Water Heater

Webasto
Feel the Drive

***Thermo Top Evo* Parking Heater**

E1
00 0258

Installation Documentation
Kia Sportage

Validity

Manufacturer	Model	Type	EG BE No. / ABE
Kia	Sportage	SLE	e11 * 2007 / 46 * 0136 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.7 CRDI	Diesel	SG	85	1685	D4FDE
2.0 CRDI	Diesel	SG	100	1995	D4HAE
2.0 CRDI	Diesel	AG	135	1995	D4HAE

SG = manual transmission
AG = automatic transmission

From model year 2014
Left-hand drive vehicle

Verified equipment variants: Automatic air-conditioning
Front fog lights
Xenon / Headlight washer system
Start / Stop
4 WD

Not verified: Manual air-conditioning
Passenger compartment monitoring

Total installation time: approx. 7.5 hours

Kia Sportage

Table of Contents

Necessary Components

- Basic delivery scope of *Thermo Top Evo* in accordance with price list
- Installation kit for Kia Sportage 2014 Diesel: **1323064A**
- must also be ordered for automatic air-conditioning:
  Automatic air-conditioning kit for Kia Sportage 2014: **1323066A**
- 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

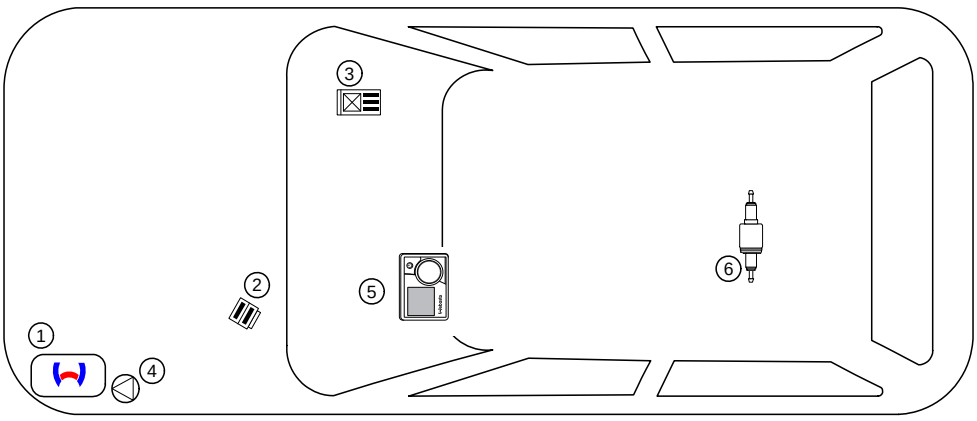
Installation instructions:

- Arrange for the vehicle to be delivered with the tank only about ¼ full.
- The installation location of the push button in case of Telestart or Thermo Call should be confirmed with the end customer.
- Depending on the space required and the vehicle manufacturer's instructions, we recommend the use of a vehicle battery with a higher electrical capacity.

Installation Overview

Legend:

1. Heater
2. Engine compartment fuse holder
3. Passenger compartment relay and fuse holder
4. Circulating pump
5. MultiControl CAR
6. Metering pump



Information on Total Installation Time

The total installation time includes the time needed for mounting and demounting 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 have to audibly click into place during installation.

Sharp edges should be fitted with rub protection. Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K).

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 a programmable control module (e.g. a PWM Gateway), the corresponding settings must be checked or adjusted.

2 Statutory regulations governing installation

Guidelines	Thermo Top Evo
Heating Directive ECE R122	E1 00 0258
EMC Directive ECE R10	E1 04 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

The heater is licensed in accordance with paragraph 19, section 3, No. 2b of the StVZO (German Road Traffic Licensing Authority).

2.1 Excerpt from ECE regulation 122 (heating system) paragraph 5 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.

Kia Sportage

Information on Validity

This installation documentation applies to Kia Sportage Diesel vehicles - for validity, see page 1 - from model year 2014 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 Information

Special Tools
- Hose clamp pliers for auto-tightening 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
- Deep-hole marker
- Webasto Thermo Test Diagnosis with current software

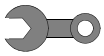
Dimensions
- All dimensions are in mm.

Tightening torque values
- Tightening torque values of 5x13 heater bolts = 8Nm.
- Tightening torque value of 5x15 water connection piece retaining plate bolt = 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

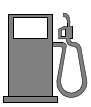


Electrical System

Coolant Circuit

Combustion Air

Fuel



Exhaust Gas

Software

Special features are highlighted using the following symbols:

Specific risk of injury or fatal accidents.

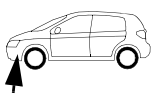
Specific risk of damage to components.

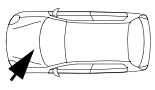
Specific risk of fire and explosion.

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.





Tightening torque according to the manufacturer's vehicle-specific documents.

Kia Sportage

Preliminary Work

Vehicle

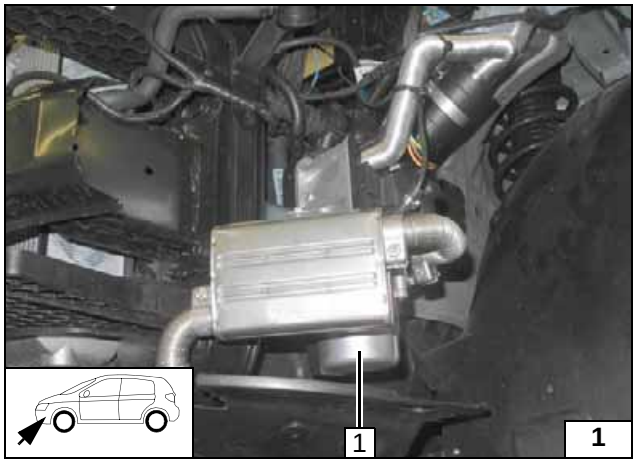
- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect and completely remove the battery together with the carrier.
- Remove the air filter together with the intake hoses.
- Detach the engine control unit and put it aside.
- Remove the underride protection.
- Remove the underbody trim on the left before the fuel tank.
- Detach the wheel well trim in the front area.
- Remove the bumper.
- Remove the entrance strip on the front passenger's side.
- Remove the lower A-pillar trim in the front passenger's side footwell.
- Remove the A/C control panel (see installation instructions).

The following work should only be performed during the corresponding installation sequence:

- Remove the seating surface of the rear bench seat (a screw fitting is accessible from the boot).
- Open the tank-fitting service lid.
- Remove the fuel tank sending unit in accordance with the manufacturer's instructions.

Heater

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



Heater Installation Location

1 Heater

Installation location

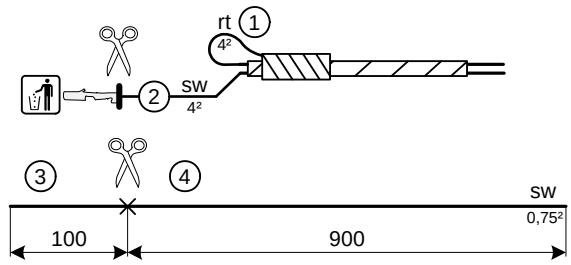
Preparing Electrical System

Wire sections retain their numbering in the entire document.

Produce all following electrical connections as shown in the wiring diagram.

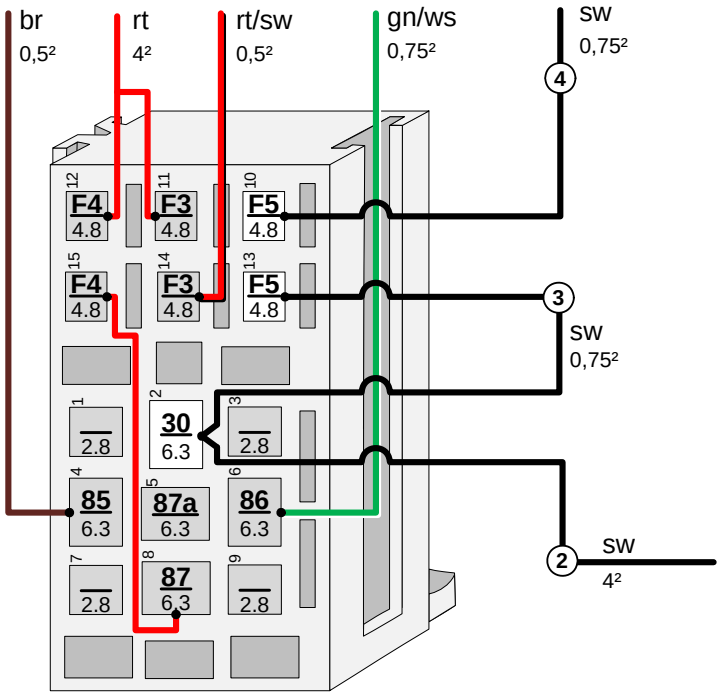
① Insulate red (rt) wire of fan wiring harness and tie back.
② Black (sw) wire of K1/30, fan wiring harness

