Water Heater

Webasto
Feel the Drive

***Thermo Top Evo* Parking Heater**

E1
00 0258

Installation Documentation
Peugeot 308

Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Peugeot	308	4	e2 * 2001 / 116 * 0362 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm³	Engine code
1.6 (HDI 90)	Diesel	SG / AT	68	1560	9HR
2.0 (HDI 150)	Diesel	SG	110	1997	RHE

SG = Manual transmission
AT = Automatic transmission

From Model Year 2011
Left-hand drive vehicle

Verified equipment variants: Manual / automatic air-conditioning system
Front fog light
Daytime running lights

Not verified: Passenger compartment monitoring

Total installation time: approx. 8 hours

Peugeot 308

Table of Contents

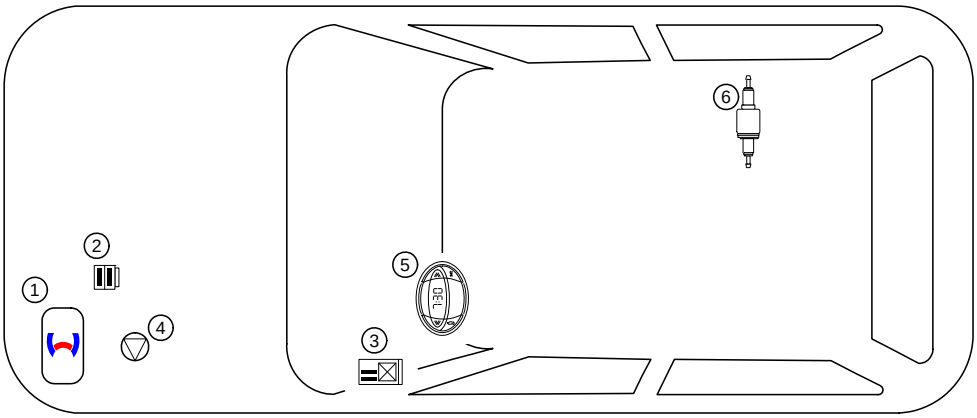
Necessary Components

- Basic delivery scope *Thermo Top Evo* in accordance with price list
- Installation kit for Peugeot 308 2011 Diesel: **1317785B**
- 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. Engine compartment fuse holder
3. Relay and fuse holder of passenger compartment
4. Circulating pump
5. Digital timer
6. Metering pump



Information 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.

Peugeot 308

Information on Validity

This installation documentation applies to Peugeot 308 Diesel vehicles - for validity, see page 1 - from model year 2011 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 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

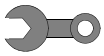
Dimensions
- All dimensions are in mm

Tightening torque values
- Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque values of 5x15 retaining plate of water connection piece bolts = 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.

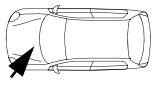
Specific risk of damage to components.

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.



Peugeot 308

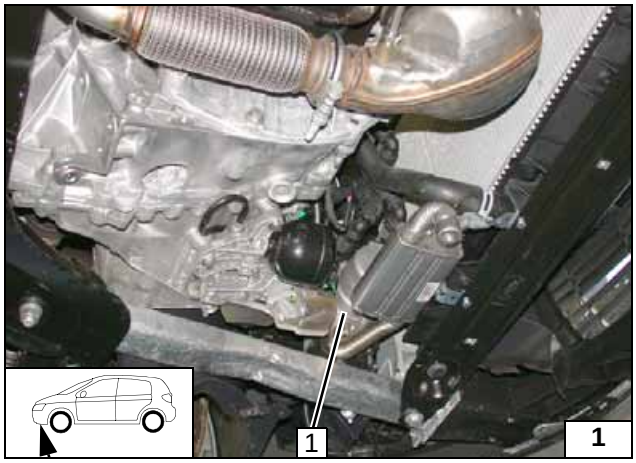
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect the battery and remove it completely along with the carrier.
- Remove the air filter together with the intake hose.
- Remove the bracket of the air filter (original vehicle bolts will be reused).
- Remove the coolant reservoir cap.
- Remove the storage compartment in the centre of the instrument panel.
- Remove the trim of the A/C control panel.
- Remove the A/C control panel in accordance with the manufacturer's instructions.
- Remove the radio with duct.
- Remove lower and left instrument panel trim on the driver's side.
- Remove the knee airbag.
- Remove the underride protection.

Heater

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



Heater Installation Location

1 Heater

Installation location

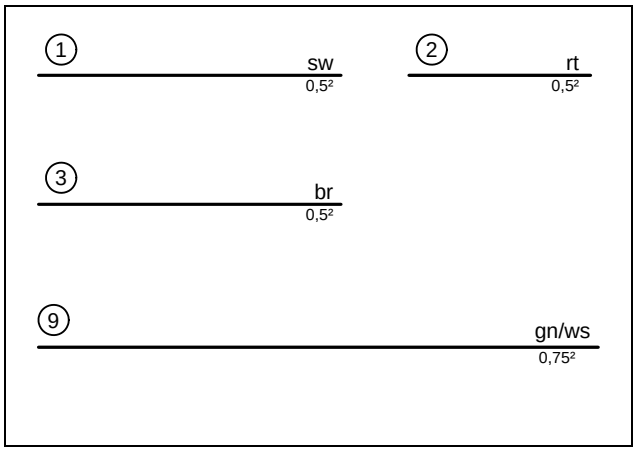
Preparing Electrical System

Wire sections retain their numbering in the entire document.

Assigning wires

Manual air-conditioning

Insert green/white (gn/ws) wire ⑨ into protective sleeving.

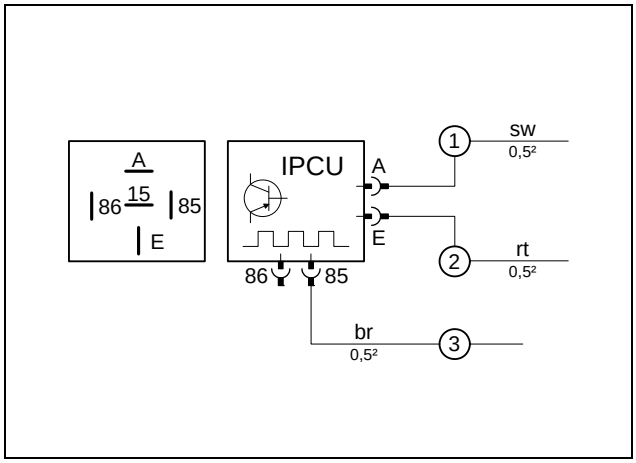


Premounting IPCU

Connect wires.
The pre-programmed settings are to be changed:

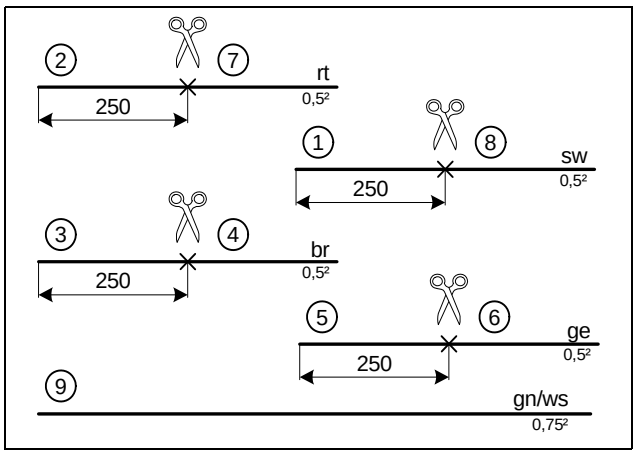
Duty cycle: 100%
Frequency: 1000Hz
Voltage: 2.7V
Function: High-side

The settings must be checked during start-up of heater and adjusted if necessary.



Cutting wires to length

Automatic air-conditioning

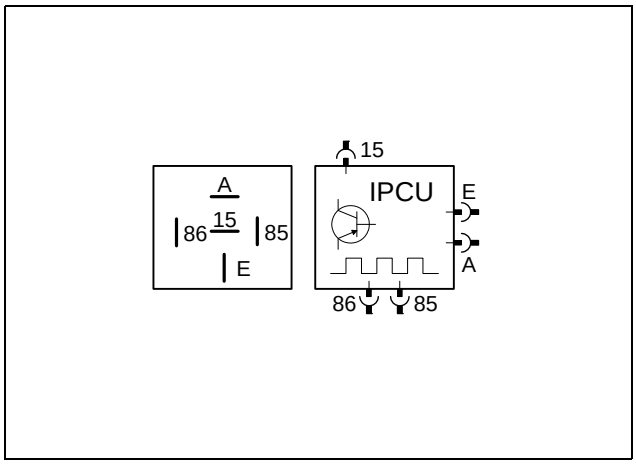


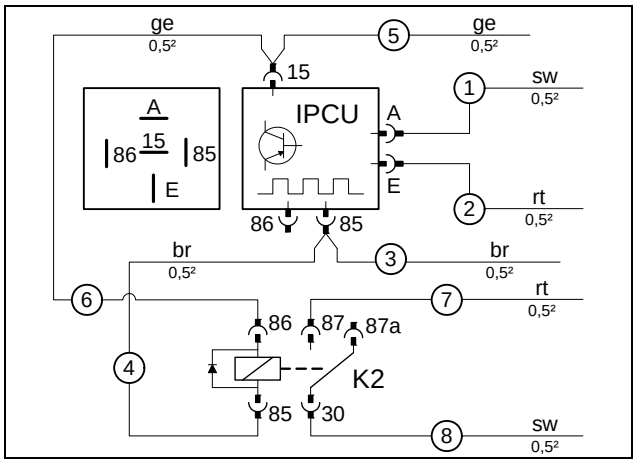
Preparing IPCU

IPCU view on the contact side.
The IPCU included in the kit is pre-programmed with the following settings:

Duty cycle: 70%
Frequency: 400Hz
Voltage: 12V
Function: Low side

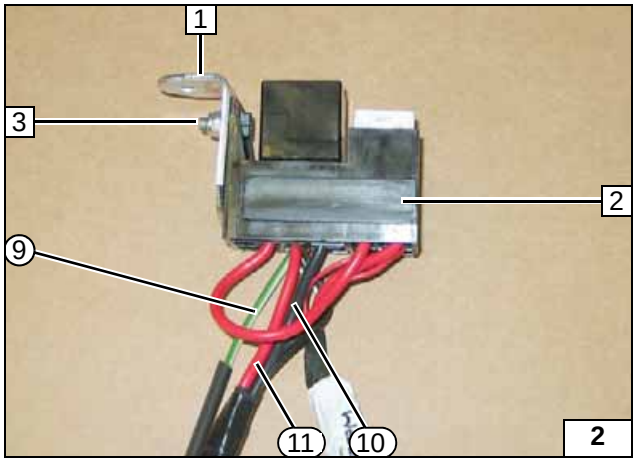
The settings must be checked during start-up of heater and adjusted if necessary.





Connect wires.

Premounting IPCU and K2 relay

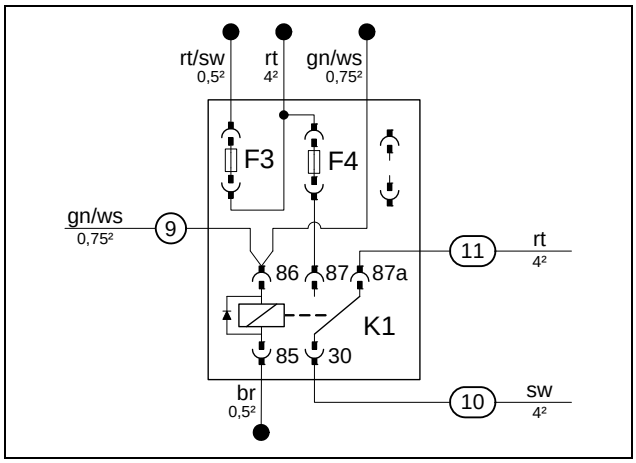


All vehicles

Connect wires according to the following wiring diagram.

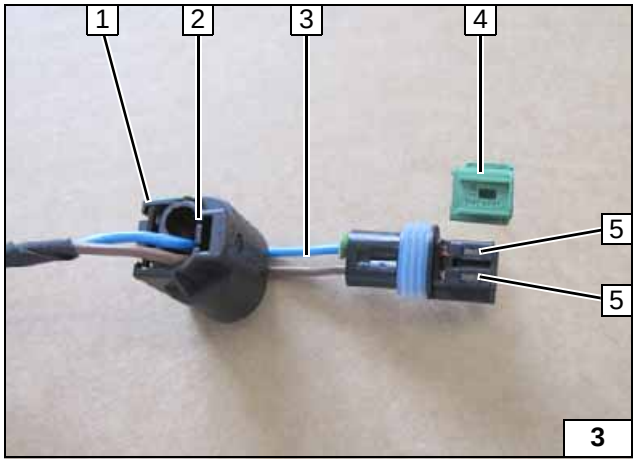
1 Angle bracket
2 Relay and fuse holder of passenger compartment
3 M5x16 bolt, large diameter washer [2x], nut
⑨ Green/white (gn/ws) wire of K1/86 in protective sleeving
⑩ Black (sw) wire of K1/30
⑪ Red (rt) wire of K1/87a

Preparing passenger compartment relay and fuse holder



Insert fuse F4 25A and K1 relay

Inserting and preparing K1 relay and F4



Complete connector of metering pump after routing. Pin assignment is not relevant.

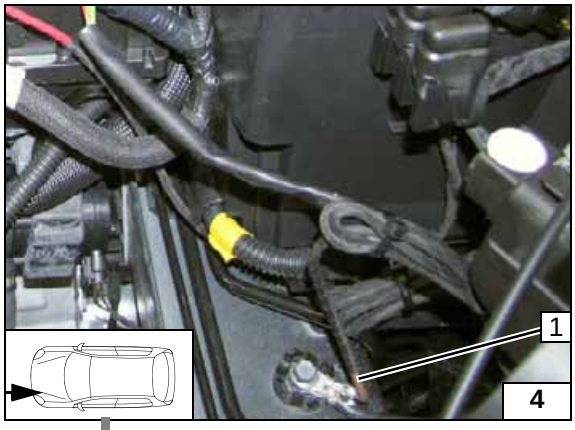
1 Connector housing
2 Lock
3 Blue/brown (bl / br) wires
4 Coding
5 Timer lock

Dismantling connector

Electrical System

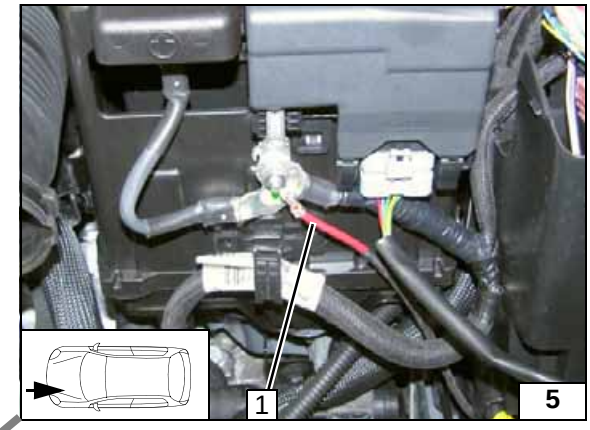
Earth wire

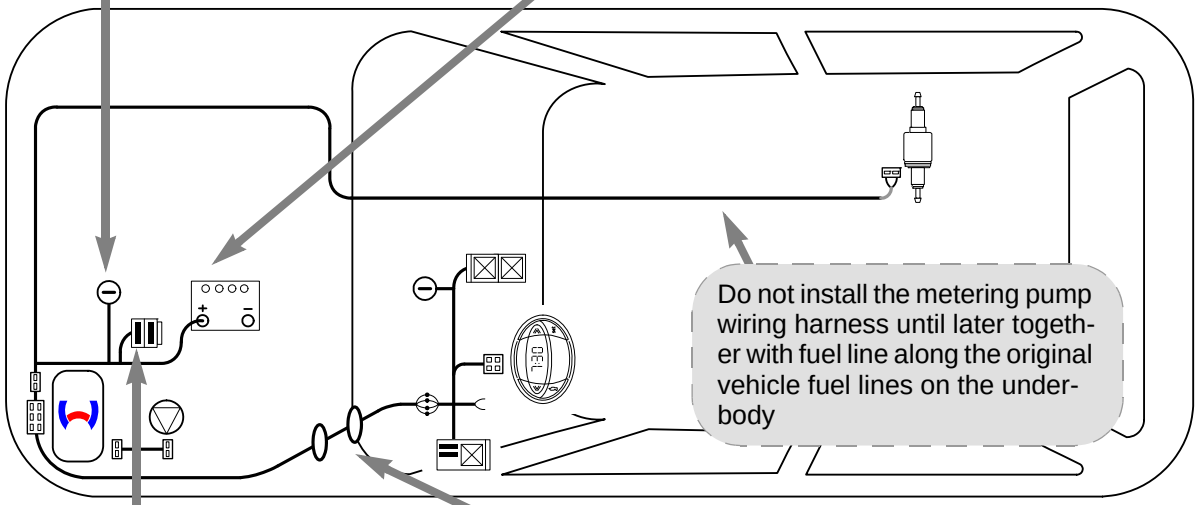
1 Earth wire on original vehicle earth support point



