

Manuals+

[Q & A](#) | [Deep Search](#) | [Upload](#)

manuals.plus /

> [INJORA](#) /

> [INJORA Fat Viper 2204 2400KV Brushless Outrunner Motor for 1/24 RC Crawler - Instruction Manual](#)

INJORA INM18-2400KV

INJORA Fat Viper 2204 2400KV Brushless Outrunner Motor for 1/24 RC Crawler - Instruction Manual

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your INJORA Fat Viper 2204 2400KV Brushless Outrunner Motor. This motor is specifically designed to enhance the performance of 1/24 scale RC crawlers, such as the Axial SCX24, offering smooth low-speed control and powerful high-speed acceleration. Please read this manual thoroughly before use to ensure proper setup and optimal performance.

2. PRODUCT OVERVIEW

The INJORA Fat Viper 2204 2400KV Brushless Outrunner Motor is engineered for superior performance in micro RC crawlers. Key features include:

- **Quiet Operation:** Runs significantly quieter than traditional brushed motor systems.
- **Smooth Control:** Delivers linear and precise control at low speeds, crucial for crawling.
- **Powerful Performance:** Provides aggressive power at high speeds for dynamic driving.
- **Optimized for Torque:** Designed to deliver high torque, especially when paired with 3S batteries.
- **Durable Construction:** Features a robust design for longevity in demanding RC environments.

3. PACKAGE CONTENTS

Verify that all items listed below are included in your package:

- 1 x Fat Viper 2204 Brushless Motor
- 1 x Motor Pinion 12T (0.5mod)
- 1 x Motor Mount with 32T Gear

4. SPECIFICATIONS

Specification	Value
Model Number	2204
Motor Type	Sensorless Brushless Outrunner
RPM/Volt (KV)	2400KV
Motor Poles	14
Sine Mode Power	7
Max Power	2500W
No-Load Current	0.7A
Max Peak Current	50A
Motor Connectors	PH2.0 3Pin
Dimensions	28*19.2mm (1.1"W x 0.75"H)
Motor Output Shaft	2mm
Motor Pinion	0.5mod 12T
Weight	28g (0.988 ounces)
Housing Material	Aluminum, Carbon Fibre
Internal Gears Material	Stainless Steel
Internal Gears	0.5mod 32T

5. INSTALLATION GUIDE

Follow these steps to properly install the Fat Viper 2204 Brushless Motor into your 1/24 RC Crawler.

5.1 Compatibility Notes

- This motor is compatible with INJORA LCG chassis kits.
- It is compatible with the INJORA MBL32 brushless ESC. **It is NOT compatible with stock ESCs.**
- Adjusting MBL32 ESC settings according to the 2204 motor parameters is crucial. Refer to the INJORA MBL32 ESC Programming Tutorial for detailed instructions.
- Installation may require cutting the ESC tray to create sufficient space for the brushless kit.
- This motor is NOT compatible with the Deadbolt version of the INJORA LCG Chassis.

5.2 General Installation Steps

1. **Prepare the Chassis:** Disconnect the battery and remove the existing motor and transmission assembly from your RC crawler. Ensure the chassis is clean and free of debris.
2. **Install Pinion Gear:** Secure the 12T pinion gear onto the motor output shaft. Ensure it is properly aligned and tightened.



Image: INJORA Fat Viper 2204 2400KV Brushless Outrunner Motor with 12T pinion gear installed on the shaft.

3. **Attach Motor Mount:** Mount the Fat Viper motor to the provided motor mount. Ensure the 32T internal gear on the mount meshes correctly with the 12T pinion gear on the motor.



Image: INJORA Fat Viper 2204 2400KV Brushless Outrunner Motor attached to its motor mount.

4. **Install Assembly:** Carefully install the motor and mount assembly into your RC crawler chassis. You may need to modify the ESC tray as noted in the compatibility section to ensure proper fitment.
5. **Connect ESC:** Connect the motor's PH2.0 3Pin connectors to your compatible brushless ESC (e.g., INJORA MBL32). Ensure all connections are secure.
6. **Secure Wiring:** Route and secure all wiring to prevent interference with moving parts.
7. **Final Check:** Before powering on, double-check all connections and ensure the motor and gears spin freely without obstruction.

5.3 Example Installation

Below is an example of the motor installed in an RC crawler chassis.

