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2001 CHEVROLET Celta - 5 doors OEM Service and Repair Workshop Manual

Go to manual page

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Fuel Level Sensor 1/Primary/Left Signal	P0462	P0463	P0463	P0461, 1
Fuel Level Sensor 2/Secondary/Right Signal	P2067	P2068	P2068	P2066, 1
Low Reference	—	P0463, P2068	—	P0461, P2066, 1
1. Fuel Gauge Malfunction				

Circuit/System Description

The primary fuel level sensor and the secondary fuel level sensor change resistance based on fuel level. The engine control module (ECM) monitors the signal circuits of both sensor to determine the fuel level. When the fuel tank is full, the resistances of both fuel level sensors are low. When the fuel tank is empty, the resistances of the fuel level sensors are high. The ECM uses the signal voltages of the primary fuel level sensor and the secondary fuel level sensor to calculate the percentage of remaining fuel in the tank. The ECM sends the fuel level percentage via serial data to the body control module (BCM). The BCM then sends the fuel level percentage via serial data to the instrument cluster to control the fuel gauge.

Conditions for Running the DTC

- Ignition ON
- Battery voltage is between 11–32 V

Conditions for Setting the DTC

P0461 or P2066

The ECM detects a change in fuel level of less than a specified amount (typically 3–10 L or 0.8–2.6 gal) over a specified driving distance (typically 240–320 km or 150–200 miles).

P0462 or P2067

- The signal voltage is less than 0.25 V.
- The above conditions must be met for 5 seconds.

- Wiring Repairs

DTC Type Reference

Powertrain Diagnostic Trouble Code (DTC) Type Definitions

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

1. Verify that DTC P2636 and P2066 are not set simultaneously.
    - **If DTC P2636 and P2066 are set simultaneously**

      Refer to DTC P2636
    - **If DTC P2636 and P2066 are not set simultaneously**
2. Ignition ON.
3. Verify the scan tool Fuel Level Sensor Left Tank parameter is between 0.5–3.5 V and varies with fuel level.
    - **If not between 0.5–3.5 V or does not vary with fuel level**

      Refer to Primary Fuel Level Sensor Malfunction in Circuit/System Testing
    - **If between 0.5–3.5 V and varies with fuel level**
4. Verify the scan tool Fuel Level Sensor Right Tank parameter is between 0.5–3.5 V and varies with fuel level.
    - **If not between 0.5–3.5 V or does not vary with fuel level**

      Refer to Secondary Fuel Level Sensor Malfunction in Circuit/System Testing
    - **If between 0.5–3.5 V and varies with fuel level**
5. All OK.

Circuit/System Testing

NOTE

Note

Circuit/System Verification must be performed before proceeding with Circuit/System Testing.

Primary Fuel Level Sensor Malfunction

- If 2 Ω or greater, repair the open/high resistance in the circuit.
- If less than 2 Ω, replace the K20 Engine Control Module.

- **If less than 0.2 V**

7. Test or replace the B46 Fuel Level Sensor.

Secondary Fuel Level Sensor Malfunction

1. Ignition OFF and all vehicle systems OFF, disconnect the harness connector at the B187 Fuel Level Sensor Assembly. It may take up to 2 min for all vehicle systems to power down.
2. Test for less than 10 Ω between the low reference circuit terminal 3 and ground.
   - **If 10 Ω or greater**
     1. Ignition OFF, disconnect the harness connector at the K20 Engine Control Module.
     2. Test for less than 2 Ω in the low reference circuit end to end.
        - If 2 Ω or greater, repair the open/high resistance in the circuit.
        - If less than 2 Ω, replace the K20 Engine Control Module.
   - **If less than 10 Ω**
3. Ignition ON.
4. Verify the scan tool Fuel Level Sensor Right Tank parameter is greater than 4.8 V.
   - **If 4.8 V or less**
     1. Ignition OFF, disconnect the harness connector at the K20 Engine Control Module.
     2. Test for infinite resistance between the signal circuit terminal 4 and ground.
        - If less than infinite resistance, repair the short to ground on the circuit.
        - If infinite resistance, replace the K20 Engine Control Module.
   - **If greater than 4.8 V**
5. Install a 3 A fused jumper wire between the signal circuit terminal 4 and the low reference circuit terminal 3.
6. Verify the scan tool Fuel Level Sensor Right Tank parameter is less than 0.2 V.
   - **If 0.2 V or greater**
     1. Ignition OFF, disconnect the harness connector at the K20 Engine Control Module, ignition ON.
     2. Test for less than 1 V between the signal circuit and ground.

YOUR CURRENT VEHICLE

DTC P0521, P0522, or P0523

DTC P0521, P0522, or P0523

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 P0521	Engine Oil Pressure Sensor Performance
DTC P0522	Engine Oil Pressure Sensor Circuit Low Voltage.
DTC P0523	Engine Oil Pressure Sensor Circuit High Voltage

Diagnostic Fault Information

Circuit	Short to Ground	High Resistance	Open	Short to Voltage	Signal Performance
Engine Oil Pressure 5 V Reference	P0522	1	P0522	P0523	P0521
Engine Oil Pressure Sensor Signal	P0522	1	P0522	P0523	P0521
Low Reference	—	1	P0523	—	P0521