



RTF



NOTICE

All instructions, warranties and other collateral documents are subject to change at the sole discretion of Horizon Hobby, LLC. For up-to-date product literature, visit horizonhobby.com and click on the support tab for this product.

Meaning of Special Language

The following terms are used throughout the product literature to indicate various levels of potential harm when operating this product:

NOTICE: Procedures, which if not properly followed, create a possibility of physical property damage AND a little or no possibility of injury.

CAUTION: Procedures, which if not properly followed, create the probability of physical property damage AND a possibility of serious injury.

WARNING: Procedures, which if not properly followed, create the probability of property damage, collateral damage, and serious injury OR create a high probability of superficial injury.



WARNING: Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury.

This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not use with incompatible components or alter this product in any way outside of the instructions provided by Horizon Hobby, LLC. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

Age Recommendation: Not for children under 14 years. This is not a toy.

General Safety Precautions and Warnings

- Always keep a safe distance in all directions around your model to avoid collisions or injury. This model is controlled by a radio signal subject to interference from many sources outside your control. Interference can cause momentary loss of control.
- Always operate your model in open spaces away from full-size vehicles, traffic and people.
- Always carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.).
- Always keep all chemicals, small parts and anything electrical out of the reach of children.
- Always avoid water exposure to all equipment not specifically designed and protected for this purpose. Moisture causes damage to electronics.
- Never place any portion of the model in your mouth as it could cause serious injury or even death.
- Never operate your model with low transmitter batteries.
- Always keep aircraft in sight and under control.
- Always move the throttle fully down at rotor strike.
- Always use fully charged batteries.
- Always keep transmitter powered on while aircraft is powered.
- Always remove batteries before disassembly
- Always keep moving parts clean.
- Always keep parts dry.
- Always let parts cool after use before touching.
- Always remove batteries after use.
- Never operate aircraft with damaged wiring.
- Never touch moving parts.



CAUTION: The ESCs for the 350 QX3 are not compatible with any other product, and the 350 QX3 is not compatible with any other ESCs. Use of any other ESCs on the 350 QX3 will cause a crash, which may result in property damage and/or personal injury.



WARNING AGAINST COUNTERFEIT PRODUCTS: If you ever need to replace a Spektrum component found in a Horizon Hobby product, always purchase from Horizon Hobby, LLC or a Horizon Hobby authorized dealer to ensure authentic high-quality Spektrum product. Horizon Hobby, LLC disclaims all support and warranty with regards, but not limited to, compatibility and performance of counterfeit products or products claiming compatibility with DSM or Spektrum.

350 QX3 INSTRUCTION MANUAL



Table of Contents

Box Contents	4	Flight Mode Switch (RTF, AP Combo)	9
Charging Warnings.....	4	Flight Modes Explained	9
Low Voltage Cutoff (LVC)	4	LED Codes	10
Charging the Flight Battery	5	GPS Functionality	10
Install the Gimbal (AP Combo).....	5	Flight Guidelines and Warnings	11
Install the Transmitter Batteries (RTF, AP Combo).....	5	Preparing the 350 QX3 For Flight	11
Transmitter Control Layout (RTF, AP Combo).....	6	Flying the 350 QX3	11
Extend the GPS Mast	6	Calibration Procedures.....	13
Install the Flight Battery	6	Graphic User Interface	14
Transmitter Setup and Binding (BNF).....	7	Troubleshooting	14
Binding	8	Parts of the 350 QX3.....	15

