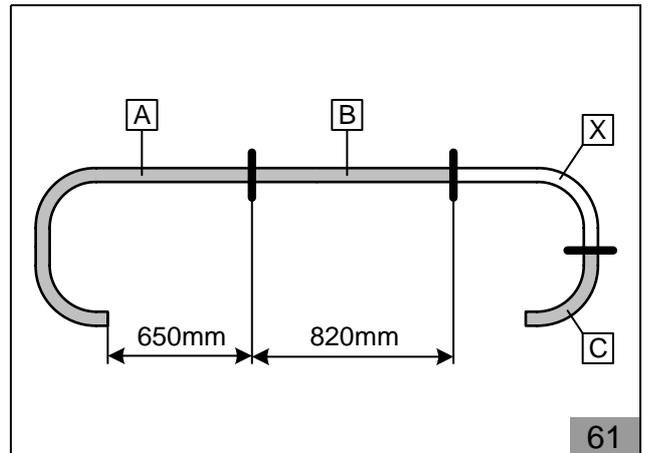
- 820 mm straight section (from heater unit outlet to original vehicle hose on heat exchanger inlet)

#### Hose C

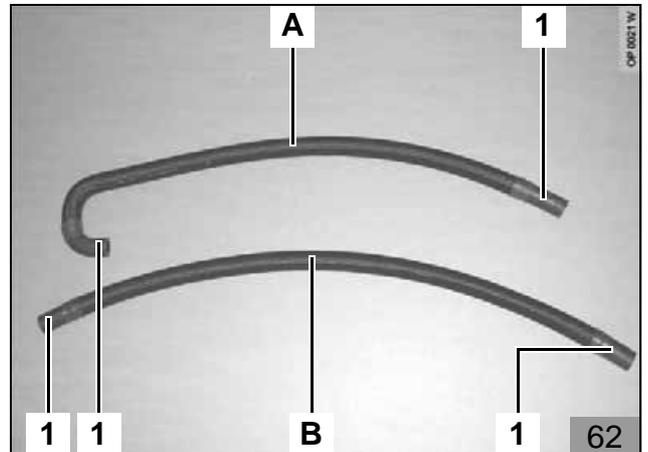
- 90° elbow (on connection piece on engine outlet)

#### Section X

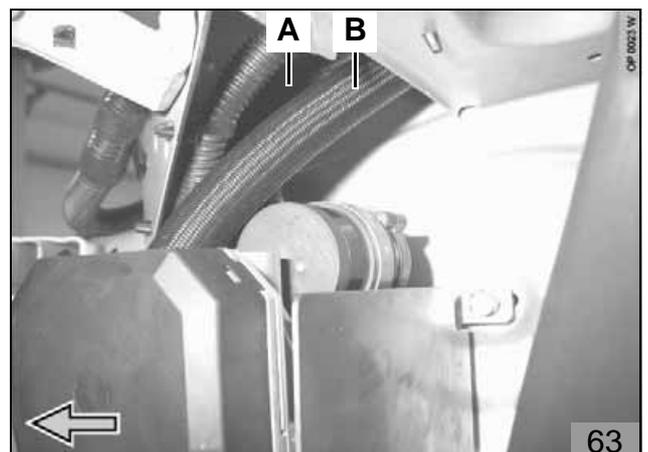
Not required



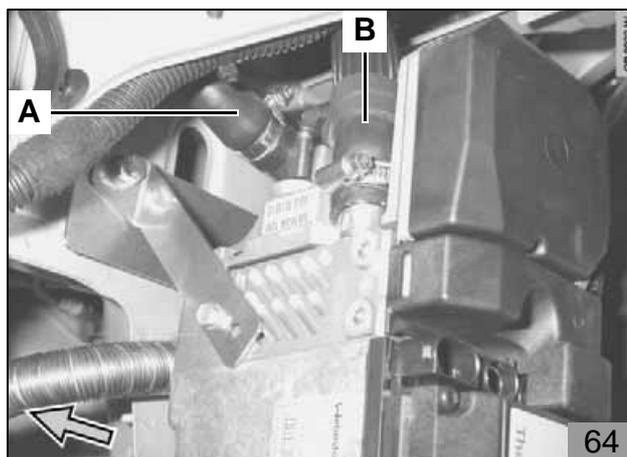
- Slide braided protection hoses, 1500 mm long, onto hose **A** and hose **B** respectively
- Cut included heat shrink plastic tubing, 100 mm long, into four equal sections
- Slide heat shrink plastic tubing (1) onto ends of braided protection hose and shrink down as shown



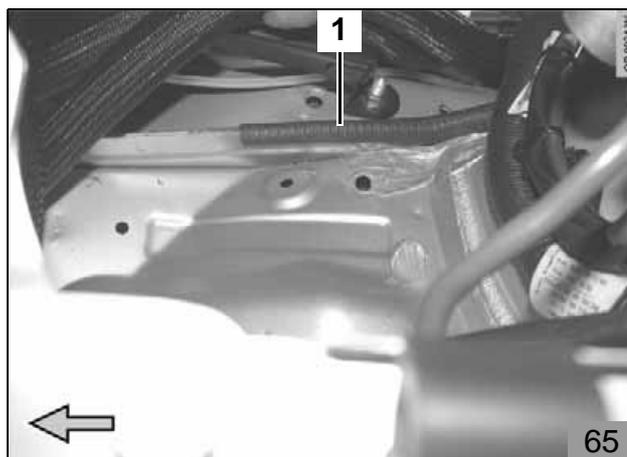
- Route hose **A** and hose **B** with straight ends through original vehicle pass through into engine compartment as shown



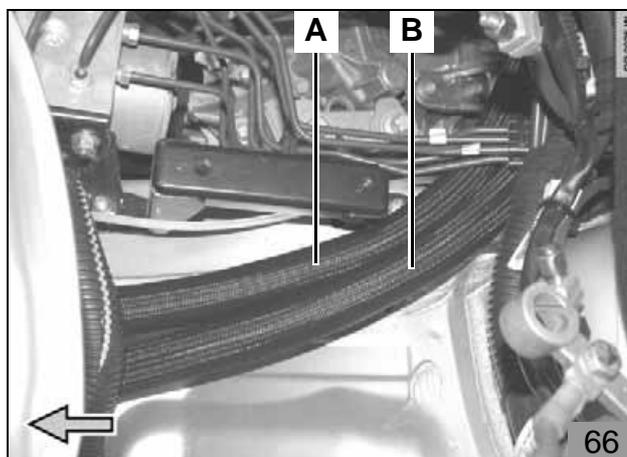
- Mount hose **A** with 180° elbow on heater unit inlet, align and fasten with hose clamp
- Mount hose **B** on heater unit outlet, align and fasten with hose clamp



