Water Heater

Thermo Top C Parking Heater

e1
00 0002

Installation documentation

VW Golf V / Golf Plus / Eos / Caddy

Diesel

from Model Year 2004

For left-hand drive vehicles only
Not with SDI

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, specialised tools and equipment are required to install and repair Webasto heating and cooling systems.
Only original Webasto parts must be used. For this, also see the catalog of air and water heater accessories from Webasto.

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.

Ident. No.: 9013552F_EN Fee Euro 10.00
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Table of Contents

Heater/Installation Kit

Quantity	Description	Order No.:
1	Retail accessories *Thermo Top C*	See price list
1	Kit for VW Golf V / Golf Plus / Eos / Caddy Diesel	9013551B
1	Heater control	See Price list

Also required with Climatronic:

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

Vehicle models, engine types, equipment variants as well as national specifications, which are not listed in this installation documentation, have not been tested.
However, installation according to this installation documentation 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	2K	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

This installation documentation applies 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 this installation documentation.
However, the stipulations in the "installation documentation", the "operating instructions" and the "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.
Sharp edges should be fitted with rub protection (split-open plastic hose).
Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).
When installing an IPCU, check or adjust the corresponding settings before installation.

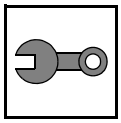
Special tools

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

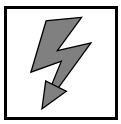
Explanatory Notes on Document

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

Mechanical system

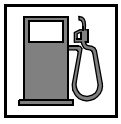


Electrical system

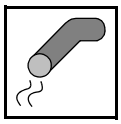


Coolant circuit

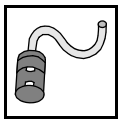
Fuel



Exhaust gas



Combustion air



Special features are highlighted using the following symbols:

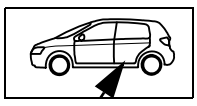
Specific risk of injury or fatal accidents.

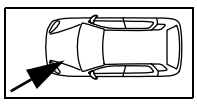
Specific risk of damage to components.

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.



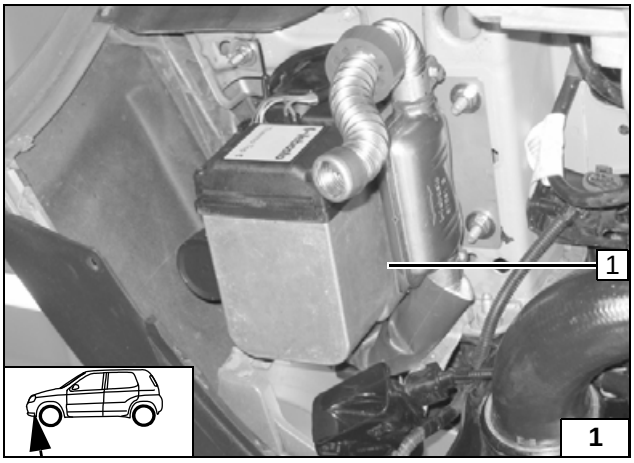


The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

Preliminary Work

WARNING!

- Open the fuel tank cap, ventilate the tank.
- Close the fuel tank cap again.
- 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.
- 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 installation location

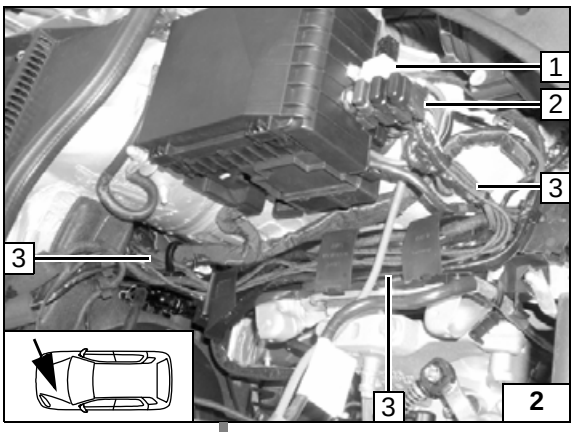
Installation location is in front of left front wheel

1 Heater

Electrical system

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 control and metering pump in cable duct to firewall



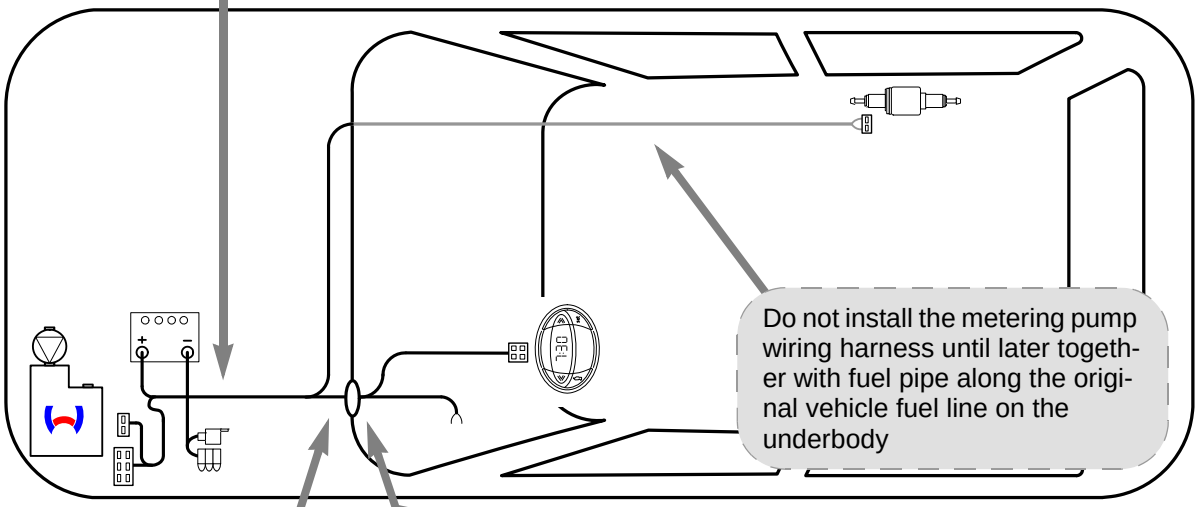
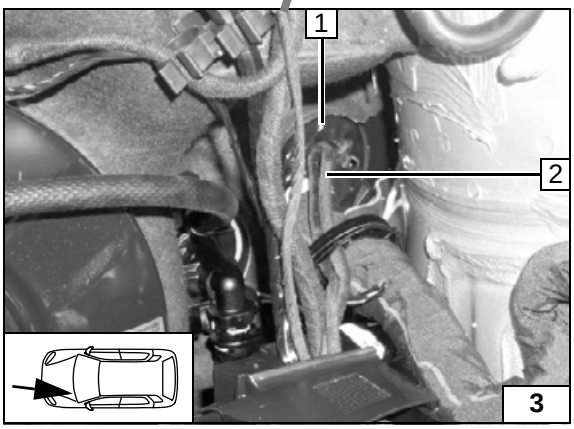
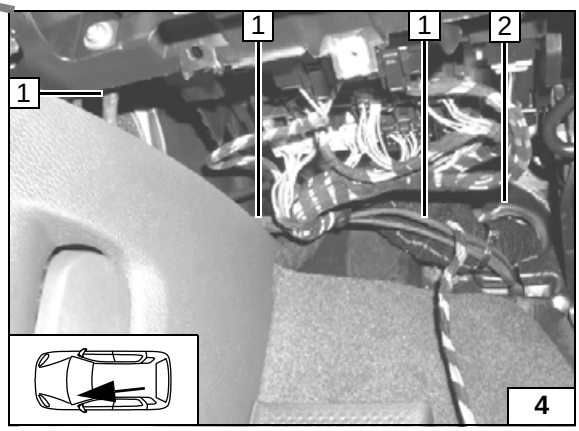


Diagram of wiring harness routing for all equipment





Wiring harness pass through

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

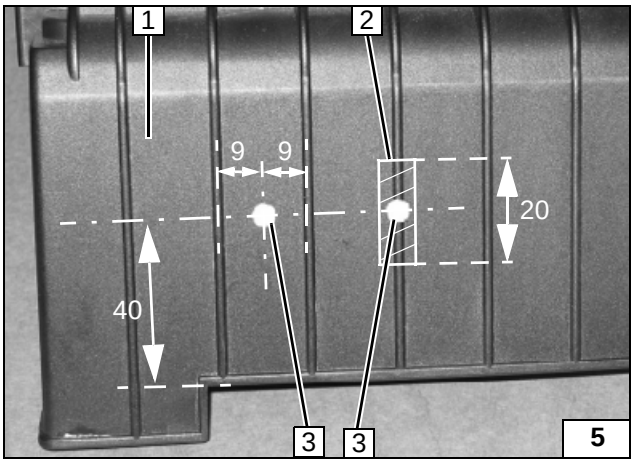
Wiring harness pass through

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

Fuse holder and K3 relay

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

1 Cover of fuse/relay carrier in engine compartment
2 Cut away bar in shaded area
3 5.0mm dia. hole [2x]



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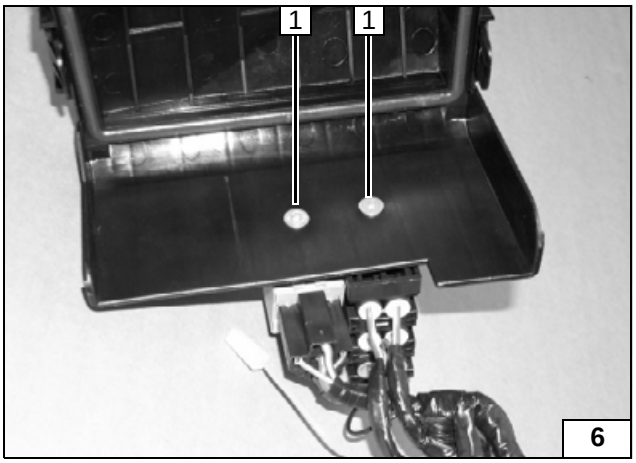
Holes for fuse holder and K3 relay

1 M5x12 countersunk head screw [2x]



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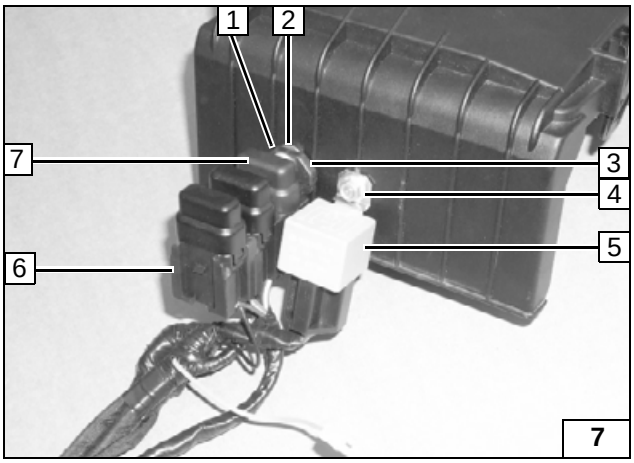
Installing fuse holder and relay K3

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



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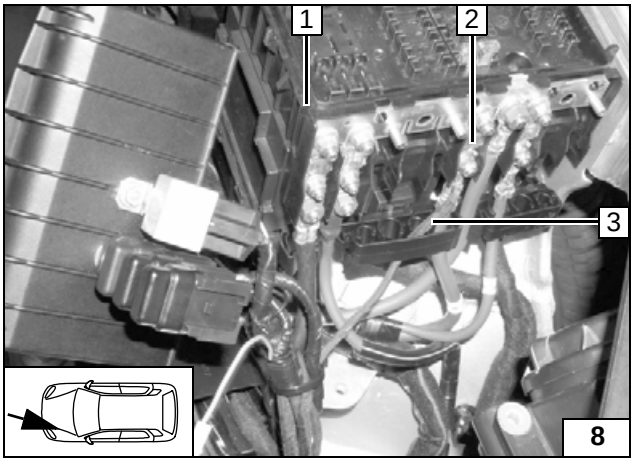
Installing fuse holder and K3 relay

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

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



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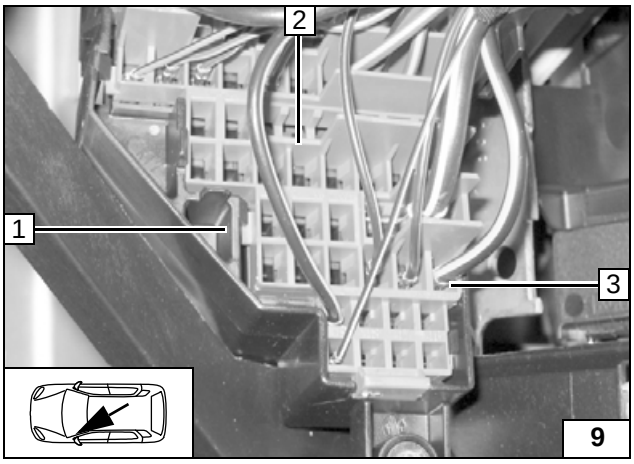
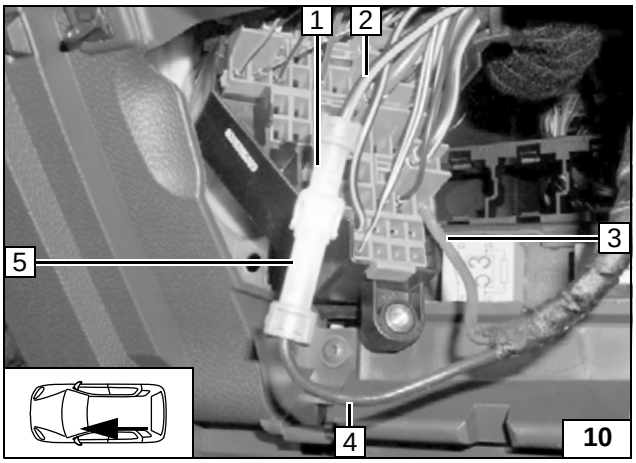
Connecting positive and earth wire



Fan control for Golf V and Eos without Climatronic

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

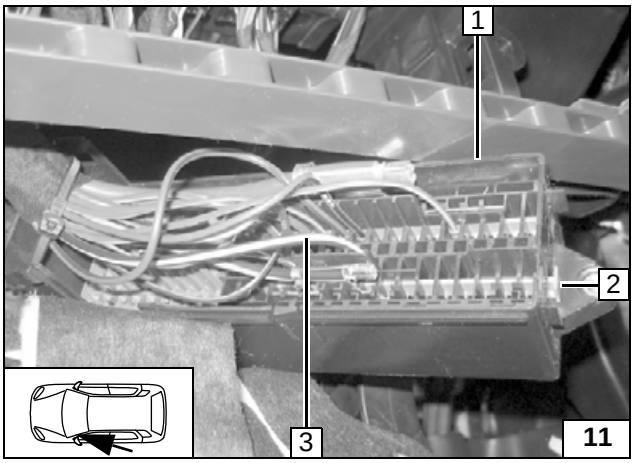


Produce connections as shown in wiring diagram.

2 Black/yellow (sw/ge) wire 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

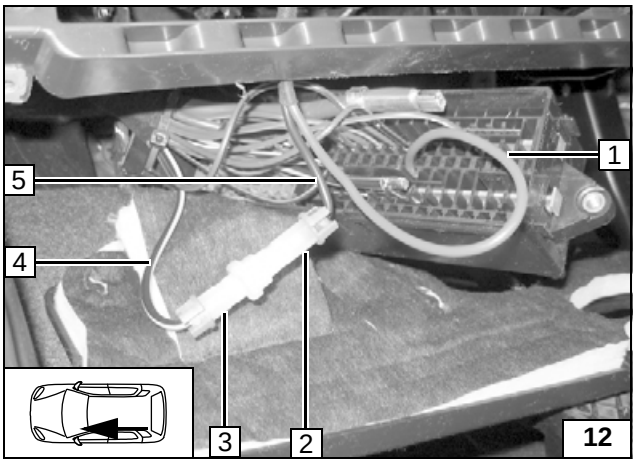
Lock contact lock again.



Fan control for Golf Plus and Caddy without Climatronic

Fuse socket dependent on vehicle equipment SC33 or SC 35; wire colour 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) 4 mm² wire **3** on fuse output SC33 or SC35

Uncrimping wire

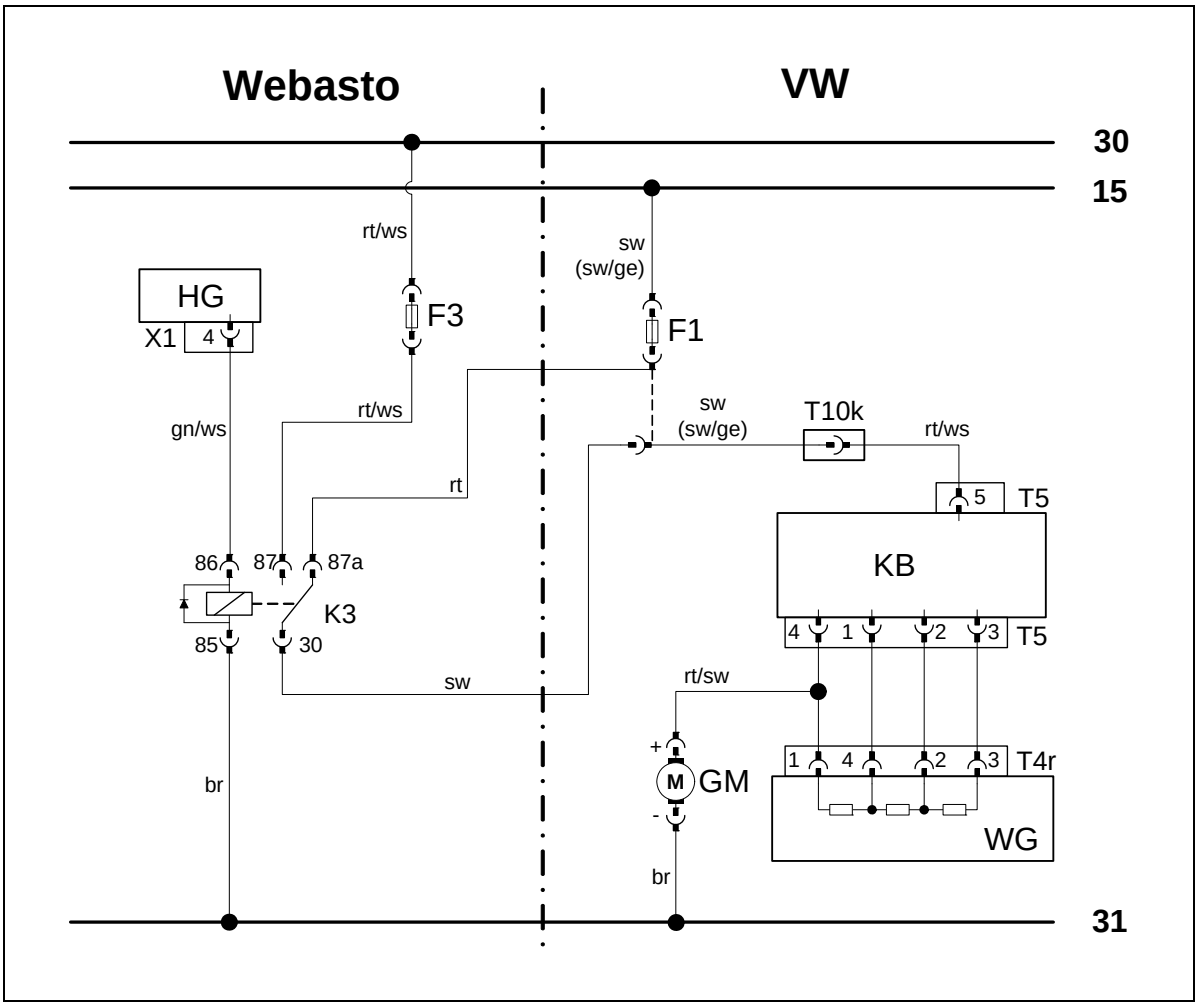


Produce connections as shown in wiring diagram.