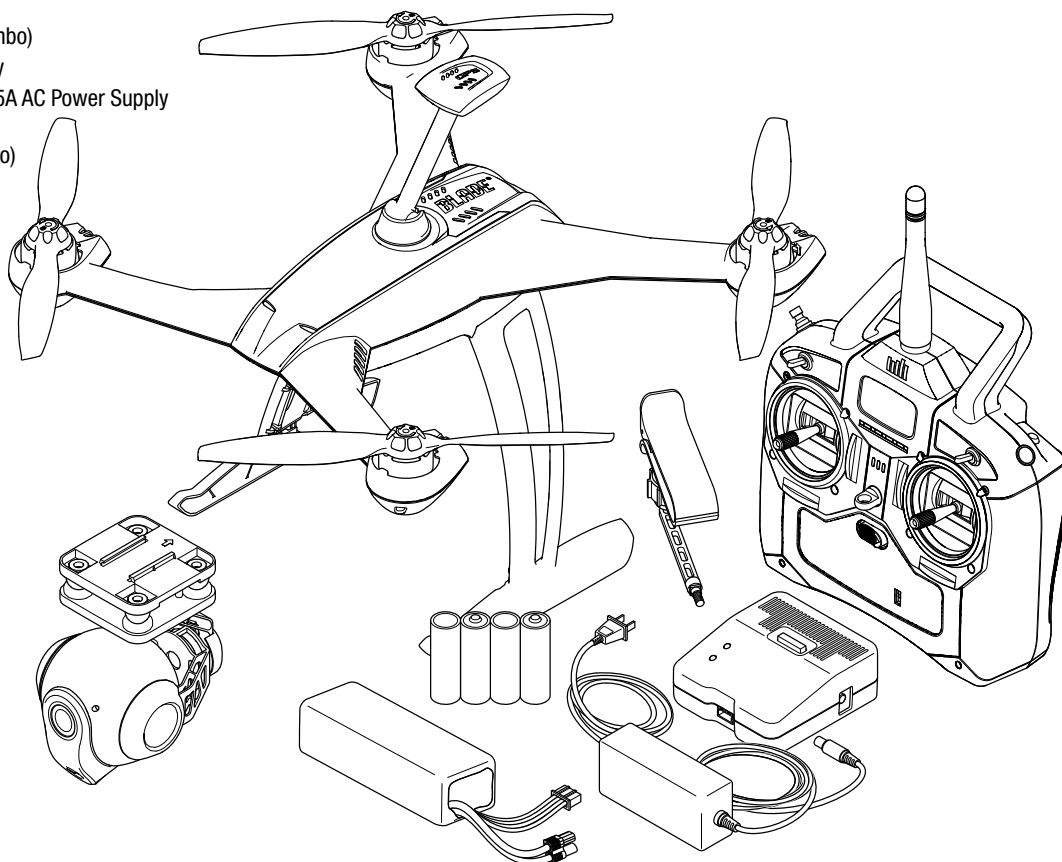
Components	
Airframe	Blade® 350 QX3 Quadcopter
Motors	4x Brushless Outrunner Motor, 1100Kv
ESCs	4x 10-Amp Brushless ESC
Battery	3000mAh 3S 11.1V 20C Li-Po Battery
Charger	3S DC Li-Po Balancing Charger with 5A AC Power Supply
Transmitter	Spektrum™ DX4 DSMX® 4-Channel Transmitter (RTF, AP Combo)
Camera/Gimbal	CGO2 GB 1080p HD (AP Combo)

Specifications	
Length	18.30 in (465mm)
Height	7.48 in (190mm)
Rotor Diameter	22.80 in (580mm)
Flying Weight	33.7 oz (955 g)

To register your product online, visit www.bladehelis.com

Box Contents

- Blade 350 QX3
- CG02 3-Axis Camera/Gimbal (AP Combo)
- 3000mAh 3S 11.1V 20C Li-Po Battery
- 3S DC Li-Po Balancing Charger with 5A AC Power Supply
- Spektrum DX4 DSMX 4-Channel Transmitter (RTF, AP Combo)
- 4 AA Batteries (RTF, AP Combo)
- Cell Phone Mount



Charging Warnings

WARNING: Failure to exercise caution while using this product and comply with the following warnings could result in product malfunction, electrical issues, excessive heat, FIRE, and ultimately injury and property damage.

