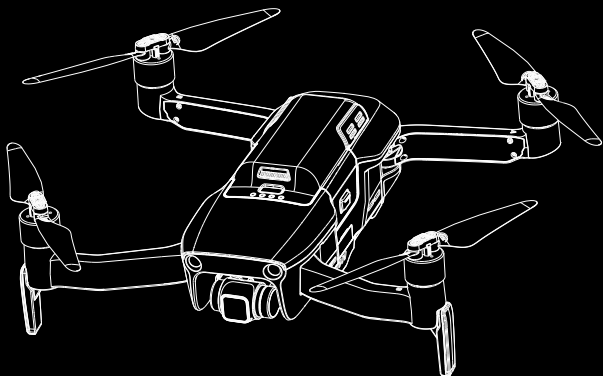


EXO



BLACKHAWK3**PRO**

User Manual

INFORMATION TO THE USER

All users must read product operating instructions and liability disclaimer before using and operating any EXO Drones products. By using a EXO Drones product (s), users accept the terms and conditions of EXO Drones liability and operational guidelines. This product is not suitable for minors under 14 years of age. When operating an EXO Drones product(s), users also accept all liability and responsibility for their own behavior, actions as well as any consequences resulting thereof while using an EXO Drones product(s). These products may only be used for purposes that are in accordance with local laws and regulations, and any applicable policies / guidelines EXO Drones may make available. Users agree to comply with these terms and conditions, along with any and all relevant policies / guidelines set forth by EXO Drones. Part of the details of this document may change with the upgrade of the product software version. Please read the upgrade details carefully before upgrading the software version.

INSTRUCTIONS

Some of the product flight functions are restricted in certain areas. Once you use this product, you must strictly read and follow the relevant ICAO regulations, local airspace and UAV regulations. You are liable for any non-compliance with the foregoing, and are responsible for the consequences of your actions as well as any indirect and / or direct liability that arises as a result of these limitations.

FLIGHT ENVIRONMENT REQUIREMENTS

- (1) Select an open area to fly. Avoid high rise buildings and tall obstacles (such as trees and poles). Near buildings and obstacles, flight control signals and GPS signals are severely affected; GPS functions such as GPS mode and Return to Home may not function properly.
- (2) Do not fly in bad weather conditions (such as in wind, rain or fog).
- (3) Fly the aircraft in ambient temperatures of 0-40° C.
- (4) When flying, please stay away from obstacles, people and crowds, high voltage lines, trees, water, etc.
- (5) To avoid remote control signal interference, do not fly in strong electromagnetic environment (such as venues with radio stations, power plants and Phone antenna and TV towers).
- (6) The aircraft cannot be used at or near the Arctic circle or Antarctica.
- (7) Do not fly in no-fly zones.
- (8) Do not operate the aircraft near high pressure lines, airports or areas with severe magnetic interference.

IMPORTANT SAFETY INFORMATION

OPERATION

Be extremely cautious and responsible when using the aircraft. Small electronic components can be damaged due to crashes or exposure to moisture / liquid. To avoid any injuries, do not use the aircraft with damaged components.

MAINTENANCE

Do not try to open or repair the units by yourself. Contact EXO Drones for service. For more information, please visit the official website at www.exodrones.com

BATTERY

Do not disassemble, squeeze, impact, burn, drop or trample the battery. Do not short-circuit or put the battery terminal in contact with metal. Do not expose the battery to temperatures above 60° C. Fully Charge the aircraft battery prior to flight. Use only EXO dedicated supplied charger for charging. Keep the battery out of the reach of children and away from any kind of moisture.

FLIGHT

Please be mindful of personal safety and the safety of others when operating and flying your drone.

- Do not fly in bad weather conditions.
- Do not attempt to catch the aircraft while it is in flight.
- This product is intended for experienced pilots over the age of 14.
- After every flight, completely disarm the aircraft motors and power off the drone. Then, power off the remote control.

READ THE DISCLAIMER AND SAFETY GUIDELINES FIRST BEFORE USE.

