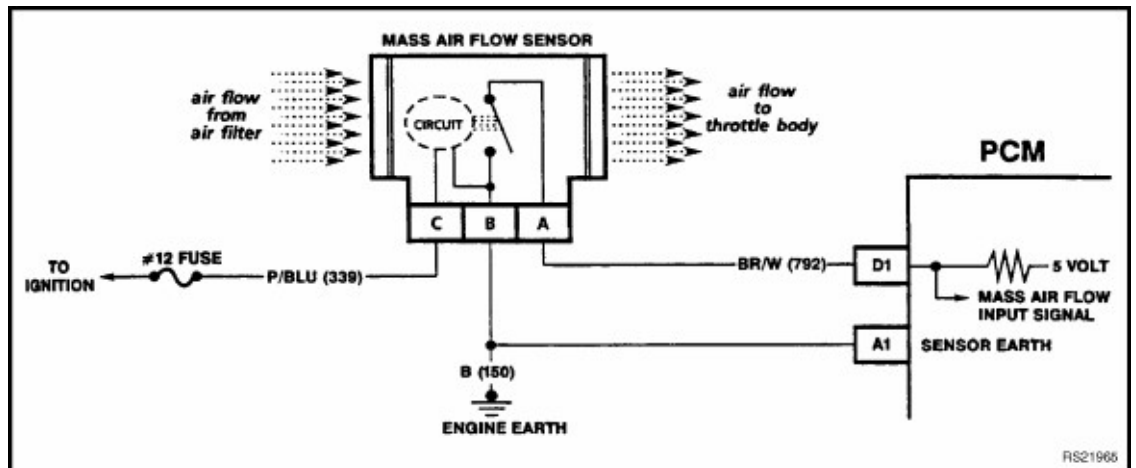


DTC 32 V6 PCM



MASS AIR FLOW (MAF) OUT OF RANGE

Circuit Description:

The Mass Air Flow (MAF) sensor measures the flow of air which passes through it in a given time. The PCM uses this information to monitor the operating condition of the engine for fuel delivery calculations. A large quantity of air movement indicates acceleration, while a small quantity indicates deceleration or idle.

The MAF sensor produces a frequency signal which cannot be easily measured.

The MAF sensor can be diagnosed using the procedures on this chart.

With DTC 32 set, the PCM will use a default value for air flow based on throttle position, and engine speed and some vehicle performance will return. When DTC 32 is set the MIL "Check Powertrain Lamp" will be illuminated.

Test Description: Number(s) below refer to step(s) on the diagnostic chart.

2. DTC 32 will set if:
 - Engine running.
 - No MAF signal for over 2 seconds.
5. Verifies that both ignition feed voltage and a good earth circuit are available.
6. This step checks to see if PCM recognises a problem.
7. A voltage reading at sensor harness connector terminal "A" of less than 4 or over 6 volts indicates a fault in circuit 792 or poor connection.

Diagnostic Aids:

An intermittent may be caused by a poor connection, mis-routed harness, rubbed through wire insulation, or a wire broken inside the insulation.

Check for:

Poor Connection at PCM Pin -

Inspect harness connectors for backed out terminals, improper mating, broken locks, improperly formed or damaged terminals, and poor terminal to wire connection.

Mis-Routed Harness - Inspect MAF

Mis-Routed Harness - Inspect MAF sensor harness to ensure that it is not too close to high voltage wires, such as spark plug leads.

Damaged Harness - Inspect harness for damage. If harness appears OK, observe Tech 1 "Scan" tool while moving related connectors and wiring harness. A change in display would indicate the intermittent fault location.

Plugged Air Filter - A wide open throttle acceleration from a stop should cause the MAF reading on the Tech 1 "Scan" tool to range from about 4-7 g/s at idle to 100 or greater at the time of the 1-2 shift on an automatic transmission. If not, check for restriction.

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STEP	ACTION	VALUE	YES	NO
1.	Was the "On-Board Diagnostic" (OBD) System Check performed?		Go to Step 2.	Go to OBD System Check in this Section.
2.	1. Ignition "ON". 2. Using Tech 1 "Scan" tool. 3. Is "MAF frequency" reading specified value ?	0	Go to Step 4	Go to Step 3
3.	Replace MAF sensor. Is action complete ?		Verify Repair	
4.	1. Ignition "OFF". 2. Disconnect MAF sensor. 3. Ignition "ON". 4. Connect a test light to earth, and probe MAF sensor harness connector terminal "C". 5. Is test light "ON" ?		Go to Step 5	Go to Step 11
5.	1. Ignition "OFF". 2. Disconnect MAF sensor. 3. Ignition "ON". 4. Measure voltage between MAF sensor harness connector terminals "B" and "C". 5. Is voltage greater then specified value ?	10 volts	Go to Step 7	Go to Step 10
6.	1. Ignition "OFF". 2. Reconnect MAF sensor. 3. Ignition "ON" engine idling. 4. Is MAF sensor "MASS AIR FLOW" reading between specified value ?	4 - 9 grams/sec	DTC 32 is intermittent. If no additional DTC's were stored, refer to "Diagnostic Aids" on facing page.	Go to Step 3
7.	1. Ignition "OFF". 2. Disconnect wiring harness connector from MAF sensor. 3. Ignition "ON". 4. Measure voltage at MAF sensor harness connector terminal "A" with a voltmeter to earth. 5. Is the measured voltage between the specified values ?	4 - 6 Volts	Go to Step 6	Go to Step 8
8.	1. Is voltage on MAF sensor harness connector terminal "A" less than specified value ?	4 volts	Go to Step 9	Go to Step 12

9.	1. Check for an open or short to earth on circuit 792. 2. Is a fault found ?	Verify Repair	Go to Step 13
10.	Repair open in circuit 150. Is action complete ?	Verify Repair	
11.	Repair open or short to earth in circuit 339 . Replace fuse F12 if blown. Is action complete ?	Verify Repair	
12.	Repair short to voltage on circuit 792. Is action complete ?	Verify Repair	
13.	Replace PCM. Is action complete ?	Verify Repair	