DTC	P0604	INTERNAL CONTROL MODULE RANDOM ACCESS MEMORY (RAM) ERROR

DTC	P0606	ECM/PCM PROCESSOR

DTC	P0607	CONTROL MODULE PERFORMANCE

DTC	P0657	ACTUATOR SUPPLY VOLTAGE CIRCUIT/OPEN

MONITOR DESCRIPTION

The ECM continuously monitors its internal memory status, internal circuits, and output signals to the throttle actuator. This self–check ensures that the ECM is functioning properly. If any malfunction is detected, the ECM will set the appropriate DTC and illuminate the MIL.

The ECM memory status is diagnosed by internal ”mirroring” of the main CPU and the sub CPU to detect random access memory (RAM) errors. The two CPUs also perform continuous mutual monitoring.

The ECM sets a DTC if: 1) output from the 2 CPUs are different and deviate from the standards, 2) the signals to the throttle actuator deviate from the standards, 3) malfunction is found in the throttle actuator supply voltage, and 4) any other ECM malfunction is found.

DTC No.	DTC Detection Condition	Trouble Area
P0604 P0606 P0607 P0657	ECM internal errors	• ECM

MONITOR STRATEGY

Related DTCs	P0604: ECM RAM errors P0606: ECM CPU malfunction P0657: ETCS power supply function of ECM malfunction
Required sensors/ components	ECM
Frequency of operation	Continuous
Duration	Within 1 second
MIL operation	Immediately
Sequence operation	None

TYPICAL ENABLING CONDITIONS

The monitor will run whenever the following DTCs are not present	See page 05–20

TYPICAL MALFUNCTION THRESHOLDS

ECM RAM errors:

Difference between main and sub CPUs output	Larger than the specified range

ECM CPU malfunction:

Either of the following conditions is met:	
Difference between throttle position of main CPU and throttle position of sub CPU	0.3 V or more
Difference between accelerator pedal position of main CPU and accelerator pedal position of sub CPU	0.3 V or more

Electronic throttle control system power supply function of ECM malfunction:

Electronic throttle control system power supply when ignition switch is turned from OFF to ON	7 V or more

INSPECTION PROCEDURE

HINT:

Read freeze frame data using the hand−held tester or the OBD II scan tool. Freeze frame data records the engine condition when malfunction is detected. When troubleshooting, freeze frame data can help determine if the vehicle was running or stopped, if the engine was warmed up or not, if the air–fuel ratio was lean or rich, and other data from the time the malfunction occurred.

REPLACE ECM (See page 10–24)