Water Heater Unit



Thermo Top E Additional Heater

# **Installation Instructions**

# Ford Focus / Focus C-MAX / Focus CC

Gasoline from Model Year 2004 For left-hand drive vehicles only



# WARNING!

Hazard warning:

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

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

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

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

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

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### Validity

Manufacturer	Model	Туре	EG-BE No./ABE
Ford	Focus	DA3	e13*2001/116*0144
Ford	Focus	DB3	e13*2001/116*0144
Ford	Focus C-MAX	DM2	e13*2001/116*0109
Ford	Focus CC	DB3	e13*2001/116*0157

Engine type	Engine model	Output in kW	Displacement in cm <sup>3</sup>
ASDA	Gasoline	59	1388
ASDB	Gasoline	59	1388
HWDB	Gasoline	74	1596
HXDA	Gasoline	85	1596
Q7DA	Gasoline/Flexifuel	92	1798
QQDB	Gasoline	92	1798
AODA	Gasoline	107	1999
AODB	Gasoline	107	1999

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

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

# Heater Unit/Installation Kit

Quantity	Description	Order No.:
1	Ford Delivery Scope for Focus/ Focus C-MAX Gasoline without Heater Control	1303858C
1	Original Fuel Standpipe with Ford Finis Code	1233999

Additionally required optional heater control:

Quantity	Description	Order No.:
1	Digital Timer	9010869A
1	Telestart T80	9010870A
1	Telestart T100 HTM	9010148C
1	Thermo-Call Connect, Comfort, Locate	See price list

Additionally required with automatic air-conditioning up to 2005 Model Year:

Quantity	Description	Order No.:
1	Kit for Automatic Air-Conditioning on Ford Focus/Focus C-MAX	9012822A

Additionally required with automatic air-conditioning from 2006 Model Year:

Quantity	Description	
1	Kit for Automatic Air-Conditioning on Ford Focus/Focus C-MAX	9015495A

# Foreword

The installation instructions apply to the Ford Focus / Focus C-MAX / Focus CC vehicles with a Gasoline engine

- For the validity, see page 2 - from model year 2004 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to these installation instructions.

However, the stipulations in the "installation instructions" and "operating and maintenance instructions" for the *Thermo Top C/P/E* must always be observed.

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

# **General Instructions**

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

Sharp edges should be fitted with edge protectors (split-open plastic hose).

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

# **Special Tools**

- Torque wrench for 2.0 10 Nm
- Hose clamping pliers
- Metric thread-setter kit for M6 aluminum rivet nut
- Metric thread-setter kit for M10 steel rivet nut (e.g. Würth Order No. 0964948900)

# **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 work Electrical connection Coolant connection

**Fuel connection** 

**Exhaust system** 

**Combustion air** 













Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.

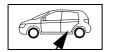
Specific risk of damage to components.

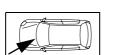
Specific risk of fire or explosion.

Reference to general installation instructions of Webasto components or to the manufacturer's vehiclespecific documents.



Reference to a special technical feature.





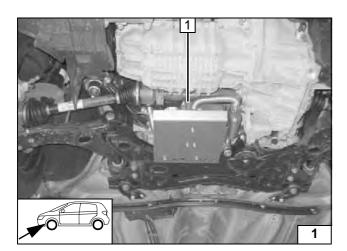
The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

### WARNING!

- Open fuel tank cap, ventilate tank.
- Close the tank cap again.
- Disconnect the battery "earth" or "ground" connection.
- Depressurize the cooling system.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) in the appropriate place.
- Remove the engine cover (if present).
- C-MAX only: Remove the coolant reservoir trim completely at the top and bottom.
- Remove the underride protection (if present).
- Remove the underbody trim in front of the right rear wheel (no further use).
- Remove the fuel tank according to the manufacturer's instructions.
- Remove the glove compartment.
- Remove the A-pillar trim in the footwell on the front passenger side.
- Only with automatic air-conditioning: Remove the A/C control panel according to the manufacturer's specifications.



