

SymTech FCD Installation Instructions (Universal):

Locate the MAP/MAS sensor on your vehicle. MAP sensors are usually mounted on the intake manifold, while MAS/MAF sensors are somewhere along the intake tract. There should be three wires coming from the sensor; a Vref, ground, and a signal wire. The ground is usually black; the other wire colors will vary depending on the manufacturer of the vehicle. The ground and Vref will need to be tapped, while the signal wire will need to be cut, and spliced. Identify which wire is which by temporarily unplugging the sensor, and using a multimeter to test the output voltages from each wire. If the ground is assumed to be black, then one of the wires should generate a constant +5V: that's the Vref. The remaining wire is the signal. Make a note of which wire is which.

You will also need to locate a switched +12V source; wires for this can be found throughout the engine bay and interior - where you tap into this depends on where the FCD will permanently be mounted. If in doubt when choosing a wire, use a multimeter to test voltages.

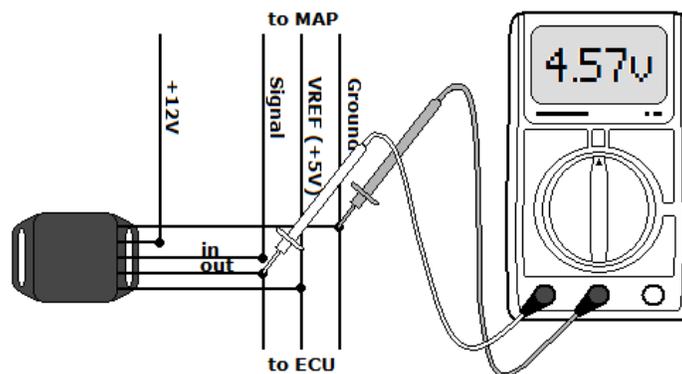
The wire connections are fairly straight forward. Crimp style and blade-type connections will work fine, but solder and heat shrink tubing is better.

Begin by cutting the signal wire from the MAP/MAS sensor. Connect the yellow wire on the FCD, ("IN") to the side of the signal wire closest to the sensor. The orange wire ("OUT") connects to the side of the signal wire leading to the ECU. The black wire (ground) needs to tap into the black wire from the MAP/MAS sensor. The red wire ("Vref +5V") taps into the Vref wire coming from the sensor and, finally, the green wire ("+12V") taps into the nearest switched 12V source.

Keep the FCD unit as far away from engine heat as possible: a cooler spot of the engine bay will work, but the interior of the car is ideal. The potentiometer is slightly temperature sensitive, and so extreme heat may compromise precision. The unit will resist engine chemicals and fluids, and mild heat.

After you have the FCD installed and situated, you may choose to fine tune it. Remove the cover on the FCD, and you will find a small trimmer on the board that can be adjusted using an electronics screwdriver or otherwise. There is no special formula for tuning the FCD, as each car is different and each owner may want to set the maximum voltage to different levels.

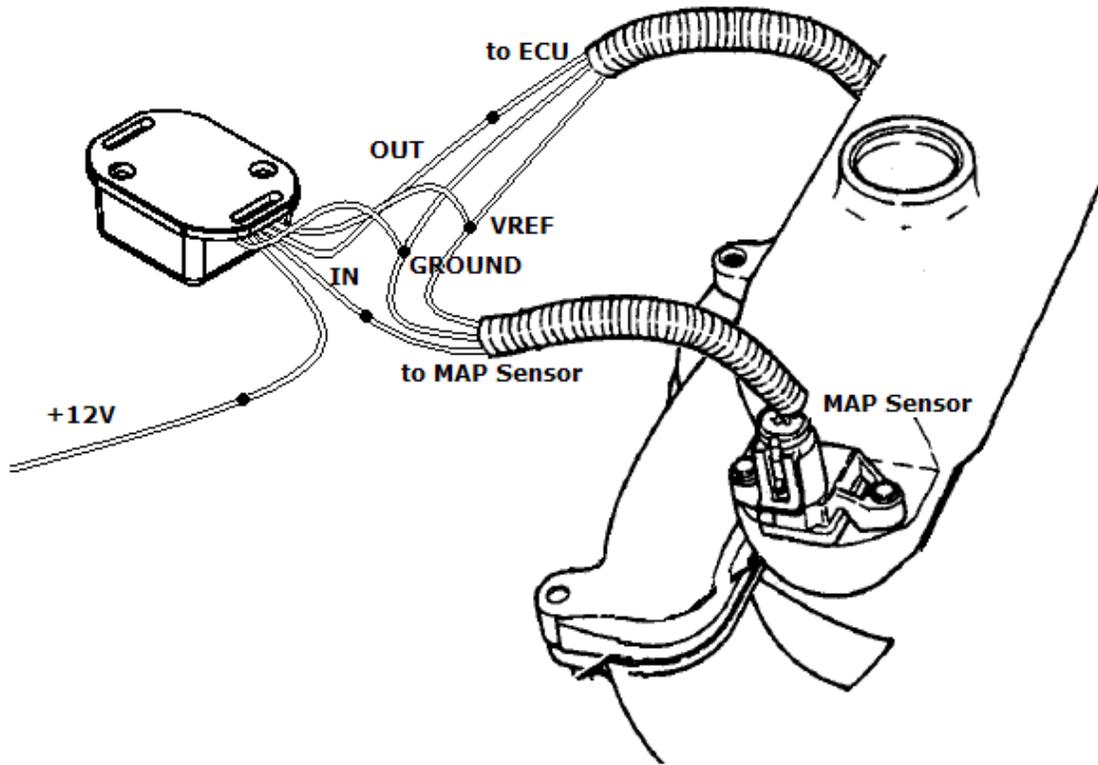
There are two methods to fine tune a SymTech FCD. The first is to turn the key to the "on" position, while the car is off. You will need to pressurize the intake manifold/tract to at least 1-2 psi. Using a multimeter (with the positive lead connected to the FCD output and the negative lead connected to ground), measure the output voltage. Adjust the trimmer until the voltage reads 4.70V (this value may vary) or lower.



The vehicle can also be driven, while periodically stopping and adjusting the trimmer until all fuel cut is eliminated.

The check engine light (CEL) may or may not illuminate. You can temporarily bypass the FCD to suppress the CEL. To do so, simply connect a jumper wire (gauge 22 wire or larger) between the orange and yellow wires of the FCD. This will effectively take the FCD out of the MAP/ECU signal loop, and it should prevent any CEL codes from recurring after resetting your ECU.

Sample Installation Diagram



WARNING

The addition of an FCD, while necessary for serious performance enthusiasts, removes protection from overboost. It is recommended that the air/fuel ratio be carefully monitored before and after the installation of an FCD. Serious engine damage can occur if the set boost pressure exceeds that of the engine's or turbocharger's capabilities. SymTech Laboratories assumes no responsibility for losses or damages due to installation of this product.

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