PROTOCOL®

NEO-DRONE AP™

MINI RC STUNT DRONE

INSTRUCTION MANUAL


NANO
DRONE
AP

THANK YOU.

Thank you for your purchase of Protocol's **Neo-Drone AP Mini RC Stunt Drone.** 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.

TABLE OF CONTENTS

SAFETY WARNINGS

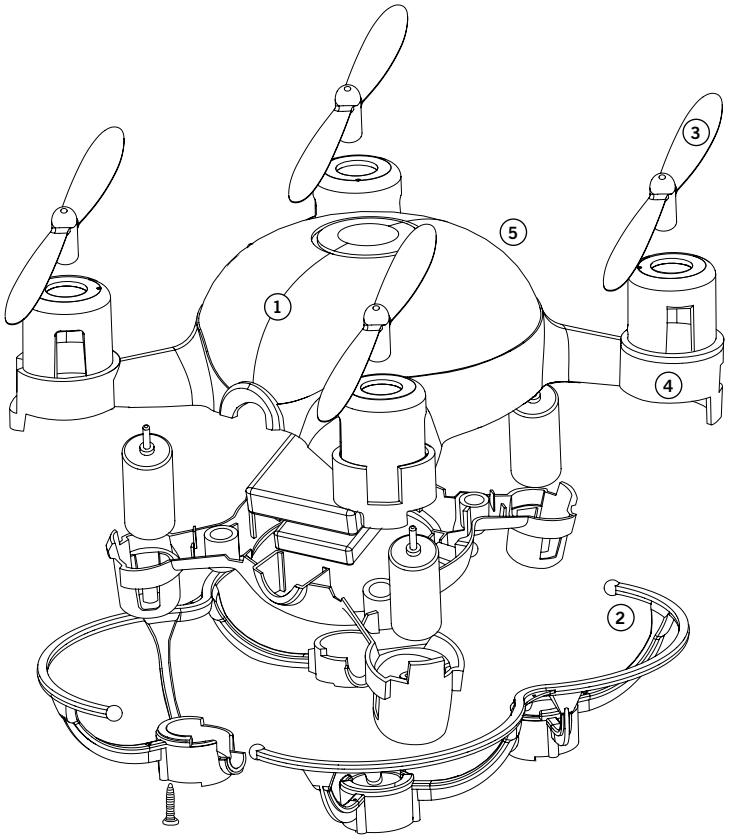
HAVE FUN, BUT SAFETY FIRST!

- Read and follow instructions on how to synchronize and calibrate 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 suplied 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 attempte to modify function of vehicle or controller or attempt repairs using parts other then those supplied by Protocol. Spare parts are available at **www.ProtocolNY.com**

THIS DEVICE USES COMPONETS 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.

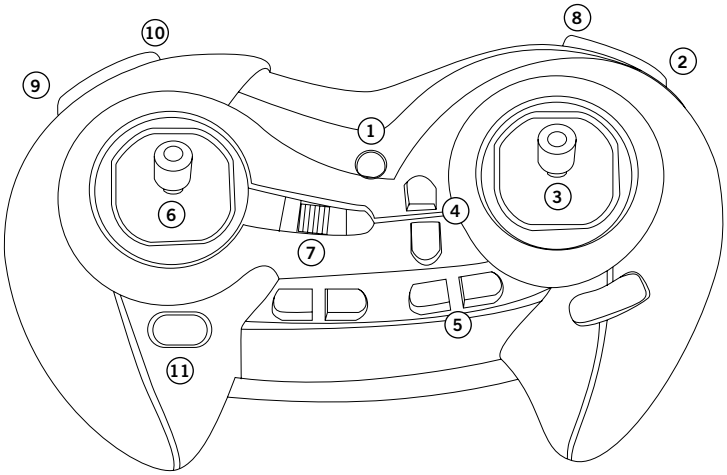
PARTS



DRONE

1. Canopy
2. Blade Guard
3. Blade
4. Landing Gear
5. Charging Jack

PARTS



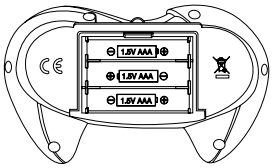
REMOTE

1. Indicator Light
2. Flip
3. Direction Lever
4. Trim Forward/Backward
5. Trim Bank Left/Right
6. Throttle
7. ON/OFF Switch
8. High/Med/Low Speed Selector
9. Auto Take-Off
10. Auto Landing
11. Unlock/Emergency Stop

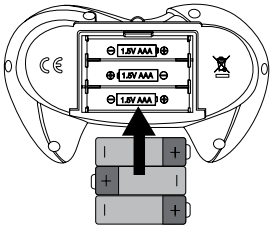
SPARE PARTS INCLUDED

- Replacement Blades

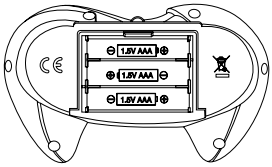
REMOTE BATTERY INSTALLATION



Take out the cover



Install 3 x 'AAA' battery according to the correct polarities.



