# Water Heater Unit

Feel the drive

***Thermo Top E* Additional Heater** e1 00 0003

***Thermo Top C* Additional Heater** e1 00 0002

***Thermo Top P* Additional Heater** e1 00 0104

# Installation Instructions

# Skoda Octavia

1.4 MPI / 1.6 FSI / 1.8 TFSI
from Model Year 2004
Left-hand drive vehicle



**WARNING!**

Hazard warning:

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

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

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

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

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

Ident. No.:9014070C_EN Fee Euro 10.00
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## Validity

| Manufacturer | Model | Type | EG-BE No./ABE |
|---|---|---|---|
| Skoda | Octavia | 1Z | e1 * 2001/116 * 0230 * ... |

| Engine type | Engine model | Output in kW | Displacement in cm³ |
|---|---|---|---|
| BCA | Gasoline | 55 | 1390 |
| BLF | Gasoline | 85 | 1595 |
| BZB | Gasoline | 118 | 1798 |

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

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

## Heater Unit/Installation Kit

| Quantity | Description | Order No.: |
|---|---|---|
| 1 | Retail accessories with desired heater control | See price list |
| 1 | Installation Kit for Skoda Octavia 1.4 MPI/1.6 FSI | 9014069A |

**In addition to the installation kit for the 1.4 MPI/1.6 FSI, the following will also be required for the 1.8 TFSI:**

| Quantity | Description | Order No.: |
|---|---|---|
| 1 | Installation Kit for Skoda Octavia 1.8 TFSI | 1313266A |

**Also required with Climatronic:**

| Quantity | Description | Order No.: |
|---|---|---|
| 1 | Climatronic kit | 9013645A |

**Heater unit recommended for the respective vehicle class:**

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



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

## Foreword

These installation instructions apply to Skoda Octavia 1.4 MPI / 1.6 FSI / 1.8 TFSI vehicles - for validity, see page 2 - from model year 2004 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to these installation instructions.

However, the stipulations in the "installation instructions" and "operating and maintenance instructions" for the *Thermo Top C/P/E* must always be observed.
The corresponding rules of technology and any information from the vehicle manufacturer should be observed during the installation work.

## General Instructions

Installation should be carried out according to the general, standard rules of technology. Unless specified otherwise, fasten hoses, lines and wiring harnesses to original vehicle lines and wiring harnesses using cable ties.
Sharp edges should be fitted with edge protectors (split-open plastic hose).
Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

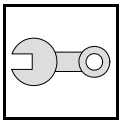
## Special Tools

- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit

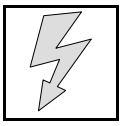
## Explanatory Notes on Document

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 system**



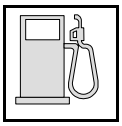
**Electrical system**



**Coolant**



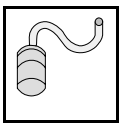
**Fuel**



**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.



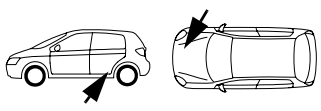
Specific risk of fire or explosion.



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.

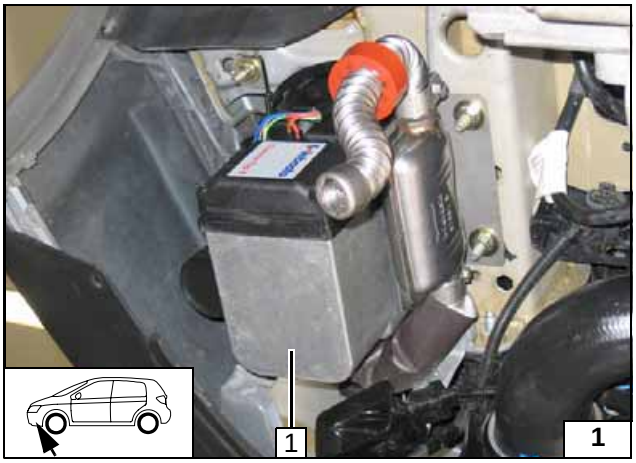
**All dimensions are in mm!**
**Tightening torque of hose clamps = 2.0 + 0.5 Nm!**
**Tightening torque of Ejot screws, Ejot studs = 10 Nm!**

## Preliminary Work

**WARNING!**

- Open fuel tank cap, ventilate tank.
- Close the tank cap again.
- Depressurize the cooling system.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- Disconnect and remove the battery.
- Remove the battery carrier.
- Remove the engine cover.
- Remove the left front wheel.
- Remove the front section of the left front 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 right-hand underbody trim.
- Remove the rear bench seat
- Open the right-hand fuel sender service lid.
- Remove the footwell trim on the driver's side.
- Remove the lower instrument panel trim on the driver's side
- Remove the footwell trim on the front passenger side (only on vehicles with Climatronic)

Remove page 36 "Operating Instructions for End Customer" and add to the vehicle operating instructions.




## Heater unit installation location

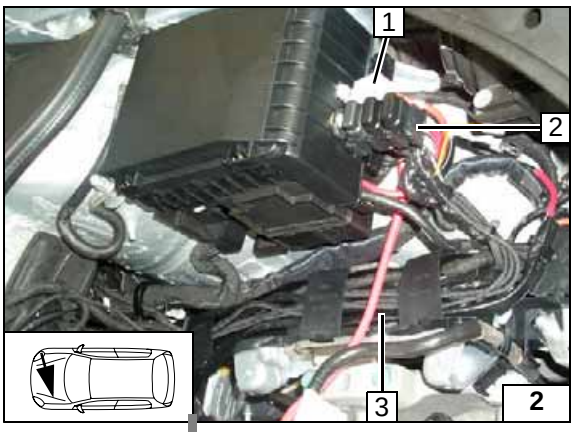
**1** Heater unit

**Installation location**

## Electrical system

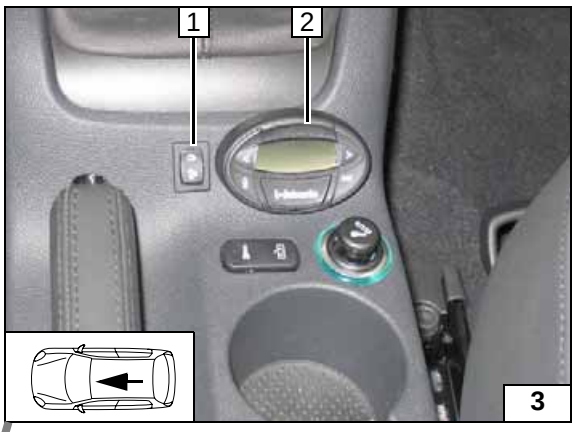
### Fuse holder, relay K3

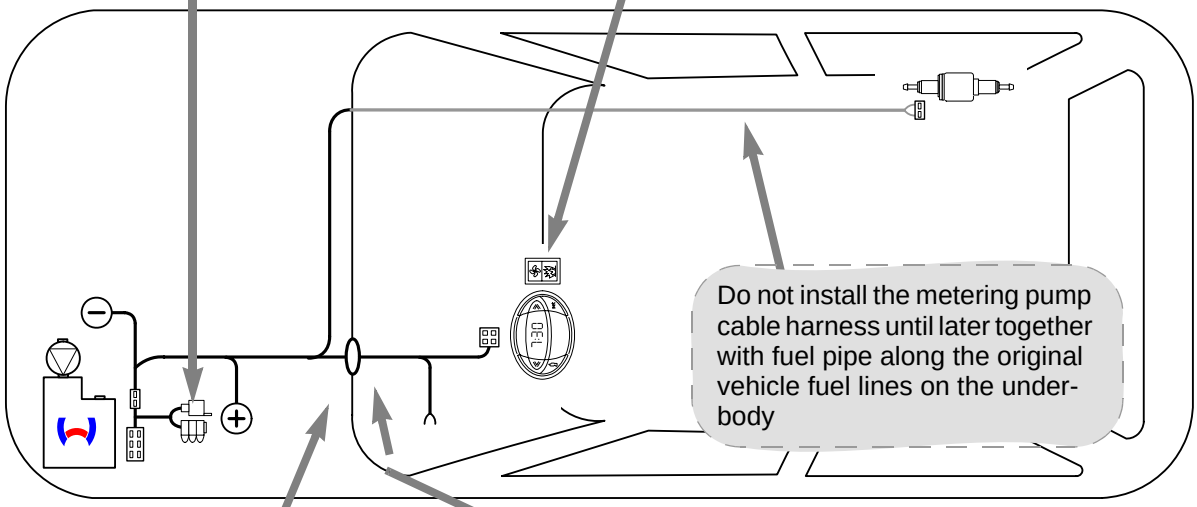
Route wiring harnesses of fan controller, digital timer and metering pump **3** in cable duct to firewall. Information on installing K3 relay **1** and fuse holder **2** on following page.



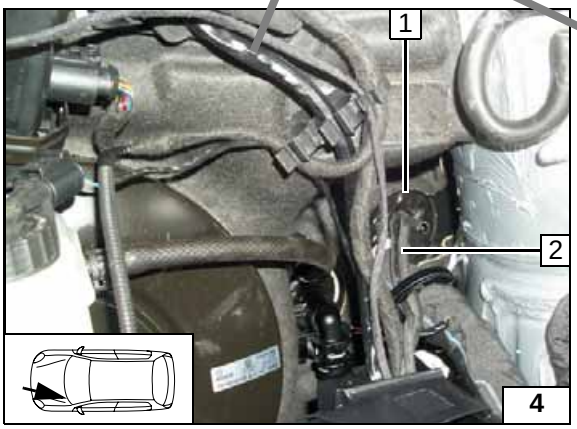

### Digital timer and summer/winter switch option

**1** Summer/winter switch, drilled hole 12 mm dia.
**2** Digital timer



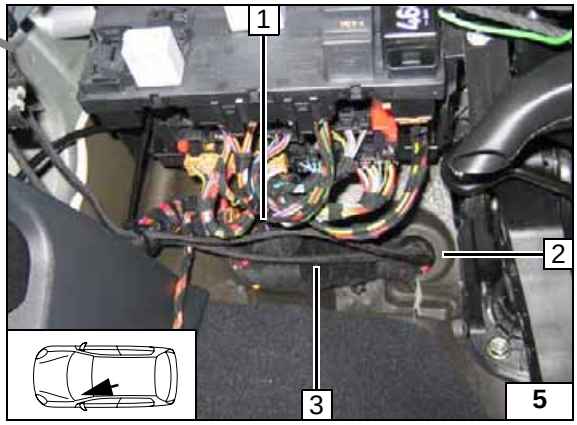




**Wiring harness installation diagram**




### Wiring harness pass through in engine compartment

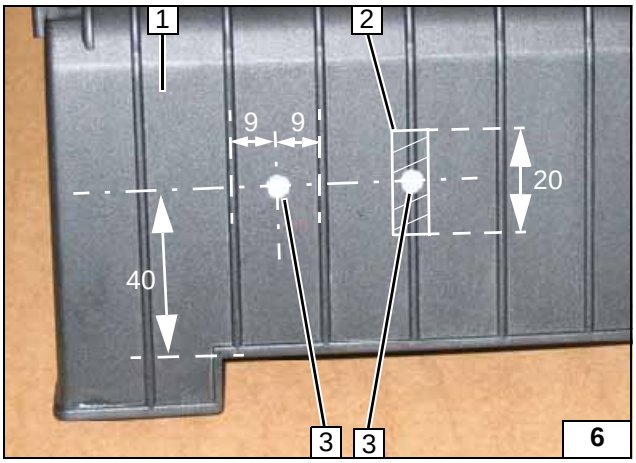
**1** Protective rubber plug
**2** Wiring harness of fan controller and digital timer




### Wiring harness pass through of passenger compartment

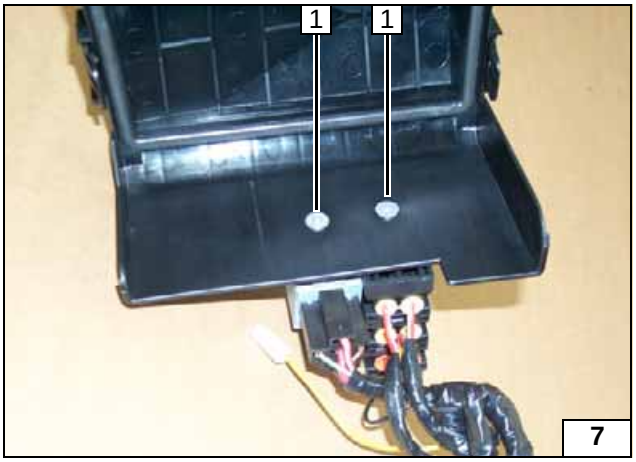
**1** Wiring harness of fan controller
**2** Protective rubber plug
**3** Wiring harness of digital timer

## Installing K3 relay and fuse holder



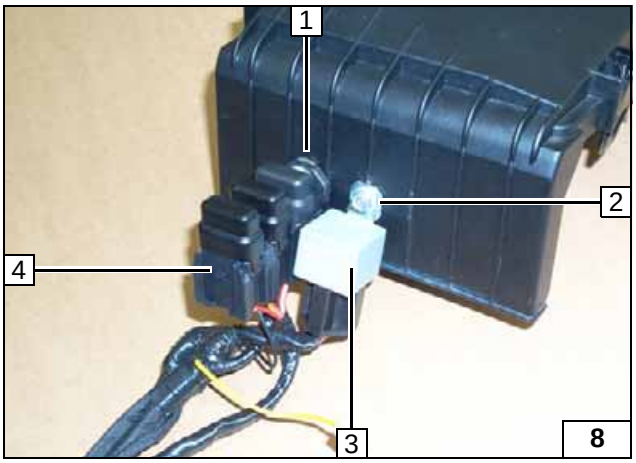

**1** Cover of fuse/relay carrier in engine compartment
**2** Cut away bar in shaded area
**3** Countersink 5 mm dia. hole [2x] from behind

**Preparing fuse and relay carrier**




**1** M5x12 countersunk head screw [2x]

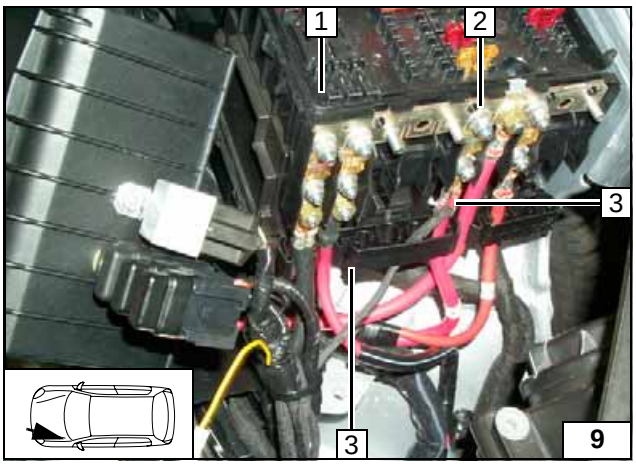
**Installing fuse and relay carrier**




With Climatronic, replace F3 25 A fuse with 3 A fuse!
Insert 5 mm dia. large diameter washer between cover and retaining plate of fuse holder.

