Water Heater

Webasto
Feel the Drive

Thermo Top Evo Parking Heater

E1
00 0258

Installation Documentation
Lexus GS 250 / GS 450H

Validity

Manufacturer	Model	Type	EG-BE No./ABE
Lexus	GS 250	L10	e6 * 2007 / 46 *0034 *00
Lexus	GS 450H	HL10	e6 * 2007 / 46 *0035 *00

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
2.5B	Petrol	AT 6-speed	154	2500	4GR-FSE
3.5B Hybrid	Petrol	E-CVT	215	3456	2GR-FXE

AG = Automatic transmission
E-CVT = Electronic continuously variable transmission

from Model Year 2012
Left-hand drive vehicle

Verified equipment variants:

Automatic air-conditioning 2 zones and 3 zones

Front fog light
Passenger compartment monitoring
LED Daytime Running Lights
LED Headlight with headlight washer system and cornering light
Bi Xenon with headlight washer system
F-Sport-Package

Total installation time: about 8 hours

Note:

ONLY let electrotechnically trained personnel (EuP) carry out operations/maintenance on hybrid vehicles See instructions of the vehicle manufacturer.

Lexus GS 250 / GS 450H

Table of Contents

Necessary Components

- Basic delivery scope of *Thermo Top Evo* based on price list
- Installation kit for Lexus GS 250 / GS 450H 2012 Petrol: **1318771A**
- Heater control in accordance with price list and upon consultation with end customer
- In case of Telestart, indicator lamp in accordance with price list and in consultation with end customer
- Seal of fuel-tank sending unit / Lexus Order No.: **77169-47030**

Optional for Lexus Hybrid	
Battery Full Charge Indicator	DENGS-56380-37
Battery charger MXS 3.8	DENGS-MXS38-37

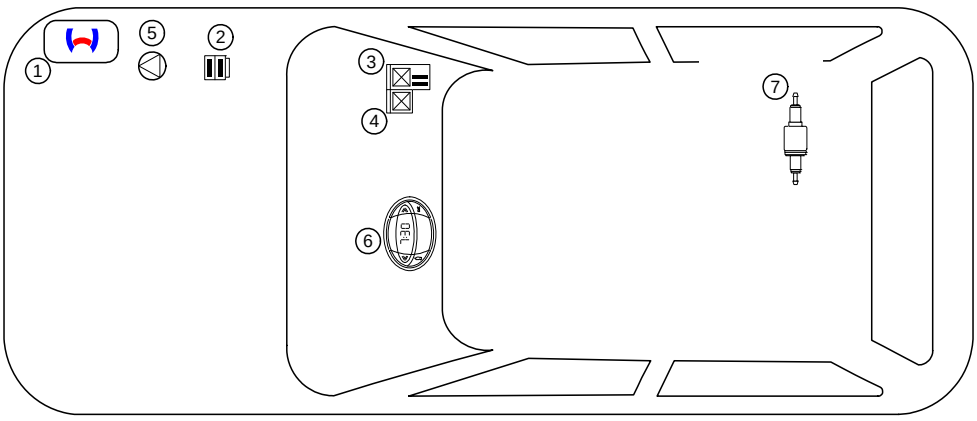
Installation instructions

- Arrange for the vehicle to be delivered with the tank only about 1/4 full!
- The installation location of the push button in the case of Telestart or Thermo Call should be confirmed with the end customer.

Installation Overview

Legend:

1. Heater
2. Fuse holder of engine compartment
3. Relay and fuse holder of passenger compartment
4. IPCU
5. Circulating pump
6. Digital timer
7. Metering pump



Notes on Total Installation Time

The total installation time includes the time needed for mounting and demounting of the vehicle-specific components, the heater specific installation time and all other times required for the system integration and initial start-up of the heater.
The total installation time may vary for vehicle equipment other than provided.

Information on Operating and Installation Instructions

1 Important Information (not complete)

1.1 Installation and Repair

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

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

Installation and repair may ONLY be carried out by persons trained and certified in a Webasto training course. NEVER try to install or repair Webasto heating or cooling systems if you have not completed a Webasto training course, you do not have the necessary technical skills and you do not have the technical documentation, tools and equipment available to ensure that you can complete the installation and repair work properly.

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

1.2 Operation

To ensure safe operation, we recommend having the heater checked every two years by an authorised Webasto dealer, especially when used over a long period and/or under extreme environmental conditions.

Do not operate the heater in closed rooms due to the danger of poisoning and suffocation.

Always switch off the heater before refuelling.

The heater may only be used with the prescribed fuel Diesel (DIN EN 590) or petrol (DIN EN 227).

The heater may not be cleaned with a high-pressure cleaner.

1.3 Please note

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

To become familiar with and understand all functions and properties of the heater, the operating instructions must be read carefully and observed at all times.

For proper, safe installation and repair work, the installation instructions with all warnings and safety information must be carefully read and observed at all times. Please always contact a workshop authorised by Webasto for all installation and repair work.

Important

Webasto shall assume no liability for defects, damage and injuries resulting from a failure to observe the installation, repair and operating instructions of the information contained in them.

This liability exclusion particularly applies to improper installations and repairs, installations and repairs by untrained persons or in the case of a failure to use genuine spare parts.

The liability due to culpable disregard to life, limb or health and due to damage or injuries caused by a wilful or reckless breach of duty remain unaffected, as does the obligatory product liability.

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

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

Observe the instructions and guidelines of the respective vehicle manufacturer for demounting and mounting vehicle specific components!

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

When installing an IPCU, the corresponding settings must be checked or adjusted before the installation.

2 Statutory regulations governing installation

Guidelines	Thermo Top Evo
Heating Directive ECE R122	E1 00 0258
EMC Directive ECE R10	E1 03 5627

Note

The regulations of these guidelines are binding in the scope of the Directive 70/156/EEC and/or 2007/46/EC (for new vehicle models from 29/04/2009) and should also be observed in countries in which there are no special regulations.

Important

Failure to follow the installation instructions will result in the invalidation of the type approval for the heater and therefore invalidation of the general **homologation of the vehicle**.

Note

For vehicles with an EU permit, no entry in accordance with § 19 Sub-Section 4 of Annex VIII b to the Road Traffic Act is required.

2.1 Excerpt from the directive 2001/56/EC Appendix VII for the installation of the heater

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

1.7.1. A clearly visible tell-tale in the operator's field of view shall inform when the combustion heater is switched on or off.

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

2.1.1. Subject to paragraph 2.1.2. combustion heaters shall be installed according to the requirements of this Annex.

2.1.2. Vehicles of category O having liquid fuel heaters are deemed to comply with the requirements of this Annex.

2.2. Positioning of heater

2.2.1. Body sections and any other components in the vicinity of the heater must be protected from excessive heat and the possibility of fuel or oil contamination.

2.2.2. The combustion heater shall not constitute a risk of fire, even in the case of overheating. This requirement shall be deemed to be fulfilled if the installation ensures an adequate distance to all parts and suitable ventilation, by the use of fire resistant materials or by the use of heat shields.

2.2.3. In the case of M2 and M3 vehicles, the heater must not be positioned in the passenger compartment. However, an installation in an effectively sealed envelope which also complies with the conditions in paragraph 2.2.2 may be used.

2.2.4. The label referred to in paragraph 1.4 or a duplicate, must be positioned so that it can be easily read when the heater is installed in the vehicle.

2.2.5. Every reasonable precaution should be taken in positioning the heater to minimise the risk of injury and damage to personal property.

2.3. Fuel supply

2.3.1. The fuel filler must not be situated in the passenger compartment and must be provided with an effective cap to prevent fuel spillage.

2.3.2. In the case of liquid fuel heaters, where a supply separate to that of the vehicle is provided, the type of fuel and its filler point must be clearly labelled.

2.3.3. A notice, indicating that the heater must be shut down before refuelling, must be affixed to the fuelling point. In addition a suitable instruction must be included in the manufacturer's operating manual.

2.4. Exhaust system

2.4.1. The exhaust outlet must be located so as to prevent emissions from entering the vehicle through ventilators, heated air inlets or opening windows.

2.5. Combustion air inlet

2.5.1. The air for the combustion chamber of the heater must not be drawn from the passenger compartment of the vehicle.

2.5.2. The air inlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

2.6. Heating air inlet

2.6.1. The heating air supply may be fresh or recirculated air and must be drawn from a clean area not likely to be contaminated by exhaust fumes emitted either by the propulsion engine, the combustion heater or any other vehicle source.

2.6.2. The inlet duct must be protected by mesh or other suitable means.

2.7. Heating air outlet

2.7.1. Any ducting used to route the hot air through the vehicle must be so positioned or protected that no injury or damage could be caused if it were to be touched.

2.7.2. The air outlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

End of excerpt.

In multilingual versions the German language is binding.

Lexus GS 250 / GS 450H

Notes on Validity

This installation documentation applies to the Lexus GS 250 / GS 450H Petrol vehicles - for validity, see page 1 - from model year 2012 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this installation documentation.

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

Technical Instructions

Special Tools
- Hose clamp pliers for self-clamping hose clamps
- Hose clamp pliers for Clic hose clamps of type W
- Automatic wire stripper 0.2 - 6mm²
- Crimping pliers for cable lug / tab connector 0.5 - 6mm²
- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Webasto Thermo Test Diagnosis with current software

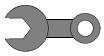
Dimensions
- All dimensions are in mm

Tightening torque values
- Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque values of 5x15 bolt of water connection piece retaining plate = 7Nm
- Tighten other bolt connections in accordance with manufacturer's instructions or in accordance with state-of-the-art-technology.

Explanatory Notes on Document

You will find an identification mark on the outside top right corner of the page in question to provide you with a quick overview of the individual working steps.

Mechanical system



Electrical system

Coolant circuit

Combustion air

Fuel

Exhaust gas

Software

Special features are highlighted using the following symbols:

Specific risk of injury or fatal accidents.

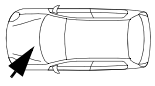
Specific risk of damage to components.

Specific risk of fire and explosion

Reference to general installation instructions of the Webasto components or to the manufacturer's vehicle-specific documents.

Reference to a special technical feature

The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.



Lexus GS 250 / GS 450H

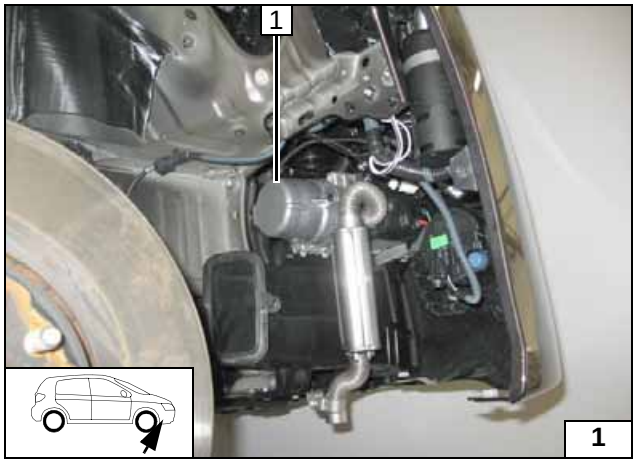
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery.
- Deactivate the high voltage system (only for hybrid vehicles).
- Remove the battery (GS 250 only).
- Remove the air filter together with the intake hose.
- Remove the engine cover.
- Remove the trim of the engine compartment.
- Remove the right front wheel.
- Remove the wheel well trim on the right.
- Remove the lower engine cover.
- Loosen the lower transmission cover.
- Remove the right underbody trim.
- Remove the rear bench seat.
- Open the tank-fitting service lids on the right and left.
- Remove the left fuel-tank sending unit according to the manufacturer's instructions.
- Remove the right speaker cover (only in case of Telestart).
- Remove the right instrument panel trim.

Heater

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

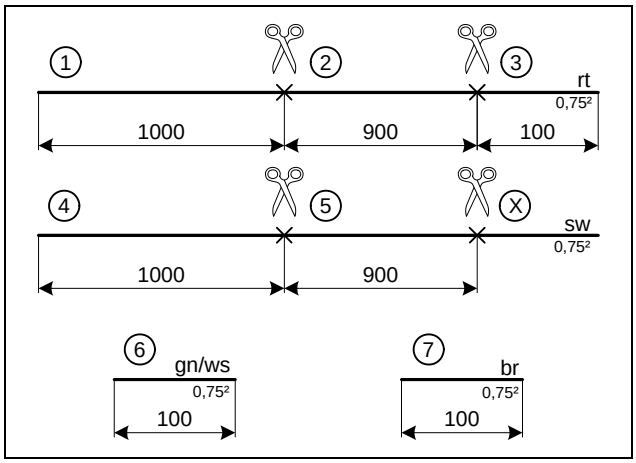


Heater Installation Location

1 Heater

Installation location

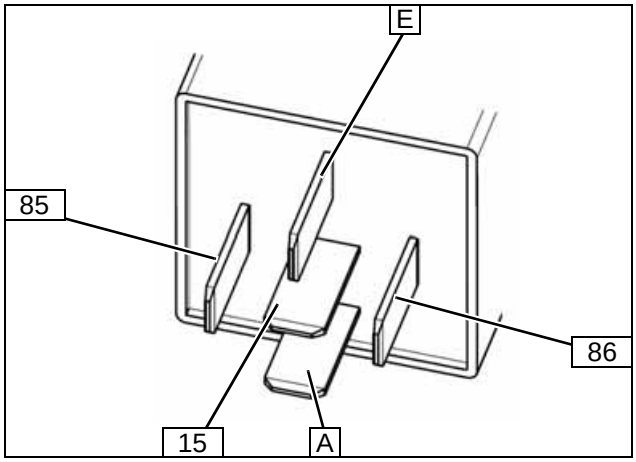
Preparing Electrical System



Wire sections retain their numbering throughout the whole document.

Cutting wires to length

Discard section X.
Cut enclosed protective sleeving in half and pull wire sections ① and ④ as well as ② and ⑤ into one protective sleeving each.

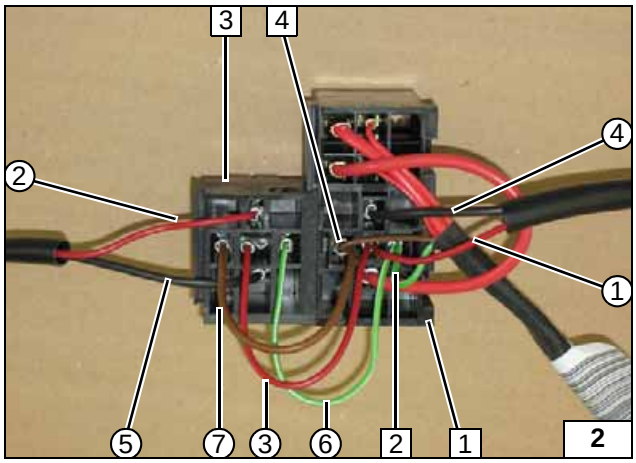


Check adjustment values before heater start-up and adjust if necessary.

Connecting IPCU

Adjustment values:

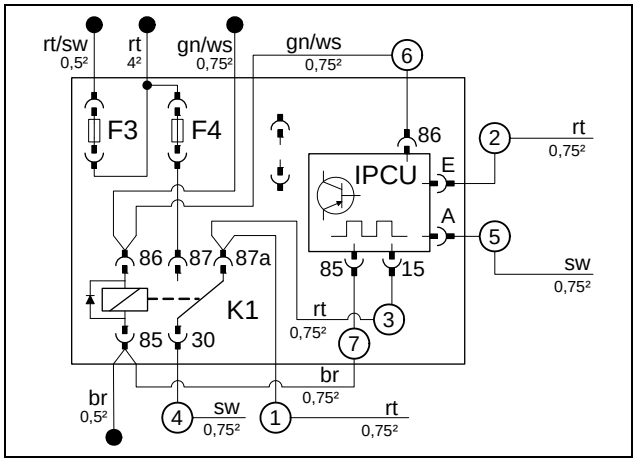
Duty cycle: 65%
Frequency: 400Hz
Voltage: 9V
Function: Low-side



Catch socket of IPCU**3**with relay and fuse holder of passenger compartment **1**. Detach/ remove K1/85 **4** and K1/86 **2**. Install wires as shown in following wiring diagram with contacts supplied. IPCU and K1 relay will be inserted after installation of relay and fuse holder.

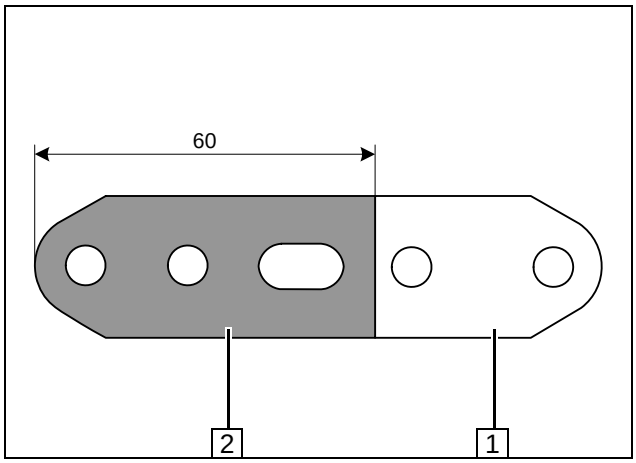
Connecting wires

① Red (rt) wire of K1/87a
② Red (rt) wire of IPCU/E
③ Red (rt) wire of K1/87a and IPCU/15
④ Black (sw) wire of K1/30
⑤ Black (sw) wire of IPCU/A
⑥ Green/white (gn/ws) wire of K1/86 and IPCU/86
⑦ Brown (br) wire of K1/85 and IPCU/85



Mount K1 relay and F4.

