

INSTALLATION: CFE PLUS P3 VIDEO

WHAT IS THE CFE PLUS

The CFE-Plus (Canbus Function Extender Plus edition) is an add-on CPU (Computer) for your Volvo. Since it acts as another CPU in your Volvo, the CFE Plus is capable of adding functions. (See the CFE Product page on our website for details on all possible functions).

The CFE Plus comes as an OBD dongle. (OBD is On Board Diagnostics; a connector available at the door side of the steering wheel, behind a small hatch).

For Volvo's of the P3 type (S60, V60, XC60, V70, XC70, S80 MY 2007 – 2018) and V40/V40 CC a more or less special extra feature has been made available; controlling the HLDF / ICM / IHU (which is the Volvo's original RTI Navigation screen or Internal Head Unit) in such a way that a direct hookup of for example a reversing-and-or front-camera or external video player/navigation device/mirrorcast/airplay device is possible without any additional interface!

This manual describes how to connect and control this extra feature and how to connect a device to the HLDF / ICM / IHU, it does not describe the actual camera mounting, for that other documents are available.

KNOWLEDGE/TOOLS AND EXTRA'S REQUIRED

To be able to connect any device to the HLDF/ICM/IHU you'll need at least the following tools and extra's.

* Fishbone tool * Torx 20 screwdriver * Size 8 and 10 wrench (alternatively : flat bottom pliers)

For P3 2007-2011 (popup screen) : Preferably also Volvo specific tool with part number : 9512943 or an alternative tool to remove the cover around the HLDF.



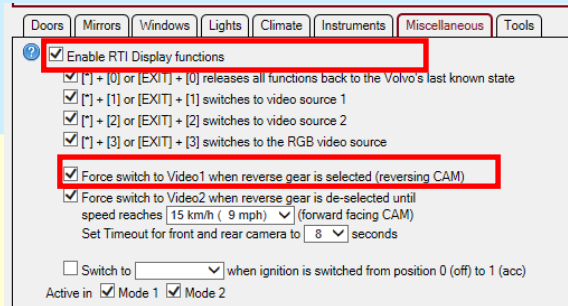
In case you do not have the tool mentioned above (or a similar tool) available, we strongly suggest to ask your local Volvo dealer for support on removal of the panel around the screen (See installation procedure 'step 1') !

Instruction# 1697	Version# 1.06	Part# ntbp	EAN#	Author: KW
-------------------	---------------	------------	------	------------

FIRST STEPS

First make sure the CFE Plus is configured with the options for controls of the HLDF/ICM/IHU (Display functions) are enabled according to your requirement.

Please note that a BETA version of the CFE Plus firmware might be required to enable latest supported functions! (Note that the example given below is subject to change / look different!)



For P3 2007-2011 with HLDF (popup navigation):

Connect the CFE Plus to your Volvo as you would do normally, make sure initialization is finished and then press [* Auto] and at the same time button [1] (or alternatively [EXIT] and at the same time [1]). The HLDF should switch over from displaying the RTI navigation to the video-1 source (nothing connected to that source yet), which should result in a dark black screen. (Backlight might be visible).



Pressing [*] and at the same time button [3] (or alternatively [EXIT] and at the same time button [3]) should make the HLDF switch over back to the RTI navigation.



If that works as explained, all is setup right in the CFE Plus and you can continue the installation.

For P3 / V40 2011-2018 with Sensus and Sensus-connect a manual switchover to a video source can be done using the button on the central stack where 'normally' the "CAM" button would be. This differs per model / model type. Note; if enabled during drive; a message might appear that camera is not available during drive (Speed > 7km/h). The message will disappear automatically after a second or 2. Reverse camera is automati-

Instruction# 1697	Version# 1.06	Part# ntbp	EAN#	Author: KW
-------------------	---------------	------------	------	------------