Symbol Explanation:

 Prohibited Operation

 Instruction

 Important Notice

 Explanation / Reference

EXO Safety Notice for Intelligent battery

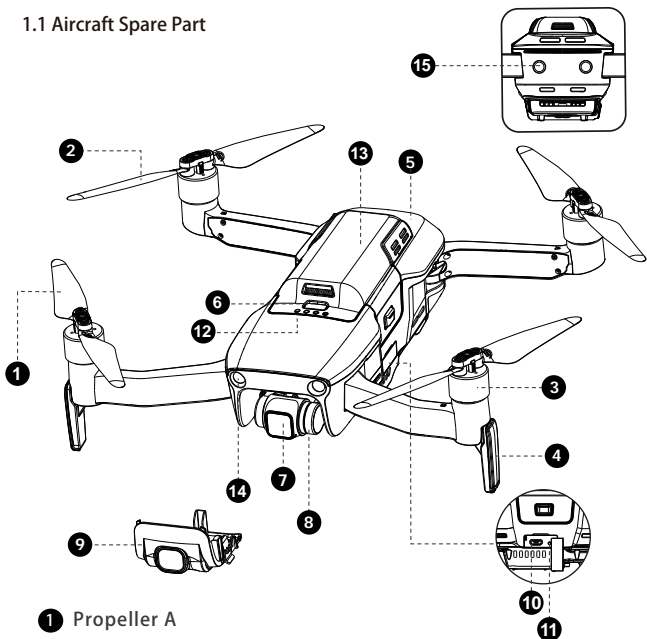
- If you will use this product for a long time, please charge the battery above 14.8 V and keep it at 14.8 V, which can prolong the life time of the battery.
 - Please use only EXO chargers or EXO Charging Hub for battery charging.
 - Do not charge in a flammable and explosive environment to prevent fire.
 - Batteries need to be recharged if unused for over 3 months.
- ⊗ 1. Do not disassemble or reassemble the battery.
2. Do not short-circuit the battery.
 3. Do not use or charge near sources of heat.
 4. Do not put the battery in contact with water or any kind of liquid.
 5. Do not charge batteries under sunlight or near fire.
 6. Do not puncture or subject the battery to force of any kind.
 7. Do not discard unused batteries to regular trash.
 8. Never charge a battery that has been damaged, become deformed or swollen.
 9. Do not solder on or near the battery.
 10. Do not reverse charge or over discharge the battery.
 11. Do not reverse charge or reverse the battery polarities.
 12. Do not connect the battery to a car charger / cigarette lighter or any kind of unconventional power source.
 13. This battery is prohibited to use with non-designated devices.
 14. Do not mix other types of batteries with lithium batteries.
 15. Do not exceed the specified charging time.
 16. Do not place the battery in a microwave or in areas of high pressure.
 17. Do not expose the battery to the sun or excessive heat.
 18. Do not fly in places with strong interference (high-voltage line, power stations, base stations, high-speed rail lines, signal towers, etc.) .
 19. Do not use or charge in temperatures below 0 °C and above 45 °C.
 20. It is forbidden to discharge battery with a current above 5C. Please note that the discharge time should not be too long to damage the battery caused by excessive discharge!
 21. Warning: Prohibited charging the battery without turning off the battery on the aircraft first !
 22. If a newly purchased battery showing, leaks, possesses a bad smell or other abnormalities, contact and return the battery immediately to the vendor.
 23. Keep away from the reach of children.
 24. Use a dedicated battery charger only and follow all charging guidelines.
 25. Adults must supervise minors, if allowed to charge the batteries even when using dedicated EXO chargers.

