

GoolRC QKF8641388384913UI

GoolRC Surpass Hobby Rocket V3 540 13.5T Sensored Brushless Motor

User Instruction Manual

1. INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of your GoolRC Surpass Hobby Rocket V3 540 13.5T Sensored Brushless Motor. Designed for 1/10 scale RC cars and trucks, this motor offers high performance and reliability. Please read this manual thoroughly before use to ensure proper function and longevity of your product.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury or damage to the product and surrounding equipment:

- Ensure all connections are secure and correct before powering on.
- Do not operate the motor in wet conditions or near water.
- Keep hands and loose clothing away from rotating parts.
- Use only compatible Electronic Speed Controllers (ESCs) and power sources.
- Avoid prolonged operation at maximum load to prevent overheating.
- Disconnect power before performing any maintenance or adjustments.
- This product is recommended for users aged 14 years and up.

3. PACKAGE CONTENTS

Verify that all items are present in your package:

- 1 x 540 13.5T Sensored Brushless Motor
- 1 x Sensored Connected Cable
- 1 x Instruction Manual



Image: Contents of the GoolRC Surpass Hobby Rocket V3 540 13.5T Sensored Brushless Motor package, including the motor, a sensored connection cable, and the instruction manual.

4. PRODUCT OVERVIEW

The GoolRC Surpass Hobby Rocket V3 540 13.5T motor features a robust design for optimal performance in 1/10 scale RC applications. Key features include:

- **CNC Machined Billet T6 Aluminum Heatsink Can:** Ensures efficient heat dissipation.
- **High Purity Copper Windings:** Maximizes conductivity for improved efficiency.
- **High Power Solder Tabs:** For secure and reliable electrical connections.
- **Removable/Replaceable Rotor:** Allows for easy maintenance and customization.
- **Precision Engineered:** Designed for maximum energy conversion.
- **Adjustable Timing:** Allows fine-tuning of motor performance.
- **Dual Sensor Port:** Provides convenient wiring options for sensored ESCs.
- **IFMAR, ROAR Compliance:** Meets competitive racing standards.



Image: An angled view of the GoolRC Surpass Hobby Rocket V3 540 13.5T Sensored Brushless Motor, highlighting its black aluminum casing and gold-colored solder tabs.



Product size

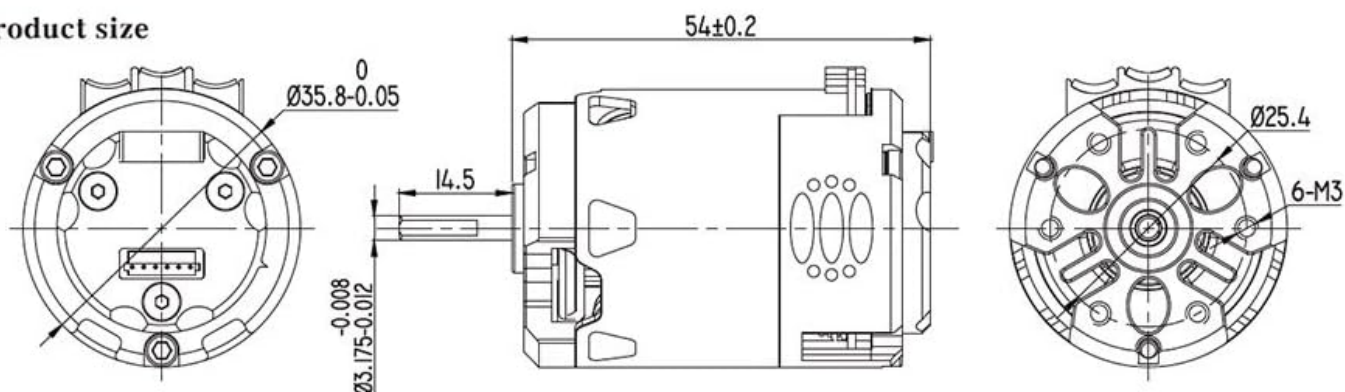


Image: The GoolRC Surpass Hobby Rocket V3 motor, illustrating the location of its two sensor ports and providing a technical drawing with precise dimensions (diameter, length, shaft length, shaft diameter).

