

PROTOCOL®

PREDATOR X™

3.5 CHANNEL R/C HELICOPTER

INSTRUCTION MANUAL



THANK YOU.

Thank you for your purchase of Protocol's **Predator X 3.5 Channel R/C 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 out of this aircraft and maintain it for a long life.

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

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SAFETY WARNINGS

HAVE FUN, BUT SAFETY FIRST!

- Read and follow instructions on how to synchronize electronics before each flight.
- To prevent damage to people or property, always avoid contact with other objects while in flight.
- Inspect aircraft prior to each flight and do not fly if damaged.
- Never expose product or any of its electronic parts to moisture, water, or heat sources.
- To prevent overheating, allow battery a cool-down period before recharging.
- To prolong engine life, allow a cool-down period between flights.
- Use only the charger and/or charging cable that is supplied with this item.
- Do not strike, cut, or pierce the internal battery or subject it to hard impacts.
- Do not mix old and new batteries or mix different types of batteries.
- Never attempt to modify function of vehicle or controller or attempt repairs using parts other than those supplied by Protocol. Spare parts are available at **www.ProtocolNY.com**

**THIS DEVICE USES COMPONENTS THAT OPERATE AT HIGH SPEEDS.
AS WITH ANY SUCH DEVICE, USE CAUTION TO OPERATE SAFELY.**

**FAILURE TO FOLLOW ANY OF THESE GUIDELINES MAY RESULT IN BODILY INJURY
OR DAMAGE TO PERSONAL OR PUBLIC PROPERTY.**

PARTS



HELICOPTER

1. Canopy
2. Blade
3. Balance Bar
4. Tail Blade
5. Power Switch (underneath)
6. Charging Cord (not visible)

PARTS

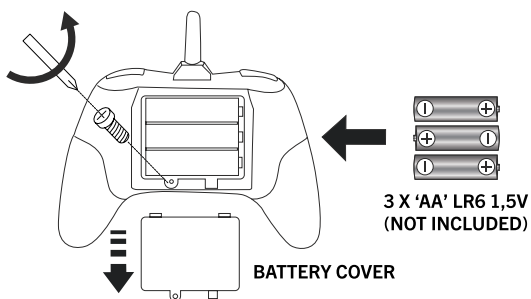


REMOTE

1. Power On/Off
2. Forward/Backward
3. Left/Right Turn
4. Engine On/Take Off/Land
5. Right Trimmer
6. Left Trimmer
7. Performance Mode Selector
8. Power Indicator
9. Throttle
10. Emergency Stop
(press and hold)

REMOTE BATTERY

INSTALLING THE BATTERIES



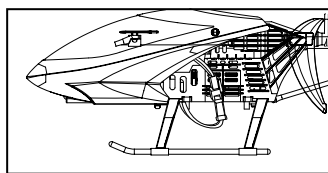
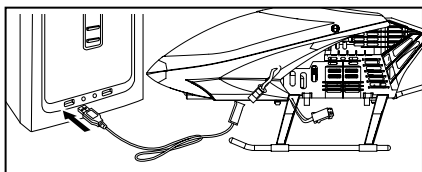
Remove battery cover from controller. Insert 3 x 'AA' batteries according to indicated polarities. Replace battery cover.

1. Install batteries carefully.
2. Do not mix old and new batteries.
3. Do not mix different types of batteries.

CHARGING THE HELICOPTER BATTERY

1. Make sure the helicopter is turned off.
2. Make sure the two cords on the helicopter are disconnected.
3. Connect the USB charging cable to the helicopter battery cord.
4. Plug the charger into a USB port. The USB light will stay on while charging and will turn off once fully charged.
5. Plug the two helicopter wires back together.

Charging time: 150 minutes --- Flying time: approximately 7 minutes



DO NOT CHARGE OVERNIGHT OR BEYOND THE CHARGING TIME STATED. DO NOT LEAVE BATTERY UNATTENDED.

*Battery: Li-Po, 3.7V, 1100mAh

If you purchased extra batteries, allow the engines to cool between flights in order to prolong engine life.