### Preliminary Work

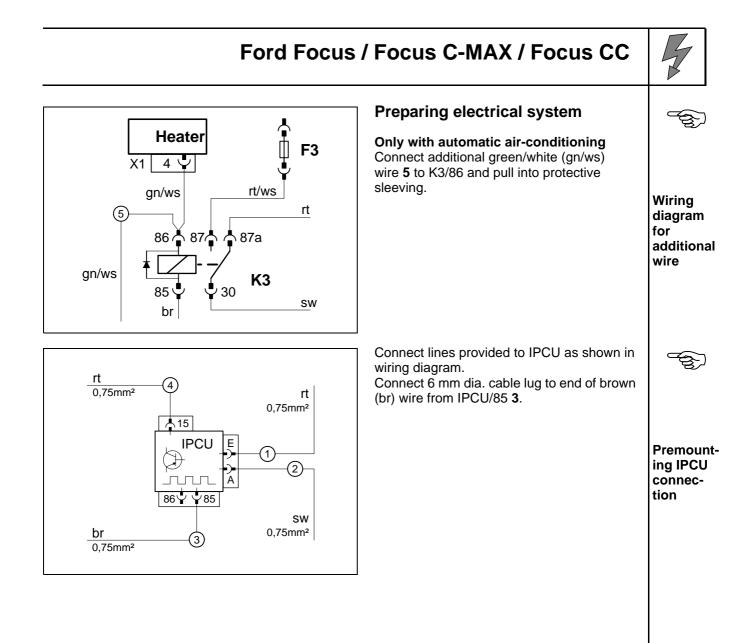


# Heater unit installation location

Photo shows 1.8 liter

1 Heater unit

Installation location





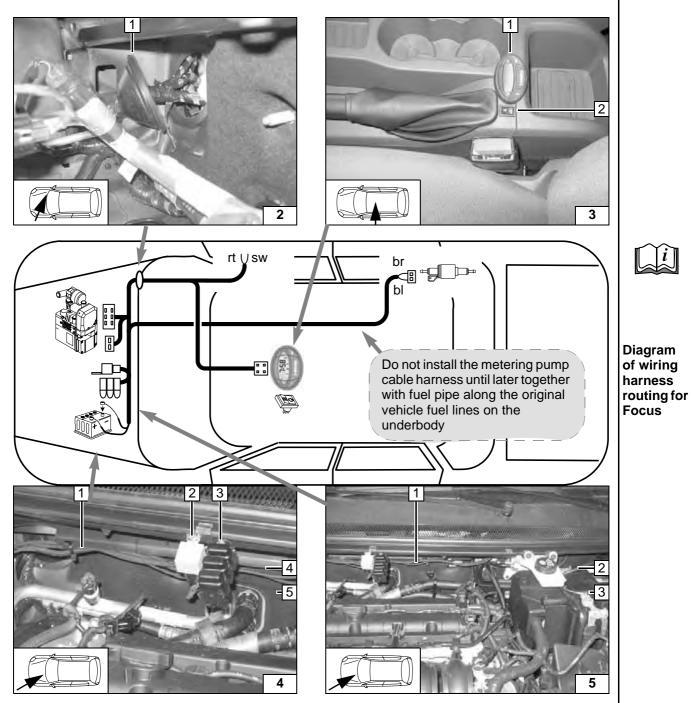
# **Electrical Connection on Focus**

### Wiring harness pass through

1 Protective rubber plug detached

### **Digital timer**

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



### Fuse holder, relay K3

When drilling, watch components located behind.

- 2 K3 relay, 4 mm dia. hole, 5.5x13 self-tapping screw
- **3** Fuse holder, 4 mm dia. hole, 5.5x13 mm selftapping screw
- 1 Wiring harnesses routed to right and fastened with cable ties

### **Connection to battery**

Route wires (1) to left and fasten with cable ties.

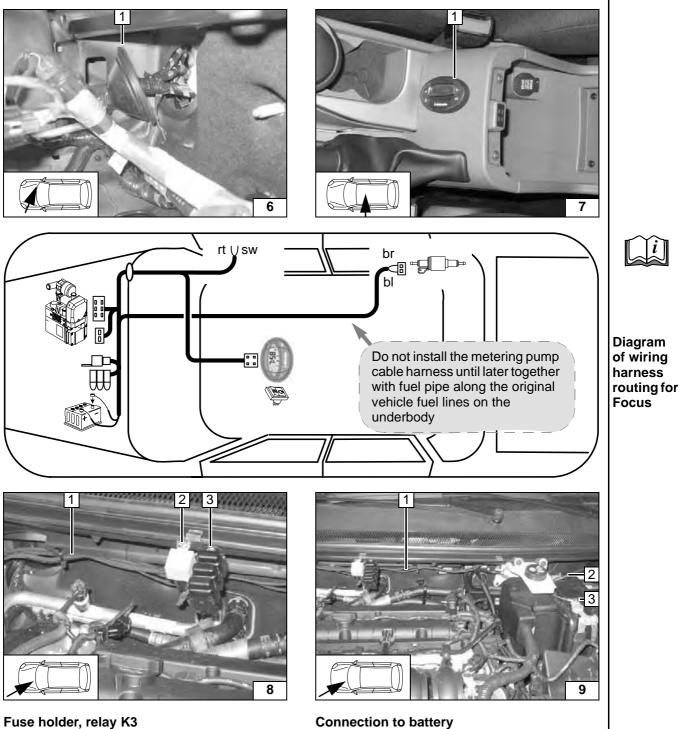
- 2 Ground wire on negative battery terminal
- **3** Positive wire on positive battery terminal



# **Electrical Connection on Focus/Focus CC from 2008**

### Wiring harness pass through

- 1 Protective rubber plug detached
- **Digital timer**
- 1 Digital timer



When drilling, watch components located behind!

- 2 K3 relay, 4 mm dia. hole, 5.5x13 self-tapping screw
- 3 Fuse holder, 4 mm dia. hole, 5.5x13 mm selftapping screw
- 1 Wiring harnesses routed to right and fastened with cable ties

# **Connection to battery**

Route wires (1) to left and fasten with cable ties.

- 2 Ground wire on negative battery terminal
- 3 Positive wire on positive battery terminal



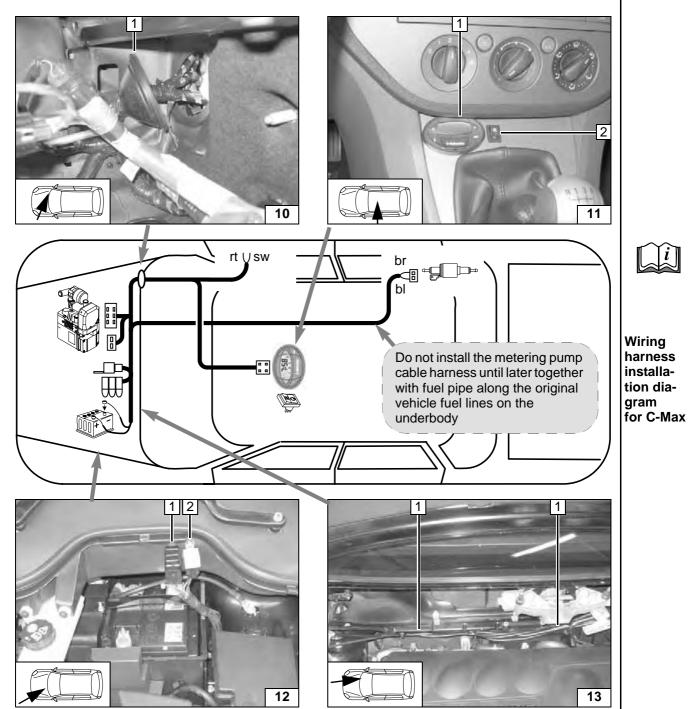
# **Electrical Connection on C-MAX**

### Wiring harness pass through

1 Protective rubber plug detached

### **Digital timer**

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



### Fuse holder, relay K3

Fastening will not be carried out until later after reinstalling the coolant reservoir cap! When drilling, watch components located behind!

