

# Water Heater

*Thermo Top C* Parking Heater



## Installation Documentation

### Dodge Journey

Petrol and diesel  
From model year 2008  
Left-hand drive vehicle

### Fiat Freemont (JC)

Diesel  
From model year 2011  
Left-hand drive vehicle



#### **WARNING!**

Hazard warning:

The improper installation or repair of Webasto heating and cooling systems can cause fire or the leakage of deadly carbon monoxide. Serious or fatal injuries can be caused as a result.



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.

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

**NEVER attempt to install or repair Webasto heating or cooling systems if you have not successfully completed the company training and thereby acquired the required technical skills, or if you do not have access to the required technical documentation, tools and equipment needed to carry out correct installation and repairs.**

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

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

Webasto does not accept any liability for defects and damage that are attributable to installation by untrained staff.

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## Validity

Manufacturer	Model	Type	EG-BE No./ ABE
Chrysler (USA)	Dodge Journey	JC	e11* 2001 / 116 * 0145 * ...
Fiat	Freemont	JC	e11* 2001 / 116 * 0145 * ...

Engine type	Engine model	Output in kW	Displacement in cm <sup>3</sup>
P	Petrol	125	2360
BWD	Diesel	103	1968
EBD	Diesel	103	1956
EBD	Diesel	125	1956

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

The installation location of the digital timer should be confirmed with the end customer before installation.

### Heater / Installation Kit

Quantity	Description	Order No.:
1	Retail accessories with desired heater control	See price list
1	Installation kit Dodge Journey / Fiat Freemont (JC)	1314071B
1	Automatic A/C kit up to MY 2013	1313906C
or		
1	Automatic A/C kit up from MY 2014	1322886A

#### Note:

Arrange for the vehicle to be delivered with the tank only about ¼ full!



### Foreword

This Installation Documentation applies to Dodge Journey vehicles from model year 2008 and later as well as Fiat Freemont (JC) vehicles from model year 2011 and later - for validity, see page 2 -, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to these „Installation Documentation“.

However, the stipulations in this "installation documentation", the "operating instructions" and "installation instructions" for the *Thermo Top C* must always be observed.

The corresponding rules of technology and any information from the vehicle manufacturer should be observed during the installation work.

### General Instructions

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).

When installing a PWM Gateway, the corresponding settings must be checked or adjusted before the installation.

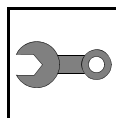
### Special Tools

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Fiat / Chrysler special tools for fuel-tank sending unit

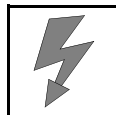
## Explanatory Notes on Document

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

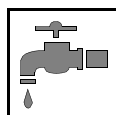
### Mechanical system



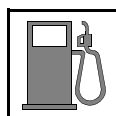
### Electrical system



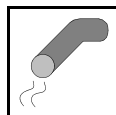
### Coolant circuit



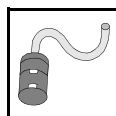
### Fuel



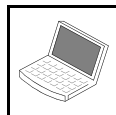
### Exhaust gas



### Combustion air



### 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 or explosion.



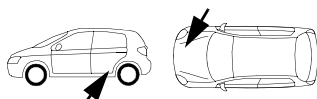
Reference to general installation instructions of Webasto components or to the manufacturer's vehicle-specific documents.



Reference to a special technical feature.



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



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

**All dimensions are in mm!**

**Tightening torque of hose clamps = 2.0 + 0.5 Nm!**

**Tightening torque of Ejet screws, Ejet studs = 10 Nm!**

## Preliminary Work

### WARNING!

- Open the fuel tank cap, ventilate the fuel tank.
- Close the fuel tank cap again.
- Disconnect the battery "earth" connection.
- Depressurise the cooling system.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- Remove the engine cover.
- Detach the servo reservoir.
- Detach the coolant expansion tank.
- Detach the fuse and relay box in the engine compartment.
- Detach and remove the right and left-hand wheel well trim.
- Remove the bumper.
- Remove the underride protection in front of the tank.
- Remove the fuel tank in accordance with the manufacturer's instructions (empty if necessary).
- Remove the A/C control panel.
- Remove the lower trim of the footwell on the front passenger side (Fiat only).
- Remove the glove compartment (Fiat only).
- Remove the decorative trim on the centre console (Fiat only).
- Remove the radio and A/C control panel (Fiat only).
- Remove the touchscreen (Fiat only).
- Remove the A/C control unit (Fiat only).
- Remove the lower instrument panel trim in the driver's side footwell.
- Remove the trim below the steering wheel.

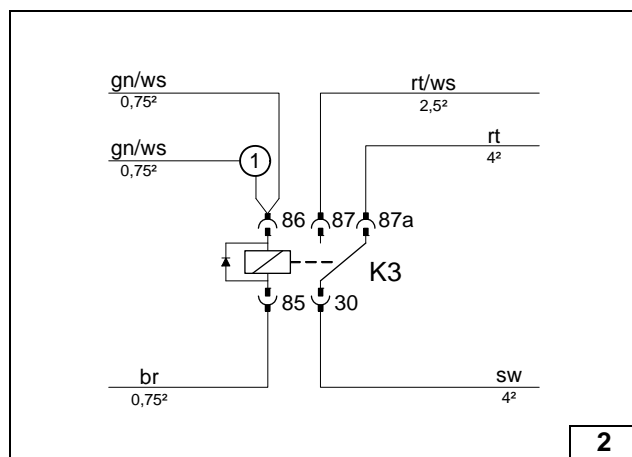
Please remove page 42 "Operating Instructions for End Customer" and add to the operating instructions.



### Heater Installation Location

1 Heater

Installation  
location



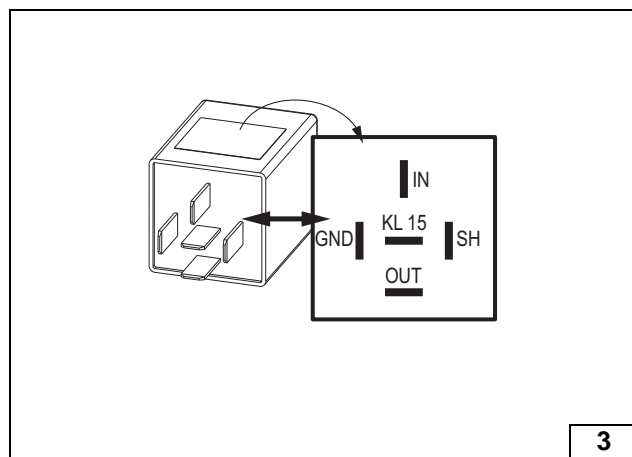
2

## Preparing Electrical System

### Automatic A/C all vehicles

Detach and remove contact of K3/86. Install green/white (gn/ws) wires with supplied contacts as shown in wiring diagram. Cut 400mm from protective sleeving. Pull through wire section 1 in 2100mm protective sleeving.

Preparing K3 relay



3

Check the PWM Gateway settings when starting up the heater and adjust if necessary.

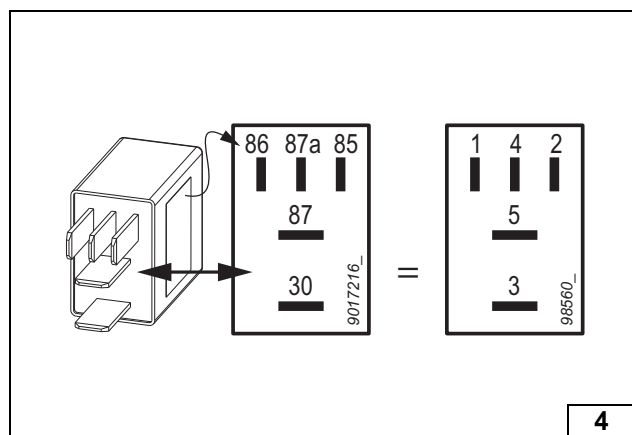
### Settings up to MY 2013:

Duty cycle: 55%  
Frequency: 100Hz  
Voltage: not relevant  
Function: Low-side

### Settings from MY 2014:

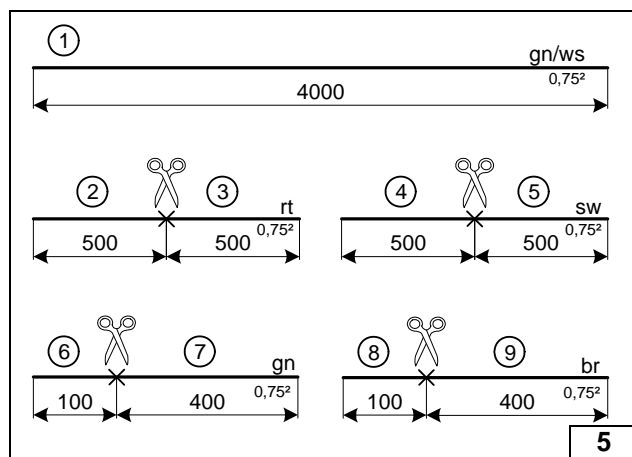
Duty cycle: 65%  
Frequency: 2000Hz  
Voltage: not relevant  
Function: Low-side

Preparing PWM GW



4

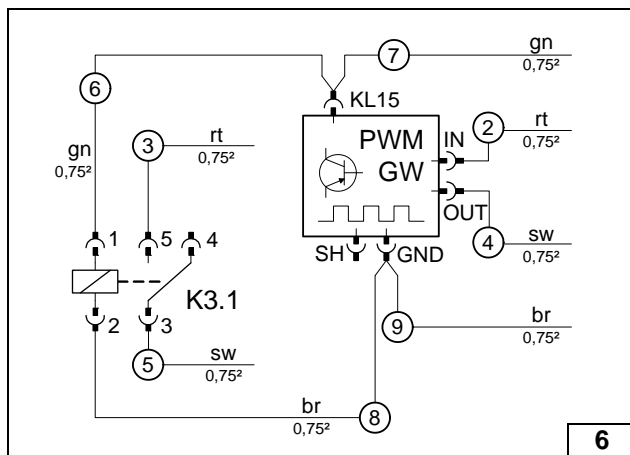
View of re-lay K3.1



5

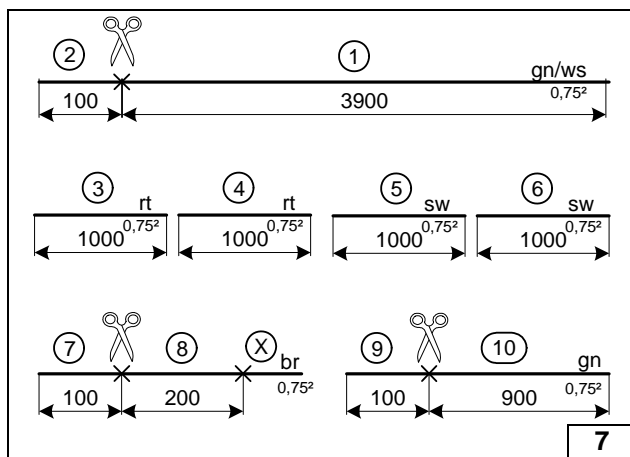
### Automatic A/C of Dodge Journey

Cutting wires to length



Connect wires to socket of PWM GW and socket of relay K3.1. Pull through wire section 3 and 5 into 400mm protective sleeving.

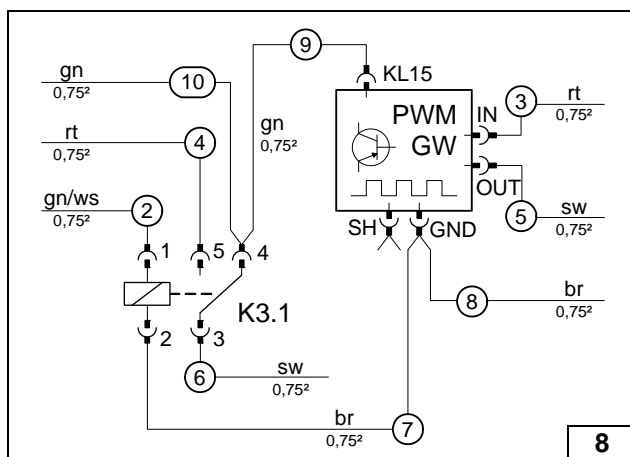
Preparing PWM GW and relay K3.1



Automatic A/C of Fiat Freemont

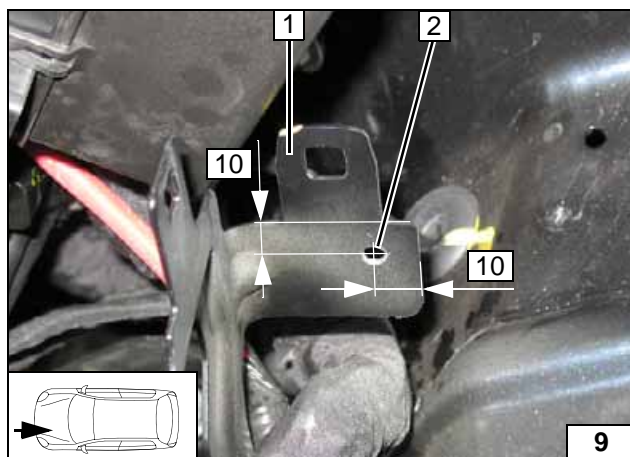
Discard section X.

Cutting wires to length



Connect wires to socket of relay K3.1 and socket of PWM GW. Pull through wire section 3 and 5 into 400mm protective sleeving.

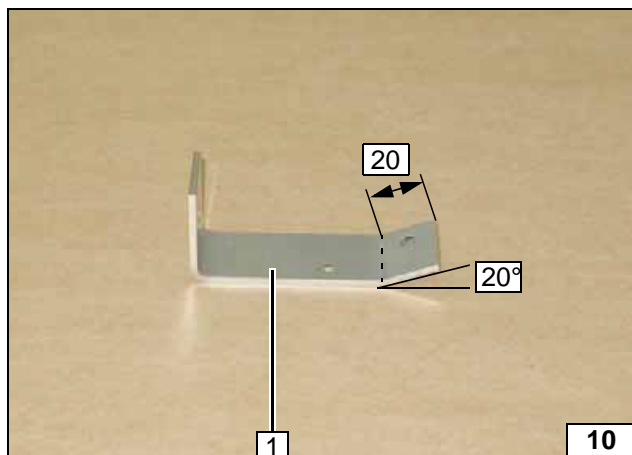
Preparing PWM GW and relay K3.1



Dodge Journey

1 Bracket fuse and relay box  
2 5.5mm dia. hole

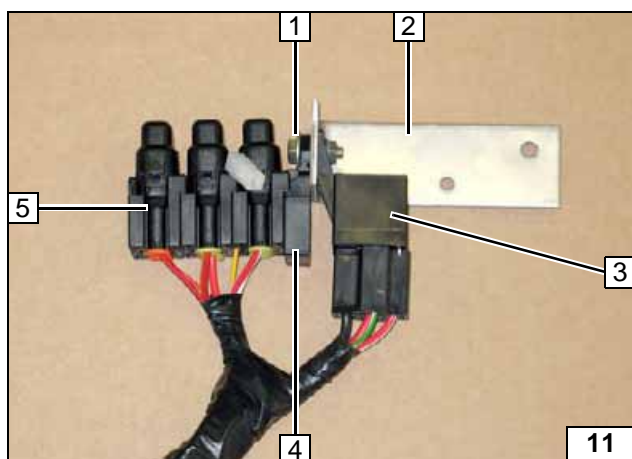
Hole for angle bracket



### Fiat Freemont

Bend bracket **1** as shown .

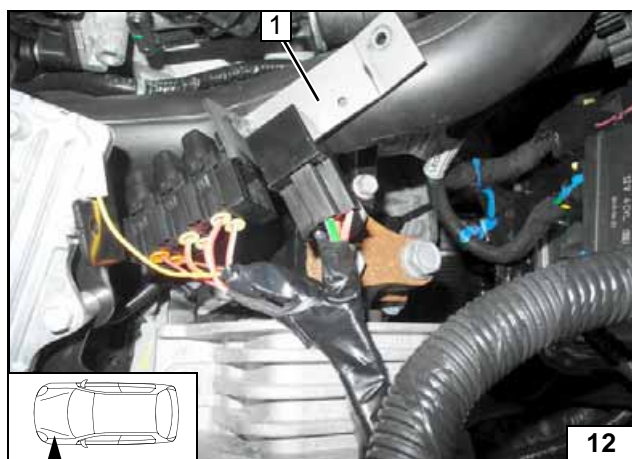
**Preparing bracket**



### All vehicles

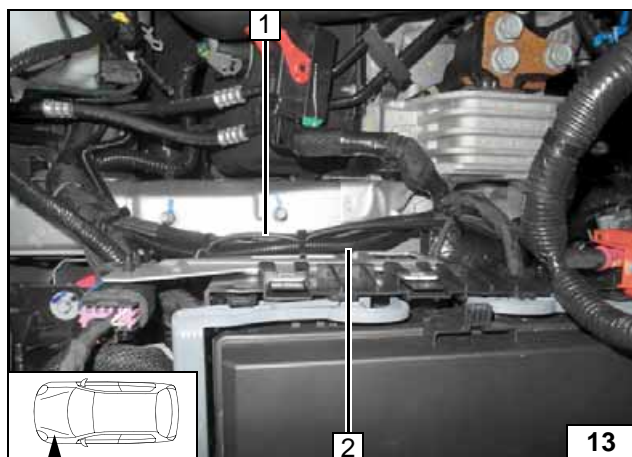
- 1** M5x16 bolt, large washer, flanged nut
- 2** Fuse holder
- 3** K3 relay
- 4** Retaining plate of fuses
- 5** Fuses inserted

**Premounting wiring harness**



Position fuse holder **1** at installation location.

**Positioning fuse holder**



Route green/white (gn/ws) wires through protective sleeving **1** and wiring harness of fan controller **2** in the passenger compartment (see wiring harness routing diagram).