4 Black (sw) or black/yellow (sw/ge) wire 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

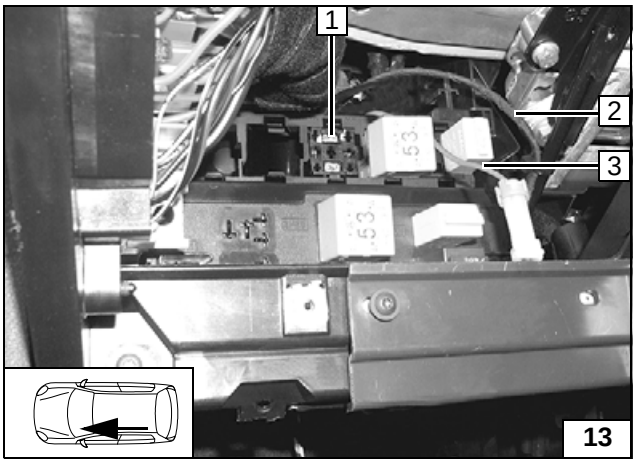
Lock contact lock again.



Webasto components		Vehicle components		Colours and symbols	
HG	TT-C heater	F1	Fuse SC33 or SC35 with 40 A	rt	red
X1	6-pin heater 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
		T...	Plug connections		
				Wiring colours may vary.	

Wiring diagram without Climatronic

Legend

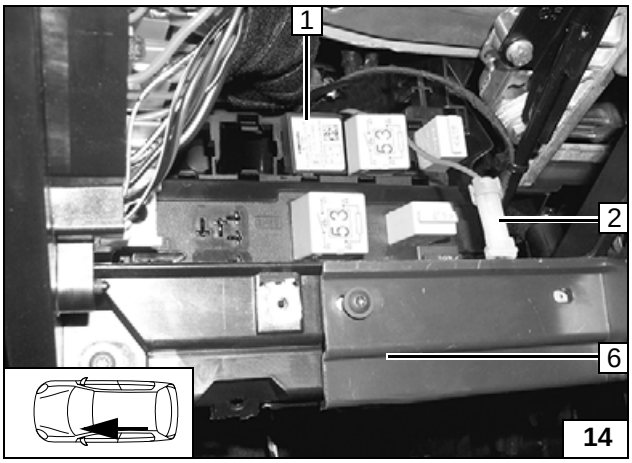


Fan control for Golf V and Eos with Climatronic

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 of IPCU/86 with AMP connector

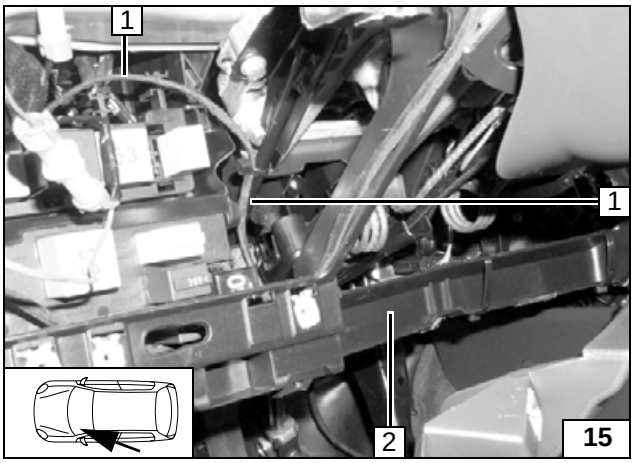
Installing wiring harness of Climatronic



Brown (br) wire from IPCU/85 to original vehicle earth 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**.

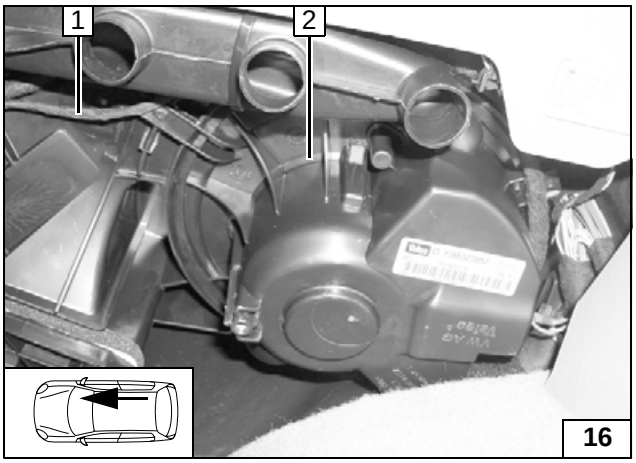
1 IPCU

Connecting wires



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

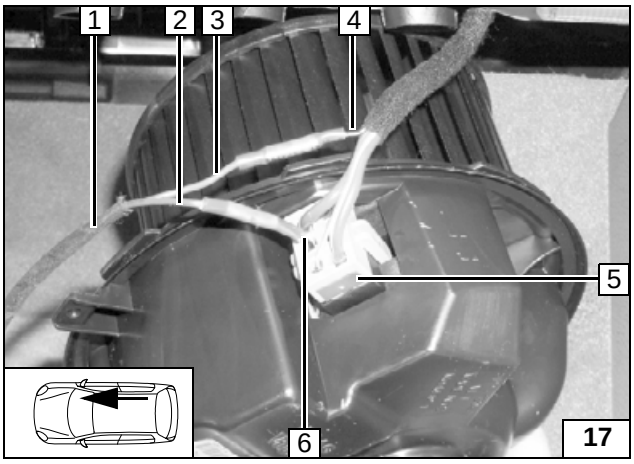
Installing wiring harness of IPCU



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

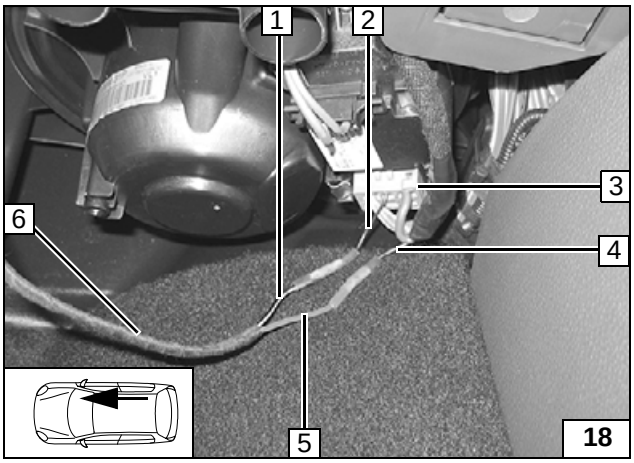
Installing wiring harness of IPCU



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

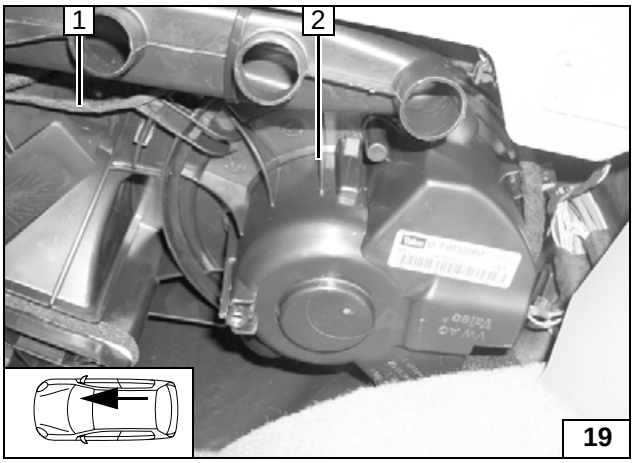
Connecting wires



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

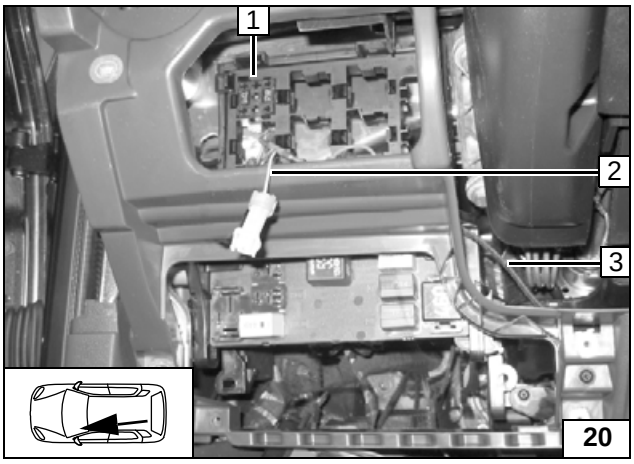


Reinstall fan unit if previously removed. Fasten wiring harness on original vehicle wires with cable ties.

1 Wiring harness from IPCU
2 Fan unit

Installing fan unit

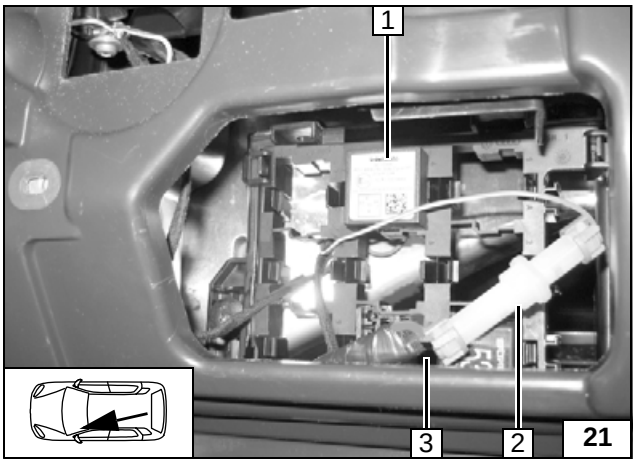
Fan control for Golf Plus and Caddy with Climatronic



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

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

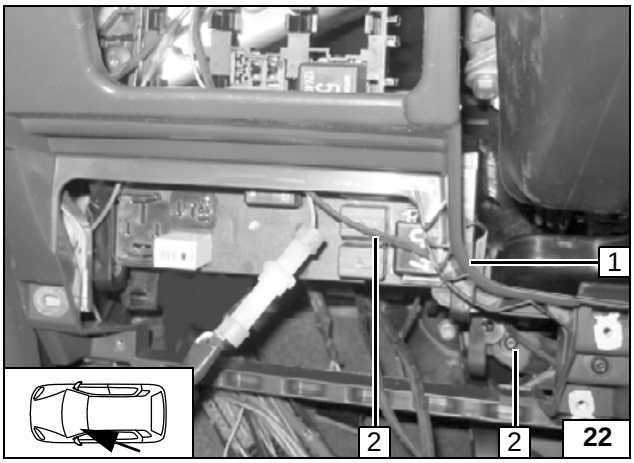
Installing wiring harness of Climatronic



Brown (br) wire from IPCU/85 to original vehicle earth 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**.

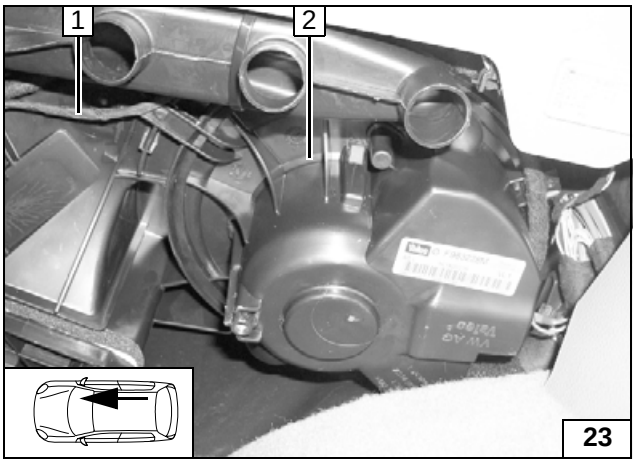
1 IPCU

Connecting wires



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

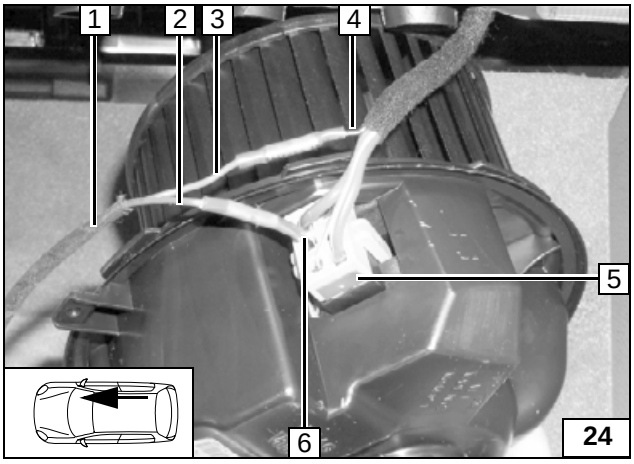
Installing wiring harness of IPCU



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

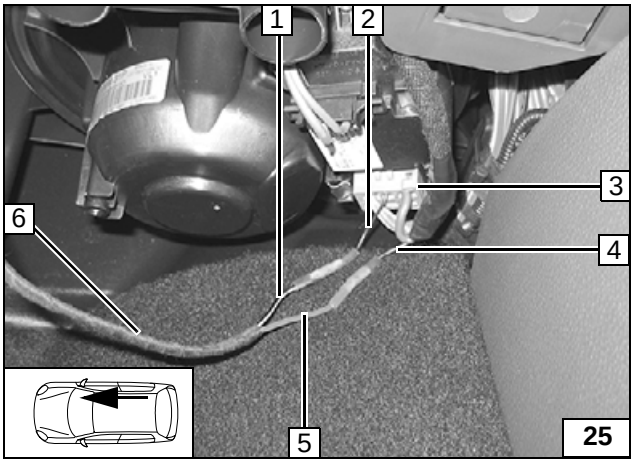
Installing wiring harness of IPCU



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

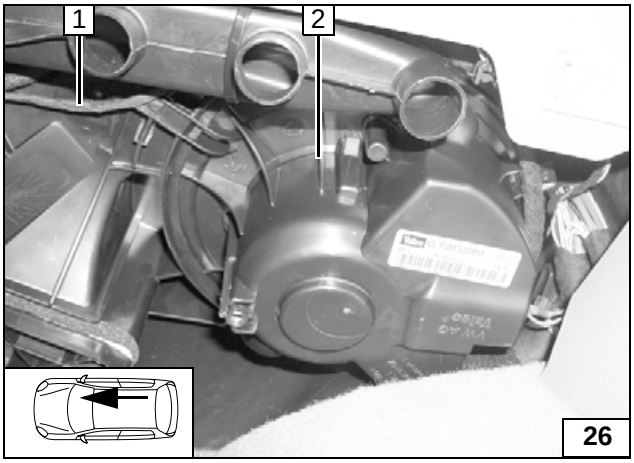
Connecting wires



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

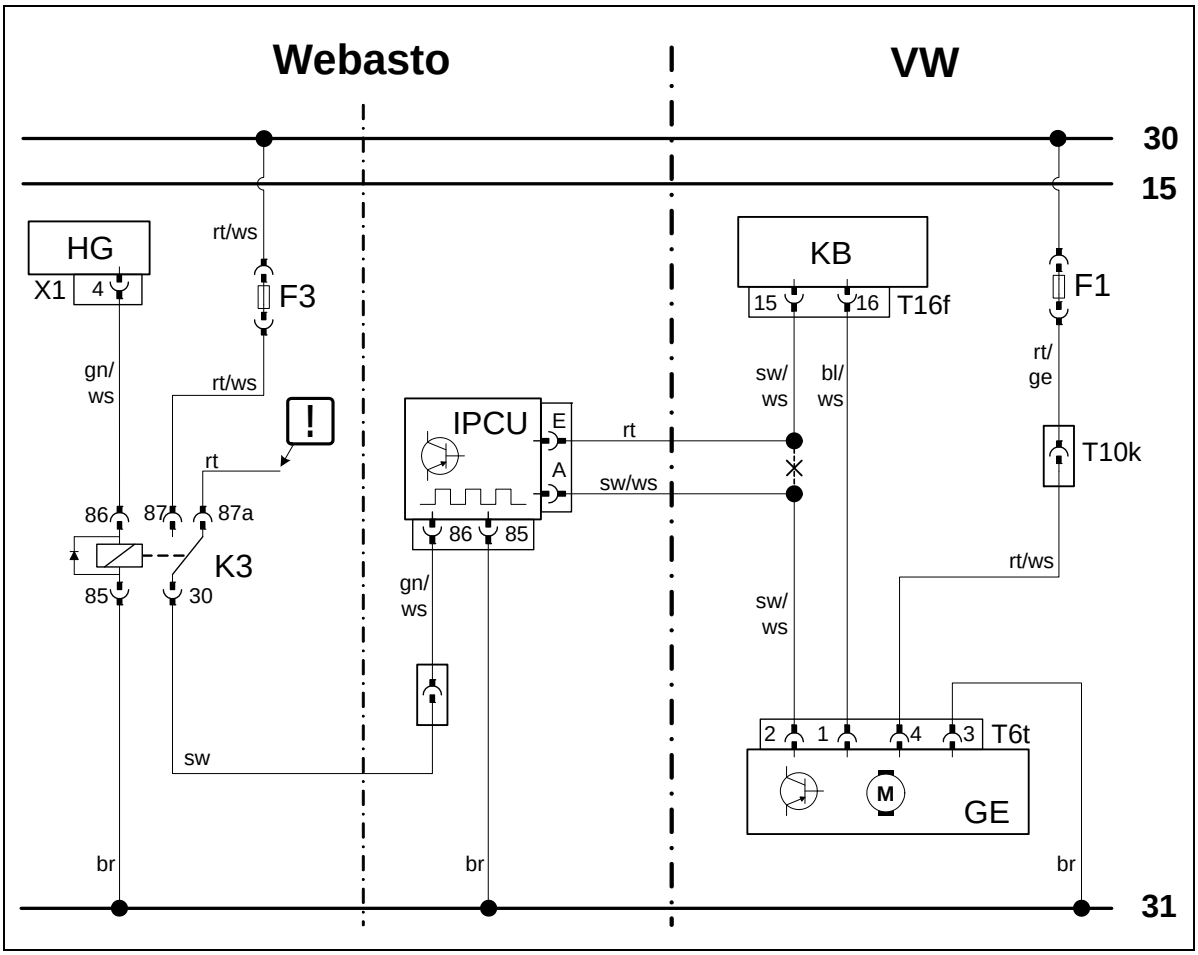


Reinstall fan unit if previously removed. Fasten wiring harness on original vehicle wires with cable ties.

