P0842, P0843, P0872, P0873, P0877, P0878, P0989, or P0990 Transmission Fluid Pressure (TFP) Switch 1 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 P0842: Transmission Fluid Pressure (TFP) Switch 1 Circuit Low Voltage

DTC P0843: Transmission Fluid Pressure (TFP) Switch 1 Circuit High Voltage

DTC P0872: Transmission Fluid Pressure (TFP) Switch 3 Circuit Low Voltage

DTC P0873: Transmission Fluid Pressure (TFP) Switch 3 Circuit High Voltage

DTC P0877: Transmission Fluid Pressure (TFP) Switch 4 Circuit Low Voltage

DTC P0878: Transmission Fluid Pressure (TFP) Switch 4 Circuit High Voltage

DTC P0989: Transmission Fluid Pressure (TFP) Switch 5 Circuit Low Voltage

DTC P0990: Transmission Fluid Pressure (TFP) Switch 5 Circuit High Voltage

Typical Scan Tool Data

Circuit	Short to Ground	Open/High Resistance	Short to Voltage
Operating Conditions: Engine running, normal operating temperature Parameter Normal Range: 12 Volts = Hi, 0 Volts = Low			
TFP Switch 1	Low	Hi	Hi
TFP Switch 3	Low	Hi	Hi
TFP Switch 4	Low	Hi	Hi
TFP Switch 5	Low	Hi	Hi

Circuit/System Description

The transmission fluid pressure (TFP) switch assembly is part of the control solenoid (w/body and TCM) valve assembly and is not serviced separately. The TCM supplies 12 volts to each TFP switch via its respective signal circuit. The TFP switch assembly has an internal case ground. Each TFP switch is normally closed, Low. When oil pressure is present at the TFP switch, the switch is Open, High. The TCM monitors each normally closed TFP switch signal circuit to determine clutch status.

Conditions for Running the DTC

- No TFT DTCs P0711, P0712, or P0713.
- No pressure control solenoid electrical DTCs P0965, P0966, P0967, P0969, P0970, P0971, P2719, P2720, P2721, P2728, P2729, or P2730.
- No shift solenoid electrical DTCs P0973, P0974,P0976, or P09770.
- No IMS DTCs P1825 or P1915.
- The engine speed is 1,100 RPM or greater.
- Ignition voltage is between 8.6–19.0 volts.
- The transmission fluid temperature (TFT) is 20– 150°C (68–302°F).

Conditions for Setting the DTC

P0842

The TCM detects that the TFP switch 1 signal voltageremains low, 0 volts when the 3-5-R clutch is commanded ON for 5.5 seconds or greater.

P0843

The TCM detects that the TFP switch 1 signal voltage is high, 12 volts when the 3-5-R clutch is commanded OFF for 5.5 seconds or greater.

P0872
The TCM detects that the TFP switch 3 signal voltage remains low, 0 volts when the 2-6 clutch is commanded ON for 5.5 seconds or greater.

P0873
The TCM detects that the TFP switch 3 signal voltage is high, 12 volts when the 2-6 clutch is commanded OFF for 5.5 seconds or greater.

P0877
The TCM detects that the TFP switch 4 signal voltage remains low, 0 volts when the 1-2-3-4 clutch is commanded ON for 5.5 seconds or greater.

P0878
The TCM detects that the TFP switch 4 signal voltage is high, 12 volts when the 1-2-3-4 clutch is commanded OFF for 5.5 seconds or greater.

P0989
The TCM detects that the TFP switch 5 signal voltage remains low, 0 volts when the low and reverse clutch or the 4-5-6 clutch is commanded ON for 5.5 seconds or greater.

P0990
The TCM detects that the TFP switch 5 signal voltage is high, 12 volts when the low and reverse clutch or the 4-5-6 clutch is commanded OFF for 5.5 seconds or greater.

Action Taken When the DTC Sets

- DTCs P0842, P0843, P0872, P0873, P0877, P0878, P0989, and P0990 are Type C DTCs.
- The TCM freezes transmission adaptive functions.

Conditions for Clearing the DTC

DTCs P0842, P0843, P0872, P0873, P0877, P0878, P0989, and P0990 are Type C DTCs.

Reference Information

Schematic Reference
Automatic Transmission Controls Schematics on page 17-8

Description and Operation

- Transmission General Description on page 17-278
- Electronic Component Description on page 17-279 for control solenoid (w/body and TCM) valve assembly

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). If there are any other transmission related DTCs set, diagnose those DTCs first. Refer to Diagnostic Trouble Code (DTC) List - Vehicle on page 6-62.
2). Engine idling, parking brake applied, range selector in L (M), command the Shift Transmission with a scan tool to achieve 2nd gear.
3). Observe the suspect scan tool TFP Switch parameter while commanding the Shift Transmission with a scan tool to achieve 5th gear. Each TFP Switch parameter should togglestates (from High to Low or Low to High) between 2nd and 5th gear.

If the specified parameter does not toggle, replace the control solenoid (w/body and TCM) valve assembly.

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