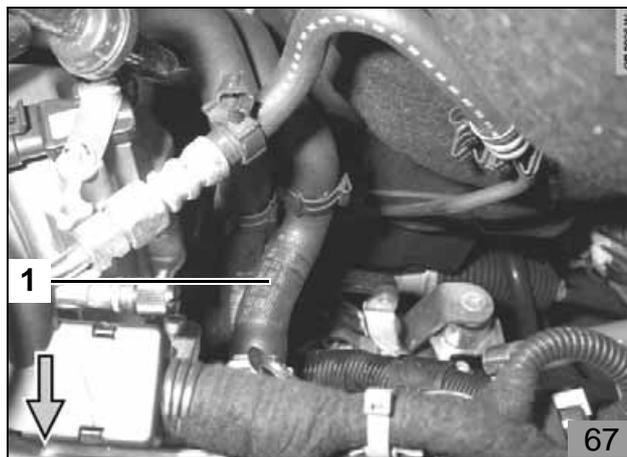
- Mount included edge protection (1) next to battery carrier



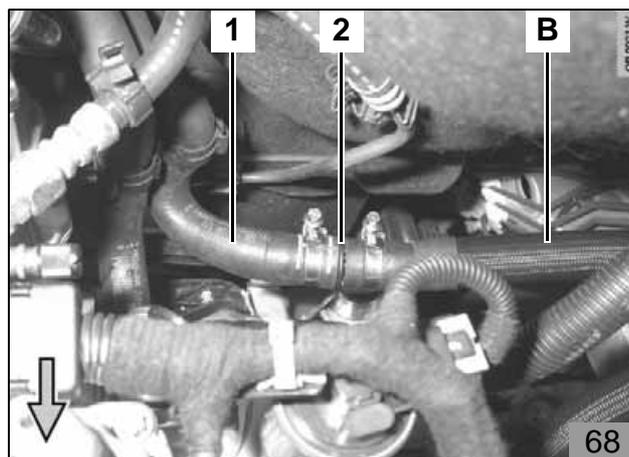
- Route hose **A** from heater unit inlet and hose **B** from heater unit outlet to cutting point



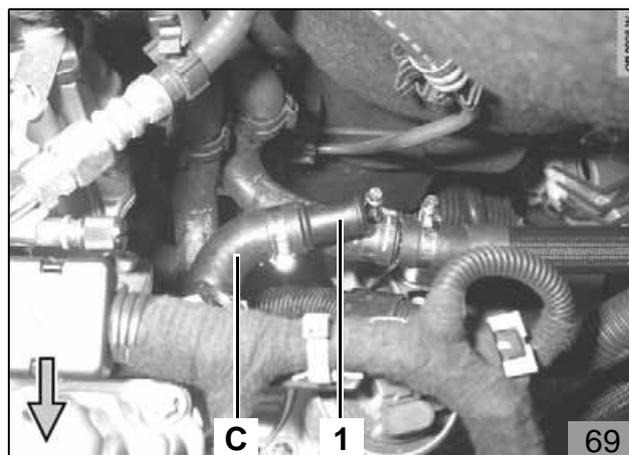
- Disconnect original vehicle coolant hose (1) from engine output to heat exchanger inlet from connection piece on engine outlet and turn to left as shown in Figure 68



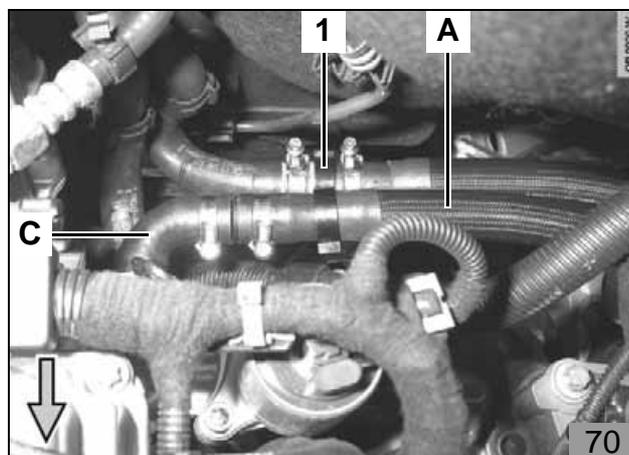
- Connect hose **B** from heater unit outlet and original vehicle coolant hose to heat exchanger inlet (1) with 20 x 20 mm connecting pipe (2) and hose clamps



- Mount hose **C** on connection piece on engine outlet, align and fasten with original vehicle spring clip.
- Insert 20 x 20 mm connecting pipe (1) in hose **C** and secure with hose clamp



- Mount hose **A** from heater unit inlet on 20 x 20 mm connecting pipe from hose **C** and connect with hose clamp
- Install included spacer bracket (1)
- Align all coolant hoses and fasten with cable ties



### Only for vehicle with Z18XE engine

#### Hose A

- 650 mm with 180° elbow (from heater unit input to hose **C**)

#### Hose B

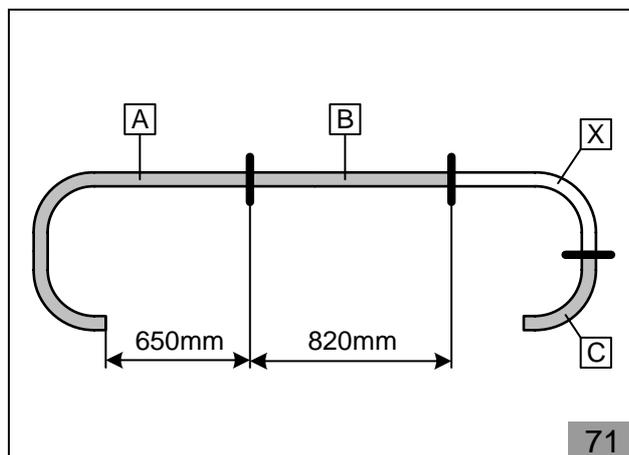
- 820 mm straight section (from heater unit outlet to original vehicle hose on heat exchanger inlet)

#### Hose C

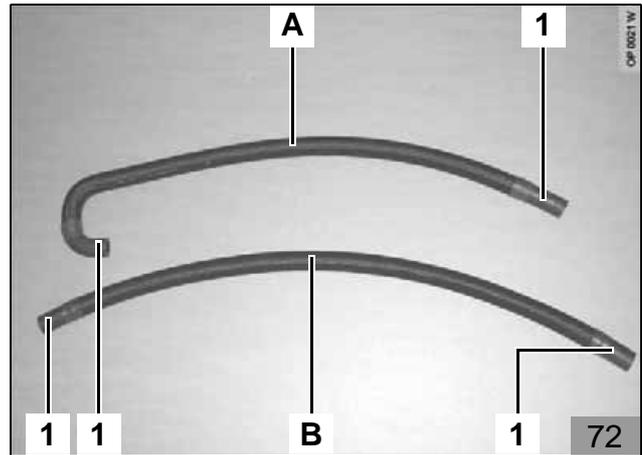
- 90° elbow (from engine outlet to hose **A**)

