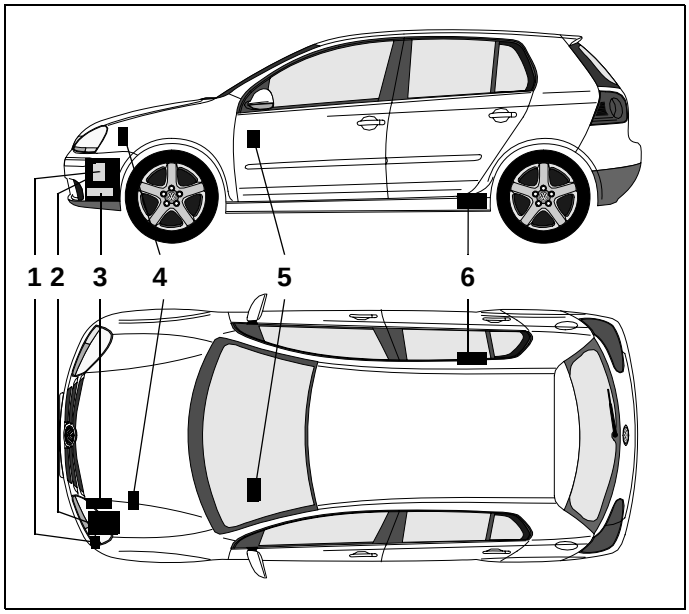
Water Heater Unit

Thermo Top C Additional Heater

e1
00 0002



Installation Instructions

VW Golf V
VW Golf Plus
VW Eos
VW Caddy

Diesel

from Model Year 2004

Not on SDI
For left-hand drive vehicles only

Legend for Figure 1:
1 Combustion-air intake muffler
2 Thermo Top C heater unit
3 Exhaust muffler
4 Blade-type fuse holder
5 Digital timer
6 Metering pump

Warning!
Hazard warning:

Incorrect installation or repair of Webasto heating systems may cause a fire or result in the emission of carbon monoxide, which can be fatal. Serious or fatal injuries can be caused as a result.

Specialist company training, technical documentation, specialized tools and equipment are required to install and repair Webasto heating and cooling systems.

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.

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

Table of Contents

Heater Unit/Installation Kit

Quantity	Description	Order No.:
1	Retail accessories with desired heater control	See price list
1	Kit for VW Golf V / Golf Plus / Eos / Caddy Diesel	9013551B

Also required with Climatronic

Quantity	Description	Order No.:
1	IPCU Kit for Climatronic	9013645A

Heater unit recommended for the respective vehicle class:

Vehicle	Heater unit
Compact car	Thermo Top E
Mid-size car, station wagon	Thermo Top C
Full-size car, van, offroader	Thermo Top P

The selection of the heater unit is based on the passenger compartment size of the vehicle and the level of comfort required by the customer!

Vehicle models, engine types, equipment variants as well as national specifications, which are not listed in these installation instructions, have not been tested.
However, installation according to these installation instructions may be possible.

The installation location of a digital timer and summer/winter switch should be confirmed with the end customer before installation.

Validity

Manufacturer	Model	Type	EG-BE No./ABE
Volkswagen	Golf V	1K	e1*2001/116*0242*...
Volkswagen	Golf V Plus	1KP	e1*2001/116*0304*...

Engine type	Engine model	Output in kW	Displacement in cm³
BRU	Diesel	66	1896
BKC	Diesel	77	1896
BLS	Diesel	77	1896
BKD	Diesel	103	1968
BMM	Diesel	103	1968
BMN	Diesel	125	1968

Manufacturer	Model	Type	EG-BE No./ABE
Volkswagen	Caddy	2K150	e1*2001/116*0252*...
Volkswagen	Caddy	2KN	L320

Engine type	Engine model	Output in kW	Displacement in cm³
BKC	Diesel	77	1896
BJB	Diesel	77	1896

Manufacturer	Model	Type	EG-BE No./ABE
Volkswagen	Eos	1F	e1*2001/116*0349*...

Engine type	Engine model	Output in kW	Displacement in cm³
BMM	Diesel	103	1968

Foreword

These installation instructions apply to VW Golf V, Golf V Plus, Eos and Caddy vehicles with a diesel engine - for validity, see page 2 - from model year 2004 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 these installation instructions.
However, the stipulations in the "installation instructions" and "operating and maintenance instructions" for the *Thermo Top C/E* 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.
Sharp edges should be fitted with edge protectors (split-open plastic hose).
Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

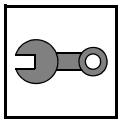
Special tools

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Center bit up to 42 mm dia.

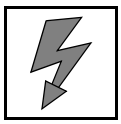
Explanatory Notes on Document

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 work

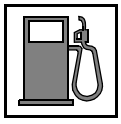


Electrical connection

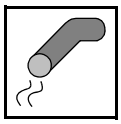


Coolant connection

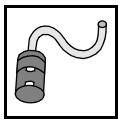
Fuel connection



Exhaust system



Combustion air



Special features are highlighted using the following symbols:

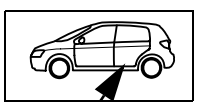
Specific risk of injury or fatal accidents.

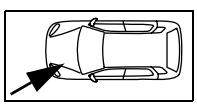
Specific risk of damage to components.

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.



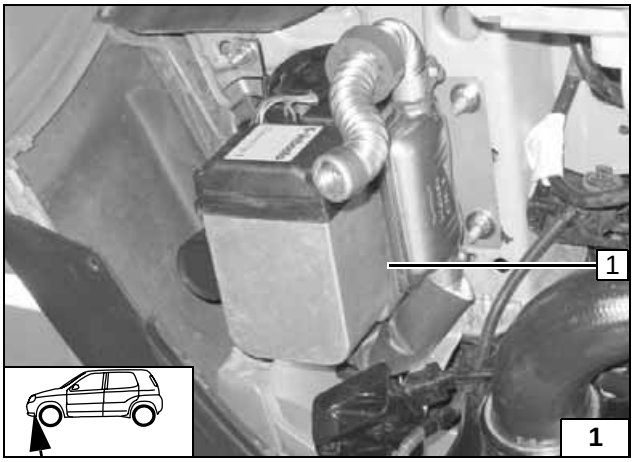


The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

Preliminary Work

WARNING!

- Open fuel tank cap, ventilate tank.
- Close the tank cap again.
- Depressurize 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.
- Disconnect the battery "earth" or "ground" connection.
- Remove battery.
- Remove the battery carrier.
- Remove the air filter together with the intake hose.
- Remove the left front wheel.
- Golf, Golf Plus and Eos only: Remove the front section of the left front wheel well trim.
- Caddy only: Remove front left wheel well trim.
- Remove the left-hand front fog light or, on vehicles without front fog lights, the left-hand cover.
- Remove the underride protection.
- Remove the underbody trim on the right (if present).
- Golf and Eos only: Remove the rear bench seat and open the tank-fitting service lid on the right.
- Golf Plus only: Remove the rear right seat and open the tank-fitting service lid.
- Remove the footwell trim on the driver's side
- Remove the lower instrument panel trim on the driver's side
- Only vehicles with Climatronic: Remove the footwell trim on the front passenger side



Heater unit installation location

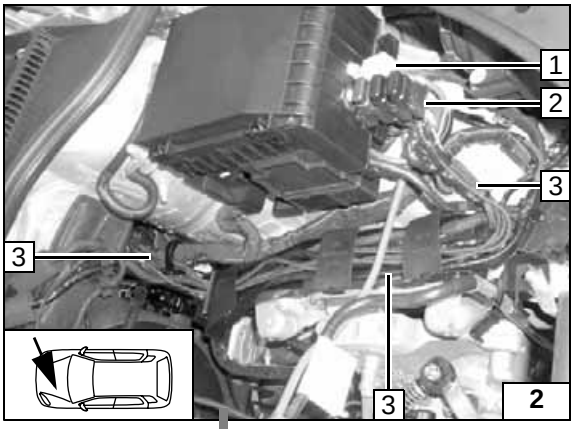
Installation location is in front of left front wheel

1 Heater unit

Electrical Connections

Fuse holder

1 Relay K3 (for installation instructions, see page 7)
2 Fuse holder (for installation instructions, see page 7)
3 Route wiring harness of heater control, fan controller and metering pump in cable duct to firewall



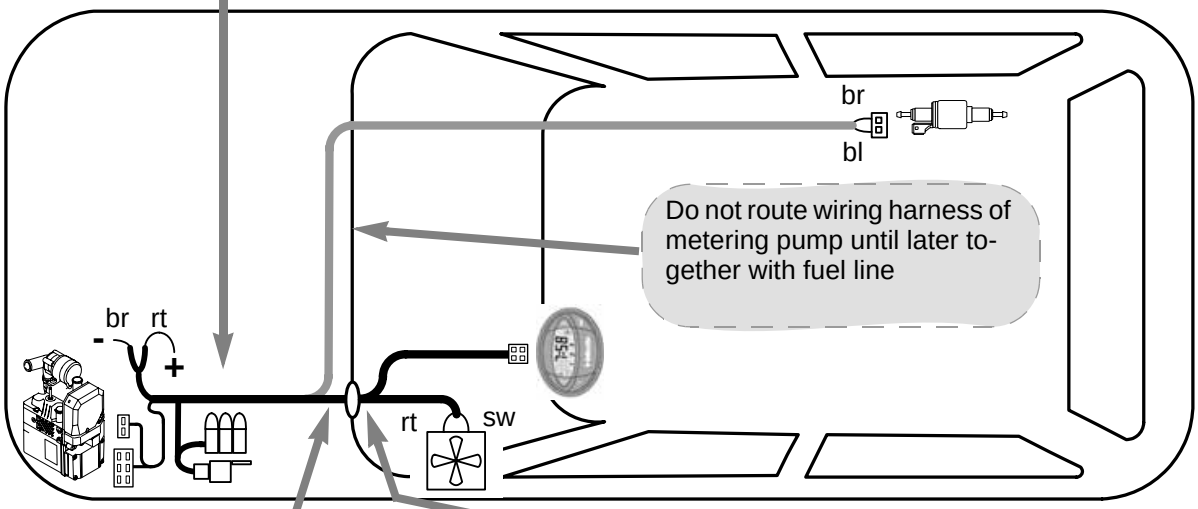
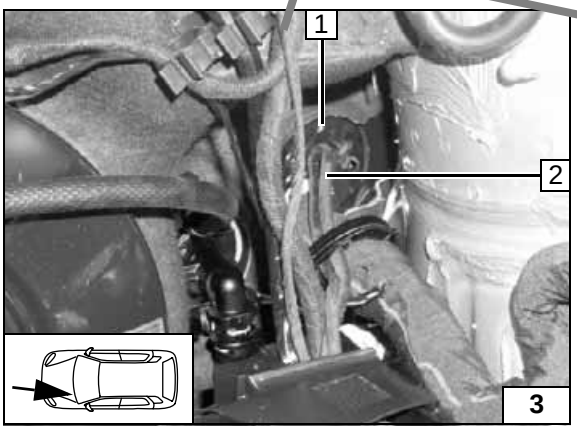
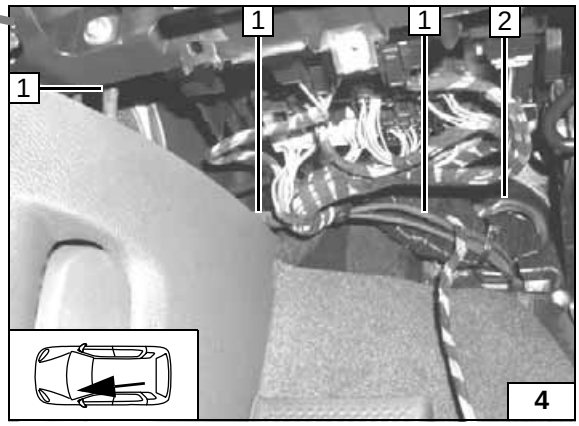


Diagram of wiring harness routing for all equipment



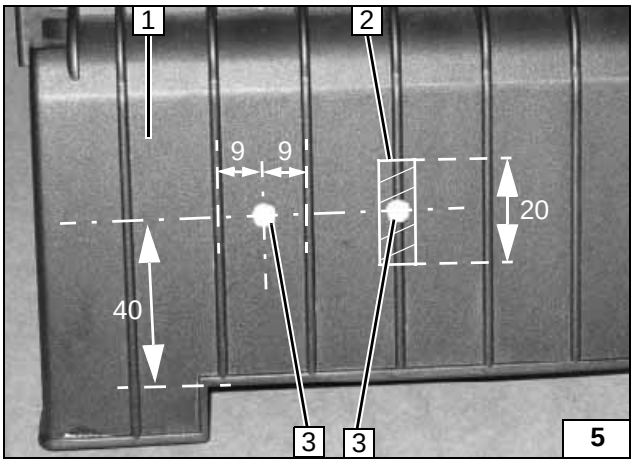
Wiring harness pass through

1 Original vehicle wiring harness pass through
2 Wiring harnesses of fan controller and heater control (for instructions on connecting fan, see pages 8 - 14; on connecting heater control, page 15 - 17



Wiring harness pass through

2 Original vehicle wiring harness pass through
1 Wiring harnesses for fan controller and heater control

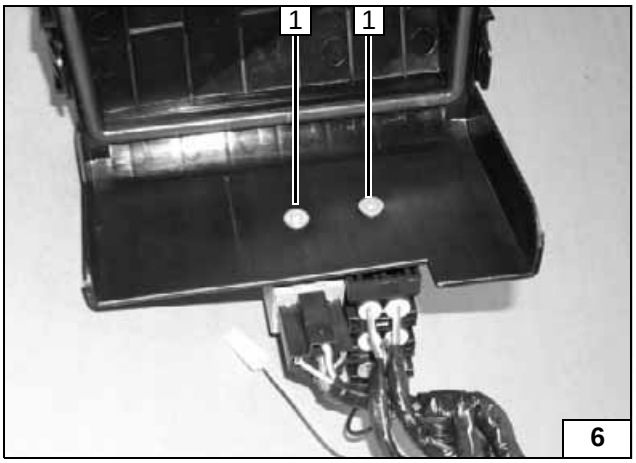


Fuse holder and relay K3

Countersink holes **3** from behind for M5 countersunk head screws.

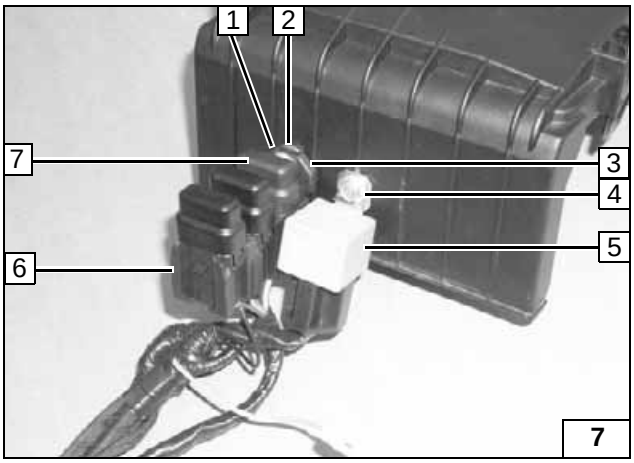
1 Cover of fuse/relay carrier in engine compartment
2 Cut away bar in s38
haded area
3 Drill 5,0 mm dia. hole [2x]

Holes for fuse holder and K3 relay



1 M5x12 countersunk head screw [2x]

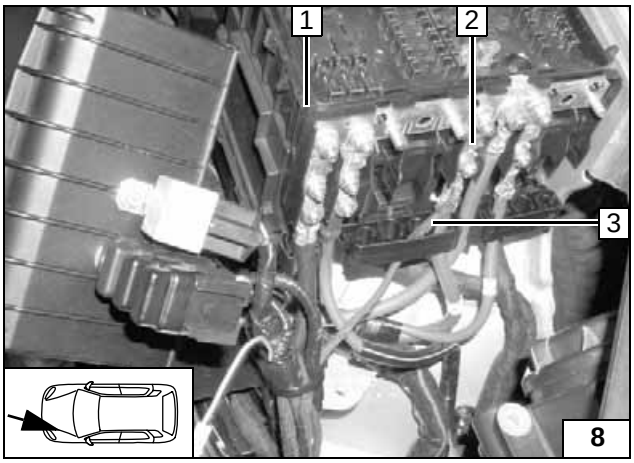
Installing fuse holder and K3 relay



On vehicles with Climatronic, replace 25 A fuse F3 **7** with 3 A fuse provided.

2 Large diameter washer (between cover and retaining plate)
3 Retaining plate
1 M5 flanged nut
6 Fuse holder
7 F3 fuse
5 Relay K3
4 M5 flanged nut

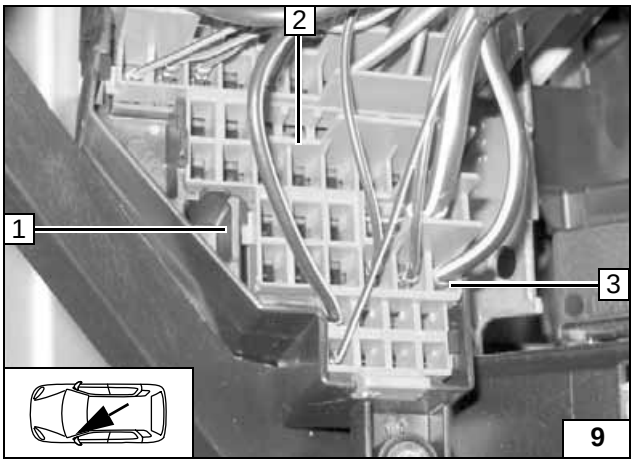
Installing fuse holder and relay K3



Route brown (br) ground wire to original vehicle ground support point below headlight and connect.

1 Fuse/relay carrier
3 Red (rt) positive wire
2 Original main vehicle fuse

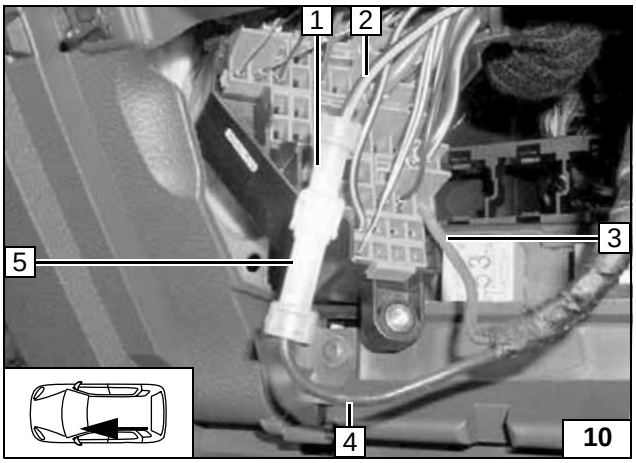
Connecting positive and ground wire



Fan controller on Golf V and Eos without Climatronic only

Detach original vehicle fuse carrier **1** (instrument panel at upper left) and unlock contact lock **2**.
Uncrimp black/yellow (sw/ge) wire, 4 mm², **3** on fuse output SC40.

Uncrimping wire

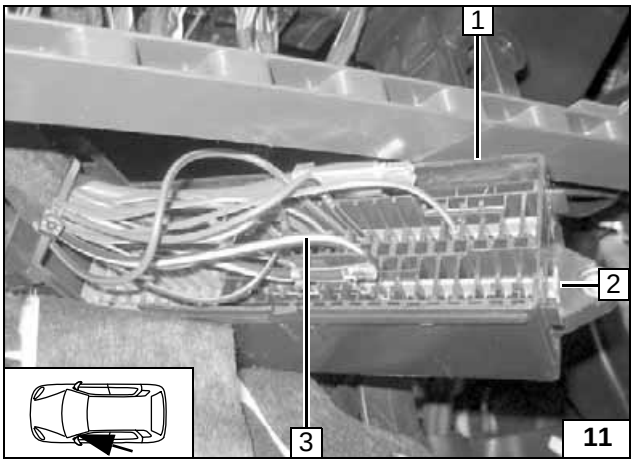


Produce connections as shown in wiring diagram.