Preparing wires



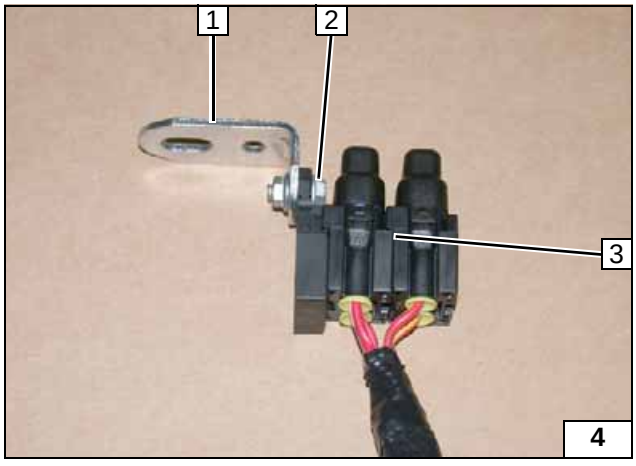
2

Preparing passenger compartment relay and fuse holder



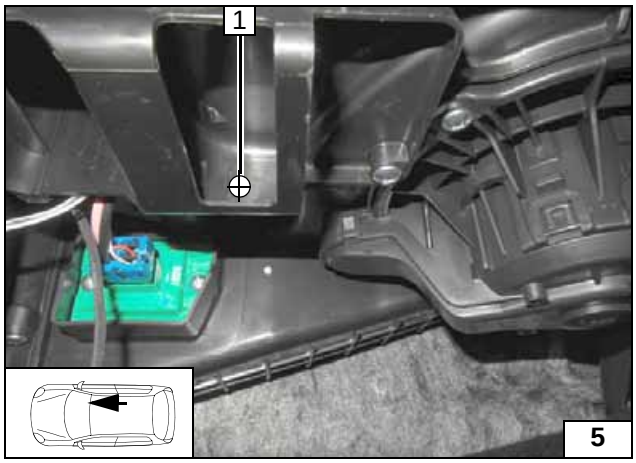
3

Preparing engine compartment fuse holder



4

1 Angle bracket
2 M5x16 bolt, washer [2x], retaining plate of fuse holder, nut
3 Fuses F1-2 mounted



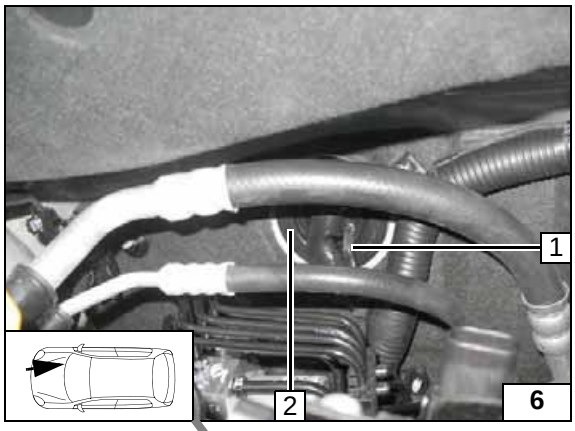
1 6mm dia. hole

Hole for passenger compart-ment relay and fuse holder

Electrical System

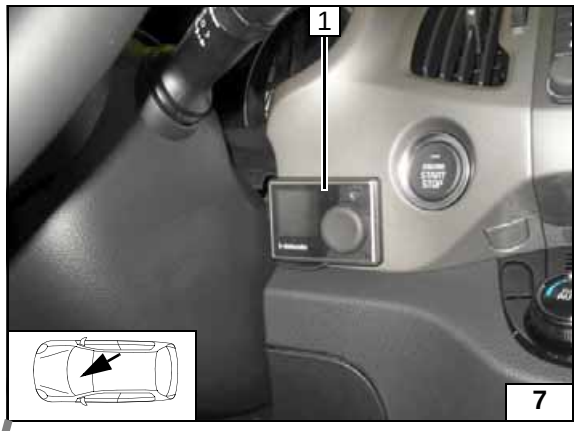
Wiring harness pass through

1 Wiring harnesses of heater and heater control
2 Protective rubber plug

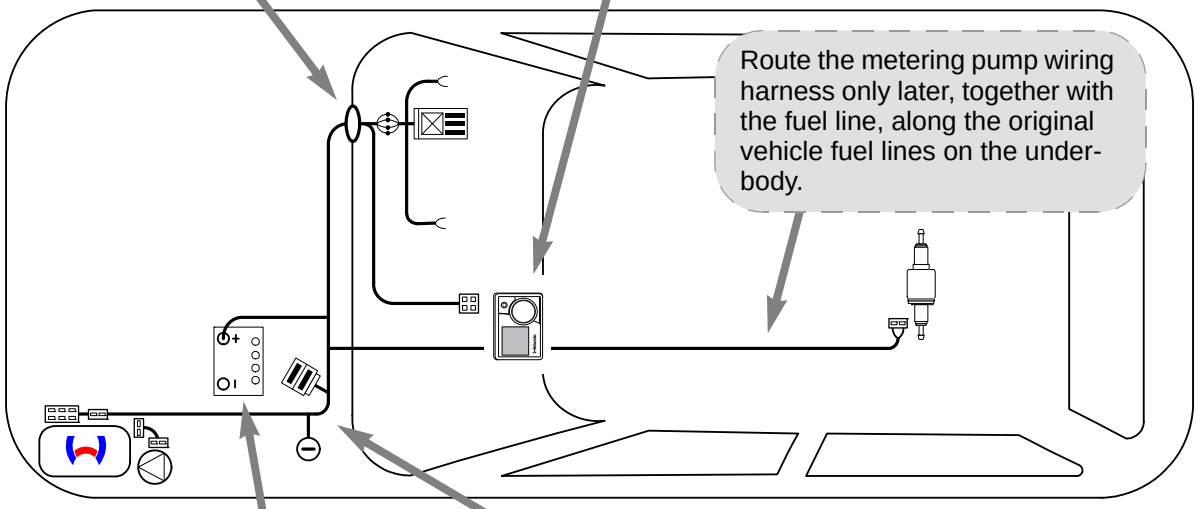


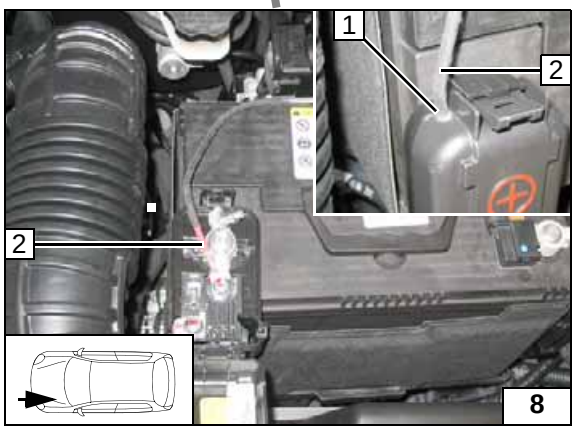
MultiControl

1 MultiControl CAR



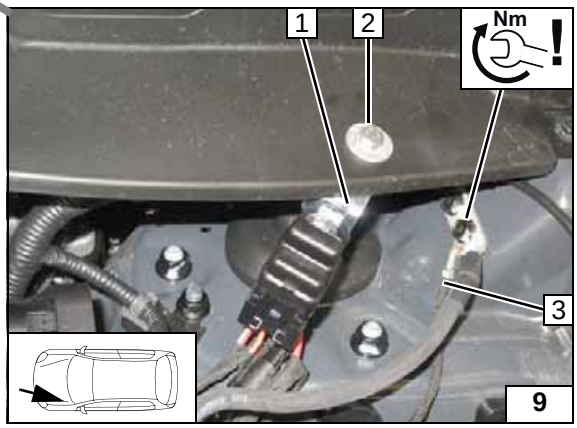
Wiring harness routing diagram





Positive wire

1 Nick positive wire cover
2 Positive wire on positive battery terminal

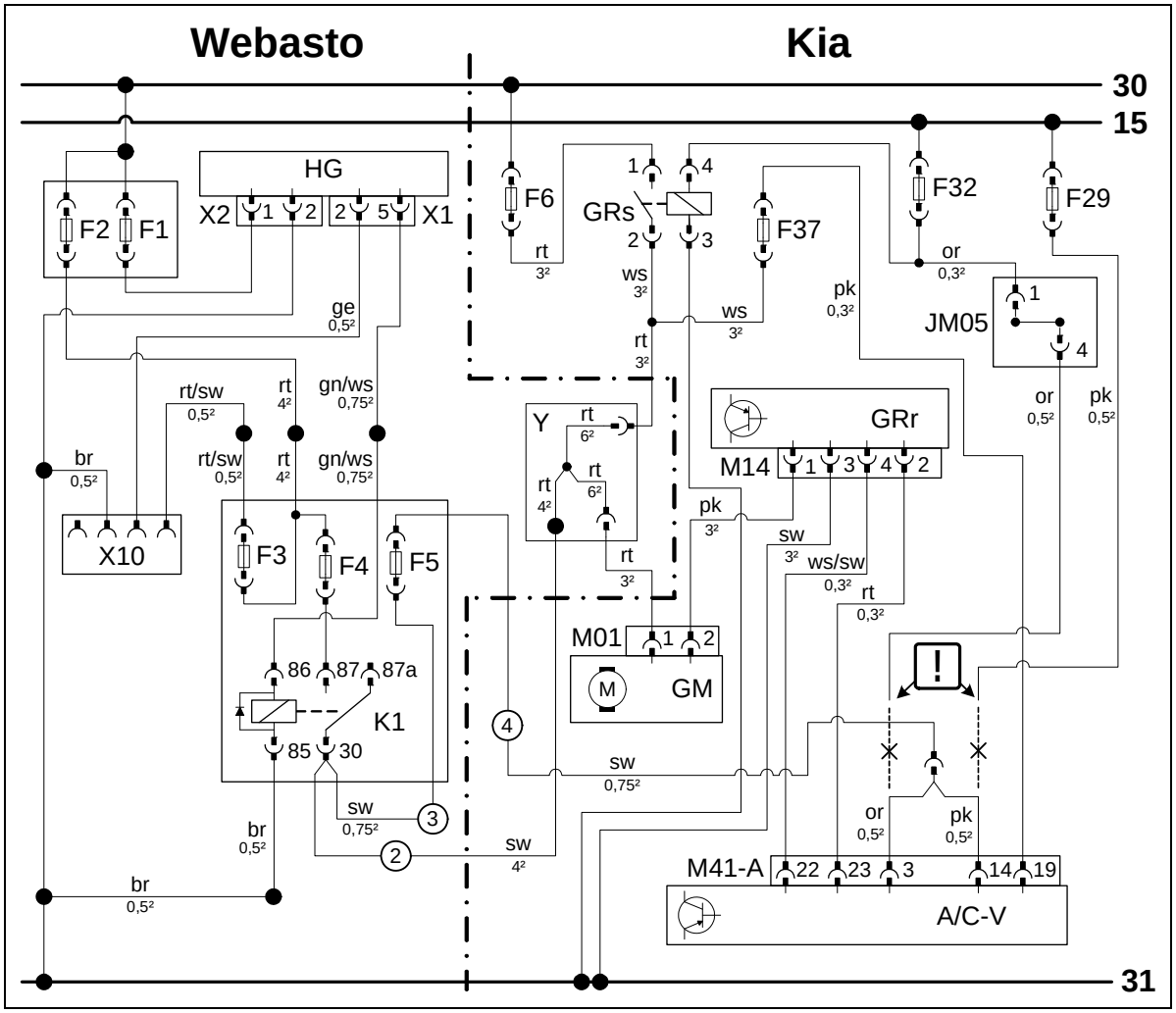


Engine compartment fuse holder, earth wire

1 Angle bracket
2 Remove clip, M6x20 bolt, large diameter washer, flanged nut
3 Earth wire on original vehicle earth point

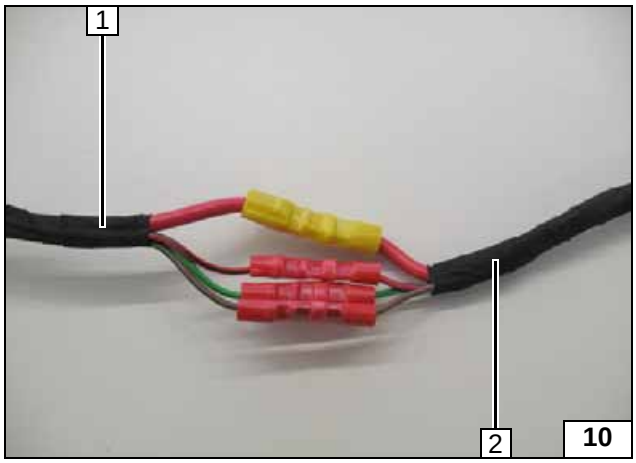
Fan Controller

Wiring diagram



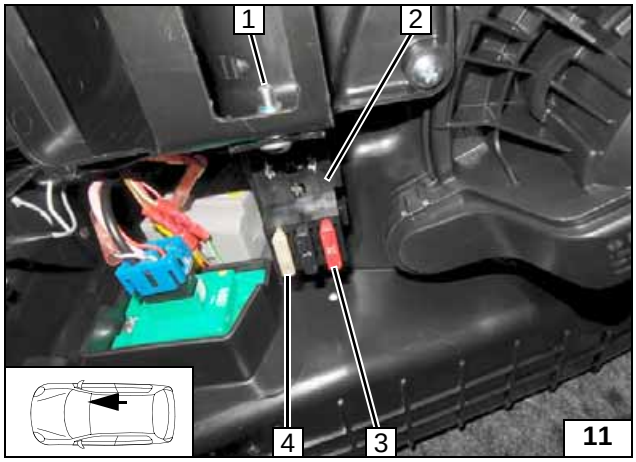
Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	F6	40A fuse	rt	red
X1	6-pin heater connector	GRs	Fan relay	sw	black
X2	2-pin heater connector	F37	7.5A fuse	br	brown
F1	20A fuse	F32	10A fuse	gn	green
F2	30A fuse	F29	10A fuse	ws	white
Y	Adapter	JM05	Connector	ge	yellow
X10	4-pin connector of heater control	GRr	Fan controller	pk	pink
		M14	4-pin connector of GRr	or	orange
F3	1A fuse	GM	Fan motor		
F4	25A fuse	M01	2-pin connector of GM	!	Insulate wire ends and tie back
F5	10A fuse	A/C-V	A/C booster		
K1	Fan relay	M41-A	26-pin connector of A/C-V	X	Cutting point
				Wiring colours may vary.	

Legend



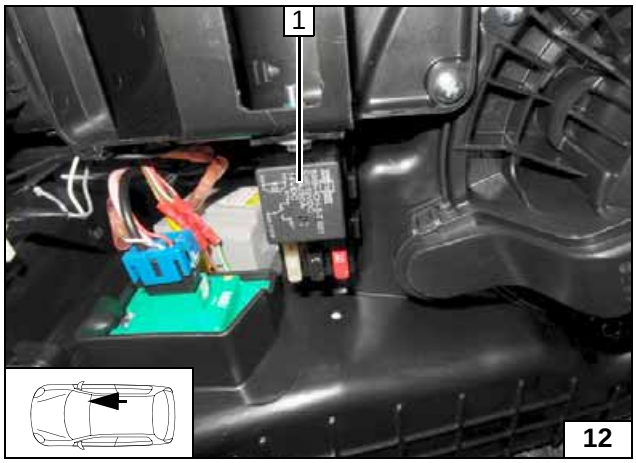
1 Passenger compartment relay and fuse holder wiring harness
2 Heater wiring harness

Connecting same colour wires of wiring harnesses



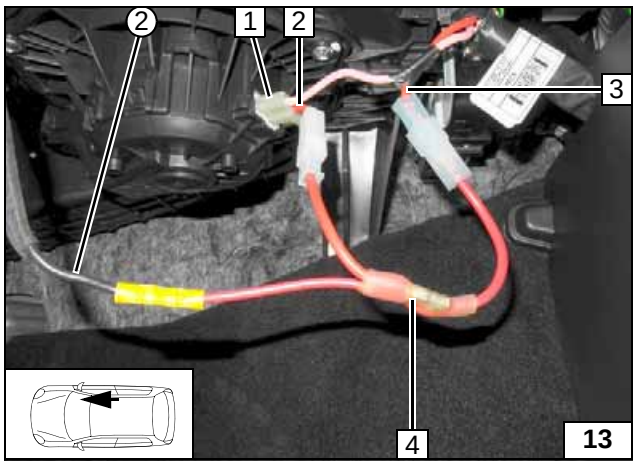
1 M5x16 bolt, large diameter washer [2x], nut
2 Passenger compartment relay and fuse holder
3 10A fuse F5
4 25A fuse F4

Installing passenger compartment relay and fuse holder



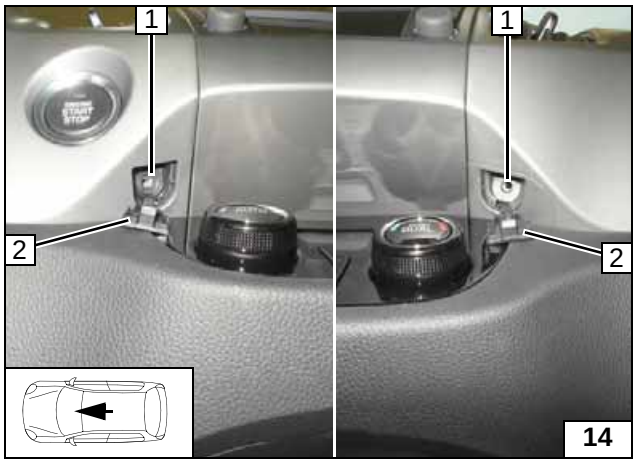
1 K1 relay

Connecting K1 relay



1 2-pin connector M01 of GM
2 Red (rt) wire from connector M01, pin 1
3 Red (rt) wire from fan relay
4 Y-Adapter
② Black (sw) wire of K1/30, fan wiring harness

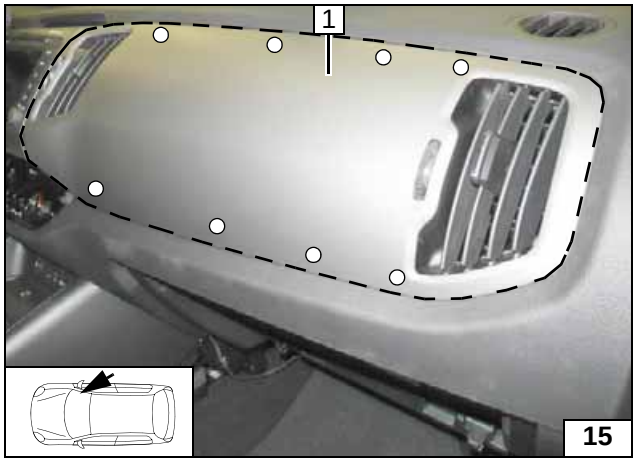
Connecting fan motor



Installation Instructions

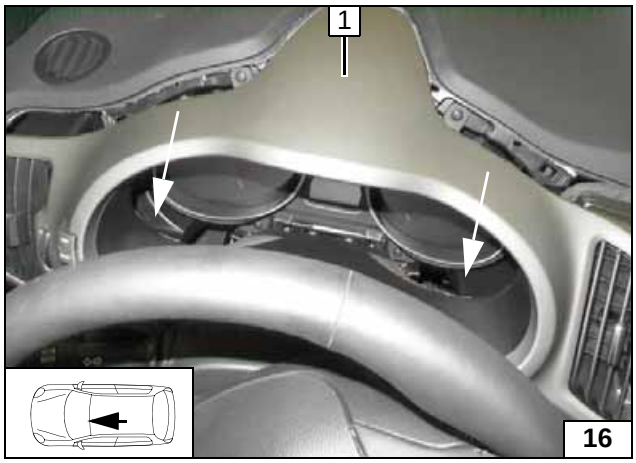
Remove cover **2** [2x] on both sides. Pre-cut thread at position **1** [2x]. Completely pull out steering wheel and then align downwards.

