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2002 CHEVROLET Nubira/Lacetti OEM Service and Repair Workshop Manual

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- **If colder than 85 °C (185 °F)**

4. Perform the scan tool control function:Engine Coolant Thermostat Heater and Cooling Fan
    1. Engine Coolant Thermostat Heater »0%
    2. Cooling Fan »0%
    3. Engine Speed »1,800 to 2,200 RPM

    - Verify the scan tool parameter:ECT Sensor=Greater than 102 °C (215 °F)—Within 5 min
    - **If 102 °C (215 °F) or colder**

      Test or replace the component:E41 Engine Coolant Thermostat Heater
    - **If warmer than 102 °C (215 °F)**

5. 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.

   Verify the DTC does not set.

    - **If the DTC sets**

      Refer to: Circuit/System Testing
    - **If the DTC does not set**

6. All OK.

Circuit/System Testing

1. **NOTE**

   Note

   It may take up to 2 min for all vehicle systems to power down before an accurate ground or low reference circuit continuity test can be performed.

   Ignition/Vehicle & All vehicle systems » Off

2. Disconnect the electrical connector:B34 Engine Coolant Temperature Sensor
3. Test for less than 10 Ω between the test points:Low Reference circuit terminal 1/A&Ground
    - **If 10 Ω or greater**
        1. Disconnect the appropriate electrical connector:K20 Engine Control Module

6. Test for less than 2 Ω between the test points:Signal circuit terminal 2/B@Component harness&The other end of the circuit@Control module harness
    - If 2 Ω or greater » Repair the open/high resistance in the circuit.
    - If less than 2 Ω » Replace the component:K20 Engine Control Module
- **If warmer than 149 °C (300 °F)**

8. Test or replace the component:B34 Engine Coolant Temperature Sensor

Component Testing

1. Ignition/Vehicle » Off
2. Disconnect the electrical connector:B34 Engine Coolant Temperature Sensor
3. Test for 42 to 78,834 Ω between the test points:Signal terminal 2/B&Low Reference terminal 1/A
    - **If not between 42 and 78,834** Ω

      Replace the component:B34 Engine Coolant Temperature Sensor
    - **If between 42 and 78,834** Ω
4. Verify the value is within the range listed in the table: Temperature Versus Resistance - Engine Coolant Temperature Sensor
    - **If not in the specified range**

      Replace the component:B34 Engine Coolant Temperature Sensor
    - **If in the specified range**
5. Test for infinite resistance between the test points:Each terminal of the component&The component's housing
    - **If less than infinite resistance**

      Replace the component:B34 Engine Coolant Temperature Sensor
    - **If infinite resistance**
6. All OK.

Repair Instructions

Perform the Diagnostic Repair Verification after completing the repair: Diagnostic Repair Verification

- Engine Coolant Temperature Sensor Replacement

YOUR CURRENT VEHICLE

DTC P012B

DTC P012B

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 Descriptor

DTC P012B	Supercharger Inlet Pressure Sensor Performance

Circuit/System Description

The supercharger inlet pressure sensor measures the pressure between the throttle body and the supercharger. Pressure in this area is affected by engine speed, throttle opening, air temperature, and barometric pressure (BARO). The sensor provides a signal voltage that varies relative to pressure changes that occur from the various load and operating conditions of the engine. The engine control module (ECM) supplies a regulated 5 V reference circuit, and monitors the signal circuit.

Under normal operation the highest pressure that can exist in the supercharge intake manifold is equal to BARO. This occurs when the vehicle is operated at wide-open throttle (WOT) or when the ignition is On while the engine is Off. The lowest manifold pressures occur when the vehicle is idling or decelerating. The supercharger inlet pressure can range from 20 kPa to as high as BARO.

The intake airflow system performance diagnostic provides the within-range rationality check for the mass air flow (MAF), supercharger inlet pressure, manifold absolute pressure (MAP) and the throttle position (TP) sensors. This is an explicit model-based diagnostic containing multiple models for the intake system.

Reference Information

Schematic Reference

Engine Controls Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

- Boost Control System Description
- Compressor Air Intake Supercharger Description and Operation

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

GE 23738-A ***Vacuum Pump***

For equivalent regional tools, refer to Special Tools.

Circuit/System Verification

1. If you were sent here from DTC P0068, P0101, P0106, P0121 P1101, or P2227 refer to Circuit/System Testing.
2. Verify DTC P006D, P012C, P012D, P0641, P2228, P2229 or P2230 is not set.
    - If a DTC is set, refer to Diagnostic Trouble Code (DTC) List - Vehicle.
3. Ignition On.
4. Verify the scan tool Throttle Body Idle Airflow Compensation parameter is less than 90%.