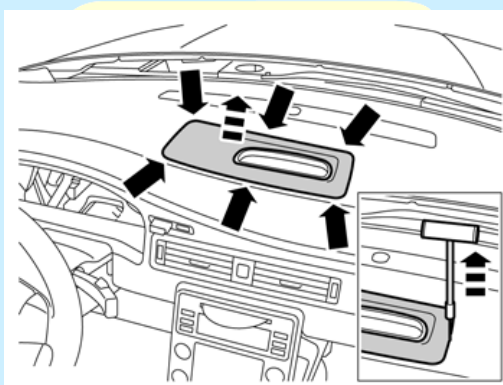
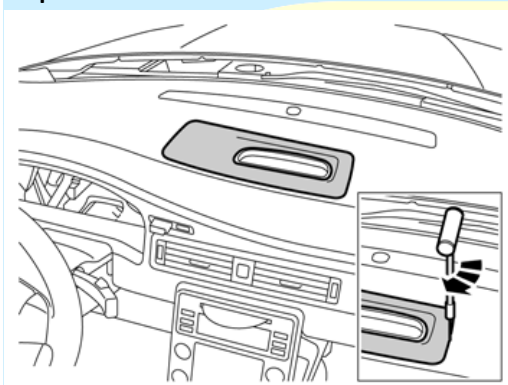
cally engaged the moment your Volvo is switched into reverse gear. The camera options will be partially enabled in the original Sensus menu by the CFE Plus.

INSTALLATION PROCEDURE

FOR P3 2007-2011

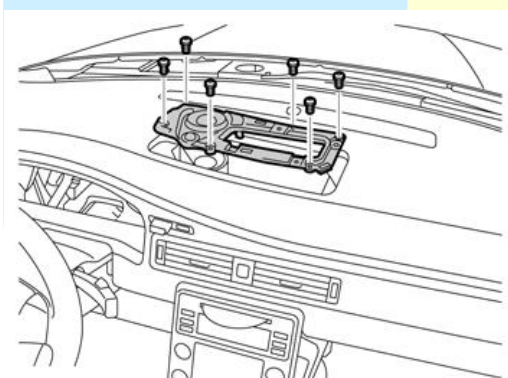
Independent of what will be connected to the available video sources on the HLDF, the HLDF has to be temporarily removed from the bracket.

Step 1 : Remove the cover.



- 1 -> Insert the tool with the bottom part in parallel with the side to be lifted out.
- 2 -> Once inserted properly, turn the tool so that the angled part points to the center of the panel.
- 3 -> Carefully but firmly pull up until you feel the panel come loose. Repeat at all sides and corners.
(be careful not to touch the windscreen when pulling! Keep one hand above the tool to avoid hitting the windscreen!)

Step 2 : remove the bracket holding the HLDF (and optionally the center speaker)



- 1 -> remove the 6 torx (size 20) screws.
- 2 -> pull out the panel holding the screen
- 3 -> remove connectors from screen (and optionally from the center speaker).

© 2020 SwedeSolutions the Netherlands - info@swedesolutions.com - www.swedesolutions.com

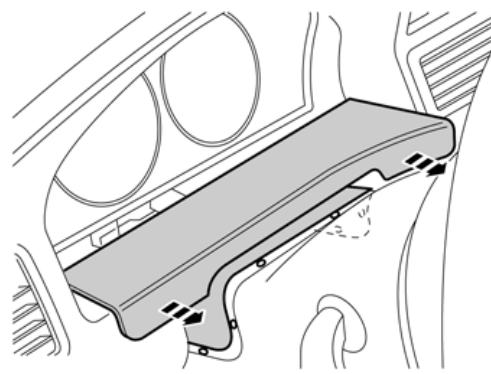
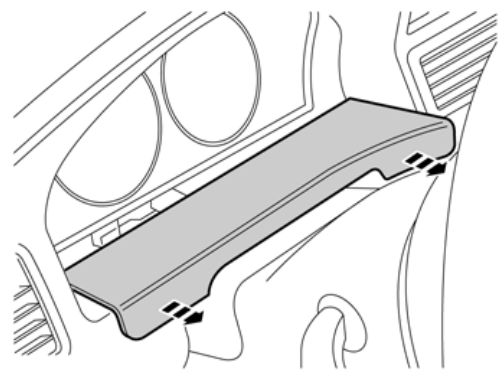
Instruction# 1697	Version# 1.06	Part# ntbp	EAN#	Author: KW
-------------------	---------------	------------	------	------------

Step 3: Remove either the DIM (Driver Information Module) or Glove compartment

(depending on the device to be installed, you can choose to guide wires to the HLDF from the Driver- or Passenger side!)

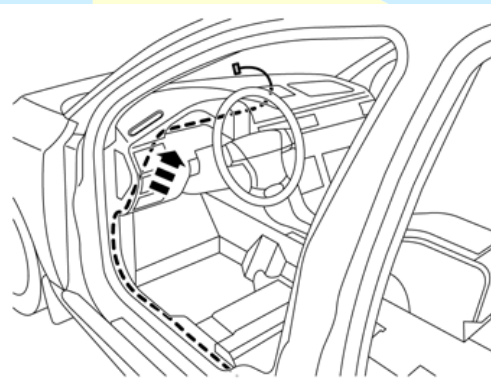
In case a front cam is going to be mounted, removing the glove compartment is required.