**Routing wiring harness**

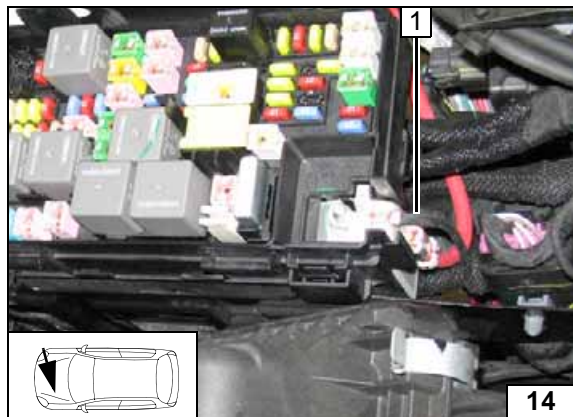


## Electrical system of Dodge Journey



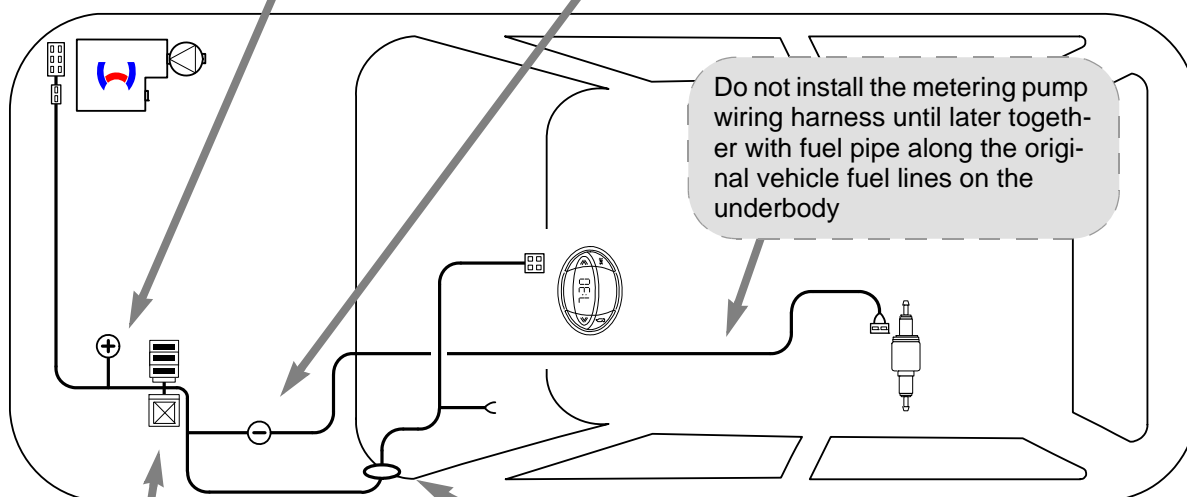
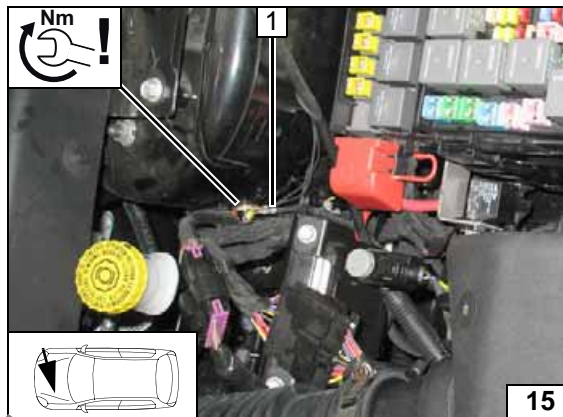
### Positive wire

- 1 Positive wire on original vehicle positive support point

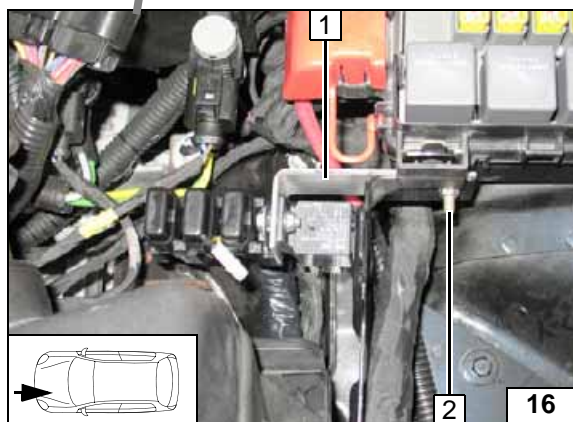


### Earth wire

- 1 Earth wire on original vehicle earth support point

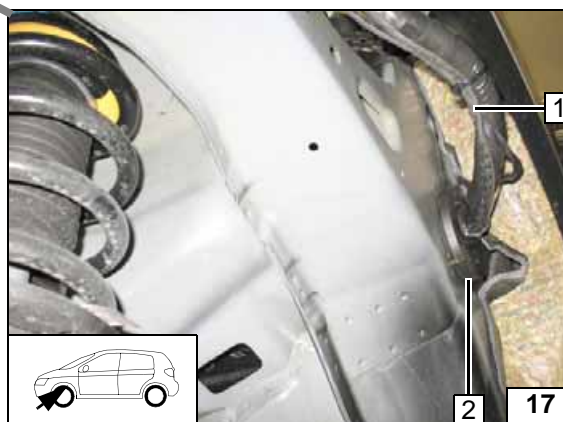


Wiring harness routing diagram



Fuse holder, K3 relay

- 1 Fuse holder
- 2 M5x16 bolt, washer [2x], flanged nut



Wiring harness pass through

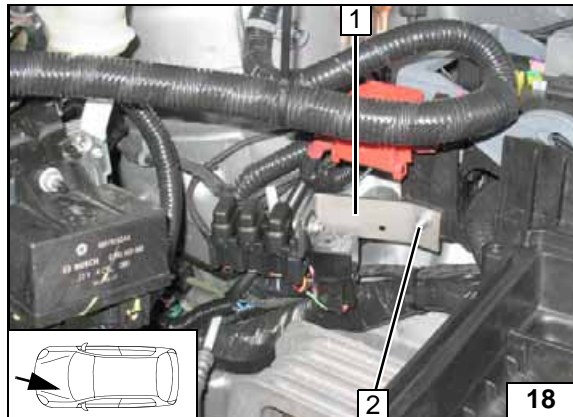
- 1 Fan controller wiring harnesses, heater control and green/white (gn/ws) wire
- 2 Protective rubber plug



## Electrical system of Fiat Freemont

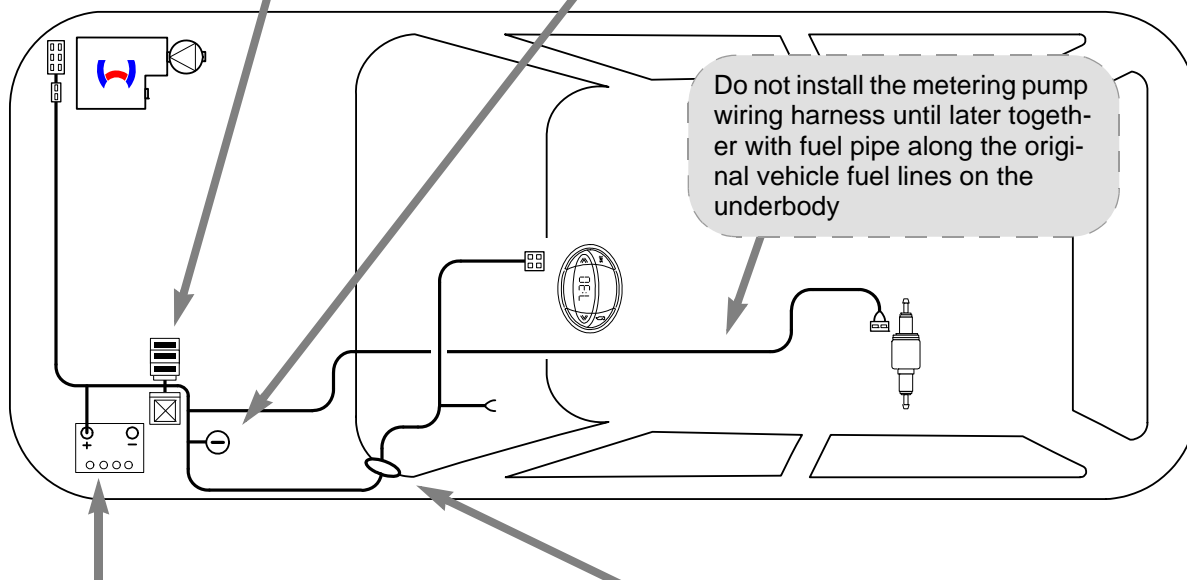
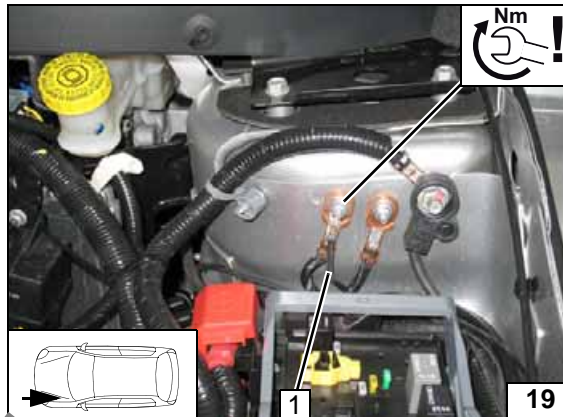
### Fuse holder, K3 relay

- 1 Fuse holder
- 2 M5x16 bolt, washer, original vehicle hole, flanged nut

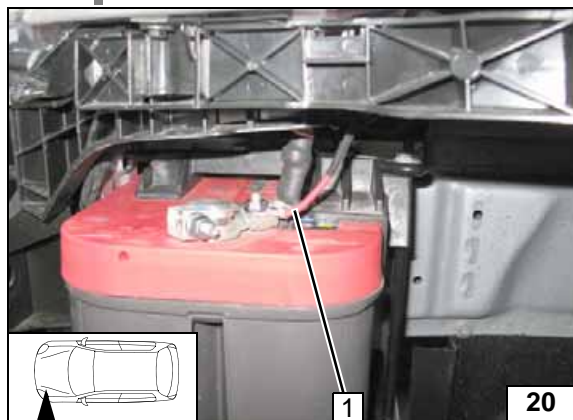


### Earth wire

- 1 Earth wire on original vehicle earth support point

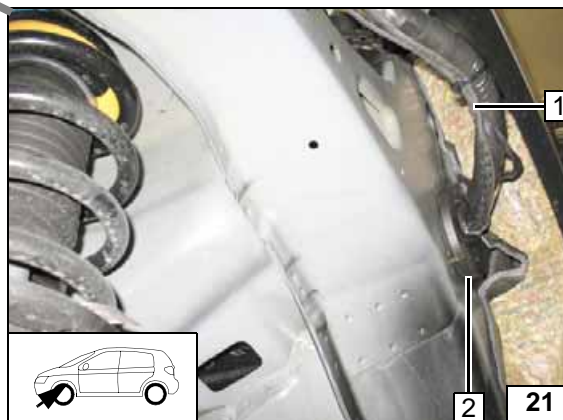


Wiring harness routing diagram



### Positive wire

- 1 Positive wire on positive battery terminal



### Wiring harness pass through

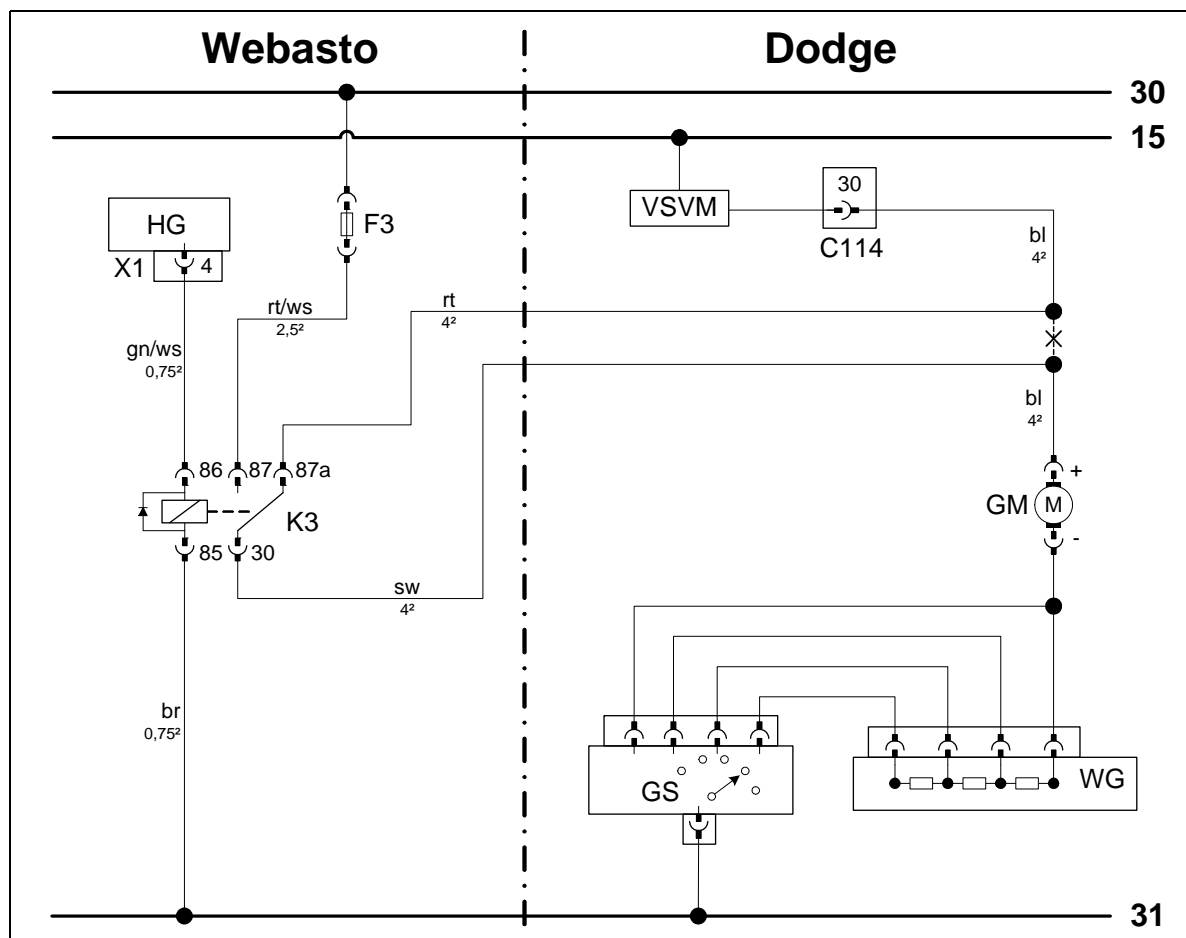
- 1 Fan controller wiring harnesses, heater control and green/white (gn/ws) wire
- 2 Protective rubber plug



## Fan Controller Manual A/C Dodge

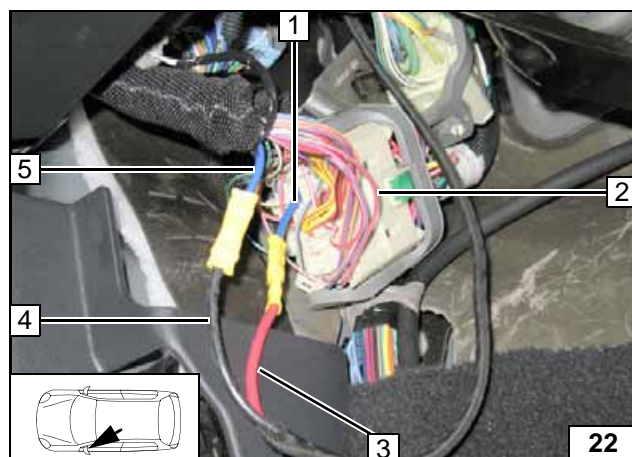


Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C	VSVM	Power supply module	rt	red
X1	6-pin heater connector	C114	57-pin connector	bl	blue
F3	25A fuse	GM	Fan motor	sw	black
K3	Fan relay	WG	Resistor group	gn	green
		GS	Fan switch	ws	white
				br	brown
				X	Cutting point
				Wiring colours may vary.	

Legend



Connection on 57-pin connector C114 2 in driver's side footwell. Produce connections as shown in wiring diagram.

