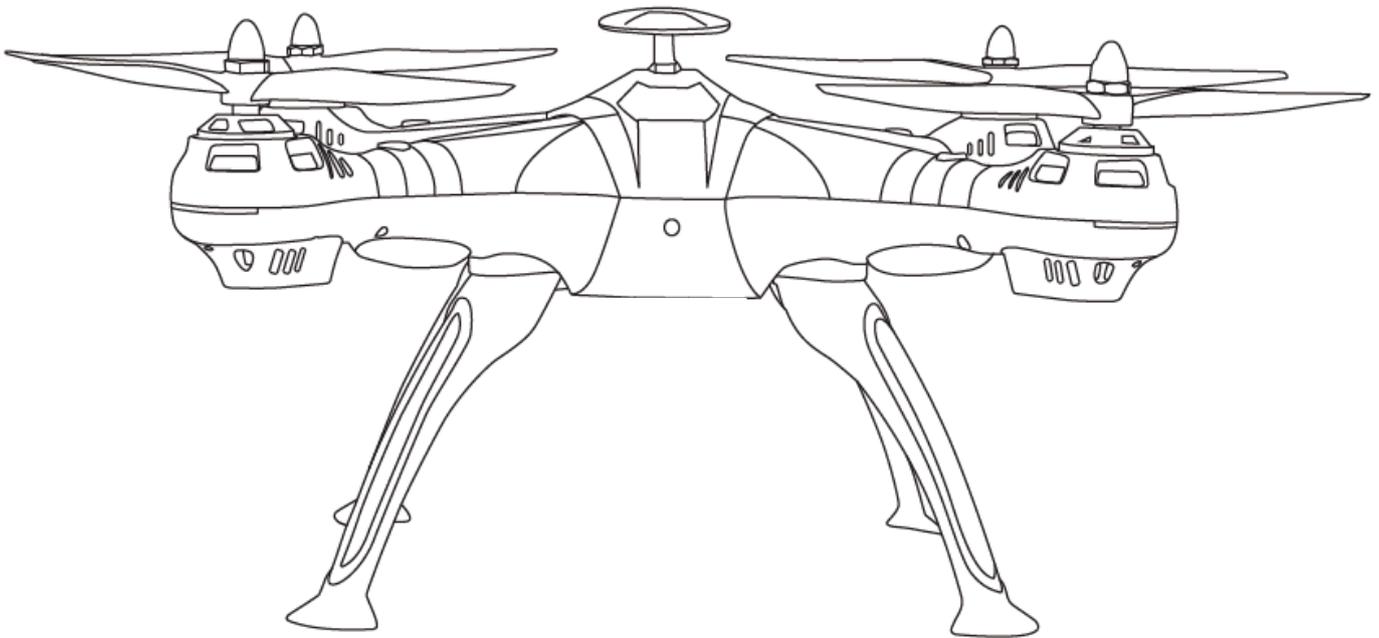




Wraith

User Manual



Model: PFBD104

Thank you for choosing ProFlight.

Please read this user manual before using this drone and keep it safe for future reference.

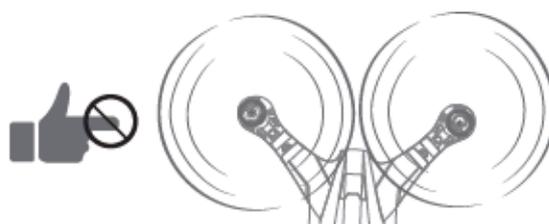
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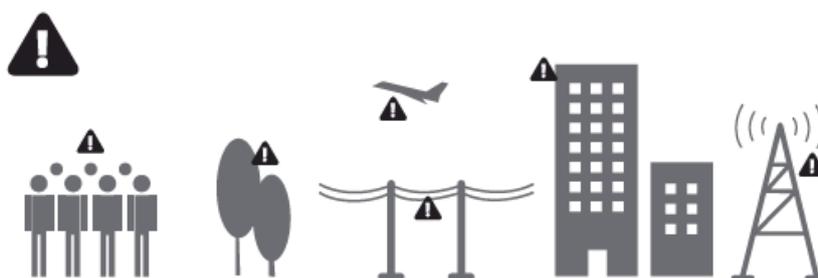
SAFETY

Read the entire instruction manual and familiarise yourself with the product and all its features before operating. Failure to operate the product correctly can result in damage to the product, surroundings or even serious injury. This product is not a toy and must be operated with caution and common sense. It requires some basic mechanical knowledge. This product is not intended for use by children without direct adult supervision. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in this manual prior to assembly, setup or use in order to operate correctly and avoid damage or serious injury.