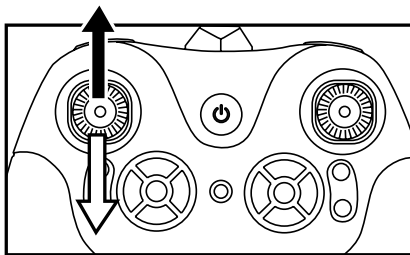
CAUTION WHEN CHARGING

1. When charging, place product on a dry, well-ventilated surface and keep away from heat sources.
2. Always use adult supervision while charging.
3. In order to increase battery longevity, avoid repeat charging and excessive discharging.
4. As battery temperature is high immediately after flight, charge after cooling down for higher efficiency.
5. Do not strike or subject battery to hard impacts or sharp surfaces.
6. Do not use any other charger than that which is supplied with this item.
7. Do not use or leave battery near a heat source such as fire or space heater; exposure to heat may result in reduced performance or in some cases dangerous conditions.
8. If battery is left in charging state for an extended period of time after being fully charged, the battery may automatically discharge.
9. Never leave the battery unattended during charging.
10. Do not disassemble battery.
11. Do not submerge battery in water.

START-UP PROCEDURE

Before flying, the helicopter and transmitter must be turned on in sequence and synchronized.

1. Turn on the helicopter. The front light will begin to flash.
2. Place the helicopter on the ground facing away from you.
3. Turn on the remote control.
4. Push the throttle up and then down. The light on the remote will turn steady to indicate it has synced.
5. Your helicopter is now synchronized, and in stand-by mode awaiting Engine Idle command.



NOTE:

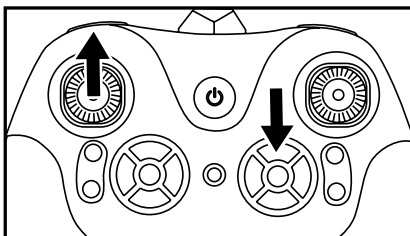
1. If after 30 seconds, it has not recognized the helicopter, turn off the controller and repeat Start-Up procedure.

STARTING THE ENGINE; ENGINE IDLE

After synchronizing the helicopter, press the engine on button to go into idle mode. Alternatively, you can push the throttle up and release to go into idle mode.

The blades will rotate but the helicopter will not lift.

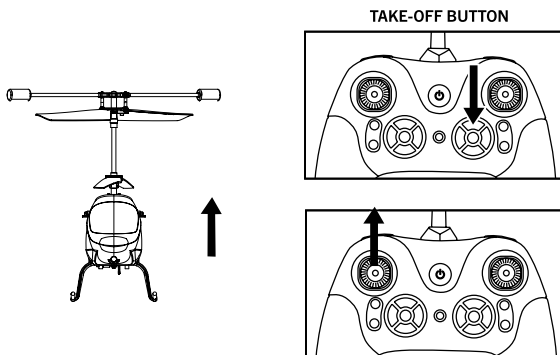
ENGINE ON BUTTON



OPERATION: FLYING THE HELICOPTER

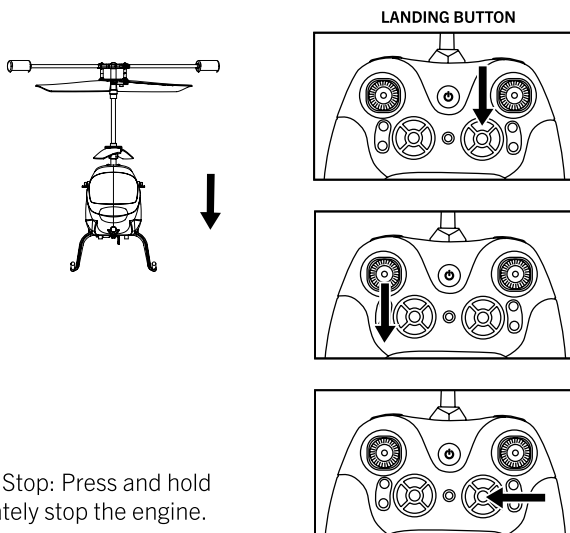
TAKE-OFF:

1. From idle mode, press the take off button or gently advance the throttle up to a desired height and release. The helicopter will hover at that height.*



LANDING:

1. Press the land button and the helicopter will automatically land.
2. Push down on the throttle until the helicopter is on the ground.