- 1 Blue (bl) wire of connector C114/30
- 3 Red (rt) wire from K3/87a
- 4 Black (sw) wire from K3/30
- 5 Blue (bl) wire of fan motor

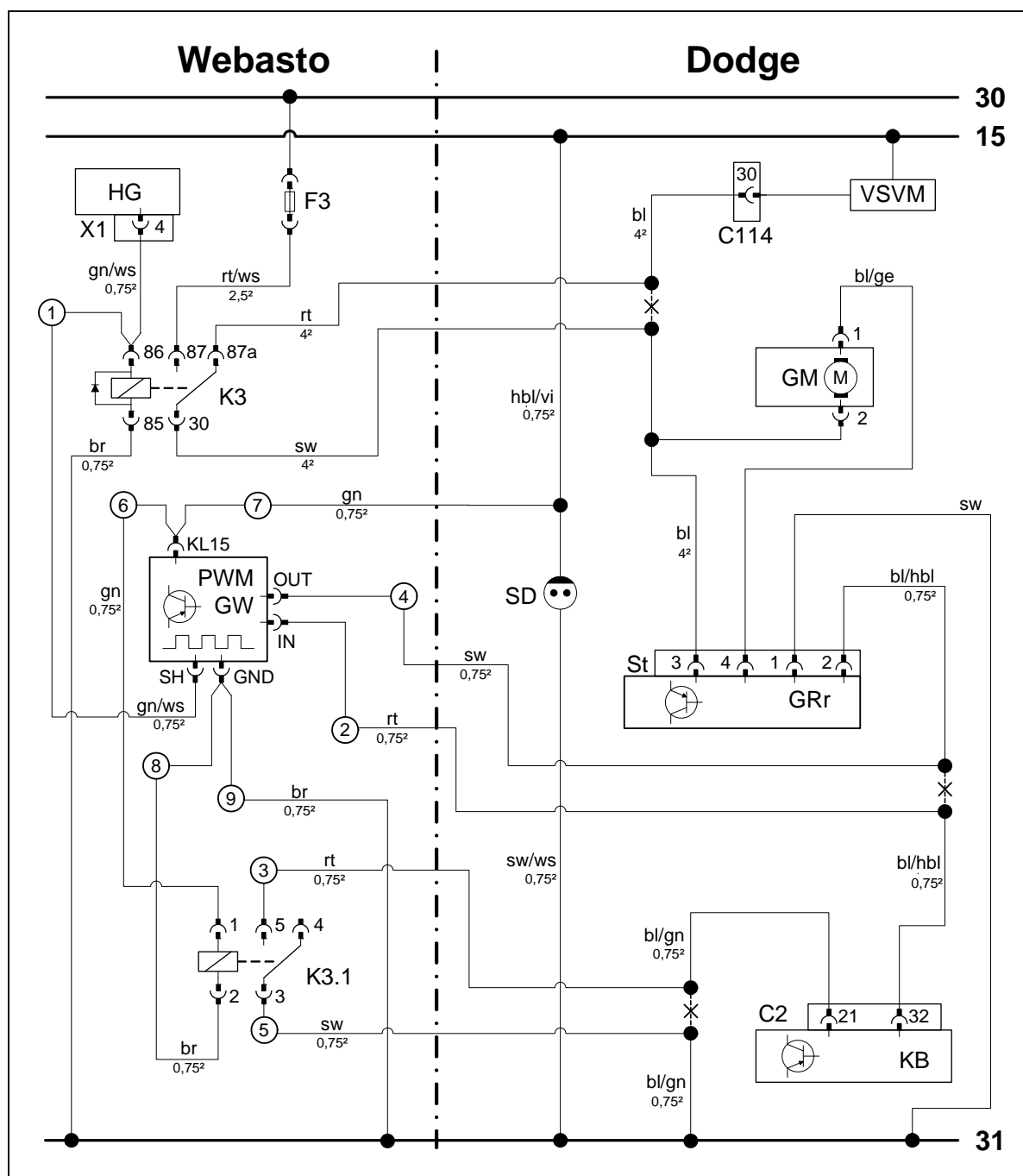
Connect-  
ing fan mo-  
tor



## Automatic A/C Dodge

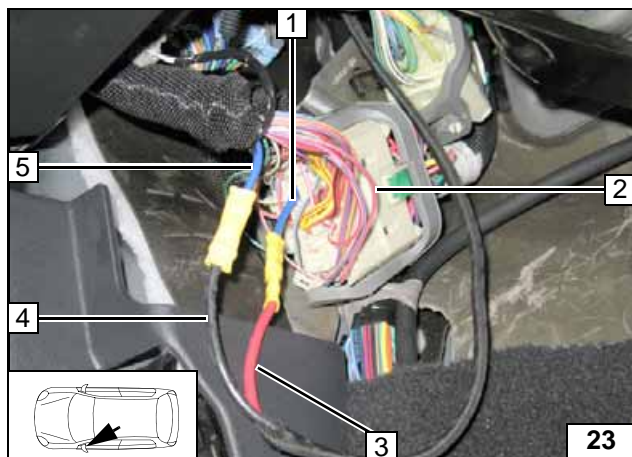


Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C	VSVM	Power supply module	rt	red
X1	6-pin heater connector	C114	57-pin connector	ws	white
F3	25A fuse	GM	Fan motor	sw	black
K3	Fan relay	SD	Power socket of instrument panel	br	brown
K3.1	Additional relay	ST	4-pin connector, GRr	ge	yellow
PWM	Pulse width modulator	GRr	Fan controller	bl	blue
GW		C2	32-pin connector KB	hbl	light blue
<b>Settings of PWM GW:</b>		KB	A/C control unit	vi	violet
Duty cycle: 55%				gn	green
Frequency: 100Hz					
Voltage: not relevant				X	Cutting point
Function: Low-side				Wiring colours may vary.	

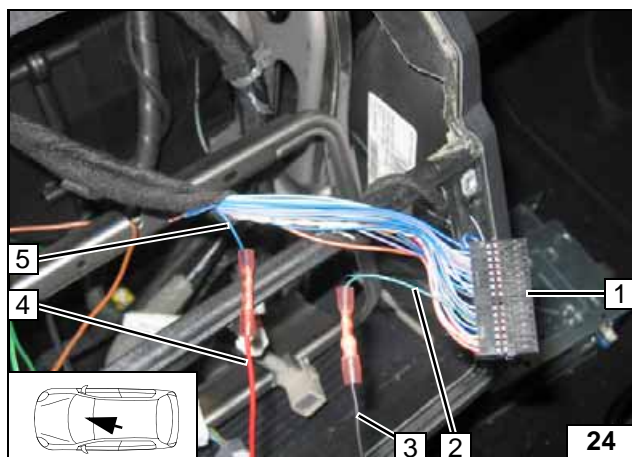
Legend



Connection on 57-pin connector C114 2 in driver's side footwell. Produce connections as shown in wiring diagram.

- 1 Blue (bl) wire of connector C114/30
- 3 Red (rt) wire from K3/87a
- 4 Black (sw) wire from K3/30
- 5 Blue (bl) wire of fan motor

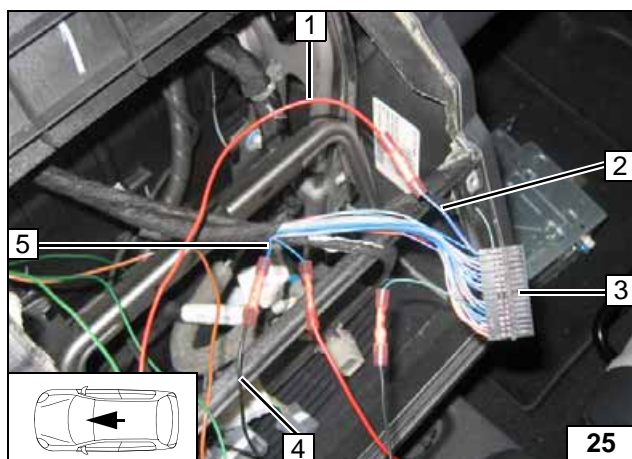
**Connect-  
ing fan mo-  
tor**



Connection of K3.1 on 32-pin connector 1 from A/C control unit. Connector housing removed.

- 2 Blue/green (bl/gn) wire, pin 21
- 3 Black (sw) wire from K3.1/3
- 4 Red (rt) wire from K3.1/5
- 5 Blue/green (bl/gn) wire, original vehicle earth wire

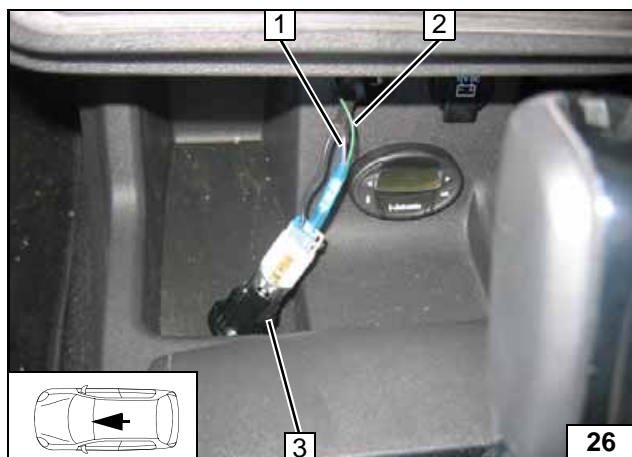
**Connec-  
tion to flap  
controller**



Connection of PWM GW to 32-pin connector 3 from A/C control unit. Connector housing removed.

- 1 Red (rt) wire of PWM GW/IN
- 2 Blue/light-blue (bl/hbl) wire, pin 32
- 4 Black (sw) wire of PWM GW/OUT
- 5 Blue/light-blue (bl/hbl) wire fan controller, pin 2

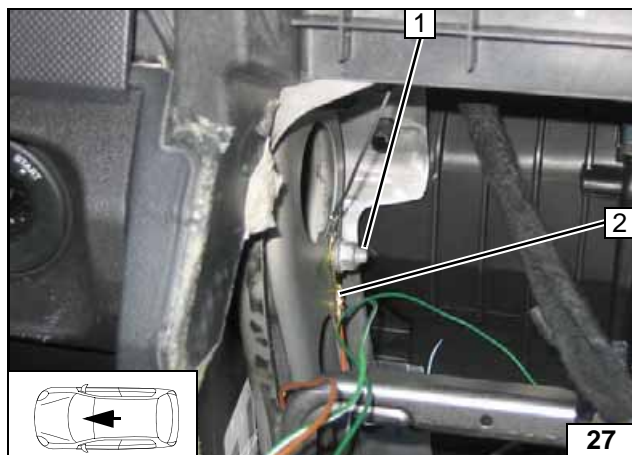
**Connect-  
ing fan con-  
troller**



Connection on left-hand socket outlet 3 terminal 15.

- 1 Light blue/violet (hbl/vi) positive wire socket outlet (terminal 15)
- 2 Green (gn) wire of PWM GW/KL15

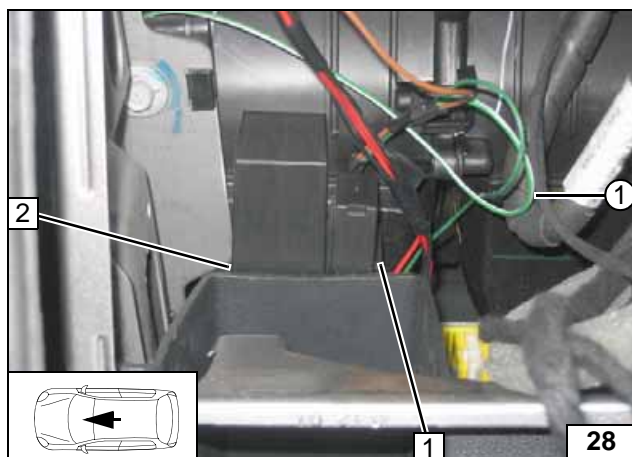
**Connec-  
tion to ter-  
minal 15**



- 1 Earth support point
- 2 Earth wires PWM GW, relay K3.1



**Conne-  
ction to ter-  
minal 31**



Insert green/white (gn/ws) wire ① of K3/86 into socket of PWM GW/SH. Interconnect socket of PWM GW 2 and socket of relay K3.1 1 and fasten with adhesive tape. Insert PWM GW and relay K3.1.



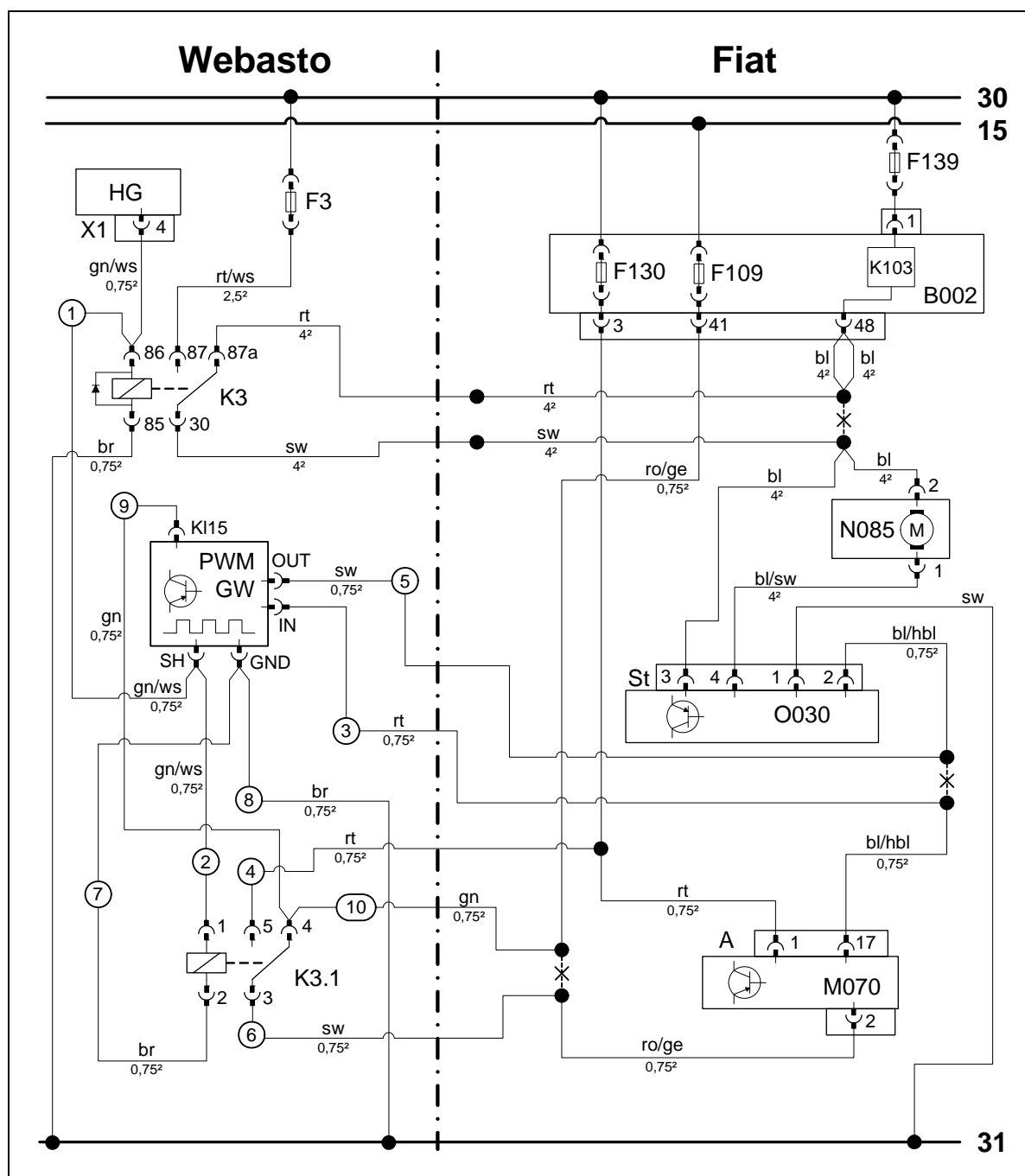
**Inserting  
PWM GW**



## Automatic A/C Fiat up to 2013

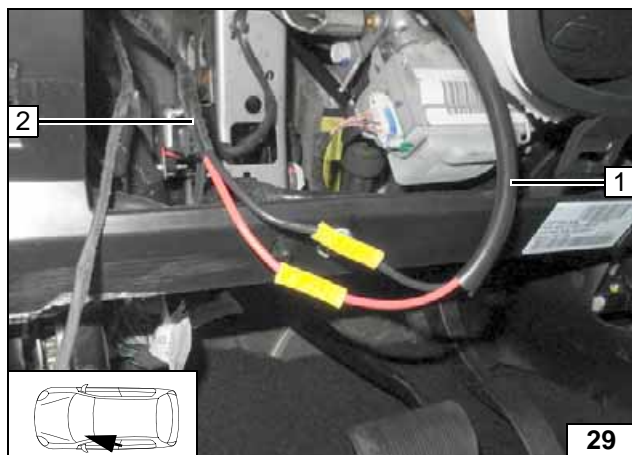


Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C	F139	60A fuse	rt	red
X1	6-pin heater connector	F130	15A fuse	ws	white
F3	25A fuse	F109	10A fuse	sw	black
K3	Fan relay	B002	Distributor control	br	brown
K3.1	Additional relay	N085	Fan motor	ge	yellow
PWM GW	Pulse width modulator	ST	4-pin connector, O030	bl	blue
<b>Settings of PWM GW:</b>		O030	Fan controller	hbl	light blue
Duty cycle: 55%		A	24-pin connector M070	gn	green
Frequency: 100Hz		M070	A/C control unit	ro	pink
Voltage: not relevant					
Function: Low-side				X	Cutting point
Wiring colours may vary.					

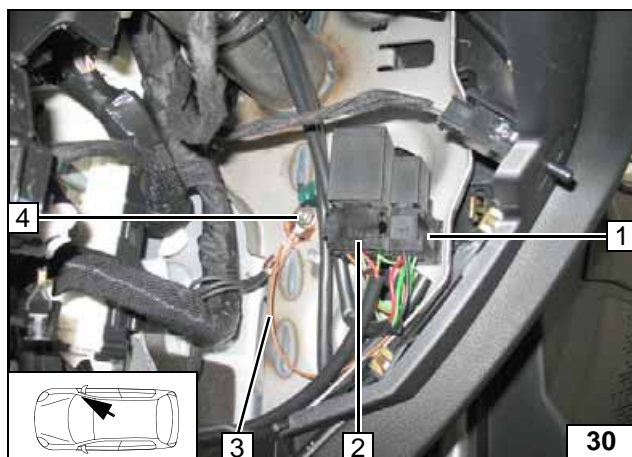
Legend



Connect fan wiring harness 2 to red (rt) ,4<sup>2</sup>, and black (sw) ,4<sup>2</sup>, wires together with provided wires in protective sleeving 1 using same colour wires and route to the right vehicle side.



