LDARC 647625098588

LDARC M5 200mm FPV Racing Drone Frame Kit Instruction Manual

Brand: LDARC | Model: M5 (647625098588)

1. Introduction

This manual provides detailed instructions for the assembly, operation, and maintenance of your LDARC M5 200mm FPV Racing Drone Frame Kit. This kit is designed for enthusiasts looking to build a high-performance 5-inch FPV racing drone. Please read this manual thoroughly before beginning assembly to ensure proper setup and safe operation.

2. Product Features

- Sleek and compact design suitable for both indoor and outdoor FPV drone builds.
- Constructed from solid and durable carbon fiber for exceptional strength and rigidity.
- Includes injection-molded canopy guards in various colors for protection and customization.
- Ultra-lightweight design contributing to enhanced flight performance.
- Designed for 5-inch propellers, offering a balance of agility and power.

3. Package Contents

Upon opening the package, verify that all components listed below are present and undamaged:

- LDARC M5 200mm FPV Racing Drone Frame Kit (Carbon Fiber Components)
- Set of 6 Injection-Molded Canopies (various colors)
- Required Fasteners and Standoffs for assembly

Note: This kit includes the frame components only. Additional parts such as motors, flight controller, ESCs, camera, video transmitter, receiver, and battery are required to complete a functional FPV drone.

4. Specifications

Feature	Specification
Wheelbase	200mm

Feature	Specification
Weight (Frame Only)	77g
Propeller Size Compatibility	5 Inches
Flight Controller (FC) Mounting	20x20mm or 30.5x30.5mm
Motor Mounting Pattern	16mm
Camera Spacing	14mm
Arm Thickness	6mm
Frame Material	Carbon Fiber
Canopy Material	Injection Molded Plastic

5. Product Overview & Components

Figure 5.1: Assembled LDARC M5 200mm FPV Racing Drone Frame Kit. This image displays the carbon fiber frame structure with four arms extending outwards, a central body section, and a vibrant pink injection-molded canopy mounted on top, providing protection for internal components and housing for the FPV camera. The frame is lightweight and designed for high-performance FPV racing.

The LDARC M5 frame consists primarily of a carbon fiber main plate and arms, designed for maximum rigidity and minimal weight. The kit includes various standoffs and screws to assemble the frame and mount your electronic components. The interchangeable canopies offer both protection and aesthetic customization.

- **Carbon Fiber Arms:** Four 6mm thick arms provide robust support for motors and resist bending during crashes.

- **Main Plate:** The central carbon fiber plate serves as the foundation for mounting the flight controller, ESCs, and other electronics.
- **Top Plate:** A smaller carbon fiber plate that mounts above the main plate, often used for mounting the video transmitter or receiver.
- **Standoffs:** Aluminum or nylon standoffs create space between the plates for component installation and airflow.
- **Canopy:** The injection-molded canopy protects the FPV camera and other sensitive electronics, while also providing a mounting point for the camera.

6. Setup Guide

6.1. Pre-Assembly Checklist

- Ensure you have a clean, well-lit workspace.
- Gather necessary tools: small screwdrivers (hex/Phillips), tweezers, small pliers, thread-locker (optional but recommended for motor screws).
- Familiarize yourself with all frame components and hardware.

6.2. Assembly Steps

1. **Attach Arms to Main Plate:** Secure the four carbon fiber arms to the main bottom plate using the provided screws. Ensure they are oriented correctly to form the 'X' or 'H' configuration, depending on the main plate design. Tighten screws firmly but do not overtighten to avoid stripping.
2. **Install Standoffs:** Mount the appropriate standoffs onto the main plate. These will support the top plate and provide mounting points for your flight controller stack.
3. **Mount Flight Controller (FC) and ESCs:**
    - The frame supports both 20x20mm and 30.5x30.5mm FC mounting patterns. Choose the appropriate mounting holes.
    - Carefully install your flight controller and Electronic Speed Controllers (ESCs) onto the standoffs. Ensure proper insulation to prevent short circuits.
4. **Attach Motors:** Mount your chosen FPV drone motors to the end of each arm using the 16mm motor mounting pattern. Apply a small amount of thread-locker to motor screws to prevent them from vibrating loose during flight.
5. **Install FPV Camera:** The frame features a 14mm camera spacing. Secure your FPV camera within the designated slot in the canopy or frame structure.
6. **Mount Top Plate and Canopy:** Secure the top carbon fiber plate onto the standoffs. Then, attach your preferred injection-molded canopy to the frame, ensuring it snaps or screws into place securely.
7. **Wire Components:** Carefully wire all electronic components (motors to ESCs, ESCs to FC, FC to receiver/VTX/camera) according to their respective manuals. Pay close attention to polarity and signal direction.
8. **Final Inspection:** Before powering on, double-check all connections, screw tightness, and ensure no wires are pinched or exposed.