NOTE:

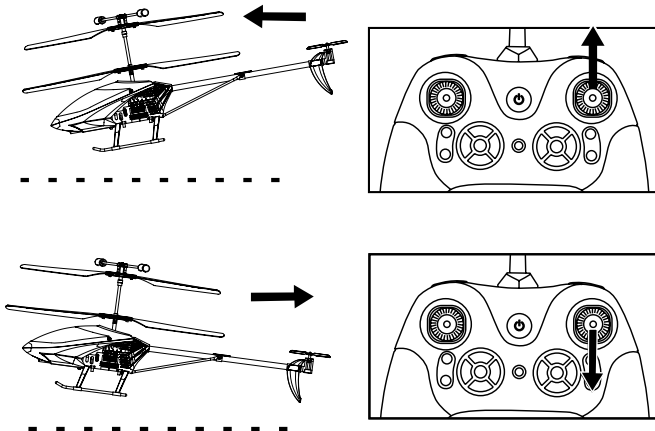
* Emergency Stop: Press and hold to immediately stop the engine.

* The helicopter may drift a bit, especially in the first 30 seconds until the altitude sensor gets a good fix on the position. Some drift is normal.

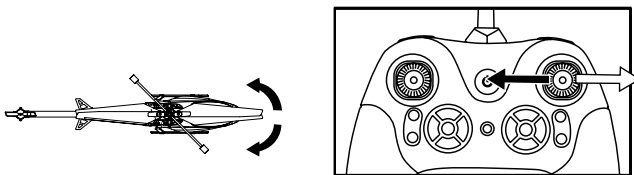
OPERATION: FLYING THE HELICOPTER

FIRST TIME FLYERS!!! TAKE YOUR TIME! GO SLOW!

Practice hovering until you are comfortable with flight before attempting any other maneuvers. If you start to lose control, don't panic. Just press land.



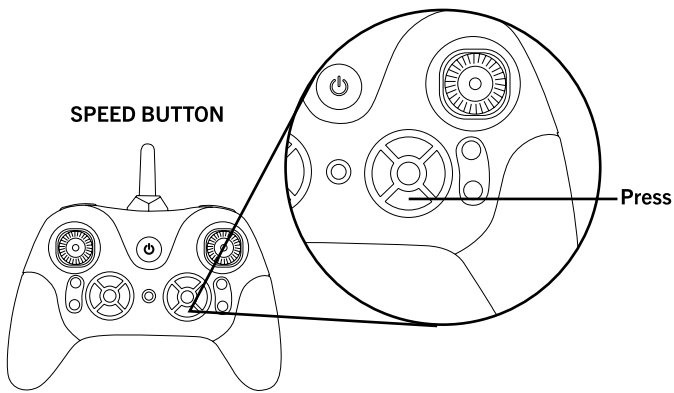
Push the direction lever up or down,
the helicopter flies forward or backward



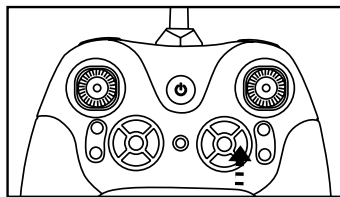
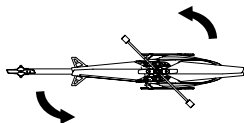
Pull the direction lever to the left or right,
the helicopter turns to the left or right

PERFORMANCE MODES

The Predator X features multiple performance or speed modes. Choose the speed based on flight experience and level of comfort. At high speed, the helicopter will pitch more than at lower speeds. Predator X is quite fast at its high speed and requires more piloting skills to fly competently. For safety take time to develop advanced skills by practicing at the lower speed first. Press the Performance Mode button in to change the speed. The remote control indicator will beep once at low speed and twice at high speed.



