

FAULT CODE DESCRIPTION

FAULT CODE	DRBII DISPLAY	DESCRIPTION OF FAULT CONDITION
11	Ign. Reference Signal	No distributor reference signal detected during engine cranking.
13+ **	Slow Change in Idle Map Signal or No Change in MAP from Start to Run	No variation in MAP sensor signal is detected. No difference is recognized between the engine MAP reading and the barometric pressure reading at engine start-up.
14+ **	MAP Voltage Too Low or MAP Voltage Too High	MAP sensor input below minimum acceptable voltage. MAP sensor input above maximum acceptable voltage.
15**	No Vehicle Speed Signal	No distance sensor signal detected during road load conditions.
17	Engine Is Cold Too Long	Engine coolant temperature remains below normal operating temperatures during vehicle travel (thermostat).
21**	O ₂ Signal Stays at Center or O ₂ Signal Shorted to Voltage	Neither rich nor lean condition is detected from the oxygen sensor input. Oxygen sensor input voltage maintained above normal operating range.
22+ **	Coolant Sensor Voltage Too Low or Coolant Sensor Voltage Too High	Coolant temperature sensor input below the minimum acceptable voltage. Coolant temperature sensor input above the maximum acceptable voltage.
23+ **	Charge Temperature Sensor Voltage High or Charge Temperature Sensor Voltage Low	MAT sensor input above the maximum acceptable voltage. MAT sensor input below minimum acceptable voltage.
24+ **	TPS Voltage High or TPS Voltage Low	Throttle position sensor (TPS) input below the minimum acceptable voltage. Throttle position sensor (TPS) input above the maximum acceptable voltage.

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FAULT CODE DESCRIPTION (CONT.)

FAULT CODE	DRBII DISPLAY	DESCRIPTION OF FAULT CONDITION
25**	Automatic Idle Speed Motor Circuits	A shorted or open circuit detected in one or more of the automatic idle speed (AIS) motor circuits.
27+**	Injector (number) Control Circuit	Injector output driver does not respond properly to the control signal.
33	A/C Clutch Relay Circuit	An open or shorted condition detected in the A/C clutch relay circuit.
34 (XJ and MJ only)	Speed Control Solenoid Circuits	An open or shorted condition detected in the speed control vacuum or vent solenoid circuits.
35 (XJ and MJ only)	Radiator Fan Relay	An open or shorted condition detected in the radiator fan relay control circuit.
41+**	Alternator Field Not Switching Properly	Alternator field not switching properly.
42	ASD Relay Circuit or No ASD Relay Voltage Sense at Controller	An open or shorted condition detected in the ASD relay control circuit. No ASD voltage sensed at controller.
44	Battery Temp. Sensor Voltage Out of Limit	Battery temperature sensor voltage out of limit.
46+**	Charging System Voltage Too High	Charging system voltage too high.
47+**	Charging System Voltage Too Low	Charging system voltage too low.
51**	O ₂ Signal Stays Below Center (Lean)	O ₂ sensor signal stays lean.
52**	O ₂ Signal Stays Above Center (Rich)	O ₂ sensor signal stays rich.
53	Internal Controller Failure or Controller Failure SPI Communications	Internal engine controller fault condition detected. No internal communication between co-processors.
54	No Sync Pickup Signal	No sync pickup signal.
62	Controller Failure EMR Miles Not Stored	Engine controller failure—EMR miles not stored.

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FAULT CODE DESCRIPTION (CONT.)

FAULT CODE	DRBII DISPLAY	DESCRIPTION OF FAULT CONDITION
63	Controller Failure EEPROM Write Denied	Engine controller failure—EEPROM write denied.
76 (XJ and MJ only)	Fuel Pump Resistor Bypass Relay Circuit	An open or shorted condition detected in the ballast resistor bypass circuit.
55	NA	Completion of fault code display on the CHECK ENGINE lamp.

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J9114-177

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STATE DISPLAY INPUTS AND OUTPUTS

Connect the DRB II tester to the vehicle and access the State Display screen. Then access Inputs and Outputs. The following is a list of the engine control system functions accessible through the Inputs and Outputs screen:

- Power Steering Input (2.5L Engine Only)
- Speed Control Set (XJ and MJ only)
- Speed Control On/Off (XJ and MJ only)
- Speed Control Resume (XJ and MJ only)
- Brake Switch
- Park/Neutral Switch (automatic transmission only)
- Air conditioning (A/C) Select Switch
- A/C Request Input
- A/C Clutch Relay
- Alternator Lamp (when equipped)
- Ballast Bypass Relay (XJ and MJ only)
- Auto Shutdown (ASD) Relay
- Speed Control Vent Solenoid
- Speed Control Vacuum Solenoid
- Emission Maintenance Reminder (EMR) Lamp
- Shift Indicator Lamp (manual transmission only)
- Check Engine Lamp
- Radiator Fan Relay (XJ and MJ with 4.0L engine)
- Z2 (A82 circuit) Voltage Sense
- Starter Switch Sense
- Inverse J2 (A21 circuit) Voltage Sense

STATE DISPLAY SENSORS

Connect the DRB II tester to the vehicle and access the State Display screen. Then access the Sensor Display. The following is a list of the engine control system functions accessible through the Sensor Display screen:

- Oxygen Sensor Signal
- Coolant Temperature
- Coolant Temperature Sensor
- Throttle Position
- Minimum Throttle
- Battery Voltage

- Manifold Absolute Pressure (MAP) Sensor Reading
- Automatic Idle Speed (AIS) Motor Position
- Added Adaptive Fuel
- Adaptive Fuel Factor
- Barometric Pressure
- Minimum Air Flow Idle Speed
- Engine Speed
- Fault #1 Key-On Info
- Module Spark Advance
- Charge Temperature (Air/Fuel)
- Charge (MAT) Temp Sensor
- Speed Control Target (XJ and MJ only)
- Fault #2 Key-On Info
- Fault #3 Key-On Info
- Speed Control Status
- Charging System Goal
- Theft Alarm Status (XJ only)
- Battery Temperature
- Manifold Absolute Pressure (MAP) Sensor Voltage
- Vehicle Speed
- Oxygen Sensor State
- Manifold Absolute Pressure (MAP) Gauge Reading
- Throttle Opening
- Total Spark Advance

CIRCUIT ACTUATOR TEST MODE

The purpose of the Circuit Actuation Test Mode is to check for the proper operation of output circuits of devices. These are the circuits the Engine Controller cannot internally recognize. The Engine Controller can attempt to activate these outputs and allow an observer to verify proper operation. Most of the tests available in this mode provide an audible or visual indication of device operation.

For example: The click of relay contacts or the spray of fuel.

It can be assumed that the device, its associated wiring, and its driver circuit are in working order. This is with the exception of an intermittent condition.