FPVDrone HF150

FPVDrone HF150 150mm FPV Racing Drone Frame Instruction Manual

Model: HF150

1. Product Overview

The FPVDrone HF150 is a lightweight 150mm wheelbase FPV racing drone frame designed for 3-inch propellers. Constructed from high-quality carbon fiber, this frame provides a durable and rigid platform for building your FPV quadcopter. It is engineered to accommodate standard FPV components, offering a balanced design for agile flight performance.

The frame typically includes all necessary carbon fiber plates, standoffs, and screws for assembly. A Lipo battery strap is also commonly included to secure your battery.



Image 1.1: Top view of the assembled FPVDrone HF150 frame, showcasing its compact design and carbon fiber construction.

2. Specifications

Brand	FPVDrone
Model Name	HF150
Material	Carbon Fiber
Wheelbase	150mm
Arm Thickness	4.0mm
Top Plate Thickness	2.0mm
Bottom Plate Thickness	2.0mm
Item Weight	Approximately 40g (3.98 ounces)
Recommended Propeller Size	3 inch
UPC / GTIN	711005954082

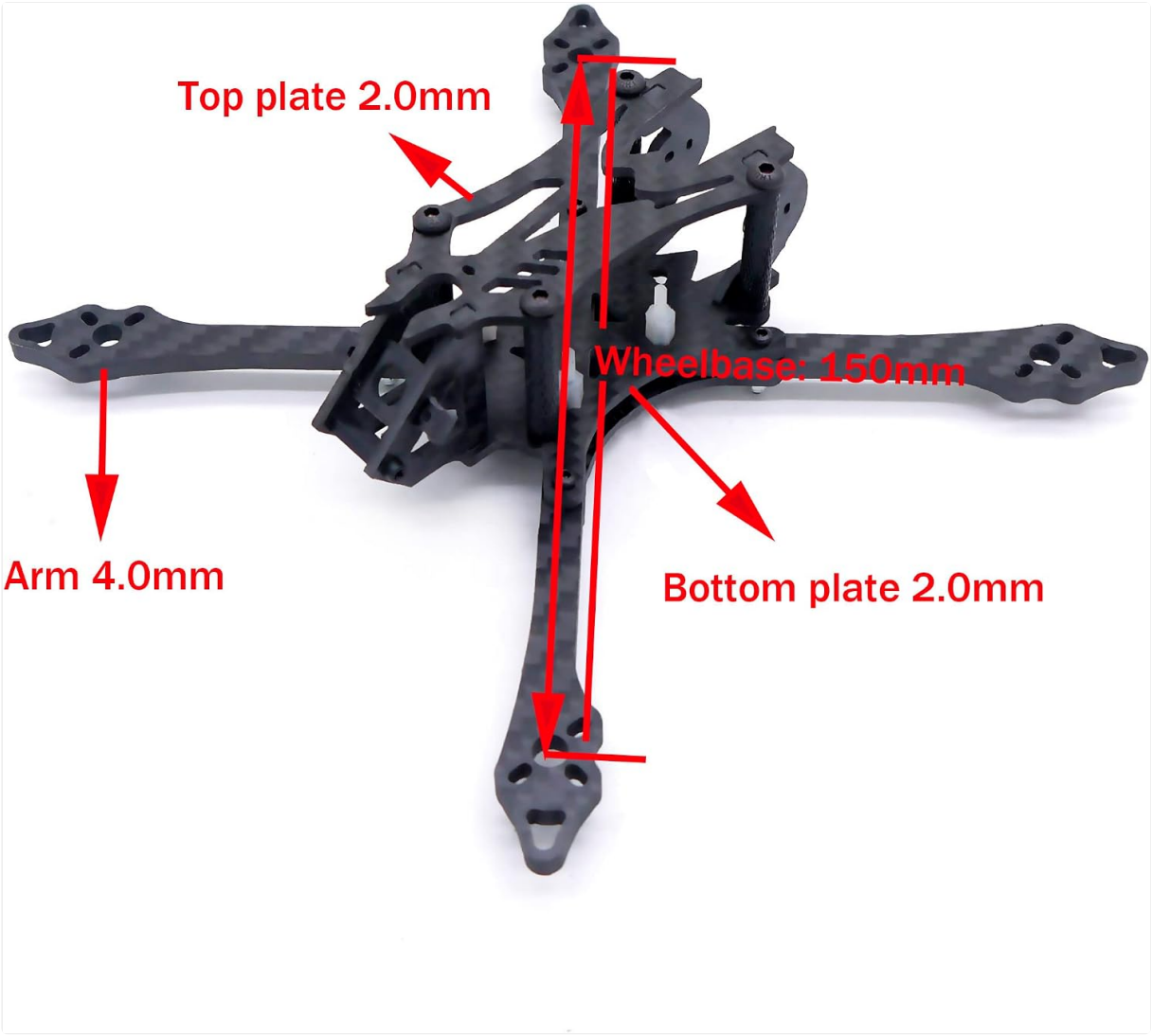


Image 2.1: Dimensional overview of the HF150 frame, highlighting key measurements such as wheelbase and plate thicknesses.



