

Water Heater

Thermo Top Evo Parking Heater



Installation Documentation Toyota Landcruiser LC150

Validity

Manufacturer	Model	Type	EG-BE No. / ABE
Toyota	Landcruiser	J15	e6 * 2007 / 46 * 0001 * ...

Motorisation	Fuel	Transmission type	Output in kW	Displacement in cm ³	Engine code
3.0D	Diesel	6-speed SG	127	2982	1KD-FTV
3.0D	Diesel	5-speed AG	127	2982	1KD-FTV
3.0D	Diesel	6-speed SG	140	2982	1KD-FTV
3.0D	Diesel	5-speed AG	140	2982	1KD-FTV

SG = Manual transmission
AG = Automatic transmission

From Model Year 2010
Left-hand drive vehicle

Verified equipment variants:

- Automatic air-conditioning, front and rear
- Front fog light
- Passenger compartment monitoring
- Xenon with headlight washer system and cornering light
- Euro 5 emission standard
- 3 and 5 doors

Not verified: Manual air-conditioning

Total installation time: about 7 hours

Toyota Landcruiser LC150

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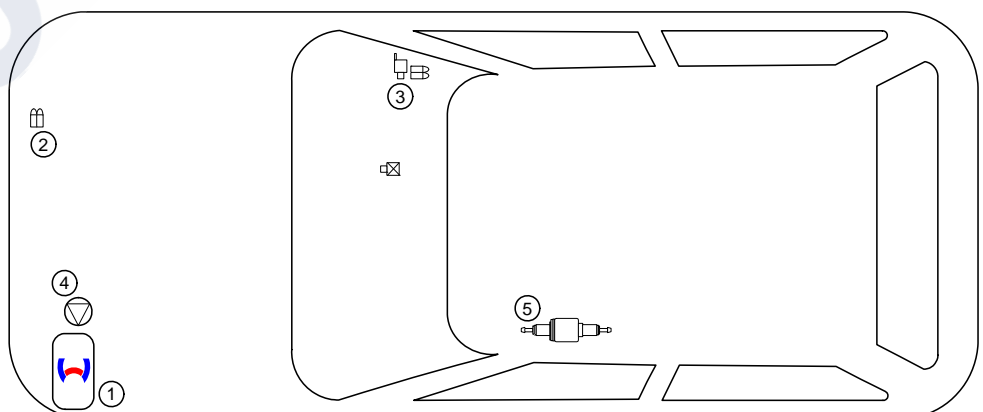
Necessary Components

- Basic delivery scope *Thermo Top Evo* in accordance with price list
- Installation kit for Toyota Landcruiser LC150 2010 Diesel: **1317479A**
- Heater control in accordance with price list and upon consultation with final customer
- In case of Telestart, indicator lamp in accordance with price list and upon consultation with final customer

Installation Overview

Legend:

1. Heater
2. Fuse holder of engine compartment
3. Fuse holder of passenger compartment
4. Circulating pump
5. Metering pump



Notes on Total Installation Time

The total installation time includes the time needed for mounting and demounting of the vehicle-specific components, the heater specific installation time and all other times required for the system integration and initial start-up of the heater.

The total installation time may vary for vehicle equipment other than provided.

Toyota Landcruiser LC150

Information on Operating and Installation Instructions

1 Important Information (not complete)

1.1 Installation and Repair



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.



Installation and repair may ONLY be carried out by persons trained and certified in a Webasto training course. NEVER try to install or repair Webasto heating or cooling systems if you have not completed a Webasto training course, you do not have the necessary technical skills and you do not have the technical documentation, tools and equipment available to ensure that you can complete the installation and repair work properly.

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

1.2 Operation

To ensure safe operation, we recommend having the heater checked every two years by an authorised Webasto dealer, especially when used over a long period and/or under extreme environmental conditions.

Do not operate the heater in closed rooms due to the danger of poisoning and suffocation.

Always switch off the heater before refuelling.

The heater may only be used with the prescribed fuel Diesel (DIN EN 590) or petrol (DIN EN 227).

The heater may not be cleaned with a high-pressure cleaner.

1.3 Please note

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

To become familiar with and understand all functions and properties of the heater, the operating instructions must be read carefully and observed at all times.

For proper, safe installation and repair work, the installation instructions with all warnings and safety information must be carefully read and observed at all times. Please always contact a workshop authorised by Webasto for all installation and repair work.

Important

Webasto shall assume no liability for defects, damage and injuries resulting from a failure to observe the installation, repair and operating instructions of the information contained in them.

This liability exclusion particularly applies to improper installations and repairs, installations and repairs by untrained persons or in the case of a failure to use genuine spare parts.

The liability due to culpable disregard to life, limb or health and due to damage or injuries caused by a wilful or reckless breach of duty remain unaffected, as does the obligatory product liability.

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 loose wire ends and tie back. Connectors on electronic components must audibly snap into place during assembly.

Sharp edges should be fitted with rub protection. Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329).

Observe the instructions and guidelines of the respective vehicle manufacturer for demounting and mounting vehicle specific components!

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

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

2 Statutory regulations governing installation

Guidelines	Thermo Top Evo
Heating Directive ECE R122	E1 00 0258
EMC Directive ECE R10	E1 03 5627

Note

The regulations of these guidelines are binding in the scope of the Directive 70/156/EEC and/or 2007/46/EC (for new vehicle models from 29/04/2009) and should also be observed in countries in which there are no special regulations.

Important

Failure to follow the installation instructions will result in the invalidation of the type approval for the heater and therefore invalidation of the general **homologation of the vehicle**.

Note

For vehicles with an EU permit, no entry in accordance with § 19 Sub-Section 4 of Annex VIII b to the Road Traffic Act is required.

2.1 Excerpt from the directive 2001/56/EC Appendix VII for the installation of the heater

Beginning of excerpt.

ANNEX VII

REQUIREMENTS FOR COMBUSTION HEATERS AND THEIR INSTALLATION

1. GENERAL REQUIREMENTS

1.7.1. A clearly visible tell-tale in the operator's field of view shall inform when the combustion heater is switched on or off.

2. VEHICLE INSTALLATION REQUIREMENTS

2.1. Scope

2.1.1. Subject to paragraph 2.1.2. combustion heaters shall be installed according to the requirements of this Annex.

2.1.2. Vehicles of category O having liquid fuel heaters are deemed to comply with the requirements of this Annex.

2.2. Positioning of heater

2.2.1. Body sections and any other components in the vicinity of the heater must be protected from excessive heat and the possibility of fuel or oil contamination.

2.2.2. The combustion heater shall not constitute a risk of fire, even in the case of overheating. This requirement shall be deemed to be fulfilled if the installation ensures an adequate distance to all parts and suitable ventilation, by the use of fire resistant materials or by the use of heat shields.

2.2.3. In the case of M2 and M3 vehicles, the heater must not be positioned in the passenger compartment. However, an installation in an effectively sealed envelope which also complies with the conditions in paragraph 2.2.2 may be used.

2.2.4. The label referred to in paragraph 1.4 or a duplicate, must be positioned so that it can be easily read when the heater is installed in the vehicle.

2.2.5. Every reasonable precaution should be taken in positioning the heater to minimise the risk of injury and damage to personal property.

2.3. Fuel supply

2.3.1. The fuel filler must not be situated in the passenger compartment and must be provided with an effective cap to prevent fuel spillage.

2.3.2. In the case of liquid fuel heaters, where a supply separate to that of the vehicle is provided, the type of fuel and its filler point must be clearly labelled.

2.3.3. A notice, indicating that the heater must be shut down before refuelling, must be affixed to the fuelling point. In addition a suitable instruction must be included in the manufacturer's operating manual.

2.4. Exhaust system

2.4.1. The exhaust outlet must be located so as to prevent emissions from entering the vehicle through ventilators, heated air inlets or opening windows.

2.5. Combustion air inlet

2.5.1. The air for the combustion chamber of the heater must not be drawn from the passenger compartment of the vehicle.

2.5.2. The air inlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

2.6. Heating air inlet

2.6.1. The heating air supply may be fresh or recirculated air and must be drawn from a clean area not likely to be contaminated by exhaust fumes emitted either by the propulsion engine, the combustion heater or any other vehicle source.

2.6.2. The inlet duct must be protected by mesh or other suitable means.

2.7. Heating air outlet

2.7.1. Any ducting used to route the hot air through the vehicle must be so positioned or protected that no injury or damage could be caused if it were to be touched.

2.7.2. The air outlet must be so positioned or guarded that blocking by rubbish or luggage is unlikely.

End of excerpt.

In multilingual versions the German language is binding.

Toyota Landcruiser LC150

Notes on Validity

This installation documentation applies to Toyota Landcruiser LC150 Diesel vehicles - for validity, see page 1 - from model year 2010 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.

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

Technical Instructions

Special Tools

- Hose clamp pliers for self-clamping hose clamps
- Hose clamp pliers for Clic hose clamps of type W
- Automatic wire stripper 0.2 - 6mm²
- Crimping pliers for cable lug / tab connector 0.5 - 6mm²
- Torque wrench for 2.0 - 10 Nm
- Hose clamping pliers
- Metric thread-setter kit
- Webasto Thermo Test diagnosis with current software

Dimensions

- All dimensions are in mm

Tightening torque values

- Tightening torque values of 5x13 heater bolts and 5x11 heater stud bolts = 8Nm.
- Tightening torque values of 5x15 retaining plate of water connection piece bolt = 7Nm.
- Tighten other screw connections in accordance with manufacturer's instructions or in accordance with state-of-the-art-technology.

Explanatory Notes on Document

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

Special features are highlighted using the following symbols:

Mechanical system



Specific risk of injury or fatal accidents



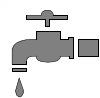
Electrical system



Specific risk of damage to components



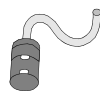
Coolant circuit



Specific risk of fire and explosion



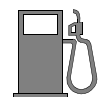
Combustion air



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



Fuel



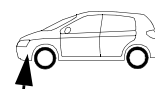
Reference to a special technical feature



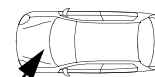
Exhaust gas



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



Software



Toyota Landcruiser LC150

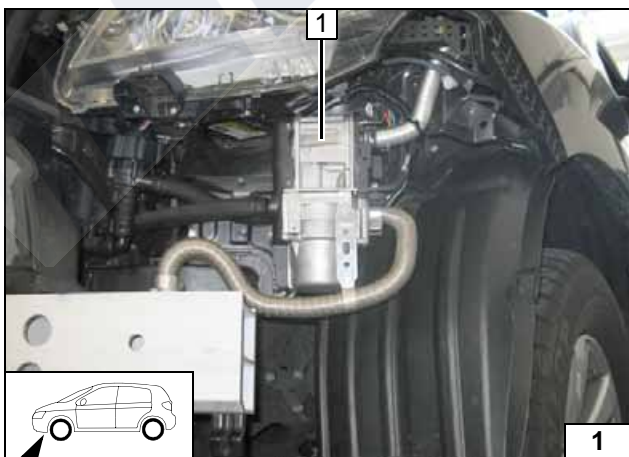
Preliminary Work

Vehicle

- Open the fuel tank cap.
- Ventilate the fuel tank.
- Close the fuel tank cap again.
- Depressurise the cooling system.
- Disconnect both batteries.
- Remove the right hand battery.
- Remove the bumper.
- Remove the lower instrument panel trim on the front passenger's side.
- Remove the glove compartment.
- Remove the door sill cover on the front passenger's side.
- Remove the A-pillar trim in the footwell on the front passenger's side.

Heater

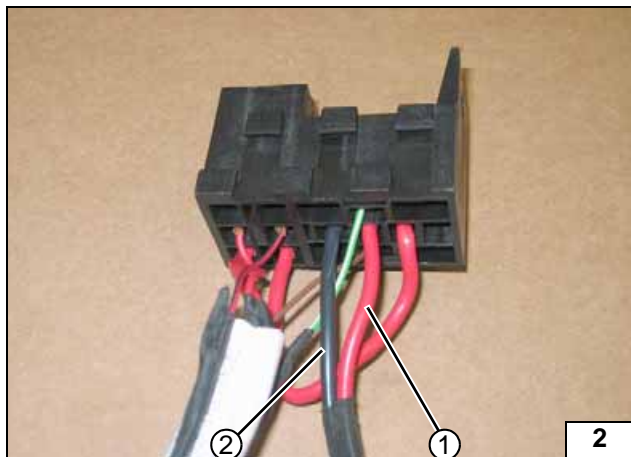
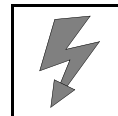
- Remove years that do not apply from the type and duplicate label.
- Attach the duplicate label (type label) in the appropriate place inside the engine compartment.



Heater Installation Location

- 1 Heater

Installation
location



Preparing Electrical System

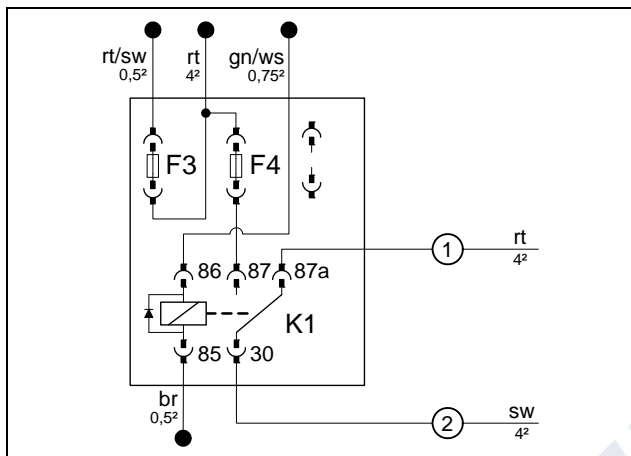
Wire sections retain their numbering in the entire document.

