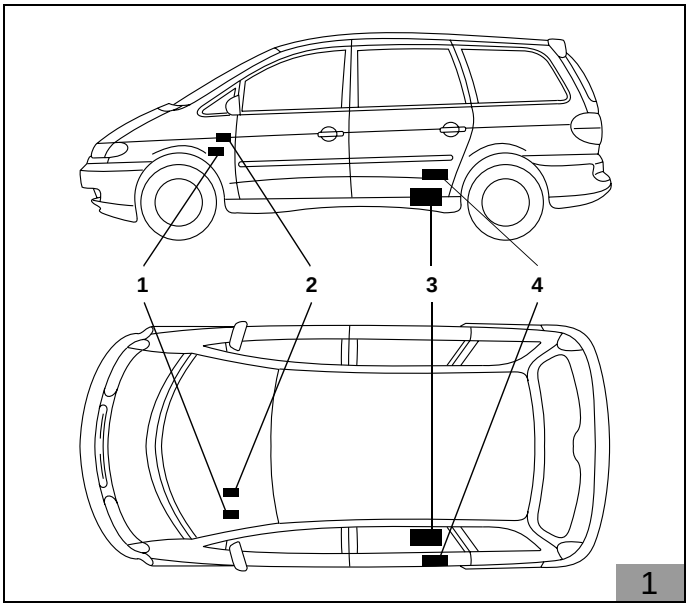
Webasto
Feel the drive

D5W Z heater



1

Legend for Figure 1

1 Blade-type fuse holder and blower relay
2 Digital timer
3 Heater
4 Diode group

Upgrade
D5W Z heater to auxiliary heating system C

FORD Galaxy

TDI (pump injection)

from model year 2001

All equipment variants

Valid for left-hand drive models only

See page 2 for validity details

An auxiliary ventilation function is only possible (even with Telestart) if the summer/winter switch is used.

IMPORTANT!
Danger warning:
The incorrect installation or repair of Webasto heating and cooling systems may cause a fire or the escape or fatal carbon monoxide. This may result in serious or fatal injuries.
Special company training, technical documentation, special tools and special equipment are required for the installation and repair of Webasto heating and cooling systems.
NEVER attempt to install or repair Webasto heating or cooling systems unless you have completed the company training and thus acquired the required technical skills and unless you have the technical documentation, tools and equipment available to you that are required for completing proper installation and repair work.
ALWAYS follow all Webasto installation and repair manuals and observe all the warnings.
Webasto cannot accept any liability for defects and damage caused by the system being installed by untrained personnel.

Ident. No. 90 106 58B Cover charge 10.00 Euros

Table of contents

Validity

Manufacturer	**Trade name**	**Type**	**EC licence No.**
FORD	Galaxy	WGR	e1*95/54*0024*--

Engine number **(8th number of the VIN)**	**Engine type**	**Output in kW**	**Displacement in cc**
ANU	TDI (pump injection)	66	1896
AUY	TDI (pump injection)	85	1896
ASZ	TDI (pump injection)	96	1896
BTB	TDI (pump injection)	110	1896

NOTE
The vehicle types, engine types and equipment versions not listed in these installation instructions have not been tested.
It may nevertheless be possible to install the system using these installation instructions.

Heater / Installation kit

Quantity	Designation	Order No.
1	**Upgrade kit *D5W Z* for FORD Galaxy with auxiliary preheating system**	**90 103 96A**

Other parts required for auxiliary ventilation option

1	**Summer/winter switch**	**845 87A**

Optional control element

1	**Digital timer**	**90 108 69A**
1	**Telestart kit T80**	**90 108 79A**
1	**Telestart kit T100 HTM**	**90 139 37A**
1	**Thermo Call TC 1.1**	**90 108 72A**

IMPORTANT
The kit does not include a control element!
The required control element must be ordered separately!

Foreword

These non-binding installation instructions apply to the FORD Galaxy TDI (see page 2 for validity), model year 2001 and later, with ***D5W Z***, unless technical modifications on the car influence the installation, excluding all liability claims. Depending on the version and equipment in the car, changes may be required to the installation work set out in these installation instructions.
The appropriate engineering conventions and any instructions from the vehicle manufacturer must be observed for the installation work.

General information

- Bare body parts, for example around drilled holes, must be treated with anti-corrosive coating
- Secure hoses, cables and wiring harnesses with cable ties and fit protective hoses around them at chafing points
- Fit edge protectors (opened fuel hose) to sharp edges

Preparations

Under-bonnet compartment

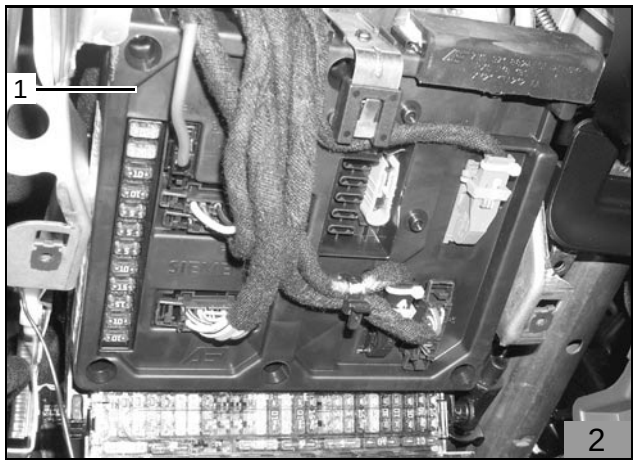
IMPORTANT
Disconnect the battery!

