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› HAWK'S WORK Brushless Motor 2212 920KV Instruction Manual

HAWK'S WORK A2212C

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Model: A2212C

INTRODUCTION

This manual provides essential information for the proper setup, operation, and maintenance of your HAWK'S WORK 2212 920KV Brushless Motor. Designed for various RC applications, including multi-copters and fixed-wing aircraft, this motor offers stable and smooth performance with minimal vibration.



Image: HAWK'S WORK 2212 920KV Brushless Motor with pre-soldered connectors.

SPECIFICATIONS

- **KV Rating:** 920KV
- **Voltage Range:** 7.4-14.8V (2-4S LiPo)
- **Weight:** 52g (approximately 1.83 ounces)
- **Mounting Hole Pitch:** 16mm & 19mm
- **Recommended Propeller Size:** 8-10 inch
- **Connector Type:** 3.5mm Bullet (pre-soldered)
- **Product Dimensions:** 1.09 x 1.09 x 1.5 inches

Dimensioned Drawing



Image: Detailed technical drawing showing all dimensions of the motor in millimeters.

Performance Data (9450 Propeller)

Moto	KV (PRM/V)	Voltage (V)	Prop (Inch)	Currenc (A)	Thrust (G)	Power (W)	Efficiency (G/W)	Speed (RPM)
A2212	920	11.1 (3S)	9450	1	110	11.1	9.91	3160
				2	210	22.2	9.46	4110
				3	270	33.3	8.11	4830
				4	340	44.4	7.66	5310
				5	410	55.5	7.39	5810
				6	480	66.6	7.21	6170
				7	550	77.7	7.08	6460
				7.7	600	85.47	7.02	6690
		14.8 (4S)	9450	1	110	14.80	7.43	3490
				2	210	29.60	7.09	4500
				3	280	44.40	6.31	5180
				4	370	59.20	6.25	5690
				5	460	74.00	6.22	6150
				6	550	88.80	6.19	6580
				7	620	103.60	5.98	6950
				8	670	118.40	5.66	7260
				9	740	133.20	5.56	7590
				10	810	148.00	5.47	7860
				11.1	860	164.28	5.23	8220

Image: Table detailing current, thrust, power, efficiency, and speed for 3S and 4S LiPo batteries with a 9450 propeller.

PACKAGE CONTENTS

The following items are included with your HAWK'S WORK 2212 920KV Brushless Motor:

- 1 x A2212 Brushless Motor
- 1 x Propeller Cap (Silver or Black, depending on variant)
- 4 x M3 Mounting Screws



Image: Contents of the package including the motor, propeller cap, and mounting screws.

SETUP AND INSTALLATION

Follow these steps for proper installation of your brushless motor:

1. **Mounting the Motor:** Secure the motor to your aircraft frame using the provided M3 screws. Ensure the mounting holes (16mm or 19mm pitch) align correctly with your frame.
2. **Connecting to ESC:** The motor comes with pre-soldered 3.5mm bullet connectors. Connect these to your Electronic Speed Controller (ESC). Ensure correct polarity if applicable, though brushless motors typically do not have a strict polarity for phase wires. If the motor spins in the wrong direction, swap any two of the three motor wires.
3. **Propeller Installation:** This motor supports two types of propellers: M6 self-tightening and M8 counterbore with a 7mm inner bore. Choose the appropriate propeller for your application and ensure it is securely fastened. For self-tightening propellers, ensure the rotation direction of the motor matches the tightening direction of the propeller nut.

to prevent it from loosening during flight.

