Robocraze TIFQC0146

Robocraze MARK4 V2 8-Inch Drone Frame User Manual

Model: TIFQC0146

1. Introduction

This manual provides instructions for the assembly, maintenance, and specifications of the Robocraze MARK4 V2 8-Inch 367mm Carbon Fiber Drone Frame. This frame is designed for FPV racing and freestyle applications, offering a balance of lightweight construction and durability.
The MARK4 V2 frame features premium carbon fiber construction for impact resistance and a 367mm wheelbase for stability. It supports various mounting options for cameras and flight controllers, and includes reinforced plates and arm bracers for demanding flight conditions. The kit comes with essential hardware, anti-slip silicone pads, and sponge-damping pads to ensure a secure and vibration-minimized assembly.

2. Key Features

- **Carbon Fiber Construction:** Built from premium carbon fiber for lightweight strength and robust impact resistance.
- **Optimal 367mm Wheelbase:** Provides excellent stability for freestyle and long-range FPV flying.
- **Multiple Mounting Options:** Accommodates 19x19mm cameras and 20x20mm or 30.5x30.5mm flight controllers.
- **Reinforced Durability:** Enhanced with stiffening plates and arm bracers to withstand tough conditions.
- **Vibration-Free Build Kit:** Includes essential hardware, anti-slip silicone pads, and sponge-damping pads for secure assembly and minimal vibrations.

3. What's Included

The Robocraze MARK4 V2 8-Inch Drone Frame kit includes the following components:

- 1x MARK4 V2 8-inch Drone Frame

- Essential assembly hardware (screws, standoffs, etc.)
- Anti-slip silicone pads
- Sponge-damping pads

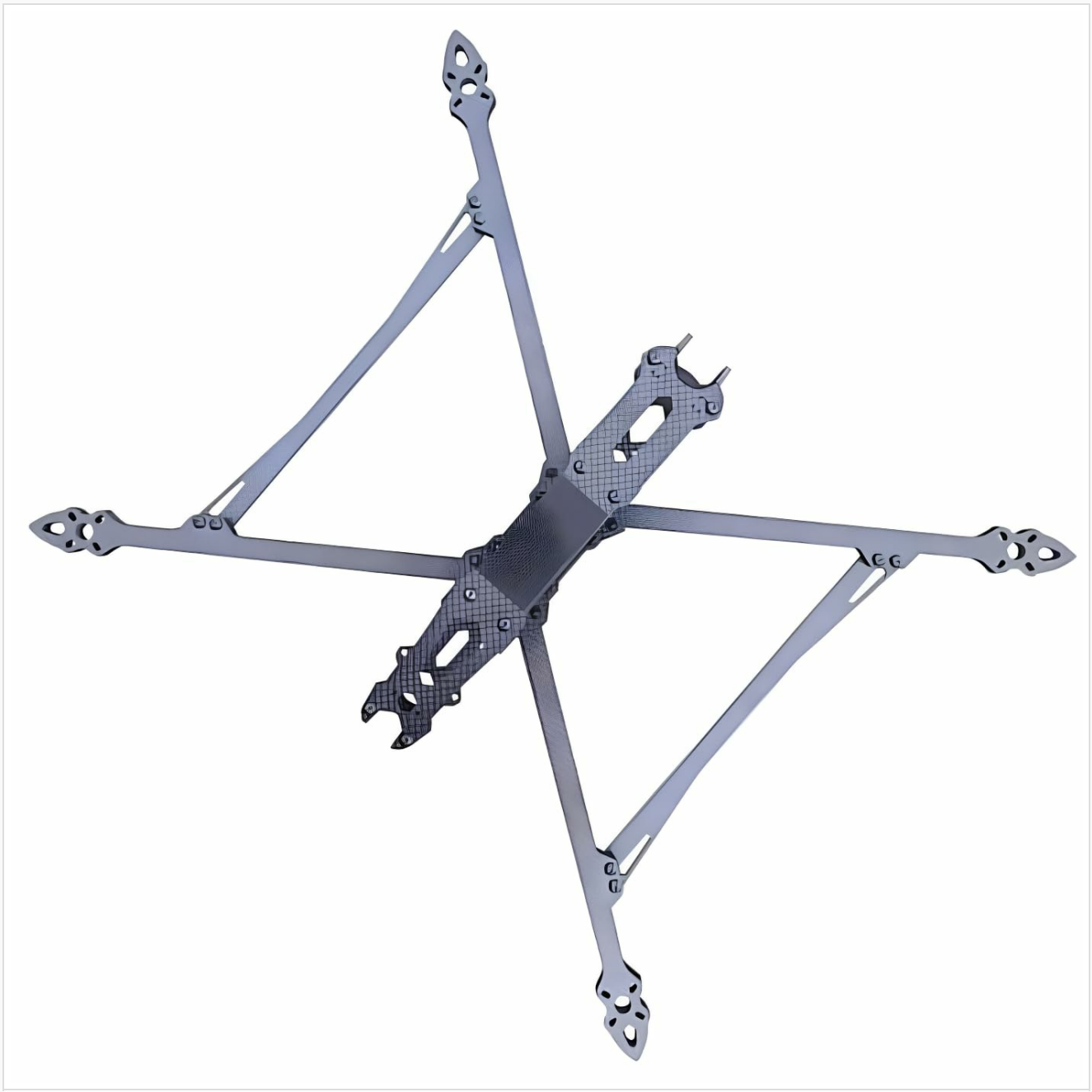


Figure 1: Assembled Robocraze MARK4 V2 8-inch drone frame.

