

P2728-P2730 Clutch Pressure Control (PC) Solenoid 5 System

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 P2728: Clutch Pressure Control (PC) Solenoid 5 System Performance

DTC P2729: Clutch Pressure Control (PC) Solenoid 5 Control Circuit Low Voltage

DTC P2730: Clutch Pressure Control (PC) Solenoid 5 Control Circuit High Voltage

Circuit/System Description

The clutch pressure control (PC) solenoid 5 is part of the control solenoid (w/body and TCM) valve assembly and is not serviced separately. The TCM supplies 12 volts to the clutch PC solenoid 5 through the high side driver 2 circuit. The TCM control the clutch PC solenoid 5 through the clutch PC solenoid 5 control circuit. The normally low clutch PC solenoid 5 flows fluid to the 1-2-3-4 clutch when commanded ON and exhausts fluid when commanded OFF. The clutch PC solenoid 5 regulates the transmission fluid pressure to the 1-2-3-4 clutch.

Conditions for Running the DTC

P2728

- DTC P2728 has not failed this ignition cycle.
- The engine run time is greater than 5 seconds.
- The ignition voltage is between 8.6–19.0 volts.

P2729

- DTC P2729 has not failed this ignition cycle.
- The engine run time is greater than 5 seconds.
- The ignition voltage is between 8.6–19.0 volts.

P2730

- DTC P2730 has not failed this ignition cycle.
- The engine run time is greater than 5 seconds.
- The ignition voltage is between 8.6–19.0 volts.

Conditions for Setting the DTC

P2728

The TCM detects an invalid voltage in the clutch PC solenoid 5 control circuit for 4.4 seconds or greater in a 5.0 second sample.

P2729

The TCM detects low voltage on the clutch PC solenoid 5 control circuit for 300 milliseconds or greater in a 375 millisecond sample.

P2730

The TCM detects high voltage on the clutch PC solenoid 5 control circuit for 300 milliseconds or greater in a 375 millisecond sample.

Action Taken When the DTC Sets

P2728

- DTC P2728 is a Type C DTC.
- The TCM freezes transmission adaptive functions.

P2729 and P2730

- DTCs P2729 and P2730 are Type A DTCs.
- The TCM forces High Side Drive 1 and 2 OFF.
- The TCM inhibits the TCC.
- The TCM commands maximum line pressure.
- The TCM freezes transmission adaptive functions.

Conditions for Clearing the DTC

- DTC P2728 is a Type C DTC.
- DTCs P2729 and P2730 are Type A DTCs.

Reference Information

Description and Operation

Transmission General Description on page 17-278

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 Verification

- 1). Ensure the transmission fluid temperature is between 50–80°C (122–176°F).
- 2). Perform the Control Solenoid Valve and Transmission Control Module Assembly Cleaning on page 17-99 to dislodge debris and free up the valves.
- 3). Operate the vehicle in 2nd gear long enough at least a 3°C (5°F) rise in TCM temperature.
- 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.

If the DTC does not reset, 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 Solenoid Valve and Transmission Control Module Assembly Cleaning on page 17-99
- Control Module References on page 6-1 for control solenoid (w/body and TCM) valve assembly replacement, setup, and programming