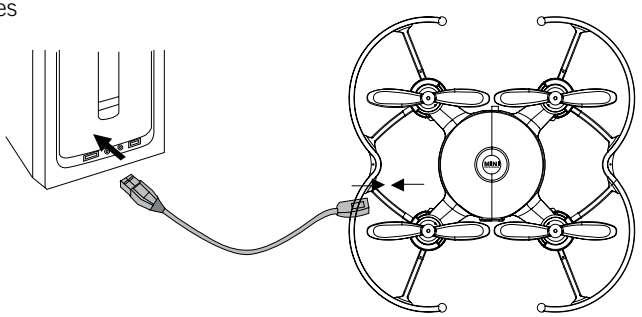
Replace the cover

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

CHARGING THE DRONE BATTERY

1. Make sure the drone is turned off.
2. Connect the USB charging cable to the drone.
3. Plug the charger into a USB port. The USB light will turn off while charging and will turn on once fully charged.

Charging time: approximately 30 minutes --- Flying time: approximately 6 minutes



*Battery: Li-Po, 3.7V, 150mAh

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

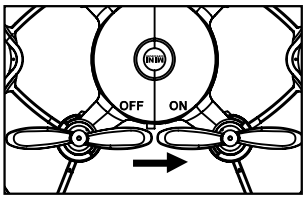
CAUTION WHEN CHARGING

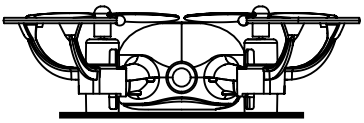
1. When charging, place product on a dry, well-ventilated surface and keep away from heat sources.
2. Always use adult supervision while charging.
3. In order to increase battery longevity, avoid repeat charging and excessive discharging.
4. As battery temperature is high immediately after flight, charge 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

1. Turn on the drone and place it on an even surface. The white lights are at the front of the drone and the green lights are at the back.
2. Turn on the remote control.
3. The light on the remote will flash as the drone and remote are syncing.
4. Push the throttle up and then down to sync. You will hear 2 beeps and the light will go steady.
5. Press the unlock button to go into idle mode.

Tip: When syncing your drone keep it in a horizontal position for stable flight





NOTE

1. Turn on the controller; if, after 30 seconds, it has not recognized the drone, turn off the controller to retry synchronization.
2. If the Neo-Drone AP is unsteady in flight, it may not have been able to sync horizontally. Power down both drone and remote and restart pre-flight procedure.

STARTING THE ENGINE; ENGINE IDLE

After synchronizing the drone, press the unlock button to go into Idle mode. The blades will rotate but the drone will not lift.

***OPERATION INSTRUCTIONS ON THE NEXT PAGE.**

OPERATION

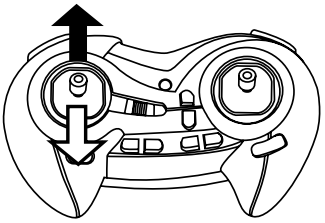
TAKE–OFF

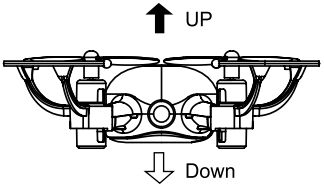
1. Press the take off button. The remote will beep and the drone will hover a few feet off the ground. Then gently advance the throttle to a desired height and release. The drone will hover at that height.*

OR

2. Advance the throttle up to a desired height and release. The drone will hover at that height.*

Landing:
Press the landing button to lower the drone to the ground.



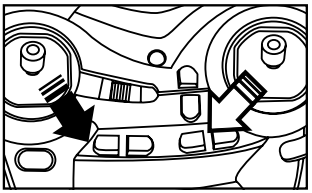


NOTE:

- **Emergency Shut Off: When in flight, press the unlock button for one second and the drone will shut off.**

  OR

  Pull the throttle and direction stick to the center at the same time and the drone will shut off.

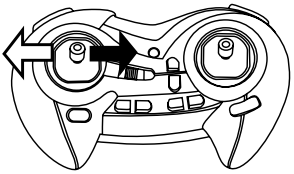


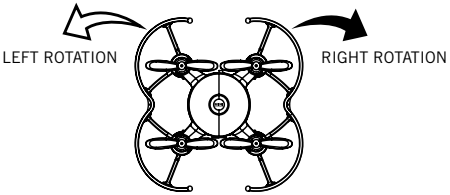
* The drone may drift a bit, especially in the first 30 seconds until the altitude sensor gets a good fix on the position. Some drift is normal.