Detaching trim



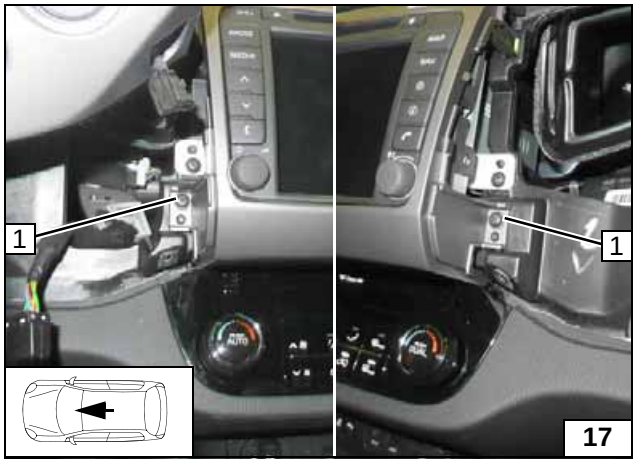
1 Front passenger's side trim
○ Fastening points (retaining clip) [8x]

Removing trim



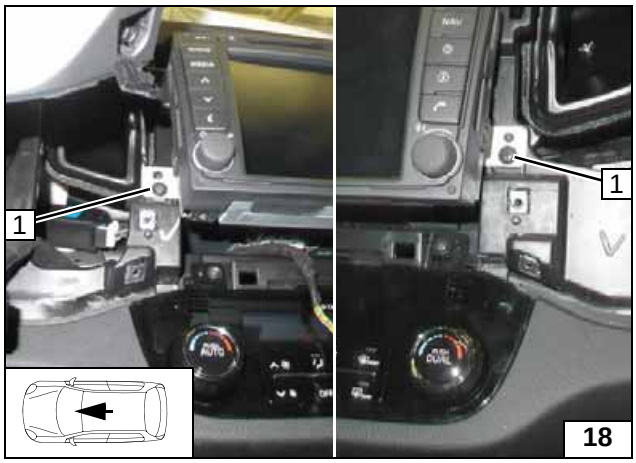
1 Cockpit trim

Removing trim



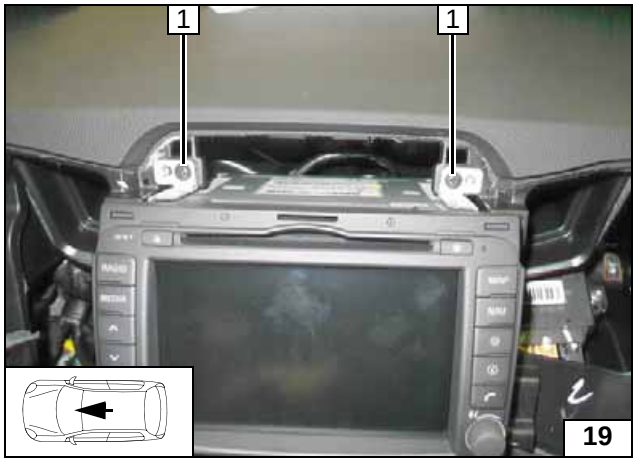
1 Remove bolt [2x] on both sides

Detaching and removing frame of navigation system



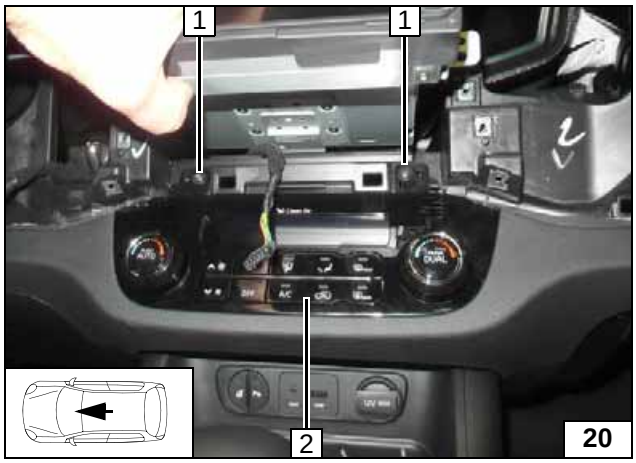
1 Remove bolt [2x] on both sides

Detaching navigation system



1 Remove bolt [2x]

Detaching navigation system

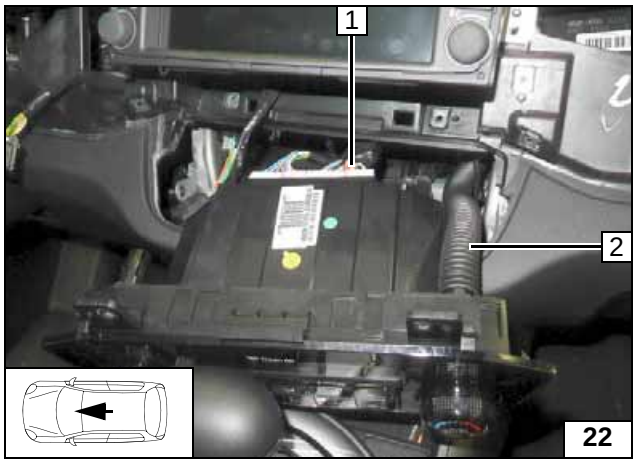


1 Remove bolt [2x]
2 A/C control unit

Detaching A/C control unit

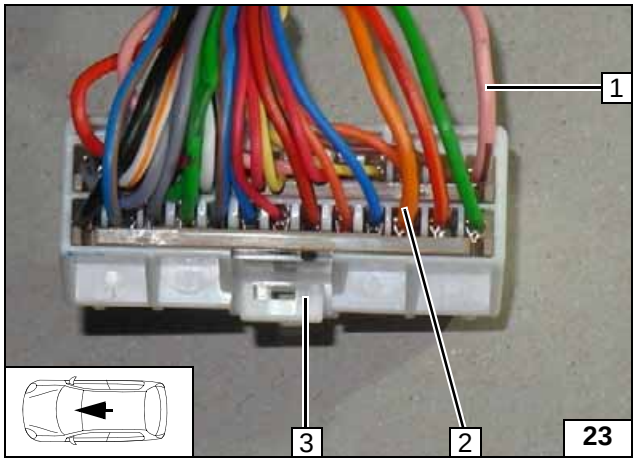
Remove A/C control unit **2** using plastic wedges **1** [2x].

Removing A/C control unit



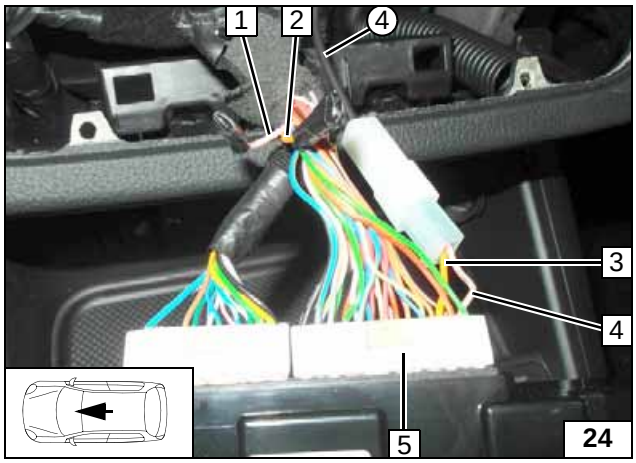
1 Connector M41-A
2 Pull off hose

Pulling out connector



1 Pink (pk) wire, pin 14
2 Orange (or) wire, pin 3
3 26-pin connector M41-A pulled out

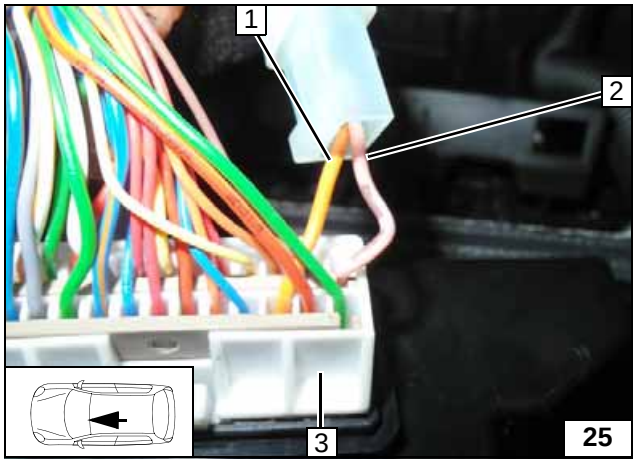
View of connector M41-A



Connection to 26-pin connector M41-A **5** of A/C booster. Insulate wires **1** and **2** and tie back.

1 Pink (pk) wire of fuse F29
2 Orange (or) wire of fuse F32
3 Orange (or) wire of 26-pin connector M41-A, pin 3
4 Pink (pk) wire of 26-pin connector M41-A, pin 14
④ Black (sw) wire of fuse F5

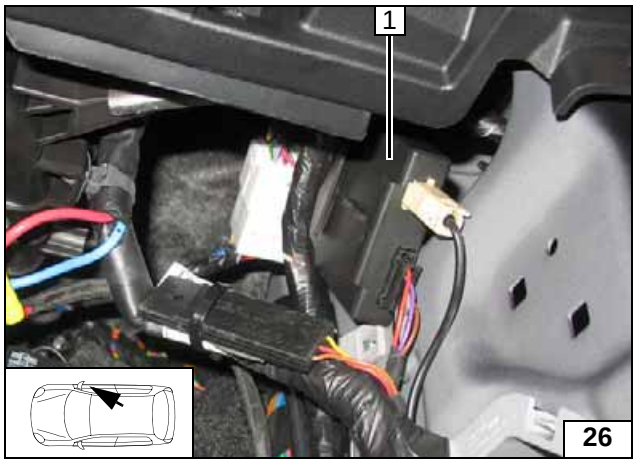
Connecting A/C booster



1 Orange (or) wire, pin 3
2 Pink (pk) wire, PIN 14
3 26-pin connector M41-A

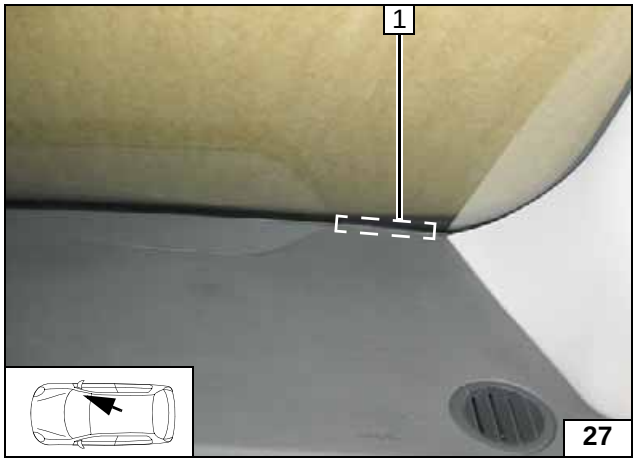
View of connector M41-A

Remote Option (Telestart)



1 Receiver installed with adhesive tape.

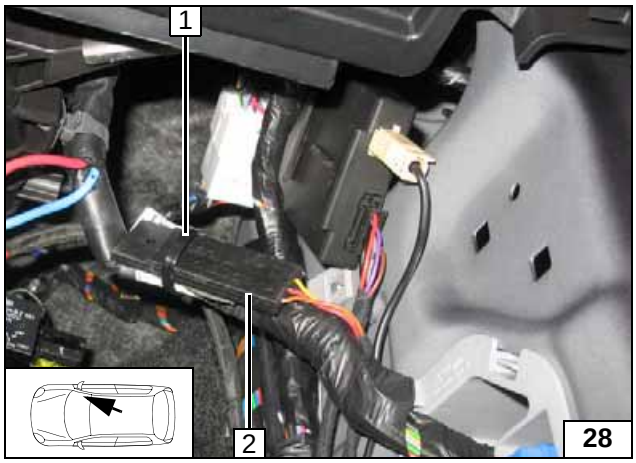
Installing receiver



1 Aerial

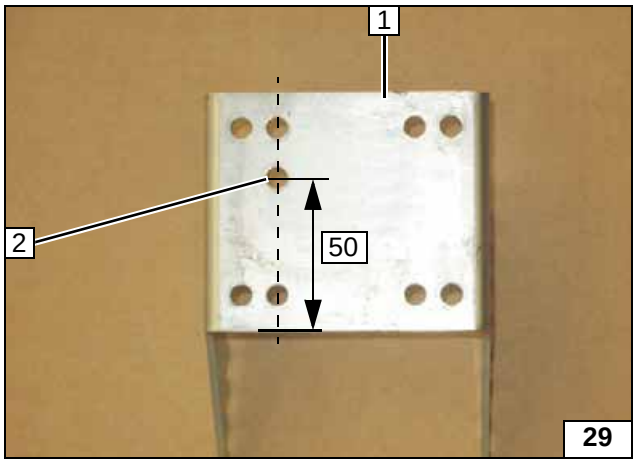
Installing aerial

Only for Telestart T100 HTM



1 Cable tie
2 Temperature sensor

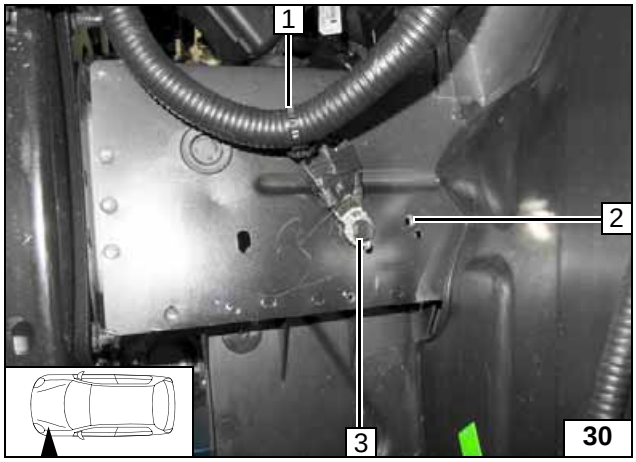
Installing temperature sensor



Preparing Bracket

1 Bracket
2 7mm dia. hole

Drilling bracket

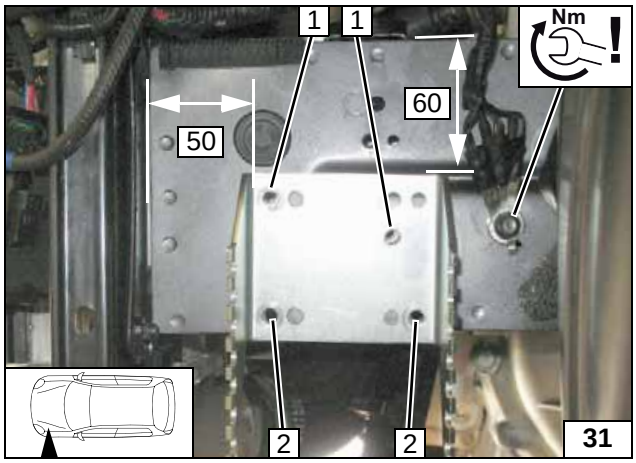


Preparing Installation Location

When original vehicle earth support point **3** is present, remove and install at **2**.

1 Loosen retaining clip

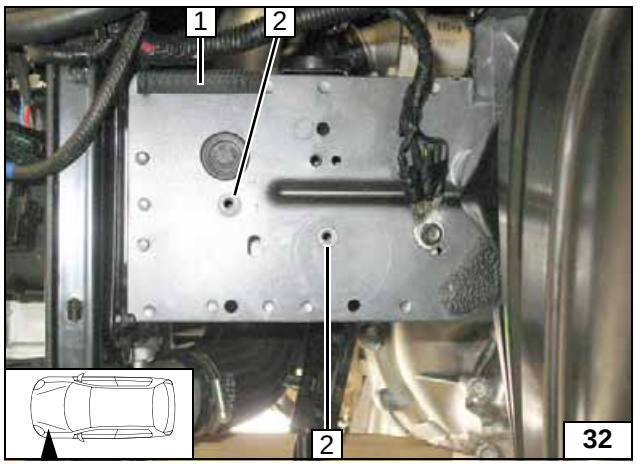
Moving earth support point



Align bracket as shown.

