

HAWK'S WORK FR-450-S

HAWK'S WORK F450 Drone Frame Instruction Manual

MODEL: FR-450-S (PRE-SOLDERED)

Brand: HAWK'S WORK

1. Product Overview

The HAWK'S WORK F450 Drone Frame Kit is designed for both beginners learning drone basics and experts conducting research and development. This 450mm wheelbase quadcopter frame offers ample space for integrating various components.

- **Educational Design:** Ideal for learning and advanced development in drone technology.
- **Spacious Layout:** Features a 450mm wheelbase, supporting a maximum take-off weight of approximately 1.8kg, with sufficient room for flight controllers, Raspberry Pi, cameras, and sensors.
- **Durable Construction:** Crafted from high-quality glass fiber and polyamide nylon, ensuring a lightweight yet robust frame resistant to impacts.
- **Integrated PCB:** Includes a built-in Printed Circuit Board (PCB) for simplified wiring and enhanced circuit stability.
- **Stable Assembly:** Equipped with pre-threaded brass sleeves for secure and stable frame bolt connections.
- **Pre-soldered Convenience:** Available in a pre-soldered version for direct XT60 ESC connection, reducing manual soldering effort.

2. What's in the Box (Frame Kit)

The HAWK'S WORK F450 Drone Frame Kit includes the following components. Please note that additional parts such as batteries, propellers, and cameras are sold separately and are required to build a complete drone.

- F450 Drone Frame components (arms, main plates)
- Landing Skid Gear
- Screws and fasteners
- Pre-soldered PCB (for pre-soldered version)



Image: All components of the HAWK'S WORK F450 Drone Frame Kit, including arms, plates, and fasteners, neatly arranged on a surface.

3. Setup and Assembly

Follow these steps to assemble your HAWK'S WORK F450 Drone Frame. Ensure all connections are secure before proceeding.

3.1 Frame Assembly

The F450 frame is designed for easy assembly. Refer to the diagram for correct orientation of parts.



Image: Detailed diagram showing the dimensions (450mm wheelbase) and structural layout of the F450 Drone Frame, highlighting key components and their arrangement.

3.2 Motor and ESC Installation

The frame supports standard brushless motors. For the pre-soldered version, ESCs are integrated into the main board, simplifying wiring.

Pre-soldered **vs** Standard

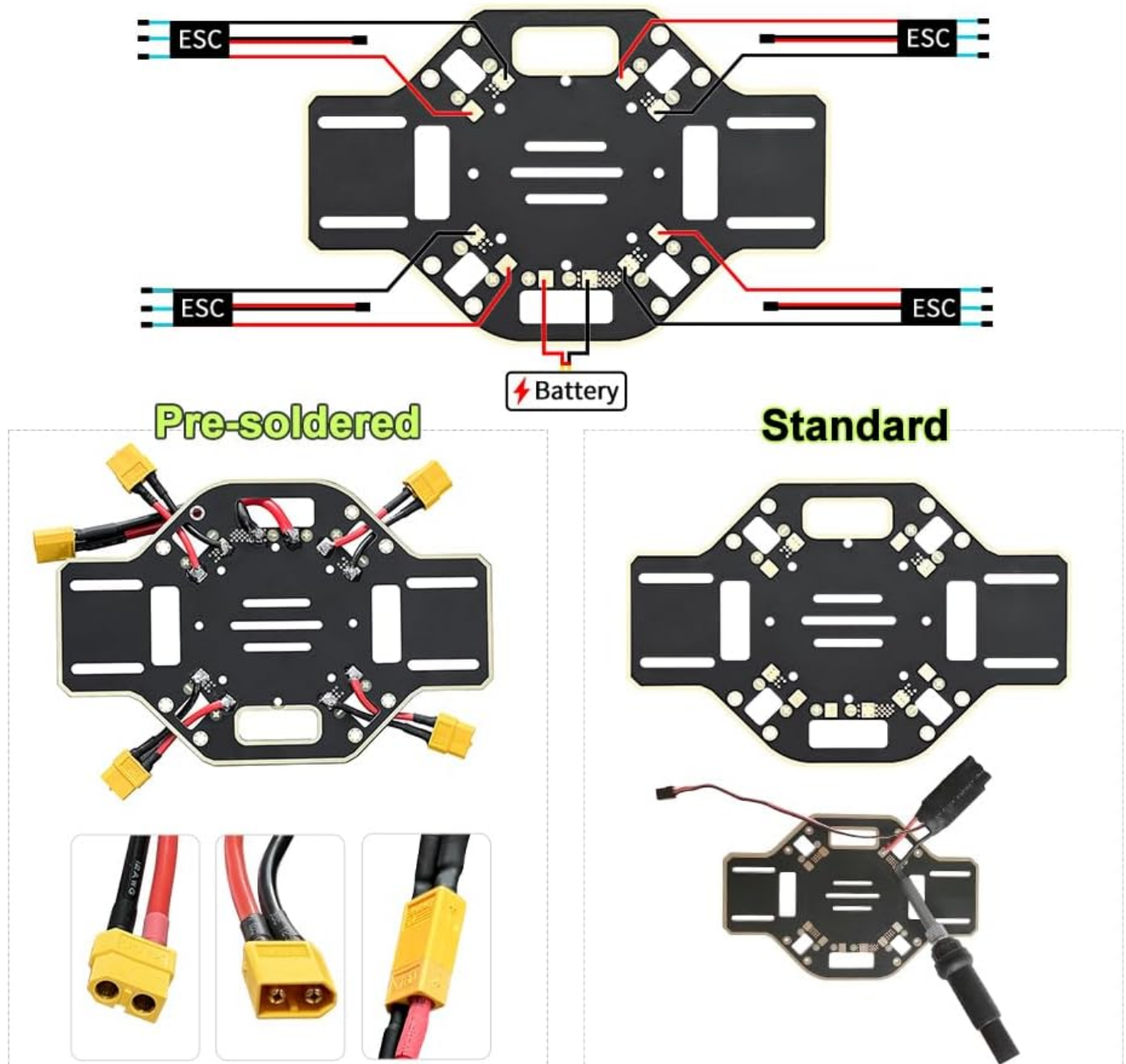


Image: A side-by-side comparison of the pre-soldered main board with XT60 connectors and a standard board requiring manual soldering, illustrating the simplified wiring of the pre-soldered version.