1 Wiring harness from IPCU
2 Fan unit

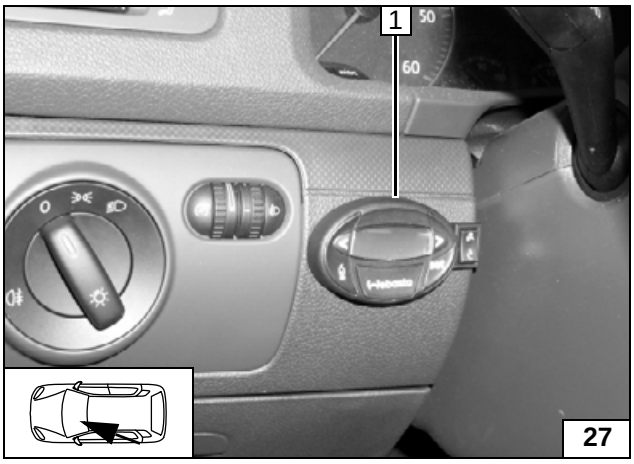
Installing fan unit

Wiring diagram with Climatronic



Legend

Webasto components		Vehicle components		Colours and symbols	
HG	TT-C heater	F1	Fuse SC22 or SC56 with 40 A	rt	red
X1	6-pin heater 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
				bl	blue
IPCU adjustment values				!	Insulate wire end and tie back
Voltage: 8 V				**X**	Cutting point
Frequency: 400 Hz				Wiring colours may vary.	
Duty cycle: 30 %					
Function: High-side					



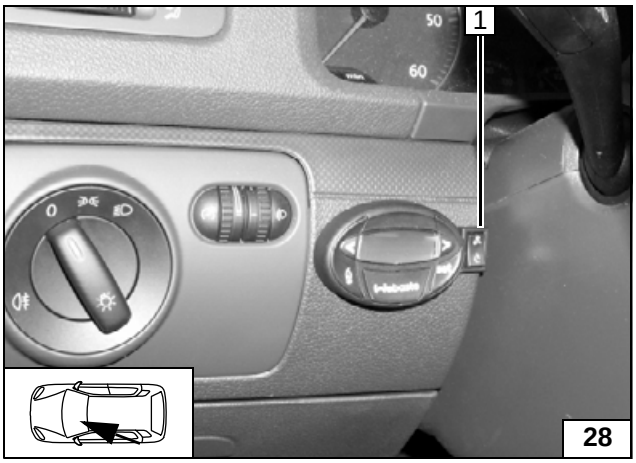
Heater control of Golf V and Eos

Digital timer option

Do not press on display.

1 Digital timer, drilling template

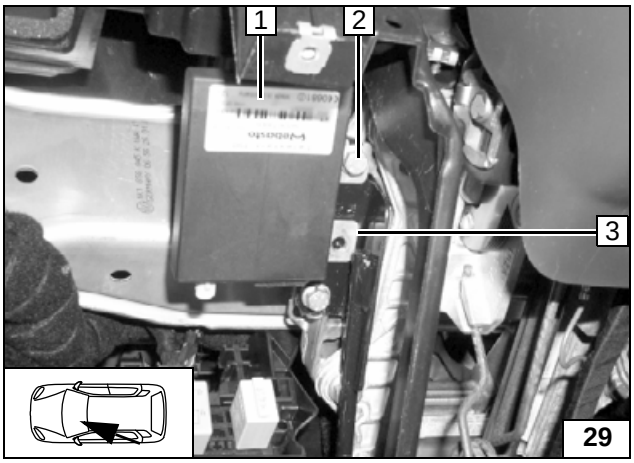
Digital timer option



Summer/winter switch option

1 Summer/winter switch

Summer/winter switch option

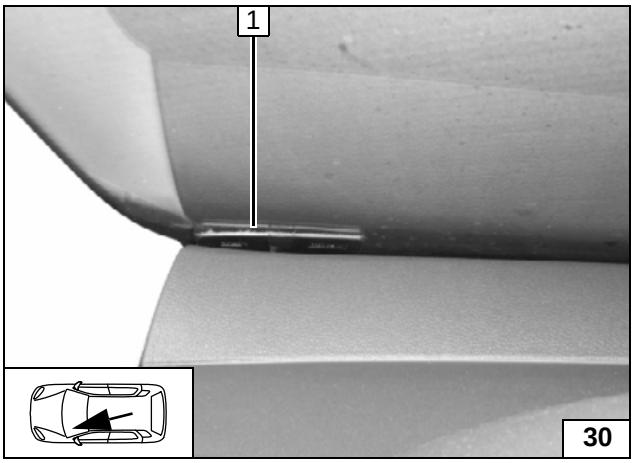


Remote option (Telestart)

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

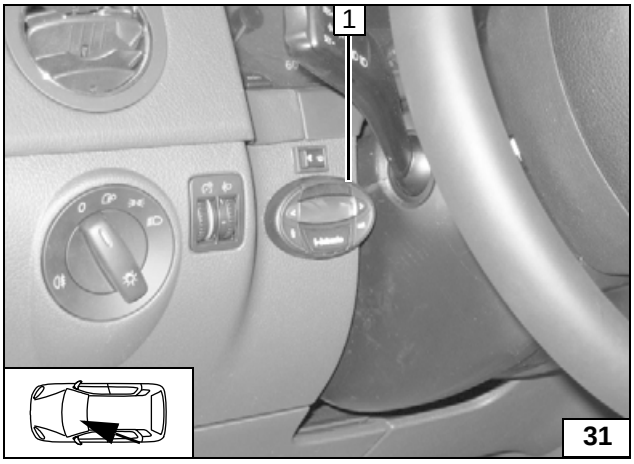
Installing receiver



1 Antenna on windscreen at lower left

Installing antenna

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



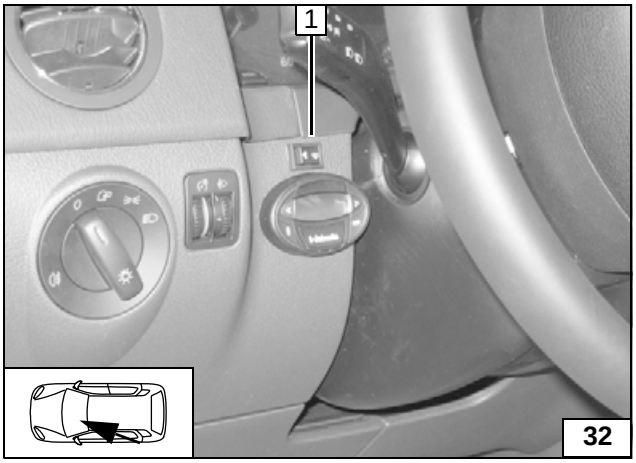
Heater control of Golf Plus

Digital timer option

Do not press on display.

1 Digital timer, drilling template

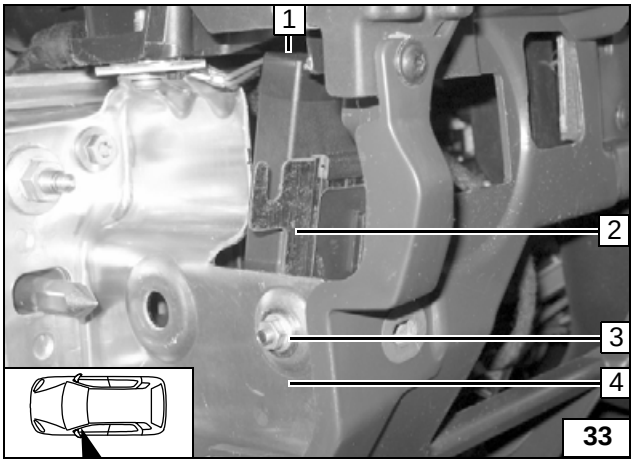
Digital timer option



Summer/winter switch option

1 Summer/winter switch

Summer/winter switch option

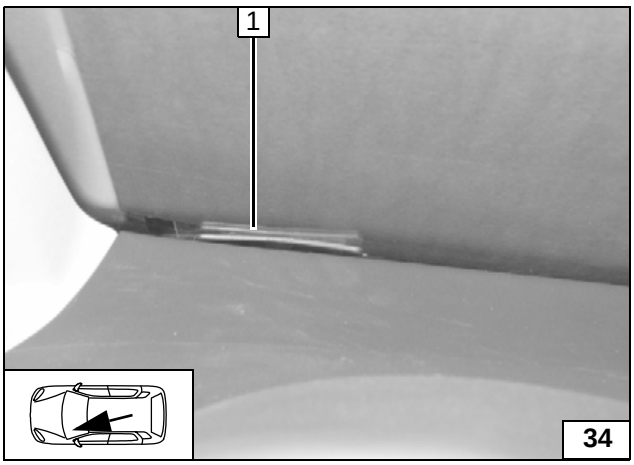


Remote option (Telestart)

Angle 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

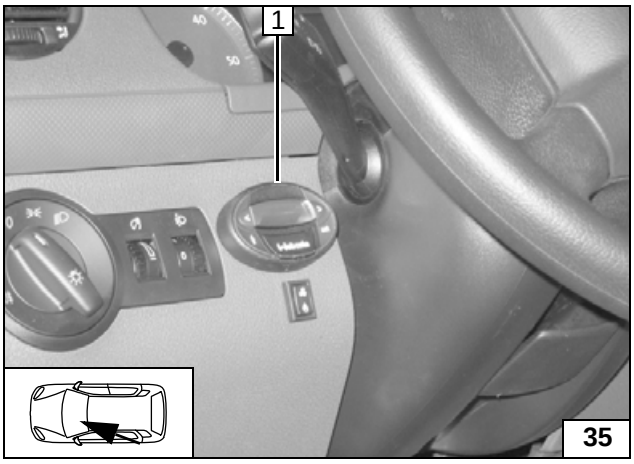
Installing receiver



1 Antenna on windscreen at lower left

Installing antenna

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



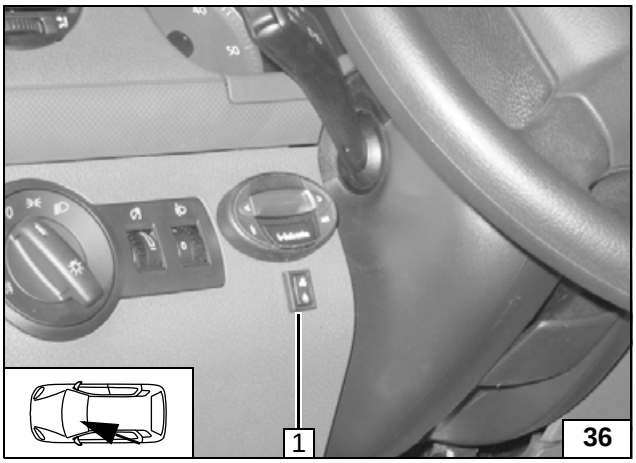
Heater control for Caddy

Digital timer option

Do not press on display.

1 Digital timer, drilling template

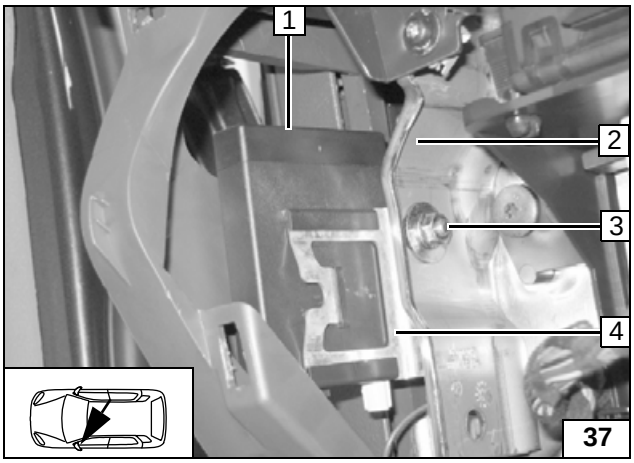
Digital timer option



Summer/winter switch option

1 Summer/winter switch

Summer/winter switch option

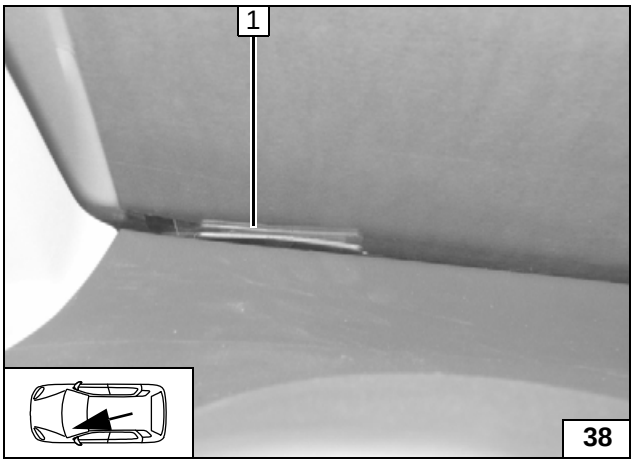


Remote option (Telestart)

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

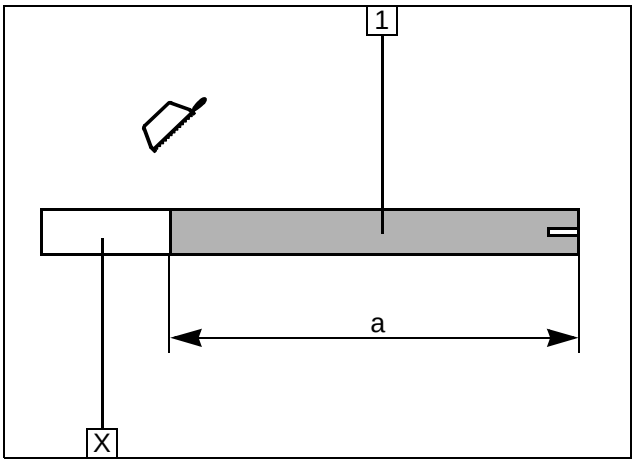
Installing receiver



1 Antenna on windscreen at lower left

Installing antenna

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

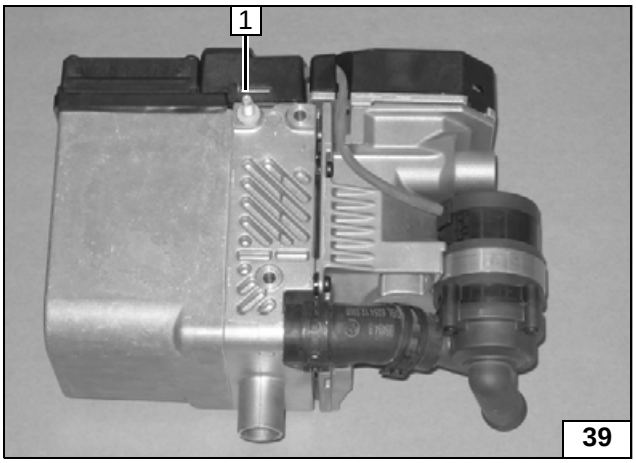


Premounting heater

1 Combustion air pipe
a = 250 mm

Discard section **X**

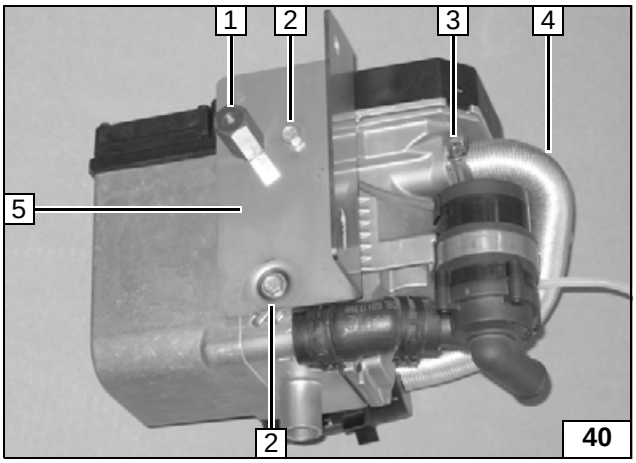
Cutting combustion air pipe to length



Ejot stud, tightening torque 10 Nm.

1 Ejot stud

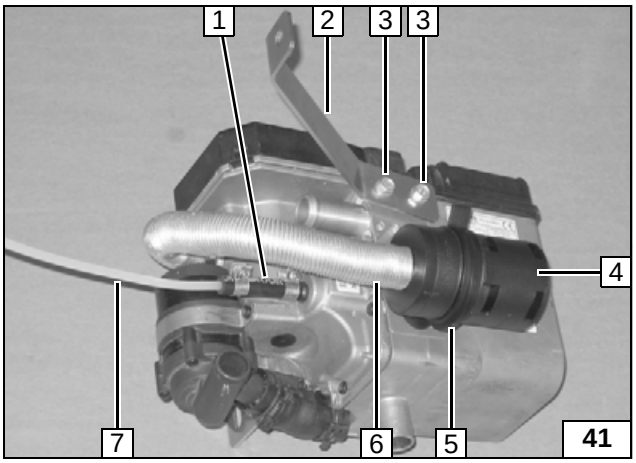
Premounting heater



Tighten Ejot screws to 10 Nm.
Insert one washer each between heater 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)
3 Hose clamp

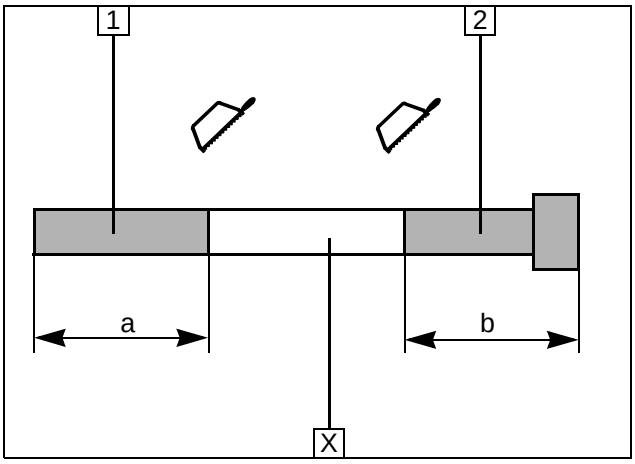
Premounting heater



Tighten Ejot screws to 10 Nm. Ensure proper installation position of combustion-air intake silencer, see "Installation Instructions".

