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MAHLE TI 219 87

MAHLE BEHR TI 219 87 Cooling Thermostat Instruction Manual

1. Product Overview

The MAHLE BEHR TI 219 87 is an integral cooling thermostat designed for specific automotive applications. This component plays a crucial role in regulating the engine's operating temperature by controlling the flow of coolant. Proper functioning of the thermostat ensures optimal engine performance, fuel efficiency, and reduced emissions.

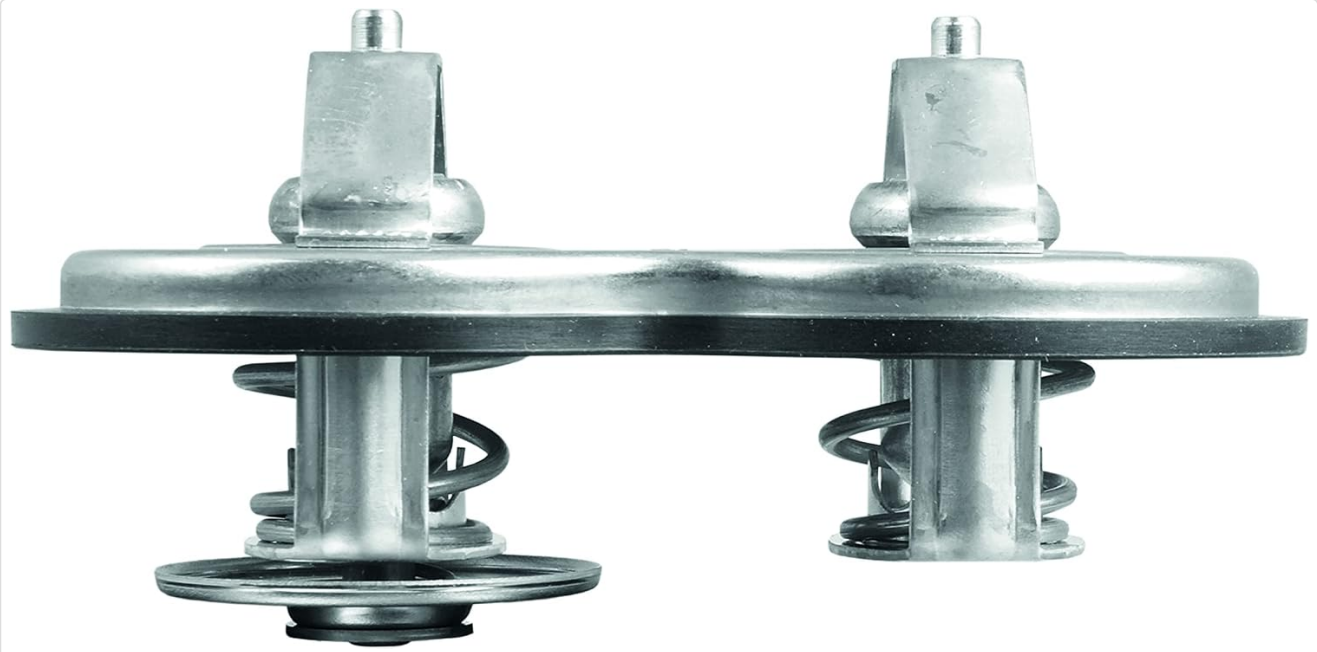


Figure 1: A close-up view of the MAHLE BEHR TI 219 87 Cooling Thermostat, showing its metallic construction, two spring-loaded valve mechanisms, and a black rubber seal.

2. Specifications

- **Manufacturer:** MAHLE
- **Model Number:** TI 219 87
- **Opening Temperature:** 87 °C (188.6 °F)
- **Included Components:** Integral thermostat with seal

- **Item Weight:** 5.3 ounces (approximately 150 grams)
- **Product Dimensions:** 12.26 x 6.93 x 4.6 inches (approximately 31.14 x 17.60 x 11.68 cm)
- **OEM Part Number:** 8200978542

3. Compatibility

This thermostat is designed for specific vehicle models. Please verify compatibility with your vehicle's make, model, and year before installation. Refer to your vehicle's service manual or consult a qualified mechanic for precise fitment information.
Known compatible models include:

- Renault Scénic III 1.6 dCi (2009 onwards) 96 kW
- Renault Scénic III 2.0 dCi (2009 onwards) 110 kW
- Renault Grand Scénic III 2.0 dCi (2009 onwards) 110 kW
- Renault Scénic III 2.0 dCi (2009 onwards) 118 kW
- Renault Grand Scénic III 2.0 dCi (2009 onwards) 118 kW
- Renault Megane III Grandtour 2.0 dCi (2008 onwards) 110 kW
- Renault Megane III Grandtour 2.0 dCi (2008 onwards) 118 kW
- Renault Megane III Grandtour 2.0 dCi (2008 onwards) 120 kW
- Renault Megane III Coupe 2.0 dCi (2008 onwards) 118 kW
- Renault Megane III Coupe 2.0 dCi (2008 onwards) 120 kW

