

2000 XJ RANGE - Electronic Engine Controls - 303-14

B : DTC P0111, P0112, P0113; INTAKE AIR TEMPERATURE (IAT) SENSOR RANGE/PERFORMANCE, HIGH/LOW VOLTAGE

NOTE:

The IAT sensor is integral with the Mass Air Flow sensor.

NOTE:

Before commencing this test, check the air filter for blockage and the engine air intake and breather systems for leaks. <<303-12>>

B1 : CHECK THE IAT SENSOR SENSE CIRCUIT FOR HIGH RESISTANCE

1. Disconnect the battery negative terminal.
2. Disconnect the ECM electrical connector, EM82.
3. Disconnect the MAF sensor electrical connector, PI35.
4. Measure the resistance between EM82, pin 17 (O) and PI35, pin 04 (O).

•Is the resistance greater than 5 ohms?

-> **Yes**

REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.

-> **No**

Goto <<B2>>

B2 : CHECK THE IAT SENSOR SENSE CIRCUIT FOR SHORT TO HIGH VOLTAGE

1. Reconnect the battery negative terminal.
2. Turn the ignition switch to the **ON** position.
3. Measure the voltage between PI35, pin 04 (O) and GROUND.

•Is the voltage greater than 3 volts?

-> **Yes**

REPAIR the short circuit to high voltage. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.

-> **No**

Goto <<B3>>

B3 : CHECK THE IAT SENSOR SENSE CIRCUIT FOR SHORT TO GROUND

C : DTC P0116*, P0117, P0118, P0125; ENGINE COOLANT TEMPERATURE (ECT) SENSOR RANGE/PERFORMANCE, HIGH/LOW VOLTAGE

NOTE:

Before commencing this test, check the coolant level and condition, check the operation of the thermostat, rectify as necessary.

NOTE:

As a guideline, coolant temperature overnight will drop to approximately -20°C to +40°C, (depending on the

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ambient temperature) at which temperatures, the resistance of the sensor should be 15.04 Kilohms to 1.15 Kilohms.

* DTC P0116 requires a cold start condition for diagnostics. Ideally, park the vehicle outside overnight. Start the engine and leave the engine idling with the heater on full (this produces the slowest warm-up time). Leave the engine running until normal operating temperature is reached (80°C, read from the Jaguar approved diagnostic system or scantool). At this temperature, the sensor resistance should be 0.318 Kilohms).