**1** Large diameter washer, retaining plate of fuse holder, M5 flanged nut
**2** M5 flanged nut
**3** Relay K3
**4** Fuse holder

**Installing fuse and relay carrier**

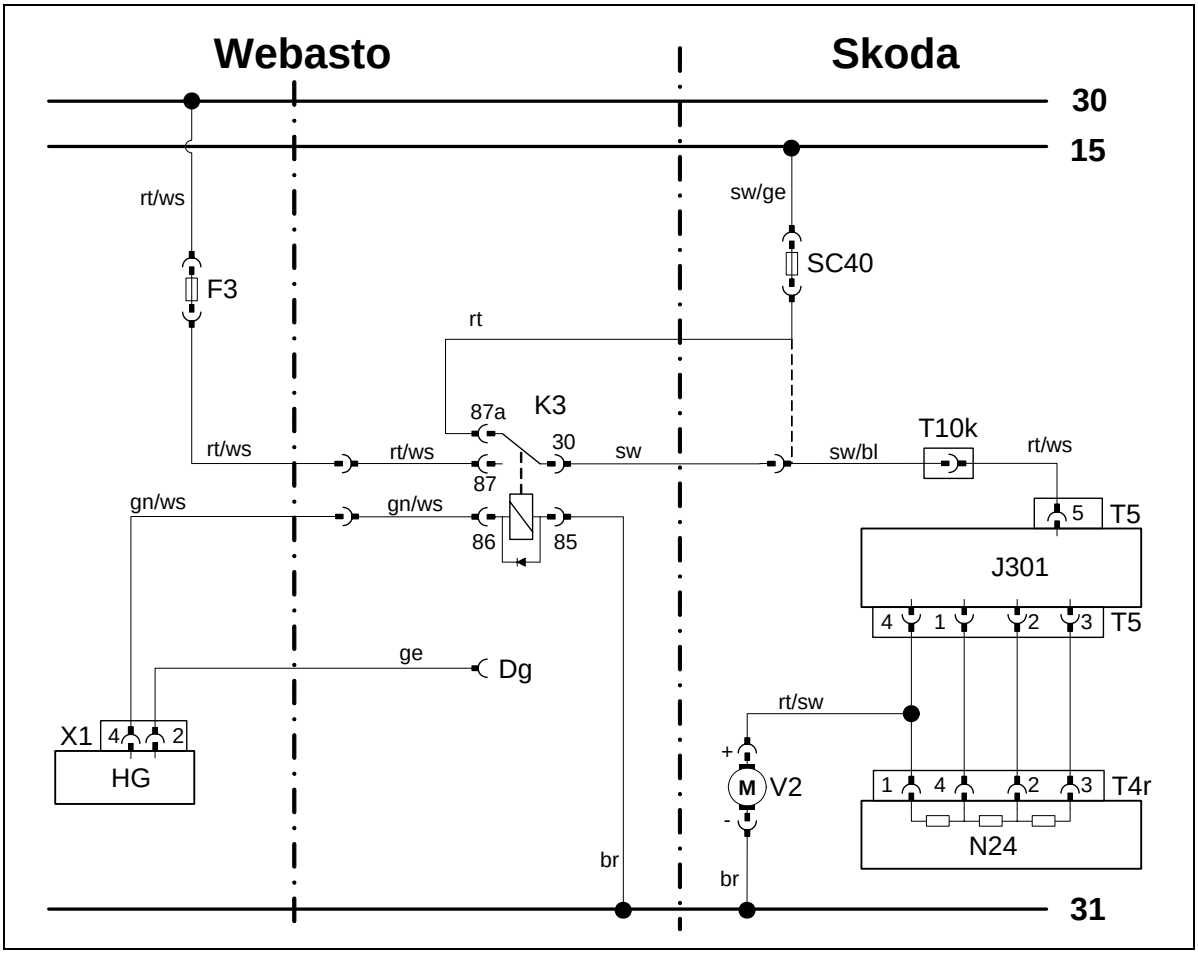



Route brown (br) ground wire to original vehicle ground support point below headlight and connect.

**1** Fuse/relay carrier
**2** Original vehicle positive support point
**3** Red (rt) positive wire

**Connecting positive and ground wire**

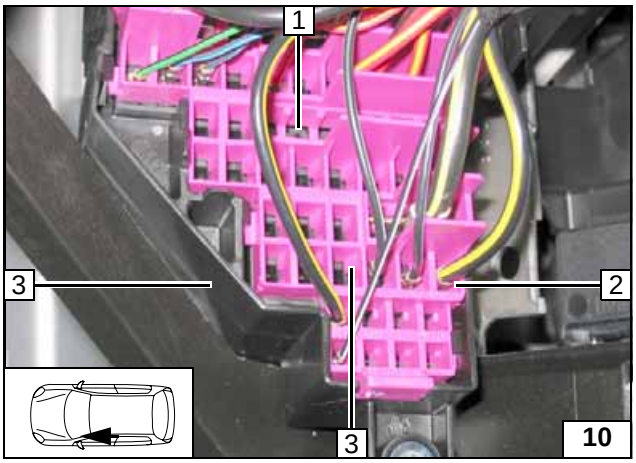
## Climatic fan controller




| Webasto components | | Vehicle components | | Colors and symbols | |
|---|---|---|---|---|---|
| HG | Heater unit TT-C/E | SC40 | 40 A fan fuse | rt | red |
| X1 | 6-pin heater unit connector | J301 | Air-conditioning control unit | ws | white |
| F3 | 25 A fuse | E16 | Heater switch | sw | black |
| K3 | Fan relay | N24 | Resistor group | br | brown |
| | | V2 | Fan motor | gn | green |
| | | T... | Connector | ge | yellow |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | **X** | Cutting point |
| | | | | Wiring colors may vary. | |

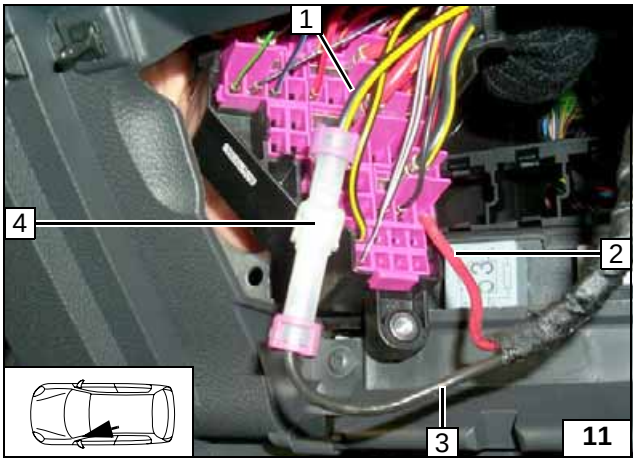
Wiring diagram

Legend




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

**Connecting central electrical box**



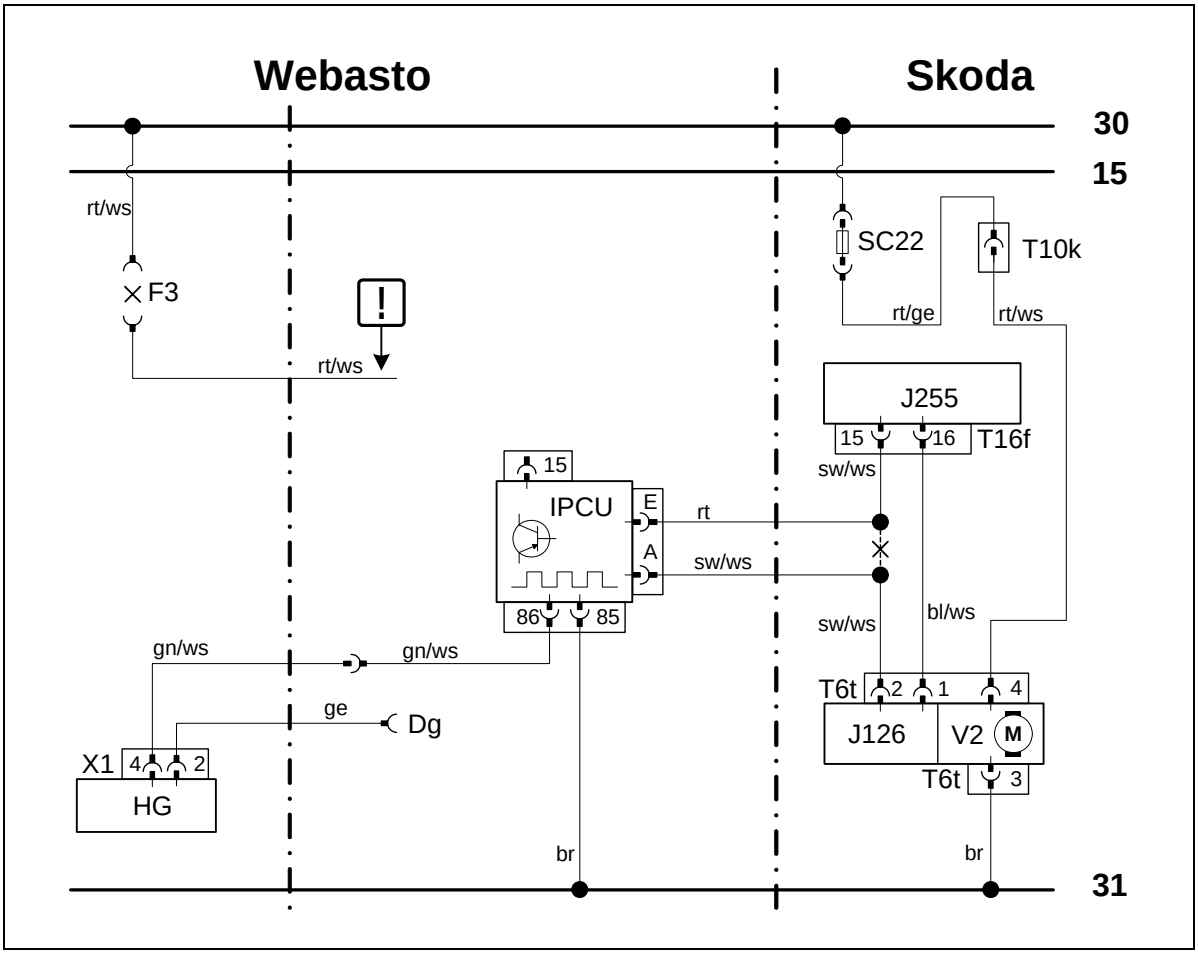

Produce connections as shown in wiring diagram.
Lock contact lock following installation!

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

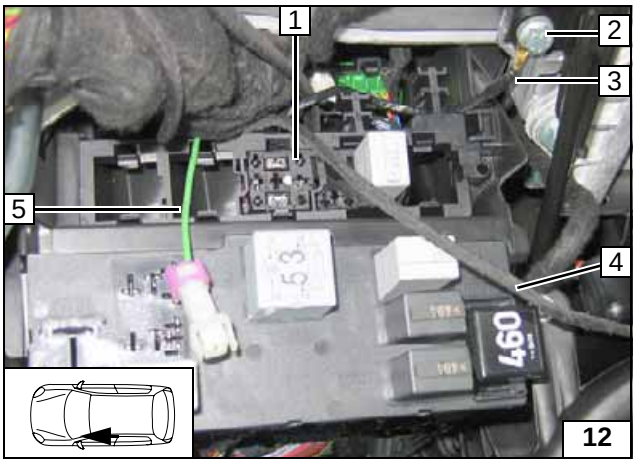
**Connecting central electrical box**

## Climatronic fan controller





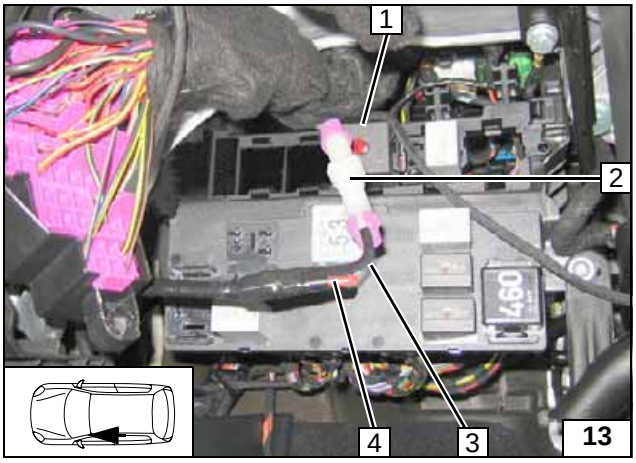

| Webasto components | | Vehicle components | | Colors and symbols | |
|---|---|---|---|---|---|
| HG | Heater unit TT-C/E | SC22 | Fan fuse | rt | red |
| X1 | 6-pin heater unit connector | J255 | Air-conditioning control unit | ws | white |
| F3 | 25 A replaced with 3 A fuse | V2 | Fan motor | sw |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




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

**1** Socket for IPCU
**2** Original vehicle M6 bolt
**3** Brown (br) wire of IPCU/85
**4** Wiring harness with red (rt) wire of IPCU/E and black/white (sw/ws) wire of IPCU/A
**5** Green/white (gn/ws) wire of IPCU/86, AMP housing

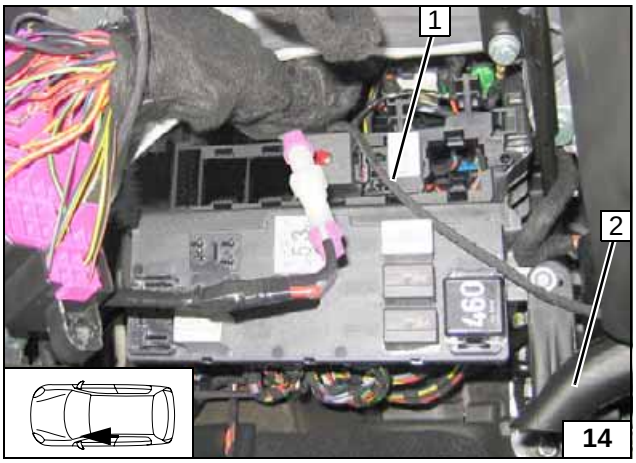
**Connecting central electrical box**




Produce connections as shown in wiring diagram. Insulate red (rt) wire of K3/87a **4** and tie back.
Insert IPCU **1** in socket.

