H - TESTS W/O CODES

1991 Mitsubishi Montero

1991 ENGINE PERFORMANCE
Trouble Shooting - No Codes

Chrysler Motors: Colt, Colt 200, Colt Vista, Ram-50, Stealth, Summit,
Mitsubishi: Eclipse, Galant, Mirage, Montero, Pickup, 3000GT

INTRODUCTION

Before diagnosing symptoms or intermittent faults, perform steps in F - BASIC TESTING and G - TESTS W/ CODES articles in the ENGINE PERFORMANCE Section. Use this article to diagnose driveability problems that exist when a hard fault code is NOT found, or on vehicle NOT equipped with a self-diagnostic system.

NOTE: Computer control unit has been revised to correct certain driveability problems. Check with manufacturer for latest computer application.

Symptom checks are intended to direct technician to malfunctioning component(s) so further diagnosis may be performed. A symptom should lead to specific component or system testing, or an adjustment specification.

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 article in the ENGINE PERFORMANCE Section. For specifications, see C - SPECIFICATIONS or D - ADJUSTMENTS article in the ENGINE PERFORMANCE Section.

SYMPTOMS

SYMPTOM DIAGNOSIS

Symptom checks cannot be used unless problem occurs while vehicle is being tested. Symptoms available for diagnosis include the following:

* Difficult to start/no start (cranks okay)
* Rough or unstable idle
* Engine hesitates or poor acceleration
* Engine surges
* Detonation or knocking
* Poor fuel mileage

SYMPTOMS (PFI)

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 crank angle sensor.
* Check inhibitor switch (A/T).

* Check airflow sensor.
* Check coolant temperature sensor.
* Check idle position switch.
* Check power supply to ECU ground.
* Check fuel pressure.
* Check for disconnected or damaged vacuum hoses.
* Check for control relay malfunction.
* Check for PFI 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 ECU 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 crank angle 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 PFI 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 ECU 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 crank angle 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 PFI 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 (if applicable).
* Check for ECU 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 crank angle 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 PFI 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 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 which may cause intermittent fault. A status change on DVOM indicates a fault has been located.

When using a DVOM to pinpoint faults, monitor voltage reading with ignition on, or vehicle running. Ensure ignition is in OFF position or negative battery cable is disconnected when monitoring circuit resistance. Change in ohmmeter reading during test procedures indicates area of fault.

TEST PROCEDURES

Intermittent Simulation

To reproduce conditions which cause intermittent fault, use the following methods:

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

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