OPERATION

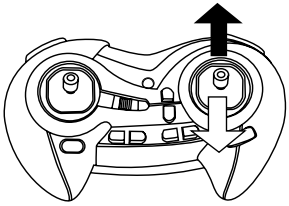
FIRST TIME FLYERS!!! TAKE YOUR TIME! GO SLOW!

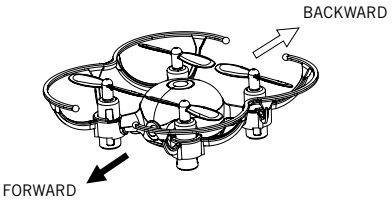
Practice hovering until you are comfortable with flight before attempting any other maneuvers. Make small movements letting the stick return to the center. If you start to lose control, don't panic. Just press land.



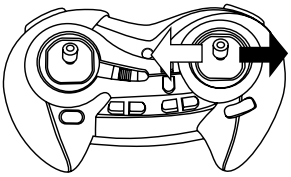


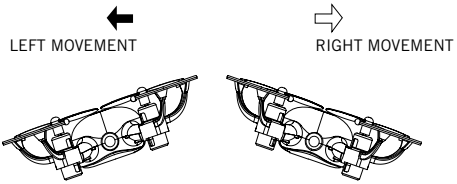
Pull the throttle left or right,
the drone turns to the left or right.





Push the direction lever up or down,
the drone flies forward or backward.

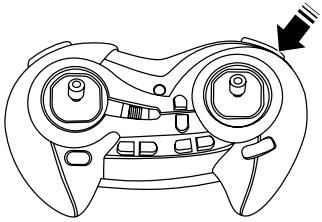


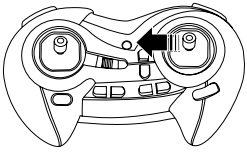


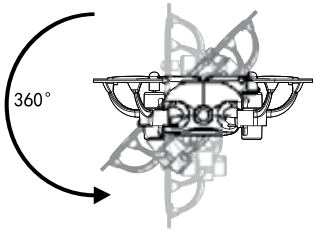
Pull the direction lever to the left or right,
the drone banks to the left or right.

TIPS ON 3D STUNT & TUMBLING

Once you are familiar with the basics of drone flight, you can try some advanced maneuvers! At a height of at least 10 feet, press the Flip button. The remote will beep and you are ready to execute a flip.

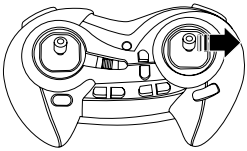


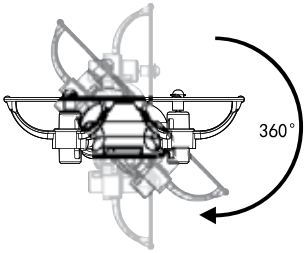




LEFT FLIP

Push the direction stick to the left and the drone will perform a 360° flip in that direction.

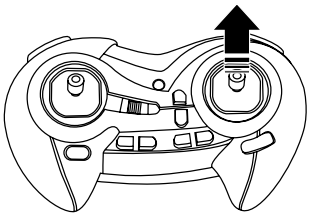


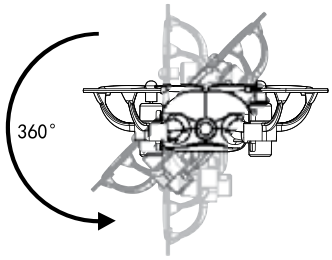


RIGHT FLIP

Push the direction stick to the right and the drone will perform a 360° flip in that direction.

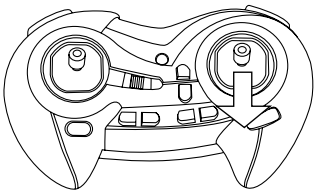
TIPS ON 3D STUNT & TUMBLING

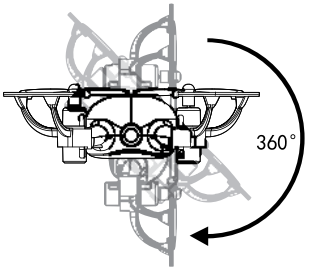




FORWARD FLIP

Push the direction stick forward and the drone will perform a 360° flip in that direction.





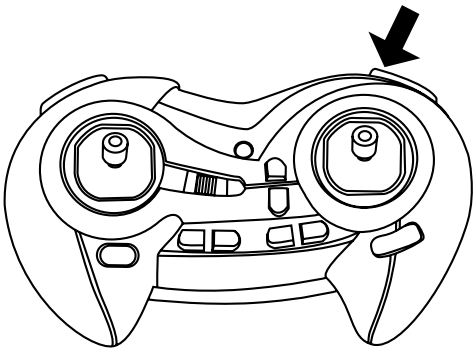
BACKWARD FLIP

Push the direction stick backward and the drone will perform a 360° flip in that direction.