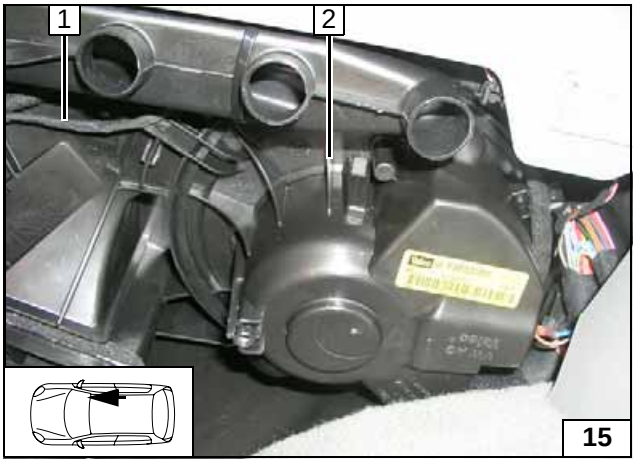
**2** AMP connector
**3** Black (sw) wire from K3/30

**Connecting central electrical box**



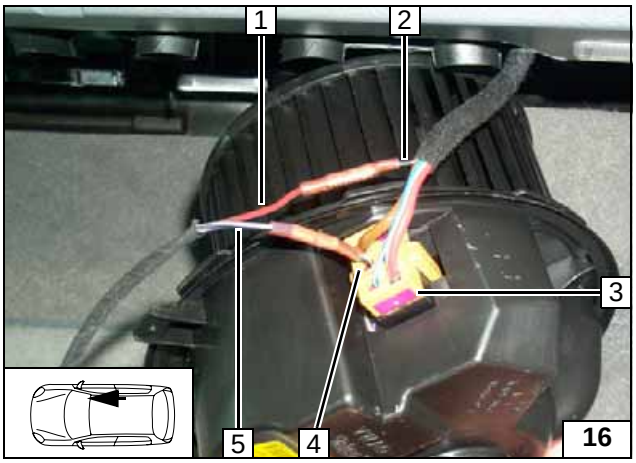

Route wiring harness IPCU **1** along air duct **2** to center console.

**Routing wiring harness of IPCU**




Route wiring harness of IPCU **1** to original vehicle wires to fan unit **2**.

**Routing wiring harness of IPCU**




Connection on connector T6t **3** of fan unit. Produce connections as shown in wiring diagram. Disconnect fan unit.

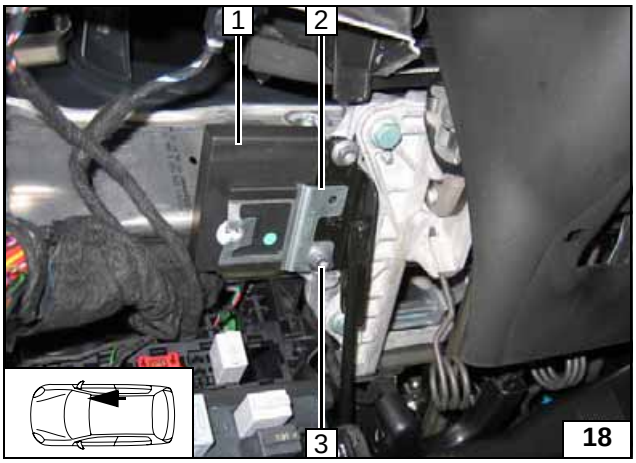
**1** Red (rt) wire of IPCU/E
**2** Black/white (sw/ws) wire of A/C control unit
**5** Black/white (sw/ws) wire from IPCU/A
**4** Black/white (sw/ws) wire of connector T6t/2

**Connecting fan unit**




Fasten fan unit again.
Fasten wiring harness **1** on original vehicle wires with cable tie.

**Fastening wiring harness**

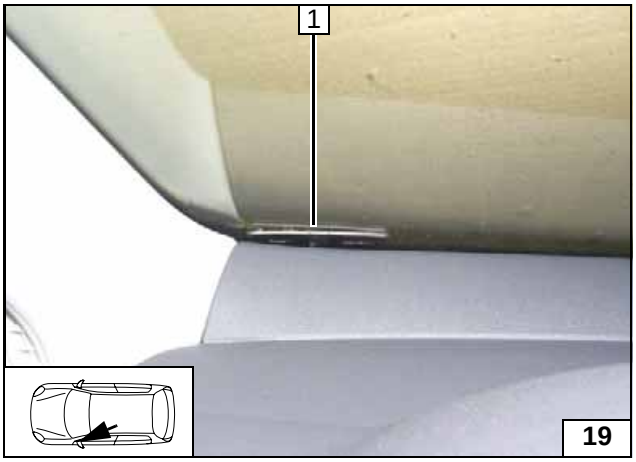



## Remote option (Telestart)

Installing receiver

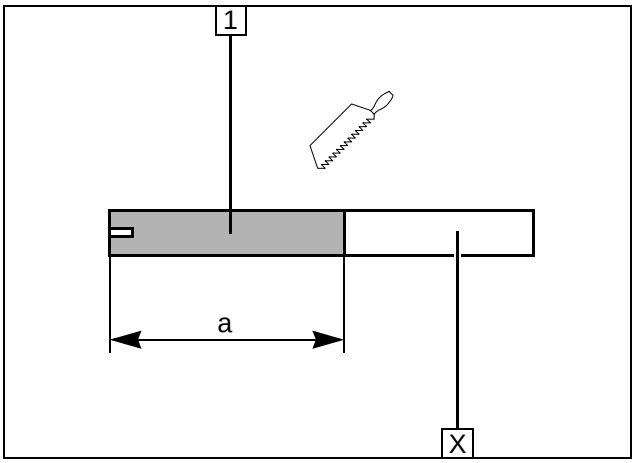
If M6 screw **3** is not present, then use suitable M6 screw with spring lockwasher.

**1** Receiver
**2** Bracket, lower hole drilled out to 6.5 mm dia.




Installing antenna

**1** Antenna

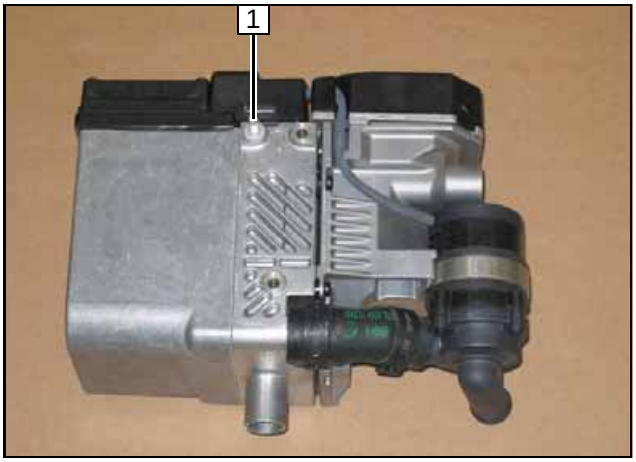



## Preparing combustion air

**1** Combustion air pipe
a = 250

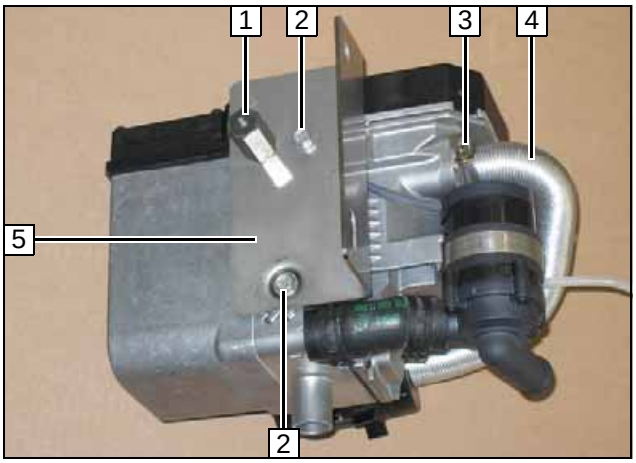
Discard section **X**

**Cutting combustion air pipe to length**




**1** Ejot stud

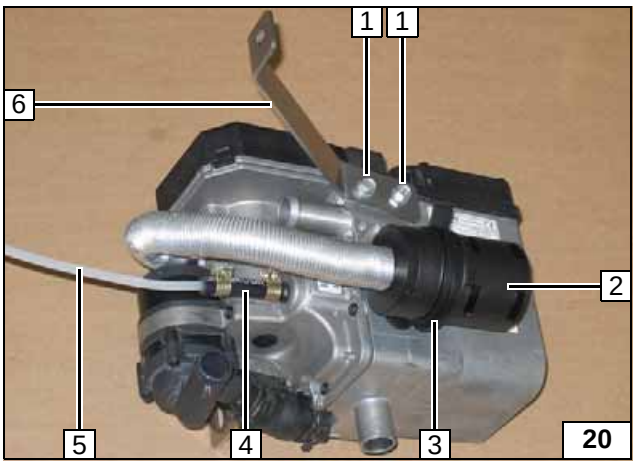
**Preparing heater unit**




Insert one washer each between heater unit and bracket **5** at positions **2**.

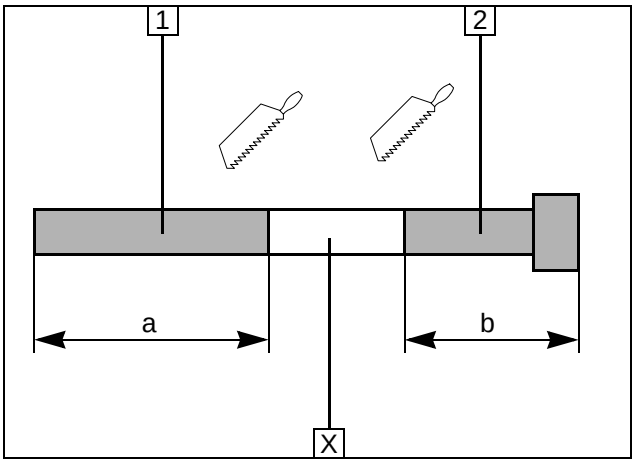
**1** M6x30 spacer nut on Ejot stud
**2** Ejot screw, washer [2x each]
**3** 27 mm dia. clamp
**4** Combustion air pipe

**Preparing heater unit**




**1** Ejot screw [2x]
**2** Combustion air muffler
**3** Retaining clip in hole of heater unit
**4** Hose section, 10 mm dia. clamp [2x]
**5** Fuel line
**6** Strut

**Preparing heater unit**

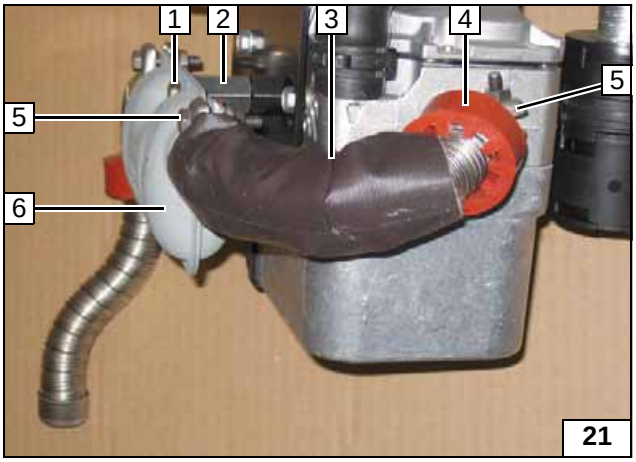



## Premounting exhaust system

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

Discard section **X**

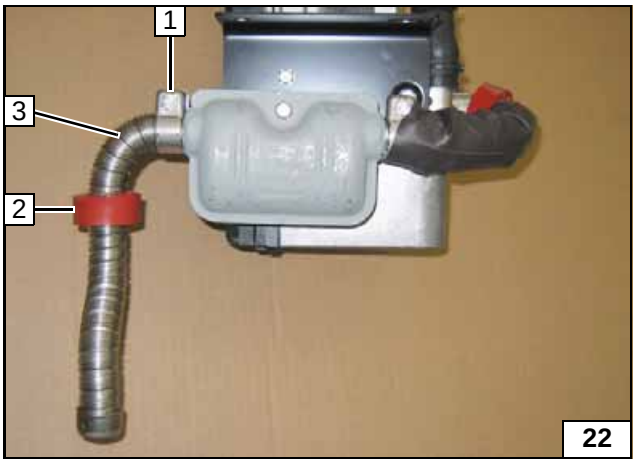
**Preparing exhaust pipe**




Slide insulation **3** onto exhaust pipe.

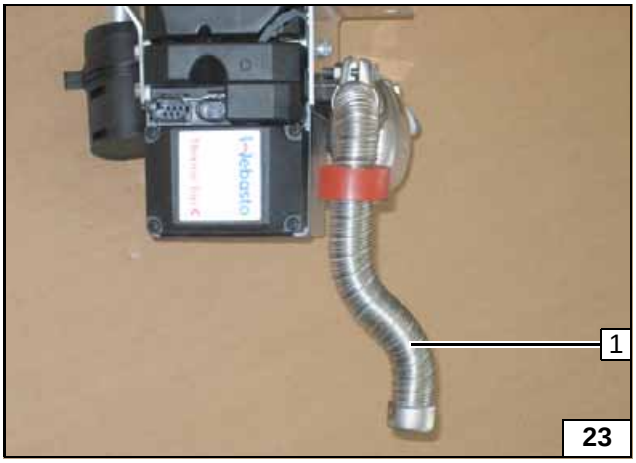
**1** M6x16 bolt, spring lockwasher
**2** Premounted M6x30 spacer nut
**3** Exhaust pipe with insulation
**4** Red (rt) rubber isolator
**5** Hose clamp [2x]
**6** Exhaust muffler

**Preassembling exhaust pipe**



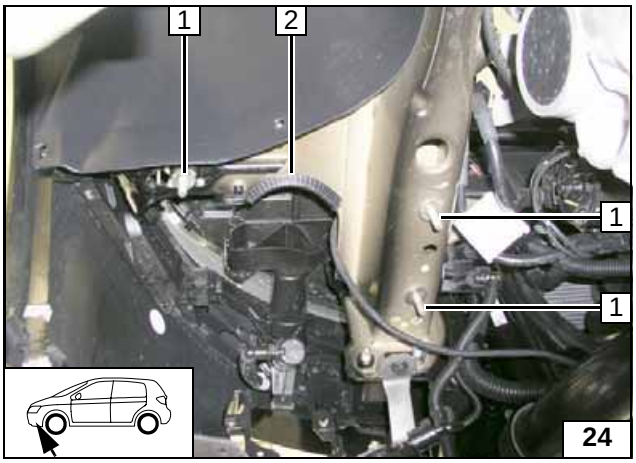

**1** Hose clamp
**2** Red (rt) rubber isolator
**3** Exhaust end section

**Preassembling exhaust end section**




**1** Exhaust end section

**Aligning exhaust end section**

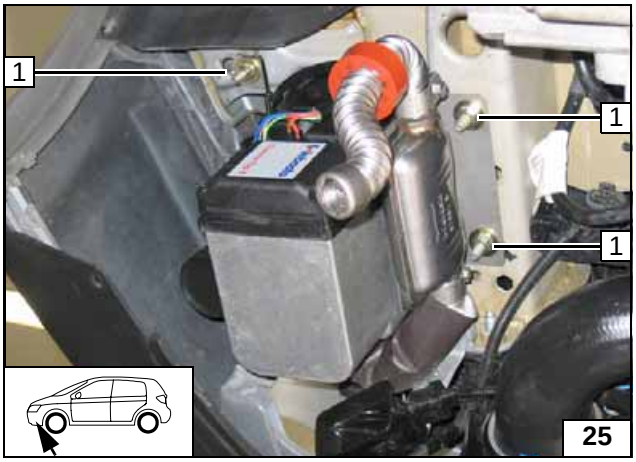



## Preparing installation location

Slide one large diameter washer **1** each onto original vehicle stud bolt [3x] and secure against falling off with putty etc.