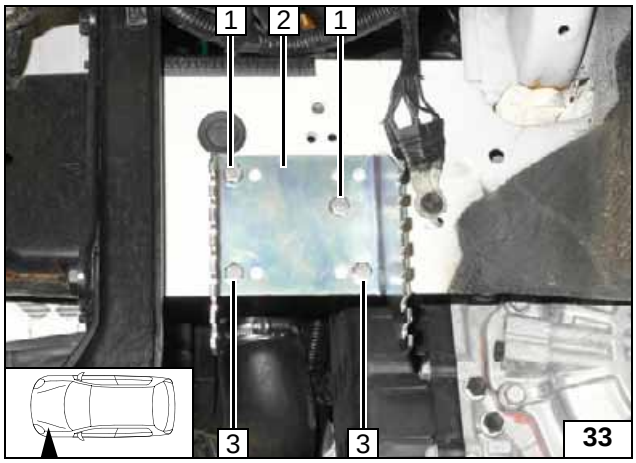
1 Copy hole pattern, 9.1 mm dia. hole [2x]
2 Copy hole pattern, 7 mm dia. hole [2x]

Copying hole pattern



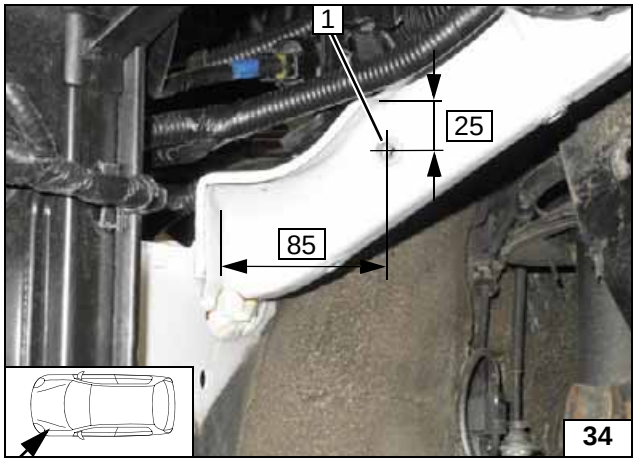
1 50mm long edge protection
2 Rivet nut [2x]

Installing rivet nut



1 M6x20 bolt, spring lockwasher [2x each]
2 Bracket
3 M6x20 bolt, flanged nut [2x]

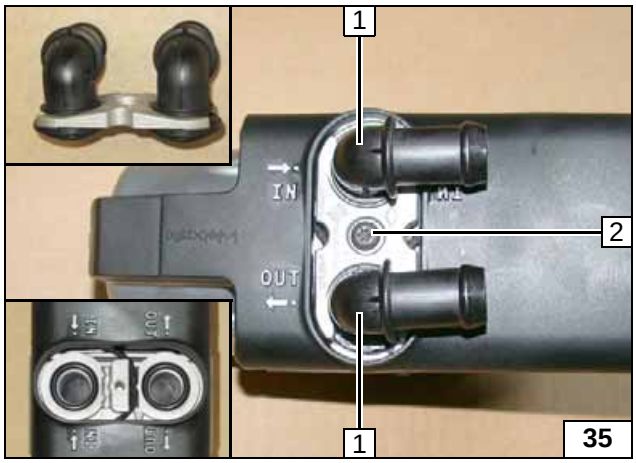
Installing bracket



1 9.1 mm dia. hole; rivet nut

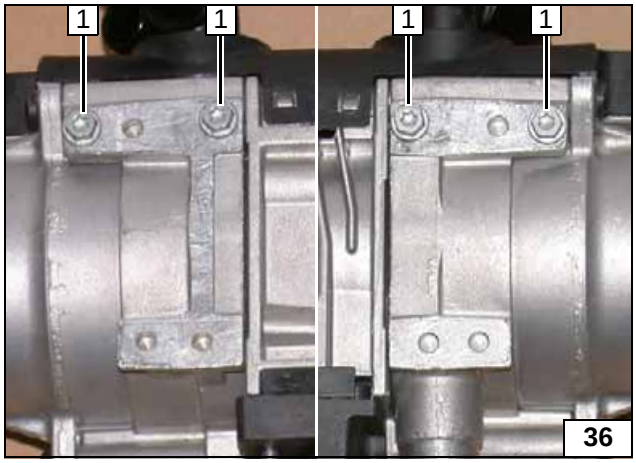
Installing rivet nut

Preparing Heater



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

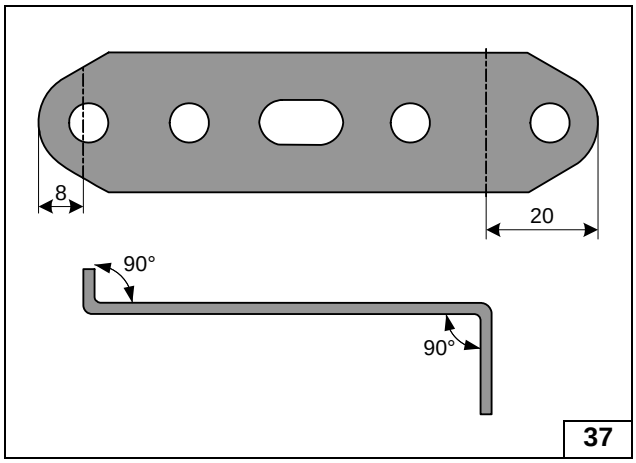
Installing water connection piece



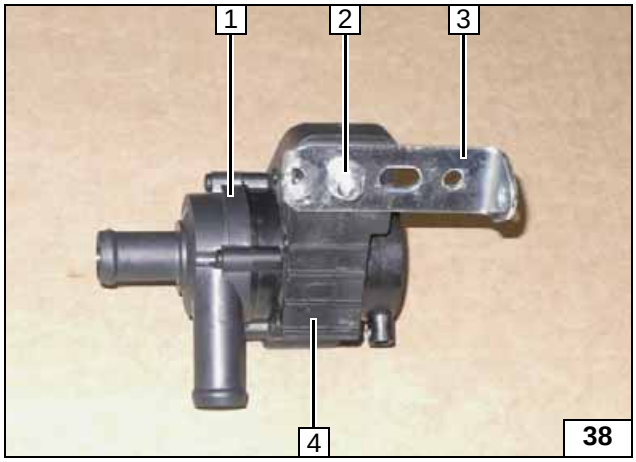
Screw 5x13 self-tapping bolts **1** [4x] into existing holes by a max. of 3 thread turns.

Premounting bolts loosely

Preparing perforated bracket

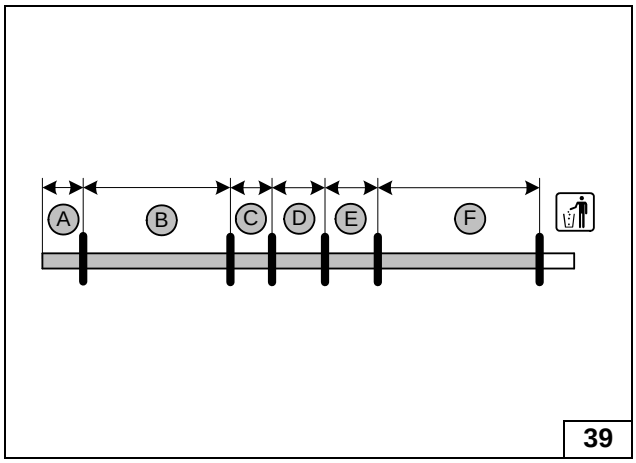


Premounting circulating pump



1 Circulating pump
2 M6x25 bolt, flanged nut
3 Perforated bracket
4 Circulating pump mount

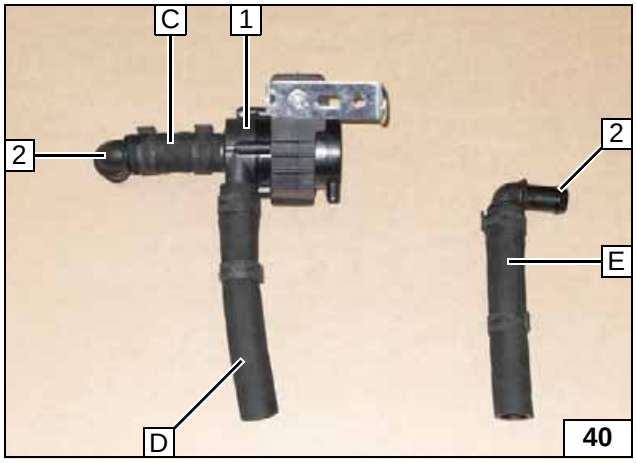
Cutting hoses to length



1.7 D

A = 60
B = 730
C = 60
D = 150
E = 160
F = 670

Premounting hoses

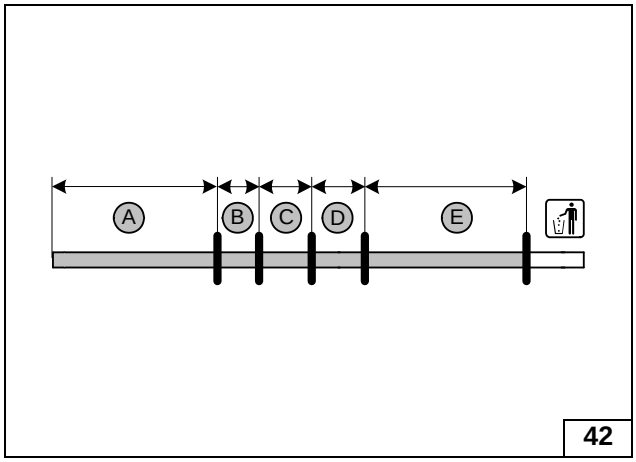


All spring clips = 25 mm dia.

1 Circulating pump
2 90°, 18x18mm connecting pipe [2x]

All spring clips = 25 mm dia.

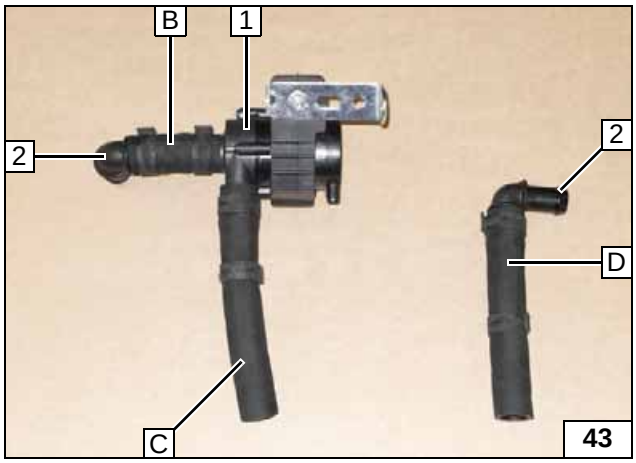
Installing hoses



2.0 D

A = 700
B = 60
C = 150
D = 160
E = 800

Cutting hoses to length



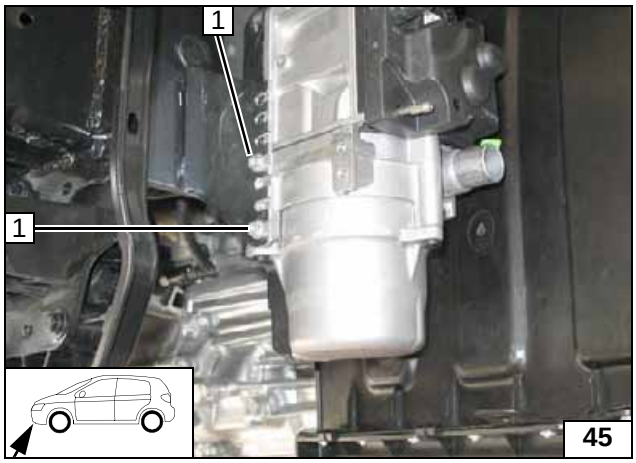
All spring clips = 25 mm dia.

1 Circulating pump
2 90°, 18x18mm connecting pipe [2x]

Premounting hoses

All spring clips = 25 mm dia.

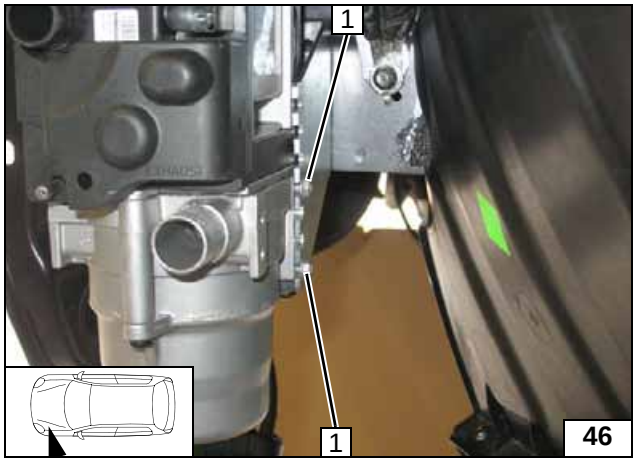
Installing hoses



Installing Heater

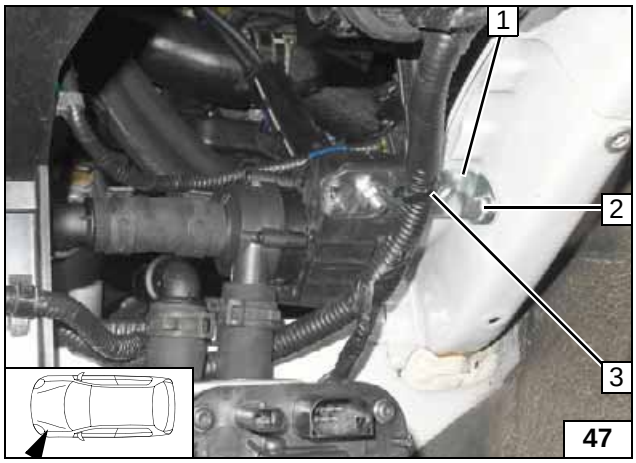
1 Tighten 5x13 self-tapping bolt [2x]

Installing heater



1 Tighten 5x13 self-tapping bolt [2x]

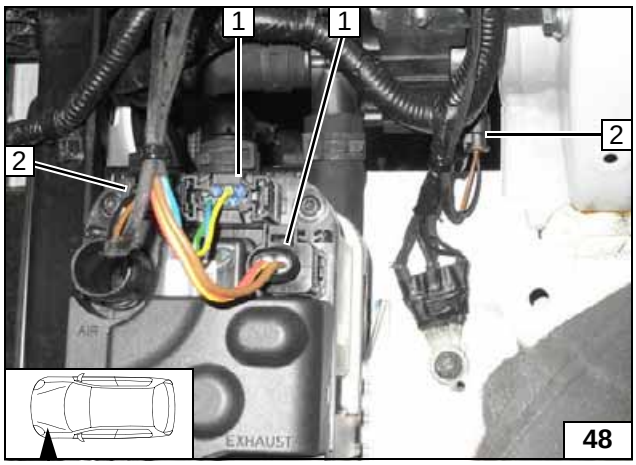
Installing heater



Fasten original vehicle wiring harness with cable tie **3**.