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

Premounting heater



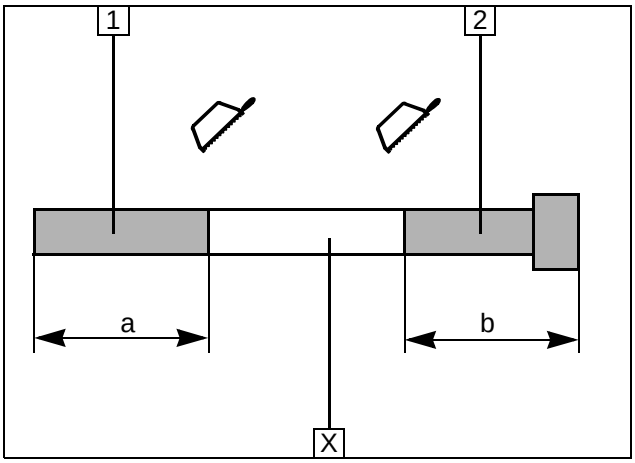
Preparing exhaust system

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

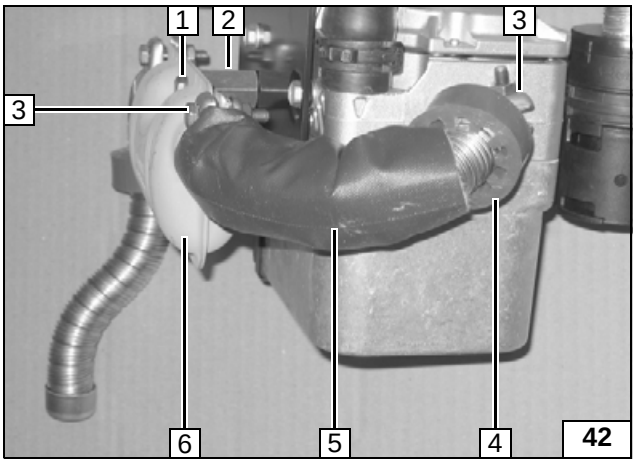


Eos

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

Discard section **X**

Preparing exhaust pipe

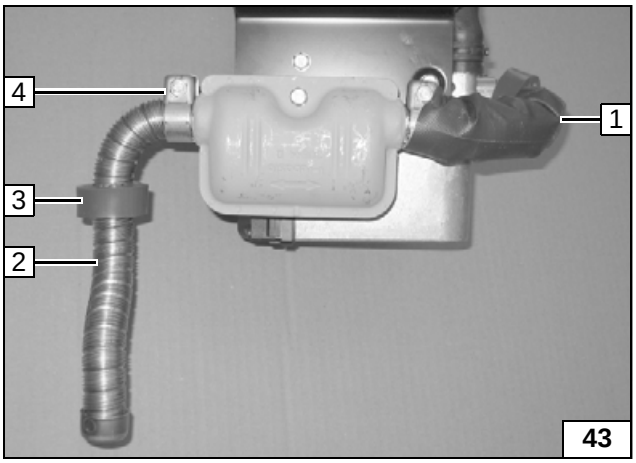


All vehicles

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

6 Silencer
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]

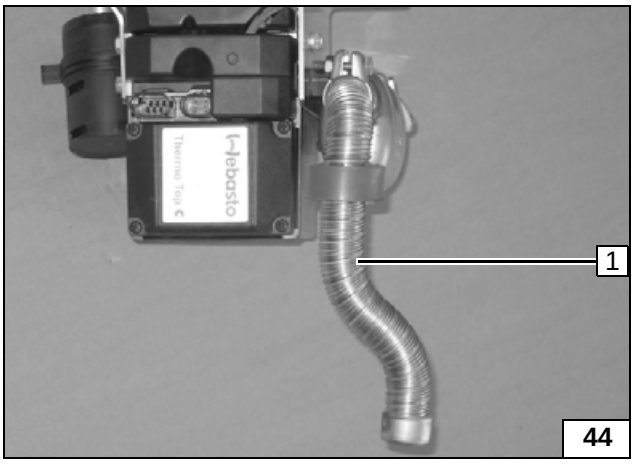
Premounting exhaust system



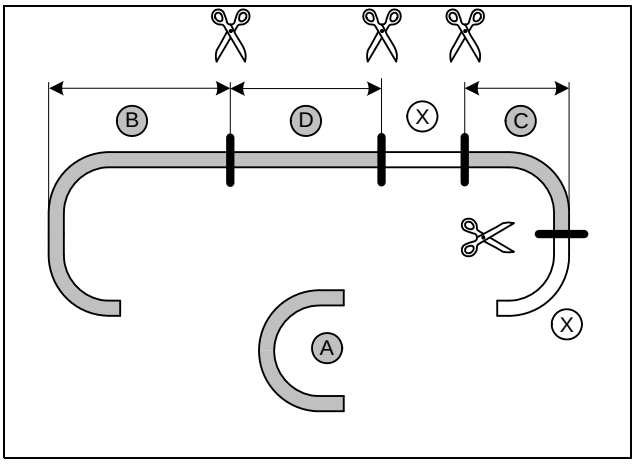
Shape exhaust end section as shown.

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

Premounting exhaust system



1 Exhaust end section

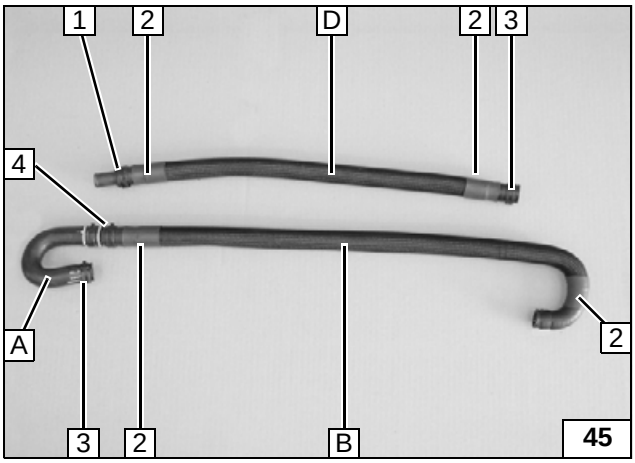


Preparing coolant hoses without DPF

Hose **A** = 180° moulded hose 20mm dia.. Discard section **X**.

B = 690 mm
C = 170 mm
D = 580 mm

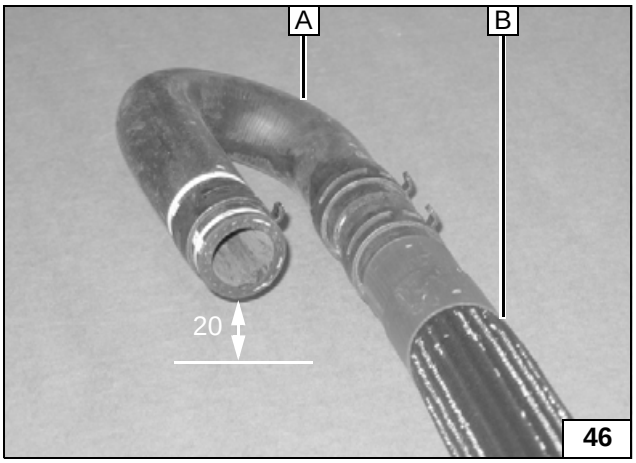
Cutting hoses to size



Slide braided protection hose on to hoses **D** and **B** and cut to size. Position hoses **A** and **B** according to following figure. Cut heat shrink plastic tubing to size.

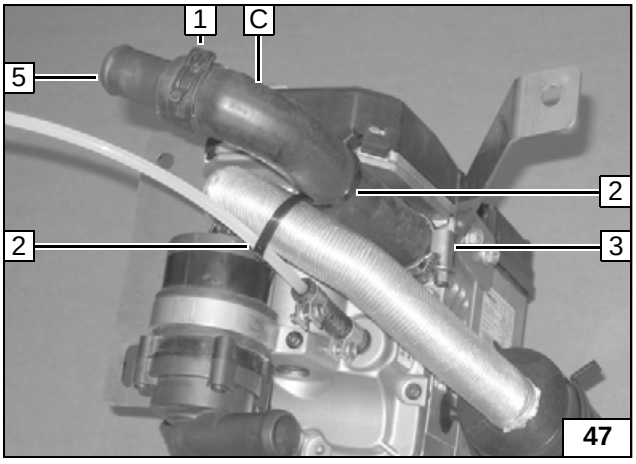
2 25 mm long heat shrink plastic tubing [4x]
1 20x20 connecting pipe, 27 mm dia. spring clip
4 20x20 connecting pipe, 27 mm dia. spring clip [2x]
3 27 mm dia. spring clip [2x] premounted

Premounting hoses



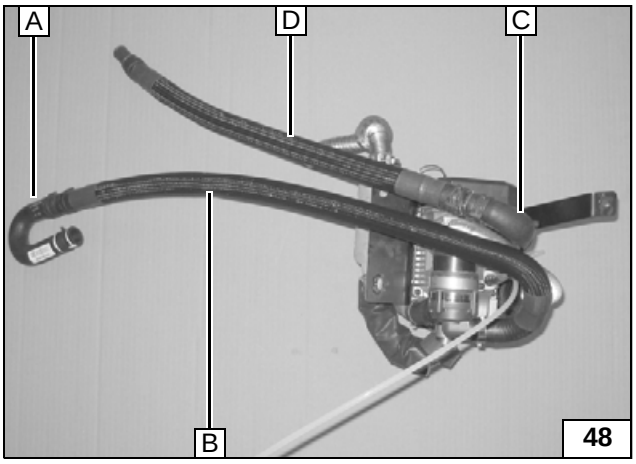
When installing hoses **A** and **B**, lift hose **A** approx. 20 mm off support.

Premounting coolant hoses

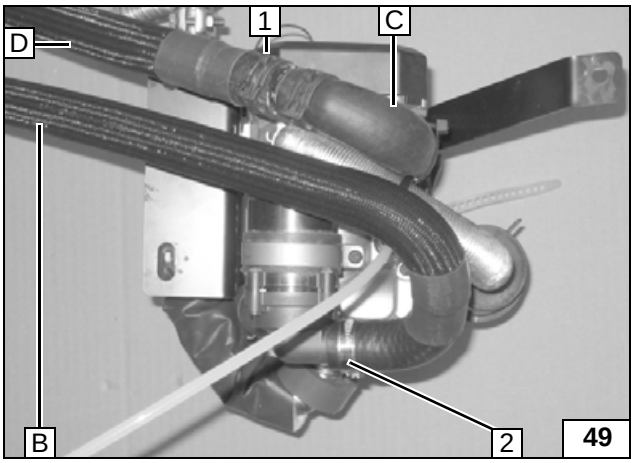


3 24-27 mm dia. hose clamp
5 20x20 connecting pipe
1 27mm dia. spring clip
2 Cable tie [2x]

Connecting hose C to heater

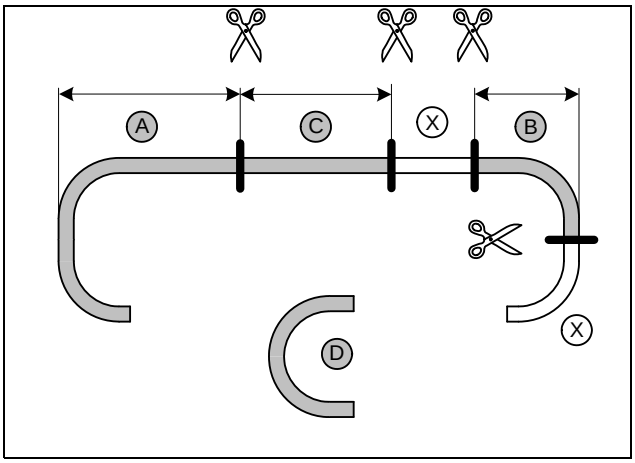


Connecting pre-installed hoses on heater



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

Connecting pre-installed hoses on heater

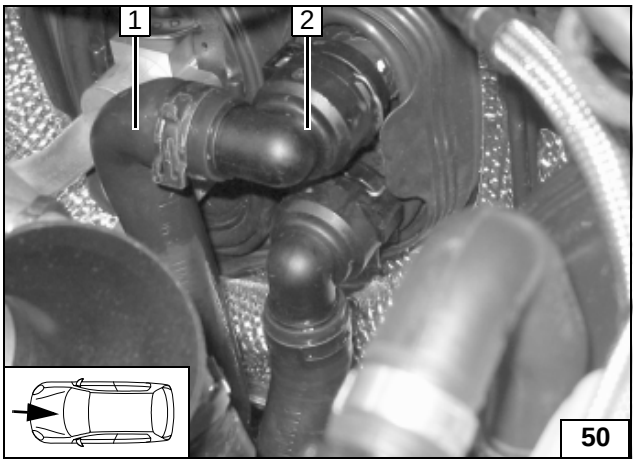


Preparing coolant hoses with DPF

Hose **D** = 180° moulded hose 20mm dia..
Discard section **X**.

A = 950mm
B = 170mm
C = 880mm

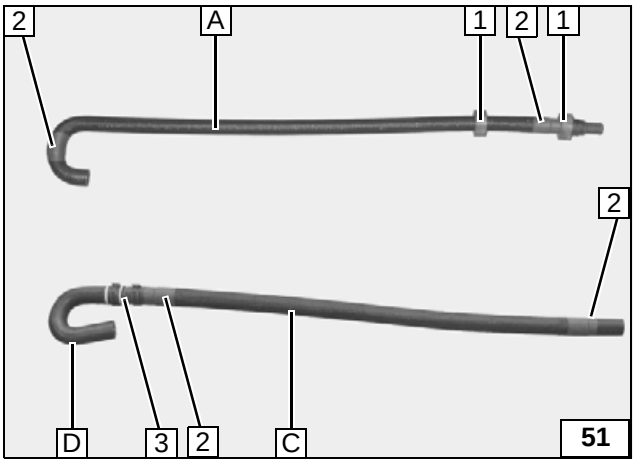
Cutting hoses to size



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

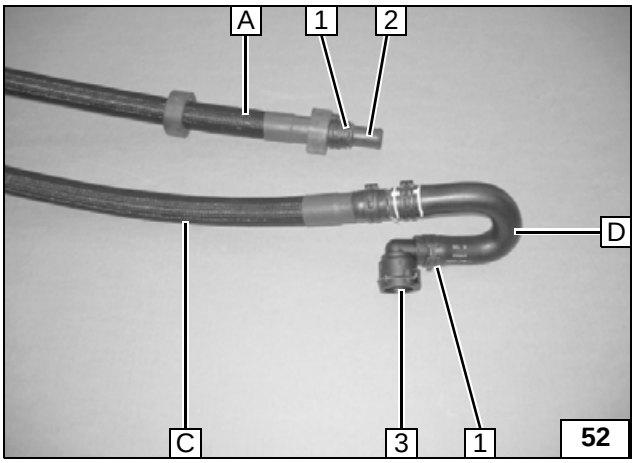
Coolant connection piece on heat exchanger inlet



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

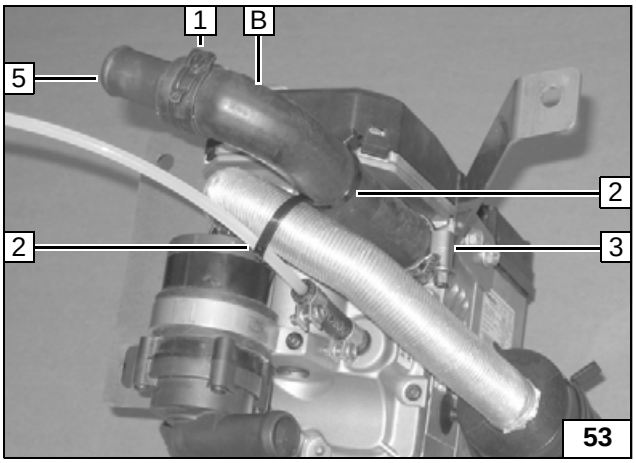
Preparing coolant hoses



Connect coupling piece **3** of heat exchanger inlet connecting piece to hose **D**.

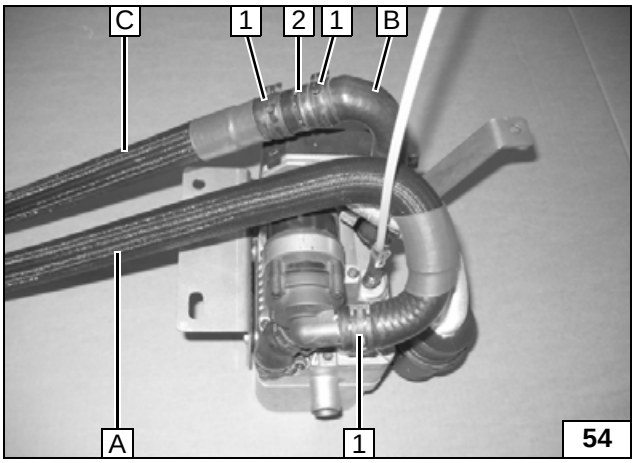
2 20x20 connecting pipe
1 27 mm dia. spring clip [2x]

Preparing coolant hoses



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

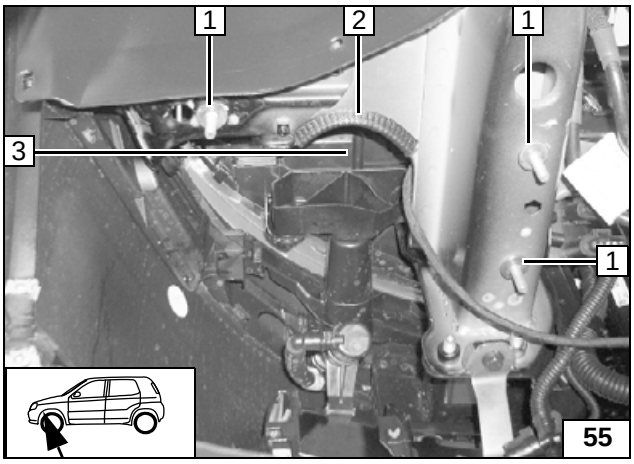
Installing hose B



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

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

Premounting hose A and C

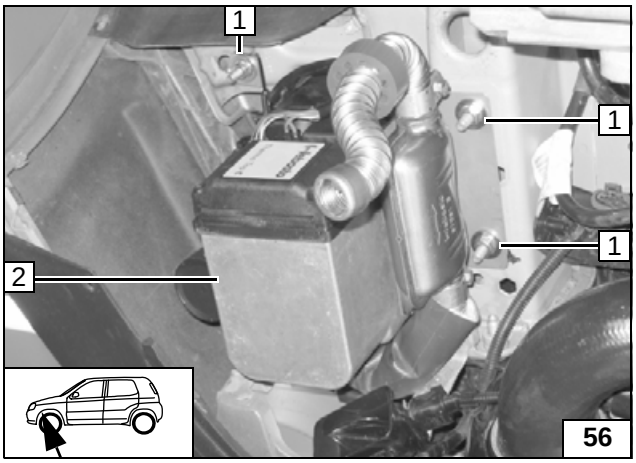


Preparing installation location

Prevent large diameter washer from falling by securing with putty etc.