Produce connections as shown in following wiring diagram.

- ① Red (rt) wire to K1/87
- ② Black (sw) wire of K1/30



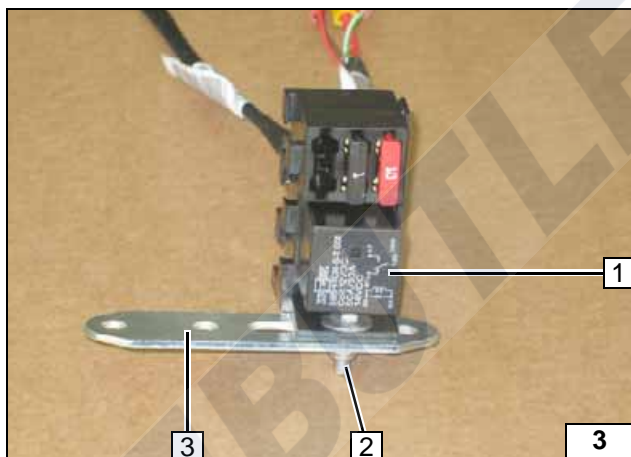
Installing wires



Produce connections as shown in wiring diagram. Installing F4 10A fuse. K1 relay will be inserted after installing the perforated bracket

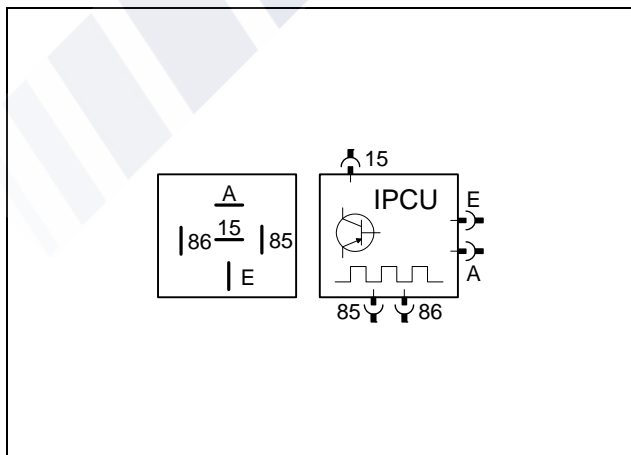


Installing F4



- 1 K1 relay
- 2 M5x16 bolt, large diameter washer [2x], nut
- 3 Perforated bracket

Preparing fuse holder of passenger compartment



IPCU view on the contact side!

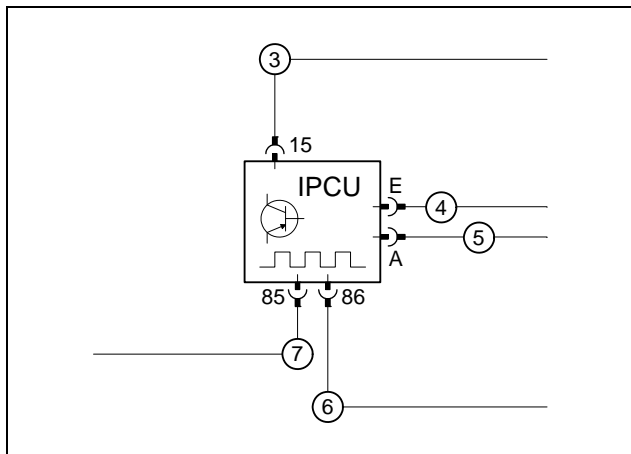
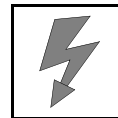
The IPCU included in the kit is pre-programmed with the following adjustment values:

- Duty-Cycle: 65%
- Frequency: 400 Hz
- Voltage: 9V
- Function: Low-side

The adjustment values are to be checked upon start-up of the heater and adjusted if necessary.



Preparing IPCU

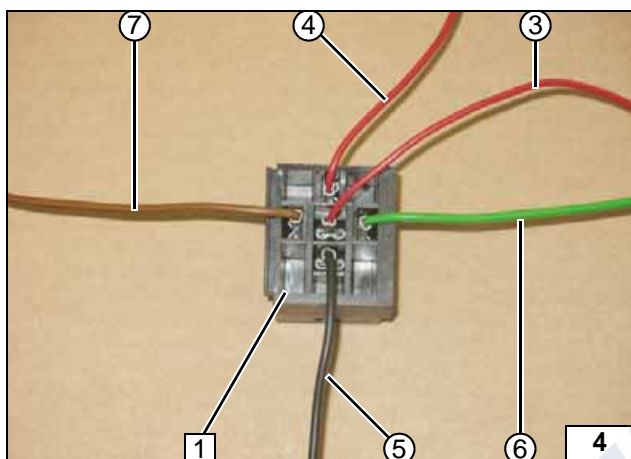


Connect wires to IPCU socket. Split protective sleeving down the middle and draw wires ④ and ⑤ into the sleeving.



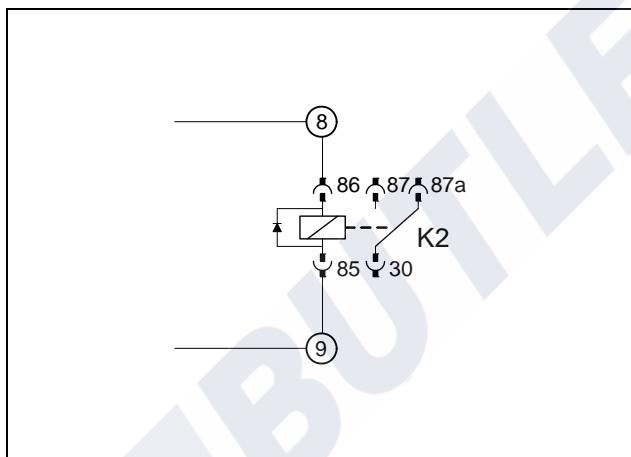
- ③ 500 mm long, 0.75 mm² red (rt) wire
- ④ 500 mm long, 0.75 mm² red (rt) wire
- ⑤ 500 mm long, 0.75 mm² black (sw) wire
- ⑥ 1000 mm long, 0.75mm² green/white (gn/ws) wire
- ⑦ 500 mm long, 0.75 mm² brown (br) wire

Preparing IPCU



1 Socket of IPCU

Preparing IPCU



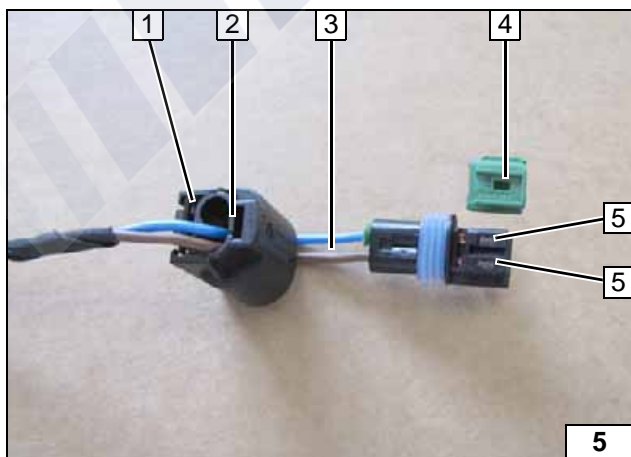
Additionally with automatic air-conditioning rear



(Switch-off function of rear fan unit)
Draw red (rt) wire ⑧ into protective sleeving.

- ⑧ 500 mm long, 0.75 mm² red (rt) wire
- ⑨ 500 mm long, 0.75 mm² brown (br) wire

Premounting additional relay K2



All vehicles

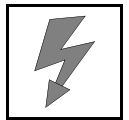


Complete connector of metering pump again after routing. Pin assignment is not relevant.

- 1 Connector housing
- 2 Lock
- 3 Blue/brown (bl / br) wires
- 4 Coding
- 5 Timer lock

Disassembling connector

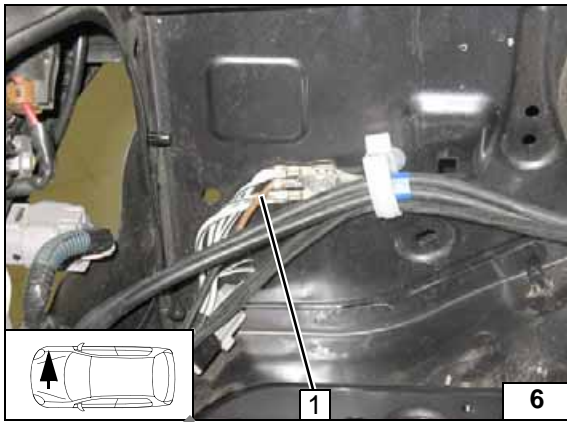
Toyota Landcruiser LC150



Electrical System

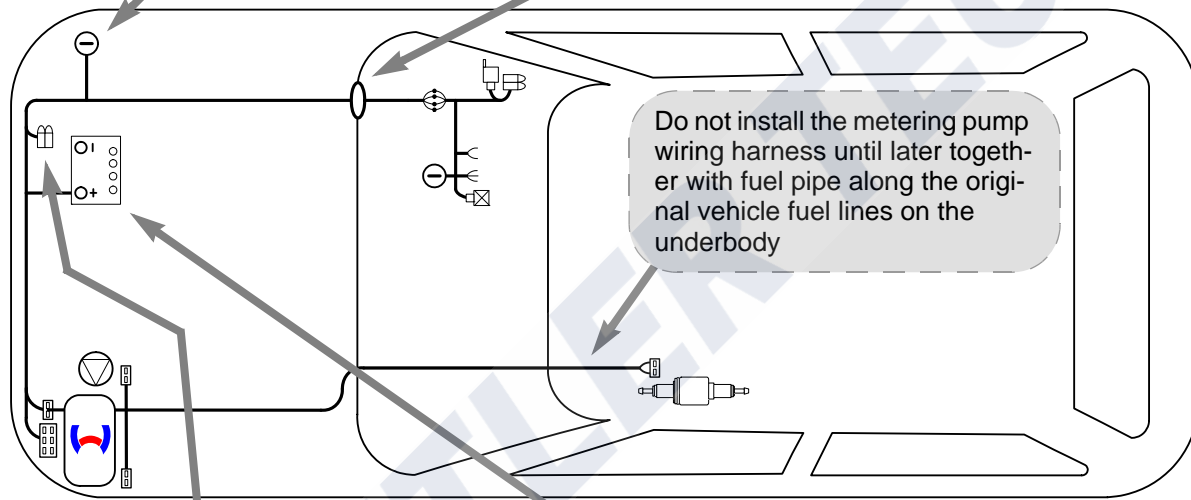
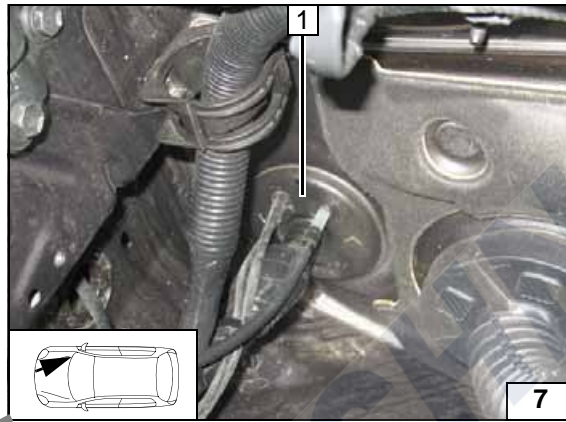
Earth wire

- 1 Earth wire on original vehicle earth support point

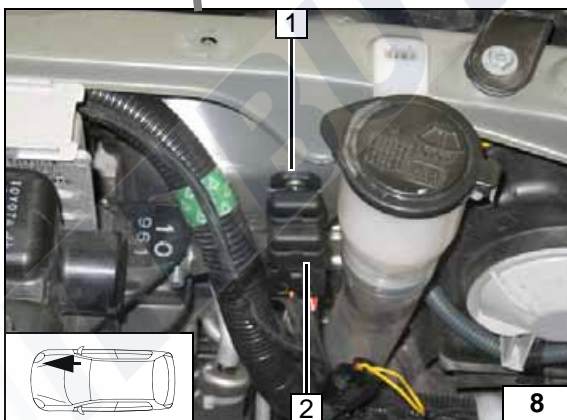


Wiring harness pass through

- 1 Protective rubber plug



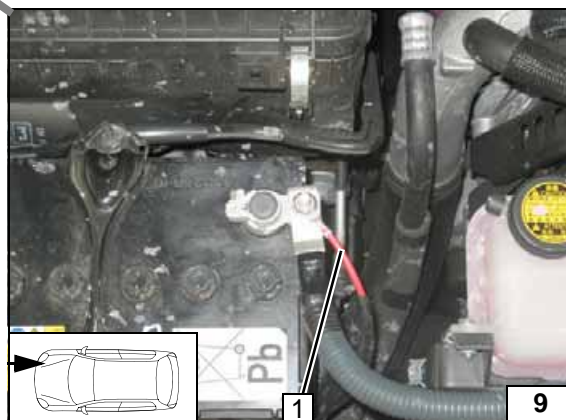
Wiring harness routing diagram



Fuse holder of engine compartment

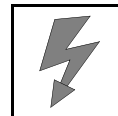
4 mm dia. hole at position 1 For wiring harness routing, see following page.

