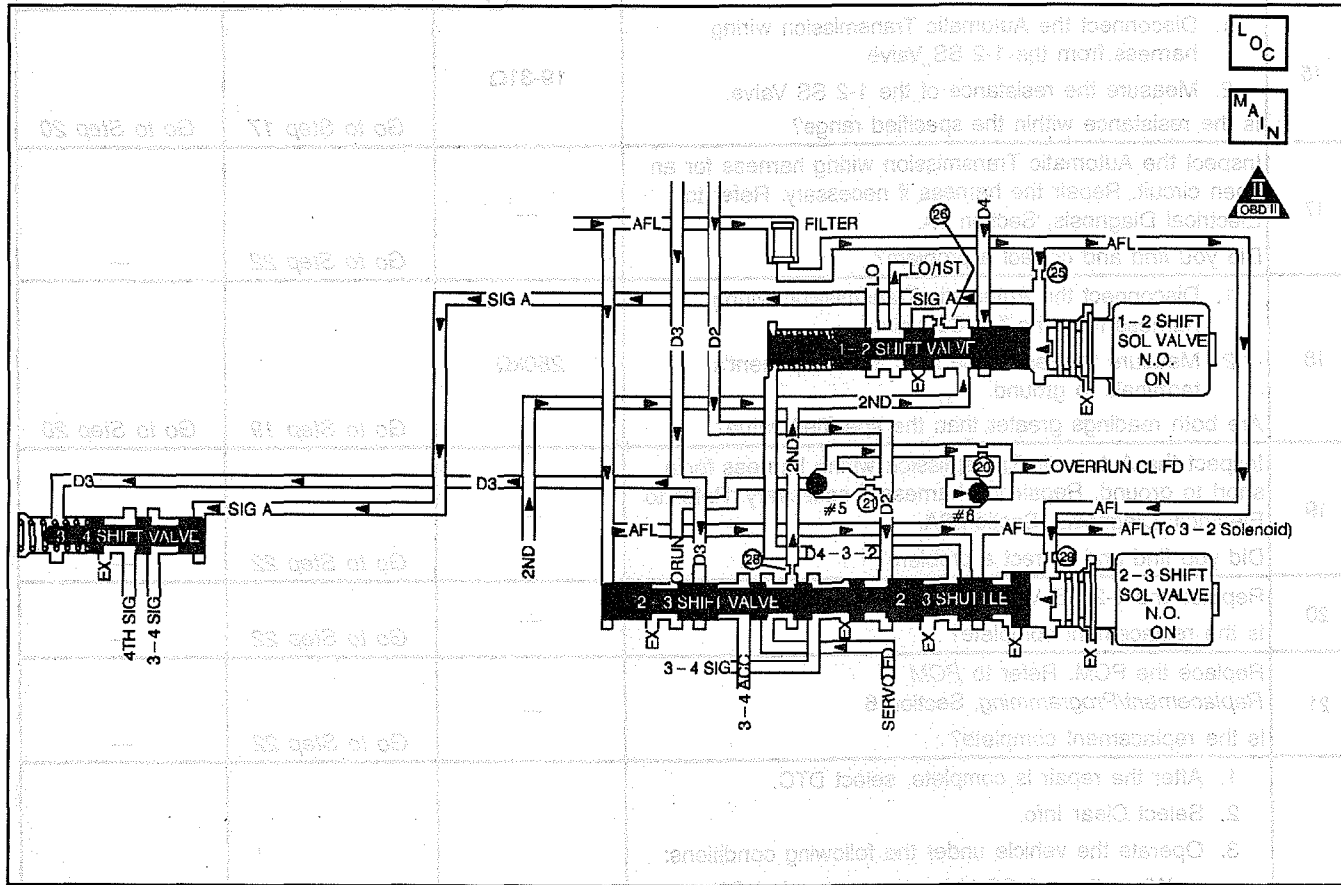


DTC P0756 2-3 (B) Shift Solenoid Performance 3.8L (VIN K)



42270

Circuit Description

The 2-3 Shift Solenoid Valve (2-3 SS Valve) controls the fluid flow acting on the 2-3 shift valves. The solenoid is a normally-open exhaust valve. The combination of the 2-3 SS Valve and the 1-2 Shift Solenoid Valve allows four different shift combinations.