**2** Edge protection

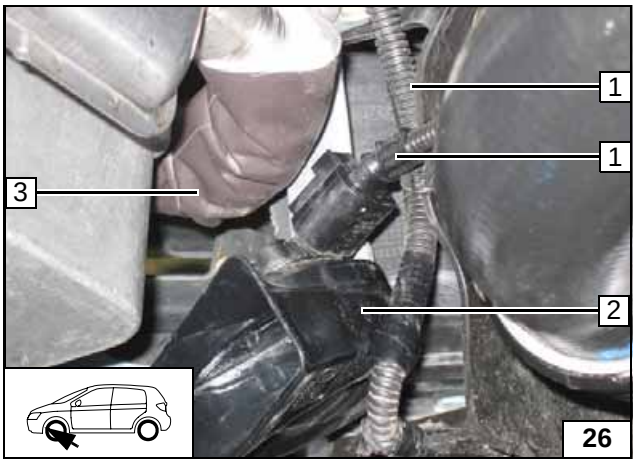
**Installing edge protection**




## Installing heater unit

**1** Large diameter washer, M8 flanged nut [3x each]

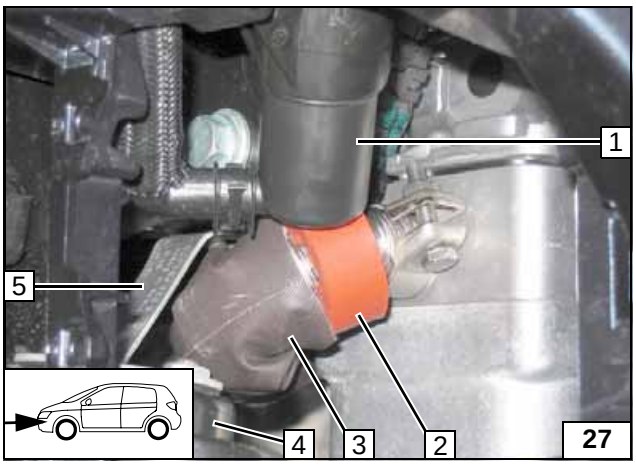
**Installing heater unit**




Ensure freedom of movement of exhaust system relative to adjacent components and lines.

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

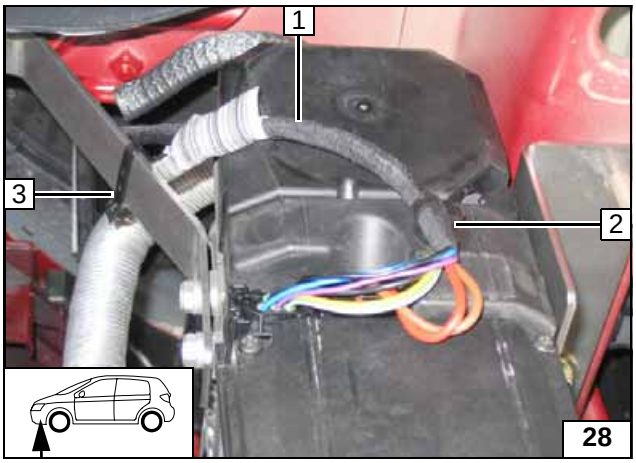
**Aligning exhaust system**




Ensure freedom of movement of exhaust system relative to adjacent components and lines.
Position red (rt) rubber isolator **2** as shown.
Picture shows vehicle with headlight washer system.

**1** Headlight washer system
**3** Exhaust pipe with insulation
**4** Horn
**5** Horn bracket

**Aligning exhaust system**




Punch through perforation in heater unit lid at position **2**.

**1** Wiring harness of heater unit
**2** Clip-type cable tie
**3** Cable tie

**Connect wiring harness of heater unit**

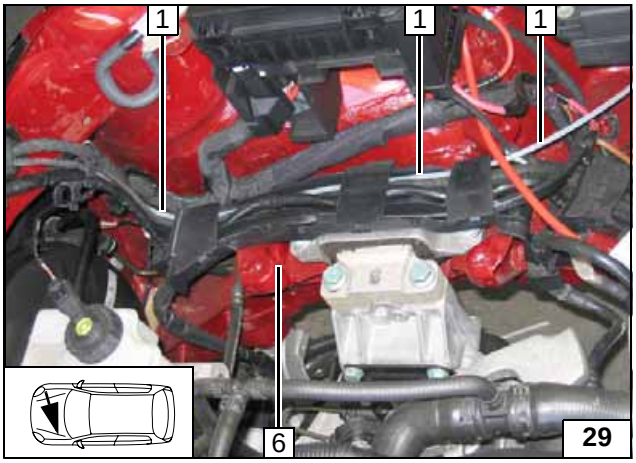
## Fuel

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

Catch any fuel running off with an appropriate container.

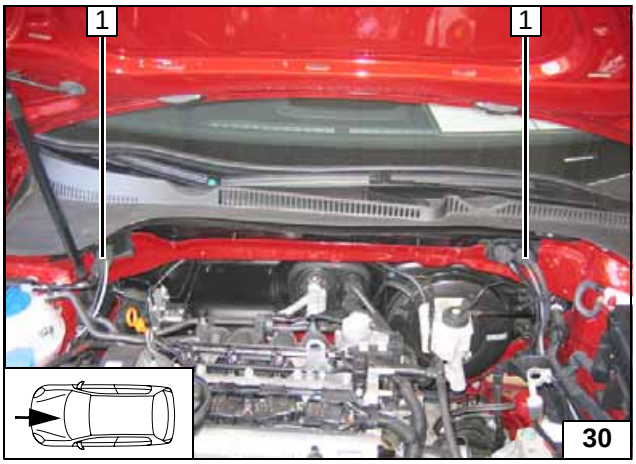
Install fuel line and metering-pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties.
Mount the fuel line and wiring harness with rub protection on sharp edges.

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



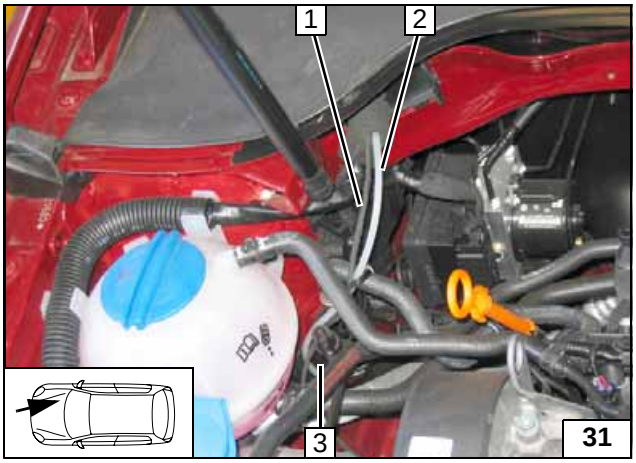

**1** Fuel line

**Installing fuel line**



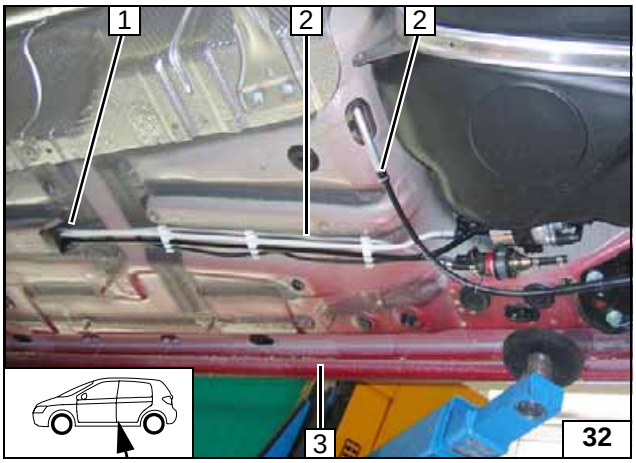

Fasten fuel line and wiring harness of metering pump **1** in coolant reservoir on original vehicle lines with cable ties.
Pay particular attention to freedom of movement of wiper linkage.

**Installing lines**




Guide fuel line **2** and wiring harness of metering **3** into original vehicle line duct **3** and route to underbody.

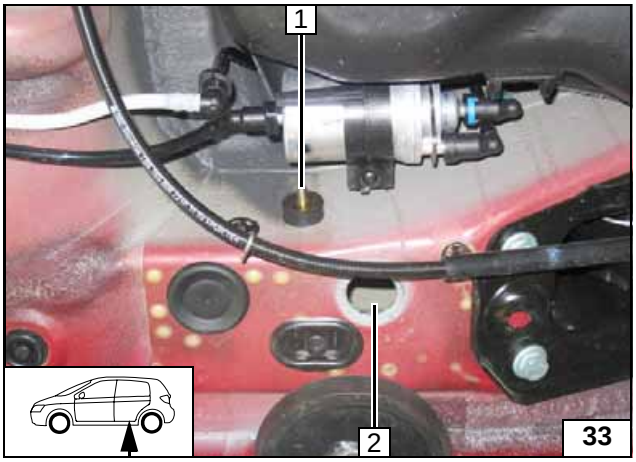
**Installing lines**




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

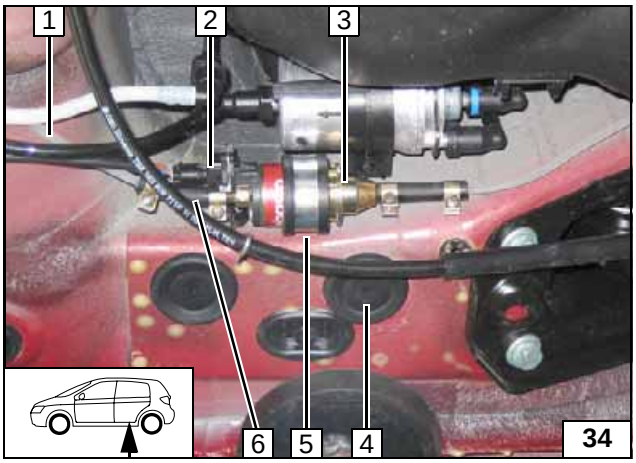
**1** Line duct

**Installing lines**



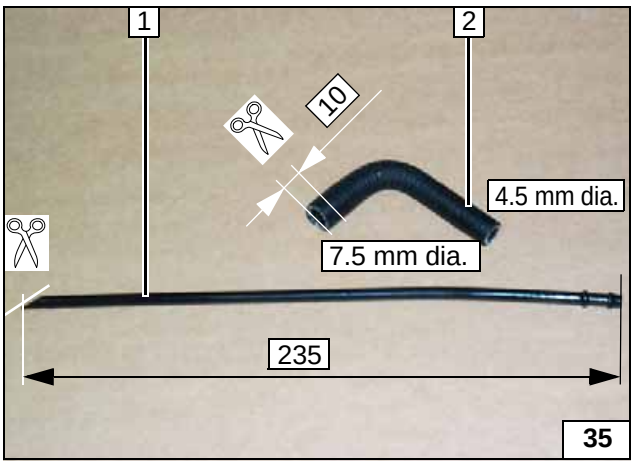

**1** Silent block, large diameter washer, M6 flanged nut
**2** Remove sealing plug

**Installing silent block**



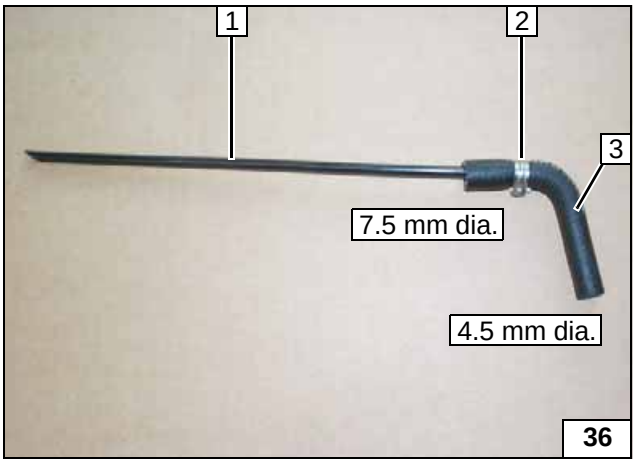

**1** Fuel line
**2** Wiring harness of metering pump, connector mounted
**3** Metering pump
**4** Plug remounted
**5** Rubber-coated p-clamp, flanged nut on silent block
**6** Hose section, 10 mm dia. clamp [2x]

**Installing metering pump**




Cut standpipe **1** and 90° molded hose **2** to length.

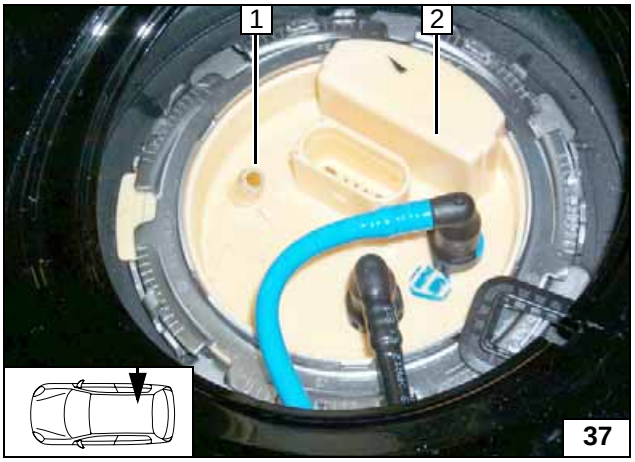
**Removing fuel**




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

**1** Standpipe
**3** 90° molded hose

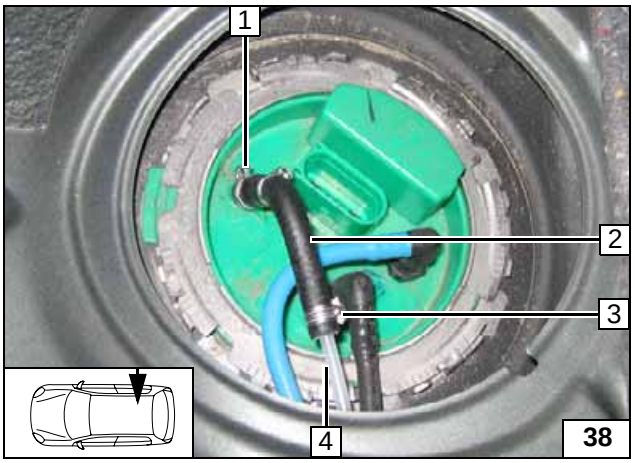
**Premounting fuel standpipe**




Cut 3 mm off blind plug **1**.