- 1 5.5x13 self-tapping screw, retaining plate of fuse holder
- 2 Fuses F1-2

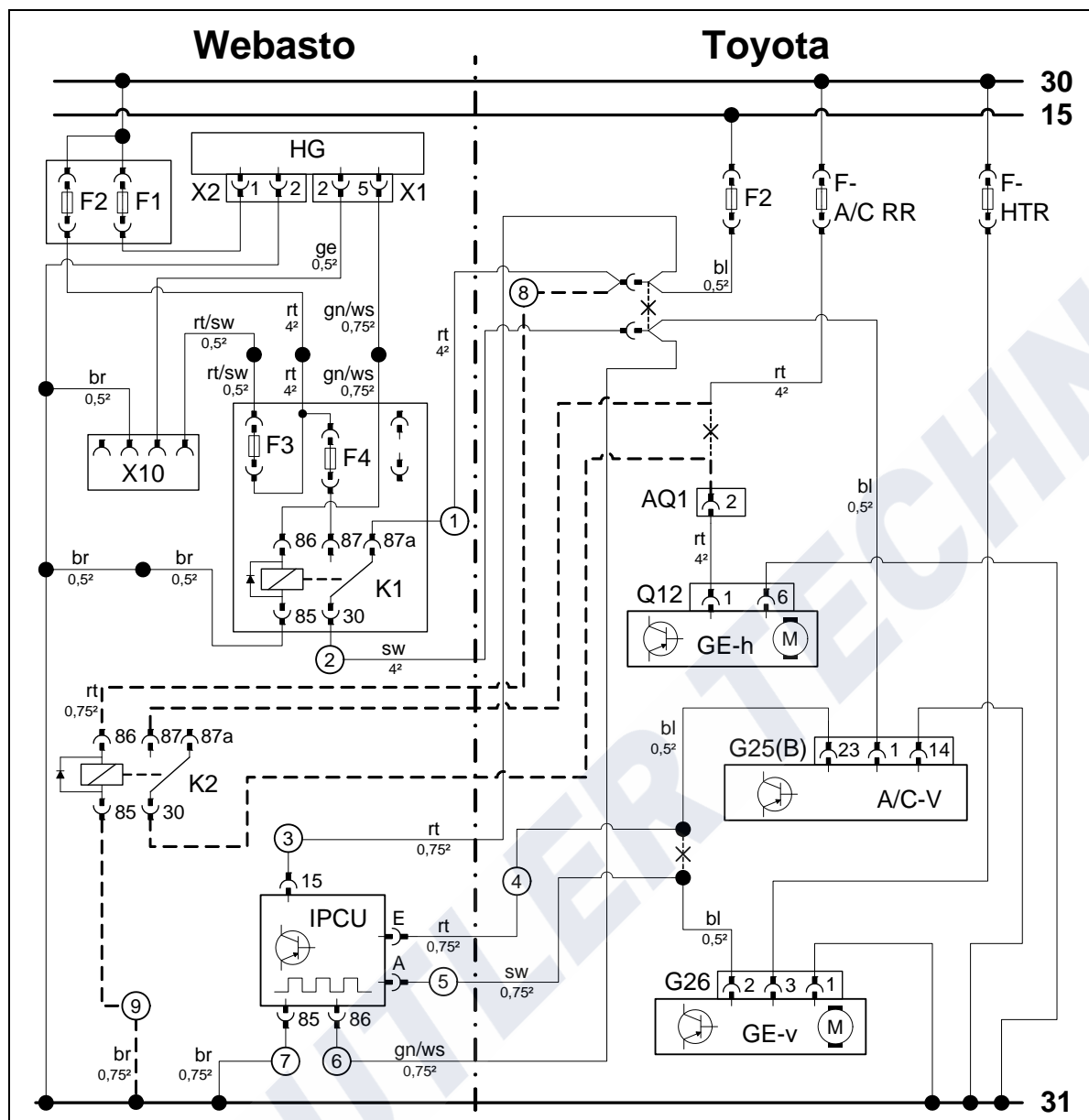


Positive wire

- 1 Positive wire on positive battery terminal



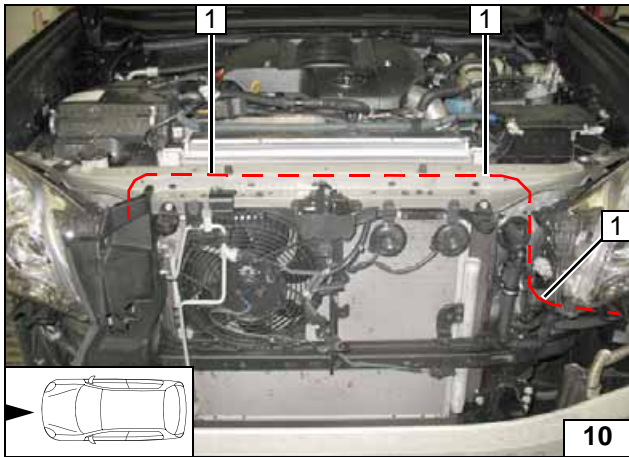
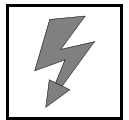
Fan Controller



Wiring diagram of automatic air-conditioning, front and rear

Webasto components		Vehicle components		Colours and symbols	
HG	TT-Evo heater	F2	10A fuse	rt	red
X1	6-pin heater connector	F-A/C RR	40A rear fan fuse	ws	white
X2	2-pin heater connector	F-HTR	50 A fan fuse	sw	black
X10	4-pin connector of Heater control	AQ1	6-pin connector	br	brown
K1	Fan relay	Q12	6-pin connector GE-h	gn	green
F1	20A fuse	GE-h	Fan unit, rear	bl	blue
F2	30A fuse	G25(B)	40-pin connector A/C V		
F3	1A fuse	A/C-V	A/C booster		
F4	10A fuse	G26	3-pin connector GR		
IPCU	Pulse width modulator	GE-v	Fan unit, front		
IPCU settings:				The connections displayed as dashed lines are required only for the rear automatic air-conditioning .	
Duty-Cycle: 65%					
Frequency: 400 Hz					
Voltage: 9.0V					
Function: Low-side					
				X	Cutting point
				Wiring colours may vary.	

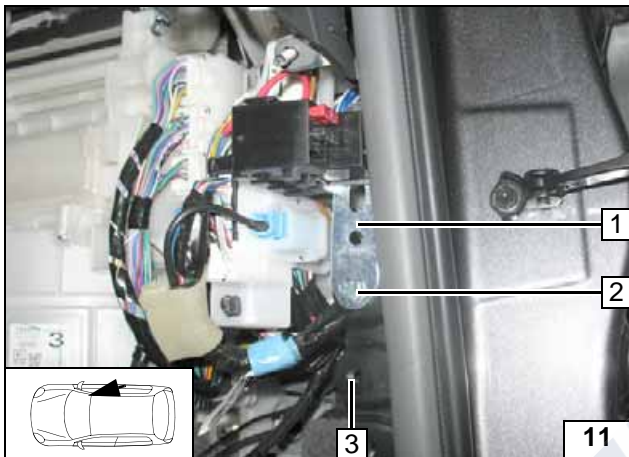
Legend



Route wiring harness of heater 1 along original vehicle wiring harness to heater.

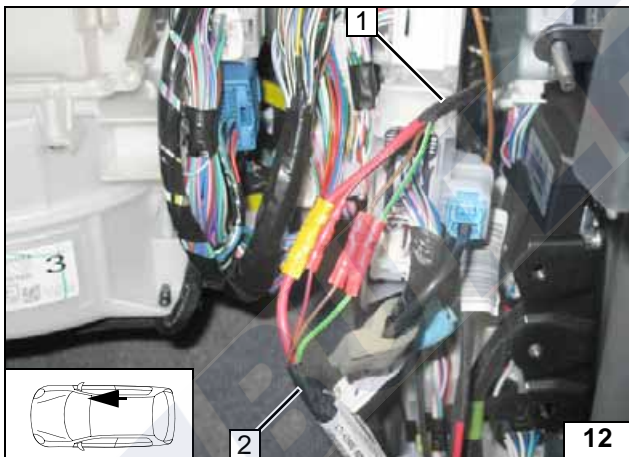


Routing wiring harness of heater



- 1 Perforated bracket
- 2 M6x20 bolt, spring lockwasher, existing threaded hole
- 3 Threaded hole for glove compartment fastening

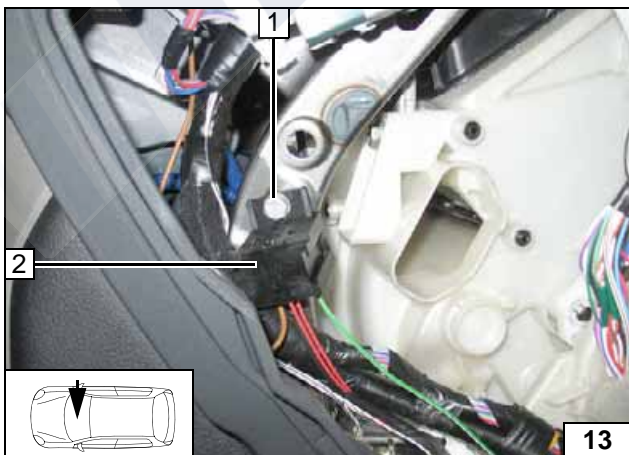
Mounting fuse holder of passenger compartment



Connect the wiring harness of passenger compartment fuse holder 1 with the wiring harness of heater 2 according to the wiring diagram, in such a way that the wires of the same colour are connected.

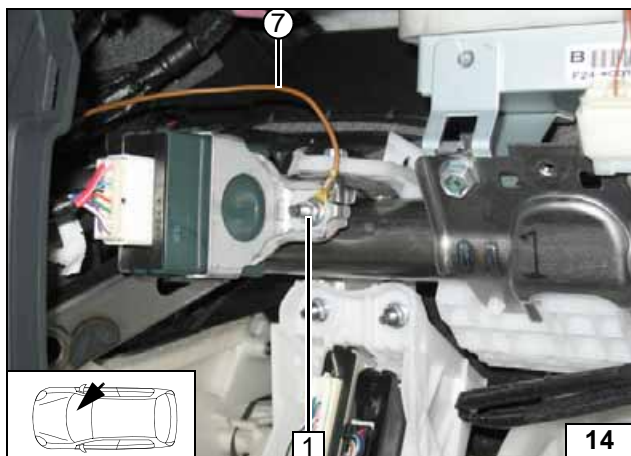
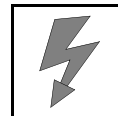


Connecting wiring harnesses



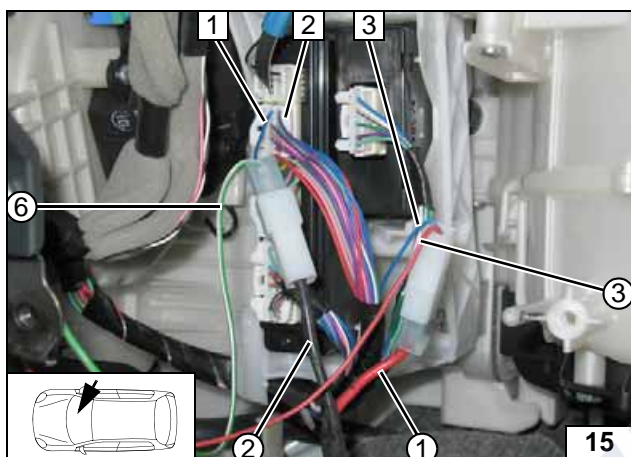
- 1 M6x16 bolt, washer, original vehicle threaded hole
- 2 Socket of IPCU

Mounting IPCU



- 1 Original vehicle stud bolt, flanged nut
- 7 Brown (br) wire of IPCU/85

Earth connection for IPCU

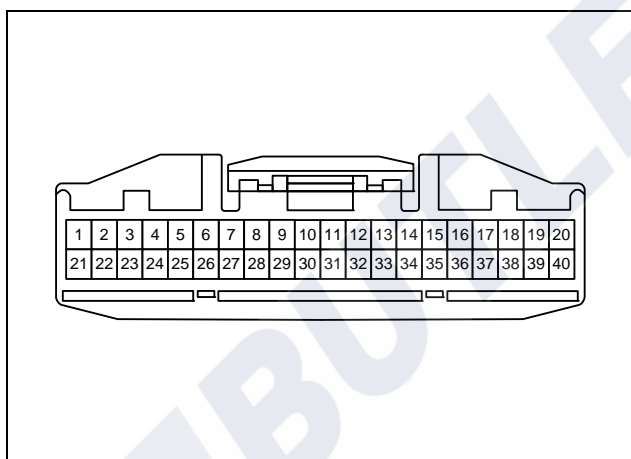


Connection to the 40-pin connector G25(B) 2 of the A/C booster. For automatic air-conditioning rear, connect red (rt) wire 8 to K2/86 (see Figure 18) additionally. Produce connections as shown in wiring diagram.