- Not intended for use by children under 14 years of age. This is not a toy.
- Always operate your drone in open spaces away from vehicles, buildings, traffic and people.
- Never operate your drone with low transmitter batteries
- Avoid exposure to water as moisture can cause damage to the electronics.
- Do not touch the propellers while they are rotating, as injury is likely to occur.
- Always keep out of reach of children.
- Do not operate the drone in adverse weather conditions, such as during storms, rain, strong wind (Over 10 m/s), fog or snow



- Ensure the drone is kept away from people, trees, electrical wires and tall buildings during flight. Radio transmission towers, power lines, electrical substations and similar may interfere with the compass, which could prevent adequate control of the drone.

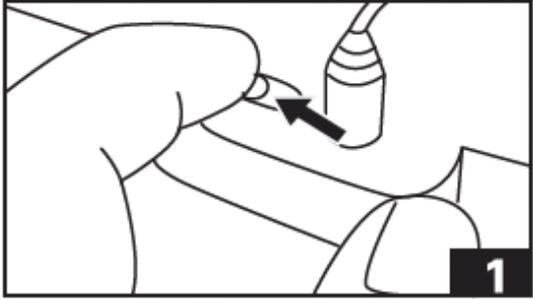
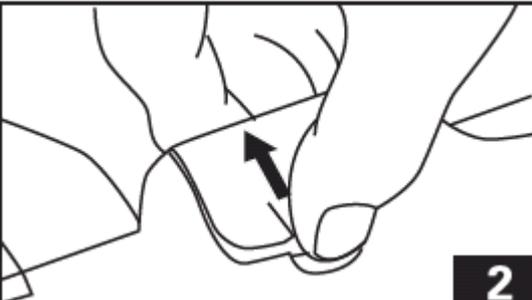
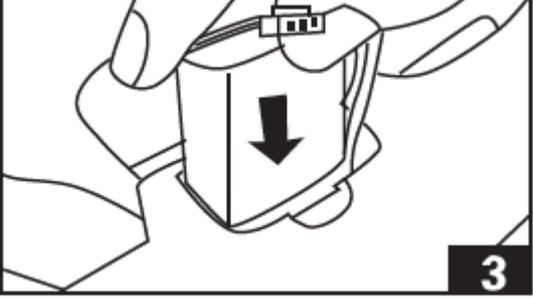
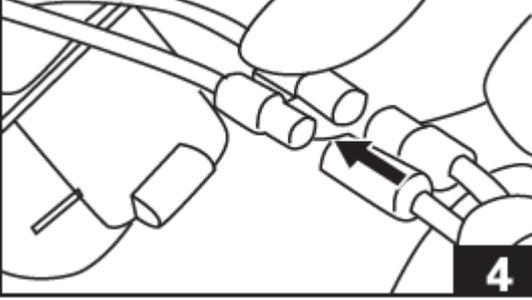




The battery charger included with the drone has been designed to safely charge the Li-Po battery.

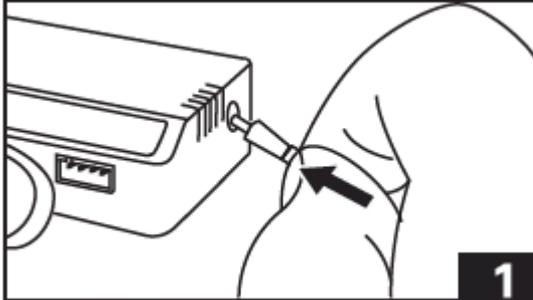
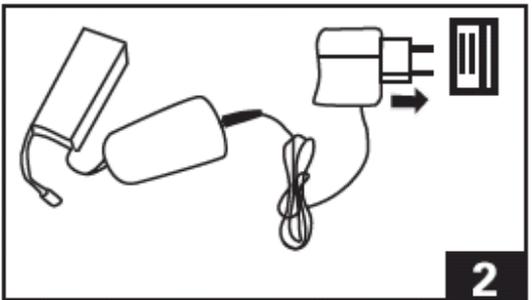
- Mishandling of Li-Po batteries can result in a fire, personal injury, and /or property damage.
- By handling, charging or using the included Li-Po battery you assume all risks associated with lithium batteries.
- If at any time the battery begins to balloon or swell, discontinue use immediately. If charging or discharging, discontinue and disconnect. Continuing to use, charge or discharge a battery that is ballooning or swelling can result in fire.
- Always store the battery at room temperature in a dry area for best results.
- Do not store battery or drone in a car or direct sunlight. If stored in a hot environment, the battery can be damaged or even catch fire.
- Never use any other type of battery charger other than the one supplied with the drone. Failure to charge the battery with a compatible charger may cause fire resulting in personal injury and/or property damage.
- Never exceed the recommended charge rate.
- When a Li-Po battery is discharged below 3.7V, the battery may be damaged and may no longer accept a charge. The drone will automatically land and become inactive when the battery reaches this level, this is to protect the battery.