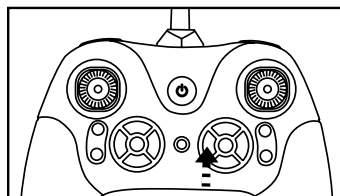
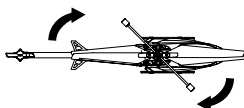
TRIM ADJUSTMENT



Press

LEFT TRIM

When the helicopter spins left unintentionally, you can correct it by pressing the right trim button until it evens out.



Press

RIGHT TRIM

When the helicopter spins right unintentionally, you can correct by pressing the left trim button until it evens out.

NOTE: Trim adjustments are designed to counter drifts not cause by wind.

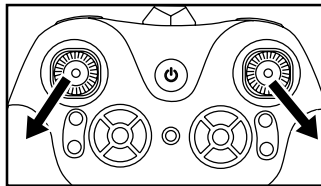
*The remote will emit 1 long beep when trim is centered.

TROUBLESHOOTING

RE-CALIBRATING THE HELICOPTER

If the helicopter crashes and after re-starting and trimming, it still is unstable, you have the option to re-calibrate the helicopter.

1. Turn on the helicopter and then the remote and sync.
2. Push the throttle and direction sticks to the lower outer corners and release.
3. The lights will flash to indicate that the helicopter has re-calibrated.



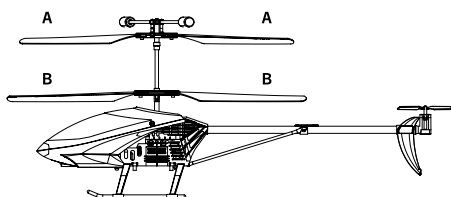
*Allow 15 minutes to pass between full flights as this will give the motors a chance to cool down. Failure to do so could wear out and shorten the life of the motors.

SYMPTOM	POSSIBLE CAUSE	POTENTIAL SOLUTION
Predator X does not respond	1. Communication between controller and aircraft was not synchronized during set up 2. Battery power depleted on aircraft, controller or both.	1. To synchronize, turn on aircraft first, place it on level ground, and then turn on controller. 2. Charge aircraft and/or replace batteries in controller.
Response to control inputs intermittent or erratic	1. Controller battery power nearly depleted.	1. Replace batteries in controller.
Predator X will not hover or strafe correctly	1. The aircraft was not on level ground during synchronization. 2. Trim settings are incorrect.	1. Re-synchronize aircraft and controller. 2. Reset the trim buttons on the controller and re-trim flight controls.
The motors stop running	1. If a propeller is stuck, the motors will automatically stop running.	1. Turn off the helicopter and remote and check for debris in the propeller.

TROUBLESHOOTING

HOW TO CHANGE THE BLADES

- All helicopters have two blades that spin clockwise and two blades that spin counter-clockwise.
- Make sure to place the blades on the correct axis or they will not spin correctly and the helicopter will not lift.
- Each blade is marked with A or B. There may be a number after the letter but you can ignore the number.
- Make sure to follow the graphic below to see where to place the blades.



FLYING OUTDOORS

HOW TO PREVENT FLY AWAYS

To prevent “fly-away” situations (where helicopters seem to fly away out of control) it is important to first test and practice within close range before letting the helicopter fly too far away.

Each helicopter is designed to turn off the engines if the radio signal is lost. It is important to know and test the range of your helicopter before flying. We recommend turning on and syncing the helicopter and walking away while testing the engines. Keep walking and testing until it is obvious when you reach the point where the signal is not controlling the helicopter. This will be the control limit for the conditions in which you are flying. Distance does vary somewhat based on environmental and weather conditions, so testing the limit is advised. Fly in a range that is good for easy visual operation of the helicopter.

IF YOU CAN'T SEE YOUR HELICOPTER, THEN YOU CAN'T CONTROL YOUR HELICOPTER.

* Fly-aways are not covered by warranty as they are overwhelmingly caused by pilot error.

REPLACEMENT PARTS

Thank you for your purchase of Protocol's **Predator X 3.5 Channel R/C Helicopter**. We know that accidents can sometimes happen and that is why we offer spare parts kits on our website: **www.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 **www.ProtocolNY.com**.



FCC Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