2 Black/yellow (sw/ge) wire **9/3** with original standard power timer
1 AMP housing
4 Black (sw) wire K3/30 with crimped-on tab connector
5 AMP housing
3 Red (rt) wire from K3/87a with crimped-on standard power timer engaged in fuse output SC40

Connecting wires

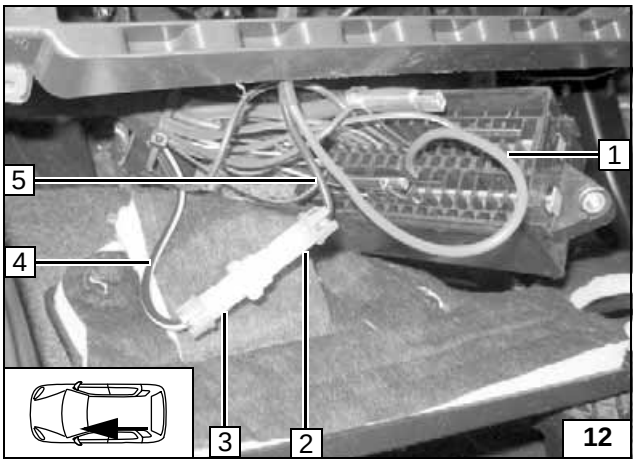
Lock contact lock again.



Fan controller for Golf Plus and Caddy without Climatronic only

Fuse socket dependent on vehicle equipment SC33 or SC 35; wire color black (sw) or black/yellow (sw/ge)
Detach original vehicle fuse carrier **1** (instrument panel at lower left) and unlock contact lock **2**.
Uncrimp black (sw) or black/yellow (sw/ge) 4mm² wire **3** on fuse output SC33 or SC35

Uncrimping wire

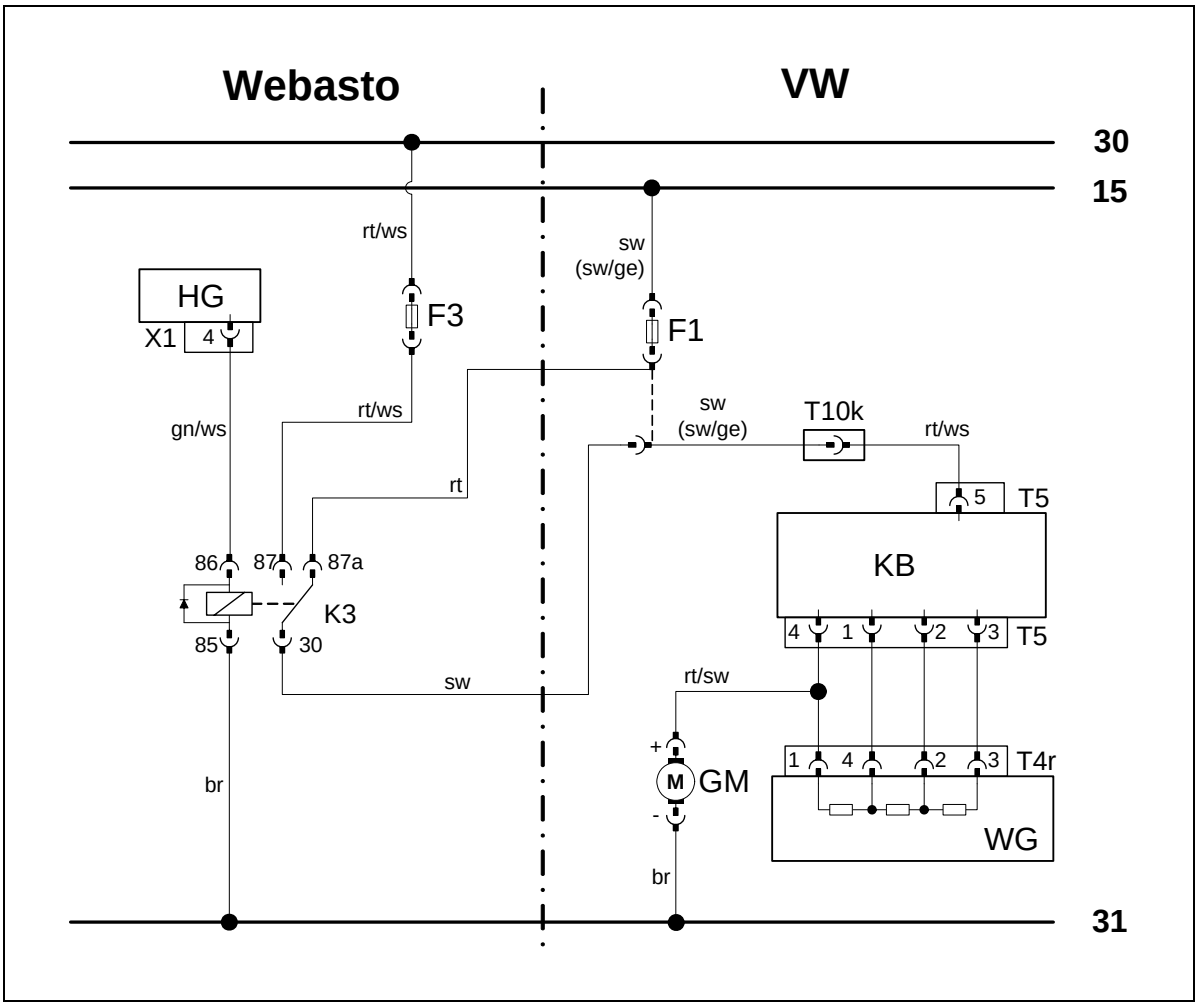


Produce connections as shown in wiring diagram.

4 Black (sw) or black/yellow (sw/ge) wire **11/3** with original standard power timer
3 AMP housing
5 Black (sw) wire K3/30 with crimped-on tab connector
2 AMP housing
1 Red (rt) wire from K3/87a with crimped-on standard power timer engaged in fuse output SC33 or SC35

Connecting wires

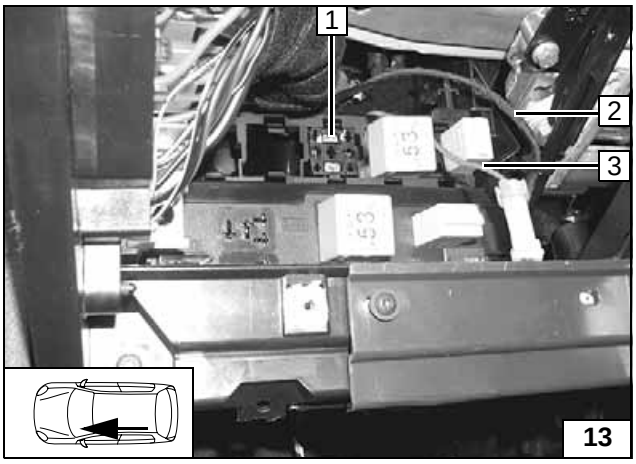
Lock contact lock again.



Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	F1	Fuse SC33, SC35 or SC40 with 40 A	rt	red
X1	6-pin connector			ws	white
F3	25 A fuse	KB	Air-conditioning control unit J301 or heater switch E16	sw	black
K3	Fan relay			br	brown
		WG	Resistor group - N24	gn	green
		GM	Fan motor - V2	ge	yellow
		F1	40 A fuse SC40		
		T...	Plug connections		

Wiring diagram without Climatronic

Legend

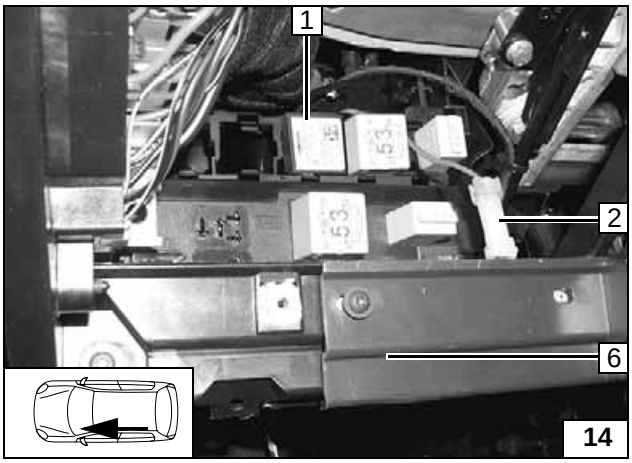


Fan controller for Golf V and Eos with Climatronic only

Produce connections as shown in wiring diagram.
Position of free sockets dependent on vehicle equipment.

1 IPCU socket
2 Red (rt) and black/white (sw/ws) wires from IPCU
3 Green/white (gn/ws) wire to IPCU/86 with AMP connector

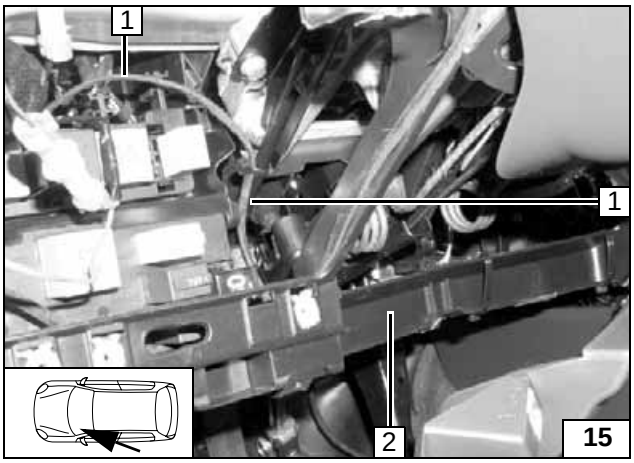
Installing wiring harness of Climatronic



Brown (br) wire from IPCU/85 to original vehicle ground point.
Insulate and tie back red (rt) wire from K3/87a.
Connect black (sw) wire from K3/30 to green/white (gn/ws) wire (AMP connector) **2**.

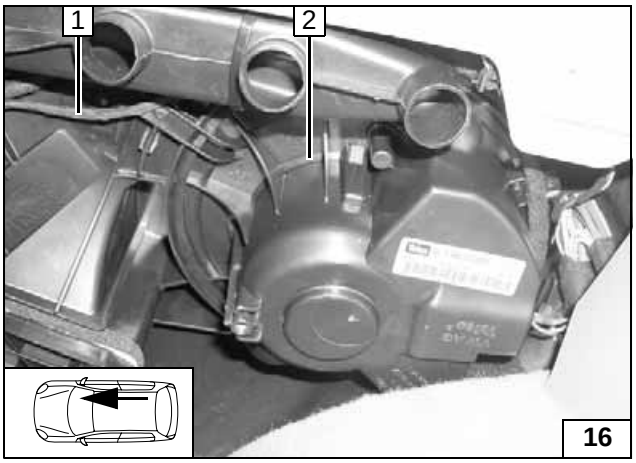
1 IPCU

Connecting wires



Route wiring harness from IPCU **1** along cross member **2** to center console.

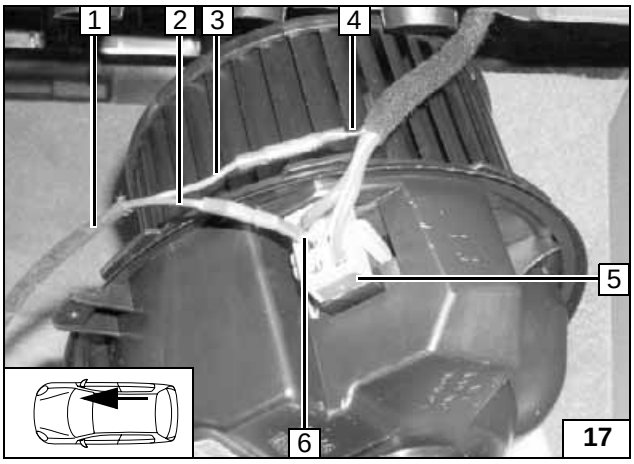
Routing wiring harness from IPCU



Route wiring harness from IPCU to original vehicle wires to fan unit

1 Wiring harness with red (rt) wire from IPCU/E and black/white (sw/ws) wire from IPCU/A
2 Fan unit

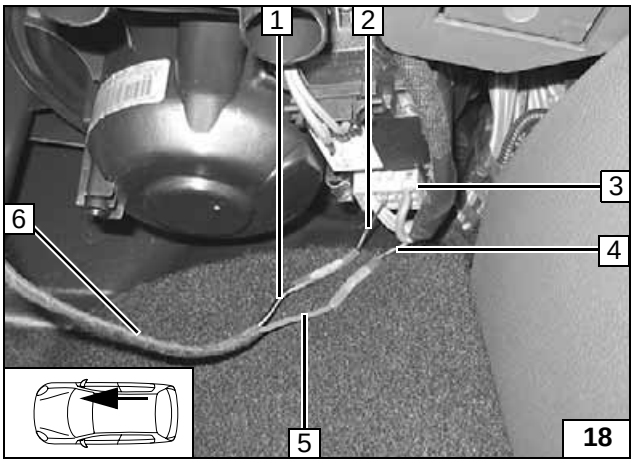
Routing wiring harness from IPCU



Position of connector T6t is dependent on vehicle. If necessary, disconnect fan unit in accordance with manufacturer's instructions. Produce connections as shown in wiring diagram.

1 Wiring harness from IPCU
2 Black/white (sw/ws) wire from IPCU/A
3 Red (rt) wire from IPCU/E
4 Black/white (sw/ws) wire from Climatronic control unit
5 Connector T6t
6 Black/white (sw/ws) wire to connector T6t/2

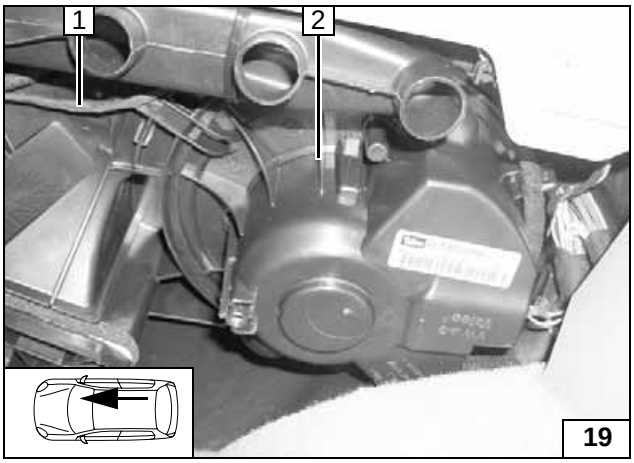
Connecting wires



Picture shows version without having to disconnect fan unit.

1 Black/white (sw/ws) wire from IPCU/A
2 Black/white (sw/ws) wire to connector T6t/2
3 Connector T6t
4 Black/white (sw/ws) wire from Climatronic control unit
5 Red (rt) wire from IPCU/E
6 Wiring harness from IPCU

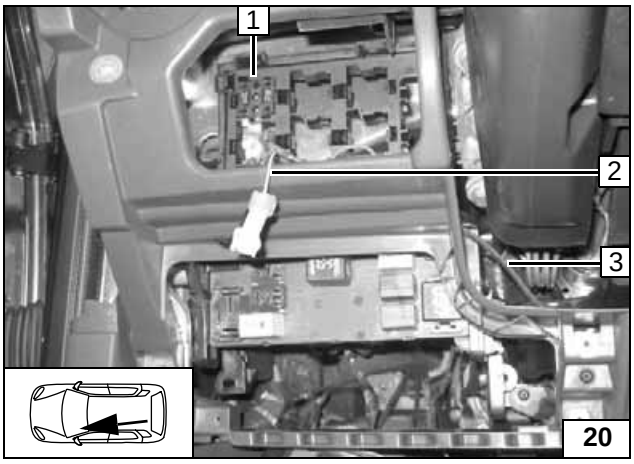
Connecting wires



If previously removed, reinstall fan unit. Fasten wiring harness on original vehicle wires with cable ties.

1 Wiring harness from IPCU
2 Fan unit

Installing fan unit

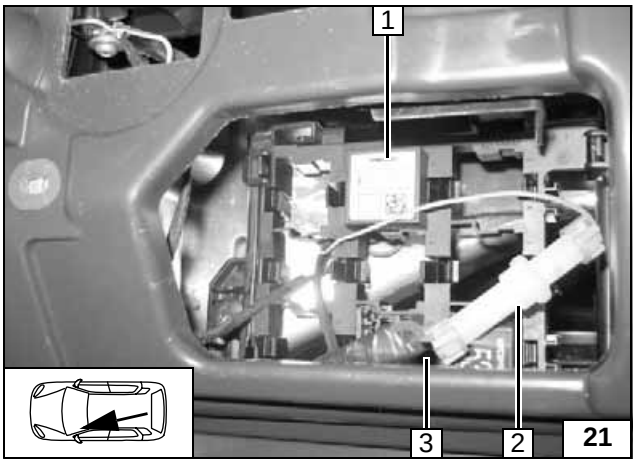


Fan controller for Golf Plus and Caddy with Climatronic only

Produce connections as shown in wiring diagram.
Position of free sockets dependent on vehicle equipment.

1 IPCU socket
2 Green/white (gn/ws) wire to IPCU/86 with AMP connector
3 Red (rt) and black/white (sw/ws) wires from IPCU

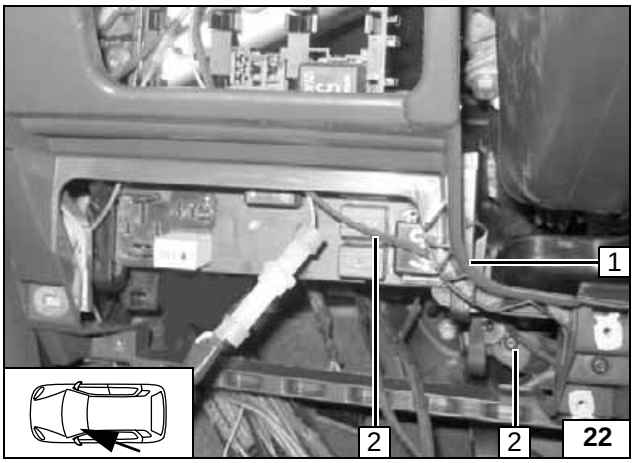
Installing wiring harness of Climatronic



Brown (br) wire from IPCU/85 to original vehicle ground point.
Insulate and tie back red (rt) wire from K3/87a.
Connect black (sw) wire from K3/30 **3** to green/white (gn/ws) wire (AMP connector) **2**.

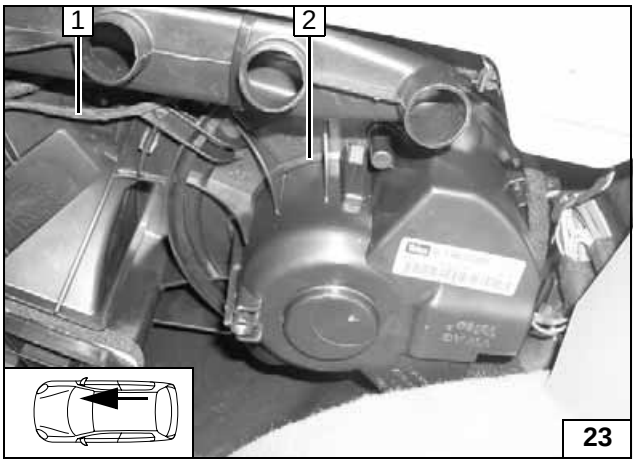
1 IPCU

Connecting wires



Route wiring harness from IPCU **2** along cross member **1** to center console.

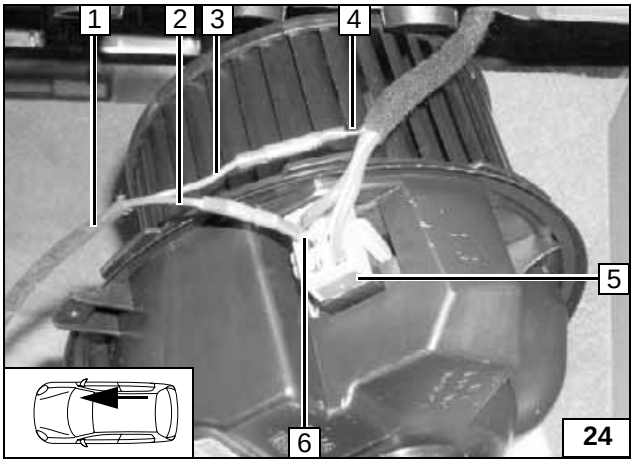
Routing wiring harness from IPCU



Route wiring harness from IPCU to original vehicle wires to fan unit

1 Wiring harness with red (rt) wire from IPCU/E and black/white (sw/ws) wire from IPCU/A
2 Fan unit

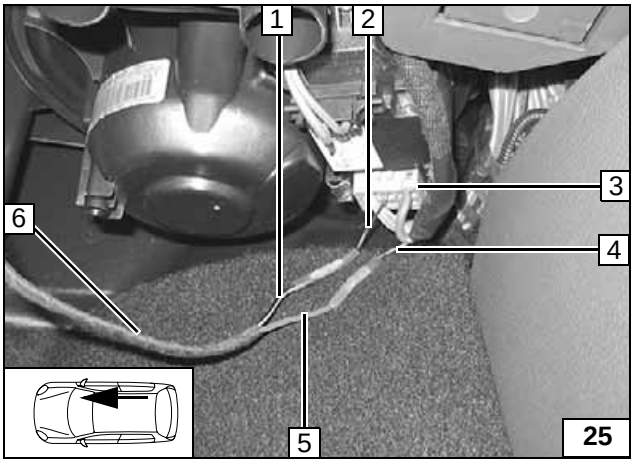
Routing wiring harness from IPCU



Position of connector T6t is dependent on vehicle. If necessary, disconnect fan unit in accordance with manufacturer's instructions. Produce connections as shown in wiring diagram.

