

Number of Trips to Set Code: 1

OBD II Monitor Type: [CCM Details](#)

Indicators: [MIL Details](#)

- [CCM Details](#)
- [MIL Details](#)

Trouble Code Conditions:

DTC P0500, P0502 and P0503 not set, engine started, engine load and vehicle acceleration indicate vehicle is in gear and moving, and the ECM detected a VSS signal indicating the vehicle went from 0 to over 24 MPH and then back to 0 MPH within 2 seconds without the ECM detecting a change in the Clutch Anticipate switch circuit.

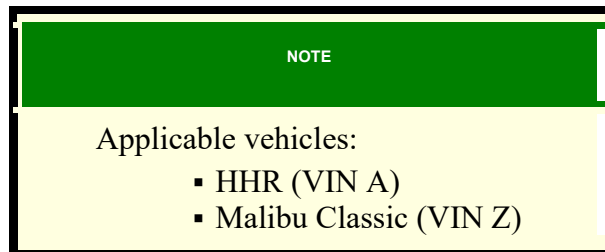
Note: This fault must occur 7 times before ECM will set this code.

Possible Causes:

- Clutch switch circuit is open, shorted to ground or to power
- Clutch switch power circuit is open (test the ENG IGN fuse)
- Clutch switch is out of adjustment, damaged or has failed
- ECM has failed

PATH: [Diagnostics](#) > [Diagnostic Routines](#) > [Powertrain](#) > [Engine Controls and Fuel](#)
- 2.2L (L61) > DTC P0700

DTC P0700



DTC P0700

Diagnostic Instructions

- Perform the [Diagnostic System Check - Vehicle](#) prior to using this diagnostic procedure.
- Review Strategy Based Diagnosis for an overview of the diagnostic approach.
- [Diagnostic Procedure Instructions](#) provides an overview of each of the diagnostic category.

DTC Descriptor

DTC **P0700**: Transmission Control Module (TCM) Requested MIL Illumination

Circuit/System Description

The transmission control module (TCM) uses the controller area network (CAN) to signal the engine control module (ECM) that the TCM is requesting

malfunction indicator lamp (MIL) illumination. This happens when the TCM has determined that a failure that affects emissions has occurred in transmission control system. When the ECM receives the correct message from the TCM, DTC **P0700** will set.

Conditions for Running the DTC

The ignition is ON.

Conditions for Setting the DTC

The TCM is requesting MIL illumination.

Action Taken When the DTC Sets

DTC **P0700** is a Type A DTC.

Conditions for Clearing the MIL/DTC

DTC **P0700** is a Type A DTC.

Diagnostic Aids

DTC **P0700** can not be cleared from the ECM until the related TCM codes have been cleared.

Reference Information

DTC Type Reference

Powertrain Diagnostic Trouble Code (DTC) Type Definitions

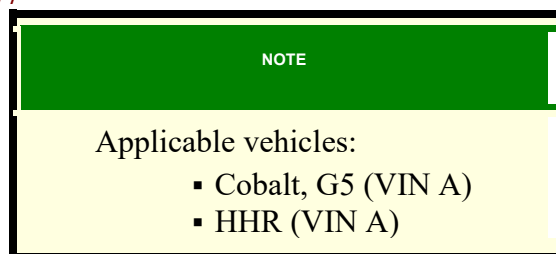
Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

Refer to **Diagnostic Trouble Code (DTC) List - Vehicle** to correct any transmission DTCs.

PATH: **Diagnostics > Diagnostic Routines > Powertrain > Automatic Transaxle - 4T45-E > DTC P0976 or P0977**

DTC P0976 or P0977



DTC P0976 or P0977

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review Strategy Based Diagnosis for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

DTC Descriptors

DTC P0976: 2-3 Shift Solenoid (SS) Control Circuit Low Voltage

DTC **P0977**: 2-3 Shift Solenoid (SS) Control Circuit High Voltage

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage
Ignition 1 Voltage	P0973, P0976, P2764	P0973, P0976, P2764	--
1-2 SS Valve Control	P0973	P0973	P0974
2-3 SS Valve Control	P0976	P0976	P0977
TCC PWM Valve Control	P2764	P2764	P2763

Typical Scan Tool Data

2-3 Shift Solenoid (SS) Control Circuit Parameter Data

Circuit	Normal	Short to Ground	Open/High Resistance	Short to Voltage
Operating Conditions: Engine running, normal operating temperature Parameter Normal Range: OK				
1-2 Sol. CKT Status	OK	Open/Short to GND	Open/Short to GND	Short to Volts
2-3 Sol. CKT Status	OK	Open/Short to GND	Open/Short to GND	Short to Volts
TCC Duty Cycle CKT Status	OK	Open/Short to GND	Open/Short to GND	Short to Volts