- **NEVER LEAVE THE POWER SUPPLY, CHARGER AND BATTERY UNATTENDED DURING USE.**
- **NEVER CHARGE BATTERIES OVERNIGHT.**
- Never attempt to charge dead, damaged or wet battery packs.
- Never attempt to charge a battery pack containing different types of batteries.
- Never allow children under 14 years of age to charge battery packs.
- Never charge batteries in extremely hot or cold places or place in direct sunlight.
- Never charge a battery if the cable has been pinched or shorted.
- Never connect the charger if the power cable has been pinched or shorted.
- Never attempt to dismantle the charger or use a damaged charger.
- Never drop charger or batteries.
- Always use only rechargeable Li-Po batteries designed for use with this type of charger.

- Always inspect the battery before charging.
- Always keep the battery away from any material that could be affected by heat.
- Always monitor the charging area and have a fire extinguisher available at all times.
- Always end the charging process if the battery becomes hot to the touch or starts to change form (swell) during the charge process.
- Always connect the charge cable to the charger first, then connect the battery to avoid short circuit between the charge leads. Reverse the sequence when disconnecting.
- Always connect the positive red leads (+) and negative black leads (-) correctly.
- Always disconnect the battery after charging, and let the charger cool between charges.
- Always charge in a well-ventilated area.
- Always terminate all processes and contact Horizon Hobby if the product malfunctions.

Low Voltage Cutoff (LVC)

Low voltage cutoff (LVC) protects the Li-Po battery from over-discharge in flight and activates when the battery reaches a preset value. When the battery is discharged to the cutoff point, the aircraft will display rapidly flashing red, green and blue LEDs to warn you it's time to land. When you see this LED code, land immediately to prevent over-discharge and damage to the battery.

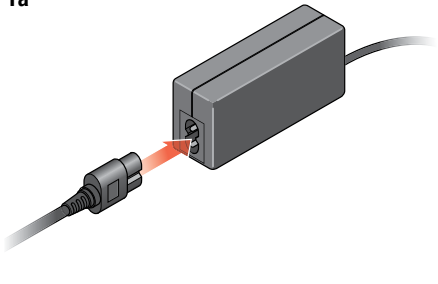
When the LVC is activated, you have approximately 2 minutes until the battery is depleted and can no longer maintain a hover. Repeated flying to LVC will damage the battery.

NOTICE: Crash damage and battery damage are not covered under warranty.

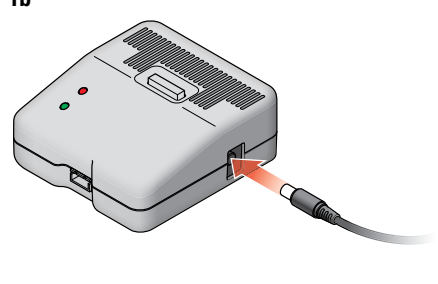
IMPORTANT: Always disconnect and remove the Li-Po battery from the aircraft after each flight. Charge your Li-Po battery to about half capacity before storage. During storage, make sure the battery charge does not fall below 3V per cell. A connected battery will result in trickle discharge.

Charging the Flight Battery

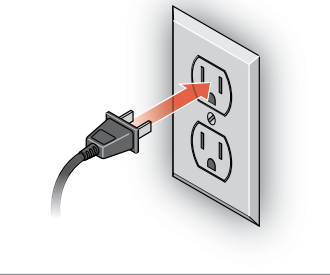
1a



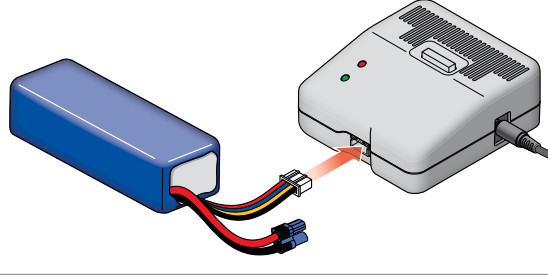
1b



2



3



Charger Specifications

- Input Voltage: 10.5–15V DC
- Charge Current: 3.5A

The Battery Charging Process

1. Connect the AC power supply to the charger.
2. Connect the AC power supply to an AC power source. The green LED blinks.
3. Connect the battery to the charger. The red LED blinks, indicating charging. When the battery nears full charge, the red and green LEDs blink, indicating cell balancing.
4. Disconnect the battery when the green LED glows solid.

