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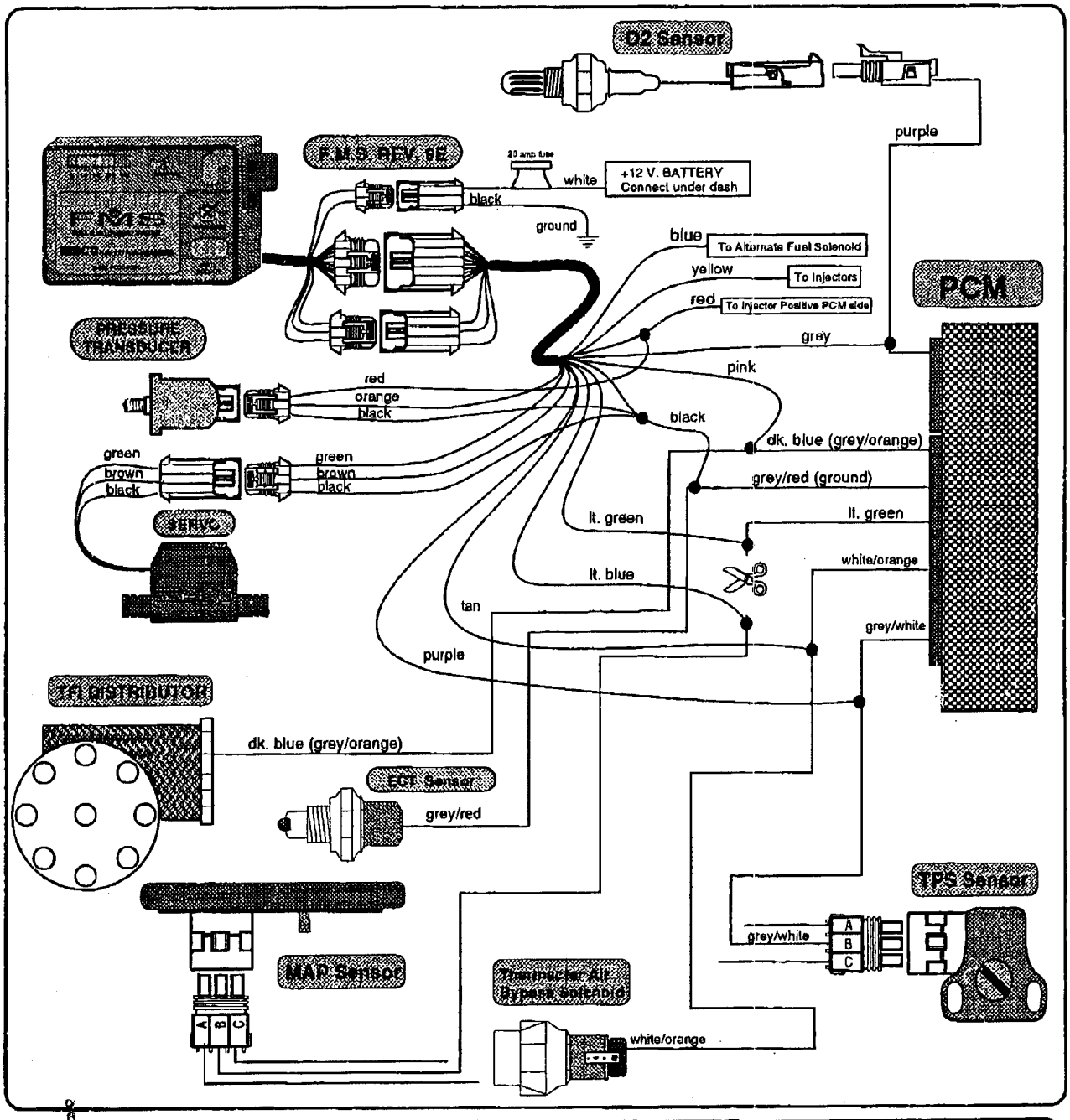
Technical Reference-Electronic

TR-E-129

Mar. 18/98



Notes: Interface Schematic for FORD Light Trucks: L6-4.9L, V8-5.0L, 5.8L & 7.5L MPFI Using F.M.S. **(F.M.S. input connections (grey, pink, purple, lt. green and lt. blue) MUST be made as close as possible to ECM.)**

Important: O.E.M. color codes shown may not be consistent with every vehicle application. Be sure to verify specific wire color before interfacing.