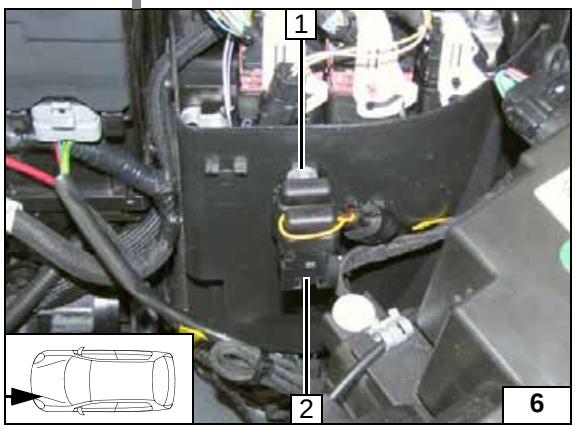
Positive wire

1 Positive wire on positive distributor of battery



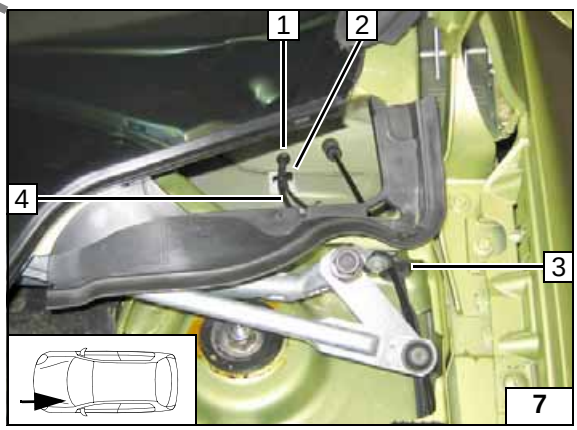


Wiring harness routing diagram



Fuse holder of engine compartment

1 5.5 mm dia. hole; M5x16 bolt, washer [2x], retaining plate of fuse holder, nut
2 Fuses F1-2

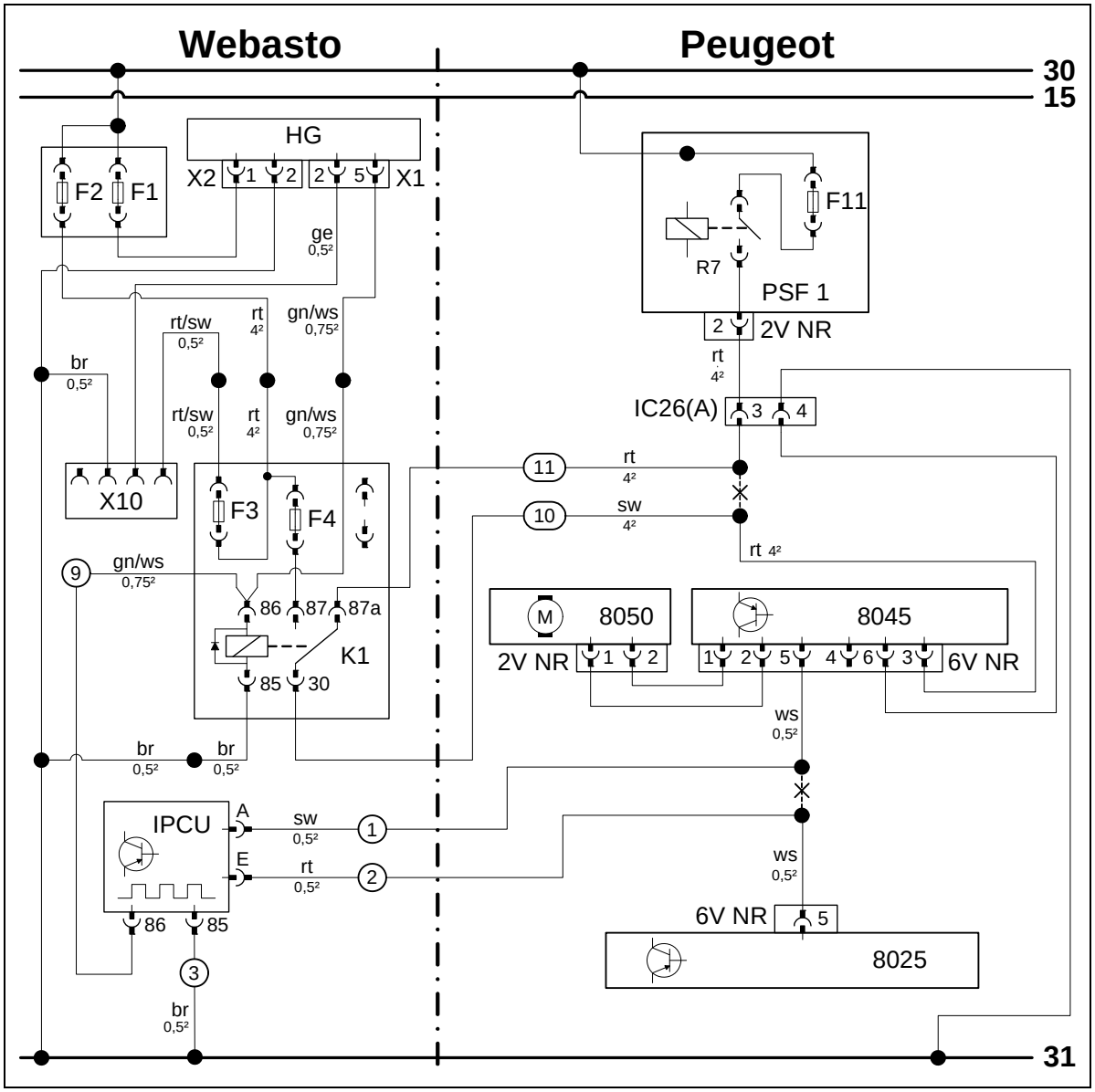


Wiring harness pass through

1 Protective rubber plug
2 Adhesive base with cable tie
3 Protective rubber plug
4 Wiring harness of heater, heater controls

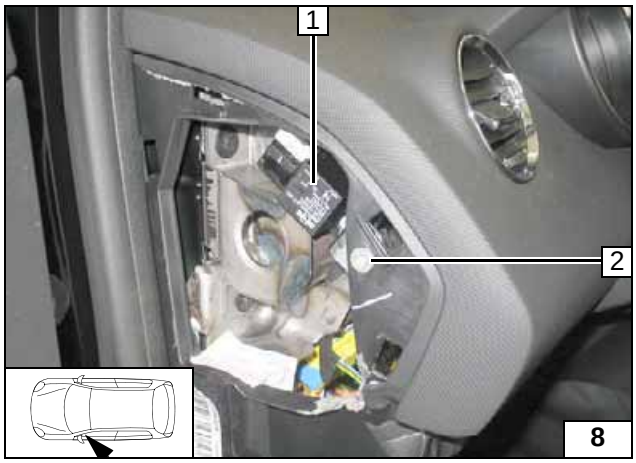
Fan Controller for Manual Air-Conditioning

Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-Evo	F11	Fuse	rt	red
X1	6-pin heater connector	PSF 1	Main power supply	sw	black
X2	2-pin heater connector	2V NR	2-pin connector	ge	yellow
X10	4-pin connector of heater control	IC26(A)	6-pin connector	gn	green
		8050	Fan motor	ws	white
K1	Fan relay	8045	Fan controller	br	brown
F1	20A fuse	6 V NR	6-pin connector		
F2	30A fuse	8025	A/C control panel		
F3	1A fuse				
F4	25 A fuse				
IPCU	Pulse width modulator				
IPCU adjustment values:					
Duty cycle:	100%				
Frequency:	1000Hz				
Voltage:	2.7V			**X**	Cutting point
Function:	High-side			Wiring colours may vary.	

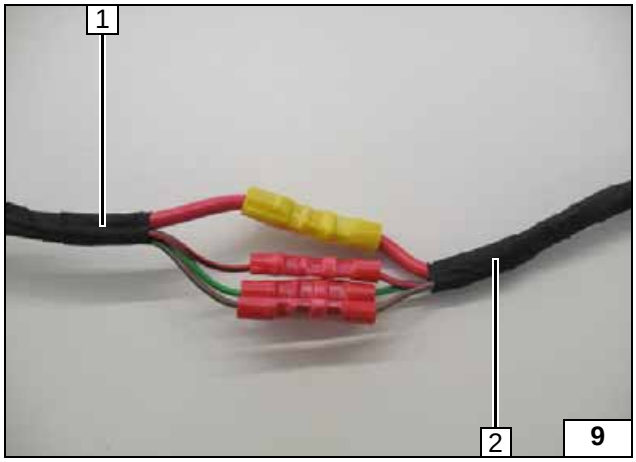
Legend



Countersink 6.5 mm dia. hole at position **2**.

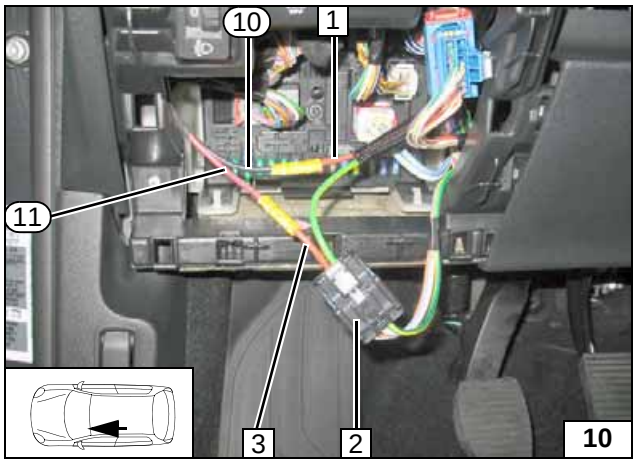
1 Relay and fuse holder of passenger compartment
2 M6x12 countersunk head screw, large diameter washer, flanged nut

Mounting relay and fuse holder of passenger compartment



1 Wiring harness of passenger compartment relay and fuse holder
2 Wiring harness of heater

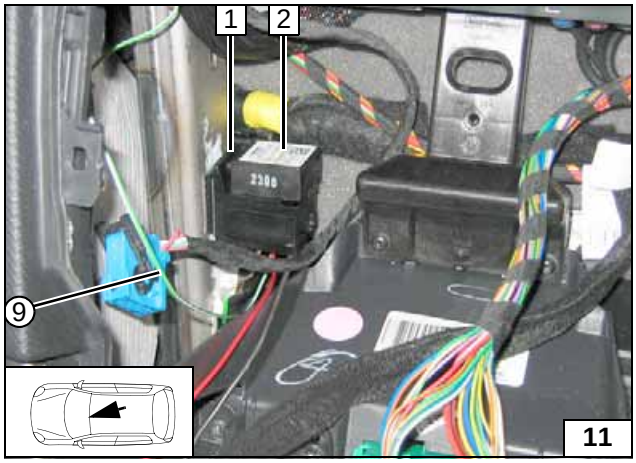
Connecting same colour wires of wiring harnesses



Connection to 6-pin connector **2**.
Produce connections as shown in wiring diagram.

1 Red (rt) wire 8045/3
3 Red (rt) wire of connector IC26(A), Pin 3
(10) Black (sw) wire of K1/30
(11) Red (rt) wire of K1/87a

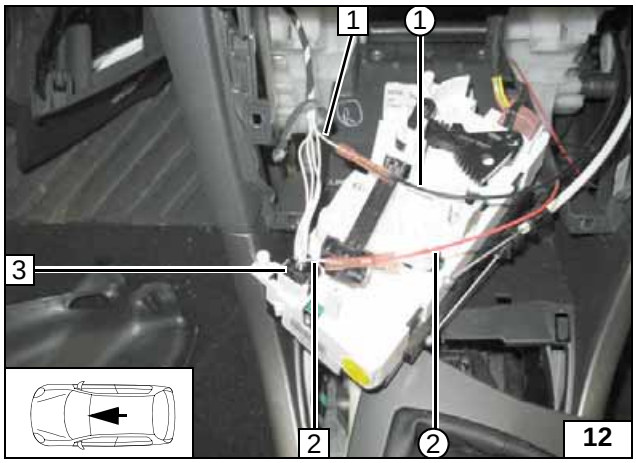
Connecting fan controller



Connect before installation green/white (gn/ws) wire (9) to IPCU/86. Fasten IPCU **1** to carrier with adhesive tape.

2 Connected IPCU

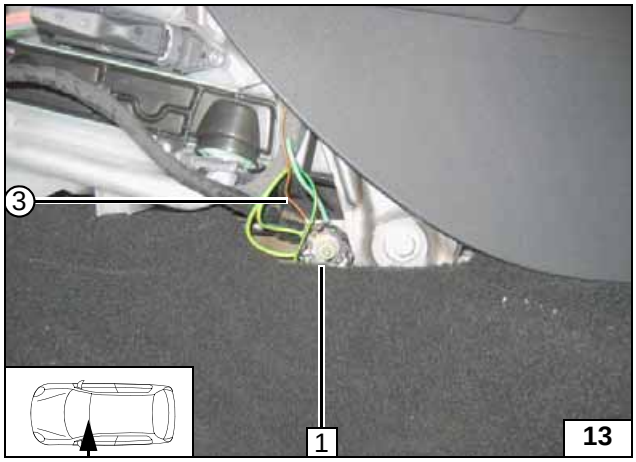
Mounting IPCU



Connection to 6-pin connector **3** from A/C control panel.
Produce connections as shown in wiring diagram.

Connecting IPCU

1 White (ws) wire 8045/5
2 White (ws) wire 8025/5
① Black (sw) wire of IPCU/A
② Red (rt) wire of IPCU/E

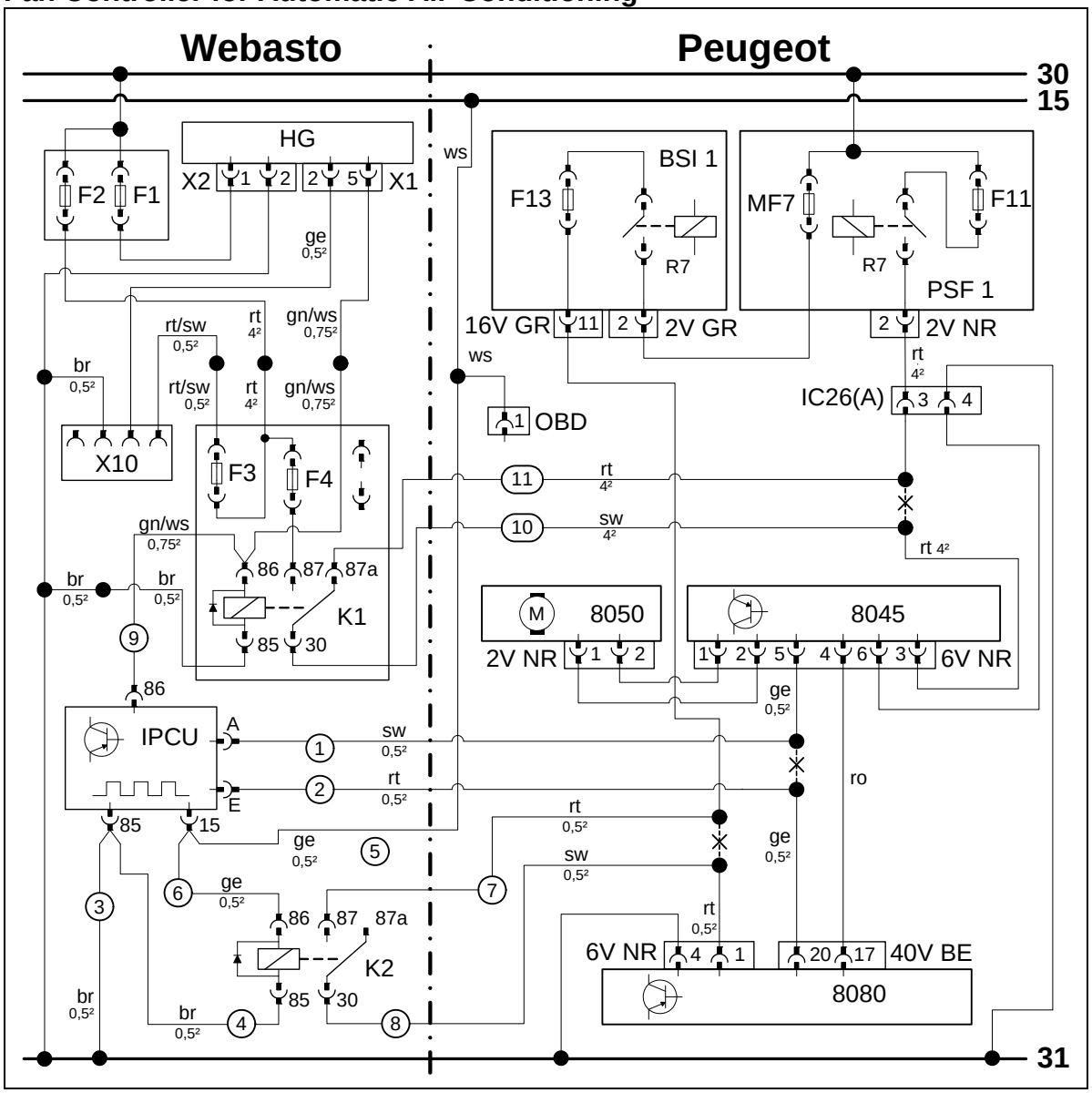


IPCU earth connection

1 Original vehicle earth support point on centre console
③ Brown (br) wire of IPCU/85

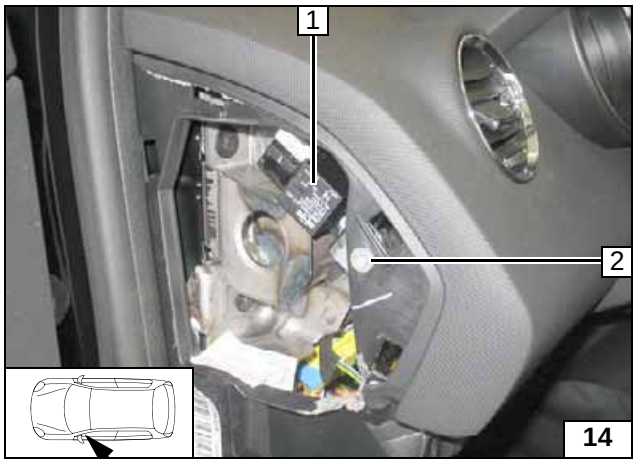
Fan Controller for Automatic Air-Conditioning

Wiring diagram



Legend

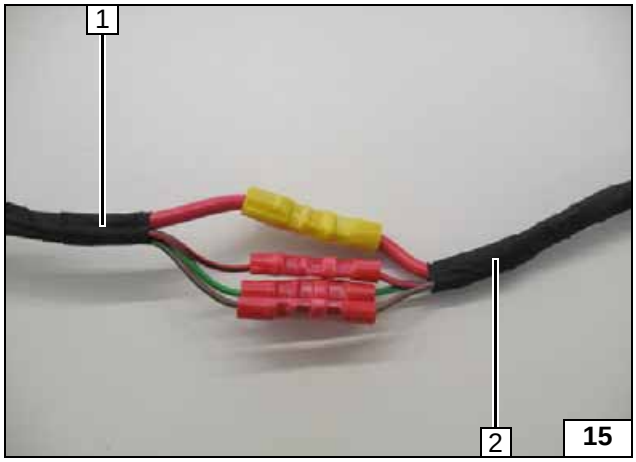
Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-Evo	BSI 1	Central electrical box for passenger compartment	rt	red
X1	6-pin heater connector	F11	Fuse	sw	black
X2	2-pin heater connector	F13	Fuse	ge	yellow
X10	4-pin connector of heater control	MF7	Fuse	gn	green
		PSF 1	Main power supply	ro	pink
K1	Fan relay	16V GR	16-pin connector	ws	white
F1	20A fuse	2V GR	2-pin connector	br	brown
F2	30A fuse	2V NR	2-pin connector		
F3	1A fuse	IC26(A)	6-pin connector		
F4	25 A fuse	OBD	OBD connector		
K2	Additional relay	8050	Fan motor		
IPCU	Pulse width modulator	8045	Fan controller		
IPCU adjustment values:		6 V NR	6-pin connector		
Duty cycle: 70%		40 V BE	40-pin connector		
Frequency: 400Hz		8080	A/C control panel		
Voltage: 12V				**X**	Cutting point
Function: Low side				Wiring colours may vary.	