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

Preparing installation location

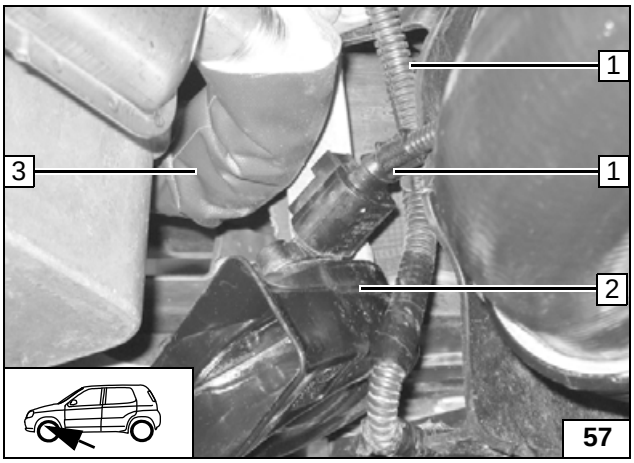


Installing heater

Guide heater 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 (premounted)

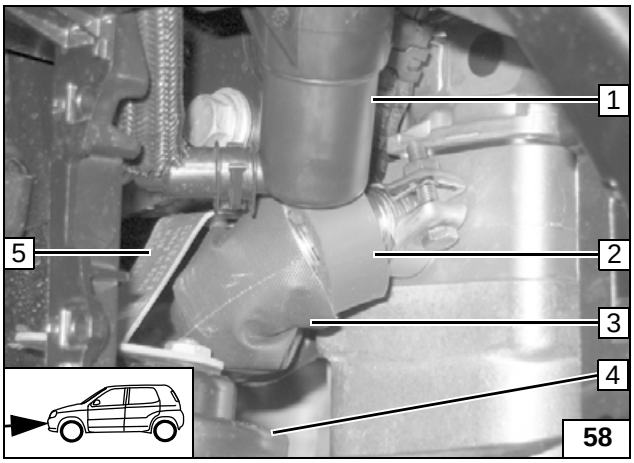
Installing heater



Ensure freedom of movement of exhaust system in relation to original vehicle components and lines.

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

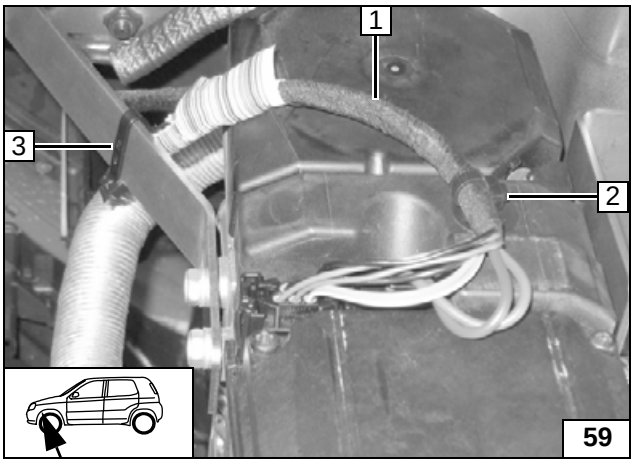
Aligning exhaust system



Ensure freedom of movement of exhaust system in relation to original vehicle components 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) protective rubber isolator
3 Exhaust pipe with insulation
4 Horn
5 Horn bracket

Aligning exhaust system

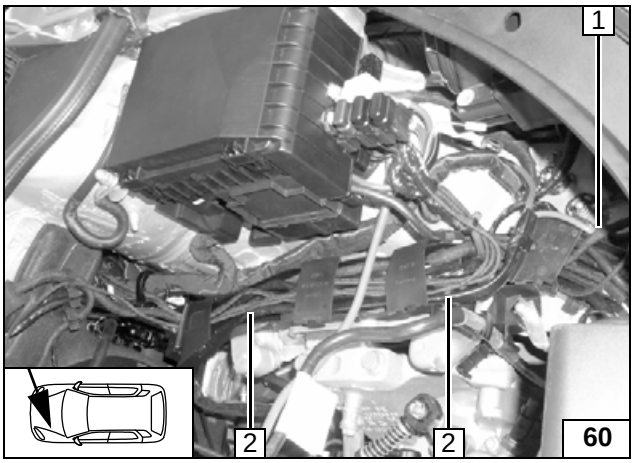


Wiring harness of heater

Watch routing of wiring harness. Danger of rubbing!

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

Mounting and routing wiring harness



Watch routing of wiring harness. Danger of rubbing!

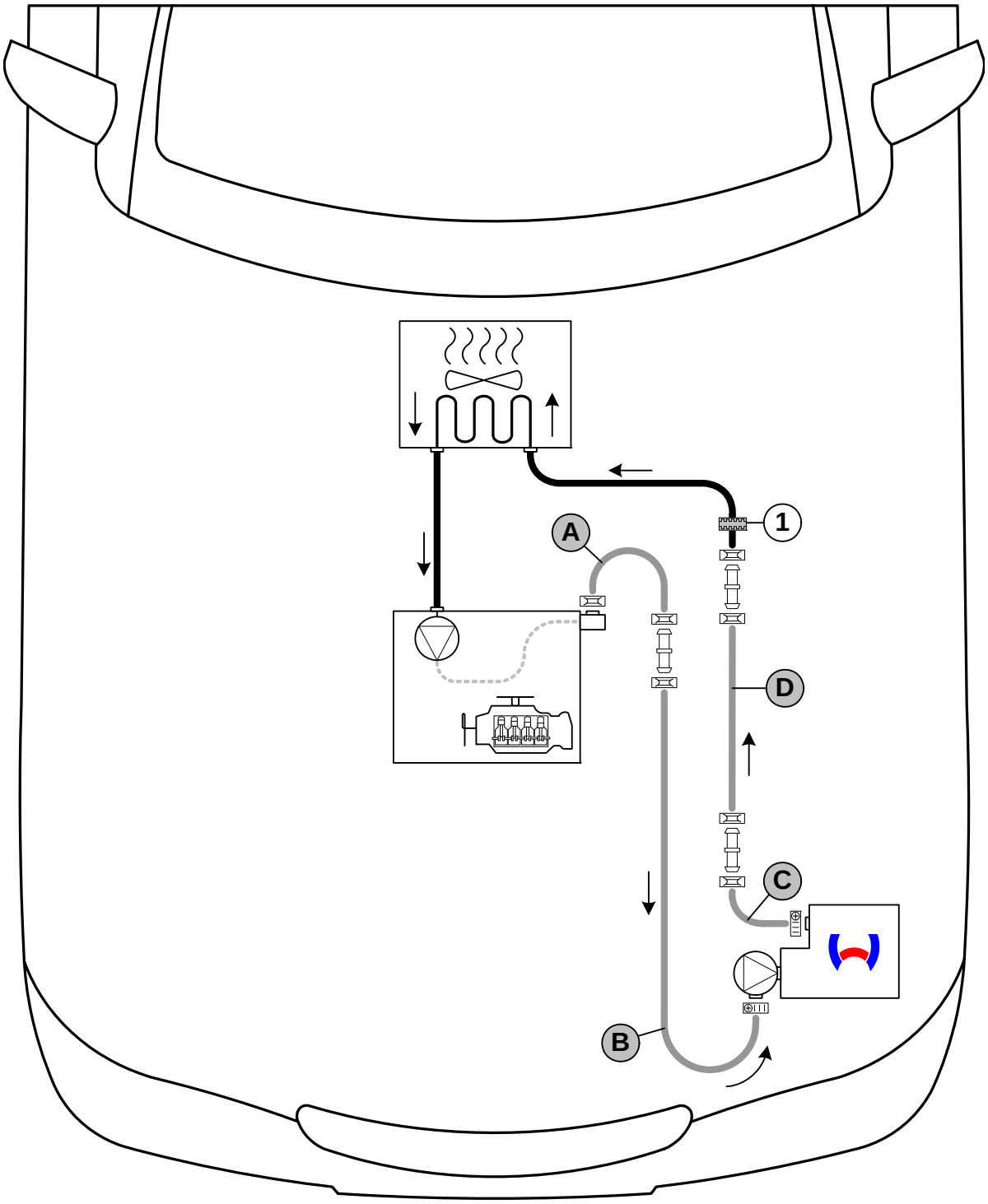
Route excess lengths of wiring harness (**1**) in cable duct (**2**) below battery and secure with cable ties.

1 Wiring harness from heater
2 Cable duct

Routing wiring harness

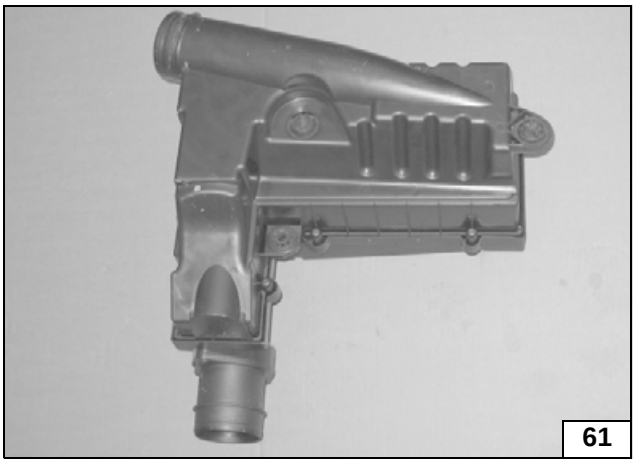
Preparing coolant circuit without DPF

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



Hose installation diagram

All spring clips = 27 mm dia.. All hose clamps = 20-27 mm dia.
All connecting pipes = 20x20 mm dia. **1** = Black (sw) rubber isolator .

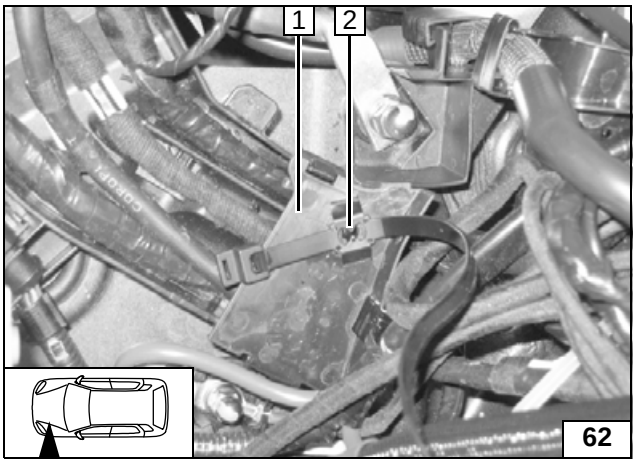


Air filter versions

View from below.

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

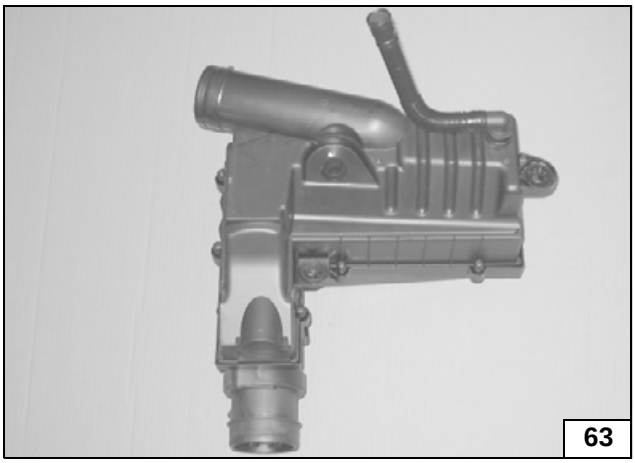
Air filter-version 1



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

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

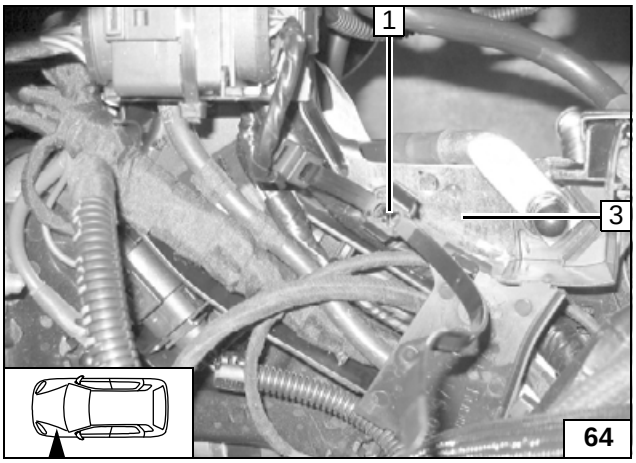
Air filter-version 1



View from below.

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

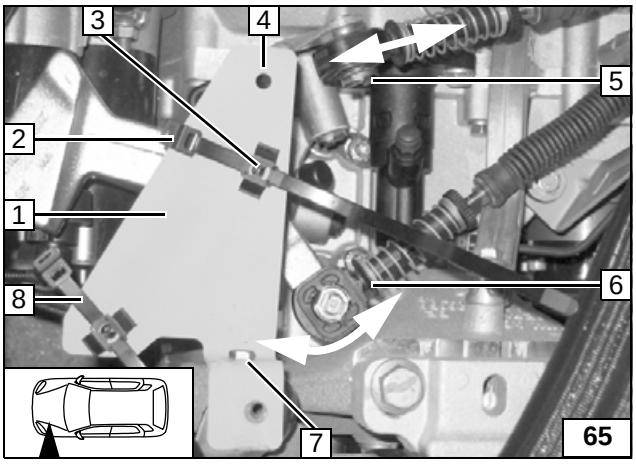
Air filter-version 2



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

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

Air filter-version 2

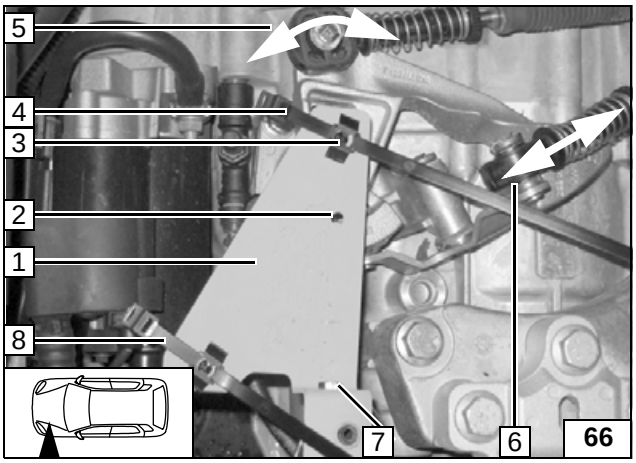


Gear change versions

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

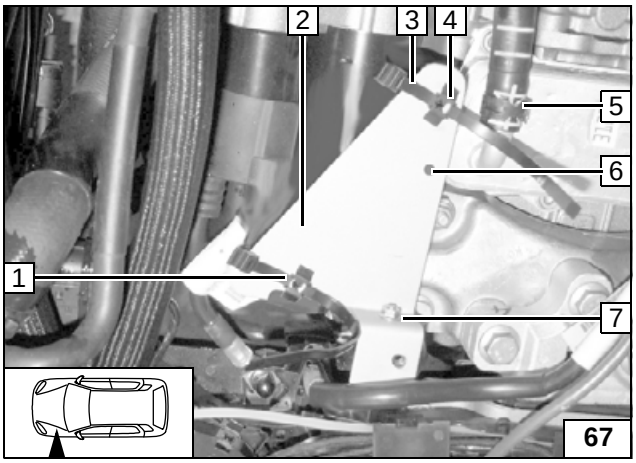
Gear change - version 1



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

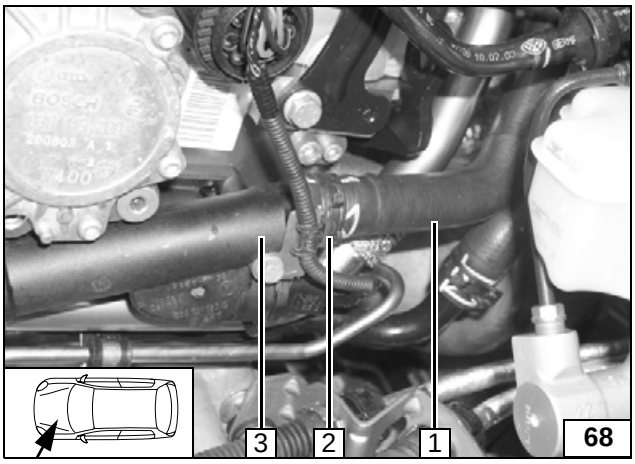
Gear change - version 2



With direct gear 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.