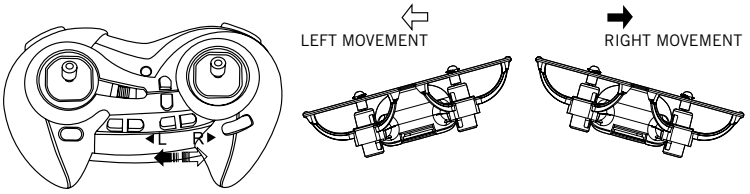
SPEED MODES

The Neo-Drone AP features 3 speed modes. Low speed is at 40%, Medium is at 70%, and High is at 100%. Choose the speed based on flight experience and level of comfort.

Press the Speed button to change speed. The remote control indicator will beep once for low speed, twice for medium, and three times for high.

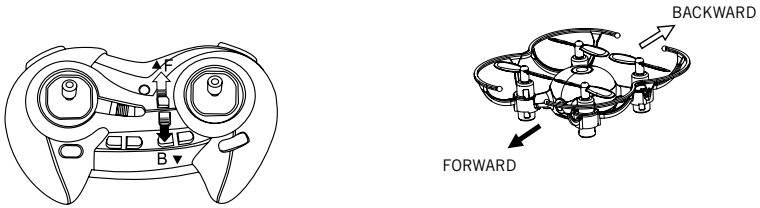


TRIM ADJUSTMENT



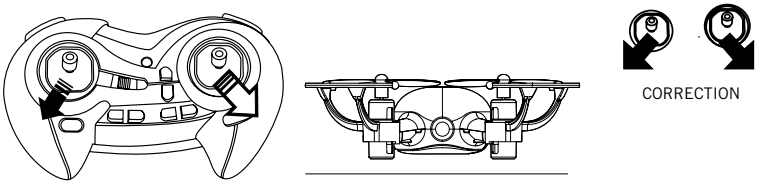
SIDEWAYS TRIM

When the drone veers to the left or right side unintentionally, you can correct it by pressing the trim button in the opposite direction until it evens out.



FORWARD/BACKWARD TRIM

When the drone veers forward/backward unintentionally, you can correct it by pressing the trim button in the opposite direction until it evens out.



RESETTING THE TRIM

To set the trim buttons back to default, push the throttle to the lower left corner and the direction stick to the lower right corner at the same time and hold for three seconds. You'll hear a beep and the lights on the drone will flash. The drone is reset once its lights stop flashing.

TOSS N' LAUNCH

Thanks to the 6-axis gyro, you can toss the drone and push the throttle up. It will automatically level out and hover smoothly in the sky.

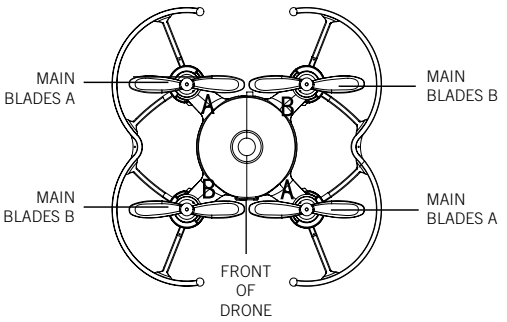
TROUBLESHOOTING

*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
Neo-Drone AP 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, place it on the ground, and then turn on the remote. 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.
Neo-Drone AP 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.

HOW TO CHANGE THE BLADES

- All drones have two rotors that spin clockwise and two rotors that spin counter-clockwise.
- Make sure to place the blades on the correct axis or they will not spin correctly and the drone will not lift.
- Each blade is marked on its underside 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 drones seem to fly away out of control) it is important to first test and practice within close range before letting the drone fly too far away.

Each drone is designed to turn off the engines if the radio signal is lost. It is important to know and test the range of your drone before flying. We recommend turning on and syncing the drone 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 drone. 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 drone.

IF YOU CAN’T SEE YOUR DRONE, THEN YOU CAN’T CONTROL YOUR DRONE.

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

TRAINING LOOP

Unfold the included training loop and slide into the notches of the two brackets. The training loop should stand on its own.

REPLACEMENT PARTS

Thank you for your purchase of Protocol's **Neo-Drone AP Mini RC Drone.** We know that accidents can sometimes happen and that is why we offer spare parts kits on our website: P**rotocolNY.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, crashes, accident, or similar events. We do not offer refunds for items not purchased directly from us. Specific legal rights pertaining to this warranty may vary by state.

For service claims or questions please consult our website **ProtocolNY.com.**