Countersink 6.5 mm dia. hole at position **2**.

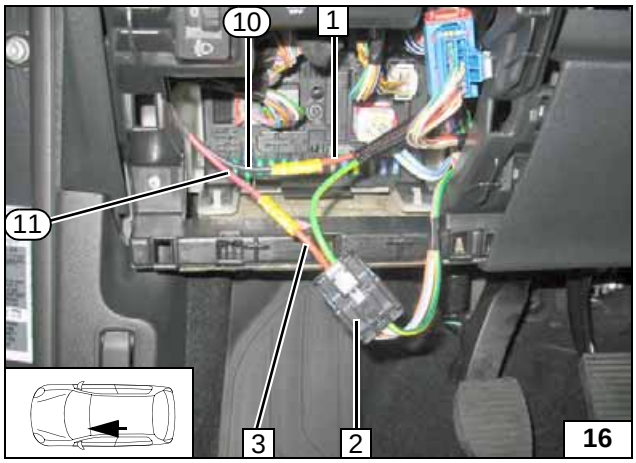
1 Relay and fuse holder of passenger compartment
2 M6x12 countersunk head screw, large diameter washer, flanged nut

Mounting relay and fuse holder of passenger compartment



1 Wiring harness of passenger compartment relay and fuse holder
2 Wiring harness of heater

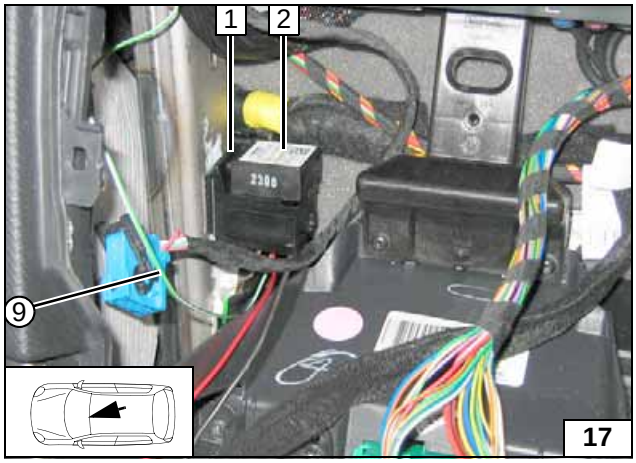
Connecting same colour wires of wiring harnesses



Connection to 6-pin connector **2**.
Produce connections as shown in wiring diagram.

1 Red (rt) wire 8045/3
3 Red (rt) wire of connector IC26(A), Pin 3
(10) Black (sw) wire of K1/30
(11) Red (rt) wire of K1/87a

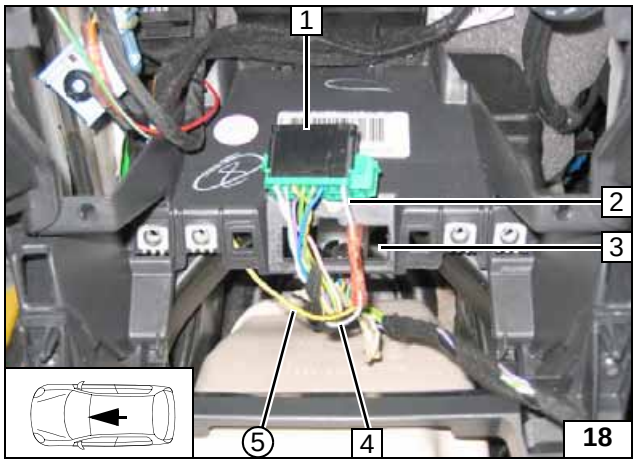
Connecting fan controller



Connect before installation green/white (gn/ws) wire (9) to IPCU/86. Fasten IPCU **1** to carrier with adhesive tape.

2 Connect IPCU

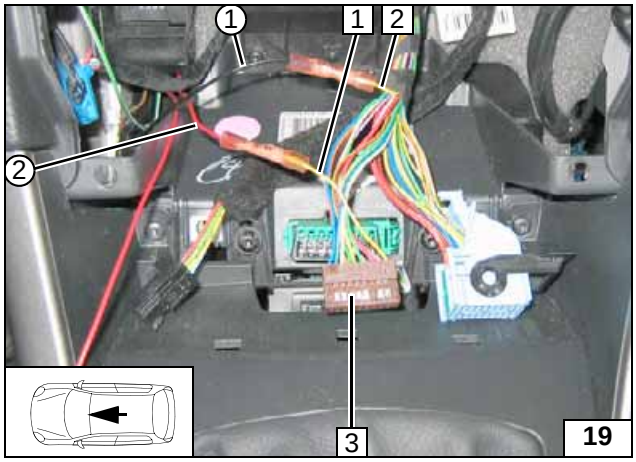
Mounting IPCU



Connection on OBD socket outlet **1**.
Produce connections as shown in wiring diagram.

2 White (ws) wire of OBD socket outlet, Pin 1
3 Socket of OBD socket outlet
4 White (ws) wire of terminal 15
⑤ Yellow (ge) wire of IPCU/15

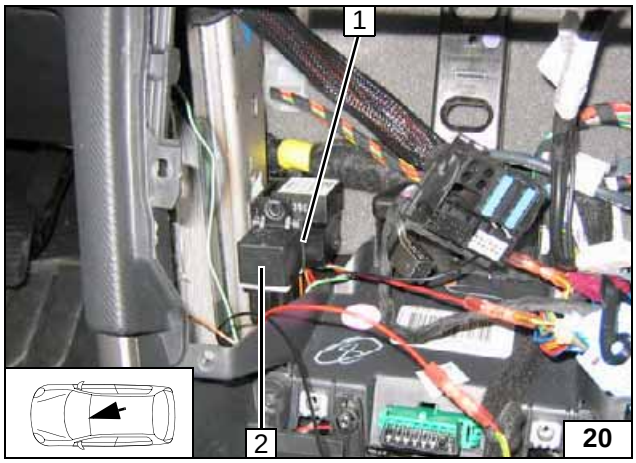
Connection of terminal 15



Connection on 40-pin connector **3** from A/C control panel (remove connector).
Produce connections as shown in wiring diagram.

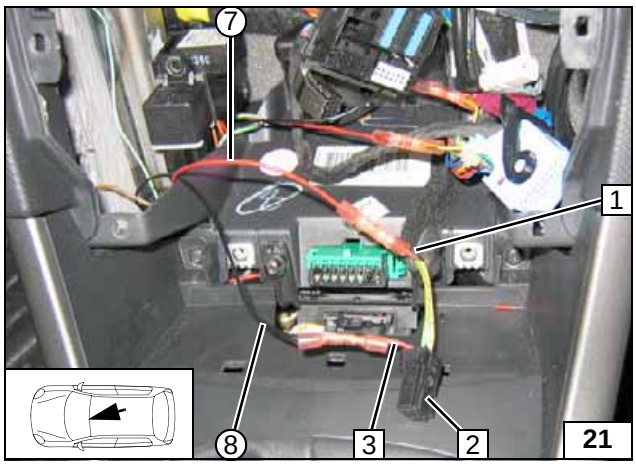
1 Yellow (ge) wire 8080/20
2 Yellow (ge) wire 8045/5
① Black (sw) wire of IPCU/A
② Red (rt) wire of IPCU/E

Connecting IPCU



Fasten K2 relay **2** with adhesive tape to socket of IPCU **1**.

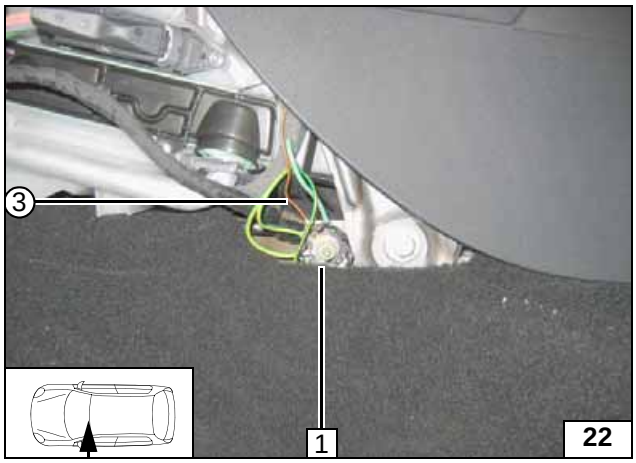
Installing K2 relay



Connection to 6-pin connector **2** from A/C control panel.
Produce connections as shown in wiring diagram.

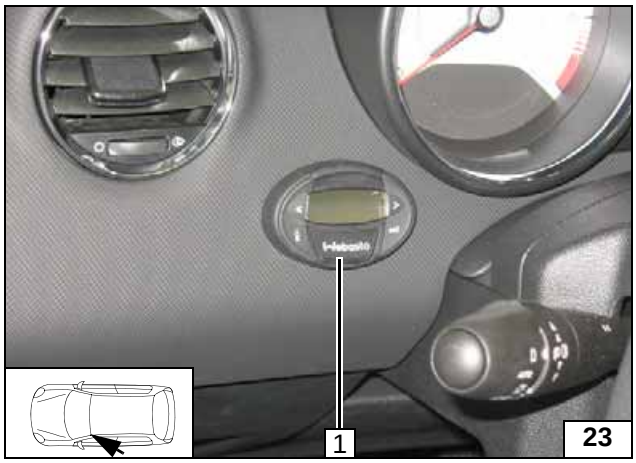
1 Red (rt) wire BSI/11 (F13)
3 Red (rt) wire 8080/1
⑦ Red (rt) wire of K2/87
⑧ Black (sw) wire of K2/30

Connecting K2 relay



1 Original vehicle earth support point on centre console
③ Brown (br) wire of IPCU/85

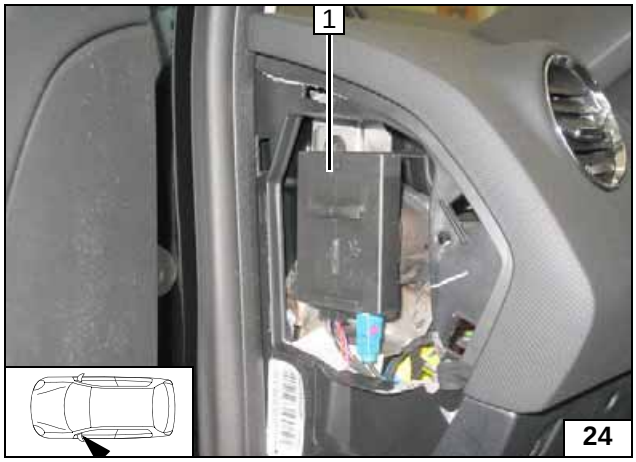
IPCU earth connection



Digital Timer

1 Digital timer

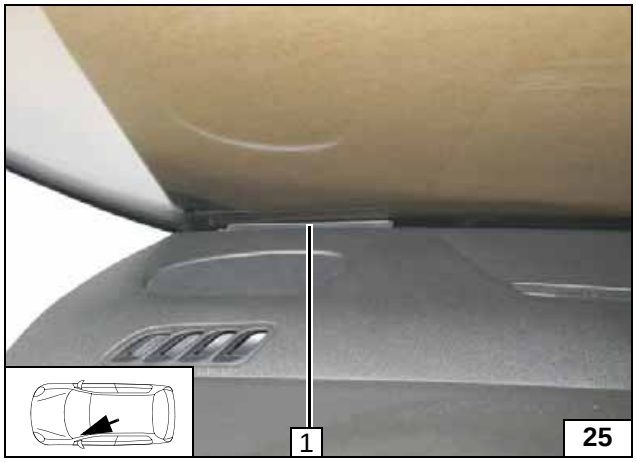
Mounting digital timer



Remote Option (Telestart)

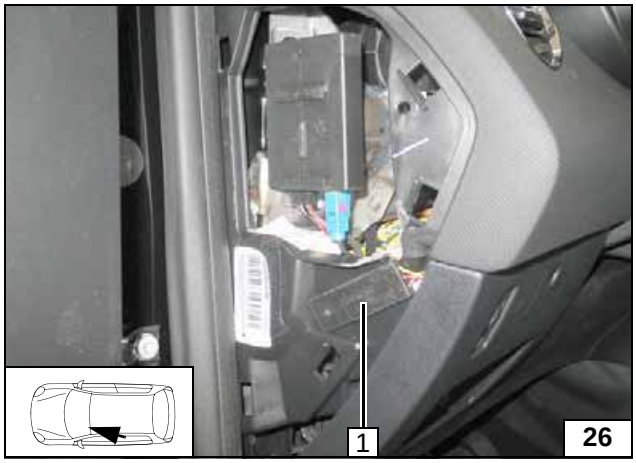
Fasten receiver **1** with adhesive tape.

Mounting receiver



1 Antenna

Mounting antenna

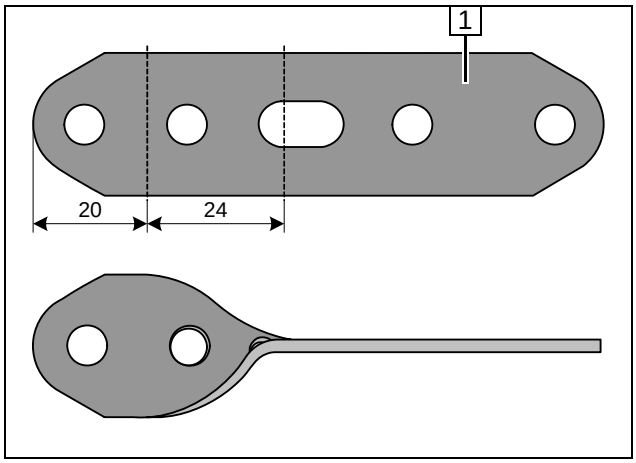


Temperature sensor T100 HTM

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

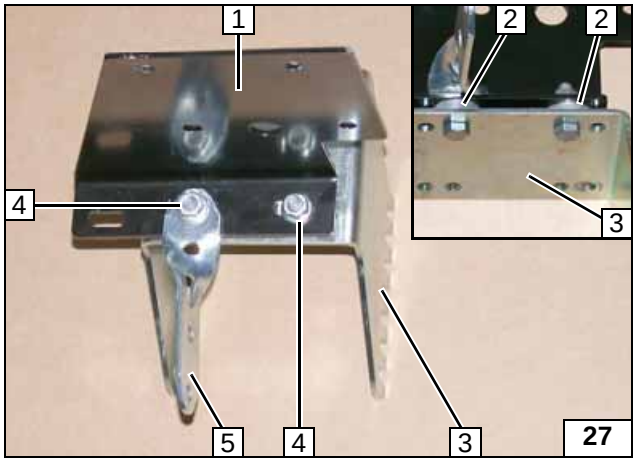
Installing tempera-ture sensor

Preparing Installation Location 1.6l



1 Perforated bracket

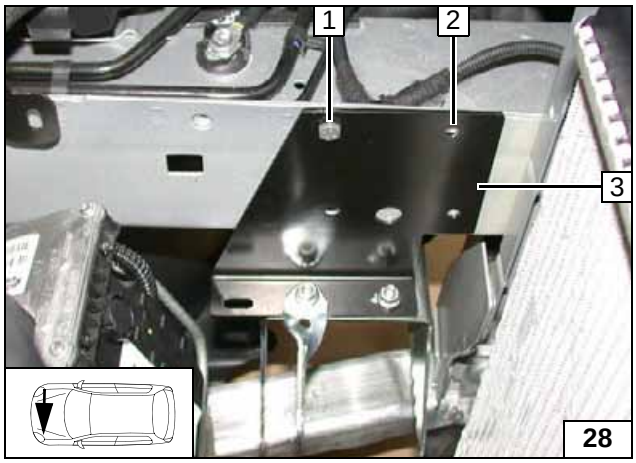
Twisting perforated bracket in longitudinal axis



Insert one 5 mm shim **2** each between retaining plate **1** and bracket **3** at position **4**.