Interior

- Note the radio code is the radio has one
- Remove the bottom footwell trim on the driver's side
- Remove the left side skirt trim

- Release the fuse/relay holder (1)

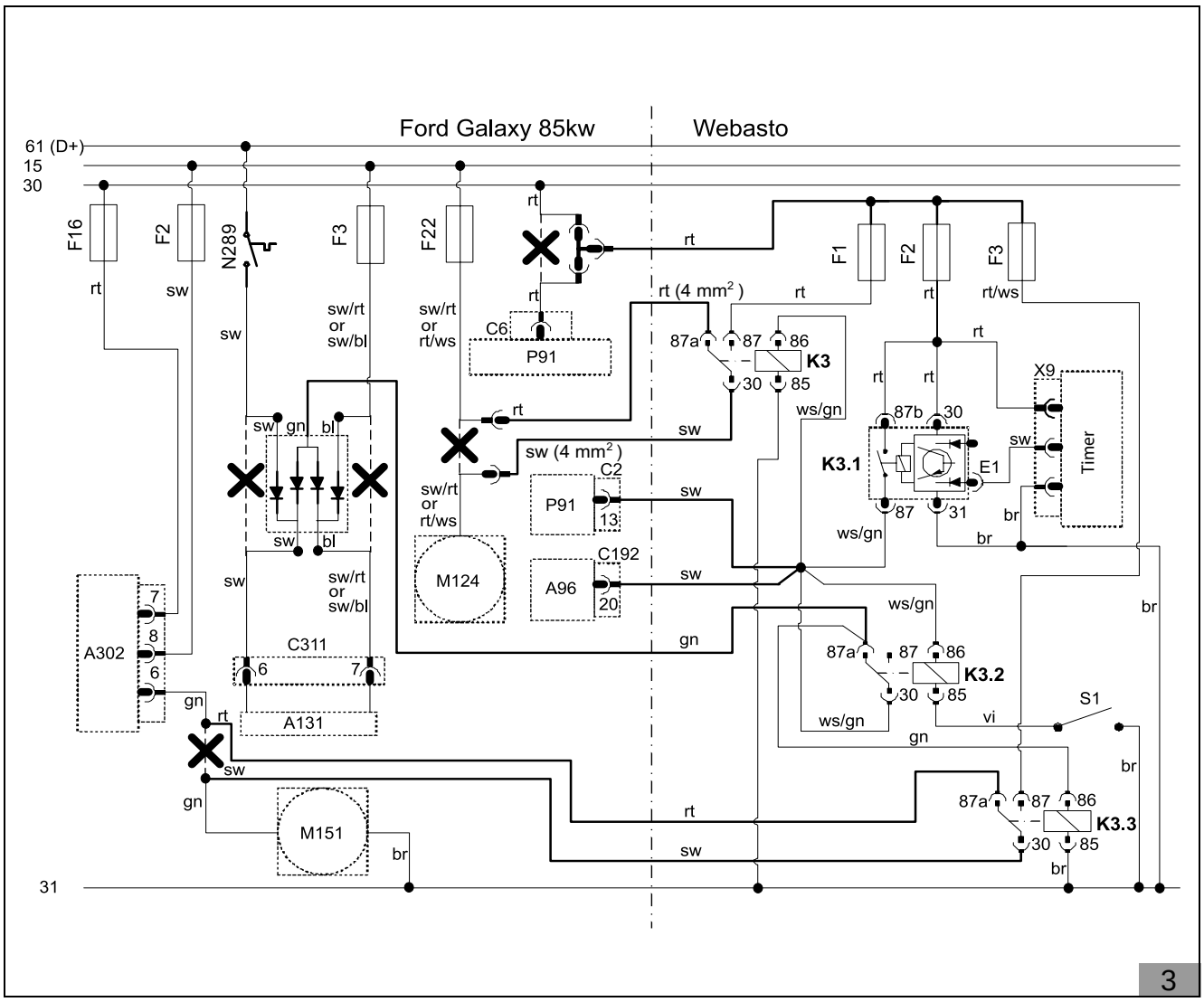
For vehicles with automatic air-conditioning system only
- Remove the air-conditioning control (ATC module A96)



Circuit diagrams

IMPORTANT
Refer to the circuit diagrams supplied by the manufacturer for the specific vehicle, particularly if the cable colours or pin assignments are different!

Circuit diagram for 66 kW and 85 kW engine



Legend for the circuit diagram in Figure 3

Ford Galaxy 85 kW

A96 Self-regulating ATC air-conditioning control
A131 Control module for heater *D5W Z*
A302 Air-conditioning compressor coupling module
C2 Vehicle plug connector
C6 Vehicle plug connector
C192 Vehicle plug connector
C311 Vehicle plug connector
F2 Blade-type fuse, car
F3 Blade-type fuse, car
F16 Blade-type fuse, car
F22 Blade-type fuse, car
M124 Front blower motor
M151 Refrigerant pump
N289 External temperature switch
P91 Central electrics box