1 Wiring harness from IPCU
2 Black/white (sw/ws) wire from IPCU/A
3 Red (rt) wire from IPCU/E
4 Black/white (sw/ws) wire from Climatronic control unit
5 Connector T6t
6 Black/white (sw/ws) wire to connector T6t/2

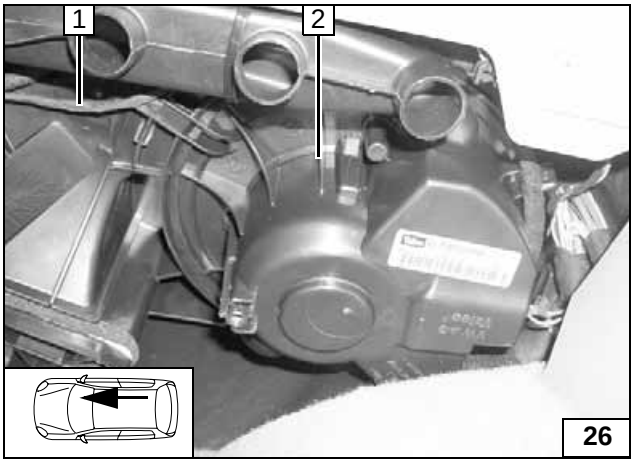
Connecting wires



Picture shows version without having to disconnect fan unit.

1 Black/white (sw/ws) wire from IPCU/A
2 Black/white (sw/ws) wire to connector T6t/2
3 Connector T6t
4 Black/white (sw/ws) wire from Climatronic control unit
5 Red (rt) wire from IPCU/E
6 Wiring harness from IPCU

Connecting wires

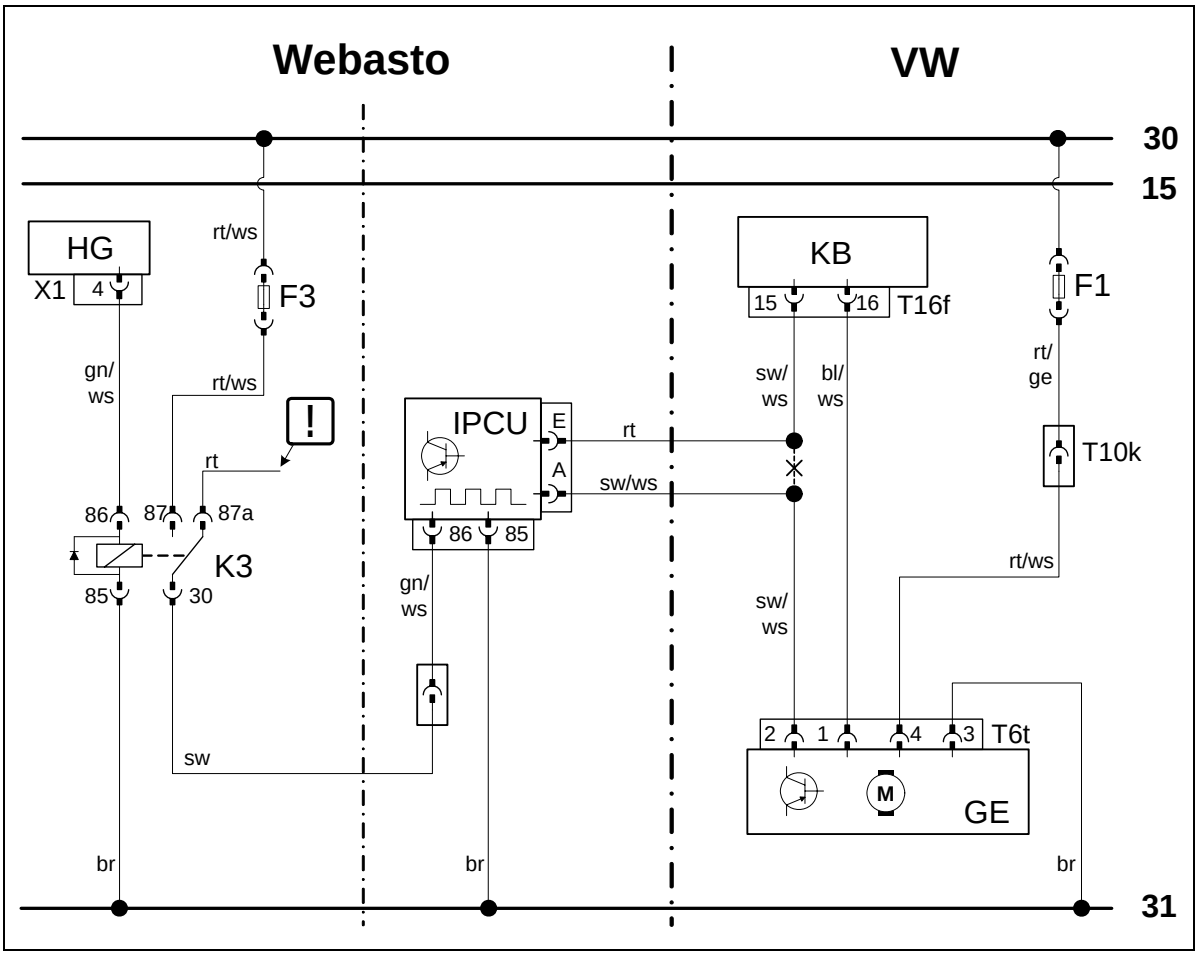


If previously removed, reinstall fan unit. Fasten wiring harness on original vehicle wires with cable ties.

1 Wiring harness from IPCU
2 Fan unit

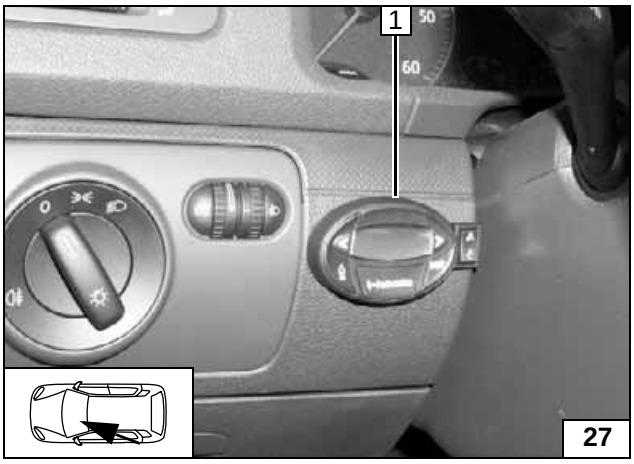
Installing fan unit

Wiring diagram with Climatronic



Legend

Webasto components		Vehicle components		Colors and symbols	
HG	Heater unit TT-C/E	F1	Fuse SC22 or SC56 with 40 A	rt	red
X1	6-pin heater unit connector			ws	white
K3	Fan relay	KB	Climatronic control unit - J255	sw	black
F3	Fuse (25 A replaced with 3 A)	T...	Plug connections	br	brown
		ge	Fan control unit - J126 and fan motor - V2	gn	green
IPCU	Pulse width modulator			ge	yellow
IPCU adjustment values				bl	blue
Voltage: 8 V					
Frequency: 400 Hz				!	Insulate wire end and tie back
Duty cycle: 30 %					
Function: High-side				**X**	Cutting point

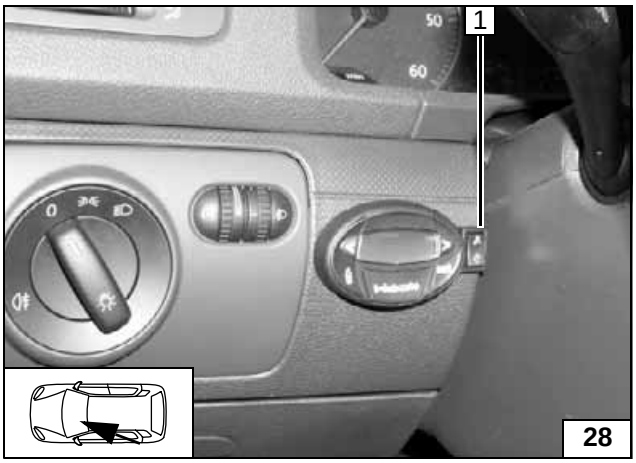


Optional digital timer f0r Golf V and Eos only

Do not press on display!

1 Digital timer, drilling template

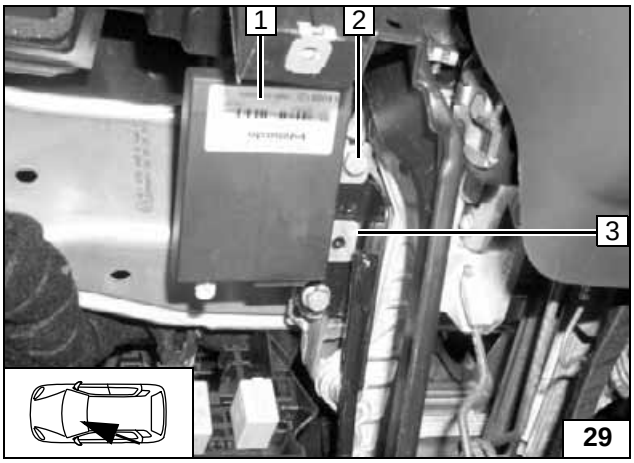
Digital timer option



Optional summer/winter switch for Golf V and Eos only

1 Summer/winter switch

Summer/winter switch option

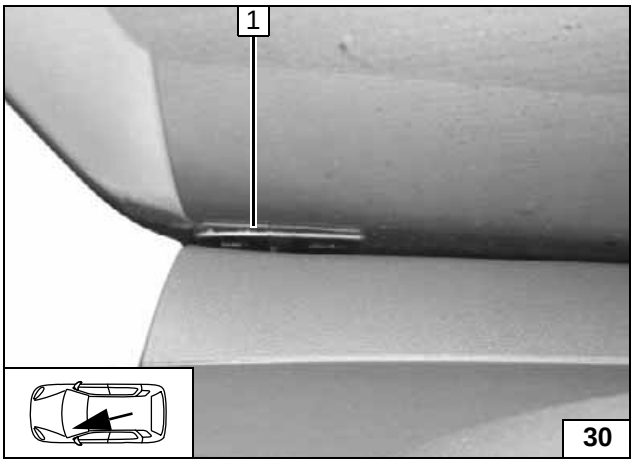


Optional Telestart f0r Golf V and Eos only

If M6 screw **2** is not present, then use suitable M6 screw with spring lockwasher.
Drill out upper hole of bracket to 6.5 mm dia.

3 Bracket
1 Receiver
2 M6 bolt

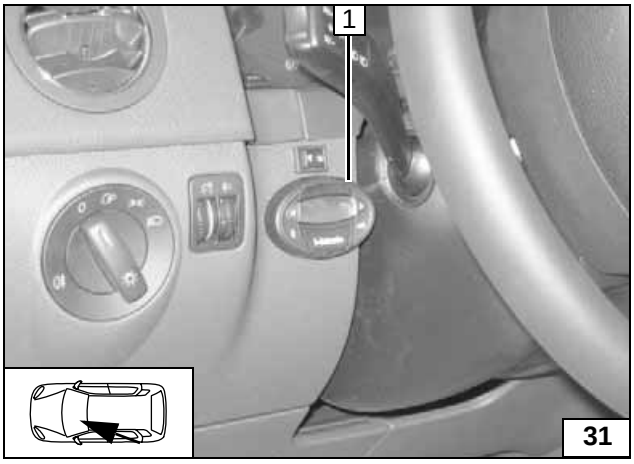
Installing receiver



1 Antenna on windshield at lower left

Installing antenna

Produce all connections in accordance with general installation instructions and fasten wires with cable ties.

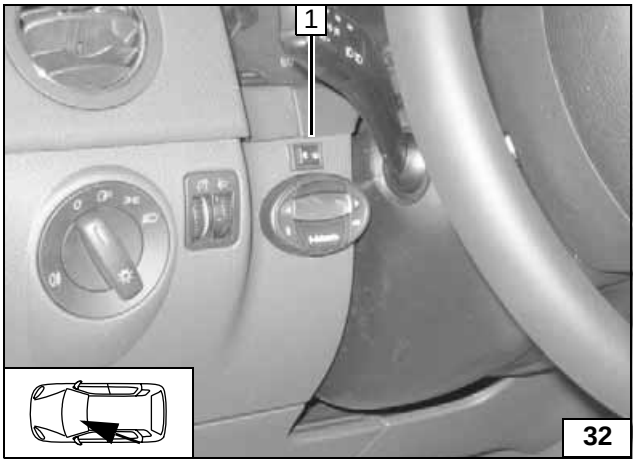


Optional digital timer for Golf Plus only

Do not press on display!

1 Digital timer, drilling template

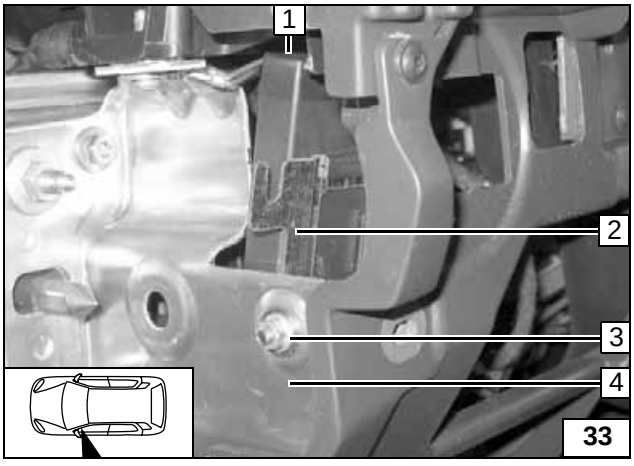
Digital timer option



Optional summer/winter switch for Golf Plus only

1 Summer/winter switch

Summer/winter switch option

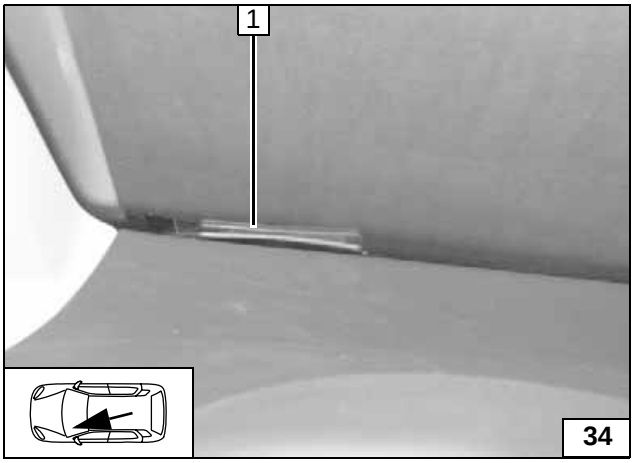


Optional Telestart for Golf Plus only

Bend down lower tab of bracket by 90° and drill out hole to 6.5 mm dia. as shown.

2 Bracket
1 Receiver
3 M6 bolt, large diameter washer (between bracket instrument carrier), large diameter washer (from outside), flanged nut
4 Instrument carrier, existing hole

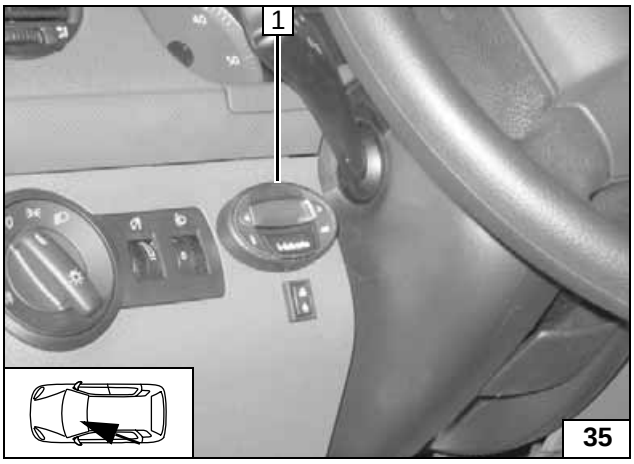
Installing receiver



1 Antenna on windshield at lower left

Installing antenna

Produce all connections in accordance with general installation instructions and fasten wires with cable ties.

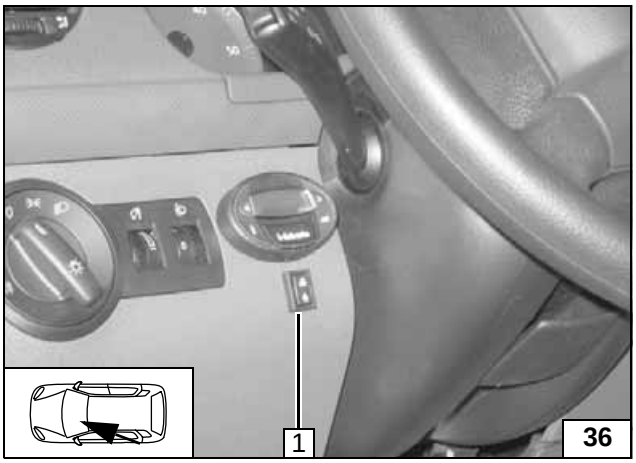


Optional digital timer for Caddy only

Do not press on display!

1 Digital timer, drilling template

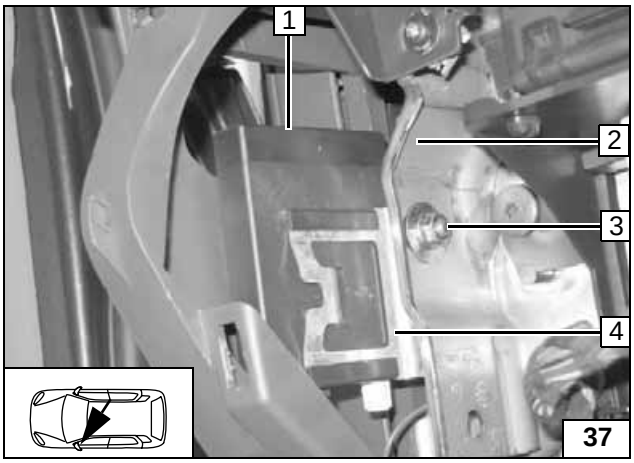
Digital timer option



Optional summer/winter switch for Caddy only

1 Summer/winter switch

Summer/winter switch option

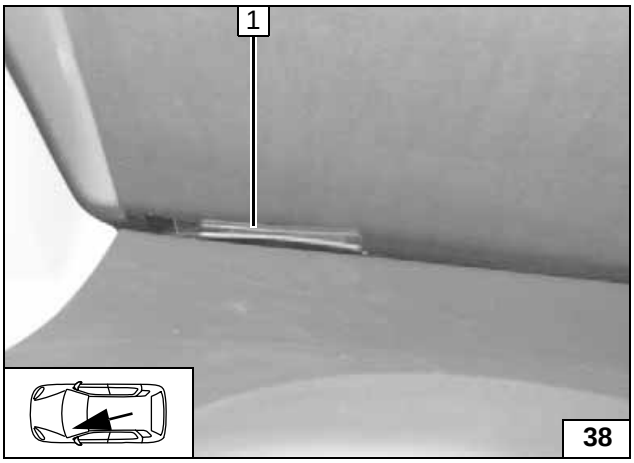


Optional Telestart for Caddy only

Drill out upper hole of bracket to 6.5 mm dia.

4 Bracket
1 Receiver
3 M6 bolt, large diameter washer, flanged nut
2 Instrument carrier, existing hole

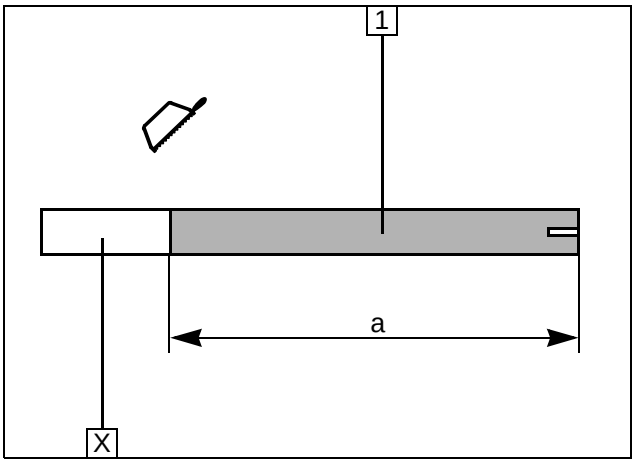
Installing receiver



1 Antenna on windshield at lower left

Installing antenna

Produce all connections in accordance with general installation instructions and fasten wires with cable ties.

