Water Heater

Webasto
Feel the Drive

***Thermo Top Evo 5* Parking Heater** E1 00 0258

Installation Documentation
Lexus LS600h

Validity

Manufacturer	Model	Type	EG-BE No./ABE
Lexus	LS 600h	HF4 (A)	e6 * 2001 / 116 * 0109 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
5.0 B hybrid	Petrol	AG	290	4969	2UR-V20

AG = Automatic transmission

From Model Year 2013
Left-hand drive vehicle

Verified equipment variants:	4 zone automatic air-conditioning Front fog light Headlight washer system Cruise control
Not verified:	Passenger compartment monitoring
Total installation time:	about 9.5 hours

Note:

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

Lexus LS600h

Table of Contents

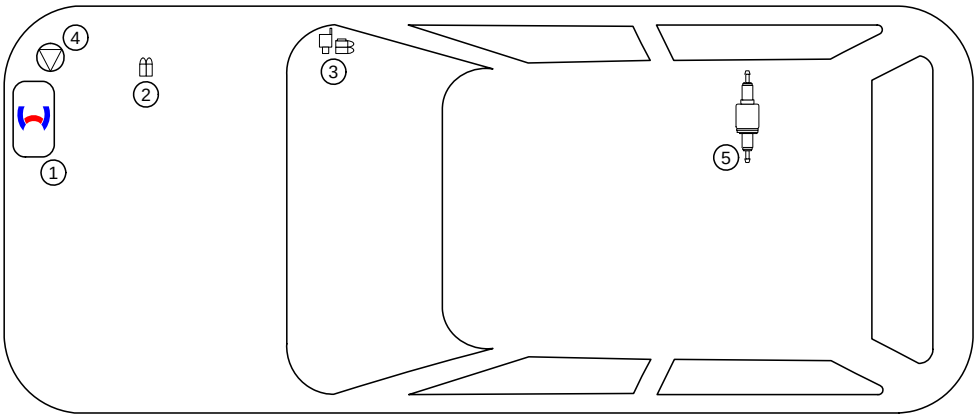
Necessary Components

- Basic delivery scope of *Thermo Top Evo* based on price list
- Installation kit for Lexus LS600h 2013 Petrol: **1316670B**
- 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

Installation Overview

Legend:

1. Heater
2. Fuse holder of engine compartment
3. Fuse holder of passenger compartment
4. Circulating pump
5. 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 LS600h

Notes on Validity

This installation documentation applies to the Lexus LS600h Petrol vehicles - for validity, see page 1 - from model year 2013 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

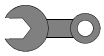
Dimensions
- All dimensions are in mm

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

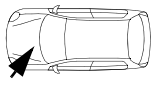
Specific risk of damage to components

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 LS600h

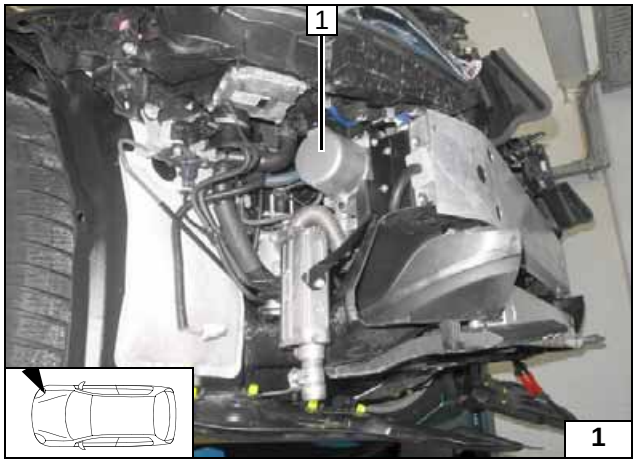
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Deactivate the high voltage system in accordance with the manufacturer's instructions.
- Disconnect the battery from the on-board power supply network.
- Remove the air filter.
- Remove the engine cover.
- Remove the coolant expansion tank.
- Remove the bumper trim.
- Detach the ventilation duct for the brake located to the right of the bumper.
- Remove the bumper.
- Remove the underride protection.
- Remove the underbody trim on the right.
- Remove the rear bench seat on the left.
- Open the tank-fitting service lid on the left.
- Remove the fuel-tank sending unit in accordance with the manufacturer's instructions.
- Remove the footwell trim on the front passenger's side.
- Remove the centre console trim in the front passenger's side footwell.
- Remove the glove compartment.

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

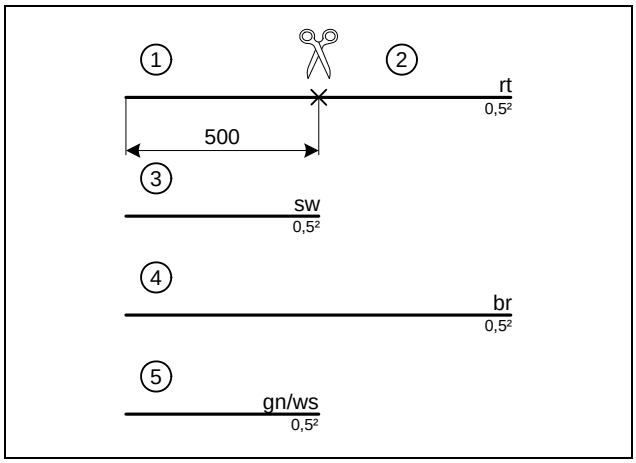
1 Heater

Installation location

Preparing Electrical System

Wire sections retain their numbering throughout the whole document.

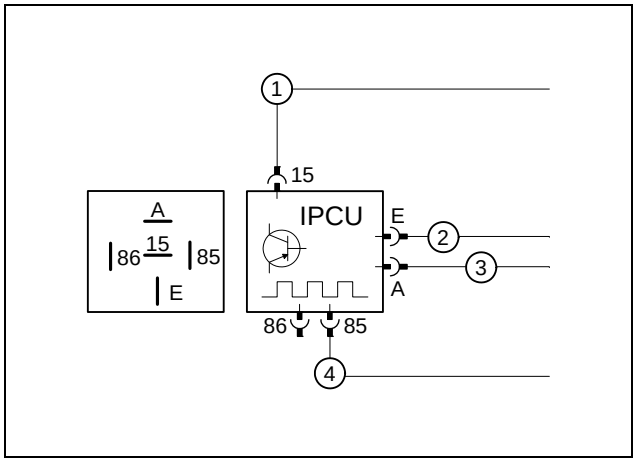
Cutting wires to length



Connect wires to IPCU socket.
IPCU view on contact side.
The pre-programmed settings are to be checked during the function control on the vehicle, and adjusted if necessary.

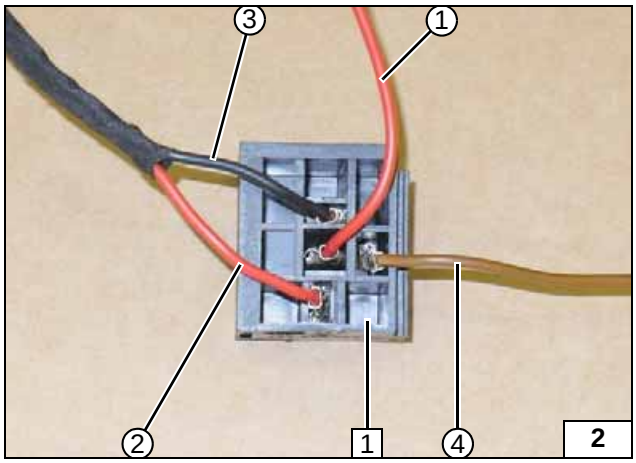
Duty cycle: 65%
Frequency: 400Hz
Voltage: 9,0V
Function: Low-side

Premounting IPCU



1 IPCU socket
① Red (rt) wire from IPCU/15
② Red (rt) wire of IPCU/E
③ Black (sw) wire of IPCU/A
④ Brown (br) wire of IPCU/85

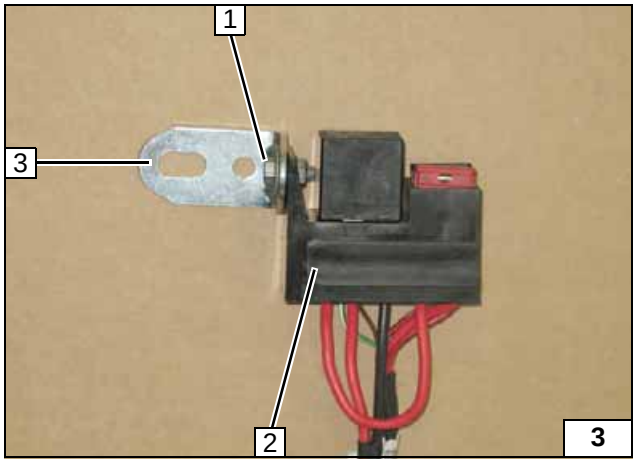
Premounting IPCU

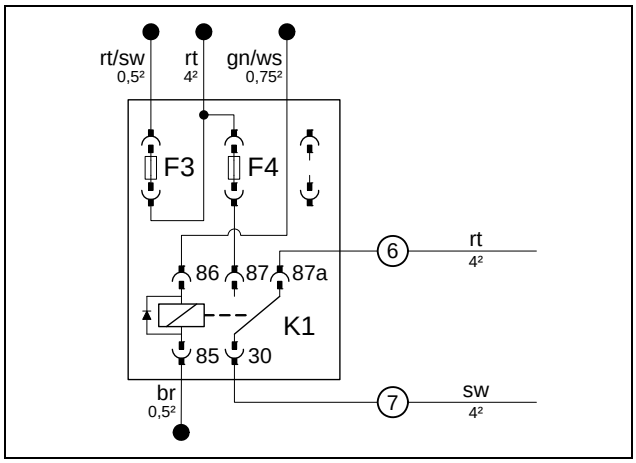


Insert K1 relay and 10A F4 into the fuse holder of the passenger compartment after installation.

1 M5x12 bolt, washers [2x], nut
2 Fuse holder of passenger compartment
3 Angle bracket

Preparing fuse holder of passenger compartment





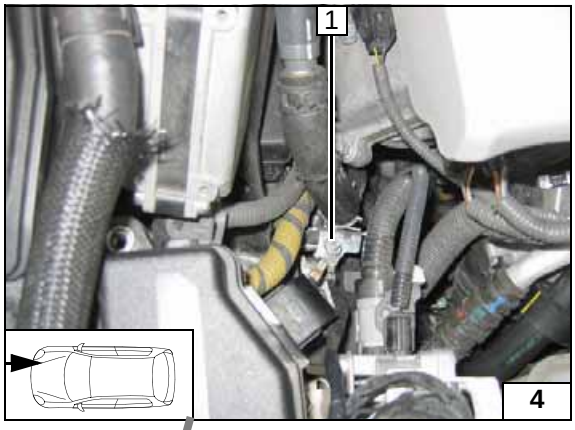
Insert red (rt) wire ⑥ into socket of K1/87a and black (sw) wire ⑦ into socket of K1/30.