X Isolation point

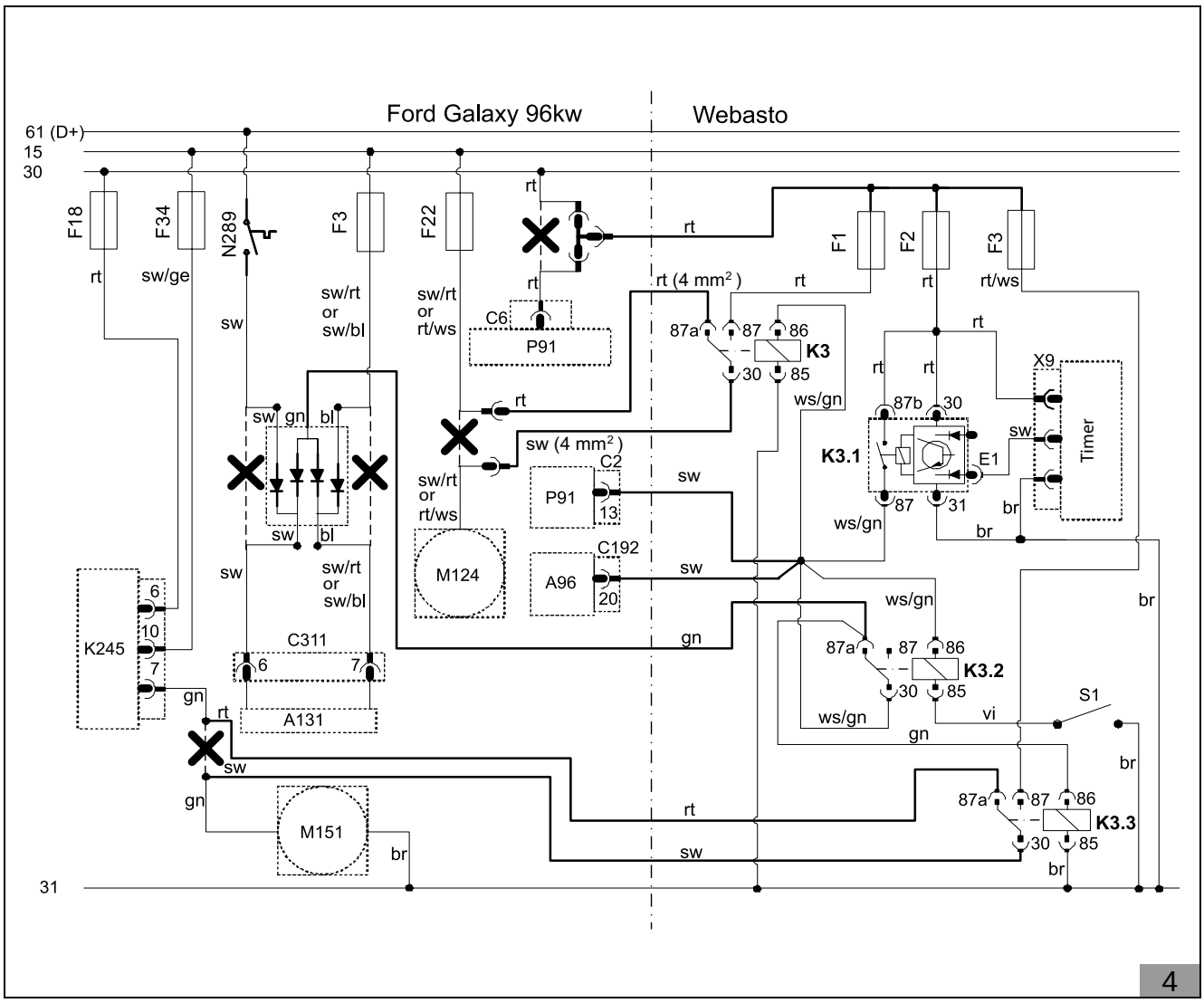
NOTE
The vehicle's C311 plug connector is on the underfloor in front of the heater!

Webasto

F1 Blade-type fuse 25 A
F2 Blade-type fuse 5 A
F3 Blade-type fuse 15 A
K3 Blower relay
K3.1 Control relay
K3.2 Ventilation function relay
K3.3 Coolant pump relay
S1 Ventilation function switch
X9 Digital timer plug
(alternatively Telestart T70/T80/T100)

NOTE
Even if the vehicle has a Telestart T70/T80, the ventilation function can only be controlled using switch S1!

Circuit diagram for 96 kW and 110 kW engine



Legend for the circuit diagram in Figure 4

Ford Galaxy 96 kW

A96 Self-regulating ATC air-conditioning control
A131 Control module for heater *D5W Z*
C2 Vehicle plug connector
C6 Vehicle plug connector
C192 Vehicle plug connector
C311 Vehicle plug connector
F3 Blade-type fuse, car
F18 Blade-type fuse, car
F22 Blade-type fuse, car
F34 Blade-type fuse, car
K245 Radiator fan run-on inverter relay
M124 Front blower motor
M151 Refrigerant pump
N289 External temperature switch
P91 Central electrics box

X Isolation point

NOTE
The vehicle's C311 plug connector is on the underfloor in front of the heater!

Webasto

F1 Blade-type fuse 25 A
F2 Blade-type fuse 5 A
F3 Blade-type fuse 15 A
K3 Blower relay
K3.1 Control relay
K3.2 Ventilation function relay
K3.3 Coolant pump relay
S1 Ventilation function switch
X9 Digital timer plug
(alternatively Telestart T70/T80/T100)

NOTE
Even if the vehicle has a Telestart T70/T80, the ventilation function can only be controlled using switch S1!

Wiring harness

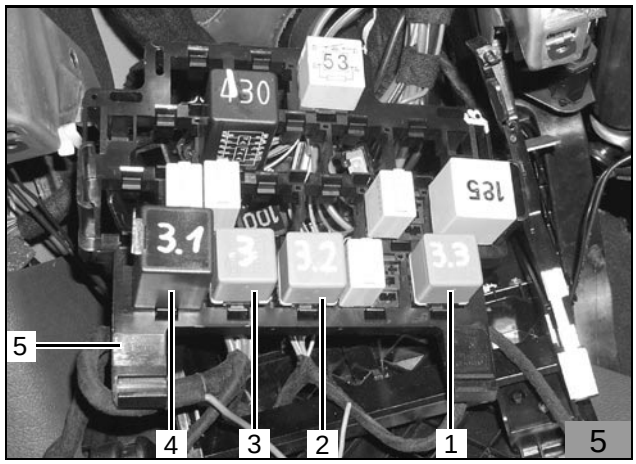
To install the wiring harness

NOTE
The three grey relays (1, 2, 3) are technically identical!