Image 2.2: The HF150 frame on a scale, indicating its lightweight design at approximately 40 grams.

3. Setup and Assembly

The HF150 frame is designed for straightforward assembly. While specific step-by-step instructions may not be included with the product, the general process involves attaching the carbon fiber arms and plates using the provided standoffs and screws.

3.1 Pre-Assembly Checks

- **Inspect Components:** Carefully check all carbon fiber parts for any sharp edges or imperfections. If necessary, gently sand the edges with fine-grit sandpaper to prevent damage to wiring or injury during handling.
- **Verify Hardware:** Ensure all screws, nuts, and standoffs are present and in good condition.

3.2 Assembly Steps

1. **Attach Arms to Bottom Plate:** Secure the four carbon fiber arms to the main bottom plate using the appropriate screws. Ensure they are oriented correctly.
2. **Install Standoffs:** Mount the standoffs onto the bottom plate. These will support the top plate and create space for your electronics stack. Note that some users have reported standoffs being slightly short; shimming with small washers may be required for a flush fit.
3. **Mount Side Plates/Camera Mount:** Attach the carbon fiber side plates, which often double as

camera mounts, to the standoffs.

4. **Secure Top Plate:** Fasten the top plate to the standoffs, completing the main frame structure.



Image 3.1: Angled view of the assembled HF150 frame, illustrating the placement of standoffs and carbon fiber plates.