#### Section X

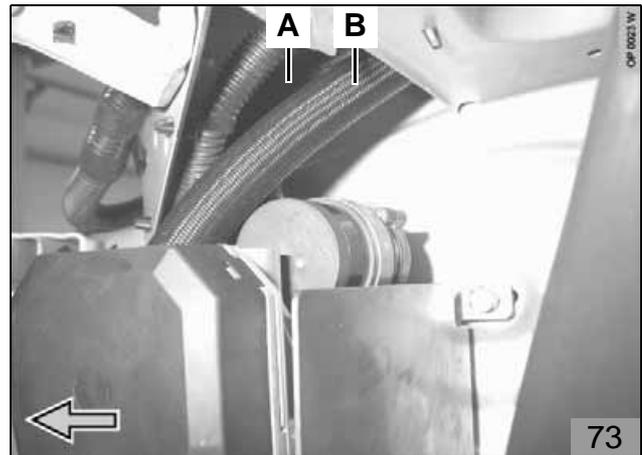
Not required



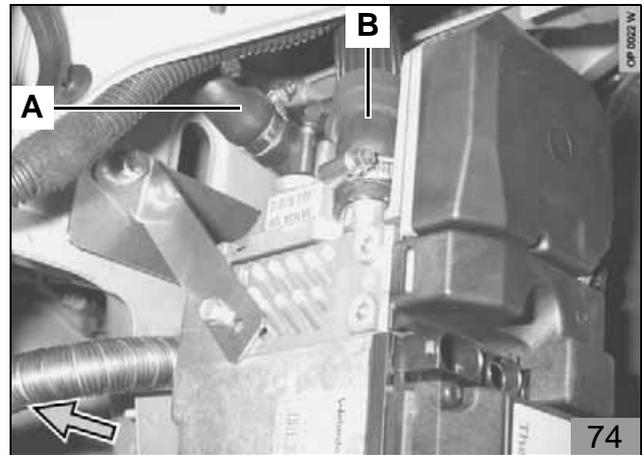
- Slide braided protection hoses, 1500 mm long, onto hose **A** and hose **B** respectively
- Cut included heat shrink plastic tubing, 100 mm long, into four equal sections
- Slide heat shrink plastic tubing (1) onto ends of braided protection hose and shrink down as shown



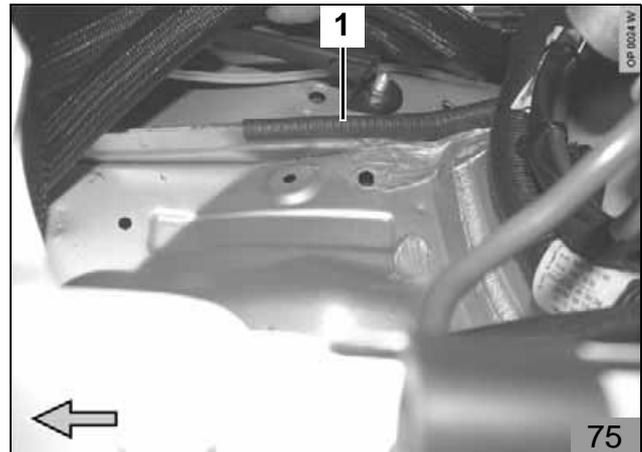
- Route hose **A** and hose **B** with straight ends through original vehicle pass through into engine compartment as shown



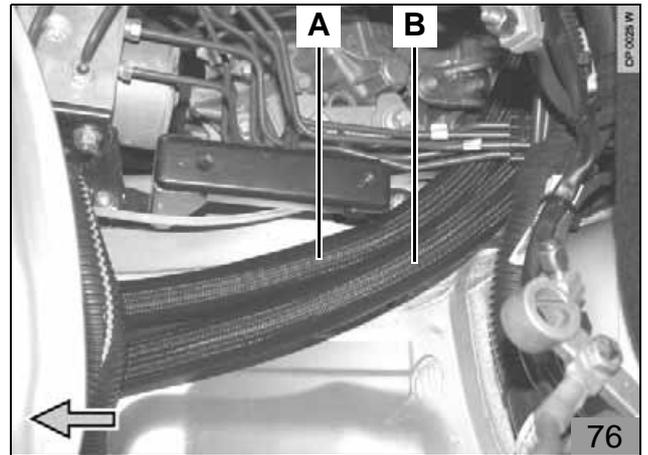
- Mount hose **A** with 180° elbow on heater unit inlet, align and fasten with hose clamp
- Mount hose **B** on heater unit outlet, align and fasten with hose clamp



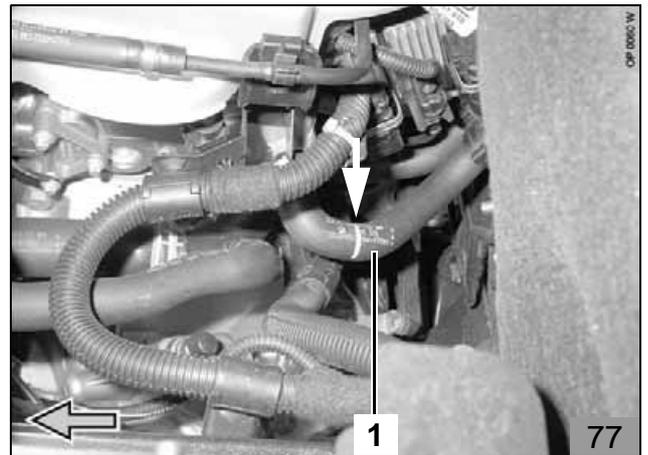
- Mount included edge protection (1) next to battery carrier



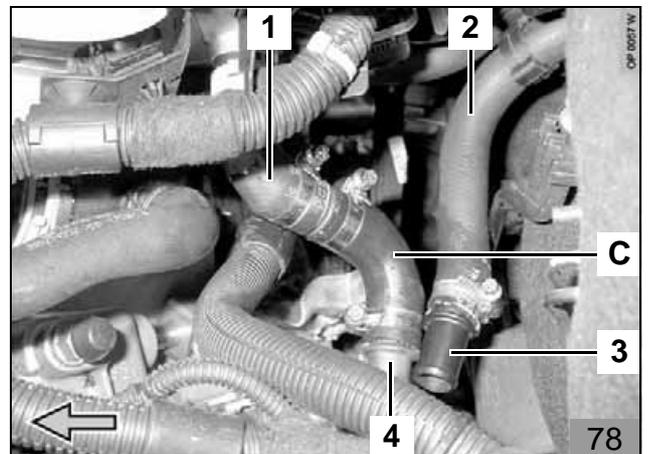
- Route hose **A** from heater unit inlet and hose **B** from heater unit outlet to cutting point