3.3 Propeller Attachment

Attach propellers to the motors. Ensure correct orientation for optimal flight performance. CW and CCW propellers must be installed on the correct motors.

Refer to the video for a visual guide on propeller installation and initial setup.

Your browser does not support the video tag.

Video: "How to Assemble F450 Drone? DIY a Real Drone" - This video provides a step-by-step guide on assembling the F450 drone, including propeller installation.

3.4 Battery Connection

Secure the flight battery to the frame using a tie. Connect the battery to the power module. Ensure the voltage tester is set to 3.6V

or 3.7V.

Your browser does not support the video tag.

Video: "How to Assemble F450 Drone? DIY a Real Drone" - This video demonstrates the battery connection process.

3.5 Transmitter and Receiver Binding

Before first flight, bind your transmitter to the receiver. This process ensures proper communication between your remote control and the drone.

Your browser does not support the video tag.

Video: "Bind FS-I6 Transmitter & Receiver" - A tutorial on how to bind the FS-I6 transmitter with the receiver.

4. Operating Instructions

Once assembled and bound, follow these steps for safe and effective flight.

4.1 Pre-Flight Checks

- Ensure all propellers are securely attached and free from obstructions.
- Verify battery is fully charged and properly secured.
- Turn on the transmitter and ensure all switches are in their default positions.
- Activate the safety switch on the drone and check LED status for GPS lock (flashing green indicates normal GPS, flashing blue indicates no GPS lock).

4.2 Arming and Take-off

To arm the aircraft, move the left stick to the bottom-left position for approximately 4 seconds until propellers start rotating. Change flight mode to 'loiter' for stable hovering.

Slowly push the throttle to about 50% to initiate take-off.

Your browser does not support the video tag.

Video: "Remote a F450 Drone by FS-I6X" - This video demonstrates the arming sequence and basic take-off procedures for the F450 drone.

4.3 Basic Flight Maneuvers

- **Movement:** Use the right joystick to control movement (left, right, forward, backward).
- **Rotation:** Use the left joystick (left/right) to rotate the drone.
- **Altitude:** Use the left joystick (up/down) to control altitude.
- **Loiter Mode:** The drone can maintain a fixed height and position in low wind conditions with accurate GPS.

Your browser does not support the video tag.

Video: "Remote a F450 Drone by FS-I6X" - This video illustrates various flight maneuvers including movement, rotation, and altitude control.

4.4 Return to Launch (RTL)

Activate the RTL switch on your transmitter for automatic return. Ensure the HOME position was accurately recorded in an open area with no obstacles between the drone and HOME.

Your browser does not support the video tag.

Video: "Remote a F450 Drone by FS-I6X" - This video demonstrates the Return to Launch (RTL) function.

5. Specifications

Feature	Detail
Brand	HAWK'S WORK
Model Name	WORK F450
Model Number	FR-450-S
Wheelbase	450mm
Max Take-off Weight	Approx. 1.8kg
Material	Glass Fiber and Polyamide Nylon
Item Weight	300 Grams
Dimensions (L x W x H)	17.72"L x 17.72"W x 7.48"H
Skill Level	Beginner
Connectivity Technology	Wi-Fi (for compatible components)
Control Type	Remote Control (Transmitter not included)

6. Troubleshooting

If you encounter issues during assembly or operation, please review the steps carefully. Ensure all connections are secure and components are correctly oriented. For persistent problems, consult online resources or contact support.

- **No Power:** Check battery connection and charge level. Ensure power module is correctly installed.
- **No Propeller Spin:** Verify motors are correctly wired to ESCs. Ensure safety switch is disengaged and drone is armed.
- **Unstable Flight:** Ensure all frame components are tightly secured. Check propeller balance and correct installation (CW/CCW). Perform gyroscope calibration before flight.
- **GPS Issues:** Ensure the GPS module has a clear view of the sky. Check LED status for GPS lock (flashing green).

7. Maintenance

Regular maintenance ensures the longevity and optimal performance of your drone frame.

- **Inspect Regularly:** Before and after each flight, check all screws, connections, and frame components for any signs of wear or damage.
- **Clean Components:** Keep the frame and electronic components free from dust and debris. Use a soft, dry cloth for cleaning.
- **Propeller Care:** Replace any bent, chipped, or damaged propellers immediately to avoid imbalance and potential accidents.
- **Storage:** Store the drone frame in a cool, dry place away from direct sunlight and extreme temperatures.

8. Warranty and Support

HAWK'S WORK products are designed for quality and performance. For warranty claims or technical assistance, please refer to the retailer's policy or contact HAWK'S WORK customer support directly.

- **Customer Support:** For any questions or issues, please reach out to HAWK'S WORK customer service.
- **Online Resources:** Visit the HAWK'S WORK website or relevant online communities for additional tips, tutorials, and

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.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

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