Water Heater



Thermo Top C Parking Heater

e1 00 0002

Installation documentation

VW Golf V / Eos

1.6MPI and 2.0FSI from Model Year 2004 For left-hand drive vehicles only



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.

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Validity

Manufacturer	Model	Туре	EG-BE No./ABE
Volkswagen	Golf V	1K	e1 * 2001/116 * 0242 *
Volkswagen	Eos	1F	e1 * 2001 / 116 * 0349 *

Engine type	Engine model	Output in kW	Displacement in cm ³
BGU	Petrol	75	1595
BSE	Petrol	75	1595
BLY	Petrol	110	1984
BLX	Petrol	110	1984
BLR	Petrol	110	1984
BVY	Petrol	110	1984
AXW	Petrol	110	1984

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

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

Heater/Installation Kit

Quantity	Description	Order No.:
1	Retail accessories Thermo Top C	See price list
1	Installation Kit for VW Golf V / Plus / Eos 1.6MPI and 2.0FSI	9013567A
1	Heater control	See Price list

To be ordered separately:

Quantity	Description	VW Order No.:
1	Washer reservoir for vehicles with parking heater	1K6 955 453 E (*)

* The validity of the part number for the respective vehicle identification number must be checked in the spare parts catalog.

Also required with Climatronic

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

Foreword

This installation documentation applies to VW Golf V / Eos vehicles with a 1.6MPI and 2.0FSI 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
- Metric thread-setter kit

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 systemImage: Constant of the systemElectrical systemImage: Constant of the systemCoolant circuitImage: Constant of the systemFuelImage: Constant of the systemExhaust gasImage: Constant of the system

Combustion air

)

Special features are highlighted using the following symbols:



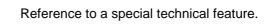
Specific risk of injury or fatal accidents.

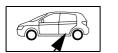
Specific risk of damage to components.

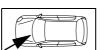
Specific risk of fire or explosion.

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

-27)





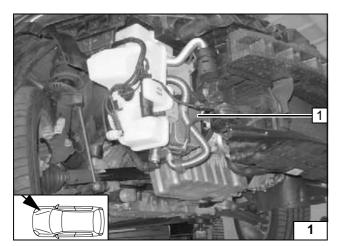


The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

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.
- Only 2.0 FSI: Remove the air filter together with the intake hose.
- Remove battery.
- Remove the battery carrier.
- Remove the engine cover.
- Remove the right front wheel.
- Remove the front section of the right front wheel well trim.
- Remove the underride protection
- Remove the bumper.
- Remove the right-hand underbody trim.
- Remove the rear bench seat.
- Open the right-hand 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

1 Heater

Installation location



Electrical system

Wiring harness of heater

Route wiring harness of heater along actuating cable to hood lock, then along original vehicle lines up to right-hand headlight.

Fuse holder

- 1 K3 relay
- 2 Fuse holder
- **3** Route wiring harness of heater control, fan control and metering pump in cable duct to firewall

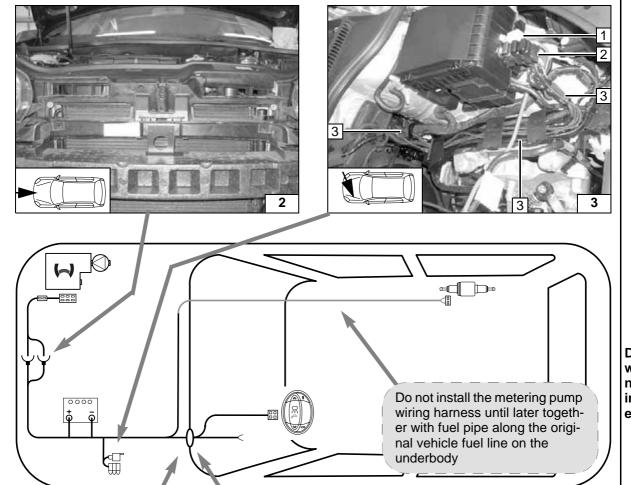
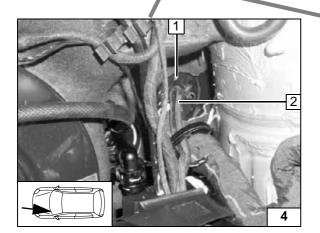
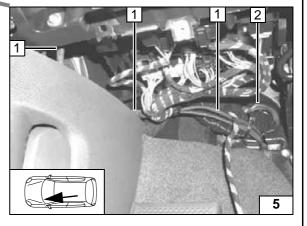


Diagram of wiring harness routing for all equipment



Wiring harness pass through

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



Wiring harness pass through

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





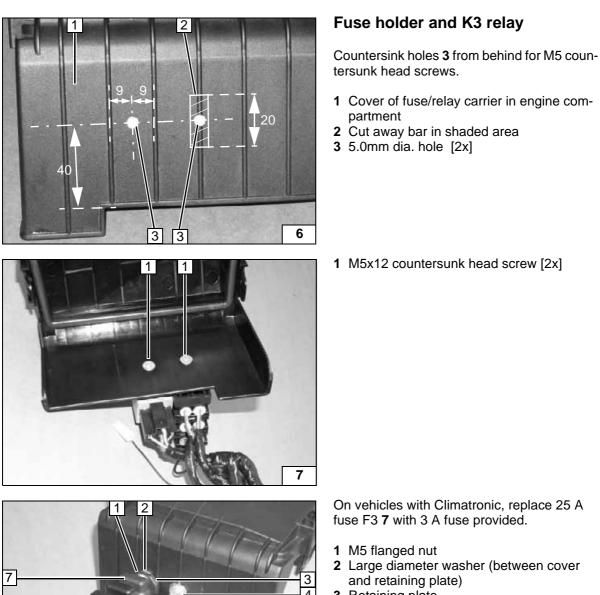
Holes for

fuse hold-

er and K3 relay

Installing fuse holder and K3 re-

lay



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

- 1 M5 flanged nut
- 2 Large diameter washer (between cover and retaining plate)
- 3 Retaining plate
- 4 M5 flanged nut
- 5 K3 relay
- 6 Fuse holder