**2** Fuel-tank sending unit

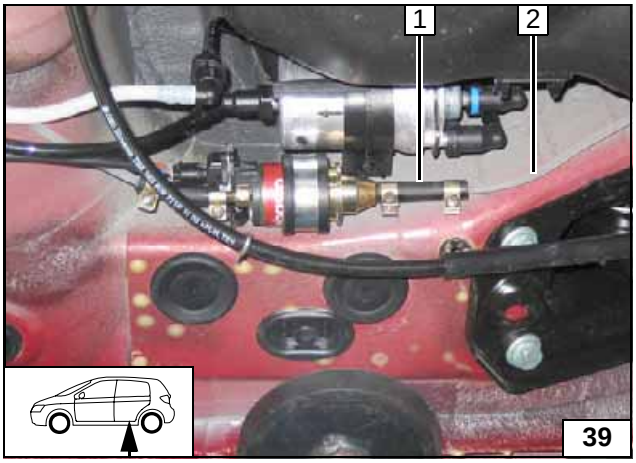
**Cutting off blind plug**




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

**1** 13.5 mm dia. Caillau clamp
**2** Preassembled molded hose with standpipe
**3** 10 mm dia. Caillau clamp
**4** Fuel line

**Connection to fuel-tank sending unit**



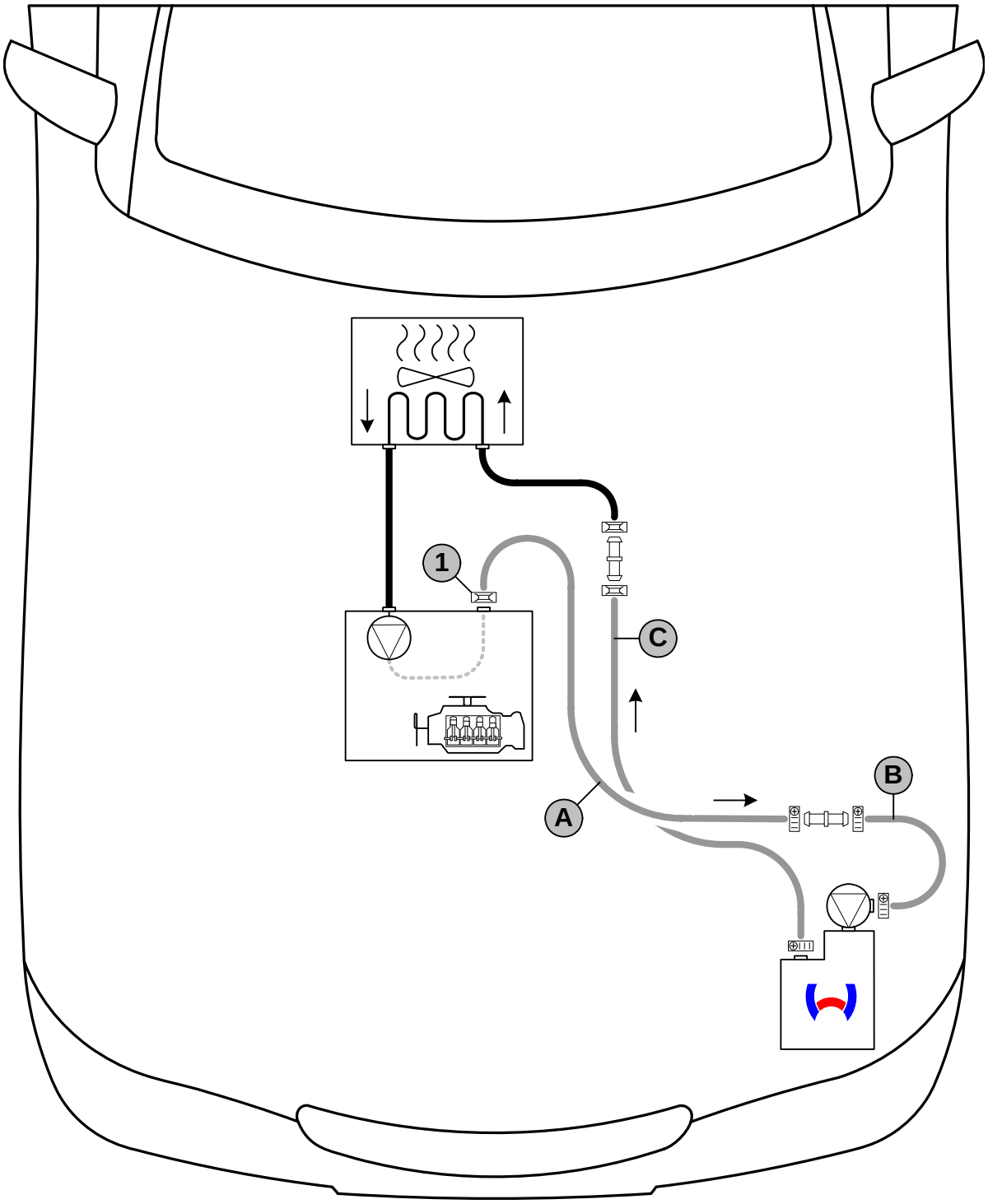

**1** Hose section, 10 mm dia. clamp [2x]
**2** Fuel line

**Connecting metering pump**

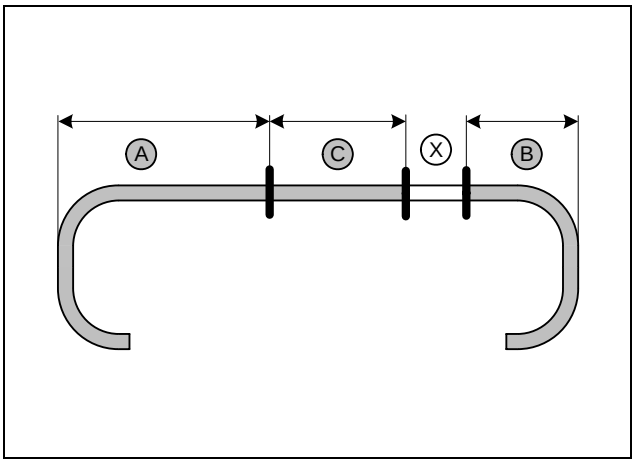
## Coolant on 1.4 MPI

**WARNING!**
Any coolant running off should be collected using an appropriate container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that no other hose can be damaged! When installing the coolant hose, the heater unit must be filled with coolant.
The connection should be "inline" based on the following diagram:

**Coolant routing diagram**



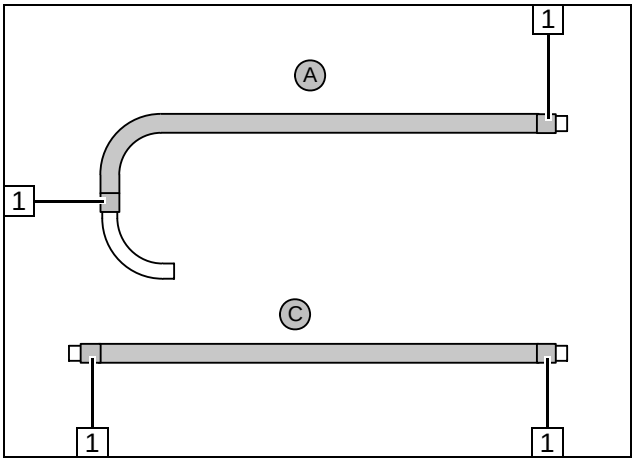

All spring clips without a specific designation = 27 mm dia. **1** = Original vehicle spring clip .
All connecting pipes = 20x20 mm dia. All hose clamps = 20-27 mm dia.!




a = 670
b = 120
c = 770

Discard section **X**

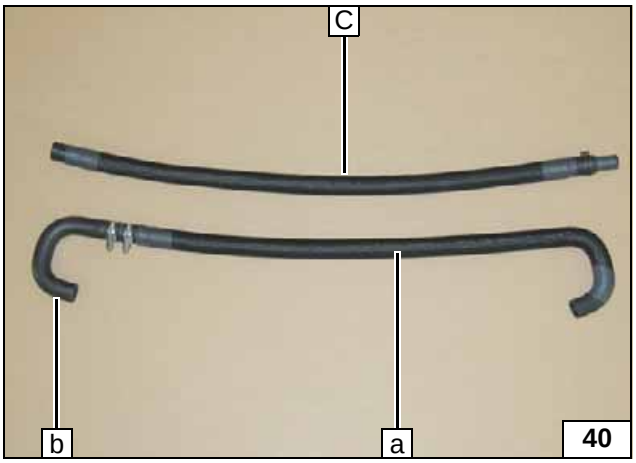
**Cutting coolant hoses to length**



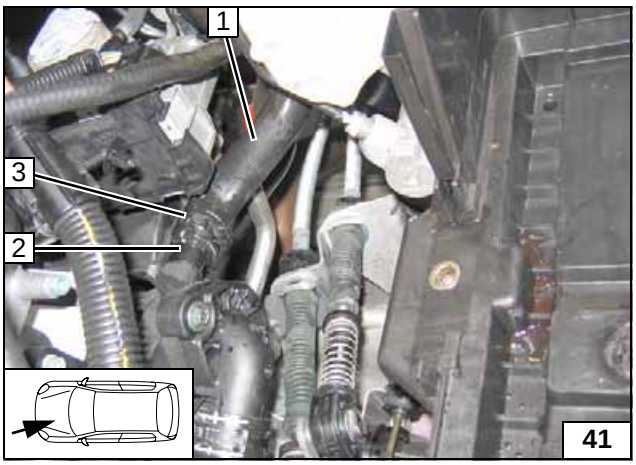

Push braided protection hoses onto hose **A** and **C** and cut to length.
Cut heat shrink plastic tubing to length.

**1** 25 mm long heat shrink plastic tubing [4x]

**Preparing coolant hoses**

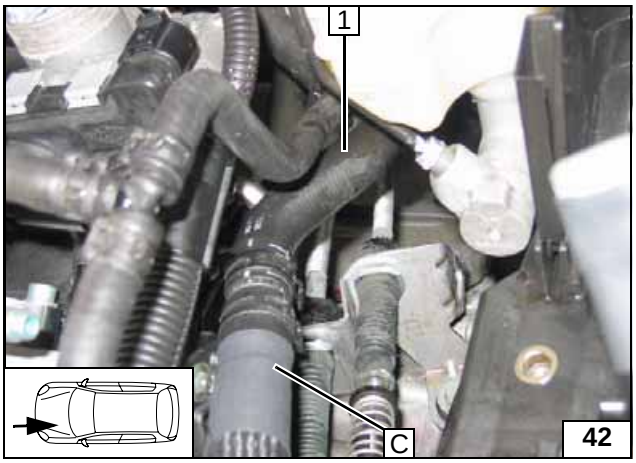



**Premounting coolant hoses**



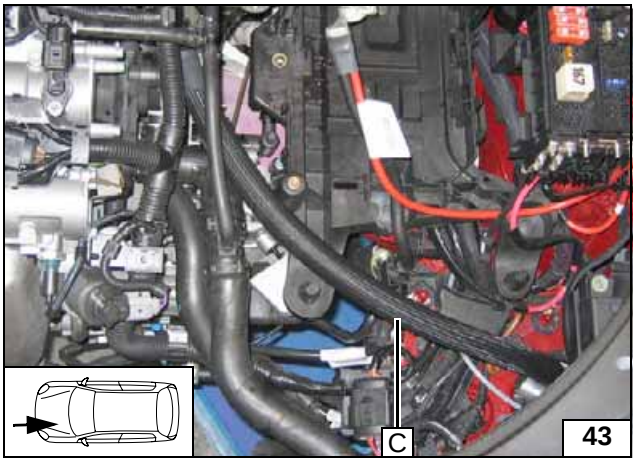

Pull off hose on engine outlet/heat exchanger inlet **1** on connection piece of engine outlet **2**.
Spring clip **3** will be reused.
Install battery carrier.