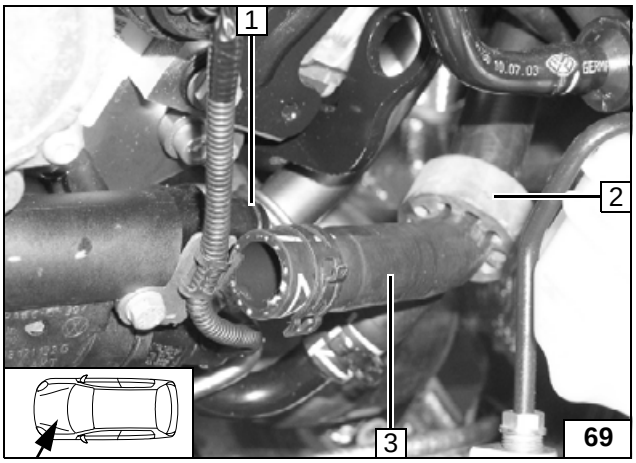
2 Bracket
7 Original vehicle hole, M6x20 bolt, flanged nut
5 Spring clip turned downward

Gear change - version 3



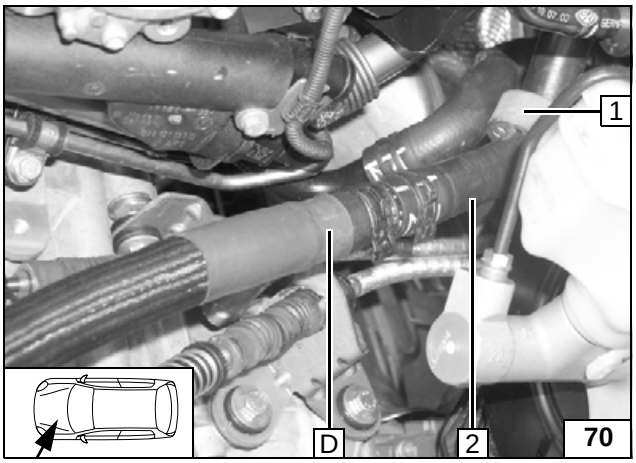
Pull off hose on engine **1** to heat exchanger inlet on connection piece of engine outlet **3**. Spring clip **2** will be reused.

Cutting point



3 Hose to heat exchanger inlet removed
1 Engine outlet connection piece
2 Black (sw) rubber isolator pushed on

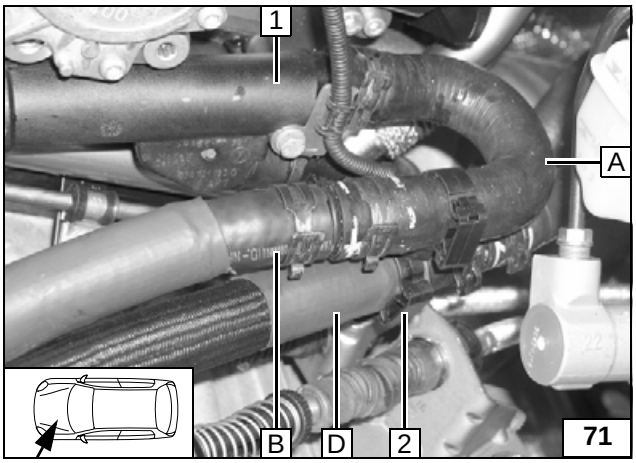
Pull hose off engine outlet



Fill the coolant hoses with coolant before connecting.

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

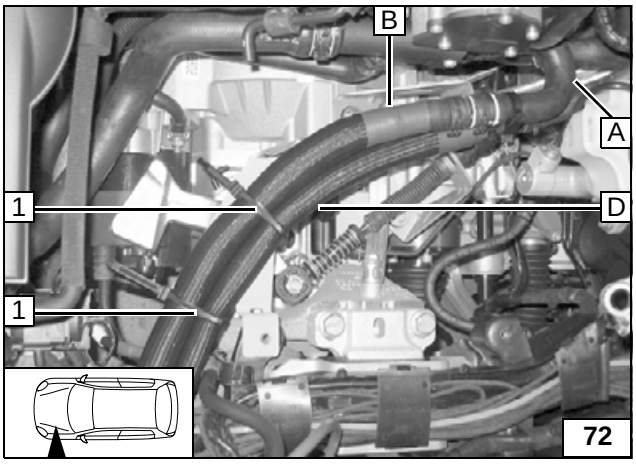
Connecting to heat exchanger input



Fill the coolant hoses with coolant before connecting.

1 Engine outlet connection piece
2 Double clip dia. 27x27 on hose **A** and **D**

Connecting to engine outlet

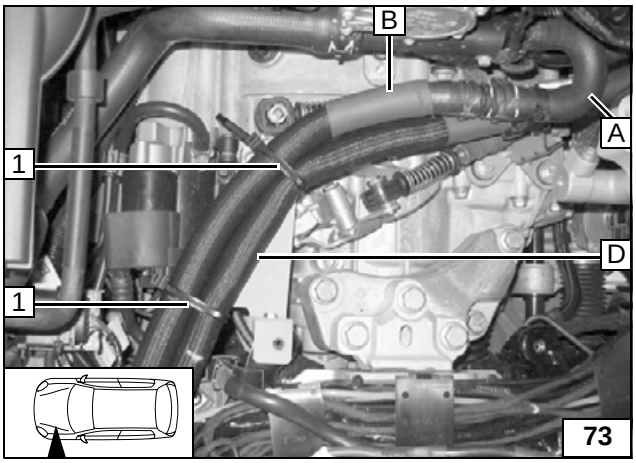


Hose routing with gear change versions

Ensure freedom of movement of gear change.

1 Clip-type cable tie [2x]

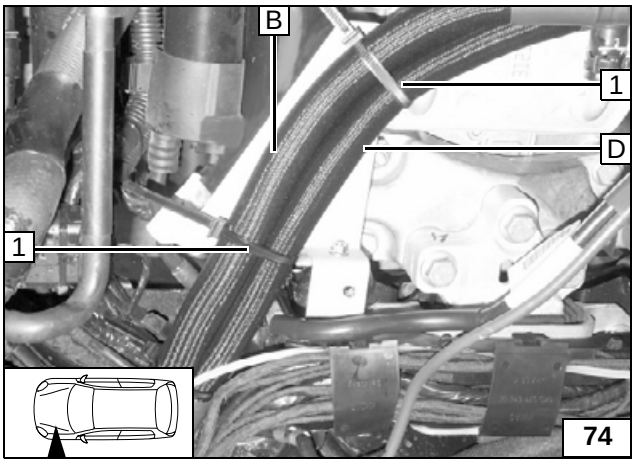
Hose routing with Gear change - version 1



Ensure freedom of movement of gear change.

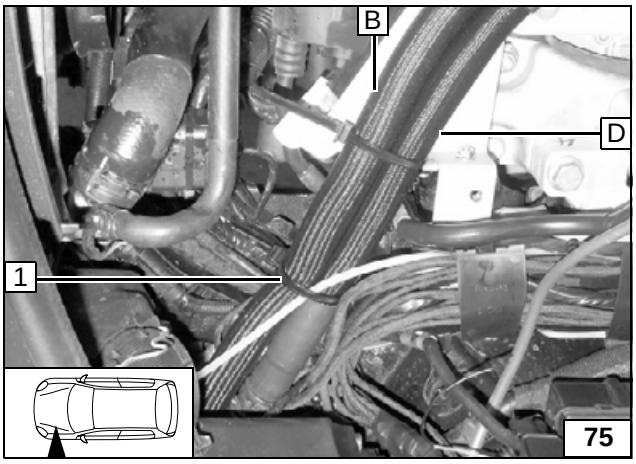
1 Clip-type cable tie [2x]

Hose routing with Gear change - version 2



1 Clip-type cable tie [2x]

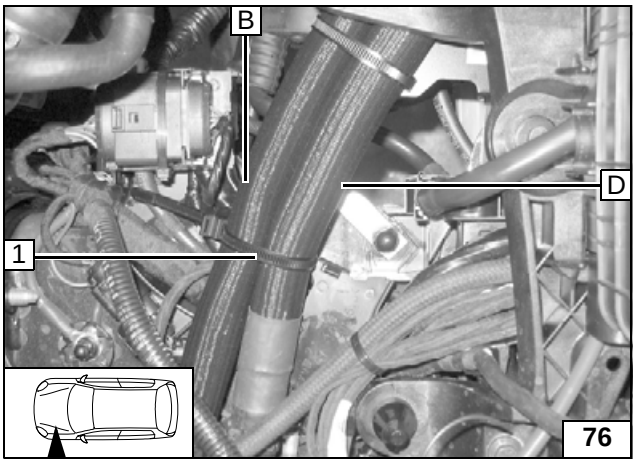
Hose routing with Gear change - version 3



Hose routing in air filter versions

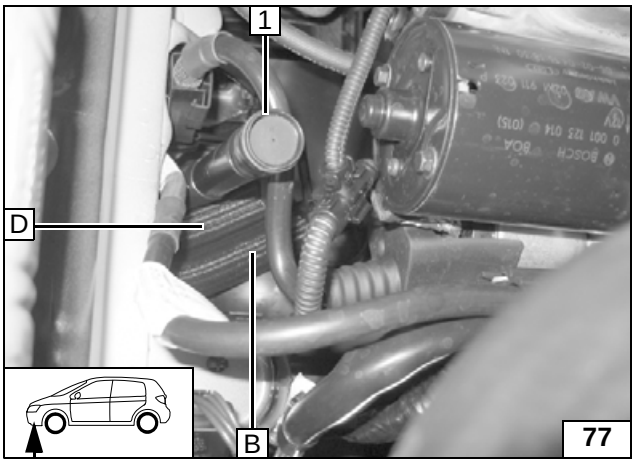
1 Clip-type cable tie

Hose routing with Air filter-version 1



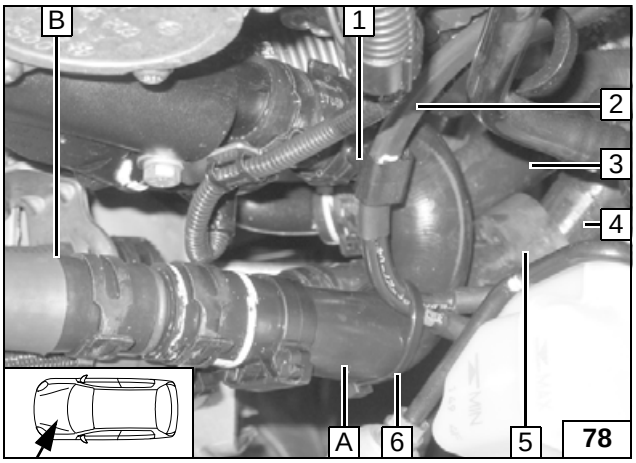
1 Clip-type cable tie

Hose routing with 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 with Air filter-version 3



All vehicles

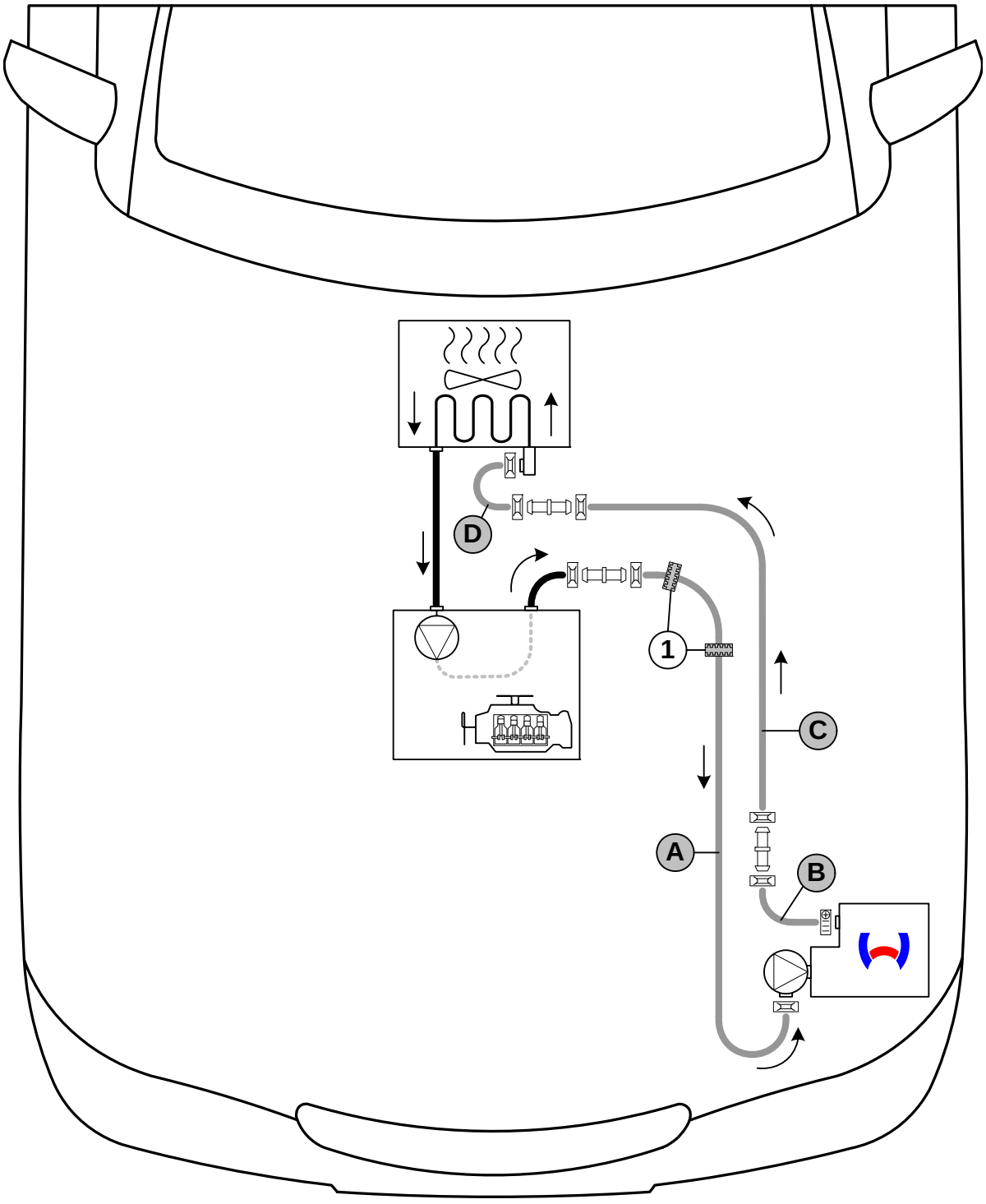
Lines **2** and original vehicle double clip **1** are dependent on vehicle equipment.

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

Aligning hoses and wires

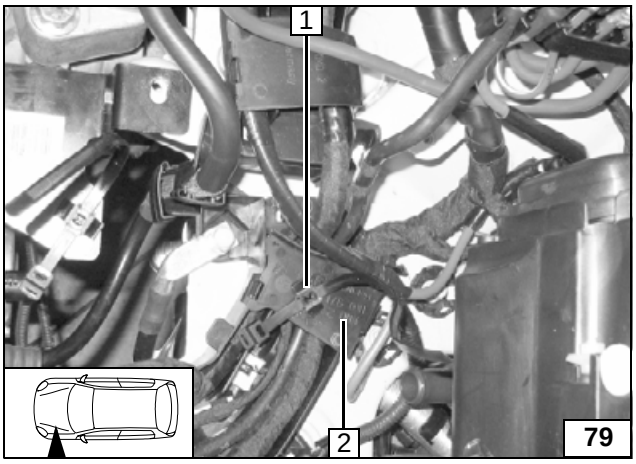
Coolant circuit with DPF

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



Hose installation diagram

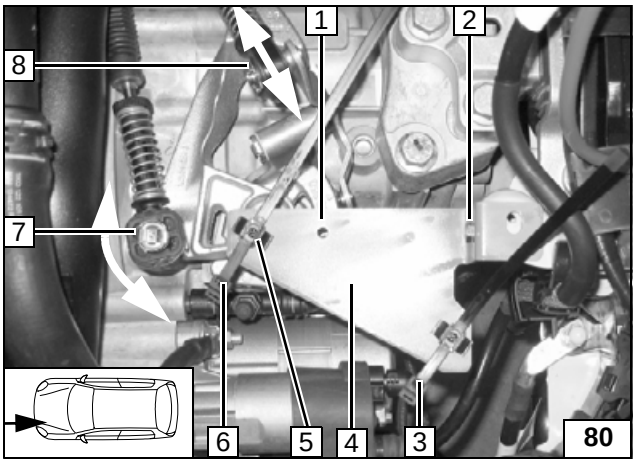
All spring clips = 27 mm dia.. All hose clamps = 20-27 mm dia.
All connecting pipes = 20x20 mm dia. **1** = Black (sw) rubber isolator .



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

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

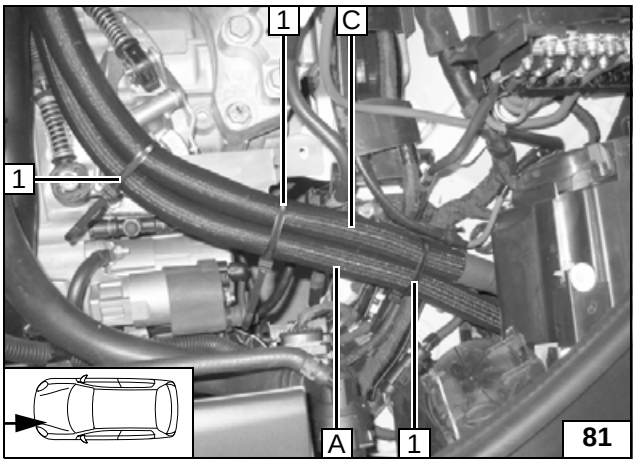
Installing clip-type cable tie



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.

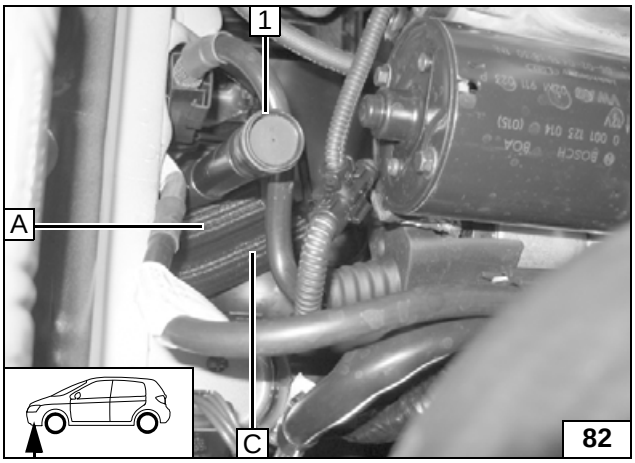
4 Bracket
2 Original vehicle hole**,** M6x20 bolt, flanged nut

Installing bracket for coolant hoses



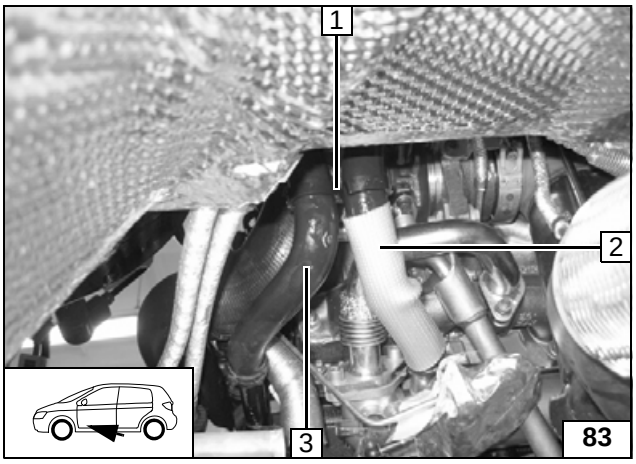
1 Clip-type cable tie [3x]

Hose routing



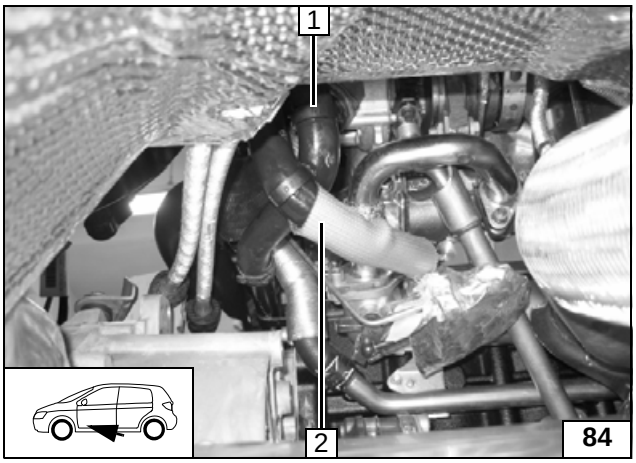
Test installation of air filter.
Hose **A** and **C** are routed in front of line **1** from air filter.