Contents

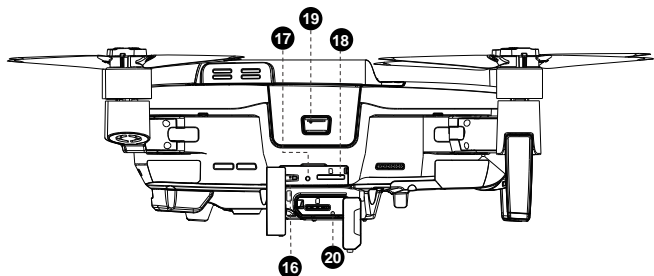
INFORMATION TO THE USER		4 Aircraft Functions	
Important safety information		4.1 Flight Control Mode	17
Battery use precautions		4.2 Aircraft Indicator	18
1 Aircraft		4.3 Return-to-home(RTH)	19
1.1 Aircraft Spare Part	1	4.4 Landing Apron Search	20
1.2 Aircraft Battery	3	4.5 Vision Systems and	
1.2.1 Aircraft Battery Charging	3	Infrared Sensing Systems	20
1.2.2 Aircraft Battery Installation	4	4.6 Power Struggle Mode	24
1.2.3 Intelligent Battery Functions	4	4.7 Smart mode	25
1.2.4 Precautions For Low		4.7.1 Creative Video	25
Temperature	5	4.7.2 Orbiting	26
1.2.5 Precautions For Battery	5	4.7.3 Waypoint	26
1.2.6 Storage of smart battery	5	4.7.4 Line Fly Mode	27
1.3 Propellers	6	4.7.5 Follow Mode	27
1.4 Camera	6	4.7.6 Hyperlapse	28
		4.7.7 Panorama mode	30
2 Remote Controller		4.8 Gimbal Pitch Axis	30
2.1 Remote Controller Components	7	Adjustment	
2.2 Remote Controller Features	9	4.9 TF Card	31
2.3 Charging The Transmitter Battery	11		
2.4 Remote Control Diagram	11	FAQ	
2.5 Remote Control Antenna Angle	12	Disclaimer	
2.6 Transmitter Sticks &		Fcc Information	
Thumbwheel Calibration	12	FAA Remote ID Compliance	
		Information	
3 Flight			
3.1 Download the EXO Pro App	13		
3.2 APP flight control interface	13		
3.3 Pairing The Aircraft	14		
3.4 Compass Calibration	15		
3.5 Staring / stopping The Motors	16		

1.Aircraft

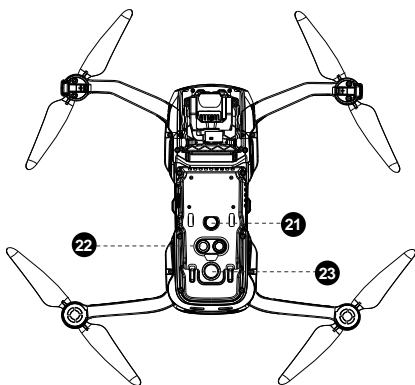
1.1 Aircraft Spare Part



- | | |
|-------------------------|----------------------------|
| 1 Propeller A | 9 Gimbal Protection Guard |
| 2 Propeller B | 10 Micro-USB Port |
| 3 Motor | 11 Image indicator |
| 4 Tripod (With Antenna) | 12 Battery level indicator |
| 5 Body shell | 13 Intelligent Battery |
| 6 Battery power switch | 14 Forward Vision System |
| 7 4K HD Camera | 15 Backward Vision System |
| 8 3-axis gimbal | |



- 16 Bind button 17 Video transmission indicator 18 TF Slot
 19 Battery buckle 20 Bluetooth indicator



- 21 Downward Vision System 22 Infrared Assisted Altitude System 23 Auxiliary Light



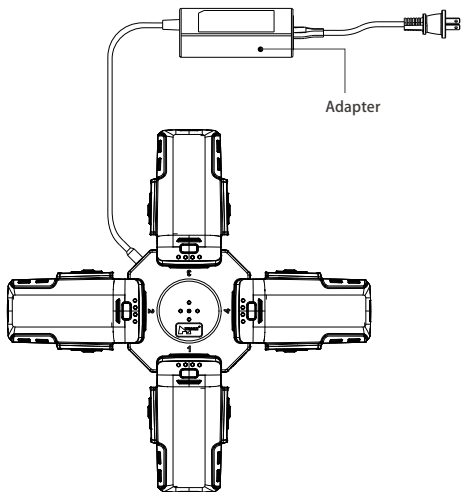
Note: The aircraft generates heat during operation. Please avoid direct touch the ventilated rib on the bottom of the aircraft after the flight.

1.2 Aircraft Battery

1.2.1 Aircraft Battery Charging

The aircraft uses 4S lithium battery with 5000mAh capacity and nominal voltage of 14.4V. It equipped with a standard charger & the charging time is about 120 minutes.