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

1 Fuse/relay carrier

9

- 2 Original main vehicle fuse
- 3 Red (rt) positive wire



3

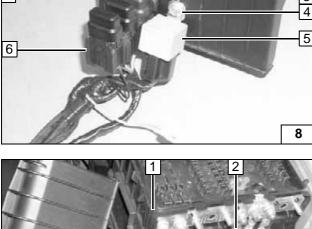
Installing

fuse holder

and K3 re-

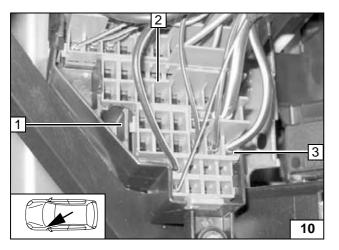
lay

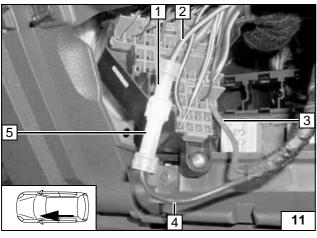
Connecting positive and earth wire



7







Fan controller without Climatronic

Detach original vehicle fuse carrier 1 (instrument panel at upper left) and unlock contact lock 2.

Unlatch black/yellow (sw/ge) 4 mm² wire 3 on fuse output SC40.



Removing

wire



Produce connections as shown in wiring diagram.

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

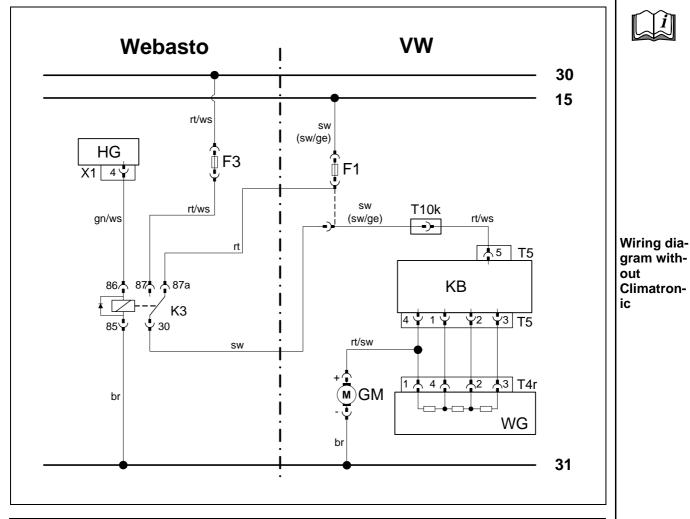
Lock contact lock again.



Connect-

ing wires





Webas	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	SW	black		
K3	Fan relay		J301 or heater switch E16	br	brown		
		WG	Resistor group N24	gn	green		Leg
		GM	Fan motor V2	ge	yellow		
		Т	Plug connections				
				Wirin	g colours may vary.		

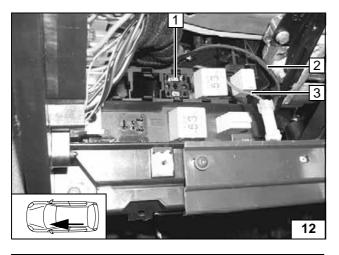


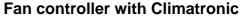
Installing

wiring har-

ness of Cli-

matronic





Produce connections as shown in wiring diagram.

Position of free sockets dependent on vehicle equipment.

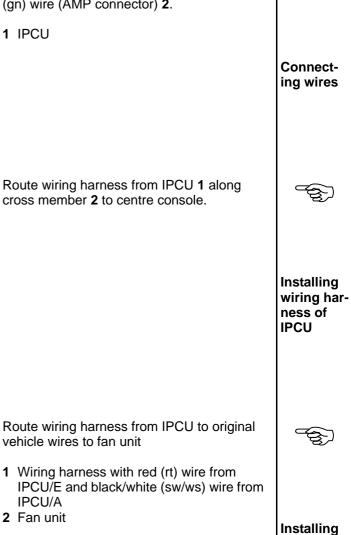
- 1 IPCU socket
- 2 Red (rt) and black/white (sw/ws) wires from IPCU
- 3 Green/white (gn/ws) wire of IPCU/86 with AMP connector

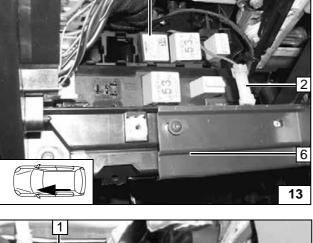
Brown (br) wire from IPCU/85 to original vehicle earth point. Insulate and tie back red (rt) wire from K3/87a.