Connecting A/C booster

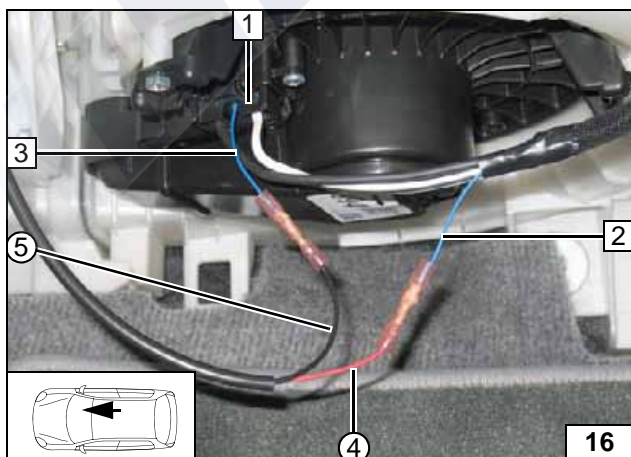
- 1 Blue (bl) wire G25(B) pin 1 terminal 15
- 3 Blue (bl) wire from fuse F2
- 1 Red (rt) wire of K1/87a
- 2 Black (sw) wire of K1/30
- 3 Red (rt) wire of IPCU/15
- 6 Green/white (gn/ws) wire of IPCU/86



View from contact side.



G25(B) connector

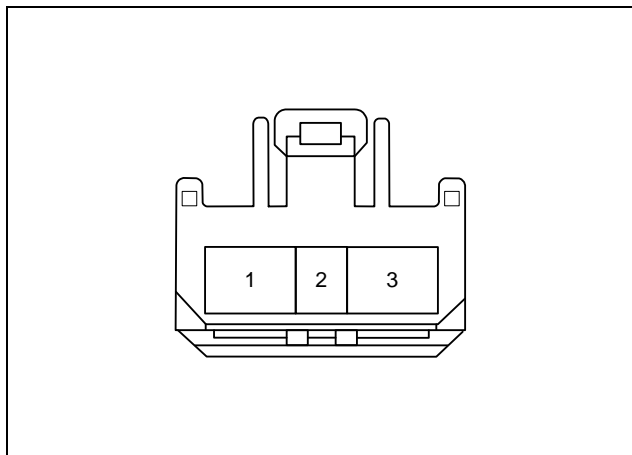
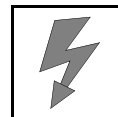


Connection to 3-pin connector G26 1 from the fan unit. Produce connections as shown in wiring diagram.



Connecting fan unit

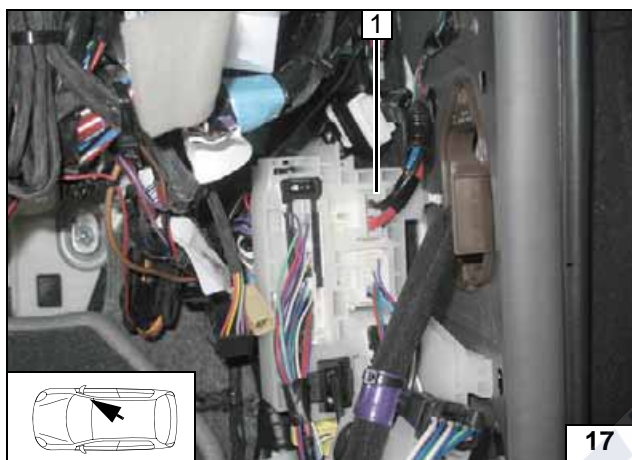
- 2 Blue (bl) wire of A/C booster
- 3 Blue (bl) wire to G26 pin 2
- 4 Red (rt) wire of IPCU/E
- 5 Black (sw) wire of IPCU/A



View from contact side.



Connector
G26

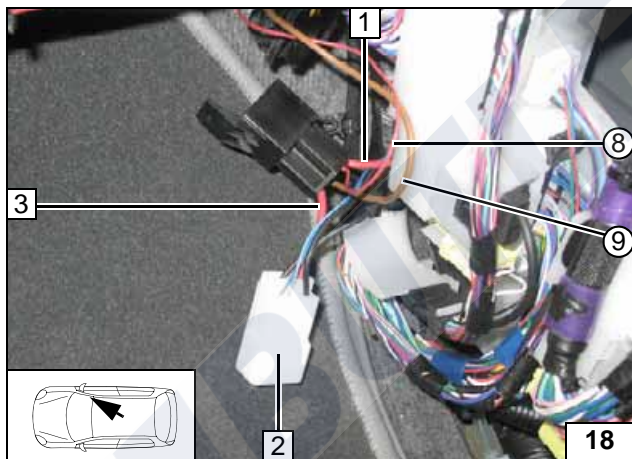


Additionally with automatic air-conditioning rear



Remove 6-pin connector 1 AQ1. Unlock the coupling remaining in the housing and pull out on the rear side.

Detaching
connector

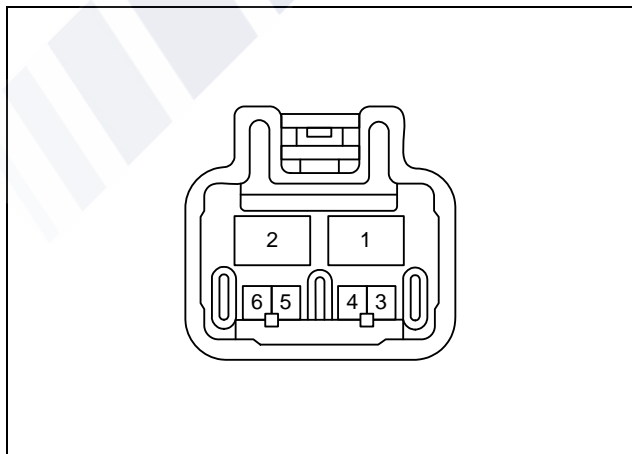


Connection to 6-pin coupling AQ1 2. Cut red (rt) wire of AQ1 2, pin 2, approx. 60mm before the coupling, and install terminals 87 and 30 in additional relay K2. Produce connections as shown in wiring diagram. Fasten additional relay K2 with cable ties to original vehicle wiring harness.



- 1 Red (rt) wire of fuse A/C RR
- 3 Red (rt) wire to AQ1 pin 2
- 8 Red (rt) wire of K2/86
- 9 Brown (br) wire of K2/85

Connect-
ing addi-
tional relay
K3.1

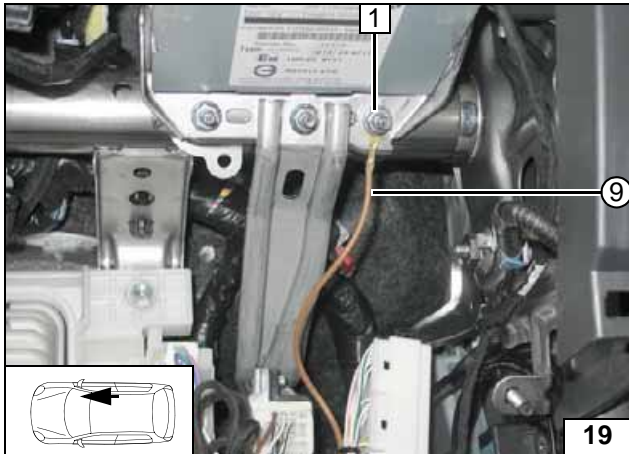
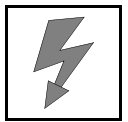


View from contact side.



Coupling
AQ1

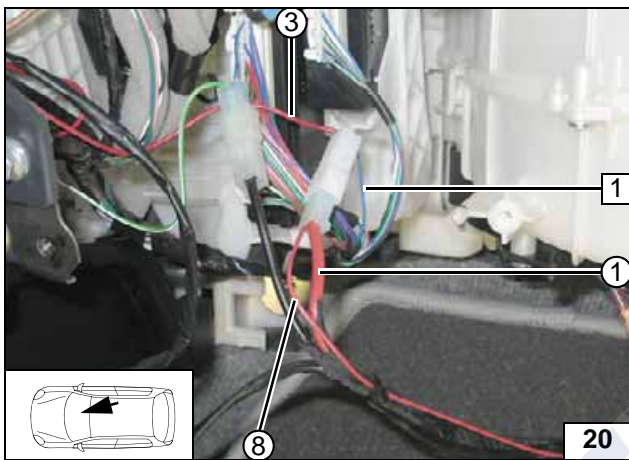
Toyota Landcruiser LC150



- 1 Original vehicle stud bolt, flanged nut
- 9 Brown (br) wire of K2/85



**Earth connection
K3.1-relay**



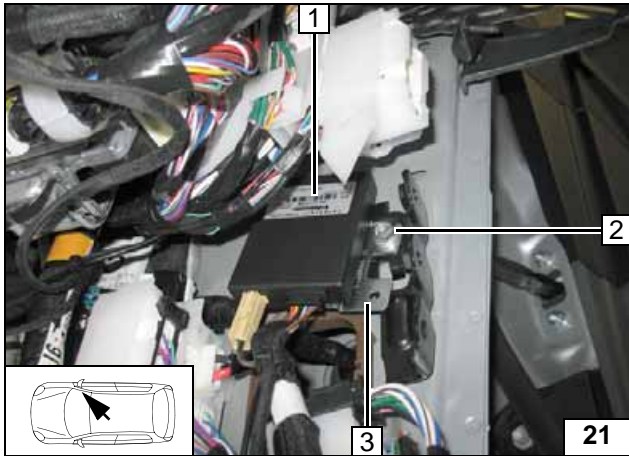
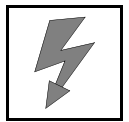
Produce connections as shown in wiring diagram.

- 1 Blue (bl) wire from fuse F2
- 1 Red (rt) wire of K1/87a
- 3 Red (rt) wire of IPCU/15
- 8 Red (rt) wire of K2/86



**Control of
K2 additional relay**

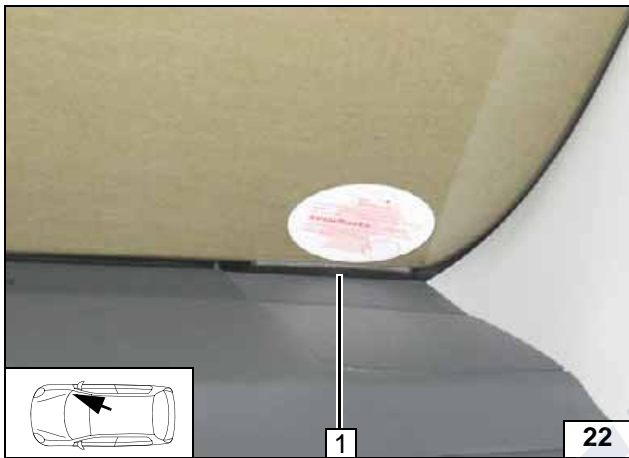
Toyota Landcruiser LC150



Telestart

- 1 Receiver
- 2 Original vehicle bolt
- 3 Bracket

Installing receiver



- 1 Antenna

Installing antenna

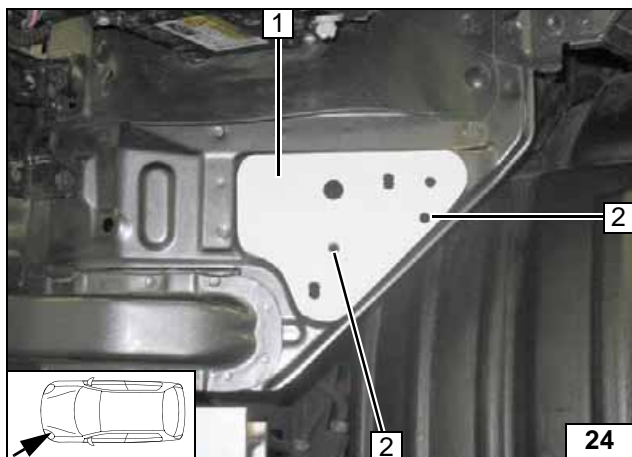
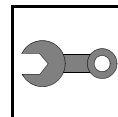


Temperature sensor T100 HTM

Fasten temperature sensor 1 to original vehicle wires with cable tie!



Installing temperature sensor



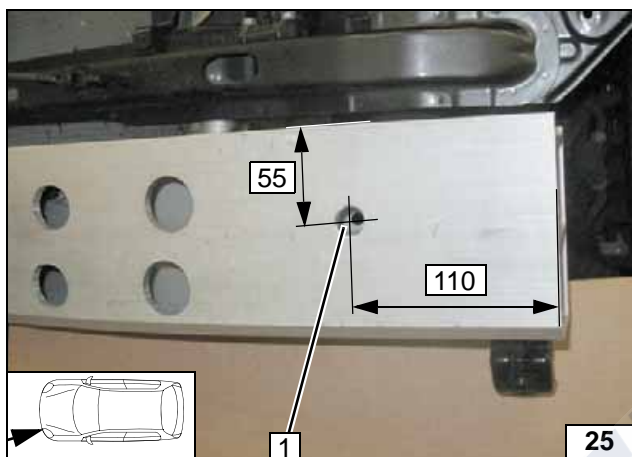
Preparing Installation Location

Cut out template 1 and lay on.