ECO FUEL SYSTEMS INC.
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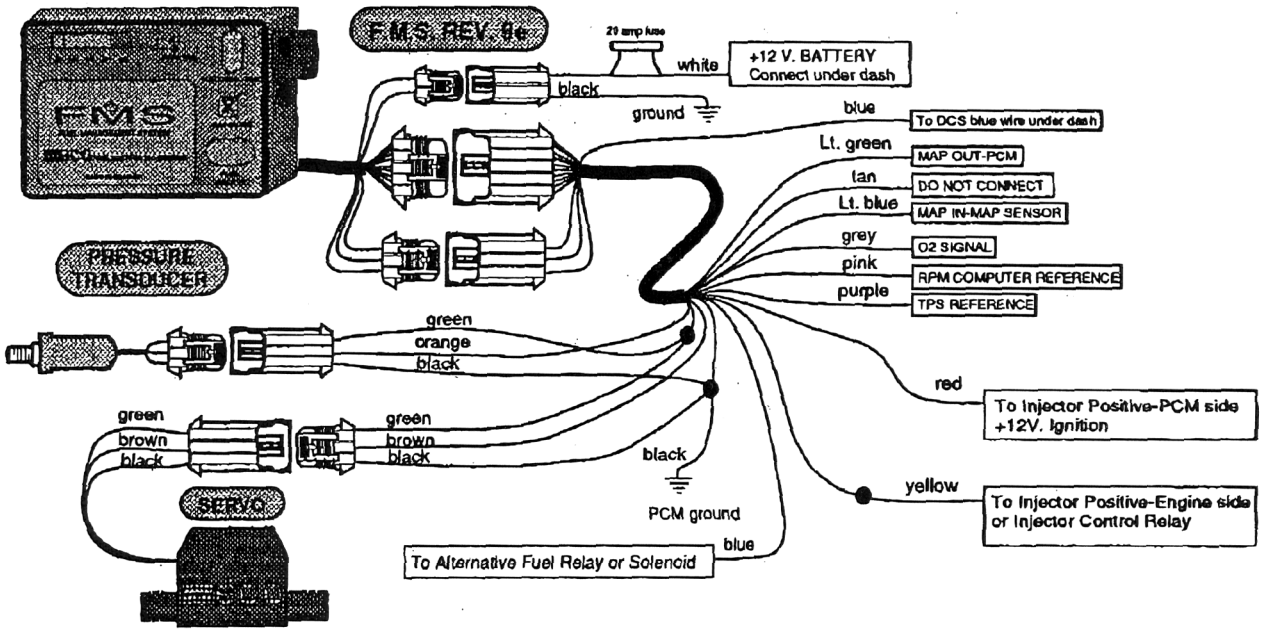
Product Information

Part No. F.M.S. NGV Ver. 9e

July 15/99

home/data/draw/pi/fms-9e-instal-instruct



Installation Instructions For FMS Ver. 9e:

1) Mount the FMS panel in desired position within easy reach of the vehicle operator.
2) Drill a 3/4" hole in the firewall. Install the harness through the grommet into the engine compartment.
3) Connect **BLACK**(FMS Panel) wire to a reliable body ground under the dash. Connect **BLACK** (10 pin harness) to reliable PCM ground. ***Do not connect to an engine ground. Do not connect to grounds already used by relays, fixes or solenoids.***
4) Connect **RED** wire to **+12V. key ignition** to a good ignition source in the engine compartment. For applications where a computer support system for the injectors is not required, cut the injector positive wire and connect the **RED** wire to the PCM side.
   Note: do not fuse this circuit as there is protection built. on the PC board of the FMS.
5) Connect **YELLOW** wire to Gasoline Injector Control Relay or to blue wire on Autotronic Computer Support. For applications where a computer support system for the injectors is not required, connect the **YELLOW** wire to the engine side of the injector positive or to **blue** wire of Injector Control relay.
   For additional information, refer to FMS Ver.9e training manual.
6) Connect **BLUE** wire to alternate fuel relay or solenoid. Connect short **BLUE** wire to DCS **BLUE** wire under dash.
7) Connect **PINK** wire to the computer R.P.M. signal reference wire at the computer.
8) Connect the **PURPLE** wire to the Throttle Position Sensor signal reference wire at the computer.
9) Connect the **GREY** wire to the O2 Sensor signal reference wire at the computer.*Note: O2 interface from computer fix must be between this connection and the computer.
10) Connect **LT.GREEN** to MAP OUT-PCM and **LT.BLUE** to MAP signal wire from the MAP sensor.
11) Do not connect **TAN** wire. For more informations follow guidelines in" Training Course Manual Version 9e.36".
12) Install the SERVO in the vapor hose as close as possible to the mixer with SERVO motor mounted in the upright position. Keep the SERVO as far away as possible from secondary ignition and high heat sources.
13) Install the TRANSDUCER in the fuel line downstream of the master shut-off. TRANSDUCER must be upstream of the high pressure solenoid. Keep it away from excessive heat and secondary ignition sources.
14) Connect **GREEN** wire from the SERVO to the **GREEN** wire in the FMS harness.
15) Connect **BLACK** wires from SERVO and TRANSDUCER to **BLACK** wire in FMS harness and connect to a good PCM ground. (i.e.-TPS or ECT ground)
16) Connect **ORANGE** wire from the TRANSDUCER to the **ORANGE** wire in the FMS harness.
17) Connect **BROWN** wire from the SERVO to the **BROWN** wire in the FMS harness.
18) Connect **GREEN** wire from the TRANSDUCER to the **GREEN** wire in the FMS harness.
19) Connect **WHITE** fused wire to **+12V. Battery** under the dash.

