Ecotecmiata ECU Patch Manual

The OBD2, APP, and aux wiring harnesses are intentionally left disassembled. This is to allow them to be passed through existing holes in the firewall. With the throttle cable removed, these harnesses can be passed through the original throttle cable hole.

The 18ga red wire is to be connected to a switched ignition source. This must be connected to the same location that the Pink and Pink/Black wires from the Ecotec engine harness are connected to. We generally recommend that all these wires be connected to the main relay.

Unterminated 6 Wire Harness:

Wire Color	Function
Red	Constant Battery Supply
Blue	Radiator Fan Relay
Black	Check Engine Light
Orange	Fuel Pump Relay *
White	Brake Switch Input *
Green	Tachometer signal *

APP Harness:

Wire Color	Function	Connector Position
Red	Low Reference	A
Blue	APP Signal 2	B
Black	5 Volt Reference	C
Orange	Low Reference	D
Green	APP Signal 1	E
White	5 Volt Reference	F

OBD2 Harness:

Wire Color	Function	Connector Position
Black	Ground	4
Black	Ground	5
White	High Speed Serial Data +	6
Green	High Speed Serial Data -	14
Red	Constant Battery	16

E37 ECM only: Route the supplied MAF harness away from sources of high heat, and connect it to the MAF sensor in the intake tube.

E67 ECM only: This harness is supplied with a short two wire harness. These are the Serial Data wires. They require connection to the J3 Grey ECM plug. We provide terminals on the wires should you choose to insert them directly in the J3 plug. If you do not have the tools to release the existing pins from the connector, simply cut off the terminals and splice the wires to the existing wires in the plug. The WHITE wire is Data + J3 connector pin 53. The GREEN wire is Data - J3 connector pin 33.

Unterminated Harness Notes:

Radiator Fan Relay is a switched ground signal, the same as the Miata. On E37 ECMs this wire is connected to the "Low Speed Fan Relay" J1 pin 5. On E67 ECMs this wire is connected to the "High Speed Fan Relay" J1 pin 54

Fuel Pump Relay is a switched 12 volt signal. This is directly compatible with 1.6L NA Miatas. For 1.8L Miatas you must rewire the fuel pump relay, or replace it with a commonly available 30 amp 5 pin relay.

Brake signal input is not required for most installations. It is only used should your ECM require a CASE Learn procedure. It is connected to the brake light switch on the brake pedal such that when the brake pedal is depressed a 12 volt signal is supplied to the ECM. A CASE Learn procedure is only required with a new ECM, or if you are using an ECM from an engine other than yours. It allows the ECM to store minor variations in crankshaft position sensor signals. If your swap is encountering a phantom random misfire P0300 DTC with a flashing Check Engine Light at higher RPMs you may want to perform a CASE Learn.

Tachometer signal is only available with E67 ECMs. This will be a 0-12 volt square wave signal, and can be calibrated in the ECM by your tuner. E37 ECM users will require an OBD2 port expander such as Dakota Digital STA-1000 to provide a suitable tachometer signal.