


OPERATING MANUAL

HUMMINGBIRD

MICRO QUADCOPTER



**Read this manual
carefully before
using this product.**

Keep the manual safe
for future review.

EcoPower

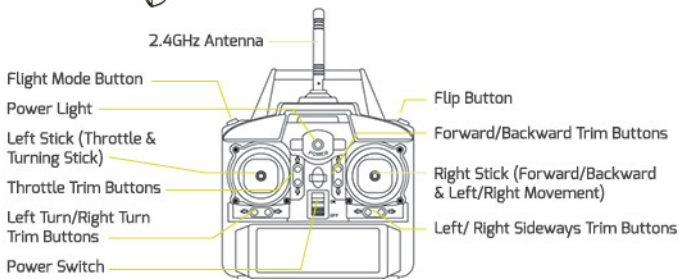
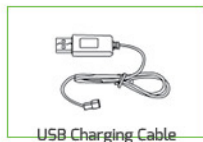
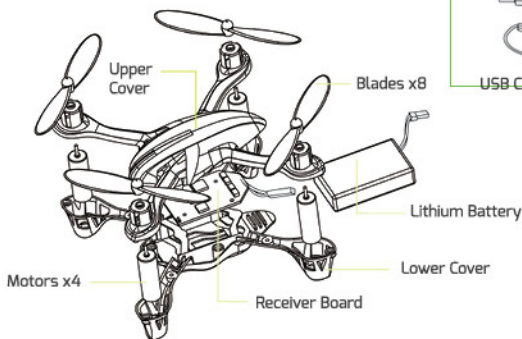
Hummingbird Micro Quadcopter

Operating Manual

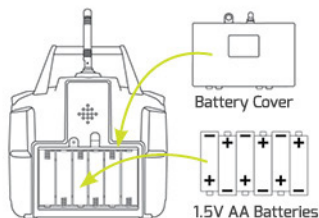
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1 Parts Included



2 Transmitter Battery Installation



Use a Phillips screwdriver to remove the screw and open the battery cover on the back of the transmitter. Then, install six 1.5V Alkaline AA batteries using the polarity shown in the graphic to the left.

CAUTION:

1. Make sure the battery and polarity are correct. Do not load the batteries incorrectly as this may damage the transmitter.
2. Do not mix old and new batteries.
3. Do not combine different types of batteries. Use 1.5V AA Alkaline batteries.

3 Charging the Battery

The lithium battery included with the EcoPower Micro Quadcopter should always be removed from the aircraft and placed in a LiPo safe charging bag when charging. To charge the battery, plug the USB charge cable into a USB jack, then plug the battery into the charge cable. The red LED light in the cable will light up during the charge process, and will shut off when charging is complete. Charging time is approximately 45 minutes. Remove the battery from the charger when charging is complete.



Lithium Battery Warnings and Notes



- If misused, the battery may cause a fire, injury and possible property loss. Be aware of the risks involved when using this product. Manufacturers, retailers and dealers assume no responsibility or liability in the event of an accident, so read the safety guidelines and charging instructions carefully before operating the model.
- If the battery chemicals come into contact with any part of your body, rinse with clean water and seek medical care immediately.
- Disconnect the battery immediately if any smoke, noise or smell emits from the battery.
- Always follow the Charging, Use & Storage guidelines, or fire, electric shock or explosion could result.
- Always disconnect the battery when not using the Quadcopter.

Charging

- **ONLY** use the included charger to ensure safety.
- **ONLY** charge the battery in temperatures between 32°F – 104°F (0°C – 40°C).
- **DO NOT** overcharge the battery. Remove the battery from the charge cable once the charge process is complete.
- **DO NOT** charge damaged batteries.
- **DO NOT** leave the battery unattended during a charge process.
- **DO NOT** charge the battery on a flammable or electrically conductive surface.
- **DO NOT** charge the battery while warm. This could cause the battery to swell, or possibly catch fire.
- **NEVER** leave battery in model while charging.
- **ALWAYS** use a LiPo charging bag.

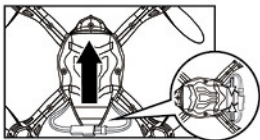
Use & Storage

- **ALWAYS** keep the battery out of the reach of children.
- **DO NOT** use or charge damaged batteries.
- **DO NOT** over discharge the battery.
- **DO NOT** remove the battery while the model is being operated.
- **DO NOT** expose the battery to temperatures above 104°F (40°C).
- **DO NOT** let the battery get wet, or expose to fire.
- **DO NOT** disassemble, cut or puncture the battery.