- Release and expose the fuse/relay holder (5)
- Engage the relay sockets (1, 2, 3, 4) into the empty slots in the fuse/relay holder (5)

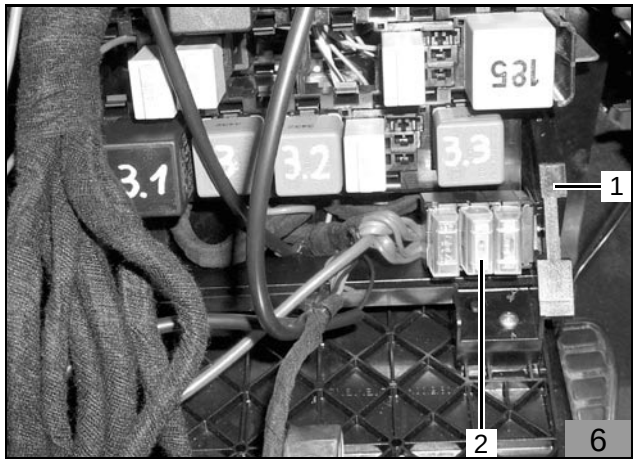
NOTE
The order of the various relays depends on the vehicle's equipment!

- Connect the black control relay K3.1 (4) to the red relay socket
- Connect the three grey relays (1, 2, 3) to the black relay socket



5

- Drill a 2.5 mm holder for the blade-type fuse holder in the fuse/relay holder (1)
- Secure the mounting plate of the blade-type fuse holder using a 3.5 x 13 mm self-tapping screw
- Attach the blade-type fuse holder to the mounting plate



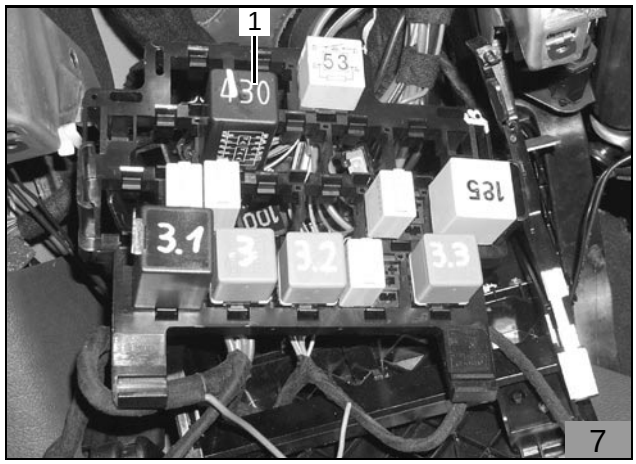
6

Circulating pump actuation

For vehicles with 66 kW and 85 kW engines only

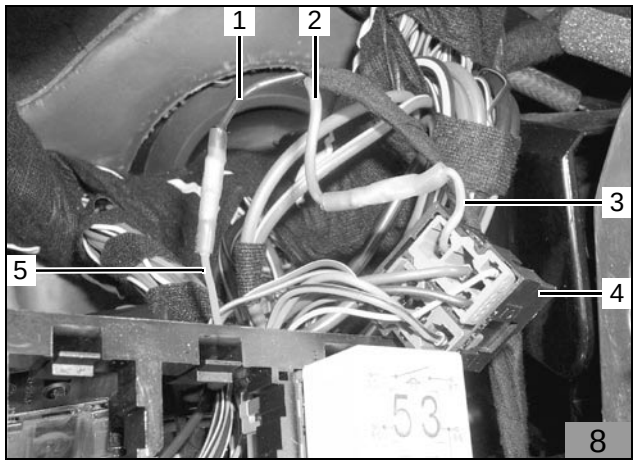
The vehicle's circulating pump is activated by PIN 6 on module A302 (1) of the "air-conditioning compressor coupling" in slot C16 of the central electrics box CJB.

- Disconnect module A302 (1)



Make the connections using the supplied butt connectors as shown in the figure and in the circuit diagram in Figure 3 (crimp and shrink).

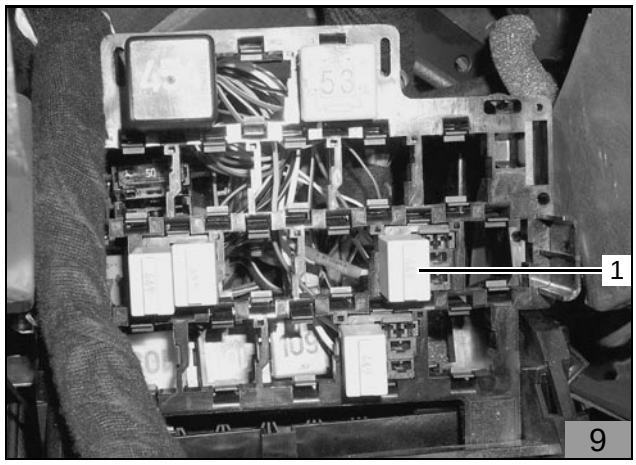
- Release the socket (4) from the fuse/relay holder
- Cut the green cable (3, 5) from module A302 to the coolant pump M151 approx. 50 mm behind the socket (4), PIN 6
- Connect the black cable (1) from relay K3.3/30 to the green cable (5) to the refrigerant pump M151
- Connect the red cable (2) from relay K3.3/87a to the green cable (3) from module A302
- Engage the socket (4) in the fuse/relay holder again and connect module A302



For vehicles with 96 kW and 110 kW engines only

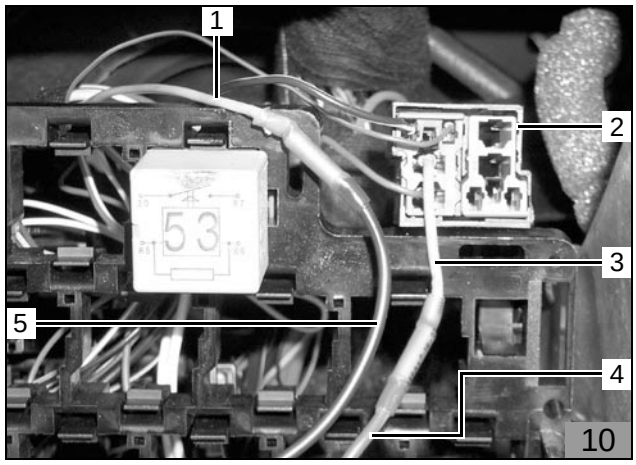
The vehicle's circulating pump is activated by PIN 7 on inversion relay K245 (1) of the "radiator blower slow-down" in slot C25 of the central electrics box CJB.