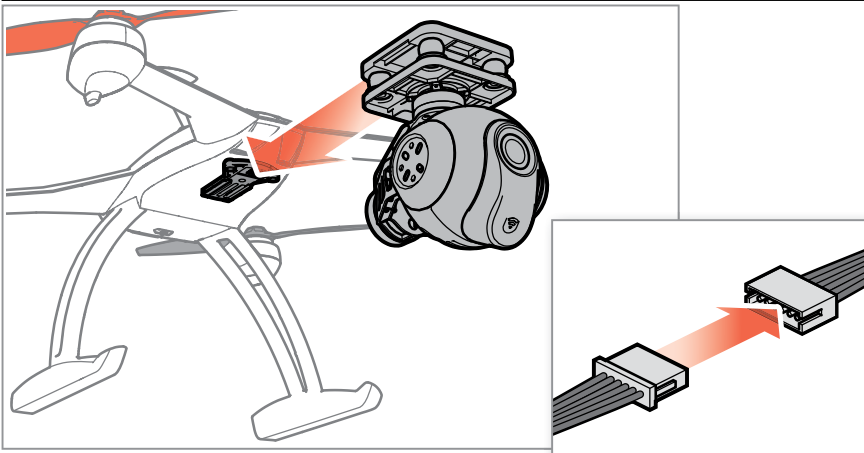
Charger LED Codes

- Green Blinking: Power connected
- Red Blinking: Charging
- Red & Green Blinking: Cells balancing
- Green Solid: Charging complete
- Red Solid: Error

CAUTION: All instructions and warnings must be followed exactly. Mishandling of Li-Po batteries can result in a fire, personal injury and/or property damage.

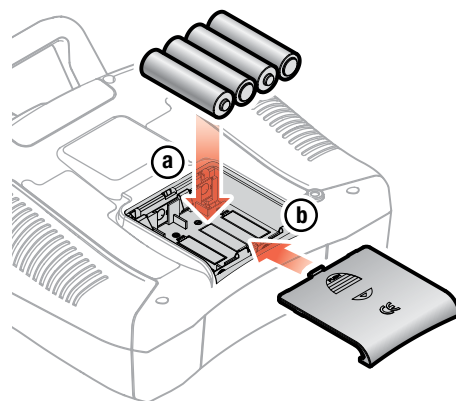
NOTICE: If using a battery other than the included Li-Po battery, refer to your battery manufacturer's instructions for charging.

Install the Gimbal (AP Combo)



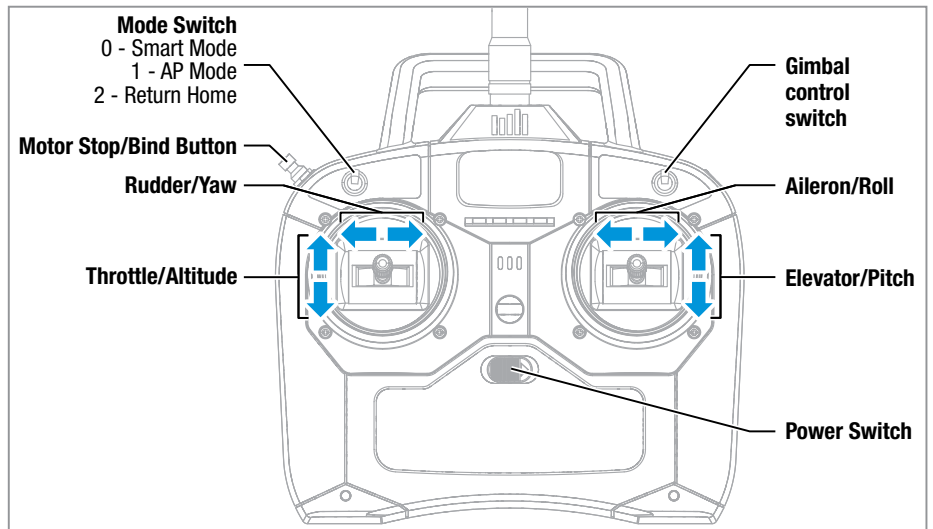
- Slide the gimbal on the mount rails until it locks.
- Connect the wiring harness to the plug on the bottom of the 350 QX3.
- To remove the gimbal, press the tab at the front of the mount and slide the gimbal forward.