Battery Installation

 <p>1</p>	 <p>2</p>
<p>Ensure the drone is turned off using the power switch on its underside.</p>	<p>Open the battery cover on the rear of the drone</p>
 <p>3</p>	 <p>4</p>
<p>Slide the battery into the battery housing</p>	<p>Connect the power lead from the battery to the power connector within the battery housing.</p>

Battery Charging

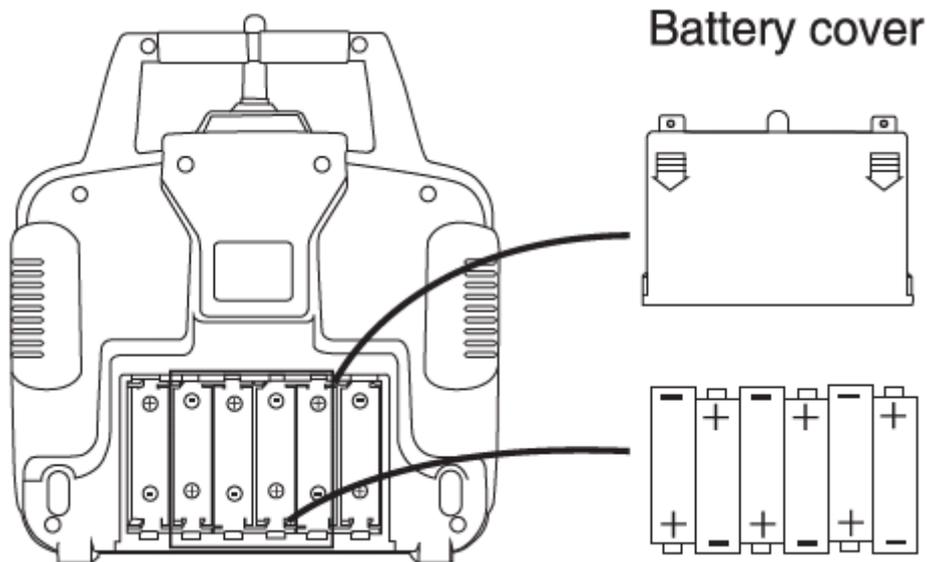
Remove the battery from the drone, following the reverse of steps 2 – 4 above.

 <p>1</p>	 <p>2</p>
<p>Plug the charging cable from the battery into the socket on the charger</p>	<p>Plug the supplied power supply into the charger, and plug into a wall socket to charge.</p>

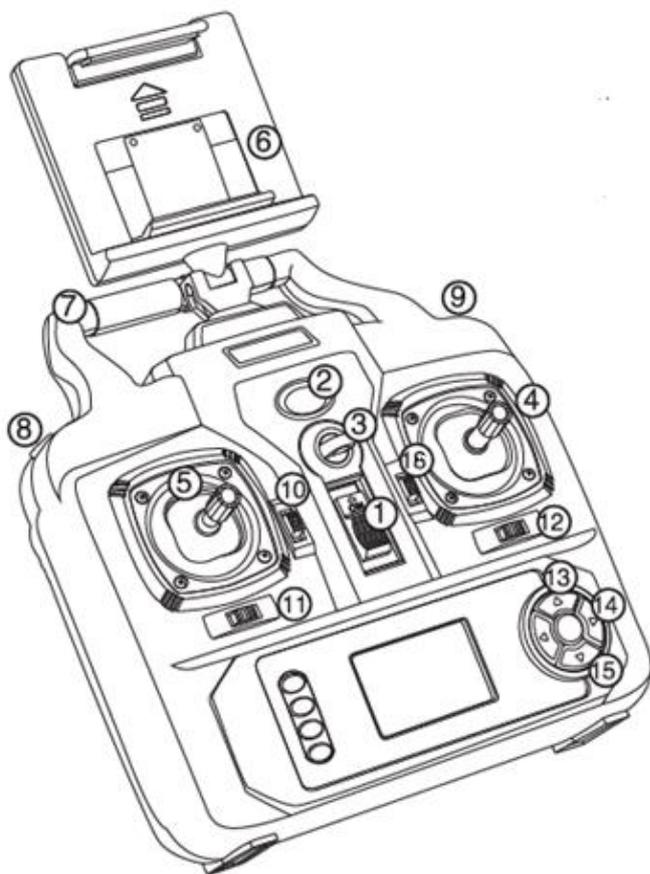
The battery will take around 3 hours to fully charge, and will give around 18 – 20 minutes of charge. While charging the led on the charger will be red, and when fully charged the light will turn green.