1 Perforated bracket
2 M6x20 bolt, spring lockwasher

Installing circulating pump



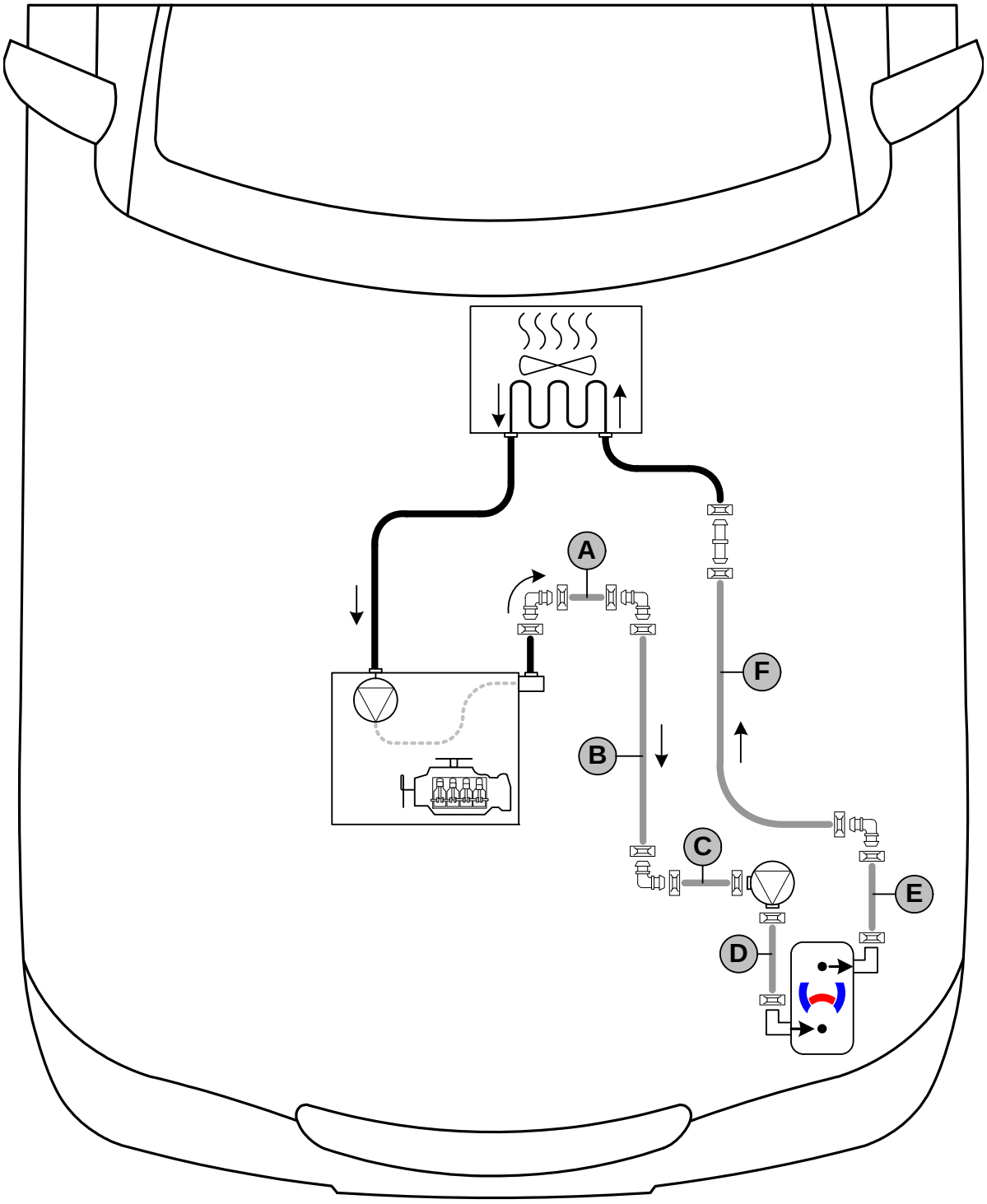
1 Wiring harness of heater [2x]
2 Wiring harness of circulating pump [2x]

Mounting wiring harnesses

Coolant Circuit 1.7 D

WARNING!
Any coolant running off should be collected in an appropriate container. Route hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses.
The connection should be modelled on an 'inline' circuit and based on the following diagram:

Hose routing diagram

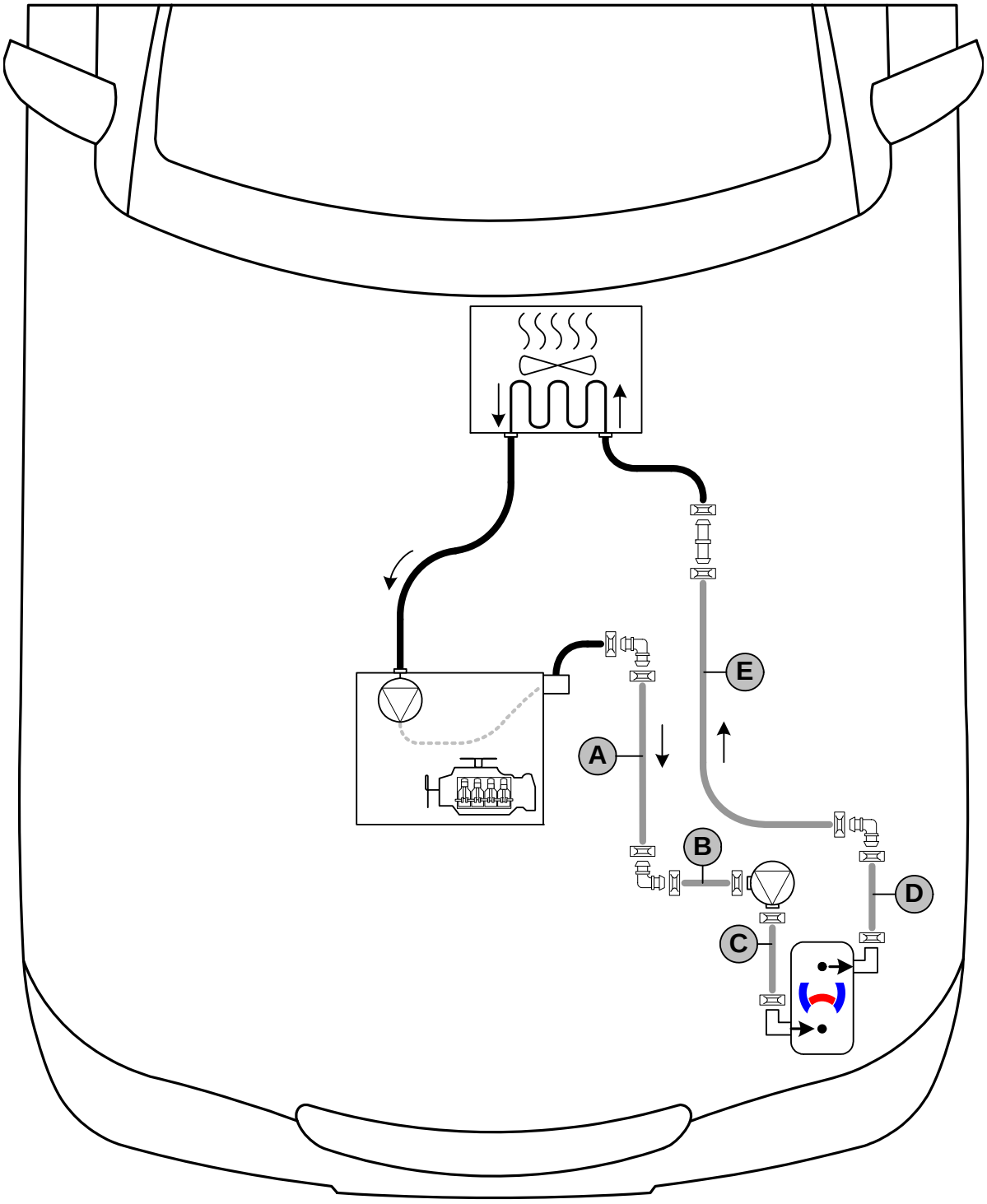


All spring clips without a specific designation = 25 mm dia.
All connecting pipes and = 18x18mm dia.

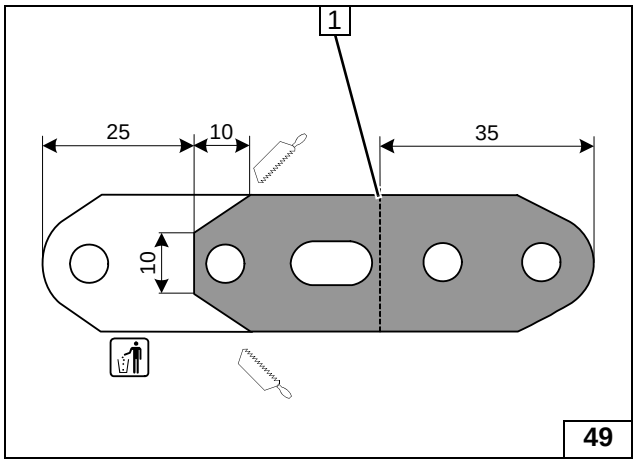
Coolant Circuit 2.0 D

WARNING!
Any coolant running off should be collected in an appropriate container. Route hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses.
The connection should be modelled on an 'inline' circuit and based on the following diagram:

Hose routing diagram



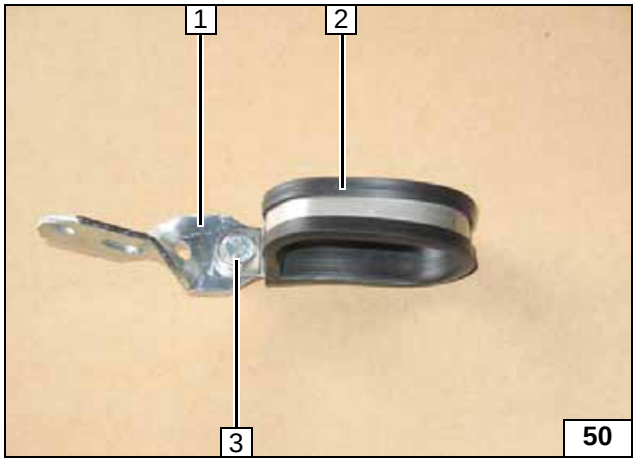
All spring clips without a specific designation = 25 mm dia.
All connecting pipes and = 18x18mm dia.



All vehicles

Twist perforated bracket at bending line **1** by 90° (see following figure).

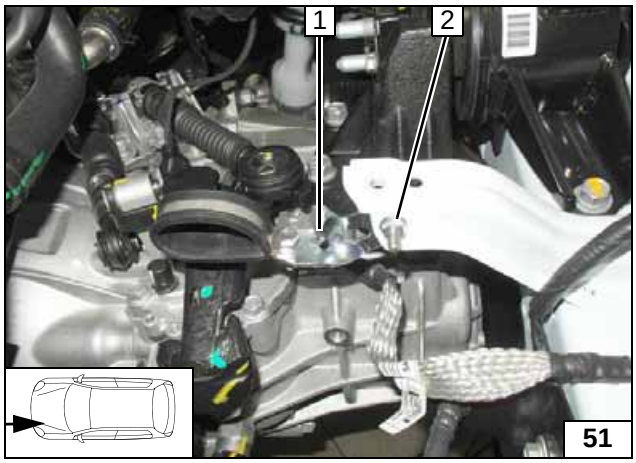
Preparing perforated bracket



1 Perforated bracket
2 38 mm dia. rubber-coated p-clamp
3 M6x20 bolt, flanged nut

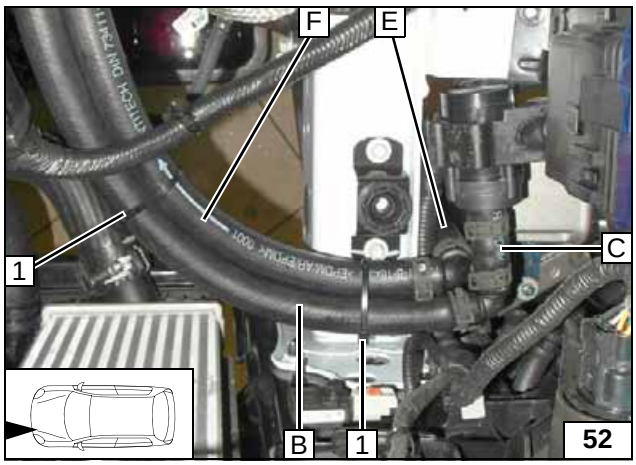
Premounting perforated bracket

1.7 D



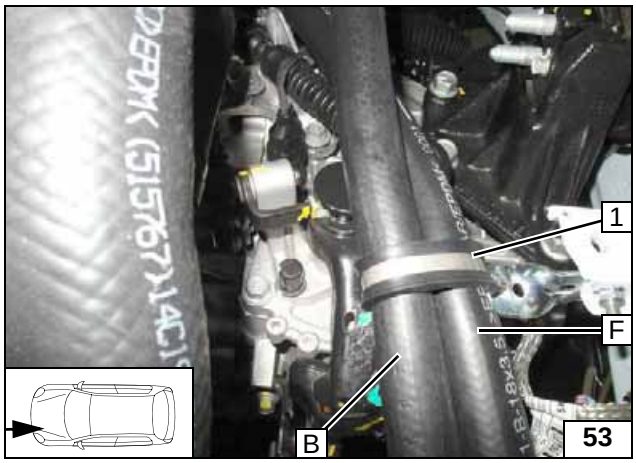
1 Perforated bracket
2 M6x20 bolt, original vehicle hole, flanged nut

Installing perforated bracket



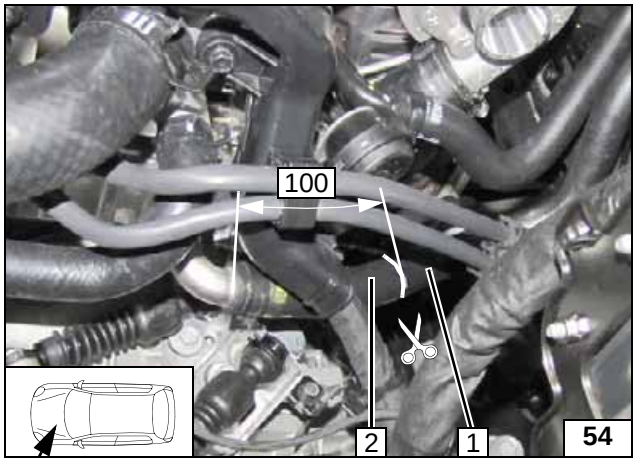
1 Cable tie [2x]

Connecting heater



Route hose **B** and **F** through rubber-coated p-clamp **1**.

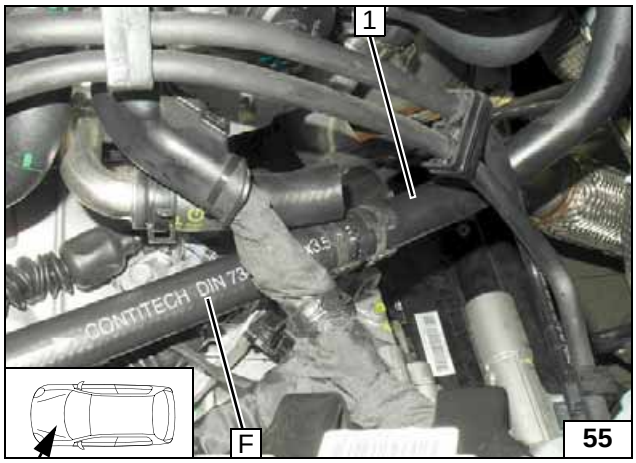
Routing in engine compartment



Cut hose of engine outlet / heat exchanger inlet at the marking.