Preparing relay K1 and fuse F4

Electrical System

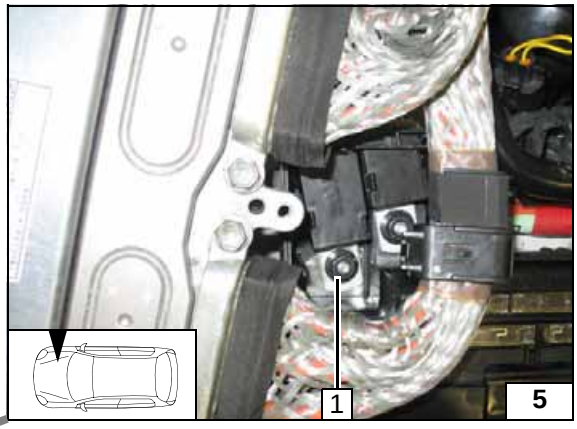
Connecting earth wire

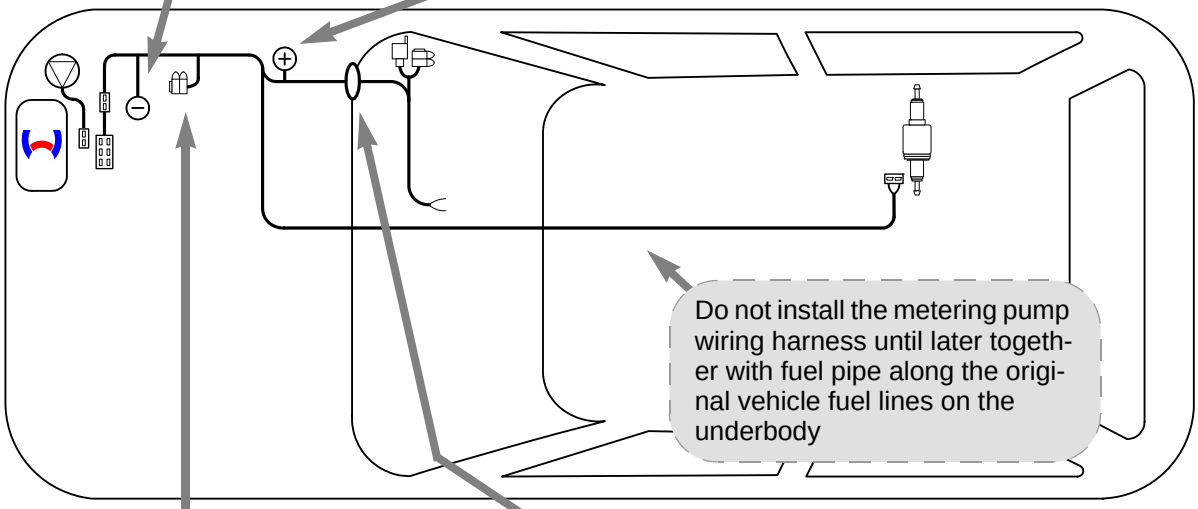
1 Original vehicle earth support point



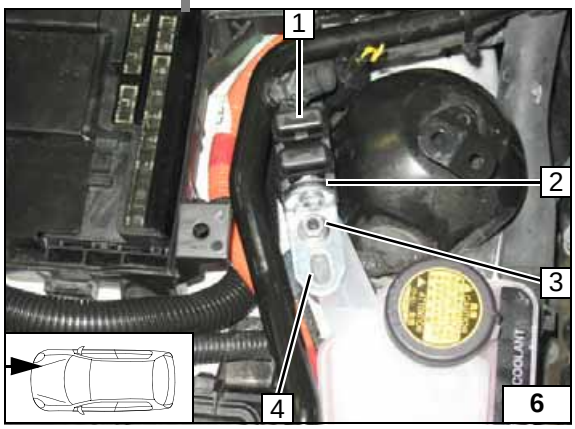
Connecting positive wire

1 Original vehicle positive support point



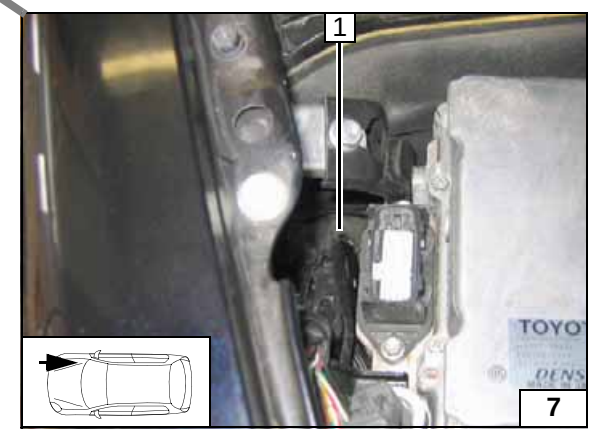


Wiring harness routing diagram



Fuse holder of engine compartment

1 Fuses F1-2
2 M5x16 bolt, washers [2x], retaining plate of fuse holder, nut
3 Original vehicle flanged nut
4 Angle bracket



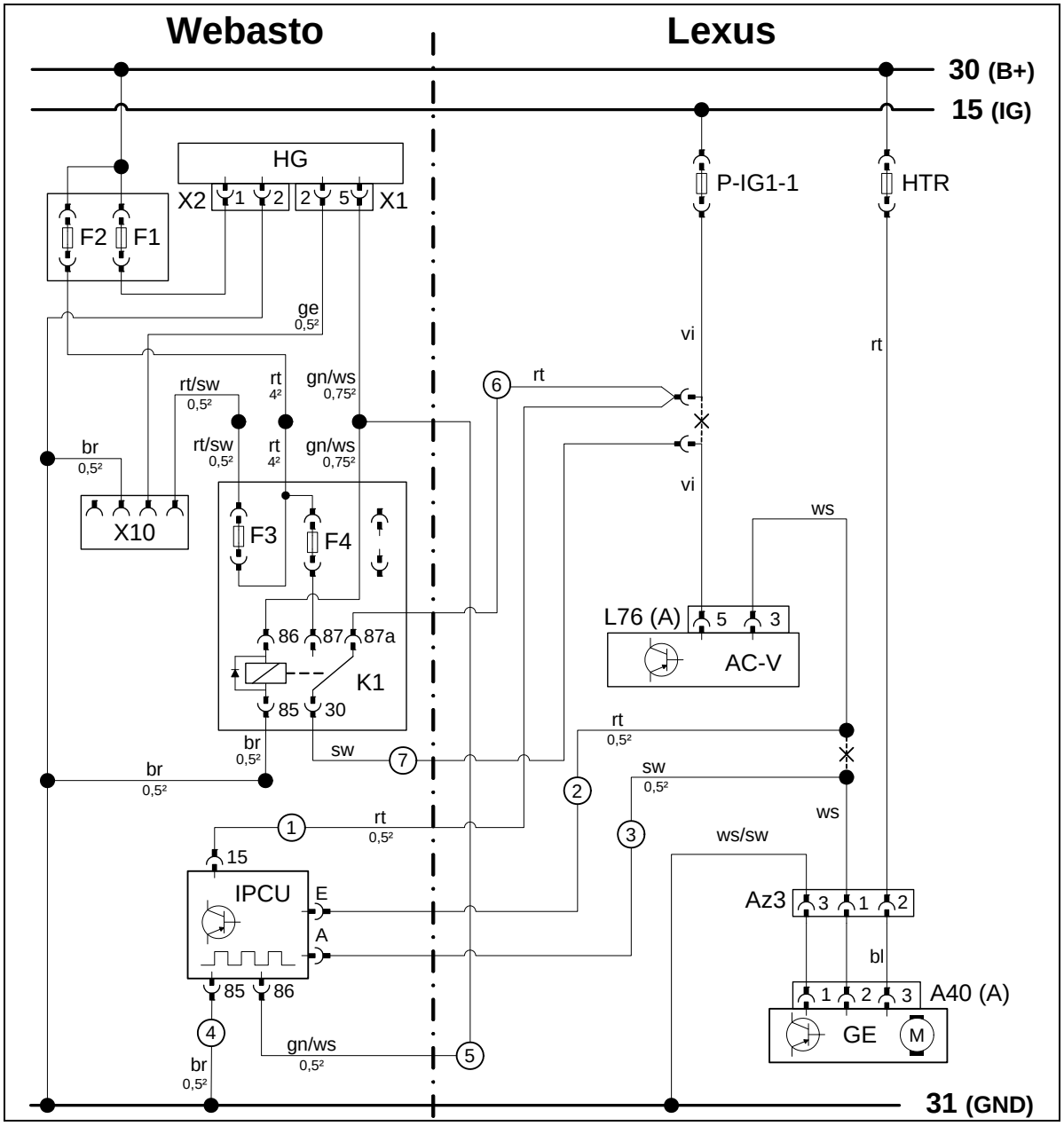
Wiring harness pass through

Protect wiring harnesses with corrugated tubes.

1 Protective rubber plug

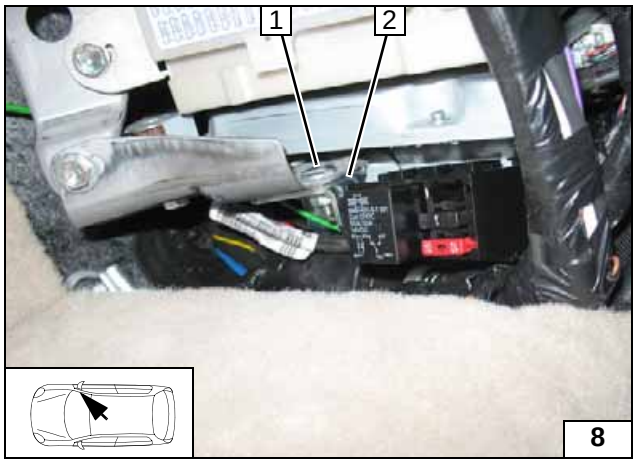
Fan Control

Wiring diagram



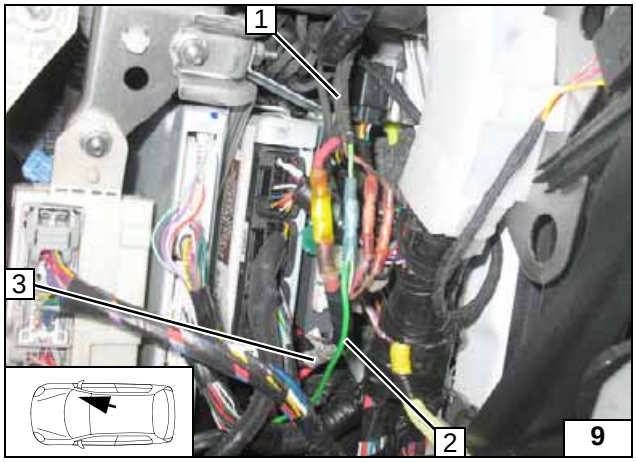
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	P-IG1-1	Fuse 10A	rt	red
X1	6-pin heater connector	HTR	50 A fan fuse	ws	white
X2	2-pin heater connector	L76 (A)	White (ws) 35-pin connector A/C-V	sw	black
X10	4-pin connector of Heater control			br	brown
		AC-V	A/C booster	gn	green
K1	Fan relay	Az3	3-pin connector	vi	violet
F1	Fuse 20A	A40 (A)	GE connector		
F2	Fuse 30A	GE	Fan unit		
F3	Fuse 1A				
F4	Fuse 10A				
IPCU adjustment values:					
Duty cycle: 65%					
Frequency: 400Hz					
Voltage: 9,0V				**X**	Cutting point
Function: Low-side				Wiring colours may vary.	

Legend



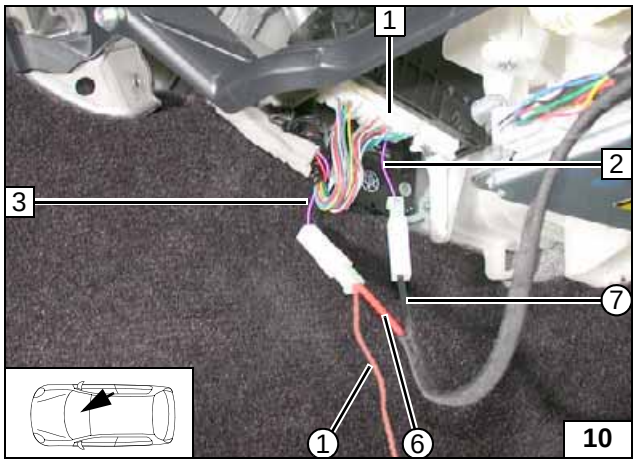
1 Original vehicle bolt
2 Angle bracket

Installation of fuse holder in passenger compartment



Connect same colour wires of wiring harness of passenger compartment fuse holder **3** with wiring harness of heater **1** according to the wiring diagram. Connect additional green/white (gn/ws) wire ⑤ **2** to green/white (gn/ws) wire of passenger compartment fuse holder wiring harness **3**.