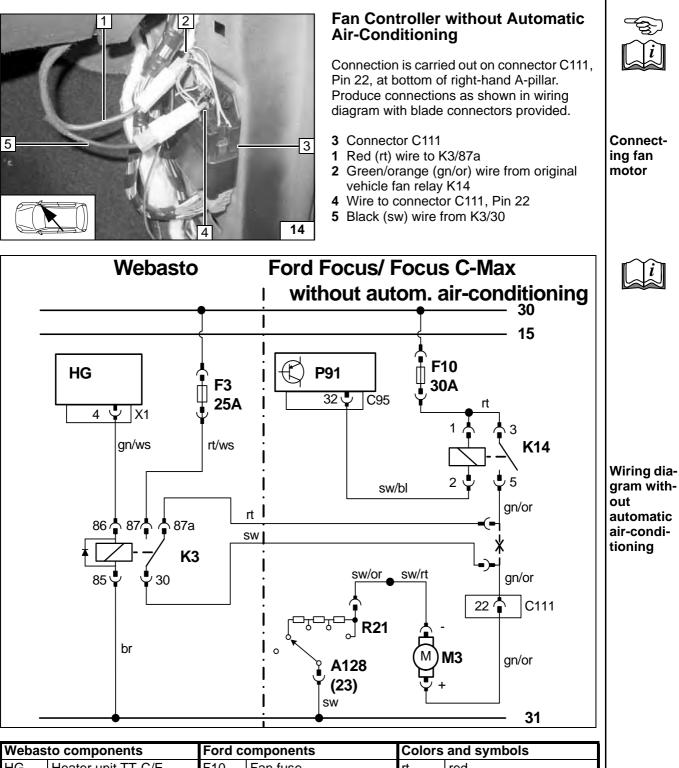
- 1 Fuse holder, 4 mm dia. hole, 5.5x13 mm selftapping screw
- 2 K3 relay, 4 mm dia. hole, 5.5x13 self-tapping screw

### Wiring harness routing

Connect ground wire to negative battery pole and positive wire to positive battery pole.

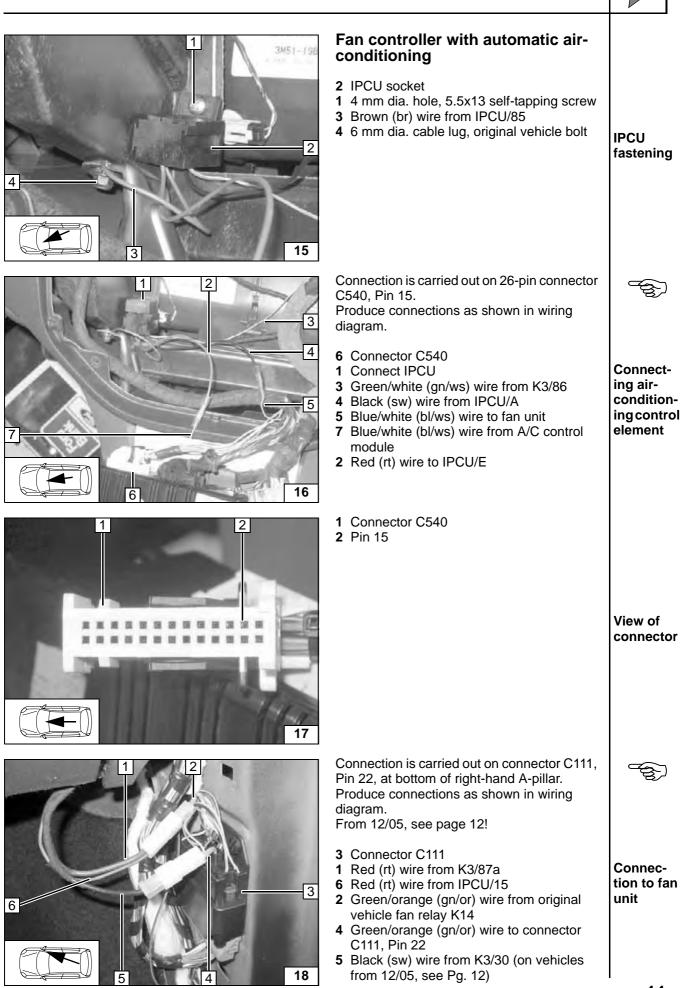
Route wiring harness (1) to right and fasten with cable ties as shown.