**Extending fan wiring harness**

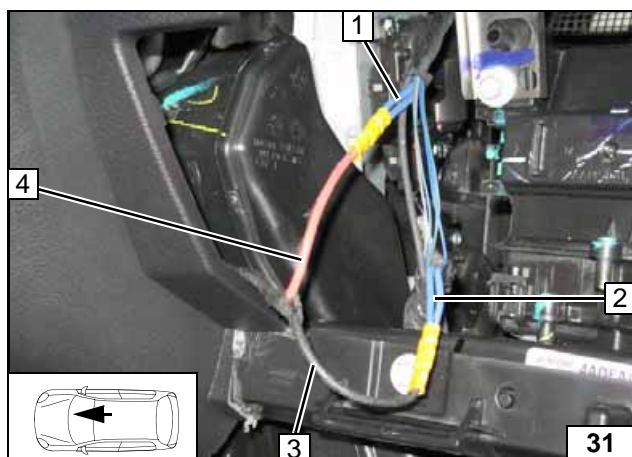


Insert green/white (gn/ws) wire ① of K3/86 relay together with green/white (gn/ws) wire of ② relay K3.1/1 into socket of PWM GW/SH. Interconnect socket of PWM GW 2 and socket of K3.1 relay 1 and fasten with double-sided adhesive tape. Insert PWM GW and relay K3.1.



**Inserting PWM GW and K3.1 relay.**

3 Brown (br) wire of PWM GW/GND  
4 Original vehicle earth point

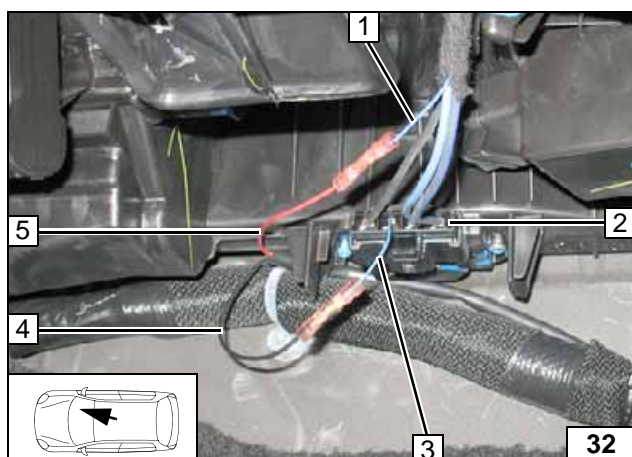


Connection of K3 relay to connector of N085 fan motor.



**Connecting fan motor**

1 Blue (bl) wire [2x] B002, pin 48  
2 Blue (bl) wire [2x] fan motor N085, fan controller O030  
3 Black (sw) wire from K3/30  
4 Red (rt) wire from K3/87a

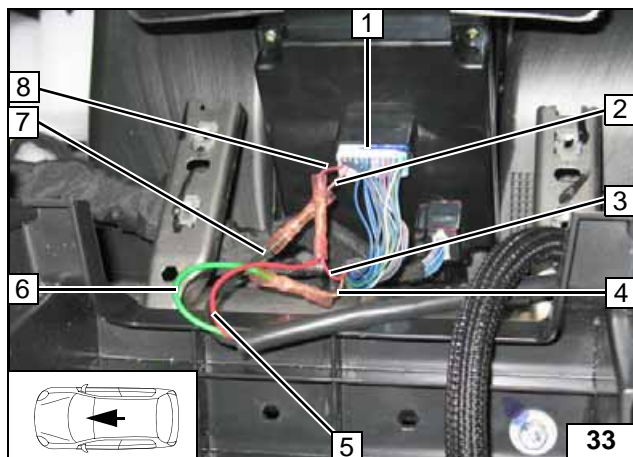


Connection of PWM GW to 4-pin connector 2 from fan controller O030.



**Connecting fan controller**

1 Blue/light-blue (bl/hbl) wire M070, pin 17  
3 Blue/light-blue (bl/hbl) wire O030, pin 2  
4 Black (sw) wire of PWM GW/OUT  
5 Red (rt) wire of PWM GW/IN



Connection of K3.1 relay on 24-pin connector 1 from A/C control unit M070.

- 2 Pink/yellow (ro/ge) wire of connector M070, pin 2
- 3 Red (rt) wire from F130 B002 pin 3
- 4 Pink/yellow (ro/ge) wire from F109 B002, pin 41
- 5 Red (rt) wire from K3.1/5
- 6 Green (gn) wire from K3.1/4
- 7 Black (sw) wire from K3.1/3
- 8 Red (rt) wire of connector M070, pin 1

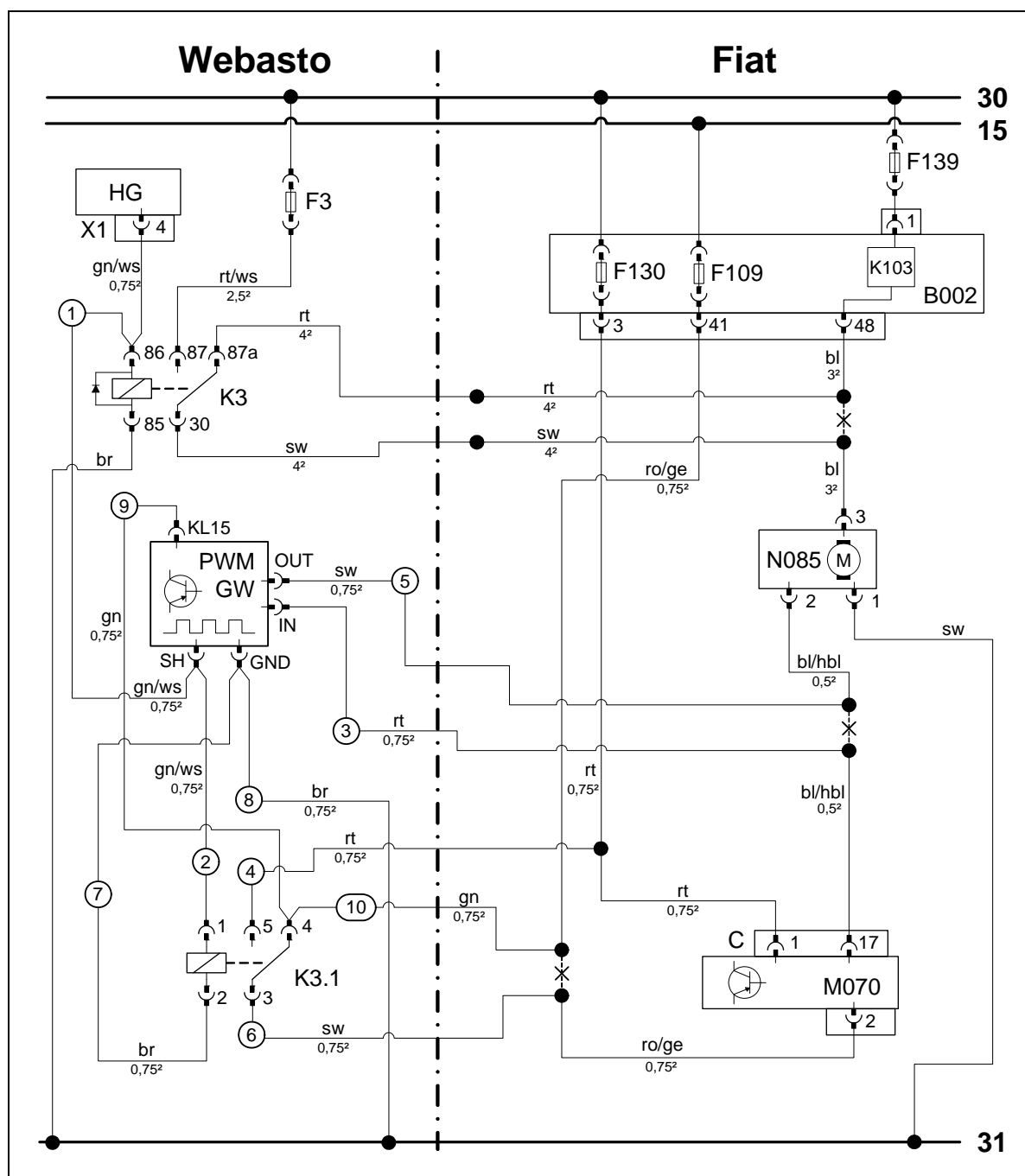
**Connect-  
ing A/C  
control unit**



## Automatic A/C Fiat from 2014

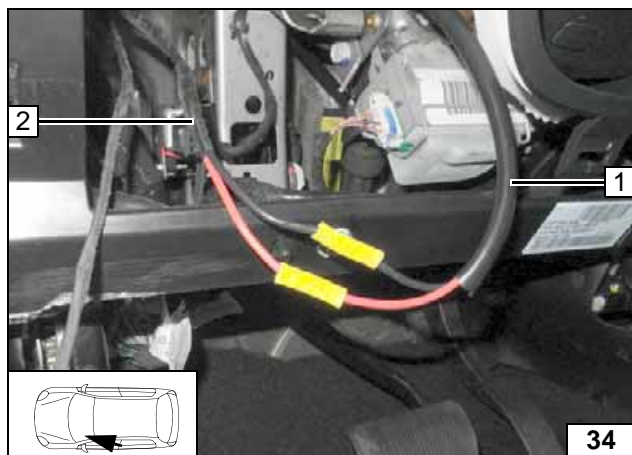


Wiring diagram



Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-C/E	F139	60A fuse	rt	red
X1	6-pin heater connector	F130	15A fuse	ws	white
F3	25A fuse	F109	10A fuse	sw	black
K3	Fan relay	B002	Distributor control	br	brown
K3.1	Additional relay	N085	Fan motor	ge	yellow
PWM	Pulse width modulator	C	24-pin connector M070	bl	blue
GW		M070	A/C control unit	hbl	light blue
<b>Settings of PWM GW:</b>				gn	green
Duty cycle: 65%				ro	pink
Frequency: 2000Hz					
Voltage: not relevant				X	Cutting point
Function: Low-side				Wiring colours may vary.	

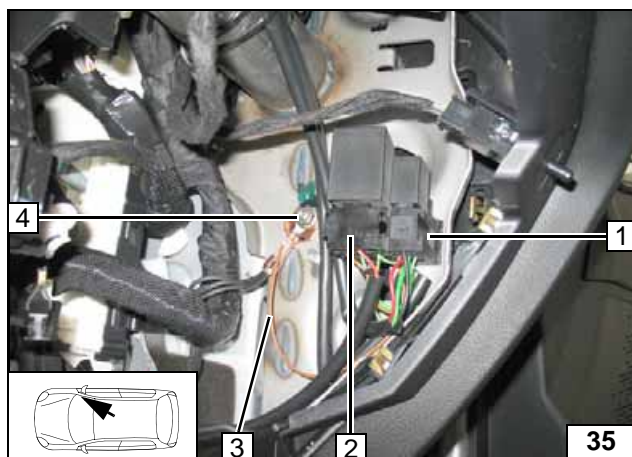
Legend



Connect fan wiring harness 2 to red (rt) ,4<sup>2</sup>, and black (sw) ,4<sup>2</sup>, wires together with provided wires in protective sleeving 1 using same colour wires and route to the right vehicle side.



**Extending fan wiring harness**

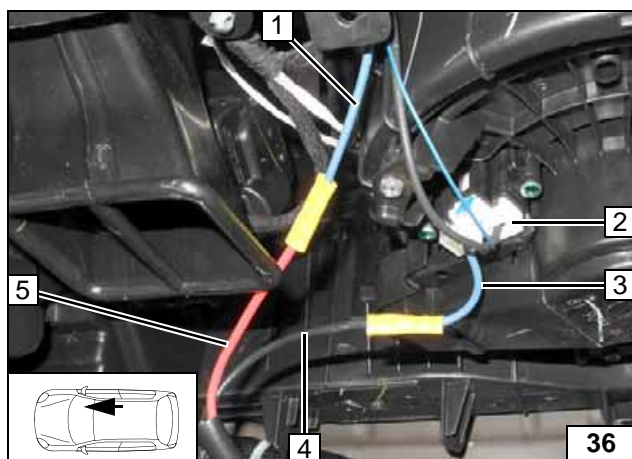


Insert green/white (gn/ws) wire ① of K3/86 relay together with green/white (gn/ws) wire of ② relay K3.1/1 into socket of PWM GW/SH. Fasten socket of PWM GW 2 and socket of relay K3.1 1 with double-sided adhesive tape. Insert PWM GW.



**Inserting PWM GW and K3.1 relay.**

3 Brown (br) wire of PWM GW/GND  
4 Original vehicle earth point

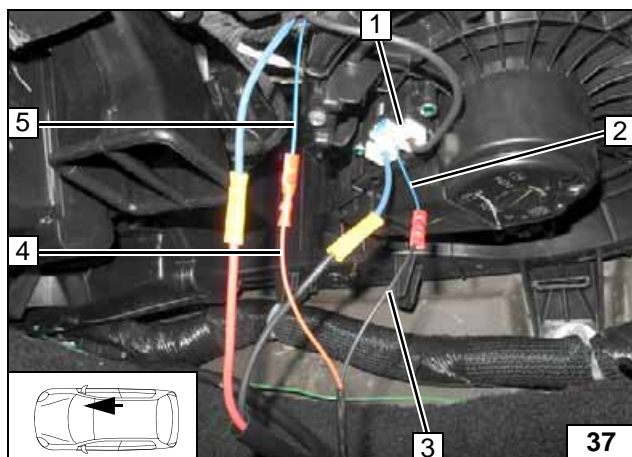


Connection of K3 relay to 3-pin connector 2 from the fan motor N085.



**Connect-  
ing fan mo-  
tor**

1 Blue (bl) wire B002 pin 48  
3 Blue (bl) wire of N085 fan motor connector, pin 3  
4 Black (sw) wire from K3/30  
5 Red (rt) wire from K3/87a

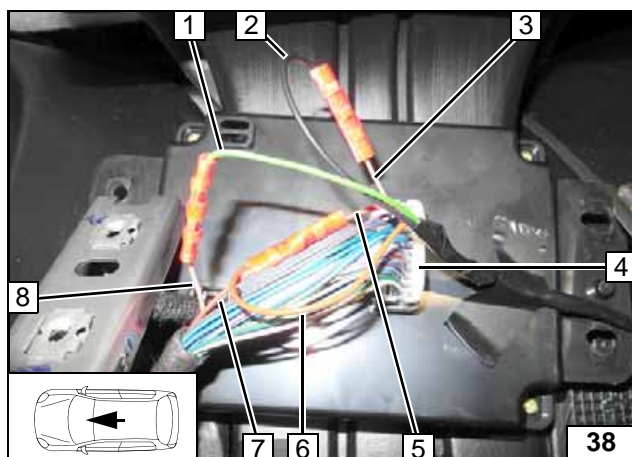


Connection PWM GW to 3-pin connector 1 from the fan motor N085.



**Connect-  
ing fan mo-  
tor**

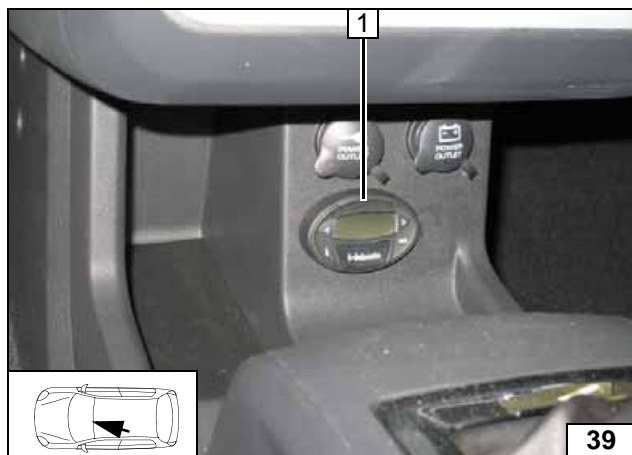
2 Blue/light-blue (bl/hbl) wire of N085 fan motor connector, pin 2  
3 Black (sw) wire of PWM GW/OUT  
4 Red (rt) wire of PWM GW/IN  
5 Blue/light-blue (bl/hbl) wire M070, pin 17



Connection of K3.1 relay on 24-pin connector 4 from A/C control unit M070.

- 1 Green (gn) wire from K3.1/4
- 2 Black (sw) wire from K3.1/3
- 3 Pink/yellow (ro/ge) of connector M070, pin 2
- 5 Red (rt) wire of connector M070, pin 1
- 6 Red (rt) wire from K3.1/5
- 7 Red (rt) wire from F130 B002, pin 3
- 8 Pink/yellow (ro/ge) wire from F109 B002, pin 41

**Connect-  
ing A/C  
control unit**



## Digital Timer

### Dodge Journey

- 1 Digital timer



Installing digital timer

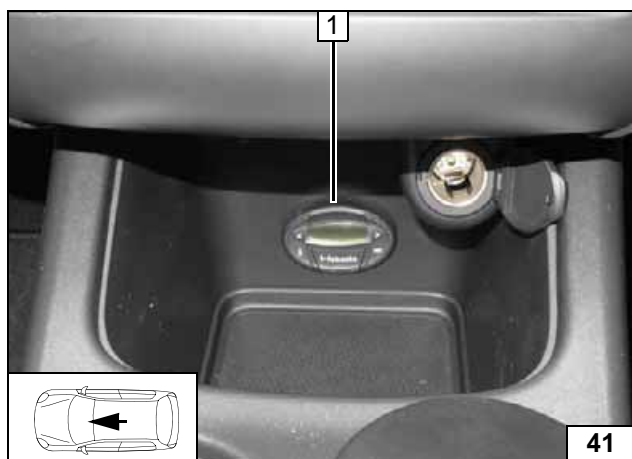


### Fiat Freemont up to 2013

- 1 Digital timer



Installing digital timer



### Fiat Freemont from 2014

- 1 Digital timer



Installing digital timer

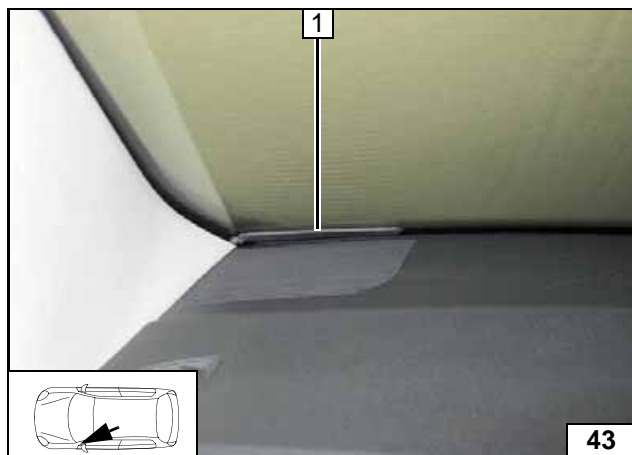


## Remote Option (Telestart)

Fasten receiver 1 with adhesive tape.

