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# Skydio X2E-Color Autonomous Drone User Guide

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# Skydio

Skydio X2E-Color Autonomous Drone

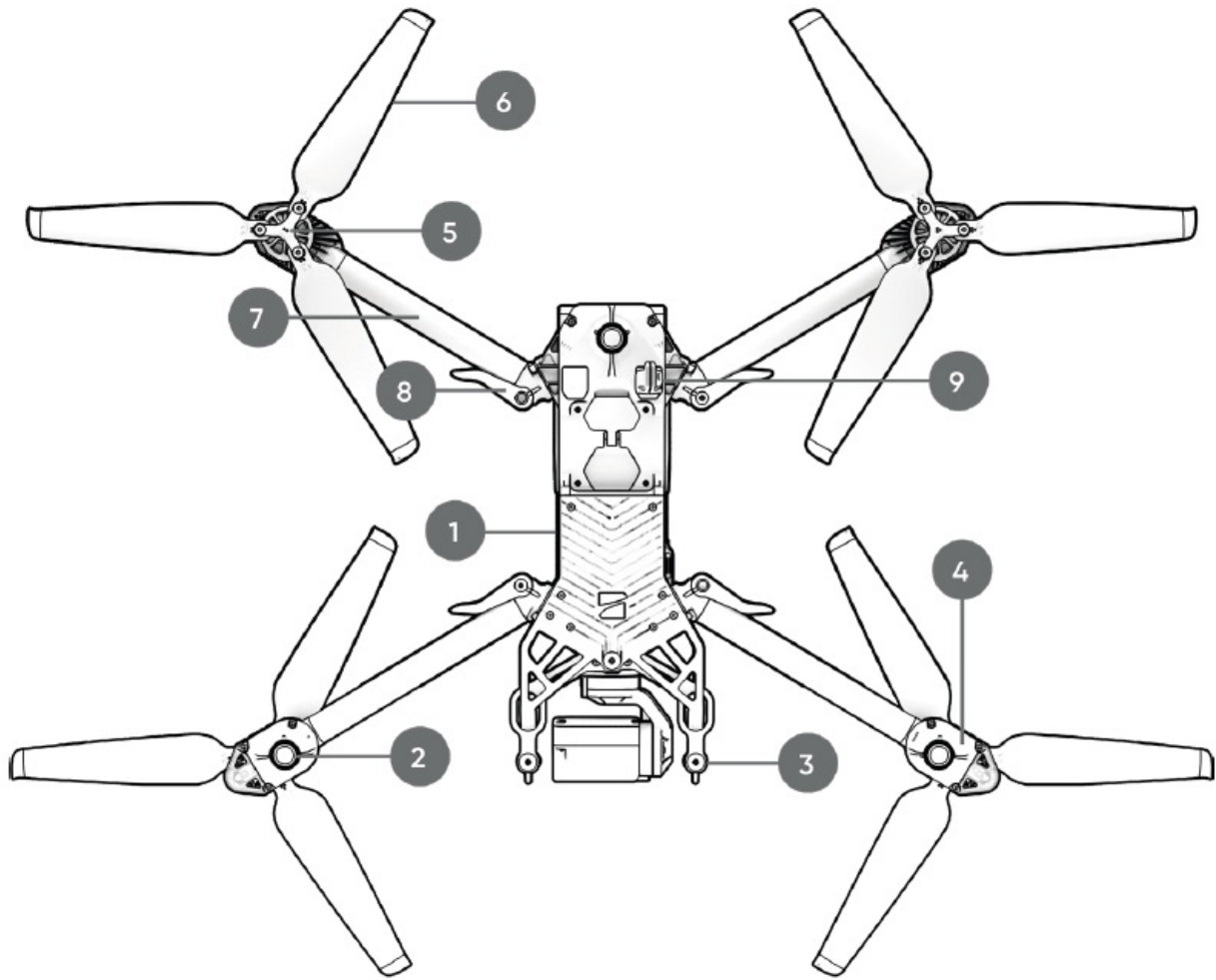


## HARDWARE OVERVIEW

### Skydio X2E

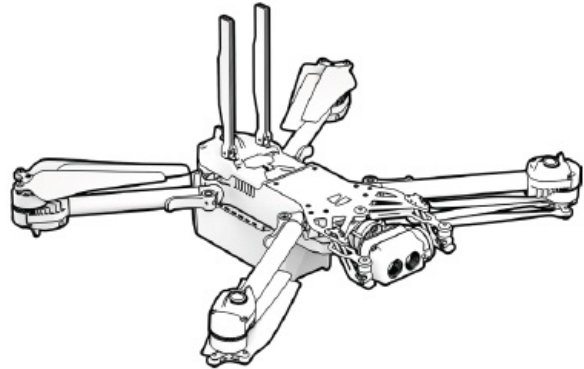
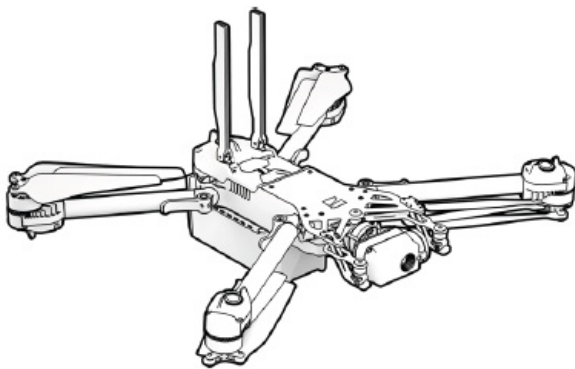
1. Chassis
2. Navigation camera (6)
3. Gimbal

- 4. Motor hub and lights (4)
- 5. Propeller hub
- 6. Propeller blades clockwise (6) counter-clockwise (6)
- 7. Arm (4)
- 8. Arm clamp (4)
- 9. Antennas