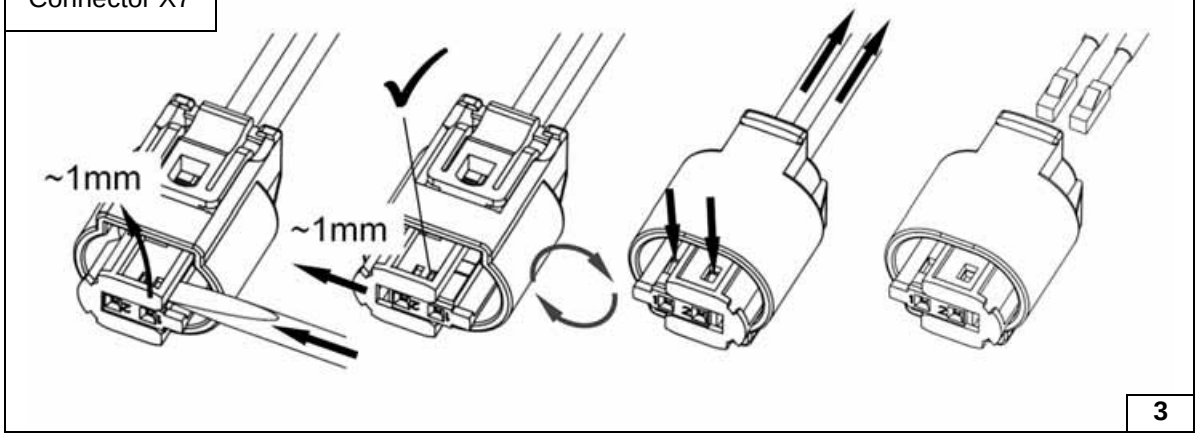
Preparing K1 relay of IPCU and F4



1 Discard section
2 Perforated bracket of engine compartment fuse holder

Preparing perforated bracket

Connector X7



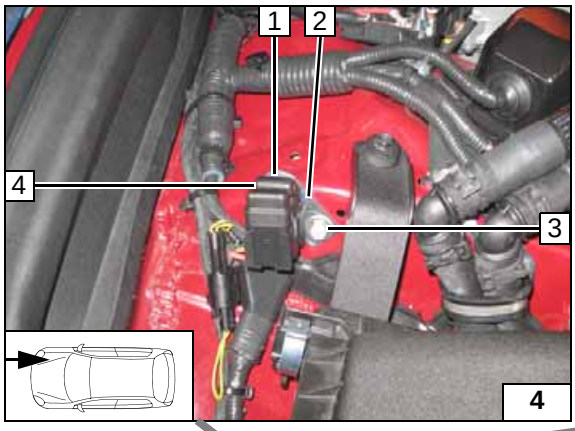
3

Removing connector metering pump

Electrical System

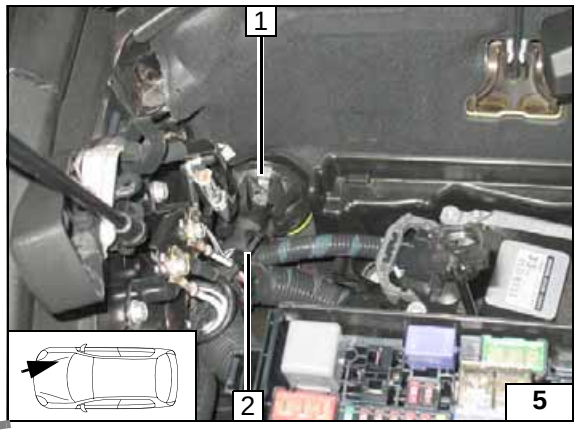
Fuse holder of engine compartment

1. M5x16 bolt, washers [2x], retaining plate of fuse holder, nut
2. Perforated bracket
3. M6x20 bolt, spring lockwasher, large diameter washer, existing threaded hole
4. Fuses F1-2

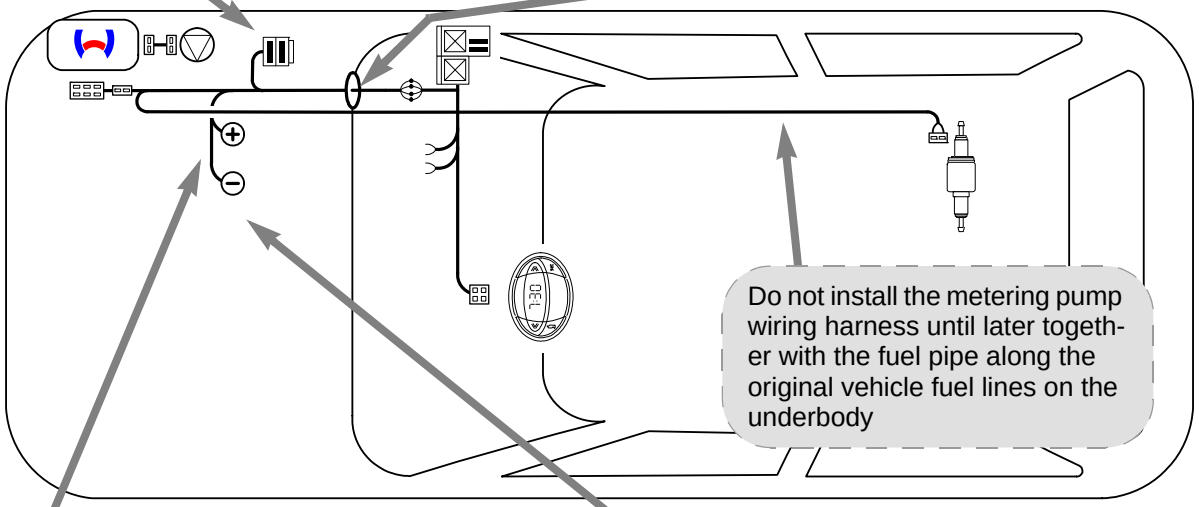


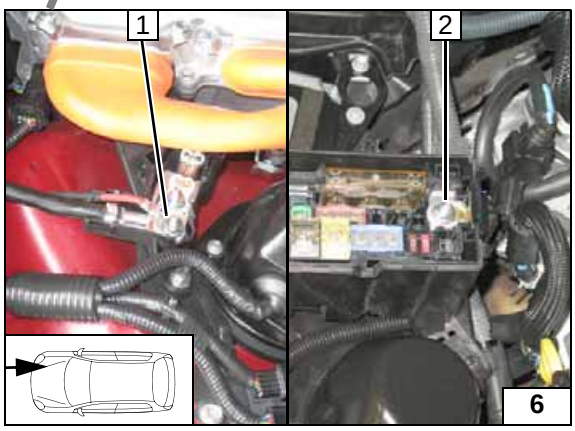
Wiring harness pass through

1. Protective rubber plug
2. Wiring harness of heater and heater control



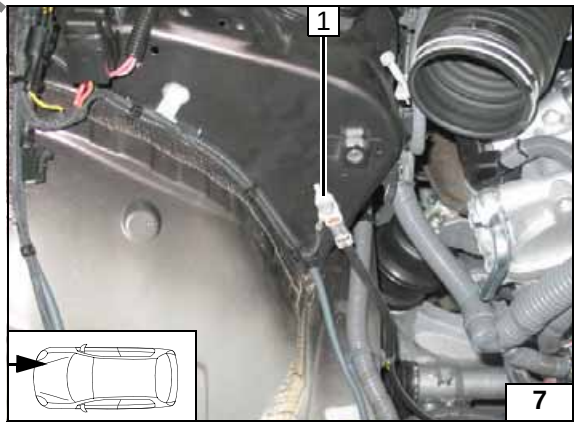
Wiring harness routing diagram





Positive wire

1. Positive wire on original vehicle positive support point GS 450H
2. Positive wire on original vehicle positive support point GS 250

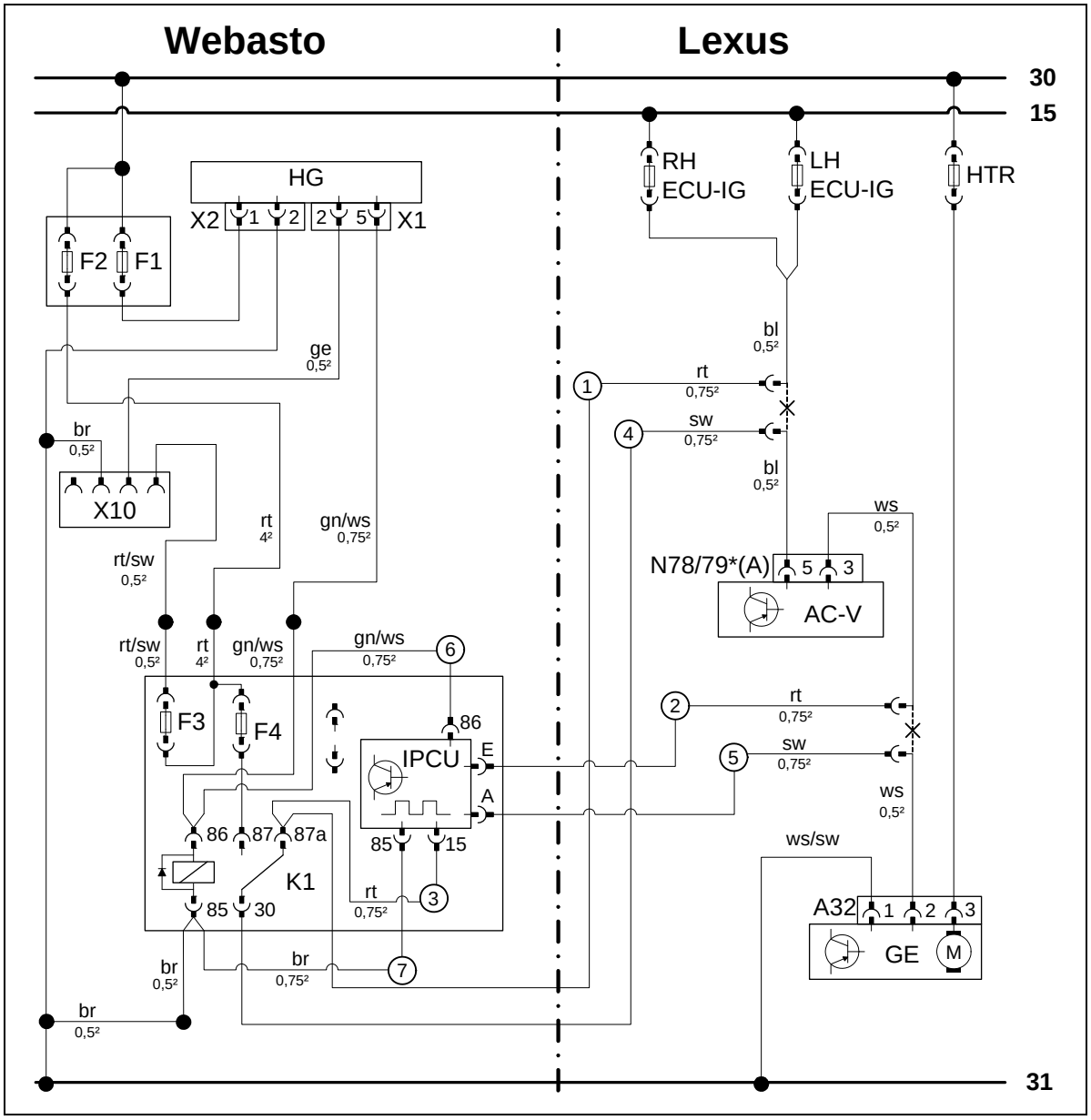


Earth wire

1. Earth wire on original vehicle earth support point

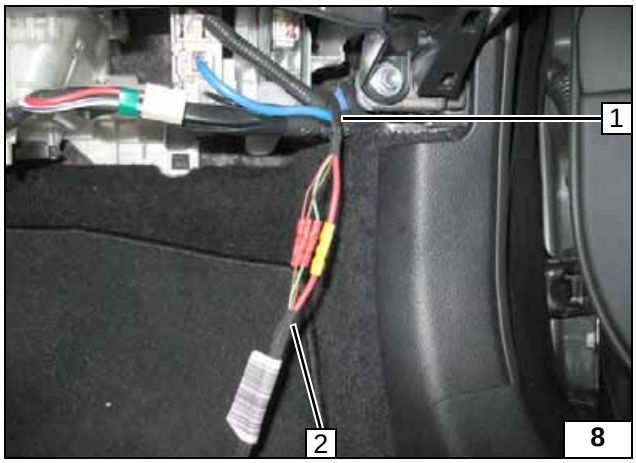
Fan Controller

Wiring diagram



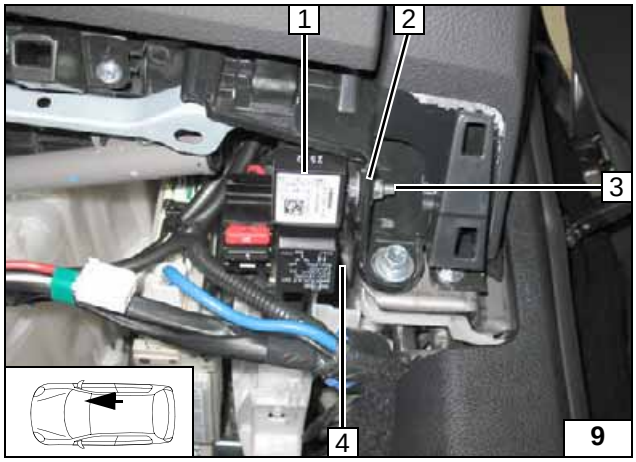
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	RH ECU-IG	Fuse 10A	rt	red
X1	6-pin heater connector			sw	black
X2	2-pin heater connector	LH ECU-IG	Fuse 10A	ge	yellow
X10	4-pin connector of heater control			gn	green
		HTR	Fuse 50A	br	brown
K1	Fan relay	*N78 (A)	35-pin connector of AC-V GS 450H	ws	white
F1	Fuse 20A			bl	blue
F2	Fuse 30A	*N79 (A)	35-pin connector of AC-V GS 250		
F3	Fuse 1A				
F4	Fuse 10A	AC-V	A7C-Booster		
IPCU	Pulse width modulator	A32	GE connector		
IPCU settings:		GE	Fan unit		
Duty cycle:	65%				
Frequency:	400Hz				
Voltage:	9V			**X**	Cutting point
Function:	Low-side			Wiring colours may vary.	

Legend



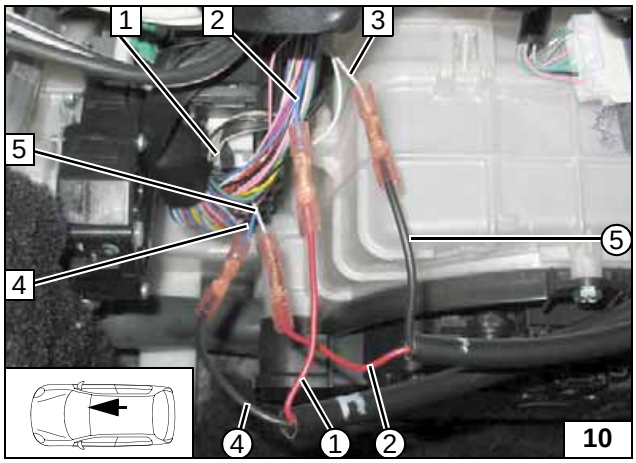
Connect same colour wires of wiring harness of passenger compartment relay and fuse holder **2** with wiring harness of heater **1** according to the wiring diagram.

Connecting wiring harnesses



1 Mount IPCU
2 5.5mm dia. hole
3 M5x16 bolt, large diameter washer [2x], nut
4 Relay and fuse holder of passenger compartment

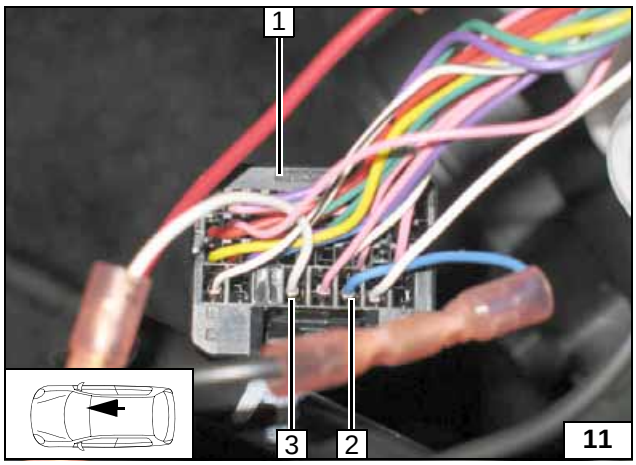
Mounting relay and fuse holder of passenger compartment



Connection to 35-pin connector **1** of AC booster. Produce connections as shown in wiring diagram.

