Water Heater



Thermo Top E Parking Heater 00 0003

## Installation documentation

# Ford Focus / Focus C-MAX / Focus CC

Petrol 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, specialised tools and equipment are required to install and repair Webasto heating and cooling systems.

Only original Webasto parts must be used. For this, also see the catalog of air and water heater accessories from Webasto.

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

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

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

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

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## Validity

Manufacturer	Model	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	Petrol	59	1388
ASDB	Petrol	59	1388
HWDB	Petrol	74	1596
HXDA	Petrol	85	1596
Q7DA	Petrol/Flexifuel	92	1798
QQDB	Petrol	92	1798
AODA	Petrol	107	1999
AODB	Petrol	107	1999

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

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

## Heater/installation kit

Quan- tity	Designation	Order No.:
1	Ford Delivery Scope for Focus/ Focus C-MAX Petrol without heater control	1303858C
1	Original fuel standpipe with Ford Finis Code	1233999

Additionally required optional heater control:

Quan- tity	Designation	Order No.:
1	Digital timer	See price list
1	Telestart	See price list

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

Quan- tity	Designation	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:

Quan- tity	Designation	Order No.:
1	Kit for automatic air-conditioning on Ford Focus/Focus C-MAX	9015495A

## Foreword

This installation documentation applies to Ford Focus / Focus C-MAX / Focus CC vehicles with Petrol engine - for validity, see page 2 - from model year 2004 and later, assuming technical modifications to the vehicle do not affect installation, any liability claims excluded. Depending on the vehicle version and equipment, modifications may be necessary during installation with respect to this installation documentation.

However, where this is the case, the stipulations in this "installation documentation" the "operating instructions" and "installation instructions" of the *Thermo Top E* should 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 must be provided with rub protection (cut-open fuel hose)!

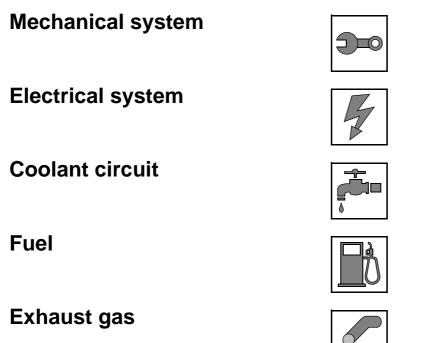
Spray unfinished body areas, e.g. drilled holes, with anti-corrosion wax (Tectyl 100K, Order No. 111329). When installing an IPCU, the corresponding settings must be checked or adjusted before installation.

## **Special tools**

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



**Combustion air** 

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Special features are highlighted using the following symbols:



Specific risk of injury or fatal accidents.

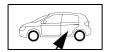
Specific risk of damage to components.

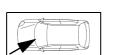
Specific risk of fire or explosion.

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



Reference to a special technical feature.



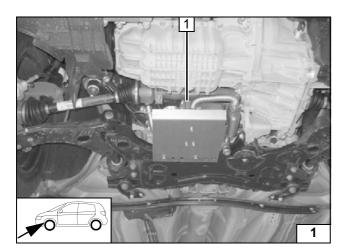


The arrow in the vehicle icon indicates the position on the vehicle and the viewing angle.

## **Preliminary work**

#### Warning!

- Open the fuel tank cap and vent the fuel tank.
- Close the fuel tank cap again.
- Disconnect the battery earth connection.
- Depressurise the cooling system.
- Copy the factory number from the original type label to the duplicate type label.
- Remove years that do not apply from the duplicate label.
- Attach the duplicate label (type label) 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 front passenger side footwell.
- Only with automatic air-conditioning: Remove the A/C control panel according to the manufacturer's specifications.