- 2 Copy hole pattern, drill 6 mm hole [2x]



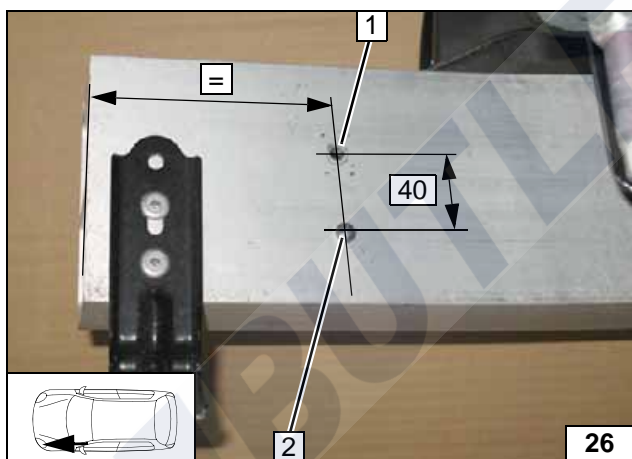
Copying hole pattern



7 mm dia. hole at position 1 through the whole bumper. Drill out only front hole to 16 mm dia.

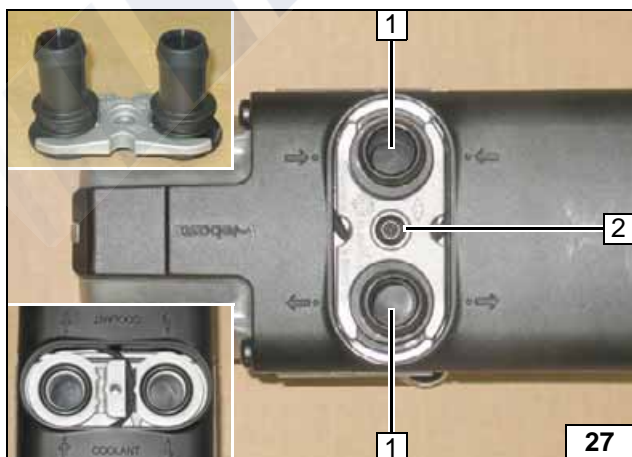


Drilling hole in bumper



- 1 7 mm dia. through-hole
- 2 4 mm dia. hole, 4.8x13 self-tapping screw (twist protection for silencer)

Installing rivet nut

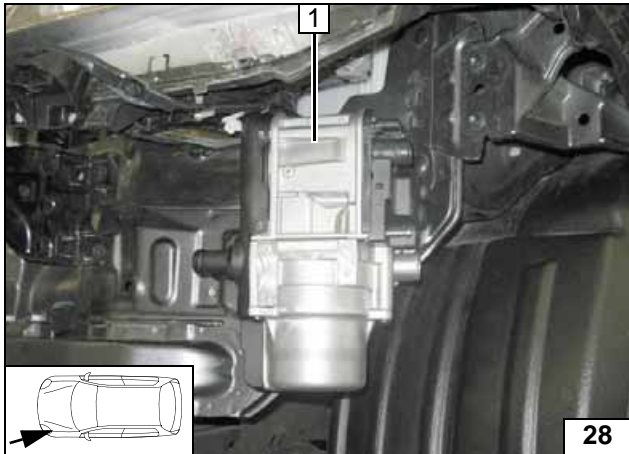
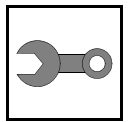


Preparing Heater

- 1 Water connection piece, sealing ring [2x each]
- 2 5x15 self-tapping bolt, retaining plate of water connection piece



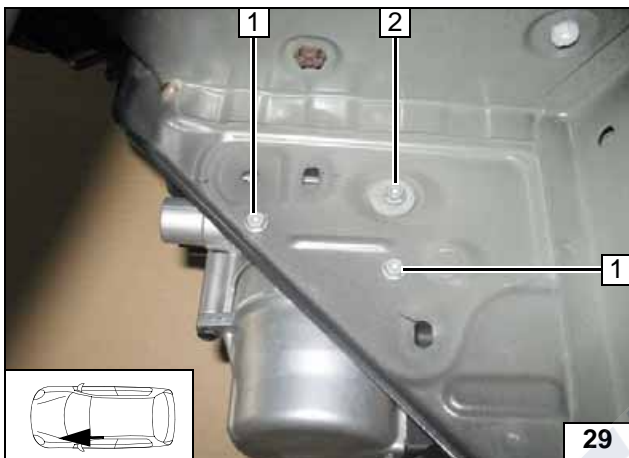
Installing water connection piece



Installing Heater

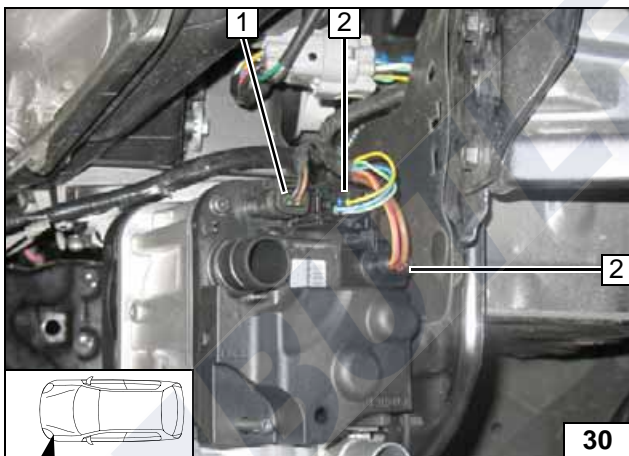
- 1 Position heater

Installing heater



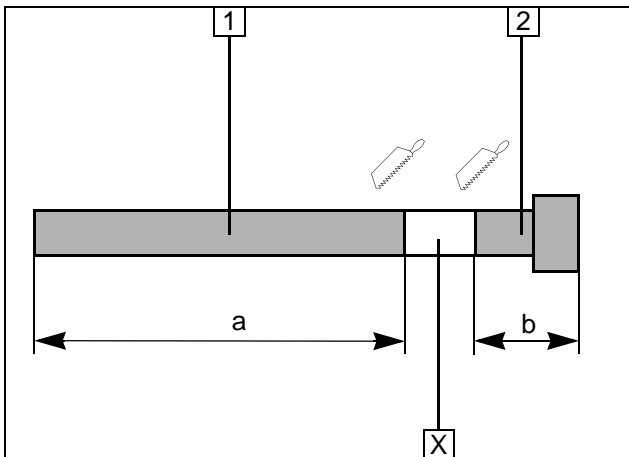
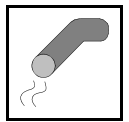
- 1 5x13 self-tapping bolt [2x]
- 2 5x13 self-tapping bolt, large diameter washer outer dia. $d_a = 21.6$ mm; existing hole

Installing heater



- 1 Wiring harness of circulating pump
- 2 Wiring harness of heater [2x]

Attaching wiring harnesses



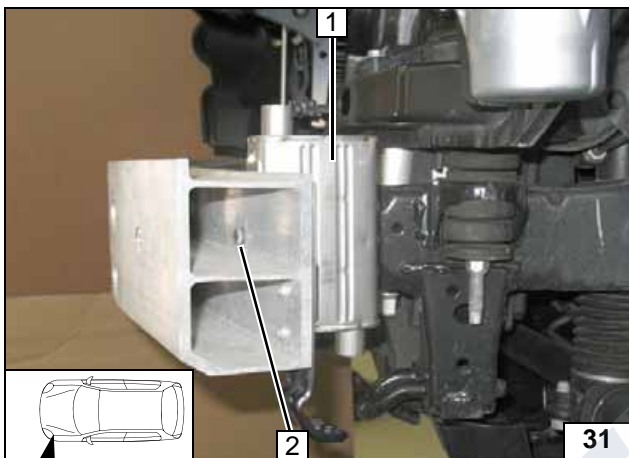
Exhaust Gas

Discard section X.

- 1 Exhaust pipe
a =500
- 2 Exhaust end section
b =40

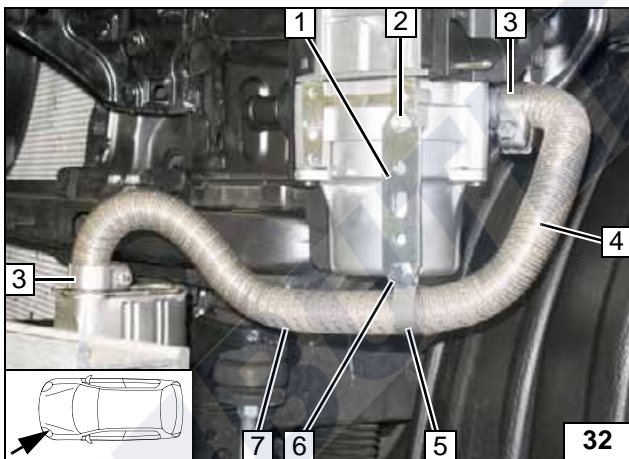


Preparing exhaust pipe



- 1 Silencer
- 2 M6x20 bolt, spring lockwasher

Installing silencer

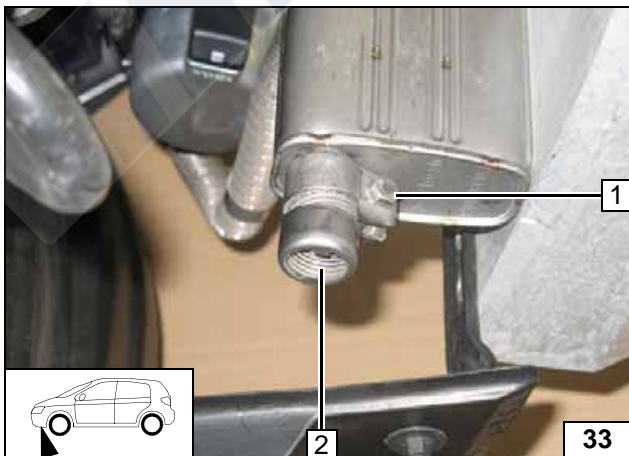


3 mm dia. condensed-water drain hole at position 7 in exhaust pipe 4 (deepest position).

- 1 Perforated bracket
- 2 5x13 self-tapping bolt
- 3 Hose clamp [2x]
- 5 P-clamp
- 6 M6x16 bolt, flanged nut



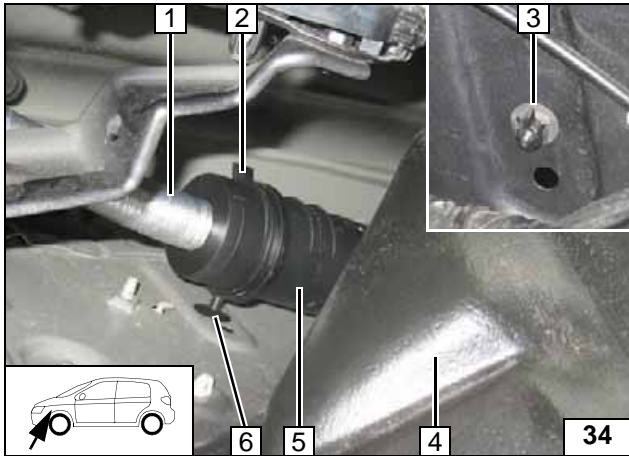
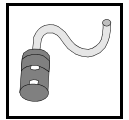
Installing exhaust pipe



- 1 Hose clamp
- 2 Exhaust end section

Mounting end section

Toyota Landcruiser LC150



Combustion Air

Insert retaining clip **2** in upper hole at position **6** and secure from inside with pin lock **3**.

