

Water Heater

Thermo Top E Parking Heater



Thermo Top C Parking Heater



Installation Documentation

Toyota Verso

Diesel

From model year 2009

Left-hand drive vehicle

Manual / automatic transmission

Automatic air-conditioning



WARNING!

Hazard warning:

The improper installation or repair of Webasto heating and cooling systems can cause fire or the leakage of deadly carbon monoxide, leading to serious injury or death.



To install and repair Webasto heating and cooling systems you need to have completed a special company training course and have the appropriate technical documentation, special tools and special equipment.

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

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

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

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

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

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Validity

| Manufacturer | Model | Type | EG-BE No. / ABE |
|--------------|-------|------|-------------------------------|
| Toyota | Verso | AR2 | e11 * 2001 / 116 * 0350 * ... |

| Engine type | Engine model | Output in kW | Displacement in cm ³ |
|-------------|--------------|--------------|---------------------------------|
| 1AD-FTV | Diesel | 93 | 1998 |
| 2AD-FHV | Diesel | 110 | 2231 |
| 2AD-FHV | Diesel | 130 | 2231 |

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

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

Heater/Installation Kit

| Quantity | Designation | Order No.: |
|----------|---|----------------|
| 1 | Basic delivery scope <i>Thermo Top E / C</i> | See price list |
| 1 | Installation kit for Toyota Verso 2009 Diesel | 1315128B |
| 1 | Heater control | See price list |

Foreword

This installation documentation applies to Toyota Verso Diesel vehicles - for validity, see page 2 - from model year 2009 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.

In any case, please follow the specifications of this installation documentation and the installation instructions of the *Thermo Top E / C*.

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

General Instructions

Installation should be carried out according to the general standard rules of technology. Unless specified otherwise, fasten hoses, lines and wiring harnesses to original vehicle lines and wiring harnesses using cable ties. Insulate and tie back loose wires.

Sharp edges should be fitted with rub protection (split-open fuel hose).

Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

When installing an IPCU, the corresponding settings must be checked or adjusted before installation.

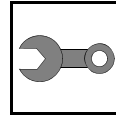
Special Tools

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

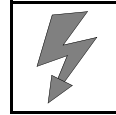
Explanatory Notes on Document

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.

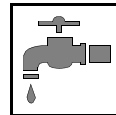
Mechanical system



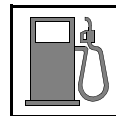
Electrical system



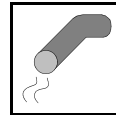
Coolant circuit



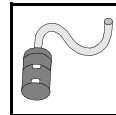
Fuel



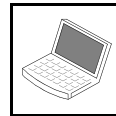
Exhaust gas



Combustion air



Software



Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.



Specific risk of damage to components.



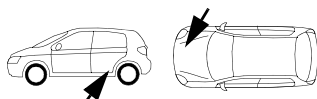
Specific risk of fire or explosion.



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



Reference to a special technical feature.



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

All dimensions are in mm!

Tightening torque of 5x13 heater bolts = 8Nm!

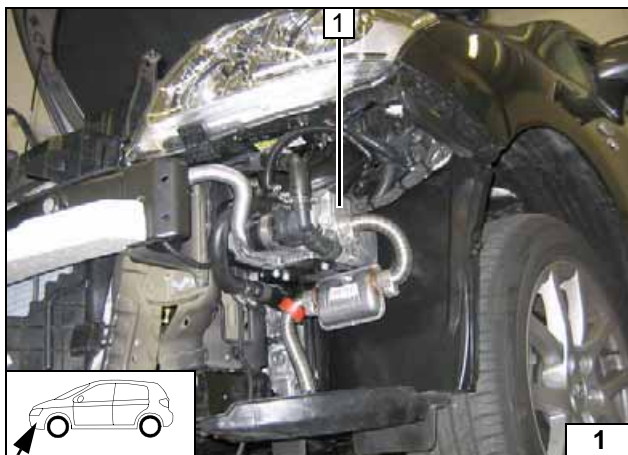
Tightening torque of 5x15 bolt of water connection piece retaining plate = 7Nm!

Preliminary Work

WARNING!

- Open the fuel tank cap, ventilate the tank.
- Close the fuel tank cap again.
- Disconnect the battery.
- 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) visibly in the appropriate place.
- Remove the battery completely.
- Remove the air filter together with the intake hose.
- Remove the left-hand side wheel well trim and detach on the right.
- Remove the bumper.
- Remove the underride protection.
- Remove the fuel line cover on the underbody.
- Remove the footwell trim on the driver's side.
- Remove the side trim of the centre console in the driver's side footwell.
- Remove the AC booster.
- Remove the loudspeaker cover at the upper left on the instrument panel (only with Telestart).

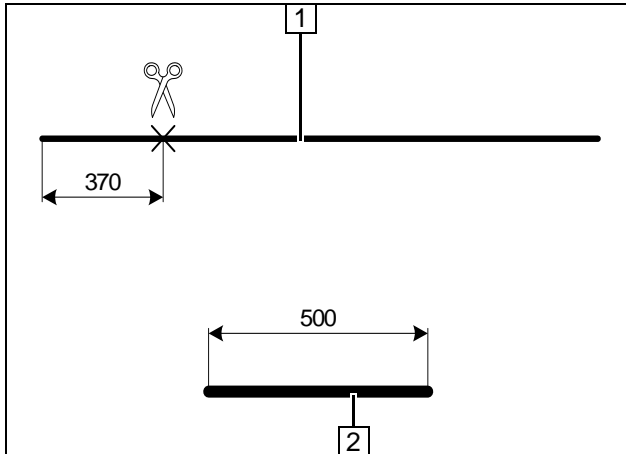
Remove page 25 "Operating Instructions for End Customer" and add to the vehicle operating instructions.



Heater Installation Location

- 1 Heater

Installation location

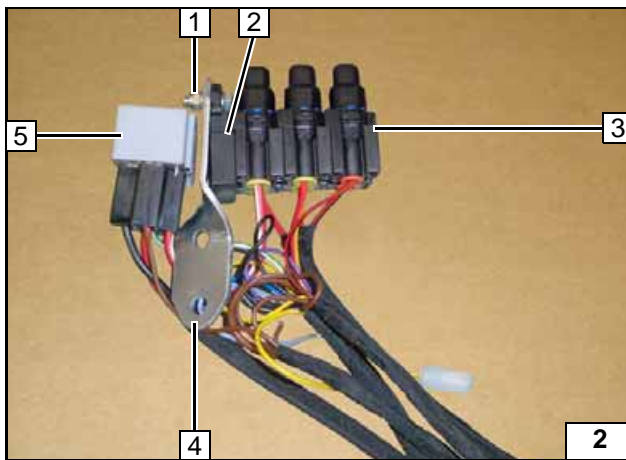


Preparing Electrical System

All vehicles

Cut 10 mm dia. corrugated tube to length.

- 1 10 mm dia. corrugated tube, 1130 mm long
- 2 17 mm dia. corrugated tube, 500 mm long



Replace 25A fuse F3 with 10A fuse. Pull wiring harnesses of digital timer, fan controller and metering pump in 17 mm dia. corrugated tube. Pull positive and earth wires into 10 mm dia., 370 mm long, corrugated tube.

- 1 M5x20 bolt, washer, flanged nut
- 2 Retaining plate for fuse holder
- 3 Fuses pushed on
- 4 Perforated bracket turned (approx. 80°)
- 5 K3 relay



Preparing corrugated tubes



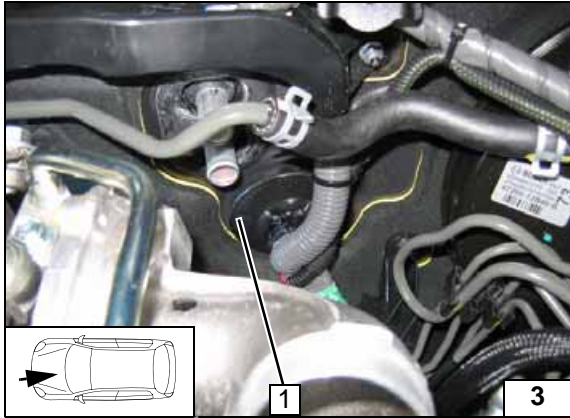
Preparing wiring harnesses



Electrical System

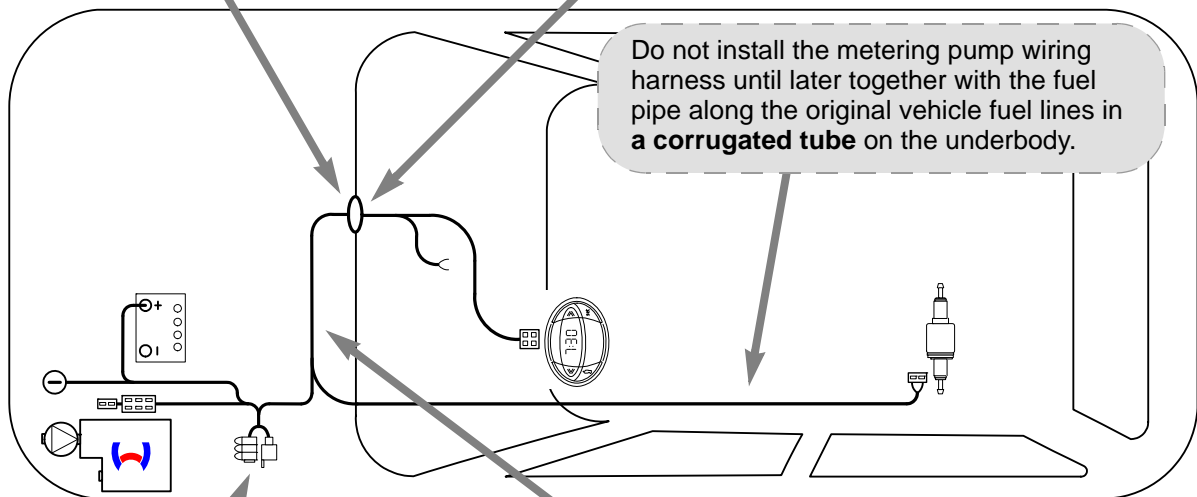
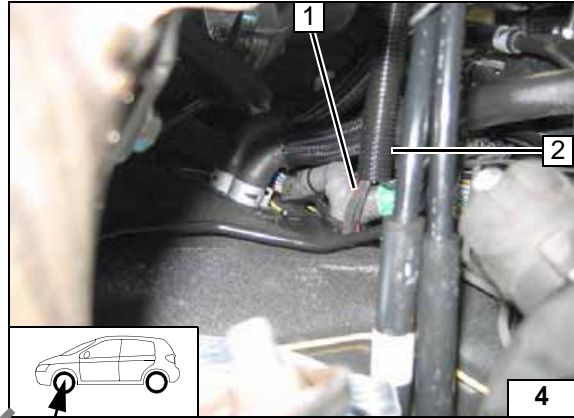
Wiring harness pass through

