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Arrowhead AM107631

Arrowhead Starter Motor User Manual

Model: AM107631

Product

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1. PRODUCT OVERVIEW

This manual provides essential information for the installation, operation, and maintenance of your new Arrowhead Starter Motor, designed for Kohler 12.5-25HP Engines. This high-quality 12V electric starter motor is engineered as a direct-fit replacement for a wide range of outdoor equipment, including lawnmowers and tractors, ensuring reliable starting performance.



Figure 1: Arrowhead Starter Motor. This image displays the complete starter motor assembly, featuring its metallic housing, solenoid, and the drive gear. The unit is designed for direct replacement in compatible engines.

1.1. What's in the Box

- Starter Motor (1 unit)

2. SPECIFICATIONS

The Arrowhead Starter Motor is manufactured to meet or exceed OEM specifications, ensuring reliable performance and compatibility.

Feature	Specification
Voltage	12 Volts
Power	0.6kW / 0.8HP
Rotation	Counter-Clockwise (CCW)
Starter Type	DD (Direct Drive)
Number of Teeth	9
Gear OD	1.134 inches (28.8 mm)
Length	8.071 inches (205 mm)
Mounting Ear 1 Hole	8.5 mm Unthreaded
Mounting Ear 2 Hole	8.5 mm Unthreaded
Registry OD	2.48 inches (63 mm)
Weight	7.66 lbs (3.48 kg)
Product Dimensions (L x W x H)	10 x 4 x 3.75 inches
Model Number	AM107631

2.1. Compatible OEM Part Numbers

This starter motor is a direct replacement for the following OEM part numbers:

- AM107631
- AM108390
- AM124993
- AM131296
- 12-098-03
- 24-098-01
- 24-098-01S
- LRS01429
- 128000-7480
- 228000-2640
- 9722809-264
- KOH2409801
- RS41263

2.2. Compatible Equipment Models

This starter is compatible with various models from Cub Cadet, John Deere, Scotts, and Toro. Please verify your specific model and engine requirements before installation.

- **Cub Cadet:** Mower - Riding (365, 3654, 3660), Mower - Zero Turn (Z48, Z54), Tractor - Compact (2130, 2135, 2185), Tractor - Garden (1863, 1864, 2084)
- **John Deere:** Lawn & Garden Tractor (GT225, LX255, STX38), Tractor - Lawn (LX173, STX30)
- **Scotts:** Lawn & Garden Tractor (GT2554, S2554)
- **Toro:** Mower - Zero Turn (Z118, Z150, Z153, Z222, Z252), Tractor - Lawn (266-H, 267-H, 268-H, 268-HE, 269-H, 270-H, 270-HE)

3. INSTALLATION (SETUP)

Proper installation is crucial for the safe and effective operation of your new starter motor. If you are unsure about any steps, it is recommended to consult a qualified technician.

3.1. Safety Precautions

- Always disconnect the battery's negative terminal before beginning any work on the electrical system to prevent accidental starting or electrical shock.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Ensure the engine is cool before working on it.
- Keep all tools and loose clothing away from moving parts.

3.2. Tools Required

- Socket/Wrench Set
- Battery Terminal Cleaner
- Wire Brush
- Dielectric Grease (optional)

3.3. Installation Steps

1. **Locate the Starter Motor:** Identify the existing starter motor on your engine. Its location may vary depending on the equipment model.
2. **Disconnect Battery:** Disconnect the negative (-) battery cable first, followed by the positive (+) battery cable.
3. **Disconnect Wiring:** Carefully disconnect all electrical connections from the old starter motor. Note the position of each wire for reinstallation.
4. **Remove Mounting Bolts:** Loosen and remove the mounting bolts that secure the old starter motor to the engine block. Support the starter motor as you remove the last bolt to prevent it from falling.
5. **Remove Old Starter:** Carefully remove the old starter motor from its mounting position.
6. **Prepare Mounting Surface:** Clean the mounting surface on the engine block to ensure a good electrical connection and proper fit for the new starter.
7. **Install New Starter:** Position the new Arrowhead starter motor in place and hand-tighten the mounting bolts. Ensure proper alignment.
8. **Secure Mounting Bolts:** Tighten the mounting bolts securely, following the manufacturer's torque specifications if available. Do not overtighten.
9. **Reconnect Wiring:** Reconnect all electrical wires to the new starter motor. Ensure connections are clean and tight. Apply dielectric grease if desired for corrosion protection.
10. **Reconnect Battery:** Reconnect the positive (+) battery cable first, then the negative (-) battery cable.
11. **Test:** Attempt to start the engine to verify proper operation of the new starter motor.