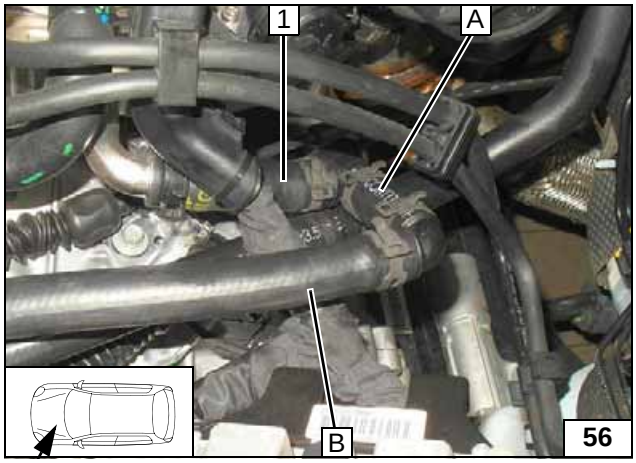
1 Hose section of heat exchanger inlet
2 Engine outlet hose section

Cutting point



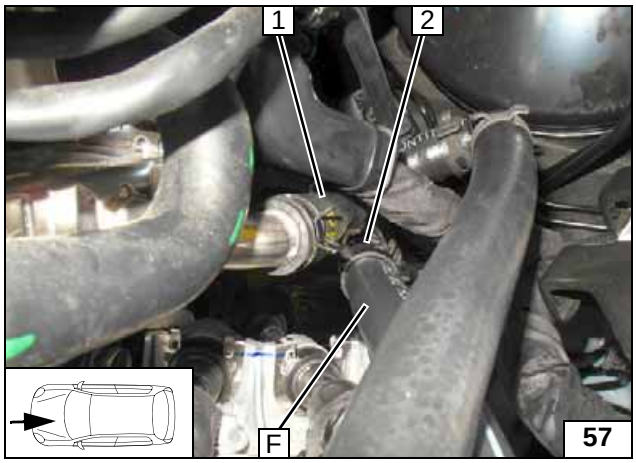
1 Hose of heat exchanger inlet

Connecting heat exchanger inlet



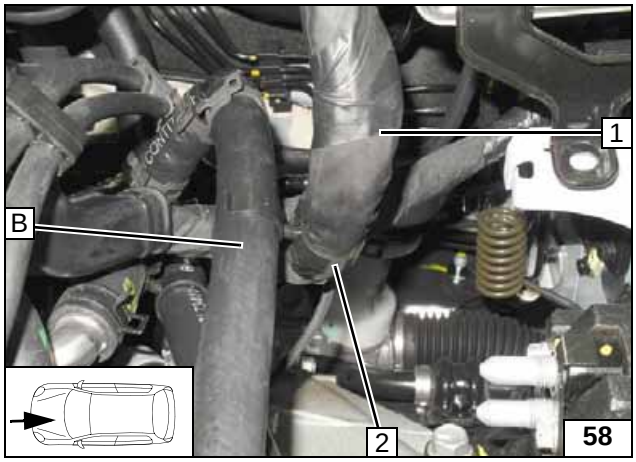
1 Hose of engine outlet

Connecting engine outlet



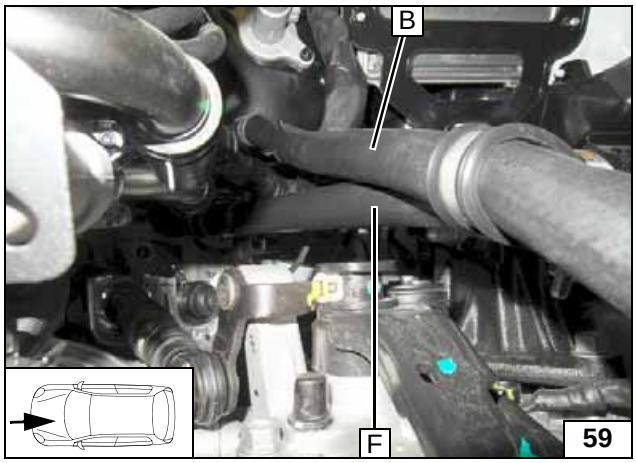
2 Hose bracket between engine outlet hose **1** and hose **F**

Installing hose bracket



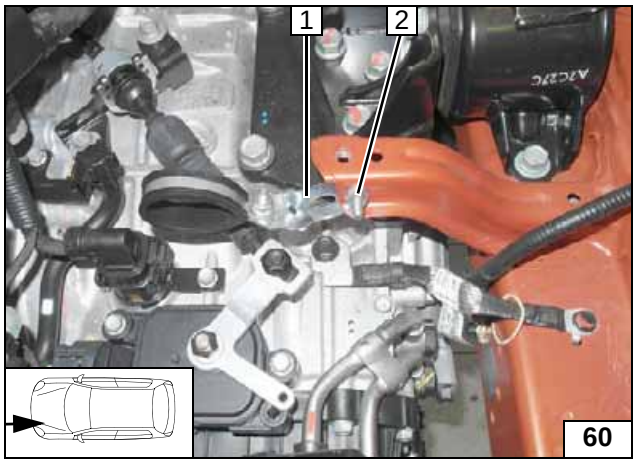
2 Hose bracket between original vehicle wiring harness **1** and hose **B**

Installing hose bracket



Ensure sufficient distance from the gearshift linkage, correct hoses and rubber-coated p-clamp if necessary.

Aligning hoses

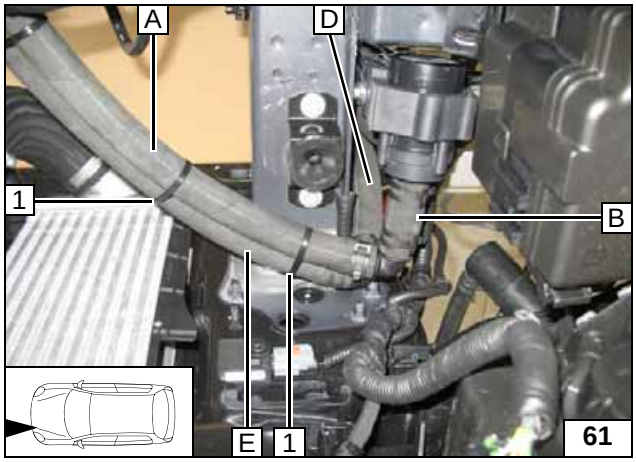


2.0 D

Figure shows automatic transmission!

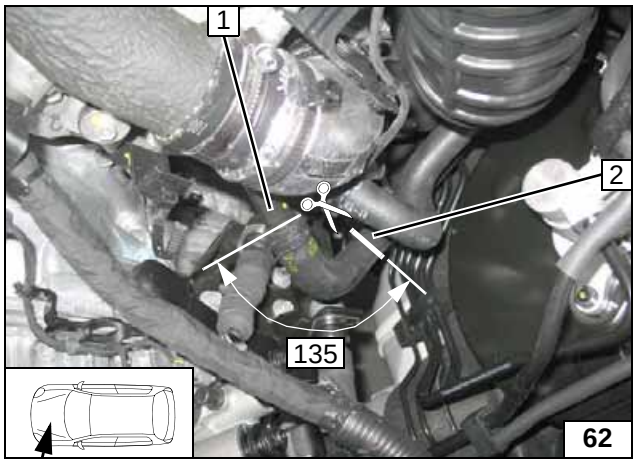
1 Perforated bracket
2 M6x20 bolt, original vehicle hole, flanged nut

Installing perforated bracket



1 Cable tie [2x]

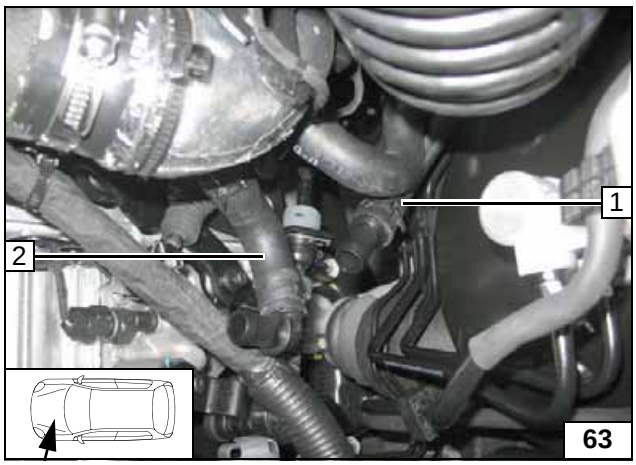
Connecting heater



Cut hose of engine outlet / heat exchanger inlet at the marking.

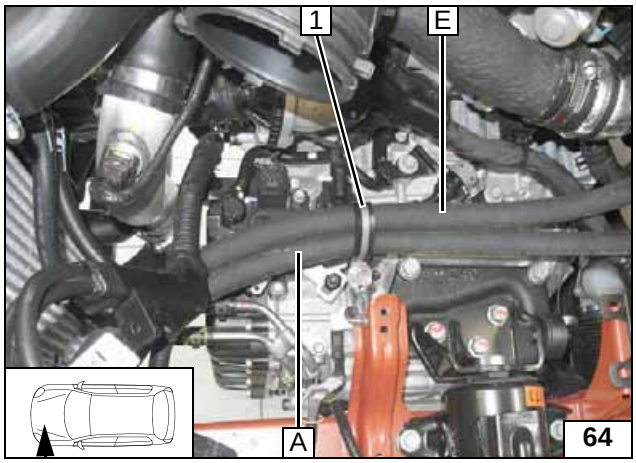
1 Engine outlet connection piece
2 Cutting point

Cutting point



1 Hose of heat exchanger inlet
2 Hose on engine outlet turned forward

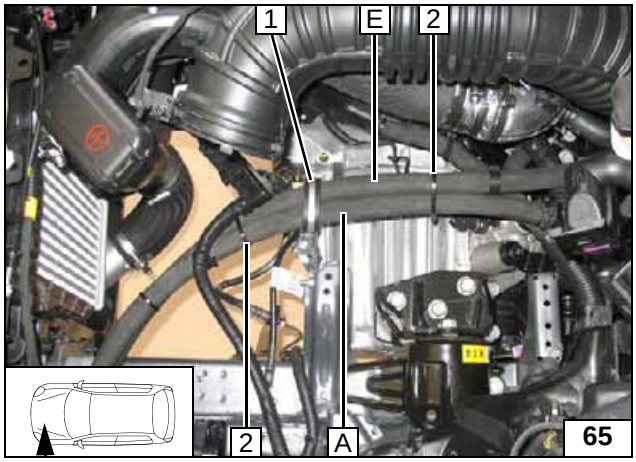
Premounting hoses



Automatic transmission

Route hose **A** and **E** through rubber-coated p-clamp **1**.

Routing in engine compartment

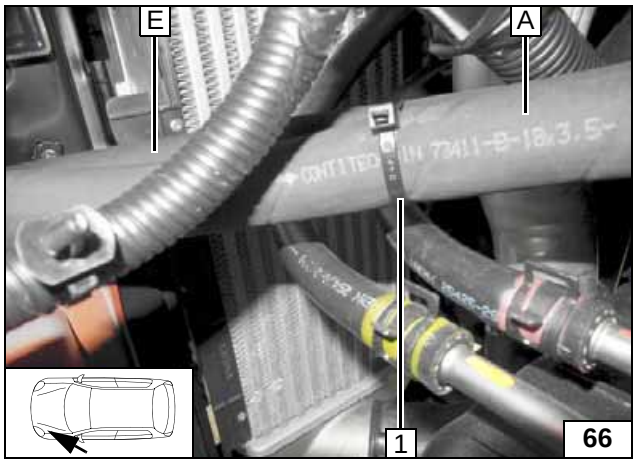


Manual transmission

Route hose **A** and **E** through rubber-coated p-clamp **1**.

2 Cable tie [2x]

Routing in engine compartment

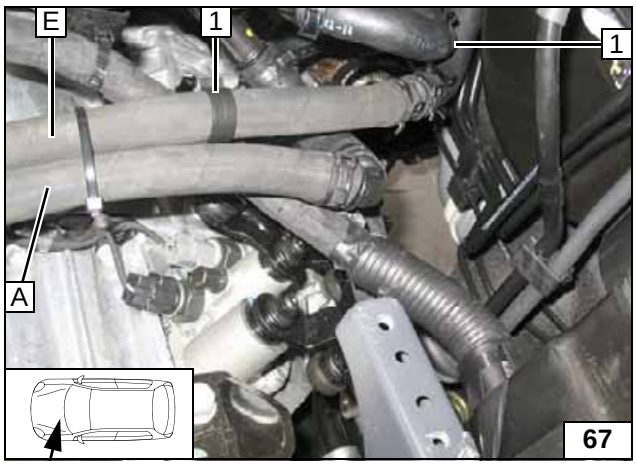


All vehicles

Ensure sufficient distance to original vehicle lines, correct if necessary.

1 Cable tie

Routing in engine compartment



Align hoses. Ensure sufficient distance from neighbouring components, correct if necessary.

1 Hose bracket [2x]

Connecting engine outlet / heat exchanger inlet

Fuel

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

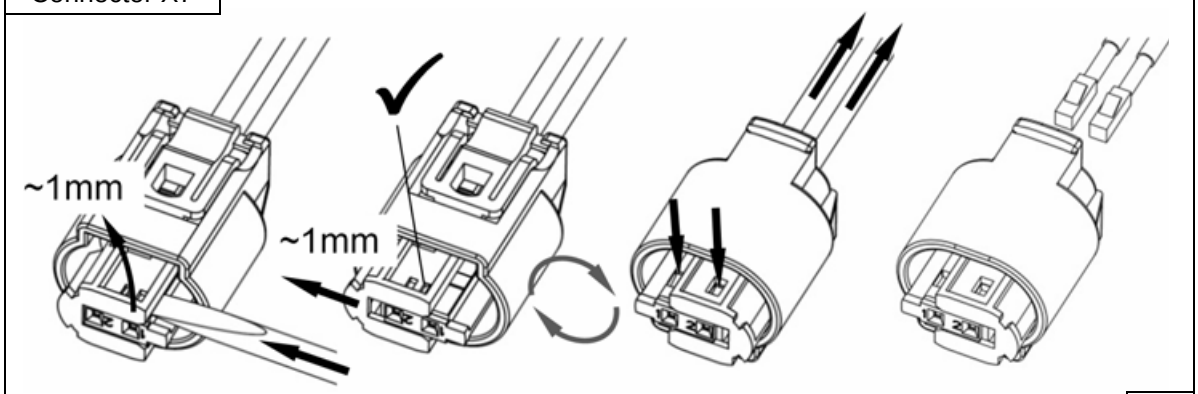
Catch any fuel running off in an appropriate container.