Install the Transmitter Batteries (RTF, AP Combo)

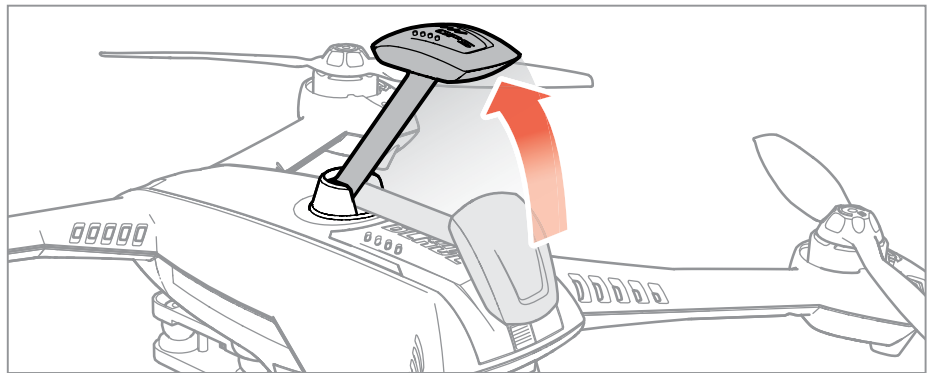


- Install 4 AA batteries in the transmitter as shown.

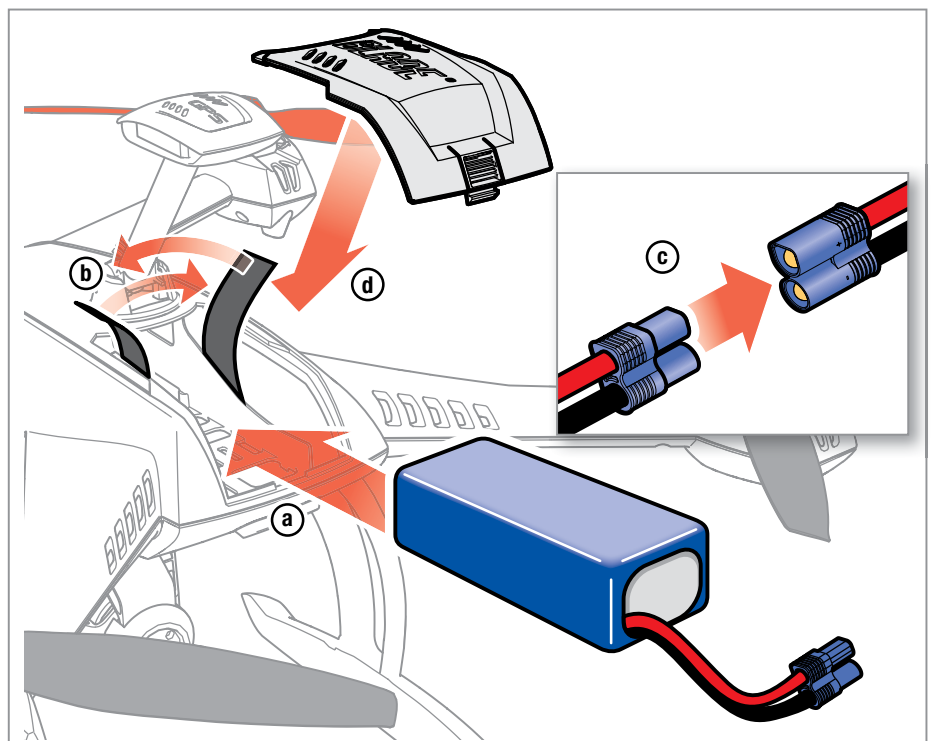
Transmitter Control Layout (RTF, AP Combo)