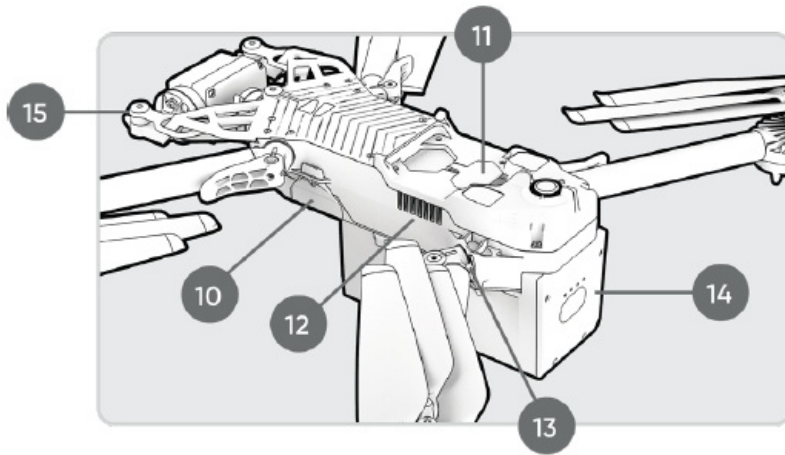
Skydio X2E Color variant

Skydio X2E Color/Thermal variant



**Skydio X2E / Quick Reference Guide**

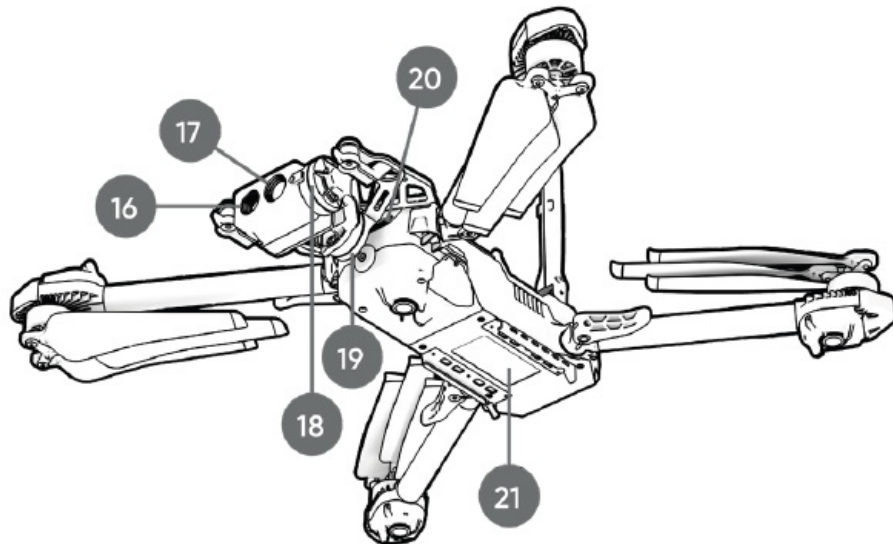
- 10. MicroSD memory card ports and seal
- 11. USB-C port and seal
- 12. Cooling outlet (2)
- 13. Hard stop (4)
- 14. Battery



15. Gimbal isolator (3)



- 16. Thermal camera
- 17. Color camera
- 18. Gimbal pitch motor
- 19. Gimbal roll motor
- 20. Cooling inlet



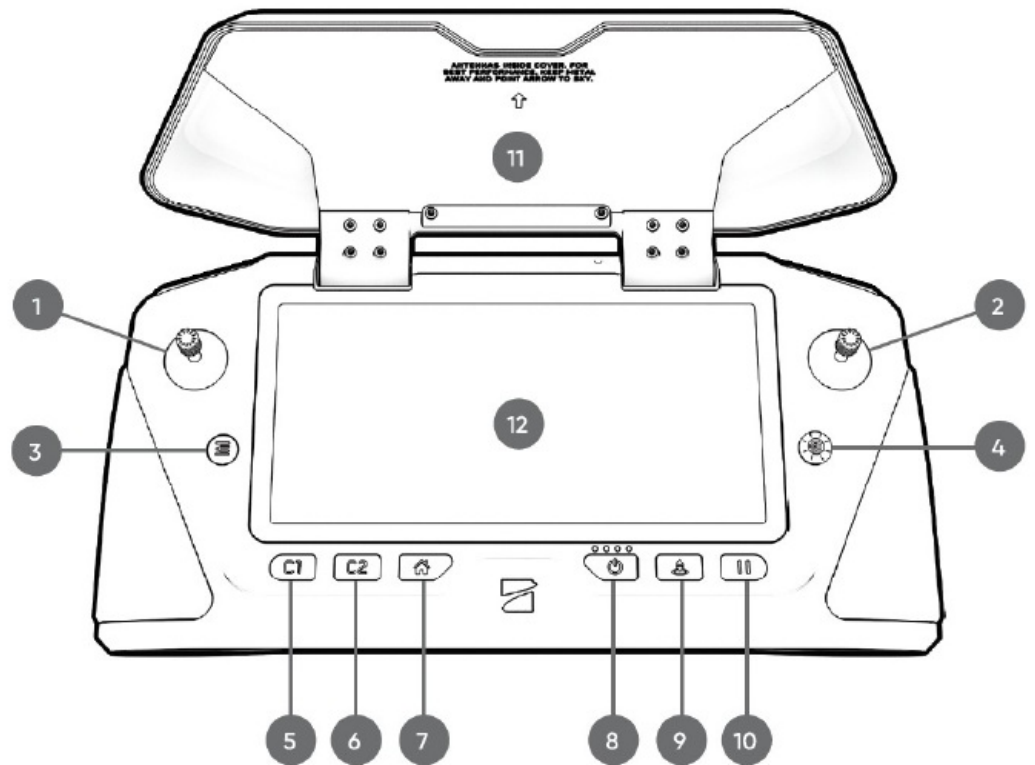
21. Skydio X2E label

**WARNING:** Skydio X2E is not weatherproof. Do not operate in any precipitation, including rain, fog, snow, or similar environments.

