RISE™ RXS255

INSTRUCTION MANUAL

REQUIRED FOR COMPLETION

6 Channel Transmitter and Receiver
4S 1300–2200 mAh LiPo Battery
LiPo Battery Charger
5.8G FPV Receiver and Monitor or Goggles

WARNING

Please read and understand this manual, the operation and all safety aspects required for the safe operation of the product. Before use, if you feel that this product is not for you, please return it to the place of purchase.

Manual Specifications and Description Changes

The instruction manual, warranties, and other associated documentation are subject to change without notice. Hobbico assumes no responsibility for inadvertent errors to this manual.

 HOBBICO

INTRODUCTION

Thank you for purchasing the RXS255. We want the time you spend with your new R/C quadcopter to be fun and successful, so please read the entire manual before beginning setup. If for any reason you think this R/C model is not for you, return it to the dealer immediately. Your dealer cannot accept returns on any model after final assembly.

For the latest technical updates or manual corrections for the RXS255, please visit the RISE web site at www.explore-rise.com. If there is any new technical information, changes or important updates to this model, a "tech notice" box will appear on the page. Click the "tech notice" box to learn more.

SAFETY PRECAUTIONS

Failure to follow these safety precautions may result in injury to yourself and others.

- Keep your face and body as well as all spectators away from the rotating plane of the blades whenever the battery is connected. Keep loose clothing, shirt sleeves, ties, scarfs, long hair or loose objects such as pencils or screwdrivers that may fall out of shirt or jacket pockets away from the rotors. The spinning blades of a model quadcopter can cause serious injury. When choosing a flying site for your RXS255, stay clear of buildings, trees and power lines. **AVOID** flying in or near crowded areas. **DO NOT** fly close to people or pets. Maintain a safe distance from the quadcopter.
- Your RXS255 should not be considered a toy. Because of its performance capabilities, the RXS255, if not operated correctly, could cause injury to you or spectators and damage to property.
- **DO NOT** alter or modify the model. Doing so may result in an unsafe or unflyable model.
- When and if repairs are necessary you must correctly install all components so that the model operates properly. Please check the operation of the model before every flight to insure that all equipment is operating and that the model has remained structurally sound. Be sure to check connectors and propellers before each flight. Replace them if they show any signs of wear or fatigue.

KNOW BEFORE YOU FLY

As a new owner of an unmanned aircraft system (UAS), you are responsible for the operation of this vehicle and the safety of those around you. Please contact your local authorities to find out the latest rules and regulations.

KNOW BEFORE YOU FLY
knowbeforeyoufly.org

Federal Aviation Administration
faa.gov/uas

AMA

We urge you to join the AMA (Academy of Model Aeronautics) and a local R/C club. The AMA is the governing body of model aviation and membership is required to fly at AMA clubs. Though joining the AMA provides many benefits, one of the primary reasons to join is liability protection. Coverage is not limited to flying at contests or on the club field. It even applies to flying at public demonstrations and air shows. Failure to comply with the Safety Code may endanger insurance coverage. Additionally, training programs and instructors are available at AMA club sites to help you get started the right way. There are over 2,500 AMA chartered clubs across the country. Contact the AMA at the address or toll-free phone number that follows.

Academy of Model Aeronautics
5151 East Memorial Drive
Muncie, IN 47302-9252
Tele. (800) 435-9262
Fax (765) 741-0057

AMA
SINCE 1936

Or via the Internet at: www.modelaircraft.org

IMPORTANT: Two of the most important things you can do to preserve the radio controlled aircraft hobby are to avoid flying near full-scale aircraft and avoid flying near or over groups of people.

BATTERY WARNINGS

- **ALWAYS** unplug your battery from either the charger or quadcopter after use. **NEVER** store your quadcopter with the battery plugged into the quadcopter.
- **DO NOT** attempt to charge your battery if it becomes swollen or hot.
- The RXS255 does not have a voltage cutoff/failsafe. When the alarm sounds, land the quad and disconnect the battery.
- It is best to store your batteries in a cool, dry location at 1/2 charge (15.2V). Storing a fully discharged battery may cause irreversible damage to the battery.
- **NEVER** disassemble, puncture or modify the battery pack in any way.
- **NEVER** allow the battery temperature to exceed 150° F [65° C].
- If your battery begins to swell or "puff" during charge or discharge or becomes damaged in any way, stop using it.