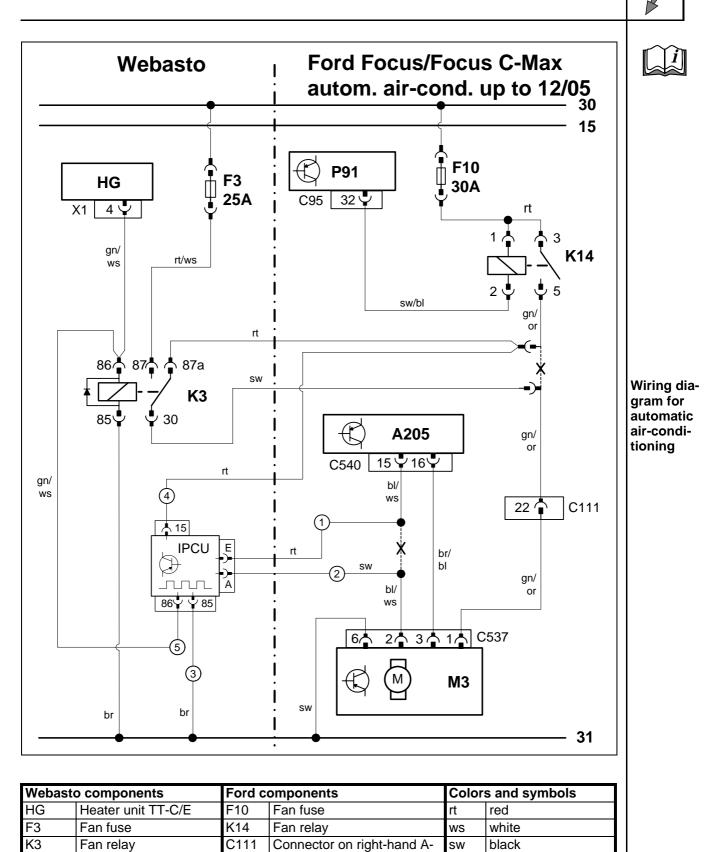




Webasto components F		basto components Ford co		Colors and symbols			
HG	Heater unit TT-C/E	F10	Fan fuse	rt	red		
F3	Fan fuse	K14	Fan relay	WS	white		
K3	Fan relay	P91	Central electrical box	SW	black		
		C111	Connector on right-hand	br	brown		
			A-pillar	gn	green		Legend
		M3	Fan motor	bl	blue		
		R21	Resistor group	or	orange		
		A128	Heater control module				
		23	Fan switch				
				Х	Cutting point		

10





pillar

Fan unit

Central electrical box

A/C control module (EATC)

Connector on P91

Connector on M3

Connector on A205

P91

C95

M3

C537 A205

C540

br

gn

bl

or

Х

brown

green

orange

Cutting point

blue

IPCU

X1

Intelligent Pulse

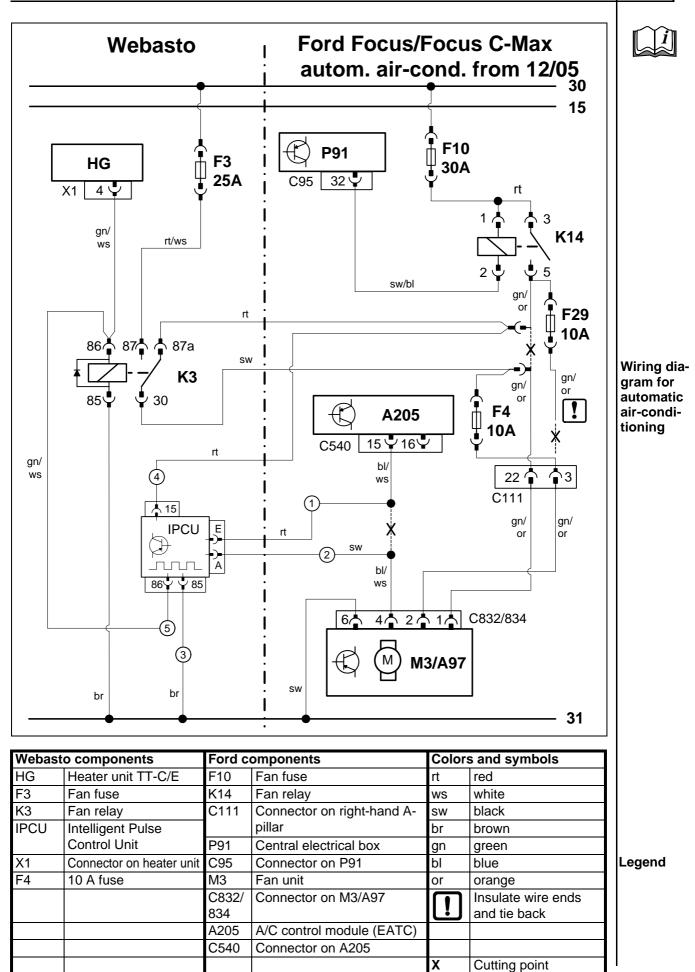
Connector on heater unit

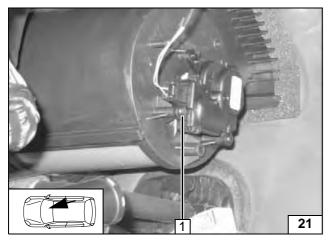
Control Unit

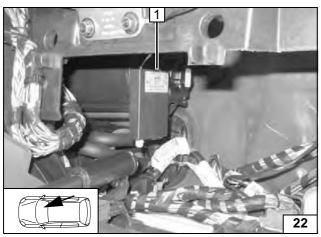
Leg			
Leg	е	n	a

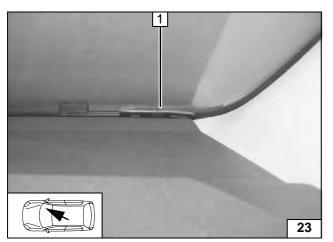
12

# Ford Focus / Focus C-MAX / Focus CC Additionally for automatic airconditioning from 12/05 3 Produce connections as shown in wiring diagram. 5 1 Cut off green/orange (gn/or) wire of C111/3 З Fan and insulate controller **2** Green/orange (gn/or) wire of C111/3 3 Connector C111 4 Black (sw) wire of F4 5 Black (sw) wire of F4 19 Complete fuse holder with materials provided and fasten it with double-sided adhesive tape. Produce connections as shown in wiring diagram. 2 1 Central electrical box in right-hand footwell 2 Black (sw) wires, 500 mm Fuse F4 3 Fuse holder, 10 A fuse 20









# Remote option (Telestart)

Receiver is mounted on existing bolt on positioning motor.