- 1 Protective rubber plug

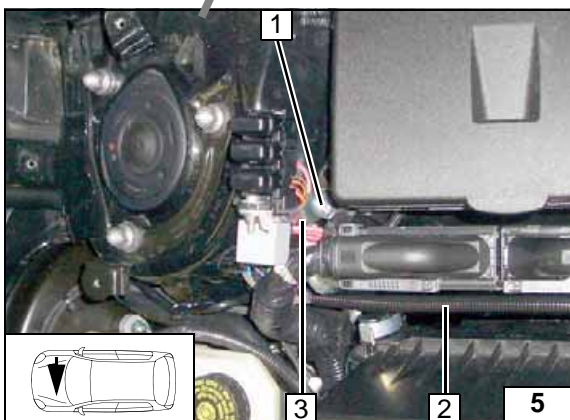


Wiring harness routing

- 1 Wiring harnesses of digital timer and fan controller
- 2 Corrugated tube

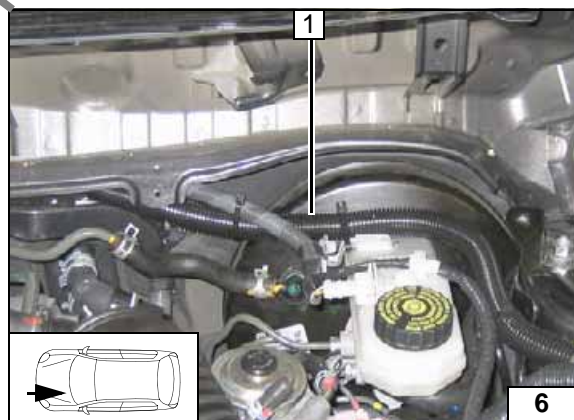


Wiring harness routing diagram



Fuse holder, K3 relay

- 1 Original vehicle bolt
- 2 Route positive and earth wire in corrugated tube to the connection points
- 3 Perforated bracket



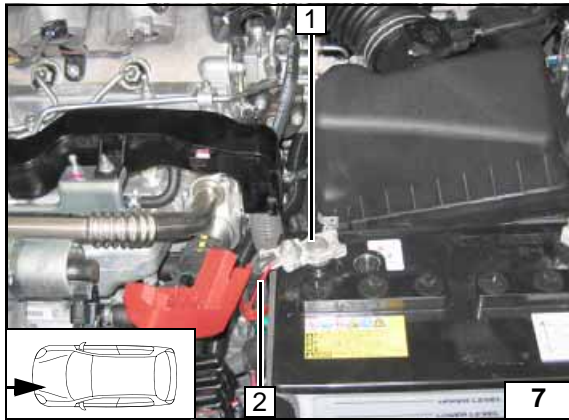
Wiring harness routing

- 1 Route wiring harnesses of digital timer, fan controller and metering pump in corrugated tube to firewall



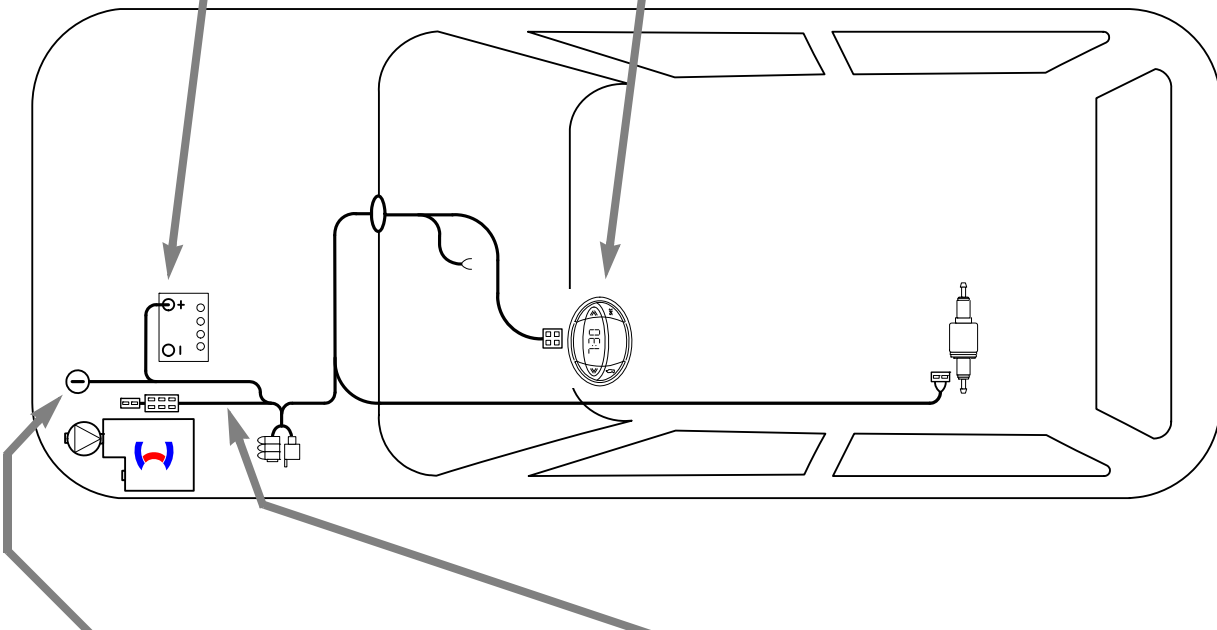
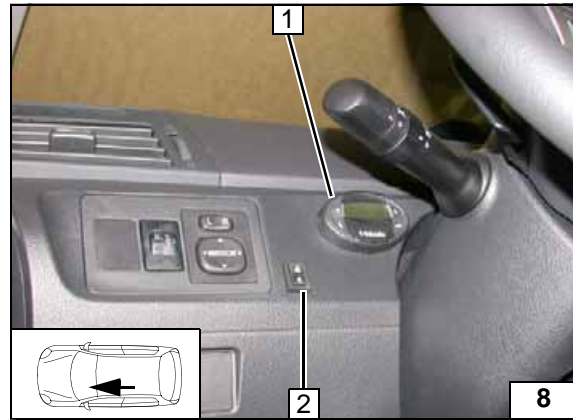
Positive wire

- 1 Positive battery terminal
- 2 Cut positive wire to length, 8 mm dia. cable lug

