

2.16 DDEC III/IV ELECTRONIC CONTROL MODULE

DDEC III/IV provides an indication of engine and vehicle malfunctions. The ECM continually monitors the DDEC III/IV system. See Figure 2-74 and see Figure 2-75.

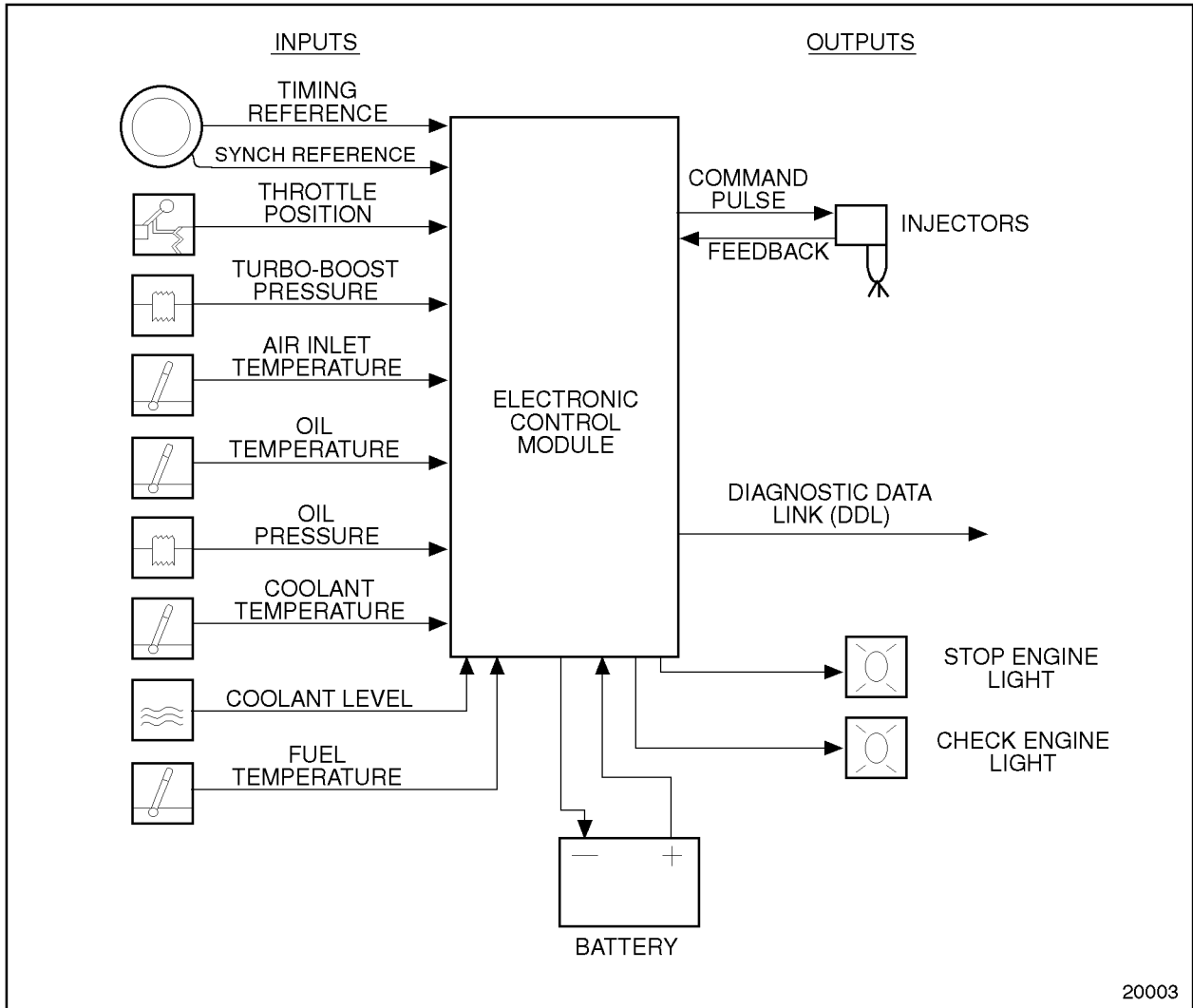


Figure 2-74 DDEC III/IV System Series 60 Diesel Engine

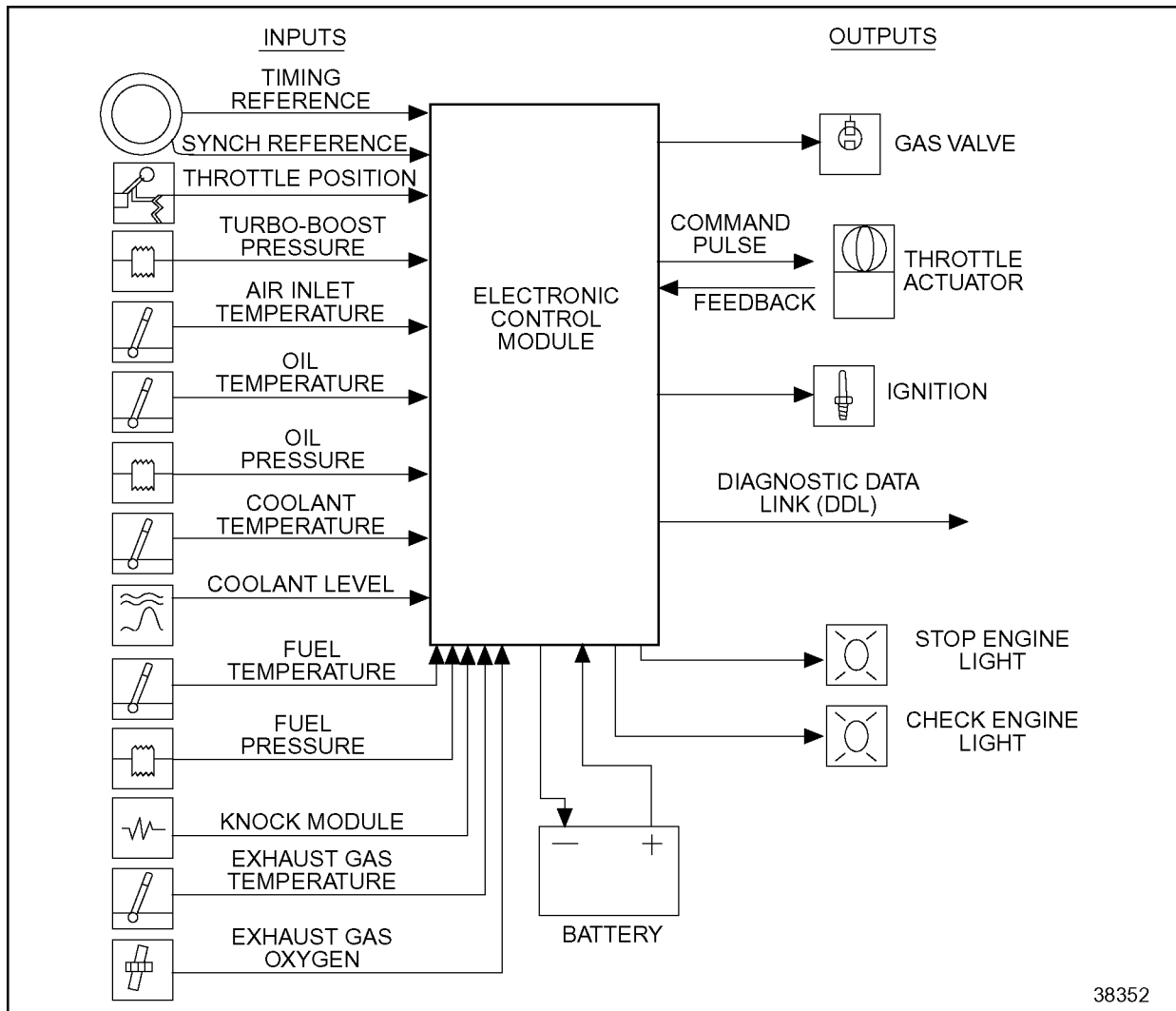


Figure 2-75 DDEC III/IV System Series 60 Natural Gas Engine

2.16.1 Repair or Replacement of the DDEC III/IV Electronic Control Module

The DDEC III/IV ECM is a sealed, nonserviceable unit. Tag defective ECM for record.

2.16.2 Removal of the DDEC III/IV Electronic Control Module

Perform the following steps for ECM removal:

1. Carefully disengage the lock tab on the power harness and injector harness connectors when removing.
2. Remove the two (2) wire and three (3) wire harness connections at the ECM.
3. Remove the two 30-pin connectors.
4. Remove the through-bolts holding the ECM to the engine.
5. Remove the ECM and cold plate from the engine, if so equipped.
6. Remove the screws securing the cold plate to the ECM. Remove the cold plate from the ECM, if so equipped.

2.16.3 Installation of the DDEC III/IV Electronic Control Module

Perform the following steps for ECM installation:

1. Install the cold plate on the ECM, if so equipped. Tighten the screws securing the cold plate to the ECM. Use Loctite® 262, or equivalent, on the cold plate-to-ECM screws. Torque to 9.5-12 N·m (84-106 lb·in.).
2. Inspect the ECM isolators for damage and replace if required.
3. Mount the ECM and cold plate to the engine.
4. Secure the ECM to the engine with through-bolts. Torque the ECM-to-engine bolts to 23-27 N·m (17-20 lb·ft).
5. Install the connectors in the ECM and torque the jack screws to 2.49–3.16 N·m (22–28 lb·in).
6. Engage the lock tab on the power harness and injector harness connectors.
7. Turn the ignition to the "ON" position. Observe the DDR for any diagnostic code(s). If any code(s) other than code 25 is logged, refer to the *Detroit Diesel DDEC III/IV Single ECM Troubleshooting Manual (6SE497)*.