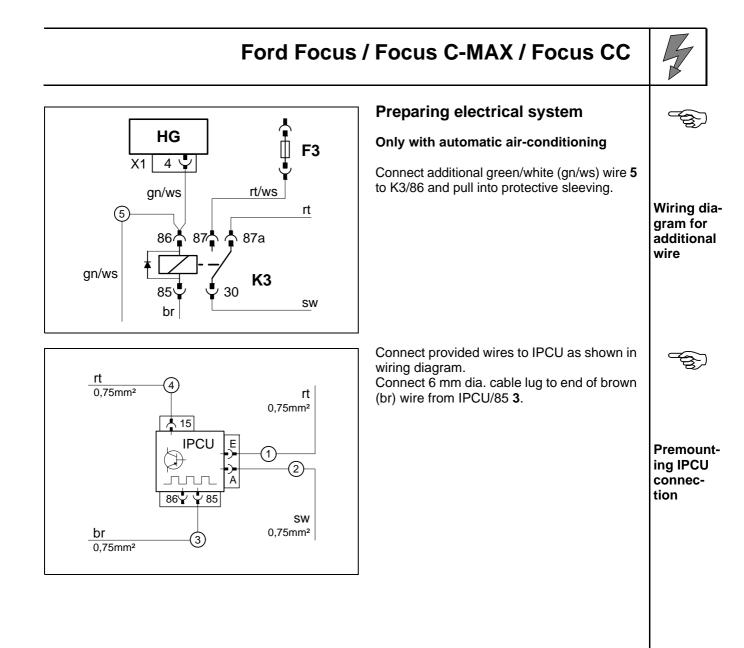


## Heater installation location

Figure shows 1.8 It engine

1 Heater

Installation location





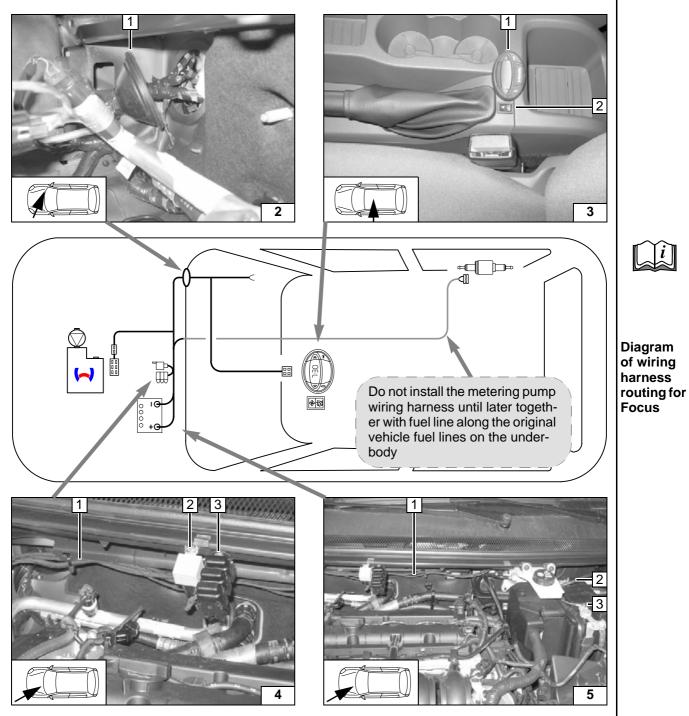
## **Electrical system of Focus**

## 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, K3 relay

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 Earth wire on negative battery terminal
- 3 Positive wire on positive battery terminal

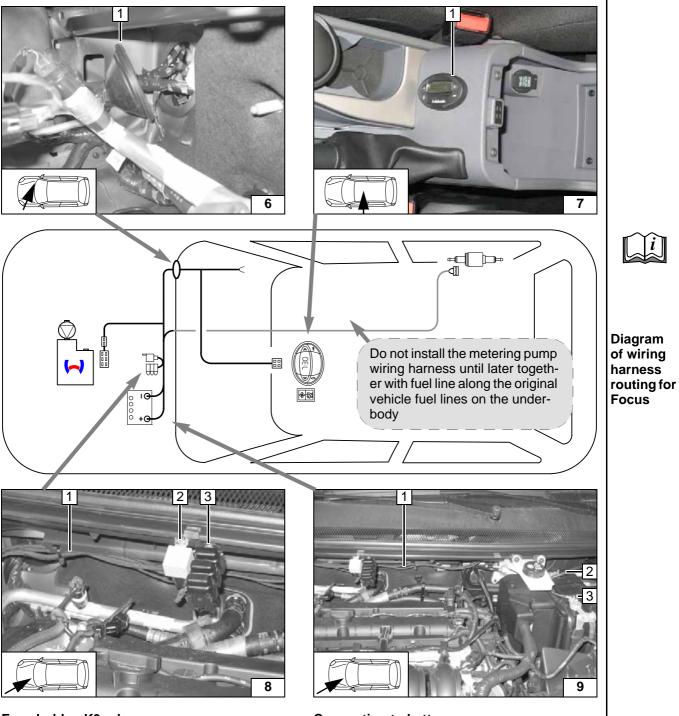
## Electrical system for Focus/Focus CC from 2008

## Wiring harness pass through

1 Protective rubber plug detached

## **Digital timer**

1 Digital timer



## Fuse holder, K3 relay

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 Earth wire on negative battery terminal
- 3 Positive wire on positive battery terminal