Hose routing



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

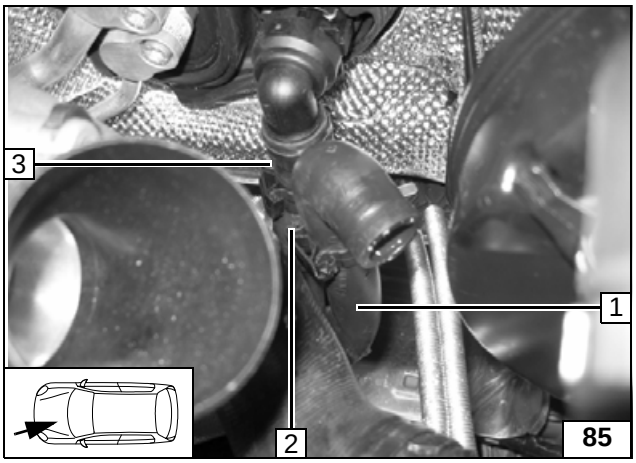
Routing hose for heat exchanger inlet



Route coolant hose at engine outlet to heat exchanger inlet **2** without kinks and rubbing

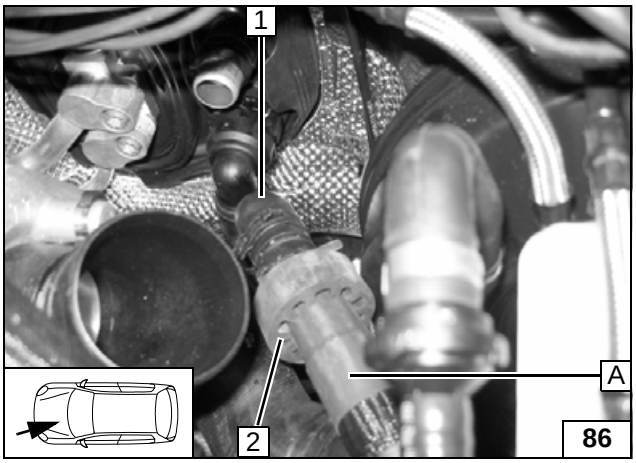
1 Hose to heat exchanger outlet

Routing hose for heat exchanger inlet



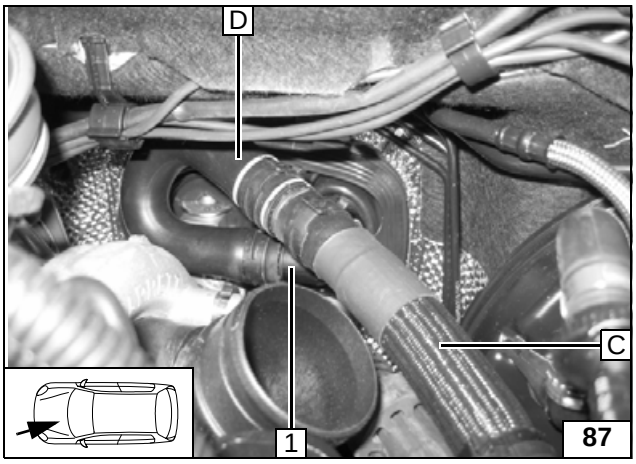
1 Hose on engine outlet, turned toward front
3 Hose for heat exchanger outlet
2 Double clip

Inserting double clip



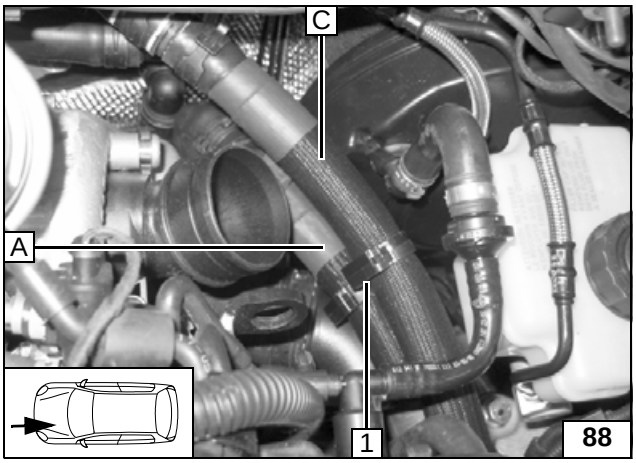
1 Hose on engine outlet, turned toward front
2 Position black (sw) rubber isolator

Connecting to engine outlet



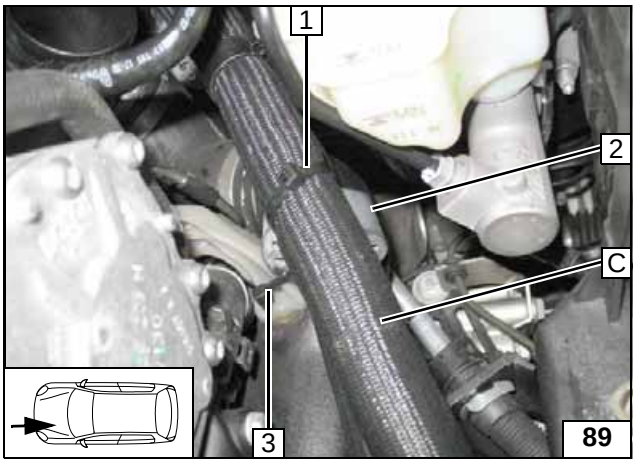
Fill the coolant hoses with coolant before connecting.
Install premounted coupling piece **1** on connection piece of heat exchanger inlet.

Connecting to heat exchanger input



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** with cable tie **1** to black (sw) protective rubber isolator **2** of hose**A** .

Positioning protective rubber isolator

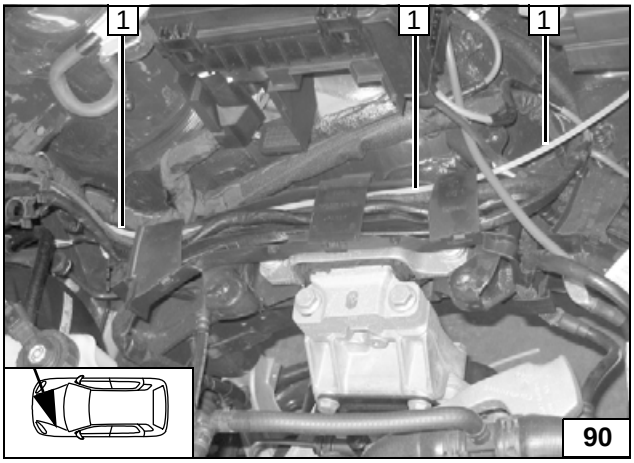
Fuel

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

Catch any fuel running off in an appropriate container.

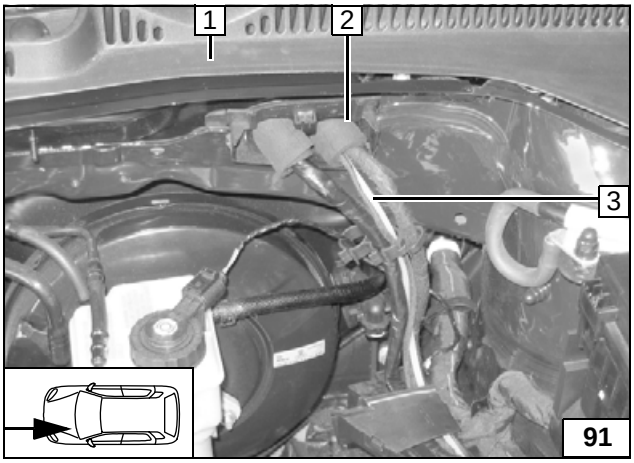
Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

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



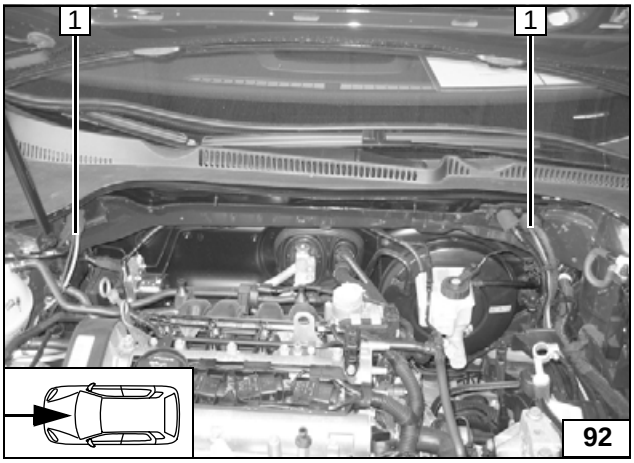
1 Mecanyl line

Routing mecanyl line to firewall



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

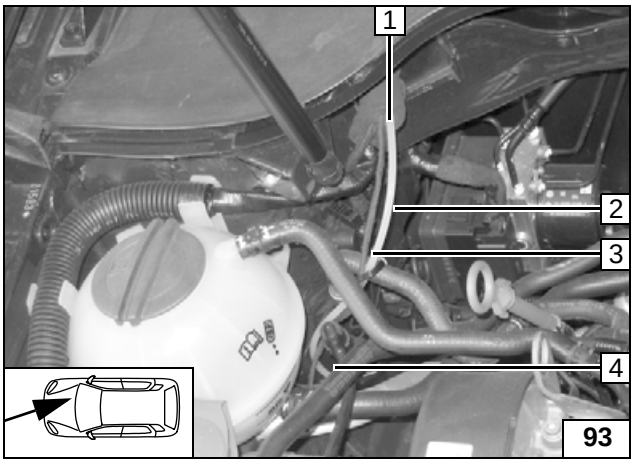
Routing mecanyl line and wiring harness of metering pump into coolant reservoir



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

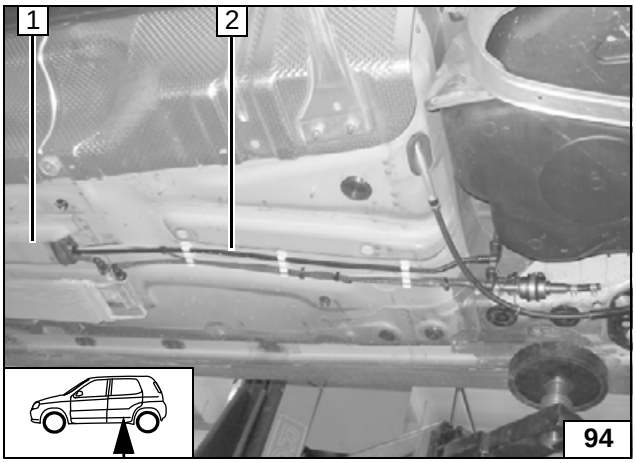
Routing mecanyl line and wiring harness of metering pump to right



Route mecanyl line **2** and wiring harness of metering pump **3** into original vehicle line duct and then to underbody.

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

Routing mecanyl line and wiring harness of metering pump

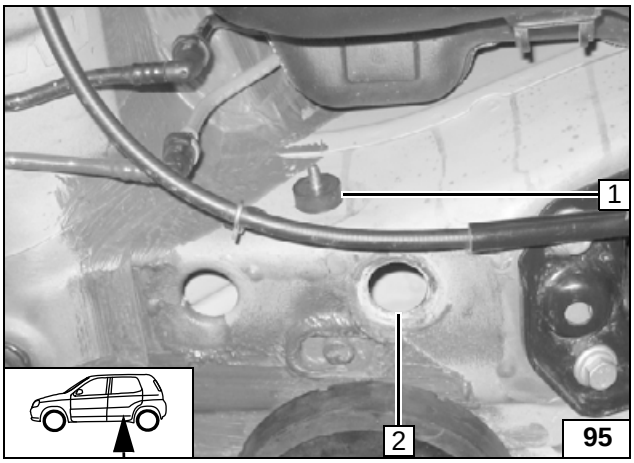


Route mecanyl line and wiring harness of metering pump along original vehicle fuel lines **2** to fuel tank.

1 Line duct

Routing mecanyl line and wiring harness of metering pump

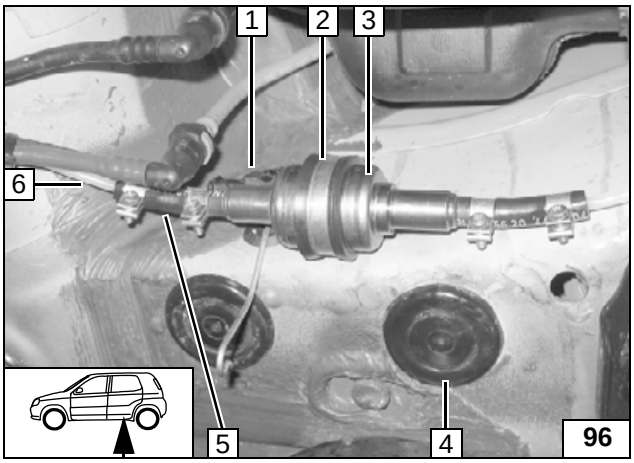
Mecanyl line and wiring harness of metering pump must also be fastened with cable ties on vehicles without underbody trim.



Golf, Golf Plus and Eos

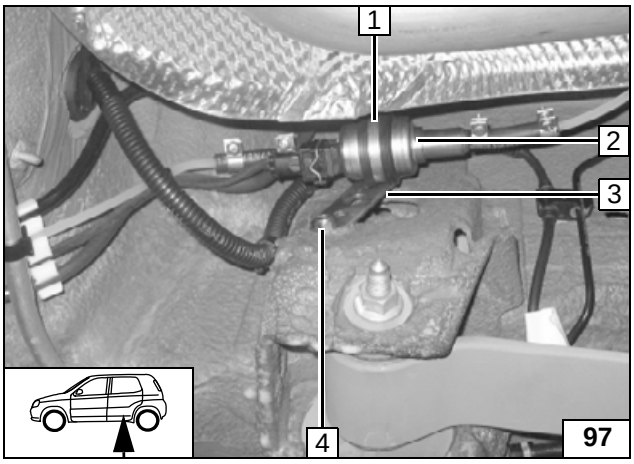
2 Sealing plug removed
1 Silent block, large diameter washer, M6 flanged nut

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, 2 hose clamps 10 mm dia.
4 Plug remounted

Installing metering pump and connecting pressure side

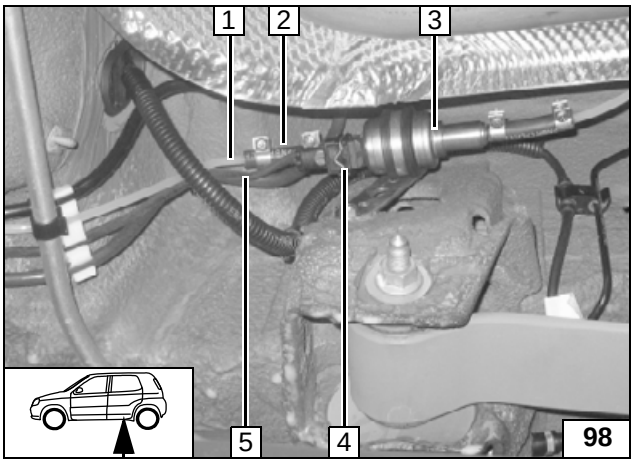


Caddy

Ensure sufficient spacing to guard plate. If no hole exists at position **4**, then drill a7mm dia. mm hole.

