Instruction Manual for

Tough-Copter II with Gyro RC Helicopter

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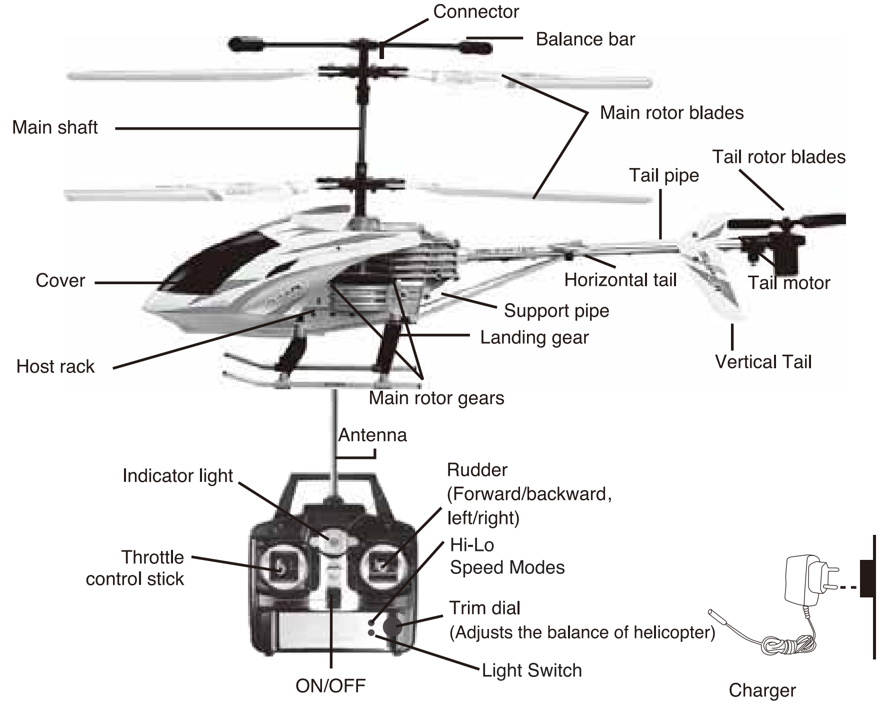
Thank you for your purchase of Protocol's **Tough-Copter II with Gyro RC Helicopter**. You are about to experience the best of what remote control flight has to offer. We strongly recommend that you take the time to read this manual thoroughly. it contains many tips and instructions on how to get the most of this aircraft, and maintain it for long life.

As with any aircraft, this is a precision flying machine. Treat it well and enjoy all the fun it has to offer.

Helicopter and Remote Control Parts:



Assembling the Remote Control:

1. Open battery case cover on the back using a small Phillips screwdriver.
2. Install the batteries (6 AA, not included) according to polarity symbols (+) and (-) in battery compartment (Fig. 2).
3. Replace the battery cover.
4. When the power light remains on after the remote is turned on, the batteries are working. When the power light begins blinking, the batteries are dying and need to be replaced.

Battery Notes: Do not mix old and new batteries. Do not mix different types of batteries. Only use 'AA' alkaline batteries for this product. Remove batteries if this product is not going to be used for a long time. Always remove exhausted batteries from the product and dispose of safely.

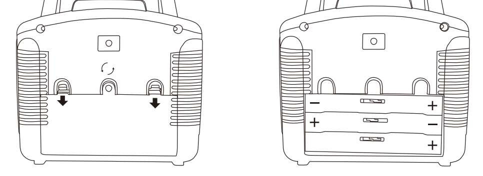
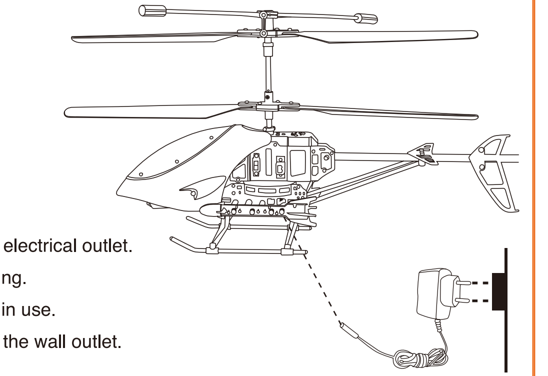