- **DO NOT** clean the charger with alcohol or other flammable solvent.
- **DO NOT** short circuit the battery terminals.
- **STORE** the battery at room temperature.
- **REMOVE & DISCONNECT** the battery from the model when not in use.
- **REMOVE** the charger from the power source when not in use.

Recycle





- **DO NOT** throw damaged components in the trash. Please dispose of any component included with this product according to the laws and regulations in your region.




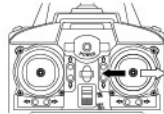


4 Controlling the Aircraft

Make sure the throttle stick on the transmitter is in the full down position, and slide the transmitter power switch to the on position. Install the battery, plug in the battery, and set the aircraft on flat ground. The lights on the front of the aircraft should be flashing. Move the throttle stick to the full throttle position and back to the full down position. When the lights on the front of the aircraft stop flashing and are lit up solid, the aircraft is calibrated to the radio and is ready to fly.

IMPORTANT: The white blades indicate the front of the aircraft; the black blades are at the rear of the aircraft. The directions reference the model when the front of the aircraft is facing away from the pilot.

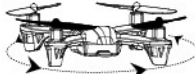
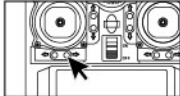

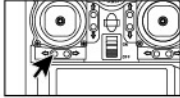
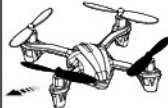
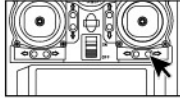

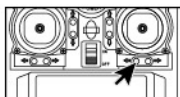
<p>Ascending ↑</p>  <p>Descending ↓</p>	<p>Push the throttle stick up to increase the speed of the blades and the aircraft will lift off and gain altitude. Move the throttle stick down to decrease the speed of the blades and the aircraft will descend.</p>	
<p>Turn Right ↻</p>  <p>Turn Left ↻</p>	<p>Push the throttle stick to the left and the aircraft will turn to the left. Push the throttle stick to the right and the aircraft will turn to the right.</p>	


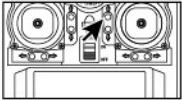

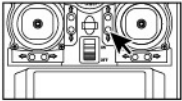


<p>Forward Backward</p> 	<p>When the right stick is pushed up, the aircraft will move forward. When the right stick is pushed down, the aircraft will move backward.</p>	
 <p>Fly Left Sideways Fly Right Sideways</p>	<p>When the right stick is pushed to the right, the aircraft will fly sideways to the right. When the right stick is pushed to the left the aircraft will fly sideways to the left.</p>	

Setting the Trim

At the beginning of each flight, when the aircraft is hovering, press the trim buttons as needed so that the aircraft will hover in place.

NOTE: The aircraft must be at a height higher than 12" (30cm), or the aircraft will not be stable.

 <p>If the aircraft spins to the left, press the right turn trim button until the aircraft stops spinning.</p>	
 <p>If the aircraft spins to the right, press the left turn trim button until the aircraft stops spinning.</p>	
 <p>If the aircraft flies sideways to the left while hovering; press the Right Sideways trim button until a steady hover is achieved.</p>	
 <p>If the aircraft flies sideways to the right while hovering; press the Left Sideways trim button until a steady hover is achieved.</p>	

	<p>When the aircraft flies backward while hovering, press the forward trim button until a steady hover is achieved.</p>	
	<p>When the aircraft flies forward while hovering, press the backward trim button until a steady hover is achieved.</p>	
<p>Press and hold the flight mode button while turning on the transmitter to reset all the trim adjustments on the controller back to neutral.</p>		
<p>If the aircraft will not respond to inputs from the transmitter, recalibrate the transmitter by shutting off the transmitter while leaving the model powered on. Move the Left Stick to the down/left position, and hold the Right Stick in the down/left position while simultaneously holding the Flip Button. When you power on the transmitter, the lights on the aircraft and transmitter will blink slowly. Then move the Left Stick to the full throttle position and back to down position to complete the re-calibration.</p>		

Flying Environment

- **Indoor Flying:** Only fly in a fairly large and open space, without people, pets, or objects that may be difficult to avoid.
- **Outdoor Flying:** Only fly in warm, sunny weather when no wind is present.

NOTE:

- **DO NOT** fly the aircraft in extreme hot/cold temperatures. This may affect the performance and could lead to damage or complete loss of the aircraft.
- **DO NOT** fly on windy days. The performance and control of the aircraft will be affected, which could cause the user to lose control of the aircraft, causing damage or complete loss of the aircraft.