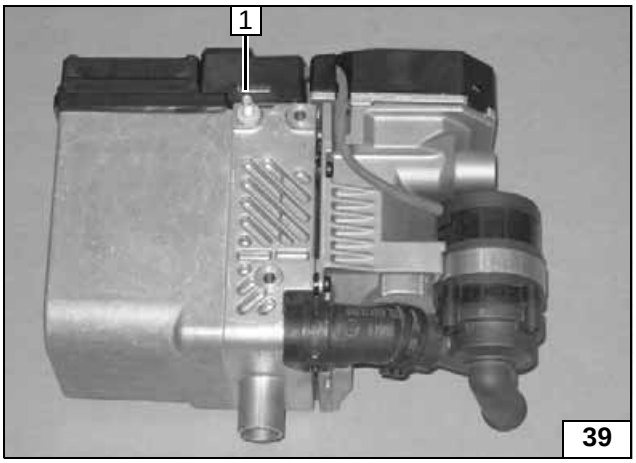


Premounting heater unit

1 Combustion air pipe
a = 250 mm

Discard section **X**

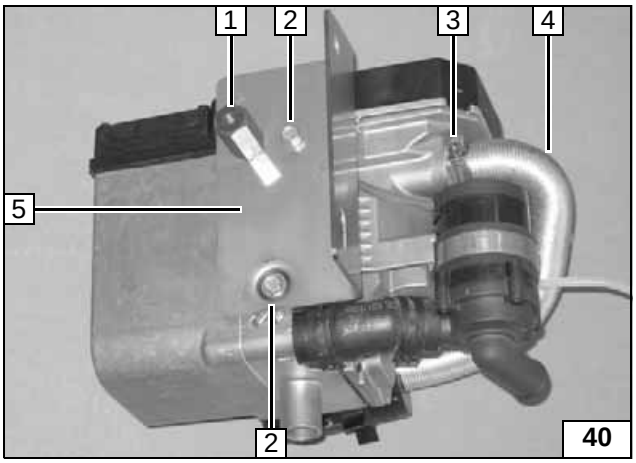
Cutting combustion air pipe to length



Ejot stud, tightening torque 10 Nm.

1 Ejot stud

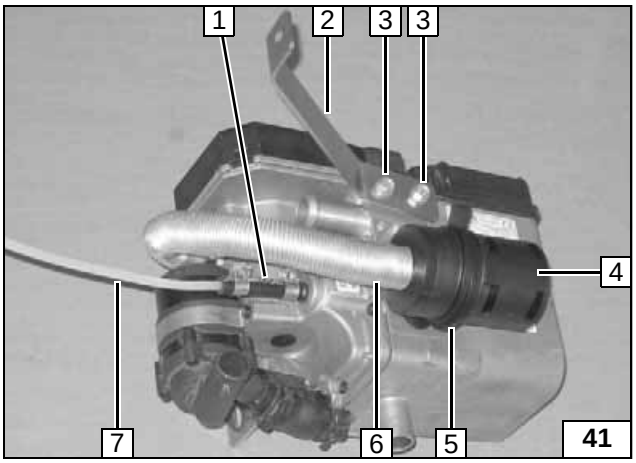
Premounting heater unit



Tighten EJOT screws to 10 Nm!
Insert one washer each between heater unit and bracket at positions **2**

5 Bracket
2 Washer, Ejot screw [2x]
1 M6x30 spacer nut
4 Prepared combustion air pipe (slotted side on heater unit)
3 Hose clamp

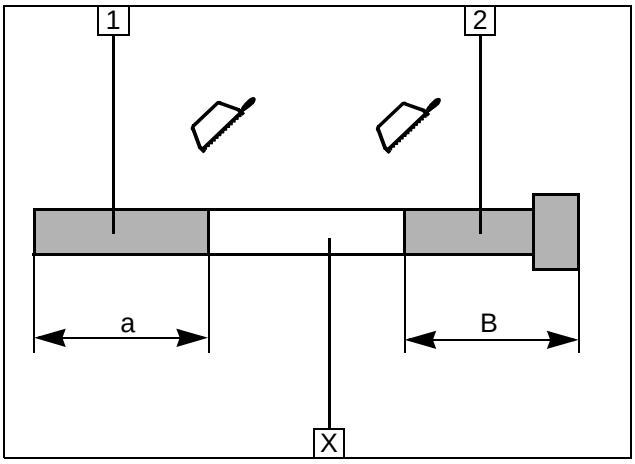
Premounting heater unit



Tighten EJOT screws to 10 Nm! Ensure proper installation position of air intake muffler, see "Installation Instructions".

2 Strut
3 Ejot screw [2x]
5 Retaining clip in hole of heater unit
4 Combustion-air intake muffler
6 Combustion air pipe
7 Mecanyl line
1 Hose section, 10 mm dia. hose clamp [2x]

Premounting heater unit

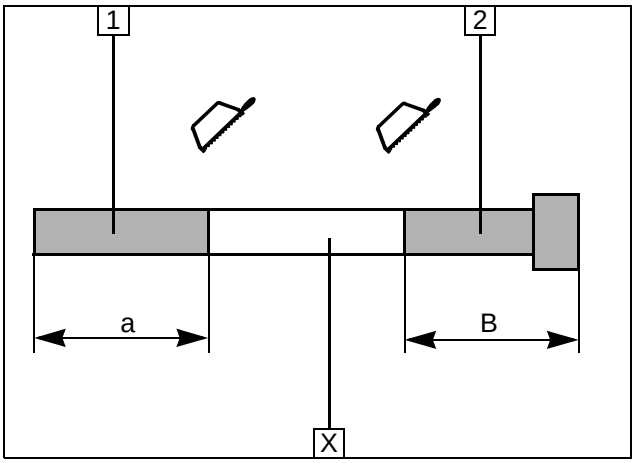


Preparing exhaust system on Golf V, Golf Plus and Caddy

1 Exhaust pipe
a = 190 mm
2 Exhaust end section
b = 240 mm

Discard section **X**

Preparing exhaust pipe

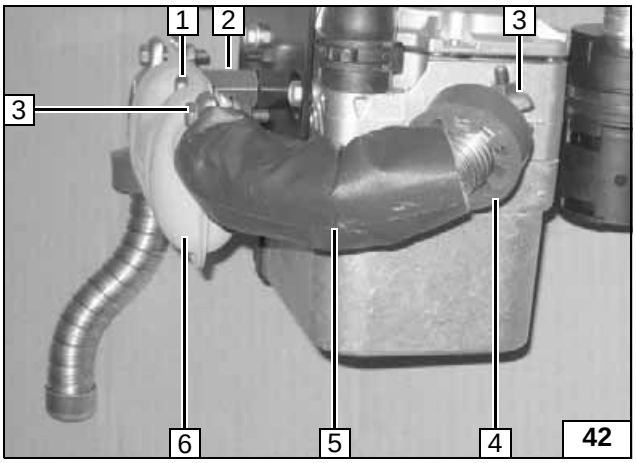


Preparing exhaust system on Eos

1 Exhaust pipe
a = 190 mm
2 Exhaust end section
b = 290 mm

Discard section **X**

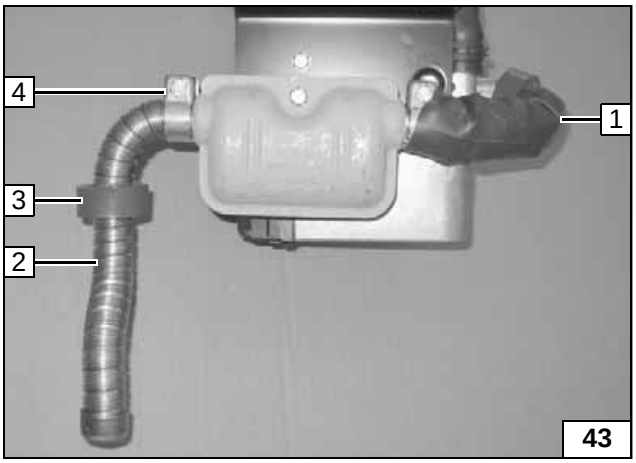
Preparing exhaust pipe



Shape exhaust pipe as shown in Figures and slide on insulation.

6 Muffler
1 M6x16 bolt, spring lockwasher
2 Premounted M6x30 spacer nut
5 Exhaust pipe with insulation
4 Red (rt) rubber isolator, without groove
3 Hose clamp [2x]

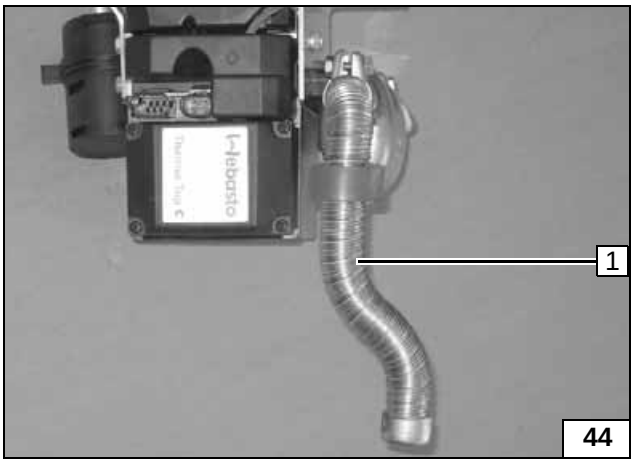
Preassembling exhaust system



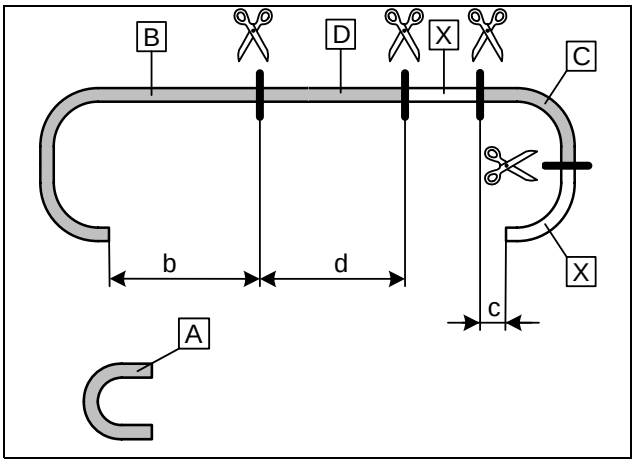
Shape exhaust end section as shown.

1 Exhaust pipe
2 Exhaust end section
4 Hose clamp
3 Red (rt) rubber isolator, without groove

Preassembling exhaust system



1 Exhaust end section

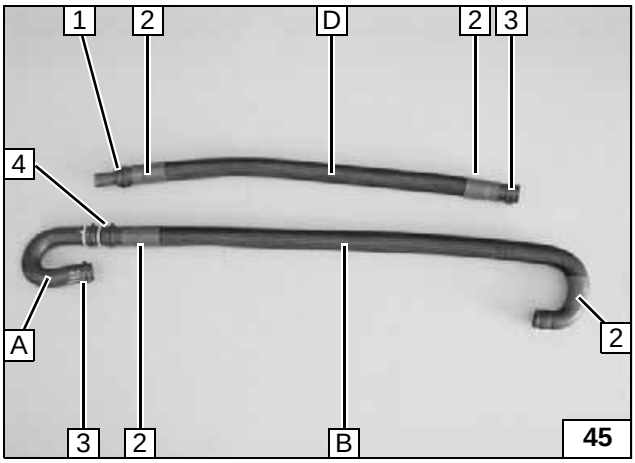


Preparing coolant hoses on vehicles without DPF only

b = 620 mm
c = 100 mm
d = 580 mm

A = 180° molded hose
Discard section **X**

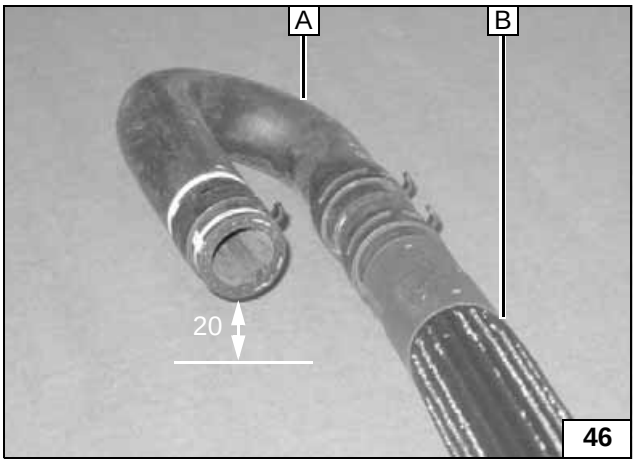
Cutting coolant hoses to length



Push braided protection hoses onto hose **D** and **B** and cut to length.
Ensure positioning of hose **A** and **B** as shown in Figure **48**.

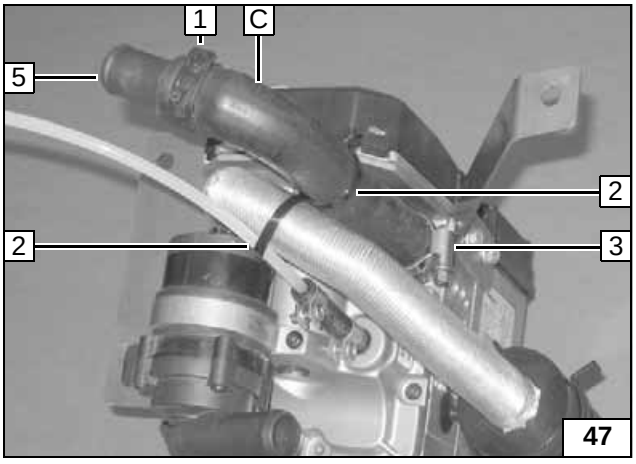
2 Push on heat shrink plastic tubing, shrink down [4x]
1 20x20 connecting pipe, 27 mm dia. spring clip
4 20x20 connecting pipe, 27 mm dia. spring clip [2x]
3 27 mm dia. spring clip [2x] premounted

Preassembling coolant hoses



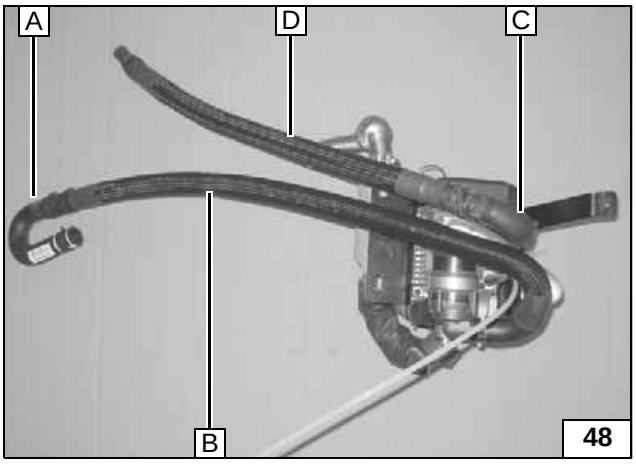
When installing hoses **A** and **B**, lift hose **A** approxy. 20 mm off support.

Preassembling coolant hoses

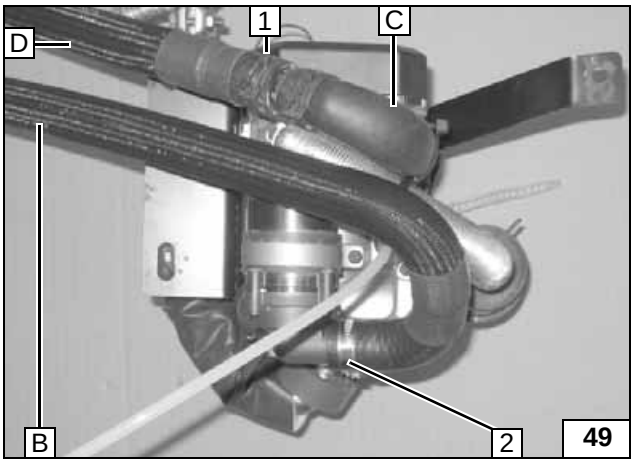


3 24-27 mm dia. hose clamp
5 20x20 connecting pipe
1 27 mm dia. spring clip
2 Cable tie [2x]

Connecting hose C to heater unit

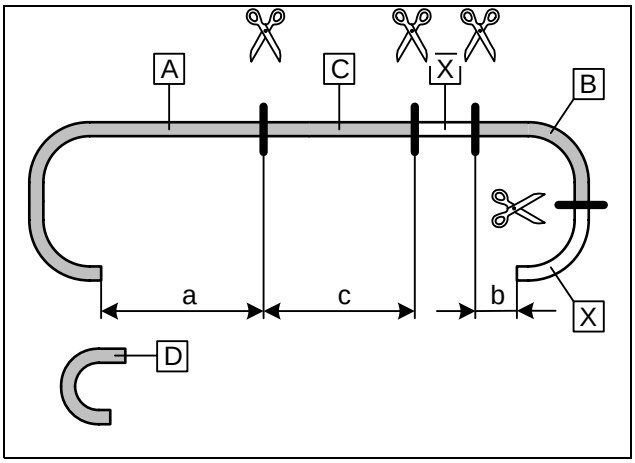


Connecting preassembled coolant hoses on heater unit



1 27 mm dia. spring clip
2 24-27 mm dia. hose clamp

Connecting preassembled coolant hoses on heater unit

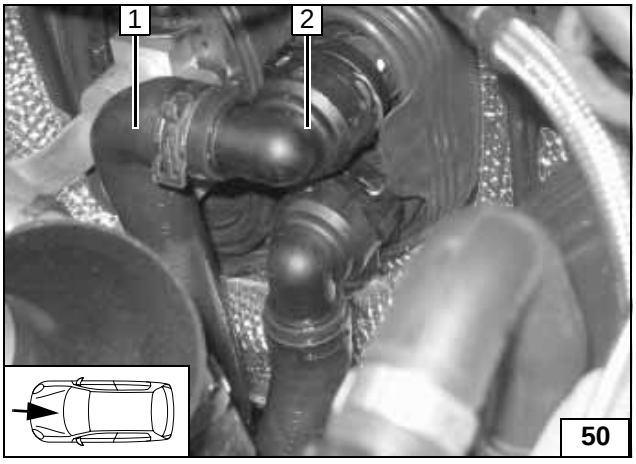


Preparing coolant hoses on vehicles with DPF only

a = 880 mm
b = 100 mm
c = 880 mm

Discard section **X**

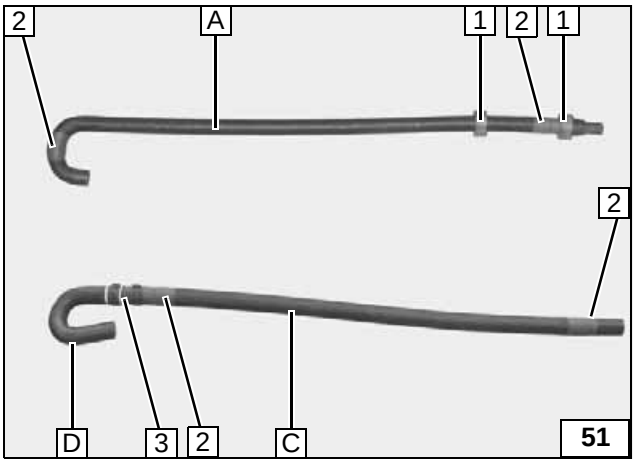
Cutting coolant hoses to length



Pull coupling piece off connection piece on heat exchanger inlet. Remove coupling piece **2** on heat exchanger inlet; it will be reused!

1 Coolant hose on engine outlet

Coolant connection piece on heat exchanger inlet

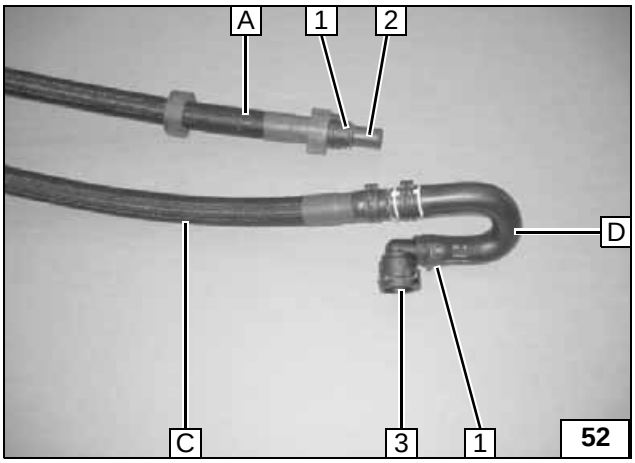


Push braided protection hoses onto hose **A** and **C** and cut to length.
Cut heat shrink plastic tubing to length.