**Cutting point**

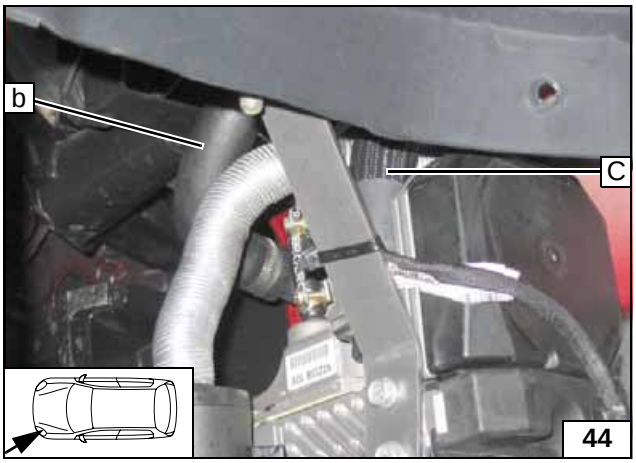



**1** Hose on heat exchanger inlet

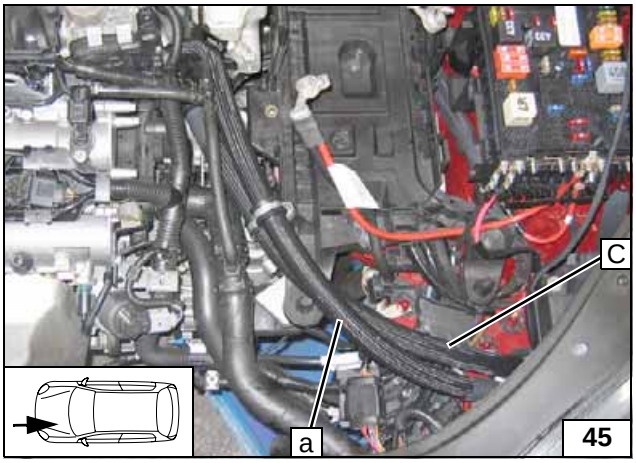
**Connecting heat exchanger inlet**



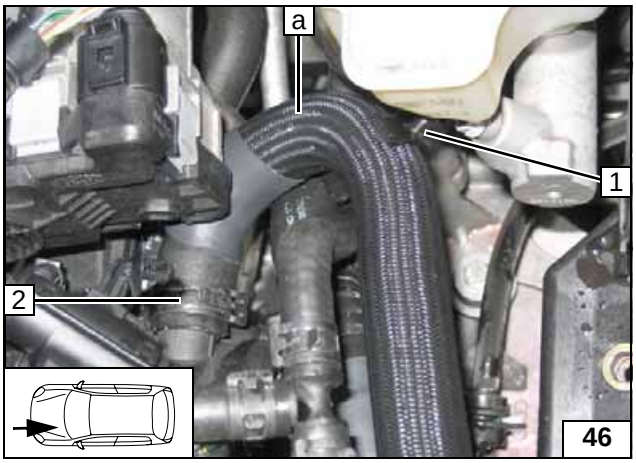

**Routing in engine compartment**




**Connecting heater unit**

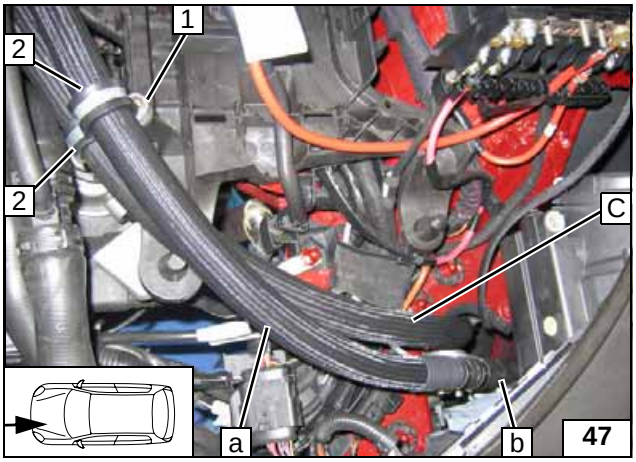



**Routing in engine compartment**




**1** 27x6 double clip on hose **A** and brake line from brake master cylinder
**2** Original vehicle spring clip

**Connecting engine outlet**




Ensure sufficient distance to neighboring components.

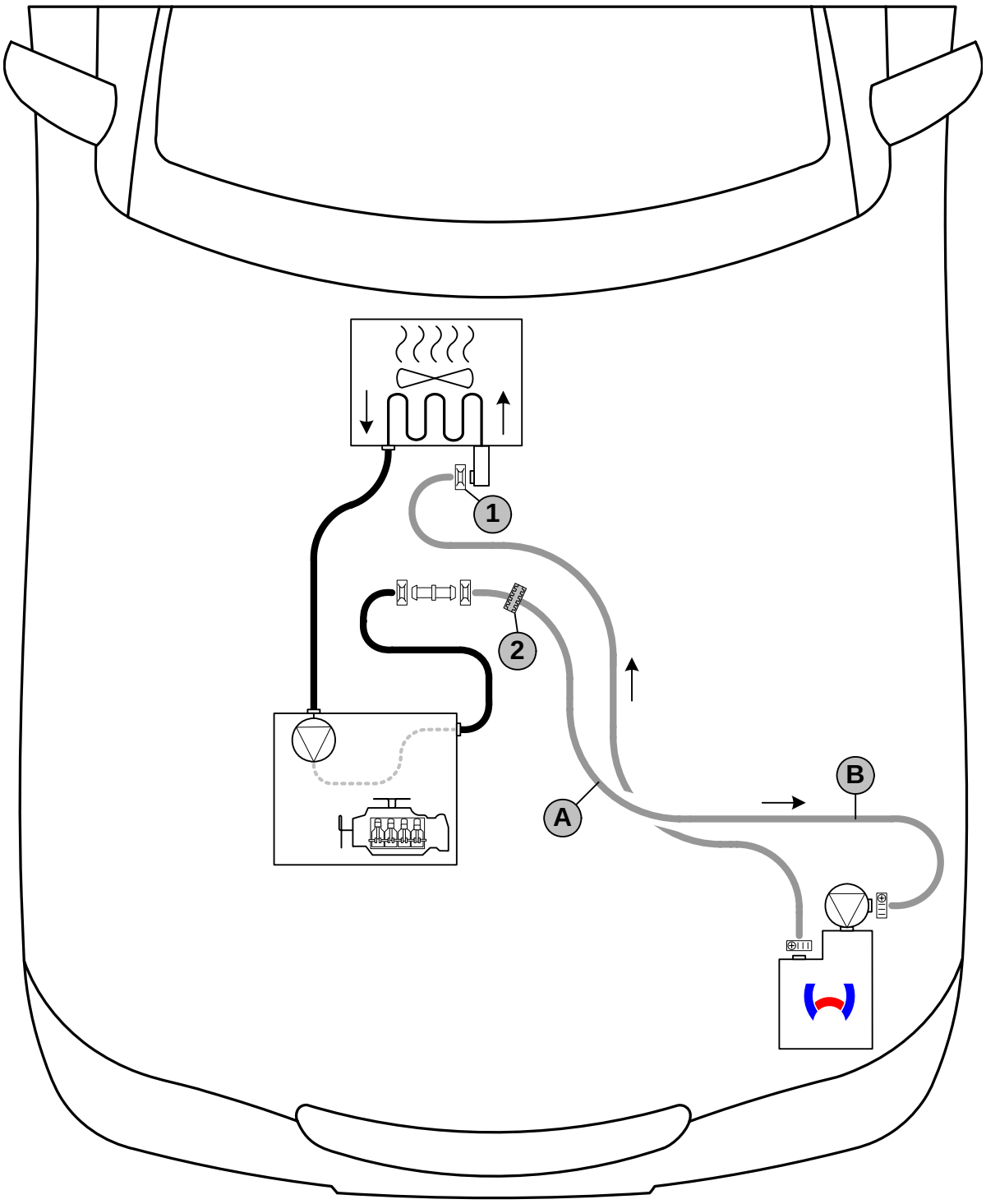
**1** M6x20 screw, spring lockwasher on existing thread
**2** 29 mm dia. rubber-coated p-clamp [2x]

**Fastening hoses**

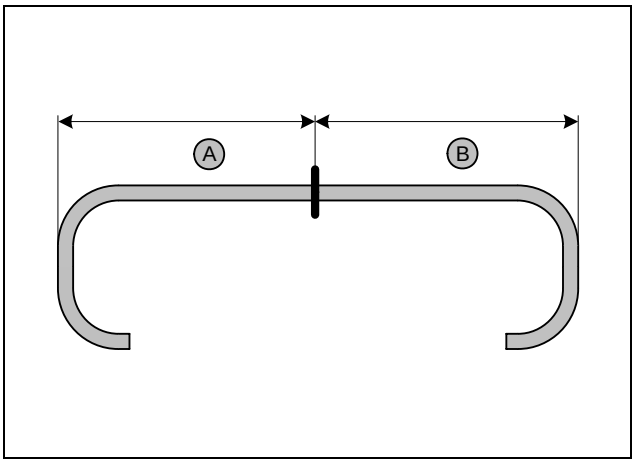
## Coolant on 1.6 FSI

**WARNING!**
Any coolant running off should be collected using an appropriate container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that no other hose can be damaged! When installing the coolant hose, the heater unit must be filled with coolant. The connection should be "inline" based on the following diagram:

**Coolant routing diagram**



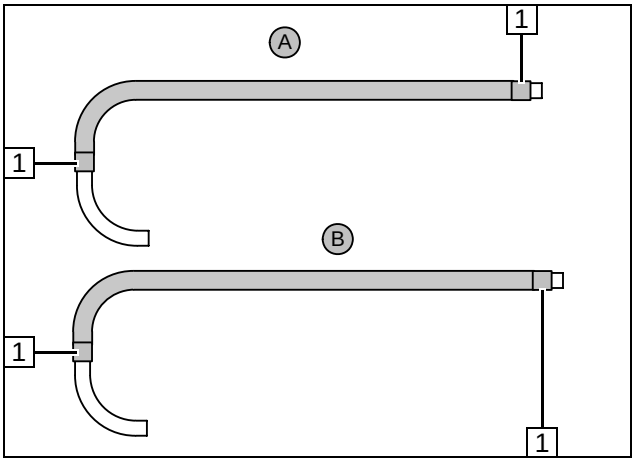

All spring clips without a specific designation = 27 mm dia. **1** = Original vehicle spring clip . All hose clamps = 20-27 mm dia.! Connecting pipe = 20x20 mm dia. **2** = Black (sw) rubber isolator .




a = 1000
b = 1050

Discard section **X**

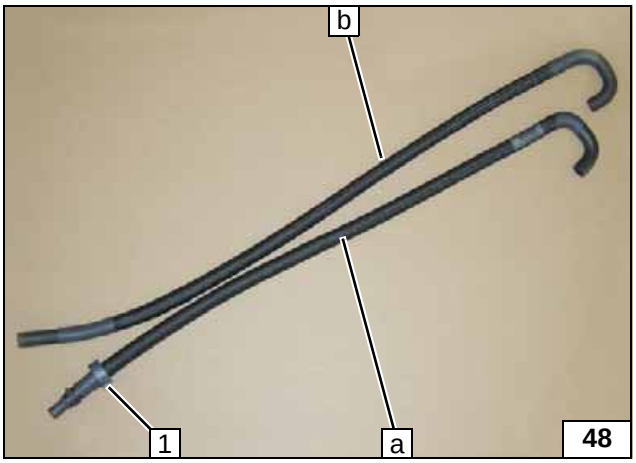
**Cutting coolant hoses to length**




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

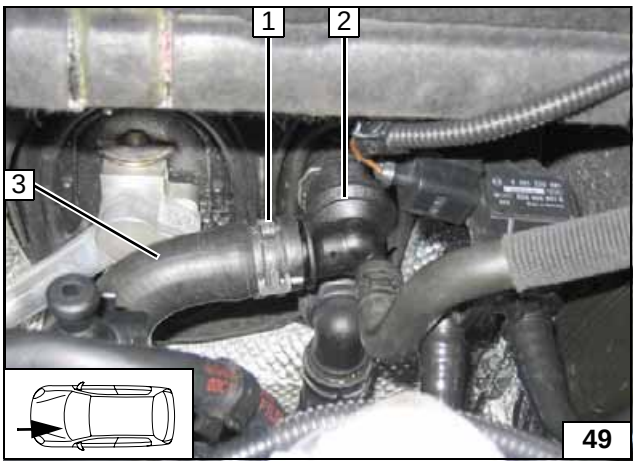
**1** 25 mm long heat shrink plastic tubing [4x]

**Preparing coolant hoses**



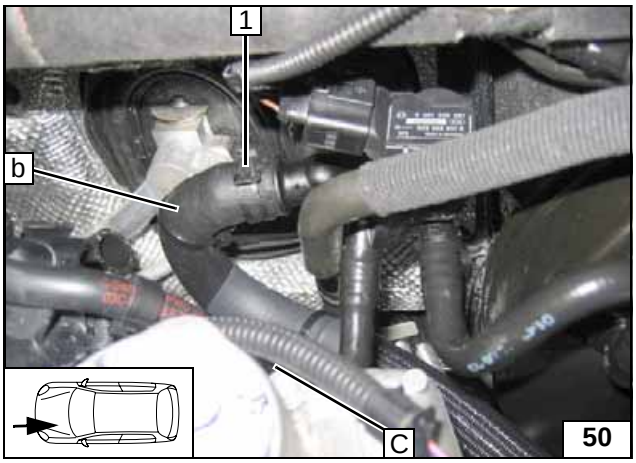

**1** Black (sw) rubber isolator

**Premounting coolant hoses**



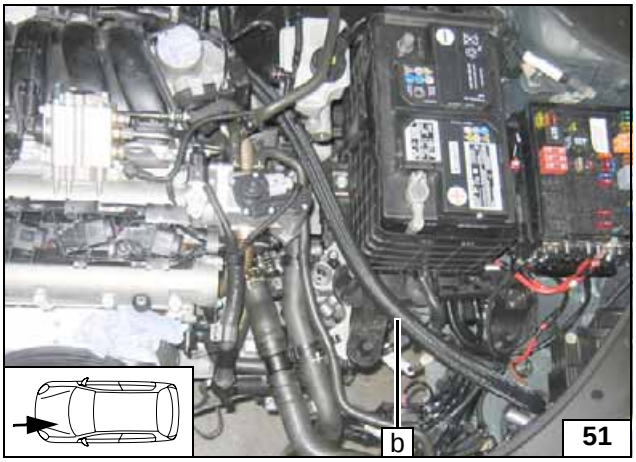

Pull off hose on engine outlet/heat exchanger inlet **3** on connection piece of heat exchanger inlet **2**. Spring clip **1** will be reused.
Install battery carrier.

