

H - TESTS W/O CODES

1993 Mitsubishi Montero

1993 ENGINE PERFORMANCE

Chrysler Corp./Mitsubishi Trouble Shooting - No Codes

Dodge; Colt, Colt 200, Ram-50, Stealth
Eagle; Summit, Summit Wagon
Mitsubishi; Diamante, Eclipse, Expo/Expo LRV, Galant,
Mirage, Montero, Pickup, Precis, 3000GT
Plymouth; Colt, Colt 200, Colt Vista

INTRODUCTION

Before diagnosing symptoms or intermittent faults, perform steps in F - BASIC TESTING and G - TESTS W/ CODES in the ENGINE PERFORMANCE section. Use this article to diagnose driveability problems existing when a hard fault code is not present.

NOTE: Some driveability problems may have been corrected by manufacturer with a revised Engine Control Module (ECM). Check with manufacturer for latest ECM.

Symptom checks can direct the technician to malfunctioning component(s) for further diagnosis. A symptom should lead to a specific component, system test or adjustment.

Use intermittent test procedures to locate driveability problems that DO NOT occur when vehicle is being tested. These test procedures should also be used if a soft (intermittent) trouble code was present, but no problem was found during self-diagnostic testing.

NOTE: For specific testing procedures, see I - SYS/COMP TESTS in the ENGINE PERFORMANCE section. For specifications, see D - ADJUSTMENTS or C - SPECIFICATIONS in the ENGINE PERFORMANCE section.

SYMPTOMS

SYMPTOM DIAGNOSIS

Symptom checks cannot be used unless problem occurs while vehicle is being tested. To reduce diagnostic time, ensure steps in F - BASIC TESTING and G - TESTS W/ CODES in the ENGINE PERFORMANCE section were performed before diagnosing a symptom. Following symptoms are available for diagnosis.

- * Difficult To Start/No Start (Crankes Okay)
- * Rough Or Unstable Idle
- * Engine Hesitates Or Poor Acceleration
- * Engine Surges
- * Detonation Or Knocking
- * Poor Fuel Mileage

DIFFICULT TO START/NO START (CRANKS OKAY)

- * Check idle speed control servo (if applicable).
- * Check stepper motor (if applicable).
- * Check ignition switch.
- * Check TDC sensor.
- * Check crankshaft position sensor.
- * Check inhibitor switch (A/T).

- * Check airflow sensor.
- * Check coolant temperature sensor.
- * Check idle position switch.
- * Check power supply to ECM ground.
- * Check fuel pressure.
- * Check for disconnected or damaged vacuum hoses.
- * Check for control relay malfunction.
- * Check for MPI system malfunction.
- * Check for fuel pump drive control system malfunction.
- * Check for ignition coil malfunction.
- * Check for ignition timing malfunction.
- * Check for power transistor malfunction.
- * Check for fuel injector malfunction.
- * Check for ECM malfunction.
- * Ensure electrical harness, connectors and wires are not broken or loose.

ROUGH OR UNSTABLE IDLE

- * Check intake air temperature sensor.
- * Check purge control solenoid valve (if applicable).
- * Check vehicle speed sensor.
- * Check engine coolant temperature sensor.
- * Check barometric pressure sensor.
- * Check ignition switch.
- * Check idle position switch.
- * Check throttle position sensor.
- * Check TDC sensor.
- * Check crankshaft position sensor.
- * Check power steering oil pressure switch.
- * Check A/C switch and power relay (if applicable).
- * Check inhibitor switch.
- * Check oxygen sensor.
- * Check airflow sensor.
- * Check motor position sensor (if equipped).
- * Check fuel pressure.
- * Check for disconnected or damaged vacuum hoses.
- * Check MPI system malfunction.
- * Check for stepper motor malfunction (if applicable).
- * Check for fuel injector malfunction.
- * Check for power transistor malfunction.
- * Check for vehicle speed switch malfunction.
- * Check for ECM malfunction.
- * Ensure electrical harness, connectors and wires are not broken or loose.

ENGINE HESITATES OR POOR ACCELERATION

- * Check intake air temperature sensor.
- * Check engine coolant temperature sensor.
- * Check barometric pressure sensor.
- * Check ignition switch.
- * Check ignition coil.
- * Check EGR control solenoid valve (if applicable).
- * Check idle position switch.
- * Check throttle position sensor.
- * Check TDC sensor.
- * Check crankshaft position sensor.
- * Check power steering oil pressure switch.
- * Check A/C switch (if applicable).
- * Check inhibitor switch (A/T).
- * Check oxygen sensor.
- * Check airflow sensor.

- * Check motor position sensor (if applicable).
- * Check fuel pressure.
- * Check for disconnected or damaged vacuum hoses.
- * Check for MPI system malfunction.
- * Check for stepper motor malfunction (if applicable).
- * Check for fuel injector malfunction.
- * Check for power transistor malfunction.
- * Check for A/C power relay control system malfunction.
- * Check for ECM malfunction.
- * Ensure electrical harness, connectors and wires are not broken or loose.

ENGINE SURGES

- * Check coolant temperature sensor.
- * Check idle position switch.
- * Check EGR control solenoid valve (if applicable).
- * Check fuel pressure.
- * Check for fuel injector malfunction.

DETONATION OR KNOCKING

- * Check airflow sensor.
- * Check for cooling system problems.
- * Check fuel quality.
- * Check intake air temperature sensor.
- * Check barometric pressure sensor.
- * Check ignition coil.
- * Check power transistor.
- * Check for EGR system malfunction.

POOR FUEL MILEAGE

- * Check intake air temperature sensor.
- * Check engine coolant temperature sensor.
- * Check barometric pressure sensor.
- * Check ignition switch.
- * Check idle position switch.
- * Check throttle position sensor.
- * Check TDC sensor.
- * Check crankshaft position sensor.
- * Check power steering oil pressure switch.
- * Check A/C switch (if applicable).
- * Check inhibitor switch (A/T).
- * Check oxygen sensor.
- * Check airflow sensor.
- * Check motor position sensor (if applicable).
- * Check fuel pressure.
- * Check for MPI system malfunction.
- * Check for stepper motor malfunction.
- * Check for fuel injector malfunction.
- * Check for power transistor malfunction.

INTERMITTENTS

INTERMITTENT PROBLEM DIAGNOSIS

Intermittent fault testing requires duplicating circuit or component failure to identify problem. These procedures may lead to computer setting a fault code (on some systems) which may help in diagnosis.

If problem vehicle does not produce fault codes, monitor

voltage or resistance values using a DVOM while attempting to reproduce conditions causing intermittent fault. A status change on DVOM indicates a fault has been located.

Use a DVOM to pinpoint faults. When monitoring voltage, ensure ignition switch is in ON position or engine is running. Ensure ignition switch is in OFF position or negative battery cable is disconnected when monitoring circuit resistance. Status changes on DVOM during test procedures indicate area of fault.

TEST PROCEDURES

Intermittent Simulation

To reproduce conditions creating an intermittent fault, use following methods:

- * Lightly vibrate component.
- * Heat component.
- * Wiggle or bend wiring harness.
- * Spray component with water mist.
- * Remove/apply vacuum source.

Monitor circuit/component voltage or resistance while simulating intermittent. If engine is running, monitor for self-diagnostic codes. Use test results to identify a faulty component or circuit.