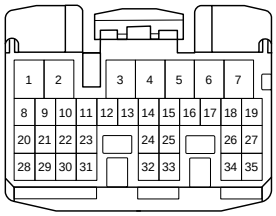
Connecting wiring harnesses



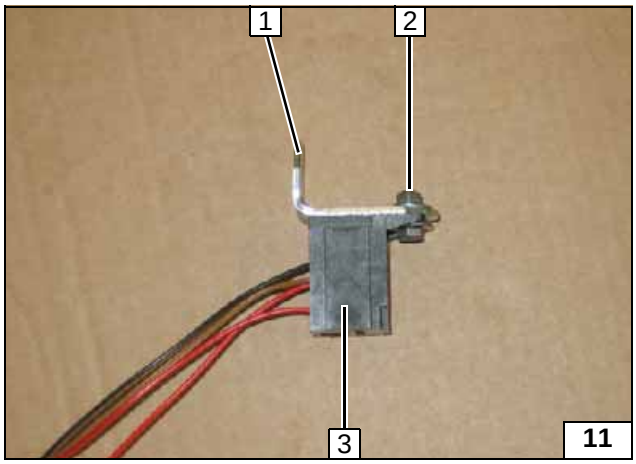
Connection on white (ws) 35-pin connector L76 (A) **1**, Pin 5 from A/C booster. Produce connections as shown in wiring diagram.

2 Violet (vi) wire of connector L76 (A)
3 Violet (vi) wire from fuse P-IG1-1
① Red (rt) wire from IPCU/15
⑥ Red (rt) wire of K1/87a
⑦ Black (sw) wire of K1/30

Connector L76 (A) on contact side.

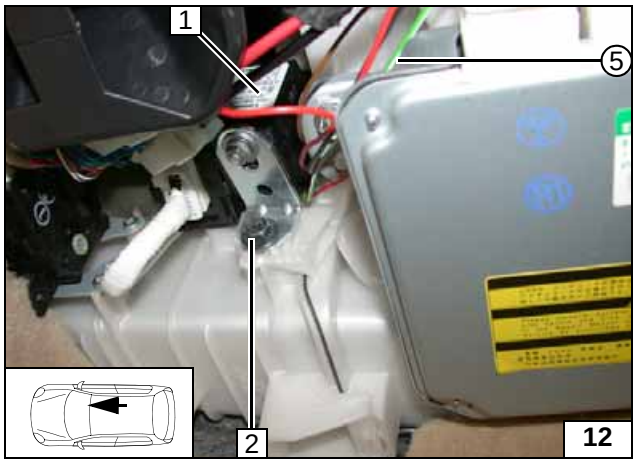


Connecting A/C booster



1 Angle bracket
2 M5x16 bolt, washers [2x], nut
3 IPCU socket

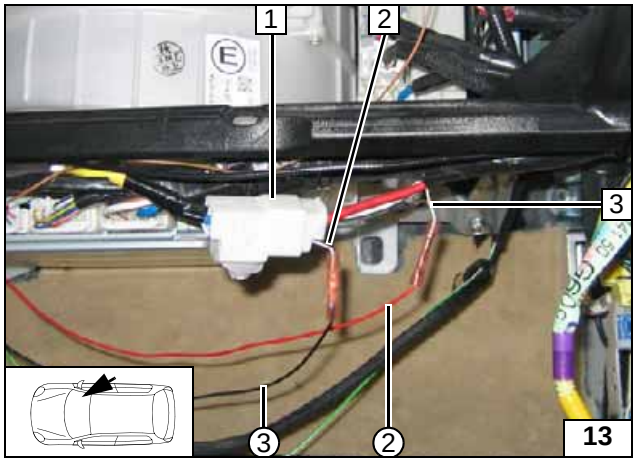
Premounting IPCU socket



Prior to installation, insert green/white (gn/ws) wire ⑤ into IPCU/86 socket.

1 IPCU
2 Original vehicle bolt

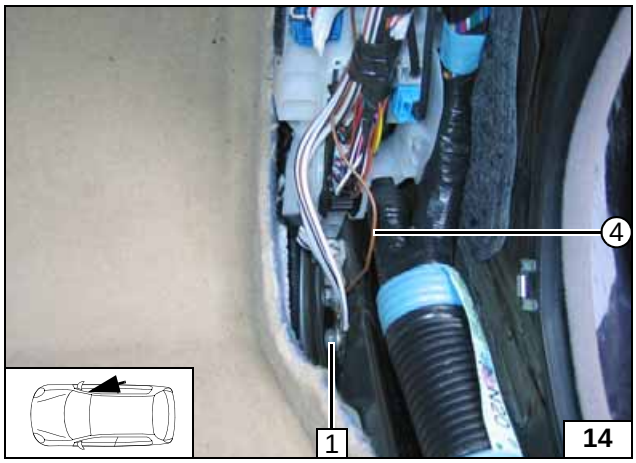
IPCU installation



Connection to 3-pin connector A3 **1** of fan unit. Produce connections as shown in wiring diagram.

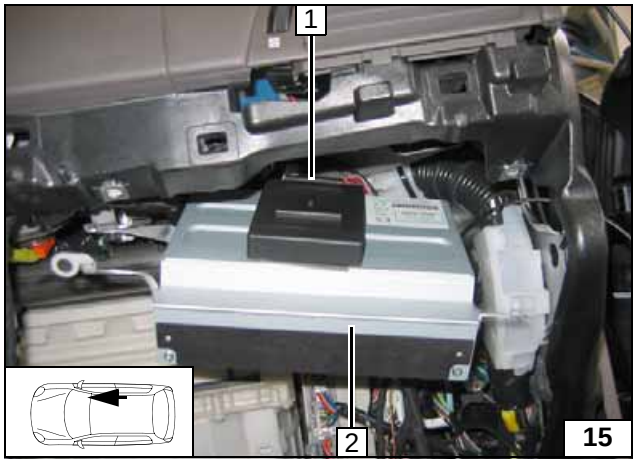
2 White (ws) wire to connector Az3
3 White (ws) wire from A/C control panel Pin 3
② Red (rt) wire of IPCU/E
③ Black (sw) wire of IPCU/A

Connecting IPCU



1 Original vehicle earth support point
④ Brown (br) wire of IPCU/85, cable lug

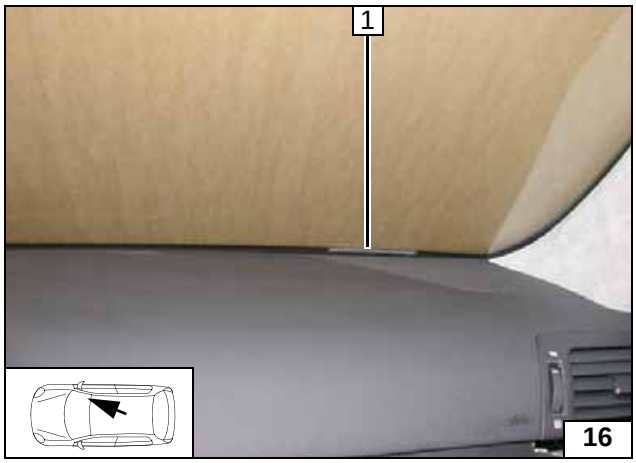
Connecting earth wire



Telestart

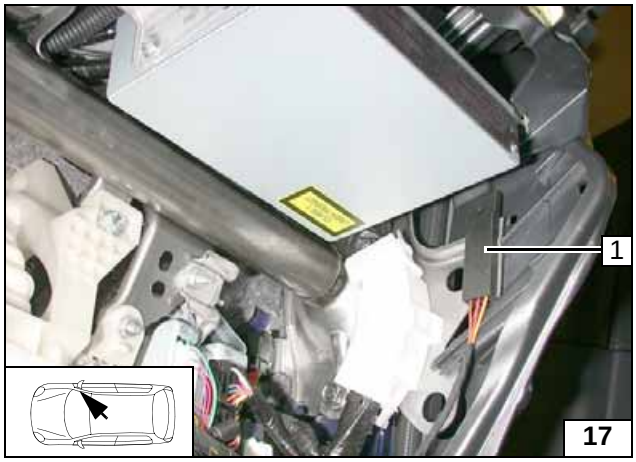
Detach player **2** and fasten receiver **1** with adhesive tape.

Installing receiver



Paste antenna **1** in the black area of the windscreen.

Installing antenna

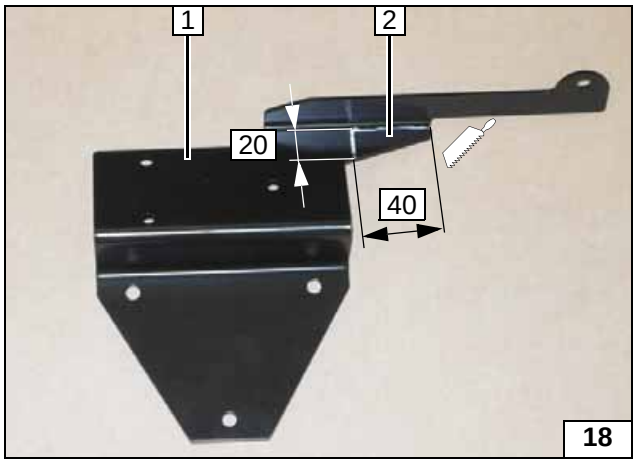


Temperature sensor T100 HTM

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

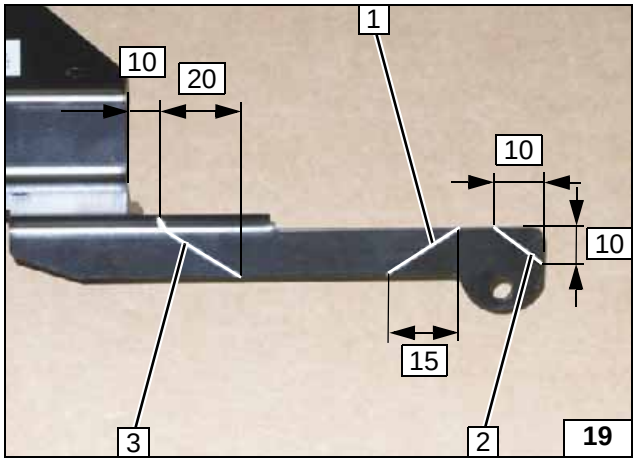
Installing temperature sensor

Preparing Heater



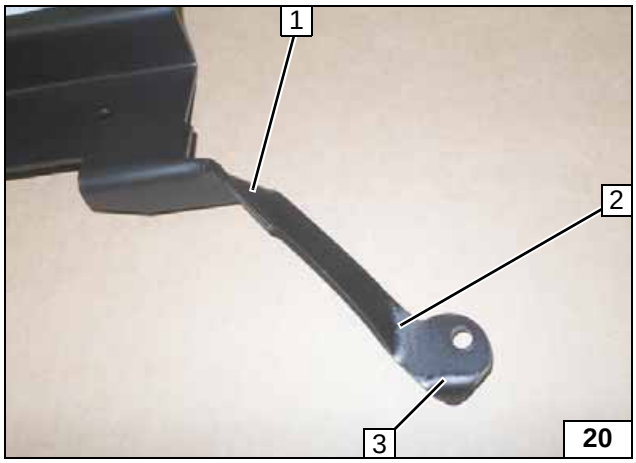
1 Bracket
2 Cut off section and discard

Preparing bracket



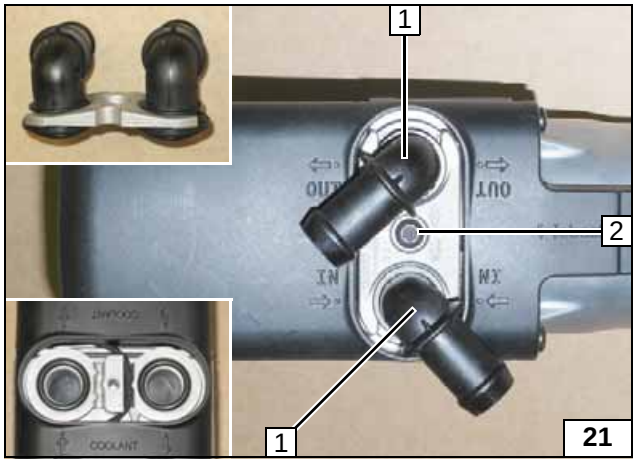
1 Bending line for 30° angle bracket
2 Bending line for 70° angle bracket
3 Bending line for 85° angle bracket