**** Removing the DIM:**



1 -> pull the lower panel forward.

2 -> lift the panel at the steering wheel cover. (held with 6 clips)



1 -> Remove the 4 torx (size 20) screws

2 -> Pull the DIM forward and out after tilting it down towards the steering wheel.

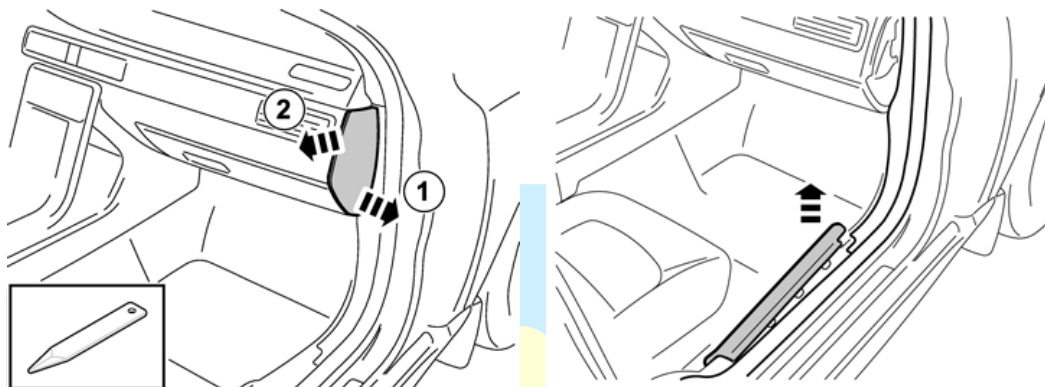
3 -> disconnect the DIM and remove it.

4 -> guide any video harness towards the HLDF as suggested.

Instruction# 1697	Version# 1.06	Part# ntbp	EAN#	Author: KW
-------------------	---------------	------------	------	------------

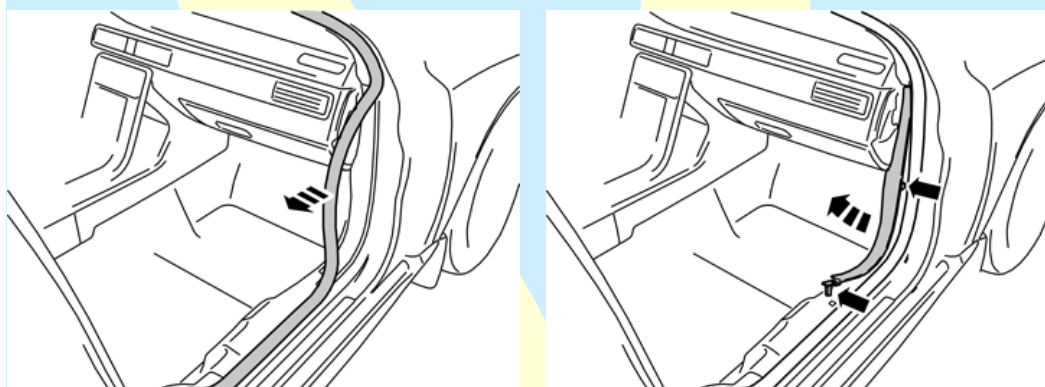
CFE-Plus MY 01-04 Harness

**** Removing the glove compartment:**



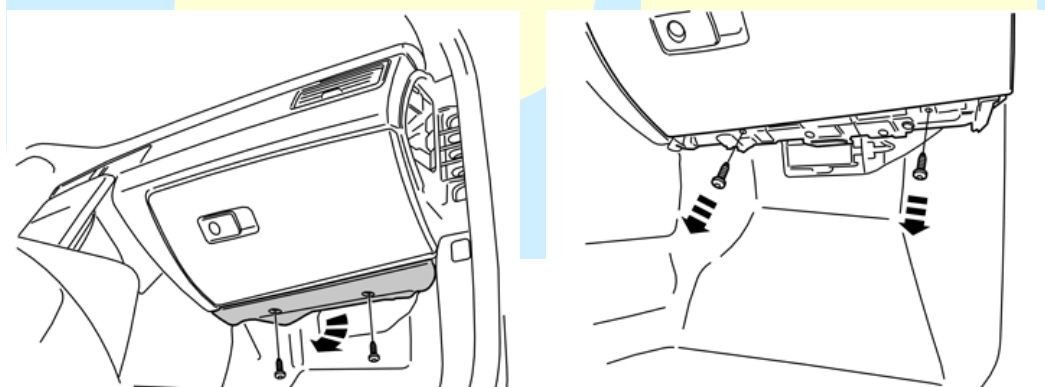
1 -> Remove the side panel, using a fishbone tool OR open glove compartment first then pull on the side of the panel (1) and pull out (2).