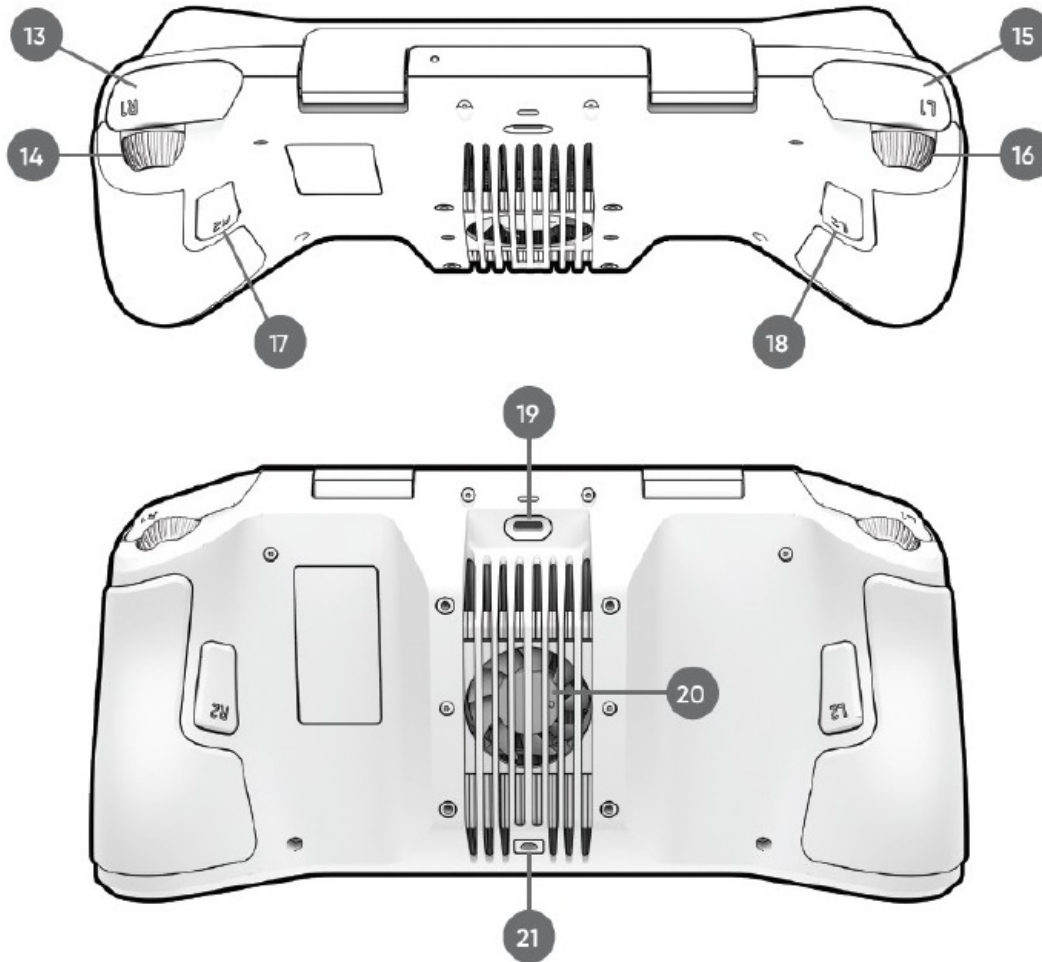
### Skydio Enterprise Controller

- 1. Left joystick
- 2. Right joystick
- 3. Menu/back button
- 4. D-pad
- 5. C1 button (customizable)

- 6. C2 button (customizable)
- 7. RTH (Return to Home) button
- 8. Power button
- 9. Launch/Land button
- 10. Pause button
- 11. Controller clamshell



- 12. User interface screen
- 13. R1 button shutter/record
- 14. Right wheel zoom
- 15. L1 button boost
- 16. Left wheel gimbal tilt
- 17. R2 button toggle map
- 18. L2 button toggle thermal to color
- 19. USB-C port
- 20. Cooling fan
- 21. Neck-strap and tripod (1/4-20) mount



**WARNING:** Skydio Enterprise Controller is not weatherproof. Do not operate in any rain, fog, snow, or similar environments. Do not rest the controller in fine sand, dirt or on similar terrain where particles can get trapped in the fan.

### Safety Guidelines



- Keep your fingers away from moving propellers at all times
- Use caution around reflective surfaces (still water, mirrors, etc.) and small obstacles (thin branches, utility lines,



ropes, chain link fencing, etc.)



- Skydio X2E does not avoid moving objects or cars

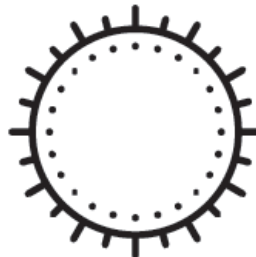


- Skydio X2E is not weatherproof – don't fly in rain, snow, fog, high winds, etc
- Before flying over water, ensure your drone has GPS lock. Launch and land your drone over a dry surface.



## SAFETY

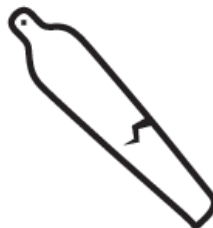
- Skydio X2E obstacle avoidance is off during GPS Night Flight mode and can be impaired when in low light & poor



visibility. Fly with extreme caution under these conditions



- Clean all of the cameras so Skydio X2E can see clearly



- Check your propellers for damage before flying

- Follow all civil aviation authority regulations, as well as any applicable local and federal laws



## Charge Skydio X2E

Skydio Dual Charger is capable of simultaneously providing current to two batteries. However, it will prioritize fully charging the battery with the highest charge level. Allow approximately two hours to fully charge batteries.