Extend the GPS Mast



Install the Flight Battery



Transmitter Setup (BNF)

Transmitter	Model Type	Switch Select	Reversing	Throttle Cut	Model Setup	Switch Position
DX6i	aero	n/a	gear - R All others - N	act	Travel Adj: Flap ↑ 120 ↓ 100 Throttle Subtrim: ↑ 10 Flaps: FLAP Norm ↑ 100 land ↓ 100 Mix 1: gear → gear act rate: D -60%, U 0% SW: ele d/r	Smart Mode = F Mode (POS. 0) Return Home = F Mode (POS. 1) AP MODE = ELE D/R (POS 1) GIMBAL control = FLAP (POS 1), Throttle controls gimbal angle Accelerometer calibration = Set FLAP to POS 0 and cycle Flight Mode switch 4 times Compass calibration = Set FLAP to POS 1 and cycle Flight Mode switch 4 times
DX6	airplane	Channel Assign: Channel Input Config (2nd page): Gear: B AUX1: A	Servo setup: AUX1 - R All others - N	Throttle cut: Position: -130% Switch: Switch i	Servo setup: Travel: 120% 140% AX1	Smart Mode = Switch B (POS. 0) AP MODE = Switch B (POS 1) Return Home = Switch B (POS. 2) GIMBAL Control = Switch A (POS 1), Throttle controls gimbal angle Compass calibration = Switch A (POS 0) and cycle FLAP switch 4 times Accelerometer calibration = Switch A (POS 1) and cycle FLAP switch 4 times
DX7s	airplane	Knob: AUX2 Gear: AUX1 Flap: Gear	Servo setup: All NORM	Throttle cut: 0% Trainer	Servo setup: Travel: Aux1 120% 140%	Smart Mode = Flap switch (POS. 0) AP MODE = Flap switch (POS 1) Return Home = Flap switch (POS. 2) GIMBAL Control = Gear switch (POS 0), Knob controls gimbal angle Compass calibration = Gear switch (POS 0) and cycle FLAP switch 4 times Accelerometer calibration = Gear switch (POS 1) and cycle FLAP switch 4 times
DX8	airplane	Gear: AUX1 Knob: AUX2 F Mode: Gear	Servo setup: All NORM	Throttle cut: 0% Trainer	Servo setup: Travel: Aux1 120% 140%	Smart Mode = F Mode switch (POS. 0) AP MODE = F Mode switch (POS 1) Return Home = F Mode switch (POS. 2) GIMBAL Control = Gear switch (POS 0), Knob controls gimbal angle Compass calibration = Gear switch (POS 0) and cycle FLAP switch 4 times Accelerometer calibration = Gear switch (POS 1) and cycle FLAP switch 4 times
DX9/DX18	airplane	Channel Assign: Channel Input Config (2nd page): Gear: B AUX1: A AUX2: R Knob	Servo setup: All NORM	Throttle cut: Position: -130% Switch: Switch i	Servo setup: Travel: 140% 120% AX1	Smart Mode = Switch B (POS. 0) AP MODE = Switch B (POS 1) Return Home = Switch B (POS. 2) GIMBAL Control = Gear switch (POS 0), Knob controls gimbal angle Compass calibration = Gear switch (POS 0) and cycle FLAP switch 4 times Accelerometer calibration = Gear switch (POS 1) and cycle FLAP switch 4 times

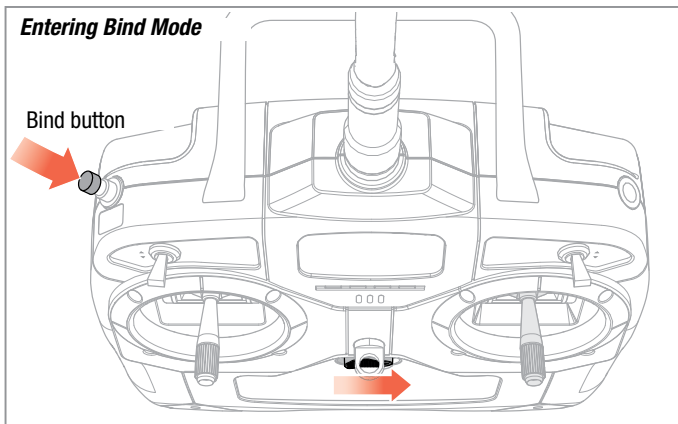
Binding

The RTF/AP combo transmitter is bound to the model at the factory. If for any reason the model needs to be re-bound, follow the directions below.