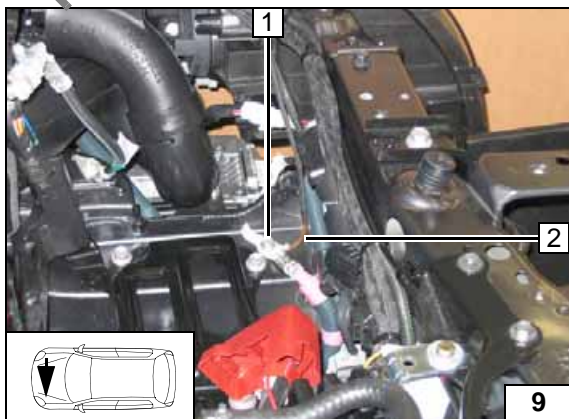


Digital timer and summer/winter switch option

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

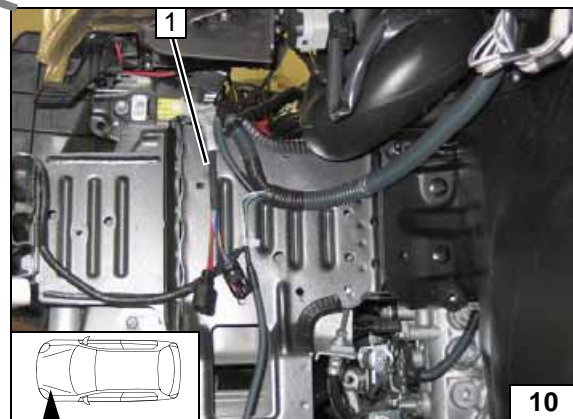


Wiring harness routing diagram



Earth wire

- 1 Original M6 bolt of vehicle
- 2 Earth wire, 6 mm dia. cable lug

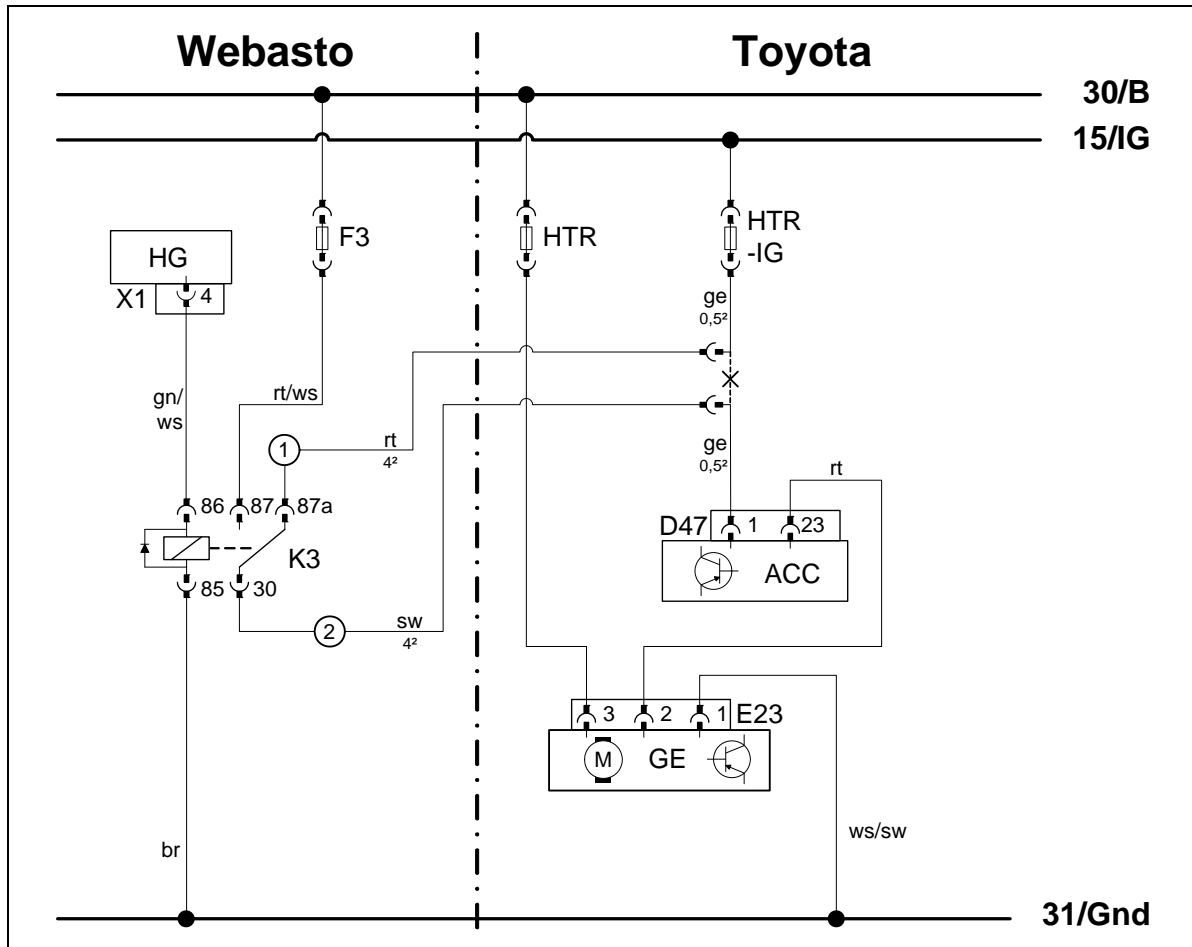


Wiring harness routing

Route wiring harness of heater 1 to installation location.



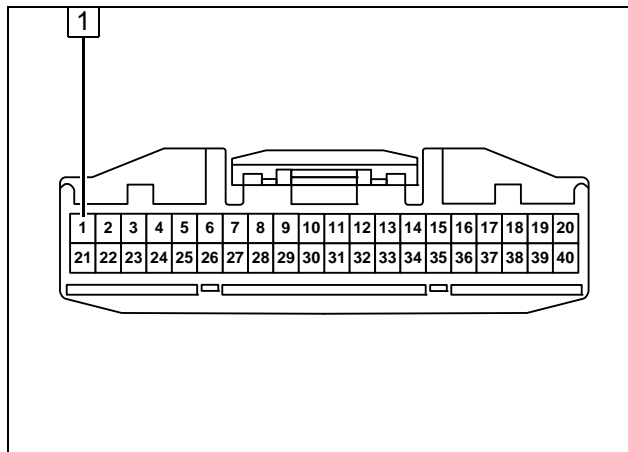
Fan Controller



Wiring diagram

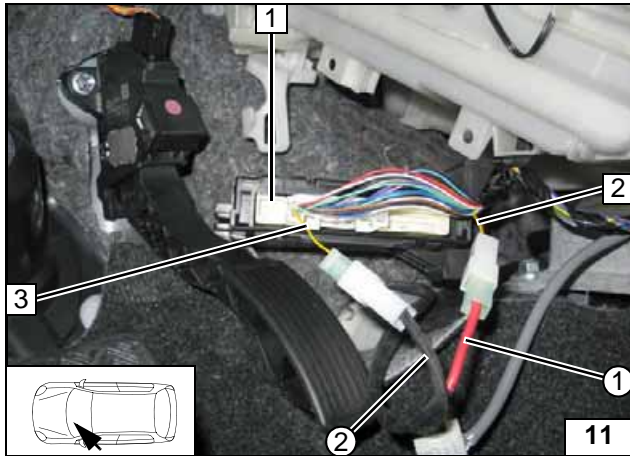
| Webasto components | | Vehicle components | | Colours and symbols | |
|--------------------|------------------------------|--------------------|----------------------|--------------------------|---------------|
| HG | Heater TT-C/E | GE | Fan unit | rt | red |
| X1 | 6-pin connector | E23 | GE connector | ws | white |
| F3 | Replace 25 A with 10 A fuse. | ACC | AC control | sw | black |
| K3 | Fan relay | D47 | 40-pin ACC connector | br | brown |
| | | HTR | 30A fuse | gn | green |
| | | HTR-IG | 10A fuse | ge | yellow |
| | | | | X | Cutting point |
| | | | | Wiring colours may vary. | |

Legend



1 Connector D47 on contact side (PIN 1)

Connector D47

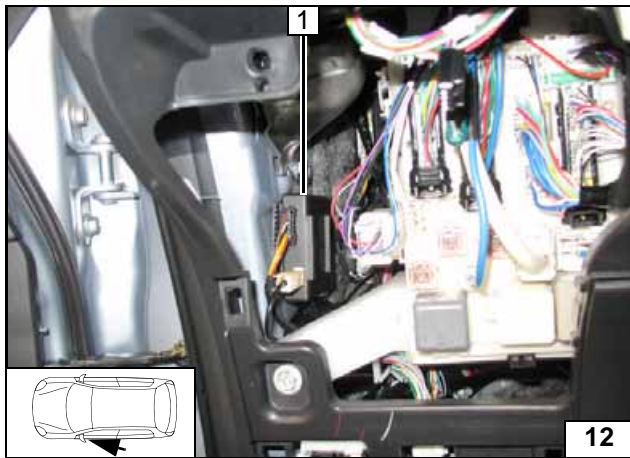


Connection to 40-pin connector 1 from ACC. Produce connections as shown in wiring diagram.

- 2 Yellow (ge) wire HTR/IG
- 3 Yellow (ge) wire of connector D47/1
- ① Red (rt) wire of K3/87a
- ② Black (sw) wire of K3/30



Conne-
ction to ACC

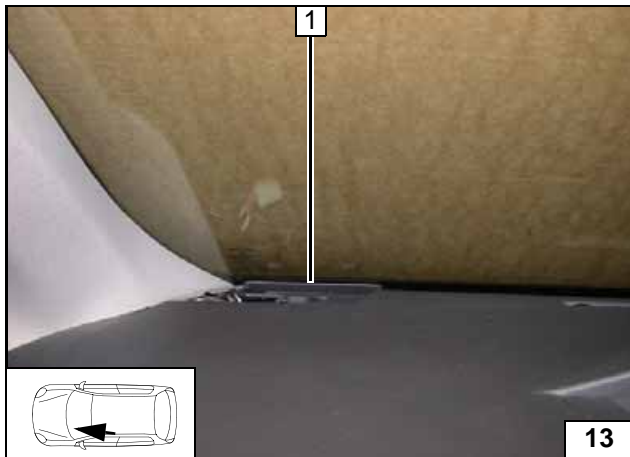


Remote Option (Telestart)

Fasten receiver 1 with adhesive tape.



Installing
receiver

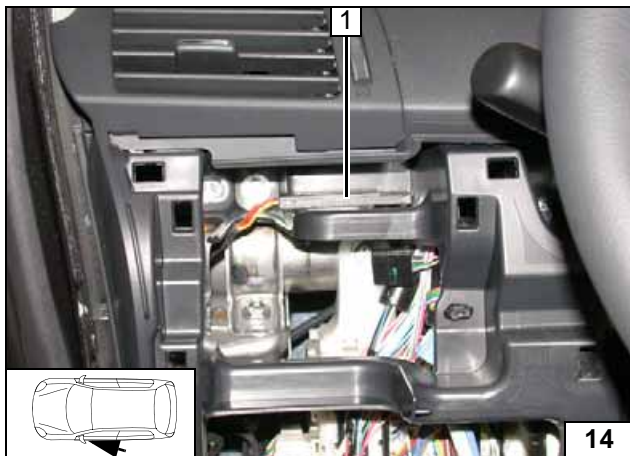


Loudspeaker cover removed.

- 1 Antenna



Installing
antenna

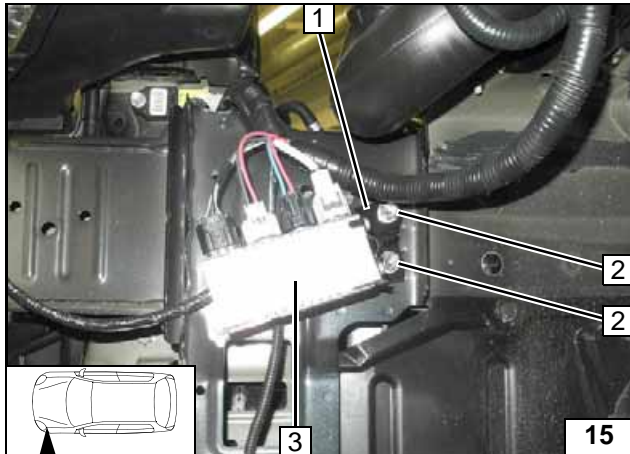
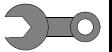


Temperature sensor only with T100

Fasten receiver 1 with adhesive tape.



Mounting
tempera-
ture sensor



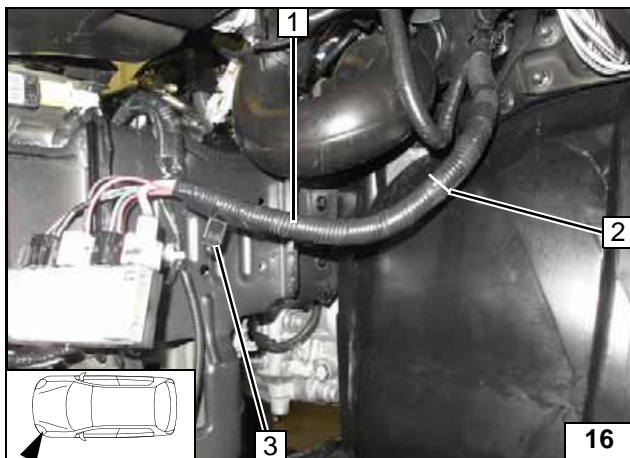
Preparing Installation Location

Glow-time control unit depends on the equipment and is not present in all vehicles.