2 -> Remove the protective step-in cover, only pull up at the front side! (back side facing part will only allow pulling forward!)



1 -> Pull the rubber away, at least so far that the plastic cover (right image) is free

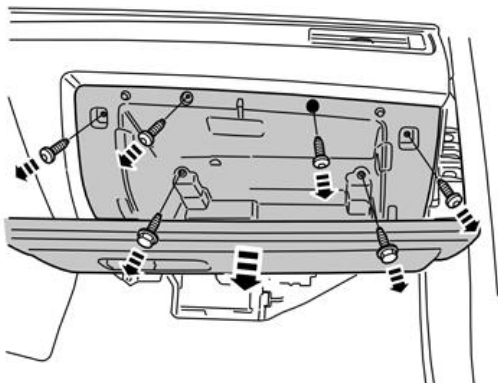
2 -> Remove the side cover by pulling up and towards the back of the car to release the clips, then move the panel inwards to remove it.



1 -> Remove the 2 torx (size 20) screws and remove the panel.

2 -> Remove the 2 torx (size 20) screws.

Instruction# 1697	Version# 1.06	Part# ntbp	EAN#	Author: KW
-------------------	---------------	------------	------	------------



- 1 -> Open the glove compartment and remove the torx screws (size 20) and the 2 bolts (size 8)
2 -> Take the glove compartment out by pulling towards the back of the car and tilting it a bit up and down.

**** In case a front camera is mounted, access to the engine bay can be found BEHIND the CEM or BELOW the CEM.**

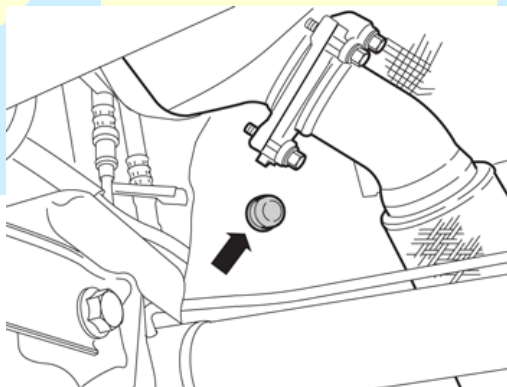
The CEM is the Central Electronics Module, to be found behind the glove compartment. The CEM also holds the fuses.

Behind the CEM : dry area below the windscreen wipers in the engine bay. Rather easy to reach without lifting the car.

Below the CEM : wet area in engine bay next to exhaust pipe (passenger side) directly accessing the cabin. Car needs to be lifted to reach that point in the engine bay.



Dry area (reachable without lifting the car)



Wet area (car needs to be lifted to reach the rubber in the engine bay)

© 2020 SwedeSolutions the Netherlands - info@swedesolutions.com - www.swedesolutions.com

Instruction# 1697	Version# 1.06	Part# ntbp	EAN#	Author: KW
-------------------	---------------	------------	------	------------

Step 4: Make connections to the HLDF

Connections of the device(s) to the HLDF are made to the Green (Video 1) and brown (Video 2) ports.

The grey (RGB) and blue (12V+/Gnd and canbus) are in use by the HLDF itself and the RTI navigation computer.

Any device (globally, so region independent!) to be connected to one of the available port offer a Composite NTSC signal output.



1 -> Connect video sources to the green and brown connector. (If camera's were bought with SwedeSolutions.com, a matching connector has been supplied, alternatively the connector with conversion to RCA is available separately at SwedeSolutions.com) Generally BROWN is for Reverse camera and GREEN for front camera / other video usage.

2 -> When returning the screen into its bracket, please be careful with the harnesses, the bracket is matching the size of the screen and does not give any space for extensive wiring. Always guide wires to the open part (following original harnesses) and from there choose the direction to go (Direction DIM or direction of the glove compartment).

Step 5: Connect power 12V+ and GND to the Camera harness.

Use the supplied Quick connects to connect the 12v+ (Connect to Green-orange) and GND (connect to Green-black) (For Camera power supply) and fold back the carpet once done. The mini-connector should stay available to connect the camera to.

In case you find grey and black wires (more thick wire than the other wires in the same connector) instead of the described above; Grey is assumed to be 12V+ and black to be GND.

