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1996 CHEVROLET Express OEM Service and Repair Workshop Manual

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Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
			U0415 00, U0422 00	
Center High Mounted Stop Lamp Control	B3884 02	B3884 01, B3884 04	B3884 01, B3884 04	—
Stop Lamp – Left Control	1	1	1	—
Stop Lamp – Right Control	1	1	1	—
Brake Pedal Position Sensor Low Reference	—	C0277 07, U042B 00, U0415 00, U0422 00	1	—
Center High Mounted Stop Lamp Ground	—	2	—	—
Tail Lamp Assembly – Left Ground	—	1	—	—
Tail Lamp Assembly – Right Ground	—	1	—	—
1. Stop Lamps Malfunction 2. Center High Mounted Stop Lamp Malfunction				

Circuit/System Description

The brake pedal position sensor is used to sense the action of the driver application of the brake pedal. The brake pedal position sensor provides an analog voltage signal that will increase as the brake pedal is applied. The body control module (BCM) provides a low reference signal and a 5 V reference voltage to the brake pedal

Refer to Circuit/System Testing – Stop Lamps Malfunction.

- **If the left brake lamp turns ON and OFF**

4. Verify the right brake lamp turns ON and OFF when commanding the Right Stop Lamp ON and OFF with a scan tool.
   - **If the right brake lamp does not turn ON and OFF**

     Refer to Circuit/System Testing – Stop Lamps Malfunction.
   - **If the right brake lamp turns ON and OFF**
5. Verify the center high mounted stop lamp turns ON and OFF when commanding the Center Stop Lamp ON and OFF with a scan tool.
   - **If the center high mounted stop does not turn ON and OFF**

     Refer to Circuit/System Testing – Center High Mount Stop Lamp Malfunction.
   - **If the center high mounted stop turns ON and OFF**
6. All OK.

Circuit/System Testing

Brake Pedal Position Sensor Malfunction

1. Ignition OFF, disconnect the harness connector at the B22 Brake Pedal Position Sensor, ignition ON.
2. Test for less than 1 V between the appropriate low reference circuit terminal listed below and ground.
   - Terminal A – without M5U
   - Terminal 2 – with M5U
   - **If 1 V or greater**

     1. Ignition OFF, disconnect the X1 harness connector at the K9 Body Control Module, ignition ON.
     2. Test for less than 1 V between the low reference circuit and ground.
        - If 1 V or greater, repair the short to voltage on the circuit.
        - If less than 1 V, replace the K9 Body Control Module.
   - **If less than 1 V**
3. Test or replace the B22 Brake Pedal Position Sensor.

Stop Lamps Malfunction

2. Test for less than 1 V between the control circuit terminal and ground.
    - If 1 V or greater, repair the short to voltage on the circuit.
    - If less than 1 V, replace the K9 Body Control Module.
- **If the test lamp turns ON and OFF**

5. Test or replace the E42 Tail Lamp Assembly.

Center High Mount Stop Lamp Malfunction

1. Ignition OFF, exterior lamps OFF, disconnect the harness connector at the E6 Center High Mounted Stop Lamp. It may take up to 2 min for all vehicle systems to power down.
2. Test for less than 15 Ω between the ground circuit terminal 2 and ground.
    - **If 15 Ω or greater**
        1. Ignition OFF.
        2. Test for less than 2 Ω in the ground circuit end to end.
            - If 2 Ω or greater, repair the open/high resistance in the circuit.
            - If less than 2 Ω, repair the open/high resistance in the ground connection.
    - **If less than 15 Ω**
3. Connect a test lamp between the control circuit terminal 1 and ground, ignition ON.
4. Verify the test lamp turns ON and OFF when commanding the Center Stop Lamp ON and OFF with a scan tool.
    - **If the test lamp is always OFF**
        1. Ignition OFF, disconnect the X4 harness connector at the K9 Body Control Module.
        2. Test for infinite resistance between the control circuit and ground.
            - If less than infinite resistance, repair the short to ground on the circuit.
            - If infinite resistance
        3. Test for less than 2 Ω in the control circuit end to end.
            - If 2 Ω or greater, repair the open/high resistance in the circuit.
            - If less than 2 Ω, replace the K9 Body Control Module.
    - **If the test lamp is always ON**
        1. Ignition OFF, disconnect the X4 harness connector at the K9 Body Control Module, ignition ON.

Symptoms - Lighting

Symptoms - Lighting

NOTE

Note

The following steps must be completed before using a symptom table.

- Perform the Diagnostic System Check - Vehicle before using a symptom table in order to verify that all of the following conditions are true:
  - There are no DTCs set.
  - The control modules can communicate via the serial data link.
- Review the system description and operation in order to familiarize yourself with the system functions. Refer to the following:
  - Exterior Lighting Systems Description and Operation
  - Interior Lighting Systems Description and Operation

Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the lighting system. Refer to Checking Aftermarket Accessories.
- Inspect the easily accessible or visible system components for obvious damage or conditions which could cause the symptom.

Intermittent

Thoroughly inspect the wiring and connectors. An incomplete inspection of the wiring and connectors may result in misdiagnosis causing part replacement with the reappearance of the malfunction. If an intermittent