Install of FT400 To FT550

#5887

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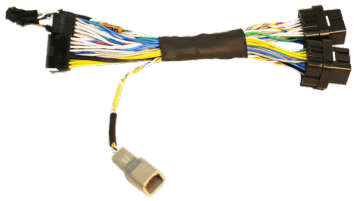
For more information, consult your FT550 user manual.

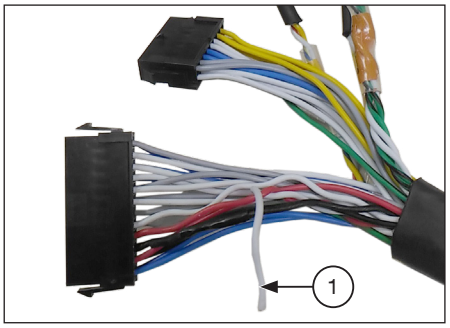
This guide provides basic orientations on migrating the FT400 ECU to the FT550 ECU. Read the instructions contained in this document carefully to use the full potential of the Power FT platform.



RPM Signal Connection

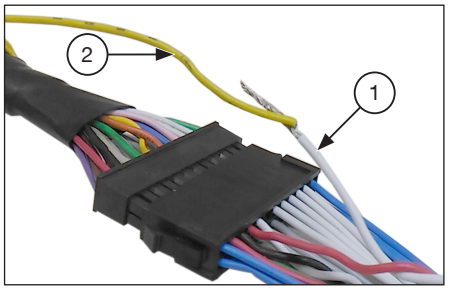
Hall effect distributor or Crank Trigger

Connect the adapter harness and insulate the 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.



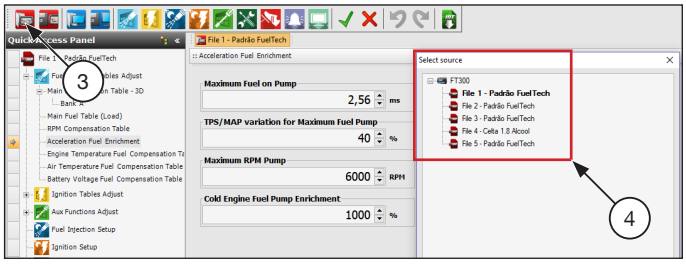
Map conversion

After installation of the FT550 it is necessary to migrate the map, for this follow the steps in the procedure described below.

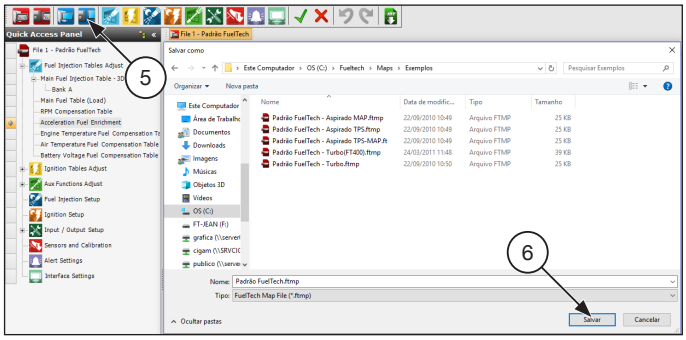
Connect FT400 ECU to the computer through the FuelTech USB-CAN converter.

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 a there are 4 different tunes that must be opened and saved in your computer.



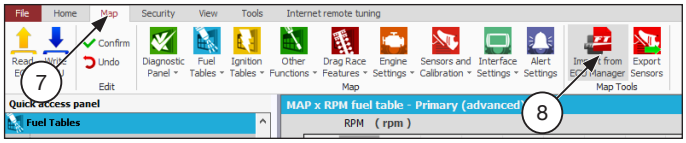
After the tune is opened in the ECU Manager, select Save File on PC (5). Choose the folder where the tune will be saved, and select “save”.



Now all the tunes are saved in the computer, the software FTManager must be opened to work with Power FT platform (FT550).

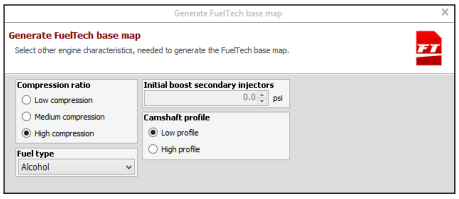
Connect the FT550 using the USB cable included in the package.

With FTManager opened select “Map” (7) and then “Import from ECU Manager” (8).