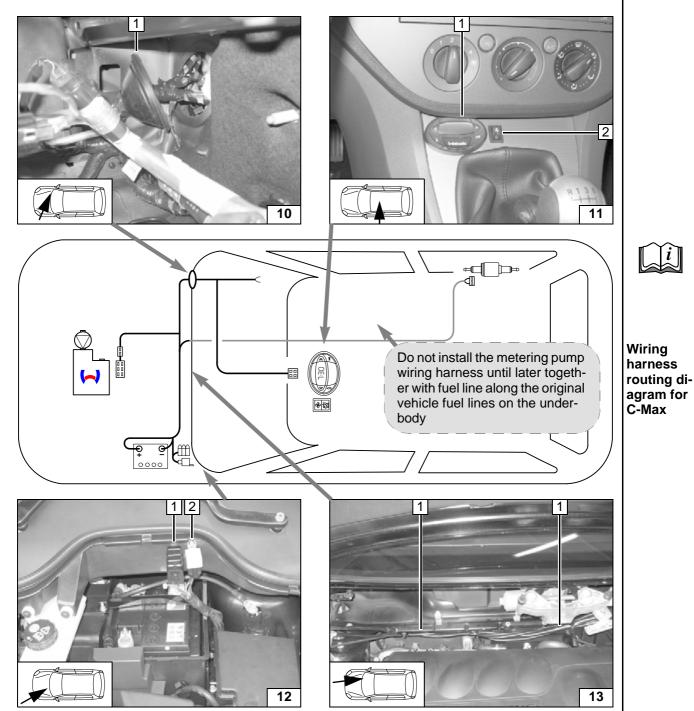
## **Electrical system of C-Max**

## 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, K3 relay

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

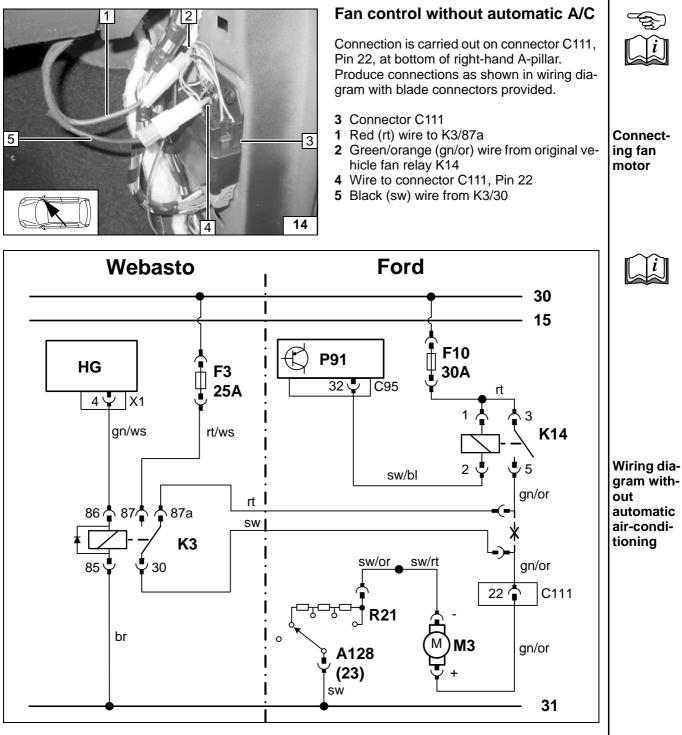
- 1 Fuse holder, 4 mm dia. hole, 5.5x13 mm selftapping screw
- 2 K3 relay, 4 mm dia. hole, 5.5x13 self-tapping screw

### Wiring harness routing

Connect earth 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.