- 1 Bracket of control unit
- 2 Remove original vehicle bolts [2x] and discard
- 3 Remove control unit from bracket, original vehicle bolts will be reused



Detaching control unit

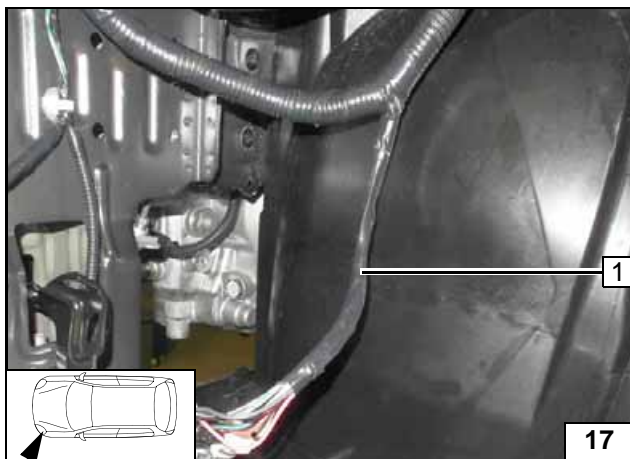


Detach wiring harness of control unit from original vehicle wiring harness 1 up to position 2.

- 3 Remove retaining clip of wiring harness

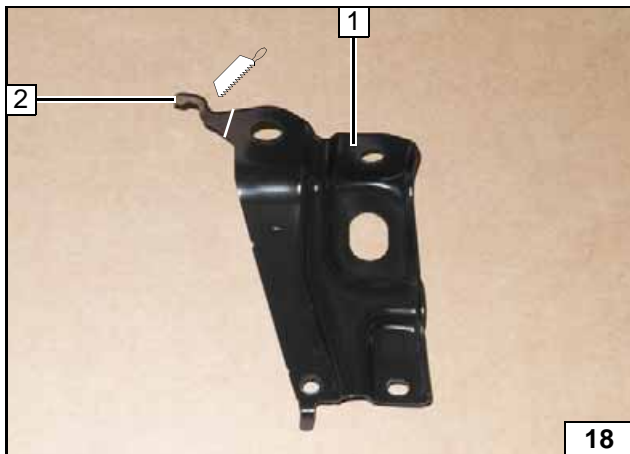


Detaching wiring harness



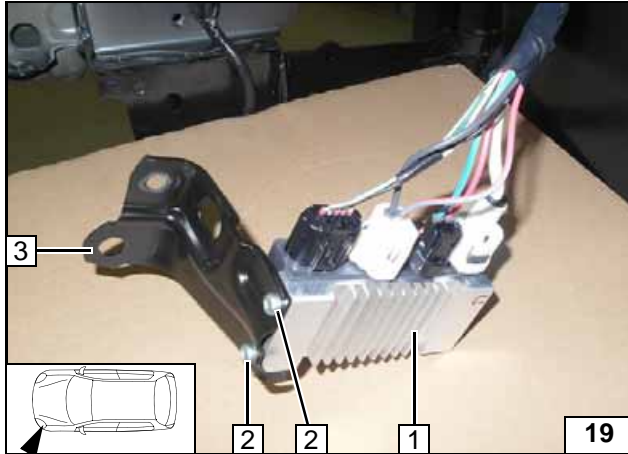
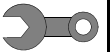
- 1 Insulate wiring harness of control unit

Preparing wiring harness



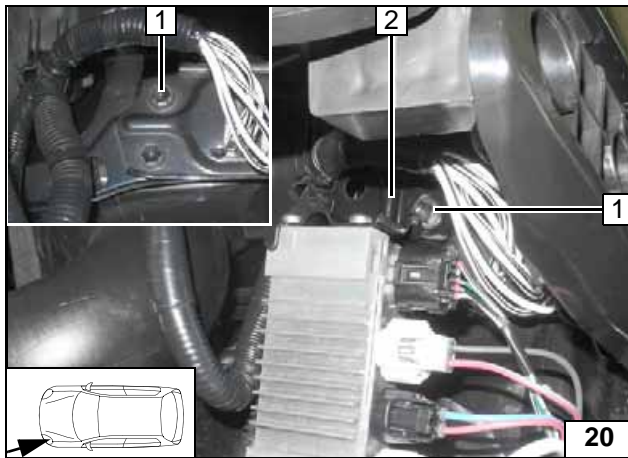
- 1 Control unit bracket
- 2 Cut off tab and discard

Preparing bracket



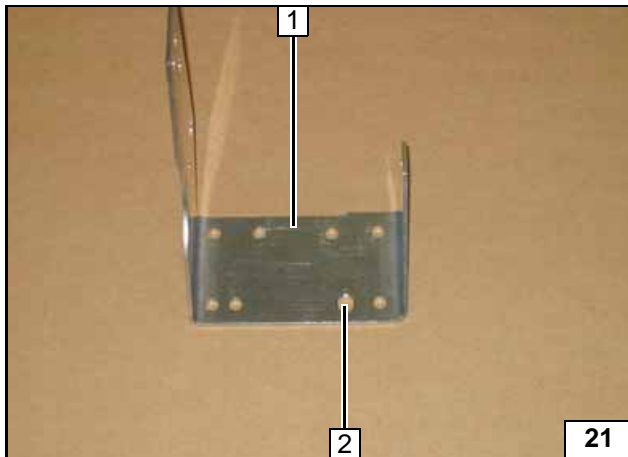
- 1 Control unit
- 2 Original vehicle bolts [2x]
- 3 Control unit bracket

Installing bracket of control unit



- 1 Original vehicle bolt
- 2 Control unit bracket

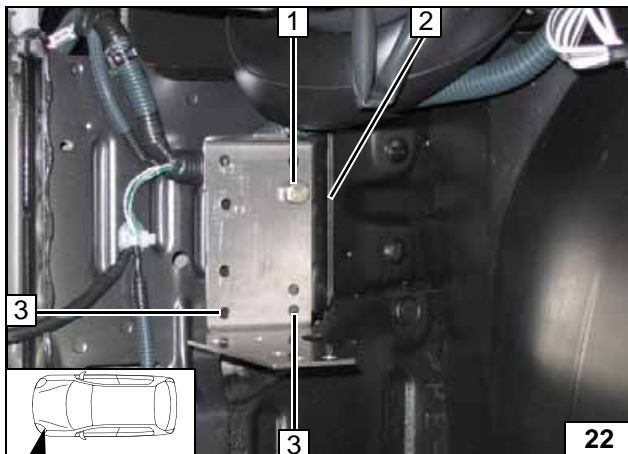
Installing control unit



Mounting Bracket

- 1 Bracket
- 2 Drill out hole to 8.5 mm dia.

Preparing bracket

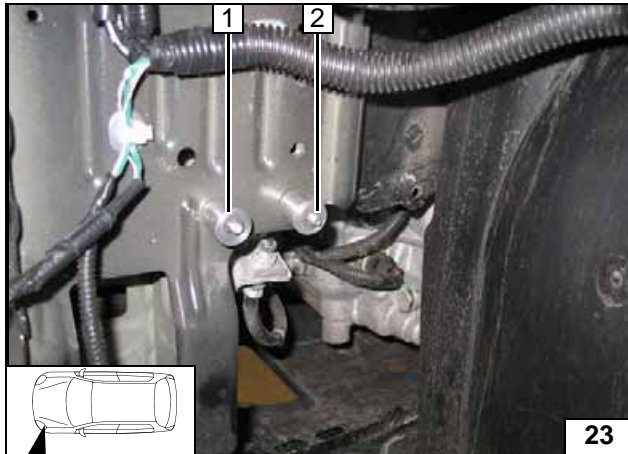
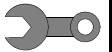


Align bracket parallel to original vehicle edge
2. Insert 20 mm shim between bracket and vehicle.

- 1 M8x40 bolt, 20 mm shim
- 3 Copy hole pattern, 7 mm dia. hole



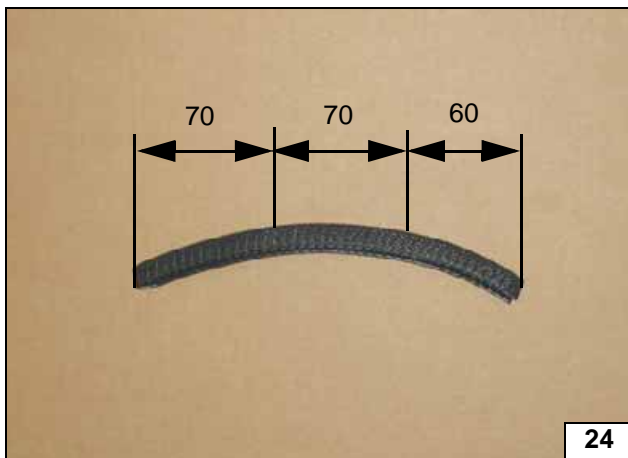
Copying hole pattern



- 1 M6x40 bolt, 20 mm shim, pin lock
- 2 M6x35 bolt, 20 mm shim, pin lock



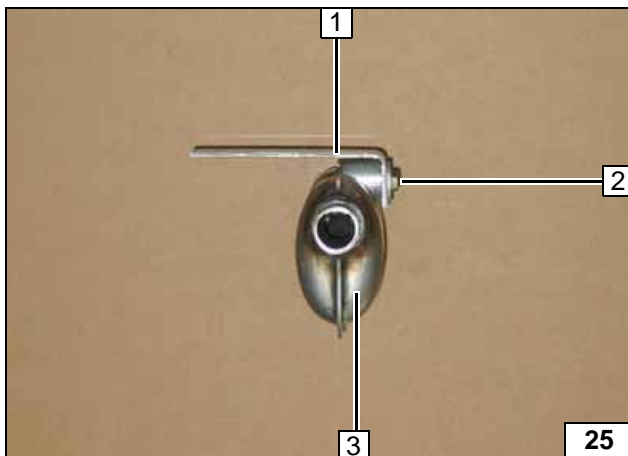
Cutting edge protection to length



Cut edge protection to length as shown.