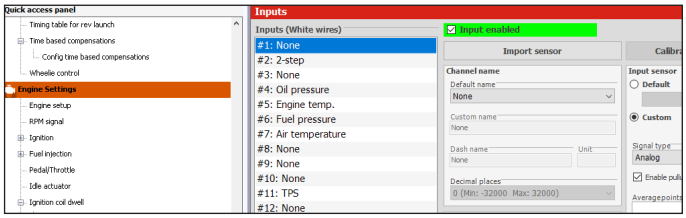


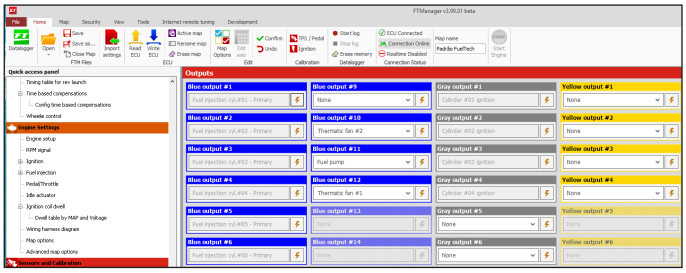
Search the folder where the old tune was saved before and select open.

It will show a screen with setting that must be configured according to the engine, as compression rate, camshaft profile, fuel type and injectors flow.



With the map open in FTManager check whether the inputs and outputs correctly. To do this, go to the menu “Sensors and Calibration“ and “Inputs Outputs”.





Electronic throttle

In the FT400, the electronic throttle control was done through four wires (Brown/White 1 and 2 and Lilac/White 1 and 2), already in the FT550, only two.

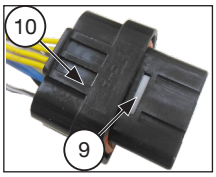
Brown / White 2 (Pin 13) = Yellow 1;
Purple / White 2 (Pin 14) = Yellow 2;

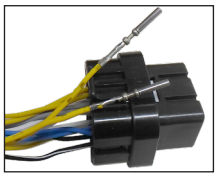
The Brown / White 1 (Pin 15) and Purple / White 1 (Pin 16) wires should be cut and insulated from the original FT400 harness.

Stepper Motor

In some cases, where the engine uses a stepper motor and after using the adapter it doesn't open or closes, a pair of yellow wires must be inverted on the adapter, Yellow 1(pin 22) inverted with Yellow 2(pin 23) **OR** Yellow 3(pin 24) inverted with Yellow 4(pin 25).

Push the lock (9) inside the connector(10)
Pull the wires out of the connector
Invert the position of the wires by inserting Yellow number 1 here Yellow number 2 was and vice-versa
Push the lock (9) on the other side of the connector to lock the terminals in the correct position





Adapter harness Table

FT400		FT550	
Wire Color	Function	Wire Color	Function
Purple	Primary inj A	Blue #1	Primary inj A
Brown	Primary inj B	Blue #2	Primary inj B
Yellow #4	AUX output #4	Blue #3	FREE
Yellow #1	AUX output #1	Blue #4	FREE
Yellow #2	AUX output #2	Blue #5	FREE
Yellow #3	AUX output #3	Blue #6	FREE
Yellow #6	AUX output #6	Blue #7	FREE
Yellow #5	AUX output #5	Blue #8	FREE
Gray A	Ignition output A	Gray #1	Ignition output #1
Gray B	Ignition output B	Gray #2	Ignition output #2
Gray C	Ignition output C	Gray #3	Ignition output #3
Gray D	Ignition output D	Gray #4	Ignition output #4
Gray E	Ignition output E	Gray #5	Ignition output #5
Gray F	Ignition output F	Gray #6	Ignition output #6
Yellow #7	AUX output #7	Gray #7	FREE
Green	TACH Output	Gray 8	TACH Output
-	-	Yellow #1	FREE
-	-	Yellow #2	FREE
Brown/white	Stepper #1	Yellow #3	Stepper #1
Purple/white	Stepper #2	Yellow #4	Stepper #2
White	O2-Sensor	White #1	O2-Sensor
White	2-STEP	White #2	2-STEP
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
Orange/Blue	Throttle #2	White #8	Throttle #2
Orange/Blue	Throttle #1	White #9	Throttle #1
Orange	TPS 2	White #10	TPS 2
White	A/C	White #11	A/C
-	-	White #12	FREE
-	-	White #13	FREE
-	-	White #14	FREE

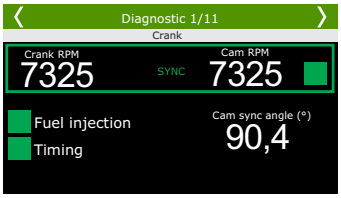
First start with your FT550:

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.

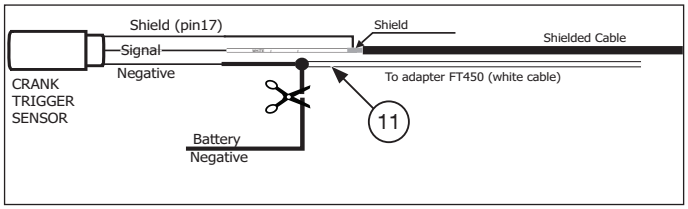


Sensors: check if temperature and pressure sensors show logical values (engine temperature, oil and fuel pressure and so on).

Ignition: After the engine starts and runs, use a timing light to check the ignition calibration, refer to the FT550 manual for instructions on that.

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

In this case it is necessary to pass 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.