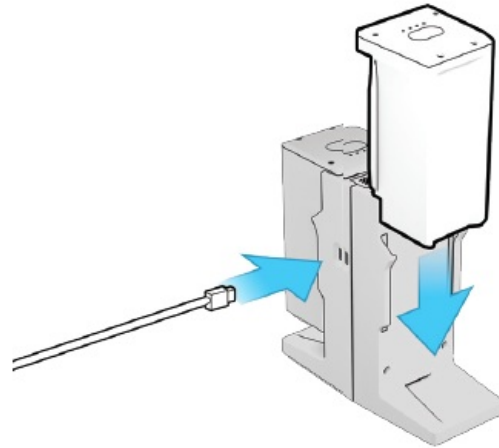
**Step 1** – Slide one or both batteries down the rails onto the Dual Charger

- magnets will engage properly seating the battery

**Step 2** – Connect the provided USB-C cable and the 65 W power adapter

**Step 3** – Plug the power adapter into the Dual Charger and a 100-240 V power source

- flashing lights indicate charging



- no light indicates that the charge is complete

**WARNING:** Avoid exposure to extreme hot or cold temperatures. Instructions and warnings for battery storage are located in the X2E Operator Manual

### X2E battery charge levels

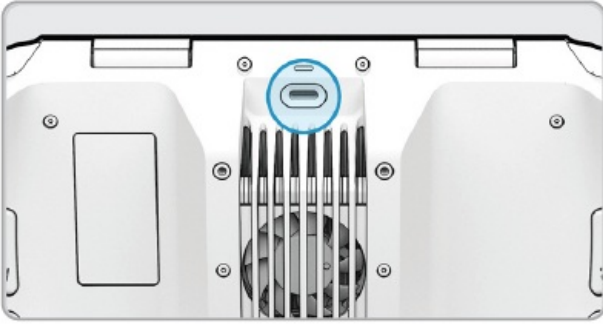
The current charge level is accessed by pressing the power button on the battery. The battery charge level is indicated by the lights

<b>1 light</b>	● ○ ○ ○	0–37% charged
<b>2 lights</b>	● ● ○ ○	38–62% charged
<b>3 lights</b>	● ● ● ○	63–87% charged
<b>4 lights</b>	● ● ● ●	88–100% charged

### Skydio Enterprise Controller

Connect your Skydio Enterprise Controller to the USB-C charging cable and 65 W adapter. The lights on the front of the controller will flash blue when the unit is charging, as well as a single light next to the USB-C charging port. A charge level will display on the Controller Screen.

- When charging is complete the lights will be solid blue for 1 minute and then turn off.



### Skydio Enterprise Controller charge levels

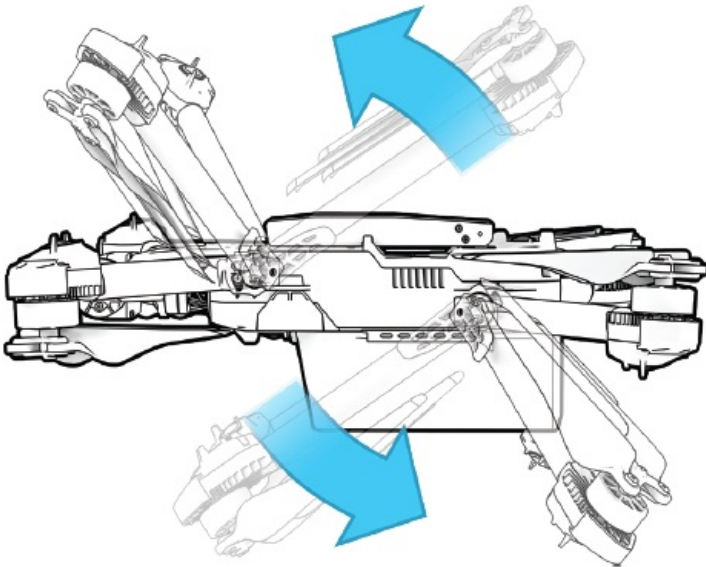
The current charge level will display on the front of the controller or can be accessed by pressing the power button. The

1 red	● ○ ○ ○	5% or less
1 yellow	● ○ ○ ○	6%–15%
1 blue	● ○ ○ ○	16%–37%
2 blue	● ● ○ ○	38%–62%
3 blue	● ● ● ○	63%–87%
4 blue	● ● ● ●	88%–100%

charge level is indicated by the lights:

### Deploy

#### Step 1 — Unfold X2E



**WARNING:** The propeller blades are sharp. Handle with care.

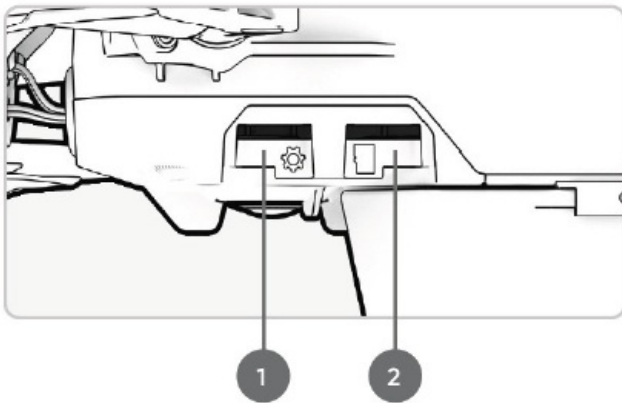
- Release the 4 arm clamps
- Lift the motor arms out and away from the chassis
- Listen and feel for a click
- Return the 4 arm clamps to the locked position