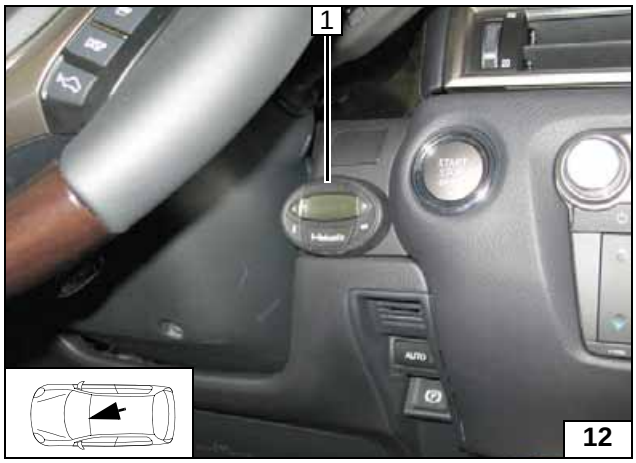
2 Blue (bl) wire of ECU-IG fuses
3 White (ws) wire of Pin 2 GE
4 Blue (bl) wire of Pin 5, AC-V
5 White (ws) wire of Pin 3, AC-V
① Red (rt) wire of K1/87a
② Red (rt) wire of IPCU/E
④ Black (sw) wire of K1/30
⑤ Black (sw) wire of IPCU/A

Connection of fan motor



1 35-pin connector N78/79 (A)
2 Pin 5
3 Pin 3

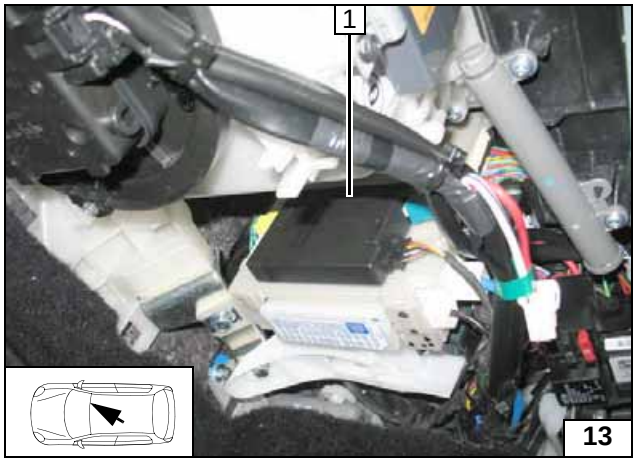
Connector view



Digital Timer

1 Digital timer

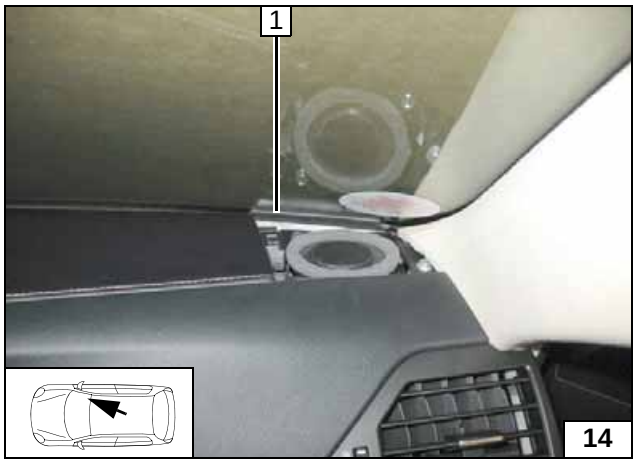
Installing digital timer



Remote Option (Telestart)

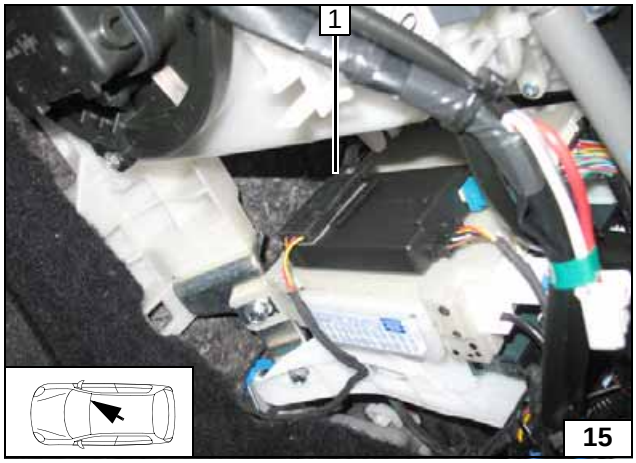
Fasten receiver **1** with adhesive tape.

Installing receiver



1 Antenna

Installing antenna

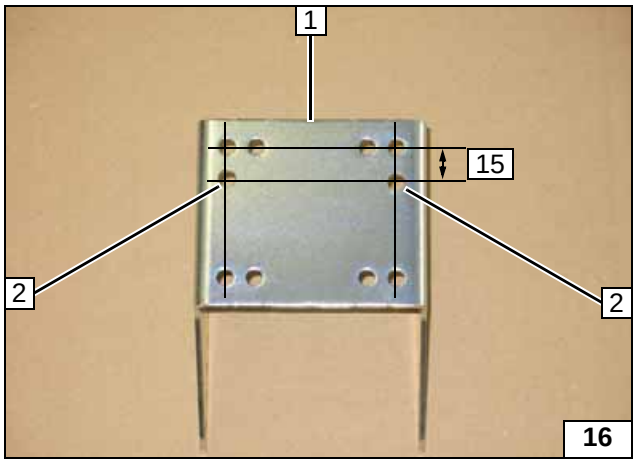


Temperature sensor T100 HTM

Fasten temperature sensor **1** with adhesive tape.

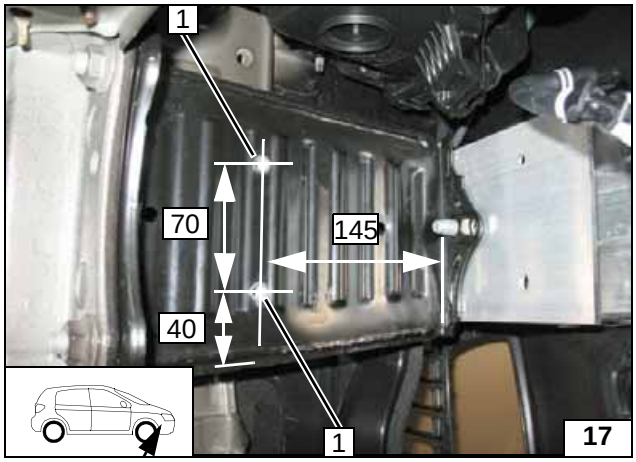
Installing temperature sensor

Preparing Installation Location



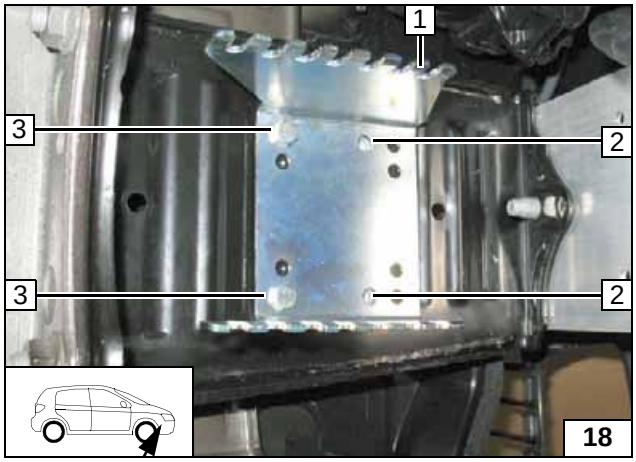
1 Bracket
2 7mm dia. hole [2x]

Copying hole pattern



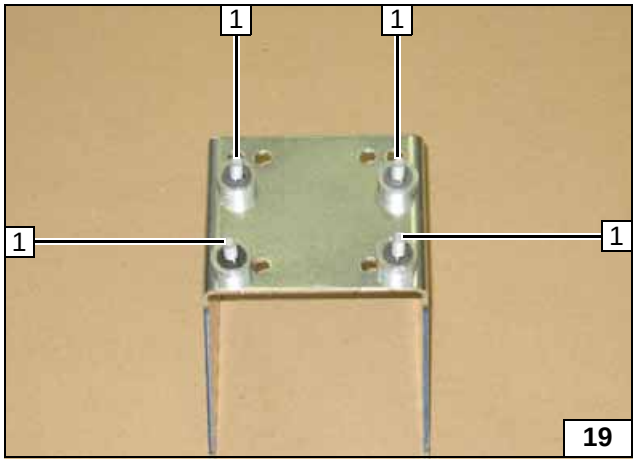
1 9.1mm dia. hole; rivet nut [2x each]

Copying hole pattern



1 Loosely mount bracket
2 Copy hole pattern, 9.1mm dia. hole; rivet nut [2x each]
3 M6x20 bolt [2x]

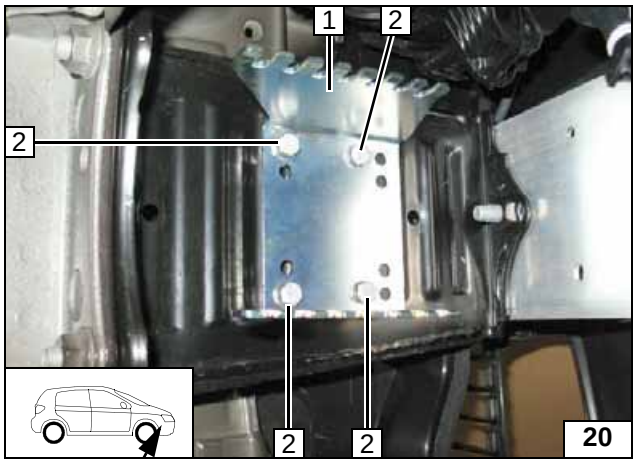
Copying hole pattern



Remove bracket.

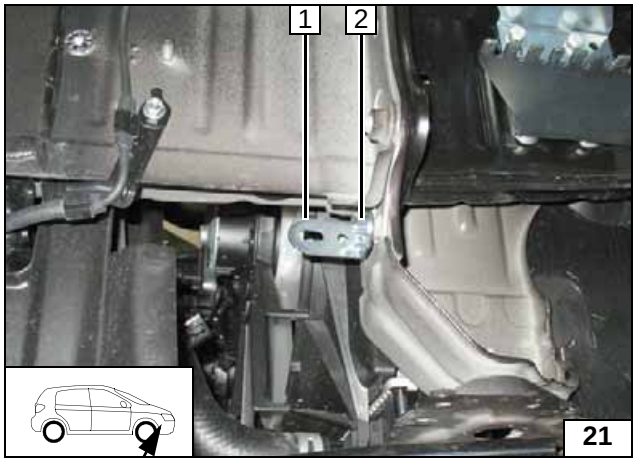
1 M6x25 bolt, spring lockwasher, 8mm shim, pin lock [4x each]

Premounting bracket



Mount bracket **1** on rivet nuts with M6x25 bolts [4x] **2**.

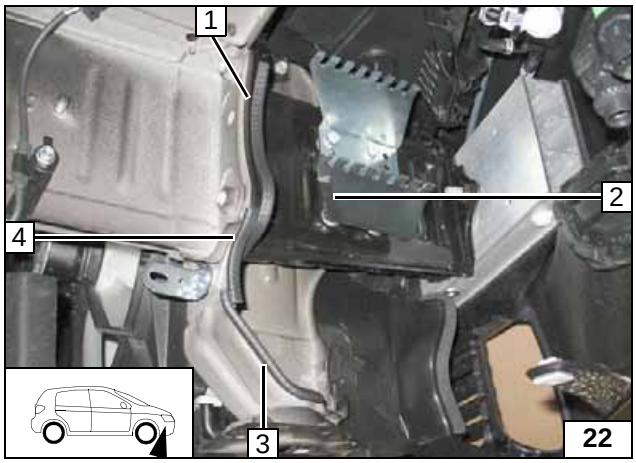
Installing bracket



Replace original vehicle bolt at position **2** with M6x20 bolt and large diameter washer .

1 Angle bracket
2 Flanged nut

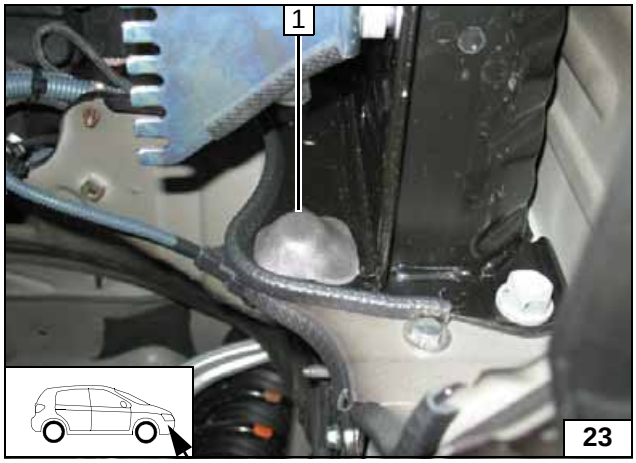
Installing angle bracket



Cut supplied 500mm long edge protection to length and install.

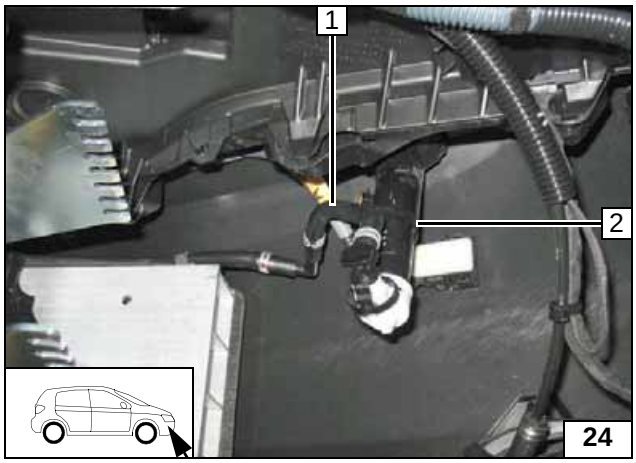
1 200mm long
2 70mm long
3 110mm long
4 70mm long

Installing edge protection



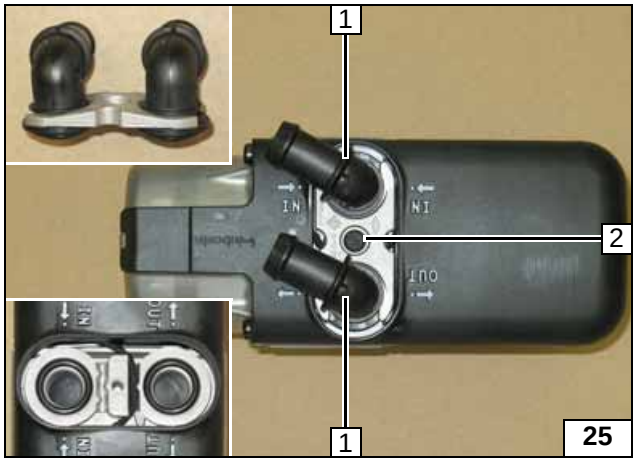
1 Glue self-adhesive foam underlay on vehicle frame above bolt head

Installing foam underlay



1 Hose of headlight washer system
2 Cable tie

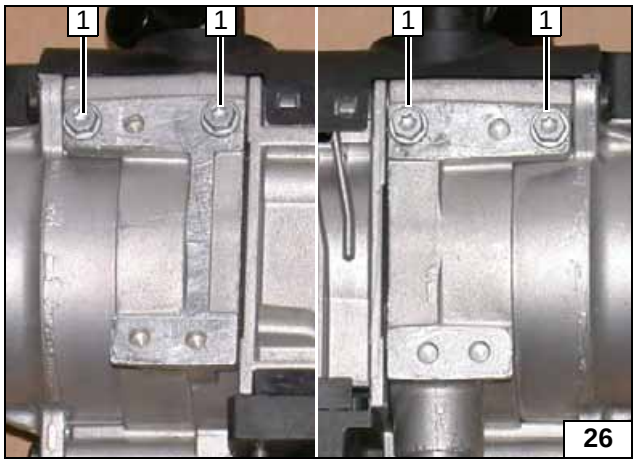
Fastening hose of headlight washer system



Preparing Heater

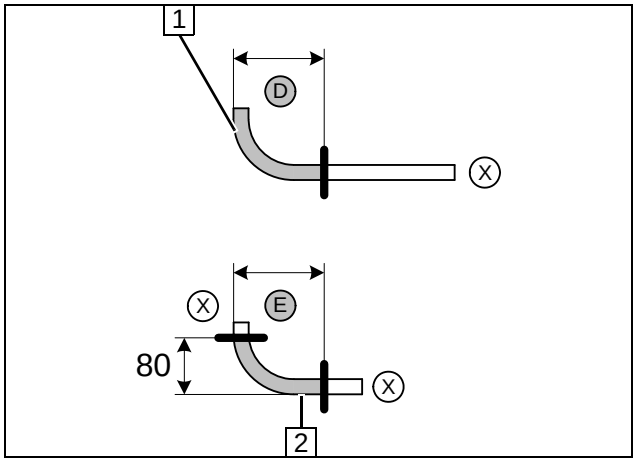
1 Water connection piece, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection piece

Installing water connection piece



Screw in self-tapping bolts 5x13 **1** [4x] into existing holes (screw in a maximum of 3 thread pitches).