- 1 Combustion air pipe
- 4 Wheel well trim
- 5 Silencer



Installing
silencer

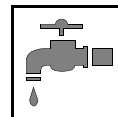


- 1 Cable tie
- 2 Combustion air pipe



Installing
silencer

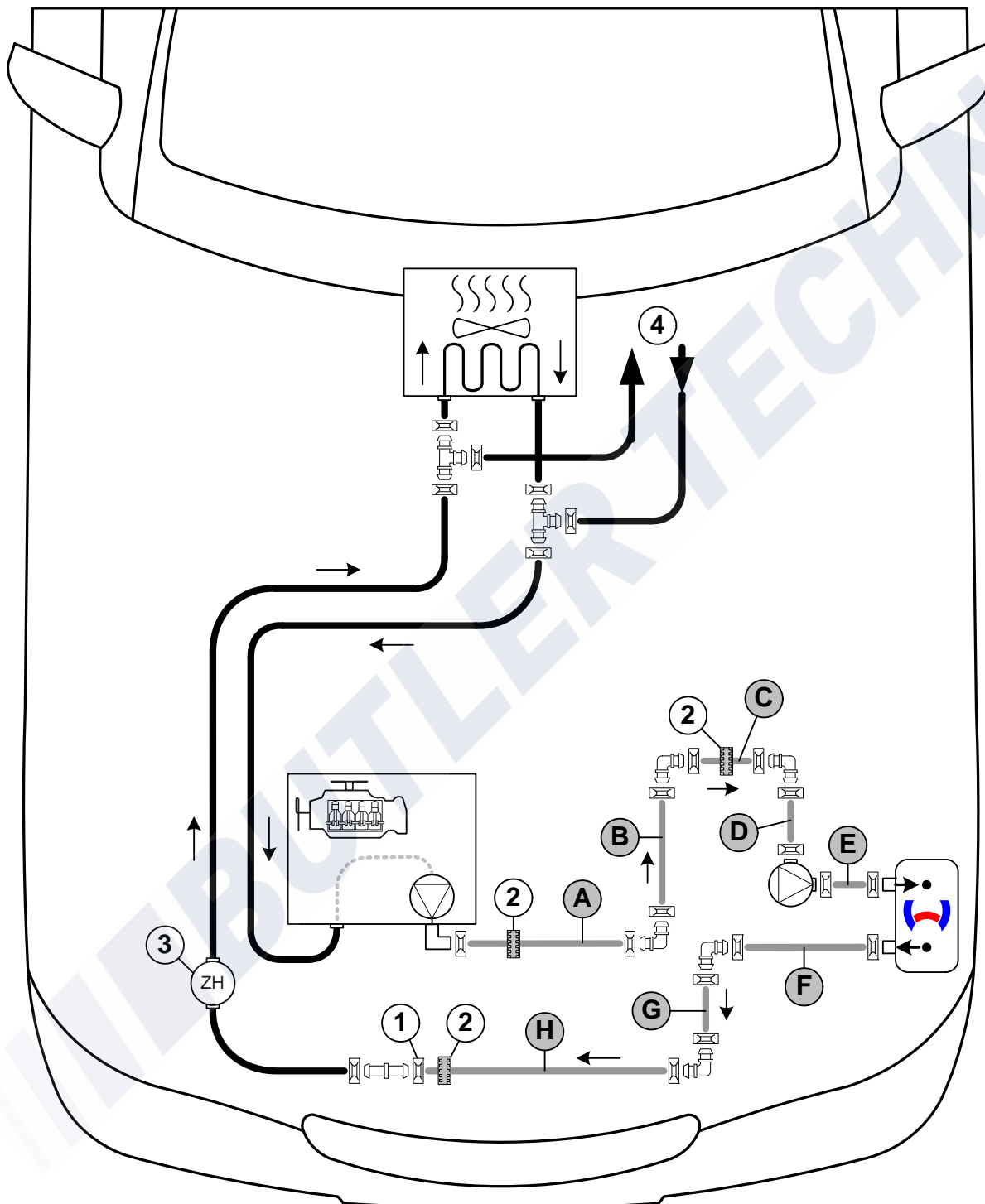
Toyota Landcruiser LC150








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:

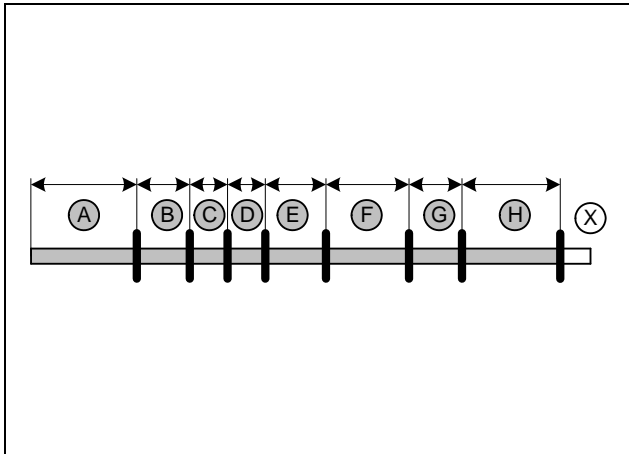


Hose routing diagram

All spring clips without a specific designation  = 25 mm dia. 1 = Original vehicle spring clip .
 2 = Black (sw) rubber isolator . 3 = Mechanical auxiliary heater (power heater).
 All connecting pipes  and  = 18x18 mm dia. 4 = Optional with rear heat exchanger.



Toyota Landcruiser LC150

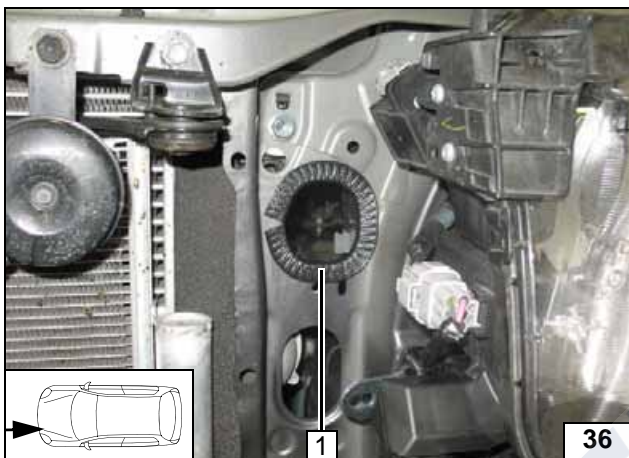


Discard section X.

- A = 540
- B = 190
- C = 60
- D = 60
- E = 160
- F = 250
- G = 150
- H = 500

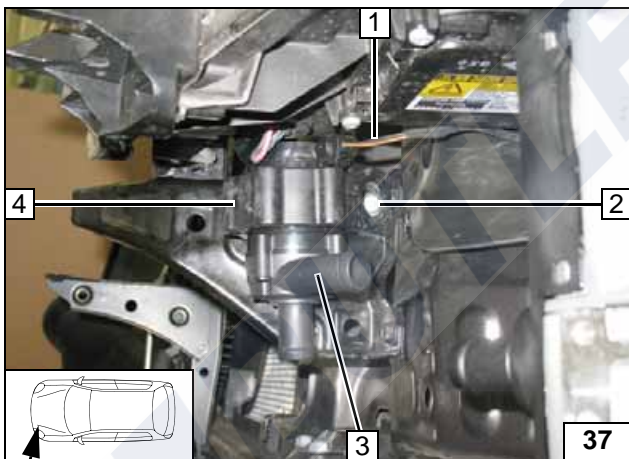


Cutting hoses to length



1 190mm edge protection, existing pass through

Inserting edge protection

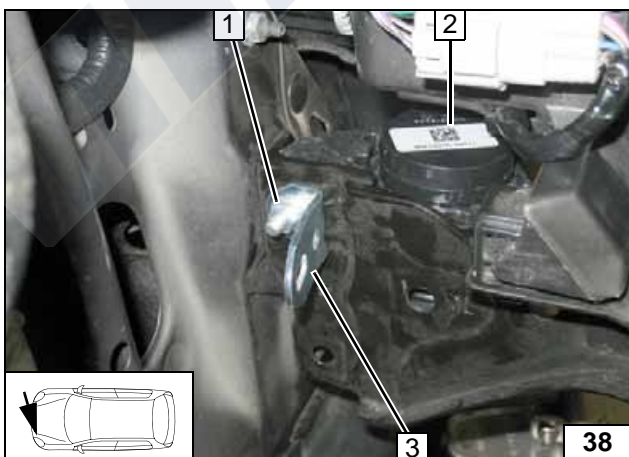


Mounting of circulating pump 4 will be fastened from rear with angle bracket and flanged nut - see following figure.

- 1 Install wiring harness of circulating pump
- 2 M6x25 bolt, existing hole
- 3 Circulating pump

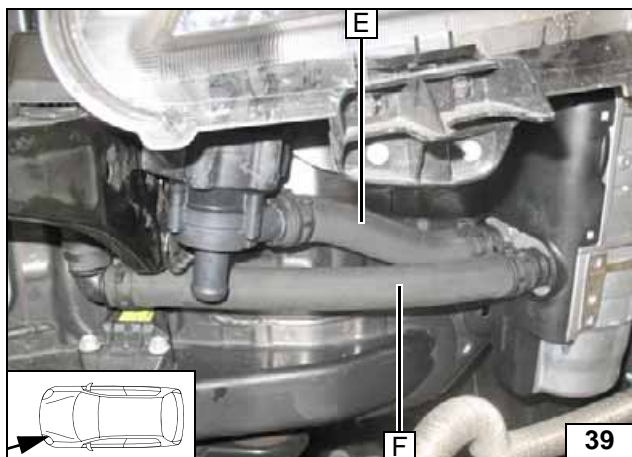
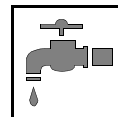


Installing circulating pump

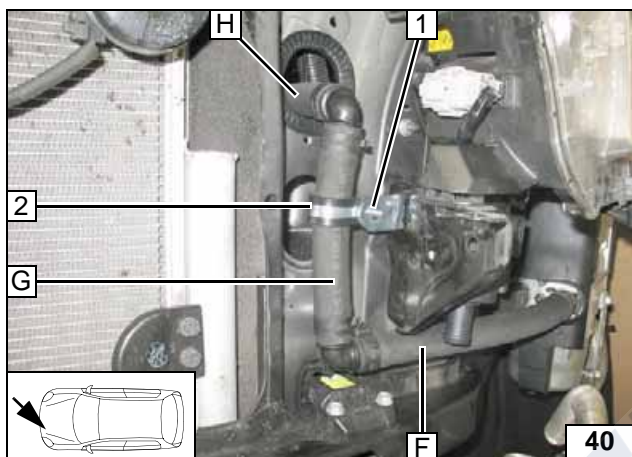


- 1 M6 flanged nut
- 2 Circulating pump
- 3 Angle bracket

Installing circulating pump

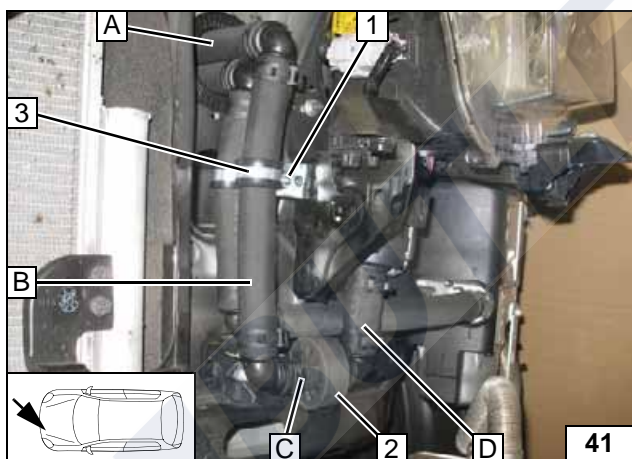


Connect-
ing heater



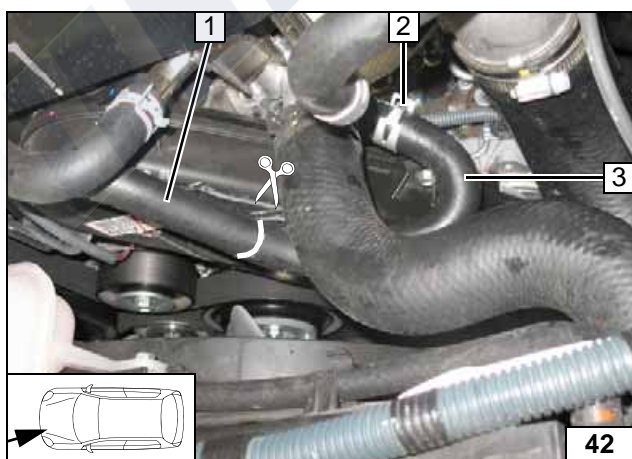
- 1 M6x20 bolt (inserted in angle bracket from the rear)
- 2 25 mm dia. rubber-coated p-clamp

Hose rout-
ing



- 1 M6 flanged nut
- 2 Black (sw) rubber isolator on hose C
- 3 25 mm dia. rubber-coated p-clamp

Hose rout-
ing



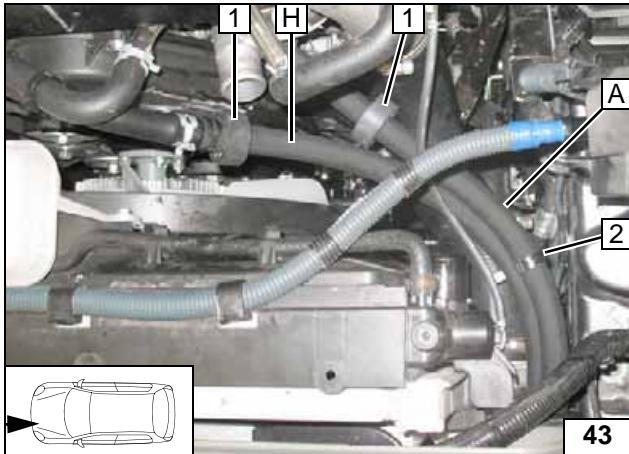
Cut hose at engine outlet / mechanical auxiliary heater at the marking. Remove engine outlet hose section 3 and discard. Spring clip 2 will be reused.