- Ensure that the blue marks align

### Step 2 — Verify microSD memory cards are installed

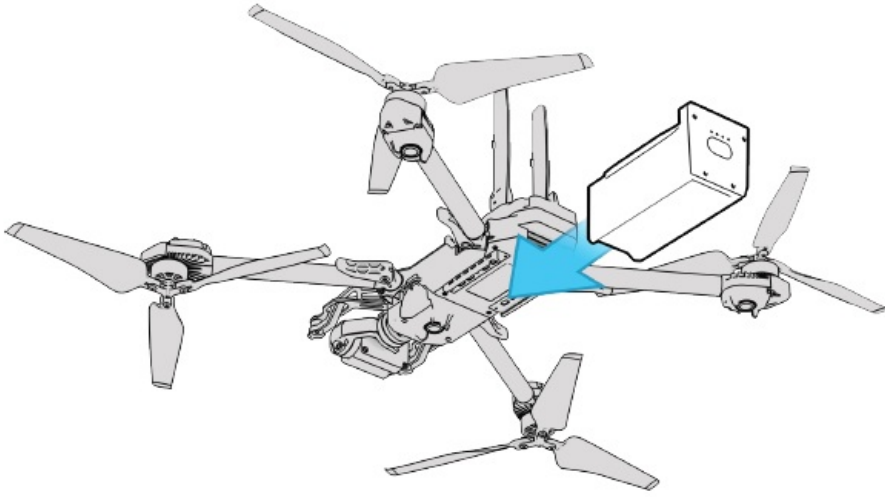


Verify that 2 UHS Speed Class 3 (or faster) microSD memory cards are inserted in the memory card slots located on the left side of the vehicle.

1. Logs card – supports future software offerings
2. Media card – stores all media captured during flight

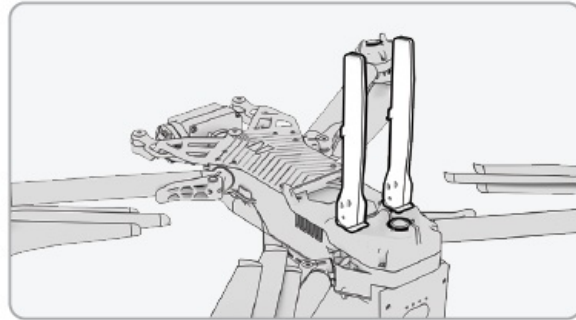
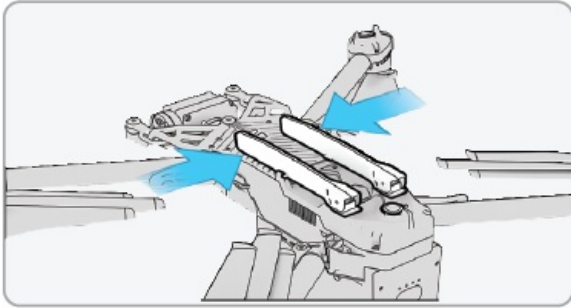
### Step 3 — Insert battery

Slide the battery on rails towards the camera until the magnets engage



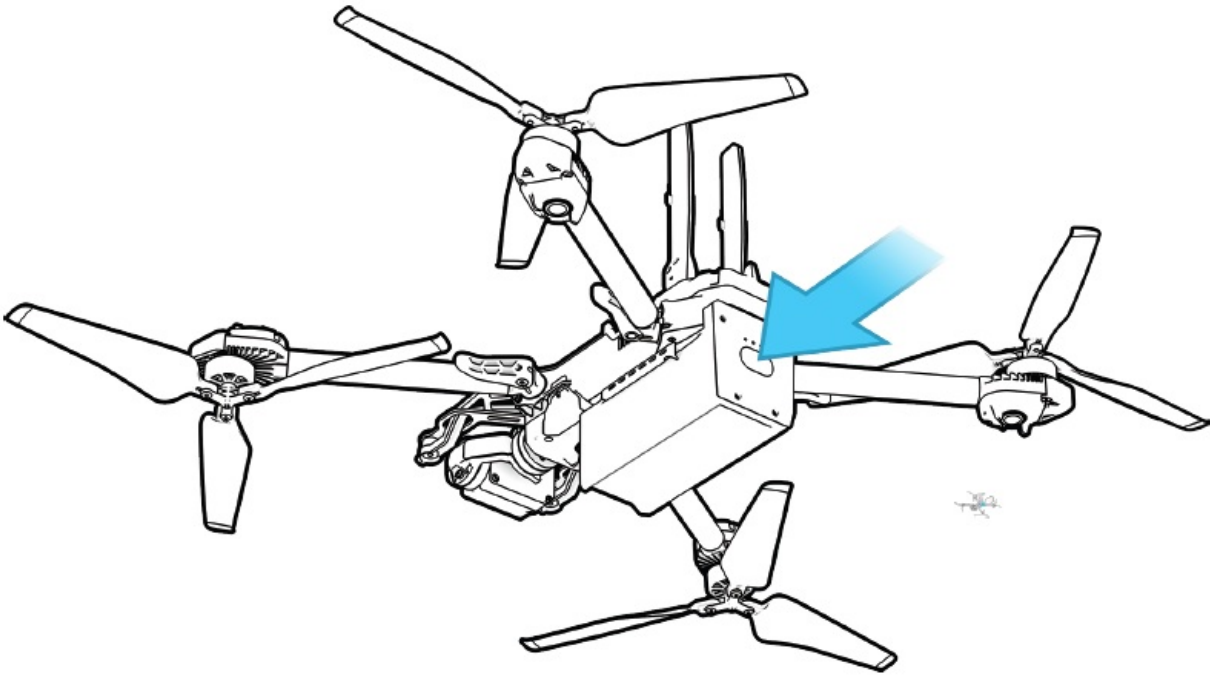
#### Step 4 — Release antenna

Gently push the antennae inward to release and guide them into a vertical position