4. OPERATION

The starter motor is an integral part of your engine's starting system. Its operation is typically automatic upon turning the ignition key or pressing the start button.

4.1. Starting the Engine

1. Ensure the equipment is in neutral or park, and all safety interlocks are engaged.
2. Turn the ignition key to the "START" position or press the start button.
3. The starter motor will engage the engine's flywheel, rotating the crankshaft to initiate combustion.
4. Once the engine starts, release the ignition key or button immediately. Do not hold the starter engaged for more than 5-10 seconds at a time to prevent overheating.
5. If the engine does not start on the first attempt, wait at least 30 seconds before trying again to allow the starter motor to cool.

4.2. Normal Operation Sounds

A healthy starter motor will produce a distinct whirring sound followed by the engine cranking. Any grinding, clicking, or high-pitched whining sounds during starting may indicate an issue.

5. MAINTENANCE

While the Arrowhead Starter Motor is designed for durability and minimal maintenance, periodic checks can help ensure its longevity and reliable performance.

5.1. Periodic Checks

- **Battery Condition:** Ensure your battery is fully charged and in good condition. A weak battery is a common cause of perceived starter issues.
- **Cable Connections:** Periodically inspect all battery cables and starter motor connections for corrosion, looseness, or damage. Clean and tighten as necessary.
- **Mounting Security:** Check that the starter motor mounting bolts remain tight.
- **Cleanliness:** Keep the starter motor free from excessive dirt, oil, and debris.

5.2. Cleaning

Use a clean, dry cloth to wipe down the exterior of the starter motor. For stubborn grime, a mild degreaser can be used, but ensure no liquids enter the internal components.

6. TROUBLESHOOTING

This section outlines common issues you might encounter with your starter motor and potential solutions. Always ensure safety precautions are followed before attempting any troubleshooting.

Symptom	Possible Cause	Solution
Engine does not crank or cranks slowly	Weak or dead battery	Charge or replace battery. Test battery voltage.
	Corroded or loose battery/starter connections	Clean and tighten all connections.
	Faulty ignition switch or safety interlock	Inspect and test ignition switch and safety interlocks. Consult equipment manual.

Symptom	Possible Cause	Solution
Clicking sound, but engine does not crank	Low battery voltage (not enough to engage starter fully)	Charge or replace battery.
	Faulty starter solenoid	The starter motor includes an integrated solenoid. If the solenoid is faulty, the entire starter unit may need replacement.
Grinding noise during starting	Damaged starter drive gear or flywheel teeth	Inspect starter drive gear and engine flywheel for damage. Replacement may be necessary.
Starter spins but engine does not crank	Faulty overrunning clutch (bendix) in starter	The starter motor unit may need replacement.

If these troubleshooting steps do not resolve the issue, it is recommended to seek assistance from a qualified mechanic or contact customer support.

7. WARRANTY & SUPPORT

7.1. Product Warranty

This Arrowhead Starter Motor comes with a **1-year warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. It does not cover damage resulting from improper installation, misuse, neglect, accident, or unauthorized repair.

For warranty claims, please retain your proof of purchase and contact the seller or manufacturer directly.

7.2. Customer Support

If you require further assistance, have questions about installation, or need to report an issue, please contact the seller or manufacturer's customer support. When contacting support, please have your product model number (AM107631) and purchase details ready.

We are committed to ensuring our customers are satisfied with their purchase.



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This manual is for informational purposes only. Always refer to your equipment's specific service manual for detailed instructions.