Slide rubber isolator **1** [2x] onto hose **A**. Connect hose **C** and **D**.

2 25 mm heat shrink plastic tubing [2x each]
3 20x20 connecting pipe, 27 mm dia. spring clip [2x]

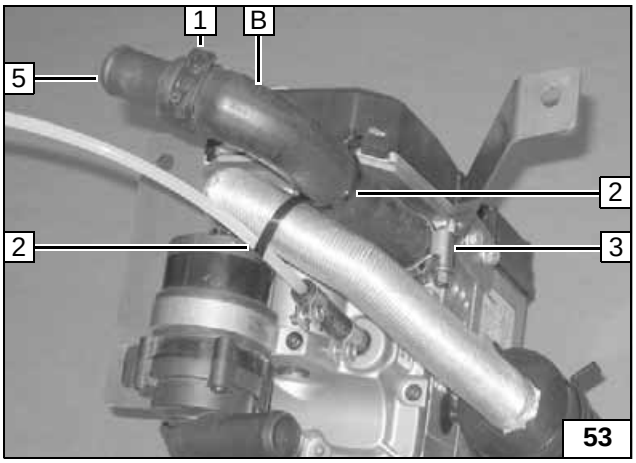
Preparing coolant hoses



Coupling piece from connection piece on heat exchanger inlet. Connect coupling piece **3** to hose **D**.

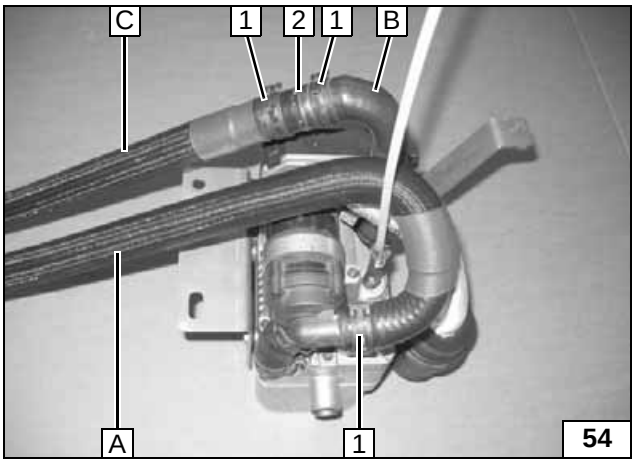
2 20x20 connecting pipe
1 27 mm dia. spring clip [2x]

Preparing coolant hoses



3 24-27 mm dia. hose clamp
5 20x20 connecting pipe
1 27 mm dia. spring clip
2 Cable tie [2x]

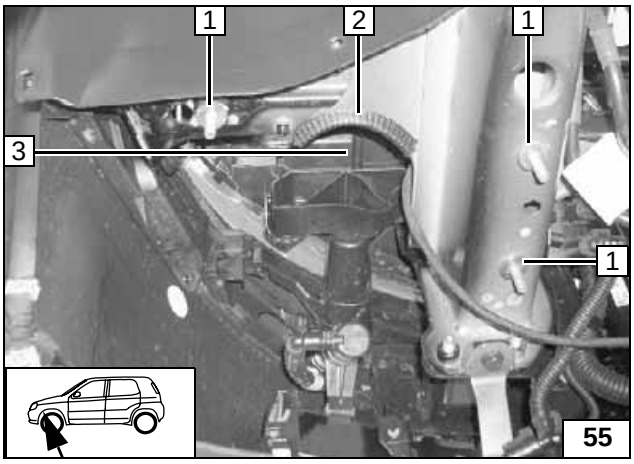
Installing hose B



Connect hose **C** and **B**.

2 20x20 connecting pipe
1 27 mm dia. spring clip [3x]

Premounting hose A and C

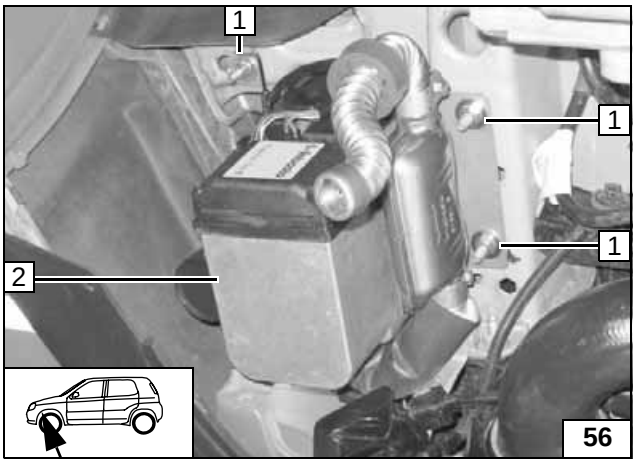


Preparing installation location

Secure large diameter washer against falling with putty etc.

1 Large diameter washer on original vehicle stud bolt [3x]
2 Edge protection section

Preparing installation location

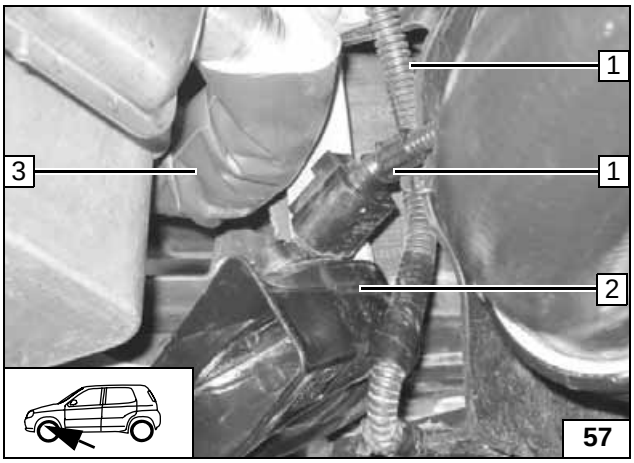


Installing heater unit

Guide heater unit to installation location as shown. Route premounted coolant hoses and Mecanyl line through prepared opening into engine compartment.

1 Large diameter washer, flanged nut M8 [3x]
2 Heater unit (preassembled)

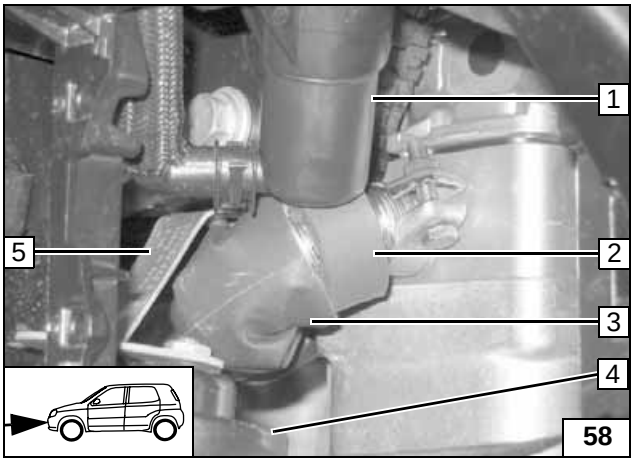
Installing heater unit



Ensure freedom of movement of exhaust system relative to original vehicle component and lines.

3 Exhaust pipe
1 Original vehicle wiring harnesses (secured with cable ties)
2 Horn

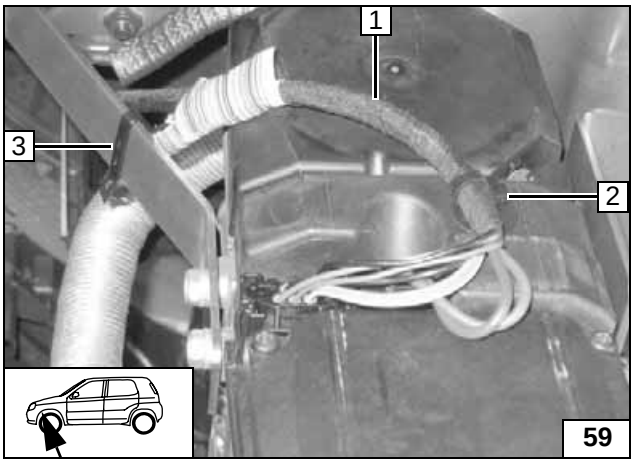
Aligning exhaust system



Ensure freedom of movement of exhaust system relative to original vehicle component and lines.
Position rubber isolator as shown in picture. (Picture shows Golf Plus with headlight washer system)

1 Headlight washer system (Golf Plus)
2 Red (rt) rubber isolator
3 Exhaust pipe with insulation
4 Horn
5 Horn bracket

Aligning exhaust system

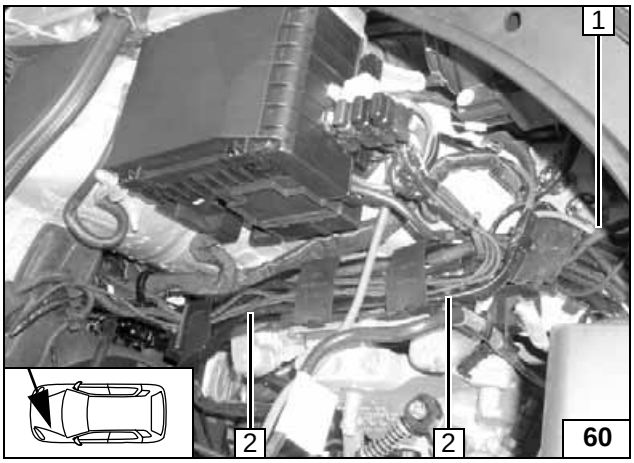


Wiring harness of heater unit

Watch routing of wiring harness. Danger of rubbing!

1 Wiring harness of heater unit
2 Clip cable tie in pre-perforated hole of heater unit cover
3 Cable tie

Mounting and routing wiring harness



Watch routing of wiring harness. Danger of rubbing!

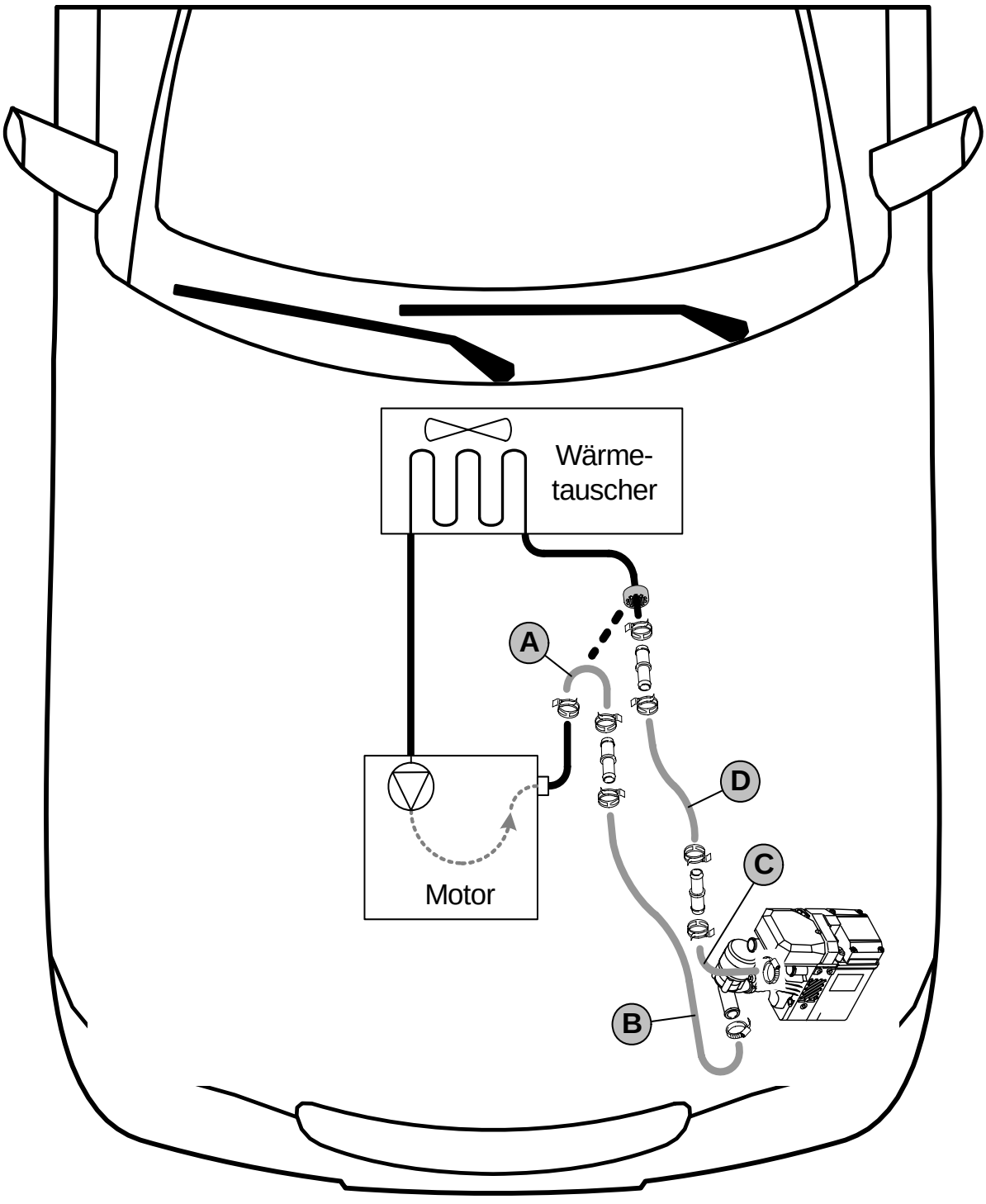
Route excess lengths of wiring harness (**1**) in cable duct (**2**) below battery and secure with cable ties.

1 Wiring harness from heater unit
2 Cable duct

Routing wiring harness

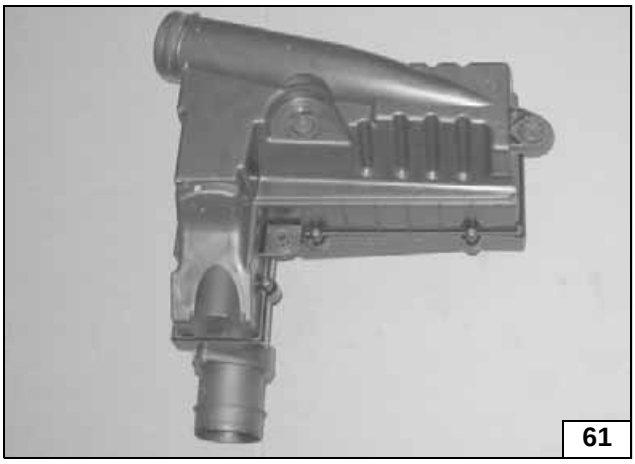
Coolant connection on vehicles without DPF

WARNING!
Tighten all hose clamps to 2.0 + 0.5 Nm.
Any coolant running off should be collected using an appropriate container!
Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position hose clamps and spring band clamps so that no other hose can be damaged.
The connection should be "inline" based on the following diagram:



Coolant routing diagram

All spring clips = 27 mm dia.! Al connecting pipes = 20x20 mm
All hose clamps = 24-27 mm dia.

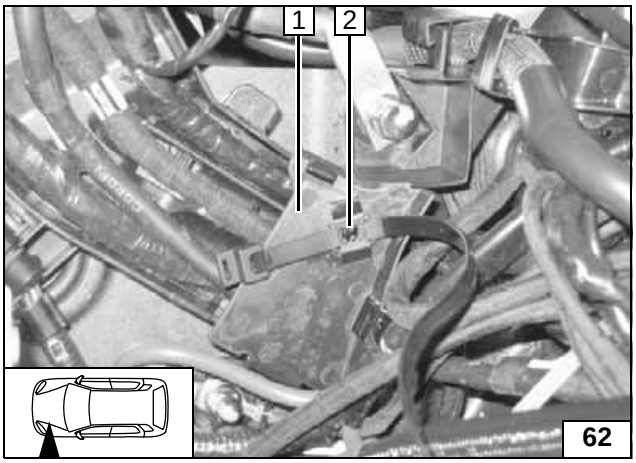


Air filter versions

View from below!

With air filter as shown, clip-type cable tie is positioned as shown in following photo.

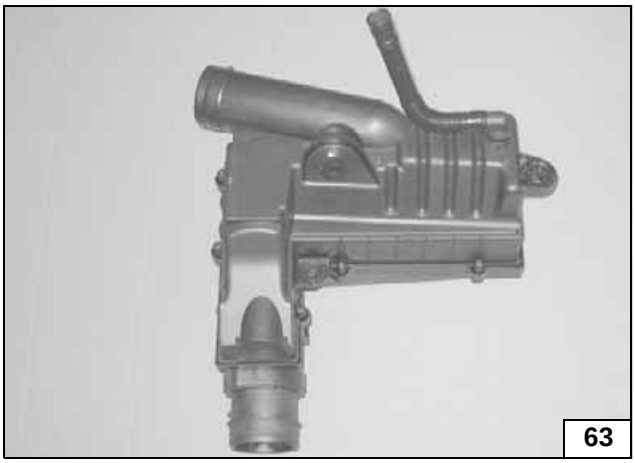
Air filter-version 1



When drilling, watch lines located behind! Clip-type cable tie **2** faces toward front.

1 Cable duct cover
2 Cable tie in 6 mm dia. hole of cable duct cover

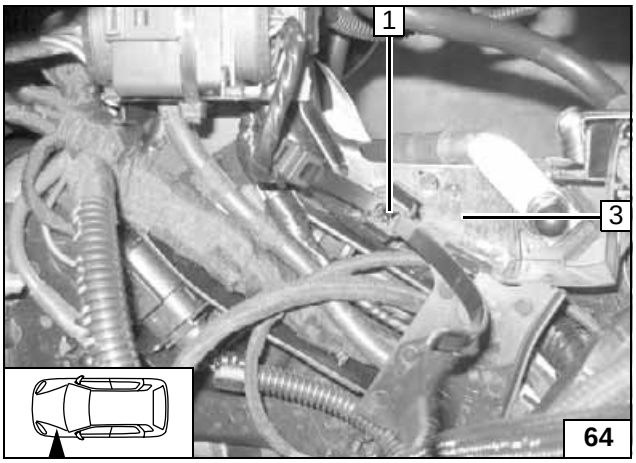
Air filter-version 1



View from below!

With air filter as shown, clip-type cable tie is positioned as shown in following photo.

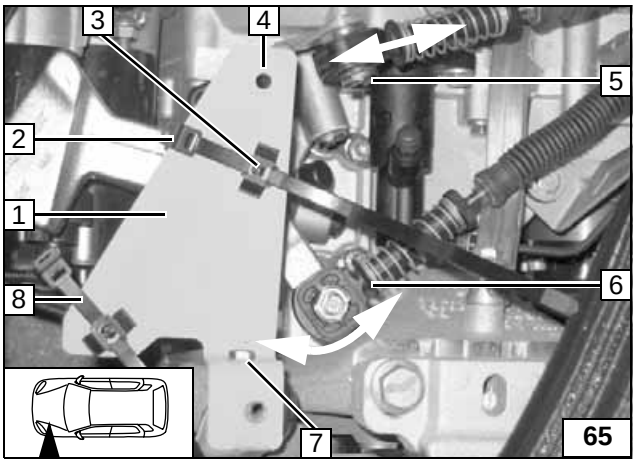
Air filter-version 2



When drilling, watch lines located behind! Clip-type cable tie **1** faces toward front.

1 Cable tie in 6 mm dia. hole of cable duct cover
2 Cable duct cover

Air filter-version 2

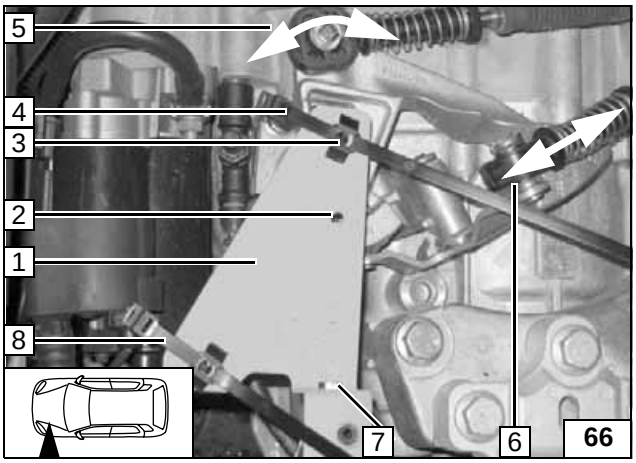


Versions for shifting actuation

With manual transmission **5, 6** as shown, clip-type cable tie **2** is installed in hole **3**! Locks of clip-type cable ties **2, 8** face toward front! Hole **4** remains clear!