Installing the Controller Batteries

Unscrew the battery cover and insert 6 x AA Batteries, making sure the correct polarity is followed, before reattaching the battery cover



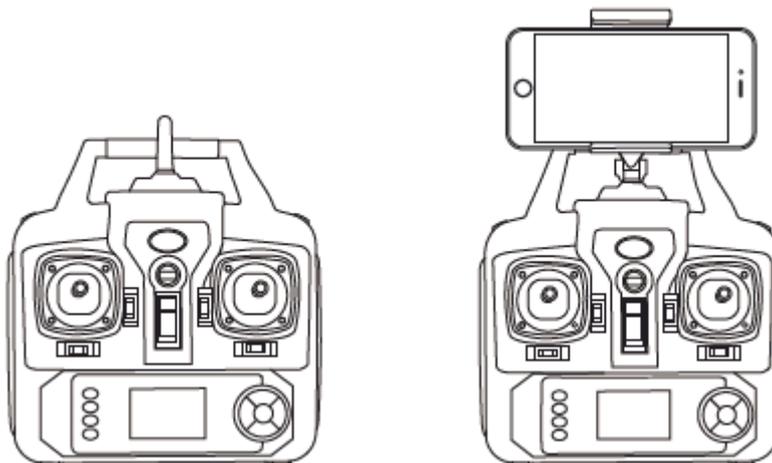
Transmitter Diagram



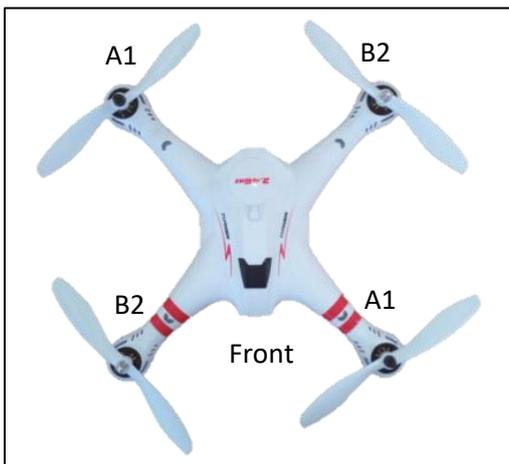
1	Power Switch
2	Indicator
3	Sling Hook
4	Right Stick
5	Left Stick
6	Mobile Device Support
7	Handle
8	Speed Selector
9	Take Off / Landing
10	Pitch Tuning
11	Pan/tilt angle tuning
12	Flying side Trim
13	Take Photo
14	Headless Mode
15	Record Video
16	Forward and Back Trim

Installing the Mobile Holder / Antenna

The black antenna on the top of the Transmitter can be swapped with the mobile phone holder, if you are wanting to view footage live on your phone. To swap them over, the part fitted can be removed by carefully pulling it directly upwards, while rocking slightly to unclip it internally. The alternative piece can then be pushed into position.



Propeller Installation



It is important the correct blades are placed on the correct motor or the aircraft will not fly correctly. Each blade is marked with an A1 or B2 on its underside to indicate which motor it corresponds to. They should be placed onto the motor shaft with the mark on their underside. B2 propellers should be locked into place with the silver nuts and the A1 propellers

with the black nuts. Use the small supplied rod threaded through the nut to ensure the nuts are tight, to prevent the propellers becoming loose during flight.

Installing the legs

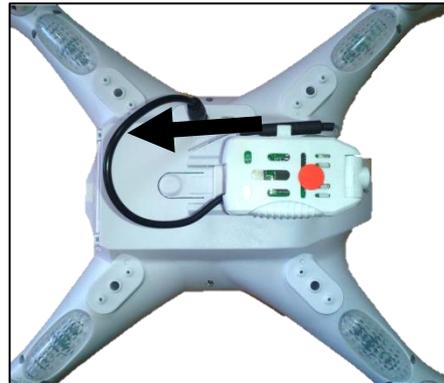
The legs should be positioned on the mounting points on the underside of the drone as per the first image below. They should then be fastened to the drone using 2 screws per leg (Supplied).



Installing the camera (Optional)

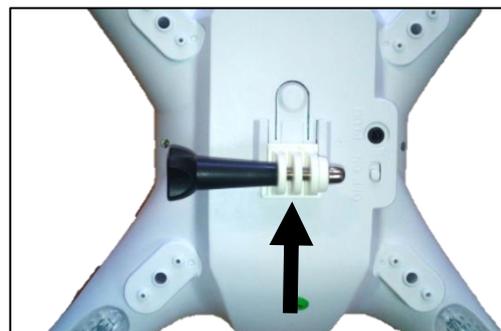
If the camera has been purchased slide it onto the camera mount on the base of the drone, sliding from the front until it clicks into place. Then plug the black lead from the camera into the port labelled plug on the underside of the drone.

Removal is the opposite process, but the safety button must be pressed to release the camera from the drone before sliding



Installing the Action Camera Mount

Slide the action camera mount onto the camera mounting point on the underside of the drone, sliding from the front, until it clicks into place. The back fixing should be unscrewed, the camera attached, and then the fixing used to lock the camera into position.