Drawing on the bending lines



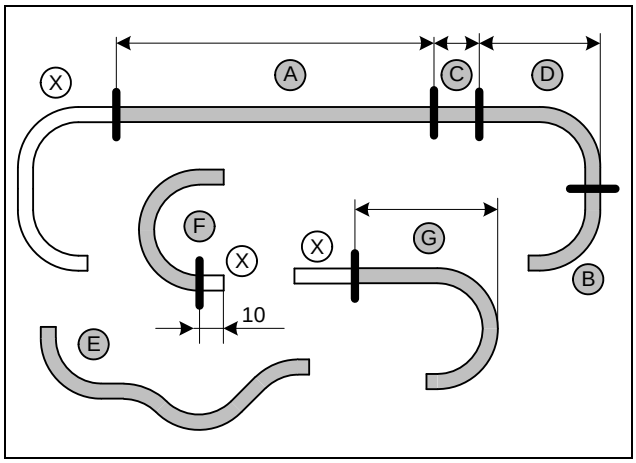
1 Bend down by 85°
2 Bend down by 30°
3 Bend down by 70°

Bending down the bracket



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

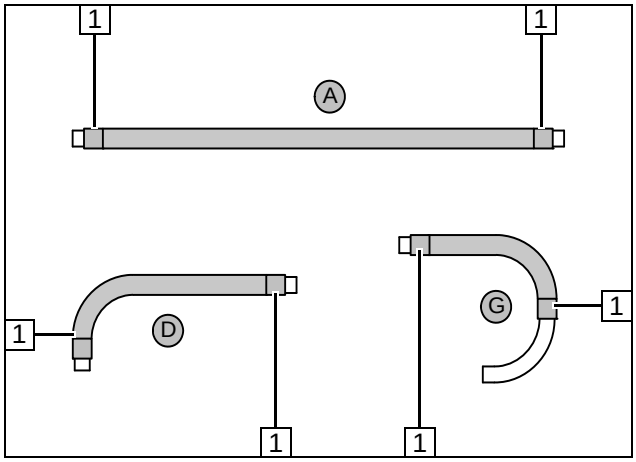
Installing water connection piece



Discard section **X**
Hose **E** = 18mm dia. moulded hose, will be cut to length later
Hose **F** = 180°, 18mm dia. moulded hose
Hose **G** = 180°, 18mm dia. moulded hose

A = 750
C = 70
D = 470
G = 240

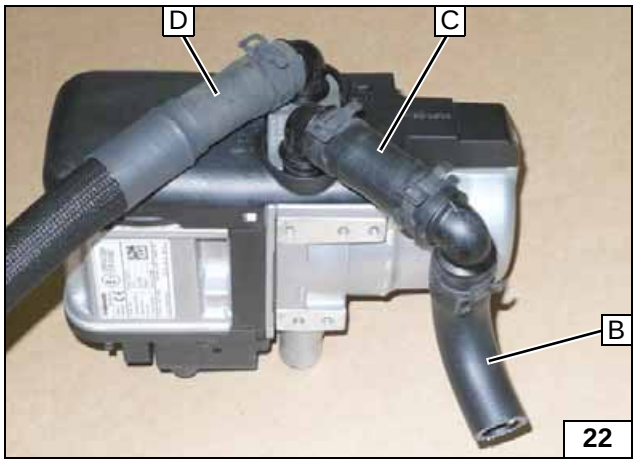
Cutting hoses to length



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

1 Heat shrink plastic tubing, 50 mm long [6x]

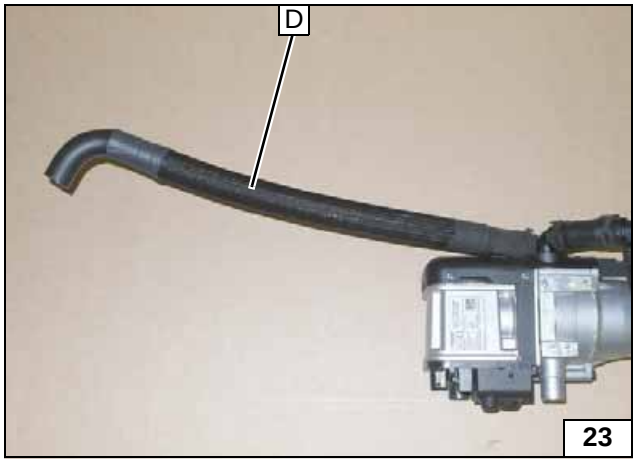
Preparing hoses



22

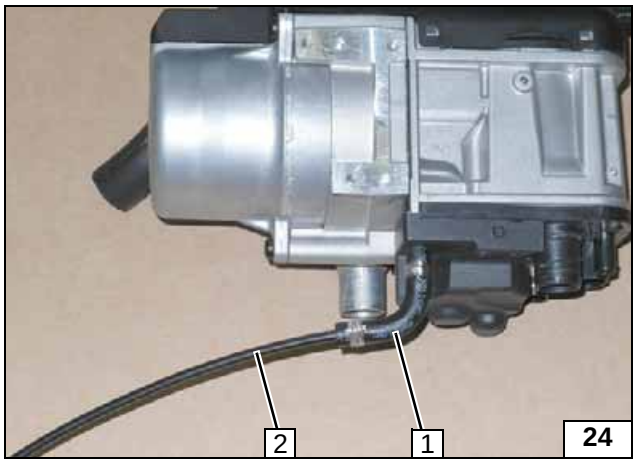
All spring clips = 25mm dia. Align hose **D** in accordance with the following image.

Premounting hoses



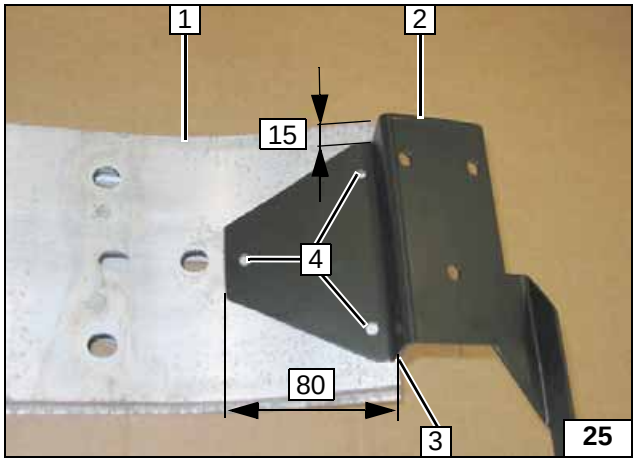
23

Premounting hoses



1 90° moulded hose, 10mm dia. clamp [2x]
2 Fuel line

Premounting fuel line

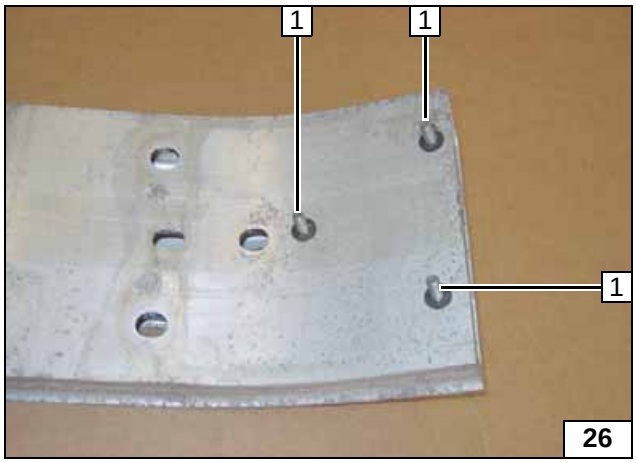


Preparing Installation Location

Position bracket **2** and align it parallel to bumper edge **3**.

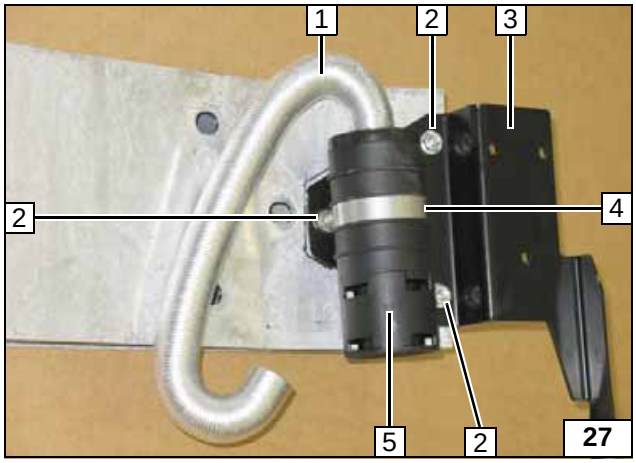
1 Bumper
4 Copy hole pattern, 7mm dia. hole [3x]

Copying hole pattern



1 M6x20 bolt, large diameter washer, pin lock [3x each]

Premounting bolts



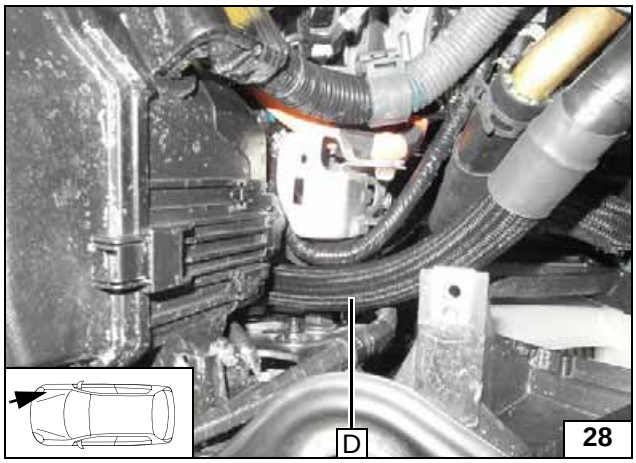
1 Combustion air pipe
2 Flanged nut [3x]
3 Bracket
4 48mm p-clamp
5 Silencer

Installing bracket

Installing Heater

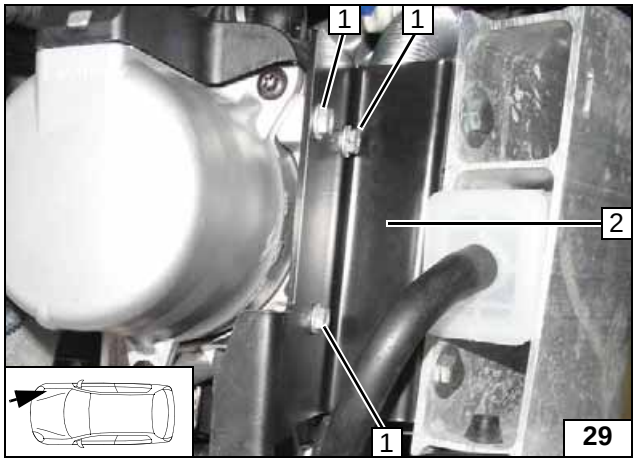
Route hose **D** into the engine compartment over the frame side member and under the fuse box.

Routing Hose D



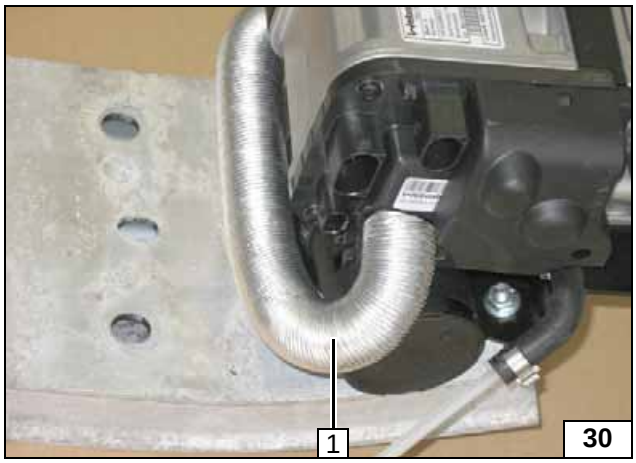
1 5x13 self-tapping bolt [3x]
2 Bracket

Installing heater



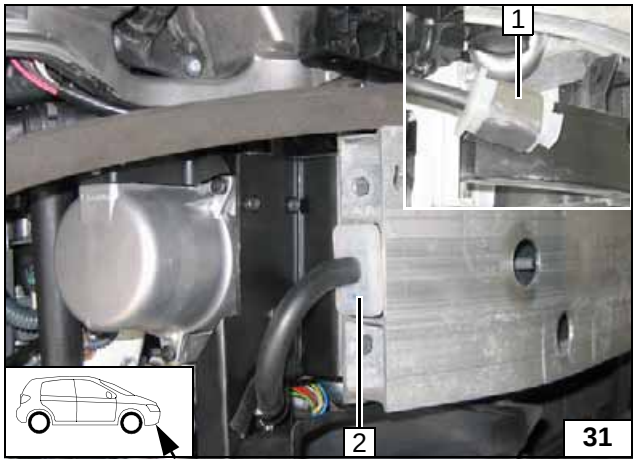
1 Combustion air pipe

Installing combus-tion air pipe



Mount bumper and wrap air cleaner housing with insulation material **1**. Position air filter **2** laterally in bumper.