WARRANTY

RISE™ guarantees this kit to be free from defects in both material and workmanship at the date of purchase. This warranty does not cover any component parts damaged by use or modification. In no case shall RISE's liability exceed the original cost of the purchased kit. Further, RISE reserves the right to change or modify this warranty without notice. In that RISE has no control over the final assembly or

material used for final assembly, no liability shall be assumed nor accepted for any damage resulting from the use by the user of the final user-assembled product. By the act of using the user-assembled product, the user accepts all resulting liability. If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to return this kit immediately in new and unused condition to the place of purchase.

To make a warranty claim, send the defective part or item to Hobby Services at this address.

Hobby Services
3002 N. Apollo Dr., Suite 1
Champaign, IL 61822 USA

217-398-8970 ext#6
productsupport@hobbyservices.com

Include a letter stating your name, return shipping address, as much contact information as possible (daytime telephone number, fax number, e-mail address), a detailed description of the problem and a photocopy of the purchase receipt. Upon receipt of the package the problem will be evaluated as quickly as possible.

FEATURES

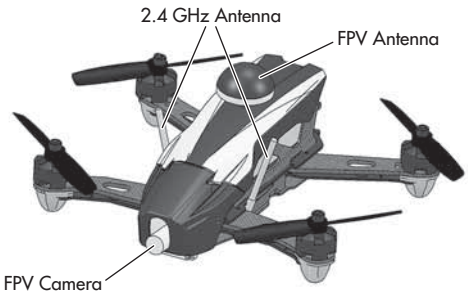
- Advanced Level 250 Class Racing Quad
- Carbon Fiber Frame
- Oneshot125 Speed Controls
- 2300kV 2204 Size Brushless Motors
- Receiver Ready, No Building Required
- Flight Controller is Pre-Programmed, No Setup Needed
- 1000TVL FPV Camera
- 200MW VTX

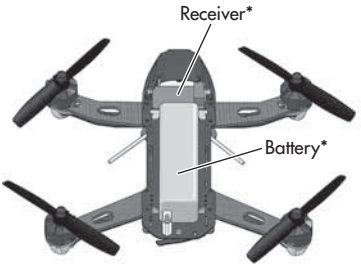
DIMENSIONS

Size: 257mm (10.1in) diagonally motor to motor
Width: 235mm (9.25in)
Length: 218mm (8.6in)
Prop: 5 x 4.5
Blade Length: 127mm (5in)
Empty Weight: 460g (16.2oz.) without battery

CONTENTS

- RXR RISE RXS255
- Pads for the battery
- Propeller Set





*Not Included

SETUP

The RXS255 is completely assembled. All the bolts have been set to the proper torque and have thread locking compound applied to keep them secure.

RADIO SYSTEM

Your transmitter should have a switch for channel 5. The model setup below is typical for most transmitters.

MODEL TYPE: Airplane

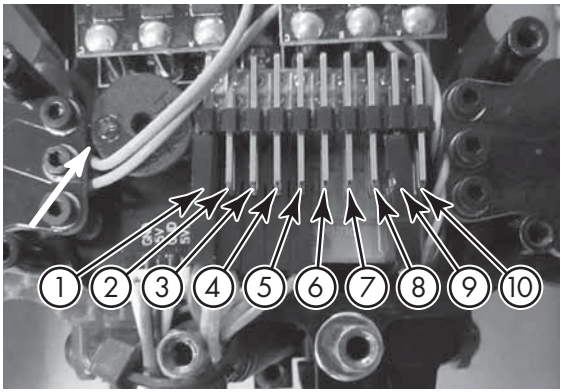
CHANNEL ASSIGNMENTS				
Channel	**Direction**	**End Points**	**Dual Rates**	**Expo**
Aileron	normal	100/100	80/100	–30/0
Elevator	normal	100/100	80/100	–30/0
Throttle	normal	100/100		
Rudder	normal	100/100	80/100	–30/0
Gear	normal	100/100		