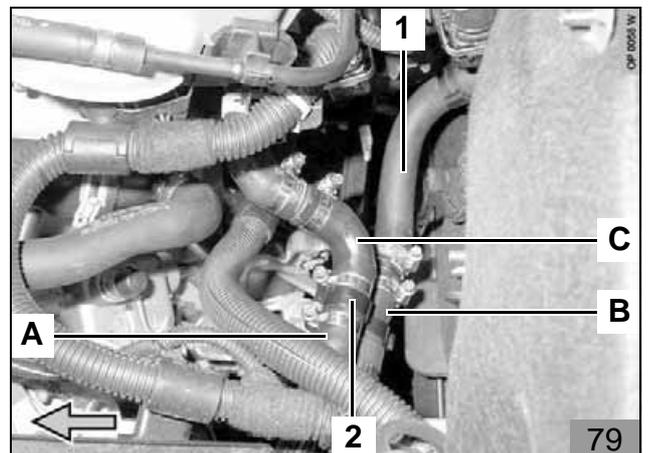
- Cut off original vehicle coolant hose (1) from engine outlet to heat exchanger inlet as shown



- Connect hose **C** to original vehicle coolant hose from engine outlet (1) using 18 x 20 mm connecting pipe and hose clamps as shown
- Insert 20 x 20 mm connecting pipe (4) in hose **C** and secure with hose clamp
- Mount 18 x 20 mm connecting pipe (3) in original vehicle coolant hose (2) and fasten with hose clamp



- Mount hose **A** from heater unit inlet on 20 x 20 mm connecting pipe from hose **C** and fasten with hose clamp as shown
- Mount hose **B** from heater unit outlet on 18 x 20 mm connecting pipe from original vehicle coolant hose on heat exchanger inlet (1) and fasten with hose clamp as shown
- Mount included spacer bracket (2)
- Align all coolant hoses and fasten with cable ties



**Only for vehicles with Y17DT and Z17DTH engine**

**Hose A**

- 650 mm with 180° elbow (from heater unit input to hose C)

**Hose B**

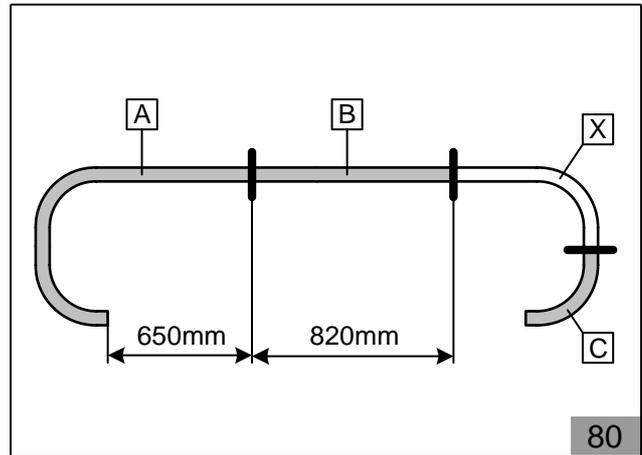
- 820 mm straight section (from heater unit outlet to original vehicle hose on heat exchanger inlet)

**Hose C**

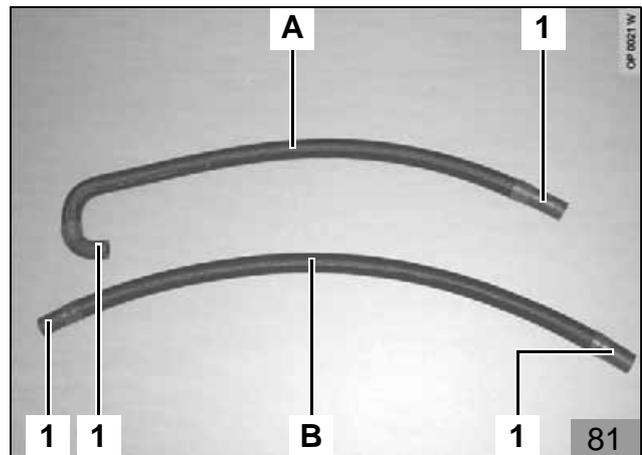
- 90° elbow (on connection piece on engine outlet)

**Section X**

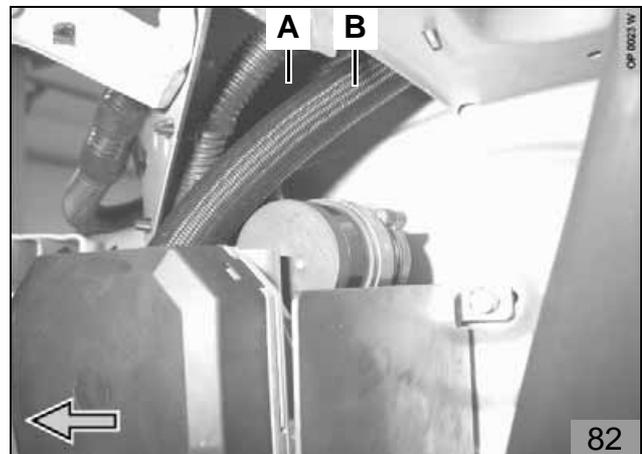
Not required



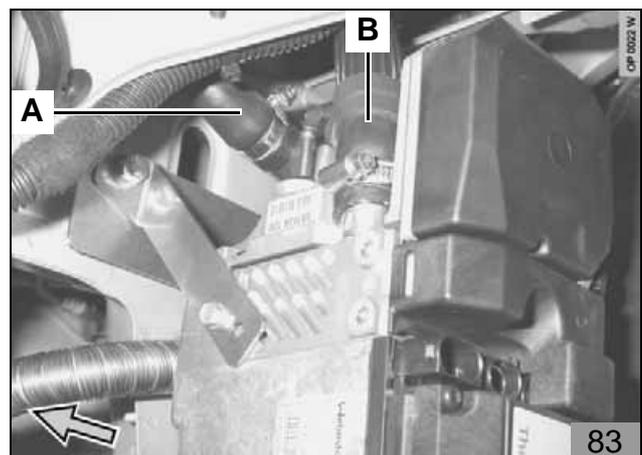
- Slide braided protection hoses, 1500 mm long, onto hose A and hose B respectively
- Cut included heat shrink plastic tubing, 100 mm long, into four equal sections
- Slide heat shrink plastic tubing (1) onto ends of braided protection hose and shrink down as shown



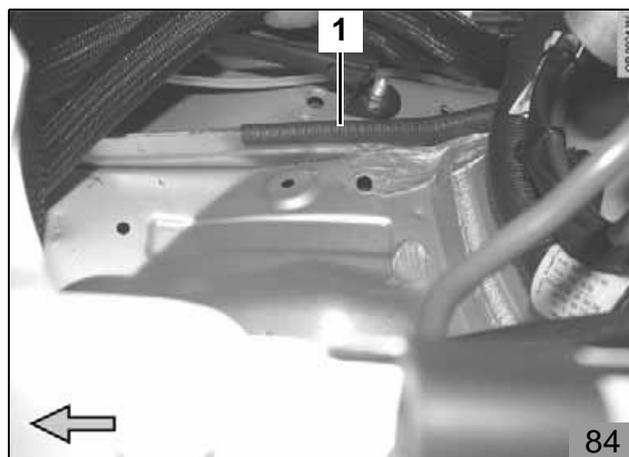
- Route hose A and hose B with straight ends through original vehicle pass through into engine compartment as shown