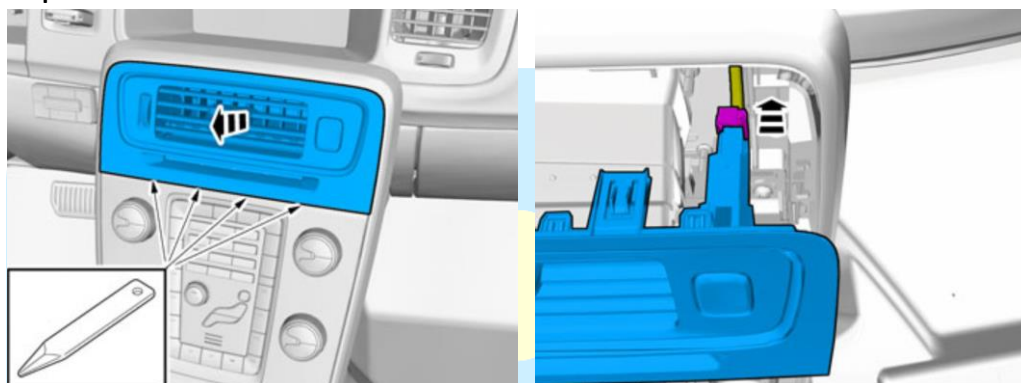


Instruction# 1697	Version# 1.06	Part# ntbp	EAN#	Author: KW
-------------------	---------------	------------	------	------------

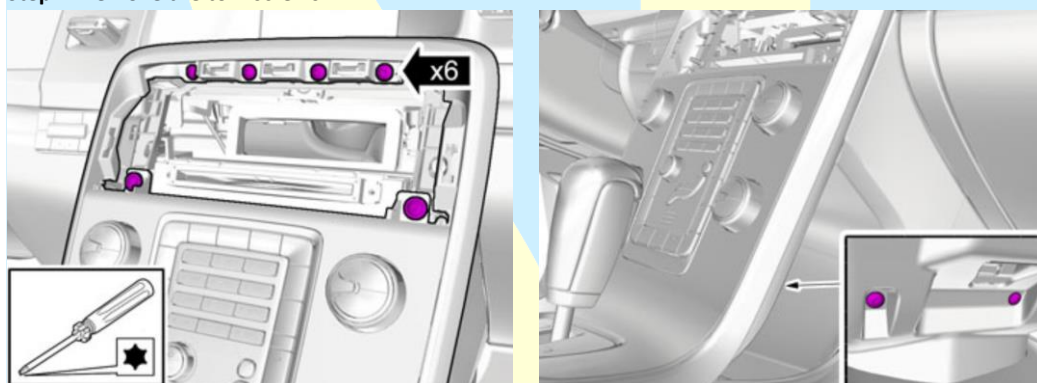
FOR P3 (S60/V60) 2011-2018 (With Sensus or Sensus Connect)

Independent of what will be connected to the available video sources on the Sensus screen, the sensus screen has to be temporary removed from the bracket.

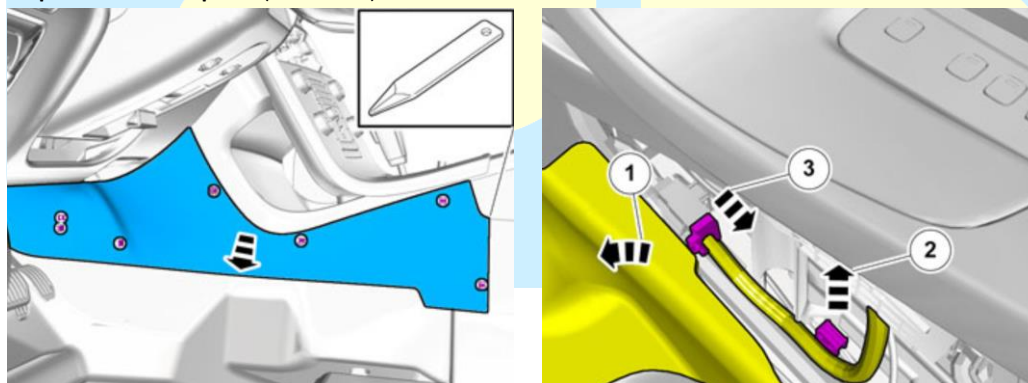
Step 1 : Remove the cover and remove the connector.