Route fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

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

Dismantling metering pump connector

Connector X7



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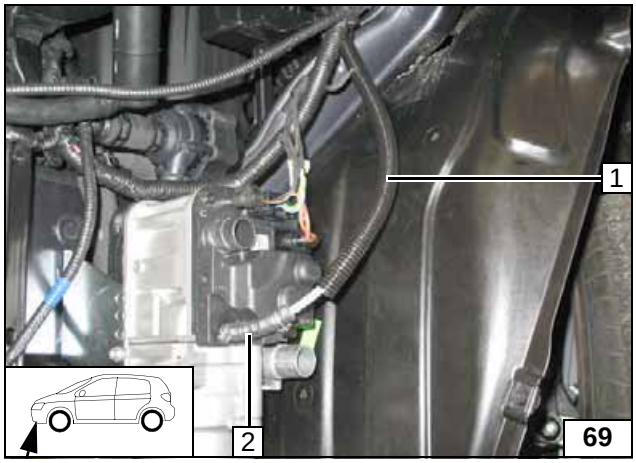
Connecting heater



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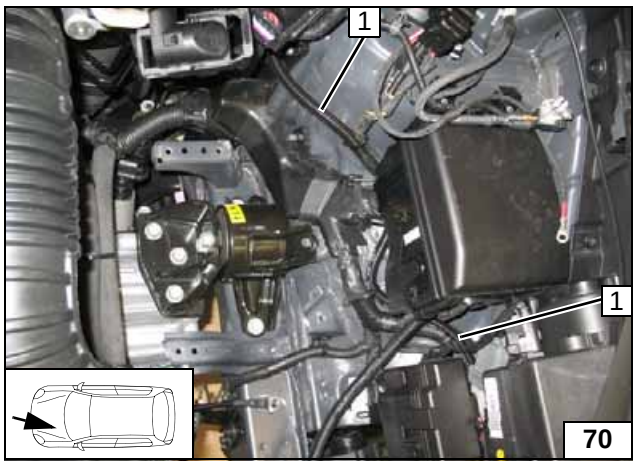
Route wiring harness of metering pump and fuel line in 2100mm long, 10mm dia. corrugated tube **1** to the engine compartment.

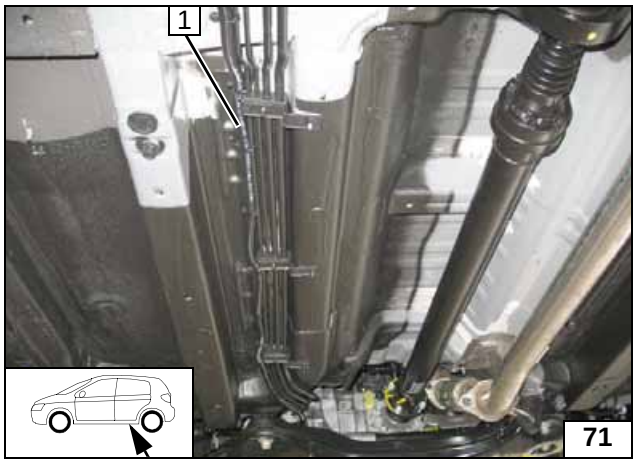
2 Fuel line, hose section, 10mm dia. clamp [2x]

Routing lines



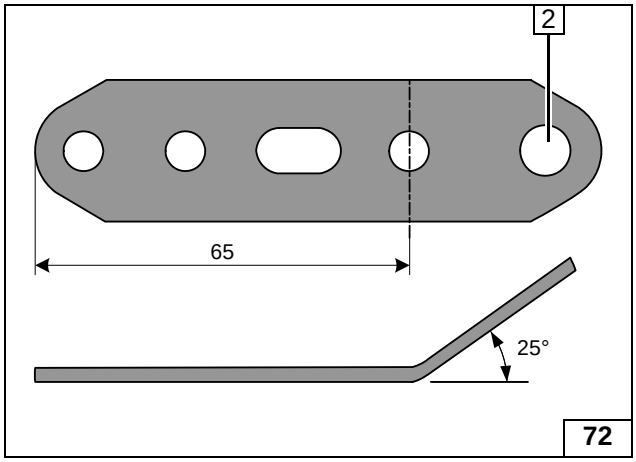
70

Draw fuel line and wiring harness of metering pump into corrugated tube **1** of firewall route to original vehicle fuel lines in the underbody.



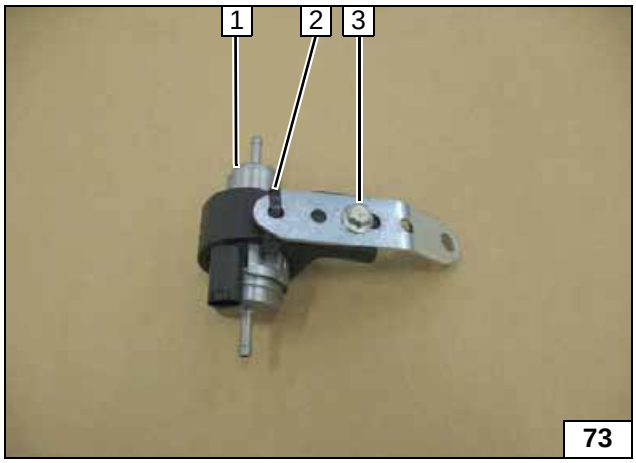
Route fuel line and metering pump wiring harness in 10mm dia. corrugated tube **1** on the underbody to installation location of metering pump.

Routing lines



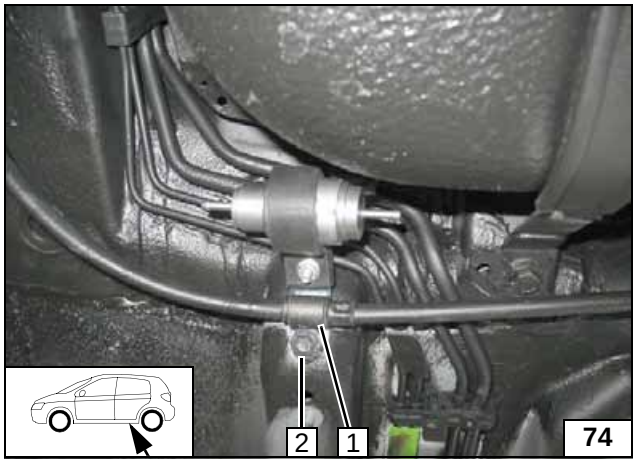
1 Drill out 8.5 mm dia. hole

Preparing perforated bracket



1 Metering pump
2 Cable tie
3 M6x25 bolt, support angle bracket, flanged nut

Premounting metering pump

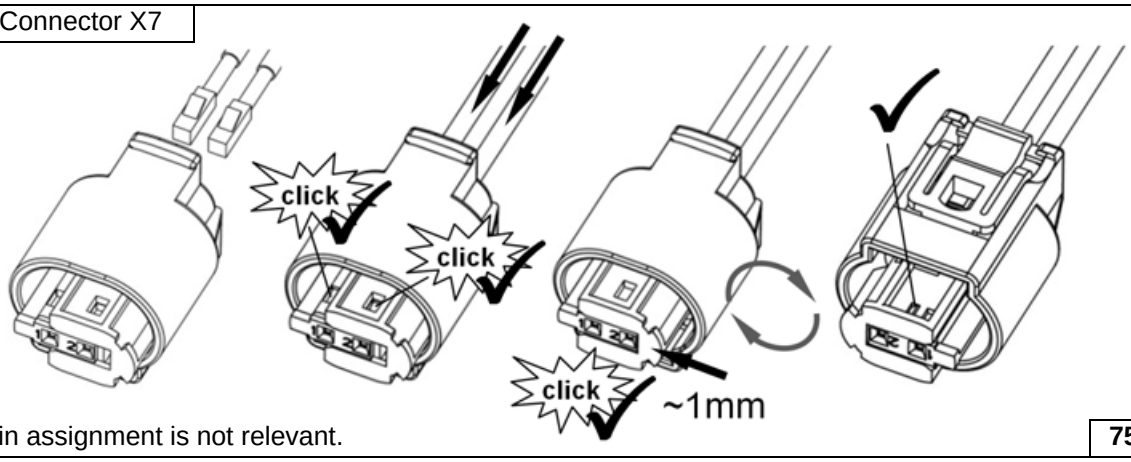


Fasten premounted metering pump between handbrake cable clamp **1** and body with original vehicle bolt **2**.

Installing metering pump

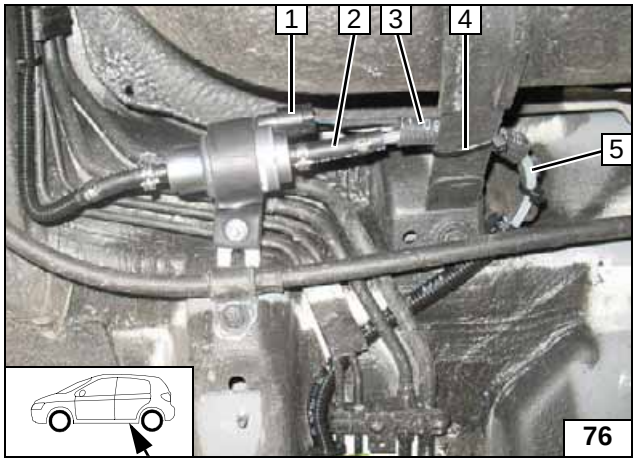
Completing metering pump connector

Connector X7



Pin assignment is not relevant.

75



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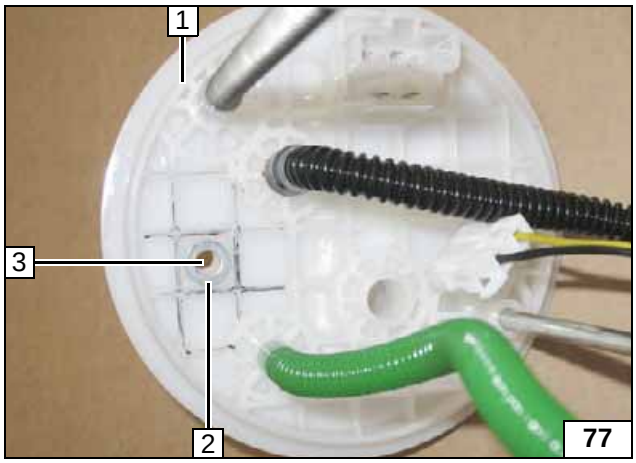
Slide on fabric protective hose **3** on fuel line of heater **5** and fasten with cable tie **4**.

Connecting metering pump

1 Metering pump wiring harness, connector X7 mounted
2 Hose section, 10mm dia. clamp [2x]

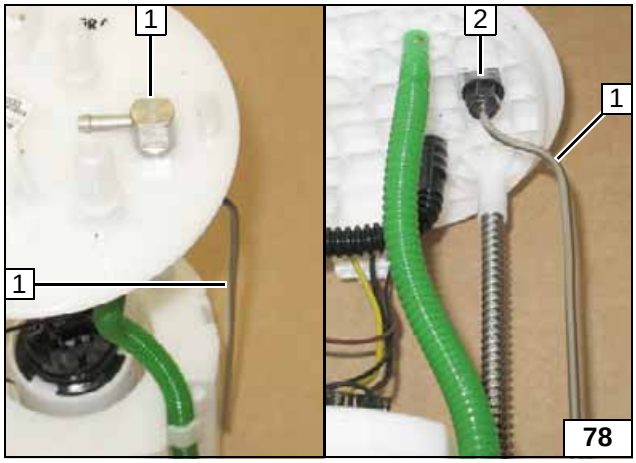


77

Remove and dismantle fuel tank sending unit **1** according to manufacturer's instructions. Washer **2** with outer dia. d_a = 11.7mm, position centrally between the ribs.

Fuel extraction

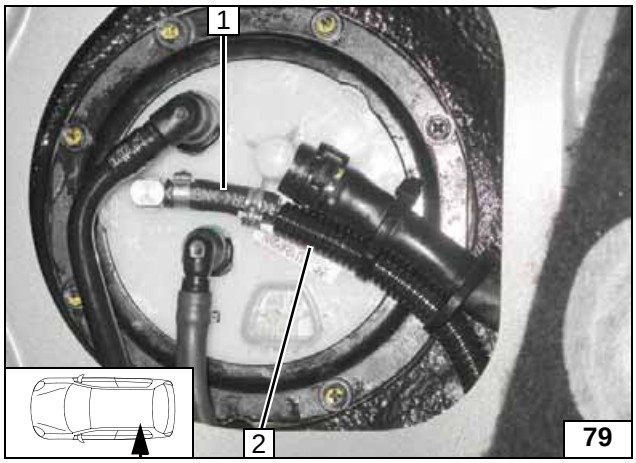
3 Copy hole pattern, 6mm dia. hole



78

Shape fuel standpipe **1** according to template and cut to length. Insert five washers at position **2** with an outer dia. d_a = 11.7mm as height compensation.

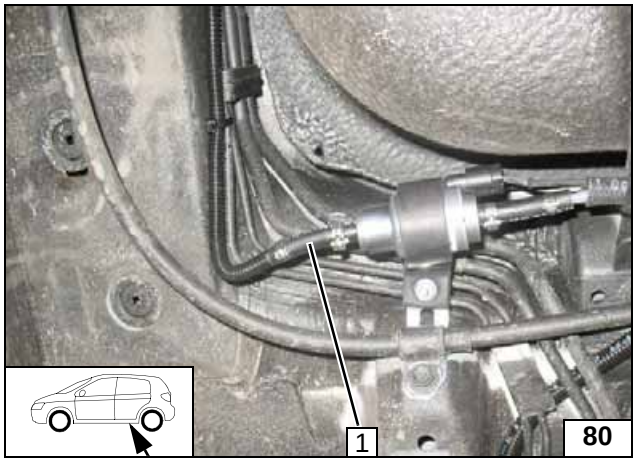
Installing fuel standpipe



Install fuel tank sending unit in accordance with manufacturer's instructions. Route fuel line in 10mm dia. corrugated tube **2** to the metering pump.