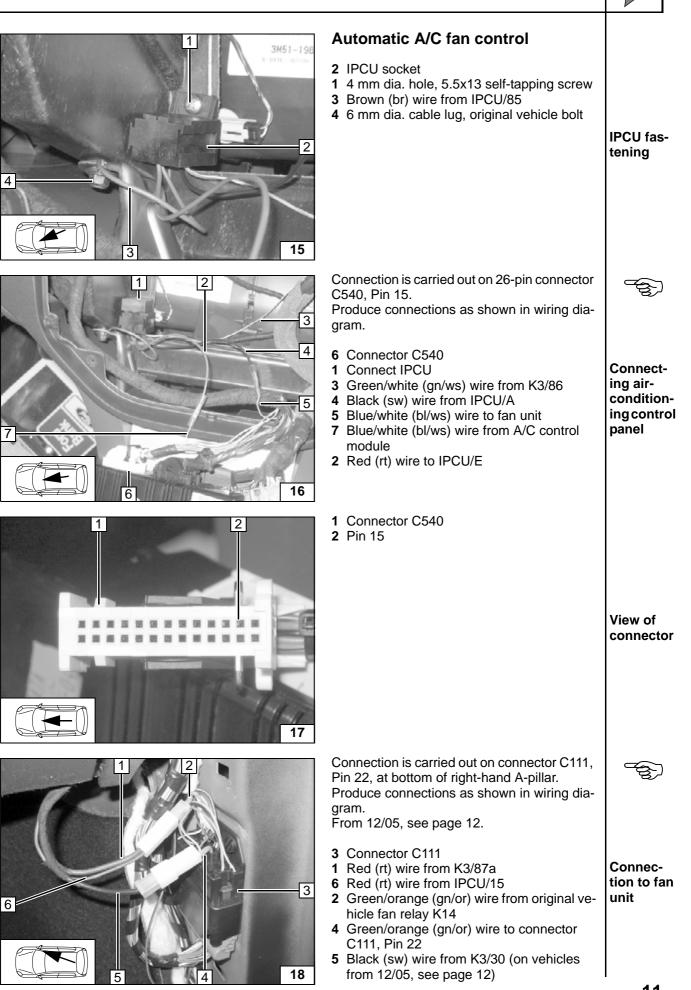


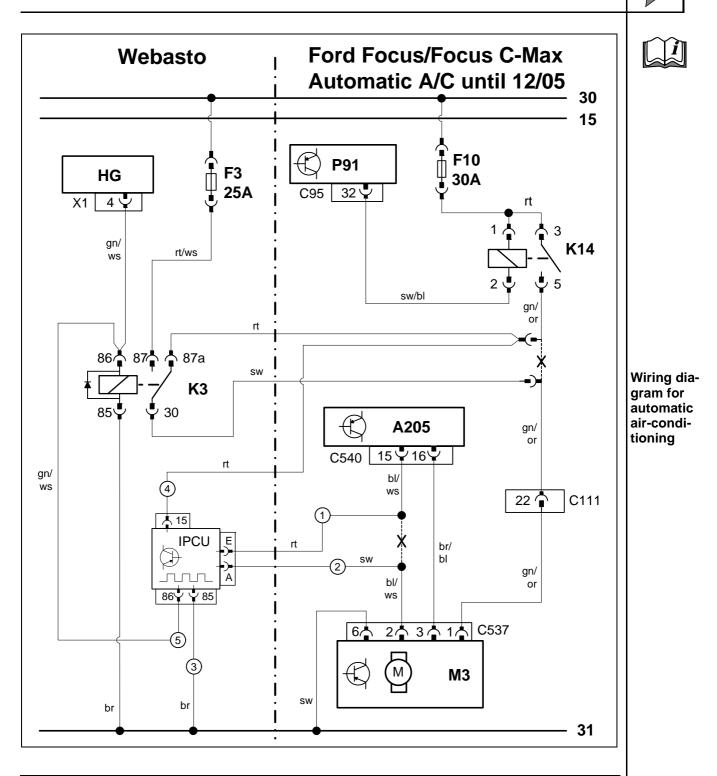


Weba	Vebasto components		Ford components		Colours and symbols	
HG	Heater TT-E	F10	Fan fuse	rt	red	
F3	Fan fuse	K14	Fan relay	WS	white	
K3	Fan relay	P91	Central electrical box	SW	black	
		C111	Connector on right-hand	br	brown	
			A-pillar	gn	green	Le
		M3	Fan motor	bl	blue	
		R21	Resistor group	or	orange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

Legend

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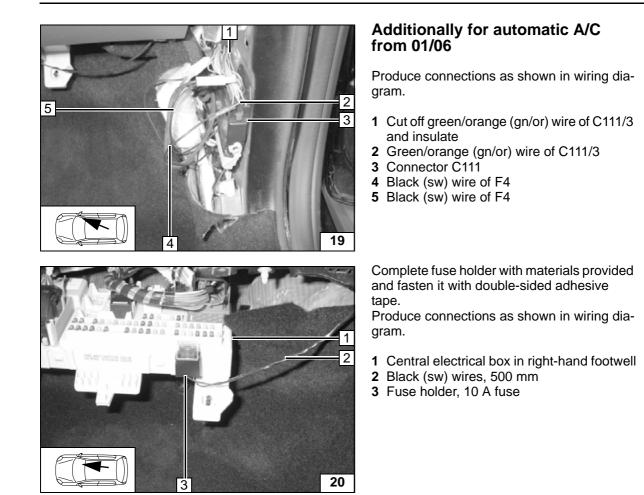




Webas	Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-E	F10	Fan fuse	rt	red	
X1	Connector on heater	K14	Fan relay	WS	white	
F3	Fan fuse	C111	Connector on right-hand A-	SW	black	
K3	Fan relay		pillar	br	brown	
IPCU	Pulse width modulator	P91	Central electrical box	gn	green	
IPCU settings:		C95	Connector on P91	bl	blue	
Duty cy	rcle: 60%	M3	Fan unit	or	orange	
Freque	ncy: 400Hz	C537	Connector on M3			
Voltage	e: 10V	A205	A/C control module (EATC)	Х	Cutting point	
Function: Low side		C540	Connector on A205	Wiring	colours may vary.	