Step 2: Remove the torx screws

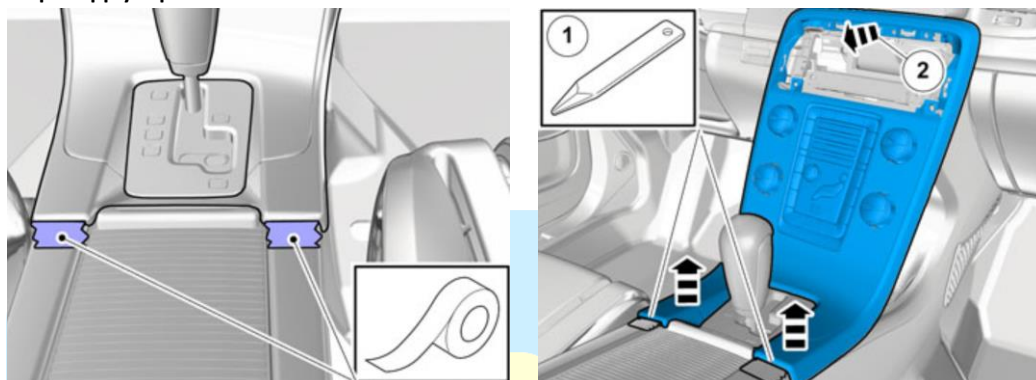


Step3: Remove the panel (both sides) and disconnect connectors:

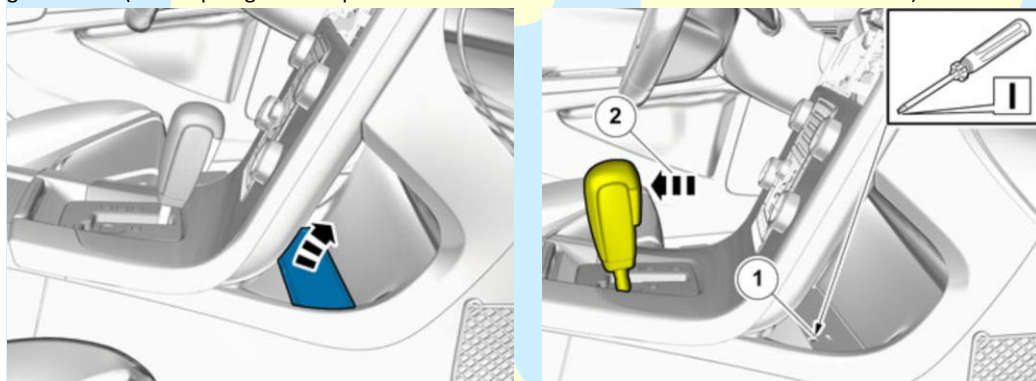


Instruction# 1697	Version# 1.06	Part# ntbp	EAN#	Author: KW
-------------------	---------------	------------	------	------------

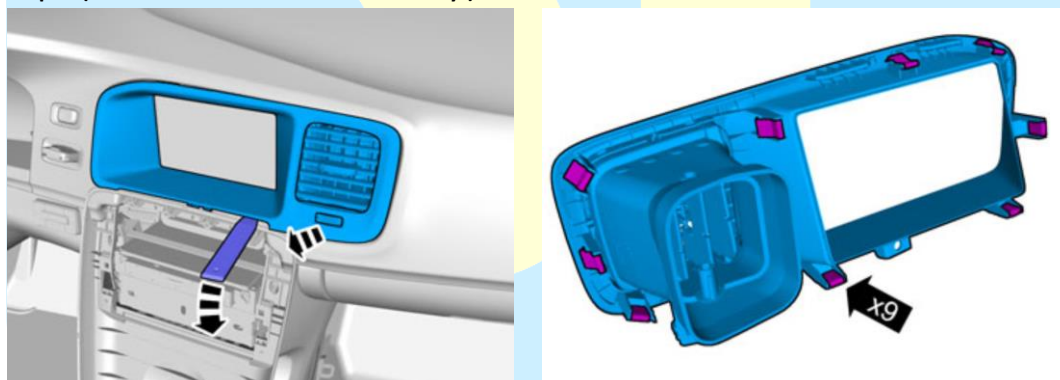
Step4: Apply tape to avoid scratches and remove the central console.



Step 4A : in case you can't get the console removed (Automatic gearbox) without shifting the gear lever to D, unlock the gear shifter (do not put ignition in position 2 now since several connectors are disconnected!) :



Step 5: (For cars without Sensus Connect only!) remove the cover.