Important Notes: All wires and harnesses from the FMS must be kept away from secondary ignition sources. We recommend that all connections be soldered and heat-shrinked.

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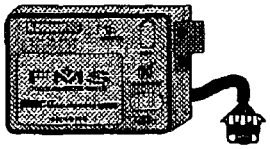
Product Information

F.M.S. AUTO SET-UP

APRIL 7, 1998



FMS AUTO SET-UP ROUTINE-Version 36

It is imperative before initiating AUTO SET-UP the following is performed:

1) Minimum idle air flow or throttle plate clearance must be set to OEM specifications.
2) The maximum spark plug gap is not to exceed 0.040 thousand of an inch.
3) The engine is maintained to OEM specifications as per vehicle manufacture owner manual.

The fuel select button on the FMS in-dash panel, can perform 3 functions:

a) to select the desired fuel before start up or while the engine is running
b) to change fuel gauge LED display to indicate O2 sensor input
c) to engage the 'AUTO SET-UP ROUTINE'

Note: The following instructions take you through the 'AUTO SET-UP ROUTINE' and should only be performed when engine is at full operating temperature.

To engage the 'AUTO SET-UP ROUTINE',

1) Turn the ignition ON, but do not start the engine. Hold the fuel select button down for 10 seconds; (make certain that the throttle pedal is not depressed at this time) the Service LED will turn on and remain on.

2) Select 'GAS' mode and depress the throttle to WOT. (Wide Open Throttle) to allow the FMS to establish a WOT. reading, hold until service LEDt blinks OFF then ON again.

3) You may now start the vehicle. Slowly raise the RPM between 2000-3000 and hold the throttle steady. It is important to hold a constant throttle position while the 'AUTO SET-UP ROUTINE' is in progress. When the O2 sensor indicates a stable voltage together with a constant throttle position and RPM, the FMS will record the servo position and the service LED icon on the FMS will "blink". The FMS will then "bump" the servo to a rich position and watch for a second verification of the correct O2 reading and servo position. Each time that the processor successfully records a servo position. The service LEDt will "blink". The processor will verify the servo position three times. If the verification cycles are not within a specified tolerance, the FMS will continue to run the cycles to verify a correct servo position. When the Service LED blinks continuously (once per second), this indicates that the processor has determined and established a DEFAULT SERVICE POSITION.

4) Let the engine come back to idle position and wait for the Service LED to change the blink rate to one second light ON, three seconds OFF. **DO NOT TURN ENGINE OFF** you must set Idle adjustment on pressure regulator. Idle to be set at 0.5 to 0.7 volts, or using FMS MONITOR MODE, live data to read O2 at **100 to 200.**

5) FMS AUTO SET-UP ROUTINE is now completed. To exit, simply turn the ignition key OFF.

6) Restart the vehicle, test drive with FMS O2 LED display on and verify that run and idle mode are working correctly. An expected O2 pattern would be run mode O2 cycle every 2-3 seconds. If CLOSED_LOOP_IDLE is engaged O2 cycle every 2 seconds.

IMPORTANT:
It is necessary that the FMS successfully completes the AUTO SET-UP ROUTINE, as this is the only way to verify that all FMS wiring is connected to the correct inputs and outputs.