1 Bracket
7 Original vehicle hole**,** M6x20 bolt, flanged nut

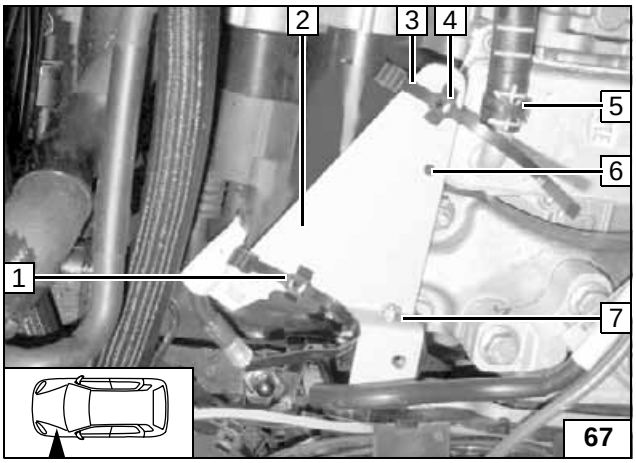
Shifting actuation version 1



With manual transmission **5, 6** as shown, clip-type cable tie **4** is installed in hole **3**! Locks of clip-type cable ties **4, 8** face toward front! Hole **2** remains clear!

1 Bracket
7 Original vehicle hole**,** M6x20 bolt, flanged nut

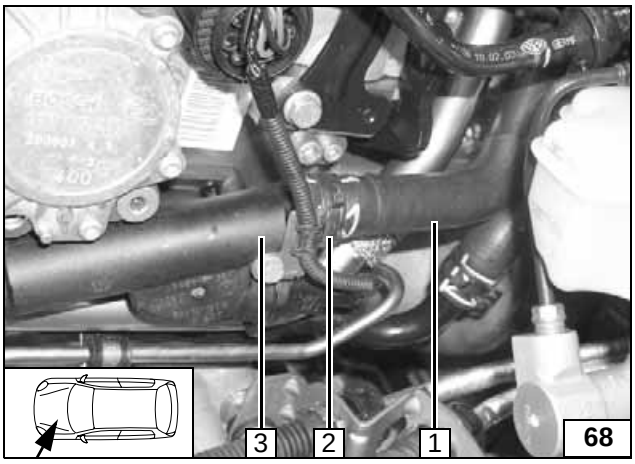
Shifting actuation version 2



With direct shifting transmission (DSG), clip-type cable tie **3** is installed in hole **4**! Locks of clip-type cable ties **1, 3** face toward front! Hole **6** remains clear!

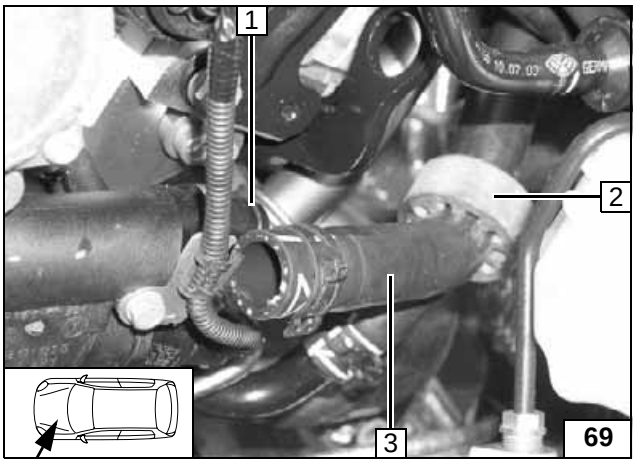
2 Bracket
7 Original vehicle hole, M6x20 bolt, flanged nut
5 Spring clip turned downward

Shifting actuation version 3



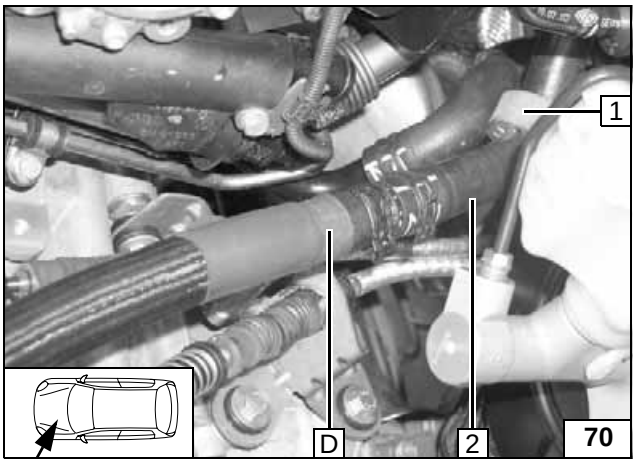
Pull off hose on engine **1** to heat exchanger inlet on connection piece of engine outlet **3**. Spring clip **2** will be reused.

Cutting point



3 Hose to heat exchanger inlet pulled off
1 Connection piece for engine outlet
2 Black (sw) rubber isolator pushed on

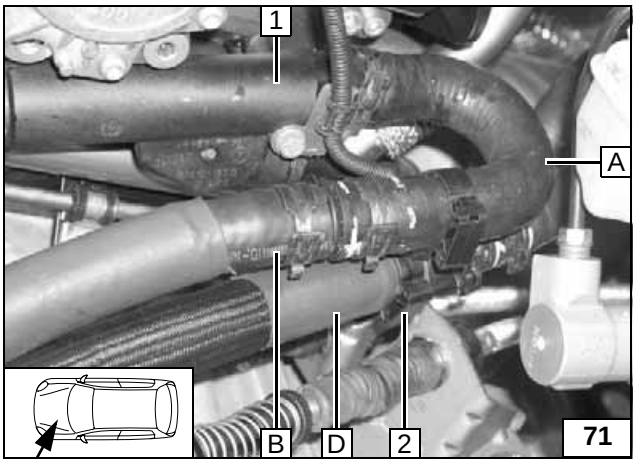
Pull hose off engine outlet



Before connecting, fill the coolant hoses with coolant.

2 Hose to heat exchanger inlet
1 Black (sw) rubber isolator aligned

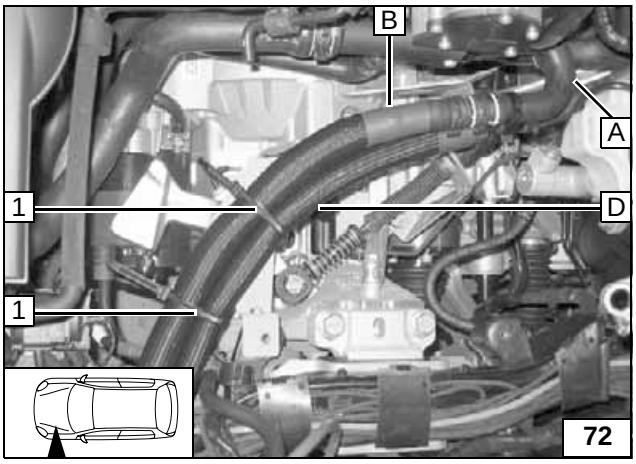
Connection on heat exchanger inlet



Before connecting, fill the coolant hoses with coolant.

1 Connection piece for engine outlet
2 Double clip dia. 27x27 on hose **A** and **D**

Connection on engine outlet

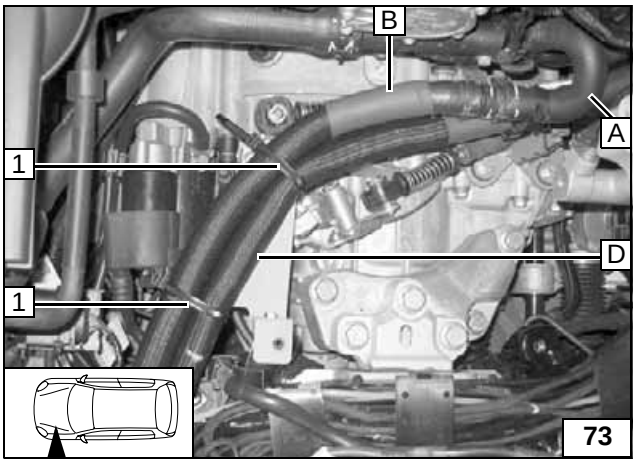


Versions for shifting actuation

Ensure freedom of movement of shifting actuation.

1 Clip-type cable tie [2x]

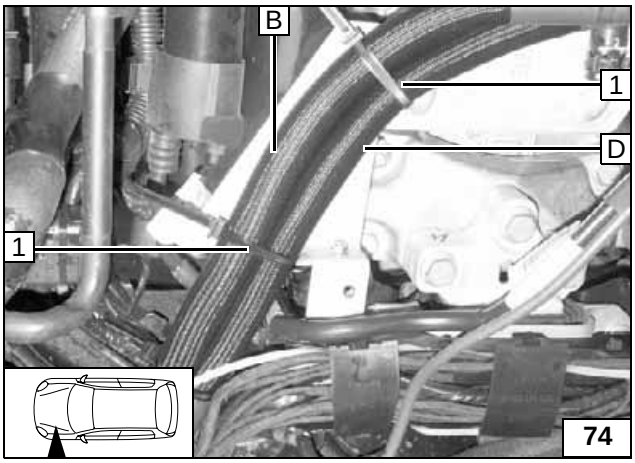
Hose routing for shifting actuation version 1



Ensure freedom of movement of shifting actuation.

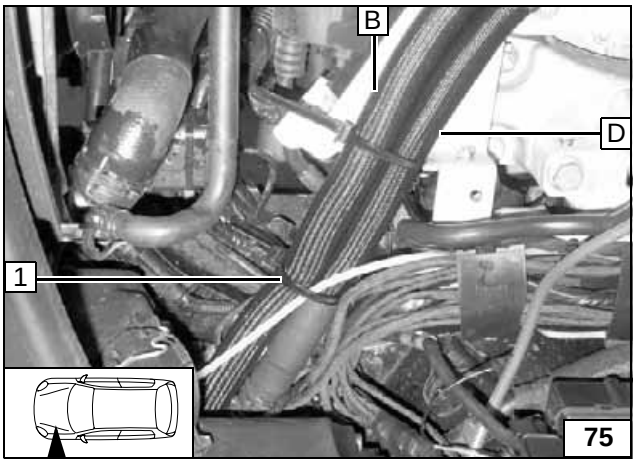
1 Clip-type cable tie [2x]

Hose routing for shifting actuation version 2



1 Clip-type cable tie [2x]

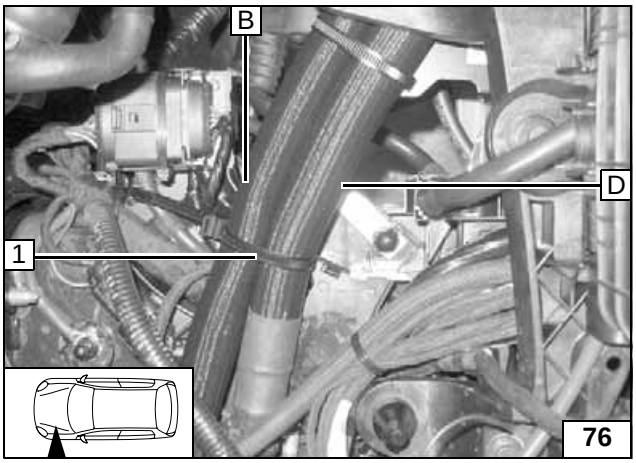
Hose routing for shifting actuation version 3



Air filter versions

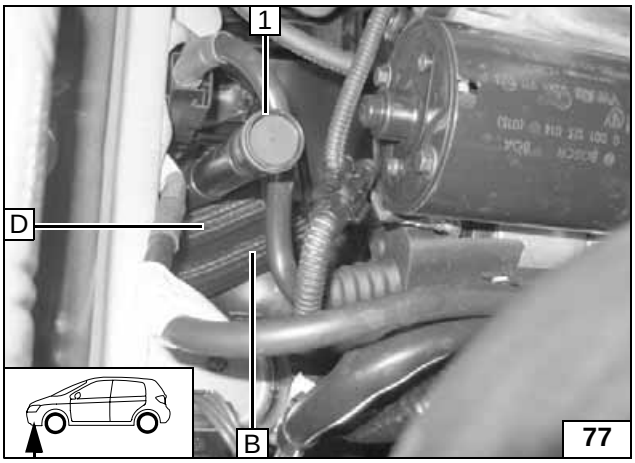
1 Clip-type cable tie

Hose routing for air filter version 1



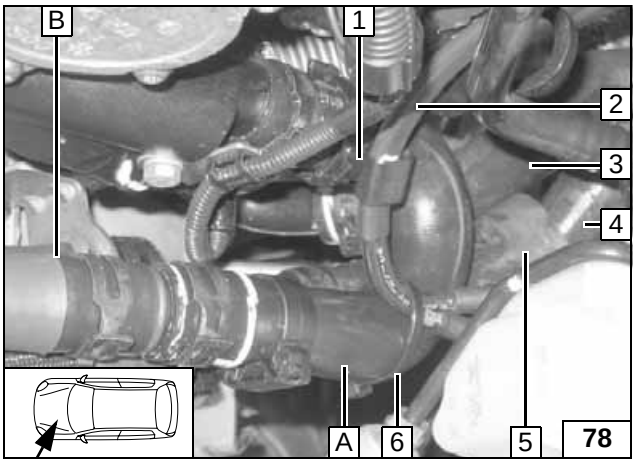
1 Clip-type cable tie

Hose routing for air filter version 2



Test installation of air filter.
Hose **D** and **B** are routed in front of line **1** from air filter.

Hose routing for air filter version 3



For all vehicles

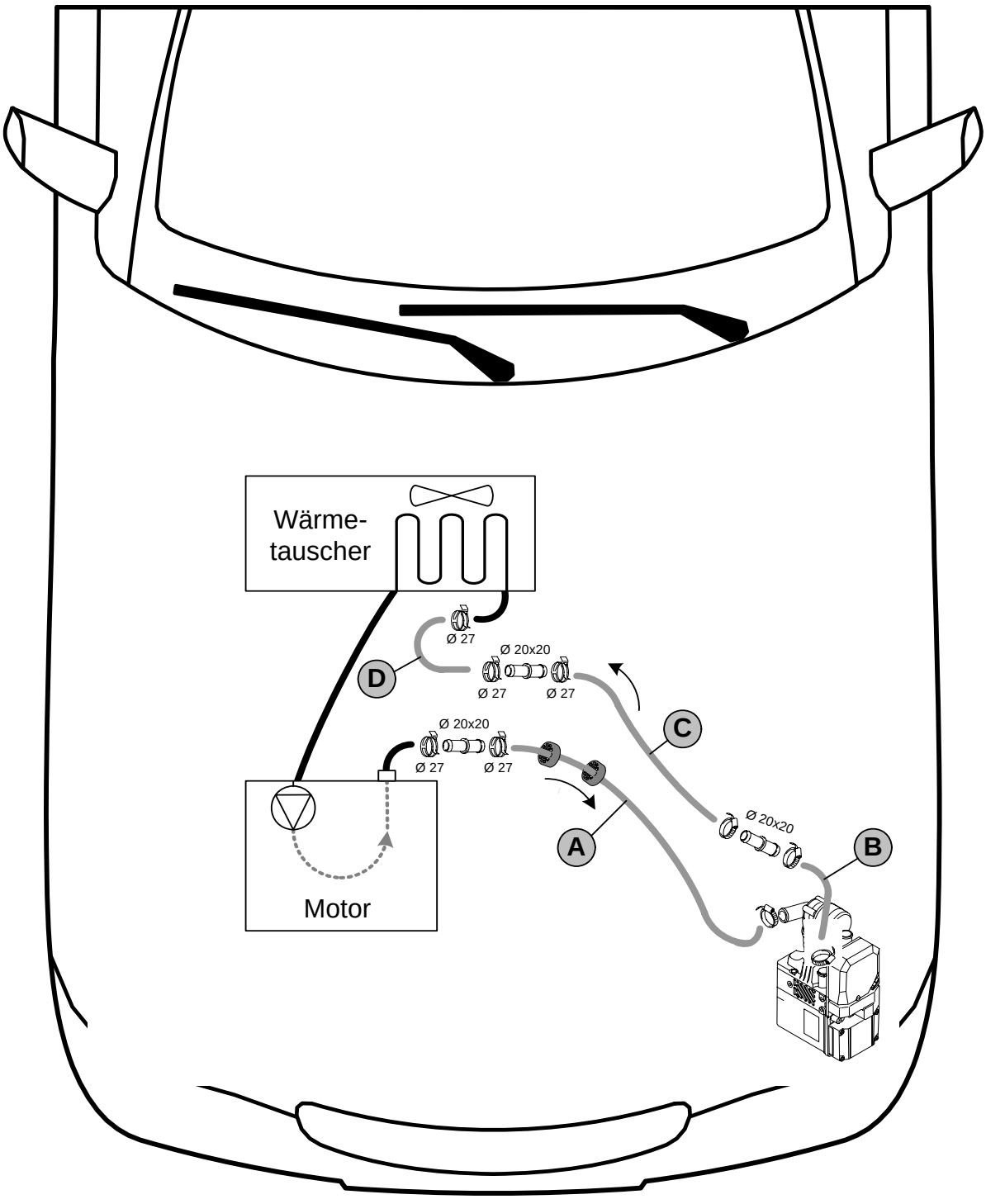
Lines **2** and original vehicle double clip **1** are dependent on vehicle equipment!

3 Hose for heat exchanger outlet
4 Hose on heat exchanger inlet
5 Black (sw) rubber isolator
6 Cable tie

Aligning hoses and lines

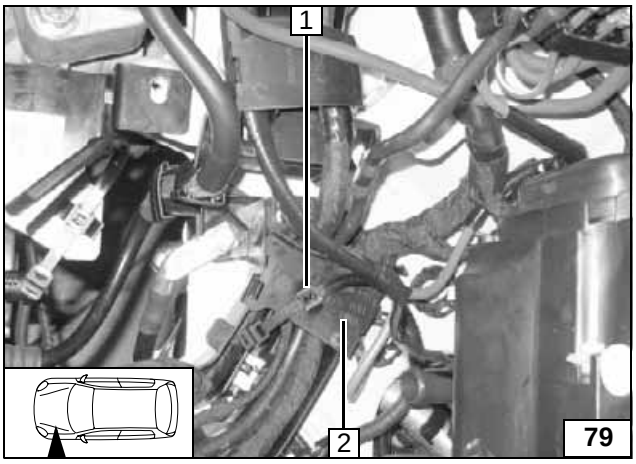
Coolant connection on vehicles with DPF

WARNING!
Tighten all hose clamps to 2.0 + 0.5 Nm.
Any coolant running off should be collected using an appropriate container!
Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position hose clamps and spring band clamps so that no other hose can be damaged.
The connection should be "inline" based on the following diagram:



Coolant routing diagram

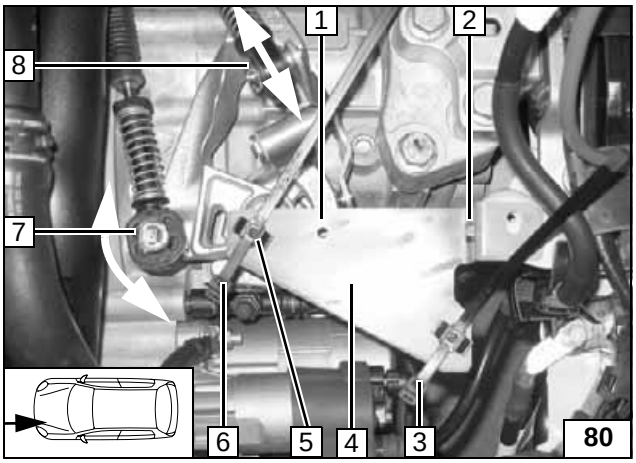
All hose clamps = 20-27 mm dia.!



When drilling, watch lines located behind! Clip-type cable tie **1** faces toward front.

1 Cable tie in 6 mm dia. hole of cable duct cover
2 Cable duct cover

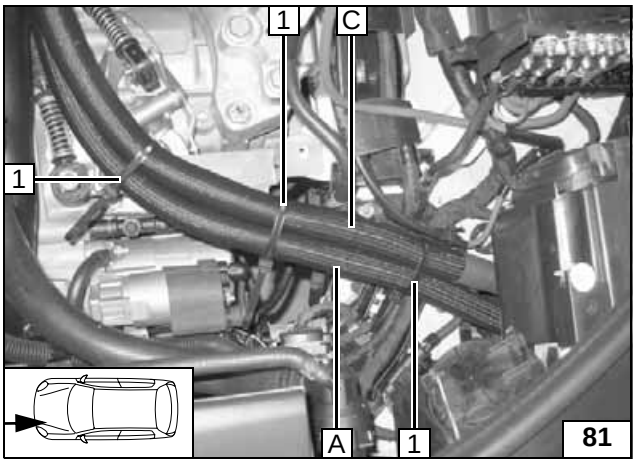
Installing clip-type cable tie



With manual transmission **7, 8** as shown, clip-type cable tie **6** is installed in hole **5**! Locks of clip-type cable ties **3, 6** face toward front! Hole **1** remains clear!