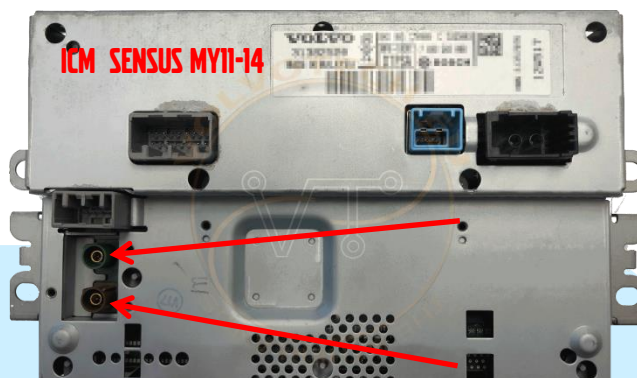
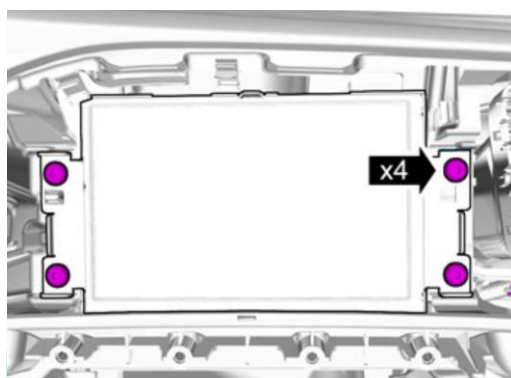


Step 6: (For cars without Sensus Connect only!) remove the screws and tilt the screen forward. Connect the harness(es) supplied with the set (or bought separately) to the BROWN and/or GREEN connector.

Generally : Reverse camera goes to BROWN connector, front camera or any other additional video usage goes to GREEN connector. In case a connector is already taken (used), just remove the installed connector. (In such case some pre-wiring is available in the car, but for this installation it will not be used!)

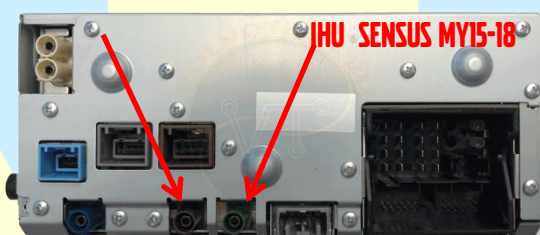
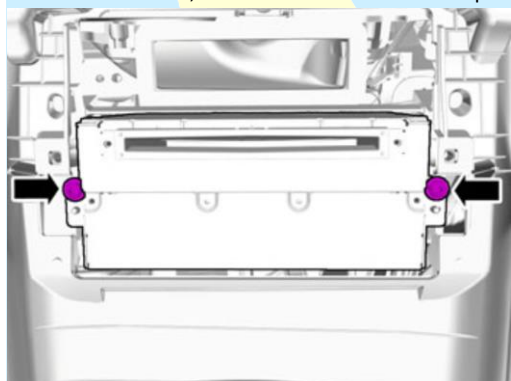
Instruction# 1697	Version# 1.06	Part# ntbp	EAN#	Author: KW
-------------------	---------------	------------	------	------------

CFE-Plus MY 01-04 Harness



Continue with Step 7 (for all P3's 2011+)

Step 5: (For cars WITH Sensus Connect only!) Remove the screws and slide out the IHU. Connect the harness(es) supplied with the set (or bought separately) to the BROWN and/or GREEN connector.
Generally : Reverse camera goes to BROWN connector, front camera or any other additional video usage goes to GREEN connector. In case a connector is already taken (used), just remove the installed connector. (In such case some pre-wiring is available in the car, but for this installation that pre-wiring will not be used!)



Step 6: (For cars WITH Sensus Connect only!) this step number is not available for cars with Sensus Connect, continue with step 7.

Step 7: (For V40, go to step 9) Guide wires downwards, preferably on the right hand side. Then fold the carpet away from the tunnel and find the connector as shown.



Instruction# 1697	Version# 1.06	Part# ntbp	EAN#	Author: KW
-------------------	---------------	------------	------	------------

Step 8: Use the supplied Quick connects to connect the 12v+ (Connect to Green-orange) and GND (connect to Green-black) (For Camera power supply) and fold back the carpet once done. The mini-connector should stay available to connect the camera to.

(camera hookup : see specific manual about camera hookup).