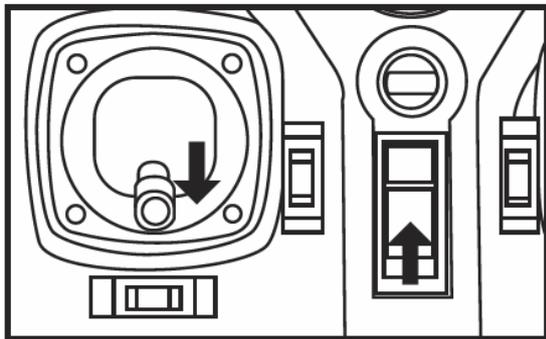


Preparing for First Flight

1. Make sure both the transmitter and aircraft batteries are sufficiently charged.
2. Find a suitable place to fly the aircraft, away from people, buildings and vehicles.
3. Ensure the Gyro and Compass are calibrated before use.
4. Make sure the throttle stick is centred before turning on the transmitter.

Binding of Radio Transmitter & Receiver

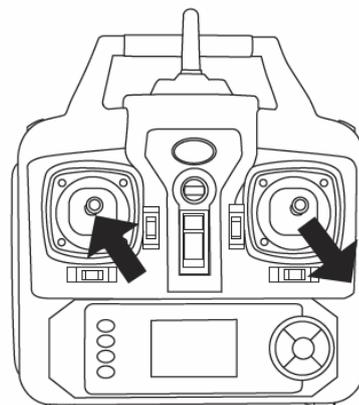
1. Place the aircraft on a flat surface and insert the battery into the aircraft, the aircraft will start to bleep. Turn it on using the button on the underside, before placing back on the level surface, the lights on the drone will flash



2. Turn on the controller.
3. Pair it to the drone by pulling the throttle stick down and releasing
4. After a few seconds the drone will pair and the lights on the drone will become constant

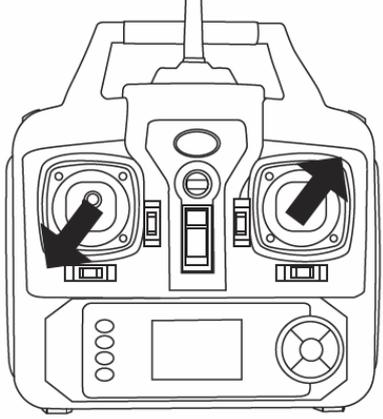
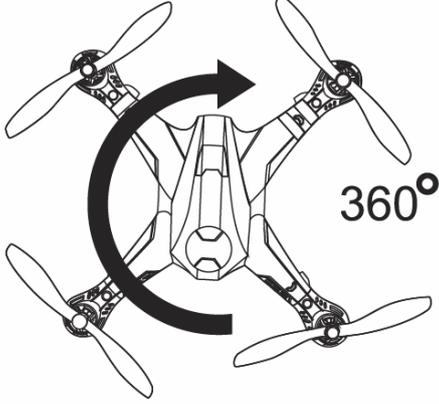
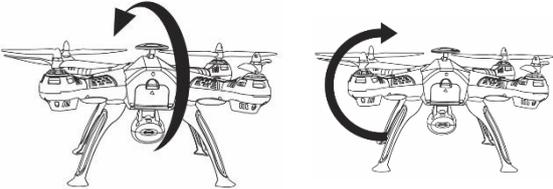
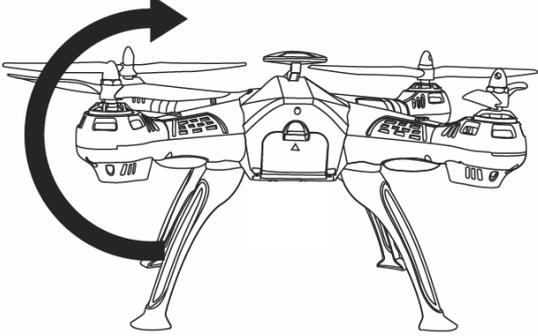
Gyro Calibration

When first used the gyroscope must be calibrated. To do this, place the drone on a level surface, push the left stick to the top left, and the right stick to the bottom right. The lights on the drone will flash while calibration is in process, and will be constant when calibration is successful



Compass Calibration

Before starting calibration of the Compass, ensure the drone is on a level surface