**Cutting point**

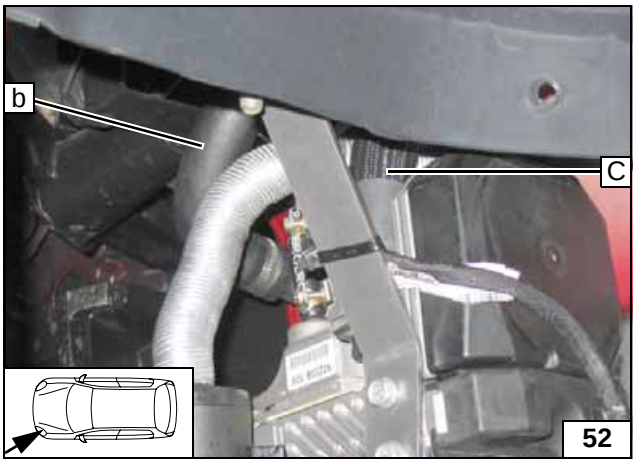



**1** Original vehicle spring clip

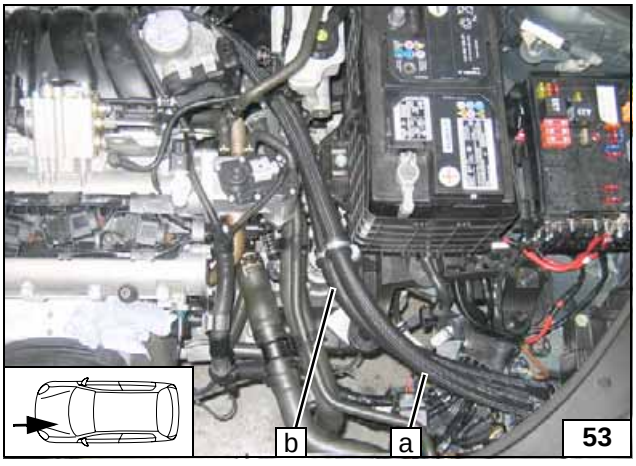
**Connecting heat exchanger inlet**



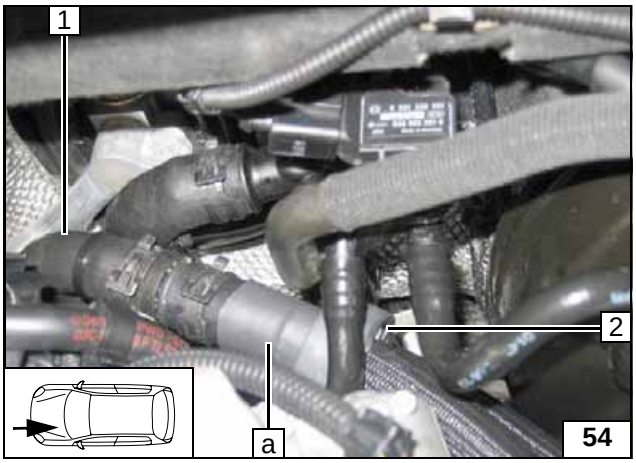

**Routing in engine compartment**




**Connecting heater unit**

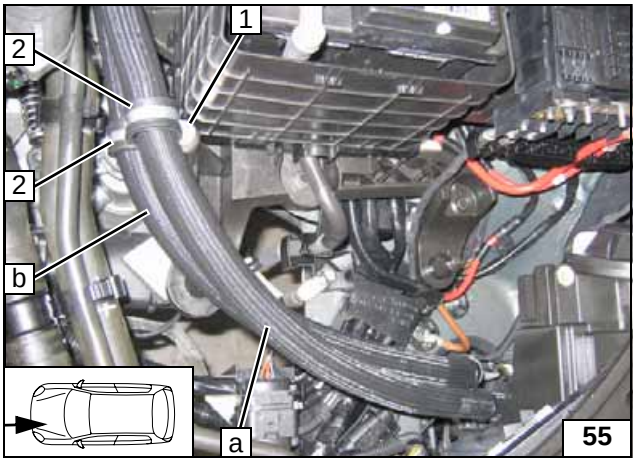



**Routing in engine compartment**




**1** Hose of engine outlet
**2** Align rubber isolator

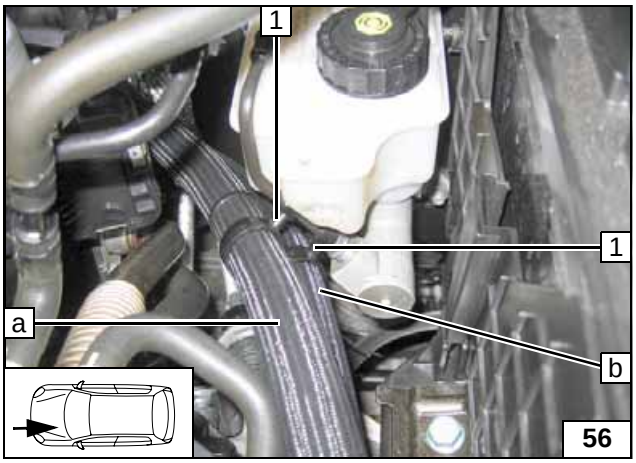
**Connecting engine outlet**




Ensure sufficient distance to neighboring components.

**1** M6x20 screw, spring lockwasher on existing thread
**2** 29 mm dia. rubber-coated p-clamp [2x]

**Fastening hoses**



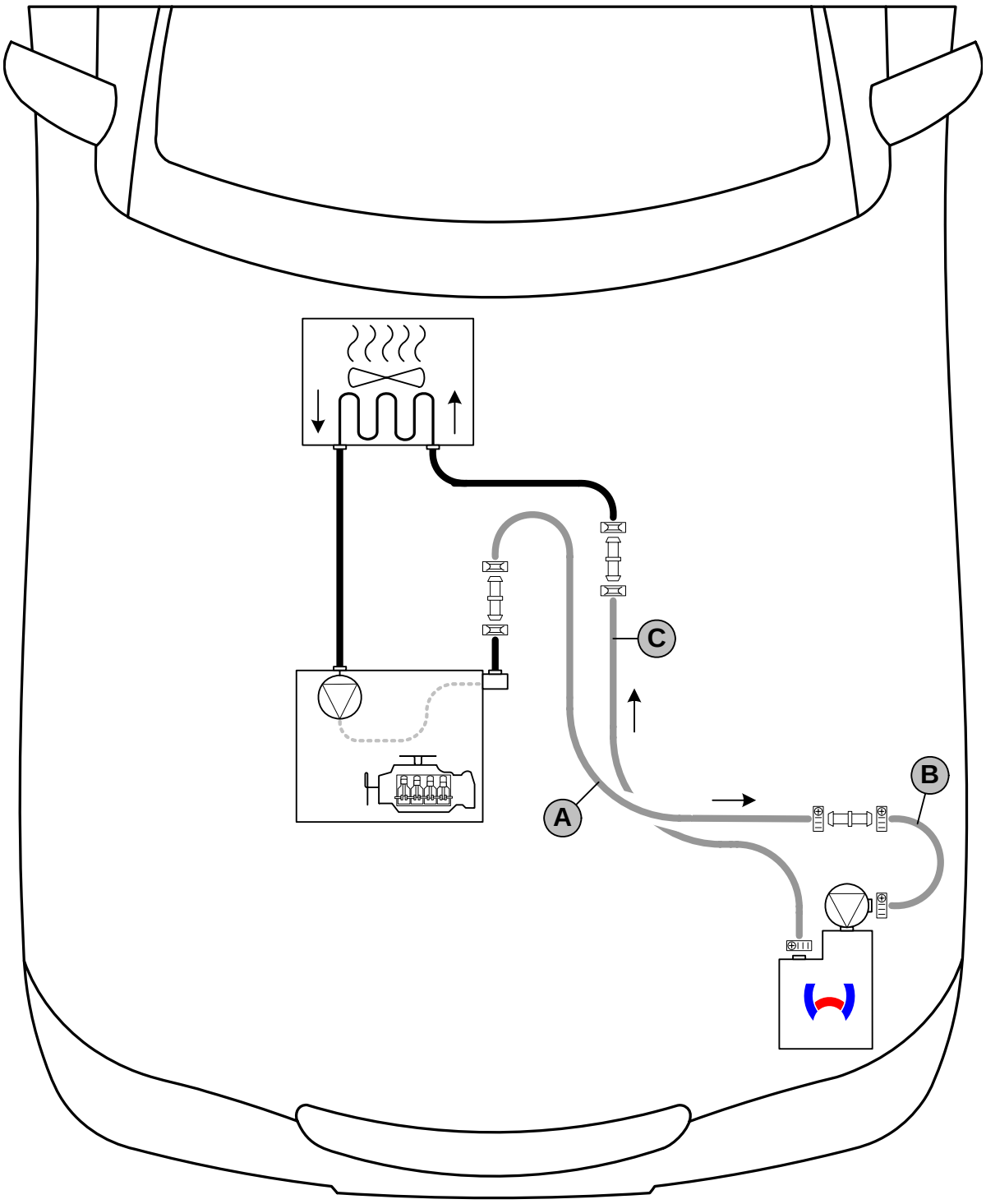

**1** 27x6 mm double clip [2x] (on hose **A** and brake line from brake master cylinder)

**Connecting engine outlet**

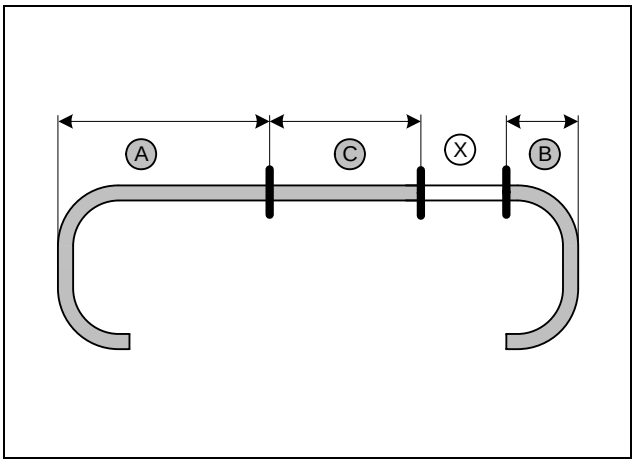
## Coolant on 1.8 TFSI

**WARNING!**
Any coolant running off should be collected using an appropriate container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that no other hose can be damaged! When installing the coolant hose, the heater unit must be filled with coolant. The connection should be "inline" based on the following diagram:

**Coolant routing diagram**



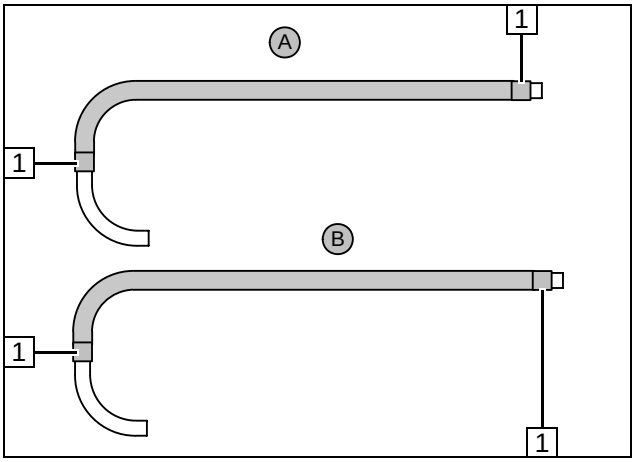

All spring clips without a specific designation = 27 mm dia. All connecting pipes = 20x20 mm dia. All hose clamps without a specific designation = 20-27 mm dia.




a = 700
b = 70
c = 710

Discard section **X**

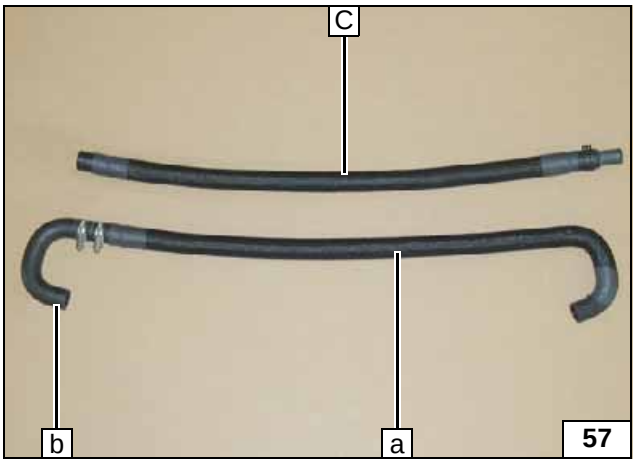
**Cutting coolant hoses to length**




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

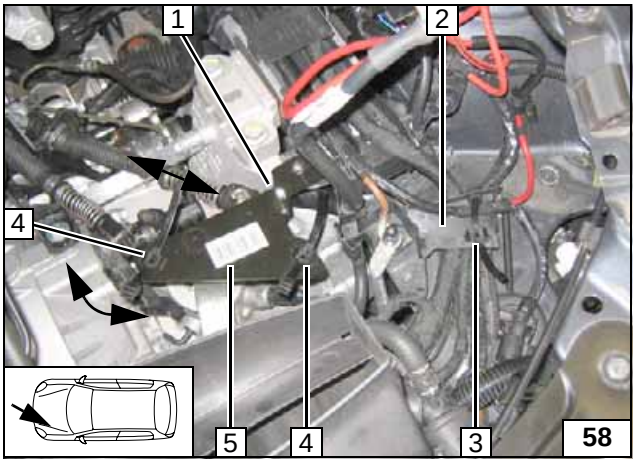
**1** 25 mm long heat shrink plastic tubing [4x]

**Preparing coolant hoses**




**1** Black (sw) rubber isolator

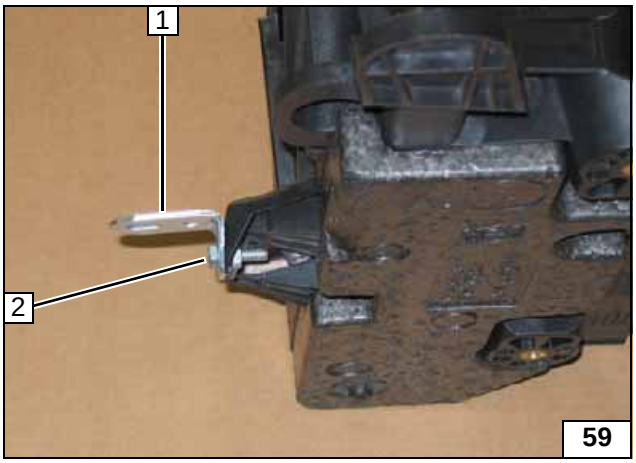
**Premounting coolant hoses**




Drill 6 mm dia. hole in cover of cable duct **2** at position **3**. Watch lines located behind duct when drilling!

