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UUEERUUZN-9D6BA243

Generic SpeedyBee Bee25 Drone Frame Kit: 2.5-inch PRO/LITE EXT Wireless Tuning User Manual

Model: UUEERUUZN-9D6BA243

1. Introduction

This manual provides essential information for the assembly, operation, and maintenance of your Generic SpeedyBee Bee25 Drone Frame Kit. This 2.5-inch frame is designed for FPV quadcopters, offering both PRO and LITE EXT versions to cater to different performance needs, from strength to ultralight flight. It features integrated wireless tuning capabilities and is optimized for seamless installation of O3 Air Unit, Link, and Vista series HD digital video transmission modules.
The compact 2.5-inch size ensures agility in confined spaces while maintaining in-flight stability, making it suitable for micro drone racing and freestyle flying that prioritize HD video transmission and convenient wireless setup.

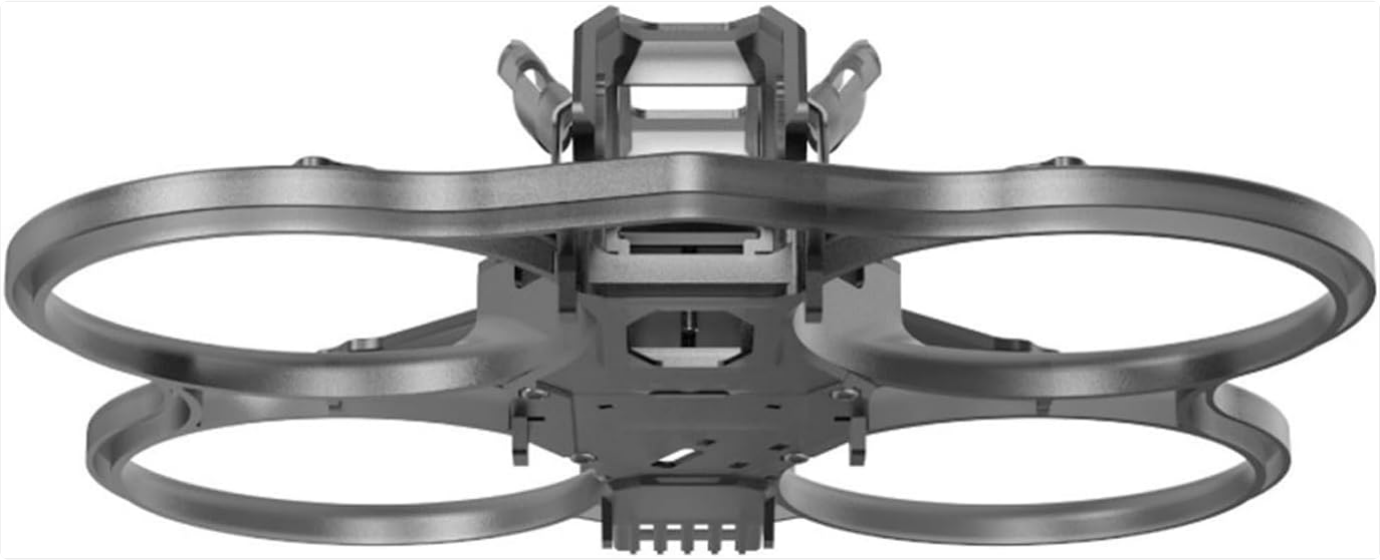


Figure 1: Top-down view of the SpeedyBee Bee25 Drone Frame Kit, showcasing its compact design and integrated propeller guards.

2. Setup and Assembly

The Bee25 Drone Frame Kit requires assembly and installation of various electronic components. Follow these general guidelines for proper setup.

2.1 Unpacking and Inspection

- Carefully unpack all components from the kit.
- Inspect all frame parts for any manufacturing defects or shipping damage.
- Verify that all screws, standoffs, and carbon fiber plates are present according to the parts list (refer to your specific kit's

included documentation).

2.2 Frame Assembly

1. Begin by assembling the main carbon fiber plates and standoffs. Ensure all screws are tightened securely but do not overtighten to avoid stripping threads.
2. Attach the propeller guards to the main frame structure.
3. Mount the motor bases to the arms of the frame.

2.3 Component Installation

The Bee25 frame is designed to accommodate standard micro drone components. Specific mounting points are provided for:

- **Flight Controller (FC) and Electronic Speed Controller (ESC) Stack:** Mount your FC/ESC stack using the provided standoffs and screws. Ensure proper orientation as per your flight controller's manual.
- **Motors:** Securely attach your chosen 11XX or 12XX series motors to the motor bases using the appropriate screws.
- **HD Digital Video Transmission System:** The frame is optimized for O3 Air Unit, Link, and Vista series modules. Carefully install your chosen unit into the designated mounting area. Ensure proper ventilation.
- **Receiver (RX):** Mount your radio receiver in a location that provides optimal signal reception, away from noisy components.
- **Battery Strap:** Utilize the integrated battery strap slot to secure your LiPo battery.