12

Legend



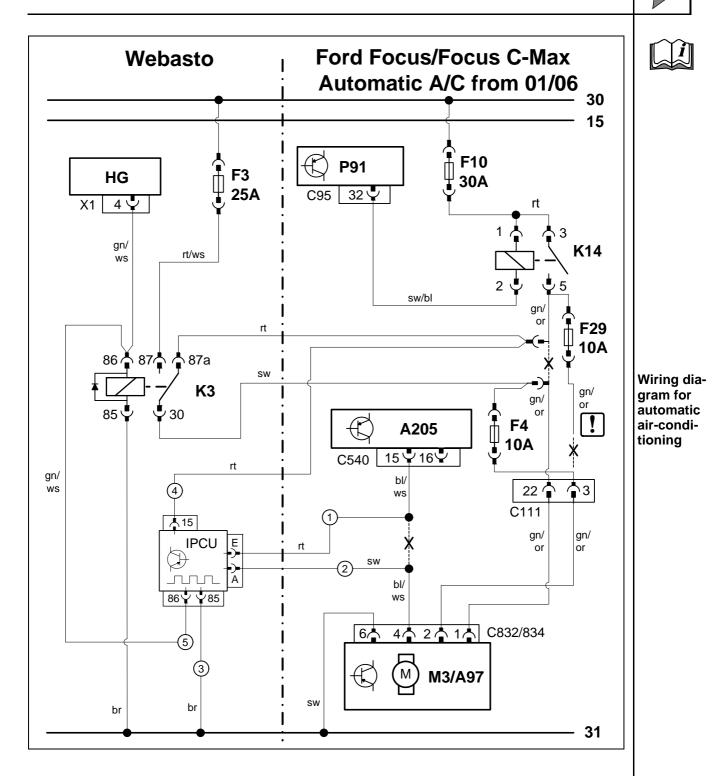


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Fan con-

troller

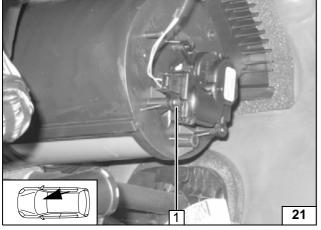
Fuse F4

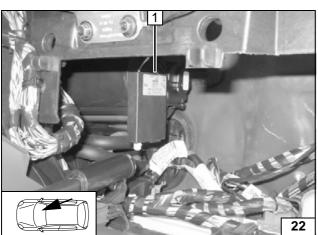


Webasto components		Vehicle components		Colours and symbols	
HG	Heater TT-E	F10	Fan fuse	rt	red
X1	Connector on heater	K14	Fan relay	WS	white
F3	Fan fuse	C111	Connector on right-hand A-	SW	black
K3	Fan relay		pillar	br	brown
IPCU	Pulse width modulator	P91	Central electrical box	gn	green
IPCU settings:		C95	Connector on P91	bl	blue
Duty cy	cle: 27%	M3	Fan unit	or	orange
Frequency: 400Hz		C537	Connector on M3		
Voltage	e: 10V	A205	A/C control module (EATC)	Х	Cutting point
Function: Low side		C540	Connector on A205	Wiring	colours may vary.

14

Legend





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## Remote option (Telestart)

Receiver is mounted on existing bolt on positioning motor.

1 Original vehicle bolt

Installation location of receiver

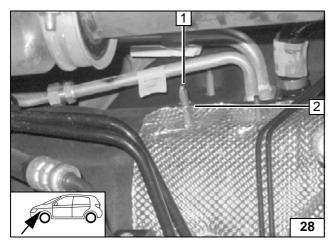
Mounting receiver

1 Receiver

1 Antenna

## Mounting antenna

## Ford Focus / Focus C-MAX / Focus CC 5 $\square \bigcirc$ **Preparing installation location** Tog 1 Cross member depends on vehicle equipment. 1 Cross member 2 M10 bolts [3x] Removing cross member 24 Design of guard plate (2) depends on the ve-hicle equipment 1 Remove section and discard 2 Adapting guard plate 25 If threaded inserts are not present at position (1), άđ then mount M10 rivet nuts provided in hexagonal holes. Use special tool as shown on page 3. For alternative, see next figure. 1 M10 steel rivet nut [2x] 2 Stud bolt Installing rivet nuts 26 1 1 M10 rivet nut (steel) TZ 1 2 3 2 Washer 3 M10 nut 4 M10 bolt 4 Alternative rivetdown tool 27



Screw on flanged nut with flange toward front.

- Original vehicle stud bolt
   M8 flanged nut

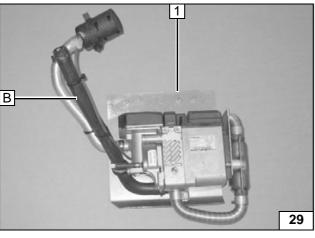
Preparing installation location

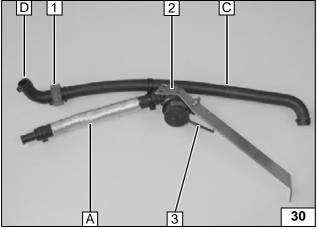
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 $\Box$ 