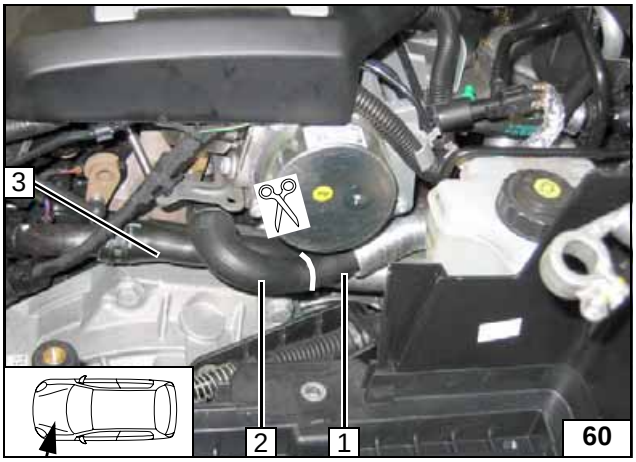
**1** M6x12 bolt, flanged nut on existing hole
**3** 6 mm dia. hole, clip-type cable tie
**4** Clip-type cable tie [2x] in hole of bracket
**5** Bracket

**Installing bracket and clip-type cable tie**




**1** Angle bracket
**2** Mount M6x20 bolt, flanged nut in existing hole

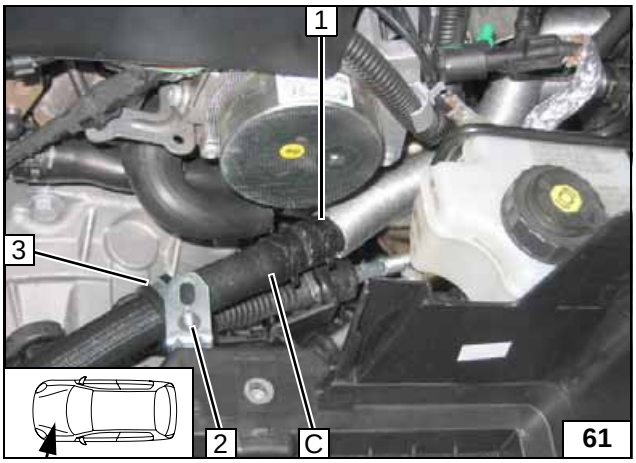
**Prepare battery carrier**




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

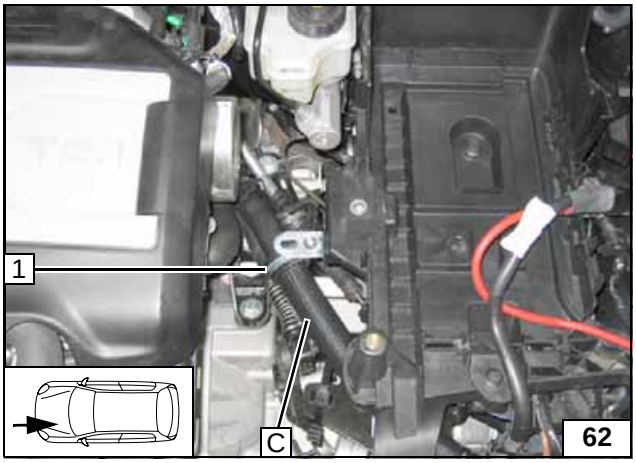
**1** Hose section of heat exchanger inlet
**2** Engine outlet hose section

**Cutting point**



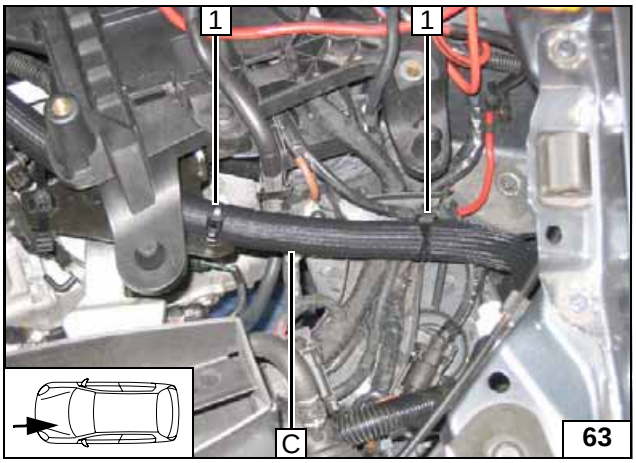

**1** Hose on heat exchanger inlet
**2** M6x20 bolt, pin lock
**3** 29 mm dia. rubber-coated p-clamp

**Connecting heat exchanger inlet**



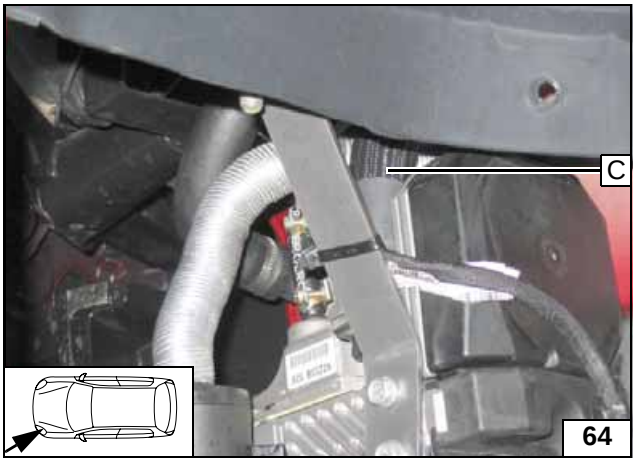

Route hose **C** through rubber-coated p-clamp **1**.

**Routing in engine compartment**

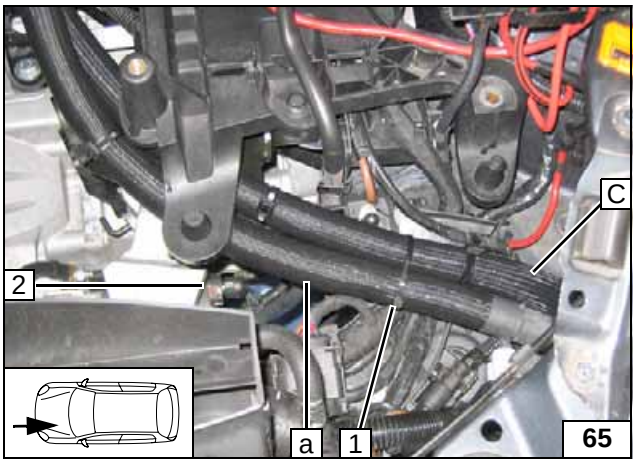



Fasten hose **C** on clip-type cable tie **1** [2x]!!

**Routing in engine compartment**



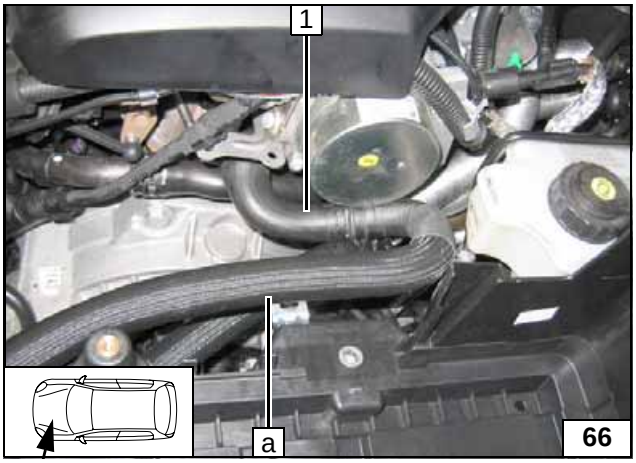

**Connecting heater unit**




Route hose **A** along hose **C**.

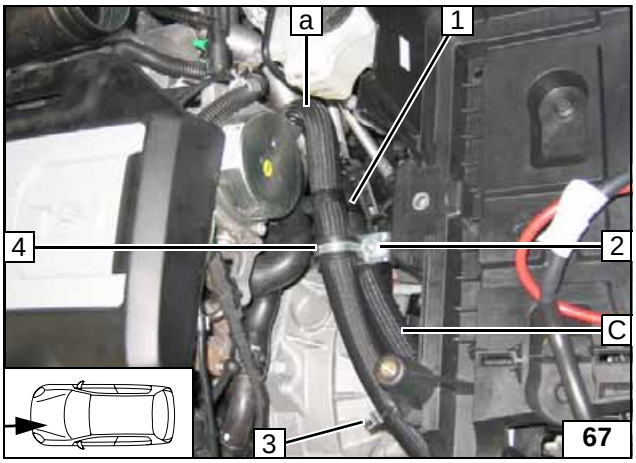
**1** Cable tie

**Routing in engine compartment**




**1** Hose of engine outlet

**Connecting engine outlet**




Fasten hose **A** on clip-type cable tie **3**!! Ensure sufficient distance to neighboring components.

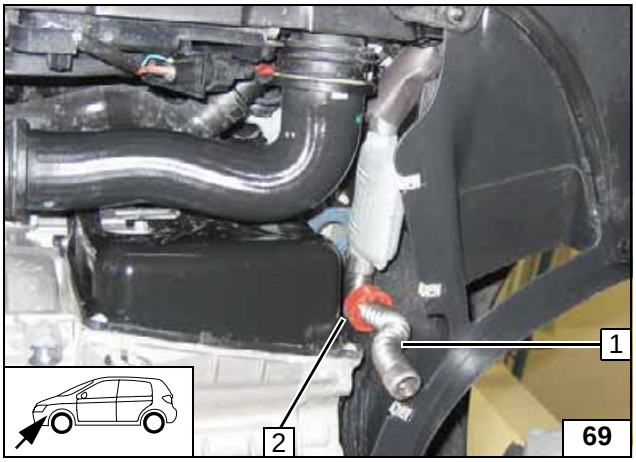
**1** Spacer bracket
**2** Flanged nut on M6x20 bolt
**4** 29 mm dia. rubber-coated p-clamp

## Exhaust gas



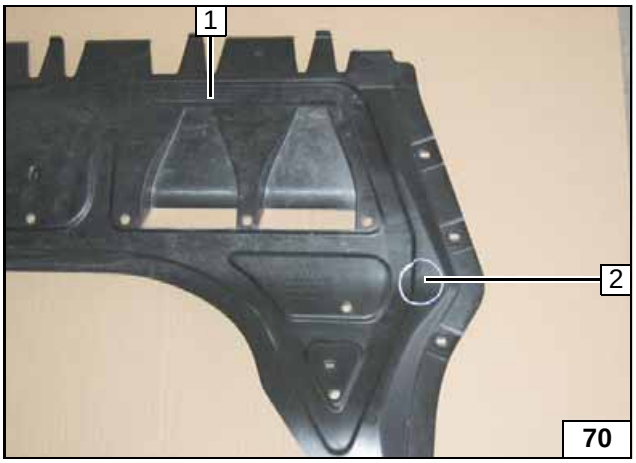

**1** Exhaust end section

**Aligning exhaust end section**



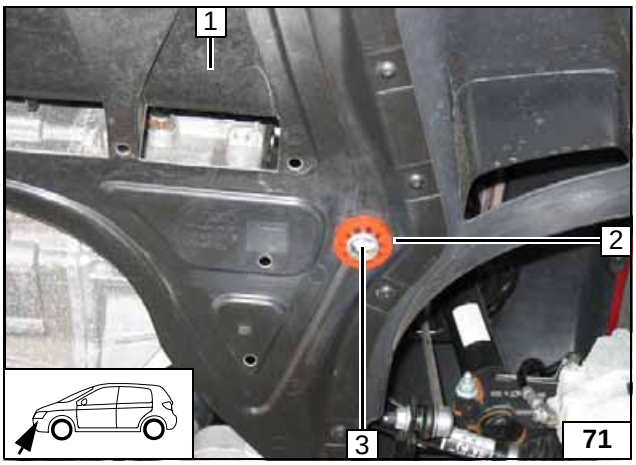

Align exhaust end section **1** and rubber isolator **2**.
Ensure sufficient spacing of exhaust end section to transmission and to wheel well trim.
(Picture shows vehicle with direct shift transmission)

**Installing wheel well trim**




**1** Underride protection
**2** 42 mm dia. hole

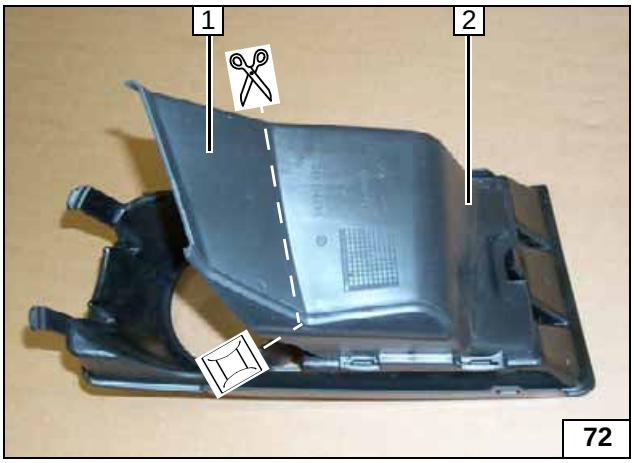
**Cutting out underride protection**




Insert red (rt) rubber isolator **2** in 42 mm dia. hole.
Align exhaust end section **3** flush on red rubber isolator **2**.

**1** Underride protection

**Mounting rubber isolator**




**Front fog light trim piece**

**1** Discard section
**2** Front fog light trim piece (depending on equipment)

**Cutting front fog light trim piece to size**

## Final Work

**WARNING!**
Reassemble the disassembled components in reverse order.
Check all hoses, clamps and all electrical connections for firm seating.
Secure all loose cables using cable ties.
Only use manufacturer-approved coolant.
Spray the heater unit 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 the digital timer.
- Make settings on A/C control panel according to the "Operating Instructions for End Customer".
- Check the proper operation of the additional heater, see the operating instructions/installation instructions.
- Attach the "Switch off additional heater before refueling" sticker to the left-hand B-pillar.

**Adaptingsensitivity of passenger compartment monitoring**

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

- Connect the 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.

Webasto
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## Operating Instructions for End Customer

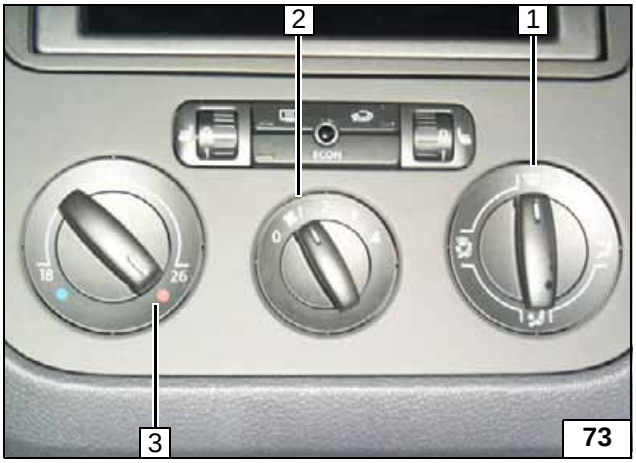
Please remove page and add to the vehicle operating instructions.

**Note:**
We recommend matching the heating time to the driving time.
Heating time = driving time
**Example:**
For a driving time of approx. 20 min. (in one direction), we recommend not exceeding a switch-on time of 20 min.

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

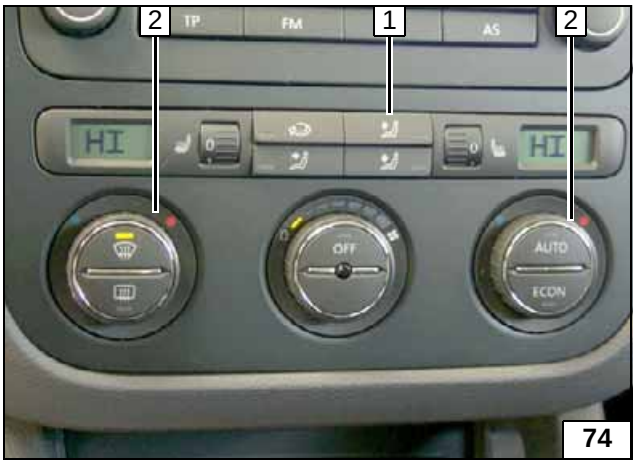
Before parking the vehicle, make the following settings:

**Climatic**




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

**Climatronic**




**1** Air outlet faces upward
**2** Set temperature on both sides to "HI".