When the PCM detects a 1-2-2-1 only shift pattern or a 4-3-3-4 only shift pattern depending on the mechanical failure, then DTC P0756 sets. DTC P0756 is a type B DTC.

Conditions for Setting the DTC

- No TP DTCs P0122 or P0123
- No VSS DTC P0502
- No TFT Sensor DTCs P0712 or P0713
- No TFP Valve Position Switch DTC P1810
- The vehicle speed is greater than 32 km/h (20 mph).
- The gear range is D4, D3, D2 or D1.
- The engine speed is greater than 400 RPM for 8 seconds and not in fuel cutoff.
- The transmission fluid temperature is greater than 20° (68°F).

1. All of the above conditions are met and either one of the following fail-conditions occurs:

Condition 1

- The TP angle is greater than 45%.
- First gear is commanded.
- The speed ratio is less than 115 (speed ratio is engine speed ÷ output speed).
- All conditions are met for 1 second.

Condition 2

- The TP angle is greater than 18%.
- Fourth gear is commanded.
- The speed ratio is greater than 100 (speed ratio is engine speed ÷ output speed).
- Third gear speed ratio is greater than the last 2nd gear speed ratio minus 0.2.
- Third gear TCC slip speed is greater than or equal to the last 2nd gear TCC slip speed plus 200 RPM for 1.3 seconds.
- Discontinue the test if the time since shift commanded is 6 seconds.
- All conditions are met for 2 seconds.

Action Taken When the DTC Sets

The PCM illuminates the Malfunction Indicator Lamp (MIL).

Conditions for Clearing the MIL/DTC

A scan tool can clear the DTC from the PCM history. The PCM clears the DTC from the PCM history if the vehicle completes 40 warm-up cycles without a failure reported.

Diagnostic Aids

- Verify that the transmission meets the specifications in the *Shift Speed*.
- Other internal transmission failures may cause more than one shift to occur.

Gear	1-2 Shift Solenoid	2-3 Shift Solenoid
1	ON	ON
2	OFF	ON
3	OFF	OFF
4	ON	OFF

Test Description

The numbers below refer to the step numbers on the diagnostic chart.

2. Step 2 verifies that the TFP Valve Position Switch is functioning normally.
3. Step 3 tests for a selected gear ratio vs a ratio not obtainable under normal driving conditions.

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Step	Action	Value(s)	Yes	No
1	Was the Powertrain On-Board Diagnostic (OBD) System Check performed?	—	Go to Step 2	Go to Powertrain OBD System Check
2	1. Install the scan tool. 2. With the engine OFF, turn the ignition switch to the RUN position. Important: Before clearing the DTCs, use the scan tool in order to record the Freeze Frame and Failure Records for reference. The Clear Info function will erase the data. 3. Record the DTC Freeze Frame and Failure Records. 4. While the engine is operating, apply the brake pedal and select each transmission range Low, Dr 2, Dr 3, Overdrive, Reverse, and Park. Does each selected transmission range match the TR Switch on the scan tool?	—	Go to Step 3	Go to Pressure Switch Assembly Resistance Check
3	1. While the engine is operating, raise the drive wheels. 2. With the transmission in D4 range, use the scan tool in order to command 1st, 2nd, 3rd, and 4th gears while accelerating the vehicle. Was 1st gear commanded and not achieved, or 4th gear commanded and other than 4th gear occurred? (Road testing the vehicle may be necessary).	—	Go to Step 4	Go to Diagnostic Aids
4	Check the shift circuit for the following conditions: <ul style="list-style-type: none"> • An internal malfunction in the shift solenoids. • Damaged seals on the shift solenoids. • Refer to the diagnosis charts. Did you find and correct a problem?	—	Go to Step 5	—

DTC P0756 2-3 (B) Shift Solenoid Performance 3.8L (VIN K) (cont'd)

Step	Action	Value(s)	Yes	No
5	1. After the repair is complete, select DTC. 2. Select Clear Info. 3. Operate the vehicle under the following conditions (only if driving conditions allow you): <ul style="list-style-type: none"> • Hold the throttle at above 45% and accelerate to 88 km/h (55 mph). If the throttle moves more than 3%, stop the vehicle and start again. • Hold the throttle at above 18% and accelerate to 88 km/h (55 mph). 4. Select Specific DTC. Enter DTC P0756. Has the test run and passed?	—	System OK	Begin the diagnosis again. Go to Step 1

