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2002 CHEVROLET S-10 Crew Cab OEM Service and Repair Workshop Manual

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- If less than 1 V, replace the K20 Engine Control Module.

- **If less than 0.2 V**

7. Install a 3 A fused jumper wire between the signal circuit terminal 3 and the 5 V reference circuit terminal 1.

8. Verify the scan tool Supercharger Inlet Pressure Sensor parameter is greater than 4.5 V.

    - **If 4.5 V or less**

    1. Ignition Off, remove the jumper wire, disconnect the harness connector at the K20 Engine Control Module.

    2. Test for infinite resistance between the signal circuit terminal 3 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 signal 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 greater than 4.5 V**

9. Test or replace the B105 Supercharger Inlet Pressure Sensor.

Component Testing

NOTE

Note

You must perform the Circuit System Testing before proceeding with the Component Testing.

Erratic Signal Test

1. Ignition Off, remove the B105 Supercharger Inlet Pressure Sensor.

2. Install a 3 A fused jumper between the harness connector 5 V reference circuit terminal 1 and terminal 1 or A of the sensor.

3. Install a jumper wire between the low reference circuit terminal 2 or B of the sensor and ground.

4. Connect a DMM between terminal 3 or C of the sensor and ground.

YOUR CURRENT VEHICLE

DTC P0131, P0132, P0137, P0138, P0151, P0152, P0157, or P0158

DTC P0131, P0132, P0137, P0138, P0151, P0152, P0157, or P0158

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 P0131	HO2S Circuit Low Voltage Bank 1 Sensor 1
DTC P0132	HO2S Circuit High Voltage Bank 1 Sensor 1
DTC P0137	HO2S Circuit Low Voltage Bank 1 Sensor 2
DTC P0138	HO2S Circuit High Voltage Bank 1 Sensor 2
DTC P0151	HO2S Circuit Low Voltage Bank 2 Sensor 1
DTC P0152	HO2S Circuit High Voltage Bank 2 Sensor 1
DTC P0157	HO2S Circuit Low Voltage Bank 2 Sensor 2
DTC P0158	HO2S Circuit High Voltage Bank 2 Sensor 2

Diagnostic Fault Information

The heating elements inside each HO2S heat the sensor to bring the sensor up to operating conditions faster. This allows the system to enter Closed Loop earlier and the control module to calculate the air-to-fuel ratio sooner.

Conditions for Running the DTC

P0131, P0137, P0151, or P0157

- DTCs P0068, P0101– P0103, P0106– P0108, P0112, P0113, P0116– P0118, P0120– P0123, P0128, P0201– P0208, P0220, P0222, P0223, P0442, P0443, P0446, P0449, P0455, P0496, P1516, P2101, P2119, P2135, P2176 are not set.
- The ignition voltage is between 10–32 V.
- The fuel system is operating in Closed Loop.
- The fuel level is greater than 10%.
- Ethanol content is less than 87%.
- Decel fuel cut off is not active.

The DTCs run continuously when the above conditions are met for 2 s.

P0132, P0138, P0152, or P0158

- DTCs P0030–P0032, P0068, P0101– P0103, P0106– P0108, P0112, P0113, P0116– P0118, P0120– P0123, P0128, P0201– P0208, P0220, P0222, P0223, P0442, P0443, P0446, P0449, P0455, P0496, P1516, P2101, P2119, P2135, P2176 are not set.
- The ignition voltage is greater than 10 V.
- The oxygen sensor heater resistance has been learned.
- The fuel level is greater than 10%.
- Engine run time is greater than 5 s.

The DTCs run continuously when the above conditions are met for 3 s.

Conditions for Setting the DTC

P0131, P0137, P0151, or P0157

- The engine control module detects that the heated oxygen sensor is shorted to ground for greater than 6s.

Refer to DTC P0030-P0032, P0036-P0038, P0050-P0054, P0056-P0060, P0135, P0141, P0155, or P0161.

- **If a DTC is not set.**

3. Engine running.
4. Verify the scan tool HO2S Bank 1 or 2 Sensor 1 or 2 parameters are between 50–1,050 mV.
   - **If not between 50–1,050 mV.**

     Refer to Circuit/System Testing.
   - **If between 50–1,050 mV.**
5. Operate the vehicle within the Conditions for Running. You may also operate the vehicle within the conditions that you observed from the Freeze Frame/Failure Records data.
6. Verify the DTC does not set.
   - **If the DTC sets.**

     Refer to Circuit/System Testing.
   - **If the DTC does not set.**
7. All OK.

Circuit/System Testing

1. Ignition OFF and all vehicle systems OFF, disconnect the appropriate B52 Heated Oxygen Sensor harness connector. It may take up to 2 minutes for all vehicle systems to power down. Ignition ON.
2. Test for 1.7–3.0 V between the high signal circuit terminal 4 and ground.
   - **If less than 1.7 V**
     1. Ignition OFF, disconnect the harness connector at the K20 Engine Control Module.
     2. Test for infinite resistance between the high signal 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 high signal 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 greater than 3.0 V**