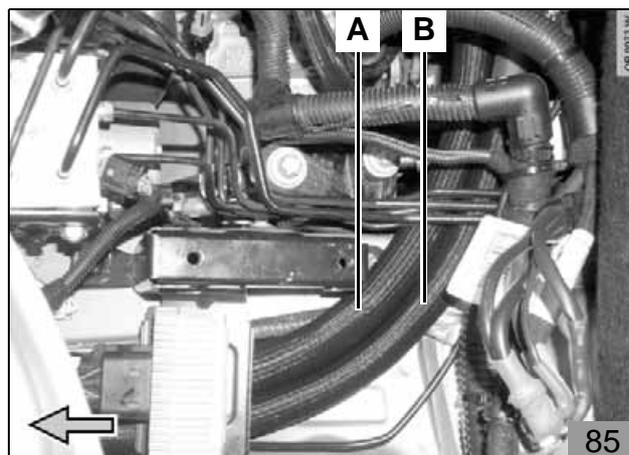
- Mount hose A with 180° elbow on heater unit inlet, align and fasten with hose clamp
- Mount hose B on heater unit outlet, align and fasten with hose clamp



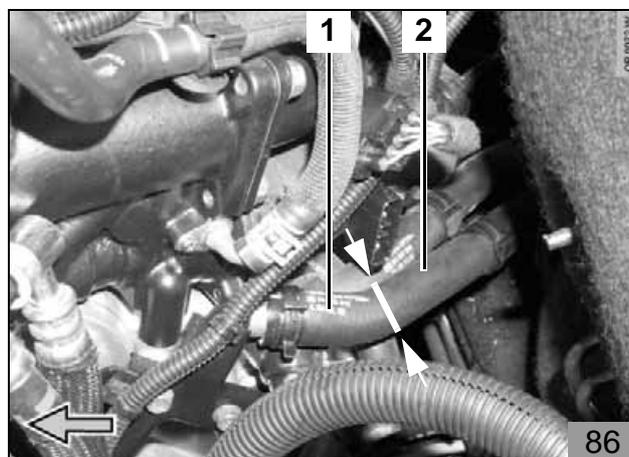
- Mount included edge protection (1) next to battery carrier



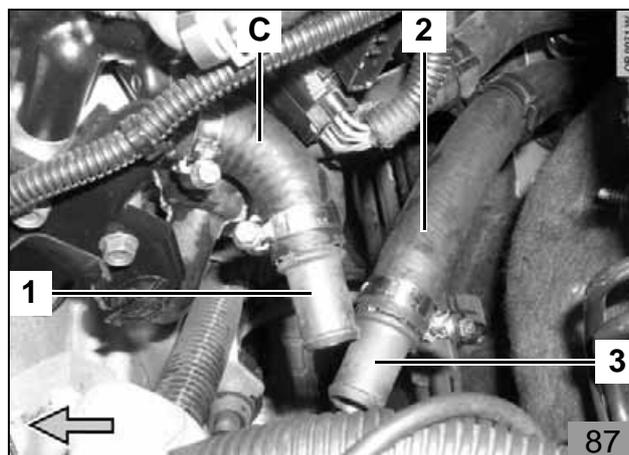
- Route hose **A** from heater unit inlet and hose **B** from heater unit outlet to cutting point



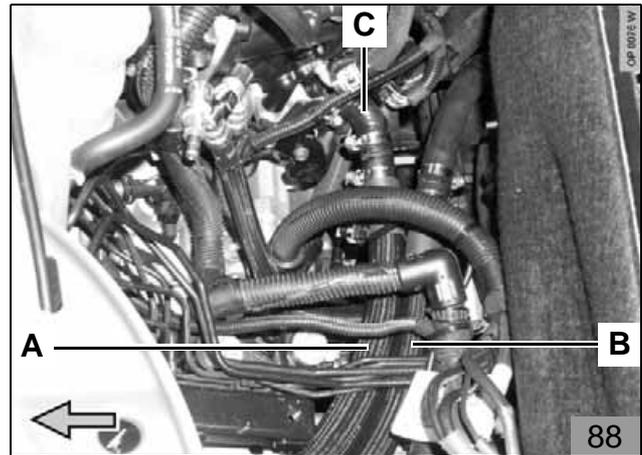
- Cut off original vehicle coolant hose from engine outlet to heat exchanger inlet (1, 2) as shown
- Discard hose section (1) from engine outlet



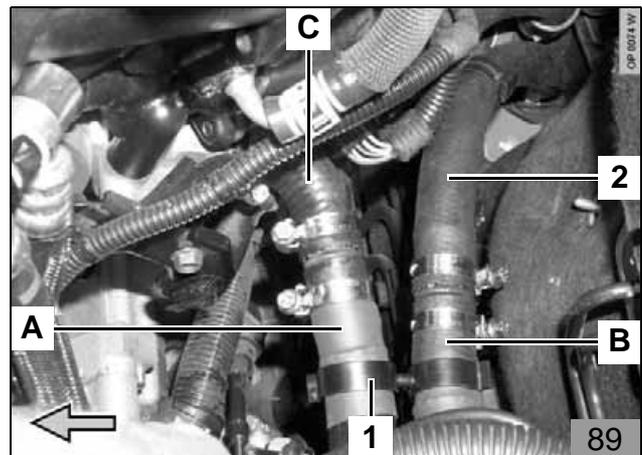
- Mount hose **C** on connection piece from engine outlet, align and fasten with hose clamp as shown.
- Insert 20 x 20 mm connecting pipe (1) in hose **C** and secure with hose clamp
- Insert 20 x 20 mm connecting pipe (3) in original vehicle hose section to heat-exchanger inlet (2) and fasten with hose clamp



- Route hose **A** to hose **C** as shown in Figures 88 and 89, mount and fasten with hose clamp



- Route hose **B** to hose section to heat exchanger inlet (2) as shown in Figures 88 and 89, mount and fasten with hose clamp
- Insert spacer bracket (1)
- Align all coolant hoses and fasten with cable ties



## Fuel Connection

### Attention

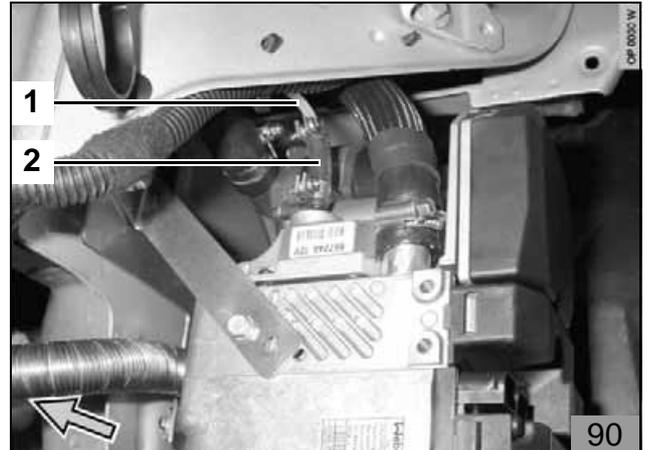
Open fuel tank cap of vehicle, vent fuel tank and close fuel tank cap again.

