Kumar Bros USA KBCO4003TH26

Kumar Bros USA 160°F Thermostat & Gasket Instruction Manual

For Bobcat T140 Skid-Steer with Kubota V2203MDI / V2403MDI Engines

Introduction

This manual provides essential instructions for the proper installation, operation, and maintenance of your Kumar Bros USA 160°F Thermostat and Gasket. This product is designed as a direct replacement for Bobcat Part #6685520 and is compatible with Bobcat T140 Skid-Steer models equipped with Kubota V2203MDI and V2403MDI engines. Adherence to these instructions will help ensure optimal performance and longevity of the component.

Setup and Installation

Proper installation is crucial for the correct function of the thermostat and cooling system. If you are unsure about any step, it is recommended to consult a qualified mechanic.

Required Tools:

- Wrench set or socket set
- Screwdriver
- Drain pan
- New coolant (appropriate type for your engine)
- Clean rags
- Safety glasses and gloves

Installation Steps:

1. **Safety First:** Ensure the engine is completely cool before beginning any work. Disconnect the negative terminal of the battery to prevent accidental starting.
2. **Drain Coolant:** Place a drain pan under the radiator and open the drain cock to drain the engine coolant. Ensure proper disposal of old coolant.

3. **Locate Thermostat Housing:** Identify the thermostat housing, typically located at the end of the upper radiator hose where it connects to the engine.
4. **Remove Hoses and Housing:** Loosen the clamp on the upper radiator hose and detach it from the thermostat housing. Carefully unbolt the thermostat housing from the engine.
5. **Remove Old Thermostat and Gasket:** Once the housing is removed, extract the old thermostat and gasket. Note the orientation of the old thermostat for correct installation of the new one.
6. **Clean Mounting Surfaces:** Thoroughly clean the mating surfaces on both the engine block and the thermostat housing to ensure a proper seal. Remove any old gasket material or corrosion.
7. **Install New Thermostat and Gasket:** Place the new Kumar Bros USA 160°F thermostat into the housing or engine block in the correct orientation. Ensure the new gasket is properly seated.

Image 1: The Kumar Bros USA 160°F Thermostat and its accompanying gasket. These components work together to regulate engine temperature.

Image 2: A side view of the thermostat, showing its internal spring mechanism and wax pellet, which expands and contracts to open and close the valve.

Image 3: An angled perspective of the thermostat, highlighting its robust construction and the main valve that controls coolant flow.

8. **Reassemble Housing:** Reattach the thermostat housing to the engine, ensuring the bolts are tightened to the manufacturer's specifications. Reconnect the upper radiator hose and secure its clamp.
9. **Refill Coolant:** Refill the cooling system with the appropriate type and amount of coolant. Follow the vehicle manufacturer's bleeding procedure to remove any air pockets from the system.
10. **Check for Leaks:** Start the engine and allow it to reach operating temperature. Monitor the temperature gauge and visually inspect for any coolant leaks around the thermostat housing.
11. **Final Check:** Once the engine has cooled, recheck the coolant level and top off if necessary.

Operating Principles

The 160°F thermostat is a critical component of your engine's cooling system. Its primary function is to regulate the engine's operating temperature by controlling the flow of coolant. When the engine is cold, the thermostat remains closed, preventing coolant from circulating through the radiator. This allows the engine to warm up quickly to its optimal operating temperature. Once the coolant reaches approximately 160°F (71°C), the thermostat begins to open, allowing coolant to flow to the radiator for cooling. As the engine temperature fluctuates, the thermostat continuously adjusts its opening to maintain a consistent and efficient operating temperature, which is vital for engine performance and fuel efficiency.

Maintenance

While the thermostat itself is a sealed unit and generally not serviceable, regular maintenance of the overall cooling system is essential for its proper function:

- **Coolant Level Check:** Regularly check the coolant level in the reservoir and radiator. Top up with the correct coolant type as needed.
- **Coolant Quality:** Periodically inspect the coolant for contamination or discoloration. Follow the manufacturer's recommendations for coolant flush and replacement intervals.
- **Hose Inspection:** Check radiator and heater hoses for cracks, leaks, or signs of deterioration. Replace any damaged hoses promptly.

- **System Leaks:** Visually inspect the entire cooling system for any signs of leaks, including around the thermostat housing, radiator, and water pump.

Troubleshooting

If you experience issues with your engine's temperature, the thermostat could be a contributing factor. Here are common symptoms and potential causes:

- **Engine Overheating:**
  - **Cause:** Thermostat stuck closed. This prevents coolant from reaching the radiator, leading to rapid temperature increase.
  - **Action:** Inspect the thermostat. If it does not open as the engine warms up, it needs replacement.
- **Engine Running Cold (Slow to Warm Up):**
  - **Cause:** Thermostat stuck open. Coolant continuously flows through the radiator, preventing the engine from reaching optimal operating temperature.
  - **Action:** Inspect the thermostat. If it remains open when cold, it needs replacement.
- **Erratic Temperature Gauge Readings:**
  - **Cause:** Faulty thermostat, air in the cooling system, or a malfunctioning temperature sensor.
  - **Action:** Check for air pockets in the cooling system. If the issue persists, test the thermostat and temperature sensor.

Always address cooling system issues promptly to prevent engine damage.

Specifications

Feature	Detail
Brand	Kumar Bros USA
Part Number	KBCO4003TH26
Opening Temperature	160°F (71°C)
Compatibility	Bobcat T140 Skid-Steer with Kubota V2203MDI / V2403MDI Engines
Replaces OEM Part #	Bobcat 6685520
Included Components	Thermostat, Gasket

Warranty Information

For specific warranty details regarding your Kumar Bros USA thermostat and gasket, please refer to the product packaging or contact Kumar Bros USA directly. Warranty terms typically cover manufacturing defects for a specified period from the date of purchase. Please retain your proof of purchase for any warranty claims.

Support

If you have any questions regarding the installation, operation, or troubleshooting of your Kumar Bros USA thermostat and gasket, please contact Kumar Bros USA customer support. For technical assistance or to report an issue, refer to the contact information provided with your product or visit the official Kumar Bros USA website.