**Premounting heater** 

1 Delivered heater assembly



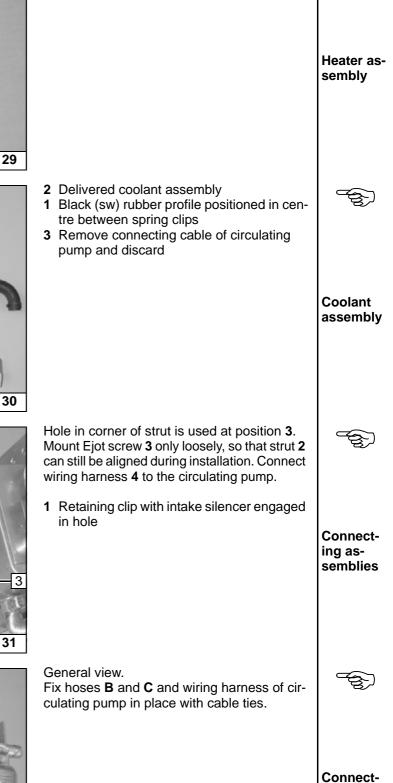


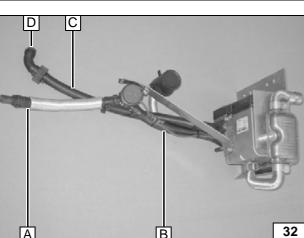
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ing assemblies

 $\square$ 

3 10 mm shim 2 Pin lock

Installing heater

Only for 1.4 lt; 1.6 lt; 1.8 lt engine

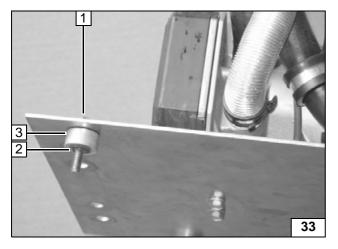
connect wiring harness as shown.

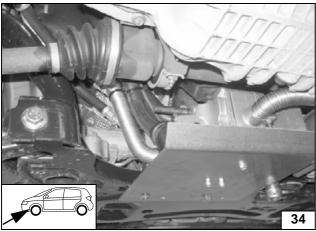
Transport heater to installation location and

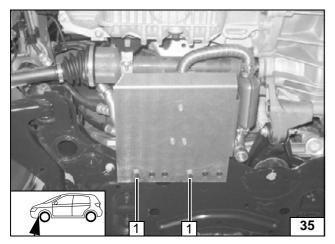
Vehicle-dependent, if present.

Fastening for underride protection

1 M6x25 bolt in existing 7 mm dia. hole







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

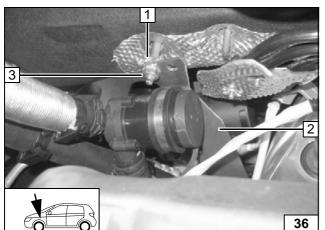
**1** M10x30 bolt with locking toothing [2x]



Premounting heater

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Installing heater



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

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

Tighten Ejot screw (10 Nm).



heater

Mounting heater

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Only for 2.0 It engine

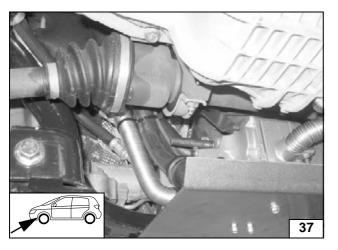
Transport heater to installation location and

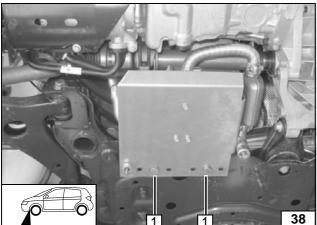
connect wiring harness as shown.

Use holes in bracket as shown.

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

1 M10x30 bolt, spring lockwasher [2x]





Use hole in strut as shown.

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

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

movement.

2 Strut

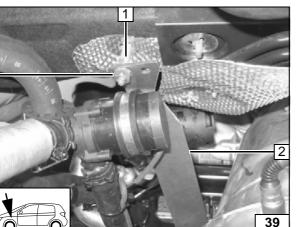


Installing heater

 $\Box 0$ 

Installing heater

Mounting heater



Tighten Ejot screw (10 Nm).