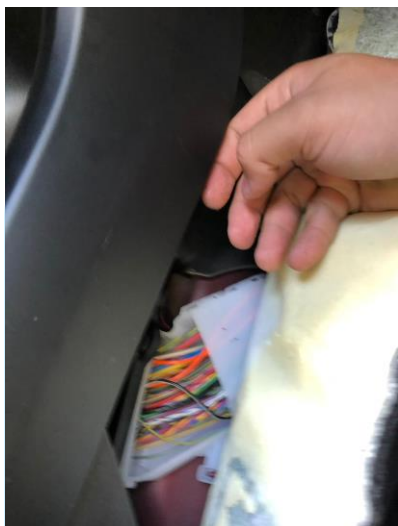


The next steps only V40!

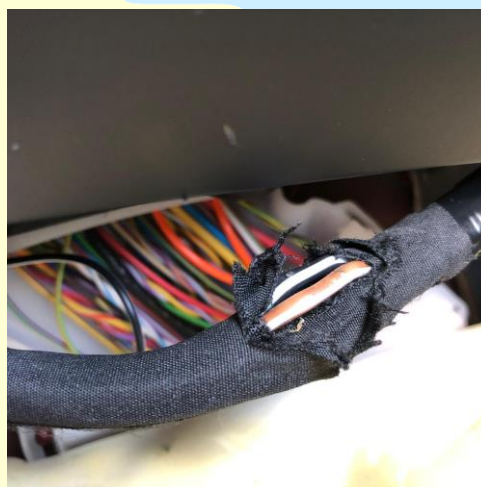
Step 9: First remove the carpet from the center console.



Step 10: Go in with your hand and remove the cable from the hook. The cable is hanging above the carpet inside the center console. Push the cable up and push it towards the gear lever. You need to do this by feel. Then you can pull the cable.



Step 11: Carefully pry away the protecting tape.

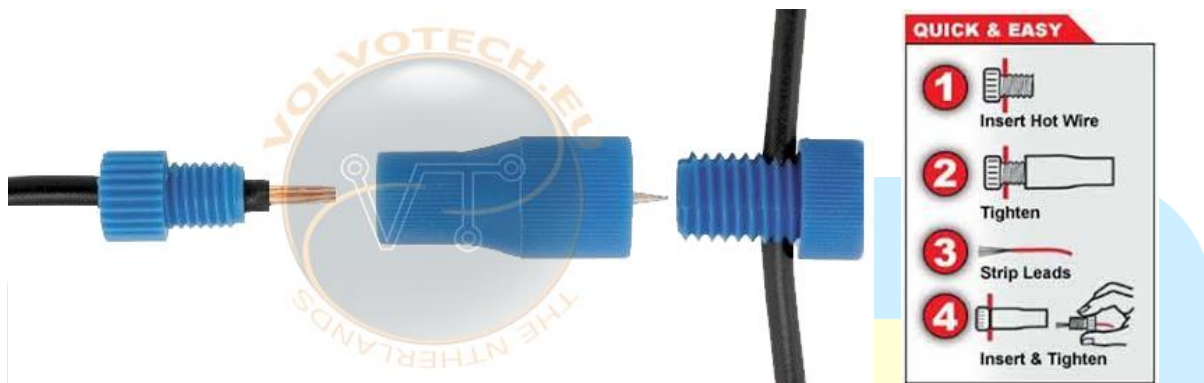


Step 12: Connect the camera positive(+) red to the brown-white cable.

Step 13: Connect the camera Negative(-) black to the black-white cable.

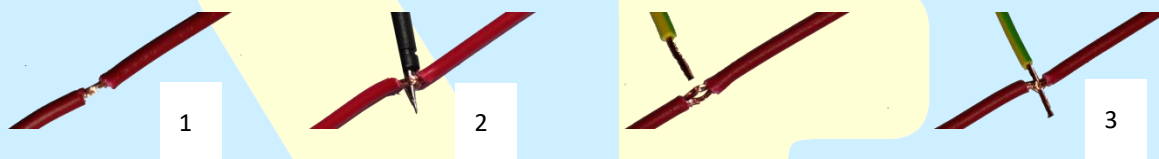
Instruction# 1697	Version# 1.06	Part# ntbp	EAN#	Author: KW
-------------------	---------------	------------	------	------------

How-to: use the quick connect tools;



How-to: in case you need to connect a hookup-wire to an existing wire in the car without soldering or specific connectors:

Strip (1) the wire to be connected to at a place where you can reach it good enough to make an 'eye' (2) with a sharp object and to put the CFE Plus cable (3) trough, twist it and cover it with isolation tape.



Instruction# 1697	Version# 1.06	Part# ntbp	EAN#	Author: KW
-------------------	---------------	------------	------	------------