SWITCH ASSIGNMENTS - Ch 5		
Gear	–100%	Stability
Gear	0%	FPV
Gear	100%	Acro

RECEIVER INSTALLATION

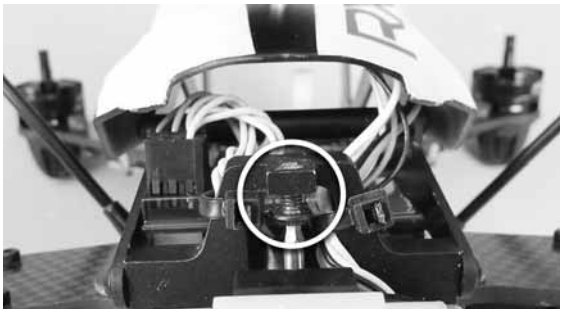
The RXS255 comes with an adapter that converts PWM (one wire for each channel) and S.Bus signals so they can be used by the flight controller.

The wires from a PWM receiver should connected to channels 1-6 on the adapter. The PPM cable from the flight controller should be plugged into channel 9.



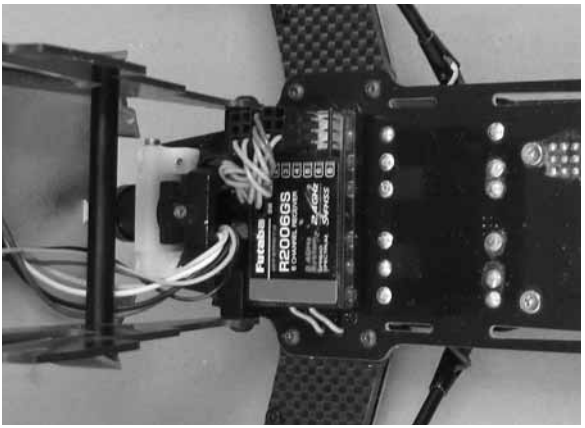
If an S.Bus receiver is being installed, the cable from the receiver should be plugged into the adapter's Channel 9 port. The PPM cable goes to Channel 10.

Before installing the receiver, remove the front body section so the battery hatch can be completely opened. There is a hidden third screw that secures the front body section to the frame. Use a 2mm driver to loosen the hidden screw. When the part comes loose, stop turning the hidden screw.



If your receiver has antenna wires that need to be routed to the antenna mounts, remove the frame's bottom plate.

Place the receiver as far forward as possible on the battery tray. Route the antenna wires down through the holes on the side or in the front of the frame and over to the antenna mounts.



FLIGHT CONTROLLER SETUP

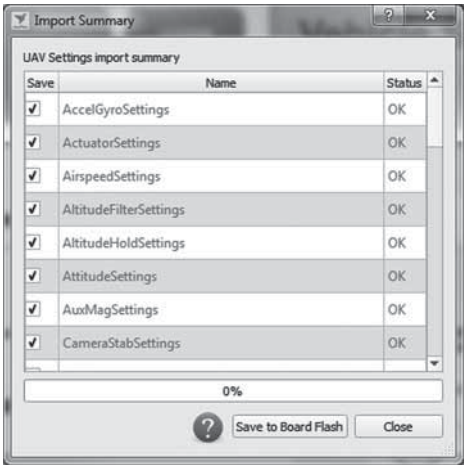
Download the LibrePilot Ground Control Station app (GCS) from http://www.librepilot.org/ from the software downloads section. **Warning:** Always remove the props before connecting the flight controller to the GCS.