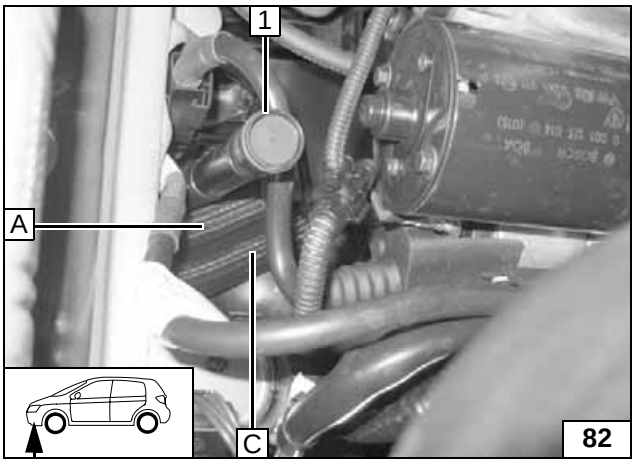
4 Bracket
2 Original vehicle hole**,** M6x20 bolt, flanged nut

Installing bracket for coolant hoses



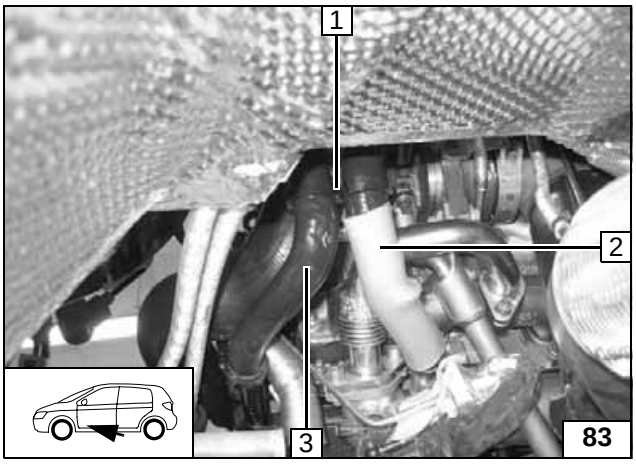
1 Clip-type cable tie [3x]

Hose routing



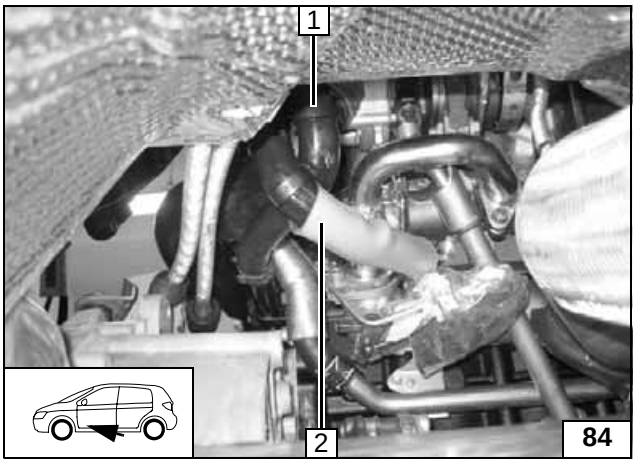
Test installation of air filter.
Hose **A** and **C** are routed in front of line **1** from air filter.

Hose routing



2 Hose to heat exchanger inlet
3 Hose to heat exchanger outlet
1 Cut off original vehicle spacer bracket

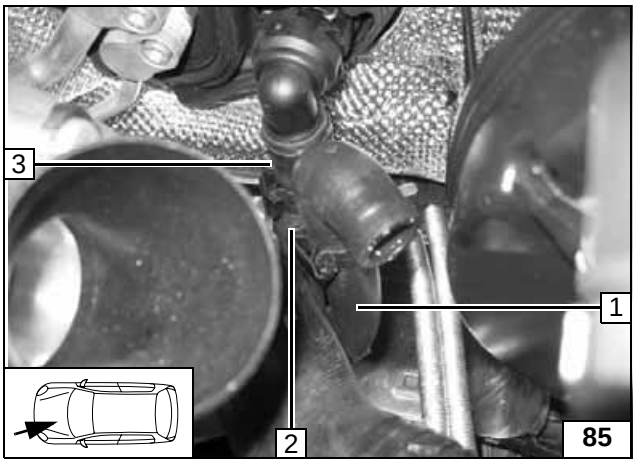
Installing hose for heat exchanger inlet



Route coolant hose on engine outlet to heat exchanger inlet **2** free of kinks an d rubbing!

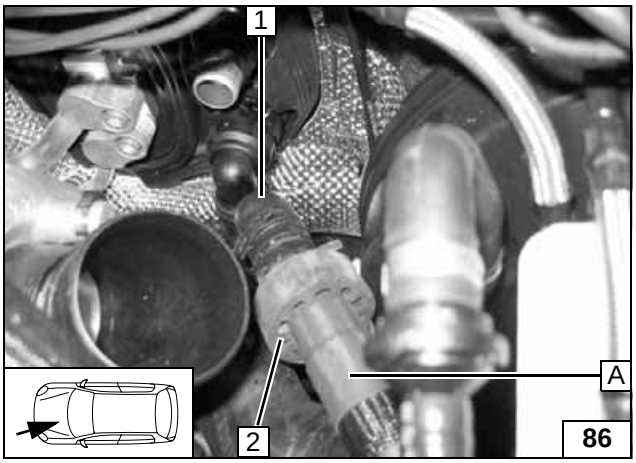
1 Hose to heat exchanger outlet

Installing hose for heat exchanger inlet



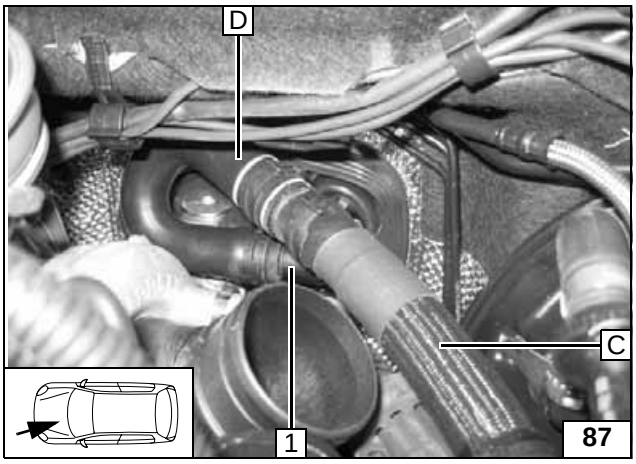
1 Hose on engine outlet, turned toward front
3 Hose for heat exchanger outlet
2 Double clip

Inserting double clip



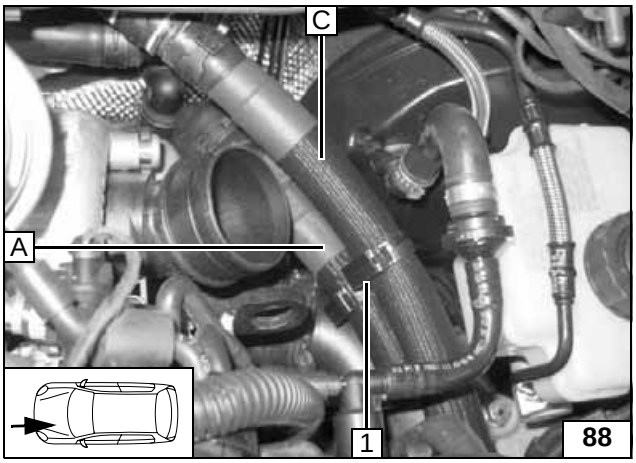
1 Hose on engine outlet, turned toward front
2 Position black (sw) rubber isolator

Connection to engine outlet



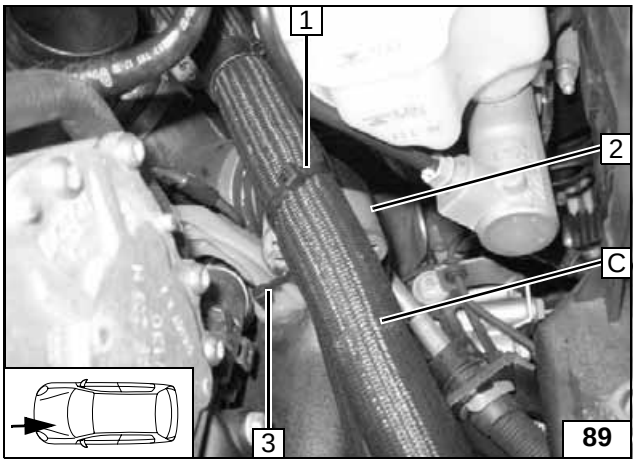
Before connecting, fill the coolant hoses with coolant.
Reconnect premounted coupling piece **1** on connection piece on heat exchanger inlet.

Connection on heat exchanger inlet



1 Double clip

Inserting double clip



Fasten black (sw) rubber isolator **2** on bracket of air charging pipe with cable tie **3**. Fasten hose **C** on black (sw) rubber isolator **2** of hose **A** with cable tie **1**.

Positioning rubber isolator

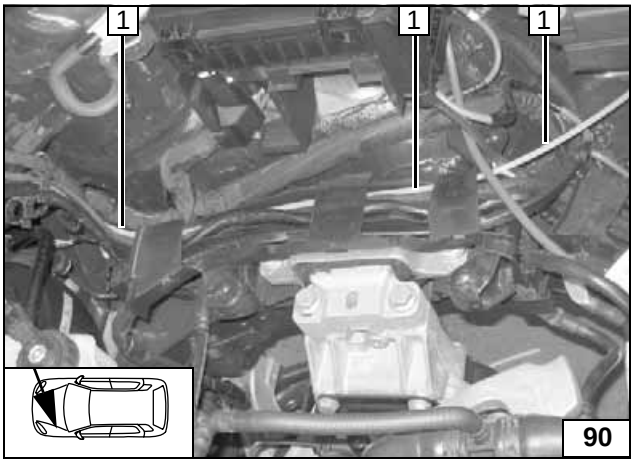
Fuel Connection

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

Catch any fuel running off with an appropriate container.

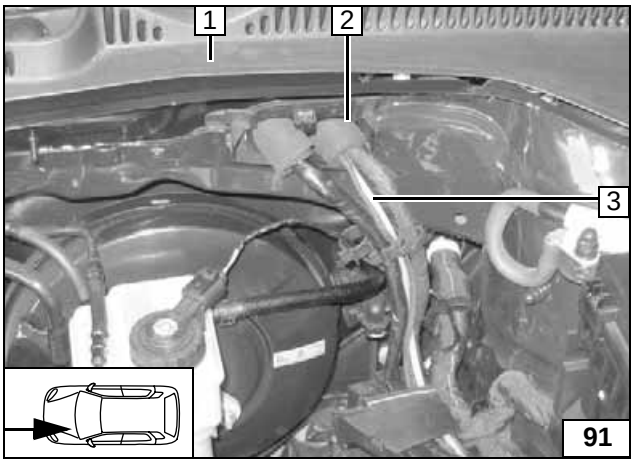
Install fuel line and metering-pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

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



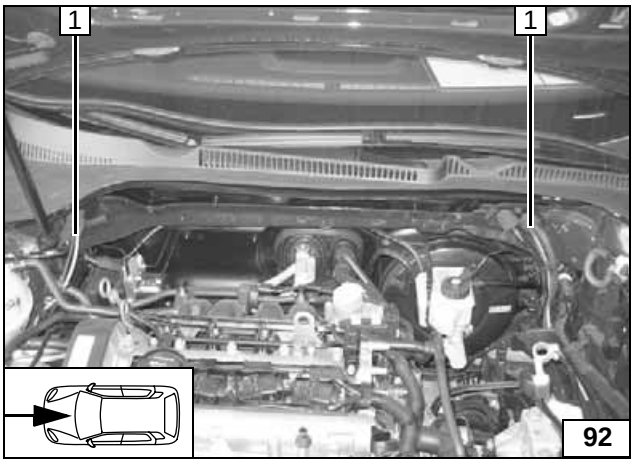
1 Mecanyl line

Routing mecanyl line to firewall



1 Coolant reservoir cap detached
2 Existing pass through
3 Mecanyl line and wiring harness of metering pump

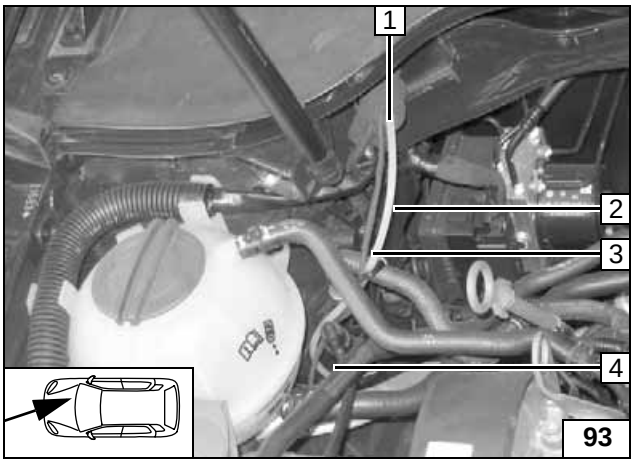
Routing mecanyl line and wiring harness of metering pump into coolant reservoir



Fasten mecanyl line and wiring harness of metering pump in coolant reservoir on original vehicle lines with cable tie.
Pay particular attention to freedom of movement of wiper linkage.
(Photo shows Golf)

1 Mecanyl line and wiring harness of metering pump

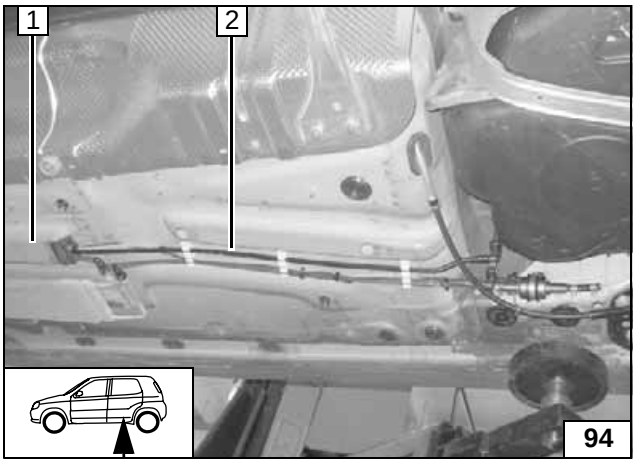
Routing mecanyl line and wiring harness of metering pump to right



Guide Mecanyl line **2** and wiring harness of metering **3** into original vehicle line duct **92/4, 93/1** and route to underbody.

1 Existing pass through
2 Mecanyl line
3 Metering pump wiring harness

Routing Mecanyl line and wiring harness of metering pump

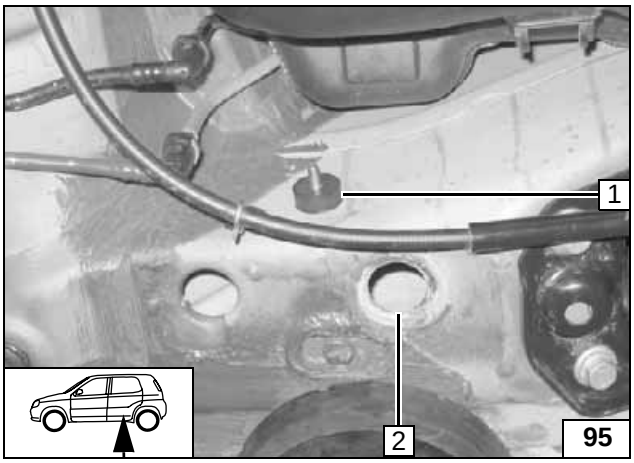


Route mecanyl line and wiring harness of metering pump along original vehicle fuel lines **2** to fuel tank.

1 Line duct

Routing mecanyl line and wiring harness of metering pump

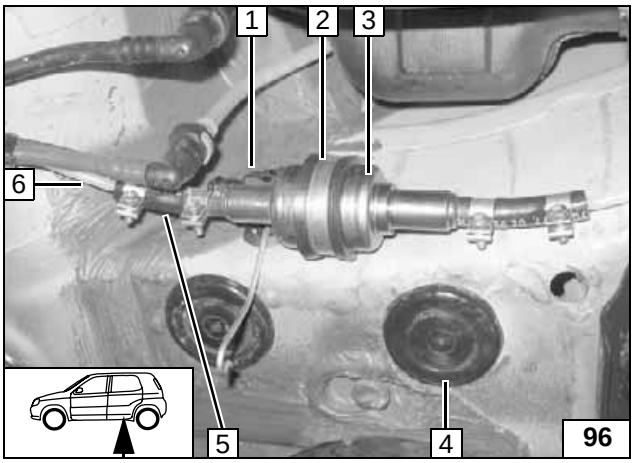
On vehicles without underbody trim, Mecanyl line and wiring harness of metering pump must also be fastened with cable ties!



Golf, Golf Plus and Eos only

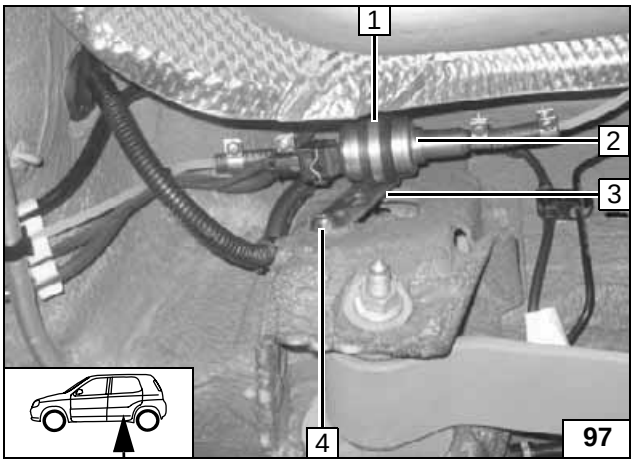
2 Remove sealing plug
1 Silentblock, large diameter washer, M6 flanged nut

Installing silent block



3 Metering pump
2 Secure rubber-coated p-clamp on silent block with flanged nut
1 Connector housing, single-wire seals, plug-in contacts
6 Mecanyl line and wiring harness of metering pump
5 Hose section, 2x 10 mm dia. hose clamps
4 Plug remounted

Mounting metering pump and connecting pressure side

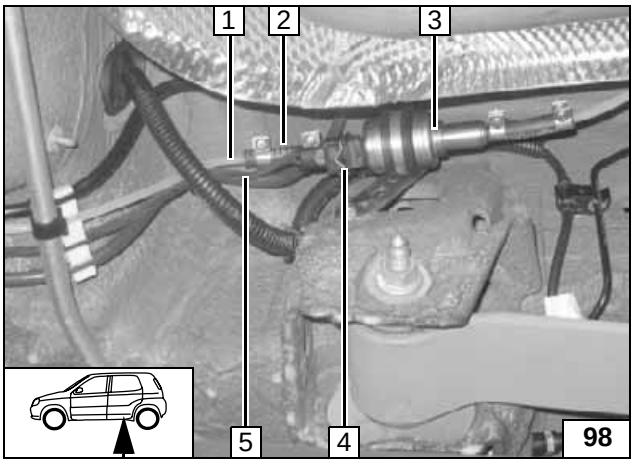


Caddy only

Ensure sufficient spacing to guard plate. If no hole is present at position **4**, drill 7 mm dia. hole.

