P1876 Up and Down Shift Enable Switch Circuit Low Voltage

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 P1876: Up and Down Shift Enable Switch Circuit Low Voltage

Circuit/System Description

The 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 L (M) position and is deactivated in all other positions.
If the transmission control module (TCM) detects TAP enable switch Active and the IMS switch does not indicate L (M), DTC P1876 sets. DTC P1876 is a type C DTC.

Conditions for Running the DTC

- No TAP system DTCs P0815, P0816, or P0826.
- No IMS DTCs P1825 or P1915.
- No Communication DTC U0100.
- The engine speed is greater than 500 RPM for 5 seconds.
- The ignition voltage is between 8.6 volts and 19.0 volts.

Conditions for Setting the DTC

The Tap Up/Tap Down switch signal is Active when the IMS does not indicate L (M) for 2 seconds or greater 3 times during the same ignition cycle.

Action Taken When the DTC Sets

- DTC P1876 is a Type C DTC.
- The TCM disables Tap shift functions.

Conditions for Clearing the DIC/DTC

DTC P1876 is a Type C 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
- Electronic Component Description on page 17-279

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). Verify there are no IMS DTCs set.

If IMS DTCs are set, diagnose them first.

2). Ignition ON, transmission in Park, observe the scan tool Driver Shift Control parameter. The reading should display Inactive.
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 A 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 not the specified value, 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 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 shift lever.

Component Testing

8). Ignition OFF, disconnect the harness connector at the transmission control.
9). Test for 6.74–6.94 k ohms between terminals A and B.
If not within the specified range, replace the transmission control.
10). Test for 1.77–1.97 k ohms between terminals A and B while pressing the upshift button.
If not within the specified range, replace the transmission control
11). Test for 3.87–4.07 k ohms between terminals A and B 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.
- 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 for AT TAP shift switch replacement.
- 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