

# P0815, P0816, or P0826 Upshift Switch Circuit

## 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 Descriptors

**DTC P0815:** Upshift Switch Circuit

**DTC P0816:** Downshift Switch Circuit

**DTC P0826:** Up and Down Shift Switch Circuit

## Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Tap Upshift Switch	P0826	P0826	P0815	—
Tap Downshift Switch	P0826	P0826	P0816	—
Up and Down Shift Switch	P0826	P0826	P0826	—

## Circuit/System Description

The transmission adaptive pressure (TAP) shift system allows the driver to manually shift gears by using the TAP shift switches located on the automatic transmission shifter. Pushing the Up switch will command an upshift and pushing the Down switch will command a downshift. The TAP shift system is activated when the gear selector is in the manual L (M) position. In the L (M) range position, the TAP enable switch is closed and this activates the system by completing the TAP enable signal circuit from the BCM to ground. TAP system is deactivated in all other range positions.

## Conditions for Running the DTC

### P0815 or P0816

- No TAP system DTC P0826.
- No IMS DTCs P1825 or P1915.
- The time since the last gear selector range change is greater than 6 seconds.
- The engine speed is greater than 500 RPM for at least 5 seconds.
- The ignition voltage is between 8.6–19.0 volts.

### P0826

- The engine speed is greater than 500 RPM for at least 5 seconds.
- The ignition voltage is between 8.6–19.0 volts.

## Conditions for Setting the DTC

### P0815

The TCM detects an upshift request for 3 seconds or greater in PARK and TCM detects an upshift request for 600 seconds in D4 or D6.

### P0816

The TCM detects a downshift request for 3 seconds in PARK and the TCM detects a downshift request for 600 seconds in D4 or D6.

### P0826

The TCM detects an invalid voltage on the TAP up/down signal circuit for 8 seconds or greater.

## Action Taken When the DTC Sets

- DTCs P0815, P0816, and P0826 are Type C DTCs.
- The TCM disables TAP shift operation.

## Conditions for Clearing the DTC

DTCs P0815, P0816, and P0826 are Type C DTCs.

## 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

## **Circuit/System Verification**

- 1). Ignition ON, transmission shift lever in L (M), observe the scan tool Driver Shift Request parameter. The reading should display None.
- 2). Observe the scan tool Driver Shift Request parameter while pressing the tap-up and tap-down switch. The reading should change between Upshift and Downshift.
- 3). 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**

- 4). Ignition OFF, disconnect the harness connector at the transmission shift lever.
- 5). Ignition ON, verify that a test lamp illuminates between the ignition circuit terminal C and ground.

If the test lamp does not illuminate, test the IGN circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the BCM.

- 6). Verify the scan tool Driver Shift Request parameter indicates Invalid.

If other than the specified value, test the signal circuit for a short to voltage. If the circuit tests normal, replace the BCM.

- 7). Ignition OFF, test for 300–600 ohms between the signal circuit terminal B and ground.

If less than the specified range, test the signal circuit for a short to ground. If the circuit tests normal, replace the BCM.

If greater than the specified range, test the

- 8). signal circuit for an open/high resistance. If the circuit tests normal, replace the BCM.

If all circuits test normal, test or replace the transmission control.

## Component Testing

- 1). Ignition OFF, disconnect the harness connector at the transmission control.
- 2). Test for 8.1–8.4 K ohms between terminals C and F.

If not within the specified range, replace the transmission control.

- 3). Test for 2.6–3.2 K ohms between terminals C and F while pressing the upshift button.

If not within the specified range, replace the transmission control.

- 4). Test for 1.0–1.6 K ohms between terminals C and F while pressing the downshift button.

If not within the specified range, replace the transmission control.

## 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 body control module (BCM) or control solenoid (w/body and TCM) valve assembly replacement, setup, and programming

- Transmission Control Replacement (Acadia) on page 17-143 or  
Transmission Control Replacement (Enclave) on page 17-144 or  
Transmission Control Replacement (OUTLOOK) on page 17-145

LAUNCH