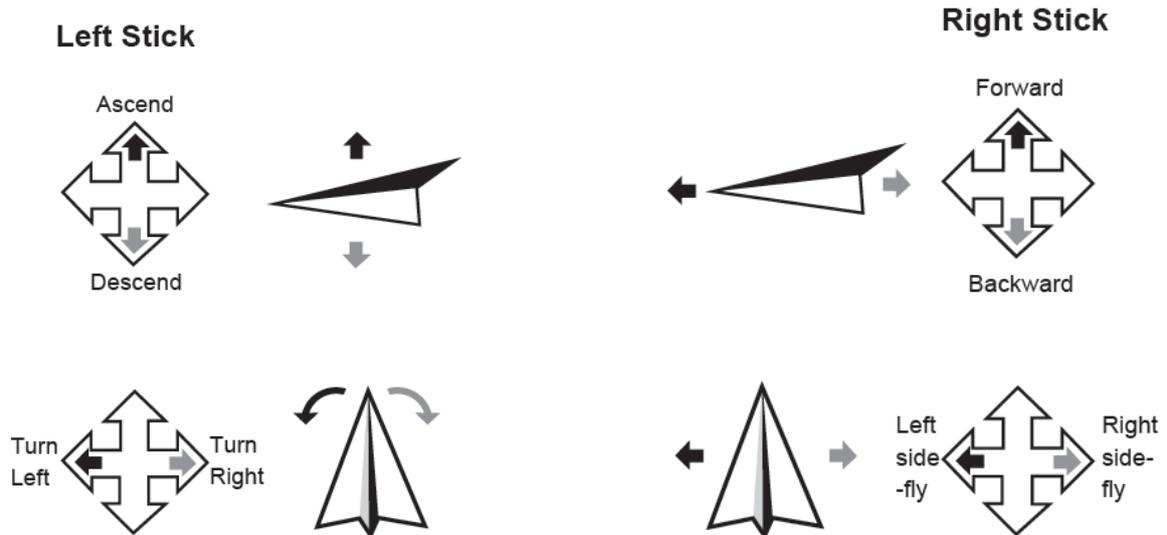
	
<p>Hold the left stick to the bottom left and the right stick to the top right until the lights on the drone start to flash.</p>	<p>With the drone still on the level surface, turn it slowly clockwise, turning it in a full 360 degree circle 3 times.</p>
	
<p>Point the front of the drone to the ground, and then twist the drone clockwise, turning it in a full 360 degree circle 3 times.</p>	<p>With the drone horizontal, and the front facing away from you, flip the drone in a 360 degree circle 3 times.</p>

Flight Instructions

Before your first flight make sure you are familiar with the controls of the aircraft.

Left Joystick – Throttle & Rudder

Right Joystick – Elevator & Aileron

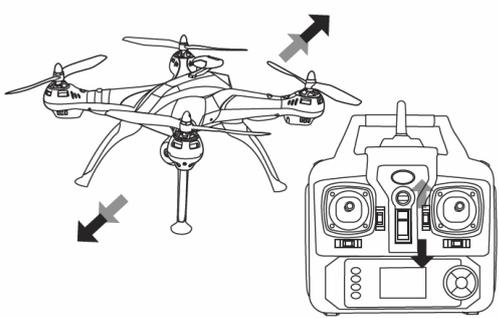
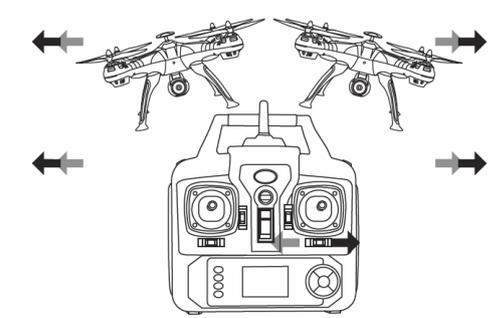
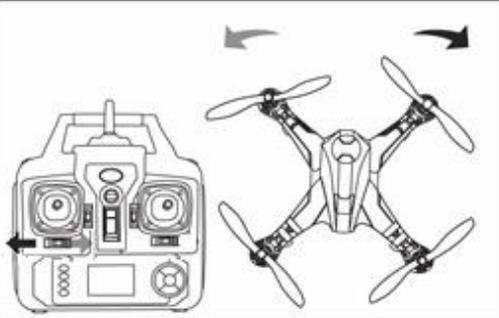


The aircraft can only take off and land by pressing the take off / land button (click once to take off and once to land). Once the aircraft is airborne it will hold a steady hover, you are now in control of the aircraft and can use the left and right sticks to control it.

Note: Should the aircraft be left for a while with no control inputs it will go to sleep, simply press and hold the take off/land button to reactivate the aircraft.

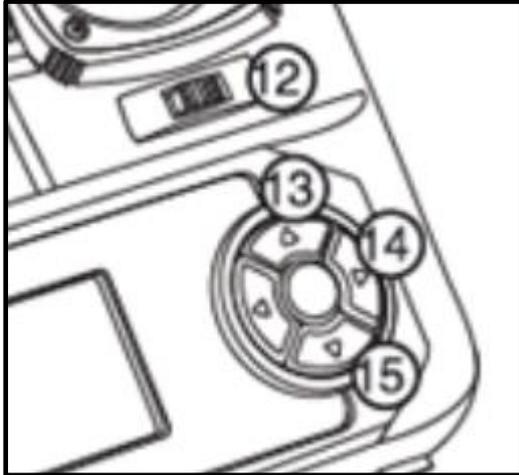
Flight Adjustment

When you lift the Drone into the air, If the aircraft drifts in a particular direction you can trim the controls using the trim buttons. Select the trim key opposite the direction of drift. Trimming is always needed before your first flight.

