FuelTech

Install of FT200, FT250, FT300 & FT350 To FT450 with NANO

#5881

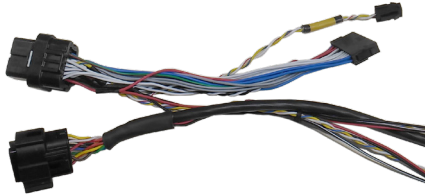For more information, consult your FT450 user manual.

This guide brings all the basic informations to use the adapter harness from your FT250, FT300, FT350 to the new platform Power FT. Check all the instructions in this document to use all the features of your new FT450.
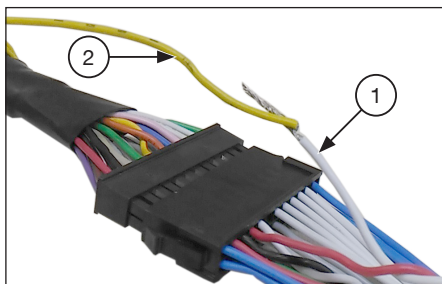

RPM signal

Hall effect distributor or hall effect crank trigger

Just connect the harness and isolate the loose white wire (1).
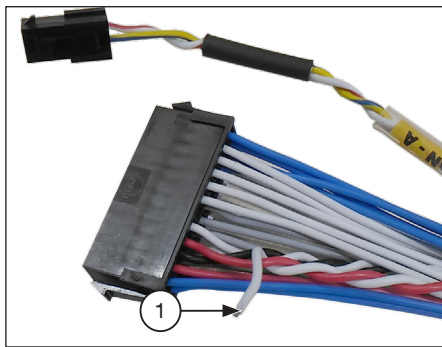
VR crank sensor

When using VR crank sensors and the engine cuts in high RPM, the white wire must be connected to the negative pin in the VR sensor. When using this wire, RPM signal must be configured as VR differential.


Map conversion

After all installation process it's necessary to convert the tune, follow the instructions:

Connect the ECU (FT250, FT300 or FT350) to the computer using FuelTech USB/CAN Converter Cable.
Open the software ECU Manager, and select Open file from ECU.
Select the tune you want to open in the software (4). In the following image there are 4 different tunes that must be opened and saved in your computer.
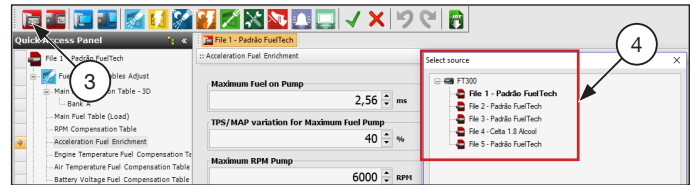

After the tune is open in the ECU Manager, select Save File on PC (5). Choose the folder where the tune will be saved, and select "save".
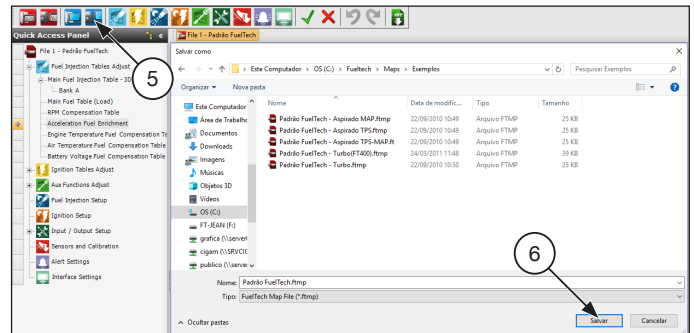

Now all the tunes are saved in the computer, the software FTManager must be open to work with the Power FT platform (FT450).
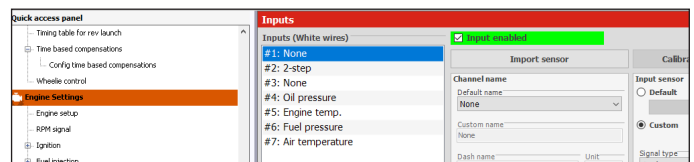Connect the FT450 using the USB cable included in the package.
With FTManager open select "Map" (7) and then "Import from ECU Manager" (8).
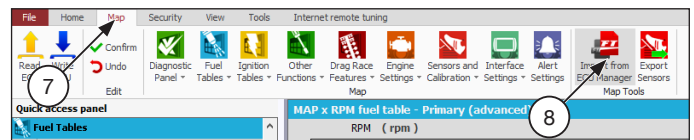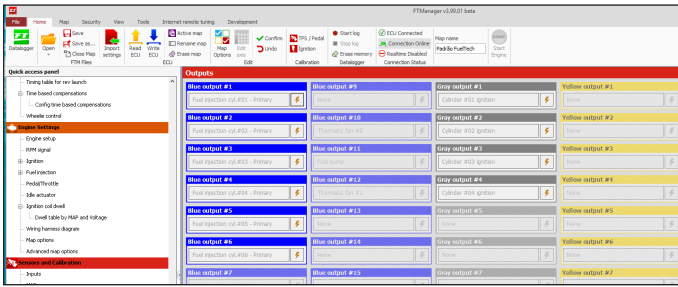

Locate the folder where the old tune was saved before and select open. It will show a screen with setting that must be configured according to the engine, as compression ratio, camshaft profile, fuel type and injectors flow.
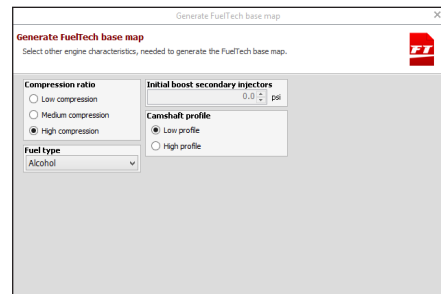

With your tune open on FTManager, check if all the inputs and outputs were assigned properly. Go to "Sensors and Calibration", " Inputs" and "Outputs".