Learning to Fly: To master the basics of flight, please practice the following maneuvers.



Fixed-Point
Revolving

Fixed-Point
Landing



Fly in a
Square
Pattern



Completion
of a Cross
Action

Give yourself plenty of room! Practice taking off, hovering and landing the aircraft. Then practice spinning the aircraft to the left and right. When this has been mastered, move on to the "cross" pattern. With the front of the aircraft facing away from you, fly forwards and backwards, then left and right in a "I" or "cross" pattern. Then practice these maneuvers with the aircraft facing towards you. Remember, the movement of the aircraft will be opposite of the input on the transmitter. When you move the Right Stick to the left, the aircraft will move right. When you move the Right Stick forward the aircraft will move towards you. When you have mastered these basic maneuvers, then practice a square pattern. Fly the aircraft in a clockwise square, using only the Right Stick. Then fly a counter clockwise square, using only the Right Stick. Then try flying a forward flight square using the spin movement to turn the aircraft and maintain forward flight in all four sides of the "square." Do this in both clockwise and counter clockwise directions. When you have mastered these basic movements then you can start combining your forward, side and spin inputs to perform more advanced maneuvers like circles, figure 8's and more. When you have mastered this and want a greater challenge, perform these advanced maneuvers in reverse!

Flight Modes: Use the Flight Mode Button to select between 3 different user selectable flight modes. These modes increase the performance of the aircraft. Each mode will increase the sensitivity and speed of the aircraft. Mode 1 is recommended as a starting point for new pilots. Mode 2 is intermediate and Mode 3 is advanced. Modes 2 and 3 are not recommended for inexperienced pilots. Use care when advancing to a higher mode. Mode 1 is the default, and the aircraft will automatically default to Mode 1 each time the power is turned off/on.

3D Flip Flying: Use the Flip Button to flip the aircraft forward, backward, left or right. Fly the aircraft to a height of at least 10 feet (3 meters). Then, press and hold the flip key, and move the Right Stick on the transmitter in the direction you want the aircraft to flip and release the stick. The aircraft will flip in the direction you chose.

Flip Forward



Flip Backward



Flip Towards the Left



Flip Towards the Right



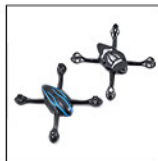
5 Troubleshooting

Problems	Causes	Solutions
Transmitter Not Working	Transmitter switch is off.	Turn on transmitter.
	Batteries installed incorrectly.	Check battery polarity.
	Insufficient battery voltage.	Replace with new batteries.
Control Failure	Transmitter switch is off.	Turn on transmitter.
	Battery is not connected.	Connect battery.
	Wind is too strong.	Do not fly in high winds. This will affect the control of the aircraft and overall flying performance.
Ascending Failure	Rotation of the main blades is too slow.	Increase throttle.
	The flight battery has been discharged.	Recharge the flight battery pack.
Landing Too Soon	Throttle stick has been pulled down too fast.	Pull down the throttle stick slowly to perform a smooth landing.
Out of Control	Beyond the effective controlling range.	Maintain a distance no further than 100' (30 meters) away from the aircraft.

6 Precautions

- 1 The controlled distance of the aircraft will be reduced as the battery power of the aircraft and transmitter decreases.
- 2 The maximum vertical flight range of the aircraft will be reduced as the battery of the aircraft decreases.
- 3 Do not operate the aircraft if it is damaged. Repair the aircraft or it could lead to permanent damage or personal injury.
- 4 Remove the transmitter batteries during long term storage.
- 5 Do not drop the transmitter, as this can cause permanent damage.

7 Parts List



ECP-67001
Upper & Lower Lid



ECP-67002
Blades (8)



ECP-67003
Lithium Battery



ECP-67004
Receiver Board



ECP-67005
Forward Motor



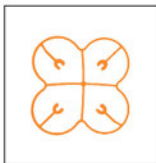
ECP-67006
Reverse Motor



ECP-67007
USB Charger



ECP-67008
Screw Set



ECP-67009
Blade Protector



Warning: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



THIS PRODUCT IS NOT A TOY! NOT FOR CHILDREN UNDER 14 YEARS.

For proper operation and to avoid risk of damage and injury, read and follow all instructions before operating this product. Failure to comply may result in excessive heat, fire, property damage and serious injury.



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