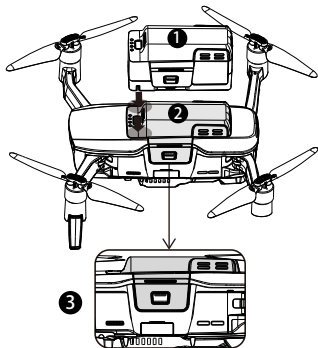
1. Connect the power adapter to the AC power supply (100v-240v, 50-60Hz).
 2. Keep the intelligent battery in off status, connect the intelligent battery with the power adapter.
 3. In the charging state, the intelligent battery power indicator will flash repeatedly and indicate the current power.
 4. When all the power indicators are off, it means that the intelligent battery is full charged. Please remove the battery and power adapter to complete the charging.
- Note: After using the battery, please charge it in time (at least 70%) to avoid the long storage influence the battery life.



Four battery version (charging)

1.2.2 Aircraft Battery Installation

- 1 Take a fully charged battery
- 2 Insert the battery into battery compartment, while pressing the left and right edges of the battery (As shown in illustration) push in, until the battery buckles are fully locked. You should hear buckle locking sound
- 3 Battery and aircraft top should be flush that confirms battery is in place.



1.2.3 Intelligent Battery Functions

- (1) Battery activation: The smart battery can only be used after being connected to the APP and then activate according to the prompts for the first time.
- (2) Power display: The battery has a power indicator, which can display the current battery power levels.
- (3) Upgrade mode: The smart battery can upgrade firmware. When the battery is in the upgrade state, the first and last two battery indicators are solid on.
- (4) Balanced Charging: During charging, the voltages of the battery cells are automatically balanced.
- (5) Overcurrent Protection: The battery stops charging or discharging automatically once full charged .
- (6) Overcharge Protection: The battery stops charging automatically once fully charged.
- (7) Over-discharge Protection: Discharging stops automatically to prevent excess discharge.
- (8) Short Circuit Protection: The power supply is automatically cut if a short circuit is detected.
- (9) Battery Cell Damage Protection: The EXO Pro App displays a warning message when a damaged battery cell is detected.
- (10) Hibernation Mode: When the battery is in the on state, if there is no connected device, the battery will automatically shut down within 3 minutes; when the power is less than 1%, short press the battery switch at this time. If the minimum power indicator flashes and the battery cannot be turned on, the battery can wake up by charging again.
- (11) Communication: Information about the battery's voltage, capacity, and current is transmitted to the aircraft.

Battery switch	Short press to check the battery level, it will turn off after 3 seconds
	Short press first and then long press to turn on / off, the indicator light turns on / off

1.2.4 Precautions for Low Temperature

- (1) If the battery is used in a low-temperature environment (-10°C to 5°C), please fully charge the battery and keep it warm (over 10 ° C.)
- (2) Using the battery in an environment below -10 ° C may have unpredictable results.
- (3) In a low-temperature environment, the actual discharge of the battery is likely to be different than the theoretical discharge capacity. It is recommended to stop flying and land immediately when the app prompts a "low battery alarm".
- (4) In a low-temperature environment, due to the limitation of battery output power, the wind resistance of the aircraft will be reduced. Please fly with caution.

1.2.5 Precautions For Battery

Be sure to fully charge each time before using the Intelligent Battery. Charge the intelligent battery only with EXO Drones supplied power adapter and intelligent charging modules.

- (1) After each flight, battery temperature maybe higher. Allow Intelligent Battery to cool down to normal room temperature before charging.
- (2) The charging temperature range of the intelligent battery is 5 ° C to 40 ° C. If the temperature of the battery cell is not in this range, the battery management system will stop charging. The optimal charging temperature range is 25 ± 3 ° C. Charging in this temperature range can extend the battery life.
- (3) When charging or installing, please do not hot plug the battery, which may cause irreversible damage to the battery, so when pulling out or inserting the battery from the charging head, charge manager or drone, please make sure the battery is turned off properly.
- (4) Because of the inherent physical characteristics of electronic components, the battery has a certain dormant power consumption that even when it is dormant In sleep mode, the battery power will be continuously consumed. So it is necessary to charge the battery regularly (once every six months is recommended) when the battery is not used long time.
- (5) Do not cut off power or forcibly shut down the battery during the battery firmware upgrade.

1.2.6 Storage of smart battery

Due to the physical characteristics of electronic components, even in the dormant state, the smart battery still has weak current loss, which can regarded as a normal state. The current will continue loss to drain until the battery power is exhausted, and electricities draining behavior will cause irreversible damage to the battery cell. In order to avoid this situation, we need to pay attention to below points.

