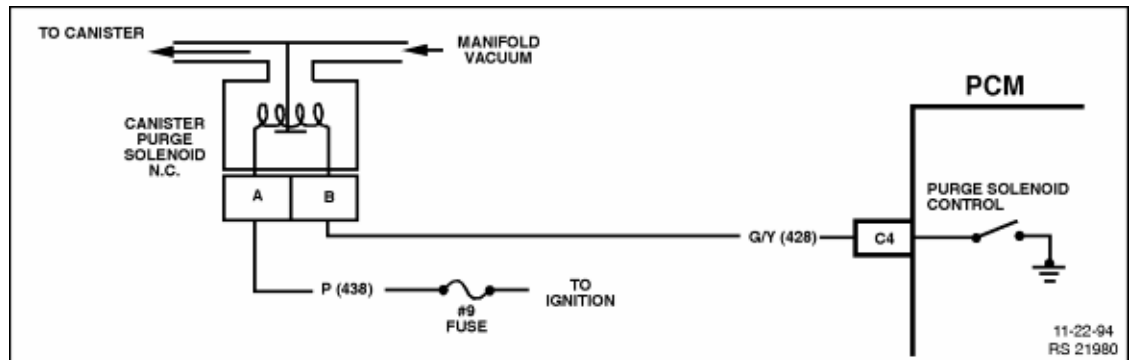


DTC 97 V6 PCM



CANISTER PURGE CIRCUIT FAULT

Circuit Description:

Quad Driver Modules (QDMs) are used by the PCM to turn "ON" many of the current-driven devices that are needed to control various engine and transmission functions. Each QDM is capable of controlling up to 4 separate outputs by applying earth to the device which the PCM is commanding "ON".

The Quad Driver Modules (QDMs) used has the capability of diagnosing each output circuit individually. DTC 97 set indicates an improper voltage level has been detected on the QDM fault line, which controls the Canister Purge Solenoid.

DTC 97 will set if:

Ignition "ON".

The QDM fault line has detected an improper voltage level on the Canister Purge Solenoid driver

When DTC 97 sets, the PCM will not illuminate the MIL (Check Powertrain Lamp) the first time the fault is detected and the PCM will store conditions which were present when the DTC set in DTC History Data.

DTC 97 will clear when:

The diagnostic test has been run and the fault is no longer present, OR

After 50 consecutive ignition cycles have occurred without a fault, OR

DTC 97 can be cleared by using the Tech 1 "Scan" tool.

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

2. Normally, ignition feed voltage present on the output driver circuit with the PCM disconnected and the ignition "ON".
3. Checks for a shorted component or a short to B+ or the Quad driver circuit. Either condition would result in a measured current of over 1.5 amps. Also checks for a component that is going open while being operated, resulting in a measured current of 0 amps.
4. Checks for a faulty Canister Purge Solenoid.

Diagnostic Aids:

Check for the following conditions:

Poor connection at PCM. Inspect harness connections for backed out terminals, improper mating, broken locks, improper formed or damaged

locks, improperly formed or damaged terminals, and poor terminal to wire connection.

Damaged harness. Inspect the wiring harness for damage. If the harness appears to be OK, disconnect the PCM, turn the ignition "ON" and observe a voltmeter connected to the Canister Purge Solenoid driver circuit at the PCM harness connector while moving connectors and wiring harness related to the Canister Purge Solenoid. A change in voltage will indicate the location of the fault.

If DTC 97 cannot be duplicated, the information included in the DTC History can be useful in determining how many ignition cycles have passed since the DTC was last set.

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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
2.	1. Ignition "OFF", disconnect the PCM. 2. Ignition "ON". 3. Using voltmeter, measure voltage between the Canister Purge Solenoid driver circuit at the PCM harness connector and earth. 4. Is voltage near the specified value?	B+	Go to Step 3	Go to Step 6
3.	1. Digital volt/ohmmeter set to 10 amp scale, install digital volt/ohmmeter to measure current between the Canister Purge Solenoid driver and earth. 2. Monitor the current reading on the digital volt/ohmmeter for at least 2 minutes. 3. Does the current reading remain between the specified values?	0.1 Amp To 1.5 Amps	Go to Step 11	Go to Step 4
4.	1. Disconnect the Canister Purge Solenoid (leave the PCM disconnected). 2. Using digital volt/ohmmeter, measure voltage between the Canister Purge Solenoid driver circuit and earth. 3. Is voltage at specified value?	0 volts	Go to Step 14	Go to Step 5
5.	. Locate and repair short to voltage in the Canister Purge Solenoid driver circuit. Is action complete?		Verify Repair	
6.	1. Check the ignition feed fuse for the Canister Purge Solenoid. 2. Is the fuse blown?		Go to Step 7	Go to Step 8
7.	1. Locate and repair short to earth in ignition feed circuit for the Canister Purge Solenoid. 2. Replace fuse. 3. Is action complete?		Verify Repair	
8.	1. Disconnect the Canister Purge Solenoid. 2. Ignition "ON". 3. Measure voltage between the ignition feed circuit for the Canister Purge Solenoid and earth. 4. Is voltage near the specified value?	B+	Go to Step 9	Go to Step 13
9.	1. Check the Canister Purge Solenoid driver circuit for		Verify Repair	Go to Step 10