Loosely premounting bolts

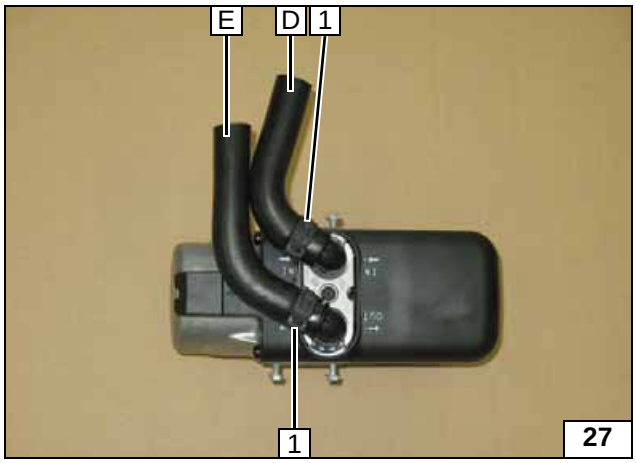


Discard section **X**.

Hose **1** = 90°, 18mm dia. moulded hose; 356mm long
Hose **2** = 90°, 18mm dia. moulded hose; 125mm long

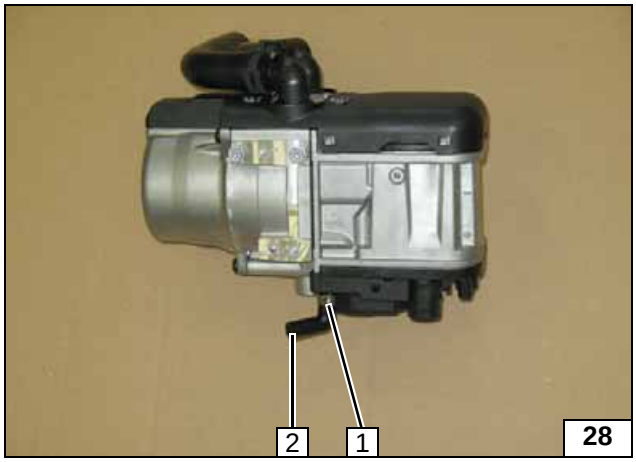
D = 90
E = 110

Cutting hoses to length



1 25mm dia. spring clip [2x]

Installing hoses

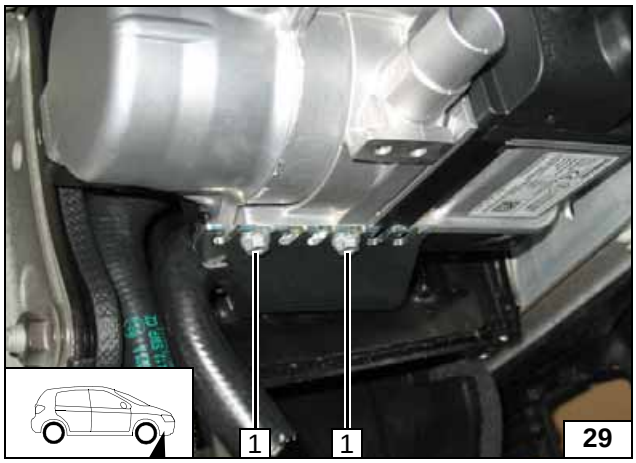


Mount short end of moulded hose **2** on fuel connection piece.

1 10mm dia. clamp

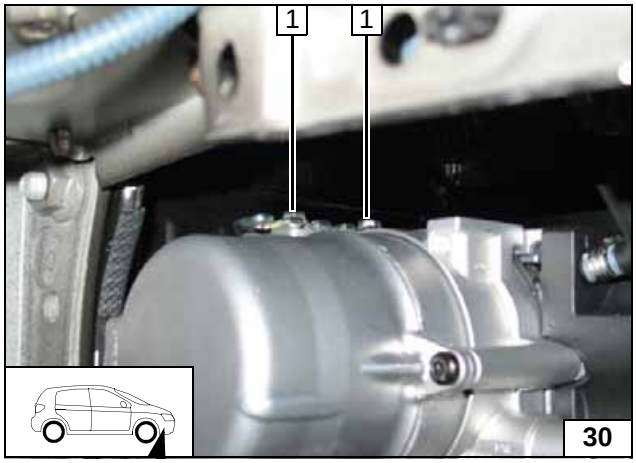
Premounting moulded fuel hose

Installing Heater



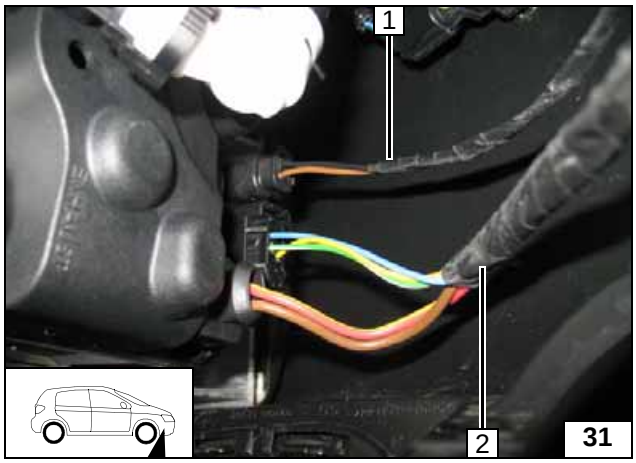
1 5x13 self-tapping bolts [2x]

Installing heater



1 5x13 self-tapping bolts [2x]

Installing heater



1 Wiring harness of circulating pump
2 Wiring harness of heater [2x]

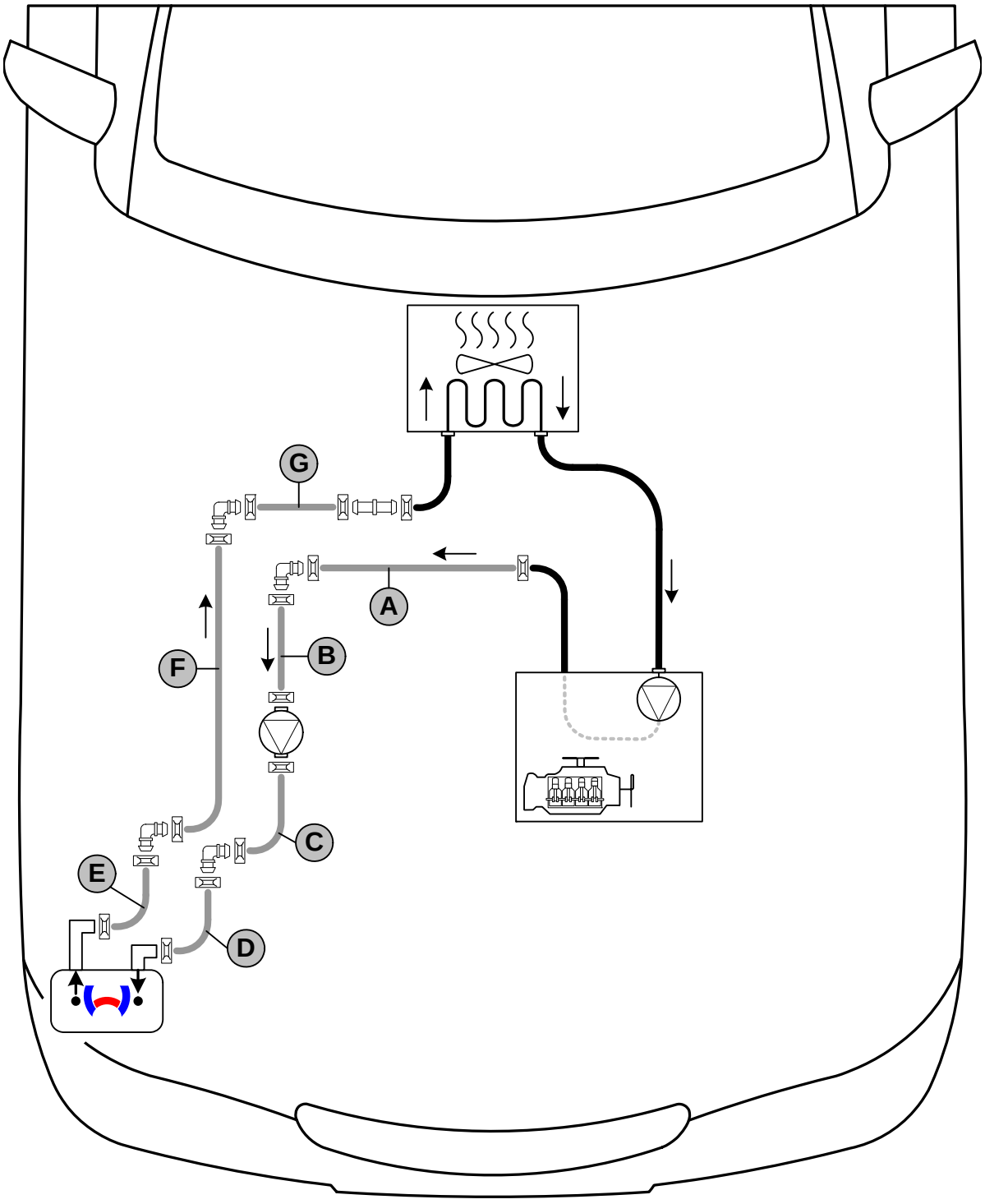
Mounting wiring harness

Coolant Circuit GS 250

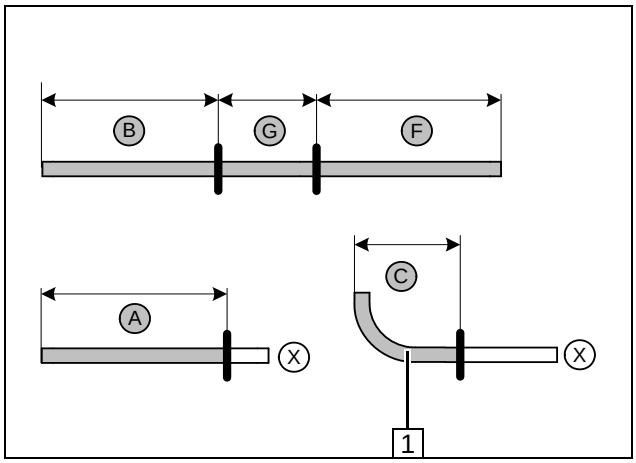
WARNING!

Any coolant running off should be collected using an appropriate container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. When installing the hoses, the heater must be filled with coolant.
The connection should be "inline" based on the following diagram:

Hose routing diagram



All spring clips = 25 mm dia.
All connecting pipes and = 18x18 mm dia.

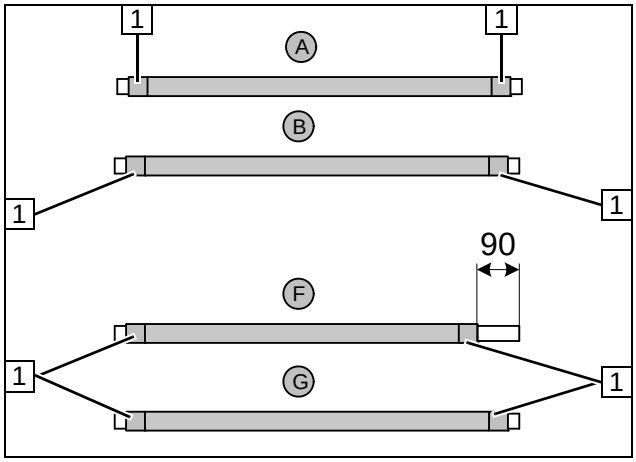


Discard section **X**.

Hose **1** = 90°, 18mm dia. moulded hose; 356mm long

A = 510
B = 720
C = 140
G = 470
F = 810

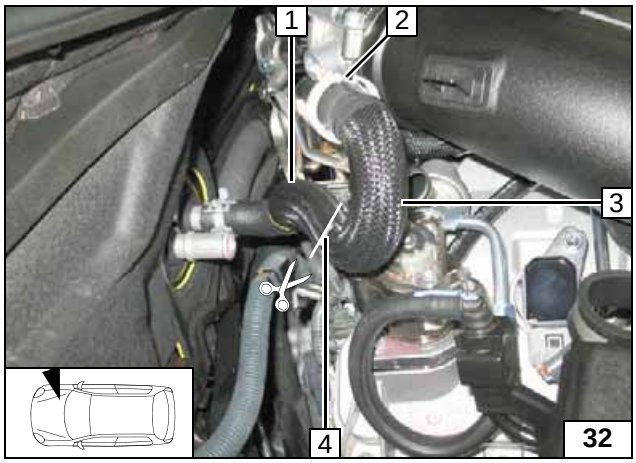
Cutting hoses to length



Push braided protection hoses onto hose **A, B, F** and **G** and cut to length. Cut heat shrink plastic tubing to length.

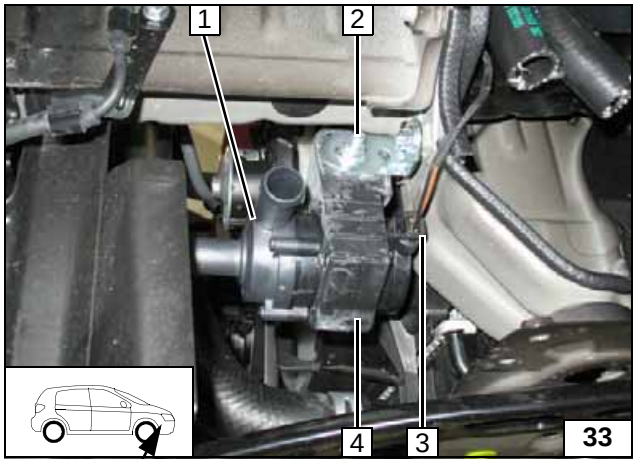
1 Heat shrink plastic tubing, 30mm long [8x]

Preparing hoses



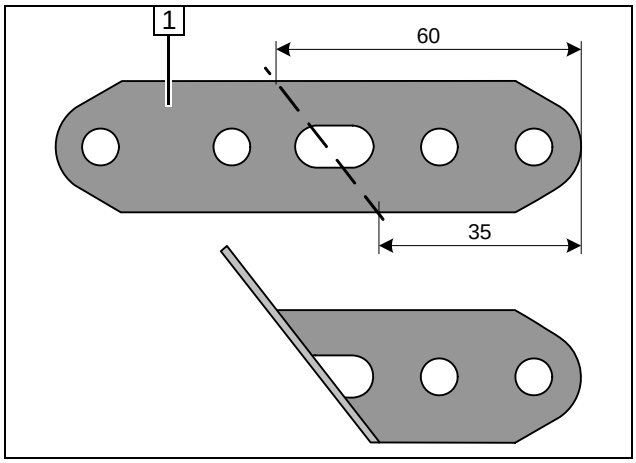
Separate hose of engine outlet / heat exchanger inlet **1** at marking **4**. Discard hose section **3** and clamp **2**.