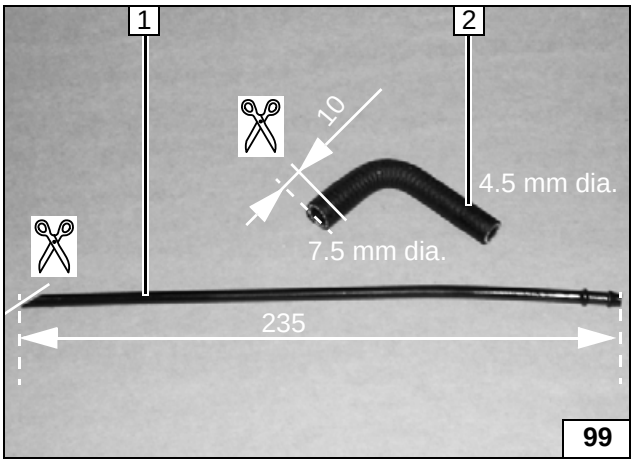
2 Metering pump
1 Rubber-coated p-clamp, silent block, 2 flanged nuts
3 Perforated bracket
4 Existing hole, M6x20 bolt, large diameter washer, M6 flanged nut

Installing metering pump



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

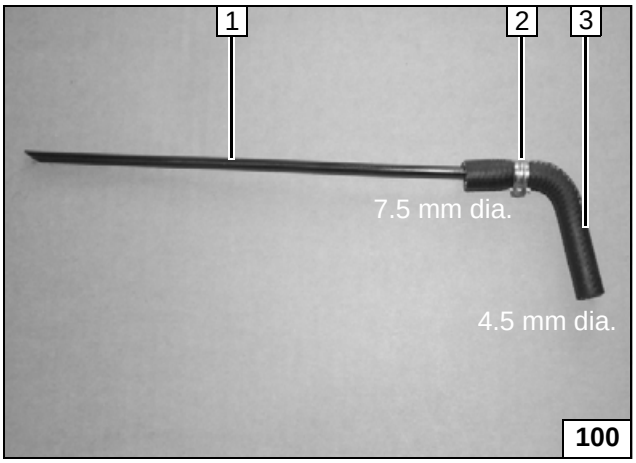
Connecting pressure side



Removing fuel

1 Standpipe
2 Moulded hose

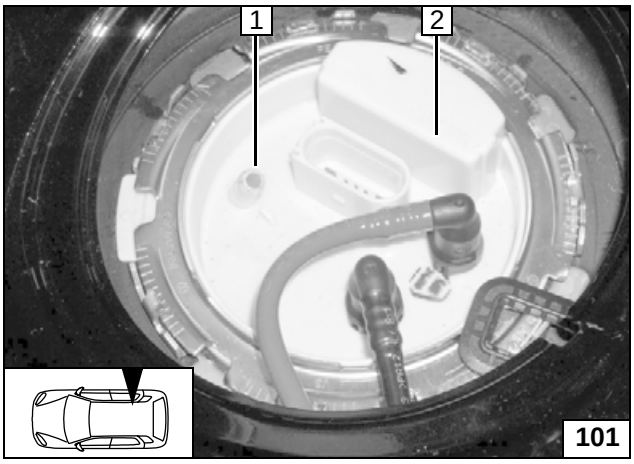
Cutting standpipe and moulded hose to size



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

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

Premounting standpipe and moulded hose

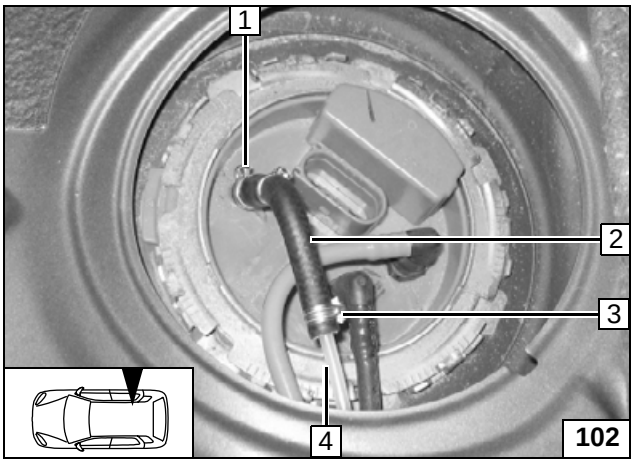


Golf, Golf Plus and Eos

Cut 3 mm off blind plug.

1 Tip cut off blind plug
2 Fuel-tank sending unit

Cutting off blind plug

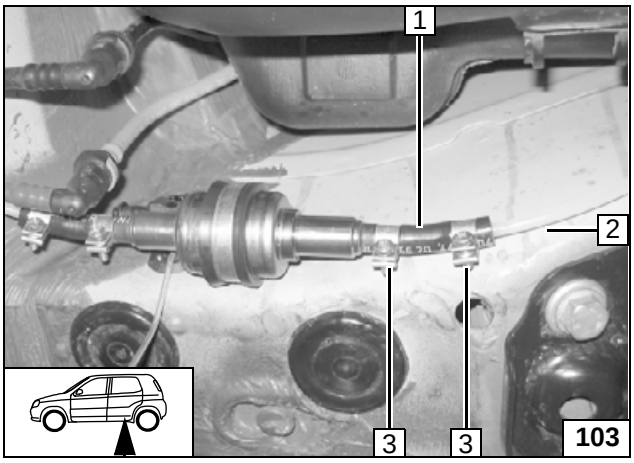


Should the standpipe be slightly curved on delivery, it must be re-aligned so that the end points toward the rear right.
Otherwise there is a danger of the fuel gauge being impaired.

1 13.5mm dia. Caillau clamp
2 Premounted moulded hose with standpipe
3 10mm dia. Caillau clamp
4 Remaining piece of mecanyl line

Connection to fuel-tank sending unit

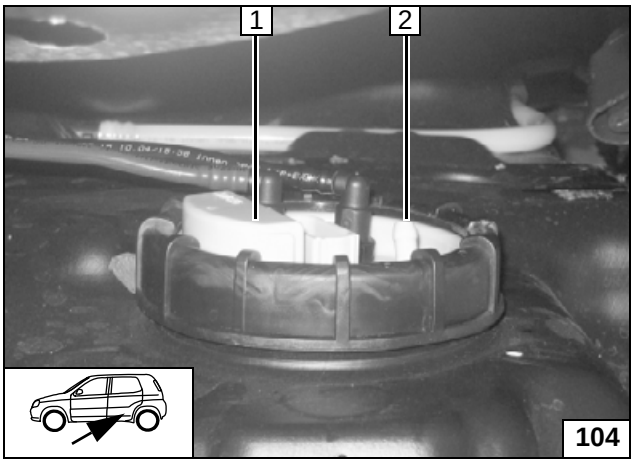
Route Mecanyl line along original vehicle lines to metering pump



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

Connecting intake side of metering pump

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

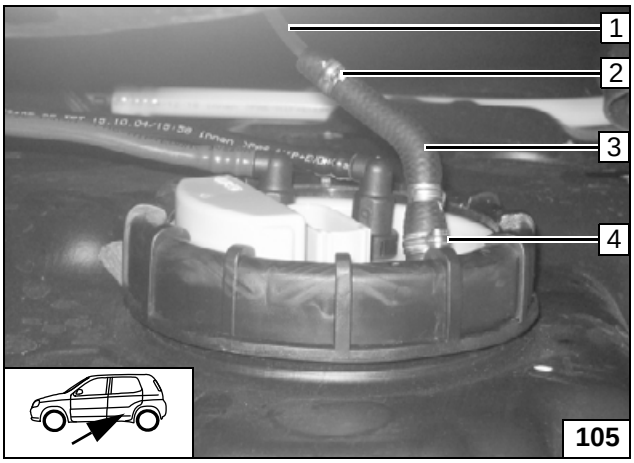


Caddy

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

1 Fuel-tank sending unit
2 Tip cut off blind plug

Cutting off blind plug

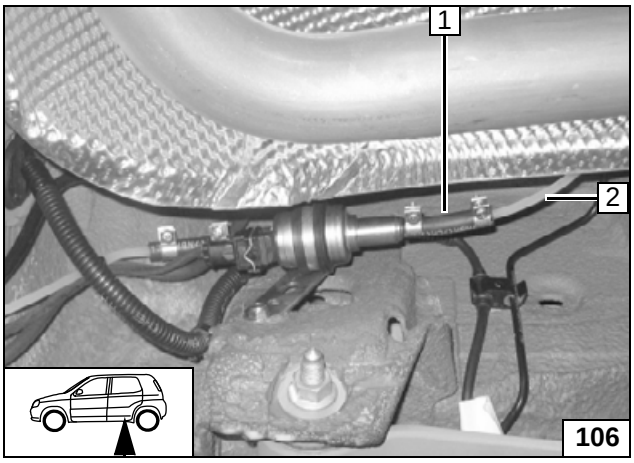


Should the standpipe be slightly curved on delivery, it must be aligned so that the end points toward the left.
Otherwise there is a danger of the fuel gauge being impaired.

1 Remaining piece of mecanyl line
2 10mm dia. Caillau clamp
3 Premounted moulded hose with standpipe
4 13.5mm dia. Caillau clamp

Connection to fuel-tank sending unit

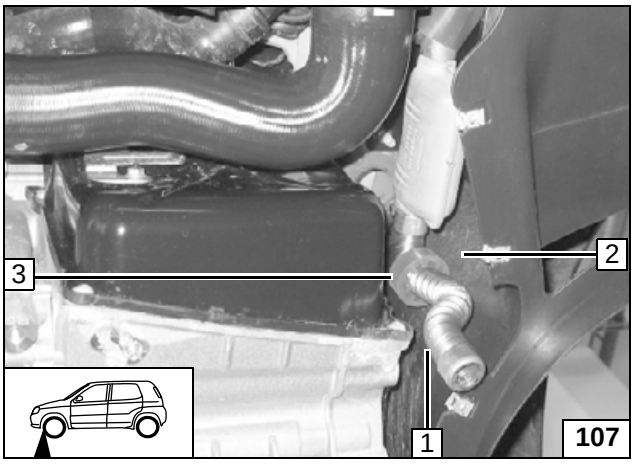
Route Mecanyl line on original vehicle lines over fuel tank to right



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

Connecting intake side of metering pump

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

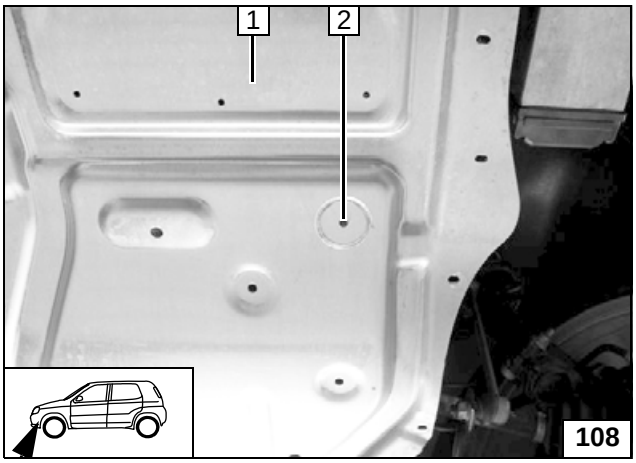


Exhaust gas

Align exhaust end section and rubber isolator as shown.
Ensure sufficient space between exhaust end section and transmission and wheel well trim. (Picture shows vehicle with direct gear transmission)

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

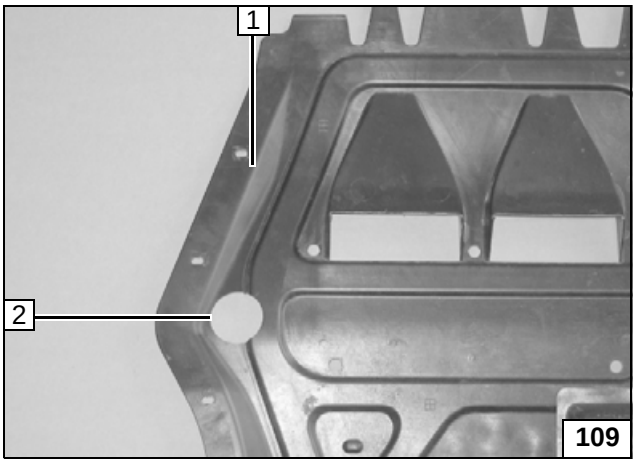
Installing wheel well trim



Cut out underride protection for Eos

1 Underride protection
2 42 mm dia. hole

Hole in underride protection

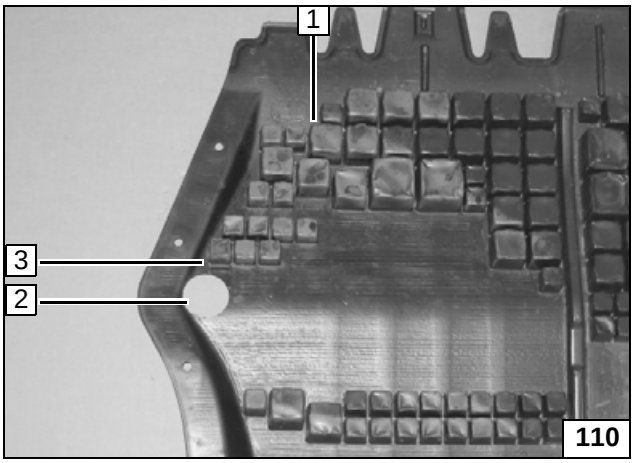


Cut out underride protection for Golf V, Golf Plus and Caddy

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

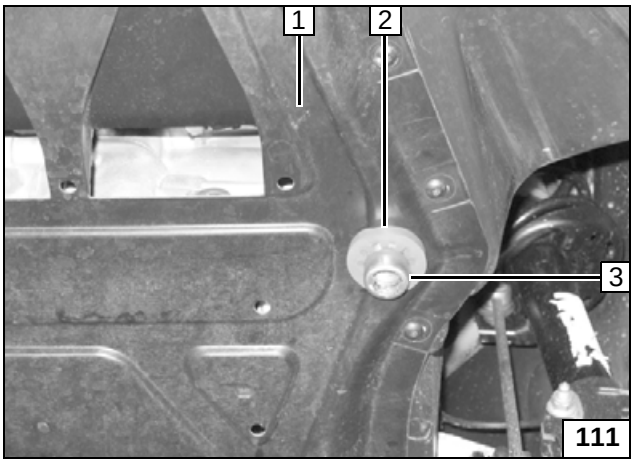
1 Underride protection
2 42 mm dia. hole

Version 1:Hole in underride-protection



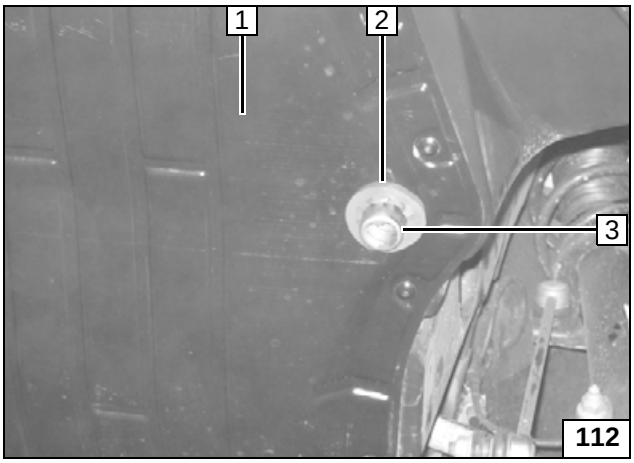
1 Underride protection
2 42 mm dia. hole
3 Insulating profile cut away

Version 2: Hole in underride protection



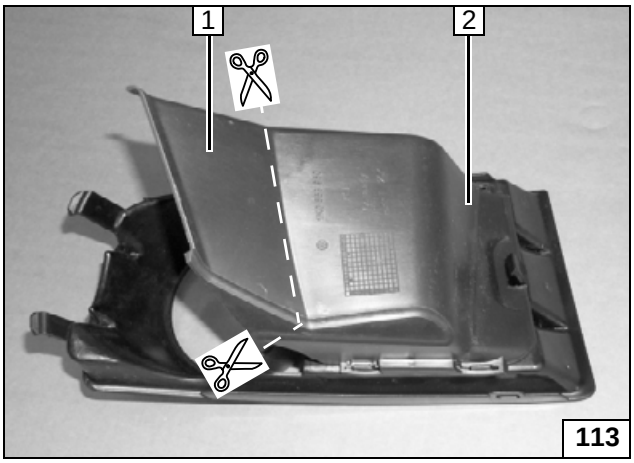
First position red (rt) rubber isolator **2** on exhaust end section **3** from below, then insert with groove in underride protection **1**. Align end cap of exhaust end section **3** flush on red (rt) rubber isolator **2** as shown.

Version 1: Inserting protective 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 protective rubber isolator



All vehicles

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

Cutting front fog light trim piece to size

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 the "Switch off parking heater before refuelling" sticker near the filler neck.**
- **See installation instructions for initial start-up and function test**

Adjustment of sensitivity of the passenger compartment monitoring

WARNING!
This can only be carried out at an authorised 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

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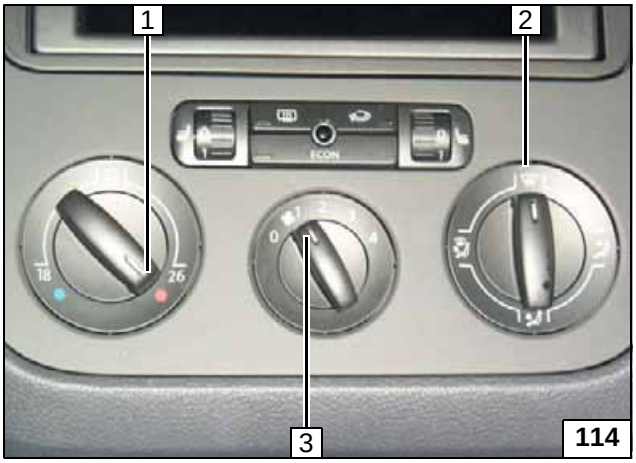
Operating Instructions for End Customer

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 that an activation duration of 20 min. is not exceeded.

If the summer/winter switch option is installed in the heater, this function must be switched according to the time of the year. The heater will then heat in the position Winter and in the position Summer it will only switch on the vehicle fan to ventilate the vehicle interior.

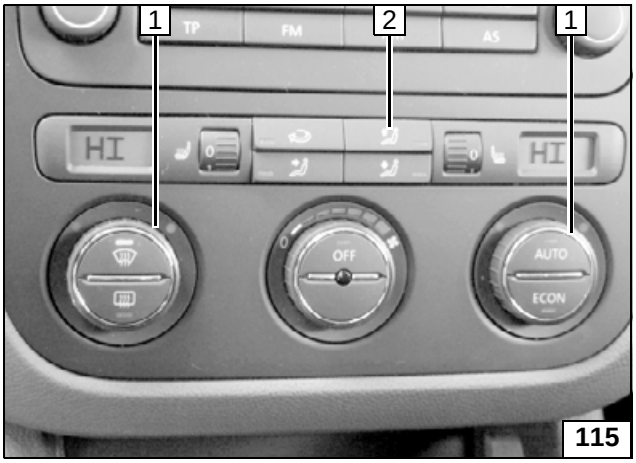
Before parking the vehicle, make the following settings:



Vehicles without Climatronic

All vehicles

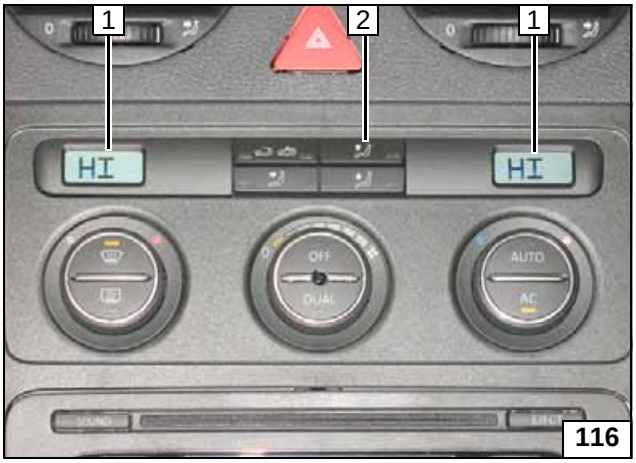
1 Set temperature to "max."
2 Air outlet to windscreen
3 Set fan to level "1", or possibly "2"



Vehicles with Climatronic

Golf V, Golf Plus, Eos

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



Vehicles with Climatronic

Caddy

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