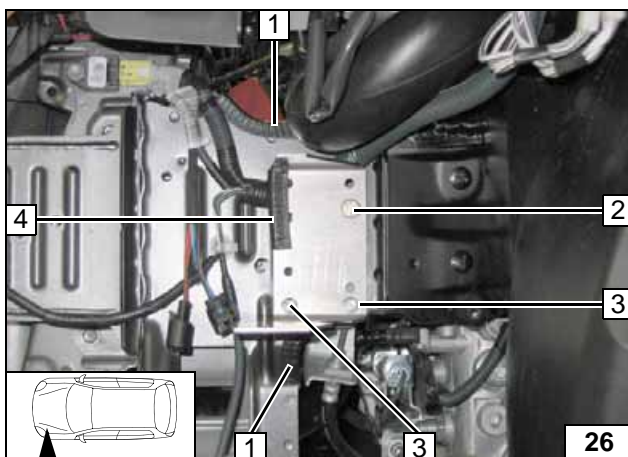


Cutting edge protection to length



- 1 Angle bracket
- 2 M6x35 bolt, large diameter washer, 20 mm shim, flanged nut
- 3 Exhaust silencer

Premounting silencer

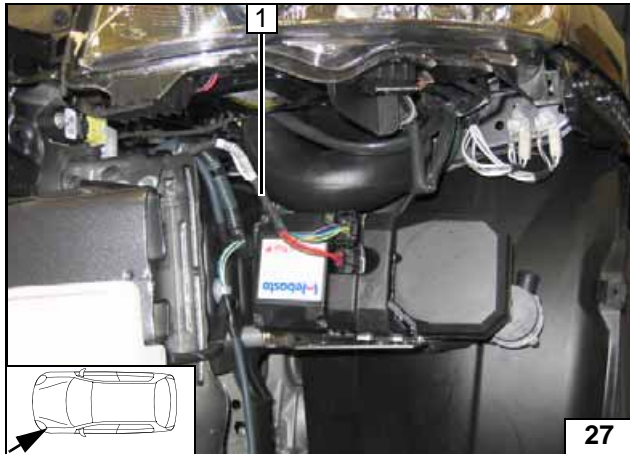
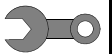


A 20 mm shim must be positioned between bracket and vehicle at position 2.

- 1 70 mm edge protection [2x]
- 2 M8x40 bolt, spring lockwasher, 20 mm shim, existing threaded hole
- 3 M6 flanged nut [2x]
- 4 60 mm edge protection



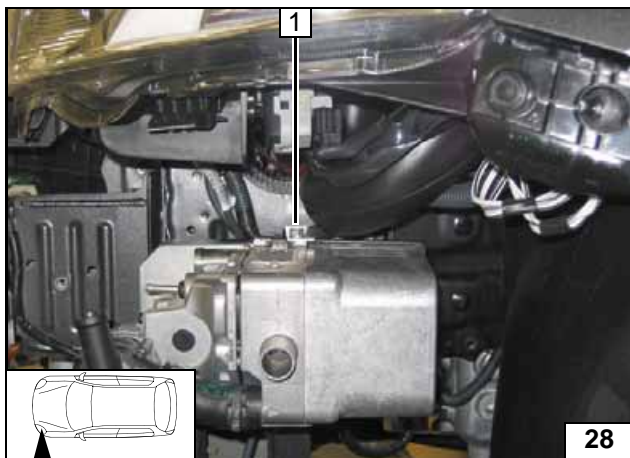
Mounting bracket



Installing Heater

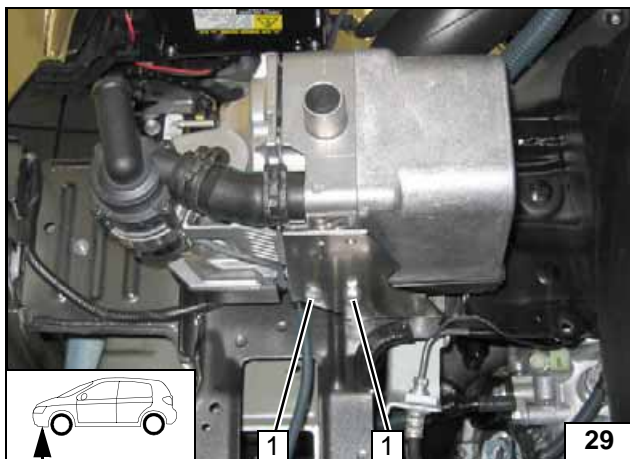
- 1 Wiring harness of heater

**Connect-
ing wiring
harness**



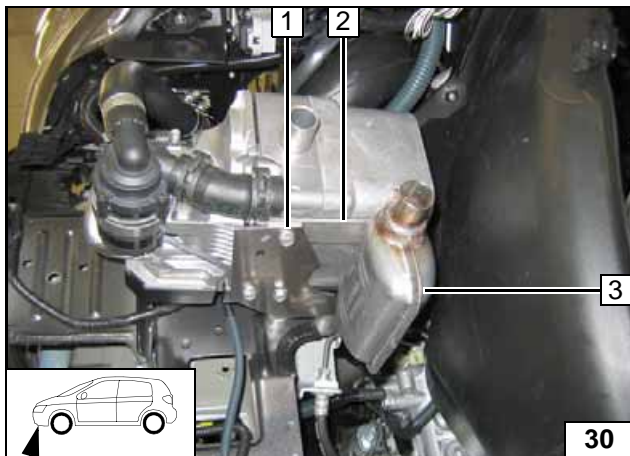
- 1 Loosely mount E-jot screw

**Installing
heater**



- 1 Loosely mount E-jot screw [2x]

**Installing
heater**

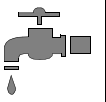


Position angle bracket **2** between heater and bracket. Tighten all bolts.

- 1 E-jot screw
- 3 Premounted exhaust silencer



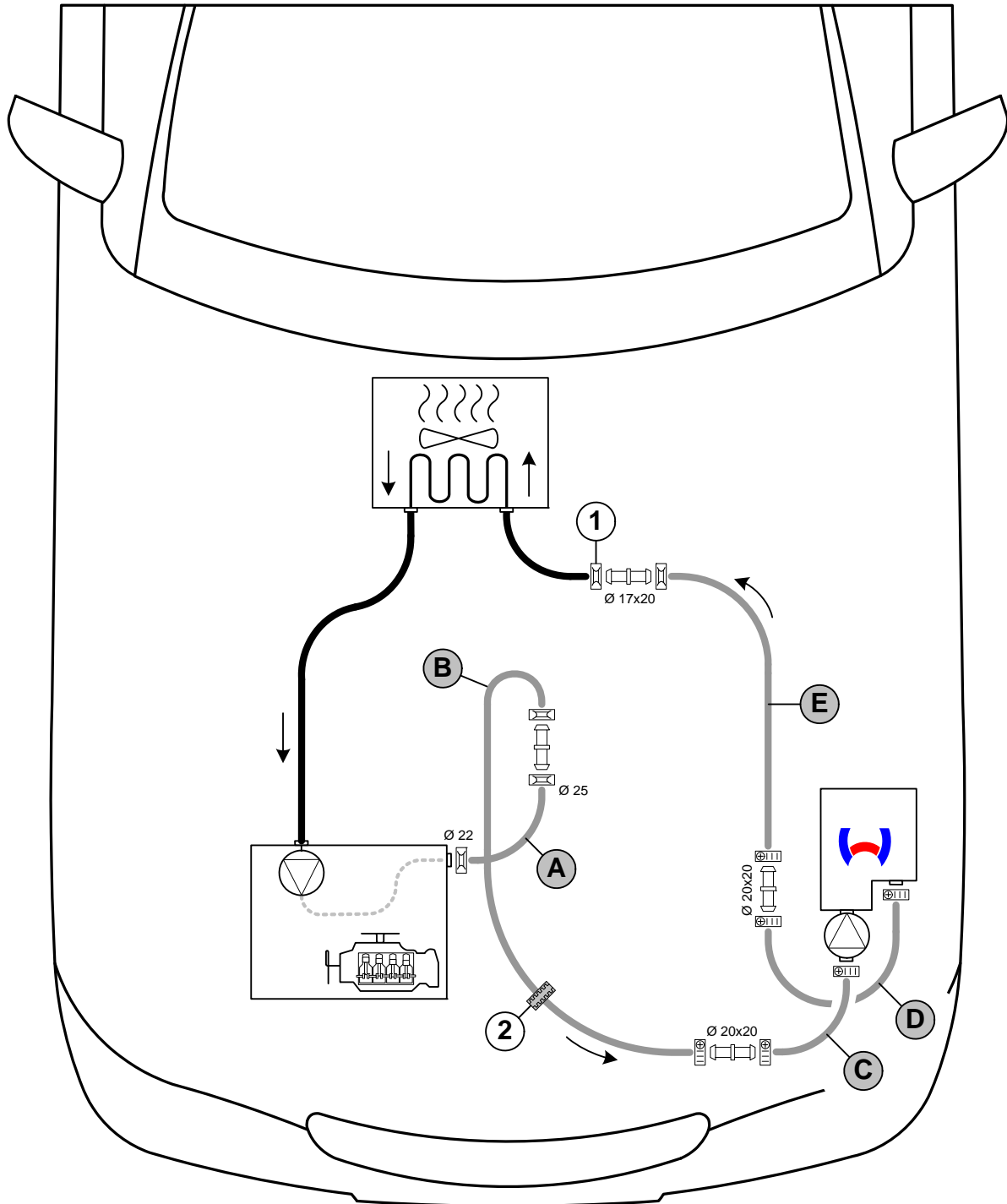
**Installing
heater**








Coolant Circuit

WARNING!

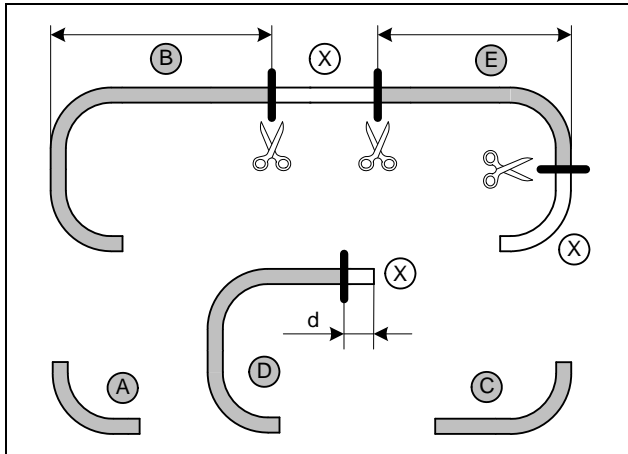
Any coolant running off should be collected in a suitable container. Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that no other hose can be damaged. When installing the hoses, the heater must be filled with coolant. The connection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



Hose routing diagram

All spring clips without a specific designation  = 27 mm dia. All hose clamps  = 20-27 mm dia. All connecting pipes without a specific designation  = dia. 18x20 mm.
 1 = Original vehicle spring clip  . 2 = Black (sw) rubber isolator .





