MAHLE TX 3 79D

MAHLE Thermostat Insert User Manual

Model: TX 3 79D

1. Product Overview

The MAHLE Thermot-Tronik TX 3 79D Thermostat Insert is a precision-engineered component designed for accurate temperature regulation within vehicle coolant circuits. Manufactured by MAHLE ORIGINAL, a leading original equipment manufacturer, this thermostat ensures optimal engine performance and longevity.

Key Features:

- **Stainless Steel Construction:** Engineered for extended service life and durability.
- **OEM Specifications:** Manufactured to meet or exceed original equipment manufacturer standards.
- **Precise Temperature Control:** Individually calibrated for accurate regulation of coolant circuits.
- **OE Form, Fit, and Function:** Designed to integrate seamlessly with original vehicle systems.
- **Wide Application:** Suitable for passenger cars, commercial vehicles, stationary engines, agricultural, and construction machinery.



Figure 1.1: Front view of the MAHLE Thermot-Tronik TX 3 79D Thermostat Insert, showcasing its compact design.

2. Setup and Installation

Installation of the thermostat insert should be performed by a qualified technician following the vehicle manufacturer's

service manual. Incorrect installation can lead to engine damage or improper cooling system function.

General Installation Guidelines:

1. Ensure the engine is cool and depressurized before beginning work.
2. Locate the thermostat housing on your vehicle's engine. Refer to your vehicle's service manual for the exact location.
3. Drain a sufficient amount of coolant to prevent spills when removing the old thermostat.
4. Carefully remove the old thermostat and gasket. Clean the mating surfaces thoroughly to ensure a proper seal.
5. Install the new MAHLE TX 3 79D thermostat insert, ensuring it is oriented correctly according to the vehicle manufacturer's specifications.
6. Place the new gasket (if applicable) and reassemble the thermostat housing. Tighten fasteners to the vehicle manufacturer's specified torque.
7. Refill the cooling system with the appropriate coolant type and bleed any air from the system as per the vehicle manufacturer's instructions.
8. Start the engine and check for leaks. Monitor engine temperature to ensure proper operation of the new thermostat.



Figure 2.1: The MAHLE Thermostat Insert shown alongside a typical gasket, which is crucial for a leak-free seal during installation.

3. Operating Principles

The MAHLE Thermot-Tronik TX 3 79D thermostat insert operates based on thermal expansion. It contains a wax pellet that expands and contracts with temperature changes. When the engine coolant reaches a specific operating temperature, the wax expands, pushing a piston that opens the thermostat valve. This allows coolant to flow to the radiator for cooling. As the coolant temperature drops, the wax contracts, closing the valve and restricting flow to the radiator, allowing the engine to warm up efficiently.



Figure 3.1: Side view of the thermostat insert, showing the spring and valve mechanism responsible for regulating coolant flow.

4. Maintenance

Thermostats are generally maintenance-free components. However, regular inspection of the cooling system is recommended to ensure optimal performance and prevent issues.

Recommended Checks:

- **Coolant Level:** Regularly check the coolant level in the reservoir and top up as needed with the correct type of coolant.
- **Coolant Condition:** Inspect coolant for discoloration or debris, which may indicate contamination or system issues.
- **Hoses and Clamps:** Check cooling system hoses for cracks, swelling, or leaks, and ensure clamps are secure.
- **System Leaks:** Periodically inspect for any signs of coolant leaks around the thermostat housing or other cooling system components.

If the thermostat is suspected of malfunctioning (e.g., engine overheating or running too cold), it should be replaced. Attempting to repair a thermostat is not recommended.

5. Troubleshooting

A malfunctioning thermostat can lead to various engine performance issues. Below are common symptoms and potential causes related to the thermostat.

Symptom	Possible Cause (Thermostat Related)	Action
Engine Overheating	Thermostat stuck closed, preventing coolant flow to radiator.	Replace thermostat.
Engine Runs Too Cold / Slow to Warm Up	Thermostat stuck open, allowing constant coolant flow to radiator.	Replace thermostat.
Erratic Temperature Gauge Readings	Thermostat opening and closing inconsistently.	Replace thermostat.
Poor Heater Performance	Engine not reaching optimal operating temperature due to stuck-open thermostat.	Replace thermostat.

Note: Always consult a professional mechanic for diagnosis and repair of cooling system issues. Other components (e.g., water pump, radiator, fan, coolant level) can also cause similar symptoms.

6. Specifications

Attribute	Specification
Manufacturer	MAHLE ORIGINAL
Brand	MAHLE
Model Number	TX 3 79D
Item Weight	2.56 ounces
Manufacturer Part Number	TX 3 79D
OEM Part Number	51.06402.0002
Date First Available	January 22, 2011
Discontinued	Yes



Figure 6.1: Top view of the thermostat insert, showing the internal components and markings.

7. Warranty and Support

For specific warranty information regarding the MAHLE Thermot-Tronik TX 3 79D Thermostat Insert, please refer to the warranty documentation provided at the time of purchase or contact MAHLE customer support directly. As this product is listed as discontinued, availability of direct manufacturer support may vary.

Contact Information:

Please visit the official MAHLE website or contact your local MAHLE distributor for support inquiries, technical assistance, or warranty claims.
Note: Always ensure you are purchasing genuine MAHLE products from authorized sellers to ensure product authenticity and eligibility for support.

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