Installing air filter



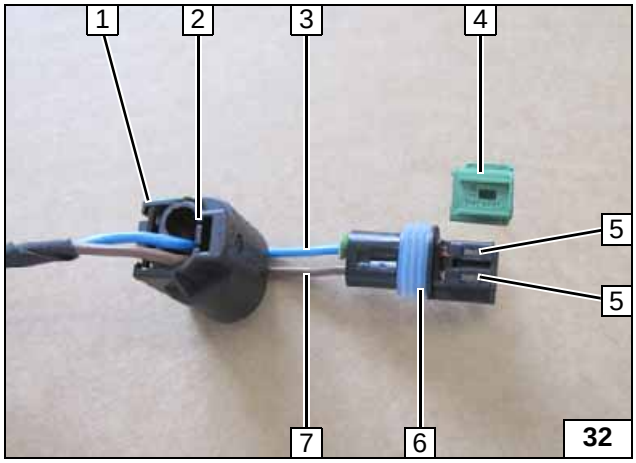
Fuel

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.

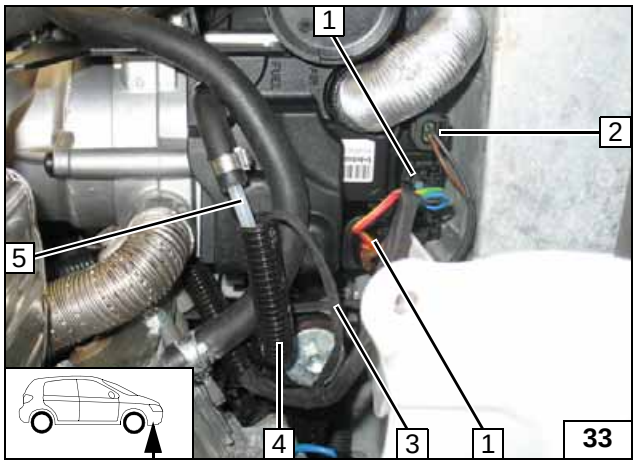
Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

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



Detach external connector housing **1** by opening lock **2** of the connector of metering pump **6**. Remove coding **4**. Remove blue (bl) wire **3** and brown (br) wire **7** from the connector of the metering pump **6** by opening the lock **5** [2x]. Will be inserted again later. Pin assignment is not relevant.

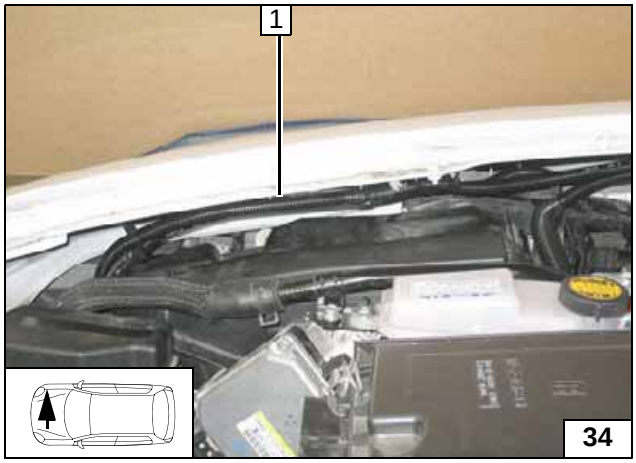
Removing wires



Pull fuel line **5** and wiring harness of metering pump **3** into 2100mm long corrugated tube **4** and route in the engine compartment (see engine compartment wiring harness routing).

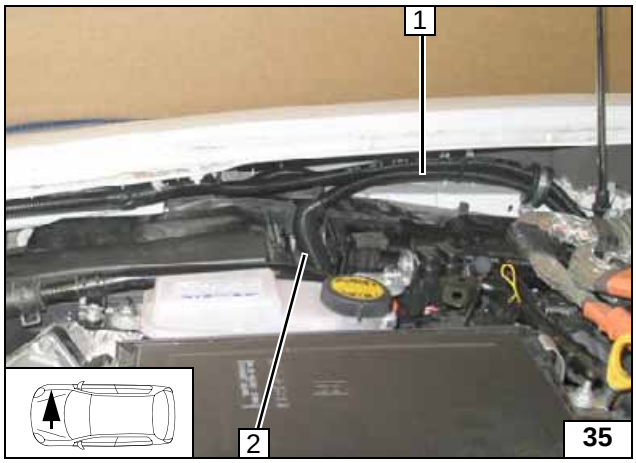
1 Mount wiring harness of heater [2x]
2 Install wiring harness of circulating pump

Installing lines



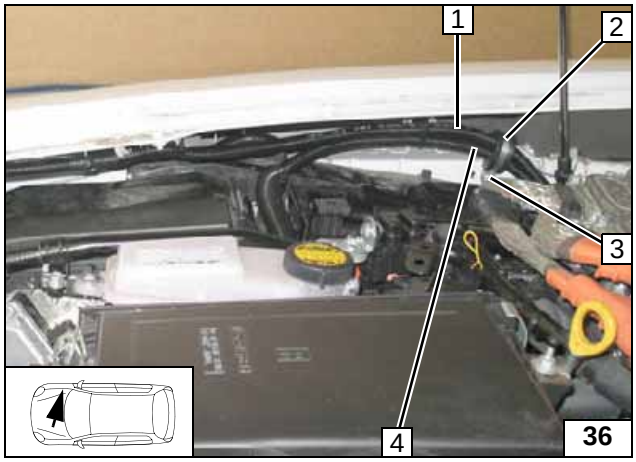
Route wiring harness of metering pump and fuel line in 10mm dia., 2100mm long corrugated tube **1** to the firewall.

Installing lines



Cut open 17mm dia., 200mm long corrugated tube **2** lengthwise and slide onto wiring harnesses of heater, heater control and earth wire. Route wiring harness of heater control in 10mm dia., 1130mm long corrugated tube **1** to the firewall.

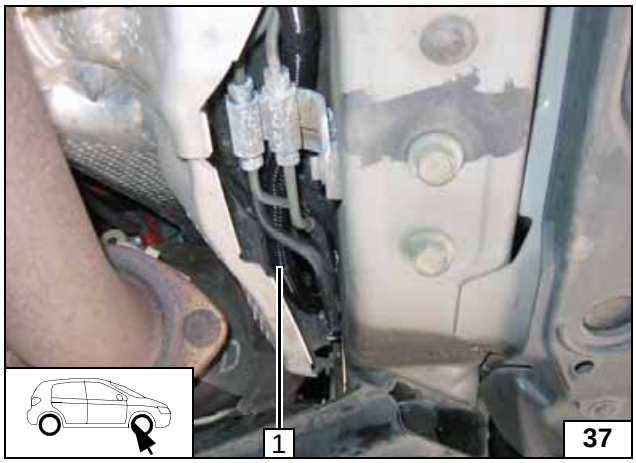
Installing lines



Route 10mm dia., 2100mm long corrugated tube **1** and 10mm dia., 1130mm long corrugated tube **4** through rubber-coated pipe clamp **2**. Route corrugated tube **1** further on the firewall to the underbody.

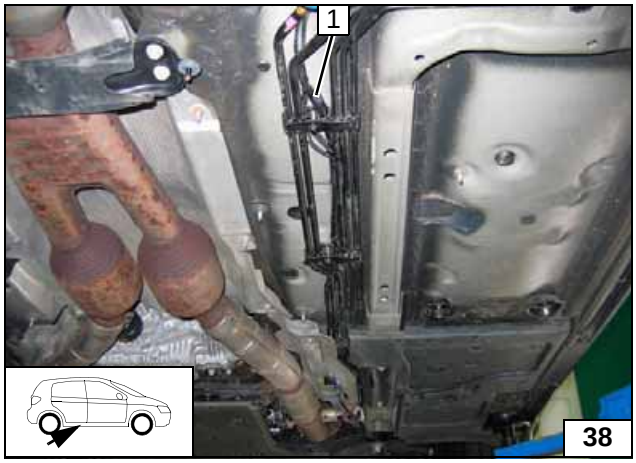
3 M6x20 bolt, spring lock washer, 29mm dia. rubber-coated p-clamp, existing threaded hole

Installing lines



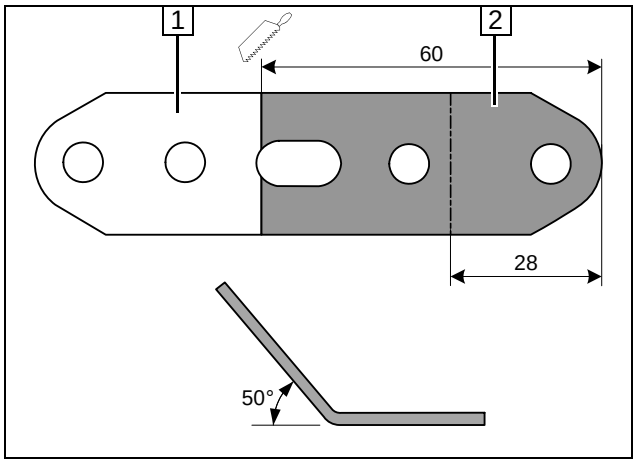
1 Fuel line and wiring harness for metering pump in corrugated tube

Installing lines



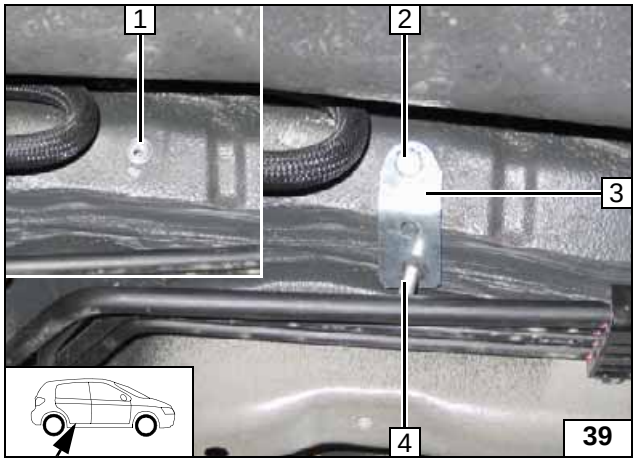
1 Fuel line and wiring harness for metering pump in corrugated tube

Installing lines



1 Discard section
2 Perforated bracket

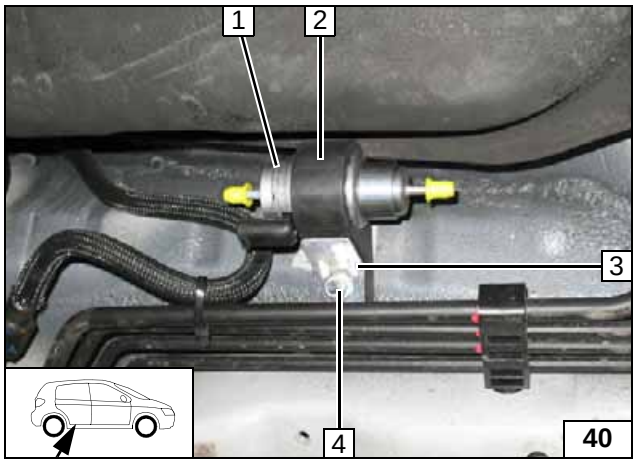
Preparing perforated bracket



Remove and discard rubber plug at position **1**. Insert M6 rivet nut **1** into existing hole.