Circuit/System Description

The 1-2 shift solenoid (SS) valve and the 2-3 SS valves control transmission fluid pressure acting on the shift valves to position the valves for the appropriate gear. The 1-2 SS and the 2-3 SS valves are normally-open exhaust valves located on the control valve body. A fused circuit supplies ignition voltage to the 1-2 SS valve and the 2-3 SS valve. The transmission control module (TCM) commands the solenoid ON or OFF by switching the ground path. When the 1-2 SS valve or the 2-3 SS valve is commanded ON, the TCM senses low voltage. When the 1-2 SS valve or the 2-3 SS valve is commanded OFF, the TCM senses high voltage.

Conditions for Running the DTC

The engine speed is greater than 500 RPM for 2 seconds.

Conditions for Setting the DTC

P0976

The TCM detects an open or short to ground on the 2-3 SS valve control circuit for 4.4 seconds.

P0977

The TCM detects a short to voltage on the 2-3 SS valve control circuit for 4.4 seconds.

Action Taken When the DTC Sets

P0976

- DTC P0976 is a Type A DTC.
- The TCM inhibits 1st and 4th gear.
- The TCM commands maximum line pressure.
- The TCM freezes transmission adaptive functions.

P0977

- DTC **P0977** is a Type A DTC.
- The TCM inhibits 4th gear.
- The TCM commands maximum line pressure.
- The TCM freezes transmission adaptive functions.

Conditions for Clearing the DTC

DTCs P0976 and **P0977** are Type A DTCs.

Reference Information

Schematic Reference

Automatic Transmission Controls Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Electronic Component Description for Shift Solenoid Valves 1-2 and 2-3 information

Electrical Information Reference

- Circuit Testing
- Connector Repairs
- [Testing for Intermittent Conditions and Poor Connections](#)
- Wiring Repairs

DTC Type Reference

[Powertrain Diagnostic Trouble Code \(DTC\) Type Definitions](#)

Scan Tool Reference

[Control Module References](#) for scan tool information

Special Tools

J 44152 Jumper Harness (20 pins)

Circuit/System Verification

1. Ignition ON, engine OFF, observe the 2-3 Sol. CKT Status parameter while commanding the 2-3 SS ON and OFF with a scan tool. The reading should display OK or Indeterminate.

2. Operate the vehicle within the Conditions for Running the DTC. You may also operate the vehicle within the conditions that you observed from the Freeze Frame/Failure Records data.

Circuit/System Testing

Important: Additional DTCs may set when disconnecting the automatic transmission inline 20-way connector.

1. Ignition OFF, disconnect the automatic transmission (AT) inline 20-way connector at the transmission.
2. Install the J 44152 on the engine side of the AT inline 20-way connector.
3. Ignition ON, verify that a test lamp illuminates between the ignition circuit terminal E and ground.
 - If the test lamp does not illuminate, test the ignition circuit for a short to ground or an open/high resistance. If the circuit tests normal and the ignition circuit fuse is open, test all components connected to the ignition circuit and replace as necessary.
4. Connect a test lamp between the control circuit terminal B and the ignition circuit terminal E.
5. Command the 2-3 SS ON and OFF with a scan tool. The test lamp should turn ON and OFF when changing between the commanded states.
 - If the test lamp is always ON, test the control circuit for a short to ground. If the circuit tests normal, replace the TCM.
 - If the test lamp is always OFF, test the control circuit for a short to voltage or an open/high resistance. If the circuit tests normal, replace the TCM.
6. If all circuits test normal, test the internal transmission wiring harness assembly and the 2-3 shift solenoid.

Component Testing

1. Ignition OFF, disconnect the automatic transmission (AT) inline 20-way connector at the transmission.
2. Install the J 44152 on the transmission side of the AT inline 20-way connector.
3. Test for 19-31 ohms of resistance between the control terminal B and the ignition terminal E of the transmission.
 - If not within the specified range, test the circuits for a short to ground or an open/high resistance. If a circuit is shorted or open replace the internal transmission wiring harness assembly, if the circuits test normal, replace the 2-3 shift solenoid.
4. Test for infinite resistance between each terminal and the transmission housing/case.

- If not the specified value, test the circuits for a short to ground or an open/high resistance. If a circuit is shorted replace the internal transmission wiring harness assembly, if the circuits test normal, replace the 2-3 shift solenoid.

Repair Instructions

Perform the **Diagnostic Repair Verification** after completing the repair.

- 2-3 Shift Solenoid Valve Replacement
- Wiring Harness Replacement
- **Control Module References** for TCM replacement, setup, and reprogramming