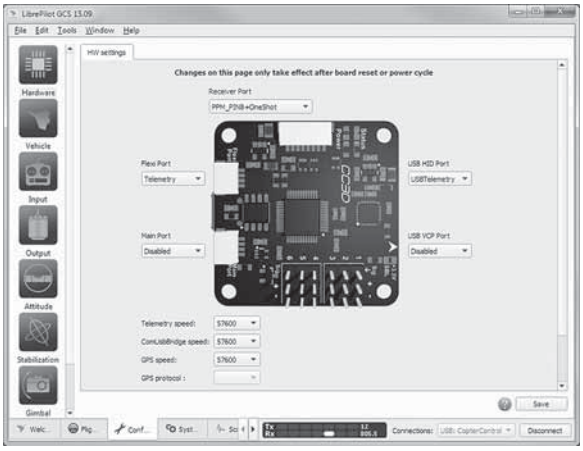
To set up the CC3D flight controller to use your transmitter, you will need a mini-USB cable to connect the cc3d controller to the GCS app, a charged flight battery, and the transmitter must be set up with the new model and linked to the receiver.

Open the GCS app and connect the RXS255 with your mini-USB cable. When the communication window shows that the flight controller is connected to the GCS app, click on the configuration button.

Download the latest settings file for the RXS255 from http://www.explore-rise.com

Open the File menu in LibrePilot and click on "Import UAV settings" to load the settings file. If an Entry Point error pops up, click OK until a window opens to select the file to be loaded onto the flight controller. Select the settings file. When the Import Summary window opens, click on the "Save to Board Flash" button to load the file onto the flight controller.

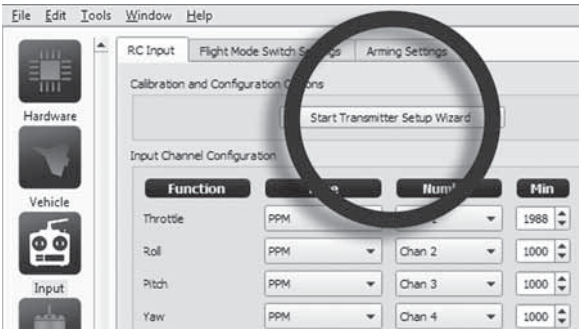




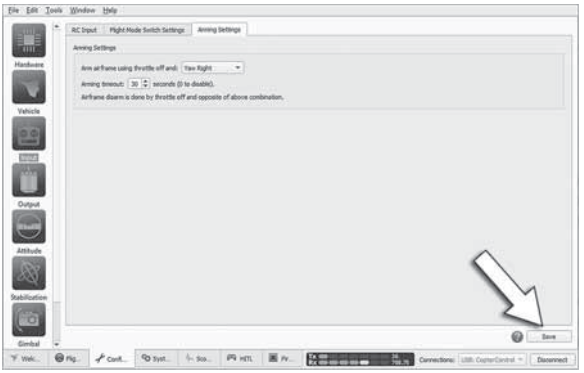
Click on the hardware button on the left side of the screen.

The Receiver Port setting should be "PPM_Pin8 + OneShot".

Click on the Input button on the left side of the screen. After the Flight Controller has been configured to use your transmitter, this Input screen should be used verify that all the controls are operating correctly. If the flight controller has not set up with this transmitter/receiver or if any of the indicators are not responding, click on the Transmitter setup wizard button and follow the steps to set up the transmitter.



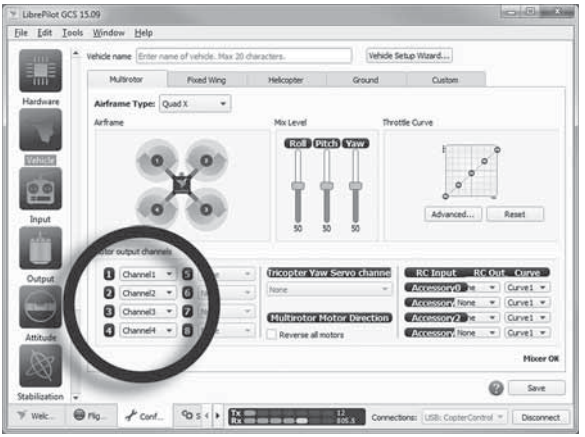
At the end of the wizard is the screen to be used to set the motor arming procedure. The recommended setting is Yaw Right which requires the yaw control to be held to the right while the throttle is at 0 for 3 seconds to arm the motors. Holding the Yaw control to the left will disarm the motors. There are several other options available for arming/stopping the motors including using a switch assigned to Channel 6.