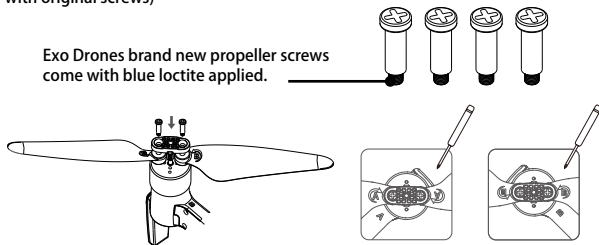
1. Before saving the battery for a long time, please fully charged the battery (or at least 70%) and then save it.
2. Take out the battery every six months and recharge it, to ensure that the battery power will not be exhausted under hibernation mode.
3. The battery should be stored in a dry place where away from acid and alkali, away from fire sources, and without violent vibration, pressure, and inflammables and explosives.
4. The battery will be in automatic discharge process and generate heat, so do not wrap the battery with materials with low thermal conductivity such as foam and fiber when storing, which is easily cause the battery burn out the battery cell or even fire.

1.3 Propellers

Before installing the propeller, please carefully check the letters by the aircraft motors and the letters on the propeller. You must match those letters when installing propellers; If the blade is damaged or needs to be replaced, unscrew the screw counter-clockwise to remove the propeller.

Use only EXO original Propellers, because it comes with loctite applied screws to prevent accidental screw and propellers loose. (EXO Standard accessories come with original screws)

Exo Drones brand new propeller screws come with blue loctite applied.



1.4 Camera

The Blackhawk 3 Pro camera uses a Type 1/1.3 CMOS Sensor, supports 2.4um fusion large pixels, and f/1.85 super larger aperture.

- (1.) When using the camera for the first time, please tear off the protective film of the camera lens before use.
- (2.) If you want to wipe the lens during use, please wipe it gently with a professional optical dust-free wipe.
- (3.) Please avoid immersing the camera in water.
- (4.) The working temperature of the camera is from 10 degrees Celsius to 50 degrees Celsius, below 10 degrees Celsius or above 50 degrees Celsius, the camera may be blurred or unable to produce pictures normally.

2. Remote Controller

2.1 Names Of Remote Controller Components

Japan Mode(Mode 1) :

(1) Throttle/ left & right flight controller levers

(2) Forward & Backward/
Rudden stick

America Mode :

1.Throttle/Rudden stick
controller levers

2.Forward & Backward /
left & right flight controller levers

3.Long press for One key return
(Aircraft will return to home point) /
short press to cancel the return
(When the aircraft is in RTH status)

4. Power

5. F / N / S mode:

Movie mode / normal mode /
sport mode

6. Display

7. Photo

8. Video

9. Gimbal Pitch Control dial

10. Custom button

11. Antenna

12. Remote control extension cable

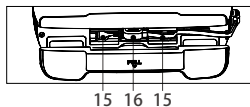
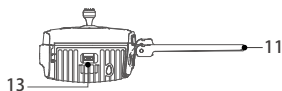
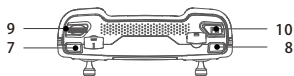
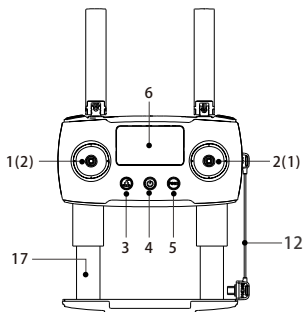
13. Charging / Adapter Port

14. Lanyard hole of transmitter

15. Rocker storage slot

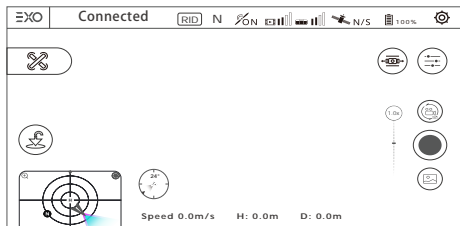
16. Cable storage slot

17. Smart device holder

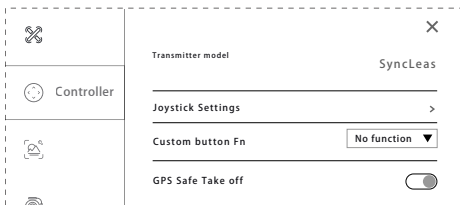


America mode (Mode 2) and Japan mode (Mode 1) can switch in the EXO Pro settings:

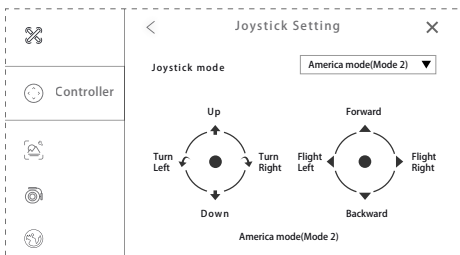
- ① Open the EXO Pro app and choose relevant aircraft model to enter the flight control interface, and click the gear icon in the upper right corner to enter the settings.



- ② Enter the "controller" option in the setting interface and click "Joystick settings".



- ③ Choose the joystick mode.



2.2 Remote Controller Features

S/N	Key / Switch	Function
(1)	Throttle / Rudder Stick	Move the stick forward or backward to ascend or descend the drone. Move the stick left or right to rotate the drone Clockwise or counter clockwise.
(2)	Elevator / Aileron Stick	Move the stick forward or backward to fly the drone forward or backward. Move the stick left or right to fly the drone left and right.
1	Throttle / Aileron Stick	Move the stick forward or backward to ascend or descend the drone. Move the stick left or right to fly the Drone left and right.
2	Elevator / Rudder Stick	Move the stick forward or backward to fly the drone forward or backward. Move the stick left or right to rotate the drone clockwise or counter clockwise.
3	One key return/ Cancel the returning home	Long press to enter the return mode (the aircraft returns to the take-off point), short press the button to exit One-key return (when the aircraft is in returning status); During the returning home, the remote control prompts "tick... Tick..." (one time/ per 2 seconds) Note: the One key return function on the remote control can only use when the aircraft GPS is normal and 6 or more satellites are found.
4	Power Switch	Short Press, then press hold to power on or off
5	F / N / S mode (Movie / Normal / Sport mode)	Movie mode: Flying speed of the drone is limited to 3m/s Normal mode: Drone flies at the maximum speed set by the APP, Normally 8m/s Sport mode: the maximum flying speed of the drone is 16m/s
6	Display	Displays the flight parameters
7	Photo	Short press to take photos.
8	Video	Long press to start recording video, Short press to stop recording video
9	Gimbal Pitch control dial	Controls the pitch angle of the gimbal.

S/N	Key / Switch	Function
10	Custom keys	<p>Long press the Fn+ wheel to adjust the zoom function. Press and hold the Photo+ wheel to adjust the brightness of the remote control screen.</p> <p>When the drone is not taking off, press the Fn button and the Video button for more than 3 seconds to activate the remote control code pairing operation.</p> <p>The remote control buzzer beeps when a low battery is triggered or Return to home is activated. Press the Fn button for 1.5 seconds, to stop beeping prompts.</p> <p>Long press the Fn button again 1.5 seconds to restart the beeping prompts.</p> <p>Custom keys, set the function on the app and save it. When the EXO Pro app is not connected, [short press] Fn won't work.</p> <p>Function one: Exit the current flight mode. In this mode, short press Fn to exit the current flight mode and the aircraft will hover.</p> <p>Function two: short press Fn to execute gimbal return to normal state.</p> <p>Function three: no function (factory default function)</p>
11	Charging / Adapter Port	Charge the remote control or connect with a mobile device
12	Low Battery Warning	<p>Low battery warning for remote control : Remote control "Beeps"</p> <p><25%, di~di~, interval 10s</p> <p><15%, di~di~, interval 2s</p> <p><10%, didi~didi~, interval 1s</p>
13	Standby Protection	If Remote controller is left on and unused, it will start beeping once every 3 seconds and switch to stand by mode. After 3 minutes of beeping, remote control will automatically shut down
14	Low power mode	When the battery power of the remote controller is less than 10%, the remote controller enters the low power consumption mode. Meanwhile the remote controller will cut off the power supply of USB Host. The communication between the mobile phone and the remote controller will be cut off, but between the remote controller and the aircraft will not be affected.