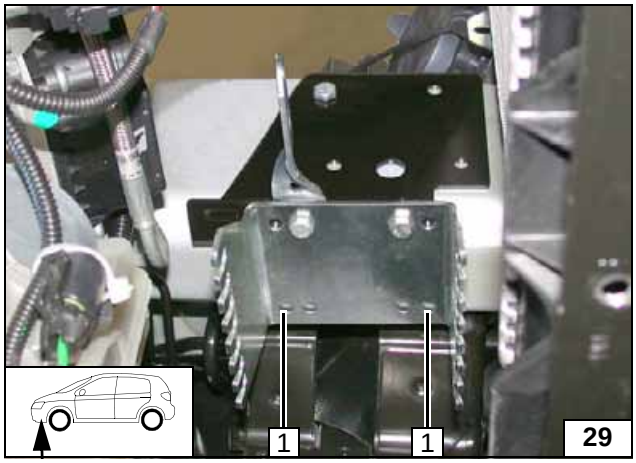
4 M6x16 bolt, 5 mm shim, flanged nut [2x each]
5 Perforated bracket

Premounting bracket



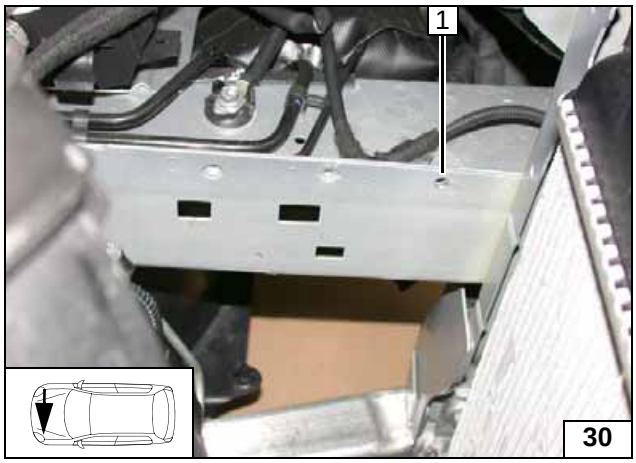
1 M6x20 bolt, existing threaded hole
2 Copy hole pattern
3 Loosely mount retaining plate with bracket

Copying hole pattern



1 Copy hole pattern [2x]

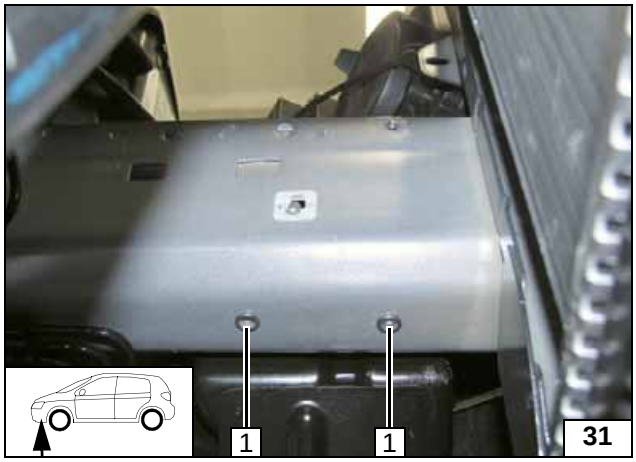
Copying hole pattern



Remove retaining plate with bracket.

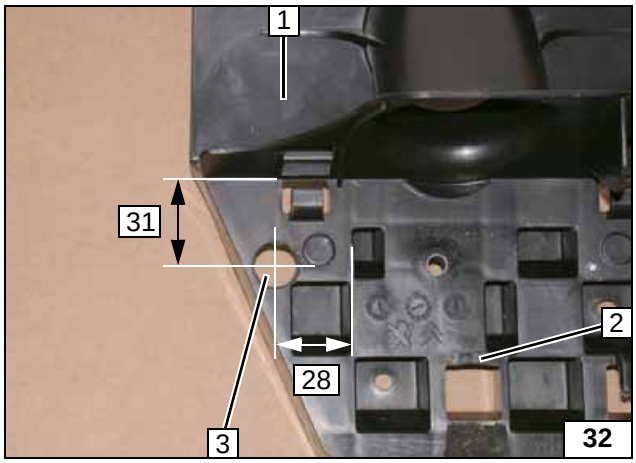
1 7 mm dia. hole

Hole in frame side member



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

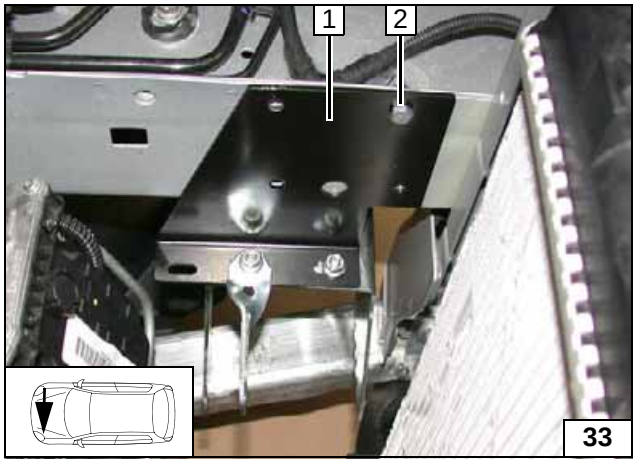
Installing rivet nut



Cut off tab at position **2**.

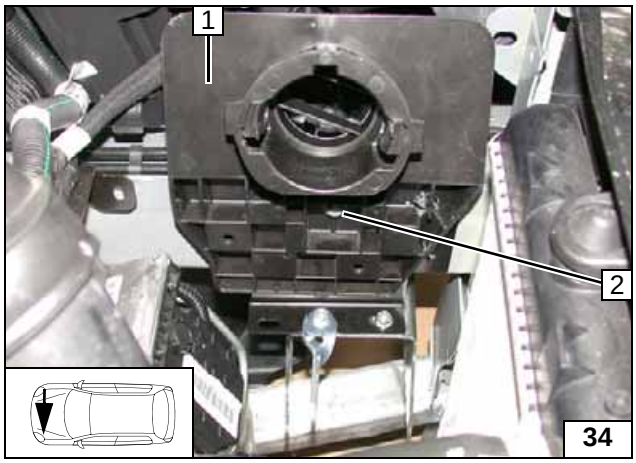
1 Bracket of air intake pipe
3 12 mm dia. hole

Preparing bracket of air intake pipe



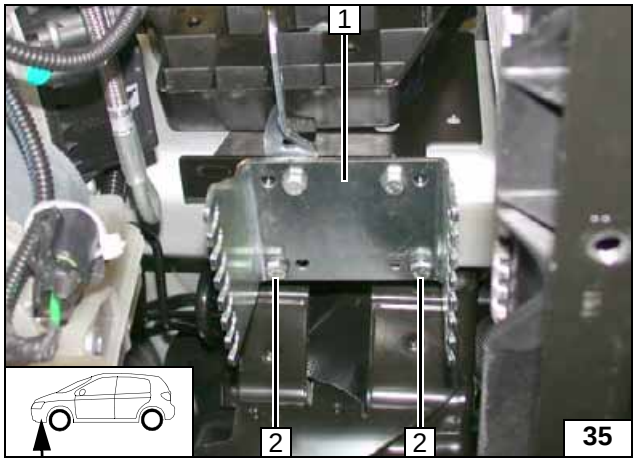
1 Retaining plate with bracket
2 M6x20 bolt, flanged nut

Mounting bracket



1 Bracket of air intake pipe
2 Original vehicle bolt

Mounting bracket of air intake pipe

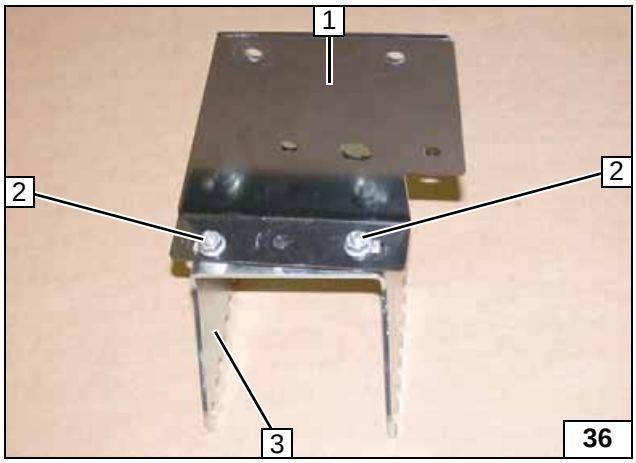


Insert one 20 mm shim each between bracket **1** and frame side member at position **2**.

2 M6x35 bolt, spring lockwasher, 20 mm shim [2x each]

Mounting bracket

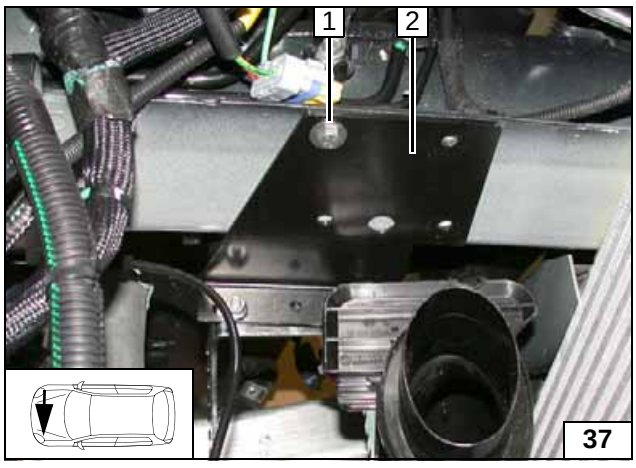
Preparing Installation Location 2.0l



Insert one 5 mm shim each between retaining plate **1** and bracket **3** at position **2**.

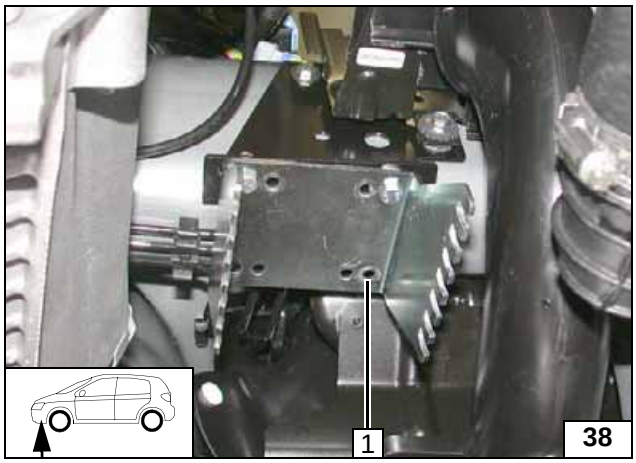
2 M6x16 bolt, 5 mm shim, flanged nut [2x each]

Premounting bracket



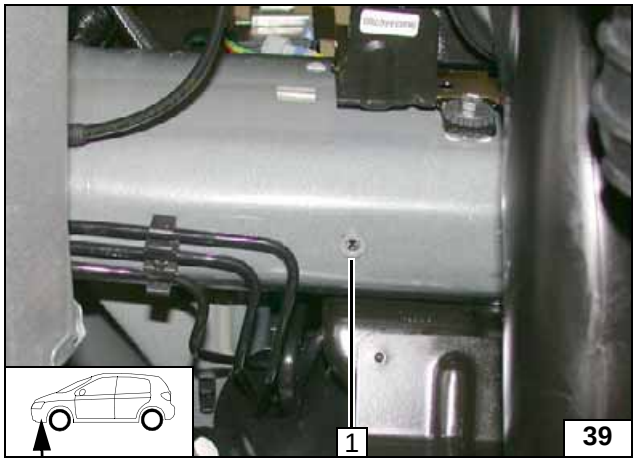
1 M6x20 bolt, large diameter washer, existing threaded hole
2 Loosely mount retaining plate with bracket

Loosely mount bracket



1 Copy hole pattern

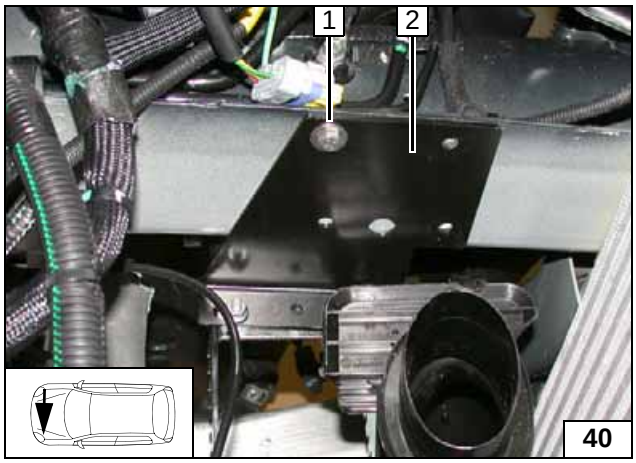
Copying hole pattern



Remove retaining plate with bracket.

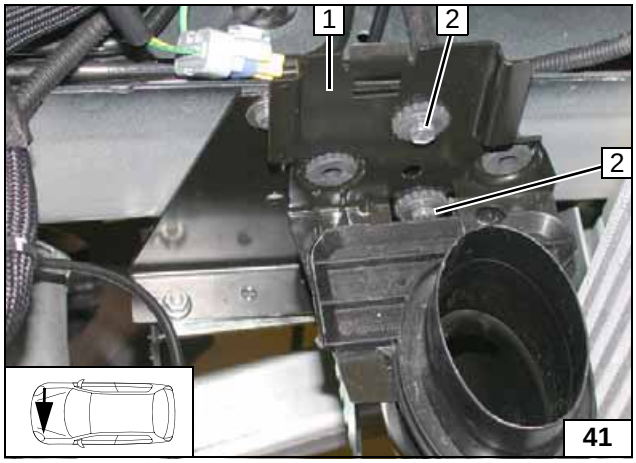
1 Drill 9.1 mm dia. hole; rivet nut

Installing rivet nut



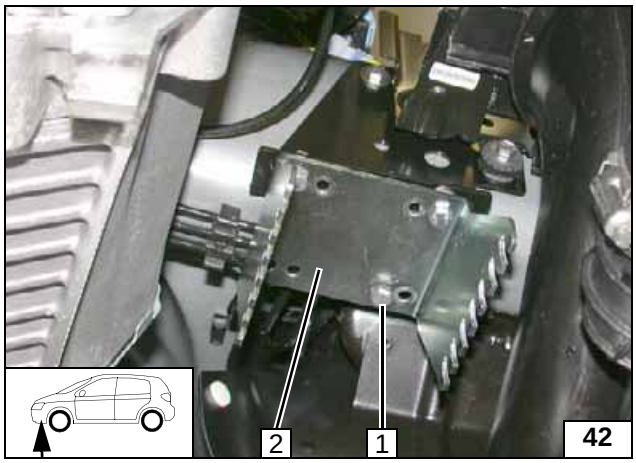
1 M6x20 bolt, large diameter washer, existing threaded hole
2 Retaining plate with bracket

Mounting bracket



Fasten bracket of air intake pipe **1** with original vehicle bolts **2** [2x].

Mounting bracket of air intake pipe

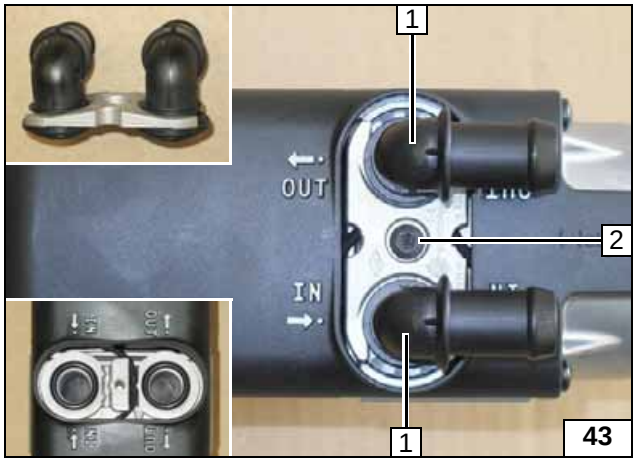


Insert one 20 mm shim between bracket **2** and frame side member at position **1**.

1 M6x35 bolt, spring lockwasher, 20 mm shim

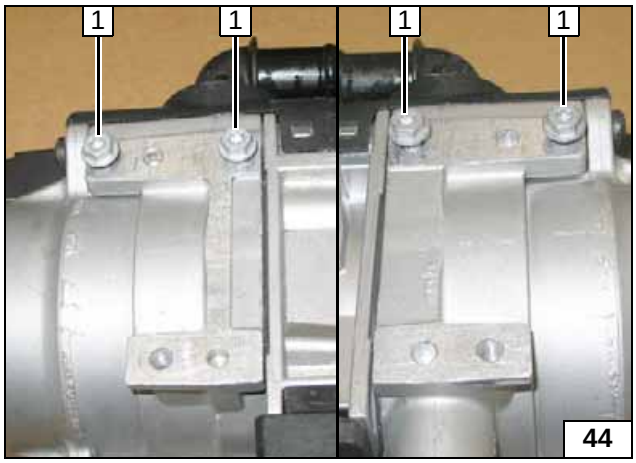
Mounting bracket

Preparing Heater



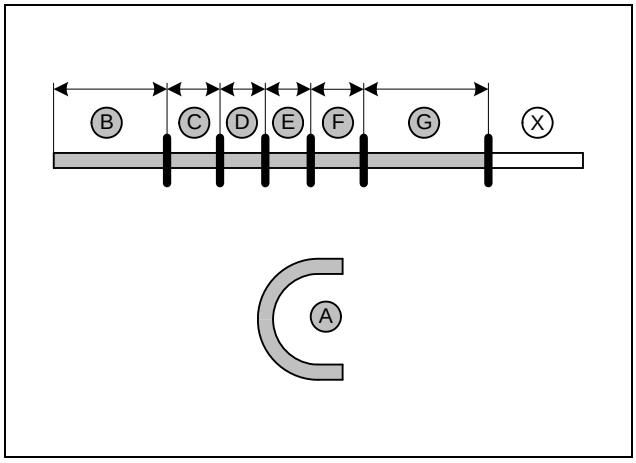
1 Water connection piece, sealing ring [2x each]
2 5x15 self-tapping bolt, retaining plate of water connection piece

Mounting water connection piece



Screw 5x13 self-tapping bolts **1** [4x] in existing holes, turn max. 3 threads.