Fig.1

Charging the Helicopter:

The helicopter is equipped with a high-performance Lithium-Poly battery.
1. Always turn the helicopter power switch off when charging the battery.
2. Connect the charge plug of the battery charger to the charge slot on the bottom of the helicopter (see diagram). The indicator will light up green.
3. Plug the charger into the power outlet.
4. While charging, the LED light on the charger turns red.
5. When the charge is complete, the LED light turns green.
6. The first charge requires 180 minutes of charging time.
7. The battery requires 120-180 minutes of charging for approximately 8 minutes of flight.
8. DO NOT CHARGE BATTERY LONGER THAN 180 MINUTES.



IMPORTANT!

Do not immerse the helicopter in water. Keep it in a cool dry environment.

Do not use a battery charger other than the one provided.

Make sure that the battery charger power adapter fits your electrical outlet.

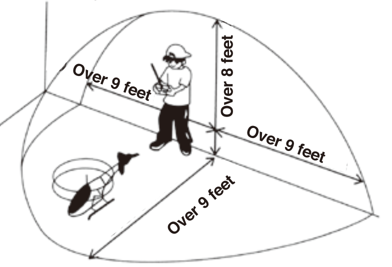
Never leave the helicopter battery unattended when charging.

Turn the helicopter and remote control power off when not in use.

After charging the battery, disconnect the AC adapter from the wall outlet.

Preparing for Flight:

1. Do not fly in temperatures below 50°F/10°C. Doing so may damage the helicopter and/or adversely affect your ability to control it.
2. Do not fly in strong wind. Windy conditions will limit or completely interfere with flight control, resulting in your helicopter becoming damaged or lost.
3. Choose a flight area that is free of obstacles such as animals, people, electrical lines, trees, or other obstructions.



Flight Radius

Turning On The Helicopter:

1. Turn on the helicopter.
2. Place the helicopter onto the ground and stand at least 9 feet behind it.
3. Pull the remote control antenna to its full extension.
4. Make sure the throttle on the remote control is at its lowest position.
5. Turn on the power switch to the remote control. The power light will begin to blink. Push the throttle to the highest position, then to the lowest position. This will allow you to control the helicopter.

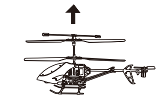
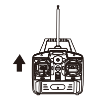
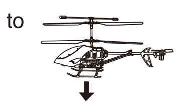
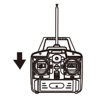
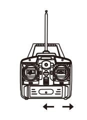
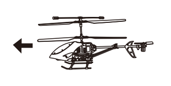
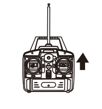
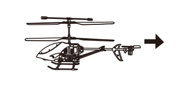
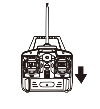
Hi-Lo Speed Modes:

This helicopter has high and low speed modes. The helicopter is automatically set to high speed which is great for seasoned pilots. Low speed is recommended for beginners. Just press the button on the remote control to switch between low and high speed.

Spotlight:

The helicopter features a spotlight. The spotlight automatically turns on with the helicopter. If you wish to turn off the spotlight, just press the indicated button on the remote control.

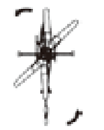
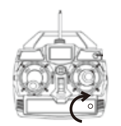
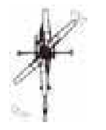
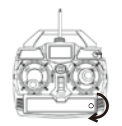
Controlling Your Helicopter:

Ascend	Push up on the throttle stick (see diagram) to raise the helicopter. 	
Descend	Pull down on the throttle stick (see diagram) to lower the helicopter. 	
Steering	Move the rudder stick (see diagram) left to turn the helicopter left. Move the rudder stick (see diagram) right to turn the helicopter right. 	
Forward	Push up the steering rudder (see diagram) and the helicopter's nose tilts down and it flies forward. 	
Backward	Push down on the steering rudder (see diagram) and the helicopter's nose tilts up and it flies backward. 	

***Do not crash the helicopter from a high altitude. Damage can occur to the helicopter due to its size.**

Fine Tuning Your Helicopter's Flight:

If your helicopter rotates in flight even when you are not using the remote control to make it do so, then you can adjust the trim dial to correct it.