- 1 Hose section on mech. auxiliary heater / heat exchanger inlet

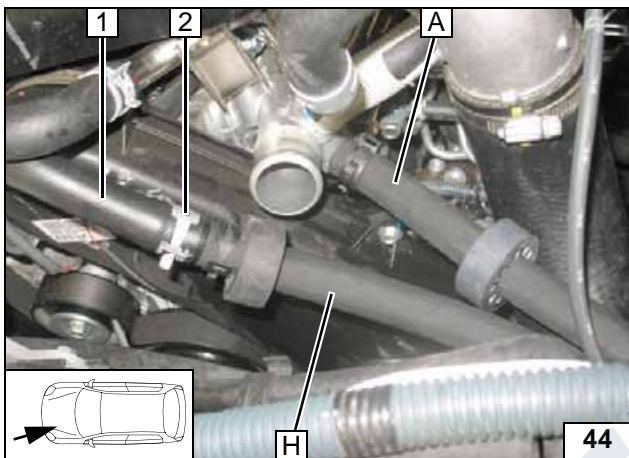
Cutting
point

Toyota Landcruiser LC150



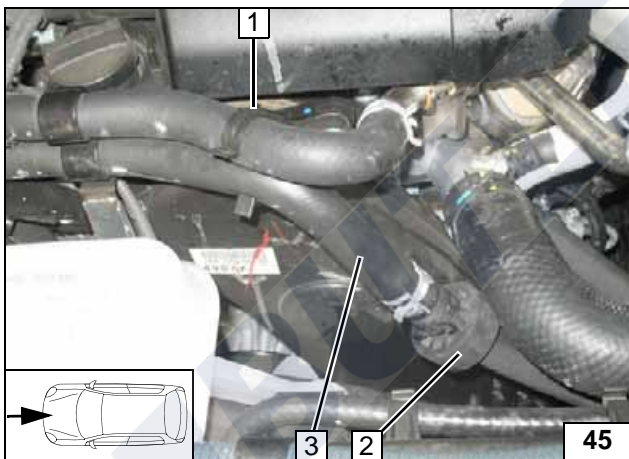
- 1 Slide on black (sw) rubber isolator [2x]
- 2 Insert hose bracket

Routing in engine compartment



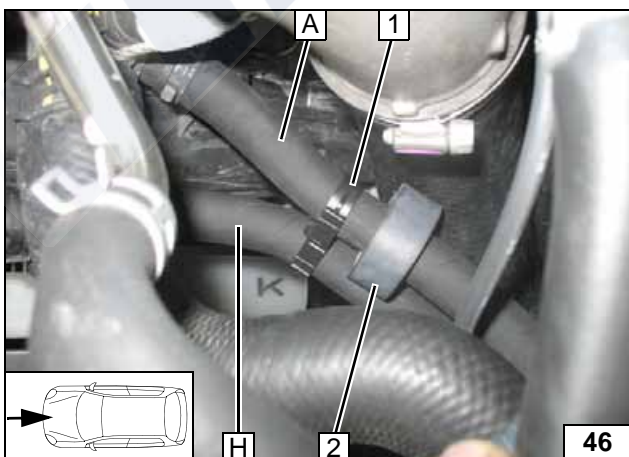
- 1 Hose on mech. auxiliary heater / heat exchanger inlet
- 2 Original vehicle spring clip

Connecting engine outlet and heat exchanger inlet



- 1 Hose bracket
- 2 Align black (sw) rubber isolator to coolant hose.
- 3 Hose on mech. auxiliary heater / heat exchanger inlet

Aligning rubber isolator

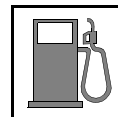


Align hoses. Ensure sufficient distance from neighbouring components.
Align black (sw) rubber isolator 2 to turbo-charger.

- 1 Hose bracket

Aligning rubber isolator

Toyota Landcruiser LC150



Fuel

CAUTION!

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

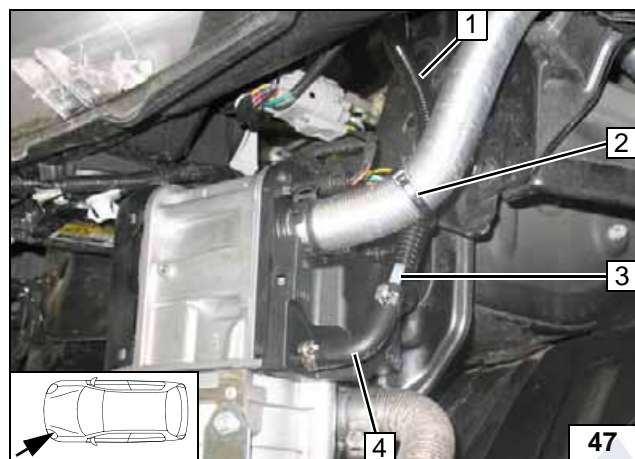
Catch any fuel running off with an appropriate container.

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.

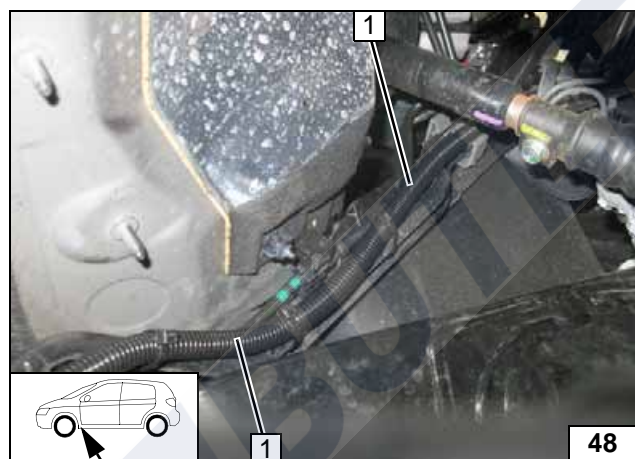


Route wiring harness of metering pump and fuel line **3** in 2100 mm long corrugated tube **1** along original vehicle wires to firewall.

- 2** Cable tie
- 4** 90° moulded hose, 10 mm dia. clamp [2x]



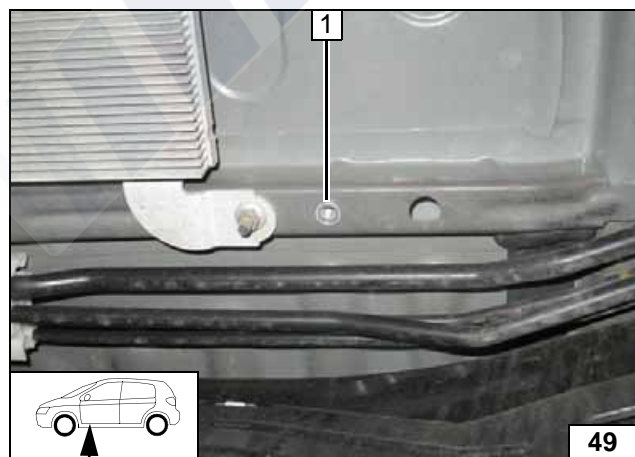
Connect-
ing heater



Route fuel line and wiring harness of metering pump in 2100 mm long corrugated tube **1** along original vehicle fuel lines to installation location of metering pump. Ensure sufficient distance from adjacent components, especially to steering column.



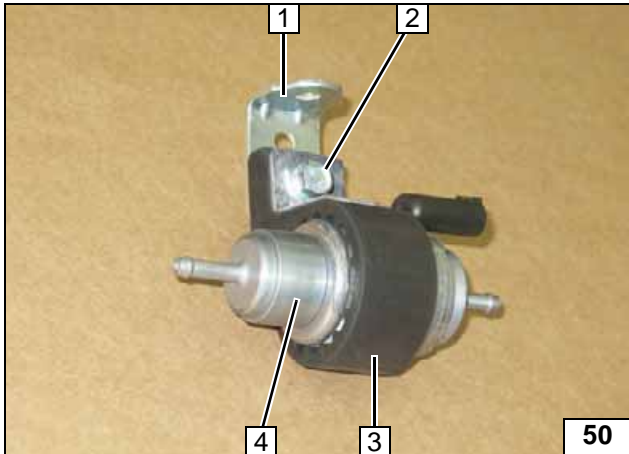
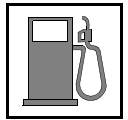
Routing
lines



- 1** Rivet nut, existing hole

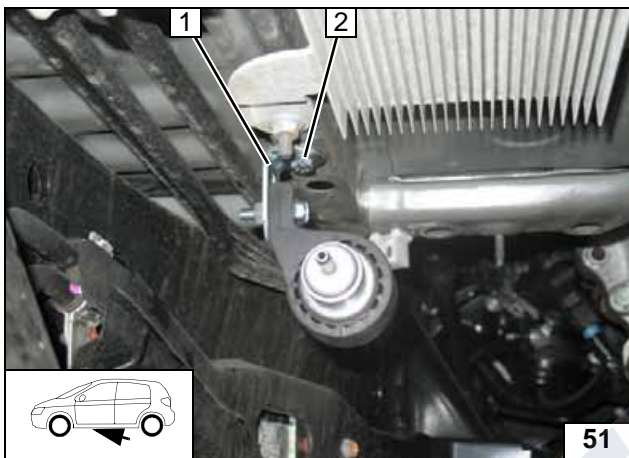
Installing
rivet nut

Toyota Landcruiser LC150



- 1 Angle bracket
- 2 M6x25 bolt, support angle, flanged nut
- 3 Metering pump mounting
- 4 Metering pump

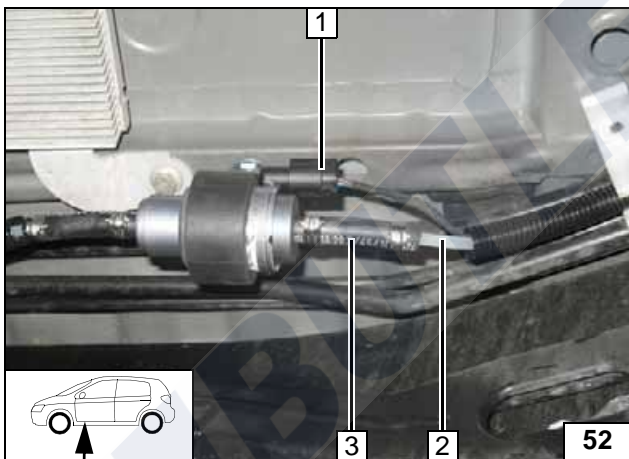
Premounting metering pump



- 1 Angle bracket
- 2 M6x20 bolt, spring lockwasher

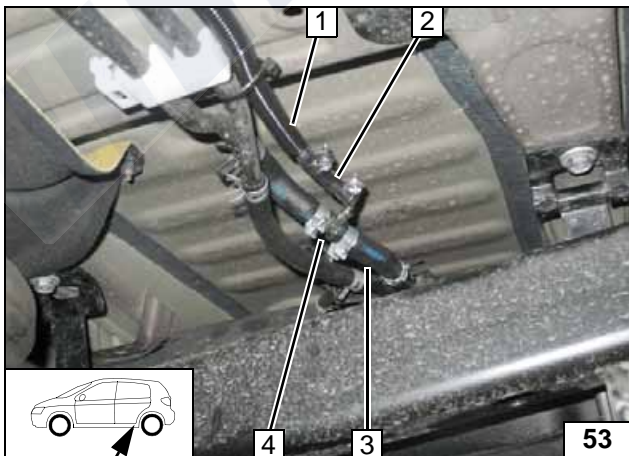


Installing metering pump



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

Connection of metering pump



3-door

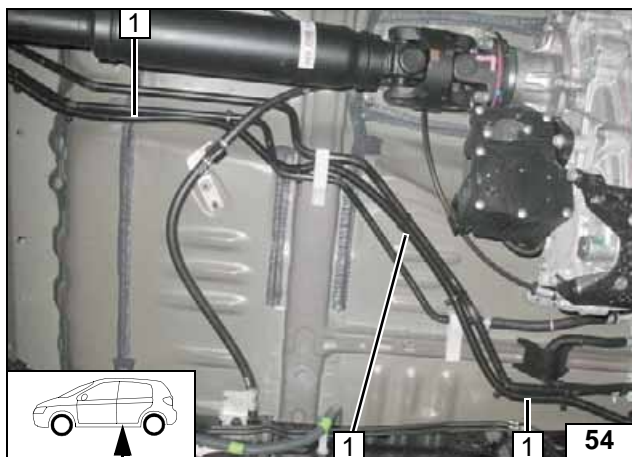
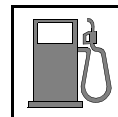
Cut off fuel supply line 3 at position 4. Slide 1130 mm corrugated tube 1 onto fuel line.

- 2 Hose section, 10 mm dia. clamp [2x]
- 4 10x5x10 fuel standpipe, 14mm dia. clamp [2x]



Fuel extraction

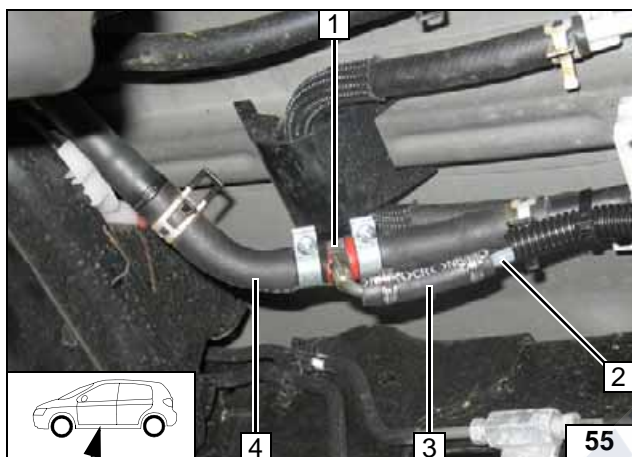
Toyota Landcruiser LC150



Route fuel line in corrugated tube 1 to original vehicle fuel lines of the metering pump.