7. Operating Instructions

This product is a drone frame kit and does not operate independently. Once assembled with all necessary electronic components (flight controller, ESCs, motors, FPV system, receiver, battery), the operation will depend on the

specific configuration and firmware of your flight controller.

- **Flight Controller Configuration:** Refer to the manual of your chosen flight controller (e.g., Betaflight, EmuFlight, Kiss) for detailed instructions on firmware flashing, PID tuning, and radio setup.
- **Pre-Flight Checks:** Always perform thorough pre-flight checks, including propeller direction, battery voltage, radio link, and FPV video feed, before each flight.
- **Safe Flying Practices:** Operate your FPV drone responsibly and in accordance with local regulations. Always fly in open areas, away from people and obstacles.

8. Maintenance

Regular maintenance will extend the lifespan of your LDARC M5 frame and ensure optimal performance.

- **Post-Flight Inspection:** After each flight, inspect the carbon fiber arms and plates for any cracks or delamination. Check all screws for tightness, especially motor screws.
- **Cleaning:** Use a soft brush or compressed air to remove dirt, dust, and debris from the frame and electronic components. Avoid using liquids directly on electronics.
- **Component Check:** Periodically check the condition of your canopies for cracks or damage. Replace any severely damaged parts to maintain structural integrity and protection.
- **Storage:** Store the frame and assembled drone in a dry, cool place away from direct sunlight and extreme temperatures.

9. Troubleshooting

Problem	Possible Cause	Solution
Frame feels wobbly or unstable after assembly.	Loose screws or improperly seated components.	Inspect all screws, especially those connecting arms to the main plate and standoffs. Tighten as necessary. Ensure all components are seated flush.
Vibrations during flight (after full build).	Loose motor screws, bent propeller, or damaged frame arm.	Check motor screws for tightness. Inspect propellers for damage and replace if necessary. Examine frame arms for cracks or damage; replace if compromised.
Canopy does not fit securely.	Improper alignment or debris in mounting points.	Ensure the canopy is aligned correctly with the frame's mounting points. Clear any debris from the mounting areas.
Difficulty mounting FC/ESCs.	Incorrect standoff size or mounting pattern.	Verify your FC/ESC stack matches the 20x20mm or 30.5x30.5mm mounting holes. Ensure standoffs are correctly installed.

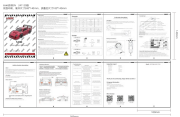
10. Warranty Information

As this product is a frame kit, specific warranty terms may vary. Please refer to the official LDARC website or contact your point of purchase for detailed warranty information regarding manufacturing defects. Damage due to crashes, improper assembly, or modification is typically not covered under warranty.

11. Customer Support

For technical assistance, missing parts, or further inquiries regarding your LDARC M5 frame kit, please contact LDARC customer support through their official website or the retailer from whom you purchased the product. When contacting support, please have your product model number (M5) and any relevant purchase information ready. *Online Resources:* Many FPV community forums and online build guides can also provide valuable assistance for assembling and configuring your drone.

Related Documents

	LDARC TINY GT7 & GT8 Instruction Manual - Setup, Configuration, and Operation Guide Comprehensive instruction manual for LDARC TINY GT7 and TINY GT8 drones. Covers configuration, FC/ESC, motor, VTX/camera, receiver binding, Betaflight setup, PID tuning, and after-sale service.
	LDARC ET MAX FPV Drone Instruction Manual Comprehensive instruction manual for the LDARC ET MAX FPV drone, covering configuration, setup, binding, Betaflight configuration, PID tuning, and after-sale service.
	LDARC CT01 LDARC CT01 LDARC O2 2.4Ghz 8
	LDARC S100 1:64 Scale RC Car: Instruction Manual and Specifications Comprehensive guide to the LDARC S100 1:64 scale RC car, covering setup, operation, maintenance, troubleshooting, and technical specifications. Includes safety warnings and FCC compliance.