- Disconnect inversion relay K245 (1)



Make the connections using the supplied butt connectors as shown in the figure and in the circuit diagram in Figure 4 (crimp and shrink).

- Release the socket (2) from the fuse/relay holder
- Cut the green cable (1, 3) from inversion relay K245 to the coolant pump M151 approx. 50 mm behind the socket (2), PIN 7
- Connect the black cable (5) from relay K3.3/30 to the green cable (1) to the coolant pump M151
- Connect the red cable (4) from relay K3.3/87a to the green cable (3) from inversion relay K245
- Engage the socket (2) in the fuse/relay holder again and inversion relay K245

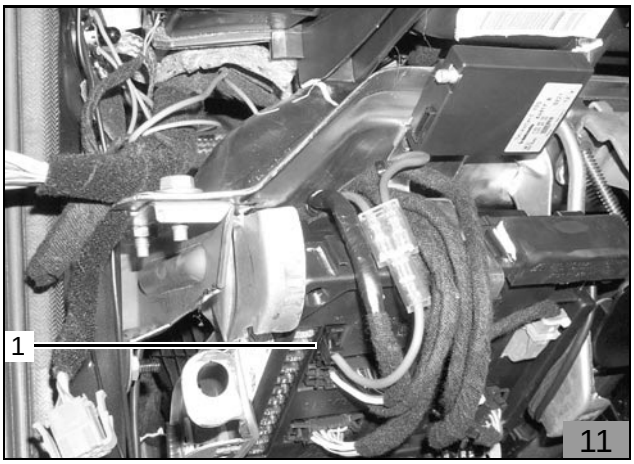


Permanent positive connection

For all vehicle

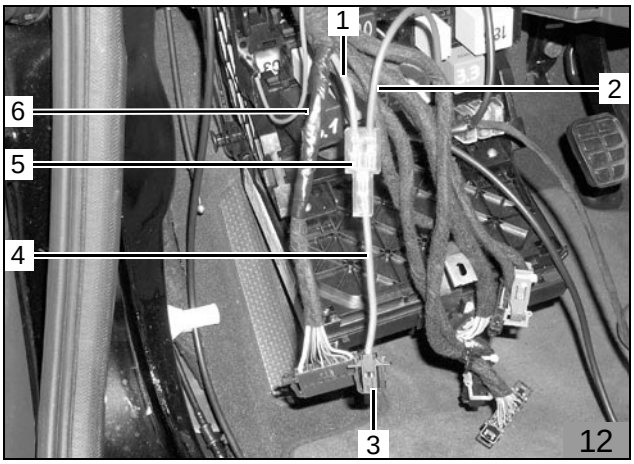
The permanent positive connection is made at plug C6 (1) on the central electrics box P91

- Disconnect plug C6 (1)



Make the connections using the supplied 3-way distributor (5), blade-type plug sleeves and insulation sheaths as shown in the figure and the circuit diagram in Figure 3 or 4.

- Use the supplied blade receptacles with detent points
- Disconnect the red cable (1, 4) from the standard wiring harness (6)
- Cut the red cable (1) from the standard main blade-type fuse F 106, 110 A, to plug C6 (supply to standard blade-type fuses F51 to F54) as shown in the figure



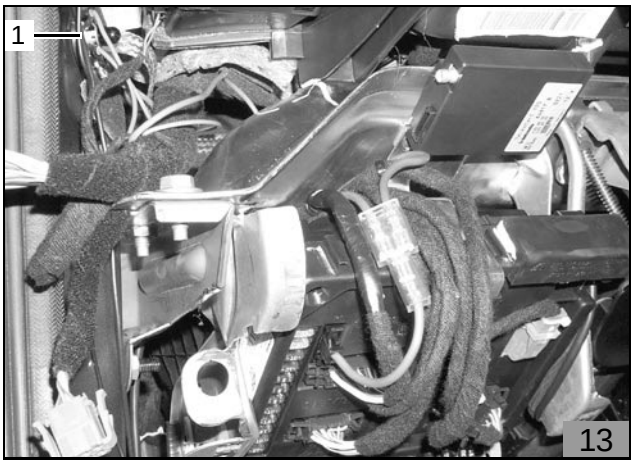
IMPORTANT
The black insulation sheath is used on the blade-type plug sleeve on the red cable (1) of the standard main blade-type fuse!

- Connect both standard red cables (1, 4) and the red cable (2) (supply to the Webasto wiring harness) as shown in the figure using a 3-way distributor (5)
- Insulate the wiring harness (6) again and reconnect plug C6 (3)

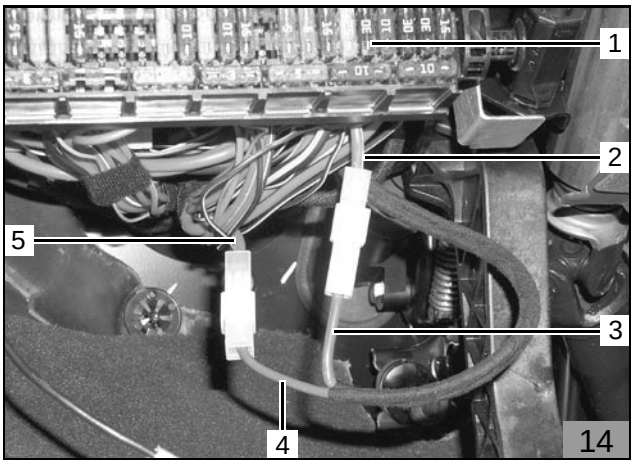
Earth connection

The earth connection is made on the standard earth post (1) on the left above the fuse/relay holder.

