

ARRMA AR390175

ARRMA Mega 550 12T Brushed Motor Instruction Manual

Model: AR390175

1. SAFETY INFORMATION

Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property, and cause serious injury. This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children. Do not use with incompatible components or alter this product in any way outside of the instructions provided by Horizon Hobby, LLC. This manual contains instructions for safety, operation, and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup, or use, in order to operate correctly and avoid damage or serious injury.

2. PRODUCT OVERVIEW

The ARRMA Mega 550 12T Brushed Motor (AR390175) is designed to deliver consistent performance for your remote control vehicle. This 12-turn, 550-size brushed motor offers a balance of straight-line speed and low-speed torque. It is compatible with 6-7 cell NiMh or 2S LiPo batteries, providing flexibility for various power setups.



Figure 1: The ARRMA Mega 550 12T Brushed Motor, showing its compact design, wiring, and shaft.

Key Features:

- High-quality 12T 550 size brushed motor.
- Optimized balance of straight-line pace and low-speed torque.
- Compatible with 6-7 cell NiMh or 2S LiPo battery configurations.

3. SETUP AND INSTALLATION

Proper installation is crucial for the motor's performance and longevity. Always refer to your vehicle's specific instruction manual for detailed steps on motor replacement.

1. **Disconnect Power:** Ensure the vehicle's battery is disconnected before beginning any installation or maintenance.
2. **Remove Old Motor:** Carefully disconnect the motor wires from the Electronic Speed Controller (ESC) and unmount the old motor from the motor mount. Note the pinion gear size and mesh settings.

- 3. **Install Pinion Gear:** Attach the appropriate pinion gear to the shaft of the new ARRMA Mega 550 12T motor. Ensure it is securely fastened.
- 4. **Mount New Motor:** Secure the new motor onto the vehicle's motor mount. Adjust the motor position to achieve the correct gear mesh between the pinion and spur gear. The gear mesh should allow for a small amount of play, similar to a piece of paper sliding between the teeth.
- 5. **Connect Wires:** Connect the motor wires to the ESC. Typically, brushed motors have two wires (positive and negative). Ensure correct polarity as indicated by the ESC and motor.
- 6. **Initial Test:** After installation, perform a low-speed test to ensure all components are functioning correctly and there are no unusual noises or binding.

4. OPERATION GUIDELINES

To maximize the lifespan and performance of your ARRMA Mega 550 12T Brushed Motor, follow these operational guidelines:

- **Break-in Period:** It is recommended to perform a gentle break-in procedure for new brushed motors. This typically involves running the motor at low RPMs with a light load for a short period (e.g., 5-10 minutes) to properly seat the brushes. Consult online resources or hobby shop experts for specific break-in methods.
- **Monitor Temperature:** Regularly check the motor's temperature during operation. Excessive heat can damage the motor. If the motor is too hot to touch (above 160°F / 70°C), allow it to cool down before further use. Adjust gearing or driving style if overheating is a recurring issue.
- **Battery Compatibility:** Use only compatible battery types (6-7 cell NiMh or 2S LiPo) as specified. Using higher voltage batteries can lead to immediate motor damage.
- **Avoid Overloading:** Do not continuously run the motor under heavy load or in conditions that cause excessive strain, such as driving through thick mud or tall grass for extended periods.
- **Proper Gearing:** Ensure your vehicle is geared appropriately for the terrain and driving style. Incorrect gearing can lead to overheating and reduced motor life.

5. MAINTENANCE

Regular maintenance will help extend the life and maintain the performance of your brushed motor.

- **Cleaning:** After each use, especially in dusty or dirty conditions, clean the exterior of the motor to remove debris. Use compressed air or a soft brush. Avoid getting moisture inside the motor.
- **Brush and Commutator Inspection:** Periodically inspect the motor brushes and commutator for wear. Worn brushes or a dirty/grooved commutator can reduce performance and motor life. Brushes are consumable parts and will need replacement over time.
- **Bearing Lubrication:** Some brushed motors have serviceable bearings that can be lightly lubricated with a drop of specialized motor bearing oil. Refer to specific motor maintenance guides if available.
- **Storage:** When not in use for extended periods, store the motor in a clean, dry environment away from extreme temperatures.

6. TROUBLESHOOTING

If you encounter issues with your ARRMA Mega 550 12T Brushed Motor, consider the following common troubleshooting steps:

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Motor not running or intermittent operation	Loose wire connections Depleted battery Worn motor brushes Damaged ESC	Check and secure all wiring. Charge or replace battery. Inspect and replace brushes if necessary. Test with a known good ESC.
Motor overheating	Incorrect gearing (too high) Excessive load Motor binding Worn bearings	Reduce pinion gear size or increase spur gear size. Avoid continuous heavy load. Check drivetrain for obstructions or tight spots. Inspect and replace motor bearings.
Reduced power or speed	Worn brushes or commutator Weak battery Poor wire connections	Inspect and replace brushes; clean commutator. Charge or replace battery. Check and secure all wiring.

7. SPECIFICATIONS

Feature	Detail
Brand	ARRMA
Model Name	Mega 550 12T Brushed Motor
Model Number	AR390175
Voltage Compatibility	12 Volts (compatible with 6-7 cell NiMh or 2S LiPo)
Turns	12T
Size	550
Shaft Diameter	3.2 Millimeters
Item Weight	7.7 ounces (approx. 218 grams)
Product Dimensions	4 x 2.5 x 1.6 inches (approx. 10.16 x 6.35 x 4.06 cm)
Material	Plastic (housing/endbell components)

8. WARRANTY AND SUPPORT

For warranty information and technical support regarding your ARRMA Mega 550 12T Brushed Motor, please refer to the official ARRMA website or contact their customer service department. Warranty terms and conditions may vary by region and purchase location. Always retain your proof of purchase for warranty claims. You can find more information and contact details on the official ARRMA website:www.arrma-rc.com

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question