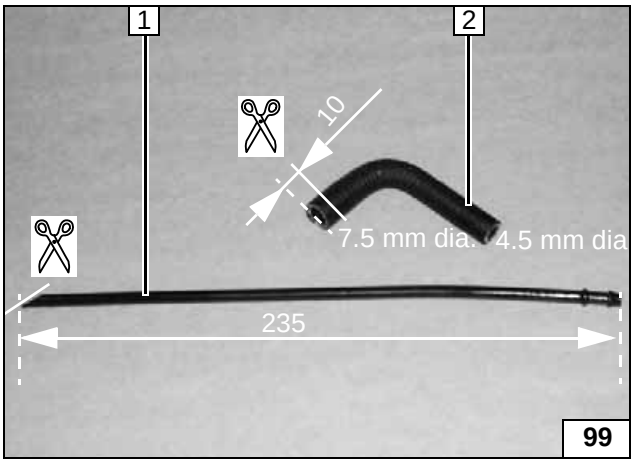
2 Metering pump
1 Rubber-coated p-clamp, silent block, 2 flanged nuts
3 Perforated bracket
4 Existing hole, M6x20 bolt, large diameter washer, M6 flanged nut

Installing metering pump



3 Metering pump
1 Mecanyl line
2 Hose section, 2x 10 mm dia. hose clamps
5 Metering pump wiring harness
4 Connector housing, single-wire seals, plug-in contacts

Connecting pressure side

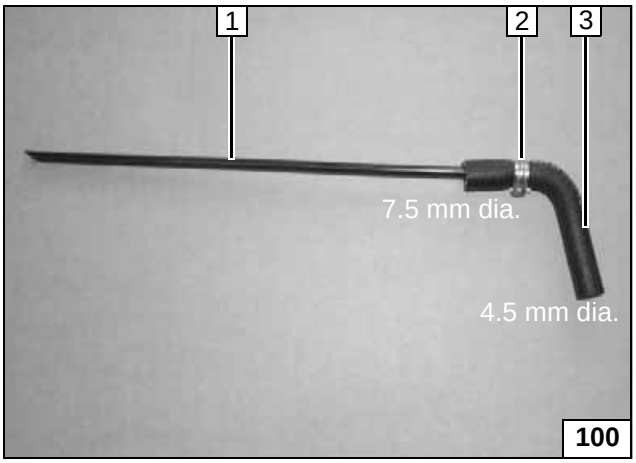


Removing fuel

All vehicles

1 Standpipe
2 Molded hose

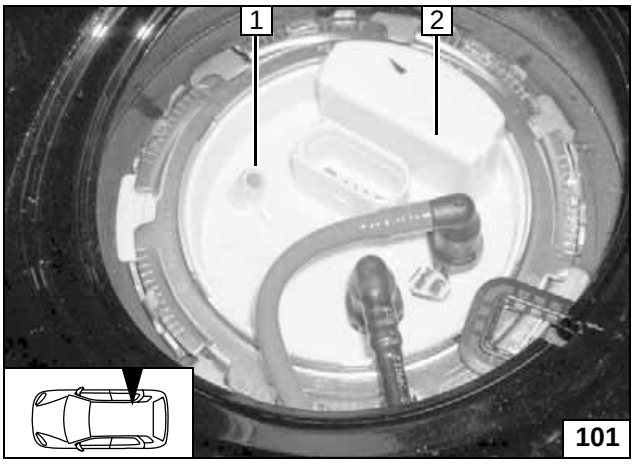
Cutting standpipe and molded hose to length



Caillau clamp **2** in center between beads on end of standpipe.

1 Standpipe
2 10 mm dia. Caillau clamp
3 Molded hose

Preassembling standpipe and molded hose

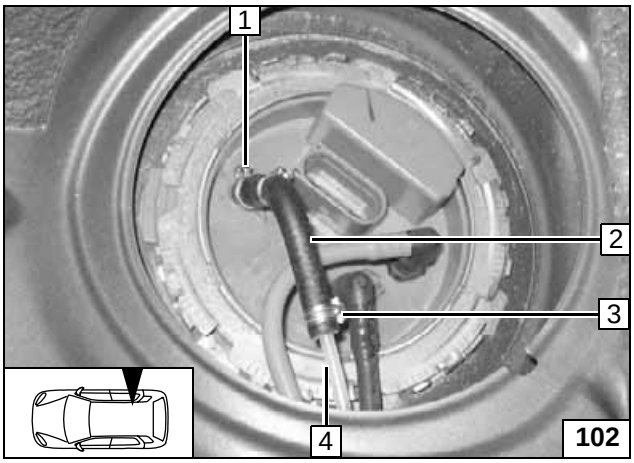


Golf, Golf Plus and Eos only

Cutting off blind plug

Cut 3 mm off blind plug.

1 Tip cut off blind plug
2 Fuel sender

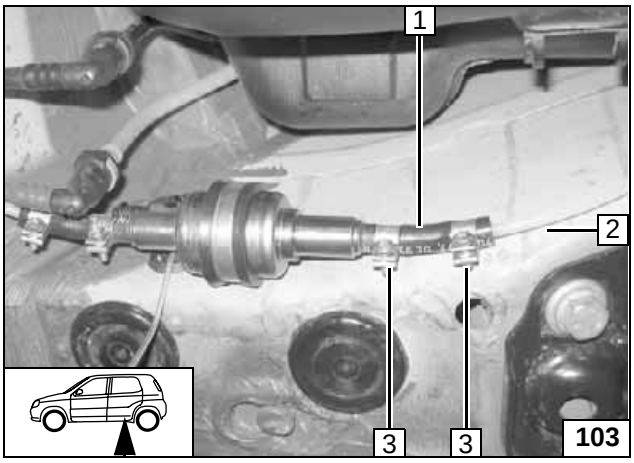


Connection to fuel-tank sending unit

Should the standpipe be slightly curved on delivery, then it must be aligned so that the end points toward the rear right.
Otherwise there is a danger of the fuel gauge being impaired.

1 13.5 mm dia. Caillau clamp
2 Preassembled molded hose with standpipe
3 10 mm dia. Caillau clamp
4 Remaining piece of **mecanyl line**

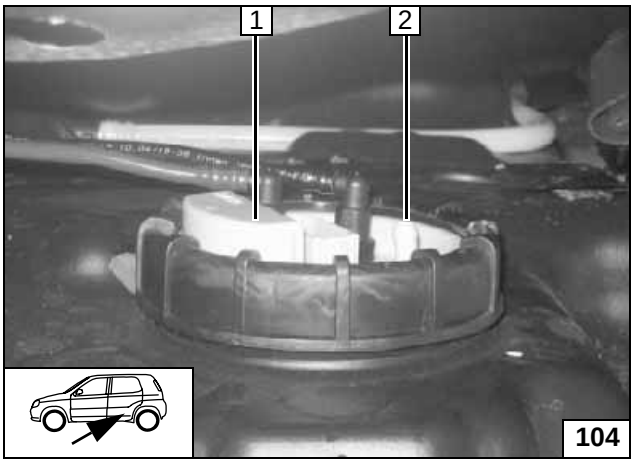
Route Mecanyl line along original vehicle lines to metering pump



Connecting intake side of metering pump

2 Mecanyl line from fuel-tank sending unit
1 Hose section
3 10 mm dia. hose clamps [2x]

Align mecanyl fuel lines and wiring harness of metering pump over entire length and secure with cable ties

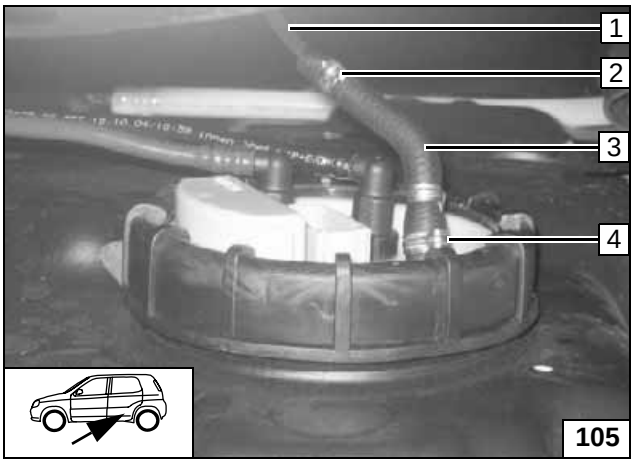


Caddy only

Lower fuel tank in accordance with manufacturer's specifications.
Cut 3 mm off blind plug.

1 Fuel sender
2 Tip cut off blind plug

Cutting off blind plug



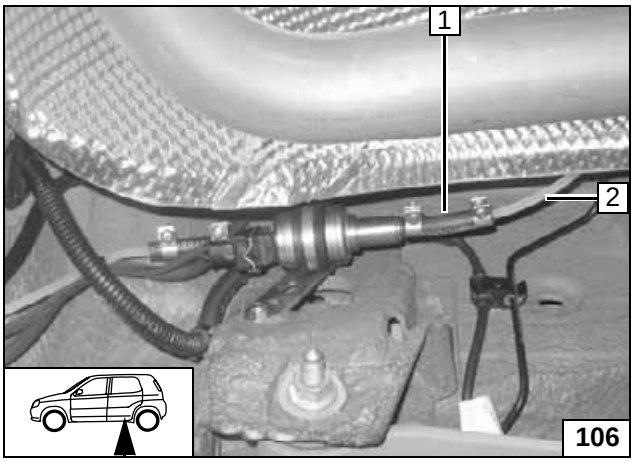
Should the standpipe be slightly curved on delivery, then it must be aligned so that the end points toward the left.
Otherwise there is a danger of the fuel gauge being impaired.

1 Remaining piece of **mecanyl line**
2 10 mm dia. Caillau clamp
3 Preassembled molded hose with standpipe
4 13.5 mm dia. Caillau clamp

Connection to fuel-tank sending unit

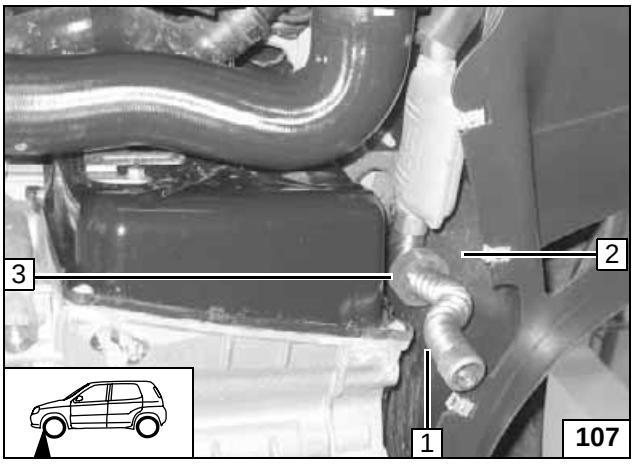
Routge Mecanyl line on original vehicle liness over fuel tank to right

2 Mecanyl line from fuel-tank sending unit
1 Hose section, 2x 10 mm dia. hose clamps



Connecting intake side of metering pump

Align mecanyl fuel lines and wiring harness of metering pump over entire length and secure with cable ties

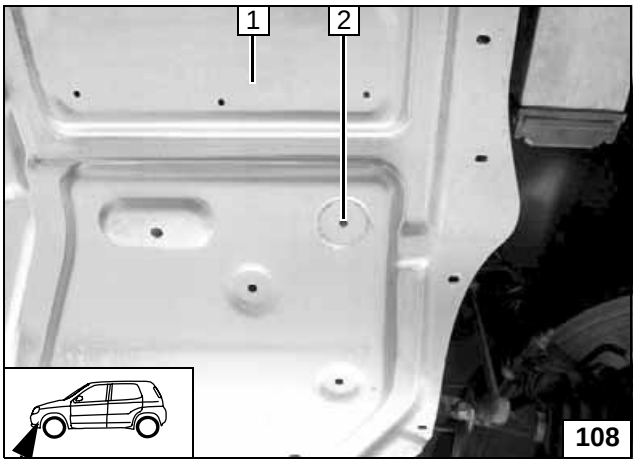


Exhaust gas
For all vehicles

Align exhaust end section and rubber isolator as shown.
Ensure sufficient spacing of exhaust end section to transmission and to wheel well trim.
(Picture shows vehicle with direct shift transmission)

2 Wheel well trim
1 Exhaust end section
3 Red (rt) rubber isolator

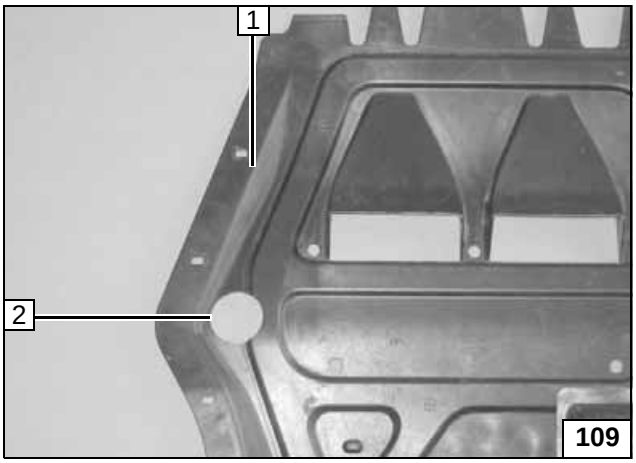
Installing wheel well trim



Cut out underride protection on Eos only

1 Underride protection
2 42 mm dia. hole

Hole in underride protection

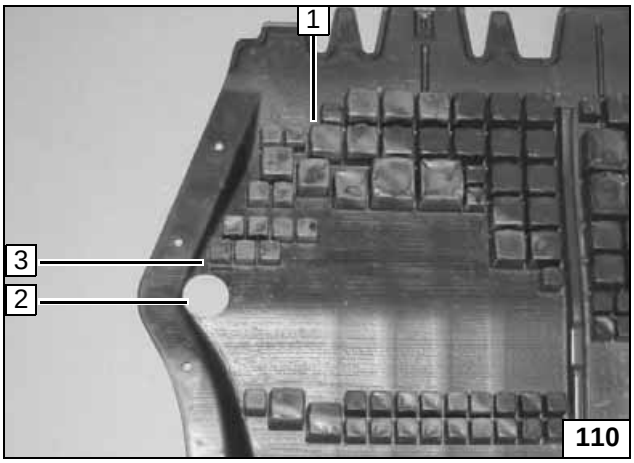


Cut out underride protection on Golf V, Golf Plus and Caddy

Design of underride protection is dependent on vehicle equipment as shown in photo **108** and **110** or **109** and **111**!

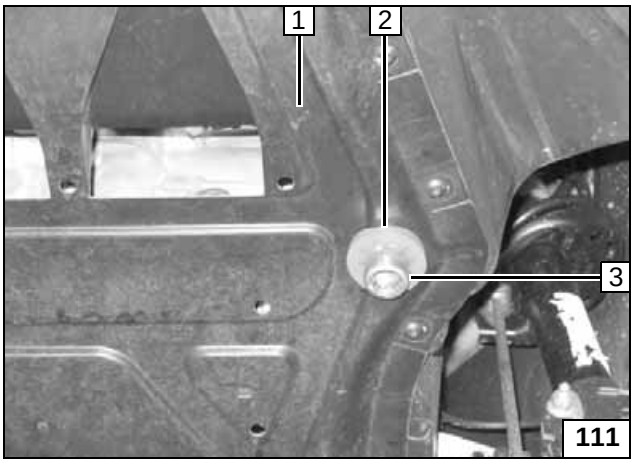
1 Underride protection
2 42 mm dia. hole

Version 1: Hole in underrideprotection



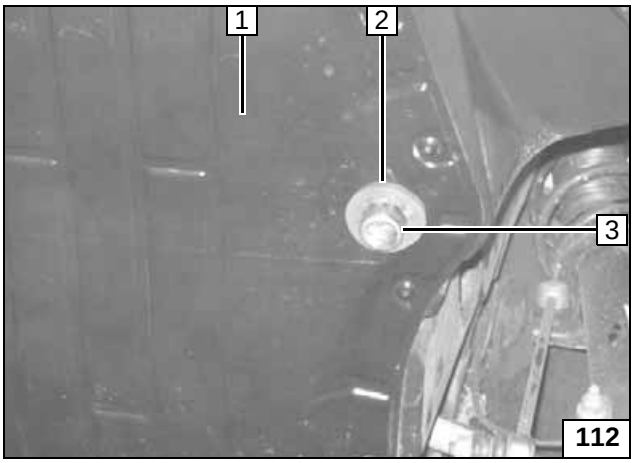
1 Underride protection
2 42 mm dia. hole
3 Insulating profile cut away

Version 2: Hole in underride protection



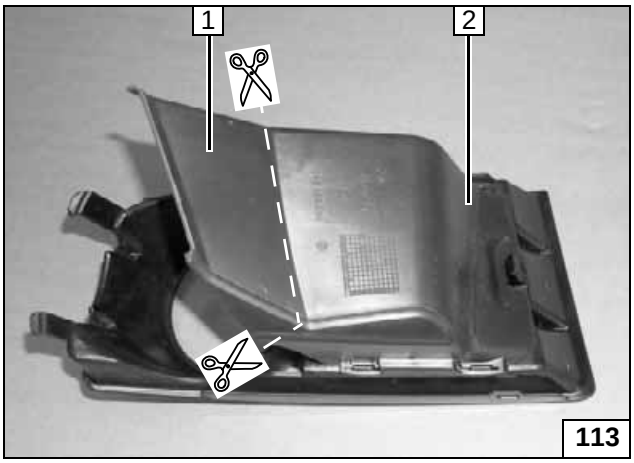
First position red (rt) rubber isolator **2** on exhaust end section **3** from below, then insert with groove in underride protection **1**. Align end cap of exhaust end section **3** flush on red (rt) rubber isolator **2** as shown.

Version 1: Inserting rubber isolator



First position red (rt) rubber isolator **2** on exhaust end section **3** from below, then insert with groove in underride protection **1**. Align end cap of exhaust end section **3** flush on red (rt) rubber isolator **2** as shown.

Version 2: Inserting rubber isolator



All vehicles

1 Cut off section
2 Front fog light trim piece (depending on equipment)

Cutting front fog light trim piece to size

Final Work

WARNING!
Reassemble the disassembled components in reverse order.

Check all hoses, spring and Caillau clamps, as well as all electrical connections for firm seating.

Secure all loose cables using cable ties.

Spray heater unit components with anti-corrosion wax (Tectyl 100K, Order No. 111 329).

- Connect the battery
- Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.
- Set the digital timer.
- Adjust vehicle heater in accordance with "Operating Instructions for End Customer".
- Check the proper operation of the additional heater, see the operating instructions/installation instructions.
- File included vehicle-specific "Operating Instructions for End Customer" in vehicle logbook.
- Attach the "Switch off additional heater before refueling" sticker to the left-hand B-pillar.

Adjust the sensitivity of the passenger compartment monitoring

WARNING!
This can only be carried out at an authorized workshop! Observe the applicable repair manual of the respective vehicle.

- Connect the VAS tester.
- Open Item 46 (Central Module of Comfort System)
- Go to Item 10 (Adjustment)
- Follow the request for the code entry and enter the code 15
- Reduce the sensitivity of the passenger compartment monitoring to 50 %
- Save this setting
- The adjustment of the sensitivity of the passenger compartment monitoring is completed.

Webasto

Feel the drive

Webasto AG
Postfach 80 - 82132 Stockdorf, Germany - Hotline +49-(0)1805-932278
Hotfax +49-(0)395-5592-353 - http://www.webasto.de

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Operating Instructions for End Customer

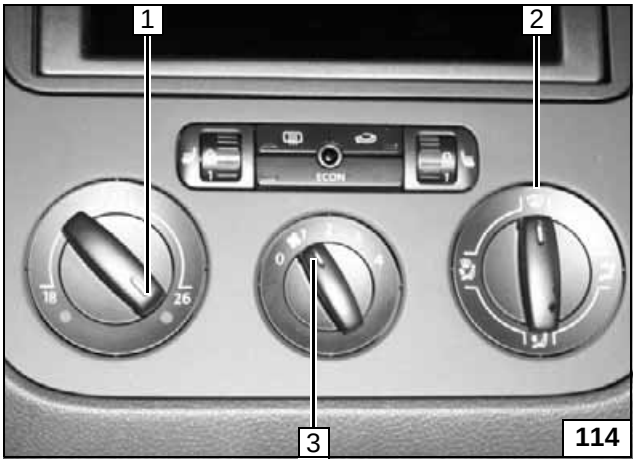
Please remove page and add to the vehicle operating instructions.

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.

If the summer/winter switch option has been installed, this must be switched in accordance with the time of year. The heater unit will then only switch on the vehicle fan to ventilate the vehicle interior in the position Winter heat and in the position Summer .

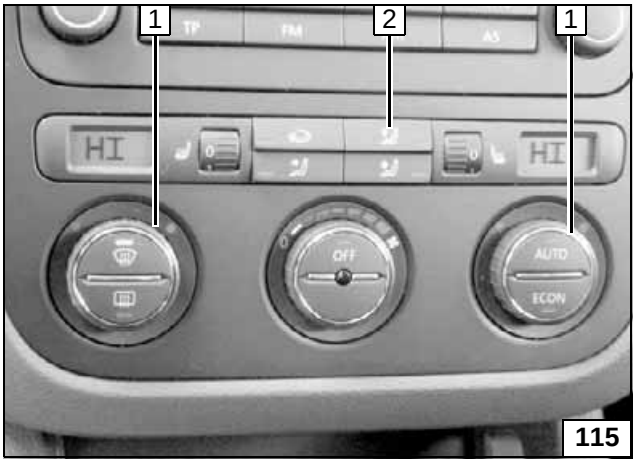
Before parking the vehicle, make the following settings:

Vehicles without Climatronic



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

Vehicle with Climatronic



1 Set temperature to „HI.“ [2x]
2 Air outlet faces upward