DTC P0756 2-3 (B) Shift Solenoid Performance 3.8L (VIN K)

Step	Action	Value(s)	Yes	No
1	Was the Powertrain On-Board Diagnostics (OBD) System Check performed?			
2	1. Install the scan tool. 2. With the engine OFF, turn the ignition switch to the RUN position. Important: Before clearing the DTCs, use the scan tool in order to record the Freeze Frame and Failure Records for reference. The Clear Info function will erase the data. 3. Record the DTC Freeze Frame and Failure Records. 4. While the engine is operating, apply the brake pedal and select each transmission range Low, D, 2, D, 3, Overdrive, Reverse, and Park. Does each selected transmission range match the TR Switch on the scan tool?			
3	1. While the engine is operating, raise the drive wheels. 2. With the transmission in D4 range, use the scan tool in order to command 1st, 2nd, 3rd, and 4th gears while accelerating the vehicle. Was 1st gear commanded and not achieved, or 4th gear commanded and other than 4th gear occurred? (Road testing the vehicle may be necessary.)			
4	Check the shift control for the following conditions: <ul style="list-style-type: none"> • An internal malfunction in the shift solenoids • Damaged seals on the shift solenoids • Refer to the diagnostic charts Did you find and correct a problem?			

Condition 2

- The TP angle is between 13 and 55%.
- The TP angle is within +/- 3%.
- Third gear is commanded for 1 second.
- Third gear speed ratio is greater than the last 2nd gear speed ratio minus 0.2.
- Third gear TCC slip speed is greater than or equal to the last 2nd gear TCC slip speed plus 200 RPM for 1.3 seconds.
- Discontinue the test if the time since shift commanded is greater than 5 seconds.

Condition 3

- TP angle is greater than 18%.
- Fourth gear is commanded for 1 second.
- Speed ratio is between 2.05 and 8 (speed ratio is engine speed ÷ output speed).
- Transmission output speed is 0-8191 RPM.
- TCC slip speed is 1000-4000 RPM for 3 second.

- A scan tool can clear the DTC from the PCM history. The PCM clears the DTC from the PCM history if the vehicle completes 40 warm-up cycles without a failure reported.
- The PCM cancels the DTC default actions when the fault no longer exists and the ignition is OFF long enough in order to power down the PCM.

Diagnostic Aids

- Verify that the transmission meets the specifications in the *Shift Speed*.
- Other internal transmission failures may cause more than one shift to occur.

Gear	1-2 Shift Solenoid	2-3 Shift Solenoid
1	ON	ON
2	OFF	ON
3	OFF	OFF
4	ON	OFF

Action Taken When the DTC Sets

- The PCM commands maximum line pressure.
- The PCM freezes shift adapts from being updated.
- The PCM illuminates the Malfunction Indicator Lamp (MIL).

Test Description

The numbers below refer to the step numbers on the diagnostic chart.

2. Step 2 verifies that the TFP Valve Position Switch is functioning normally.
3. Step 3 tests for a selected gear ratio vs a ratio not-obtainable under normal driving conditions.

Conditions for Clearing the MIL/DTC

- The PCM turns OFF the MIL after three consecutive ignition cycles without a failure reported.

DTC P0756 2-3 (B) Shift Solenoid Performance 5.7L (VIN P)

Step	Action	Value(s)	Yes	No
1	Was the Powertrain On-Board Diagnostic (OBD) System Check performed?	—	Go to Step 2	Go to <i>Powertrain OBD System Check</i>
2	1. Install the scan tool. 2. With the engine OFF, turn the ignition switch to the RUN position. Important: Before clearing the DTCs, use the scan tool in order to record the Freeze Frame and Failure Records for reference. The Clear Info function will erase the data. 3. Record the DTC Freeze Frame and Failure Records. 4. While the engine is operating, apply the brake pedal and select each transmission range Low, Dr 2, Dr 3, Overdrive, Reverse, and Park. Does each selected transmission range match the TR Switch on the scan tool?	—	Go to Step 3	Go to <i>Pressure Switch Assembly Resistance Check</i>