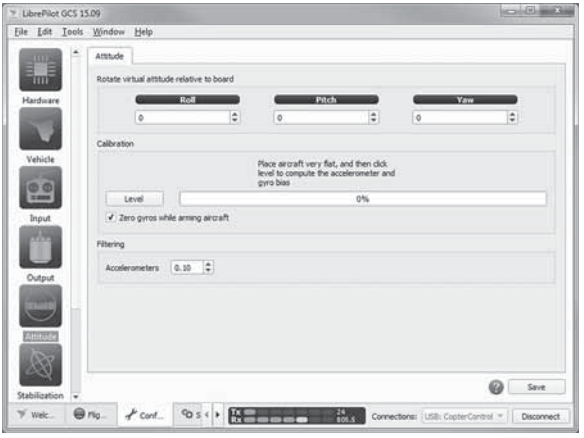
After the Arming Setting is completed, the settings need to be saved to the flight controller.

GENERAL SETTINGS

Any time the controller is connected to the app, the following settings should be checked.



a. **Vehicle Configuration Screen** – The Motor Output Channels should have matching Channels.



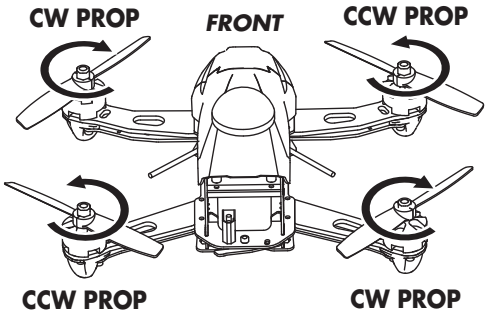
b. **Attitude Configuration Screen** – The Roll, Pitch and Yaw settings should be "0". The Altimeters setting should be 0.10.

PROPELLER INSTALLATION

Please refer to this diagram when installing or replacing the propellers to make sure it is installed on the correct motor.

CW – clockwise rotation when viewed from above

CCW – counter clockwise rotation when viewed from above



FPV SYSTEM

The RXS255 has a 1000TVL camera and a 32 channel VTX. The camera angle can be adjusted up to 30 degrees.

The FPV Video Transmitter (VTX) has 32 different channels available. The 4 bands are A, B (Boscam), E, and F (Fatshark). The DIP switch for setting the VTX frequency is located at the back of the battery hatch. Please use this chart to set the VTX to the desired channel. Switches 2 & 3 change the band and 4, 5, & 6 are used to change the channel.

BAND	1 2 3	4 5 6	4 5 6	4 5 6	4 5 6	4 5 6	4 5 6	4 5 6	4 5 6
B	1 2 3	5866	5847	5828	5809	5790	5771	5752	5733
A	1 2 3	5725	5745	5765	5785	5805	5825	5845	5865
E	1 2 3	5705	5685	5665	5645	5885	5905	5925	5945
F	1 2 3	5740	5760	5780	5800	5820	5840	5860	5865

NOTE: To avoid possible damage to the VTX, always attach the FPV antenna before powering the RXS255.

FAILSAFE

If your transmitter can set values for all the channels for failsafe, set the roll & pitch channels to midstick and the throttle to its lowest setting to stop the motors.

For transmitters that only set failsafe on the throttle channel, set the throttle to its lowest setting.

Be sure to remove the props before testing the failsafe operation.

BATTERIES

The RXS255 has been tested with 4-cell LiPo batteries between 1300 (30C or higher) and 2200mAh (20C or higher). Typical flight time is around 4 minutes.

The flight controller does not have a low voltage cutoff to protect the LiPo from damage. There is an alarm that will start beeping and the rear LED panel will flash when the battery voltage drops to 13.7V. You should land the quadcopter as soon as possible when you hear or see the alarm.