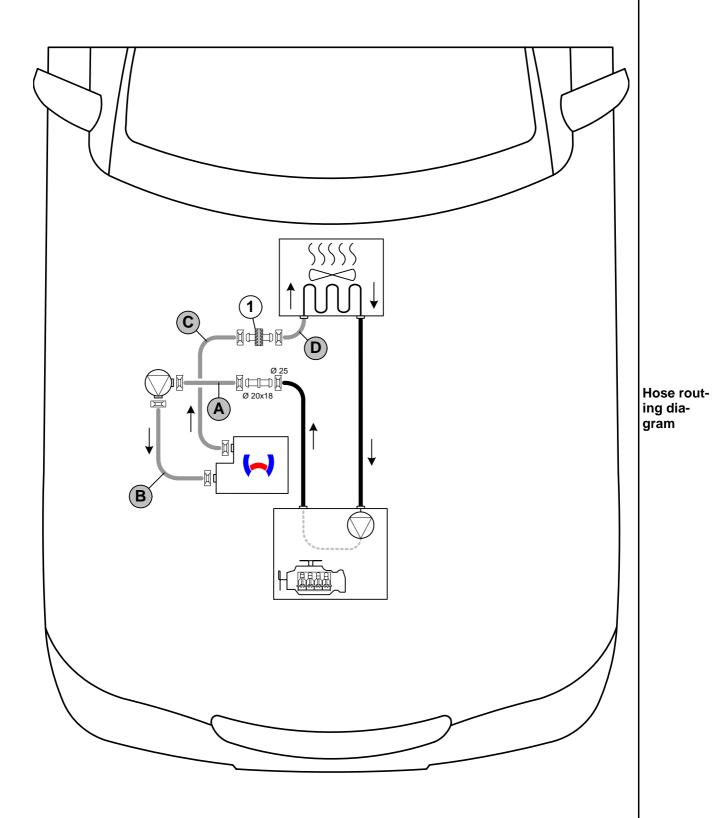


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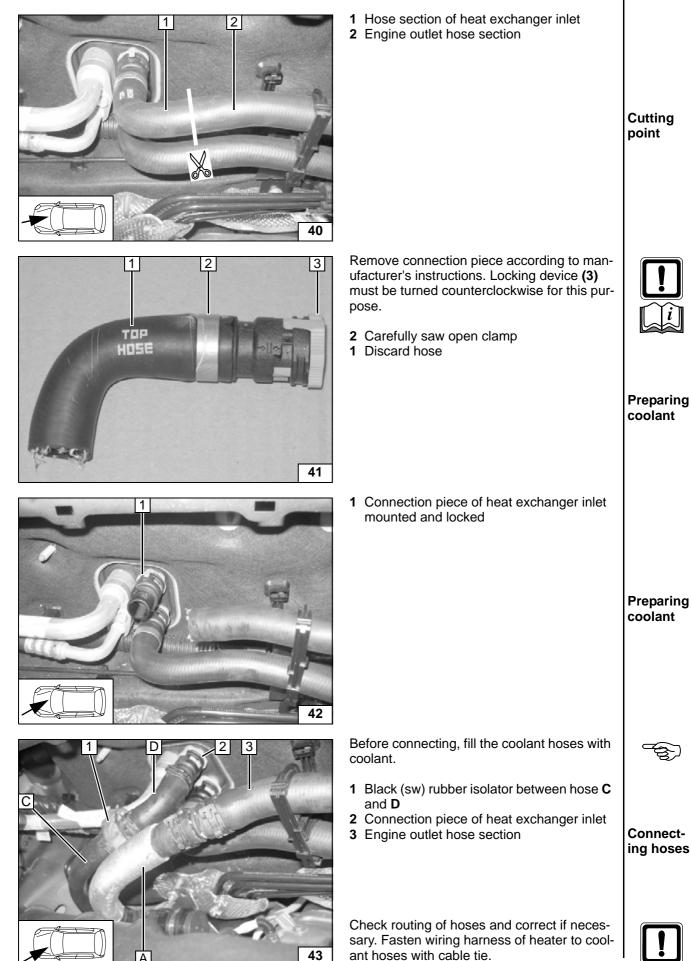
## **Coolant circuit**

## WARNING!

Any coolant running off should be collected in an appropriate container. Route hoses kink-free. Unless specified otherwise, always fasten using cable ties. Position clamps so that other hoses cannot be damaged. When installing the hoses, the heater must be filled with coolant. The connection should be "inline" based on the following diagram:



All spring clips without a specific designation  $\square = 27$  mm dia. Undesignated connecting pipe  $\square \square = 20x20$ mm dia. **1** = Black (sw) rubber isolator





3



## Fuel

## **CAUTION!**

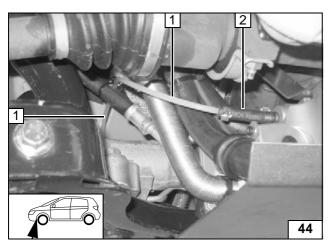
Open the vehicle's fuel tank cap, ventilate the tank and then re-close the tank lock.

Collect any discharged fuel in an appropriate container.

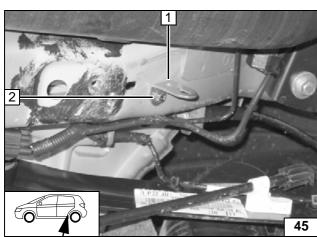
Install fuel line and metering pump wiring harness so that they are protected against stone impact. Unless specified otherwise, always fasten using cable ties. Mount the fuel line and wiring harness with rub protection on sharp edges.