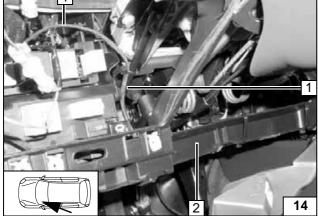
Connect black (sw) wire from K3/30 to green (gn) wire (AMP connector) 2.

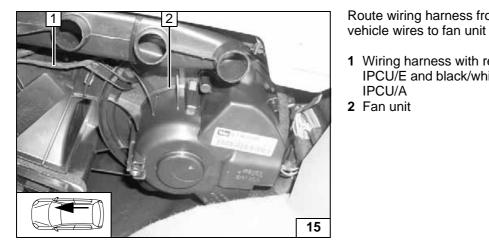
1 IPCU

IPCU/A



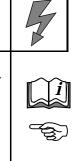


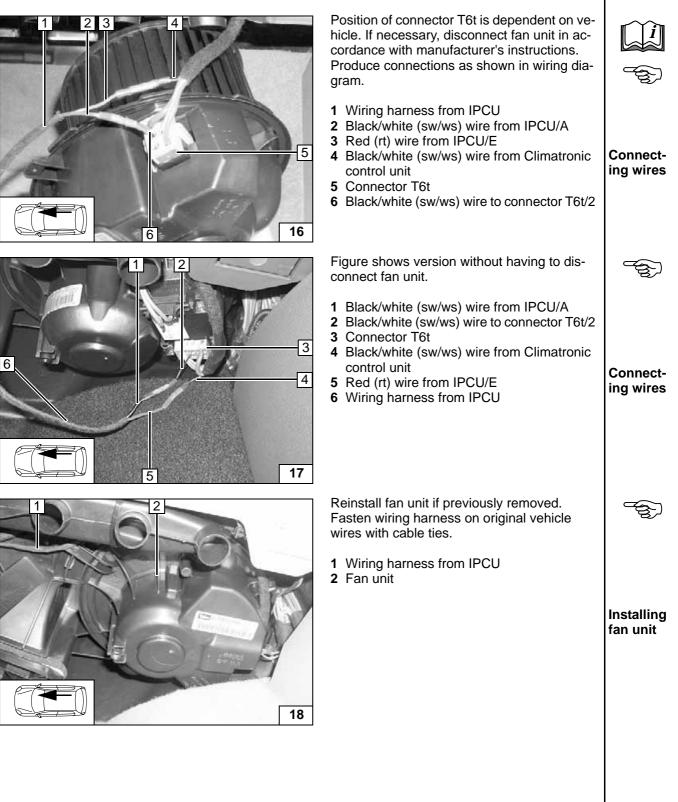


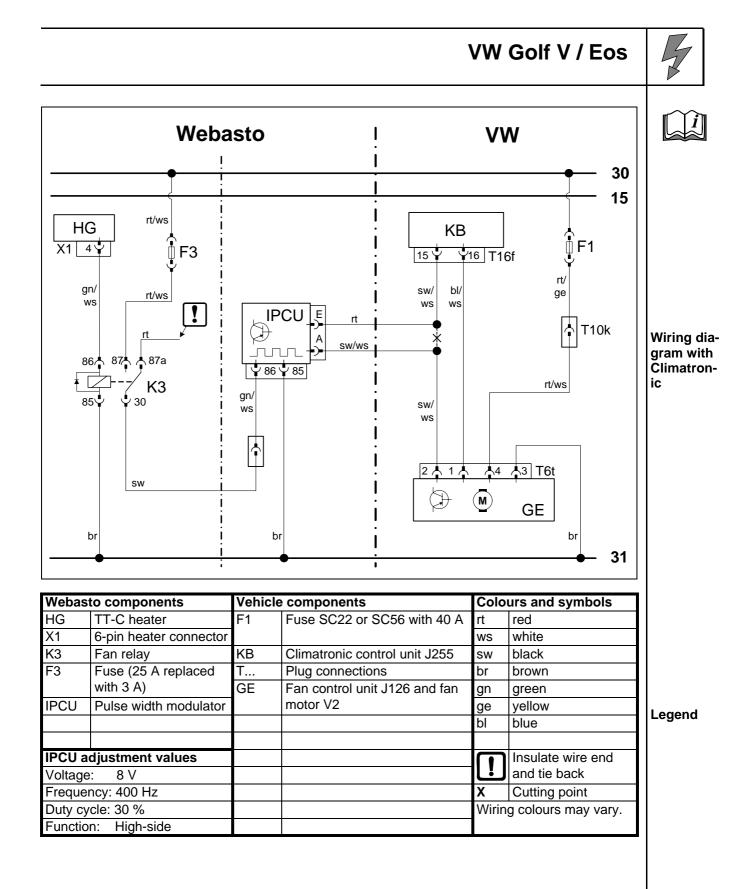


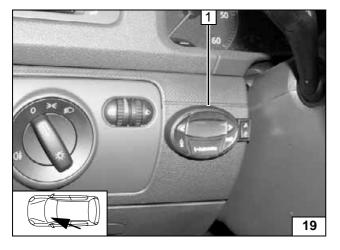
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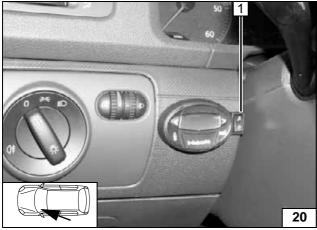
wiring harness of IPCU

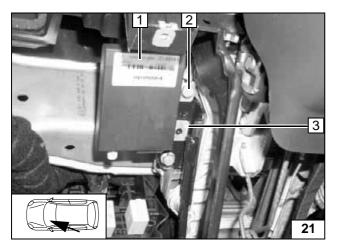


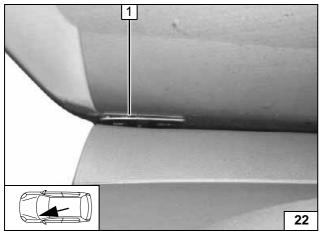












Digital timer option

Do not press on display.

1 Digital timer, drilling template



Digital timer

Summer/winter switch option

1 Summer/winter switch



Summer/winter switch

Remote option (Telestart)

If M6 bolt **2** is not present, then use suitable M6 bolt with spring lockwasher.

- 1 Receiver
- **3** Bracket, upper hole drilled out to 6.5 mm dia.



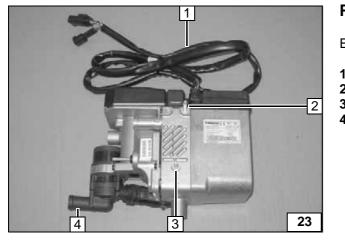
Too .

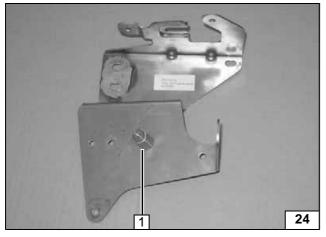
Produce all connections in accordance with general installation instructions and fasten wires with cable ties.

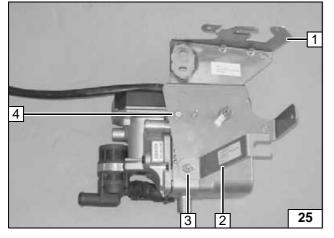
1 Antenna



Gluing on antenna and connecting wires







1 2 b а X

Premounting heater	
Ejot stud, tightening torque 10 Nm.	
 Adapter wiring harness connected Long Ejot stud Short Ejot stud Circulating pump cover replaced with cover with straight inlet 	Premount- ing heater
1 M6x30 spacer nut, M6x16 bolt, spring lock- washer	
	Premount- ing bracket
 Ejot screw bolt, tightening torque 10 Nm. 1 Bracket 2 Strut 3 Flanged nut, loosely installed 4 Washer, Ejot screw 	Premount- ing heater
 Premounting exhaust pipe Discard section X. 1 Exhaust pipe a = 520 mm 2 Exhaust end section b = 90 mm 	Preparing exhaust pipe

Premount-

ing ex-

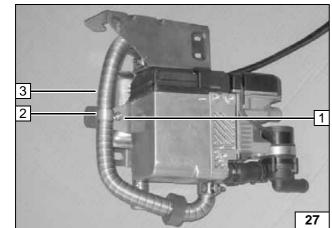
Mould exhaust pipe and slide on red (rt) rubber isolators [2x] (1).

2 Exhaust pipe

2

28

- 3 Hose clamps [3x]
- 4 Exhaust end section
- 5 M6x16 bolt, spring lockwasher on premounted spacer nut
- 6 Silencer



3

6

5

4

1

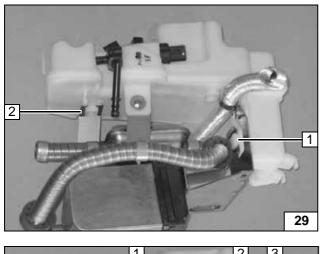
haust 3 system 26 1 M6x20 bolt, flanged nut 2 Pipe clamp 3 Exhaust pipe Premounting exhaust system Premounting combustion air pipe 1 1 Combustion air pipe a = 650 mmDiscard section X Cutting combustion air pipe to length а Х Mount slotted side on heater. 3 4 2 3 Shape combustion air pipe as shown in figure. Align strut 2 so that hole patterns match at position 3. 1 Hose clamp 4 Combustion air pipe Premount-5 Flanged nut ing com-6 Pipe clamp bustion air pipe and

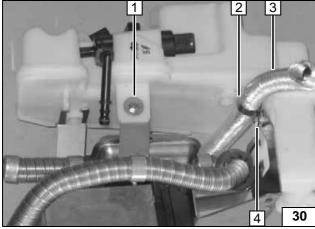
strut

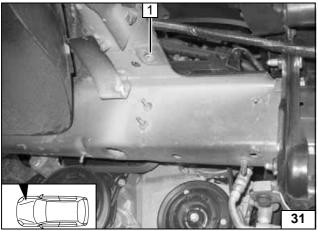


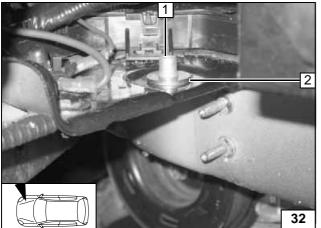
Premounting washer

reservoir









Premounting washer reservoir

The validity of the part number for the respective vehicle identification number must be checked in the spare parts catalog! Complete 1K6 955 453 E washer reservoir (for vehicle with parking heater) according to manufacturer's instructions.

- Washer reservoir inserted in bracket
 Washer reservoir inserted in strut
- 1 M6x20 bolt, large diameter washer, flanged nut, loosely installed
- 2 Pipe clamp
- 3 Combustion air pipe
- 4 M6x20 bolt, large diameter washer, flanged nut, loosely installed

Premounting washer reservoir

 Preparing installation location

 Remove washer reservoir; bolt and nuts will be reused!

 Insert rivet nut loosely, but do not rivet in.

 1 M6 rivet nut centered in oblong hole

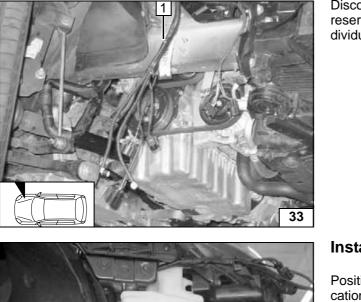
 Installing rivet nut

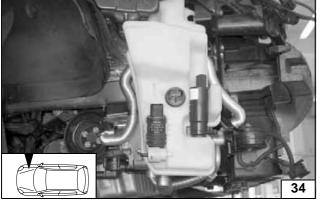
 Drill out an included large diameter washer from inside 7 mm dia. to 9 mm.

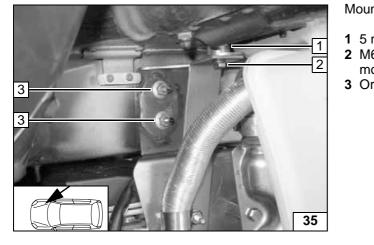
 1 Rivet nut, riveted

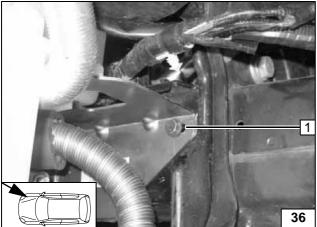
 2 Large diameter washer, drilled out

 Installing rivet nut

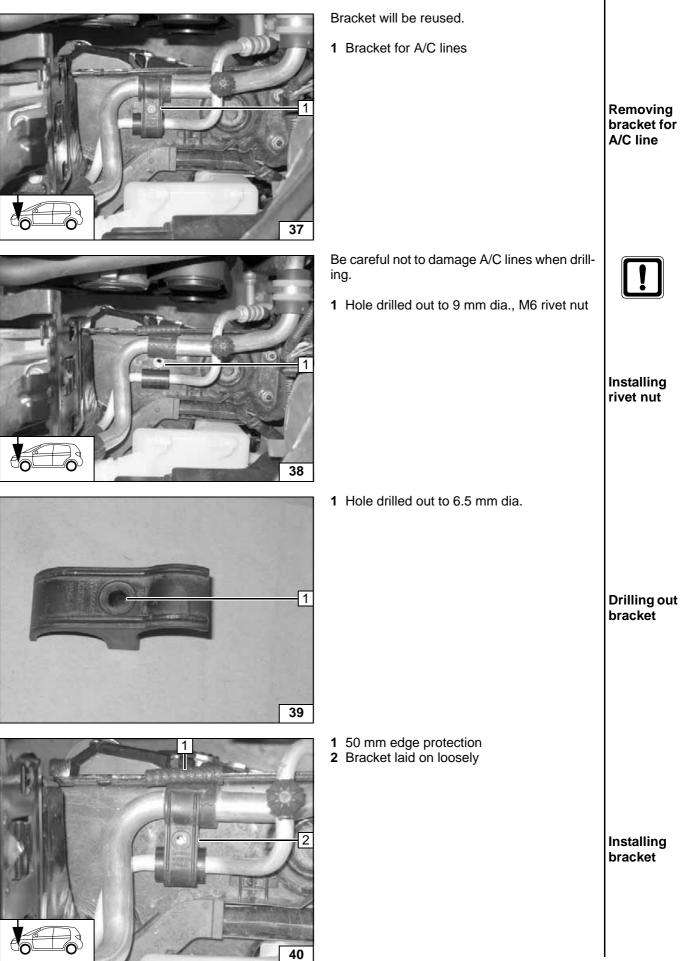


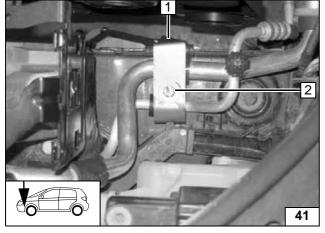


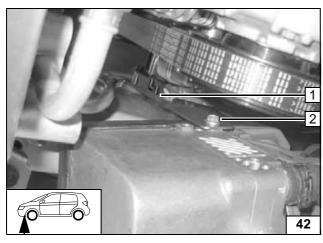




Disconnect wiring harnesses 1 for washer reservoir, horn and front fog light and wrap in- dividually with insulating tape.	- Contraction of the second se
	Installing wiring har- nesses
Installing heater	
Position premounted heater at installation lo- cation.	
	Installing heater
Mount bolt 2 and nuts 3 loosely.	
 5 mm shim M6x30 bolt, spring lockwasher on pre- mounted rivet nut, loosely installed Original vehicle nut [2x], loosely installed 	
	Installing heater
1 Original vehicle bolt, loosely installed	
	Installing heater







1 Strut

2 M6x50 bolt, spring lockwasher, large diameter washer, loosely installed

1 Strut 2 Loosely mour

Remove bumper.

2 Loosely mount Ejot screw

Test mounting of bumper. Check position of all components and adjust if necessary. Check that they have freedom of movement. Tighten all screw connections between bracket, struts, washer reservoir, heater and body.

> Aligning and fastening component

S

Installing strut

B

Installing strut

1 Adapter wiring harness to heater2 Wiring harness of heater

Connecting wiring harnesses

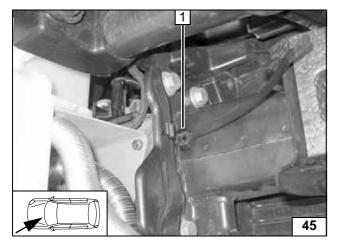
Coil excess length of wiring harnesses into loops. Fasten wiring harnesses on original vehicle lines and Bowden cable for hood lock with cable ties.

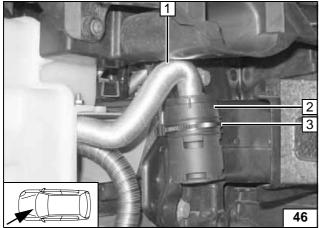
!! 19



Cutting combustion air

pipe to length





Combustion air

1 Clip-type cable tie in original vehicle hole

First close clip-type cable tie **3**, then push in intake silencer.

- 1 Combustion air pipe
- 2 Silencer

T

Installing silencer

Fuel

CAUTION!

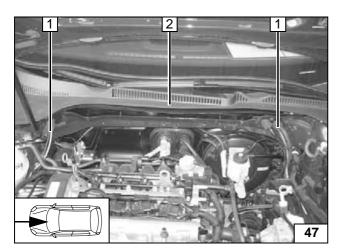
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off in an appropriate container.

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

WARNING!

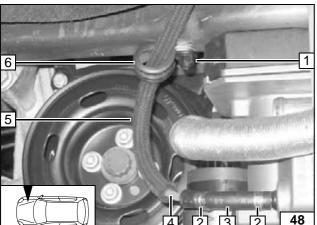
The fuel line and wiring harness are routed to the metering pump as shown in the wiring harness routing diagram.



Route wiring harness of metering pump in coolant reservoir to right and secure on original vehicle lines with cable ties. Pay particular attention to freedom of movement of wiper linkage.

- 1 Metering pump wiring harness
- 2 Coolant reservoir cap detached

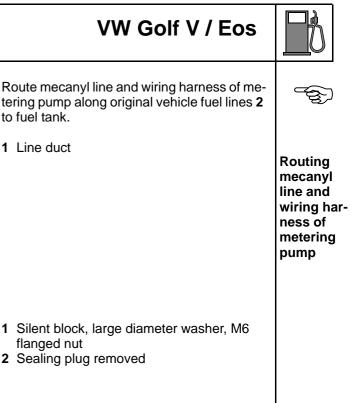
Installing wiring harness of metering pump



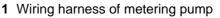


1 Plastic nut on original vehicle stud bolt 2 10mm dia. hose clamp [2x] 3 Hose section 4 Mecanyl fuel line 5 Cloth-reinforced protective hose cut to a length of 1100 mm 6 15 mm dia. rubber-coated p-clamp Installing lines Insert Mecanyl fuel line 1 and wiring harness of metering pump in original vehicle line duct 2 and route to underbody. 1 Mecanyl fuel line in protective hose 2 Original vehicle line duct Installing lines





Installing silent block



- 2 Connector housing, single-wire seals, plug-in contacts
- **3** Secure rubber-coated p-clamp on silent block with flanged nut
- 4 Metering pump

to fuel tank.

1 Line duct

flanged nut

2 Sealing plug removed

50

51

53

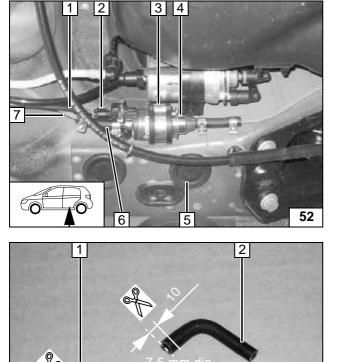
- 5 Plug remounted
- 6 Hose section, hose clamp 10 mm dia. [2x]
- 7 Mecanyl line

Removing fuel

- 1 Standpipe
- 2 Moulded hose

Installing metering pump and connecting pressure side

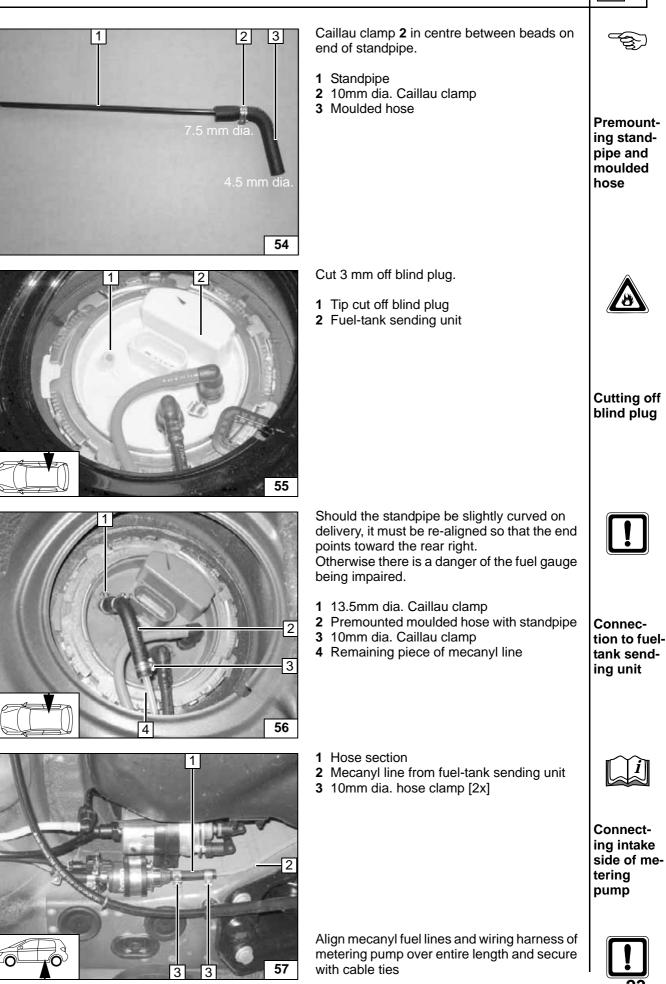
Cutting standpipe and moulded hose to length



1

Co

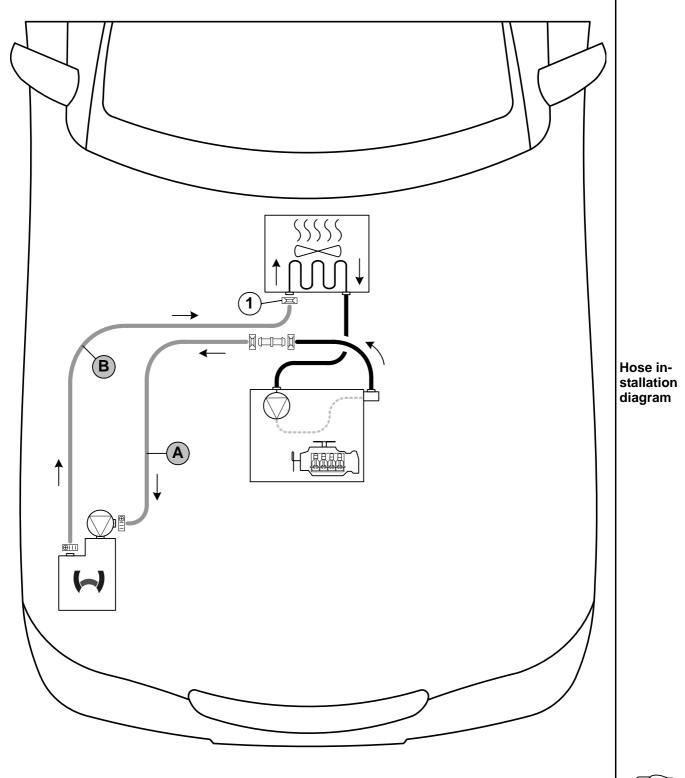
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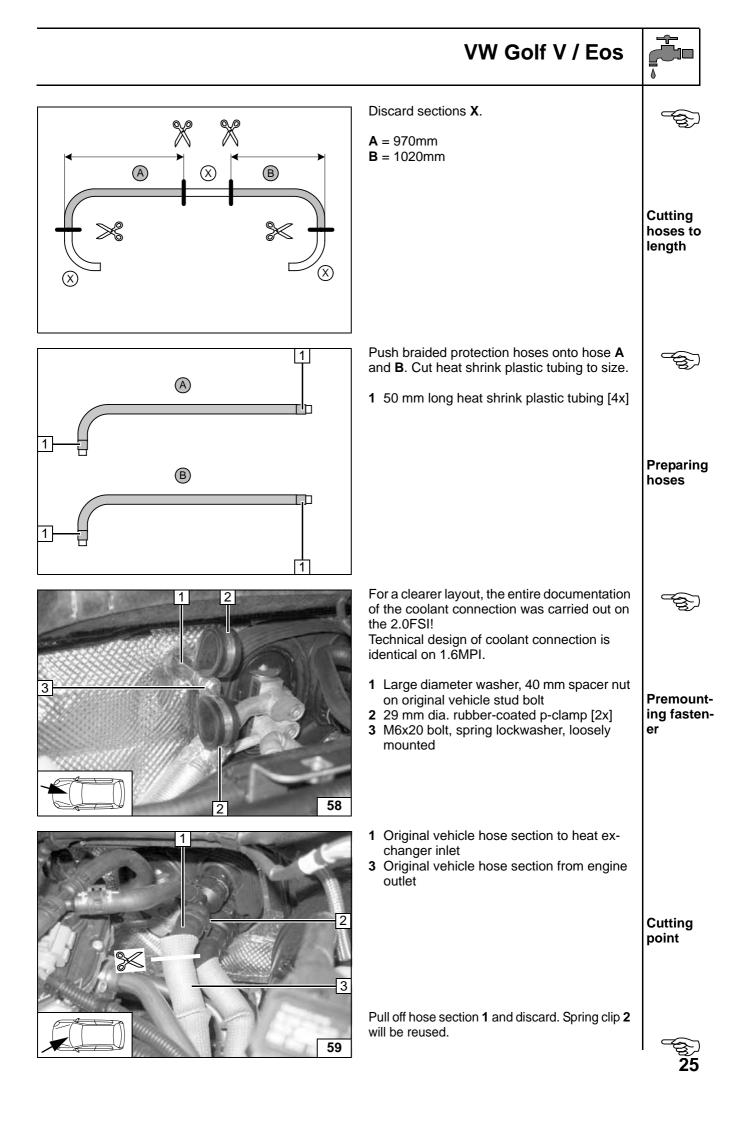
Coolant circuit

WARNING!

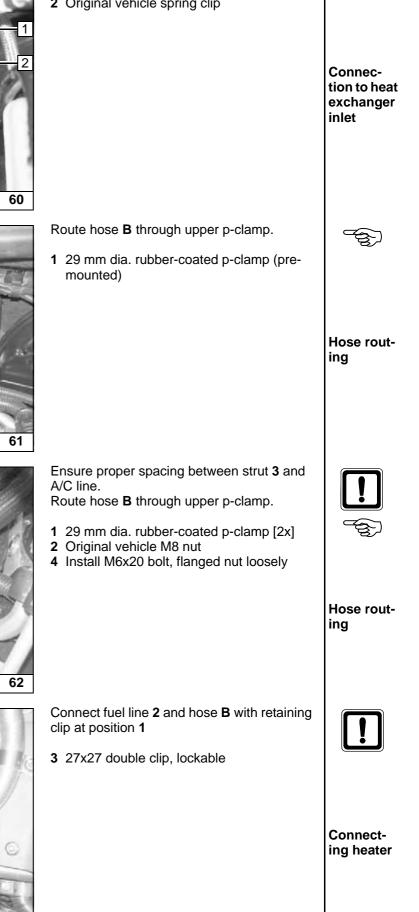
Any coolant running off should be collected in an appropriate container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. The heater must be filled with coolant when installing the hoses. The connection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

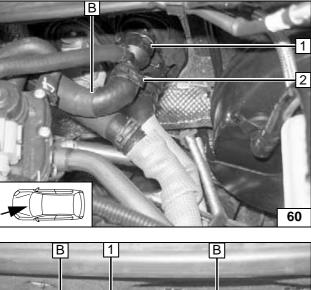


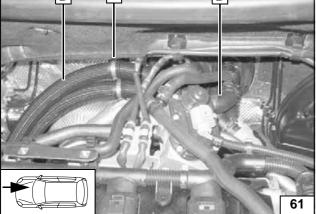
All spring clips $\square = 27 \text{ mm dia.}$ **1** = Original vehicle spring clip $\square = 20.27 \text{ mm dia.}$ Connecting pipe $\square = 20x20 \text{ dia.}$

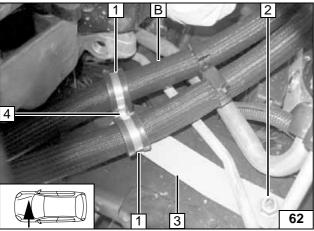


- 1 Heat exchanger inlet
- 2 Original vehicle spring clip











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Hose rout-

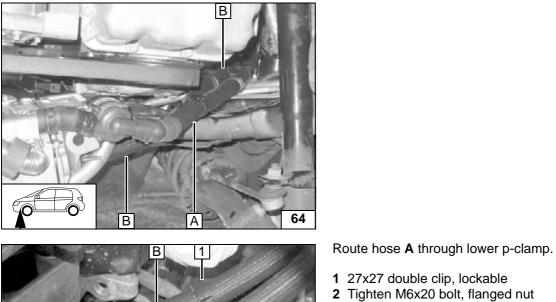
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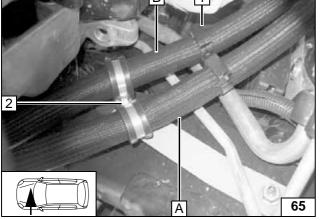
Hose rout-

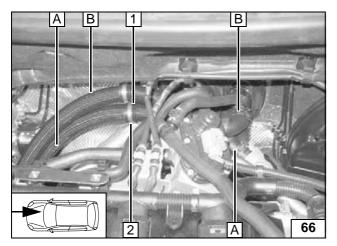
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Hose routing Before connecting, fill hoses with coolant. Check routing of hoses A, B along entire length and correct if necessary.

1 Original vehicle hose of engine outlet

Route hose **A** through lower p-clamp.

2 29 mm dia. rubber-coated p-clamp (pre-

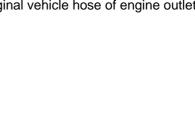
1 Tighten M6x20 bolt

mounted)

67

Connection to engine outlet

To-





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).

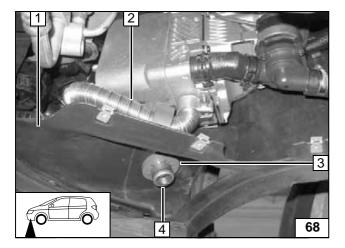
- Connect the battery
- Fill and bleed the coolant circuit according to the vehicle manufacturer's specifications.
- Set digital timer, teach telestart transmitter
- Make settings on A/C control panel according to the "Operating Instructions for End Customer".
- Place the "Switch off parking heater before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

Adjust the sensitivity of the passenger compartment monitoring

WARNING!

The pass through can only be done at an authorised workshop. Observe the applicable repair manual of the respective vehicle.

- Connect the VAG 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.



Drill 42mm hole at position **4**. Align exhaust end section **4** flush on red (rt) rubber isolator **3** as shown.

- 1 Wheel well trim
- 2 Exhaust pipe

Exhaustgas pass through

Ensure sufficient spacing of exhaust system to other components. Correct position if necessary.





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Printed in Germany 10/2011 Printing: Steffen 28

VW Golf V / Eos **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 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: 1 Set temperature to "max." 2 2 Air outlet to windscreen 3 Set fan to level "1", or possibly "2" Vehicles without Climatronic 69 1 Set temperature to "HI" [2x] 2 Air outlet faces upward H Vehicles with Climatronic 70