For your first flight, set a timer for 4 minutes. If the LVC alarm does not start before the end of the flight, the timer setting could be slowly increased until the optimal flight time is determined. If the alarm starts before the end of the flight, the timer setting should be reduced to protect the battery from damage.

WARNING: Your battery life will be reduced and the battery can be damaged any time the battery voltage is below 12V. Charging a LiPo battery that is damaged in any way can pose a fire hazard.

FLIGHT MODES

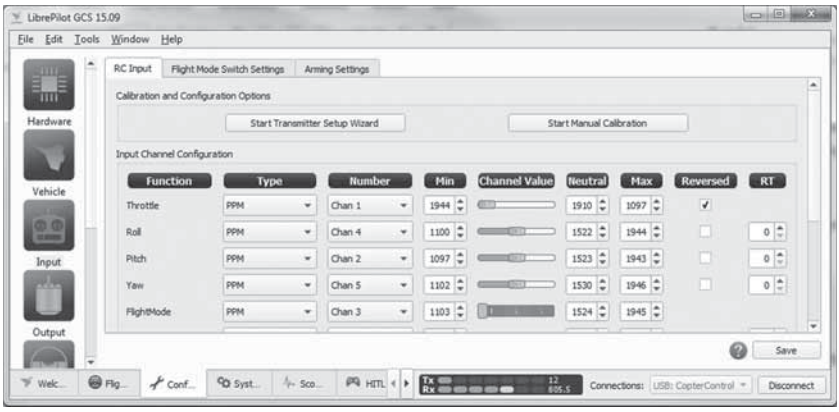
The RXS255 has three pre-programmed flight modes.

Stabilized1 is the **Stability Mode**. This mode has limits on the tilt angle, and the quadcopter will level itself when the right stick is centered.

Stabilized2 is the **FPV Mode**. This mode will not level the quad and has no limits tilt angles. The quadcopter will be more maneuverable and the flight will be smoother in this mode.

Stabilized3 is the **Acro Mode**. This mode is available for experienced pilots that want maximum maneuverability while performing acrobatics. The quadcopter will react faster in this mode than in the FPV mode.

On the Input screen, when the Flight Mode indicator is to the left, Stabilized1 is selected. The middle position is Stabilized2 and the right is Stabilized3.



MOTOR ARMING & TAKEOFF

Turn on the transmitter and connect the flight battery to the RXS255. Place the quadcopter on a level surface and let it sit for 10 seconds to let the flight controller set up the gyros.

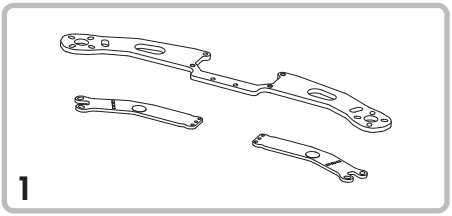
Arm the motors by holding the yaw control to the right for at least 3 seconds, and center the left stick. The motors will start spinning when the motors are armed. Advance the throttle to take off.

To disarm the motors after landing the RXS255, hold the throttle at its lowest position and move the yaw control to the left. When the motors stop, release the left stick.

SPARE PARTS

1	RISE2551	Front Carbon Arm w/2 Motor Power Distribution Boards
2	RISE2552	Rear Carbon Arms (2) w/2 Motor Power Distribution Boards
3	RISE2553	Landing Skids (4)
4	RISE2554	Hatch Latch Assembly
5	RISE2555	Carbon Frame Set
6	RISE2556	CC3D Flight Controller
7	RISE2557	Motor with Propeller Nut
8	RISE2558	Main Board
9	RISE2559	Video Transmitter (200MW)
10	RISE2560	Cloverleaf Antenna
11	RISE2561	ESC with BLheli & Oneshot
12	RISE2562	PPM Adapter & Cable Set (not in drawing)
13	RISE2563	Camera
14	RISE2564	Propeller Nut Set (4)
15	RISE2565	Spacer Tubes
16	RISE2566	Screw Set
17	RISE2567	Propeller Set 5x4.5 BN (4)
18	RISE2568	Antenna Mounts
19	RISE2569	Camera Mount
20	RISE2570	Body Set