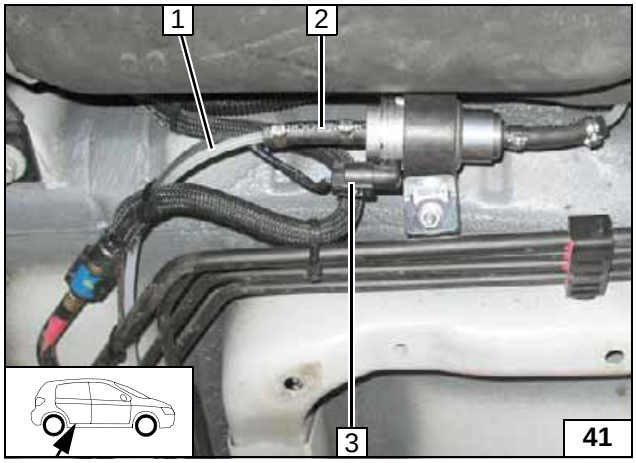
2 M6x20 bolt, spring lockwasher
3 Perforated bracket
4 M6x25 detent edged bolt, pin lock

Mounting perforated bracket



1 Metering pump
2 Receptacle for metering pump
3 Support angle
4 M6 flanged nut

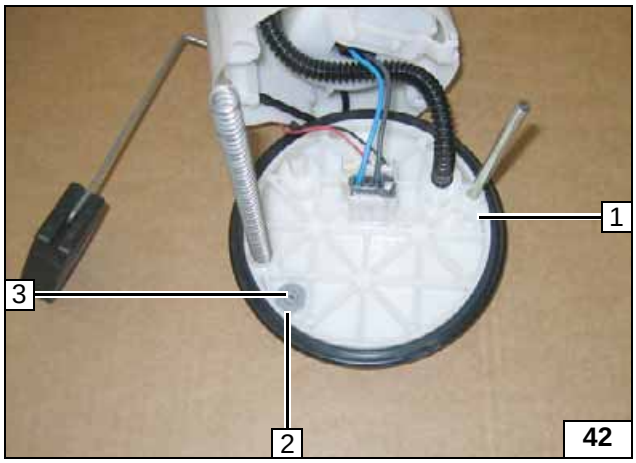
Installing metering pump



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

1 Fuel line of heater
2 Hose section, 10 mm dia. clamp [2x]
3 Wiring harness of metering pump, connector mounted

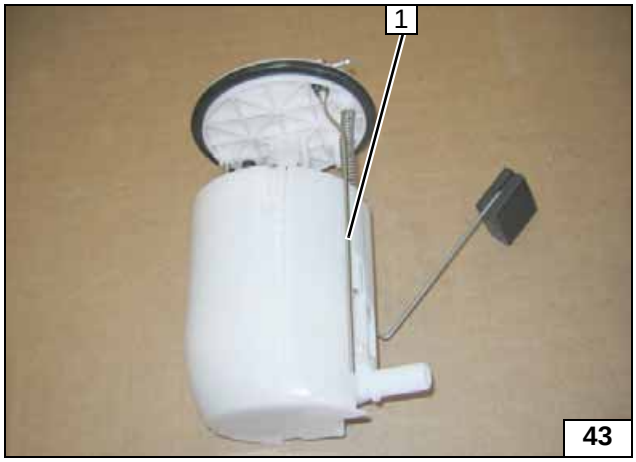
Connecting metering pump



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

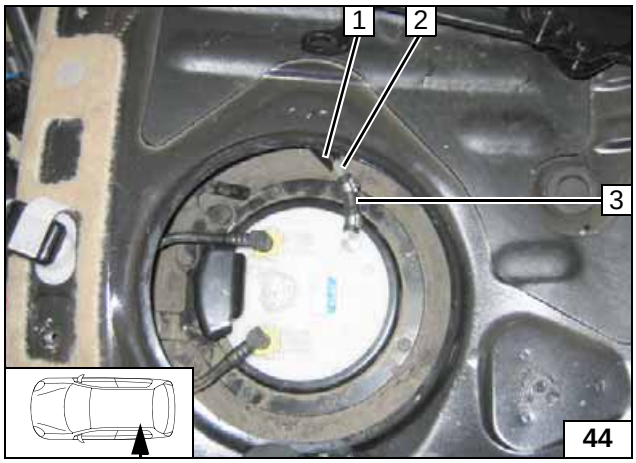
2 Large diameter washer, outer dia. da = 14.8 mm
3 Copy hole pattern, 6 mm dia. hole

Fuel extraction



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

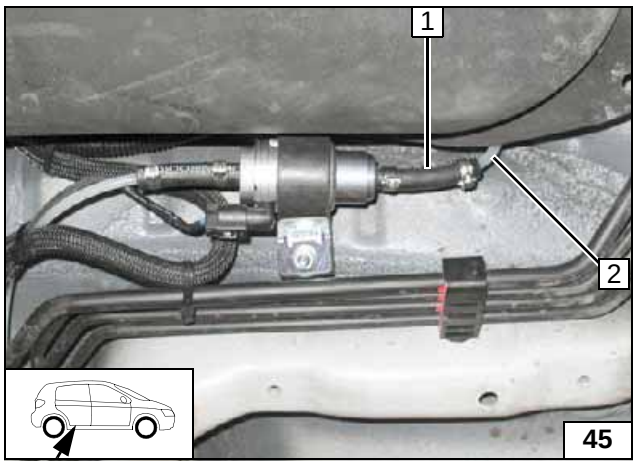
Mounting fuel standpipe



Install fuel-tank sending unit according to manufacturer's instructions.

1 2100mm long corrugated tube
2 Fuel line
3 Hose section, 10 mm dia. clamp [2x]

Connecting fuel line



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

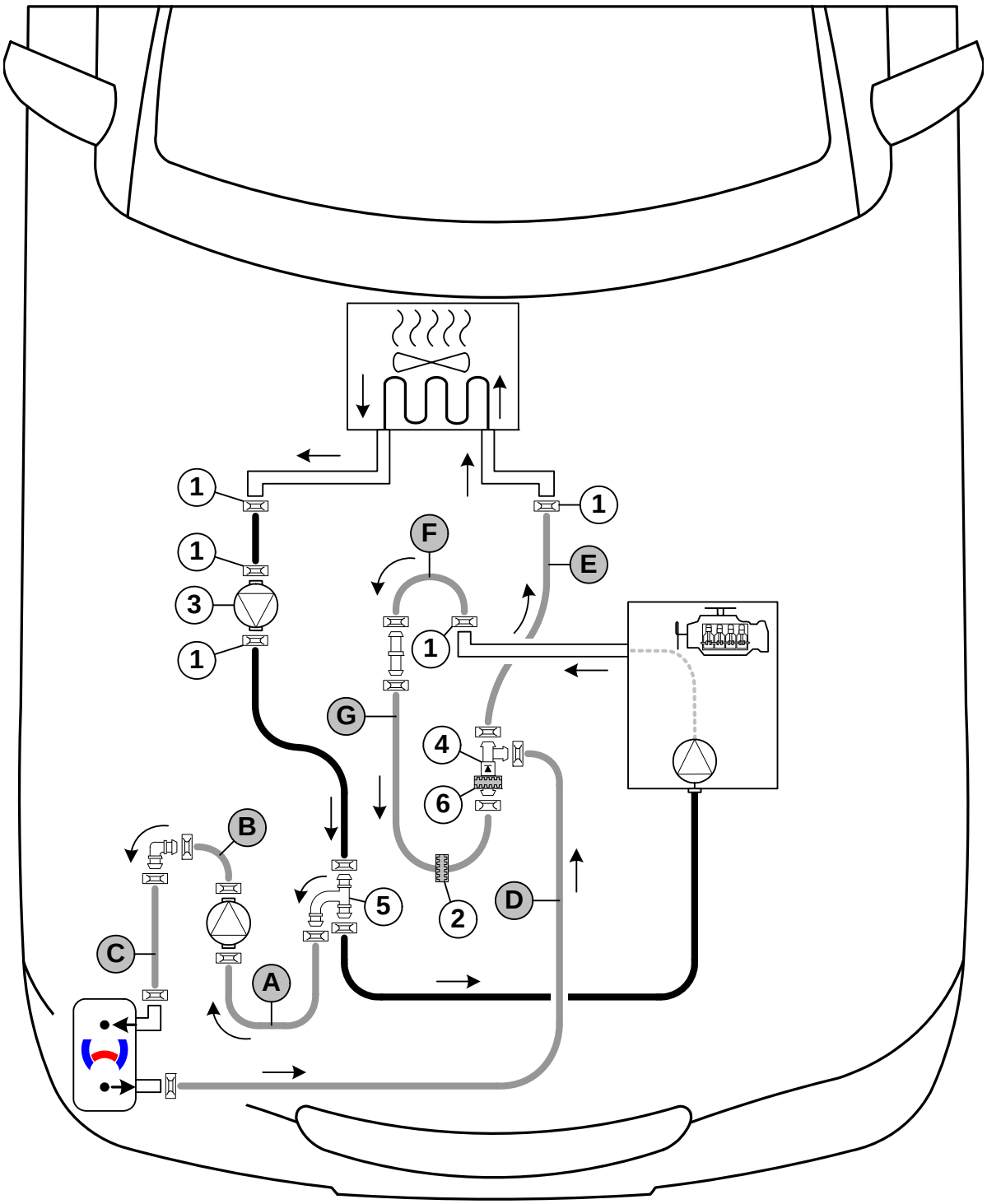
1 Hose section, 10 mm dia. clamp [2x]
2 Fuel line of fuel standpipe

Connecting metering pump

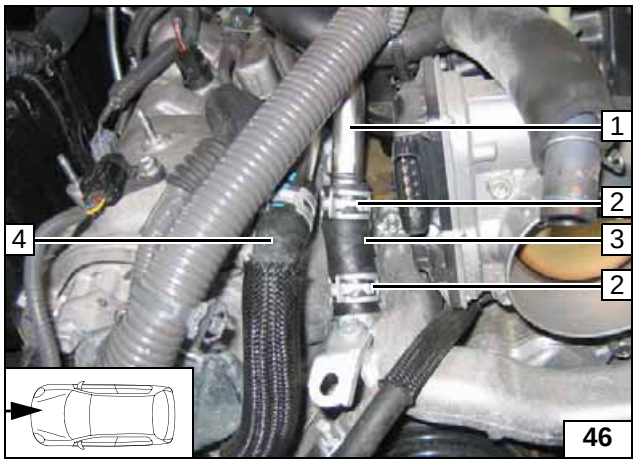
Coolant Circuit

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 based on the following diagram:

Hose routing diagram

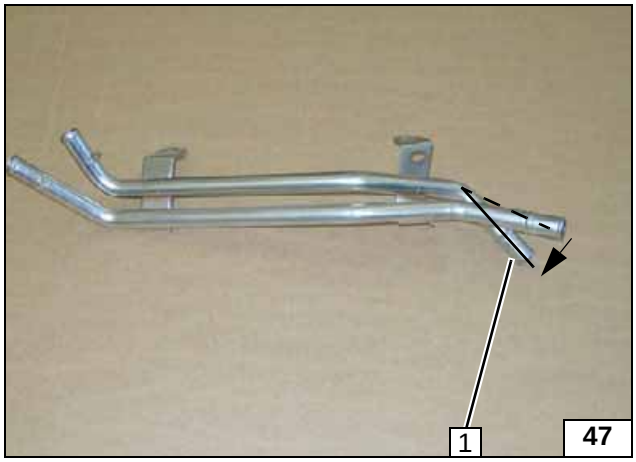


All spring clips = 25mm dia. **1** = Original vehicle spring clip . **3** = Original vehicle circulating pump **2** = Black (sw) rubber isolator with inner dia. d_i = 22mm. **6** = Black (sw) rubber isolator with inner dia. d_i = 25.5mm. All connecting pipes and = 18x18mm dia. **4** = Check valve . **5** = 90° T-piece !