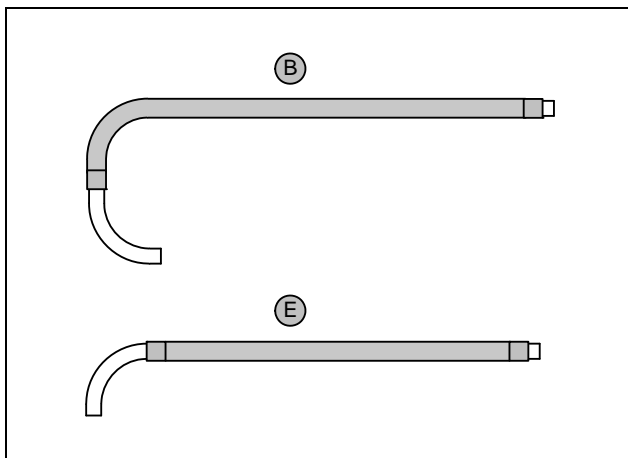
A = Moulded hose 90° 15x18 mm dia.
C = Moulded hose 90° 20x20 mm dia.
D = Moulded hose 180° 20x20 mm dia., shorten

Discard sections **X**.

B = 900
d = 40
E = 560



Cutting hoses to length

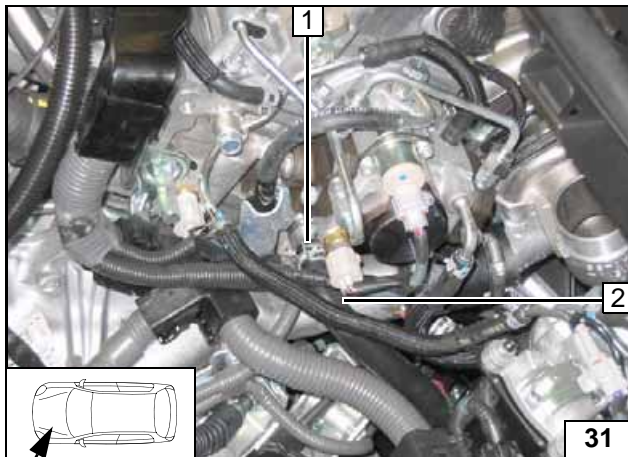


Push braided protection hose onto hose **B** and **E** and cut to length.
 Cut heat shrink plastic tubing to length.

1 25 mm heat shrink plastic tubing [4x]



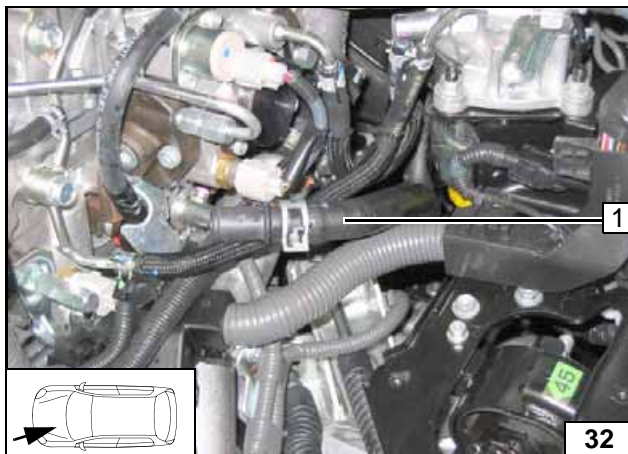
Preparing coolant hoses



Pull off hose section **2** from engine outlet connection piece. Spring clip **1** will be reused!



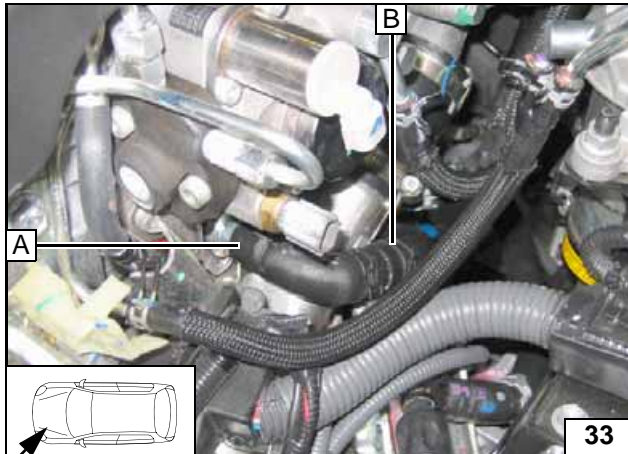
Cutting point



Pre-mount and route hose section **1** as shown.



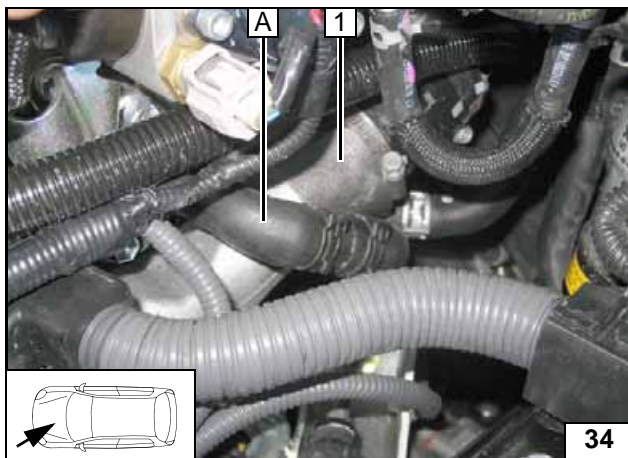
Pre-mounting hose



Connect hose **A** on engine outlet and connect to 180° elbow from hose **B**.



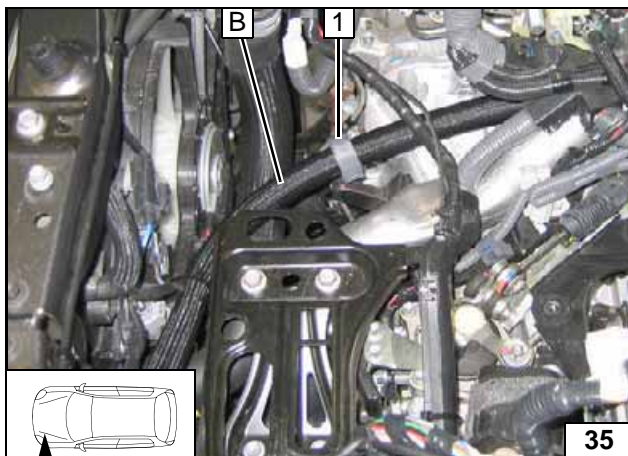
**Connect-
ing engine
outlet**



Divide provided rub protection into three equal sections. Glue one section onto charge-air tube in area of spring clips 1.



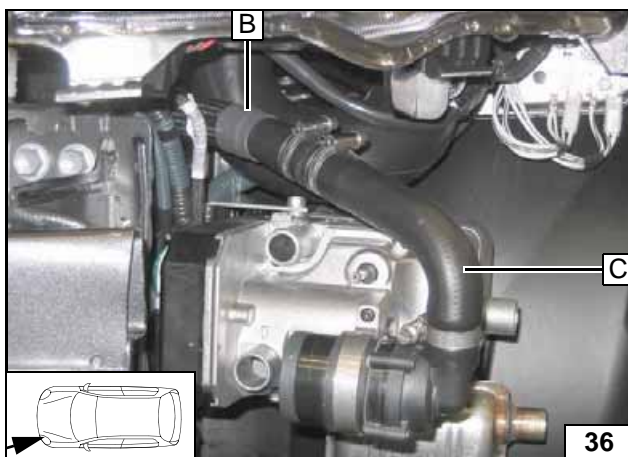
**Gluing rub
protection**



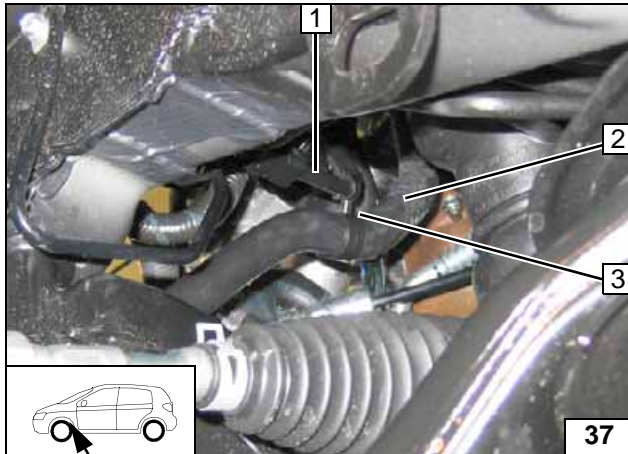
Slide black (sw) rubber isolator **1** onto hose **B**.



**Routing in
engine
compart-
ment**

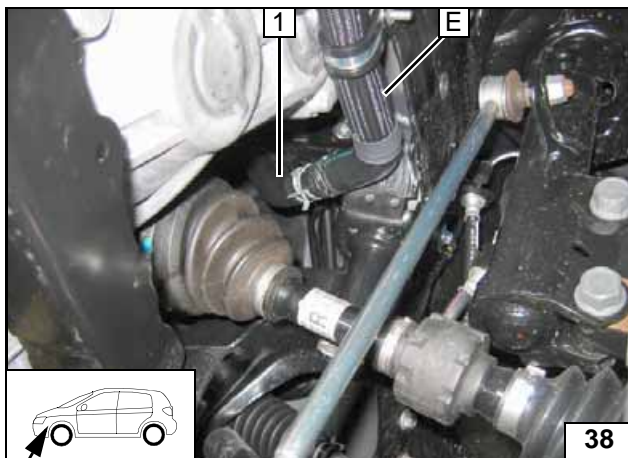


**Connect-
ing heater
inlet**



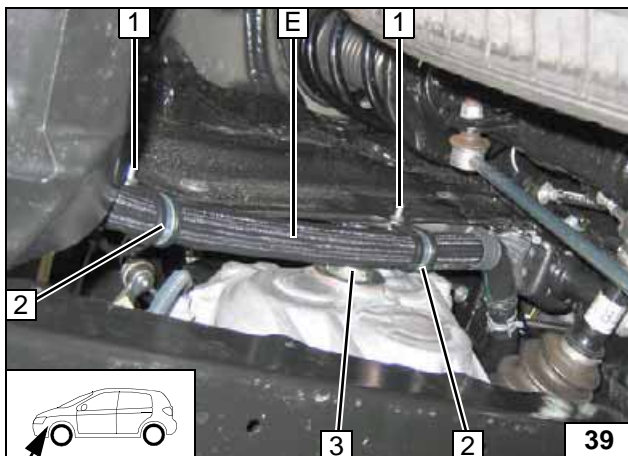
- 1 Original vehicle line
- 2 Hose on heat exchanger inlet
- 3 Spacer bracket