1 Original vehicle bolt

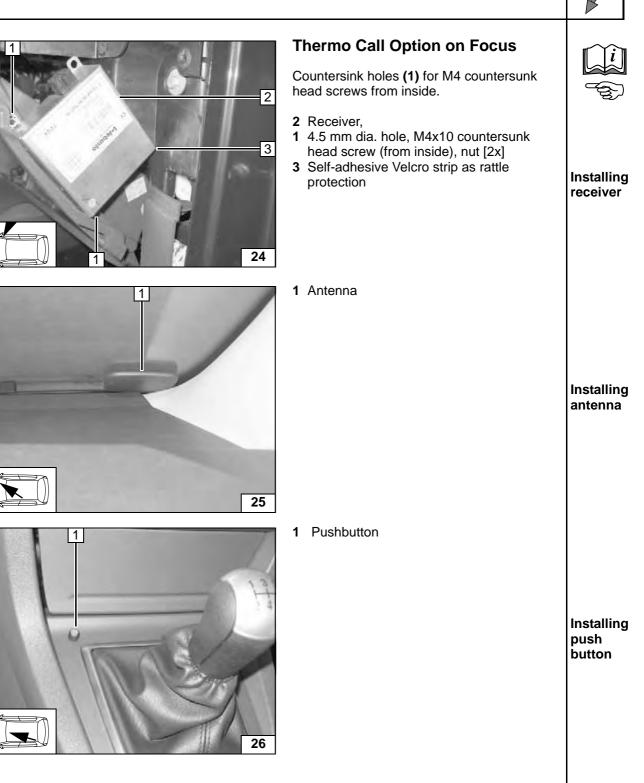
Installation location of receiver

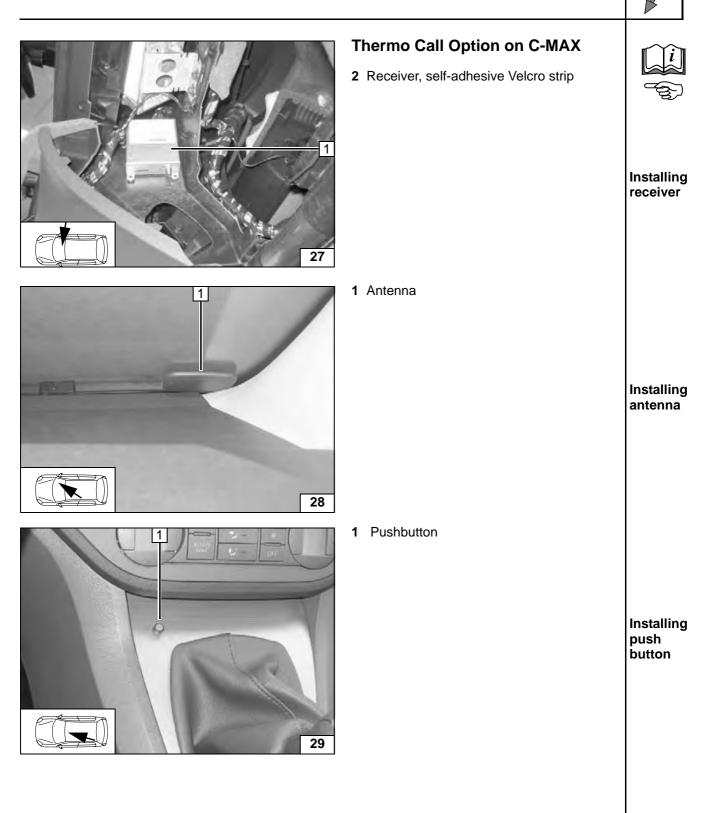
Installing receiver

1 Receiver

1 Antenna

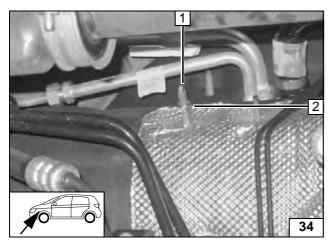
### Installing antenna





# Ford Focus / Focus C-MAX / Focus CC 5 $\Box \bigcirc$ **Preparing installation location** 1 Cross member is dependent on vehicle equipment! 1 Cross member **2** M10 bolts [3x] Removing cross member 30 Design of guard plate (2) is dependent on Ϋ́ς vehicle equipment! 1 Remove section and discard 2 Adapting guard plate 31 If threaded inserts are not present at position 73) (1), then mount M10 rivet nuts provided in hexagon holes. Use special tool as shown on Page 3. For alternative, see next illustration. 1 M10 steel rivet nut [2x] 2 Stud bolt Installing rivet nut 32 1 1 M10 rivet nut (steel) 1 2 3 Tog 2 Washer 3 M10 nut 4 M10 bolt 4 Alternative rivetdown tool

33



Screw on flanged nut with flange toward front.