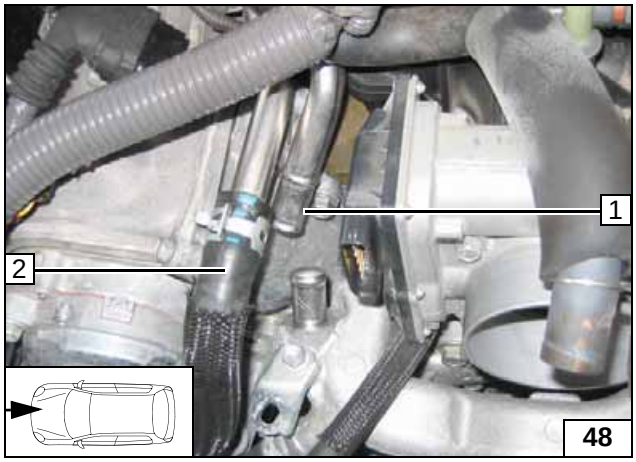
1 Remove pipe group
2 Original vehicle spring clips [2x] will be reused
3 Remove hose section of heat exchanger inlet and discard
4 Detach hose of heat exchanger outlet, will be re-mounted later

Cutting point



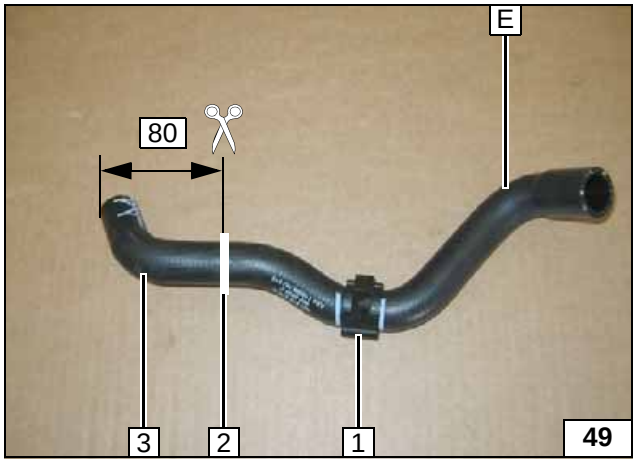
Align pipe end **1** by 15mm in the direction of the arrow, see following Figure.
Prevent breaking of pipe.

Aligning pipe group



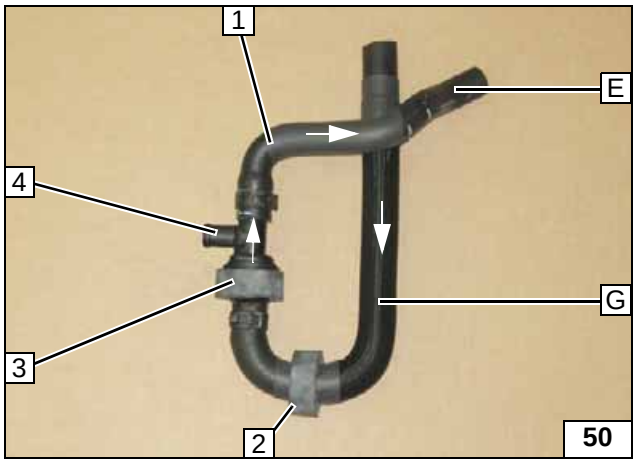
1 Pipe group installed
2 Hose of heat exchanger outlet mounted

Installing pipe group



1 Discard clip
2 Cutting point
3 Discard section

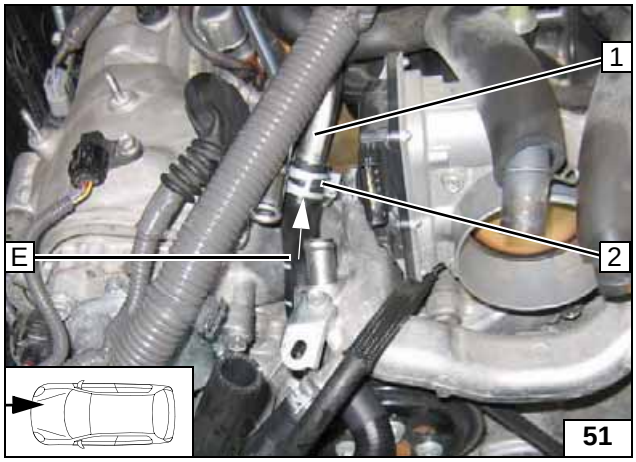
Cutting hose E to length



Pay attention to the direction of flow of check valve **4**. Slide 100mm heat shrink plastic tubing **1** onto hose **E** and shrink.

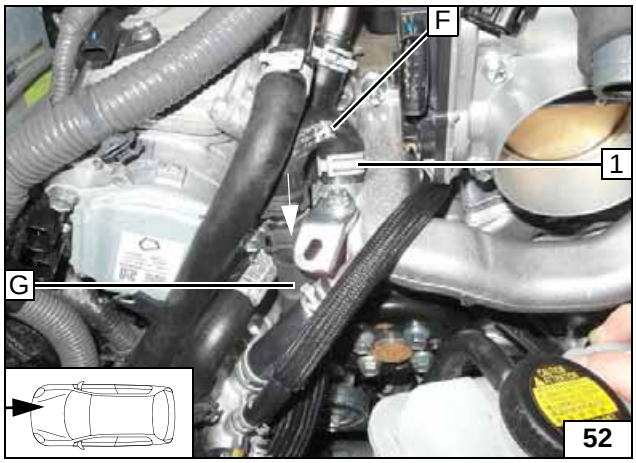
2 Push on and position black (sw) rubber isolator with inner dia. d_i = 22mm.
3 Push on and position black (sw) rubber isolator with inner dia. d_i = 25.5mm.

Premounting check valve



1 Pipe of heat exchanger inlet
2 Original vehicle spring clip

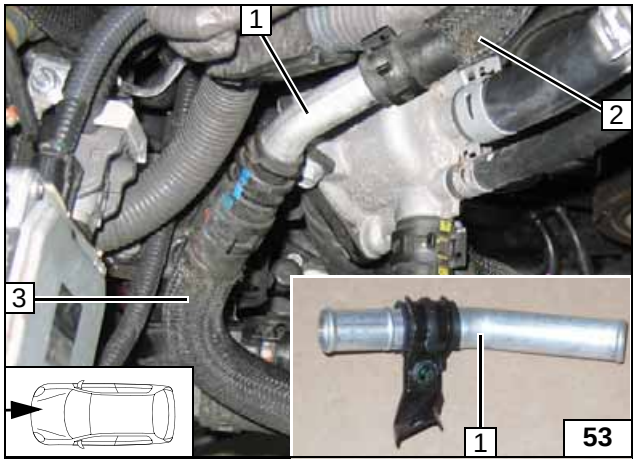
Connection of heat exchanger inlet



Install hose **F** with shortened side on connection piece of engine outlet.

1 Original vehicle spring clip

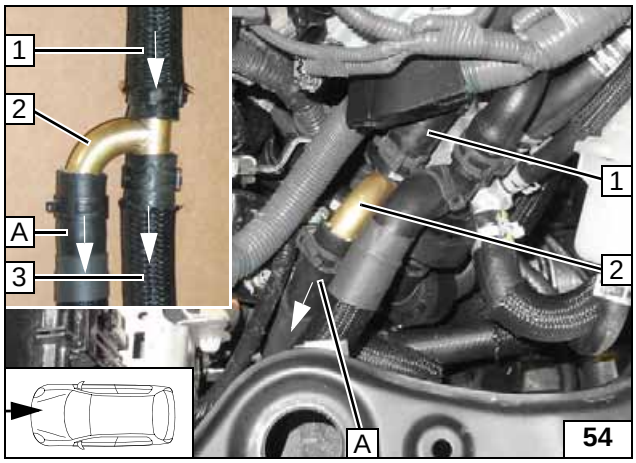
Connecting engine outlet



Remove and discard connecting pipe **1** with bracket (will be replaced by T-piece).

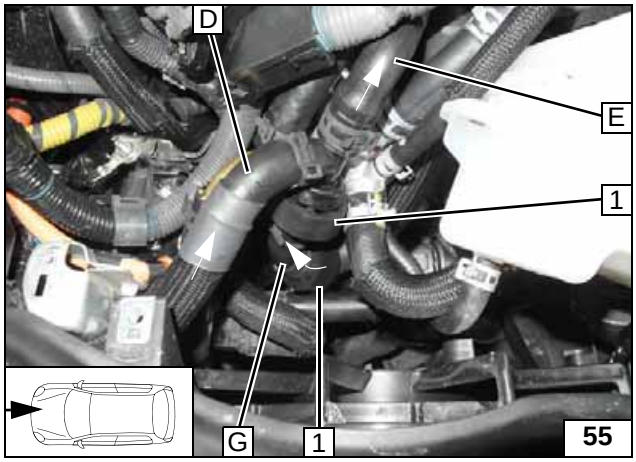
2 Hose of heat exchanger outlet
3 Engine inlet hose

Removing connecting pipe



Install T-piece **2** between hose of engine inlet **3** and hose of heat exchanger outlet **1**. Mount hose **A** on T-piece **2**.

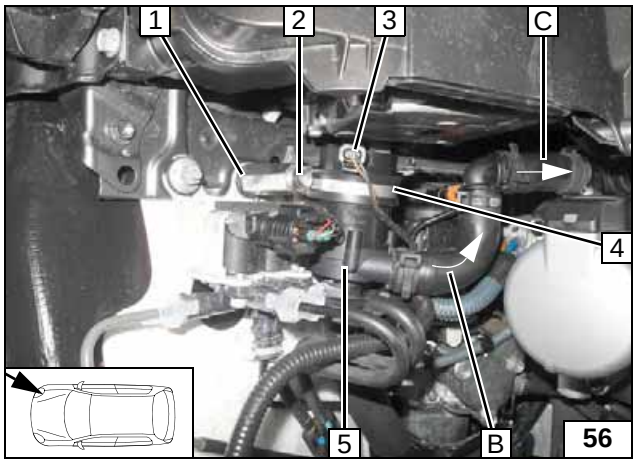
Installing T-piece



Install hose **D** on check valve.

1 Align black (sw) rubber isolator [2x]

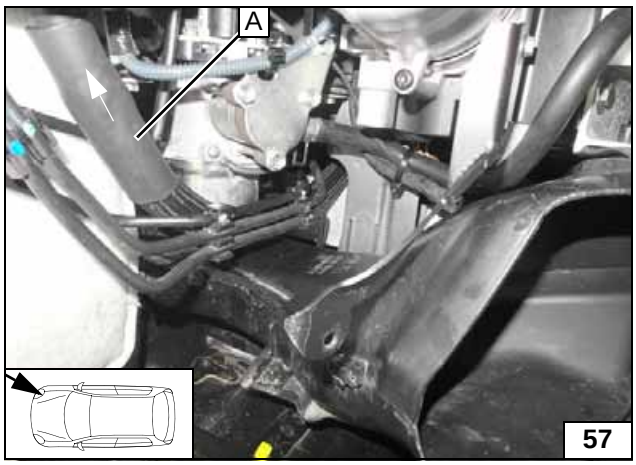
Aligning check valve



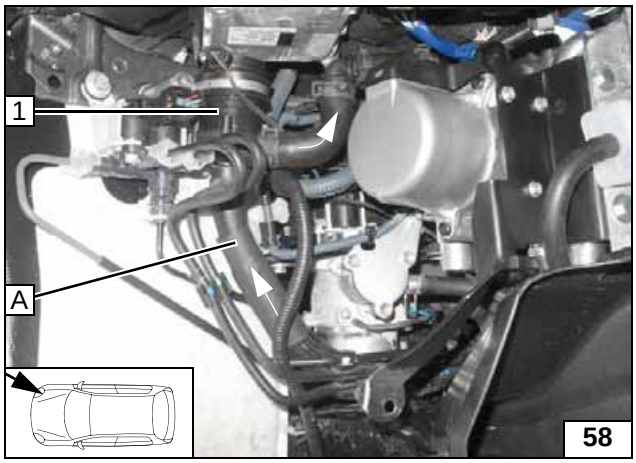
Remove original vehicle nut at position **1**. Mount hose **B** on circulating pump **5**.

