Stant 14668

Stant 14668 180 Degrees Fahrenheit Thermostat User Manual

Model: 14668 | Brand: Stant

Product Overview

The Stant 14668 180 Degrees Fahrenheit Thermostat is an essential component of your vehicle's engine cooling system. It is designed to regulate the flow of coolant to the radiator, maintaining the engine's optimal operating temperature of 180 degrees Fahrenheit. This precise temperature control is crucial for engine efficiency, performance, and longevity.

Image 1: The Stant 14668 thermostat assembly, including the housing, thermostat mechanism, and a separate gasket. This view highlights the primary components of the product.

Key features of the Stant 14668 Thermostat include:

- **Precision Calibration:** Each heat motor undergoes 100 percent calibration to ensure consistent quality and reliable performance.
- **Original Equipment Design:** Engineered to match original equipment specifications for an exact fit and optimal performance in compatible vehicles.
- **Patented ELAC Heat Motor:** Provides a consistent valve response, contributing to precise engine cooling and temperature management.
- **Durable Construction:** Features stainless steel assembly and springs, designed for extended life and smooth operation within the cooling system.
- **Temperature Rating:** Specifically designed to open at 180 degrees Fahrenheit, ensuring the engine operates within the desired temperature range.

Setup and Installation

Proper installation of the thermostat is critical for its function and the overall health of your engine's cooling system. It is recommended that installation be performed by a qualified mechanic or an individual with experience in automotive

cooling system repair.

Required Tools and Materials:

- Appropriate wrenches or sockets
- Drain pan for coolant
- New engine coolant (compatible with your vehicle)
- Thermostat housing gasket (ensure compatibility, as this thermostat may not include one)
- Scraper or wire brush for cleaning mating surfaces
- Shop rags

Installation Steps:

1. **Safety First:** Ensure the engine is completely cool before beginning any work. Disconnect the negative terminal of the vehicle's battery.
2. **Drain Coolant:** Place a drain pan under the radiator and open the drain cock to drain the engine coolant. Some coolant may also drain when the thermostat housing is removed.
3. **Locate Thermostat Housing:** The thermostat is typically located at the end of the upper radiator hose, where it connects to the engine block or intake manifold.
4. **Remove Old Thermostat:** Loosen and remove the bolts securing the thermostat housing. Carefully remove the housing and the old thermostat. Be prepared for additional coolant spillage.
5. **Clean Mating Surfaces:** Thoroughly clean the mating surfaces on both the engine block/intake manifold and the thermostat housing. Remove all traces of old gasket material and corrosion to ensure a proper seal.
6. **Install New Thermostat:** Insert the new Stant 14668 thermostat into the housing or engine block, ensuring it is oriented correctly according to your vehicle's service manual. Place the new gasket onto the housing or engine block.
7. **Reinstall Housing:** Carefully place the thermostat housing back into position and tighten the bolts evenly to the manufacturer's specified torque. Overtightening can damage the housing or gasket.
8. **Refill Coolant:** Close the radiator drain cock. Refill the cooling system with the appropriate type and amount of new coolant.
9. **Bleed Air:** Start the engine and allow it to reach operating temperature. Monitor the coolant level and add more as needed. Bleed any trapped air from the cooling system according to your vehicle's specific procedure (e.g., running with the heater on high, using a spill-free funnel).
10. **Check for Leaks:** After the engine has cooled, recheck the coolant level and inspect for any leaks around the thermostat housing.

Image 2: A view of the underside of the Stant 14668 thermostat, showing the spring and valve mechanism. This part is crucial for regulating coolant flow.

Operating Principles

The Stant 14668 thermostat operates based on thermal expansion. When the engine is cold, the thermostat's valve remains closed, preventing coolant from flowing to the radiator. This allows the engine to warm up quickly to its optimal operating temperature of 180 degrees Fahrenheit.

As the coolant temperature reaches 180°F, the wax pellet inside the thermostat expands, pushing a rod that opens the valve. This allows coolant to circulate through the radiator, where it dissipates heat. If the engine temperature drops below 180°F, the wax contracts, and the valve closes, restricting coolant flow to maintain the desired temperature. This continuous opening and closing action ensures the engine operates within its most efficient temperature range, preventing both overheating and overcooling.

Maintenance

While the thermostat itself is a sealed unit and does not require direct maintenance, its longevity and proper function depend on the overall health of your vehicle's cooling system. Regular maintenance of the cooling system is crucial.

Recommended Maintenance Practices:

- **Coolant Flush and Replacement:** Follow your vehicle manufacturer's recommendations for coolant flush and replacement intervals. Old or contaminated coolant can lead to corrosion and deposits that can impede thermostat operation.
- **Inspect Hoses and Clamps:** Regularly check radiator hoses and heater hoses for cracks, bulges, or leaks. Ensure all hose clamps are secure.
- **Radiator Condition:** Inspect the radiator for bent fins, blockages, or leaks. Ensure it is free of debris that could restrict airflow.
- **Coolant Level Check:** Periodically check the coolant level in the reservoir and radiator (when cold). Low coolant levels can lead to overheating and thermostat malfunction.
- **Drive Belt Inspection:** Ensure the serpentine belt (which drives the water pump) is in good condition and properly tensioned.

Troubleshooting

A malfunctioning thermostat can lead to various engine cooling issues. Here are common symptoms and potential causes:

Symptom	Possible Cause (Thermostat Related)	Action
Engine Overheating	Thermostat stuck closed, preventing coolant flow to radiator.	Replace thermostat. Check for air pockets in cooling system.
Engine Runs Cold / Slow to Warm Up	Thermostat stuck open, allowing constant coolant flow to radiator.	Replace thermostat. This can lead to reduced fuel efficiency and increased emissions.
Erratic Temperature Gauge Readings	Thermostat opening and closing inconsistently.	Replace thermostat. Also check coolant level and temperature sensor.
Poor Heater Performance	Engine not reaching operating temperature due to a stuck-open thermostat.	Replace thermostat.

Symptom	Possible Cause (Thermostat Related)	Action
Coolant Leaks at Housing	Improperly seated gasket, damaged housing, or loose bolts.	Inspect gasket and housing. Re-tighten bolts to spec or replace gasket/housing.

If you experience any of these symptoms, it is advisable to have your cooling system inspected by a professional.

Specifications

Attribute	Detail
Brand	Stant
Model Number	14668
Opening Temperature	180 Degrees Fahrenheit
Item Weight	9.1 ounces
Product Dimensions	6.3 x 5 x 3.8 inches
Manufacturer Part Number	14668
Material	Stainless steel assembly and springs (for internal components)
Exterior Finish	Machined
First Available Date	October 10, 2007

Warranty Information

Specific warranty details for the Stant 14668 Thermostat are provided by the manufacturer. Please refer to the official Stant website or contact Stant customer service for the most current and accurate warranty policy applicable to your purchase. Keep your proof of purchase for any warranty claims.

Customer Support

For technical assistance, installation questions, or further product information, please contact Stant customer support. You can typically find contact information on the official Stant website or through the retailer where the product was purchased.

When contacting support, please have the following information ready:

- Product Model Number: **14668**
- Date of Purchase
- Description of your issue or question