RISE RXS255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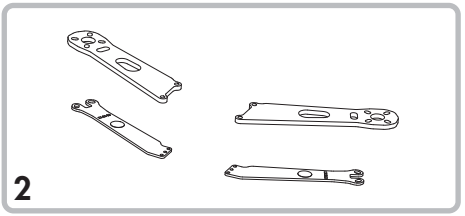
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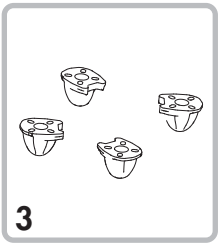
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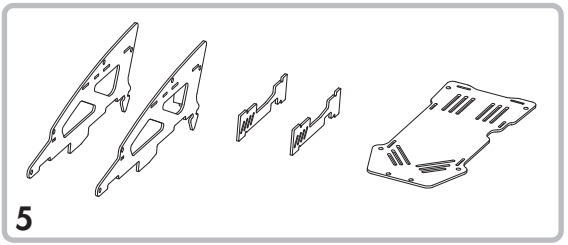
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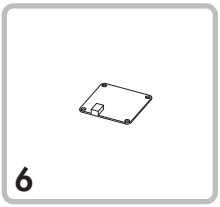
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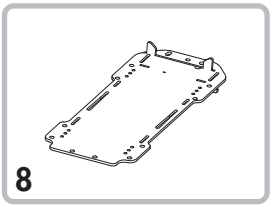
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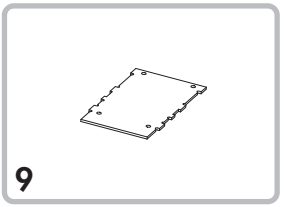
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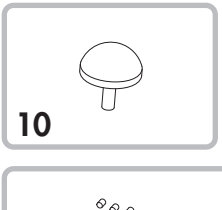
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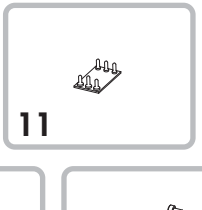
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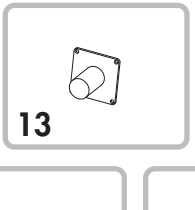
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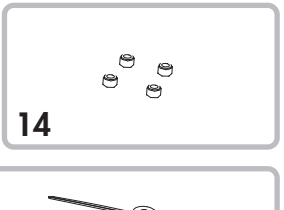
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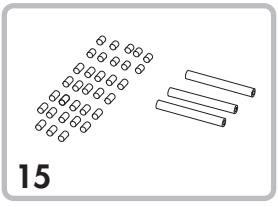
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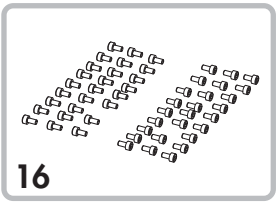
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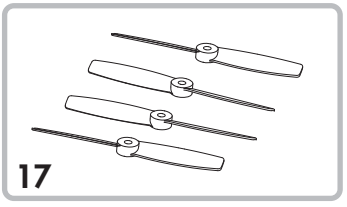
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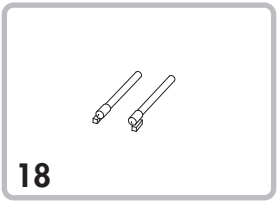
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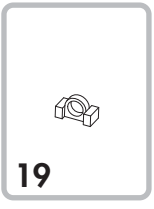
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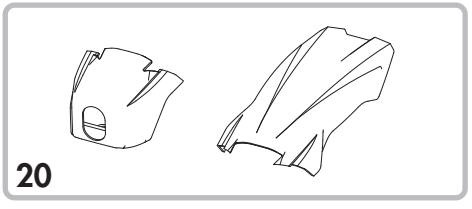
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