	an open or a short to earth.		
	2. Was a problem found?		
10.	1. Check the Canister Purge Solenoid driver circuit and the ignition feed circuit for a poor connection at the Canister Purge Solenoid and the PCM.	Verify Repair	Go to Step 14
	2. Was a problem found?		
11.	1. Ignition "OFF", reconnect the PCM and disconnect the Canister Purge Solenoid.	Refer to "Diagnostic Aids" on facing page.	Go to Step 12
	2. Ignition "ON", connect a test light between the Canister Purge Solenoid driver circuit and the ignition feed circuit at the Canister Purge Solenoid connector.		
	3. Using the Tech 1 "Scan" tool, select F4: MISC TEST, F0: OUTPUTS, F4 PURGE, cycle the Canister Purge Solenoid "ON" and "OFF".		
	4. Does the test light flash "ON" and "OFF"?		
12.	1. Check the Canister Purge Solenoid driver for a poor connection at the PCM.	Verify Repair	Go to Step 15
	2. Was a problem found?		
13.	Locate and repair open ignition feed circuit to the Canister Purge Solenoid.	Verify Repair	
	Is action complete?		
14.	Replace Canister Purge Solenoid.	Verify Repair	
	Is action complete?		
15.	Replace the PCM.	Verify Repair	
	Is action complete?		

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CANISTER PURGE CIRCUIT FAULT

STEP	ACTION	VALUE	YES	NO
1.	Was the "On-Board Diagnostic" (OBD) System Check performed?		Go to Step 2	Go to OBD System Check
2.	1. Ignition "OFF", disconnect the PCM. 2. Ignition "ON". 3. Using voltmeter, measure voltage between the Canister Purge Solenoid driver circuit at the PCM harness connector and earth. 4. Is voltage near the specified value?	B+	Go to Step 3	Go to Step 6
3.	1. Digital volt/ohmmeter set to 10 amp scale, install digital volt/ohmmeter to measure current between the Canister Purge Solenoid driver and earth. 2. Monitor the current reading on the digital volt/ohmmeter for at least 2 minutes. 3. Does the current reading remain between the specified values?	0.1 Amp To 1.5 Amps	Go to Step 11	Go to Step 4
4.	1. Disconnect the Canister Purge Solenoid (leave the PCM disconnected). 2. Using digital volt/ohmmeter, measure voltage between the Canister Purge Solenoid driver circuit and earth. 3. Is voltage at specified value?	0 volts	Go to Step 14	Go to Step 5
5.	. Locate and repair short to voltage in the Canister Purge Solenoid driver circuit. Is action complete?		Verify Repair	
6.	1. Check the ignition feed fuse for the Canister Purge		Go to Step 7	Go to Step 8

6.	Solenoid.			
	2. Is the fuse blown?			
7.	1. Locate and repair short to earth in ignition feed circuit for the Canister Purge Solenoid.		Verify Repair	
	2. Replace fuse.			
	3. Is action complete?			
8.	1. Disconnect the Canister Purge Solenoid.	B+	Go to Step 9	Go to Step 13
	2. Ignition "ON".			
	3. Measure voltage between the ignition feed circuit for the Canister Purge Solenoid and earth.			
	4. Is voltage near the specified value?			
9.	1. Check the Canister Purge Solenoid driver circuit for an open or a short to earth.		Verify Repair	Go to Step 10
	2. Was a problem found?			
10.	1. Check the Canister Purge Solenoid driver circuit and the ignition feed circuit for a poor connection at the Canister Purge Solenoid and the PCM.		Verify Repair	Go to Step 14
	2. Was a problem found?			
11.	1. Ignition "OFF", reconnect the PCM and disconnect the Canister Purge Solenoid.		Refer to "Diagnostic Aids" on facing page.	Go to Step 12
	2. Ignition "ON", connect a test light between the Canister Purge Solenoid driver circuit and the ignition feed circuit at the Canister Purge Solenoid connector.			
	3. Using the Tech 1 "Scan" tool, select F4: MISC TEST, F0: OUTPUTS, F4 PURGE, cycle the Canister Purge Solenoid "ON" and "OFF".			
	4. Does the test light flash "ON" and "OFF"?			
12.	1. Check the Canister Purge Solenoid driver for a poor connection at the PCM.		Verify Repair	Go to Step 15
	2. Was a problem found?			
13.	Locate and repair open ignition feed circuit to the Canister Purge Solenoid.		Verify Repair	
	Is action complete?			
14.	Replace Canister Purge Solenoid.		Verify Repair	
	Is action complete?			
15.	Replace the PCM.		Verify Repair	
	Is action complete?			