	<p>If the drone drifts backwards or forwards, you can correct it using the forwards and backwards trim button</p>
	<p>If the drone drifts to the left or the right, you can correct this using the flying side trim.</p>
	<p>When the drone starts to turn clockwise or anti-clockwise, the pan/roll angle turning button can be used to correct it.</p>

Aircraft Functions and Features

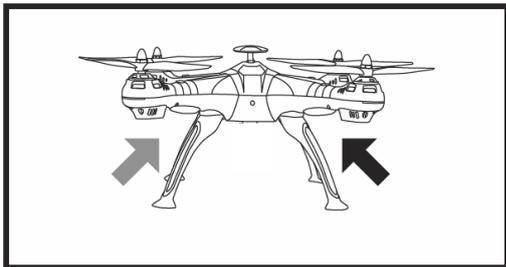
Headless Flight



The aircraft can be made to fly in Headless Flight by pressing the headless flight button (Number 14) . This will make the aircraft fly without a front or rear. It will fly in the orientation of the pilot. If you move the right joystick right, the aircraft will fly right. Move the joystick left and it will fly left. Move the joystick forwards and the aircraft will fly away from you and pull it back to make it fly towards you. It does not matter

which direction the drone is facing in headless mode.

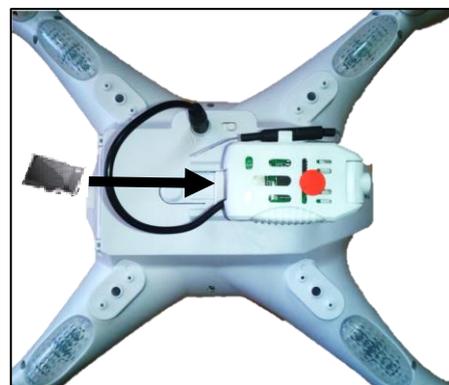
Low Voltage Protection

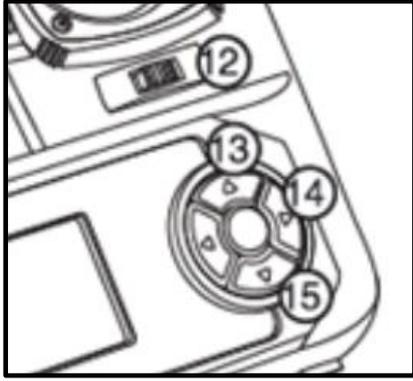


When the lights on the underside of the drone are flashing, it indicates the drone's batteries are running low. Please land the craft at the earliest opportunity to prevent power loss.

Camera SD Card (Optional)

If you wish you may insert a micro sd memory card (Not Supplied) into the camera module, once the camera is attached to the drone. Please ensure the memory card is inserted with the metal contacts facing the body of the drone, as shown in the image.





There are two buttons on the controller. The photo button (13) , will save a snapshot to the memory card within the drone, and the video button (15) will start recording a video.

Please Note: The video button MUST be pressed to stop the video recording, before the drone is landed, and drone turned off, otherwise all video will be lost.

To record video and/or photos while using the live view app simply follow the on screen controls shown on the next page. These buttons will save the video locally to your smart device and not the SD card.

APP

The camera App can be downloaded by scanning the below QR code or search for Video_Copter in your App Store:

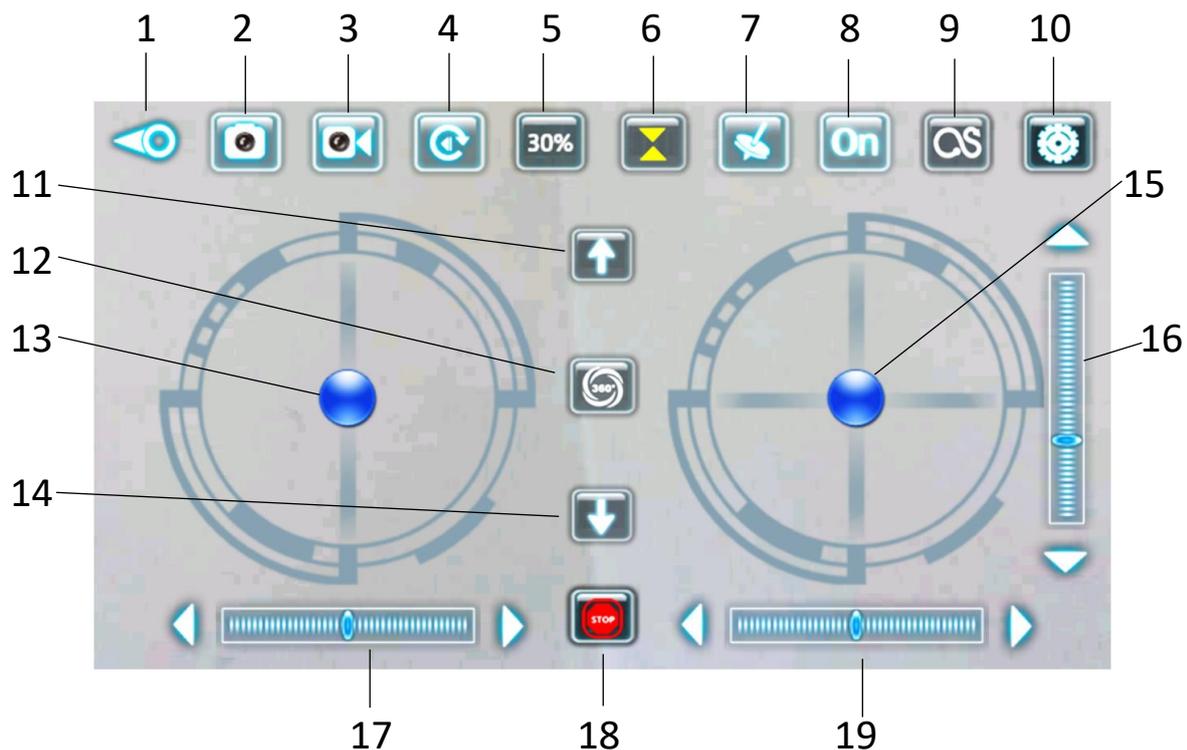


iOS



Android

To connect the aircraft to your mobile device: turn on the aircraft and go to settings on your mobile device. Open the WiFi settings and search for the drones own Wi-Fi signal usually a set of letters and numbers. Select it and wait for it to connect. Open the Video_Copter App and click "Play". This will lead you to the control screen and show the view of the camera. You can either use the on screen controls or the controller to control all aspects of the aircraft.



- | | |
|--|--|
| 1. Exit | 11. Take Off |
| 2. Take photo | 12. 360 Flip |
| 3. Start / Stop Recording Video | 13. Left control stick |
| 4. Video / Photo Playback | 14. Land |
| 5. Speed Settings | 15. Right control stick |
| 6. Toggle take off / Landing controls | 16. Pitch Trim |
| 7. Use phone's gyroscope for control | 17. Yaw Trim |
| 8. Toggle On Screen Controls | 18. Emergency Stop / Cut power to motors |
| 9. Maintain altitude, and control using left lever | 19. Roll Trim |
| 10. Settings | |

Note: Do not turn on the supplied remote control if you want to control the aircraft using the App. If you want to fly using the controller, the App can only be used for live view and photography, not controlling the aircraft.

Troubleshooting

	Problem	Cause	Solution
1	The lights on the aircraft are flashing but it does not respond to the control	<ol style="list-style-type: none"> 1. The aircraft and transmitter are not connected. 2. Insufficient battery power. 	<ol style="list-style-type: none"> 1. Repeat the connection procedure. 2. Recharge the battery.
2	The aircraft blades turn but it will not take off	<ol style="list-style-type: none"> 1. Insufficient battery power. 2. The blades are distorted. 3. Take off button not pressed. 	<ol style="list-style-type: none"> 1. Recharge the battery. 2. Replace the blades. 3. Press the take off button.
3	The aircraft shakes in flight	The blades are damaged/distorted	Replace the blades.
4	The aircraft won't fly using the App.	<ol style="list-style-type: none"> 1. Aircraft not connected to App. 2. Connection not done in correct order. 3. Main controller is turned on. 	<ol style="list-style-type: none"> 1. Reconnect using the instructions on page 14 2. Reconnect using the instructions on page 14 3. Aircraft can not fly on App when main controller is turned on. Turn off controller, reset aircraft, app and WiFi to reconnect to App
5	Camera not working in App	<ol style="list-style-type: none"> 1. Aircraft not connected to App. 	<ol style="list-style-type: none"> 1. Reconnect using the instructions on page 14



Disposal: Do not dispose this product as unsorted municipal waste. Collection of such waste must be handled separately as special treatment is necessary

Recycling facilities are now available for all customers at which you can deposit your old electrical products. Customers will be able to take any old electrical equipment to participating civic amenity sites run by their local councils. Please remember that this equipment will be further handled during the recycling process, so please be considerate when depositing your equipment. Please contact the local council for details of your local household waste recycling centres.

UK Support

<http://www.proflightuk.co.uk/support/>

If you have been through the troubleshooting, and the unit is failing to operate, our service line can be contacted on: 0871 971 3141

Office hours: 9AM - 5PM Monday to Friday

www.proflightuk.co.uk
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