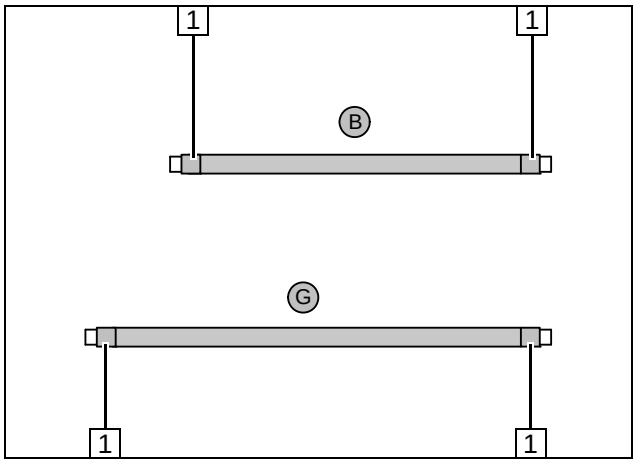
Premounting bolts loosely



Discard section **X**.
Hose **A** = 180°, 18 mm dia. moulded hose

1.6 D		2.0 D	
B =	440	**B** =	260
C =	60	**C** =	150
D =	60	**D** =	135
E =	70	**E** =	60
F =	100	**F** =	115
G =	550	**G** =	510

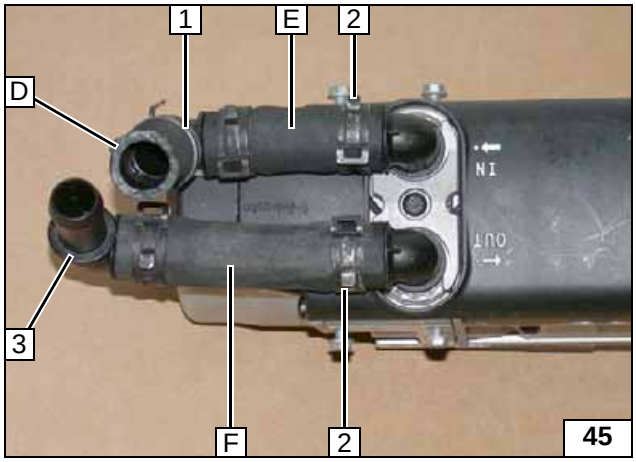
Cutting hoses to length



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

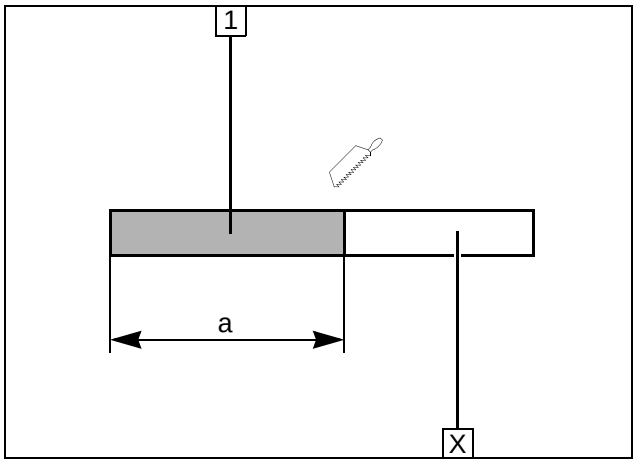
1 50 mm long heat shrink plastic tubing [4x]

Preparing hoses



1 90°, 18x18 mm dia. connecting pipe, 25 mm spring clip [2x]
2 25 mm dia. spring clip [2x]
3 90°, 18x18 mm dia. connecting pipe, 25 mm spring clip

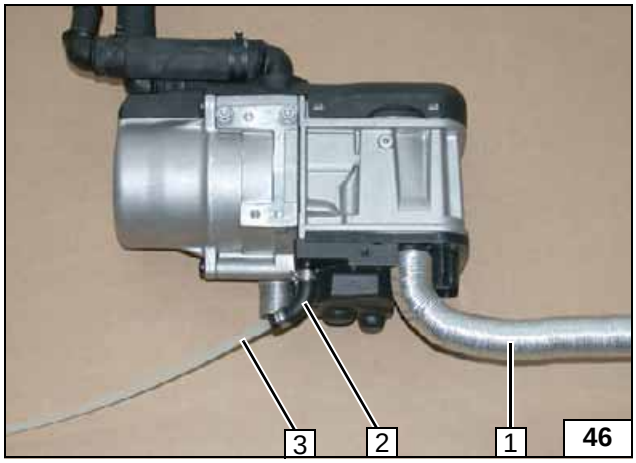
Premounting hoses



Discard section **X**.

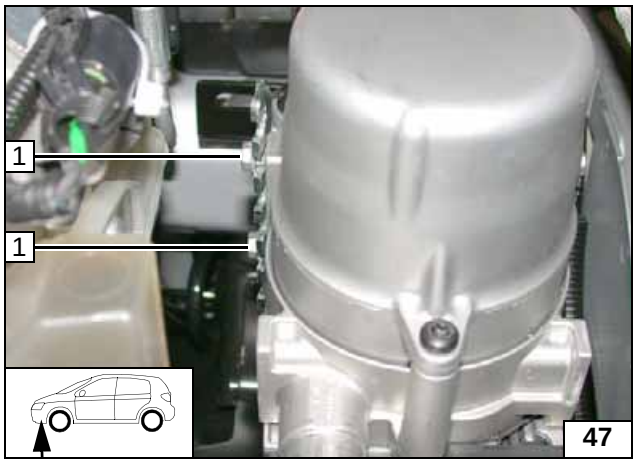
1 Combustion air pipe
a = 260

Cutting combustion air pipe to length



1 Combustion air pipe
2 Hose section, 10 mm dia. clamp [2x]
3 Fuel line

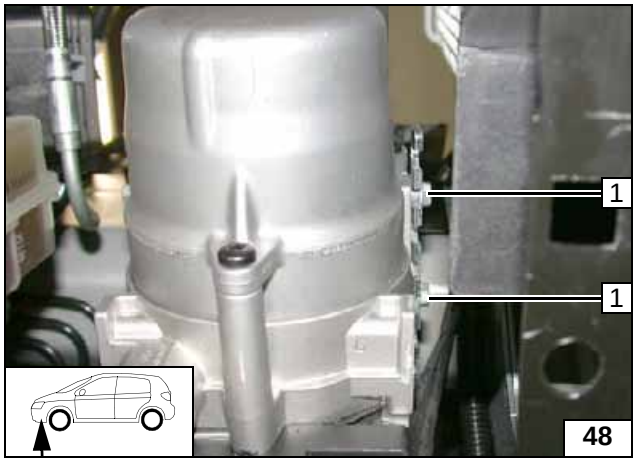
Premounting heater



Mounting Heater, Automatic Transmission

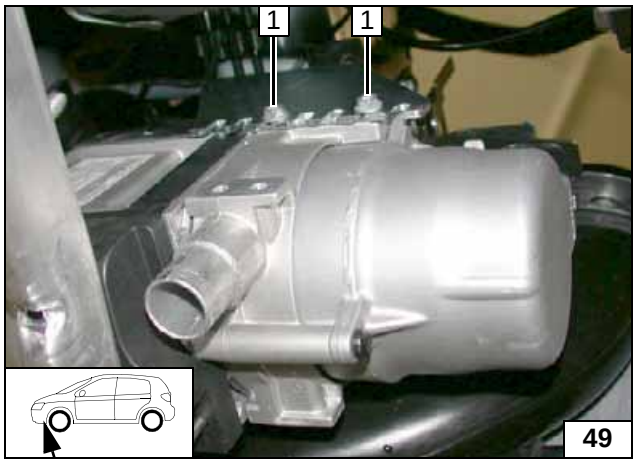
1 Tighten 5x13 self-tapping bolt [2x]

Mounting heater



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

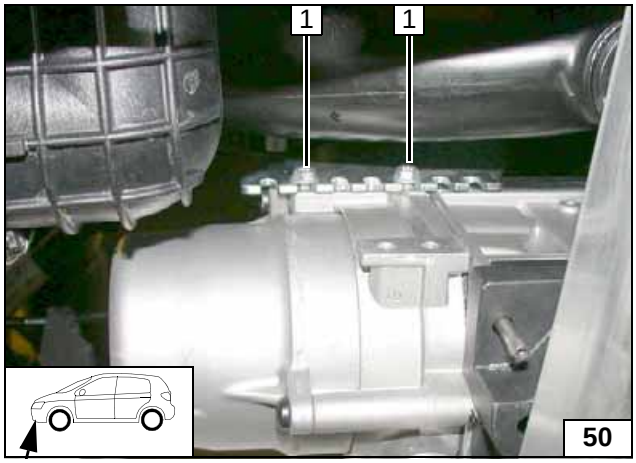
Mounting heater



Mounting Heater, Manual Transmission

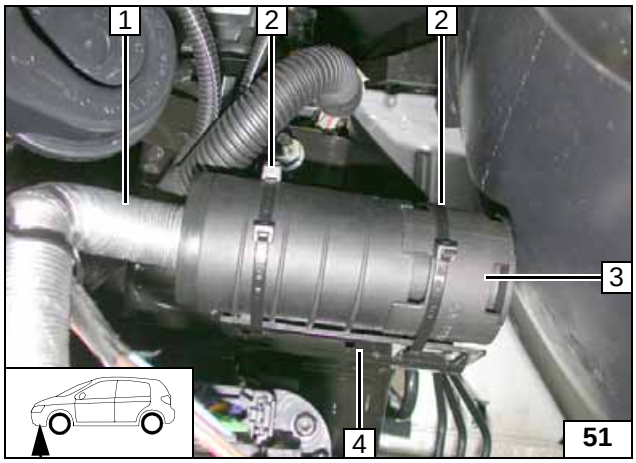
1 Tighten 5x13 self-tapping bolt [2x]

Mounting heater



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

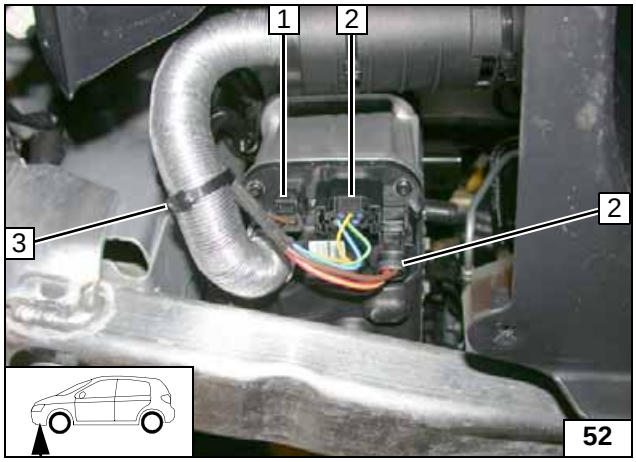
Mounting heater



Combustion Air

1 Combustion air pipe
2 Cable tie [2x each]
3 Silencer
4 Bracket of ABS

Mounting silencer



1 Wiring harness of circulating pump
2 Wiring harness of heater [2x]
3 Cable tie

Installing wiring harnesses

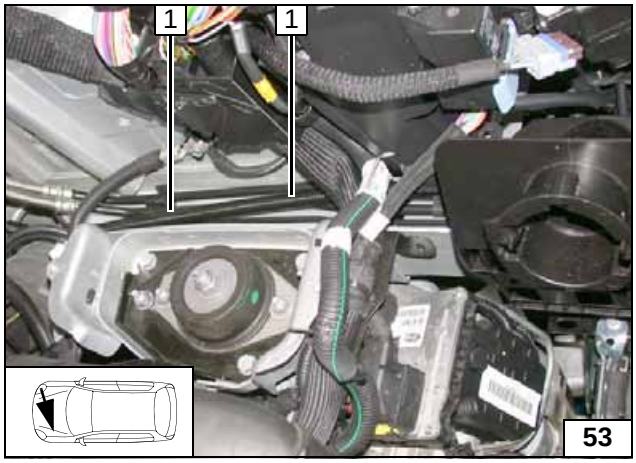
Fuel

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.

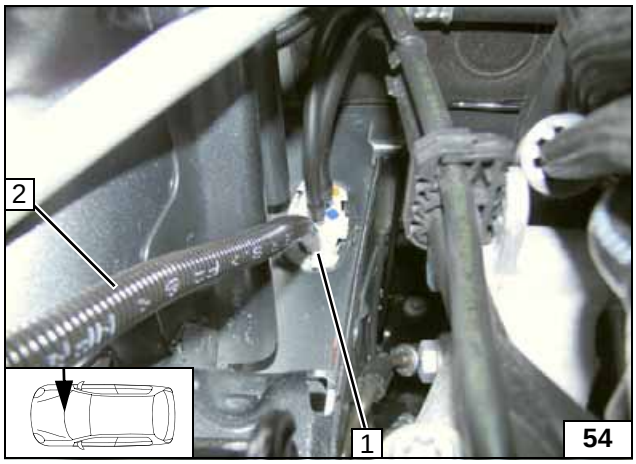
Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

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



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

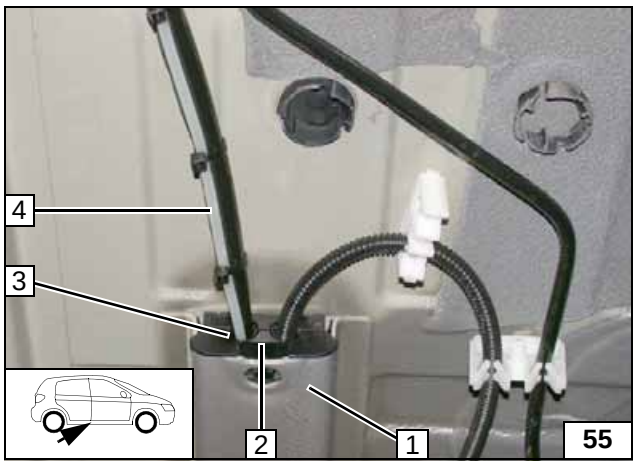
Routing lines



Route fuel line and wiring harness of metering pump in original vehicle line duct to underbody.

1 Original vehicle pass through
2 Fuel line, wiring harness of metering pump in corrugated tube

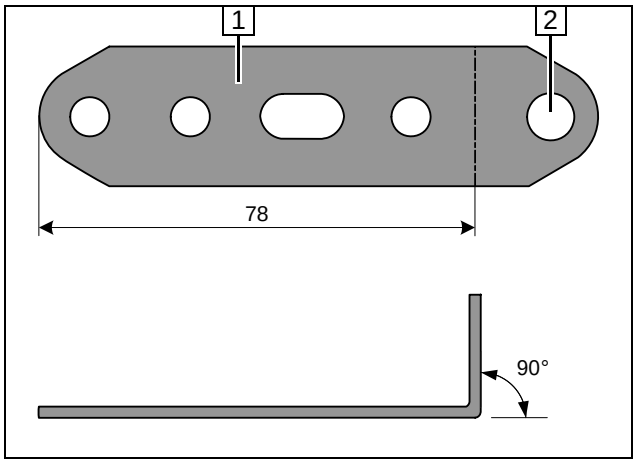
Routing lines



8mm dia. hole at position **3** in original vehicle sealing **2**!