Adapter harness table

FT250 / FT300 / FT350		FT450	
Wire Color	**Function**	**Wire Color**	**Function**
Purple	Primary inj A	Blue #1	Primary inj A
Brown	Primary inj B	Blue #2	Primary inj B
Green	TACH Output	Blue #3	TACH Output
Yellow #1	AUX Output #1	Blue #4	FREE
Yellow #2	AUX Output #2	Blue #5	FREE
Yellow #3	AUX Output #3	Blue #6	FREE
Gray #1	Ignition Output A	Gray #1	Ignition Output #1
Gray #2	Ignition Output B	Gray #2	Ignition Output #2
Gray #3	Ignition Output C	Gray #3	Ignition Output #3
Gray #4	Ignition Output D	Gray #4	Ignition Output #4
-	-	White #1	FREE
-	-	White #2	FREE
Orange	TPS	White #3	TPS
White	Fuel Pressure	White #4	Fuel Pressure
Pink	Engine Temp	White #5	Engine Temp
Blue	Oil Pressure	White #6	Oil Pressure
Blue/White	Air Temp	White #7	Air Temp

NOTES: If it's necessary to add a 5th ignition output, connect gray E wire from old installation to the blue #6 of FT450.

If you want to control PWM Idle actuator, use blue #5 of FT450.

It's possible to change TACH output to blue #3 and #6, or gray #4.

IMPORTANT:
All the wires that are not shown on the Adapter Harness Table are not included in the harness: Yellow output #4, Ignition output E and analog MAP output.

WB-O2 NANO Configuration

WB-O2 Nano CAN Communication can be setup through FTManager Software or through FT500/FT500LITE screen.

To setup it through the ECU screen:

Go to "Sensors and Calibration" menu, then "O2 sensor". Select the position where this O2 sensor is installed on the engine. Then for CAN network, select "CAN 2.0".

Disconnect the O2 sensor plug that you want to associate to this position and click "Associate".
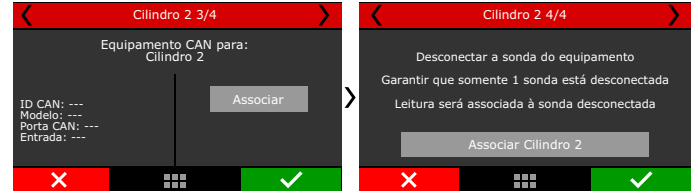
Through FTManager Software:

Click "CAN Network" on the tool bar. All the equipment connected to the CAN Network will be listed on this screen. Right click on the equipment you want to associate and then select the position where it is installed.
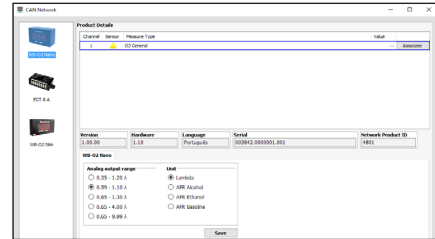

First start with your FT450:

When starting the engine for the first time it's important to check some basics:

TPS: go to TPS calibration screen under "sensors and calibration" and make sure the TPS is calibrated and working perfectly.

Fuel Pump: Check if the fuel pump comes on when the ignition is ON or when the engine cranks.

Signal RPM: when cranking the engine, check if the ECU receives RPM signal.
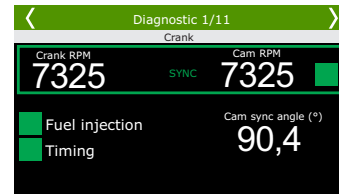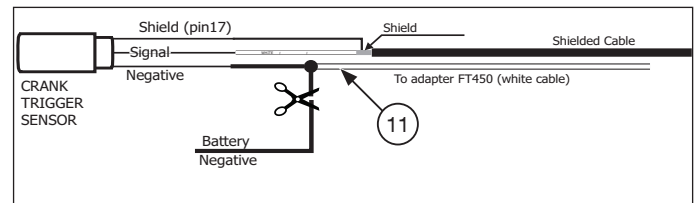

Sensors: check if temperature and pressure sensors show correct values (engine temperature, oil and fuel pressure and so on).
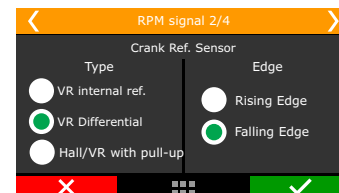
Ignition: After the engine starts and runs, use a timing light to check the ignition calibration, refer to the FT450 manual for instructions on that.

IMPORTANT: If you notice unwanted ignition cuts at high RPMs, and using magnetic crank wheel sensor, you need to change your connection (and module configuration) to sensor magnetic differential (VR differential).

In this case it is necessary to route a new wire to the rotation sensor, remove the battery negative connected to it and connect the white wire (11) that is loose on the adapter harness.

Finally, navigate to the "Engine Settings" menu, "RPM signal" select the "VR Differential" option.