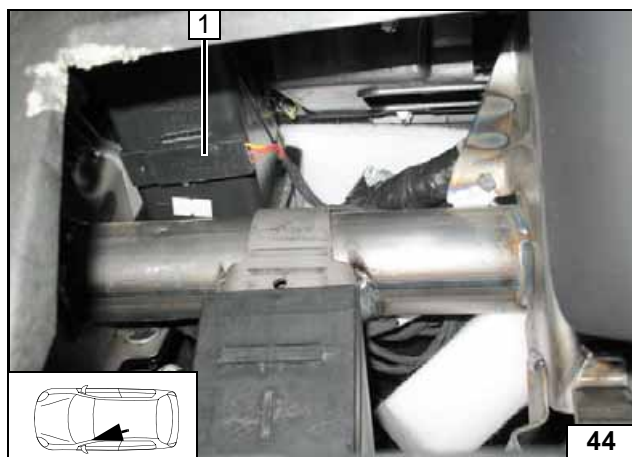


Mounting receiver



1 Antenna

**Mounting  
antenna**

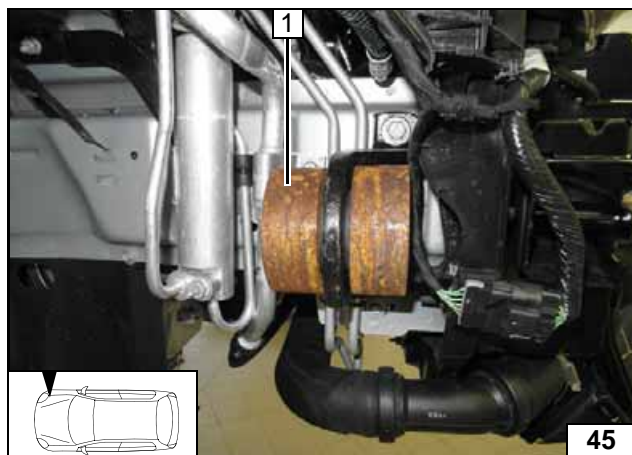


**Temperature sensor only in case of T100  
HTM**

Fasten temperature sensor 1 with adhesive  
tape.



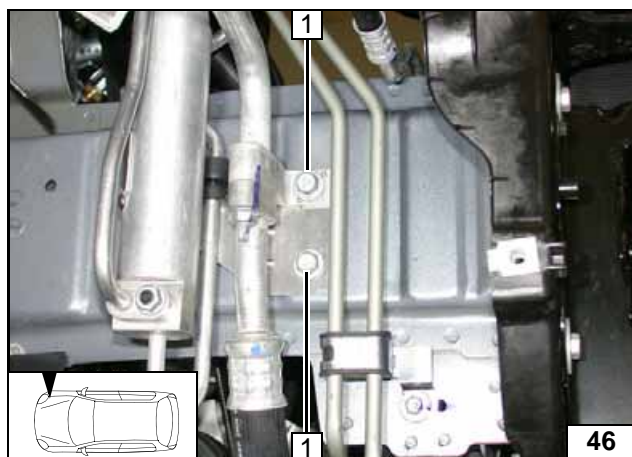
**Mounting  
temperature  
sensor**



### Preparing Installation Location

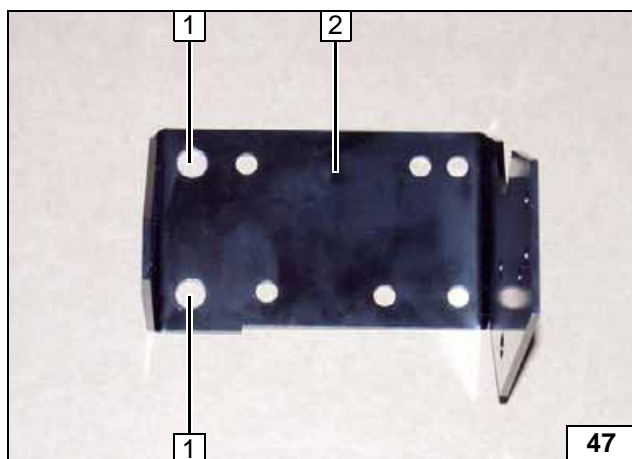
Remove and discard absorber weight **1** with bracket.

**Removing absorber**



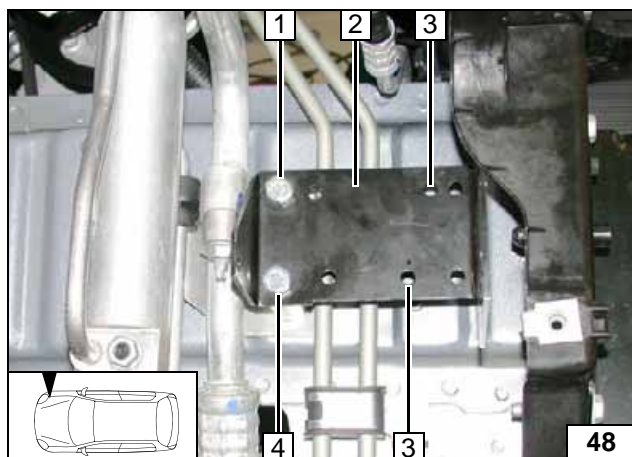
Remove original vehicle bolts at position **1** [2x] and discard.

**Removing bolts**



Drill out bracket **2** at Position **1** [2x] to 9.5mm dia.

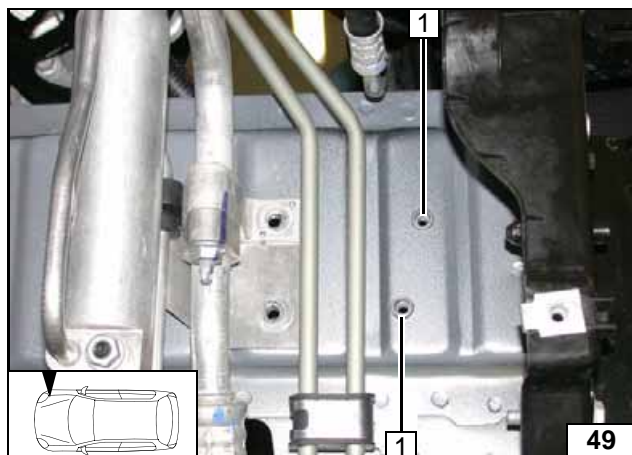
**Preparing bracket**



Copy hole pattern to battery tray at position **3** [2x] on frame side member.

- 1** M8x70 bolt, 40mm shim
- 2** Bracket
- 4** M8x70 bolt, 40mm shim, 5mm shim

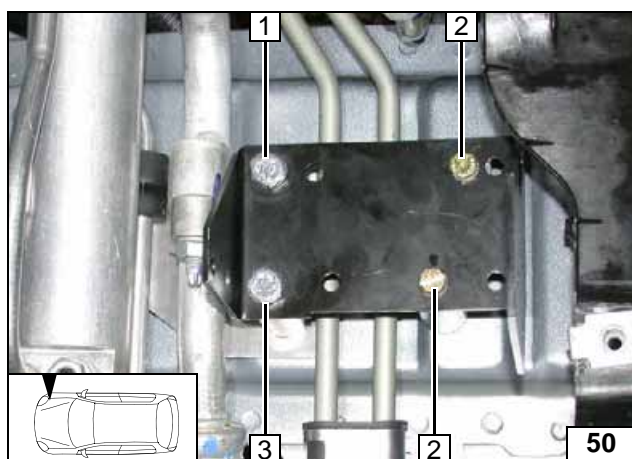
**Mounting bracket loosely**



Remove bracket.

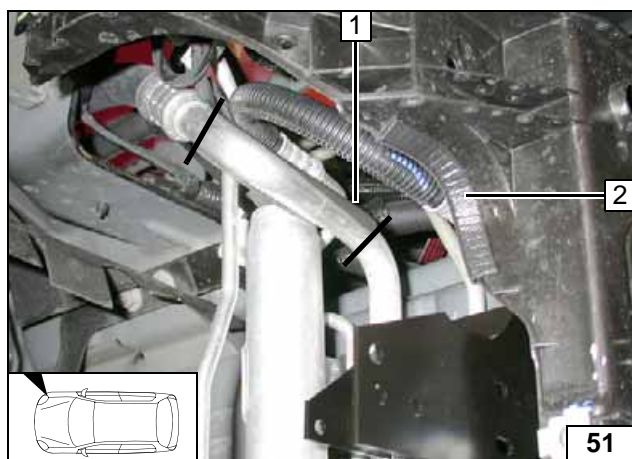
1 9.1mm dia. hole; rivet nut [2x each]

**Installing rivet nut**



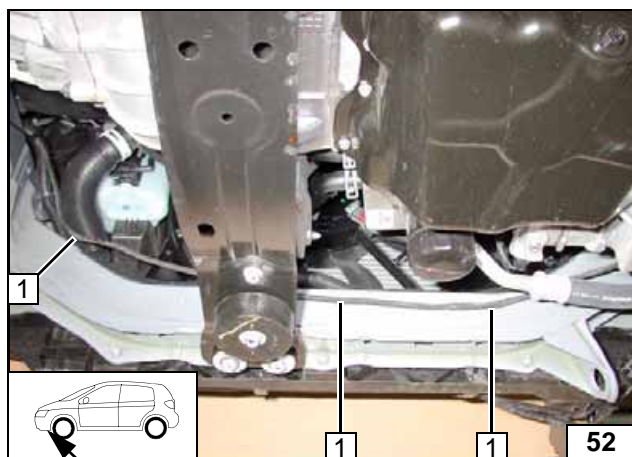
1 M8x70 bolt, spring lockwasher, 40mm shim  
2 M6x70 bolt, spring lockwasher, 40mm shim, 5mm shim [2x each]  
3 M8x70 bolt, spring lockwasher, 40mm shim, 5mm shim

**Mounting bracket**



Glue on a foam strip in area of marking at position 1 . Cut 120mm from edge protection 2 and install.

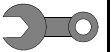
**Premounting bracket on heater**



## Installing Heater

Loosely route wiring harness of heater 1 (will be fastened later with fuel line).

**Routing wiring harness**

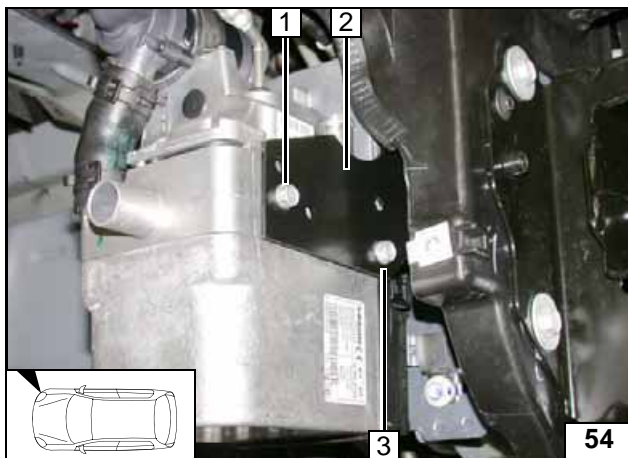


Mount connector before installing heater.

1 Wiring harness of heater



**Routing  
wiring har-  
ness**

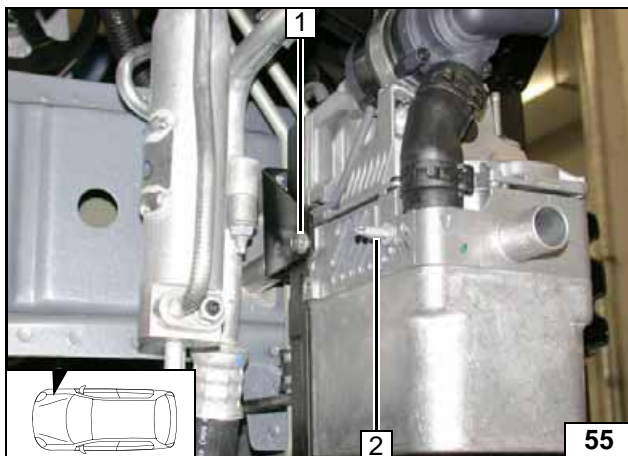


Insert two washers between heater and bracket 2 at position 1.

1 E-jot screw, washer [2x]  
3 E-jot screw



**Mounting  
heater**



1 E-jot screw  
2 E-jot studs

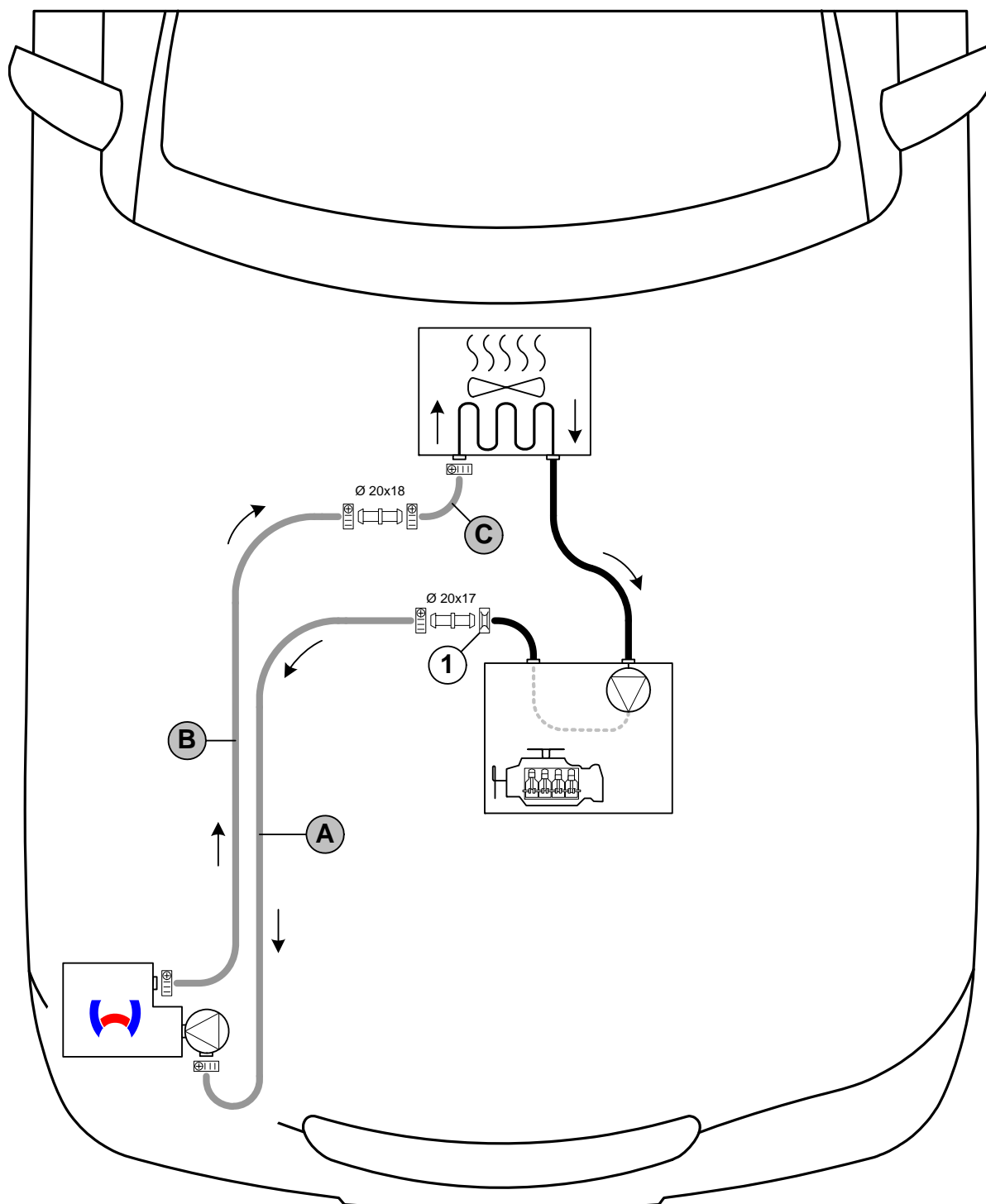
**Mounting  
heater**



## Coolant Circuit

### WARNING!

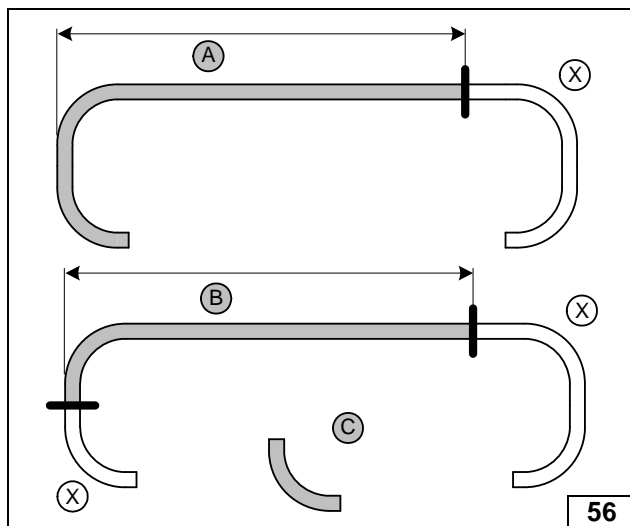
Any coolant running off should be collected using an appropriate container. Route coolant hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses. The connection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



Hose routing diagram

Connecting pipes . All hose clamps 20-27mm dia.  
1 = original vehicle's spring clip .