#### Step 5 — Power on Skydio X2E

Press and hold the power button on the battery for 3 seconds



## Skydio Enterprise Controller

### Step 1 — Open the controller

- the antenna is embedded in the controller lid—use caution when opening

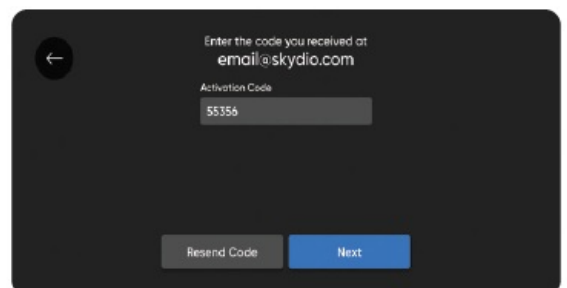
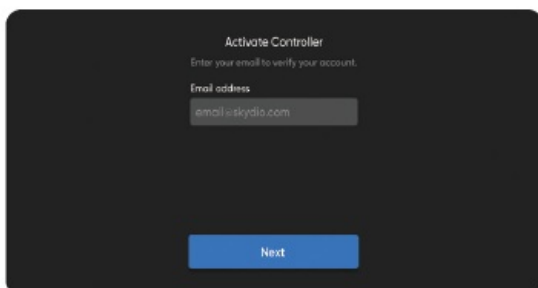


### Step 2 — Power on

- hold the power button for 3 seconds

### Step 3 — Activate Skydio Enterprise app

- Follow the on-screen prompts to get started with the Skydio Enterprise app.
- Connect to the Internet and enter your email address to activate the controller. Enter the activation code you received



from Skydio.

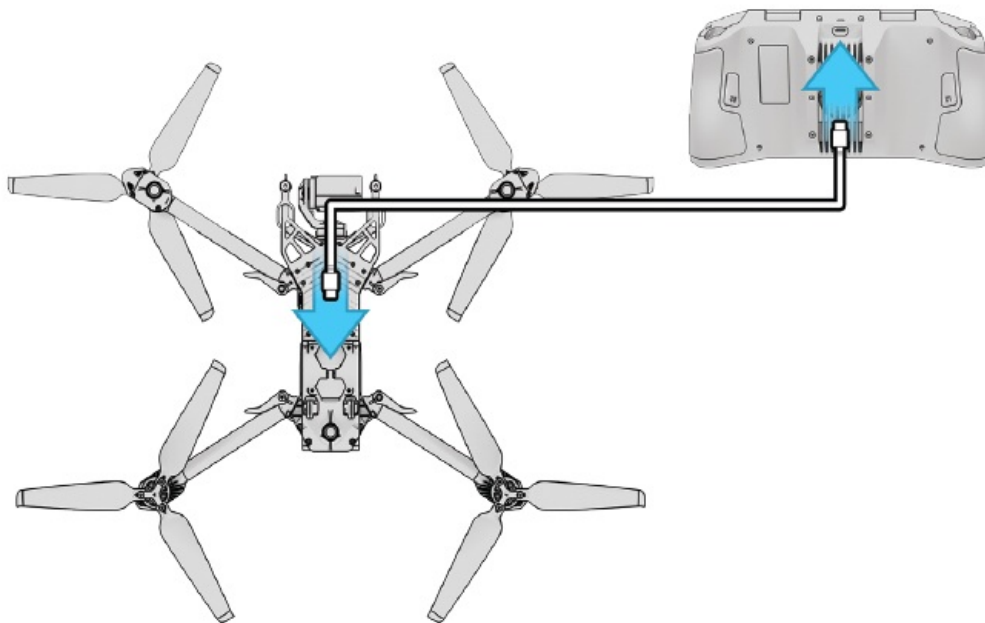
- Set a password to unlock your Skydio Controller every time you power on or wake it from a sleep state.



**WARNING:** The password cannot be recovered or reset. Ensure that your password is entered correctly and is written down and stored in a safe location. If the password is lost, the controller will need to be replaced.

#### Step 4 — Pair the devices

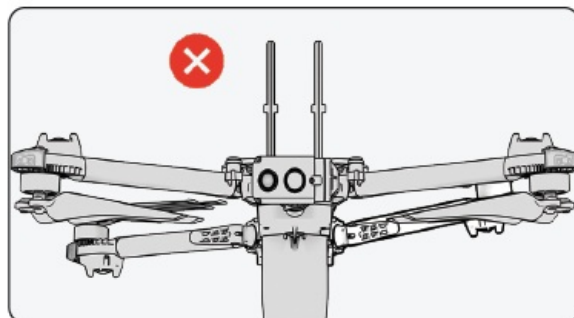
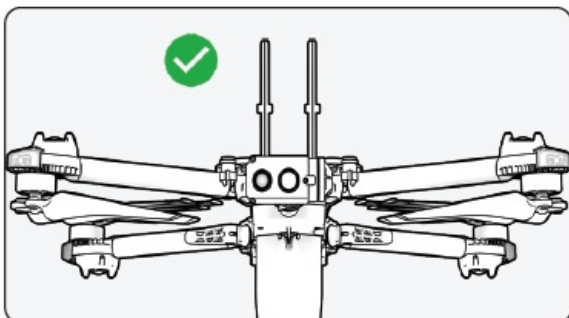
- Power on X2E and Enterprise Controller
- Connect the Controller to X2E using the USB-C cable
- Wait approximately 15 seconds
- Verify that your Skydio X2E was paired
- Select INFO and your drone name will be listed under PAIRED DRONE



#### Pre-flight Checklist

**Inspect chassis** – inspect the vehicle chassis to ensure it is free of damage.

**Inspect motor arms** – verify that they are free of damage and assembled properly. When assembled and viewing the drone head-on, arms should be parallel to the chassis.



**Inspect battery** – Skydio X2E uses magnets to seat the battery that may attract metallic debris. Visually inspect the battery and connector pins to ensure they are free of debris and damage. Verify the battery is fully seated in the vehicle

prior to takeoff.