Cutting point



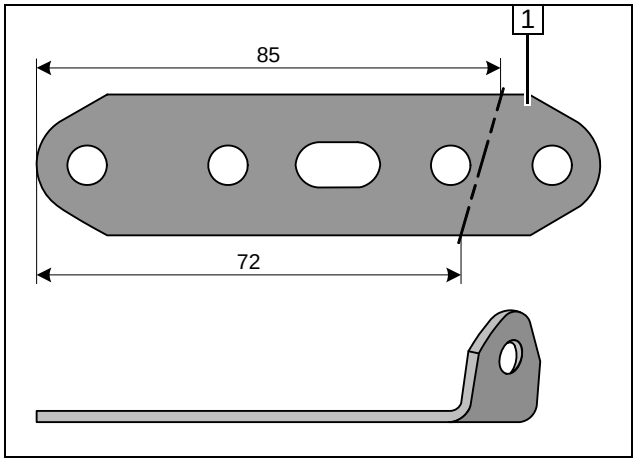
1 Circulating pump
2 M6x25 bolt, flanged nut
3 Attach wiring harness
4 Mounting of circulating pump

Installing circulating pump



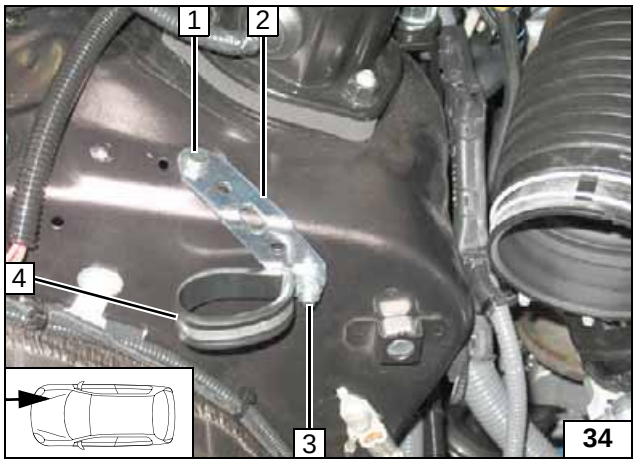
1 Angle down perforated bracket **A** by 90°

Angling down perforated bracket A



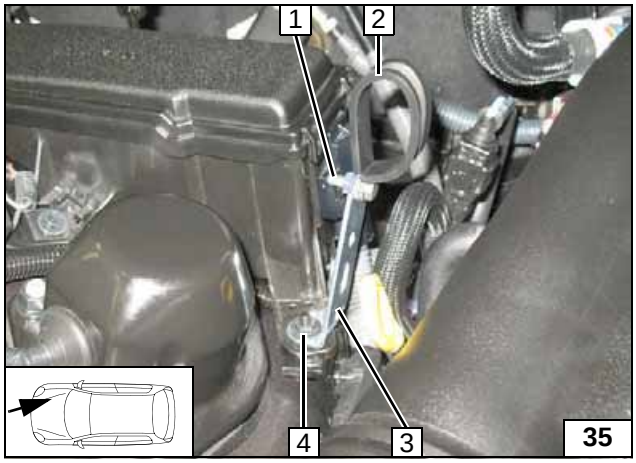
1 Angle down perforated bracket **B** by 90°

Angling down perforated bracket B



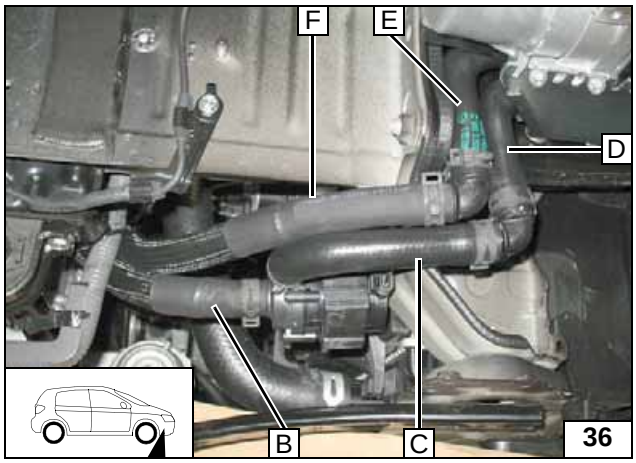
1 M6x20 bolt, spring lockwasher, existing threaded hole
2 Perforated bracket **A**
3 M6x16 bolt, flanged nut
4 38mm dia. rubber-coated pipe clamp

Installing perforated bracket A



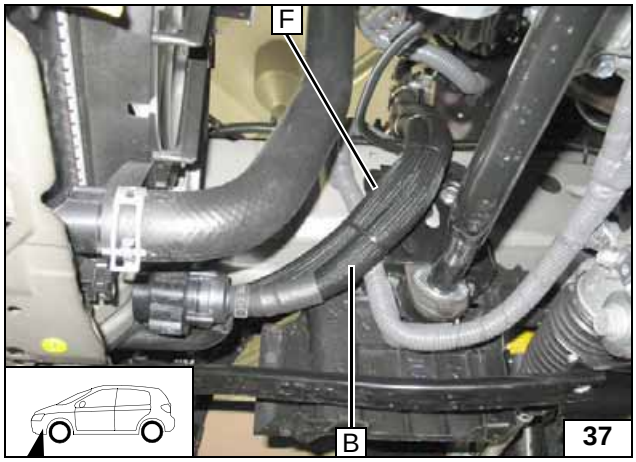
1 M6x20 bolt, flanged nut
2 38mm dia. rubber-coated pipe clamp
3 Perforated bracket **B**
4 Original vehicle flanged nut

Installing perforated bracket B



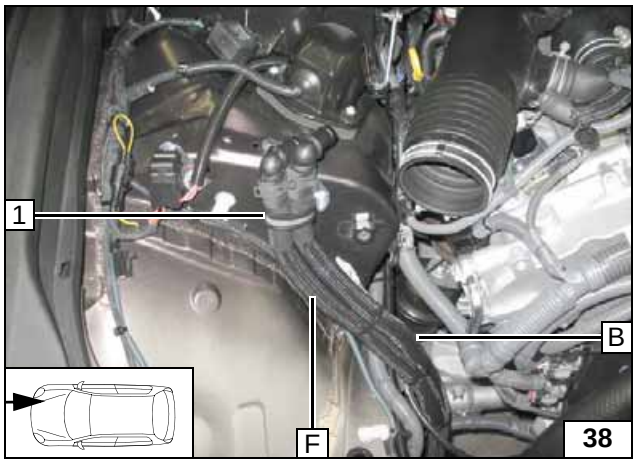
Connect hose **F** with the 90mm trimmed side of braided protection to hose **E**.

Connecting heater



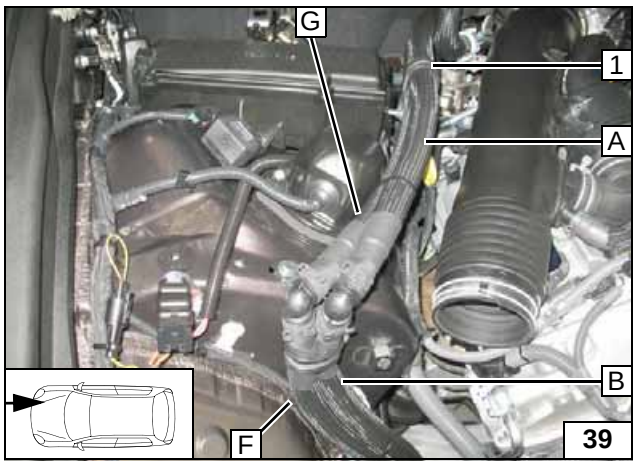
Secure hoses **B** and **F** using cable tie.

Routing in engine compartment



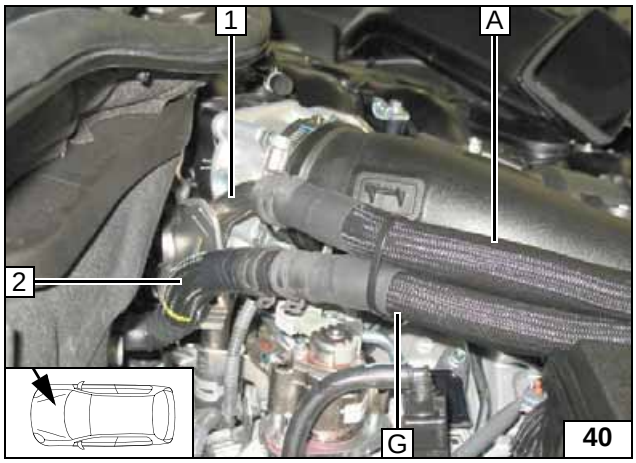
Route hoses **B** and **F** through rubber-coated p-clamp **1**, install 90° connecting pipes.

Routing in engine compartment



Route hoses **A** and **G** through rubber-coated p-clamp **1**.

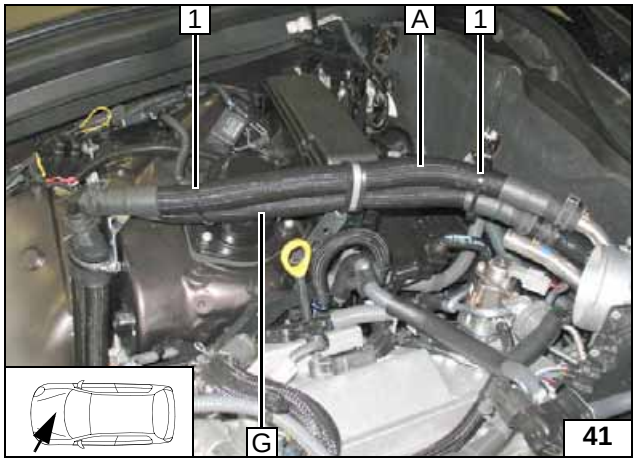
Routing in engine compartment



Align hoses. Ensure sufficient distance to adjacent components; correct if necessary.

1 Engine outlet connection piece
2 Hose of heat exchanger inlet

Connection of engine outlet and heat exchanger inlet



1 Cable tie [2x]

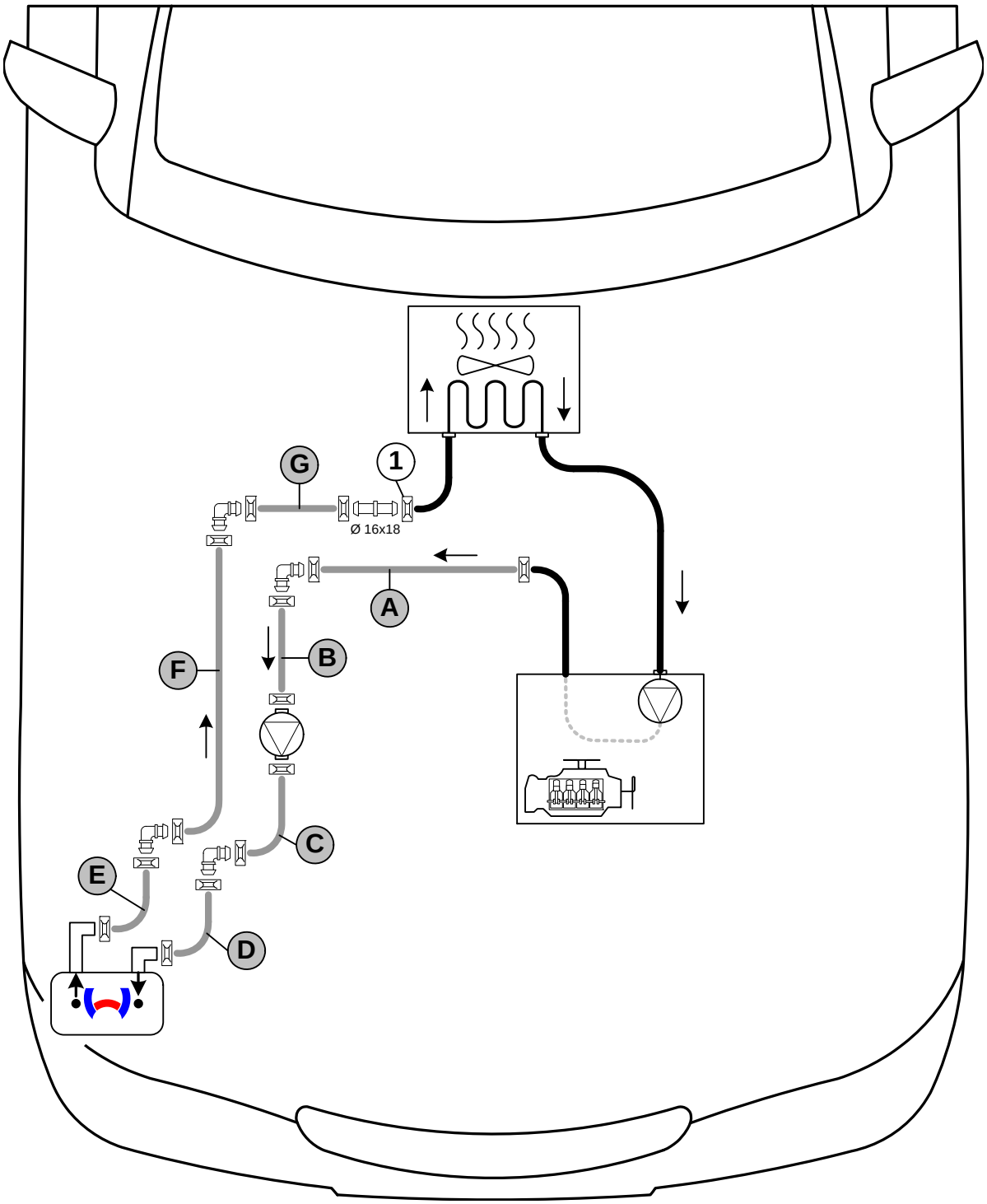
Routing in engine compartment

Coolant Circuit GS 450 H

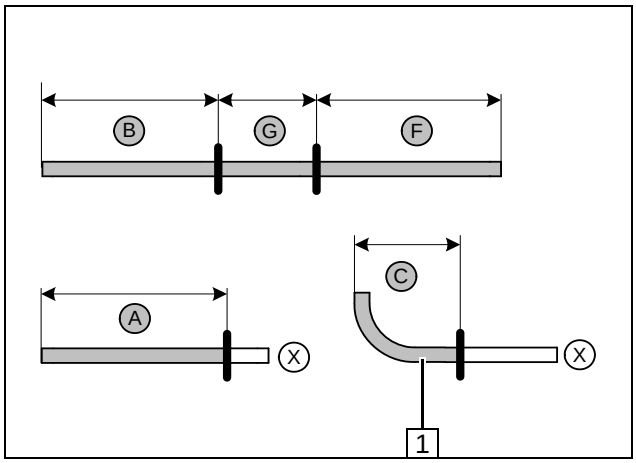
WARNING!

Any coolant running off should be collected using an appropriate container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. When installing the hoses, the heater must be filled with coolant.
The connection should be "inline" based on the following diagram:

Hose routing diagram



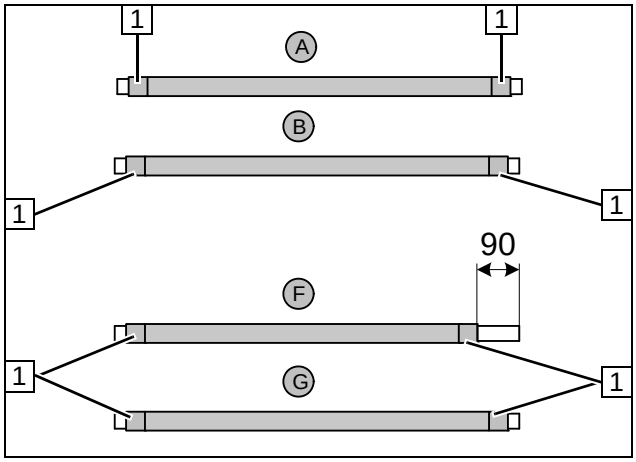
All spring clips without a specific designation = 25mm dia. **1** = 23mm dia. spring clip All connecting pipes without a specific designation = 18x18mm dia.



Discard section **X**.
Hose **1** = 90°, 18mm dia. moulded hose; 356mm long

A = 480
B = 650
C = 140
G = 470
F = 770

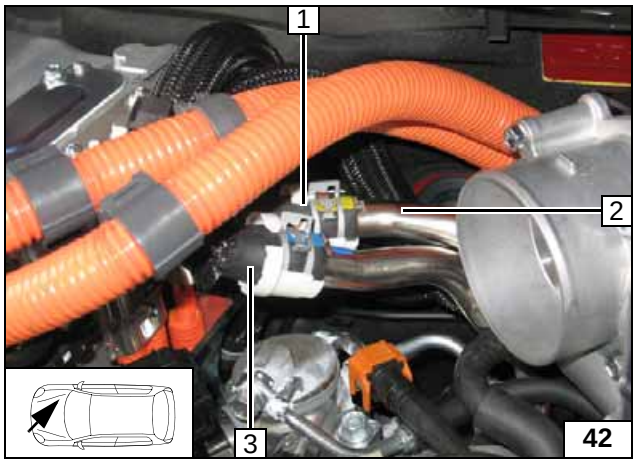
Cutting hoses to length



Push braided protection hoses onto hose **A, B, F** and **G** and cut to length. Cut heat shrink plastic tubing to length.

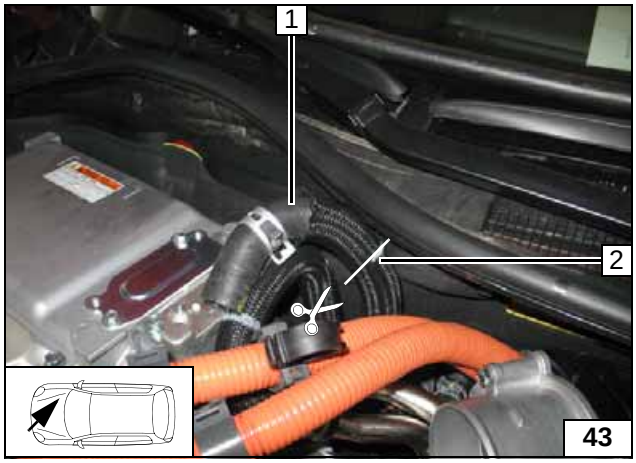
1 Heat shrink plastic tubing, 30mm long [8x]

Preparing hoses



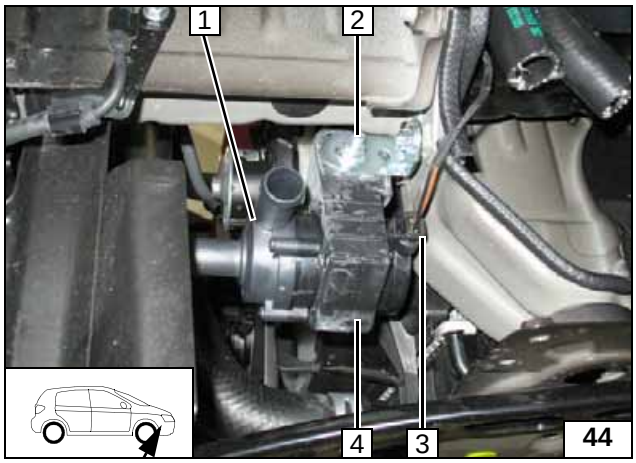
Pull hose of heat exchanger inlet **1** off engine outlet connection piece **2**. Pull off hose of heat exchanger outlet **3** to facilitate installation.