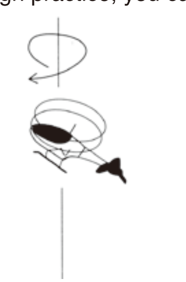
If your helicopter is rotating left, turn the trim dial to the right (see diagram). Continue to adjust this dial until the helicopter line flies straight. 	 Right turn
If your helicopter is rotating right, turn the trim dial to the left (see diagram). Continue to adjust this dial until the helicopter line flies straight. 	 Left turn

Note: If the helicopter is less than 1 foot from the ground, the vortex from the spinning blades can create flying issues. Please make sure to fly the helicopter above this height.

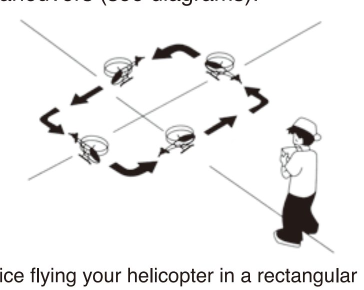
Note: The tail blade may not always spin as you are flying. Please note that this is normal as long as you are able to control the helicopter

Flying Practic

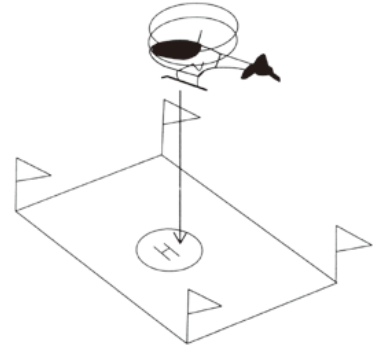
With enough practice, you can attempt the following maneuvers (see diagrams):



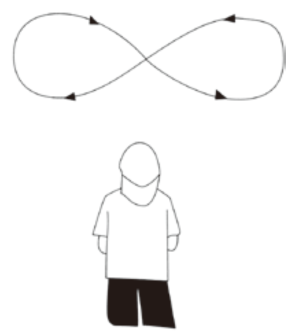
Revolving descents



Practice flying your helicopter in a rectangular pattern by flying it forward and then executing a series of left-hand turns. Gradually round off the turns so that you can fly your helicopter in a circle.



Practice landings until you can land gently and accurately.



Once you have mastered the above, try flying your helicopter in a figure 8 pattern.

Crashing:

If the helicopter crashes, the rotors will automatically shut off in order to protect and extend the life of the motor.
The pilot will have to complete the start-up process again to continue using the helicopter.

Troubleshooting:

The remote control doesn't work:
1. Make sure the remote control's power switch is on.
2. Make sure the batteries in the remote control are inserted properly, according to polarity symbols (+) and (-) in the battery compartment.
3. Replace the batteries.

Unable to control the helicopter:
1. Make sure the helicopter's power switch is on.
2. Make sure the remote control's antenna is fully extended.
3. Do not fly the helicopter in wind, which can interfere with control.

The helicopter will not ascend:
1. Make sure you are pulling up on the throttle stick.
2. Make sure the helicopter battery is fully charged.

The helicopter lands too fast/crashes:
1. Slowly pull down the throttle until the helicopter lands smoothly.
2. Make sure the helicopter battery is fully charged.

Caution:
1. Remote control range is reduced when the batteries are low.
2. When the helicopter's battery is low, it will not fly as high.
3. Do not fly the helicopter if the rotor is damaged or broken. Injury can result.
4. Landing the helicopter too fast or crash landing will result in a shorter lifespan for the helicopter.
5. Keep hands, fingers, eyes, hair, and loose clothing away from rotors and moving parts.

Replacement Parts:

Thank you for your purchase of Protocol's **Tough-Copter II with Gyro RC Helicopter**! We know that accidents can someimes happen which is why we offer a spare parts kit available on our website **ProtocolNY.com.**

LIMITED WARRANTY
At Protocol, we're dedicated to bringing you innovative and well-designed products that make living fun and easy. We stand behind all of our products and warrant this to be free from defects in workmanship and materials for 30 days from the date of purchase. The warranty does not cover transportation damage, misuse, accident, or similar events. Specific legal rights pertaining to this warranty may vary by state.
For service claims or questions please consult our website **ProtocolNY.com.**