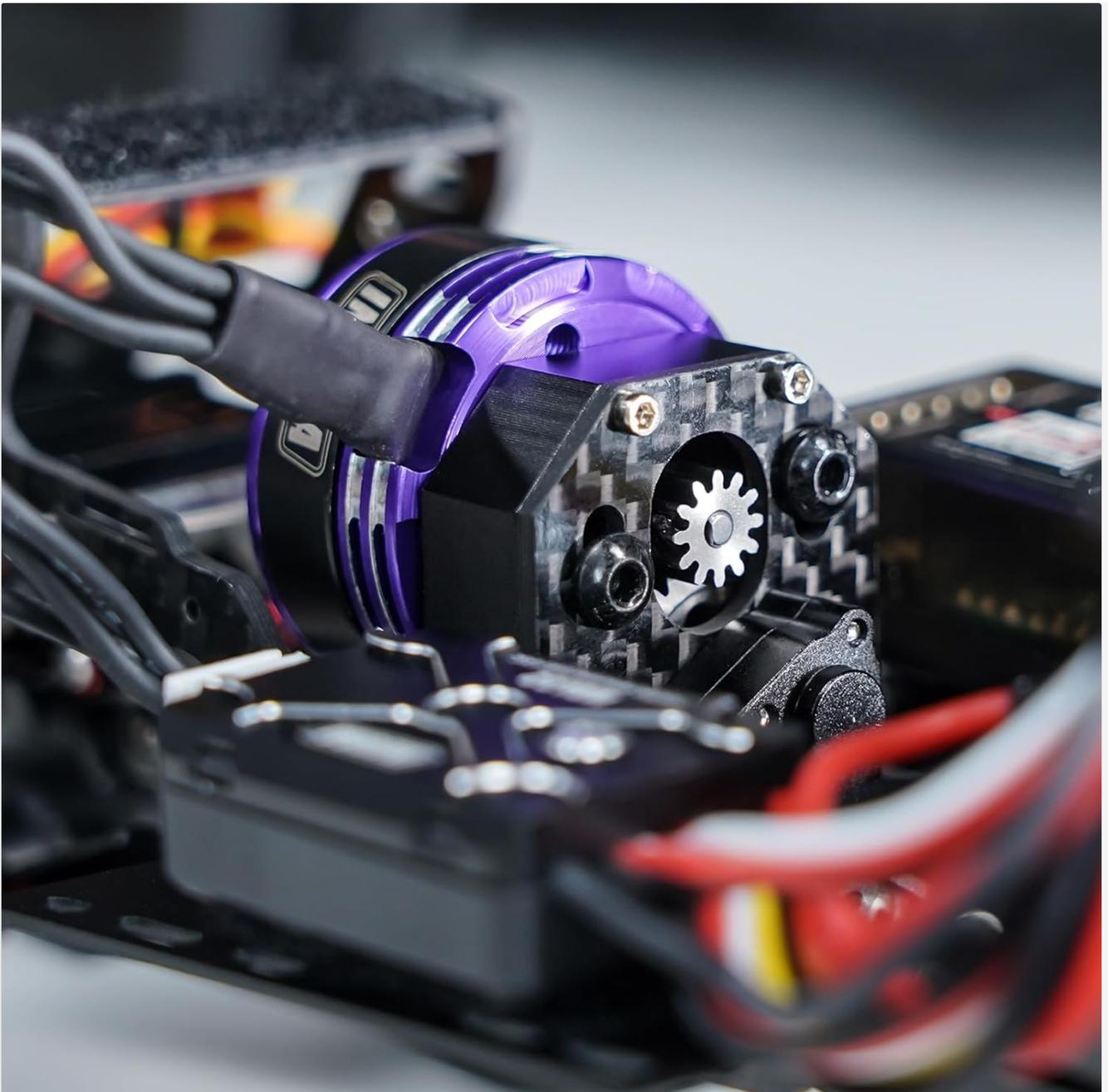


Image: INJORA Fat Viper 2204 2400KV Brushless Outrunner Motor installed in an RC crawler chassis.

6. OPERATING INSTRUCTIONS

Once installed, the INJORA Fat Viper motor provides a versatile driving experience. Consider the following for optimal operation:

- **Battery Selection:** 3S batteries are highly recommended to achieve the motor's full potential, especially for high torque applications.
- **ESC Settings:** Ensure your brushless ESC (e.g., INJORA MBL32) is programmed with settings appropriate for a 2204 2400KV outrunner motor. Incorrect settings can lead to poor performance or damage.
- **Low-Speed Control:** The motor is designed for smooth and linear response at low speeds, ideal for precise rock crawling maneuvers.
- **High-Speed Power:** Experience powerful and aggressive acceleration at higher throttle inputs.
- **Temperature Monitoring:** Regularly check the motor and ESC temperatures during operation, especially during initial runs or demanding conditions, to prevent overheating.

7. MAINTENANCE

Regular maintenance ensures the longevity and consistent performance of your motor:

- **Keep Clean:** Periodically clean the motor to remove dirt, dust, and debris that can accumulate and affect performance. Use a soft brush or compressed air.
- **Inspect Connections:** Regularly check all electrical connections (motor to ESC, battery to ESC) for tightness and signs of wear or corrosion.
- **Gear Mesh:** Ensure the pinion and spur gears maintain proper mesh to prevent premature wear and ensure smooth power transfer.
- **Bearing Check:** Listen for unusual noises from the motor, which could indicate worn bearings. Replace bearings if necessary.
- **Storage:** Store the motor in a clean, dry environment when not in use.

8. TROUBLESHOOTING

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

- **Motor Not Spinning:**
 - Check all electrical connections between the motor, ESC, and battery.
 - Ensure the battery is charged and properly connected.
 - Verify that the ESC is powered on and correctly calibrated with your transmitter.
 - Confirm the ESC is compatible with brushless motors and specifically with this motor's specifications.
- **Erratic or Jerky Operation:**
 - Recheck ESC programming settings. Incorrect timing or other parameters can cause erratic behavior.
 - Inspect motor wires for damage or loose connections.
 - Ensure there are no obstructions preventing smooth rotation of the motor or drivetrain.
- **Overheating:**
 - Check gear mesh; too tight can cause excessive heat.
 - Ensure the motor is not over-gearred for your application. Consider a smaller pinion or larger spur gear.
 - Verify battery voltage and discharge rate are appropriate for the motor.
 - Ensure adequate airflow around the motor and ESC.
- **Unusual Noise:**
 - Inspect for foreign objects lodged in the motor or gears.
 - Check motor bearings for wear.
 - Verify gear mesh is correct.

9. IMPORTANT NOTES AND WARNINGS

- This product is recommended for users aged 14 years and up.
- Always disconnect the battery from the ESC and motor when not in use to prevent accidental operation and potential damage.
- Ensure proper ventilation for the motor and ESC during operation to prevent overheating.
- Use only compatible ESCs and batteries as specified. Using incompatible components can lead to malfunction.

or damage.

- Exercise caution when handling the motor after use, as it may be hot.



© 2026 INJORA. All rights reserved. For support, please visit the official INJORA website or contact your retailer.