Cutting point



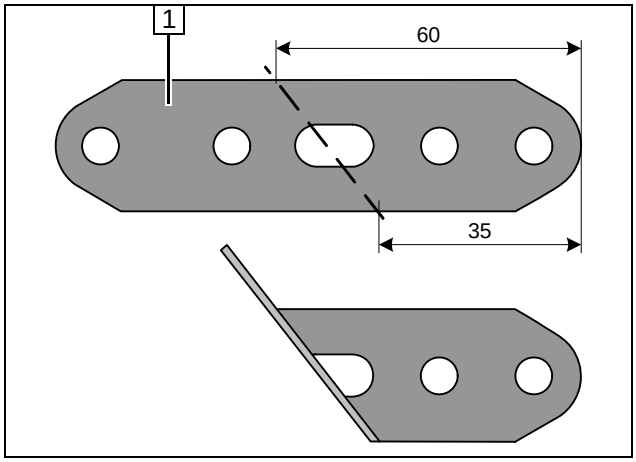
Separate hose of heat exchanger inlet **1** at marking **2**. Discard hose section **1** and clamp.

Cutting point



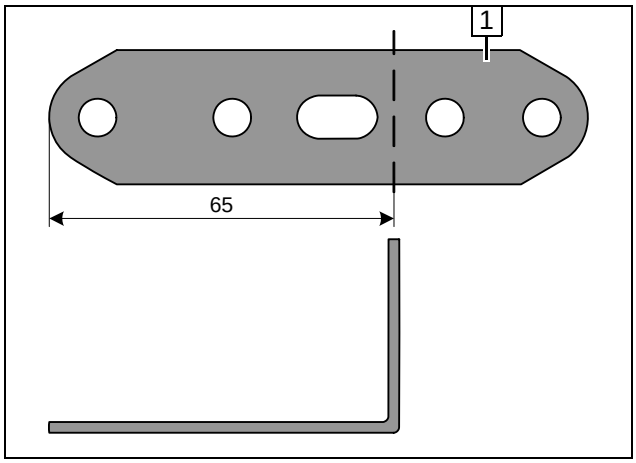
1 Circulating pump
2 M6x25 bolt, flanged nut
3 Attach wiring harness
4 Mounting of circulating pump

Installing circulating pump



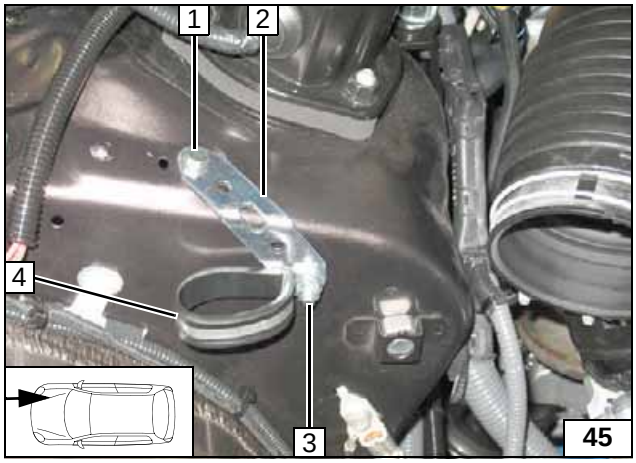
1 Angle down perforated bracket **A** by 90°

Angling down perforated bracket A



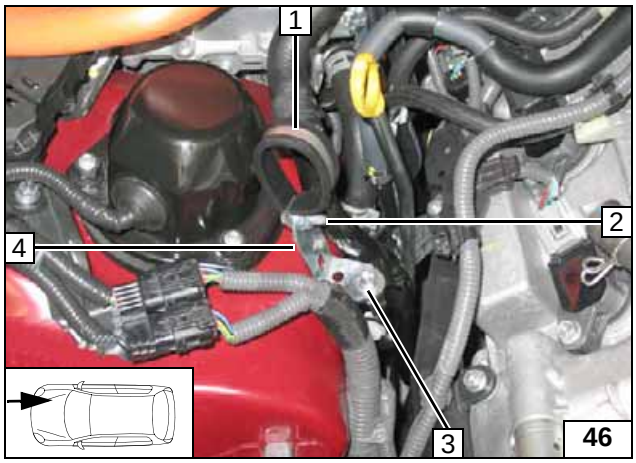
1 Angle down perforated bracket **B** by 90°

Angling down perforated bracket B



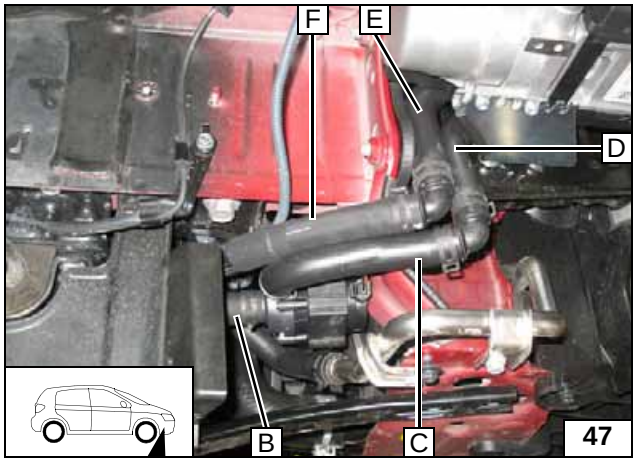
1 M6x20 bolt, spring lockwasher, existing threaded hole
2 Perforated bracket **A**
3 M6x16 bolt, flanged nut
4 38mm dia. rubber-coated pipe clamp

Installing perforated bracket A



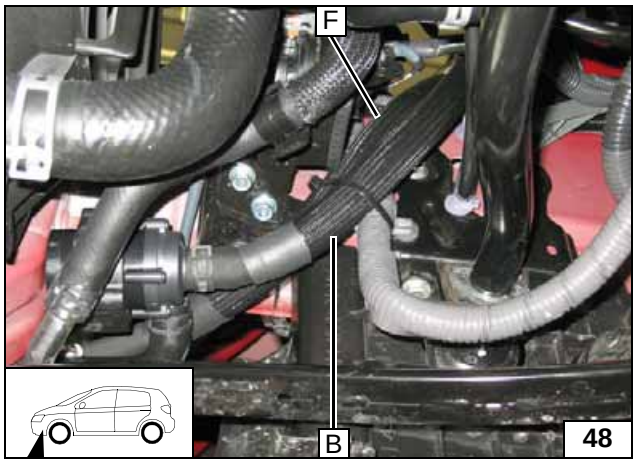
1 38mm dia. rubber-coated pipe clamp
2 M6x20 bolt, flanged nut
3 Original vehicle bolt
4 Perforated bracket **B**

Installing perforated bracket B



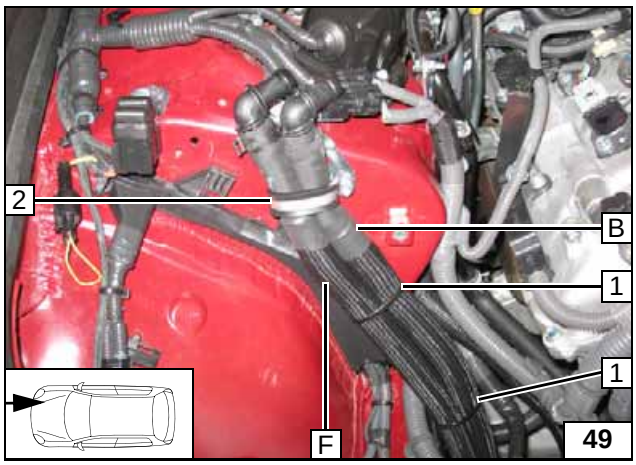
Connect hose **F** with the 90mm trimmed side of braided protection to hose **E**.

Connecting heater



Secure hoses **B** and **F** using cable tie.

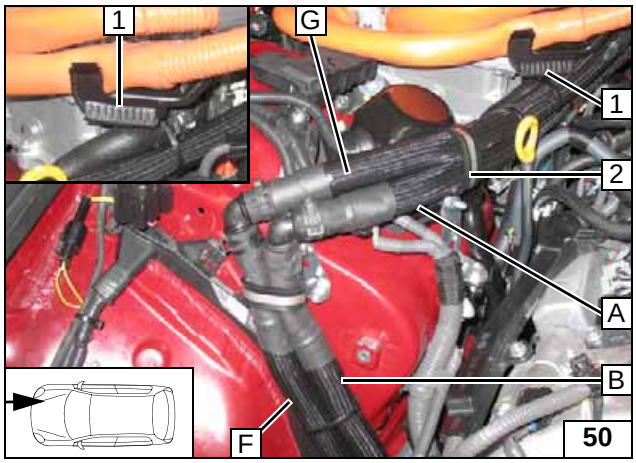
Routing in engine compartment



Route hoses **B** and **F** through rubber-coated p-clamp **2**, install 90° connecting pipes.

1 Cable tie [2x]

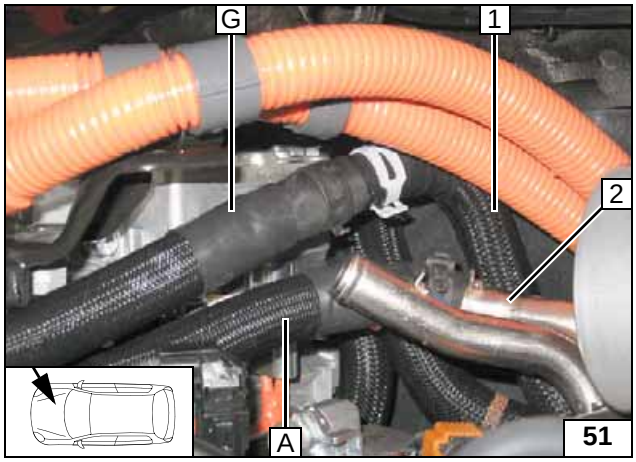
Routing in engine compartment



Route hoses **A** and **G** through rubber-coated p-clamp **2**.

1 Edge protection

Routing in engine compartment

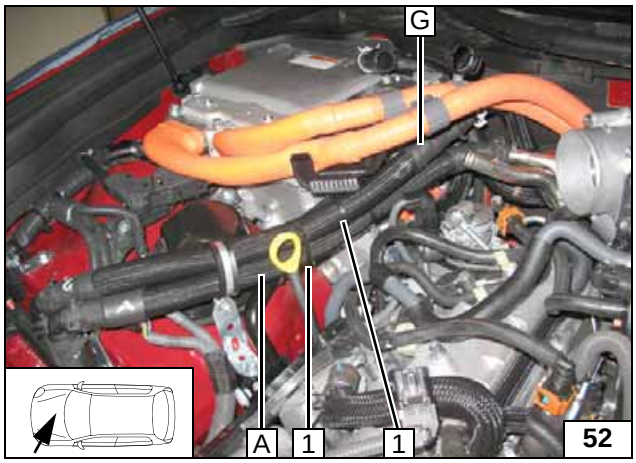


Align hoses. Ensure sufficient distance to adjacent components; correct if necessary.

1 Hose of heat exchanger inlet
2 Engine outlet connection piece

Re-install hose of heat exchanger outlet.

Connection of engine outlet and heat exchanger inlet



1 Cable tie [2x]

Routing in engine compartment

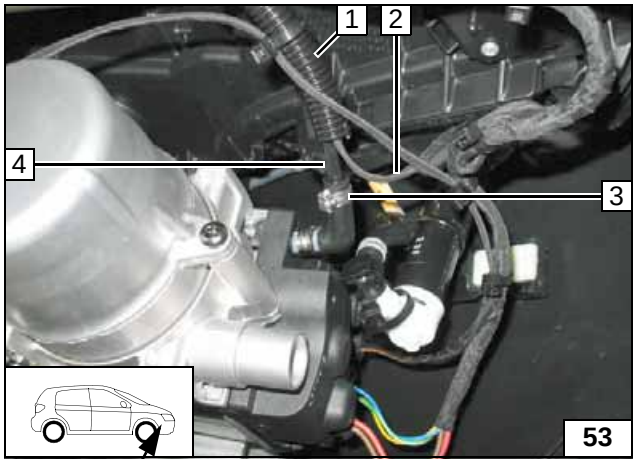
Fuel

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

Catch any fuel running off with an appropriate container.

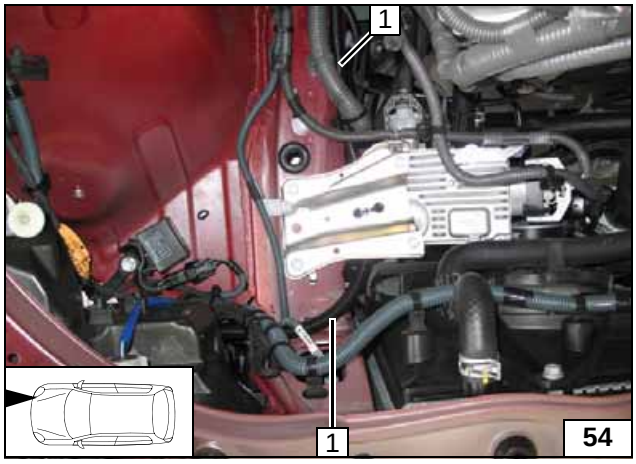
Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

WARNING!
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



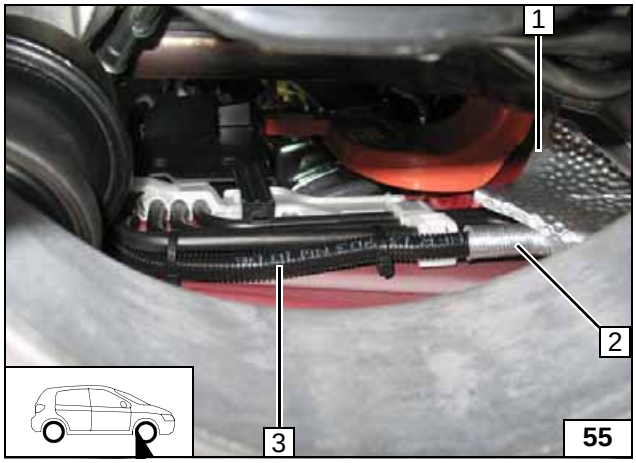
1 Fuel line and wiring harness of metering pump in corrugated tube
2 Metering pump wiring harness
3 10mm dia. clamp
4 Fuel line

Connecting heater



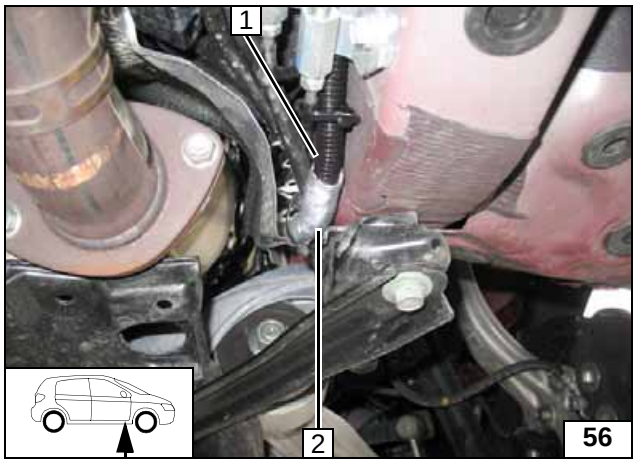
Route wiring harness of metering pump and fuel line in corrugated tube **1** to the firewall on original vehicle lines.

Installing lines



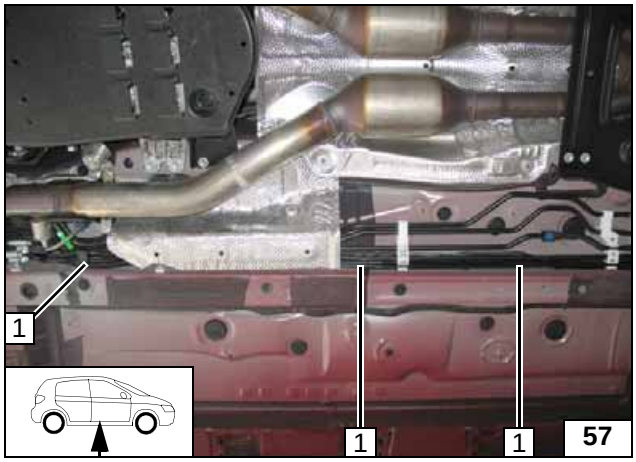
Pull wiring harness of metering pump, fuel line and corrugated tube **3** into heat protection hose **2** and route to the underbody behind heat guard plate **1** and along original vehicle lines.

Installing lines



1 Corrugated tube
2 Heat protection hose

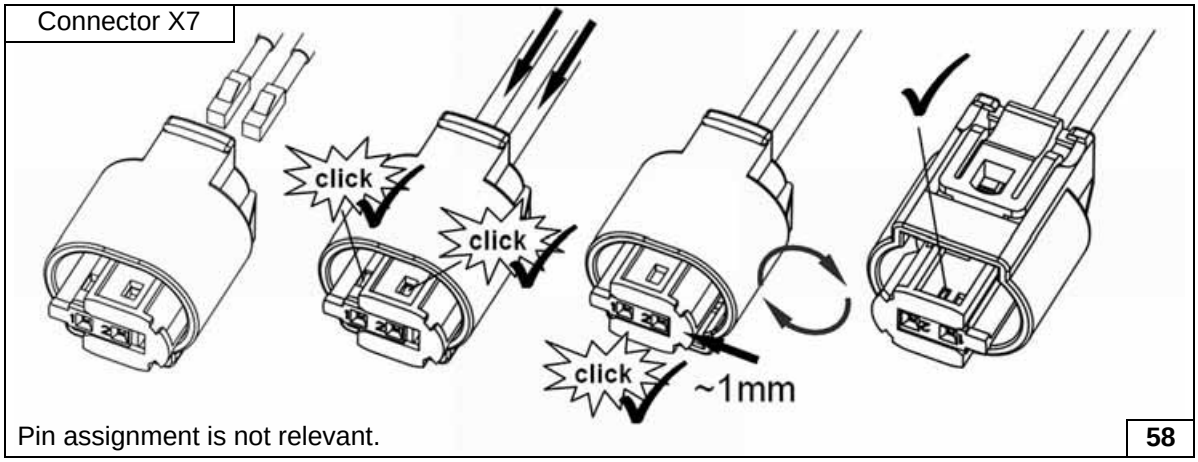
Installing lines



Route corrugated tube with fuel line and wiring harness of metering pump **1** to the installation location of the metering pump.