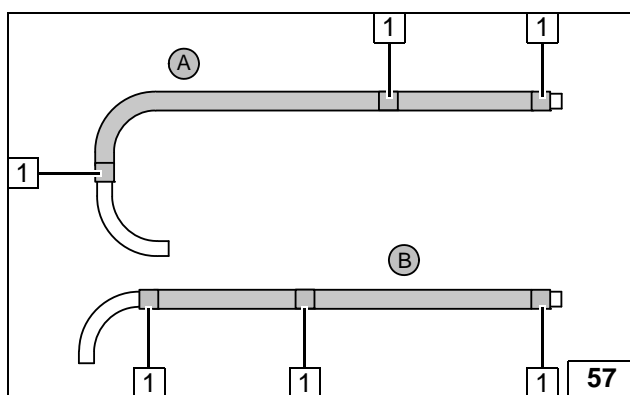


### Petrol and diesel

Hose **C** = 90° elbow, 18x18mm dia.  
Discard section **X**

	Petrol	Diesel
<b>A</b> =	1300	1420
<b>B</b> =	1440	1460

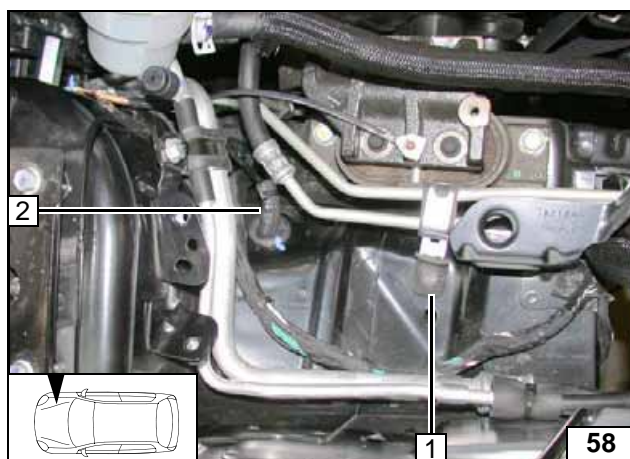
**Cutting hoses to length**



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

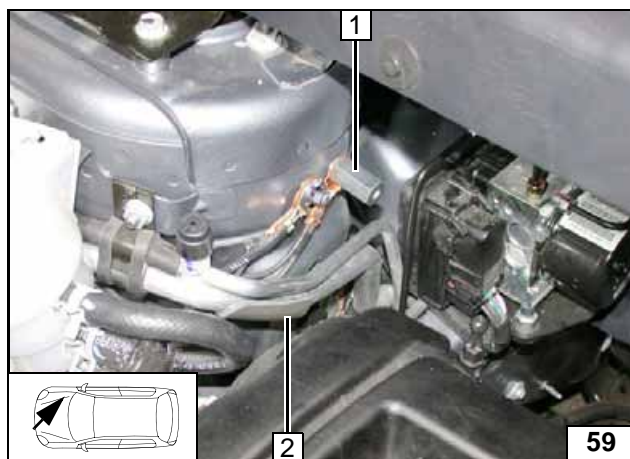
**1** 50 mm long heat shrink plastic tubing [6x]

**Preparing hoses**



Cut 40 mm off second foam strip and glue onto original vehicle bolt **1**. Cut open fabric protective hose **2** and fasten on brake line with cable tie.

**Mounting rub protection**



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

- 1** Original vehicle stud bolts, spacer nuts M6x30
- 2** Foam strip 85

**Mounting spacer nut**

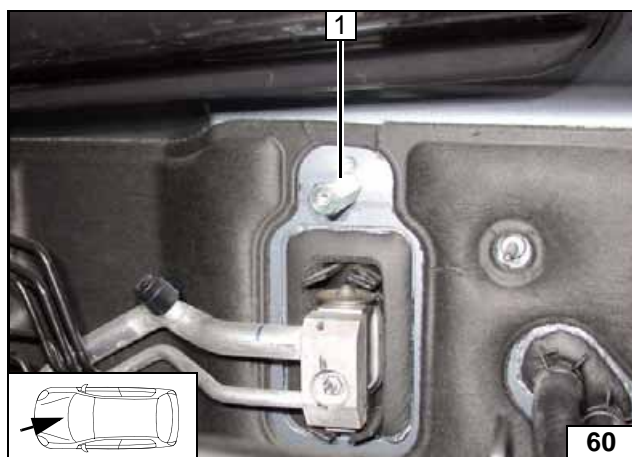


Figure shows Dodge petrol.

- 1 Original vehicle stud bolts, spacer nut M6x40

Mounting spacer nut

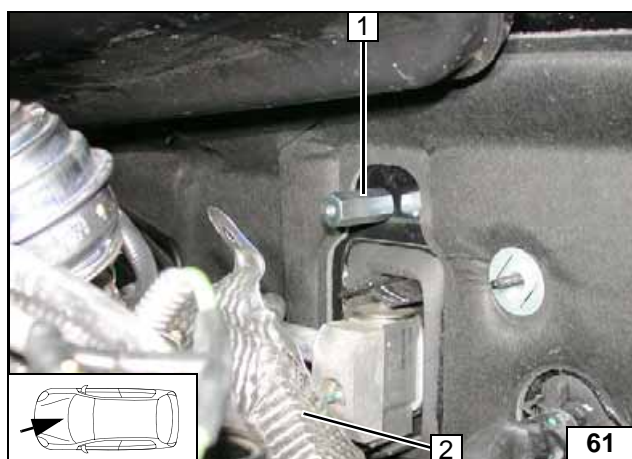
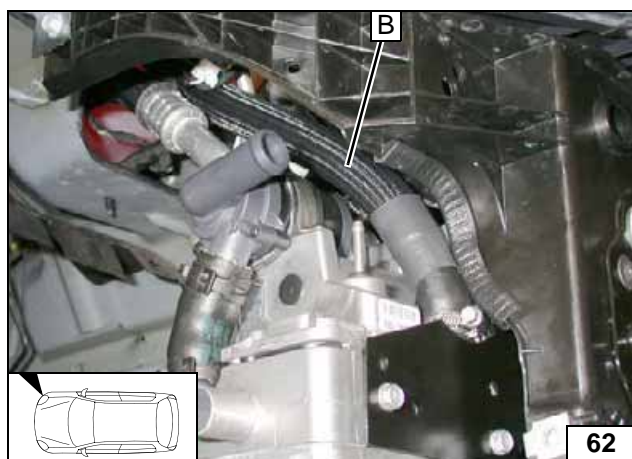


Figure shows Dodge diesel.

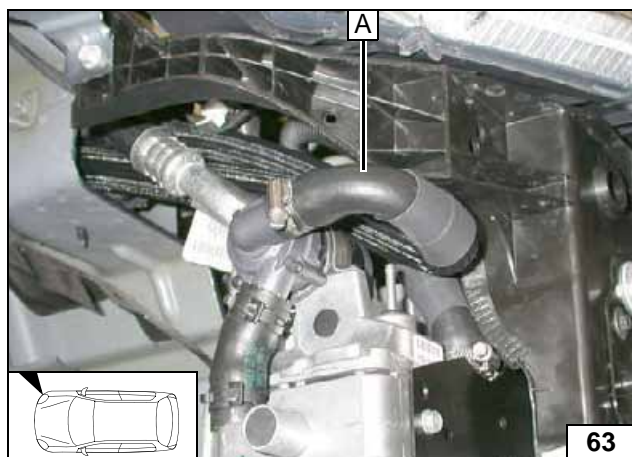
Remove original vehicle nut at position 1 and discard.

- 1 Original vehicle stud bolts, spacer nut M6x40  
2 Heat guard plate detached.

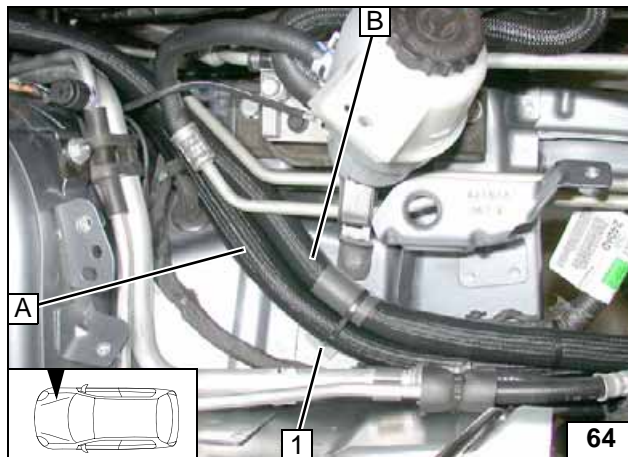
Mounting spacer nut



Connection of heater outlet



Connection of heater inlet



### Dodge Journey

Figure shows Dodge petrol.

Affix adhesive base **1** , secure hoses **A** and **B** with cable ties.

Routing in  
engine  
compartment

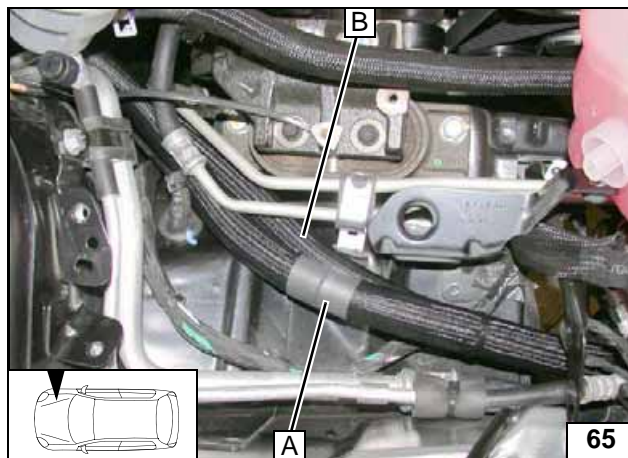
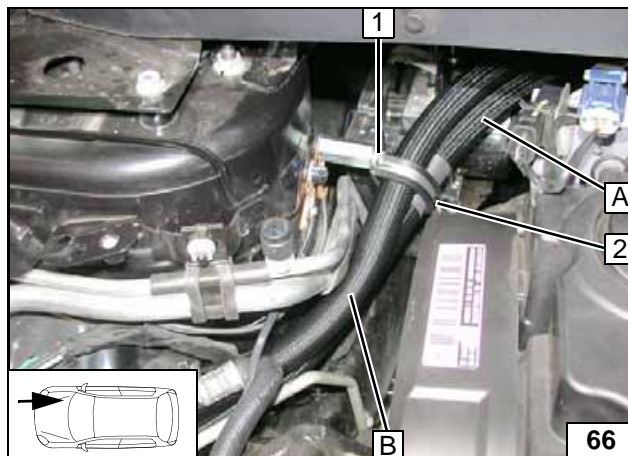


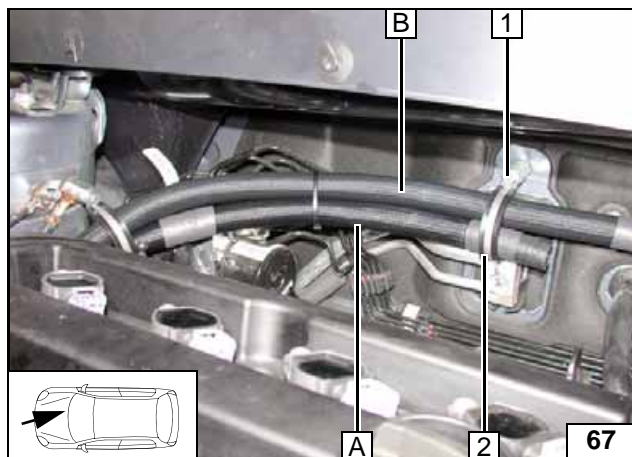
Figure shows Dodge diesel.

Routing in  
engine  
compartment



- 1 M6x20 bolt, spring lockwasher on spacer nut
- 2 48mm dia. rubber-coated p-clamp

Routing in  
engine  
compartment



### Petrol

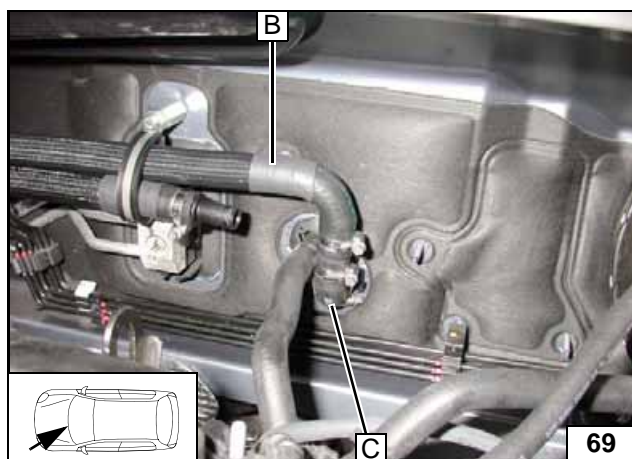
- 1 M6x20 bolt, spring lockwasher on spacer nut
- 2 48mm dia. rubber-coated p-clamp

Routing in engine compartment

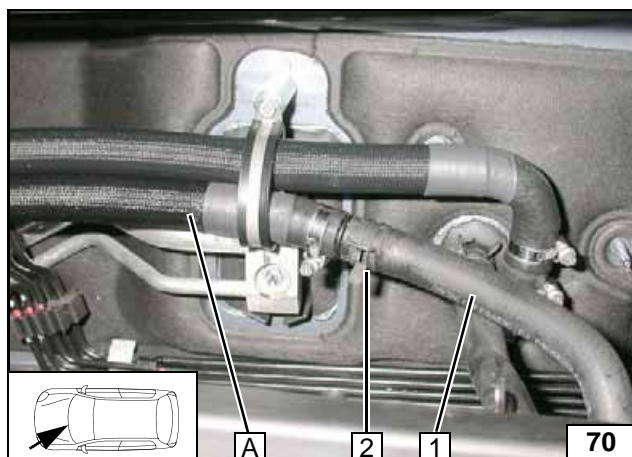


Pull out hose of engine outlet / heat exchanger inlet 2 from the connection piece of heat exchanger inlet. Original vehicle spring clip 1 will be reused.

Cutting point



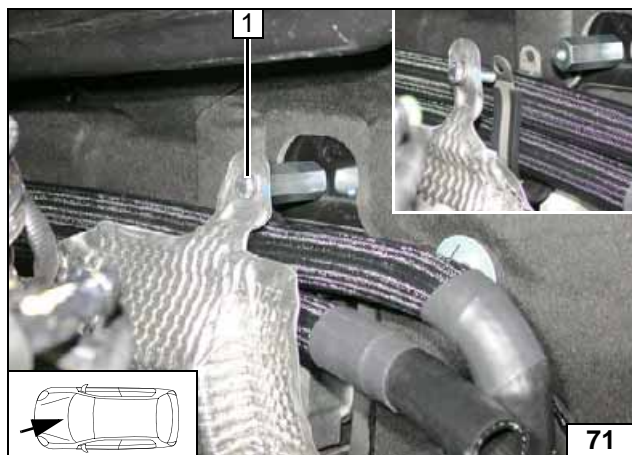
Connection of heat exchanger inlet



Ensure sufficient distance from neighbouring components.

- 1 Hose of engine outlet
- 2 Original vehicle spring clip

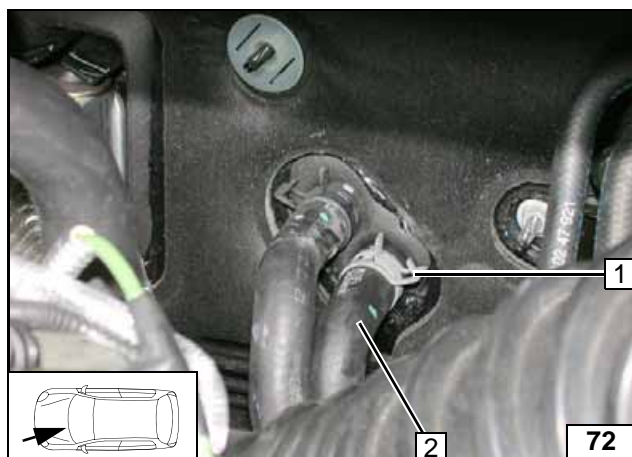
Connection of engine outlet



### Diesel

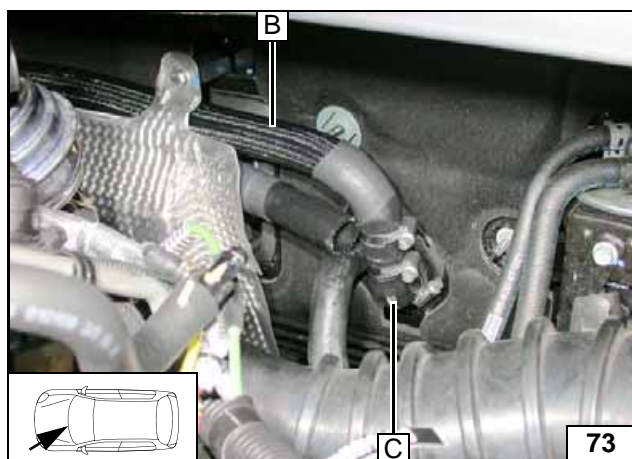
- 1 M6x20 bolt, spring lockwasher, rubber-coated p-clamp 48mm dia., heat guard plate on spacer nut

Routing in engine compartment

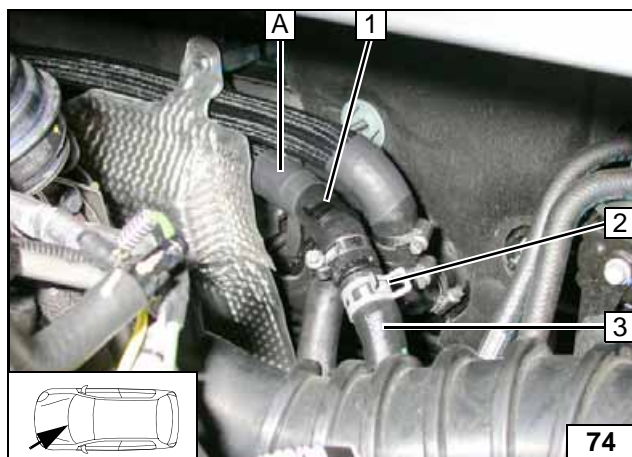


Pull out hose of engine outlet / heat exchanger inlet 2 from the connection piece of heat exchanger inlet. Original vehicle spring clip 1 will be reused.