Catch any fuel running off with an appropriate container.

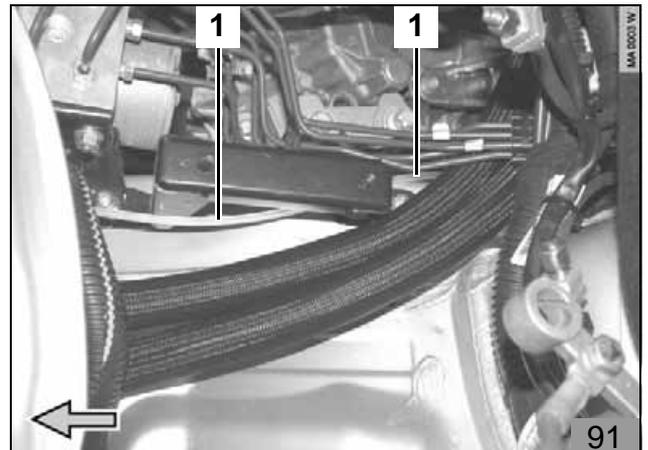
Route Mecanyl fuel lines so that they are protected against stone impact.

At sharp edges, Mecanyl fuel lines and wiring harnesses are provided with a scuff guard.

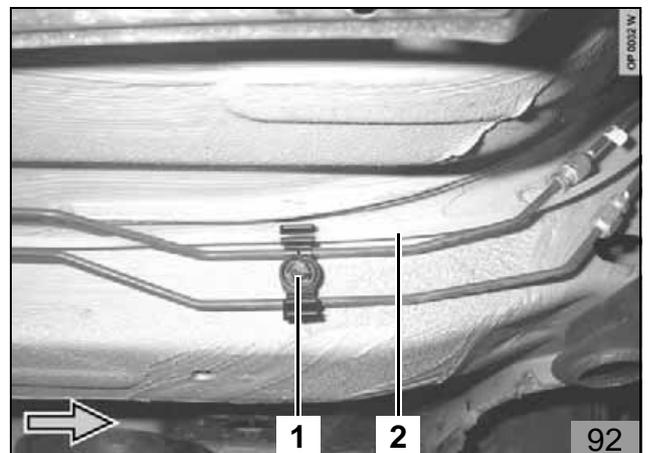
- Connect Mecanyl fuel line (1) to heater unit with hose section (2) and 10 mm dia. hose clamp
- Route Mecanyl fuel line (1) through existing pass through into engine compartment



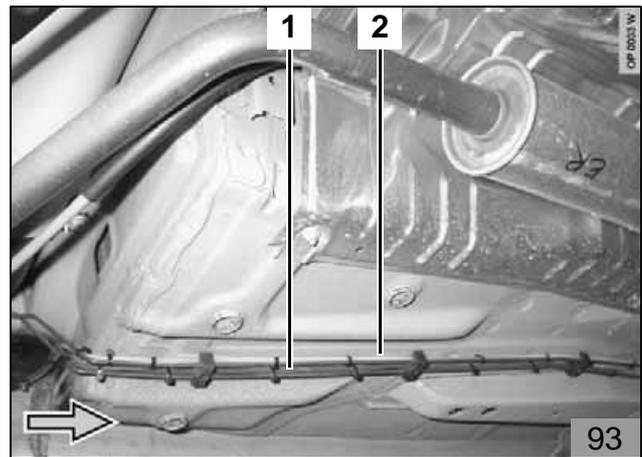
- Route Mecanyl fuel line (1) further along the original vehicle lines to firewall
- Route Mecanyl fuel line (1) along wiring harness of metering pump to underbody



- Replace original vehicle spacer bracket (1) with included spacer bracket
- Clip Mecanyl fuel line (2) into spacer bracket (1)



- Route wiring harness of metering pump (1) and Mecanyl fuel line (2) along original vehicle fuel lines on underbody to installation location of metering pump

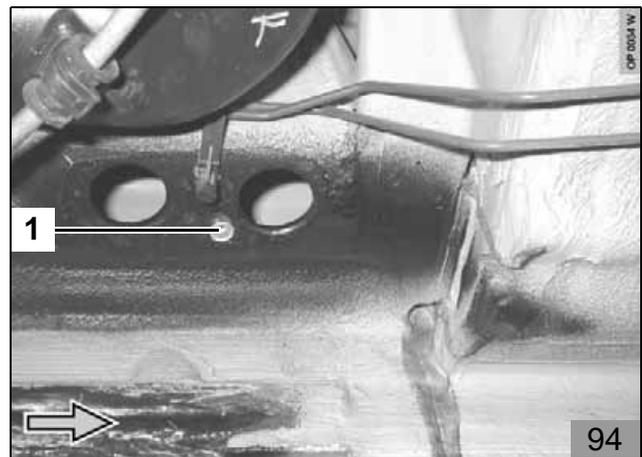


**Metering pump**

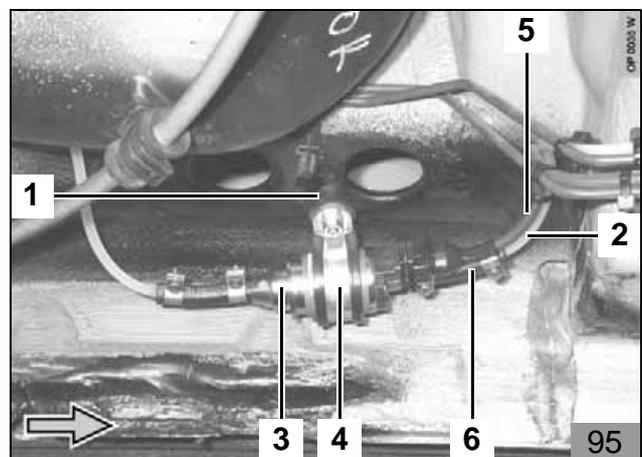
**NOTE**

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

- Drill 9.1 mm dia. hole at position 1 and mount rivet nut (1)



- Screw in silent block (1) on rivet nut
- Fasten metering pump (3) on silent block (1) with rubber-coated p-clamp (4), spring lockwasher and M6 nut
- Cut Mecanyl fuel line (2) on metering pump (3) to length and connect to pressure side of metering pump (3) (side with connector) using hose section (6) and 10 mm dia. hose clamps
- Cut wiring harness of metering pump (5) on metering pump (3) to length, slide on protective rubber plug, crimp on tab connector, complete connector housing and connect wiring harness of metering pump (5) to metering pump (3)
- Fasten Mecanyl fuel line (2) and wiring harness of metering pump (5) with cable ties



## Removing fuel

### Attention

Check fill level before lowering fuel tank!

