

SymTech FCD Installation Instructions (420A):

Locate the MAP sensor on the left hand side of the intake manifold: there are three wires coming from the sensor; a yellow/black wire, a black wire, and a green/yellow striped wire. The yellow/black wire will need to be cut and spliced, and the black and green/yellow wires will need to be tapped.

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 you're in doubt when choosing a wire, grab a multimeter and start testing 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 that yellow/black wire from the MAP sensor. Now, connect the green wire on the FCD, labeled "IN," to the side of the yellow/black wire closest to the MAP sensor. The green wire labeled "OUT" connects to the side of the yellow/black wire leading to the ECU. The black wire (ground) needs to tap into the black wire from the MAP sensor. The red wire labeled "Vref +5V" taps into the green/yellow wire coming from the MAP and, finally, the red wire labeled "+12V" taps into the nearest switched 12V source.

Try to keep the FCD unit as far away from engine heat as possible: a cooler spot of the engine bay (i.e. above the cruise control unit) will work, but the interior of the car would be ideal. The resistors are temperature sensitive, and so extreme heat may compromise precision. The unit will resist engine chemicals and fluids, and mild heat.

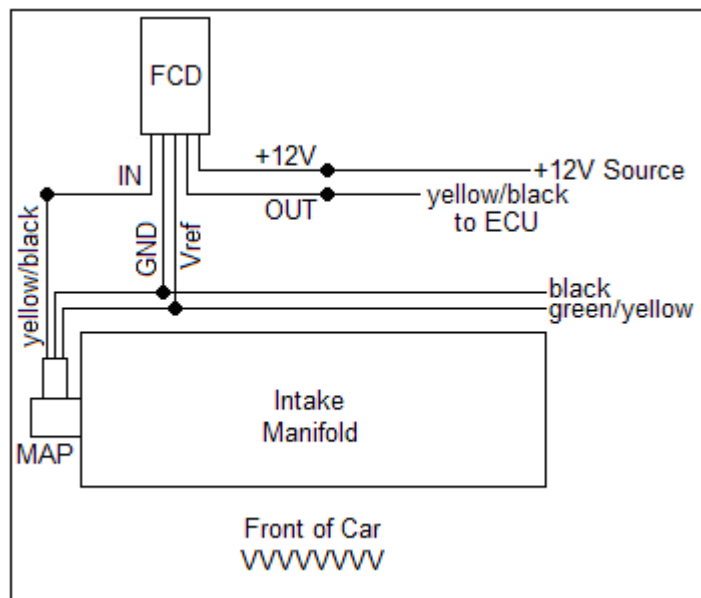
After you have the FCD installed and situated, you will need to tune it. Remove the cover on the FCD, and you will find a small trimmer on the board that can be adjusted using an electronics screwdriver or otherwise. There is no special formula for tuning the FCD, as each car is different and each owner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

There are two methods for this, however. The first is to turn the key to the "on" position, while the car is off. You will need to pressurize the intake manifold somehow to at least 1-2 psi. A homemade boost leak tester and bicycle pump will suffice for these purposes. Using a multimeter (with the + lead connected to the FCD output and the - lead connected to ground), measure the output voltage. Adjust the trimmer until the voltage reads 4.7V or lower.

Another potential method is to pressurize just the MAP sensor by removing it from the intake manifold and blowing on the opening.

You can also do this a little more "hit or miss." If you can't get a hold of a boost leak tester, you can drive the car around and adjust the trimmer until you've eliminated all fuel cut. This isn't as accurate, though, and you won't know what the maximum output voltage is - as with the first method.

The CEL may or may not pop up. If you live in a state that does emissions testing, you can temporarily bypass the FCD to stop the suppress the CEL. To bypass the FCD, simply run a jumper wire (gauge 22 wire or bigger) between the two green 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.



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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