1 Fuel line, hose section, 10mm dia. clamp [2x]

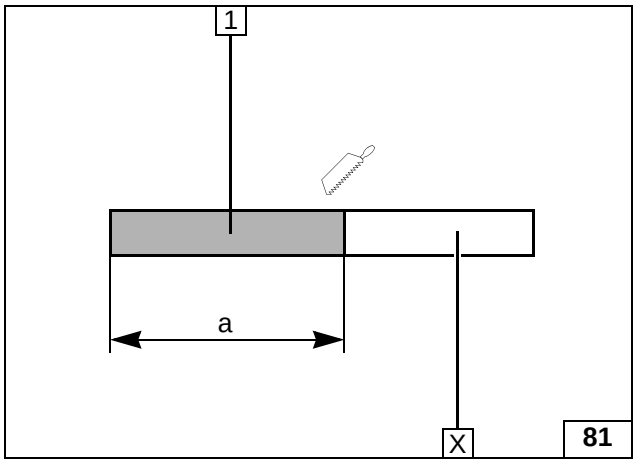
Connecting fuel line



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

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

Connecting metering pump

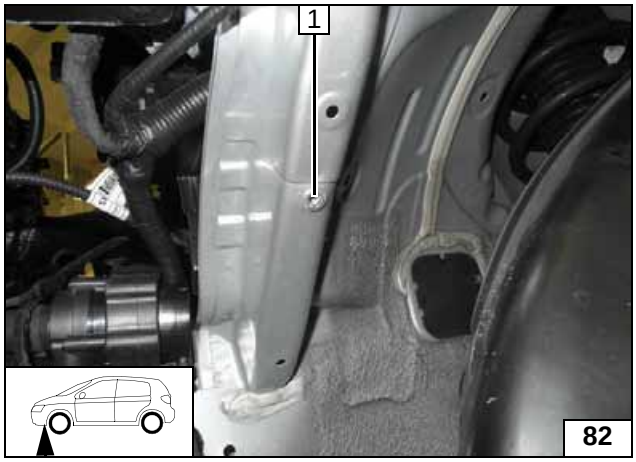


Combustion Air

1 Combustion air pipe
a = 300mm

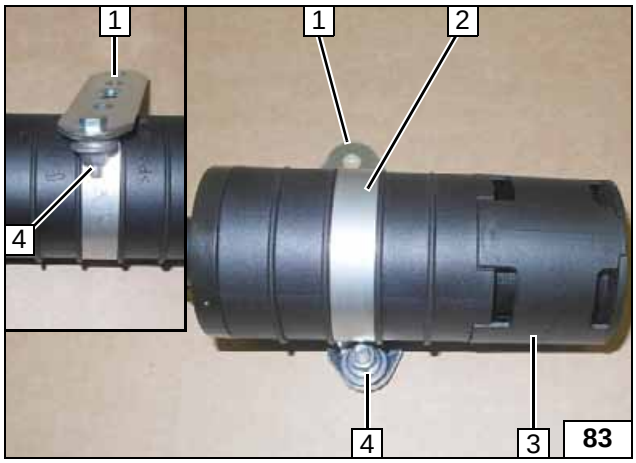
X =

Cutting combustion air pipe to length



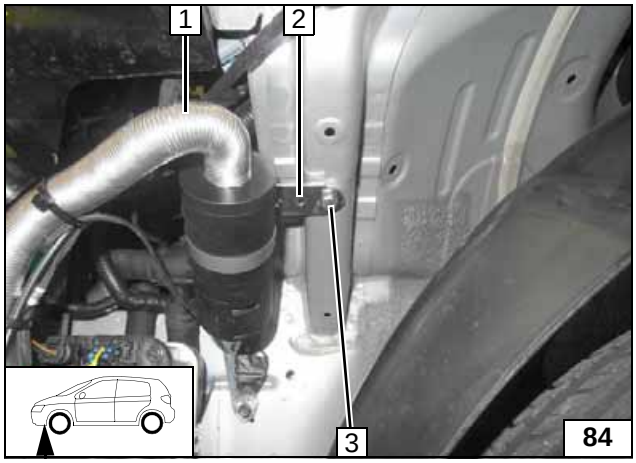
1 Drill out existing hole to 9.1 mm dia.; rivet nut

Installing rivet nut



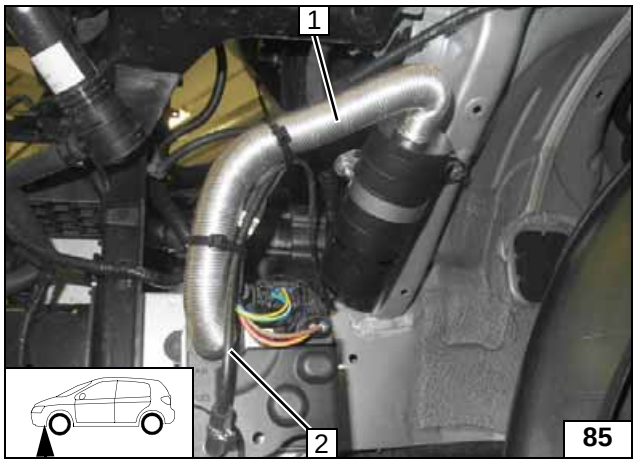
1 Perforated bracket
2 51mm dia. clamp
3 Silencer
4 M5x16 bolt, large diameter washer [2x], flanged nut

Premounting silencer



1 Silencer
2 Perforated bracket
3 M6x20 bolt, spring lockwasher

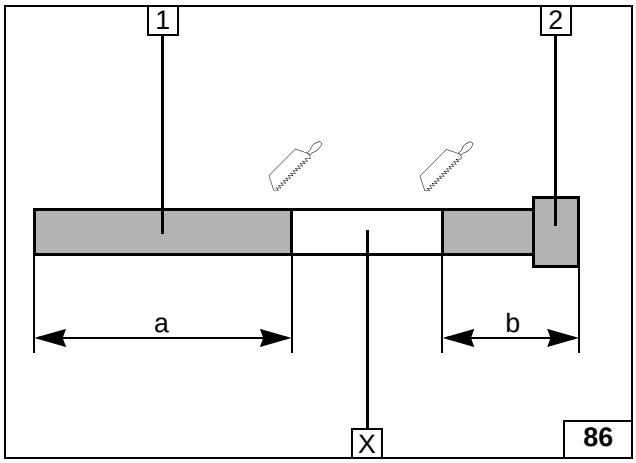
Installing silencer



Fasten wiring harness of heater and fuel line **2** with cable tie to combustion air pipe **1**.

Installing combustion air pipe

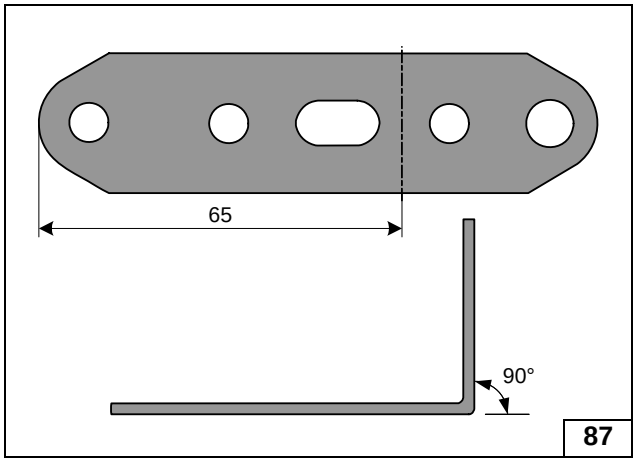
Exhaust Gas



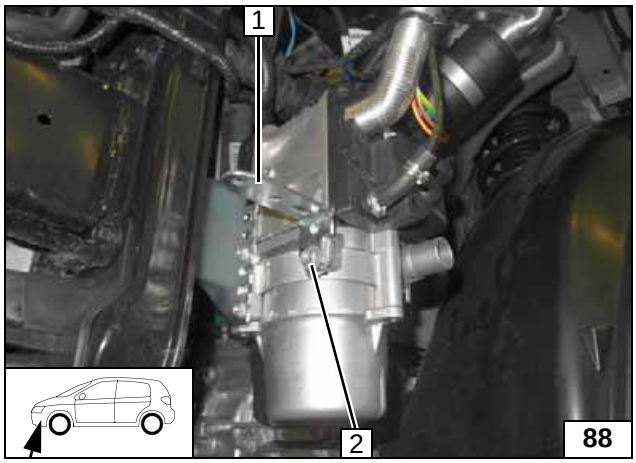
1 Exhaust pipe
a = 150
2 Exhaust end section
b = 90

X =

Preparing exhaust pipe

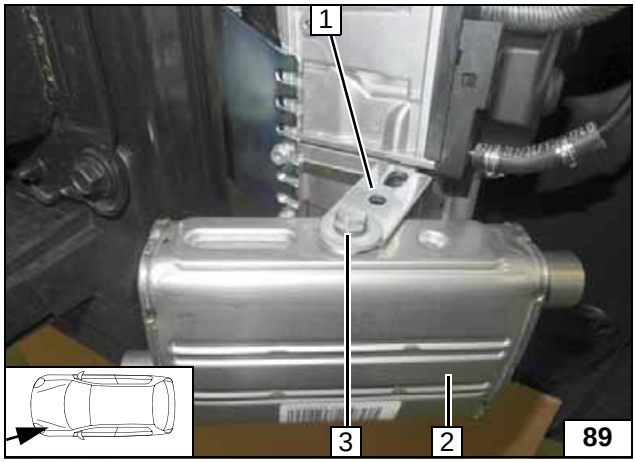


Preparing perforated bracket



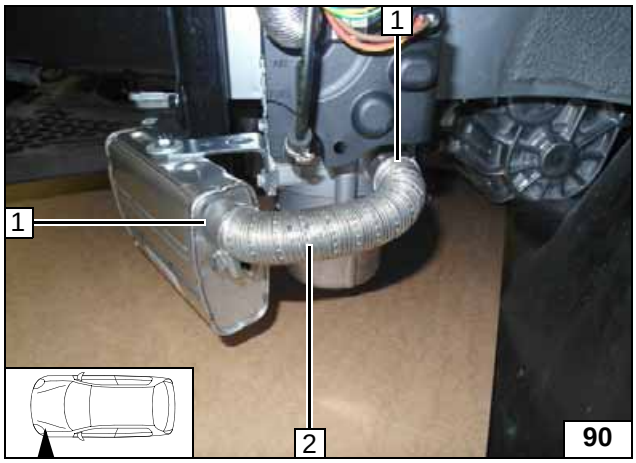
1 Perforated bracket
2 5x13 self-tapping bolt, large diameter washer

Installing perforated bracket



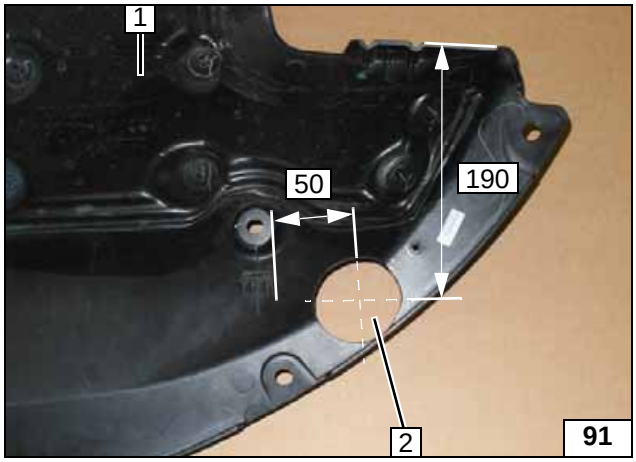
1 Perforated bracket
2 Align exhaust silencer
3 M6x16 bolt, spring lockwasher, large diameter washer

Installing silencer



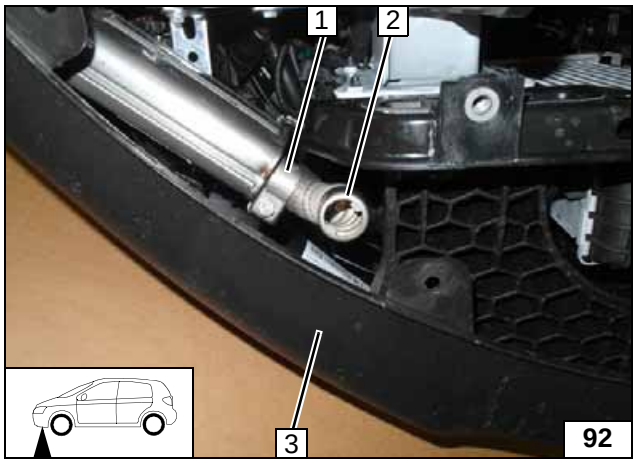
1 Hose clamp [2x]
2 Exhaust pipe

Installing exhaust pipe



1 Underride protection
2 60 mm dia. hole

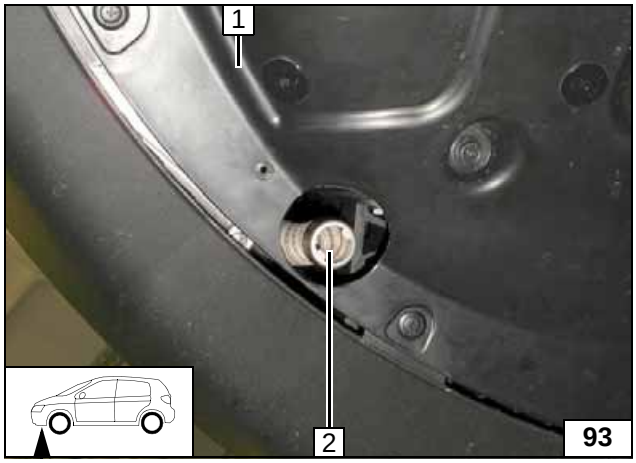
Hole in underride protection



Install bumper **3**.

1 Hose clamp
2 Exhaust end section

Installing exhaust end section



Install underride protection **1**. Centrally align exhaust end section **2** in hole and so that it is flush with underride protection **1**.

Aligning exhaust end section

Final Work

WARNING!
Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate loose wire ends and tie back.
Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K).

- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Set MultiControl CAR, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the 'Operating Instructions for Automatic Air-Conditioning'.**
- **Place the 'Switch off parking heater before refuelling' caution label near the filler neck.**
- **For initial startup and function check, please see installation instructions.**

Before installing, paste rub protection **2** on air filter box **1**.

Sticking on rub protection

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 size of printout with dimension lines.
Allowed tolerance a maximum of 2%.

Set the printer settings to ‘no margin’ or ‘minimise margins’ and 100% of the normal size.

100mm

0

Webasto
Feel the Drive

Operating Instructions for Automatic Air-Conditioning

Please remove page and add to the vehicle operating instructions.

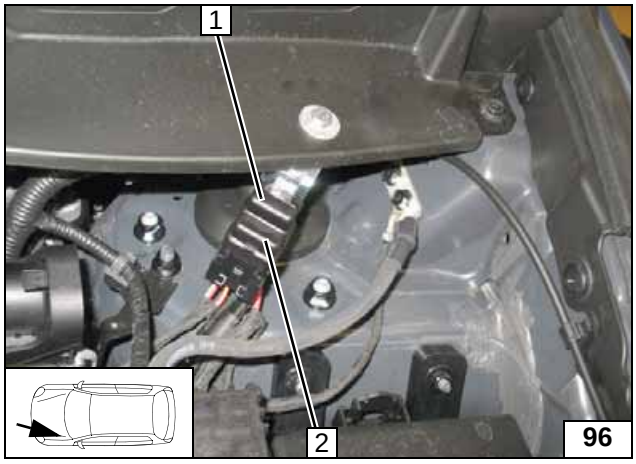
Note:
We recommend matching the heating time to the driving time.
Heating time = driving time
Example:
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.
For instructions on deactivation, please refer to the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:

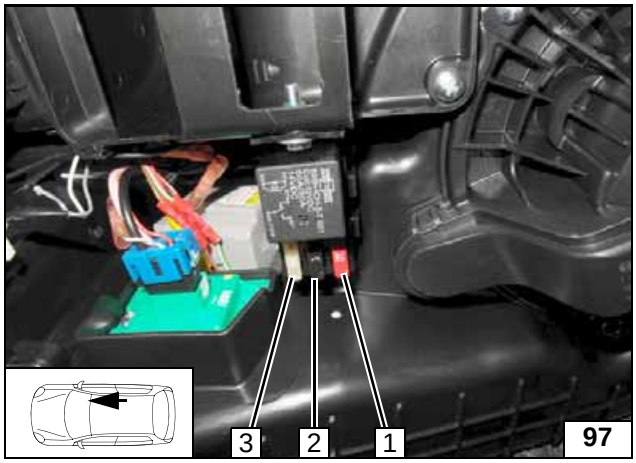
1 Air outlet faces ‘upward’
2 Set temperature on both sides to ‘HI’
3 Set fan to level ‘2’, or max. ‘3’

A/C control panel



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

Engine compartment fuses



1 10A fan fuse F5
2 1A heater control fuse F3
3 25A fan fuse F4

Passenger compartment fuses