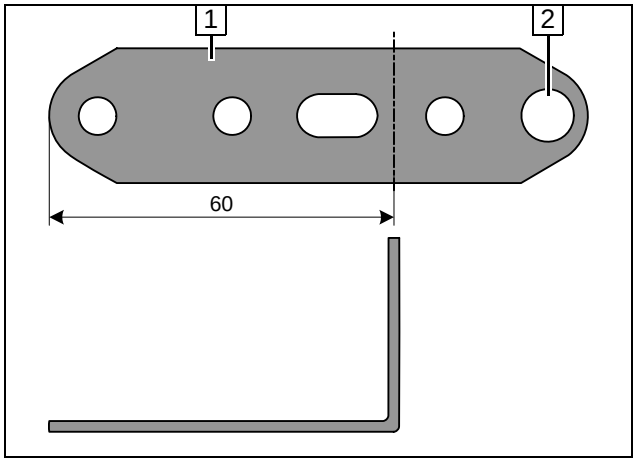
Installing lines

Connector X7



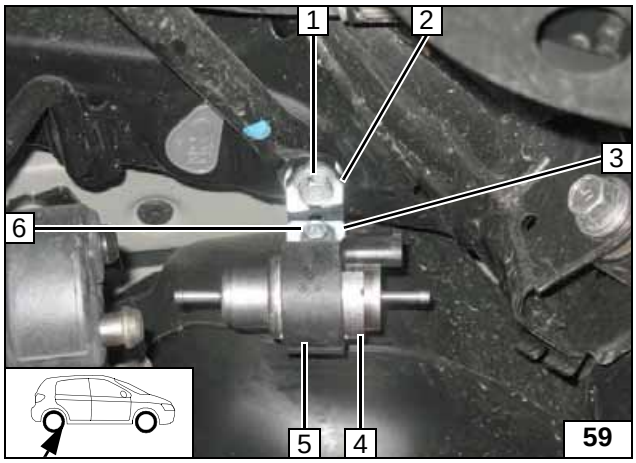
Pin assignment is not relevant.

Completing connector of metering pump



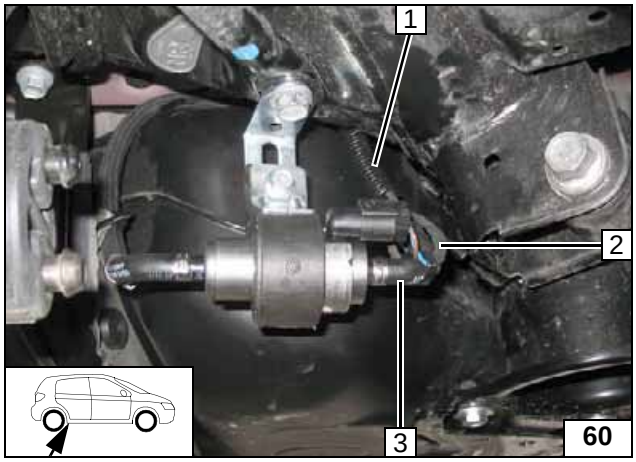
1 Angle down perforated bracket by 90°
2 Drill out hole to 10.5mm dia.

Preparing perforated bracket



1 Original vehicle bolt
2 Perforated bracket
3 Support angle
4 Metering pump
5 Receptacle for metering pump
6 M6x25 bolt, flanged nut

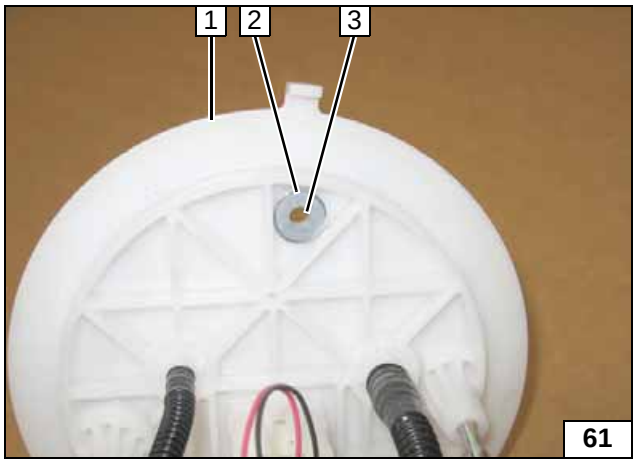
Installing metering pump



Check the position of the components; adjust if necessary. Check that they have freedom of movement. Shorten 90° moulded hose **3** by 10mm on one side and mount the shortened side on the metering pump.

1 Corrugated tube with fuel line
2 Wiring harness of metering pump, connector mounted
3 90° moulded hose, 10mm dia. clamp [2x]

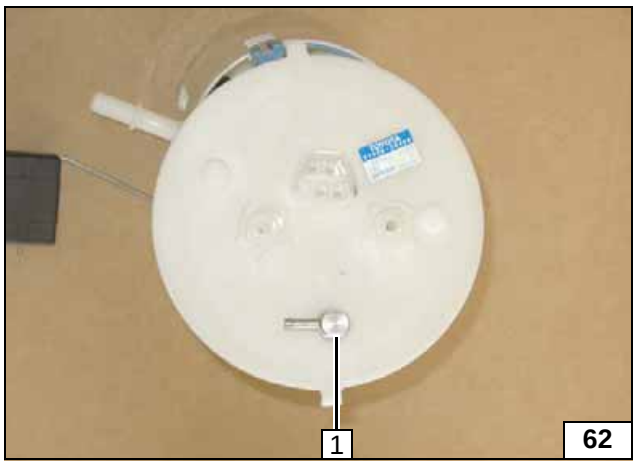
Connecting metering pump



Remove left fuel-tank sending unit **1** according to manufacturer's instructions.

2 Washer outer dia. = 14.6 mm
3 Copy hole pattern, 6 mm dia. hole

Fuel extraction

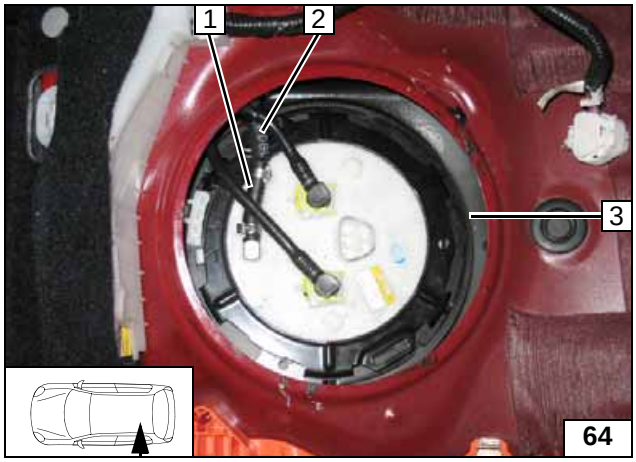


Shape fuel standpipe **1** according to template and cut to length.

Mounting fuel standpipe

1 Adjust fuel standpipe to swirl pot

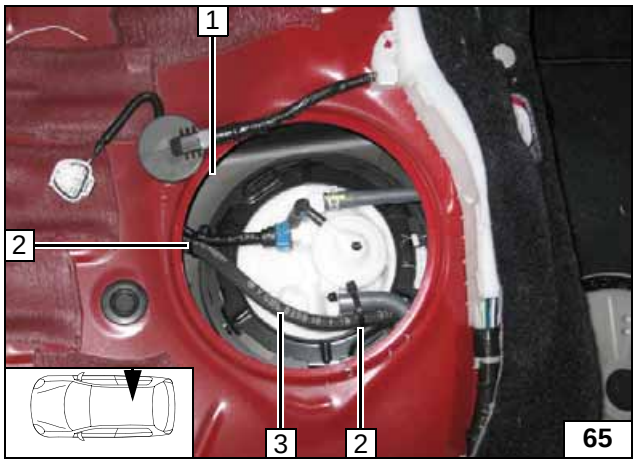
Installing fuel standpipe



Install fuel-tank sending unit according to manufacturer's instructions. Pull fuel line into rubber hose **2** and route it to the right service lid on top of the fuel tank.

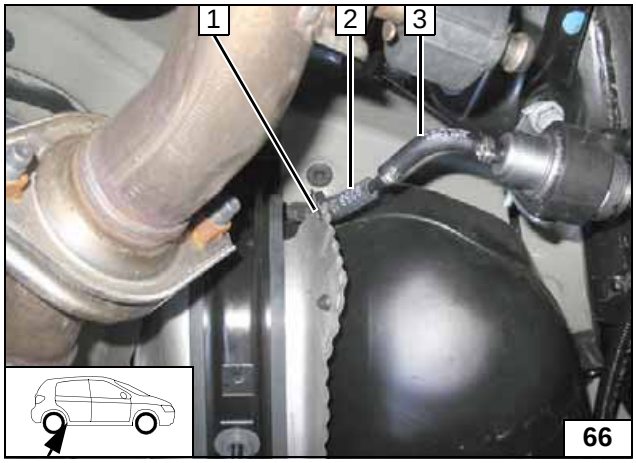
1 Hose section, 10mm dia. clamp [2x]
3 Opening of left service lid

Connecting fuel line



1 Opening of right service lid
2 Cable tie [2x]
3 Route fuel line to the metering pump in rubber hose

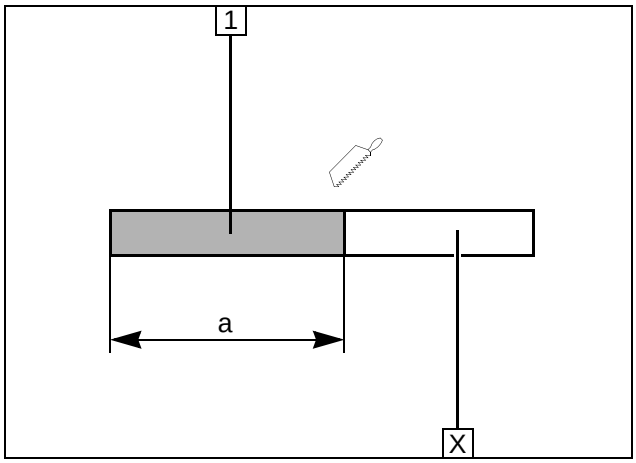
Routing



Check the position of the components; adjust if necessary. Check that they have freedom of movement.

1 5mm dia. hole, cable tie
2 Fuel line in rubber hose
3 90° moulded hose, 10mm dia. clamp [2x]

Connecting metering pump

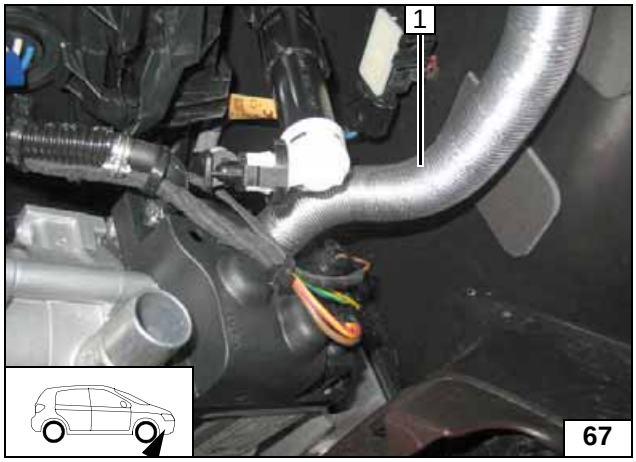


Combustion Air

Discard section **X**.

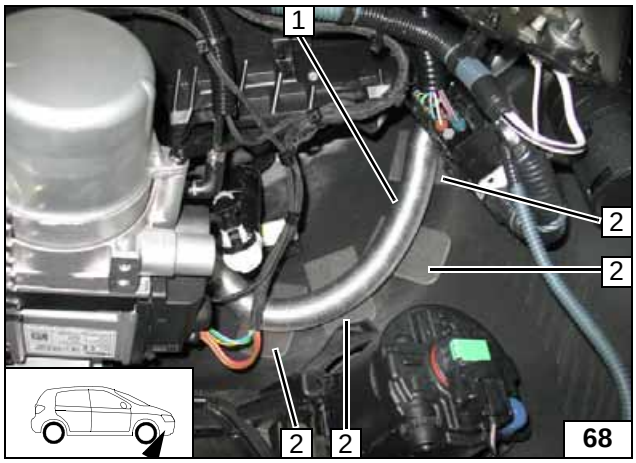
1 Combustion air pipe
a = 500 mm

Cutting combustion air pipe to length



1 Twist combustion air pipe onto connection piece

Installing combustion air pipe

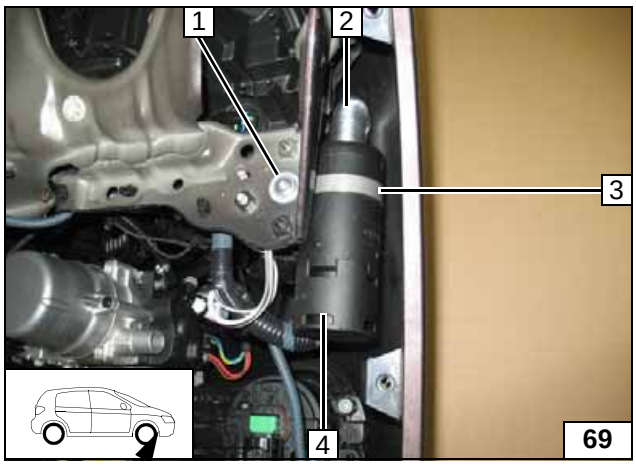


Vehicles without F-Sport-Package

Cut two pieces of self-sticking foam underlay in half and stick them on.

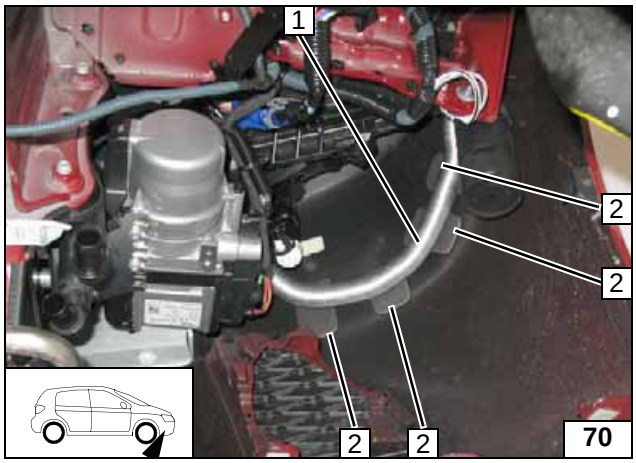
1 Combustion air pipe
2 Foam underlay, self-sticking, halved [4x]

Routing combustion air pipe



1 M5x16 bolt, existing hole, M6 large diameter washer, M5 large diameter washer, flanged nut
2 Combustion air pipe
3 51mm dia. clamp
4 Silencer

Installing silencer

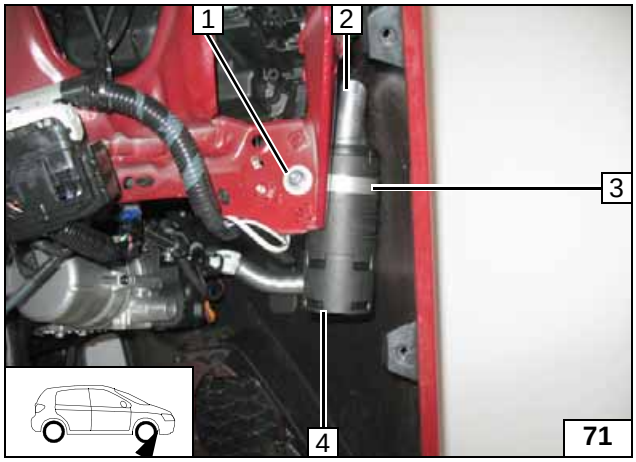


Vehicles with F-Sport-Package

Cut two pieces of self-sticking foam underlay in half and stick them on.