Cutting point



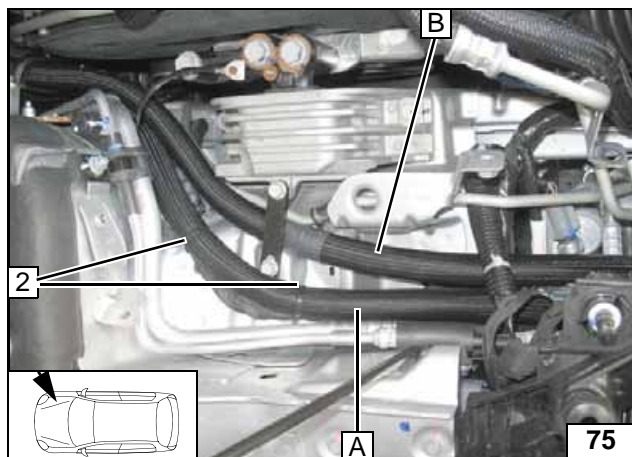
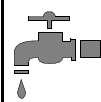
Connection of heat exchanger inlet



Ensure sufficient distance from neighbouring components.

- 1 Spacer bracket  
2 Original vehicle spring clip  
3 Hose of engine outlet

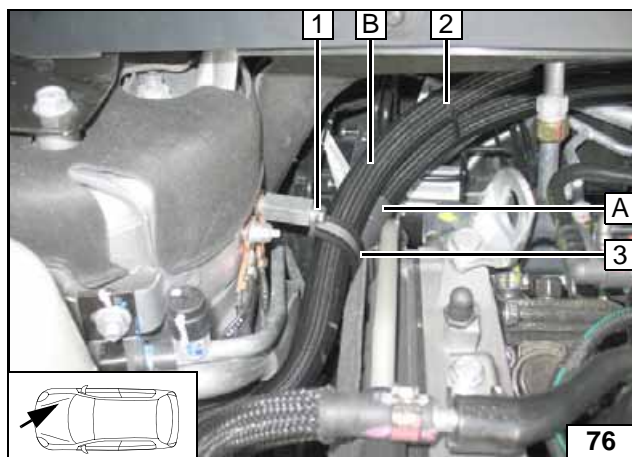
Connection of engine outlet



### Fiat Freemont

Ensure sufficient distance from neighbouring components.  
Fix hose **A** with cable ties **2** [2x] to original vehicle wiring harness.

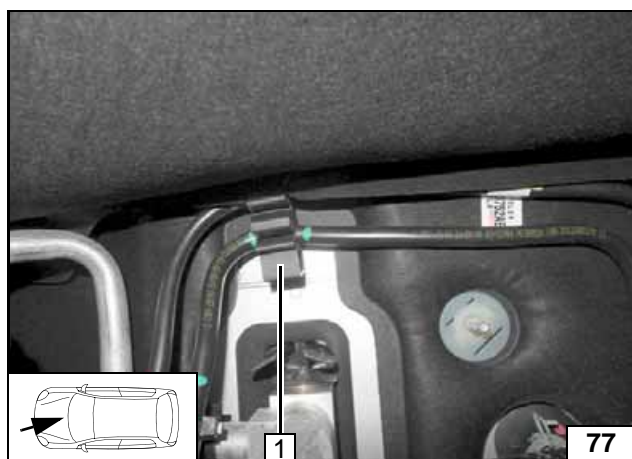
Routing in engine compartment



Ensure sufficient distance from neighbouring components.

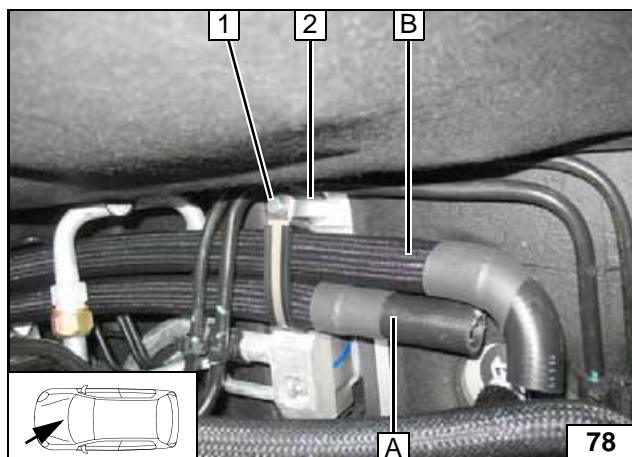
- 1 M6x20 bolt, spring lockwasher on spacer nut
- 2 Cable tie
- 3 48 mm dia. rubber-coated p-clamp

Routing in engine compartment



Remove and discard retaining clip at position 1.

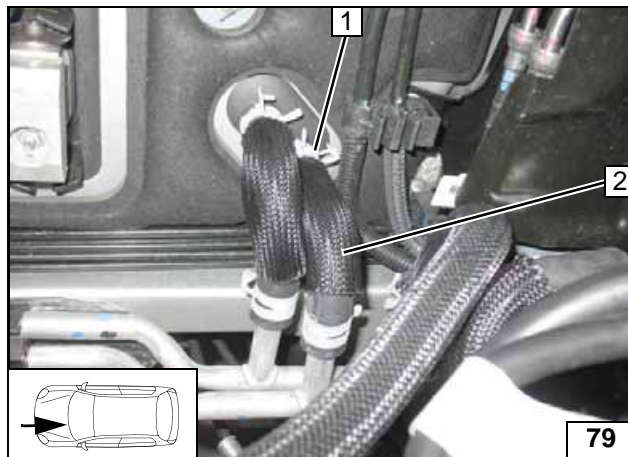
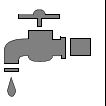
Removing retaining clip



Mount M6x40 spacer nut **2** to original vehicle stud bolt.

- 1 M6x20 bolt, spring lockwasher, rubber-coated p-clamp 48mm dia. on spacer nut

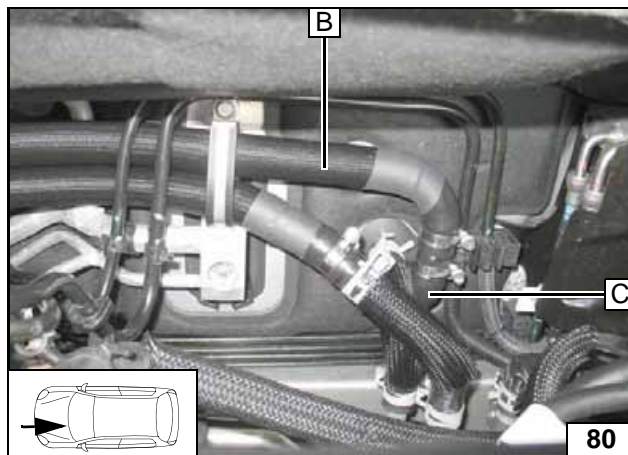
Routing in engine compartment



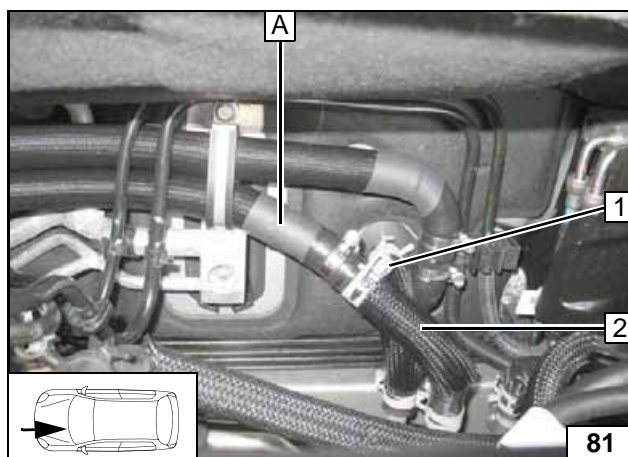
Pull out hose of engine outlet / heat exchanger inlet **2** from the connection piece of heat exchanger inlet. Original vehicle spring clip **1** will be reused.



**Cutting point**



**Connection of heat exchanger inlet**

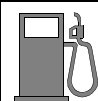


Ensure sufficient distance from neighbouring components.

- 1** Original vehicle spring clip
- 2** Hose of engine outlet turned



**Connection of engine outlet**



## Fuel

### CAUTION!

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

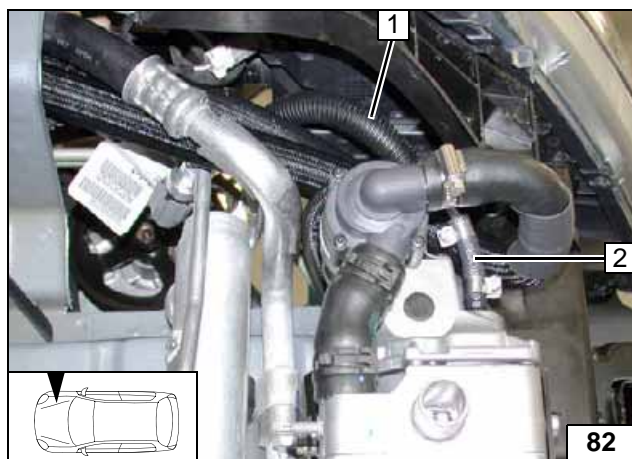
Catch any fuel running off with an appropriate container.

Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.

Provide rub protection for fuel line and wiring harness in areas where there are sharp edges.

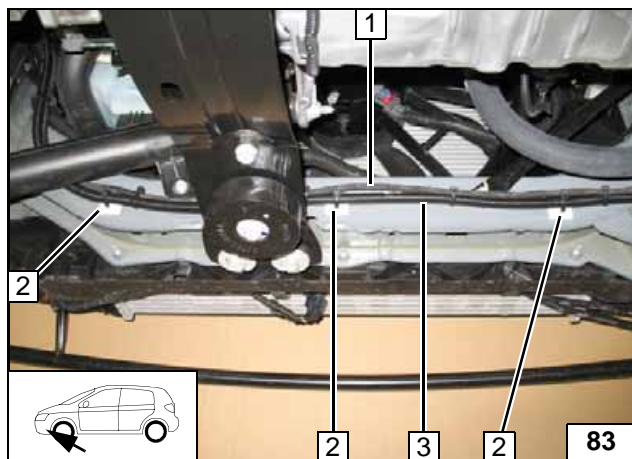
### WARNING!

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



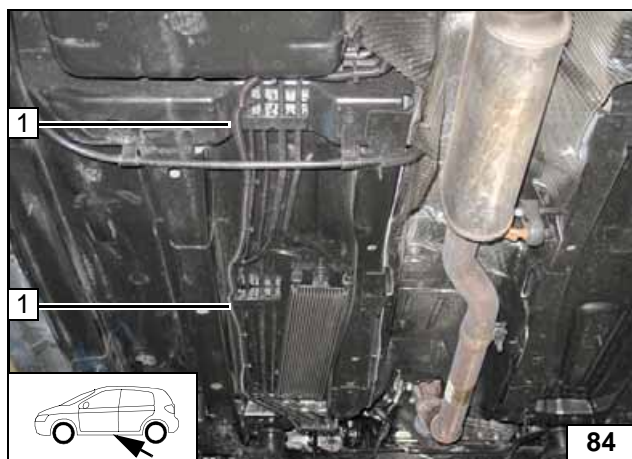
- 1 Fuel line in corrugated tube 2100
- 2 Hose section, 10mm dia.clamp [2x]

Connect-  
ing heater



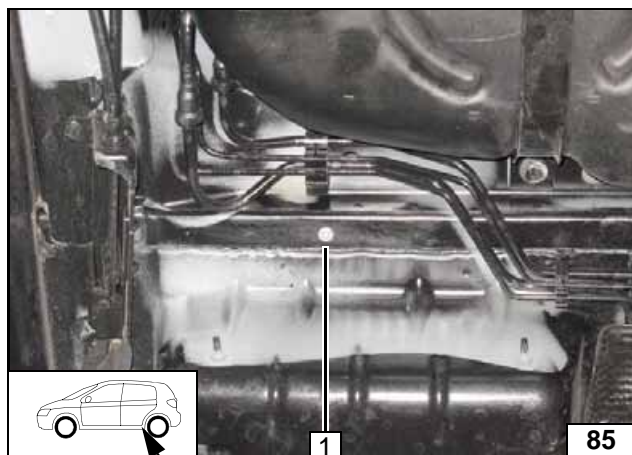
Fasten wiring harness of heater 1 and fuel line in corrugated tube 3 with adhesive base 2 and cable ties.

Routing  
lines



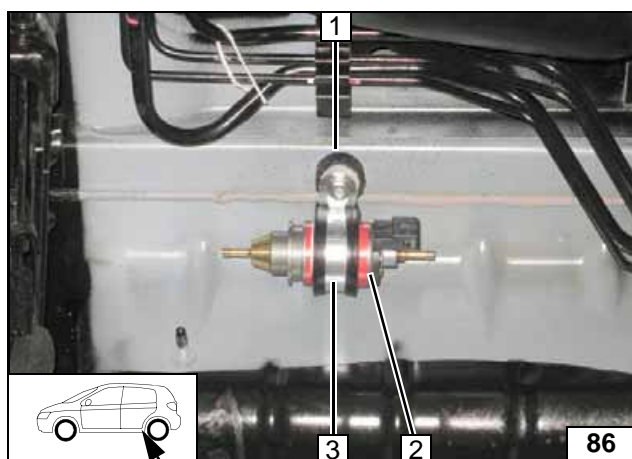
Fasten wiring harness of metering pump and fuel line in corrugated tube 1 on original vehicle lines.

Routing  
lines



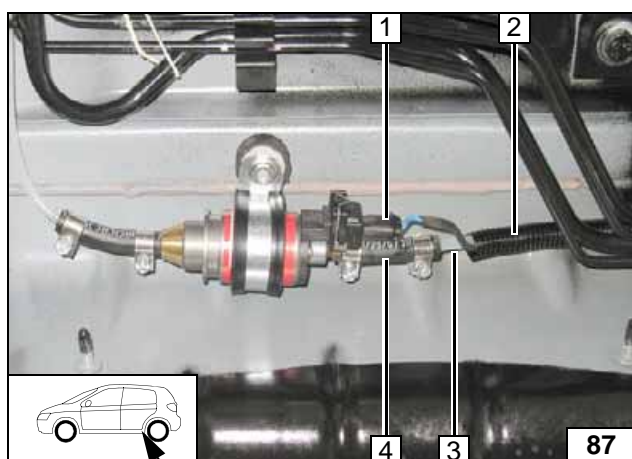
- 1 9.1mm dia. hole; install rivet nut

**Installing  
rivet nut**



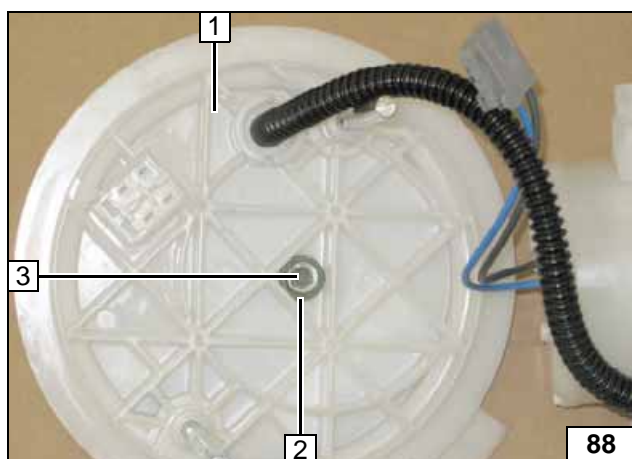
- 1 Silent block, flanged nut, rivet nut  
2 Metering pump  
3 Rubber-coated p-clamp

**Mounting  
metering  
pump**



- 1 Wiring harness of metering pump, connector mounted  
2 Wiring harness of metering pump, fuel line in corrugated tube  
3 Fuel line  
4 Hose section, 10mm dia.clamp [2x]

**Connect-  
ing meter-  
ing pump**



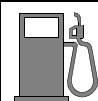
### Petrol

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

- 2 Flanged nut  
3 Copy hole pattern, 6mm dia. hole

**Fuel ex-  
traction**

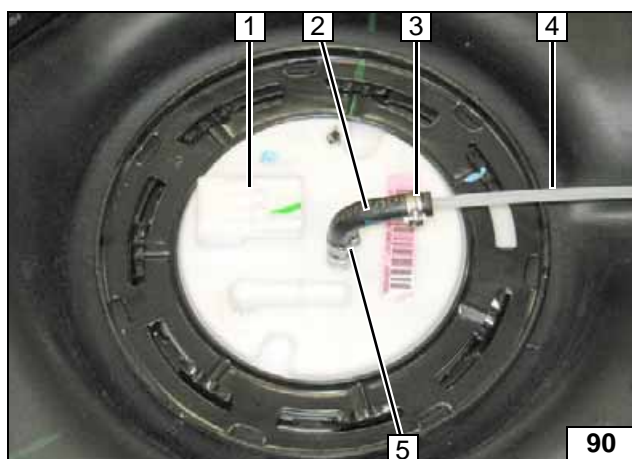




Shape fuel standpipe 1 according to template and cut it to length.