Fuel is removed from fuel-tank sending unit with fuel standpipe.

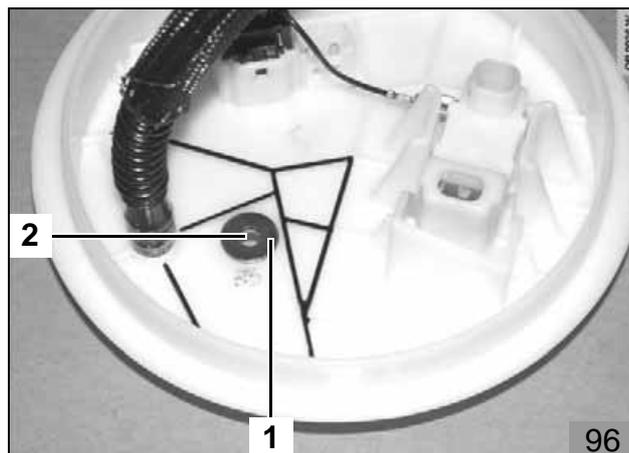
### NOTE

Observe included general "Installation Instructions" for fuel standpipe.

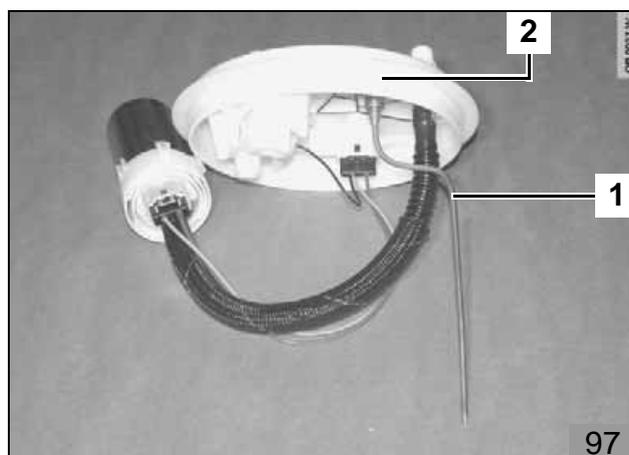
Watch for chips when drilling!

Tightening torque of fuel standpipe is 5 Nm.

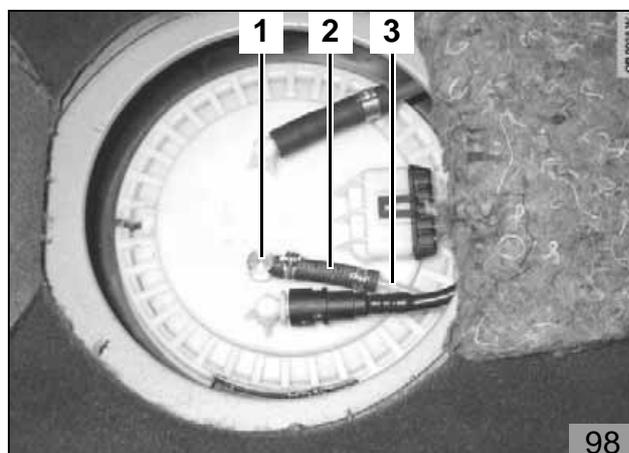
- Remove fuel sender according to manufacturer's specifications.
- Lay included large diameter washer (1) with 14.5 mm outside dia. on fuel-tank sending unit and copy hole pattern (2) to fuel-tank sending unit
- Large diameter washer (1), 14.5 mm outside dia., remove and drill 6 mm dia. hole in fuel-tank sending unit at position 2
- Bend fuel standpipe and cut to length in accordance with template in Figure 96



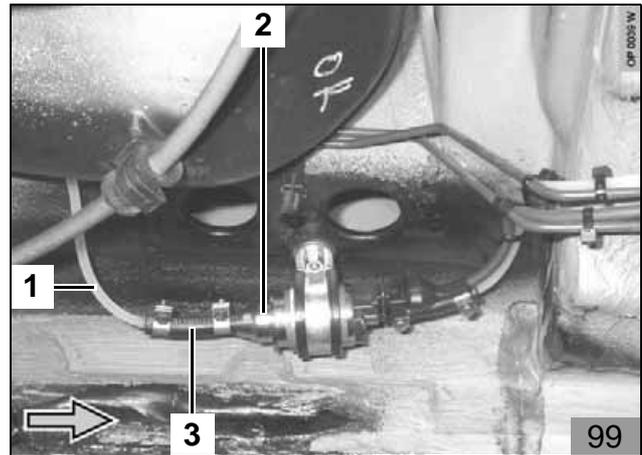
- Insert fuel standpipe (1) in fuel standpipe (2) and secure in accordance with installation instructions (5 Nm)
- Reinstall fuel-tank sending unit (2) according to manufacturer's instructions and use new clamp for fuel-tank sending unit (Opel Part No.: 93177633).



- Connect molded hose (2) to fuel standpipe (1) and fasten with 10 mm Caillau clamp
- Insert residual piece of Mecanyl fuel line (3) in molded hose (2) and fasten with 10 mm dia. Caillau clamp
- Route Mecanyl fuel line (3) to installation location of metering pump

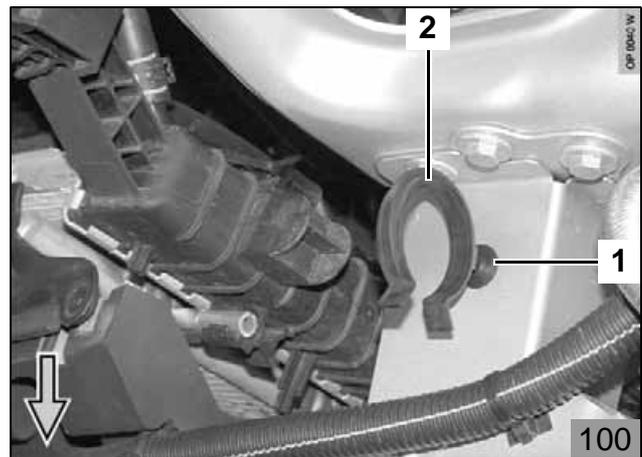


- Route Mecanyl fuel line (1) to metering pump (2), cut to length and connect to intake side of metering pump (2) (side without connector) using hose section (3) and 10 mm dia. hose clamp
- Secure Mecanyl fuel line (1) with cable ties

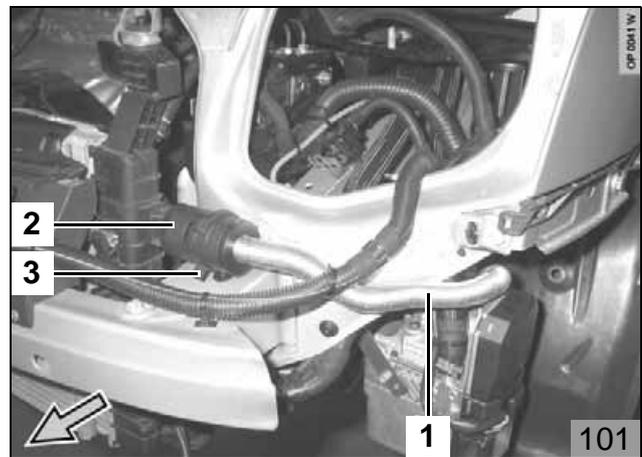


**Combustion air connection**

- Drill 6,2 mm dia. hole in cross member at position 1.
- Insert retaining clip (2) in hole



- Mount combustion-air intake pipe (1) with slotted side on heater unit and secure with hose clamp
- Guide combustion-air intake pipe (1) in front of headlight to right and align
- Screw combustion-air intake muffler (2) as far as possible into combustion-air intake pipe (1)
- Insert combustion-air intake muffler (2) in retaining clip (3)
- Position combustion-air intake pipe (1) as shown and fasten to original vehicle wiring harness with cable ties



## Final Work

### **WARNING!**

Reassemble the disassembled components in reverse order.