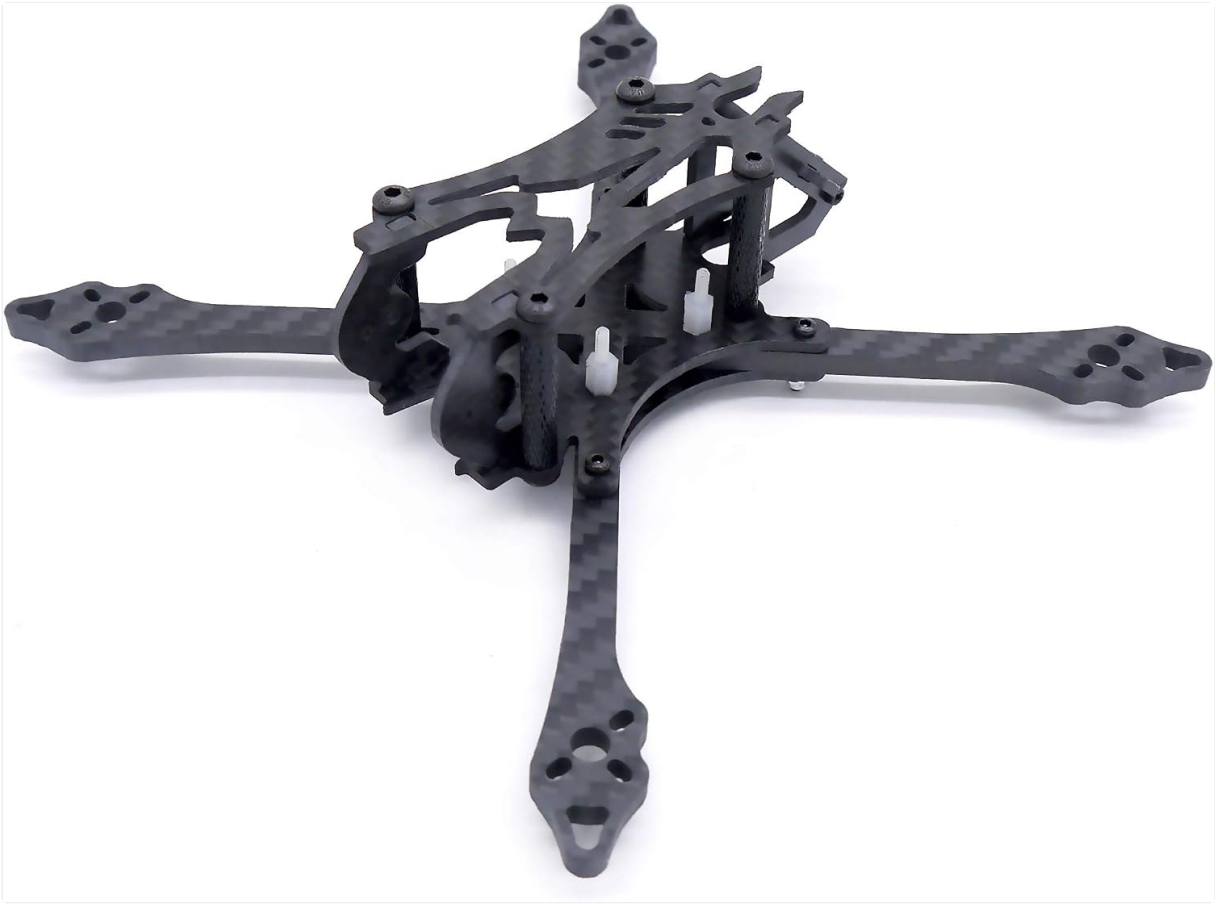


Image 3.2: Side view of the assembled HF150 frame, illustrating the internal space available for electronic components.

3.3 Component Installation Considerations

- **Flight Controller (FC) and Electronic Speed Controller (ESC) Stack:**The HF150 frame is designed to accommodate 20x20mm stacks. Some larger 20x20mm stacks, such as certain Mamba models, may require rotation by 90 degrees to fit within the frame's internal dimensions due to the proximity of the rear standoffs.
- **Camera:** The frame provides protection for your FPV camera. Ensure the camera is securely mounted and its angle can be adjusted as needed.
- **Video Transmitter (VTX) and Receiver (RX):** Plan the placement of your VTX and RX to ensure optimal signal reception and transmission, keeping antennas clear of carbon fiber interference.
- **Motor Mounting:** The arms feature standard mounting patterns for brushless motors suitable for 3-inch propellers.

4. Operating Considerations

The HF150 is a drone frame, serving as the structural foundation for your FPV quadcopter. Its operation is directly tied to the electronic components you install (flight controller, ESCs, motors, camera, VTX, receiver, battery).

- **Component Compatibility:** Ensure all chosen electronic components are compatible with each other and with the frame's mounting patterns and space constraints.
- **Wiring:** Route all wiring neatly and securely to prevent interference with propellers or moving parts, and to protect against damage during crashes. Use zip ties or electrical tape where appropriate.
- **Battery Security:** Always use the provided (or a suitable replacement) Lipo battery strap to firmly secure the battery to the frame. An unsecured battery can shift during flight, affecting balance and potentially causing a crash.

- **Pre-Flight Checks:** Before each flight, visually inspect the frame for any damage, ensure all screws are tight, and verify that all components are securely mounted.

For detailed instructions on configuring and operating your flight controller, ESCs, and other electronics, refer to the respective manuals provided by those component manufacturers.

5. Maintenance

Regular maintenance of your HF150 frame will help ensure its longevity and safe operation.

- **Post-Crash Inspection:** After any significant impact or crash, thoroughly inspect all carbon fiber plates and arms for cracks, delamination, or stress marks. Even minor damage can compromise structural integrity.
- **Hardware Check:** Periodically check all screws and nuts for tightness. Vibrations during flight can cause hardware to loosen over time. Apply thread-locking compound (e.g., blue Loctite) to metal-to-metal screws if desired, but avoid on plastic parts.
- **Cleaning:** Keep the frame clean from dirt, dust, and debris. Use a soft brush or compressed air to remove particles. Avoid harsh chemicals that could damage the carbon fiber or coatings.
- **Component Replacement:** If any carbon fiber part (especially arms) shows signs of significant damage, replace it promptly. Operating with a damaged frame can lead to unpredictable flight characteristics and further component damage.

6. Troubleshooting

This section addresses common issues related to the HF150 frame itself. For issues related to flight performance or electronics, refer to the manuals for your specific flight controller, ESCs, and other components.

- **Loose Components:** If you experience excessive vibration or instability, check all frame screws and component mounts for tightness.
- **Frame Flex/Wobble:** This can indicate a cracked arm or plate. Inspect the carbon fiber carefully. Replace any damaged parts immediately.
- **Component Fitment Issues:** If a component does not fit, double-check its dimensions against the frame's specifications. For 20x20mm stacks, try rotating the stack 90 degrees if space is tight. Do not force components into place, as this can damage both the component and the frame.
- **Standoff Gap:** If standoffs appear too short, resulting in a gap between plates, consider using small nylon washers as shims to achieve a secure and level fit.

7. Warranty and Support

Warranty information for the FPVDrone HF150 frame is typically provided by the seller or manufacturer at the time of purchase. Please retain your proof of purchase for any warranty claims.

For technical support or inquiries regarding missing/damaged parts, please contact the retailer from whom you purchased the product. Additionally, online FPV communities and forums can be valuable resources for assembly tips and general troubleshooting advice.