- Original vehicle stud bolt
  M8 flanged nut

Preparing installation location

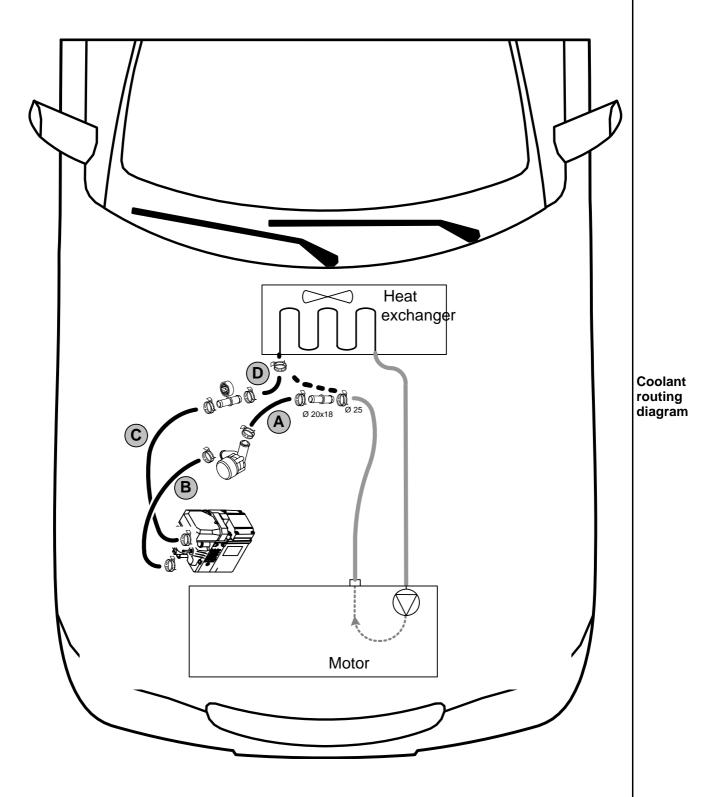
Too So

 $\subseteq$  $\Box$ 

# **Preparing coolant connection**

### WARNING!

Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position spring clips so that no other hose can be damaged! The connection should be "inline" based on the following diagram:



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

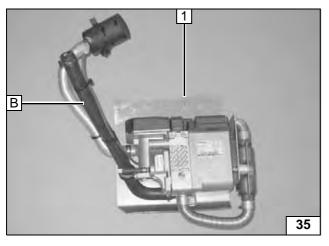
Premounting heater unit

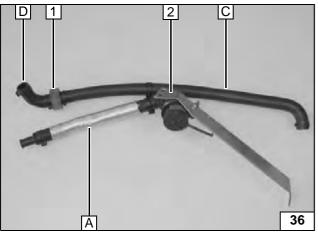
1 Delivered heater unit assembly

2 Delivered coolant assembly

center between spring clips

1 Black (sw) rubber profile positioned in





Hole in corner of strut is used at Position (3)! Only loosely mount Ejot screw (3) so that strut (2) can still be aligned during installation.

- 1 Retaining clip with intake muffler engaged in hole
- 4 Wiring harnesses for circulating pump connected with same colors (crimp and shrink)

Fix hoses **B** and **C** and wiring harness of

General view

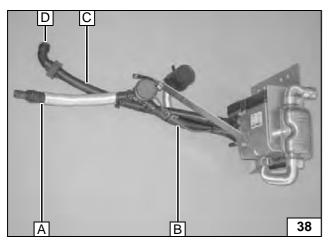
Connecting assemblies

 $\Box 0$ 

Heater unit assembly

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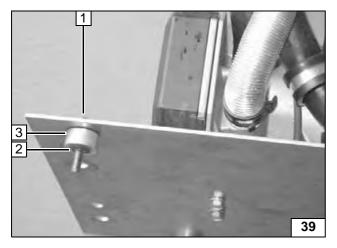
Coolant assembly

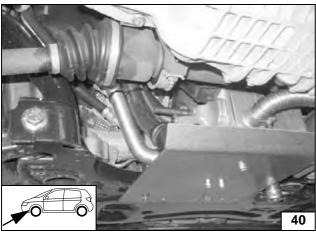


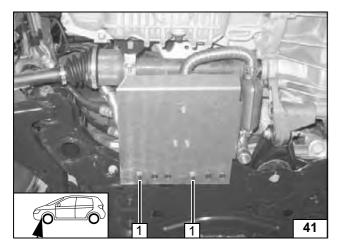
circulating pump in place with cable ties.

ing assemblies

3







1 3 42

# **Fastening for Underride Protection**

Vehicle-dependent, if present!

- 1 M6x25 bolt in existing 7 mm dia. hole
- 3 10 mm shim
- 2 Pin lock

Premounting heater unit

TS-

Installing heater unit



Use holes in bracket as shown. Check position of all components and adjust if necessary. Check that they have free clearance.

**1** M10x30 bolt with locking toothing [2x]



Installing heater unit

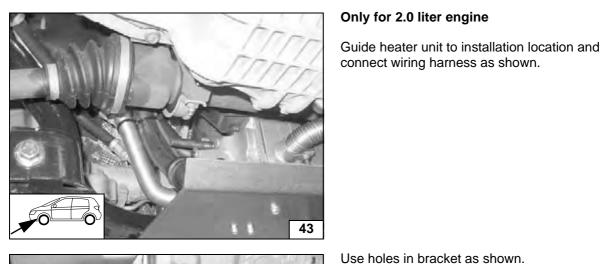
Use hole in strut as shown. Check position of all components and adjust if necessary. Check that they have free clearance.

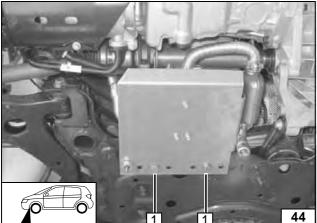
- 1 M8 flanged nut (premounted)
- 3 Flanged nut
- 2 Strut

Installing heater unit

Tighten Ejot screw (10 Nm).







Use hole in strut as shown. Check position of all components and adjust if necessary. Check that they have free

Check position of all components and adjust if necessary. Check that they have free

1 M6x30 bolt, spring lockwasher [2x]

- 1 M8 flanged nut (premounted)
- 3 Flanged nut

clearance.

clearance.

2 Strut

45

Tighten Ejot screw (10 Nm).