Routing fuel line



5-door

Cut off fuel supply line 4 at position 1. Slide 350 mm long corrugated tube onto fuel line 2.



- 1 10x5x10 fuel standpipe, clamp 14mm dia. [2x]
- 3 Hose section, 10 mm dia. clamp [2x]

Fuel extraction



- 1 Fuel line in 350 mm long corrugated tube

Routing line



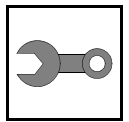
All vehicles

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

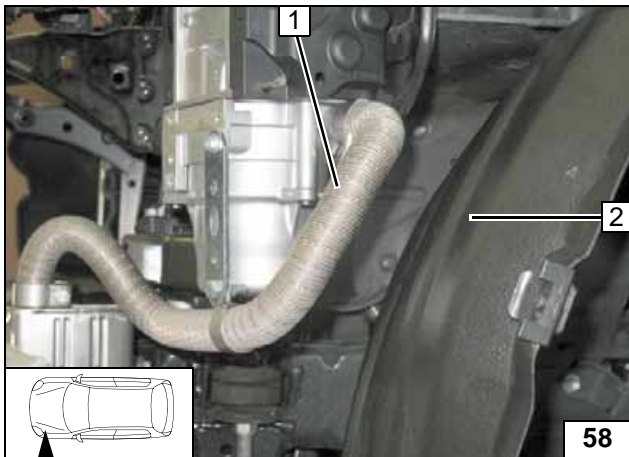


- 1 Hose section, 10 mm dia. clamp [2x]
- 2 Fuel line, fuel standpipe

Connection of metering pump



Final Work

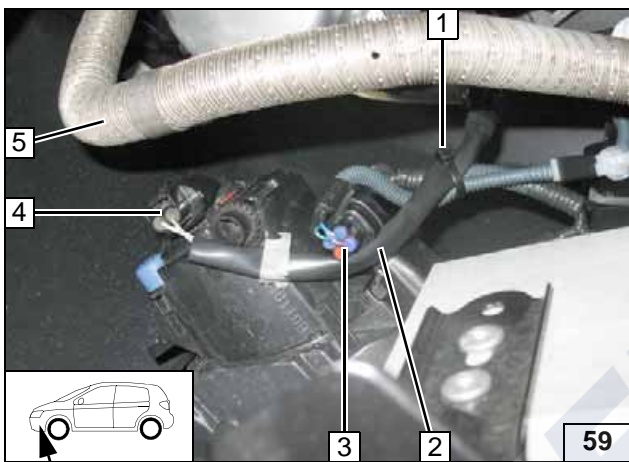


Ensure sufficient distance (min. 20 mm) from neighbouring components, correct if necessary.

- 1 Exhaust pipe
- 2 Wheel well trim



Aligning exhaust pipe



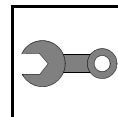
Ensure sufficient distance (min. 20 mm) from neighbouring components, correct if necessary.

- 1 Cable tie
- 2 Original vehicle wiring harness
- 3 Connector of distance warning unit
- 4 Connector of front fog light
- 5 Exhaust pipe



Routing wiring harness of front fog light

Toyota Landcruiser LC150



CAUTION!

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, teach Telestart transmitter**
- **Make settings on A/C control panel according to the "Operating Instructions for the End Customer".**
- **Checking the fan function (IPCU):**
Adjust fan output to maximum. Then switch off ignition and switch on parking heater. On reaching the activation temperature of 50°C, the fan speed must correspond to the value of approx. 1/3 of the maximum speed specified by IPCU.
- **Place signboard "Switch off parking heater before refuelling" in the area of the filler neck.**
- **During initial start up, proceed as follows with the Webasto Thermo Test Diagnosis:**
 - Control coolant pump under Menu Component test, check coolant level
 - Pump fuel for the heater under the menu pipe filling.
 - CO₂- Check settings; take setting values from the general installation instructions
 - During the trial run, all water and fuel connections must be checked for leakage and firm seating.
 - A error search is to be conducted in case of fault



WARNING!

Perform trial run with locked vehicle and activated passenger compartment monitoring. The sensitivity of the passenger compartment monitoring must be reduced as described below if false alarms are sounded in the vehicle during the operation of the parking heater.

In the case of customer complaint during operation of the parking heating mode, please check the setting of the passenger compartment monitoring-sensitivity and reduce it if necessary.



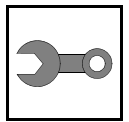
Set passenger compartment monitoring to "insensitive"

The sensitivity of the passenger compartment monitoring is reduced in the **Toyota Intelligent Tester II** or the **TD3** as follows:

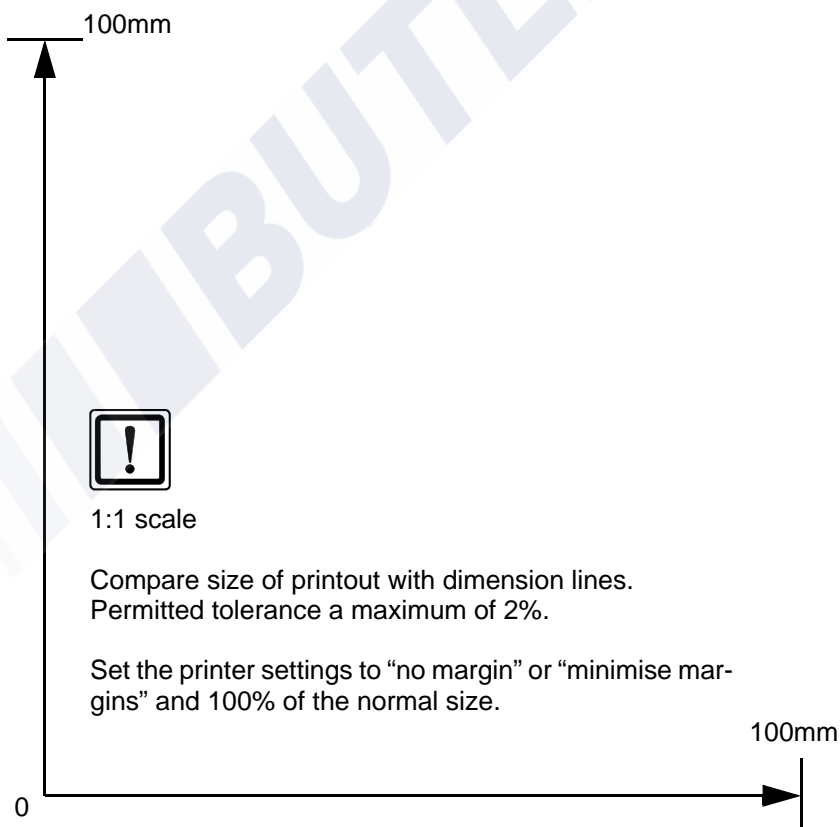
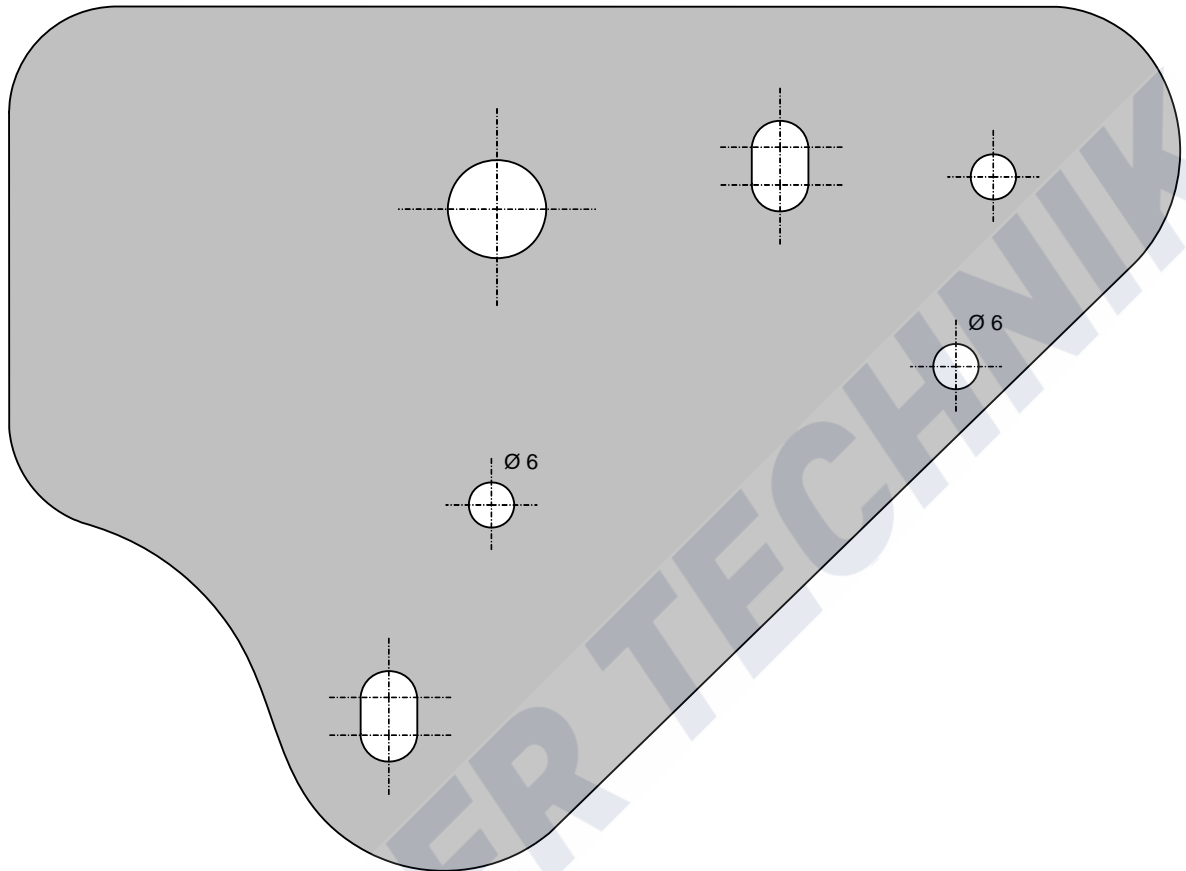


- Select menu option "**Personalise**"
- Select the "**Security**" function
- „Select "**Open break-in safety window**" and confirm with Enter
- „Activate "**ON**"

Webasto Thermo & Comfort SE
Postfach 1410
82199 Gilching
Germany
Internet: www.webasto.com
Technical Extranet:
<http://dealers.webasto.com>



Template of Bracket



1:1 scale

Compare size of printout with dimension lines.
Permitted tolerance a maximum of 2%.

Set the printer settings to "no margin" or "minimise margins" and 100% of the normal size.

Operating Instructions for End Customer

Please remove page in case of automatic air-conditioning and add it 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.

In case of vehicles with passenger compartment monitoring, this function might have been set to "insensitive" by the installation partner.

Before parking the vehicle, make the following settings:



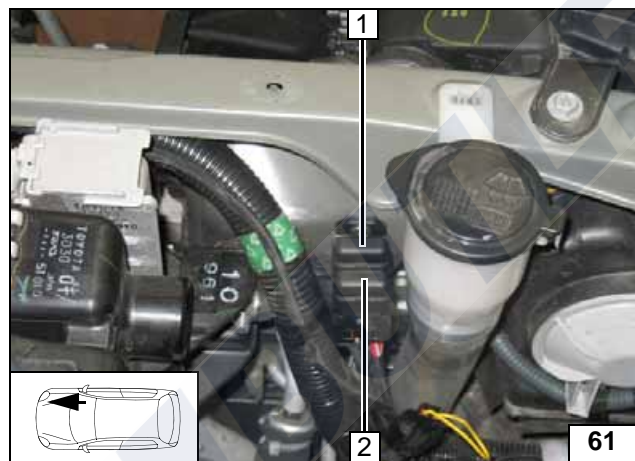
Note:

There is no need to preselect the fan speed.

- 1 Set temperature to "HI"
- 2 Air outlet to windscreen

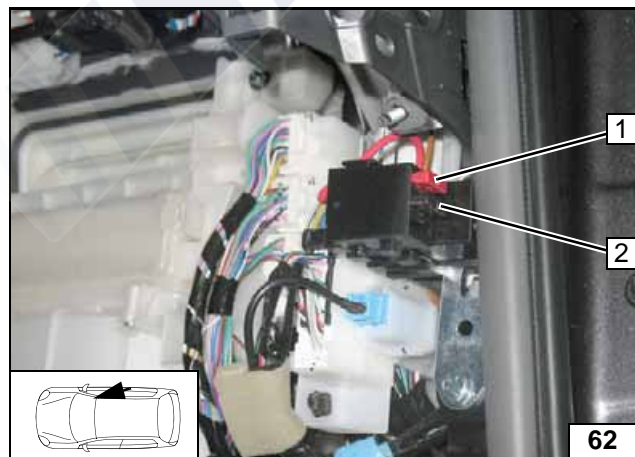


A/C control panel



- 1 30A main fuse F2 of passenger compartment
- 2 20A heater fuse F1

Fuses of engine compartment



- 1 10A fan fuse F4
- 2 1A fuse F3 of heater control

Fuses of passenger compartment