

## DTC 82 V8 PCM

### 1-2 SHIFT SOLENOID "A" CIRCUIT FAULT

#### Circuit Description:

The PCM continually monitors voltage on each circuit connected to the "quad driver" module looking for either low or high voltage depending on the commanded state of the devices connected to it. Diagnostic Trouble Code 82 will set if there is a fault detected on the 1-2 shift solenoid "A" circuit. For example, if 1-2 shift solenoid "A" is commanded "ON" by the PCM, then voltage on that circuit should drop when the solenoid is earthed, if the voltage remains high for at least 2 seconds after the "ON" command is given, then Diagnostic Trouble Code 82 will be set. The opposite is also true if 1-2 shift solenoid "A" is "OFF" then the voltage on the circuit should remain high, if voltage drops for more than 2 seconds, then Diagnostic Trouble Code 82 will be set.

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

2. This test checks the PCM's ability to provide a earth for control of 1-2 shift solenoid "A".
3. This procedure checks 1-2 shift solenoid "A" and the transmission internal wiring harness for shorts.
4. This test checks for power to the 1-2 shift solenoid "A" from the ignition through the Fuse F12.
5. This test verifies that circuit 1222 is not shorted to earth.
6. The final test verifies that circuit 1222 is not open.

#### Diagnostic Aids:

Check all connections especially those at the transmission pass-thru connector. 1-2 shift solenoid "A" resistance should measure 20-40 ohms minimum when measured at 20 degrees C.

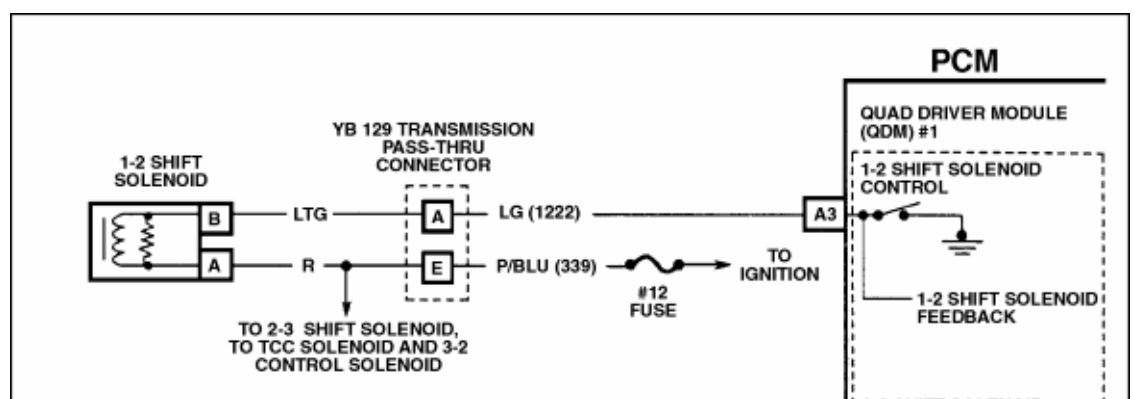
1-2 shift solenoid "A" current flow should not exceed 0.75 amps.

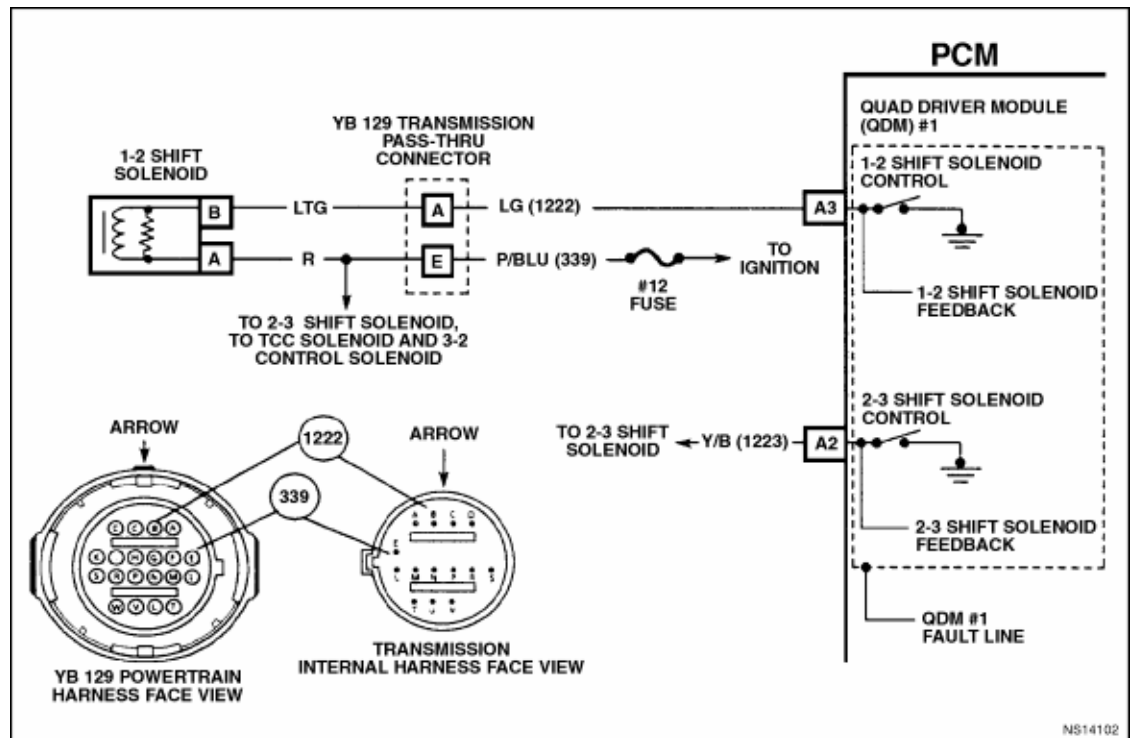
The shift solenoid should energise at a voltage of 7.5 volts or more (measured across the terminals). The shift solenoid should de-energise when voltage is one volt or less.