4. Setup and Assembly

This section outlines the general steps for assembling the MARK4 V2 drone frame. Specific component placement may vary based on your chosen electronics (flight controller, ESCs, motors, camera, etc.).

1. **Prepare Components:** Unpack all frame components and hardware. Ensure all carbon fiber parts are free from defects.
2. **Assemble Arms:** Attach the carbon fiber arms to the main bottom plate using the provided screws. Ensure proper orientation and secure tightening. The frame is designed with reinforced stiffening plates and arm bracers for added durability.
3. **Install Standoffs:** Mount the standoffs to the bottom plate. These will support the top plate and provide space

for your electronics.

4. **Mount Flight Controller and ESCs:** Install your flight controller (FC) and Electronic Speed Controllers (ESCs) onto the designated mounting points. The frame supports 20x20mm or 30.5x30.5mm FC mounting patterns. Use the sponge-damping pads under the FC to minimize vibrations.
5. **Install Camera:** Mount your FPV camera. The frame is compatible with 19x19mm cameras.
6. **Attach Top Plate:** Secure the top plate to the standoffs.
7. **Apply Anti-slip Pads:** Affix the anti-slip silicone pads to the battery mounting area to prevent battery movement during flight.
8. **Final Inspection:** Double-check all screws for tightness and ensure no components are loose.



Figure 2: Detail of the central mounting area for flight controller and other electronics.

5. Operating Considerations

While the MARK4 V2 is a frame and does not have operational controls itself, its design directly impacts the flight characteristics of your drone. Proper assembly and component selection are crucial for optimal performance.

- **Weight Distribution:** Ensure your electronics are distributed evenly to maintain the drone's center of gravity for stable flight.
- **Vibration Management:** Utilize the provided sponge-damping pads for your flight controller to minimize vibrations, which can affect flight performance and video quality.
- **Propeller Clearance:** Verify that your chosen propellers have adequate clearance from the frame and other components. The 8-inch frame is designed for larger propellers.
- **Cable Management:** Route all wiring neatly and securely to prevent interference with propellers or moving parts, and to protect against damage.

6. Maintenance

Regular maintenance ensures the longevity and safe operation of your drone frame.

- **Inspect for Damage:** After each flight, visually inspect the carbon fiber frame for cracks, delamination, or stress marks, especially on the arms and mounting points.
- **Check Screws:** Periodically check all screws for tightness. Vibrations during flight can cause screws to loosen.
- **Clean Frame:** Clean the frame regularly to remove dirt, dust, and debris, which can accumulate and potentially interfere with electronics or add unnecessary weight. Use a soft, dry cloth.
- **Replace Damaged Parts:** If any part of the frame is damaged, replace it immediately to prevent further issues or catastrophic failure during flight.

7. Troubleshooting

This section addresses common issues related to the drone frame itself. For issues related to electronics (flight controller, ESCs, motors), refer to their respective manuals.

Problem	Possible Cause	Solution
Excessive vibrations	Loose screws, damaged frame arm, improperly mounted flight controller.	Tighten all frame screws. Inspect arms for damage and replace if necessary. Ensure flight controller is mounted with damping pads.
Frame feels unstable	Incorrect assembly, uneven weight distribution, damaged frame.	Review assembly steps. Rebalance components. Inspect frame for damage.
Components not fitting	Incorrect component size, misaligned mounting holes.	Verify component specifications against frame compatibility (e.g., 19x19mm camera, 20x20mm/30.5x30.5mm FC). Ensure proper alignment during assembly.

8. Specifications

Feature	Detail
Brand	Robocraze
Model Number	TIFQC0146
Frame Type	FPV Racing & Freestyle Drone Frame
Material	Carbon Fiber

Feature	Detail
Wheelbase	367mm (8-inch propeller compatible)
Item Weight	195 Grams
Camera Compatibility	19x19mm
Flight Controller Mounting	20x20mm, 30.5x30.5mm
Country of Origin	China



Figure 3: Robocraze MARK4 V2 frame dimensions.

9. Warranty and Support

For warranty information and technical support, please contact Robocraze directly. Details for contacting the manufacturer are provided below:

Manufacturer: Robocraze

Address: Ground Floor, 912/10 Survey no. 104 4th G street, Chelekare, Kalyan Nagar, Bengaluru - 560043
Phone: 8123057137

You can also visit the official Robocraze store on Amazon for additional product information and support resources:
Robocraze Amazon Store

© 2024 Robocraze. All rights reserved.