Fastening hose to heat exchanger inlet



- 1 Hose on heat exchanger inlet

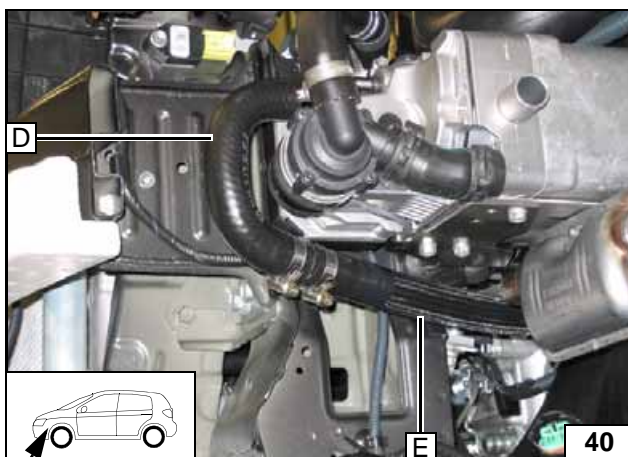
Connecting heat exchanger inlet



Glue second section of rub protection on bolt head at position 3.

- 1 M6x20 bolt, pin lock in existing hole [2x each]
- 2 29 mm dia. rubber-coated p-clamp [2x]

Routing hose E



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

Connecting heater output



Fuel

CAUTION!

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

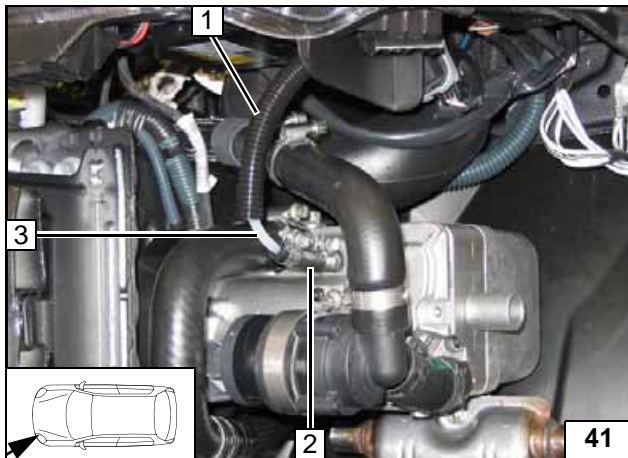
Catch any fuel running off with an appropriate container.

Route 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.

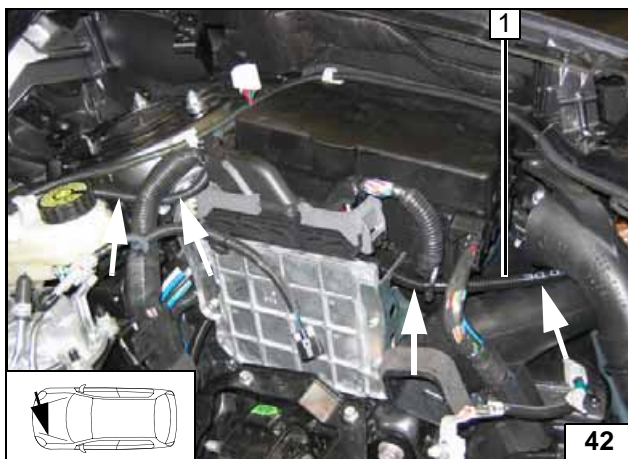


Pull fuel line through 10 mm dia., 760 mm corrugated tube 1.

- 2 Hose section, 10 mm dia. hose clamps [2x]
- 3 Fuel line

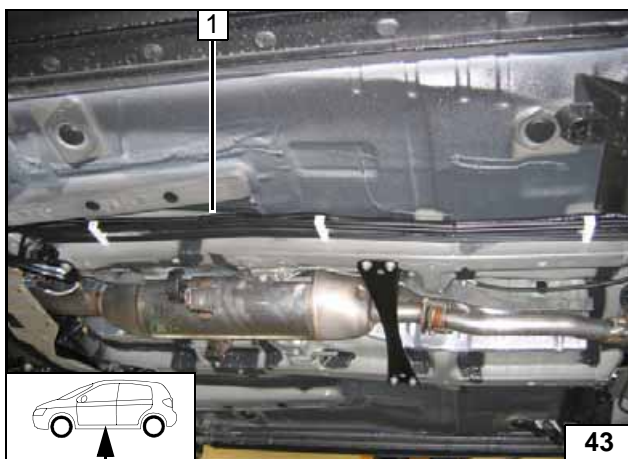


Connect-
ing heater



Route corrugated tube with fuel line 1 to fire-wall. Starting from the firewall, route wiring harness of metering pump and fuel line in 10 mm dia., 2100 mm long corrugated tube.

Routing
lines



Route wiring harness of metering pump and fuel line in corrugated tube 1 along original vehicle fuel lines to the installation location of the metering pump and fasten using cable ties.

Routing
lines

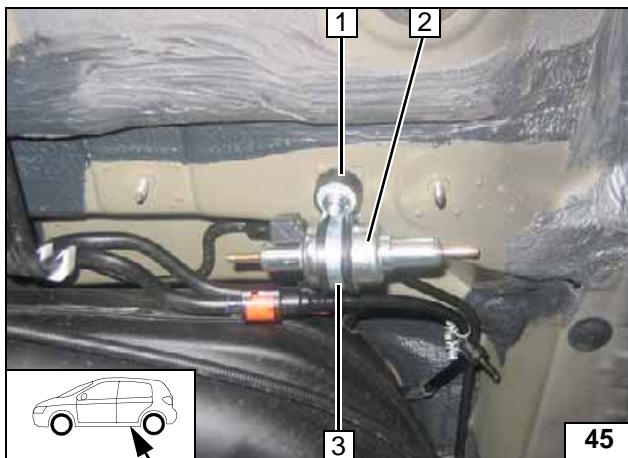




Remove rubber plugs and mount rivet nut at position 1.



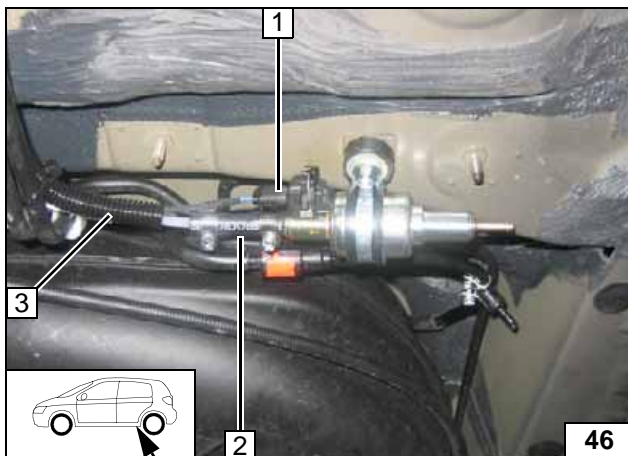
Installing rivet nut



- 1 Silent block, flanged nut
- 2 Metering pump
- 3 35 mm dia. rubber-coated p-clamp

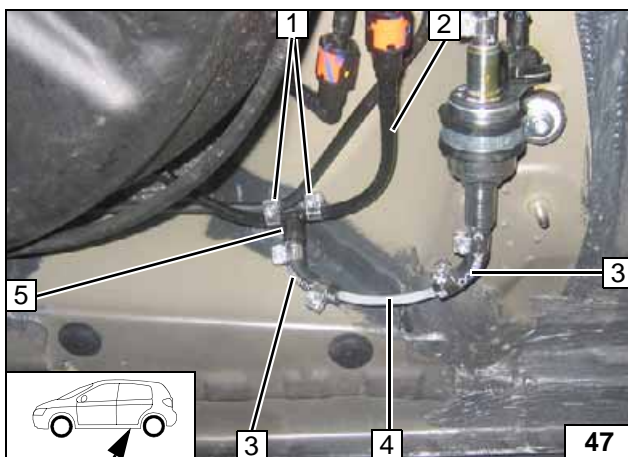


Installing metering pump



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

Connection of metering pump

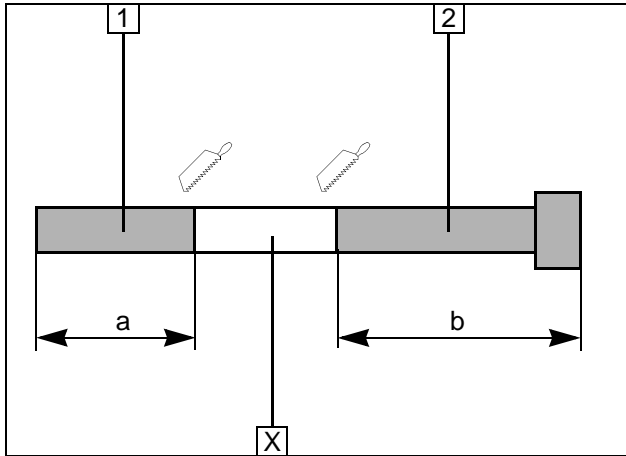
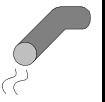


Check the position of the components; correct if necessary. Check that they have freedom of movement.