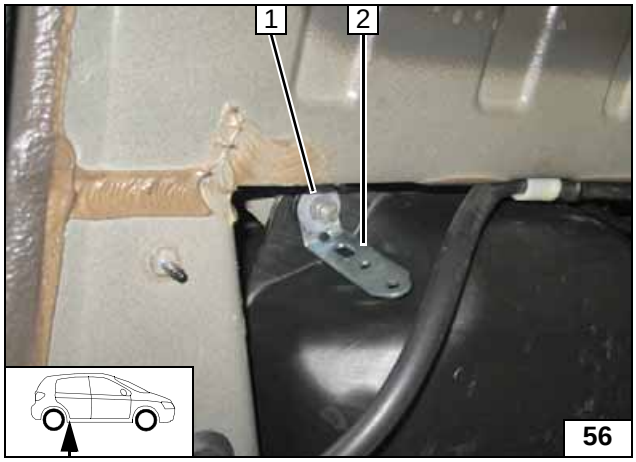
1 Original vehicle line duct
4 Fuel line, metering pump wiring harness

Routing lines



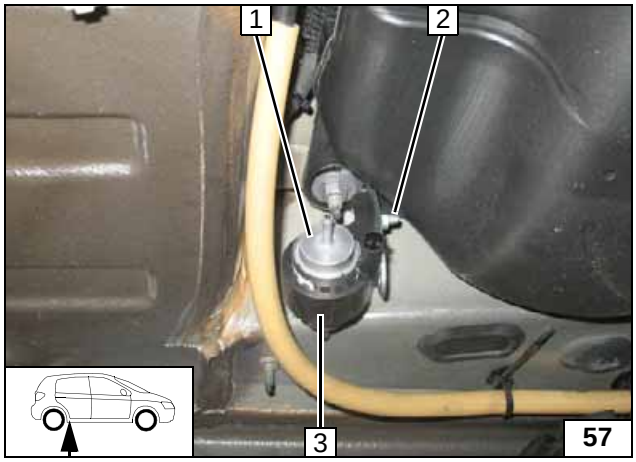
1 Perforated bracket
2 Drill 9 mm dia. hole

Preparing perforated bracket



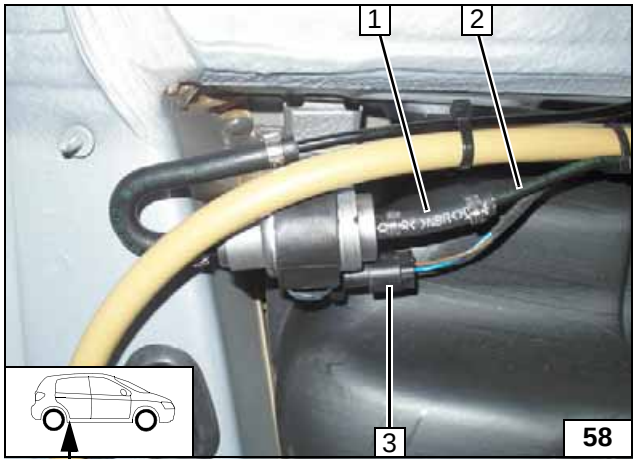
1 Original vehicle bolt
2 Perforated bracket

Mounting metering pump



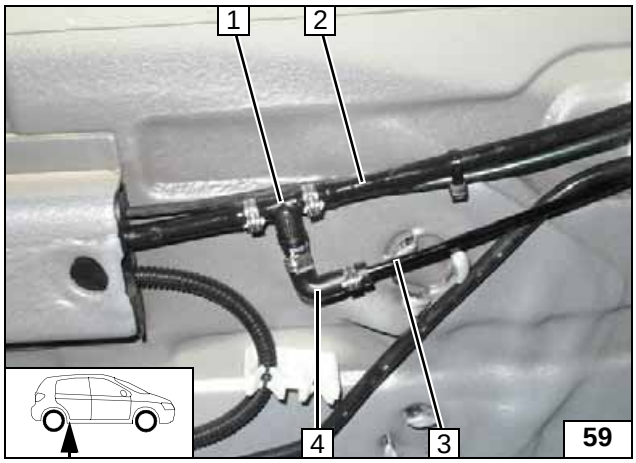
1 Metering pump
2 M6x25 bolt, support angle bracket, flanged nut
3 Metering pump mount

Mounting metering pump



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

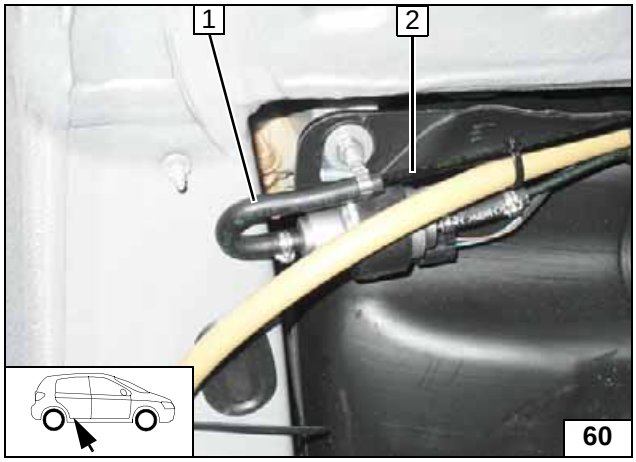
Connecting metering pump



Cut off fuel supply line **2** at position 1.

1 8x5x8 fuel standpipe, 10 mm dia. clamp [2x]
3 Fuel line
4 90° moulded hose, 10 mm dia. clamp [2x]

Fuel extraction



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

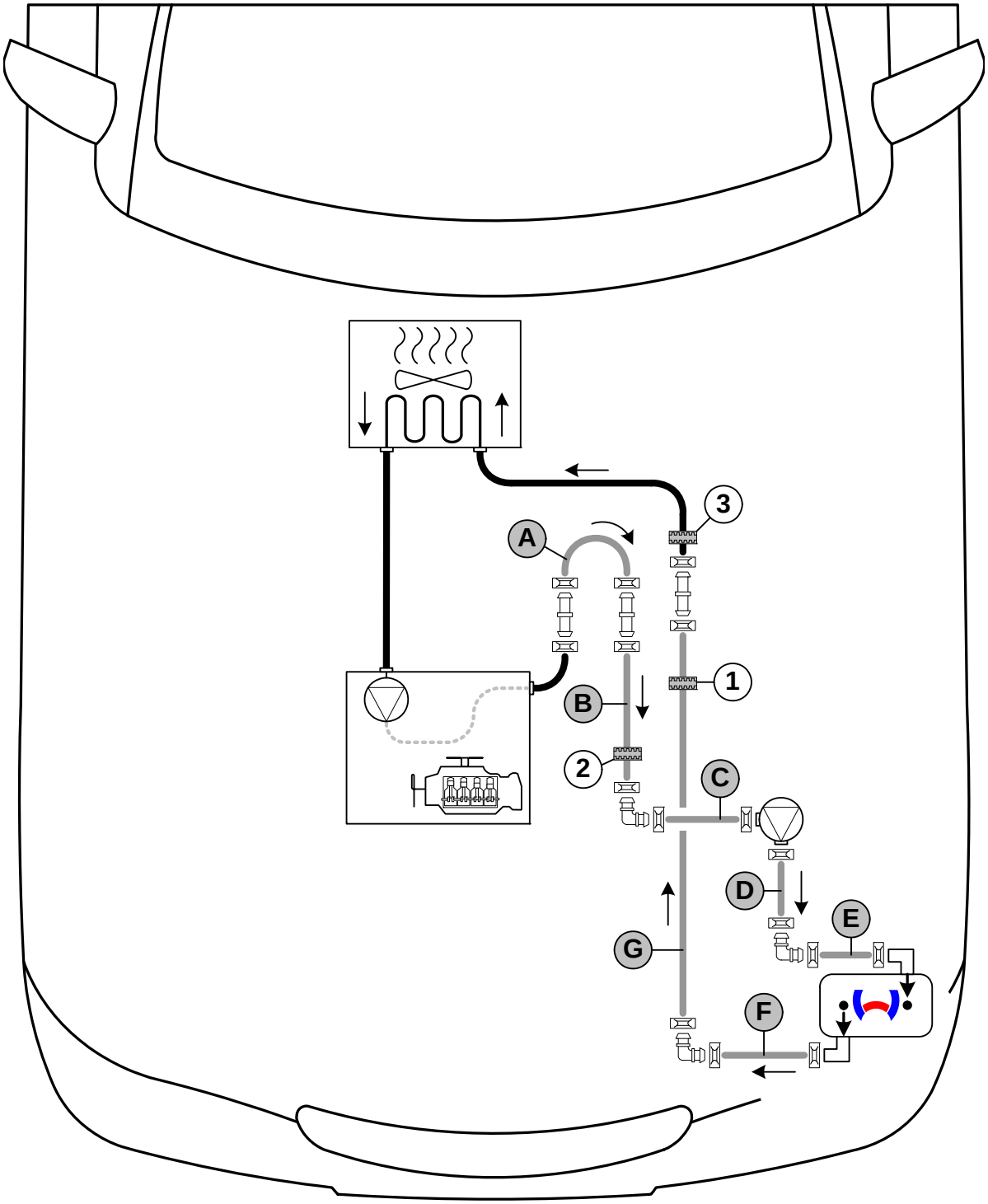
1 180° moulded hose, 10 mm dia. clamp [2x]
2 Fuel line of fuel standpipe

Connecting metering pump

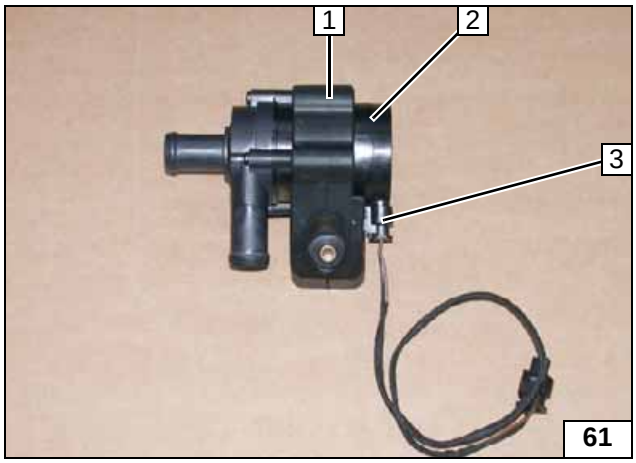
Coolant Circuit

WARNING!
Any coolant running off should be collected in 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. The heater must be filled with coolant when installing the hoses.
The connection should be "inline" based on the following diagram:

Hose routing diagram

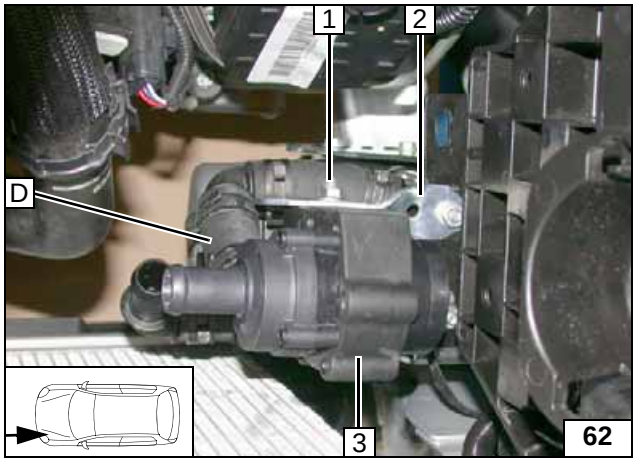


All spring clips = 25 mm dia. **1** = Black (sw) rubber isolator for all vehicles.
2 = Black (sw) rubber isolator 1.6 D only! **3** = black (sw) rubber isolator only for 2.0 D!
All connecting pipes and = 18x18mm dia.



1 Mounting circulating pump
2 Circulating pump
3 Wiring harness of circulating pump

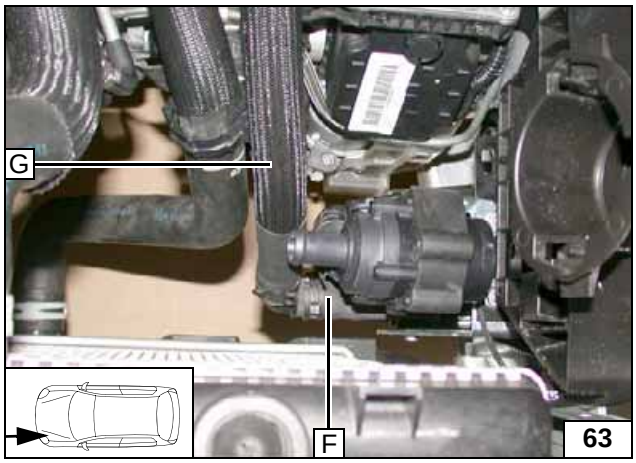
Premounting circulating pump



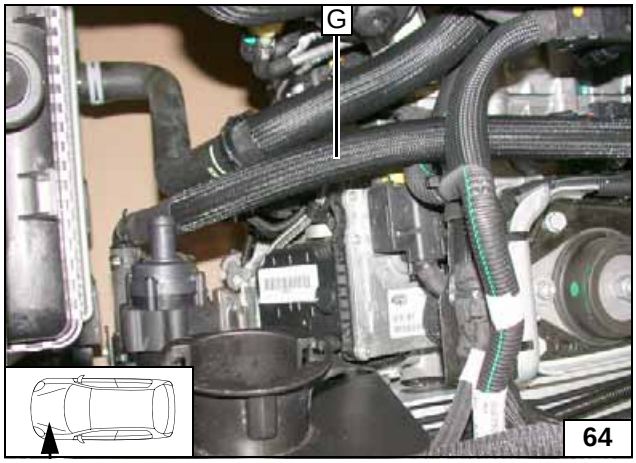
1.6l

1 M6x25 bolt, flanged nut
2 Perforated bracket
3 Mounting circulating pump

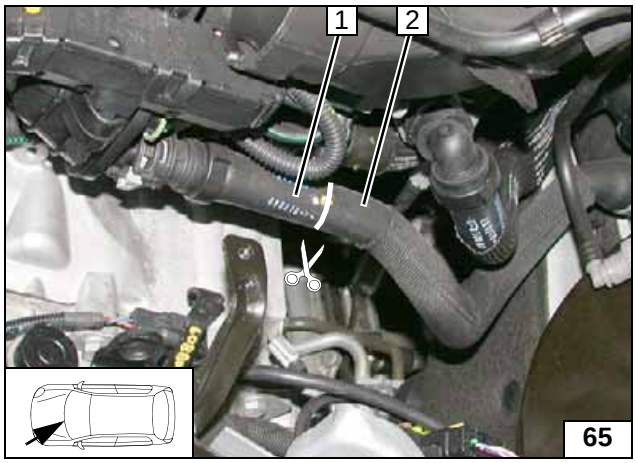
Mounting circulating pump



Connection of heater outlet



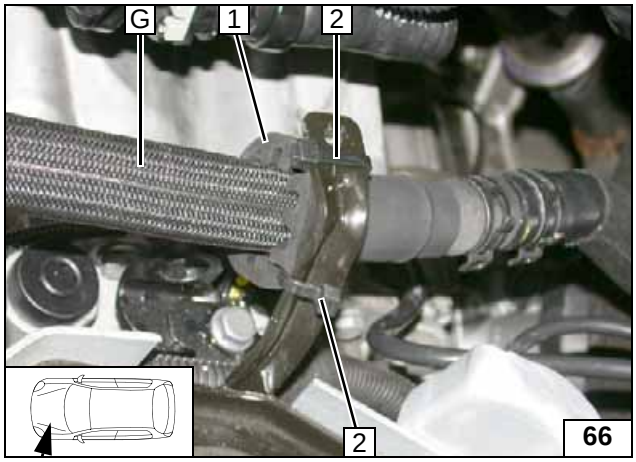
Routing in engine compartment



Cut off hose on engine outlet/heat exchanger inlet at marking.

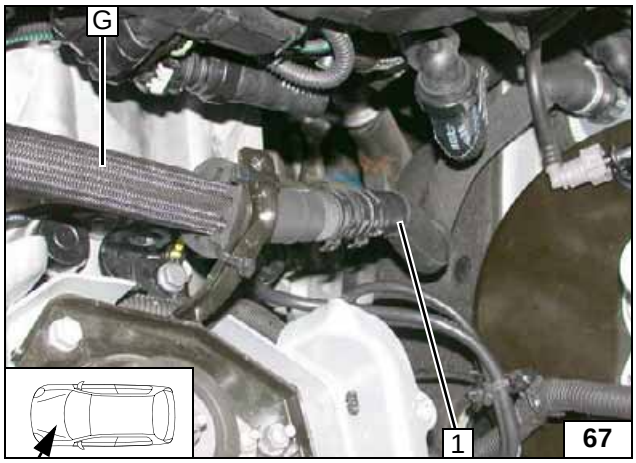
1 Engine outlet hose section
2 Hose section of heat exchanger inlet

Cutting point



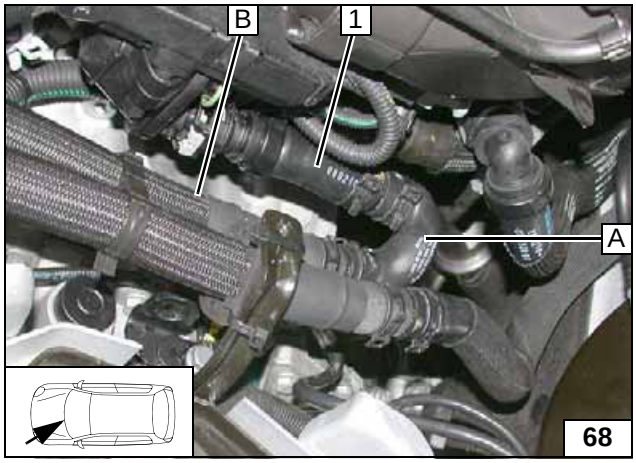
1 Slide on black (sw) rubber isolator and align
2 Cable tie [2x]

Routing in engine compartment



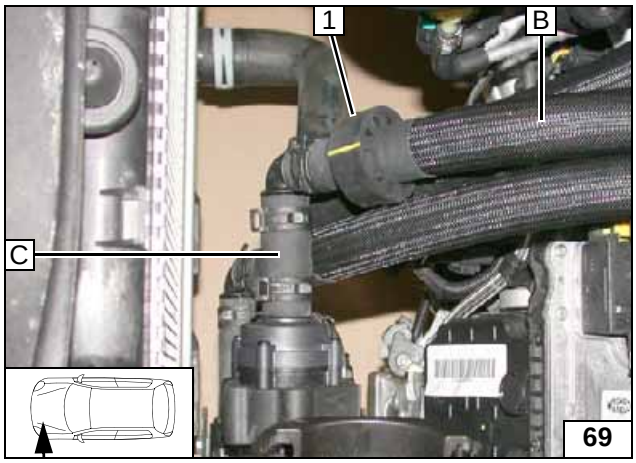
1 Hose on heat exchanger inlet

Connection of heat exchanger inlet



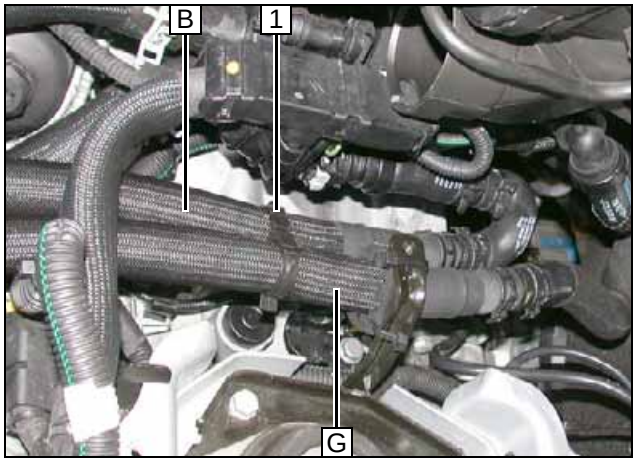
1 Hose on engine outlet

Connecting engine outlet



1 Slide on black (sw) rubber isolator and align

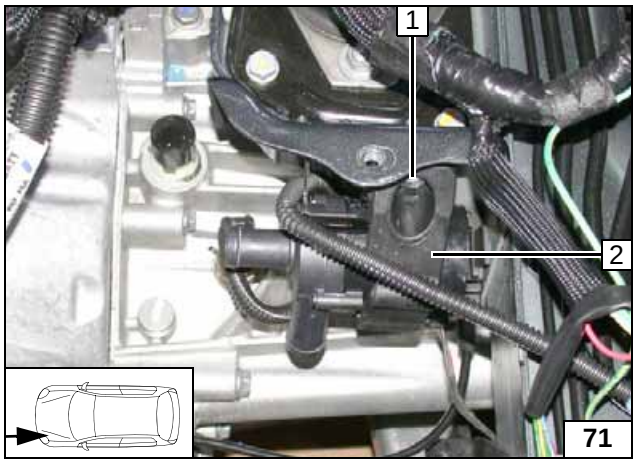
Connecting circulating pump



Align hoses. Ensure sufficient distance from neighbouring components.

