

Mercedes-Benz SL R107 Temperature Sensor Repair: A Comprehensive Guide to Troubleshooting and Resolution

The Mercedes-Benz SL R107 is a classic luxury sports car renowned for its performance and reliability. However, like any vehicle, it can experience issues over time, including problems with its temperature sensor system. This comprehensive repair guide will provide you with the knowledge and step-by-step instructions to diagnose and fix temperature sensor issues in your SL R107, ensuring optimal engine performance and longevity.



Indoor temperature sensor Mercedes R107 Repair and check: Mercedes SL R107 Repair Temperature Sensor

by J. D. Lenzen

★★★★☆ 4.6 out of 5

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Symptoms of a Faulty Temperature Sensor

- Inaccurate coolant temperature gauge readings
- Overheating engine
- Poor fuel economy

- Hesitation or stalling during acceleration
- Check Engine Light (CEL) illumination

Causes of Temperature Sensor Failure

- Electrical faults (wiring, connectors)
- Sensor element failure
- Coolant leaks
- Air bubbles in the cooling system
- Corrosion or wear

Tools Required for Repair

- Socket wrench set
- Multimeter
- Coolant flush kit
- New temperature sensor(s)
- New coolant
- Safety glasses

Step-by-Step Repair Guide

1. Safety Precautions

Before beginning any repairs, ensure your vehicle is parked on a level surface, the engine is off, and the parking brake is engaged. Allow the engine to cool down to avoid burns. Wear safety glasses and gloves for protection.

2. Location of Temperature Sensors

In the SL R107, there are two primary temperature sensors:

- **Coolant Temperature Sensor (CTS):** Located in the engine block, near the thermostat housing.
- **Intake Air Temperature Sensor (IATS):** Located in the air intake manifold, before the throttle body.

3. Test the Coolant Temperature Sensor

Step 1: Disconnect the electrical connector from the CTS.

Step 2: Set your multimeter to the ohms setting.

Step 3: Measure the resistance between the two terminals of the CTS. The resistance value should change as you change the temperature of the sensor using a heat gun or boiling water.

Step 4: Refer to the manufacturer's specifications for the expected resistance values at different temperatures. If the resistance values are significantly different, replace the CTS.

4. Test the Intake Air Temperature Sensor

Step 1: Disconnect the electrical connector from the IATS.

Step 2: Set your multimeter to the volts setting.

Step 3: Measure the voltage between the signal wire and ground. The voltage should change as you change the temperature of the sensor using a heat gun or cold air.

Step 4: Refer to the manufacturer's specifications for the expected voltage values at different temperatures. If the voltage values are significantly different, replace the IATS.

5. Replace the Temperature Sensor(s)

Step 1: Drain the coolant from the cooling system using a coolant flush kit.

Step 2: Remove the bolts securing the faulty temperature sensor and replace it with a new one.

Step 3: Tighten the bolts to the specified torque.

Step 4: Refill the cooling system with new coolant and bleed any air bubbles.

6. Reset the Check Engine Light (Optional)

If the Check Engine Light was illuminated due to the faulty temperature sensor, you may need to reset it using a scan tool or by disconnecting the battery for a few minutes.

By following the step-by-step instructions outlined in this guide, you can effectively diagnose and repair temperature sensor issues in your Mercedes-Benz SL R107. Remember to refer to the manufacturer's service manual for specific torque values and other technical details. Maintaining optimal temperature sensor performance is crucial for ensuring the smooth operation and longevity of your vehicle. If you encounter any difficulties or have further questions, it is advisable to consult a qualified mechanic.



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