Mounting fuel standpipe

- 1 8 mm dia. hose clamp [2x]
- 2 Original vehicle fuel return line
- 3 Hose section [2x], 10 mm dia. hose clamp [4x]
- 4 Fuel line
- 5 6x5x6 fuel standpipe

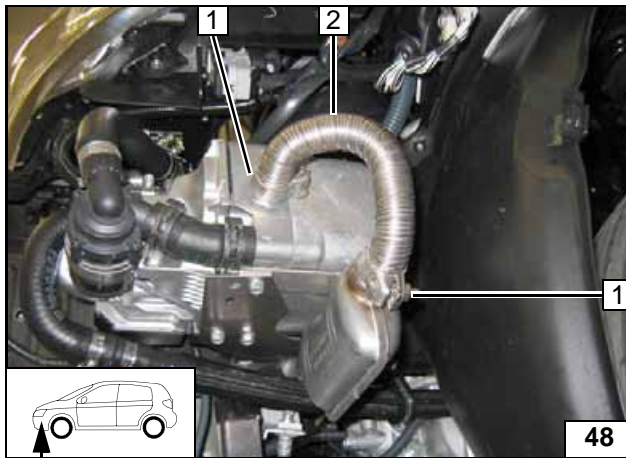


Exhaust Gas

- 1 Exhaust pipe
a = 180
- 2 Exhaust end section
b = 260

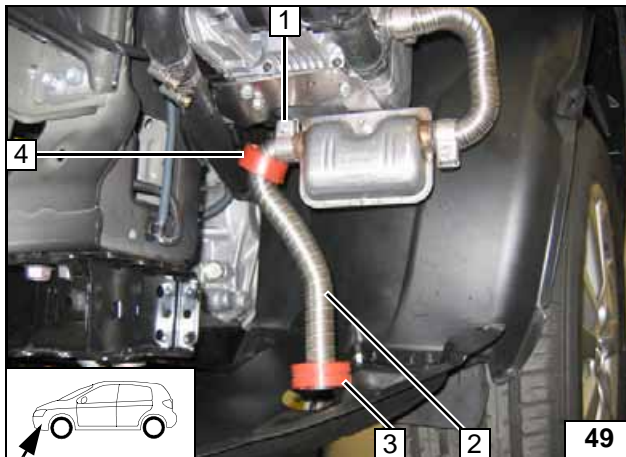
Discard section X

Preparing exhaust pipe



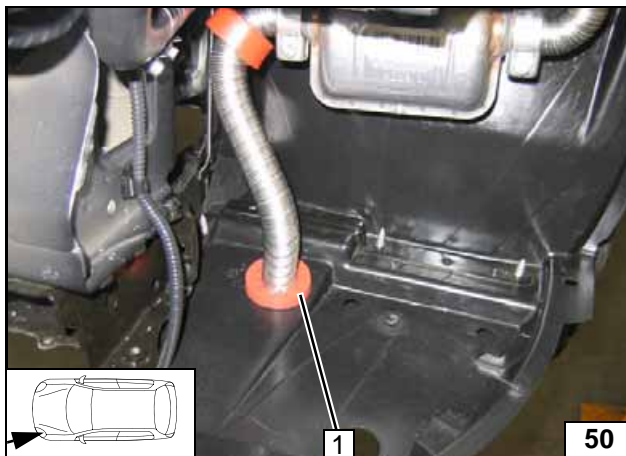
- 1 Hose clamp [2x]
- 2 Exhaust pipe

Installing exhaust pipe



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

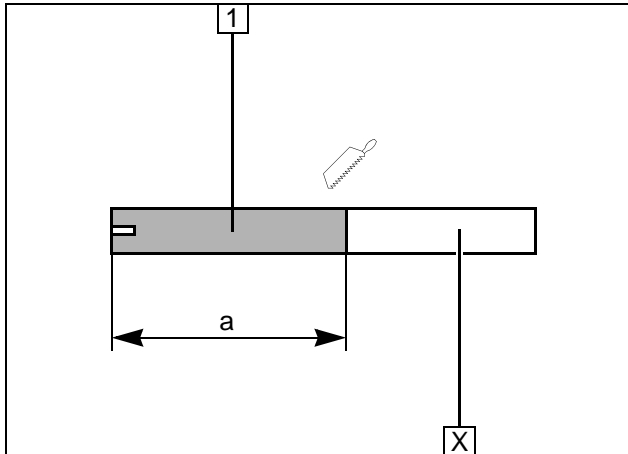
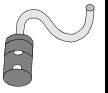
Mounting exhaust end section



Drill out existing hole to 42 mm dia. 1 and mount exhaust end section with red (rt) rubber isolator with groove.



Mounting exhaust end section

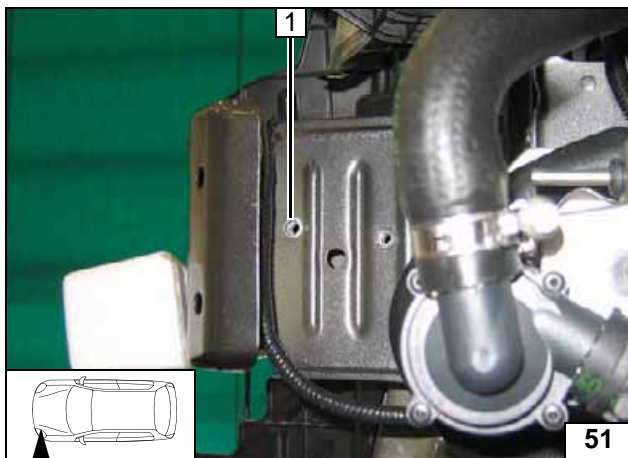


Combustion Air

- 1 Combustion air pipe
a = 290

Discard section X

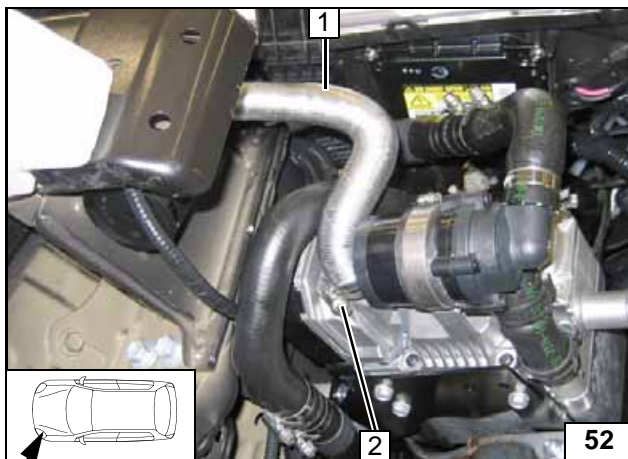
Cutting combustion air pipe to length



Drill out original vehicle hole 1 to 9.1 mm dia. and mount M6 rivet nut.

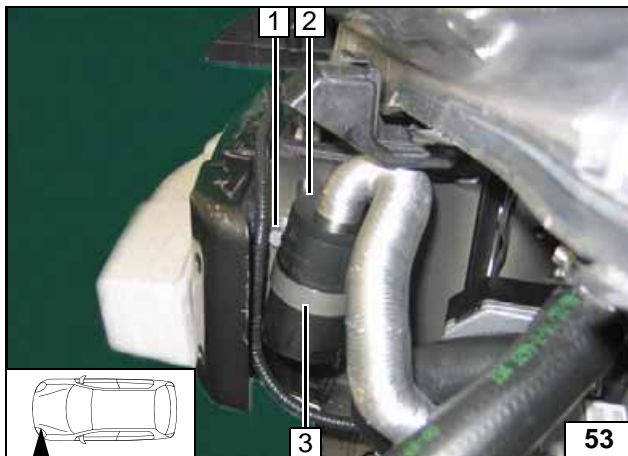


Installing rivet nut



- 1 Combustion air pipe
- 2 27 mm dia. hose clamp

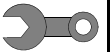
Installing combustion air pipe



- 1 5 mm shim, spring lockwasher, M6x25 bolt
- 2 Silencer
- 3 52 mm dia. p-clamp



Installing silencer

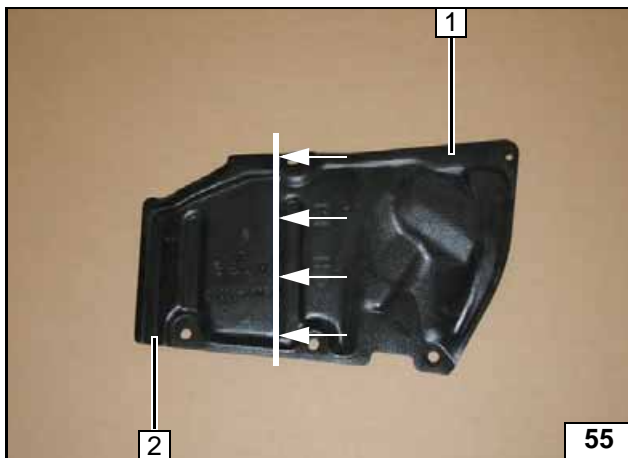


Final Work

Glue third section of rub protection 2 onto air intake pipe 1.



Gluing rub protection

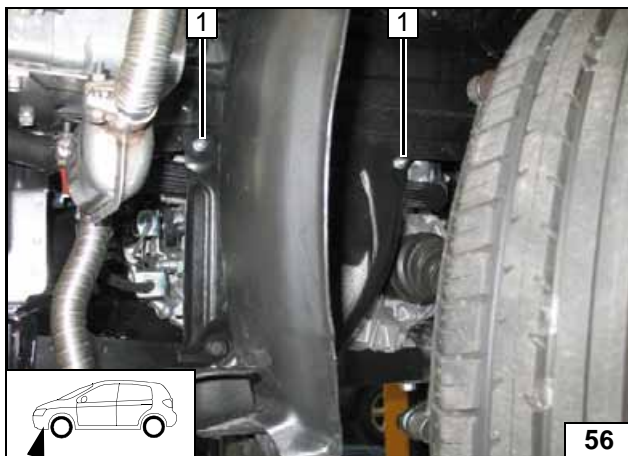


Shorten side wheel well trim 1 according to figure.

2 Discard section



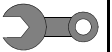
Shortening side wheel well trim



Manual transmission only

1 M6 flanged nut [2x]

Installing side wheel well trim

**WARNING!**

Reassemble the components in reverse order. Check all hoses, clamps and all electrical connections for firm seating. Insulate and tie back all loose wires.

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, try out Telestart transmitter**
- **Make settings on A/C control panel according to the "Operating Instructions for End Customer".**
- **Place signboard "Switch off parking heater before refuelling" in the area of the filler neck.**
- **For initial startup and function check, see installation instructions**



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 vehicles have passenger compartment monitoring, this must be deactivated in addition to the vehicle settings for the heating operation.

Deactivation instructions can be found in the operating instructions of the vehicle.

Before parking the vehicle, make the following settings:



No display appears in A/C control panel during heating.

Order of setting:

1. Air outlet at windscreen
2. Set fan to level "2"
3. Set temperature on both sides to "HI"

A/C control panel