1 Hose bracket

Inserting hose bracket

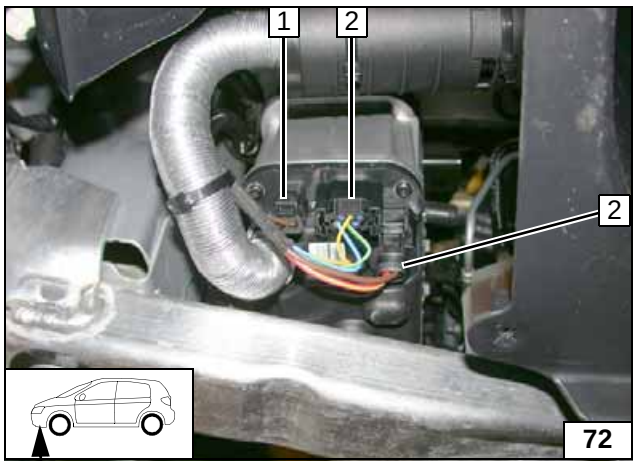


2.0l

Remove original vehicle bolt at position **1** and discard.

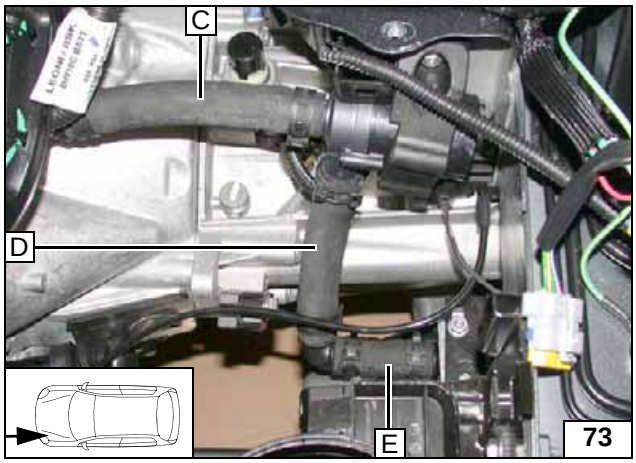
1 M6x25 bolt, flanged nut
2 Mounting circulating pump

Mounting circulating pump

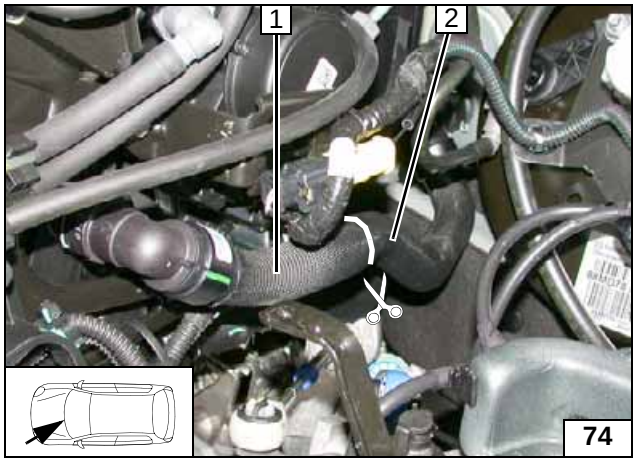


1 Wiring harness of circulating pump
2 Wiring harness of heater [2x]
3 Cable tie

Installing wiring harnesses



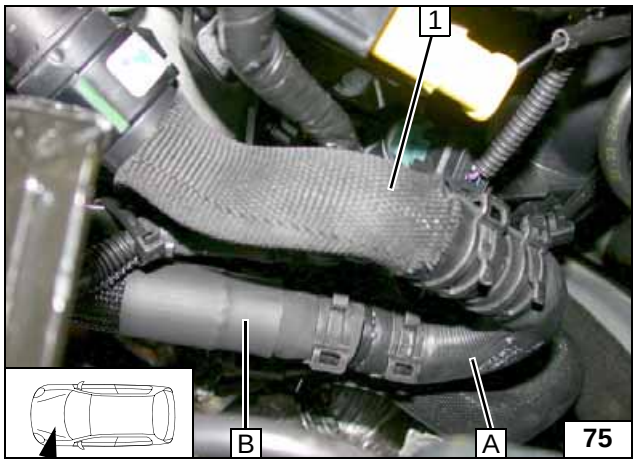
Connecting circulating pump



Cut off hose on engine outlet/heat exchanger inlet at marking. Remove braided protective hose in the area of the cutting point.

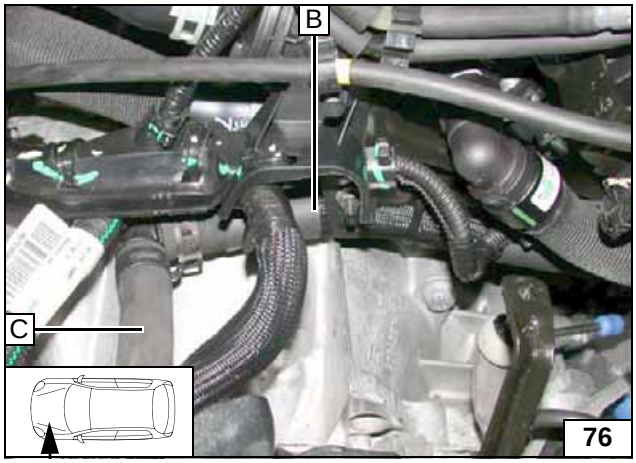
1 Engine outlet hose section
2 Hose section of heat exchanger inlet

Cutting point

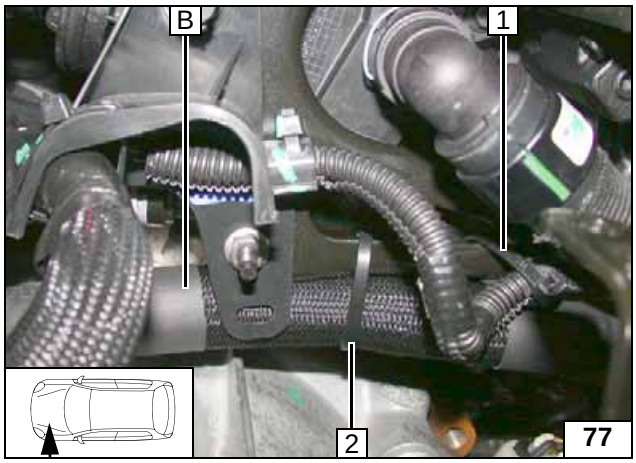


1 Hose on engine outlet

Connecting engine outlet



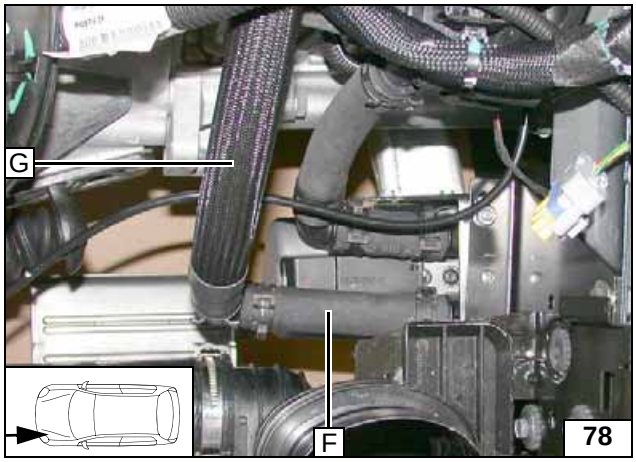
Routing in engine compartment



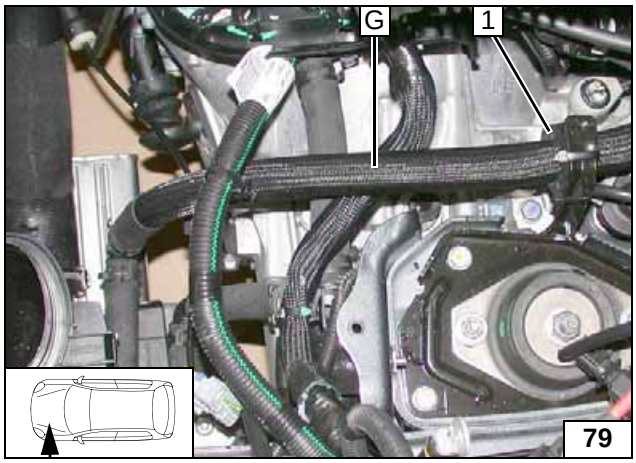
Secure original vehicle wiring harness with cable tie **1**.

2 Cable tie

Routing in engine compartment

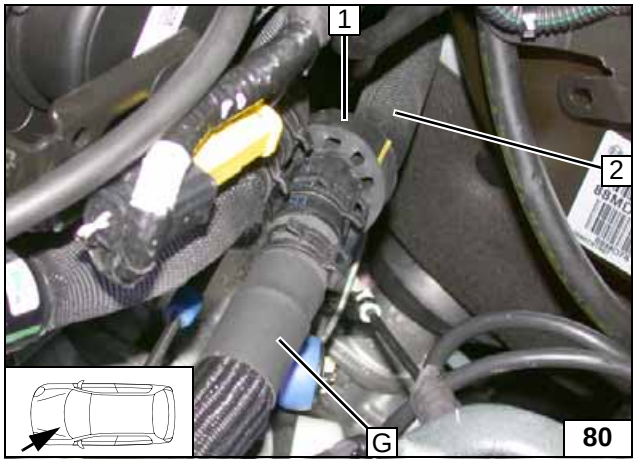


Connection of heater outlet



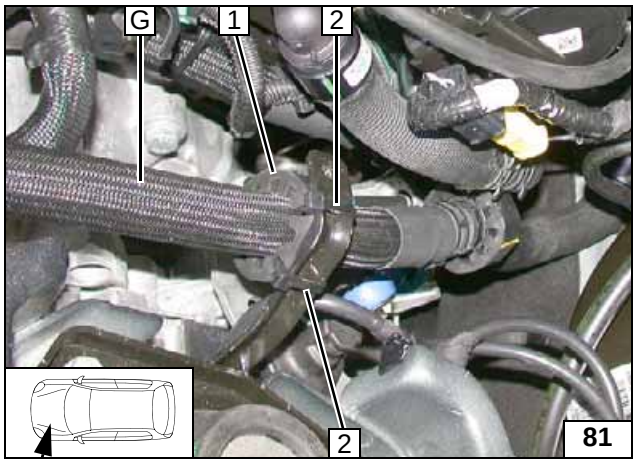
1 Slide on black (sw) rubber isolator

Routing in engine compartment



1 Slide on black (sw) rubber isolator and align
2 Hose on heat exchanger inlet

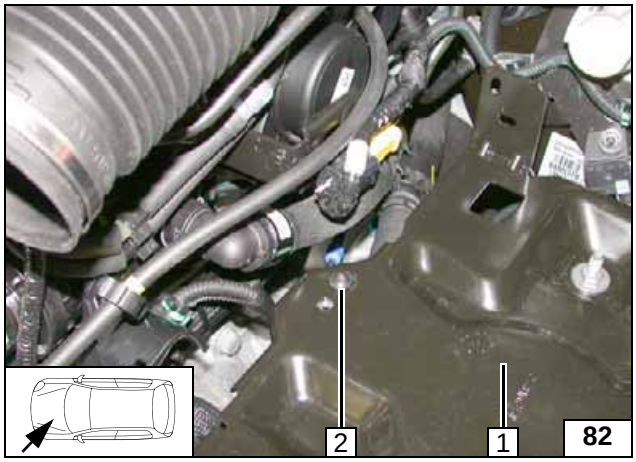
Connection of heat exchanger inlet



Align hoses. Ensure sufficient distance from neighbouring components.

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

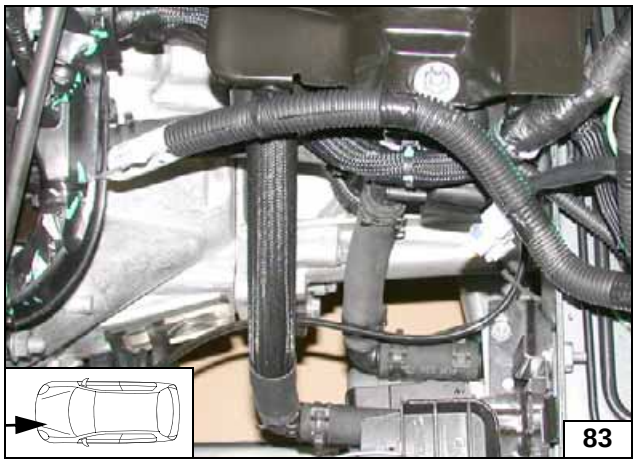
Routing in engine compartment



Shorten original vehicle bolt **2** by 5 mm. Ensure sufficient distance from neighbouring components.

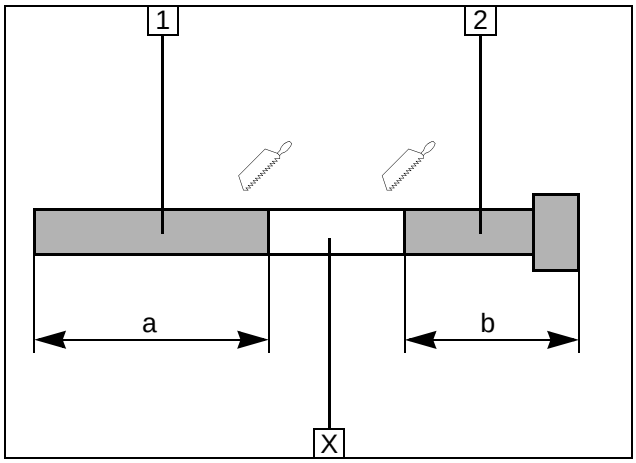
1 Battery carrier

Mounting battery carrier



Ensure sufficient distance from neighbouring components.

Aligning hoses

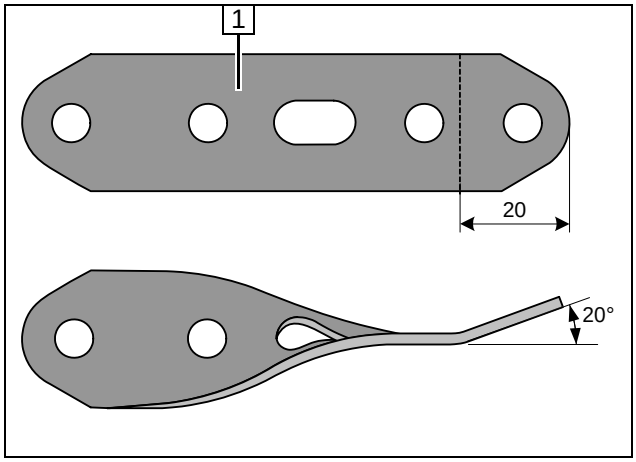


Exhaust Gas

Discard section **X**.

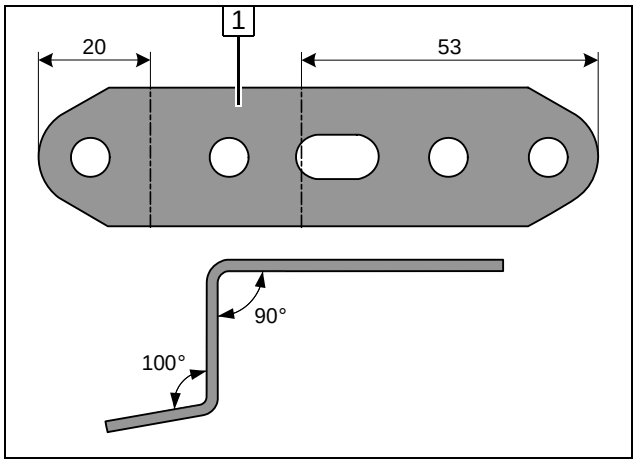
1 Exhaust pipe
a = 160mm
2 Exhaust end section
b = 135mm

Preparing exhaust pipe



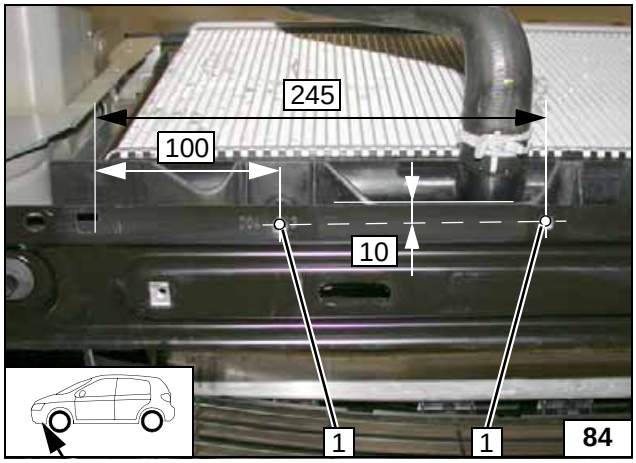
Twist perforated bracket **1** by 90° in the longitudinal axis and angle down.