- Secure the earth cable to the earth post (1)



Blower connection



For all vehicle

The blower motor is activated at the output from the standard blower fuse F22 (1).

Make the connections using the supplied blade-type plug connectors as shown in the figure and the circuit diagram in Figure 3 or 4.

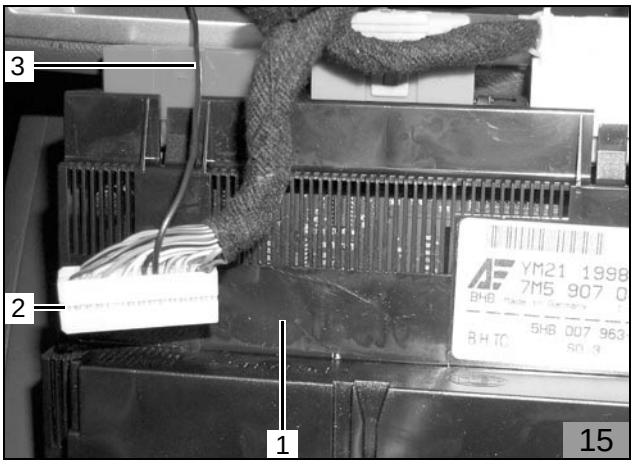
IMPORTANT
The cable colour may be either black/red or red/white depending on the vehicle's equipment!

- Cut the black and red or red and white cable (2, 5) as shown in the figure approx. 50 mm after the blower fuse F22 (1)
- Connect the black and red or red and white cable (2) to the red cable (3) from blower relay K3/87a
- Connect the black and red or red and white cable (5) to the blue cable (4) from blower relay K3/30

For vehicles without automatic air-conditioning system only

NOTE
Insulate and tie back the longer black cable!
This cable is not required (it is routed in the timer wiring harness with a crimped PIN)!

For vehicles with automatic air-conditioning system only



The air-conditioning control (ATC module A96) (1) is activated on the red plug C192 (2) PIN 20 on the left.

Make the connections as shown in the figure and the circuit diagram in Figure 3 or 4.

- Route the longer black cable (3) (routed in the timer wiring harness with a crimped PIN) to the air-conditioning control (ATC module A96) (1)
- Disconnect and open plug C192 (2)
- Connect the black cable (3) to the empty chamber in plug C192 (2), PIN 20
- Assemble plug C192 (2) again and reconnect it
- Install the air-conditioning control (ATC module A96) (1)

For vehicles without interior monitoring system only

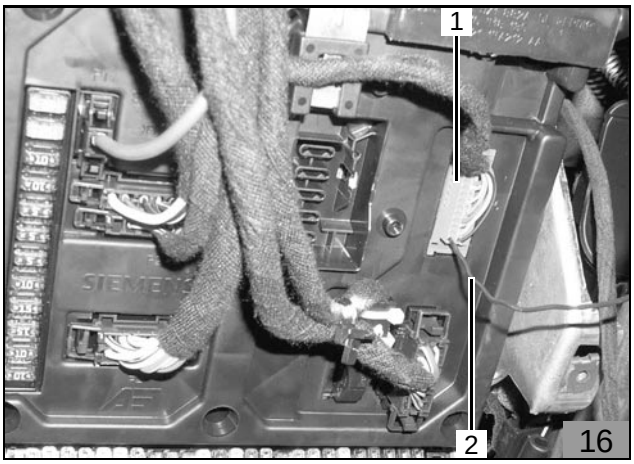
NOTE
Insulate and tie back the short black cable (with crimped PIN)!
The cable is not required!

For vehicles with interior monitoring system only

The interior monitoring system is activated at the green plug C2 (1), PIN 13, in the central electrics box P91.

Make the connections as shown in the figure and the circuit diagram in Figure 3 or 4.

- Route the second black cable (2) (with crimped PIN) to plug C2 (1)
- Disconnect and open plug C2 (1)
- Connect the black cable (2) to the empty chamber in plug C2 (1), PIN 13
- Assemble plug C2 (1) again and reconnect it

