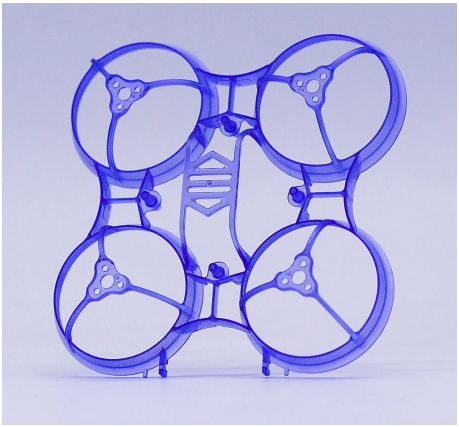
Cockroach V3 65mm

NewBeeDrone – frame for a 65mm Tinywhoop
User manual



Read this manual before assembly and keep it for future reference.

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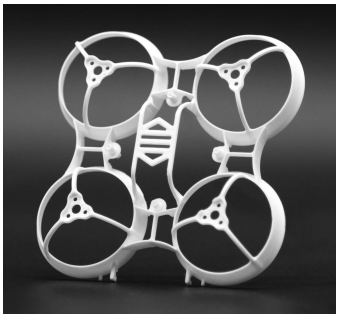
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1. Product description

1.1 Intended use

NewBeeDrone Cockroach V3 65mm is a lightweight plastic frame for building a small 65mm Tinywhoop-style drone with brushless motors. The frame is a single moulded part that combines the mounting area for the electronics with four protective ducts around the propellers. The ducts protect the propellers and the surroundings in a crash, so the drone can withstand contact with an obstacle.

The frame is designed for whoop-style flight controllers (FC) with a 25.5 × 25.5 mm mounting hole pattern. There are two mounting positions – top and bottom – so that a digital video transmitter (VTX) can be mounted in addition to the flight controller. The frame is supplied without a carbon fibre reinforcement and without a canopy; it is the bottom part of the drone only. It is made of two materials: softer polypropylene (PP) and harder polycarbonate (PC). According to the manufacturer, both versions offer similar durability.



PP version

1.2 Specifications and package contents

Product designation	NewBeeDrone Cockroach V3 65mm Brushless Ultra Light Frame
Manufacturer	NewBeeDrone, 5360 Eastgate Mall Suite C, San Diego, CA 92121, USA
Size	65 mm (True 65mm)
Material and weight	polypropylene (PP): 2.9 g polycarbonate (PC): 3.95 g
Versions (colours)	PP white, PP jade white, PC purple, PC transparent
Flight controller mount	25.5 × 25.5 mm (whoop), 2 positions – top and bottom
Motor mount	three-point base for brushless motors, holes for M1.4 screws

▶ **Package contents (according to the manufacturer)**

- 1× Cockroach V3 65mm frame
- 15× M1.4 × 2 mm Phillips-head screw
- 1× sheet of self-adhesive EVA foam motor pads (10 pcs)

※ NOT included: flight controller (FC), motors, propellers, video transmitter, camera, canopy, carbon fibre base plate or battery.

2. Assembly and use

2.1 Safety instructions

- The frame is a part for building a model drone and **is not a toy**. The screws and foam pads are small parts – keep them out of the reach of children, as they present a choking or swallowing hazard.
- Always assemble the drone **with no battery connected**. Fit the propellers only after assembly is complete and the whole build has been checked.
- Spinning propellers can cause injury even inside the protective duct. Before connecting the battery, make sure the drone is in the Disarm state (motors off).
- Tighten the screws gently – the thread in plastic strips easily. Use screws of the supplied length; a longer screw may reach the motor windings and damage them.
- Do not expose the frame to high temperatures (e.g. a soldering iron tip or a car heated in the sun) – the plastic may deform.

2.2 Mounting the motors

① Stick an EVA foam pad from the supplied sheet onto the motor base of the frame. The pad reduces the transfer of vibration from the motor to the frame.