Figure 2: The Bee25 frame with a battery strap installed, showing internal mounting areas for electronic components.



Figure 3: An assembled Bee25 frame demonstrating the placement of a battery and a video transmission unit.

2.4 Wiring and Wireless Tuning Setup

- Carefully route all wiring to avoid interference with propellers or moving parts. Use zip ties or electrical tape to secure wires.
- Connect all components (motors, FC, ESC, RX, VTX, camera) according to their respective manuals.
- The frame supports wireless tuning. Refer to your flight controller's documentation and the SpeedyBee app (if applicable) for instructions on connecting and configuring your drone wirelessly. This allows for real-time adjustment of flight parameters without physical connection.

3. Operating Considerations

While the frame itself does not have operational controls, its design significantly impacts the drone's flight characteristics and capabilities.

- **Agility and Stability:** The 2.5-inch form factor of the Bee25 frame provides excellent agility for navigating tight spaces, while its robust construction contributes to overall flight stability.
- **HD Video Transmission:** The optimized design for O3 Air Unit, Link, and Vista systems ensures stable mounting and protection for your HD video transmission equipment, crucial for clear FPV feeds.
- **Wireless Tuning Advantage:** Leverage the frame's wireless tuning capability to fine-tune your drone's flight characteristics on the field, adapting to different environments and flying styles.
- **Flight Environment:** Always operate your drone in safe, open areas, away from people, animals, and obstacles. Adhere to local regulations regarding drone operation.

4. Maintenance

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

- **Post-Flight Inspection:** After each flight, visually inspect the frame for any signs of damage, such as cracks in carbon fiber,

bent arms, or loose screws.

- **Screw Tightness:** Periodically check and tighten all screws, especially those holding motors and main frame components. Use thread-locking compound if necessary, but apply sparingly.
- **Cleaning:** Clean the frame regularly to remove dirt, dust, and debris. A soft brush or compressed air can be used. Avoid using harsh chemicals that may damage the material.
- **Component Mounts:** Ensure that all electronic components (FC, VTX, RX, camera) remain securely mounted and that their wiring is intact and free from abrasion.
- **Propeller Guards:** Inspect propeller guards for damage. Replace them if they are cracked or broken to maintain flight safety and protect propellers.

5. Troubleshooting

This section addresses common issues related to the drone frame itself. For issues related to flight controllers, ESCs, or other electronics, refer to their specific manuals.

- **Vibrations During Flight:**
  - Check for loose screws on motors, arms, or other frame components.
  - Inspect propellers for damage or imbalance.
  - Ensure the flight controller is securely mounted and isolated from frame vibrations.
- **Component Not Fitting:**
  - Verify that you are using components compatible with a 2.5-inch frame and the specified mounting patterns (e.g., 20x20mm for FC/ESC).
  - Double-check the orientation and alignment of the component.
- **Poor HD Video Signal (Frame Related):**
  - Ensure the O3 Air Unit, Link, or Vista module is securely mounted and its antennas are positioned correctly and not obstructed by carbon fiber or other conductive materials.
  - Check for any physical damage to the VTX mounting area that might affect signal integrity.
- **Frame Damage After Crash:**
  - Assess the extent of the damage. Small cracks may be repairable with epoxy, but significant damage to structural components (arms, main plates) requires replacement.
  - Always replace severely damaged parts to ensure flight safety and performance.

6. Specifications

Key specifications for the Generic SpeedyBee Bee25 Drone Frame Kit:

Feature	Detail
Brand	Generic
Model Name	UUEERUUZN-STANDARDVERSION
Model Number	UUEERUUZN-9D6BA243
Frame Size	2.5 inch
Material	Metal (as per product description)

Feature	Detail
Item Weight	50 Grams
Product Dimensions (L x W x H)	10L x 10W x 10H centimetres
Compatibility	O3 Air Unit, Link, Vista HD Digital Video Transmission Modules
Features	PRO/LITE EXT versions, Wireless Tuning Integration



Figure 4: Side view of the Bee25 frame, highlighting its structural design and component mounting areas.

7. Warranty and Support

For specific warranty information regarding your Generic SpeedyBee Bee25 Drone Frame Kit, please refer to the documentation provided by your retailer or contact the manufacturer directly. Warranty terms typically cover manufacturing defects but may not cover damage resulting from crashes, improper assembly, or misuse.
For technical support or inquiries, please reach out to the seller or manufacturer through their official support channels.

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