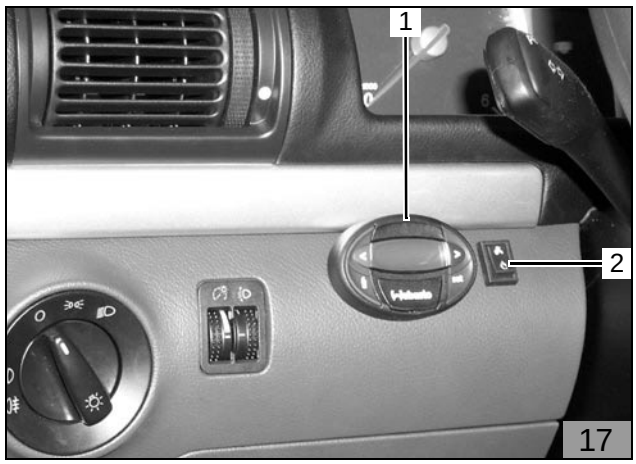


Optional digital timer and optional summer/winter switch

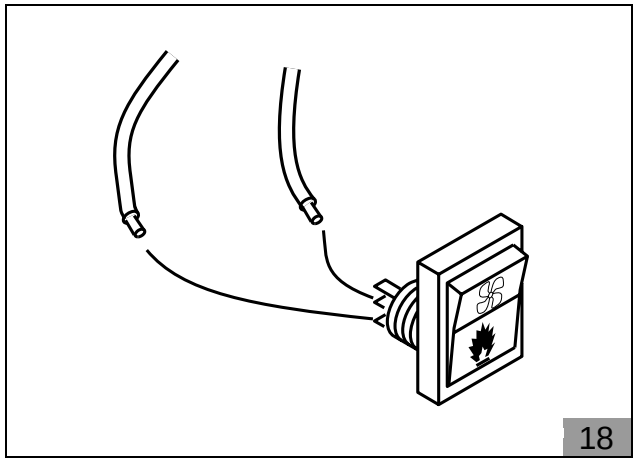
IMPORTANT
Do not press on the LCD display as you install the digital timer!

NOTE
The installation site for the digital timer (1) and the summer/winter switch (2) shown in the figure is only a recommendation!
Before installation, please agree the installation site with your customer!

- Affix the drilling template for the digital timer (1) in the required position
- Drill two holes using the template
- Remove the template
- Connect the plug of the digital timer wiring harness to the digital timer (1)
- Secure the digital timer (1) to the instrument panel with the self-tapping screw



- Mark the holes for the summer/winter switch (17/2) in the required position and drill the holes with a diameter of 12 mm
- Draw the nut and toothed washer over both cables
- Release the tied back brown and violet cables from the auxiliary heating wiring harness, thread them through the hole and connect them to the plug as shown (bottom contacts)
- Secure the summer/winter switch with a toothed washer and nut



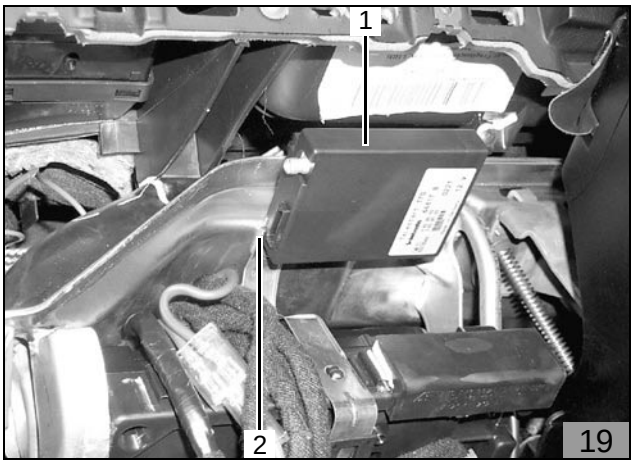
Telestart T70/T80/T100 option

Telestart receiver installation

NOTE
Refer to the supplied general “installation instructions” for the T70/T80/T100 Telestart option!
No ventilation function is possible using the Telestart T78/T80/T100!

The Telestart receiver (17/1) is installed in the footwell on the driver side.

- Secure the holder for the Telestart receiver (1) using the existing screw in position 2 with the fuse/relay holder
- Place the Telestart receiver (1) on the holder



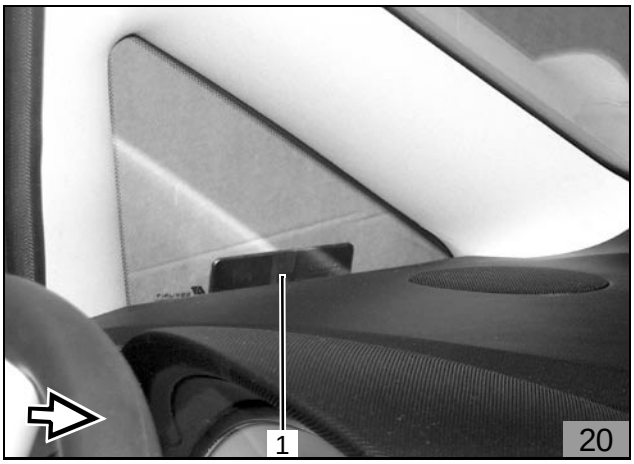
Telestart aerial installation

NOTE
Clean/degrease the area to which the Telestart aerial is to be affixed before you affix it!

The Telestartaerial (1) is installed on the front left triangular window.

- Clean and degrease the affixing area on the triangular window
- Stick on the Telestart aerial (1)

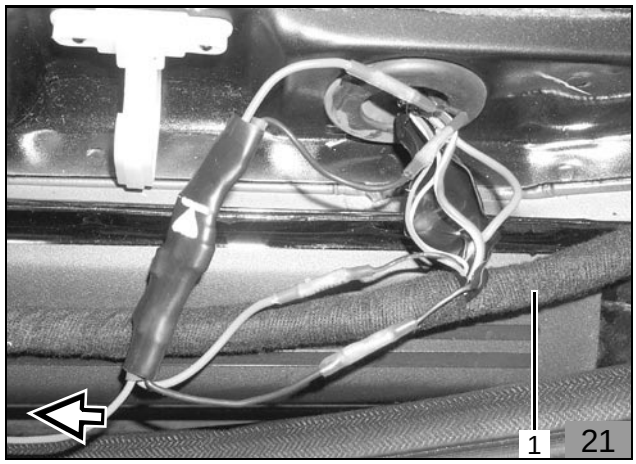
NOTE
Make the connections in accordance with the general “installation instructions” and secure the cables using cable ties!



Heater activation

The electrical actuation of the heater takes place on the standard wiring harness (1) to the heater under the side skirt trim (interior of the vehicle) near the left rear door.