Installing heater unit

 $\Box 0$ 

Installing heater unit

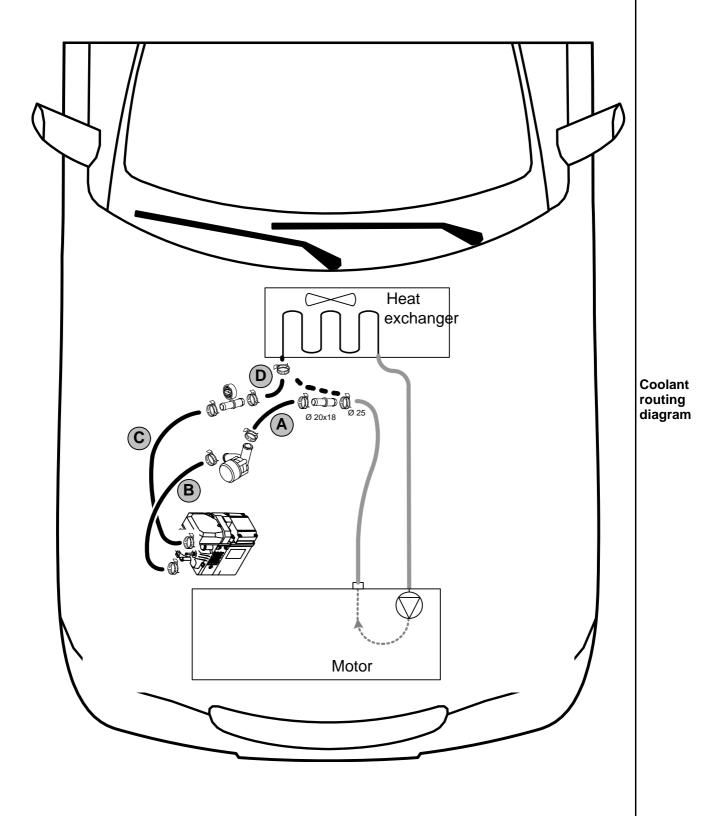
Installing heater unit

\$

# **Coolant connection**

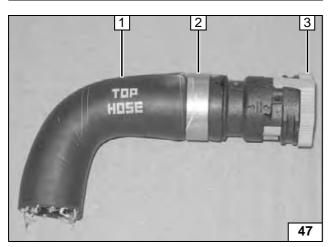
### WARNING!

Any coolant running off should be collected using an appropriate container! Install hoses so that they are kink-free. Unless specified otherwise, always fasten using cable ties. Position spring clips so that no other hose can be damaged! The connection should be "inline" based on the following diagram:



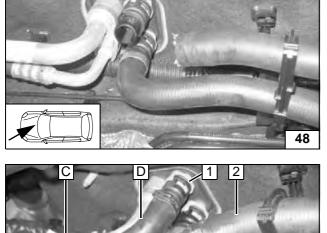
All clamps without a specific designation = 27 mm dia. spring clips! All connecting pipes without a specific designation are dia. 20x20!

- 1 Hose section of heat exchanger inlet 2 Engine outlet hose section
- 2 1 46



1

Remove connection piece according to manufacturer's instructions. Locking device (3) must be turned counterclockwise for this purpose. 2 Carefully saw open clamp 1 Discard hose Preparing coolant **1** Connection piece of heat exchanger inlet mounted and locked Preparing coolant



Before connecting, fill the coolant hoses with 3 coolant. 1 Connection piece of heat exchanger inlet 2 Engine outlet hose section **Connect**ing hoses

Check routing of hoses and correct if necessary. Fasten wiring harness of heater unit to coolant hoses with cable tie.

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### **Fuel Connection**

### **CAUTION!**

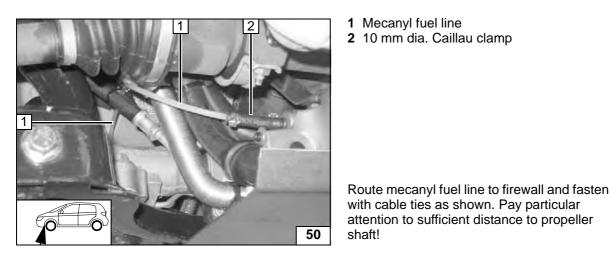
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Catch any fuel running off with an appropriate container.

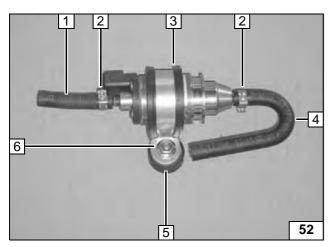
Install fuel line and metering-pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties. Mount the fuel line and wiring harness with rub protection on sharp edges.

### WARNING!

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



1 51



- 1 Mecanyl fuel line
- 2 10 mm dia. Caillau clamp



Connection on heater unit

Installation location on right next to vehicle fuel tank.

- 1 Angle bracket
- 2 M6x20 bolt, spring lockwasher on existing thread insert



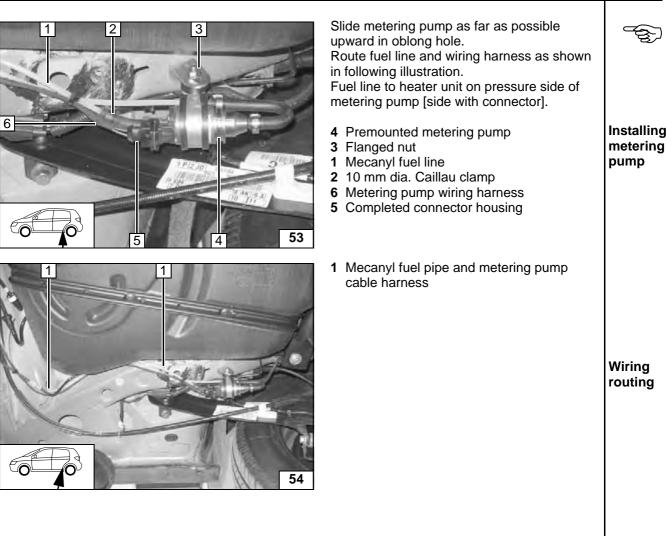
- 1 Hose section
- **2** 10 mm dia. Caillau clamp [2x]
- 4 180° molded hose
- 3 Rubber-coated pipe clamp
- 5 Silentblock
- 6 Flanged nut