CAUTION:

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

- Always start and operate an engine in a well ventilated area.**
- If operating an engine in an enclosed area, vent the exhaust to the outside.**
- Do not modify or tamper with the exhaust system or emission control system.**

8. Start the engine, and check for leaks.

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2.17 DDEC II ELECTRONIC CONTROL MODULE

This system utilizes an engine-mounted ECM only with the EDU components of the DDEC I system contained in the ECM. The replaceable PROM is an EPROM in the DDEC II ECM. The ECM has isolator mounts for both vibration and electrical isolation. Depending upon application, some units have fuel cooling of the ECM. The engine-mounted system simplifies vehicle wiring for greater reliability.

The DDEC II ECM is a microprocessor. It is the control center of the DDEC II system. See Figure 2-78.

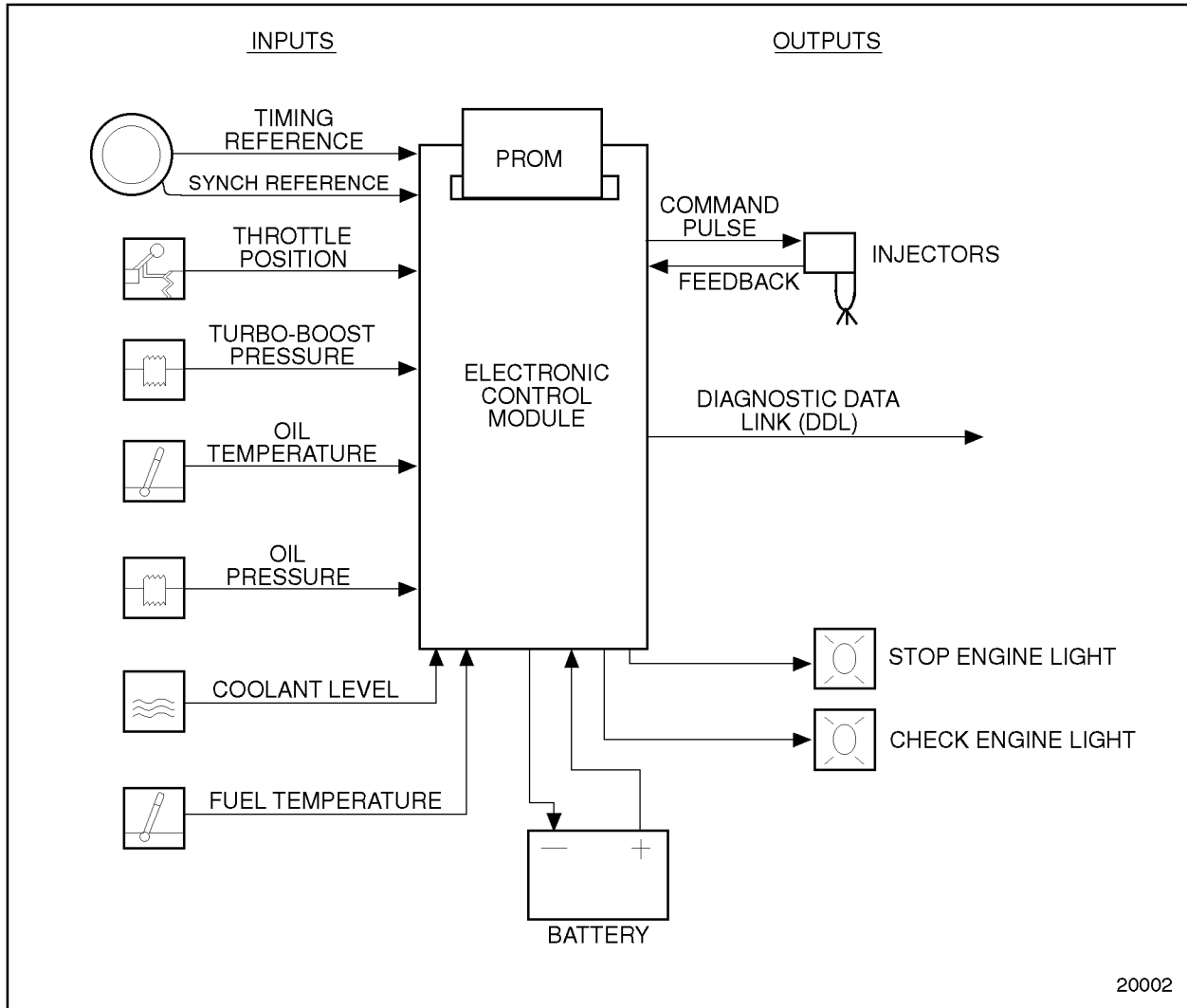


Figure 2-78 Schematic Diagram of DDEC II