- Cut the insulation on the wiring harness (1) as shown in the figure

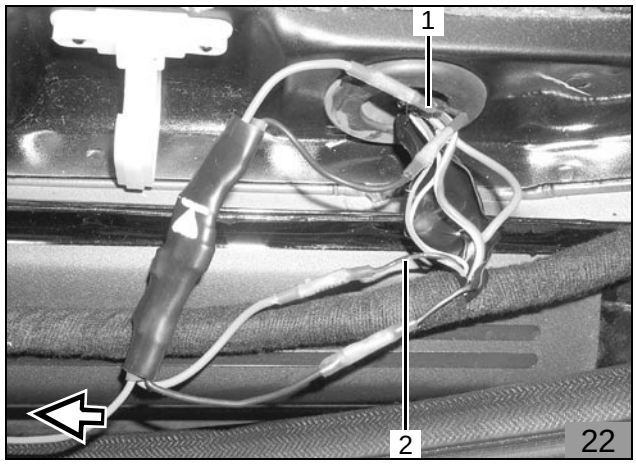


IMPORTANT
The cable colour may be either black/red or black/blue depending on the vehicle's equipment!

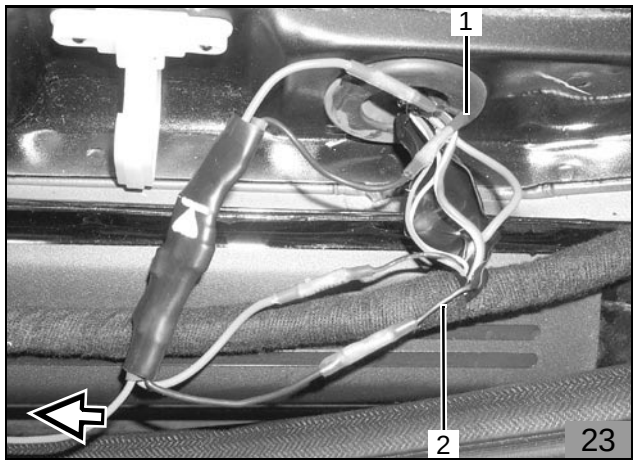
The electrical activation is made:

1. On the black/red or black/blue cable (1, 2) on the standard blade-type fuse F3 to plug connector C311, PIN 7.

NOTE
The vehicle's C311 plug connector is on the underfloor in front of the heater!

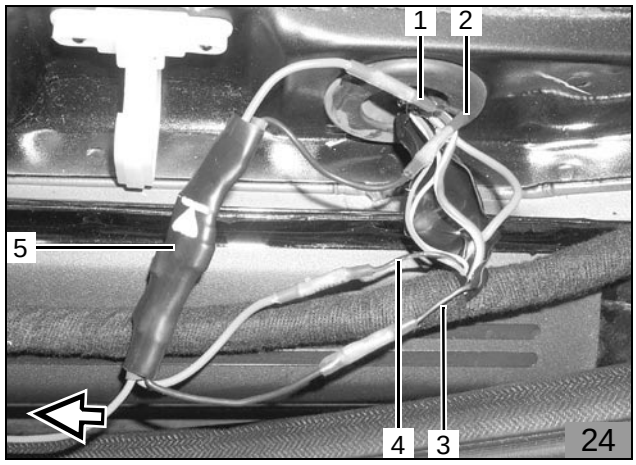


2. On the black cable (1, 2) from exterior temperature switch N289 to plug connector C311, PIN 6.

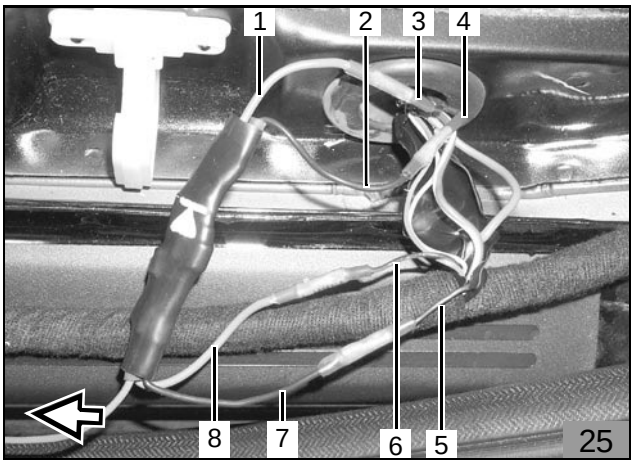


Make the connections using the supplied butt connectors as shown in the figure and in the circuit diagram in Figure 3 or 4 (crimp and shrink).

- Cut the black and red or black and blue cable (1, 4) and the black cable (2, 3) as shown in the figure
- Route the wiring harness with diode group (5) to the isolation point
- Check and mark the flow direction of the diode group (5) as shown in the circuit diagram in Figure 3 or 4



- Connect the black and red or black and blue cable (6) from blade-type fuse F3 to the blue cable (8) to the diode group (input)
- Connect the black and red or black and blue cable (3) to the heater (plug C311, PIN 7) to the blue cable (1) from the diode group (output)
- Connect the black cable (5) from external temperature switch N289 to the black cable (7) to the diode group (input)
- Connect the black cable (4) to the heater (plug C311, PIN 6) to the black cable (2) from the diode group (output)



Concluding work

- Install all the removed parts in reverse
- Check that all electrical connections are tight
- Secure all loose lines and cables with cable ties
- Connect the car battery
- Affix the filling station sticker in a clearly visible position
- Switch on the heater as described in the operating manual for the digital timer or Telestart T70/80

Operating instructions for the end customer

(Cut out and add to the vehicle operating manual.)

Make the following settings before you shut down the car:

For vehicles without automatic air-conditioning system only

1. Air vent to “WINDSCREEN”
2. Temperature control to “MAX”
3. Blower control to setting “2”

Webasto

Feel the drive

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