5. SETUP

Follow these steps to properly install and connect your brushless motor:

1. **Mounting the Motor:** Securely mount the motor to your RC vehicle's motor mount using M3 screws. Ensure proper gear mesh between the motor pinion and the spur gear.
2. **Connecting to ESC (Sensored Mode):**
 - Connect the sensored cable from one of the motor's sensor ports to the sensor port on your sensored ESC.
 - Connect the three motor phase wires (A, B, C) to the corresponding output terminals on your ESC. The motor features high power solder tabs for these connections.
3. **Connecting to ESC (Sensorless Mode - if applicable):** If using a sensorless ESC, simply connect the three motor phase wires (A, B, C) to the ESC's output terminals. The sensored cable is not required.
4. **Power Connection:** Connect your ESC to a compatible LiPo battery (1-3s LiPo supported).
5. **Initial Setup:** Refer to your ESC's instruction manual for initial calibration and setup procedures, including throttle range calibration.

6. OPERATING

Once installed and connected, the GoolRC Surpass Hobby Rocket V3 motor is ready for operation. Ensure your RC vehicle's battery is fully charged and all radio system components are properly linked and calibrated.

Adjustable Timing

This motor features adjustable timing, allowing you to fine-tune its performance characteristics. Adjusting the timing can affect motor efficiency, RPM, and temperature. Consult your ESC manual and experiment with small adjustments to find the optimal setting for your specific application and driving style. Always monitor motor temperature when adjusting timing.



Image: An angled view of the GoolRC Surpass Hobby Rocket V3 motor, clearly showing the adjustable timing scale on the end bell, which allows for fine-tuning of motor performance.

7. MAINTENANCE

Regular maintenance will help prolong the life and performance of your motor:

- **Cleaning:** Periodically clean the motor to remove dirt, dust, and debris. Use a soft brush or compressed air. Avoid using solvents that may damage the motor's components.
- **Temperature Monitoring:** Always monitor the motor's operating temperature. Excessive heat can damage the motor. If the motor consistently runs hot, check gear ratios, timing settings, and ensure adequate airflow.
- **Rotor Inspection:** The rotor is removable/replaceable. Periodically inspect it for any signs of wear or damage.
- **Bearing Check:** Check the motor bearings for smooth operation. Worn bearings can increase friction and heat.
- **Connection Integrity:** Ensure all solder tabs and sensor cable connections remain secure and free from corrosion.

8. TROUBLESHOOTING

If you encounter issues with your motor, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Motor not spinning or cogging	Incorrect ESC calibration, loose connections, sensor cable issue (if sensed), ESC fault.	Recalibrate ESC. Check all wiring and sensor cable. Test with a different ESC if possible.
Motor overheating	Incorrect gearing, excessive timing, insufficient airflow, too high voltage/load.	Adjust gear ratio (smaller pinion/larger spur). Reduce motor timing. Ensure proper ventilation. Check battery voltage.
Reduced power/RPM	Low battery voltage, worn motor bearings, incorrect timing, damaged windings.	Charge battery. Inspect/replace bearings. Adjust timing. If windings are damaged, motor replacement may be necessary.
Unusual noise from motor	Worn bearings, debris inside motor, improper gear mesh.	Inspect/replace bearings. Clean motor. Adjust gear mesh.

9. SPECIFICATIONS

Feature	Specification
Model	Rocket V3 540
Turns	13.5T
KV (RPM/Volt)	3200KV
Watts	190W
Max Amps	49A
Support Battery	1-3s LiPo
Diameter	36mm
Length	54mm

Feature	Specification
Shaft Length	14.5mm
Shaft Diameter	3.175mm
Rotor	12.5 * 7.2mm
Weight	159g
Design	Sensored
Rotor Poles	2
Mounting Hole	M3
Material	Aluminum

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official GoolRC website or contact their customer service directly. Keep your purchase receipt as proof of purchase.
For further assistance, you may visit the [GoolRC Store on Amazon](#).

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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.

Name

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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

