

P0756 Shift Solenoid (SS) 2 Valve Performance – Stuck Off

Diagnostic Instructions

- Perform the Diagnostic System Check – Vehicle on page 6-60 prior to using this diagnostic procedure.
- Review Strategy Based Diagnosis on page 6-57 for an overview of the diagnostic approach.
- Diagnostic Procedure Instructions on page 6-58 provides an overview of each diagnostic category.

DTC Descriptor

DTC P0756: Shift Solenoid (SS) 2 Valve Performance – Stuck Off

Circuit/System Description

The shift solenoid (SS) valve 2 is part of the lower control valve body. The SS valve 2 is a normally closed (NC) solenoid valve and controls fluid to the clutch select valve 3 and related clutches. During this diagnostic test, intrusive actions are taken by the transmission control module (TCM) to test the SS valve 2 to see if the valve is stuck OFF. When in first gear engine braking, if first gear ratio is not achieved in a predetermined period of time, the TCM commands second gear and if second gear ratio is attained this indicates a stuck OFF SS valve 2 and the DTC will set.

Conditions for Running the DTC

- No ISS DTCs P0716 or P0717.
- No OSS DTCs P0722 or P0723.
- No IMS DTCs P1825 or P1915.
- The high side driver is enabled.
- The ignition voltage is between 8.6 volts and 19.0 volts.
- Throttle position is 10 percent or greater.
- Engine torque is greater than 120 N·m (89 lb ft).
- Transmission fluid temperature (TFT) is 0°C (32°F) or greater.

Conditions for Setting the DTC

Fail Case 1 and Fail Case 2 must occur in sequential order:

Fail Case 1

Commanded gear equals first lock or first freewheel and gearbox slip is 100 RPM or greater.

Fail Case 2

Commanded gear equals second and second gear box slip is 35 RPM or less or gear box slip is 100 RPM or less and shift time-out occurs and PC Sol 4 commanded pressure is at maximum.

Action Taken When the DTC Sets

- DTC P0756 is a Type A DTC.
- Inhibit high gear in Hot Mode.
- The TCM inhibits TCC.
- The TCM freezes transmission adaptive functions.

Conditions for Clearing the DTC

DTC P0756 is a Type A DTC.

Reference Information

Schematic Reference

Automatic Transmission Controls Schematics on page 17-8

Connector End View Reference

Component Connector End Views on page 11-211

Description and Operation

Transmission General Description on page 17-278

Electrical Information Reference

- Circuit Testing on page 11-456

- Connector Repairs on page 11-478
- Testing for Intermittent Conditions and Poor Connections on page 11-460
- Wiring Repairs on page 11-465

DTC Type Reference

Powertrain Diagnostic Trouble Code (DTC) Type Definitions on page 6-61

Scan Tool Reference

Control Module References on page 6-1 for scan tool information

Special Tools

- DT-47825 Control Solenoid Test Plate
- J 21867 Pressure Gage

Circuit/System Verification

- 1). Perform the Transmission Fluid Check on page 17-102 to verify correct fluid level and condition. The transmission fluid level should be within the crosshatch band and the transmission fluid should be red or dark brown. If the transmission fluid is low or discolored, refer to Transmission Fluid Replacement on page 17-151.
- 2). Engine idling at operating temperature. Attempt to clean or free up a potential sticking valve with the scan tool Service Cleaning Procedure. Refer to Control Solenoid Valve and Transmission Control Module Assembly Cleaning on page 17-99 for further instructions.
- 3). From a stop, accelerate to 56 km/h (35 mph) with the calculated throttle position greater than 15 percent. Perform this test 2 times. The DTCs should not set.
- 4). Operate the vehicle within the Conditions for Running the DTC to verify the DTC does not reset. You may also operate the vehicle within the conditions that you observed from the Freeze Frame/Failure Records data.

Circuit/System Testing

- 5). Ignition OFF, remove the line pressure test hole plug and install the J 21867 to the transmission.
- 6). Perform the Line Pressure Check on page 17-103. Verify the transmission line pressure gage is within the range specified in the Line PC Solenoid Valve Pressure table. Refer to Solenoid Valve Pressure on page 17-6.

If not within the specified range, repair as necessary. Refer to Fluid Pressure High or Low on page 17-129 for further diagnosis.

- 7). Ignition OFF, remove the control solenoid (w/body and TCM) valve assembly.
- 8). Install the DT-47825 to the control solenoid (w/body and TCM) valve assembly. Refer to Control Solenoid Valve and Transmission Control Module Assembly Solenoid Performance Test on page 17-100 for detailed instructions.
- 9). Perform the Control Solenoid Valve and Transmission Control Module Assembly Solenoid Performance Test on page 17-100. A pressure change should occur.

If a pressure change does not occur, replace the control solenoid (w/body and TCM) valve assembly.

- 10). Inspect for the following conditions and repair/replace as necessary:
 - The control valve lower body assembly for sticking valves, damage, scored bores, or debris
 - The clutch select valve 3 for damage

Repair Instructions

Important:

- Perform the Service Fast Learn Adapts on page 17-102 following all transmission related repairs.
- Before replacing the TCM, perform the Control Solenoid Valve and Transmission Control Module Assembly Inspection on page 17-98. Perform the Diagnostic Repair Verification on page 6-86 after completing the diagnostic procedure. Control Module References on page 6-1 for control solenoid (w/body and TCM) valve assembly replacement, setup, or programming