Premounting metering pump

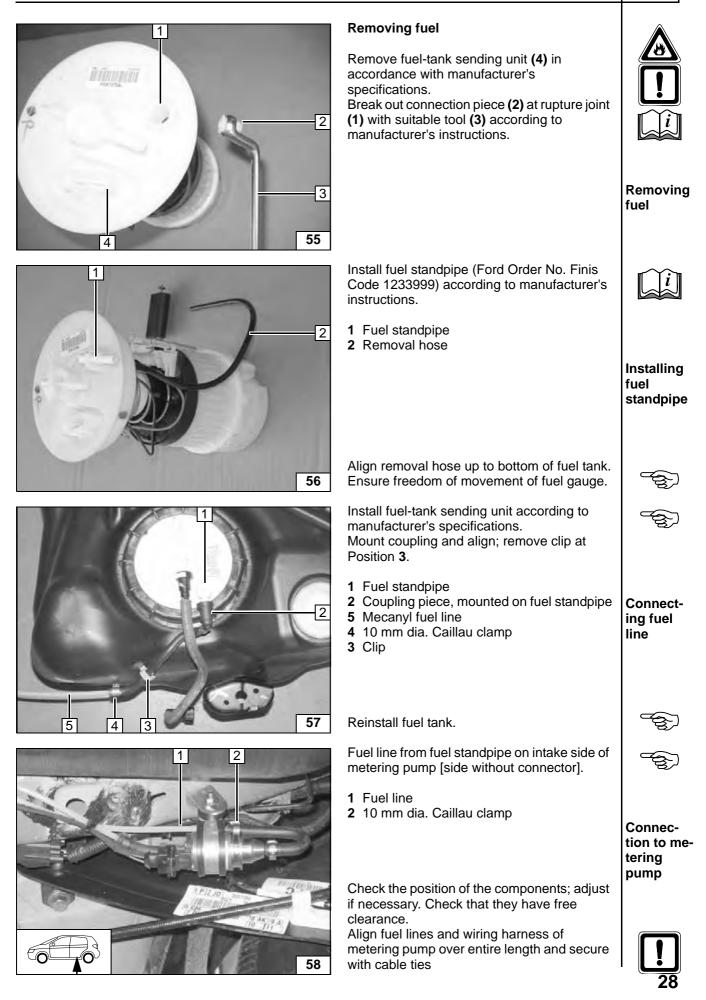




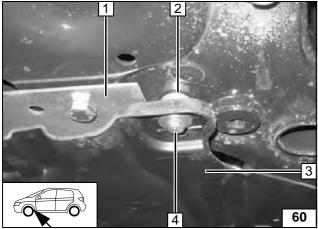


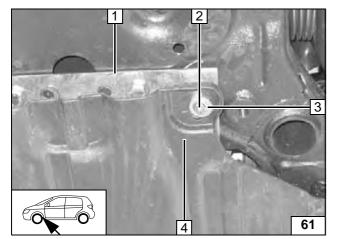












# 

# Mounting underride protection

For all vehicles!

Underride protection is dependent on vehicle equipment! Cut out underride protection as shown.

Cutting out underride protection

### Only for 1.4 liter; 1.6 liter; 1.8 liter engine!

<del>-</del>}

Remove plastic threaded insert. Drill out hole to 9 mm dia. and insert M6 rivet nut.

- 1 Bracket of heater unit
- 2 M6 rivet nut, 10 mm shim
- 3 Underride protection
- 4 M6x40 bolt, spring lockwasher, large diameter washer

Installing underride protection for 1.4 liter; 1.6 liter; 1.8 liter engine

### Only for 2.0 liter engine!

- 1 Bracket of heater unit
- 2 Premounted bolt
- 4 Underride protection
- 3 M6 flanged nut, large diameter washer

Installing underride protection for 2.0 liter engine

### For all vehicles!

Photo shows 1.8 liter

Check positioning of underride protection! In particular, ensure sufficient distance to heater-unit exhaust system! Rework cut-out if necessary.

Also fasten underride protection for stabilization with cable ties at position (1).



Installing underride protection for all vehicles

# **Final Work**

### WARNING!

Reassemble the disassembled components in reverse order.

Check all hoses, hose, spring and Caillau clamps, as well as all electrical connections for firm seating. Secure all loose cables using cable ties.

Only use manufacturer-approved coolant.

Spray the heater unit components with anti-corrosion wax (Tectyl 100K, Order No. 111329).

- Connect battery
- Bleed and fill the coolant circuit according to the vehicle manufacturer's specifications.
- Set the digital timer.
- Adjust the vehicle heater with automatic air-conditioning or without automatic air-conditioning according to "Operating Instructions for End Customer".
- Check the proper operation of the additional heater, see the operating instructions/installation instructions.
- Attach the "Switch off additional heater before refueling" sticker to the left-hand B-pillar.





Webasto AG Postfach 80 - 82132 Stockdorf, Germany - Hotline +49-(0)1805-932278

Printed in Germany 05/08Printed by: Steffen



Please remove page and add to the vehicle operating instructions.

Note: On vehicles with "Flexyfuel engine, operation of additional heater is only permissible with gasoline!

64

65

87.89.2885 2 L 63 3

Before parking the vehicle, make the following settings:

1 2 HI

96

HI

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

For vehicles without automatic air-conditioning

Togo

- 1 Temperature to "max." [2x] 2 Air outlet to windshield

automatic air conditioning

For vehicles with

**1** Temperature to "max." [2x] 2 Air outlet to windshield

> For vehicles with automatic air conditioning