Equivalent part numbers for cross-referencing:

- Renault 8200978542
- Renault 8200790911
- Calorstat by Vernet TH7190.87J
- Gates TH46387G1

4. What's in the Box

The product package typically includes:

- 1x MAHLE BEHR TI 219 87 Integral Thermostat

The thermostat comes with a pre-installed seal, as indicated by the manufacturer.

5. Setup and Installation

Installation of an automotive thermostat requires mechanical knowledge and specific tools. Incorrect installation can lead to engine damage or cooling system malfunctions. It is highly recommended that this component be installed by a qualified automotive technician.

General Installation Steps (Consult Service Manual for Specifics):

1. **Safety First:** Ensure the engine is cool and the vehicle is safely supported on jack stands or a lift. Disconnect the battery's negative terminal.

2. **Drain Coolant:** Place a drain pan under the radiator and open the drain cock to drain the engine coolant.
3. **Locate Thermostat Housing:** The thermostat is typically located in a housing on the engine block or cylinder head, often where the upper radiator hose connects.
4. **Remove Old Thermostat:** Carefully remove the bolts securing the thermostat housing. Be prepared for residual coolant to spill. Remove the old thermostat and gasket.
5. **Clean Mating Surfaces:** Thoroughly clean the thermostat housing and engine block mating surfaces to ensure a proper seal. Remove any old gasket material or corrosion.
6. **Install New Thermostat:** Insert the new MAHLE BEHR TI 219 87 thermostat, ensuring it is oriented correctly (usually with the spring facing the engine). The integrated seal should sit flush.
7. **Reassemble Housing:** Reattach the thermostat housing, tightening bolts to the manufacturer's specified torque.
8. **Refill Coolant:** Close the radiator drain cock and refill the cooling system with the appropriate type and amount of coolant.
9. **Bleed Air:** Start the engine and allow it to reach operating temperature. Monitor the coolant level and bleed any trapped air from the system as per your vehicle's service manual.
10. **Check for Leaks:** Inspect all connections for leaks after the engine has reached operating temperature.

6. Operating Principle

The MAHLE BEHR TI 219 87 thermostat operates as a temperature-sensitive valve. When the engine is cold, the thermostat remains closed, restricting coolant flow to the radiator. This allows the engine to warm up quickly to its optimal operating temperature of 87 °C. Once the coolant reaches this temperature, the thermostat opens, allowing coolant to circulate through the radiator for cooling. As the engine temperature fluctuates, the thermostat continuously adjusts its opening to maintain a consistent operating temperature, which is vital for engine efficiency and longevity.

7. Maintenance

Thermostats are generally maintenance-free components. However, regular cooling system maintenance is crucial for the longevity of the thermostat and the entire engine.

- **Coolant Checks:** Regularly check the coolant level and condition. Ensure the coolant is clean and at the correct concentration.
- **Coolant Flush:** Follow your vehicle manufacturer's recommendations for coolant flush and replacement intervals. Old or contaminated coolant can lead to corrosion and thermostat malfunction.
- **Hose Inspection:** Periodically inspect radiator and heater hoses for cracks, leaks, or swelling.
- **System Leaks:** Address any cooling system leaks promptly.

8. Troubleshooting

A faulty thermostat can lead to various engine problems. Here are common symptoms and potential causes:

- **Engine Overheating:** If the thermostat is stuck in the closed position, coolant cannot circulate to the radiator, causing the engine to overheat.
- **Engine Running Cold:** If the thermostat is stuck in the open position, coolant continuously flows through the radiator, preventing the engine from reaching its optimal operating temperature. This can lead to reduced fuel efficiency and increased emissions.

- **Erratic Temperature Gauge Readings:** A failing thermostat can cause the temperature gauge to fluctuate wildly.
- **Heater Not Working:** If the engine runs cold due to an open thermostat, the cabin heater may not produce sufficient heat.

If you suspect a thermostat issue, it is advisable to have the cooling system diagnosed by a professional technician.

9. Warranty and Support

For warranty information regarding your MAHLE BEHR TI 219 87 Cooling Thermostat, please refer to the documentation provided with your purchase or contact MAHLE customer support directly. Keep your proof of purchase for any warranty claims.
For technical assistance or further inquiries, please visit the official MAHLE website or contact their customer service department.

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