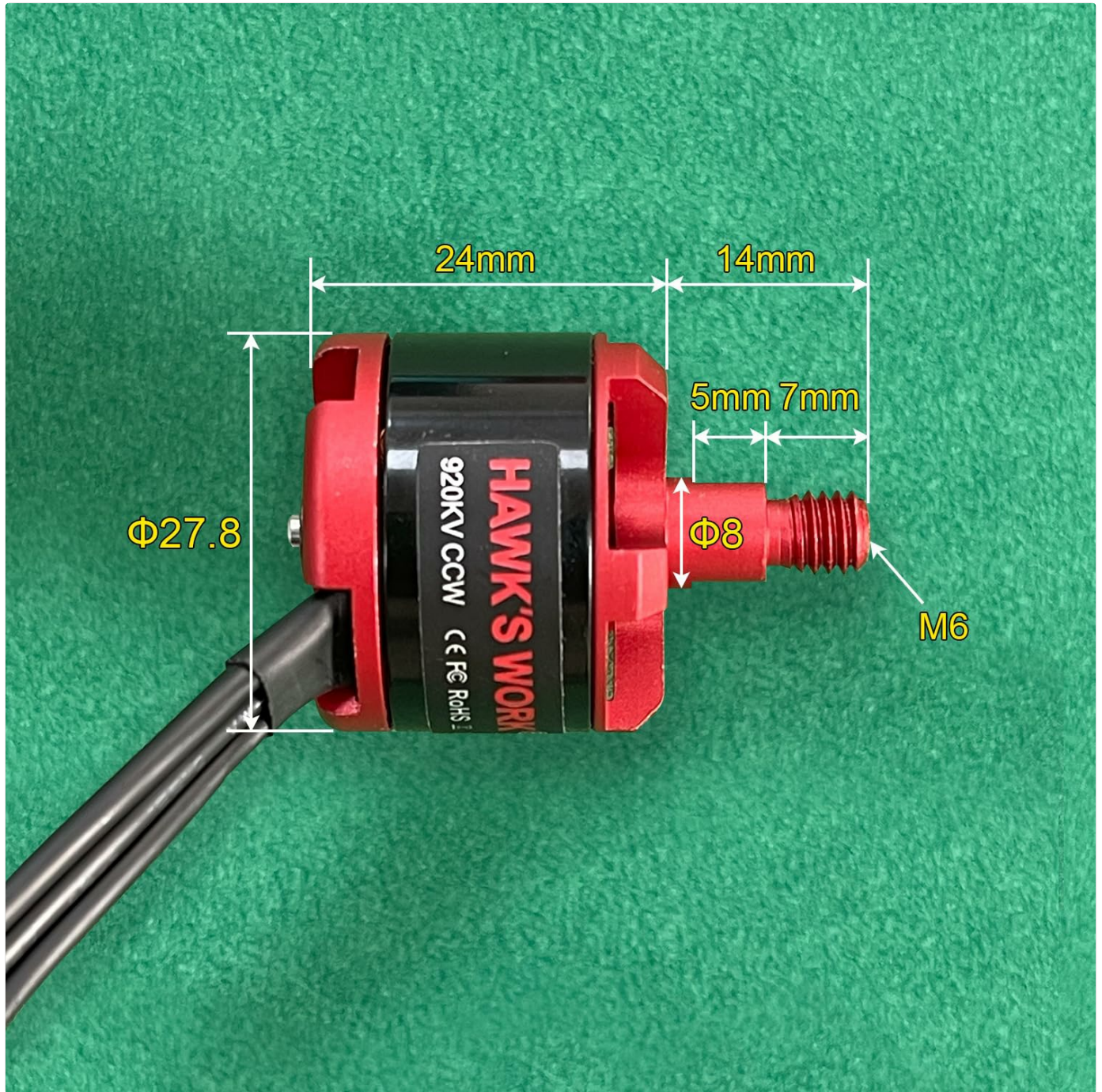


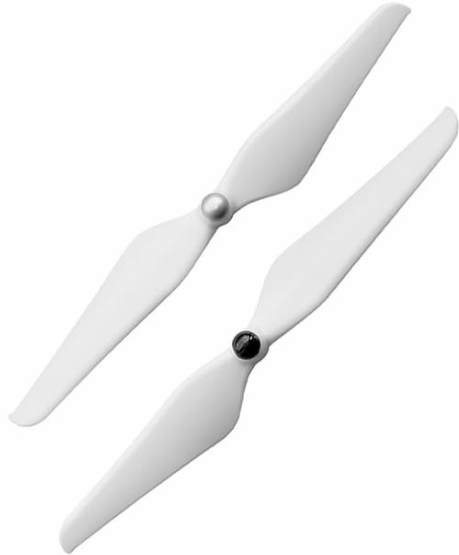
Image: Side view of the motor illustrating key dimensions for mounting and shaft details.



Image: Bottom view of the motor showing the 16mm and 19mm mounting hole patterns.

Propeller of 2 Types

Self tightening: M6



Elliptic: M8-7mm

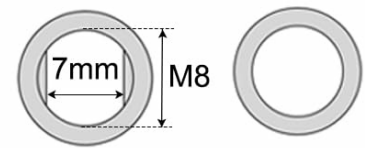


Image: Visual guide for selecting and installing M6 self-tightening or M8 counterbore propellers.

Unboxing and Initial Connection

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Video: An unboxing of the motor, showing the included components and a demonstration of connecting it to an ESC and battery for initial testing.

OPERATION

Once installed, ensure all connections are secure before powering on your system. The motor should operate smoothly with minimal noise and vibration. Always perform a pre-flight check to confirm correct propeller rotation and secure mounting.

Motor Running Demonstration

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Video: A brief demonstration of the motor spinning, highlighting its smooth and balanced operation.

MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your brushless motor:

- **Cleaning:** Keep the motor free from dust, dirt, and debris. Use compressed air or a soft brush to clean the motor housing and internal components if accessible.
- **Inspection:** Periodically check for any signs of wear, damage, or loose connections. Pay attention to the motor wires, connectors, and the propeller shaft.
- **Bearing Check:** Listen for unusual noises during operation, which might indicate worn bearings. If necessary, replace bearings to maintain smooth performance.

TROUBLESHOOTING

If you encounter issues with your motor, consider the following:

- **Motor Not Spinning:** Check all electrical connections, including battery, ESC, and motor wires. Ensure the ESC is properly calibrated with your transmitter.
- **Irregular Spinning/Cogging:** This can indicate an issue with the ESC timing, a damaged motor winding, or a faulty connection. Try adjusting ESC settings or inspecting motor wires for damage.
- **Excessive Vibration/Noise:** Check for bent propeller shafts, unbalanced propellers, or loose motor mounts. Ensure the motor is securely attached to the frame.
- **Overheating:** Ensure the motor is not overloaded with too large a propeller or excessive voltage. Provide adequate airflow for cooling.

COMPATIBILITY

The HAWK'S WORK 2212 920KV Brushless Motor is suitable for a wide range of RC applications, including:

- **Multicopter Drones:** F330, F450, F550, S500, S550, X525
- **Aerial Photography Rigs:** DJI Phantom series (upgrade/modification)
- **Fixed-Wing Aircraft:** DIY electric RC planes, trainers, and other models

WARRANTY AND SUPPORT

HAWK'S WORK stands by the quality of its products. We offer a free replacement or refund for quality problems within 3 months of purchase. For any support inquiries or to address quality issues, please refer to the contact information provided with your product, typically accessible by scanning the QR code on the packaging or product documentation. Additionally, a 30-day return/replacement policy is available for this product.

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