Preparing perforated bracket of exhaust end section



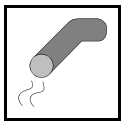
1 Perforated bracket

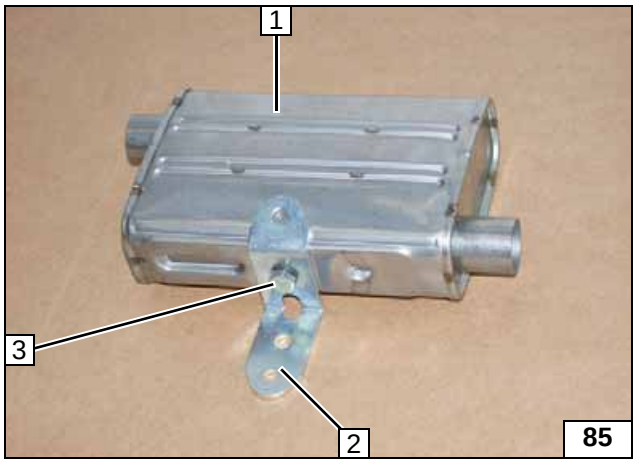
Angling down perforated bracket of silencer



1 7 mm dia. hole [2x]

Holes in cross member

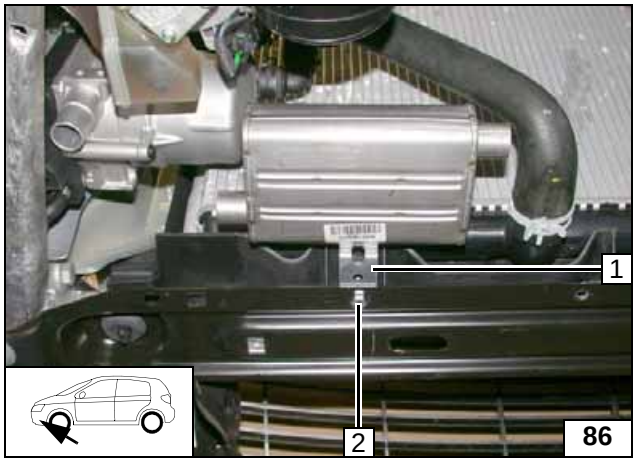




1.6l

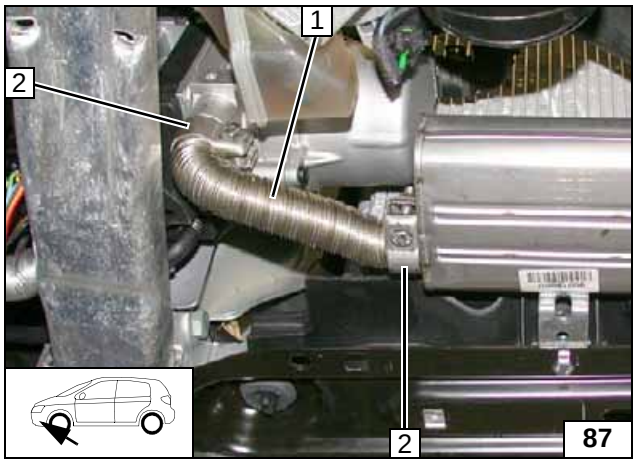
1 Silencer
2 Perforated bracket
3 M6x16 bolt, spring lockwasher

Premounting silencer



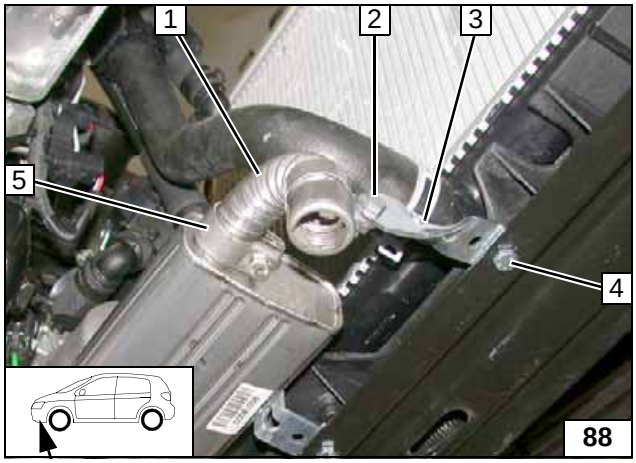
1 Perforated bracket
2 M6x20 bolt, flanged nut

Mounting silencer



1 Exhaust pipe
2 Hose clamp [2x]

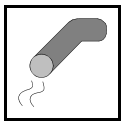
Installing exhaust pipe

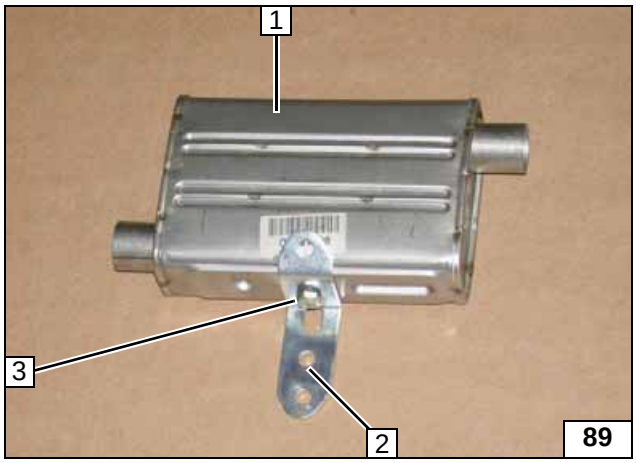


Ensure sufficient distance from adjacent components; correct if necessary.

1 Exhaust end section
2 M6x20 bolt, p-clamp, flanged nut
3 Perforated bracket
4 M6x20 bolt, flanged nut
5 Hose clamp

Installing exhaust end section

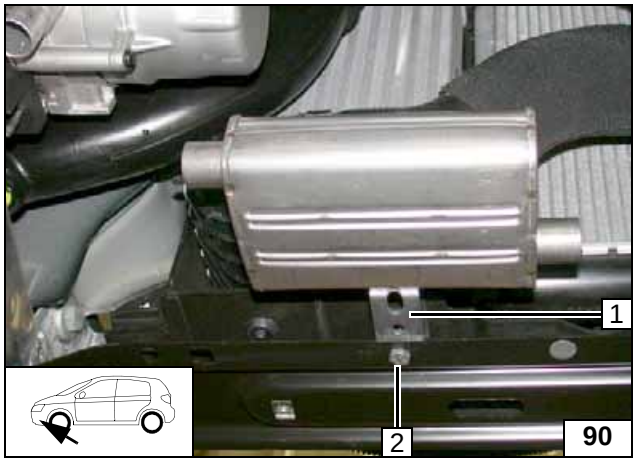




2.0l

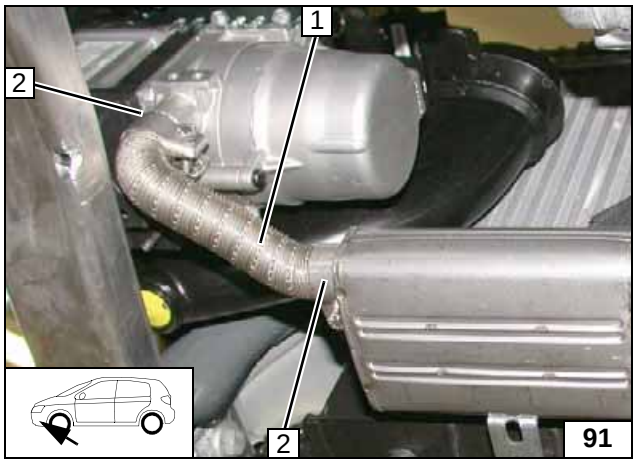
1 Silencer
2 Perforated bracket
3 M6x16 bolt, spring lockwasher

Premounting silencer



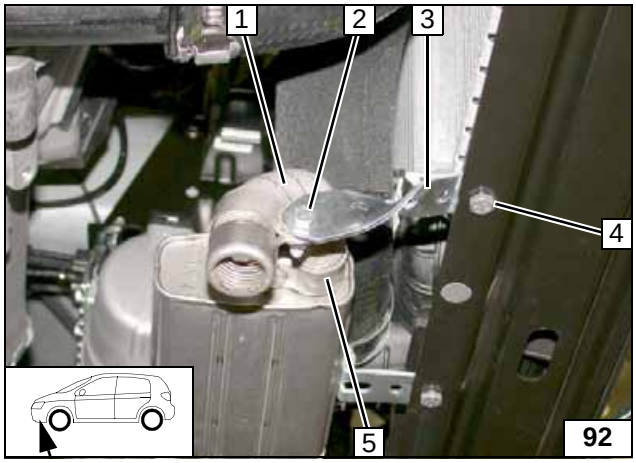
1 Perforated bracket
2 M6x20 bolt, flanged nut

Mounting silencer



1 Exhaust pipe
2 Hose clamp [2x]

Mounting exhaust pipe



Ensure sufficient distance from adjacent components; correct if necessary.

1 Exhaust end section
2 M6x20 bolt, p-clamp, flanged nut
3 Perforated bracket
4 M6x30 bolt, flanged nut
5 Hose clamp

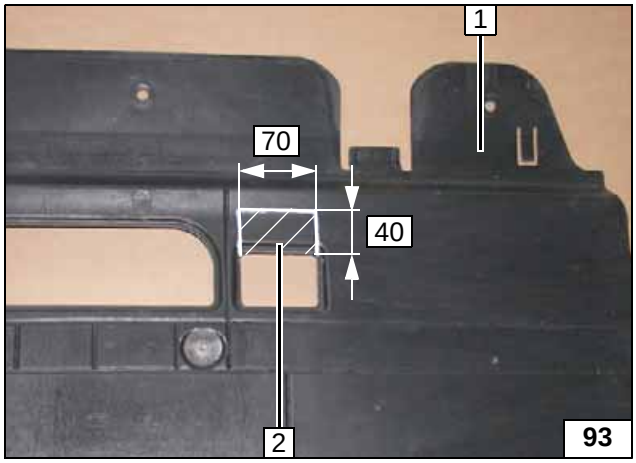
Mounting end section

Final Work

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

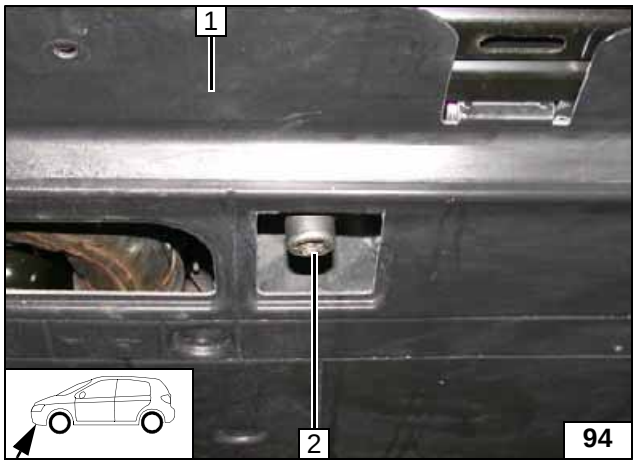
- **Connect the battery.**
- **Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.**
- **Adjust digital timer, teach Telestart transmitter.**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place the "Switch off parking heater before refuelling" signboard near the filler neck.**
- **For the initial start-up and function check, see installation instructions.**

Cutting out underride protection



1 Underride protection
2 Discard section

Aligning exhaust end section



When installing underride protection **1**, ensure sufficient distance from silencer, correct if necessary. Align exhaust end section **2** centrally in the recess of the underride protection **1**.

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

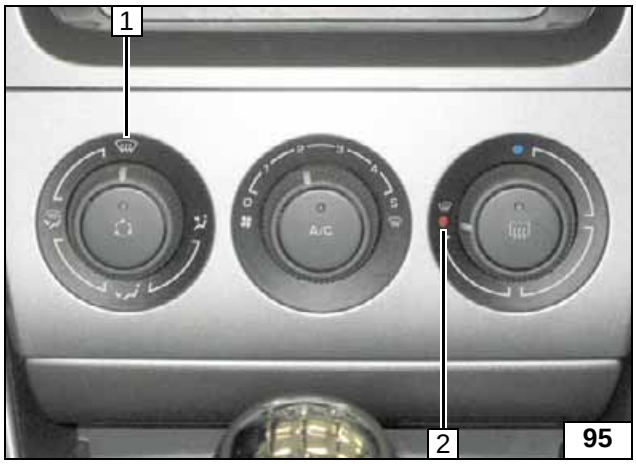
Operating Instructions for Manual Air-Conditioning

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.

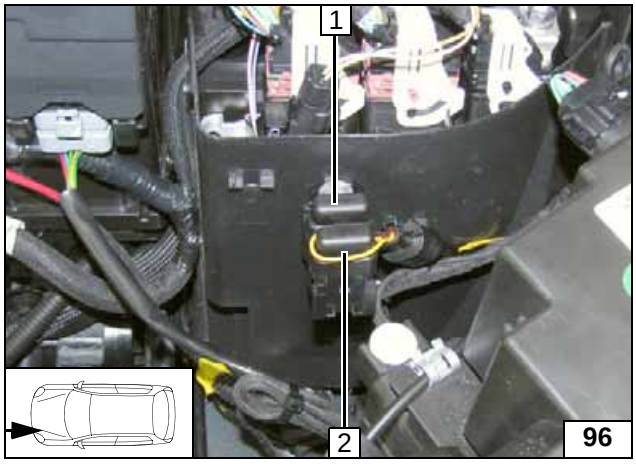
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.
For information on deactivation, please see the vehicle operating instructions.

Before parking the vehicle, make the following settings:



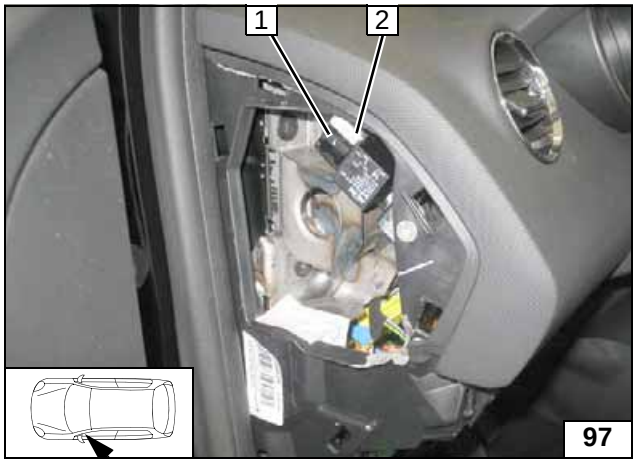
1 Air outlet to windscreen
2 Set temperature to "max."

A/C control panel



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

Fuses of engine compartment



1 1A heater control fuse F3
2 25A fan fuse F4

Fuses of passenger compartment

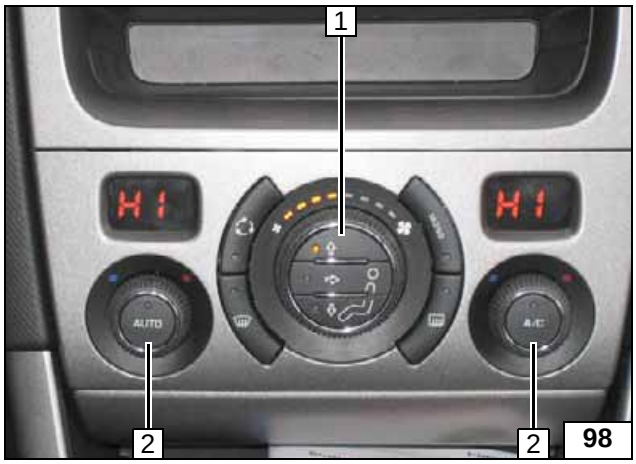
Operating Instructions for Automatic Air-Conditioning

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.

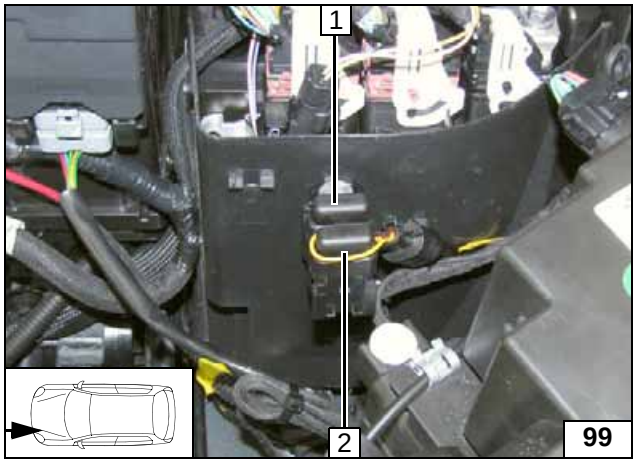
Passenger compartment monitoring, if installed, must be deactivated in addition to the vehicle settings for the heating operation.
For information on deactivation, please see the vehicle operating instructions.

Before parking the vehicle, make the following settings:



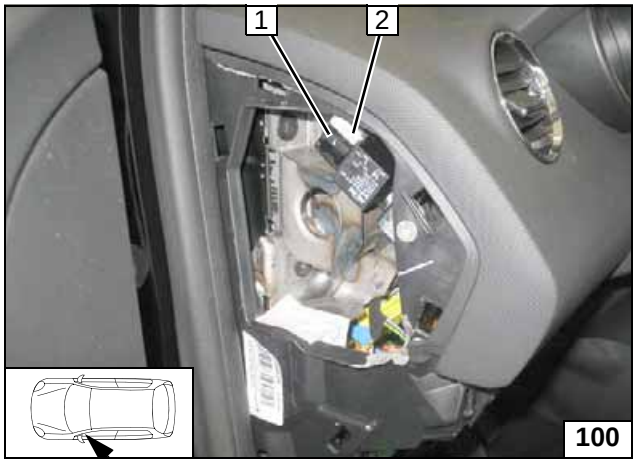
1 Air outlet to windscreen
2 Set temperature to "HI"

A/C control panel



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

Fuses of engine compartment



1 1A heater control fuse F3
2 25A fan fuse F4

Fuses of passenger compartment