Check all hoses, hose, spring and Caillau clamps, as well as all electrical connections for firm seating.

Secure all loose cables using cable ties.

Only use manufacturer-approved coolant.

Spray the heater unit components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- Connect the battery.
- Start the engine, bleed the coolant circuit according to the vehicle manufacturer's instructions and top up coolant.
- Set the digital timer.
- Set the manual air conditioning or automatic air conditioning according to the "operating instructions for the end customer".
- Check the proper operation of the additional heater, see the operating instructions/installation instructions.
- Attach the "Switch off additional heater before refueling" sticker to the left-hand B-pillar.

**Operating Instructions for End Customer**

Please remove page and add to the vehicle operating instructions.

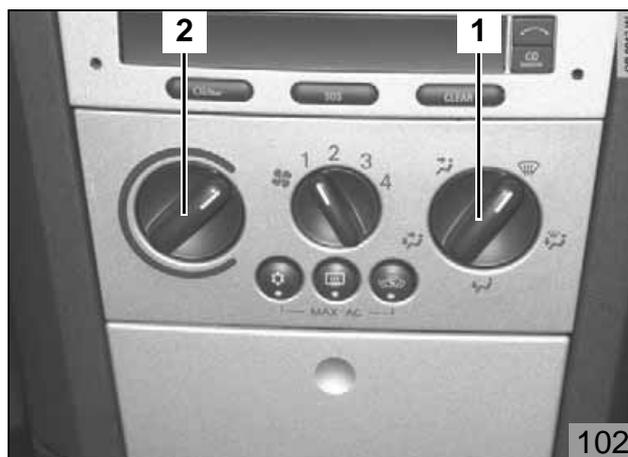
**WARNING:**

The passenger compartment monitoring is switched off during heating!

Before parking the vehicle, make the following settings:

**Only for vehicles with manual air conditioning**

- Direct air outlet(1) toward "WINDSHIELD"
- Thermostat (2) set to "MAX"

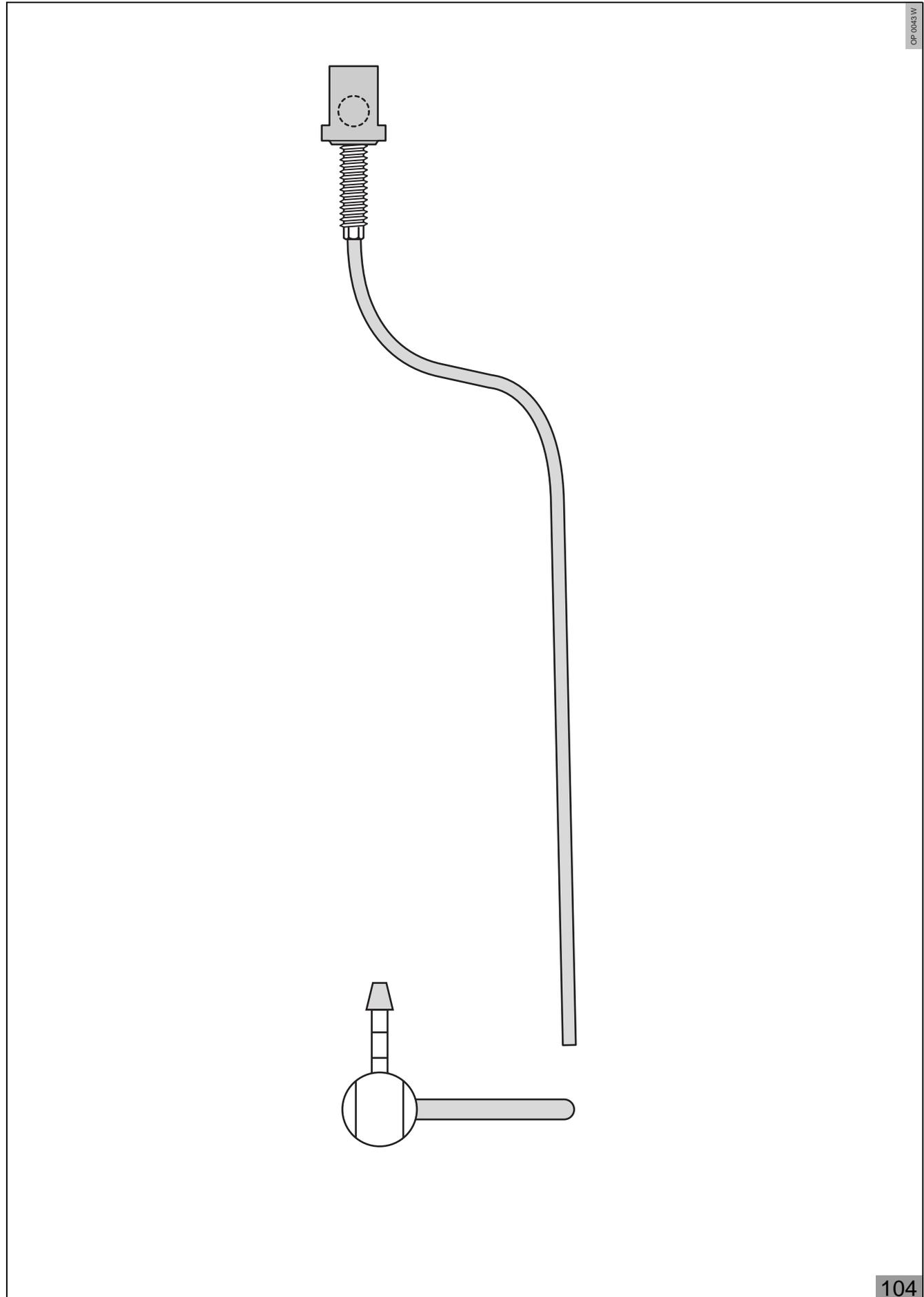


**Only for vehicles with automatic air-conditioning**

- Thermostat (1) set to "MAX"



Bending Template for Fuel Standpipe





*Feel the drive*

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