### Installing fuel standpipe

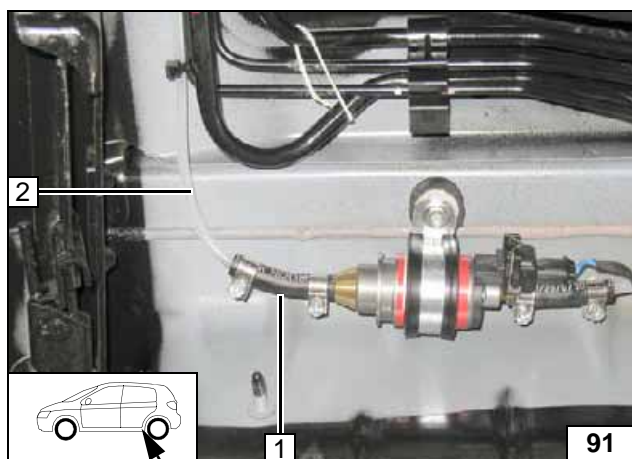


Install fuel-tank sending unit 1 in accordance with the manufacturer's instructions. Install fuel tank in accordance with manufacturer's instructions.



### Connecting fuel line

- 2 Moulded hose 90° 3.5x4.5mm dia. with 4.5mm dia. side on fuel standpipe
- 3 10 mm dia. clamp
- 4 Fuel line
- 5 9mm dia. clamp

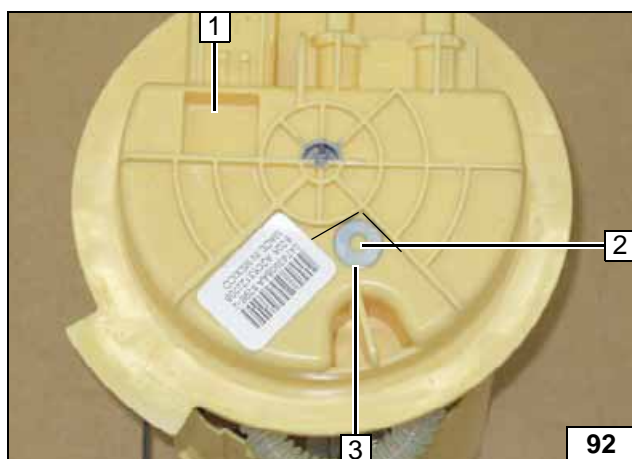


Check the position of the components; adjust if necessary. Check that they have freedom of movement.



### Connecting metering pump

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



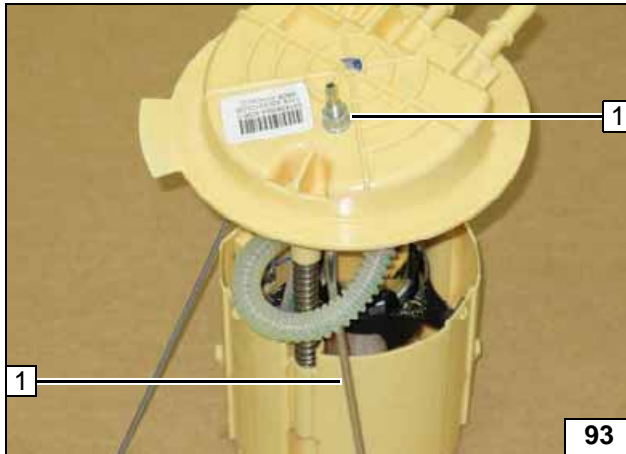
### Diesel

Remove fuel-tank sending unit 1 in accordance with the manufacturer's instructions. Place 17.8mm dia. large diameter washer 2 against the ribs.

- 3 Copy hole pattern, 6mm dia. hole



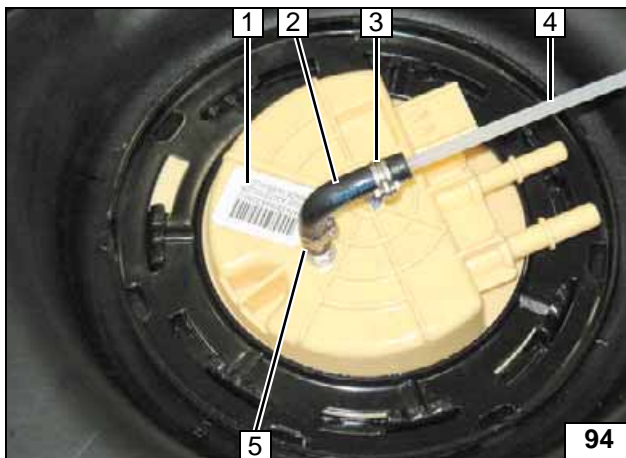
### Fuel extraction



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



### Installing fuel standpipe

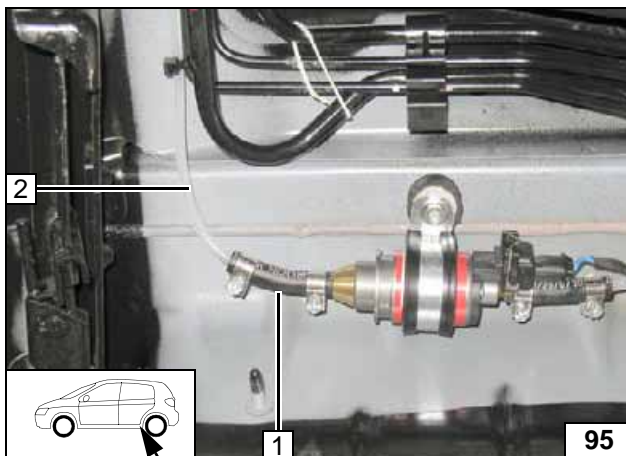


Install fuel-tank sending unit 1 in accordance with the manufacturer's instructions. Install fuel tank in accordance with manufacturer's instructions.

- 2 90° moulded hose
- 3 10mm dia. clamp
- 4 Fuel line
- 5 9mm dia. clamp



### Connecting fuel line

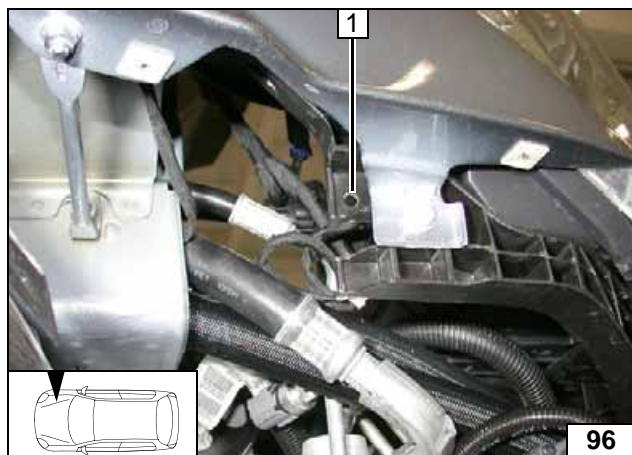
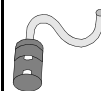


Check the position of the components; adjust if necessary. Check that they have freedom of movement.

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



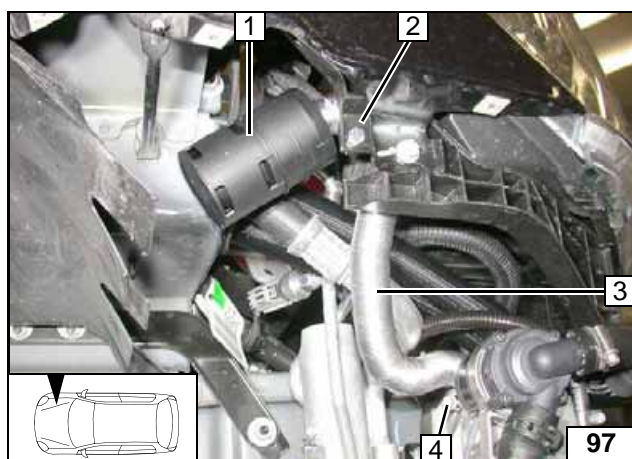
### Connecting metering pump



## Combustion Air

- 1 6.5mm dia. hole

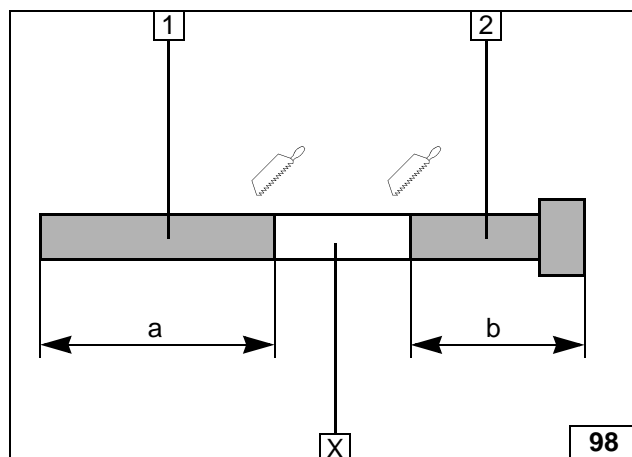
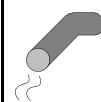
Hole in  
bumper trim



- 1 Silencer  
2 M6x20 bolt, p-clamp, flanged nut  
3 Combustion air pipe  
4 27mm dia. clamp



Mounting  
silencer

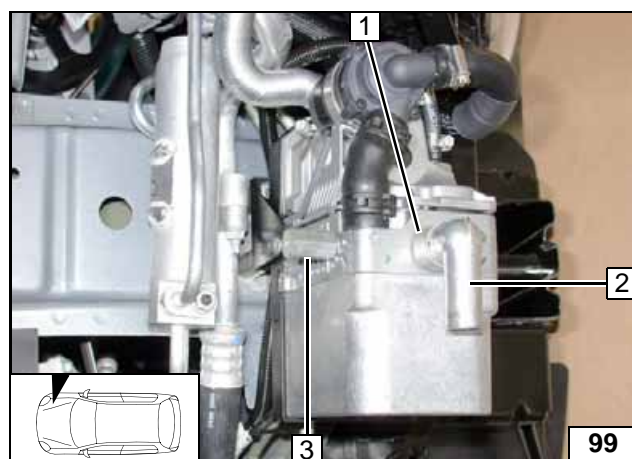


## Exhaust Gas

- 1 Exhaust pipe  
a = 360
- 2 Exhaust end section  
b = 240

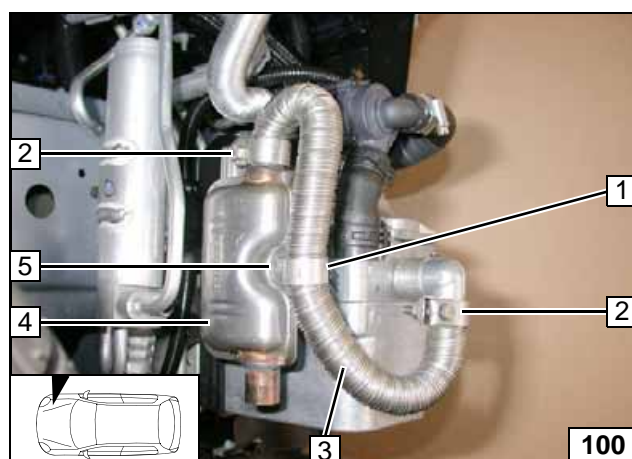
Discard section X

**Preparing  
exhaust  
pipe**



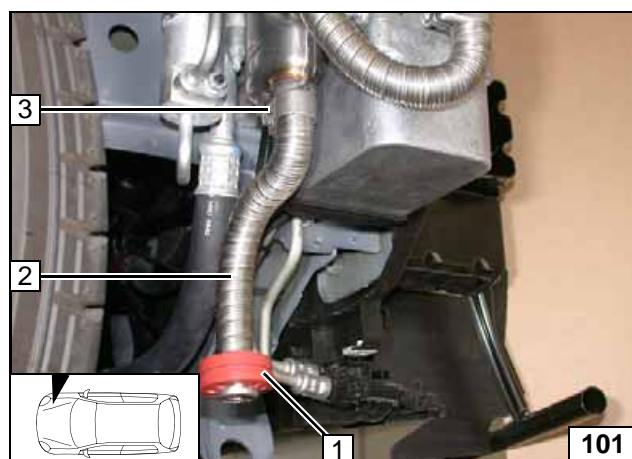
- 1 Hose clamp
- 2 Exhaust pipe
- 3 Spacer nut M6x30, Ejoy studs

**Mounting  
exhaust  
pipe**



- 1 P-clamp
- 2 Hose clamp [2x]
- 3 Exhaust pipe
- 4 Silencer
- 5 M6x16 bolt, spring lockwasher on spacer nut

**Mounting  
exhaust  
pipe and si-  
lencer**



- 1 Red (rt) rubber isolator with groove
- 2 Exhaust end section
- 3 Hose clamp

**Mounting  
exhaust  
end section**



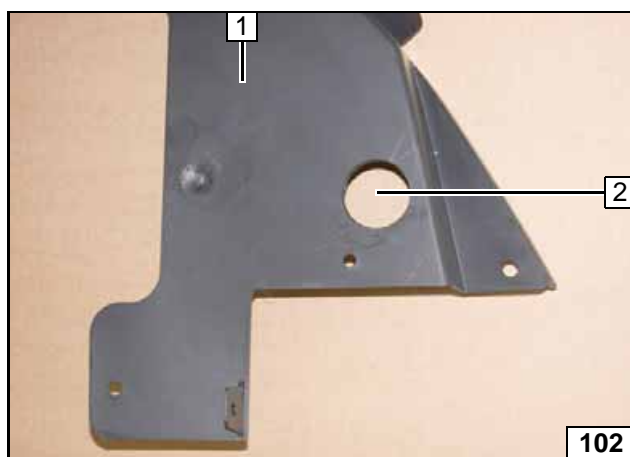
## Final Work

### WARNING!

Mount removed parts in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose lines.

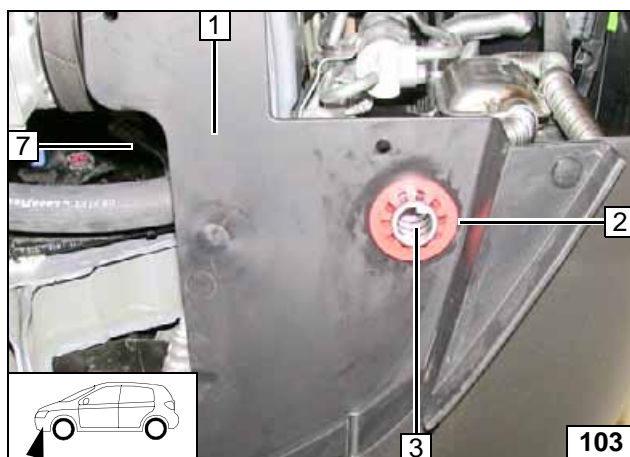
Only use manufacturer-approved coolant. Spray the heater components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

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



- 1 Underride protection
- 2 42mm dia. hole

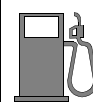
Cutting out  
underride  
protection



Align exhaust end section 3 flush on red rubber isolator 2.

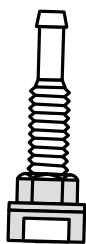
- 1 Underride protection

Mounting  
rubber iso-  
lator

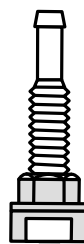


## Template for Fuel Standpipe

Petrol



Diesel



100mm



Scale 1:1

Compare size of the printed version with dimension lines.

Permitted tolerance a maximum of 2%.

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

100mm

0

## Operating Instructions for End Customer

Please remove page and add to the vehicle operating instructions.

### Note:

We recommend matching the heating time to the driving time.

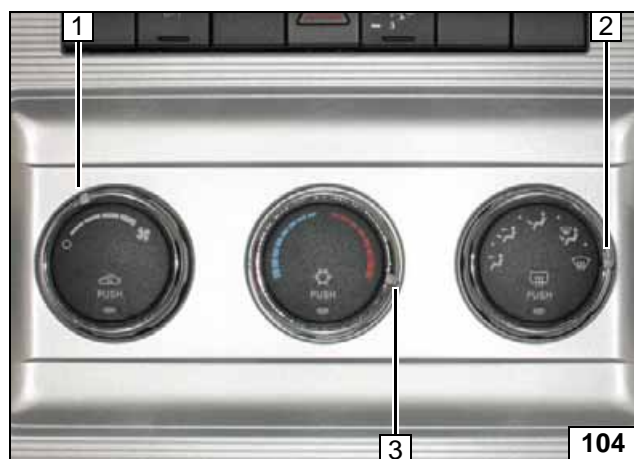
Heating time = driving time

### Example:

For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

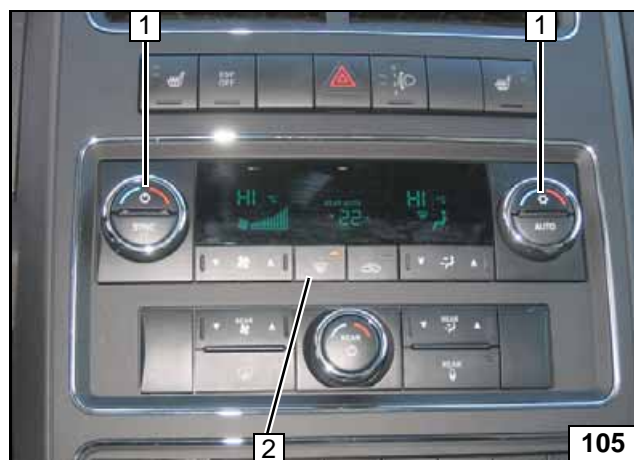
Passenger compartment monitoring, if installed, must be deactivated in addition to vehicle settings for the heating operation.

Before parking the vehicle, make the following settings:



### Dodge Journey

- 1 Set fan to level "1", or possibly "2"
- 2 Air outlet onto windscreen
- 3 Set temperature to "max."



### Dodge Journey

The fan speed need not be pre-selected.

- 1 Set temperature to "HI"[2x]
- 2 Air outlet onto windscreen



### Fiat Freemont

The fan speed need not be pre-selected.

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



Manual A/C



Automatic A/C



Automatic A/C