When Diagnostic Trouble Code 82 is set, the transmission will have no TCC, high line pressure and second or third gear only depending upon when the fault occurred.

If both solenoids lose power, third gear only will result, unless manual 2nd gear is selected.

GEAR	1-2 SHIFT SOLENOID	2-3 SHIFT SOLENOID
PARK, REVERSE, NEUTRAL	"ON"	"ON"
FIRST	"ON"	"ON"
SECOND	"OFF"	"ON"
THIRD	"OFF"	"OFF"
FOURTH	"ON"	"OFF"





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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 <a href="#">OBD System Check</a> .
2.	1. Install TECH 1 scan tool. 2. Record then clear DTCs. 3. Ignition "ON," Engine "OFF." 4. Using TECH 1 scan tool select: F2 TRANSMISSION F4 MISC TEST F1 SHIFT SOL A 5. Enable shift sol A "ON" and "OFF" three times, by pressing the UP and DOWN arrow keys, and listen to the rear of transmission oil pan for a clicking sound. 6. Does solenoid "click" when commanded from "OFF" to "ON"?		DTC 82 is intermittent. If no additional DTC's were stored, refer to "Diagnostic Aids" on facing page.	Go to Step 3
3.	1. Ignition "OFF." 2. Raise vehicle 3. Disconnect transmission pass-thru connector. 4. Connect jumper harness to transmission 5. Using an ohmmeter, measure resistance across terminals "A" and "E" at the free end of jumper harness. 6. Is the resistance more than the specified value?	20-40 ohms	Go to Step 4	Go to Step 9
4.	1. Disconnect jumper harness from transmission	Battery	Go to Step 5	

4.	and connect the other end into the Powertrain harness.	voltage		
	2. Ignition "ON".			
	3. Check voltage at terminal "E" of Powertrain harness.			
	4. Is voltage equal to specified value ?			
5.	1. With a test light connected to 12 volts, probe powertrain wiring harness terminal "A".		Go to Step 15	Go to Step 6
	2. Is test light illuminated ?			
6.	1. Ignition "OFF".		Go to Step 16	Go to Step 7
	2. Reconnect Powertrain wiring harness to transmission.			
	3. Backprobe PCM connector, circuit 1222 with a test light connected to +12 volts.			
	4. Ignition "ON".			
	5. Enable shift sol A "ON" with Tech 1 "Scan tool.			
	6. Is test light illuminated ?			
7.	1. Check for faulty PCM connection.		Verify Repair	
	2. Was a fault found ?			
8.	Replace faulty PCM.		Verify Repair	
	Is repair complete ?			
9.	Is resistance measured less than the specified value ?	20 ohms	Go to Step 10	Go to Step 12
10.	1. Check for short to earth in transmission internal harness.		Verify repair	Go to Step 11
	2. Was a fault found ?			
11.	Replace faulty 1-2 shift solenoid "A".		Verify repair	
	Is repair complete?			
12.	1. Check for faulty connection or open in transmission internal harness.		Verify repair	Go to Step 11
	2. Was a fault found ?			
13.	1. Check for short to earth in circuit 339 and/or replace faulty fuse F12.		Verify repair	Go to Step 14
	2. Was a fault found ?			
14.	Repair open in circuit 339.		Verify repair	
	Is repair complete ?			
15.	1. Check for short to earth on circuit 1222.		Verify repair	Go to Step 8
	2. Was a fault found ?			
16.	Repair faulty connection or open in circuit 1222.		Verify repair	
	Is repair complete ?			