② Place the motor on the base so that its mounting holes line up with the holes of the three-point base, and route the motor wires towards the centre of the frame.

③ Secure the motor with three M1.4 × 2 mm screws. Tighten the screws gradually and without excessive force.

④ Check that the motor bell turns freely and does not rub anywhere. Route the wires along the frame arms so that they cannot touch the propeller.

※ Before buying motors, check with their manufacturer that the motor mounting hole pattern matches the frame base.

2.3 Mounting the flight controller (FC)

① Place a flight controller (FC) with a 25.5 × 25.5 mm hole pattern into the top or bottom mounting position of the frame. The arrow on the flight controller must point forwards in the direction of flight.

② If required, a digital video transmitter (VTX) can be placed in the other mounting position.

③ Connect the motors to the flight controller according to its manufacturer's instructions. Check the motor order and direction of rotation in the configuration software (e.g. Betaflight) **with the propellers removed**.

④ Fit the canopy with the camera – not included – and finally the propellers.

2.4 Optional carbon fibre base plate

The frame can be used with or without a carbon fibre base plate. The plate is sold separately and is not included. According to the manufacturer, it weighs approximately 1 g, bringing the total weight of the frame with the plate to 3.8 g. With the plate, the frame exhibits significantly less resonance and noise, which suits freestyle and normal flying. Without the plate, the setup is as light as possible, which racers will appreciate.



Frame with carbon fibre base plate (plate not included)

The manufacturer also offers 3D-printable part models (motor mount base) for download: download files.

3. Maintenance and frame replacement

- Inspect the frame after every crash. Check in particular the protective ducts, arms and motor bases for cracks or deformation.
- Do not repair a cracked or broken duct or motor base with glue – replace the frame. A damaged frame may fail in flight and the propeller may strike the duct.
- Check that the motor screws have not come loose after an impact and that no wires reach into the propellers.
- Clean the frame with a dry brush or cloth, or with water and a small amount of mild detergent. Always remove the electronics first. Do not use solvents – they may damage the plastic.
- To replace the frame, follow Chapter 2 in reverse order.

4. Information for the EU and Czech Market

4.1 Importer and responsible person in the EU

The product is placed on the European Union market by the importer stated below, who is at the same time the responsible person within the meaning of Article 16 of Regulation (EU) 2023/988 of the European Parliament and of the Council on general product safety (GPSR).

Importer / responsible person in the EU	Rotorama, s.r.o.
Company ID (IČO)	051 57 692
VAT ID (DIČ)	CZ05157692
Registered office	Okrajová 1351, 674 01 Třebíč, Czech Republic
E-mail	info@rotorama.cz
Phone	+420 252 252 098
Website	www.rotorama.com

4.2 Disposal

- The frame is not electrical equipment and contains no batteries. Dispose of it in sorted plastic waste (screws with metals) or at a collection point.
- Remove any fitted electronics or battery and hand them in at a collection point for electrical equipment and batteries.

5. Warranty and rights arising from defective performance

The rights and obligations of the contracting parties are governed by Czech law, in particular by Act No. 89/2012 Coll., the Civil Code, and Act No. 634/1992 Coll., on consumer protection.

- The seller is liable to the buyer for the product being free of defects on receipt. If the buyer is a consumer, a defect may be notified **within two years of receipt** of the product (Section 2165 of the Civil Code).
- If a defect appears within **one year** of receipt, the product is deemed to have been defective already at the time of receipt (Section 2161(5) of the Civil Code).
- When purchasing online, a consumer has the right to **withdraw from the contract within 14 days** of receiving the goods without giving a reason (Section 1829 of the Civil Code).
- Claims should be made with the retailer from whom you purchased the product. The importer's contact details are given in Chapter 4.1.
- The competent body for out-of-court settlement of consumer disputes is the **Czech Trade Inspection Authority**, Štěpánská 796/44, 110 00 Prague 1, www.coi.cz.