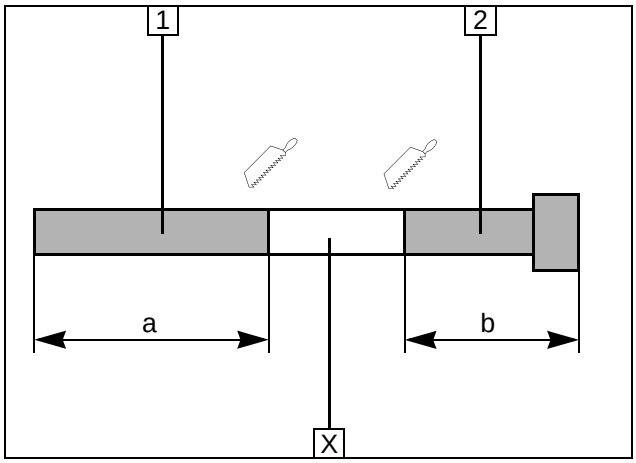
1 Combustion air pipe
2 Foam underlay, self-sticking [4x]

Routing combustion air pipe



1 M5x16 bolt, existing hole, M6 large diameter washer, M5 large diameter washer, flanged nut
2 Combustion air pipe
3 51mm dia. clamp
4 Silencer

Installing silencer

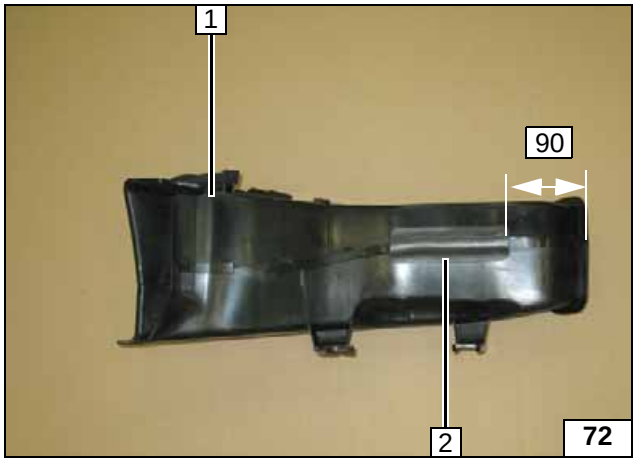


Exhaust

Discard section **X**.

1 Exhaust pipe
a = 160 mm
2 Exhaust end section
b =140 mm

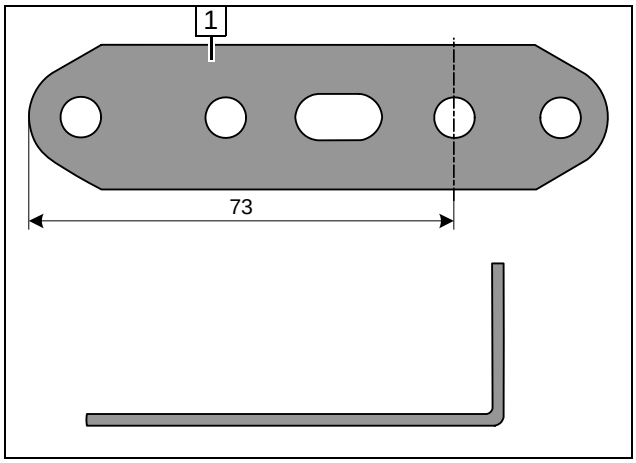
Preparing exhaust pipe



1 Ventilation pipe of brake system
2 Foam underlay, self-sticking

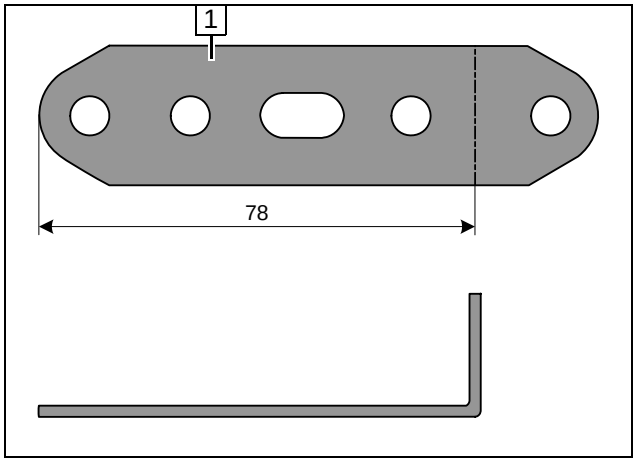
Install ventilation pipe subsequently.

Sticking on foam underlay



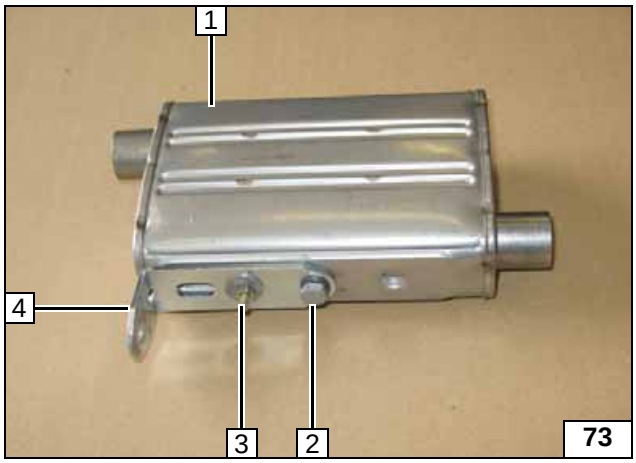
1 Angle down perforated bracket by 90°

Bending down perforated bracket of silencer



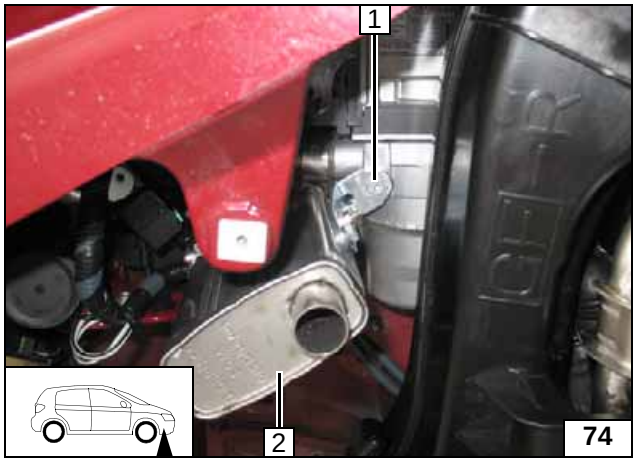
1 Angle down perforated bracket by 90°

Angling down perforated bracket of exhaust end section



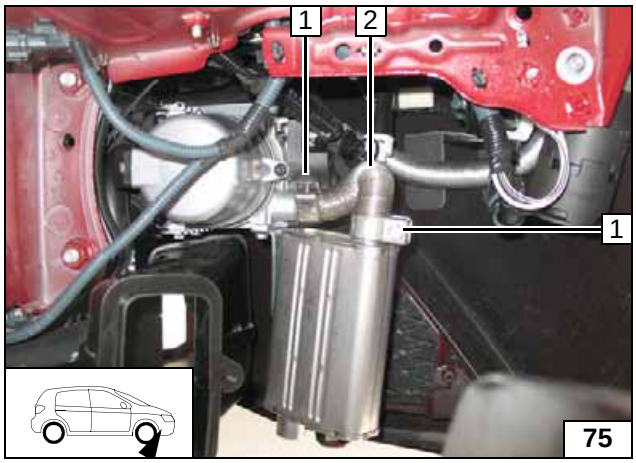
1 Silencer
2 M6x16 bolt, spring lockwasher
3 M4x12 bolt, large diameter washer, nut (installed as twist protection)
4 Perforated bracket

Premounting silencer



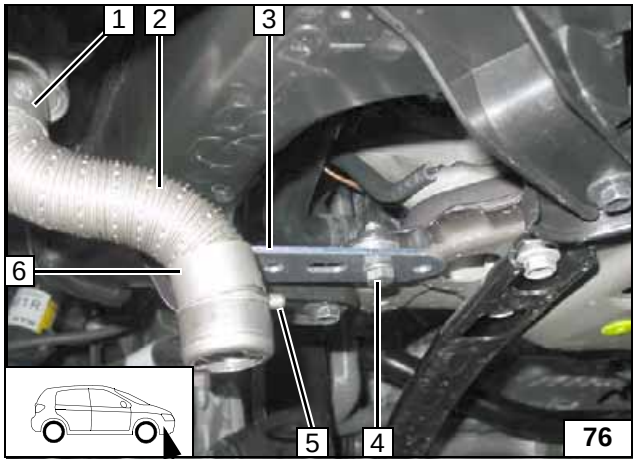
1 5x13 self-tapping bolt
2 Silencer

Installing silencer



1 Hose clamp [2x]
2 Exhaust pipe

Installing exhaust pipe

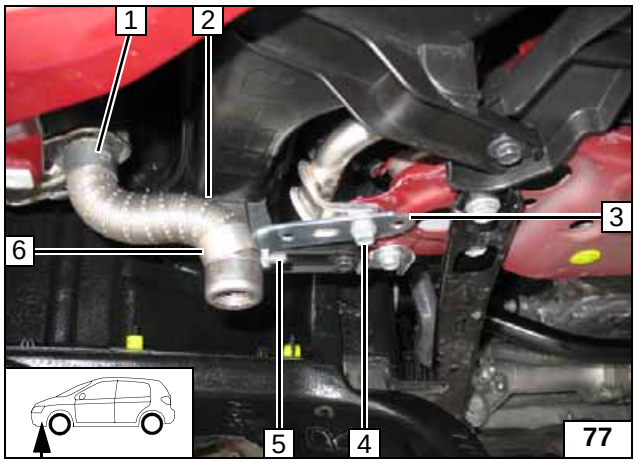


GS 250

Position 5mm shim between perforated bracket **3** and vehicle at position **4**.

1 Hose clamp
2 Exhaust end section
3 Perforated bracket
4 M6x25 bolt, spring lockwasher, original vehicle threaded hole
5 M6x20 bolt, flanged nut
6 P-clamp

Installing exhaust end section

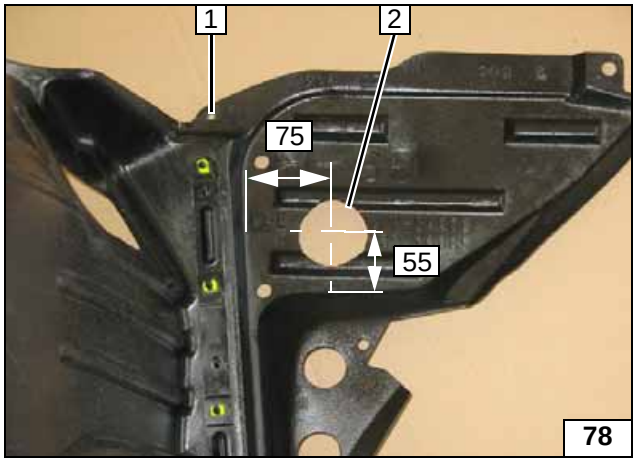


GS 450 H

Position 5mm shim between perforated bracket **3** and vehicle at position **4**.

1 Hose clamp
2 Exhaust end section
4 Original vehicle bolt
5 M6x20 bolt, flanged nut M6
6 P-clamp

Installing exhaust end section



1 Wheel well trim
2 60mm dia. hole

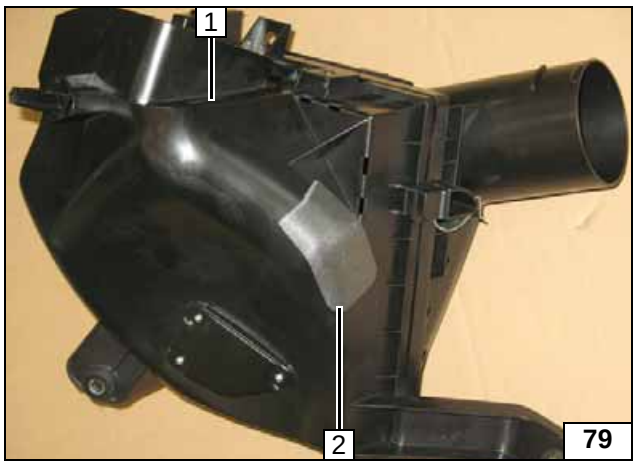
Cutting out wheel well trim

Final Work

WARNING!
Mount removed parts in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose wires.
Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

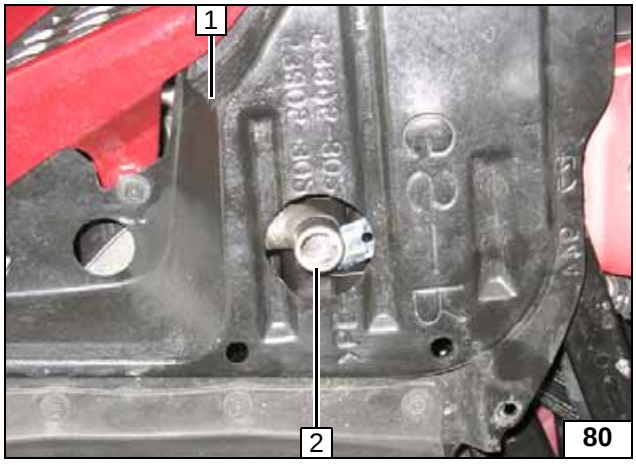
- **Connect the battery**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Adjust digital timer, teach Telestart transmitter**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Checking of fan fucntion (IPCU):**
  Set fan power to maximum. Afterwards, deactivate ignition and activate parking heater. Upon reaching the start-up temperature of 50°C, the fan speed has to correspond to the value predefined by the IPCU, about 1/3 of the maximum rotational speed.
- **Apply the caution label "Switch off parking heater before refilling" in the area of the filler neck.**
- **For initial startup, the Webasto Thermo Test Diagnosis is to be carried out as follows:**

  - **Control coolant pump under component testmenu, check coolant level**
  - **Pre-feed fuel for the heater using the line filling menu.**
  - **Check CO_2-Setting, gather adjustment values from general installation instructions**
  - **Check all water and fuel connections for seal tightness and firm seating during the trial run**
  - **Conduct troubleshooting in case of malfunctions.**



1 air filter housing
2 Foam underlay, self-sticking

Sticking on foam underlay



1 Wheel well trim
2 Align exhaust end section

Aligning exhaust end section

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

Template for Fuel Standpipe

100mm

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 “minimise margins” and 100% of the normal size.

100mm

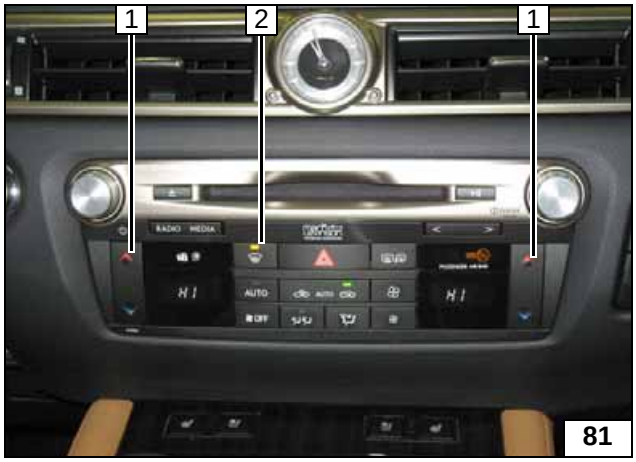
0

Operating Instructions for End Customer

Please remove page and add to the vehicle operating instructions.

Note:
We recommend matching the heating time to the driving time.
Heating time = driving time
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

Before parking the vehicle, make the following settings:

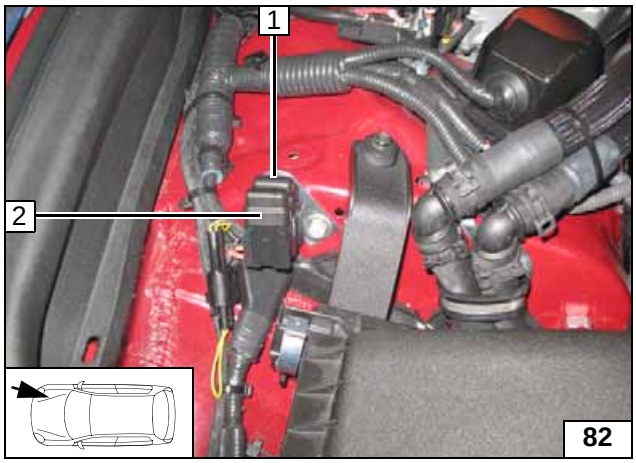


81

Note:
The fan speed does not have to be preset.

1 Set temperature on both sides to "HI"
2 Air outlet to windscreen

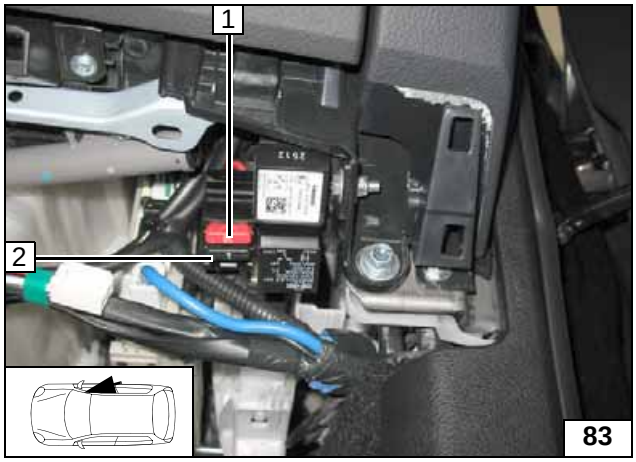
A/C control panel



82

1 30A heater fuse F2
2 20A main fuse F1 of passenger compartment

Fuses of engine compartment



83

1 10A fan fuse F4
2 1A fuse F3 of heater control

Fuses of engine compartment