DTC C1124 or C1125

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 C1124 00 ABS Normally Open Base Brake Solenoid Valve Circuit Open

DTC C1125 00 Excessive Hydraulic Circuit Test Duration

Circuit/System Description

The electronic brake control module activates the valve relay to supply voltage to the valve solenoids. This voltage is referred to as the system voltage. The electronic brake control module activates individual valve solenoids by grounding the valve solenoid control circuits. This verification is used to perform hydraulic checks at the normally open base brake valve.

Conditions for Running the DTC

- Brake pedal was depressed.
- Vehicle ON or Vehicle in Service Mode
- The ignition voltage is greater than 10 V.
- Accumulator pressure is less than 9,000 kPa (1,305 psi).
- The electronic brake control module performs a hydraulic system check every third drive cycle.

Conditions for Setting the DTC

C1124 00

This diagnostic determines if the normally open valve has been blocked, closed, or stuck shut. This diagnostic runs while the accumulator is being discharged during the hydraulic shutdown.

C1125 00

This code is an information code only, and requires no diagnostics.

Action Taken When the DTC Sets

- The ABS indicator turns ON.
- The red brake indicator turns ON.
- The traction/stability control indicator turns ON.
- The Service Brake Assist and Service StabiliTrak messages are displayed on the driver information center.
- The electronic brake control module disables the ABS, the traction control and the electronic stability for the duration of the drive cycle.

Conditions for Clearing the DTC

- The condition for setting the DTC is no longer present.
- The history DTC will clear after 40 consecutive fault-free drive cycles have occurred.

Reference Information

Schematic Reference

Antilock Brake System Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

ABS Description and Operation

Electrical Information Reference

- Circuit Testing
- Connector Repairs
- Testing for Intermittent Conditions and Poor Connections
- Wiring Repairs

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Note: The 12 V battery must be able to maintain a charge during this brake sensor performance procedure. It is recommended that a charger/maintainer or equivalent be used to maintain proper battery voltage during this procedure.

1. Vehicle in Service Mode with the transmission in PARK.

Note: Do not depress the brake pedal during the Electronic Brake Control Module Learn procedure.

Note: To ensure the complete brake modulator and high pressure accumulator pressure relief procedure is allowed to occur; the brake controller must see 1 pedal apply with the propulsion system enabled, followed by a proper shutdown without applying the brake pedal.

3. Vehicle ON, apply and release the brake pedal.

Note: Vehicle OFF, without applying the brake pedal ensure the brake modulator and high pressure accumulator pressure relief occurs. This process will take approximately 1-3 minutes.

4. Vehicle OFF, without applying the brake pedal.
5. Remove the remote keyless entry transmitter and close all of the vehicle doors. Wait approximately 1-3 minutes until the brake modulator and the high pressure accumulator pressure relief is complete and the vehicle powers down.
6. Vehicle in Service Mode, brakes not applied.
7. Verify the scan tool parameters listed below are within the specified range:
    - Brake Controls Brake Pedal Position Sensor 5 V Supply Voltage – Between 4.75–5.25 V
    - Brake Controls Brake Pedal Position Sensor Circuit 1 – Between 1.4–1.7 V
    - Brake Controls Brake Pedal Position Sensor Circuit 2 – Between 58–78%

⇒ **If any parameter is not within the specified range**

Refer to DTC C029C, C120C, C129A-C129F, C12B1, or C12F8.

⇓ **If all parameters are within the specified range**

8. Verify the scan tool parameters listed below are less the specified range:
    - Brake Master Cylinder Pressure Sensor – Less than 100 kPa (15 psi)
    - Brake Pressure Sensor – Less than 100 kPa (15 psi)
    - High Pressure Accumulator Sensor – Less than 800 kPa (116 psi)

⇒ **If any parameter is greater than the specified range**

Replace the Q5 Brake Pressure Modulator.

⇓ **If all parameters are less than the specified range**

9. Perform a brake hydraulic system test, refer to Brake Hydraulic and Assist System Diagnosis.

⇒ **If the brake hydraulic system test does not pass**

Repair as necessary.

⇓ **If the brake hydraulic system tests normal**

10. Replace the Q5 Brake Pressure Modulator.
11. Verify the DTC does not set while operating the vehicle within the Conditions for Running the DTC.

⇒ **If the DTC sets**

Replace the K17 Electronic Brake Control Module.

⇓ **If the DTC does not set**

12. All OK.

Repair Instructions

Perform the Diagnostic Repair Verification after completing the repair.

- Electronic Brake Control Module with Brake Pressure Modulator Valve Replacement
- Control Module References for Electronic Brake Control Module replacement, programming and setup