#### WARNING!

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



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





Connection to heater

Installation location on right next to vehicle fuel tank.

tion to sufficient distance from cardan shaft.

Route mecanyl fuel line to firewall and fasten with cable ties as shown. Pay particular atten-

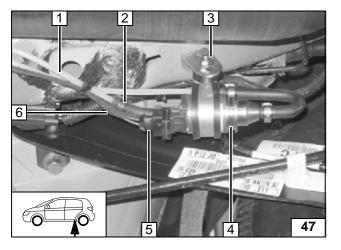
- 1 Angle bracket
- 2 M6x20 bolt, spring lockwasher on existing threaded insert

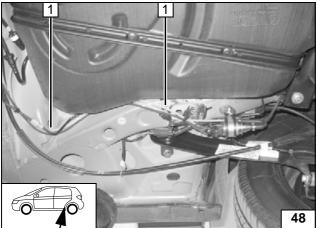


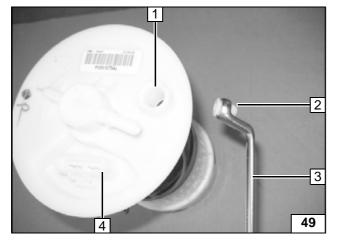
1 Hose section

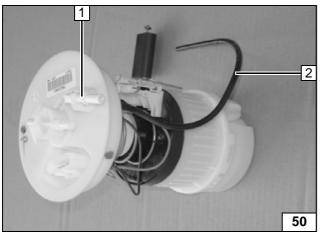
- 2 10 mm dia. Caillau clamp [2x]
- **4** 180° moulded hose
- 3 Rubber-coated p-clamp
- 5 Silent block
- 6 Flanged nut

Premounting metering pump









Slide metering pump as far as possible upward in oblong hole.
Route fuel line and wiring harness as shown in following illustration.
Fuel line to heater on pressure side of metering pump [side with connector].
Premounted metering pump
Flanged nut
Mecanyl fuel line
10 mm dia. Caillau clamp
Metering pump wiring harness
Completed connector housing

1 Mecanyl fuel line and metering pump wiring harness

Wiring routing

### **Removing fuel**

Remove fuel-tank sending unit (4) in accordance with manufacturer's instructions. Break out connection piece (2) at rupture joint (1) with suitable tool (3) according to manufacturer's instructions.



Fuel removal

Install fuel standpipe (Ford Order No. Finis Code 1233999) according to manufacturer's instructions.

- 1 Fuel standpipe
- 2 Removal hose

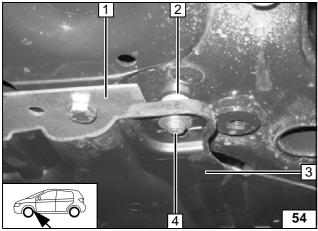
Installing fuel standpipe

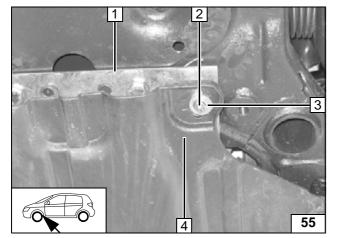
Align removal hose up to bottom of fuel tank. Ensure freedom of movement of fuel gauge.



## Ford Focus / Focus C-MAX / Focus CC Install fuel-tank sending unit according to manufacturer's instructions. Mount coupling and align; remove clip at Position 3. 1 Fuel standpipe 2 Coupling piece, mounted on fuel standpipe Connect-5 Mecanyl fuel line ing fuel 4 10 mm dia. Caillau clamp line 3 Clip 51 Reinstall fuel tank. 5 Fuel line from fuel standpipe on intake side of 2 metering pump [side without connector]. 1 Fuel line 2 10 mm dia. Caillau clamp Connection to metering pump Check the position of the components; adjust if necessary. Check that they have freedom of movement. Align fuel lines and wiring harness of metering pump over entire length and secure with 52 cable ties.







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## 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 lt; 1.6 lt; 1.8 lt engine

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

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

#### Mounting underride protection for 1.4 lt; 1.6 lt; 1.8 lt engine

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## Only for 2.0 It engine.

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

Mounting underride protection for 2.0 It engine

## For all vehicles!

Figure shows 1.8 It engine

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

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



Mounting underride protection for all vehicles

## **Final Work**

#### WARNING!

Mount removed parts 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 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.
- Adjust digital timer, teach Telestart sender
- Make settings on A/C control panel according to the "Operating Instructions for End Customer".
- Place signboard "Switch off parking heater before refuelling" in the area of the filler neck
- See installation instructions for initial startup and function check





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## Operating instructions for end customer

Please remove page and add to the vehicle operating instructions.

#### WARNING:

On vehicles with "Flexyfuel" engine, operation of parking heater is only permissible with petrol.

#### 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.

Before parking the vehicle, make the following settings:

