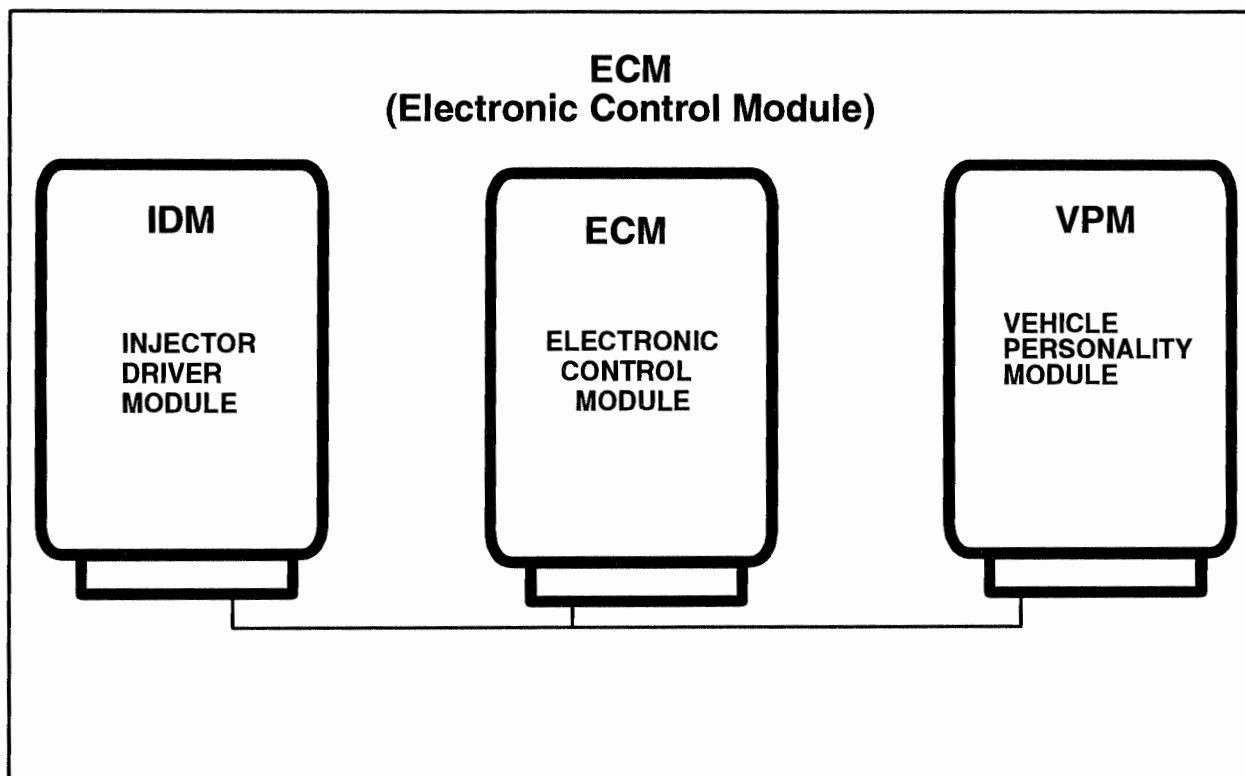


ELECTRONIC CONTROL SYSTEM DIAGNOSTICS

ELECTRONIC CONTROL MODULE SELF DIAGNOSTICS (ECM)

ECM SELF DIAGNOSTICS



SIGNAL FUNCTIONS

The Electronic Control Module (ECM) monitors and controls engine operation and performance, vehicle features such as PTO and cruise control, communicates information to the Vehicle Personality Module (VPM) and Injector Drive Module (IDM).

FAULT DETECTION/MANAGEMENT

The ECM is capable of internal fault detection and

dependent upon the severity of the problem, can provide fault management strategies to allow limited engine/vehicle operation.

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ECM SELF DIAGNOSTICS

NORMAL OPERATION DIAGNOSTICS

During normal engine operation, the ECM automatically performs several tests to detect faults. During Normal Operation, the ECM performs the Start-up KAM Test and Continuous Diagnostics.

START-UP KAM TEST

The Start-up KAM Test is used to validate the ECM's Keep-Alive-Memory once each time the ECM resets (turns ON). If an error is detected, Flash codes 224 or 615 can be set.

FLASH CODE 615

ATA CODE SID 254 FMI 13

**ECM: PROGRAMMABLE PARAMETER KAM
CORRUPT FAULT**

Flash Code 615 can be set when Flash code 224 is set. If 224 is present, refer to Keep Alive Memory Power (KAM PWR) page 174 in this section to diagnose.

If code 224 IS NOT SET, code 615 indicates that the ECM's RAM is defective. Replace the ECM.

CONTINUOUS DIAGNOSTICS

Continuous diagnostic checks are made by the ECM during vehicle operation to detect out-of-range, rationality and system faults. Flash codes 112 and 113 can be set during this diagnostic process. Refer to (ECM PWR) in this section.

ON DEMAND DIAGNOSTICS (SERVICE DIAGNOSTICS)

The ECM will perform On-Demand Diagnostics (Service diagnostics) when requested by the service technician. The KOEO Standard Test Procedure includes:

- ECM Internal Self-Tests
- Output Circuit Checks (OCC).

ECM INTERNAL SELF-TESTS

Use the Prolink EST to perform the self-tests. The test procedure checks the ECM's CPU, RAM, and ROM. The test may set the following flash codes.

FLASH CODE 111

ATA CODE PID 194 FMI 0

ECM: NO ERRORS DETECTED

Flash Code 111 indicates that the ECM has not detected any errors.

FLASH CODE 625

ATA CODE SID 254 FMI 9

ECM: ECM INACTIVE BACKGROUND

Code 625 indicates that the ECM Software is Faulty. Replace the ECM.

FLASH CODE 631

ATA CODE SID 240 FMI 2

ECM: ROM TEST FAULT

If code 631 is present, replace the ECM.

FLASH CODE 632

ATA CODE SID 254 FMI 12

ECM: RAM/CPU TEST FAULT

If code 632 is present, replace the ECM.

ECM OUTPUT CIRCUIT CHECKS (OCC)

During the OCC checks, the following ECM related codes can occur:

FLASH CODE 254

ATA CODE SID 254 FMI 3

ECM: OCC ORH

If code 254 is present, replace the ECM.

FLASH CODE 255

ATA CODE SID 254 FMI 4

ECM: OCC ORL

If code 255 is present, replace the ECM.