**Inspect propellers** – Ensure that propellers are firmly attached and free of nicks, cracks, and damage. Do not fly with damaged propellers. Fan propellers out so that the blades are separated.

**Clean camera lenses** – use a clean microfiber cloth to ensure that all cameras are dust and smudge-free before every flight.

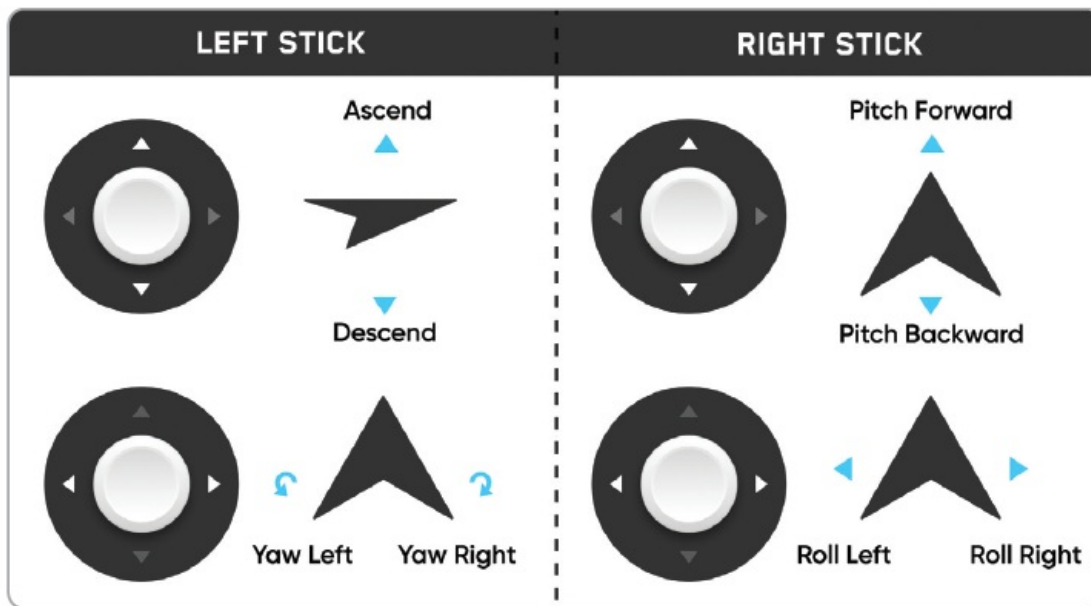
**Inspect motor hubs** – ensure that they are free of damage and debris.

**Inspect gimbal** – ensure that it moves freely.

## Joystick controls

Skydio Enterprise Controller joystick controls are set to Mode 2:

- left stick controls height and rotation
- right stick controls forward, backward, and side to side motion



## Flight controls

### Launch



1. Find a clear area to launch
2. Place X2E on a flat, stable surface
3. Select the launch button on the Fly screen or
4. Press and hold the Launch/Land button on the Controller
5. X2E will arm and ascend to 10 ft (3 m) and hover in place



## Return

1. Select the Home button on the Fly screen or
2. Press and hold the Return button on the Controller X2E will return to the Launch Point, Controller location, or Home Point if one was set



## Land

1. Pilot X2E over a safe landing location free of obstacles
  2. Select and hold the Land button on the screen or
  3. Press and hold the Launch/Land button on the Controller
- X2E will descend with full obstacle avoidance to 10 ft (3 m) above ground level
  - Below 10 ft (3 m) all obstacle avoidance is disabled
  - Nudge forward, backward, left, or right using the Controller
  - Cancel landing by pushing the left joystick forward

## Obstacle avoidance

Skydio X2E uses six 4K navigation cameras and a main subject camera for visual navigation resulting in unparalleled 360° obstacle avoidance. Skydio X2E will maintain a distance of 34 in (86 cm) away from objects (measured from the propeller to the obstacle). With the purchase of the Autonomy Enterprise Foundation software add-on for your Skydio X2E, you can reduce your obstacle margin in flight, enabling up close object inspection.

**WARNING:** If this is your first flight with Skydio X2E, Skydio recommends flying with a full obstacle margin during the day.

## GPS night flight

Skydio strongly recommends inexperienced pilots fly during daytime hours or in brightly lit conditions to get comfortable with the system before attempting to fly at night. For more information visit [www.skydio.com/support](http://www.skydio.com/support).

**WARNING:** GPS Night Flight mode requires flying without obstacle avoidance and may drift slightly. Take extra caution when flying in this mode and do not stand near the vehicle.

## Emergency behavior

### Low battery

X2E will assess the altitude and distance from the Launch/Home Point and alert you when it is time to return home. X2E will begin a series of notifications and actions to ensure time for a safe landing

1. Two-minute warning – fly to a safe location and land
2. After the two-minute countdown – the X2E will automatically land you will be able to nudge X2E during landing to avoid any obstacles

### Lost connection

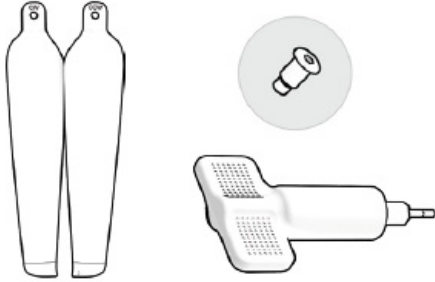
Establishing lost signal connection return behaviors is a critical component in pre-flight planning to ensure that your Skydio X2E returns safely and lands in an accessible location. Wait before Return – specify the amount of time that you

want X2E to wait before it initiates a return flight, allowing time to reconnect. Land Once Returned

- Enabled (default): X2E will return, hover for a specified amount of time, and then land
- Disabled: X2E will hover in place until it runs out of battery
- Wait Before Land – specify the amount of time between 0 to 300 seconds (default – 240 seconds) that you want X2E to wait before landing. Only available when Land Once Return is toggled on.