1 M6x40 spacer nut, original vehicle stud bolt
2 M6x20 bolt, spring lockwasher
3 Wiring harness of circulating pump attached
4 48mm dia. rubber-coated p-clamp

Installing circulating pump

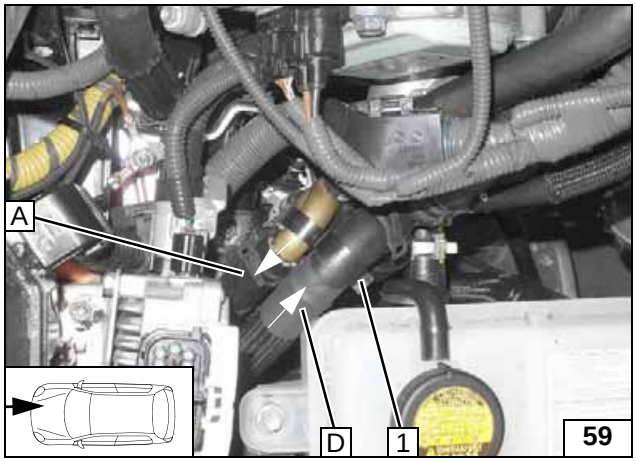


Routing hose A



1 Circulating pump

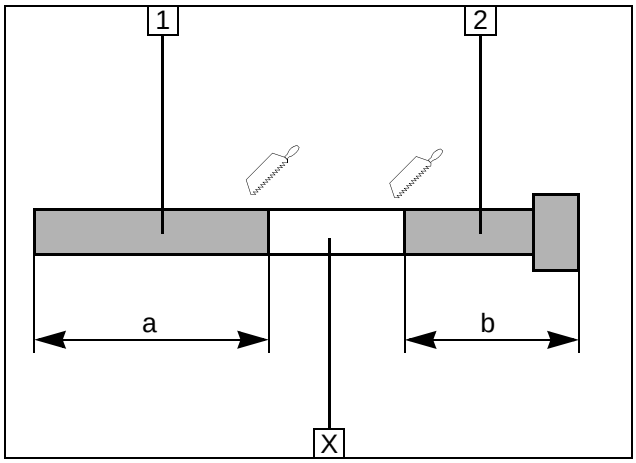
Connecting circulating pump



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

1 Hose bracket

Installing hose bracket

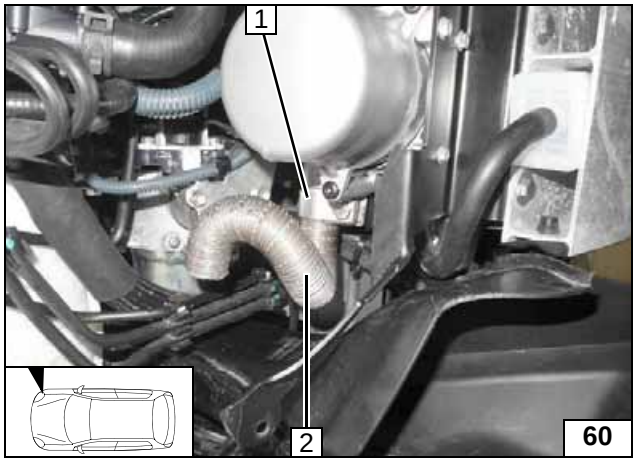


Exhaust

Discard section **X**.

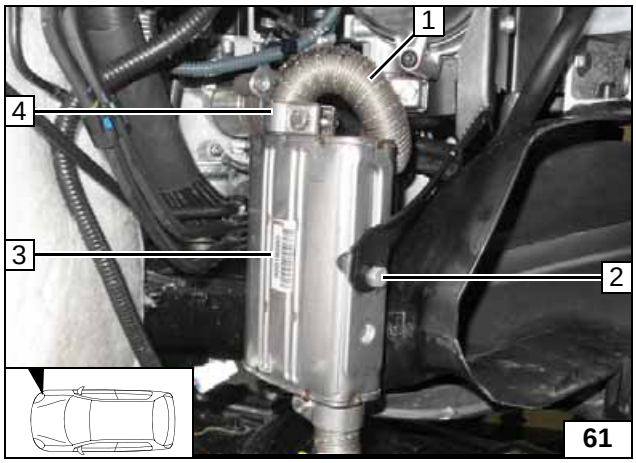
1 Exhaust pipe
a = 220
2 Exhaust end section
b = 50

Preparing exhaust pipe



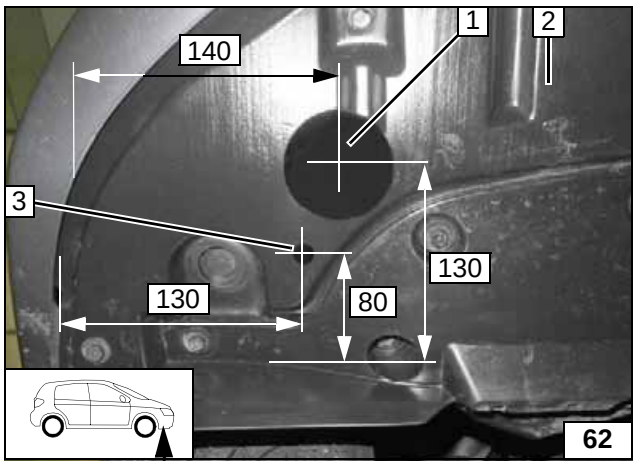
1 Hose clamp
2 Exhaust pipe

Installing exhaust pipe



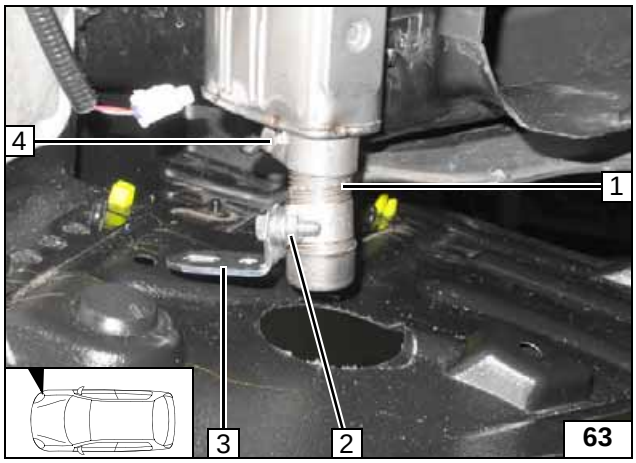
1 Exhaust pipe
2 M6x16 bolt, spring lockwasher
3 Exhaust silencer
4 Hose clamp

Installing silencer



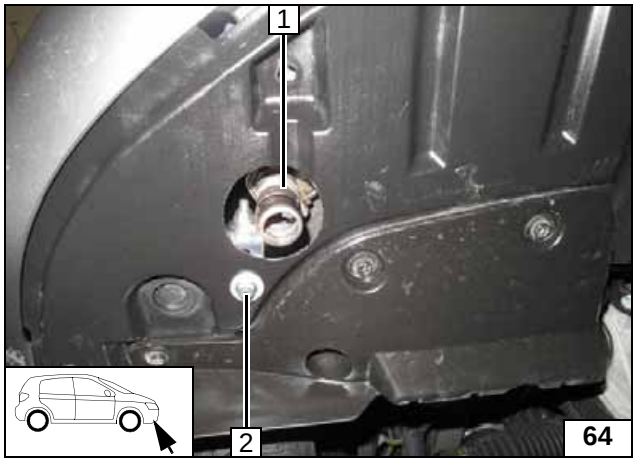
1 60mm dia. hole
2 Wheel well trim
3 7 mm dia. hole

Holes in wheel well trim



1 Exhaust end section
2 M6x20 bolt, pipe clamp, flanged nut
3 Angle bracket
4 Hose clamp

Installing exhaust pipe and end section



Ensure sufficient distance to adjacent components; correct if necessary.

1 Position exhaust end section at the centre of the hole
2 M6x20 bolt, large diameter washer [2x], flanged nut

Aligning exhaust end section

CAUTION!
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 function (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 sticker "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 test menu, 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.

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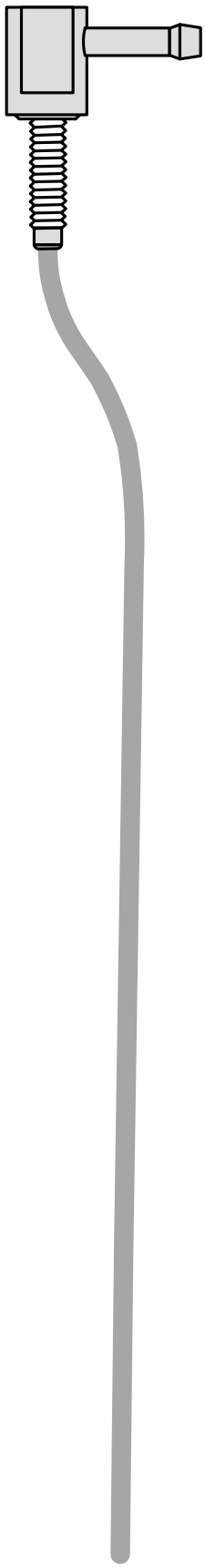
Template for Fuel Standpipe



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

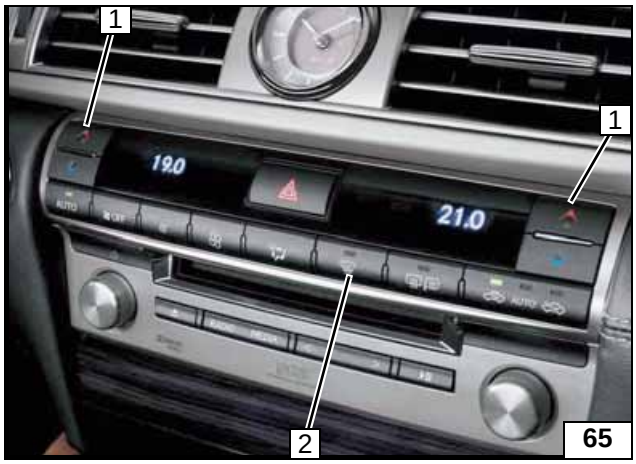
Operating Instructions for End Customer

Please remove page in case of automatic air-conditioning and add it 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.

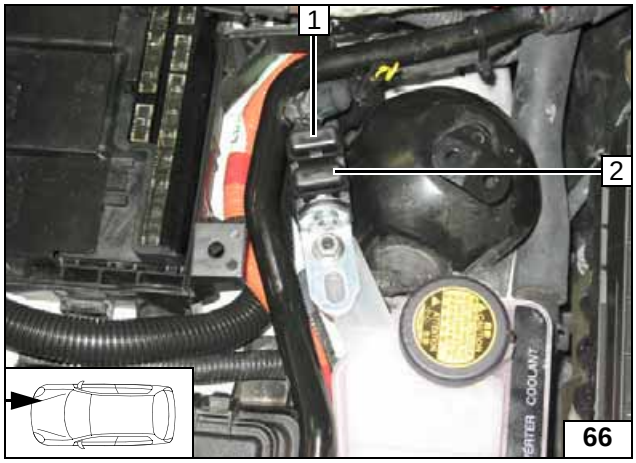
Passenger compartment monitoring, if installed, must be deactivated in addition to vehicle settings for the heating operation.
Instructions on deactivation can be taken from the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



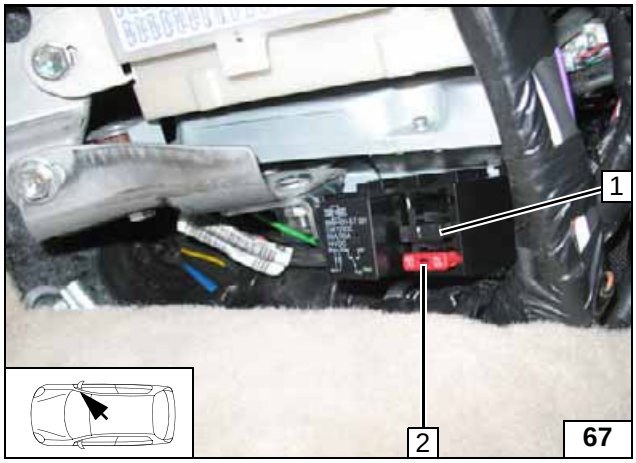
1 Set temperature to "HI" [2x] on both sides
2 Air outlet to windscreen

A/C control panel



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

Fuses of engine compartment



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

Fuses of passenger compartment