## Replace propeller blades

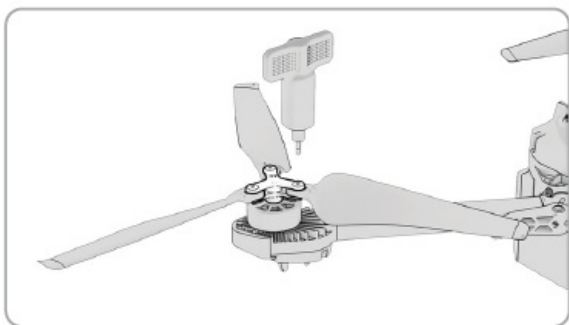
A routine preflight inspection should include the propellers to ensure that they are in good working condition. Skydio recommends replacing your propellers after 100 hours of flight time or whenever you notice any damage for optimal performance. Replace all propellers in the hub, even if only one is damaged, to reduce any potential variations and to make it easier to track propeller flight time. Propellers are matched to maximize performance and robustness. You will need



- Clockwise (CW) propellers
- Counter-clockwise (CCW) propellers
- Propeller screws
- Torque driver

**WARNING:** Propeller blades with cracks, dents, or bends should be replaced immediately. Do not fly with damaged propellers as serious bodily harm or injury may occur. Propeller blades are sharp. Do not replace your while the vehicle is powered on.

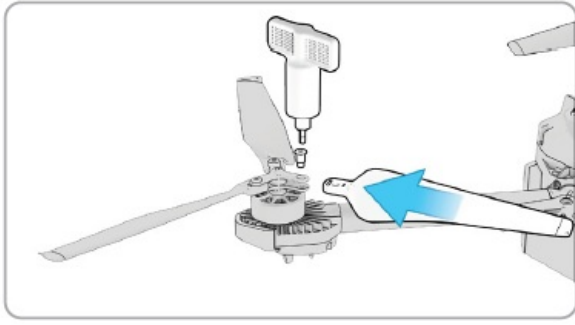
### Step 1 – Remove propellers from the motor hub



- Hold the motor hub to stabilize
- Unscrew the propeller screw
- Slide the propellers out of the hub
- Replace all three propellers in that hub from the same replacement kit
- Dispose the removed propellers

### Step 2 – Attach new propellers blades

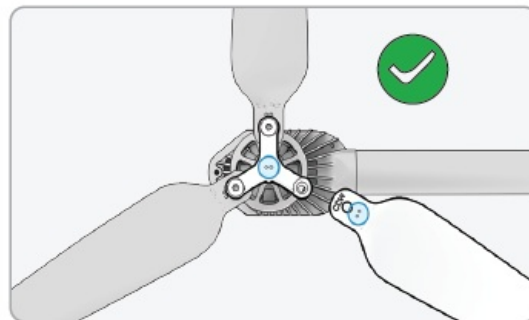
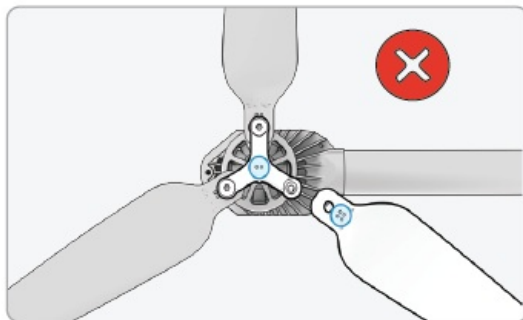
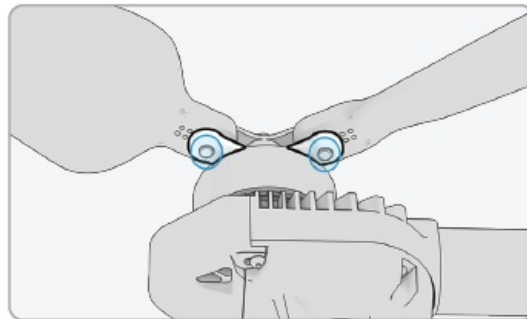
- Find the markings that match the propeller hub and install with those markings facing up to ensure that the propellers are in the correct direction (clockwise or counter- clockwise) and orientation for the motor.



- Hold the motor hub to stabilize
- Slide the new propeller into the hub
- Insert a new screw – do not reuse screws even if they look to be in good condition
- Use the torque driver to fasten the screw clockwise until you hear a click

### Step 3 – Inspect your propeller blade installation

- Screw threads extend slightly beyond the bottom of the propeller hub
- Dot patterns match between propeller blades and hub
- Propellers rotate smoothly and do not bind on the hub spokes



**WARNING:** Failure to match the markings on the propeller to those on the propeller hub is a safety hazard and may result in potential serious damage to the vehicle and serious bodily harm or injury to you and bystanders.

### ADDITIONAL RESOURCES

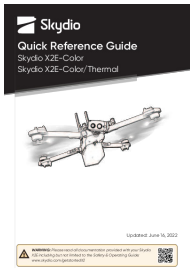
For all the latest information about Skydio and our products, visit [www.skydio.com](http://www.skydio.com) Skydio Safety and Operating Guide [www.skydio.com/safety](http://www.skydio.com/safety) Skydio X2E Operator Manual [www.skydio.com/getstartedX2E](http://www.skydio.com/getstartedX2E) For legal, warranty and intellectual property information, visit [www.skydio.com/legal](http://www.skydio.com/legal)

**WARNING:** Failure to follow any instructions in this Quick Reference Guide or in the X2E Operator Manual can void the limited warranty

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### Documents / Resources





[Skydio X2E-Color Autonomous Drone](#) [pdf] User Guide  
X2E-Color Autonomous Drone, X2E-Color, Autonomous Drone, Drone

## References

- [Skydio 2+™ and X2™ – Skydio Inc. | Skydio](#)
- [Skydio Legal | Skydio](#)

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