Binding the 350 QX3 To Your Transmitter

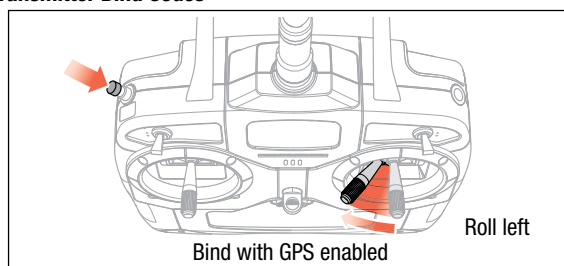
1. With the transmitter and quadcopter powered OFF, connect the battery to the 350 QX3.
2. Place the 350 QX3 on a flat level surface.
3. Power the 350 QX3 ON and let it initialize. The status LED will remain off.
4. Hold the 350 QX3 upside down until the status LED flashes blue, indicating it has entered bind mode.
5. Set the quadcopter back upright.
6. On your transmitter, ensure the throttle is in the low position and the throttle trim is at neutral.
7. Power ON your transmitter in bind mode according to the instructions included with your transmitter.
8. When the binding process is successful, the 350 QX3 will emit a quick, 3-beep tone and the LED will flash either green, purple or red, depending on which flight mode is selected.
If the LED is flashing red, the 350 QX3 is in Return Home mode. Switch to Smart or AP Mode (green or purple flashing) before attempting to start the motors.
9. Place the quadcopter outdoors in the desired starting position in preparation for flight.

Entering Bind Mode



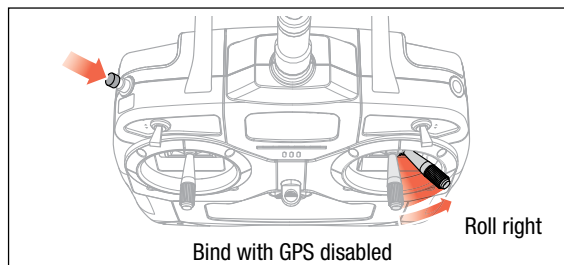
Normal Bind

Transmitter Bind Codes



Bind with GPS enabled

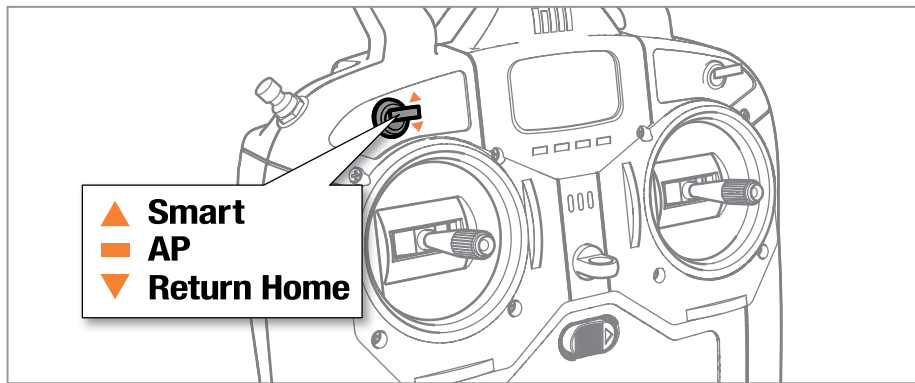
Roll left



Bind with GPS disabled

Roll right

Flight Mode Switch (RTF, AP Combo)



Smart Mode

(Solid Green LED on the 350 QX3)

AP Mode

(Solid Purple LED on the 350 QX3)

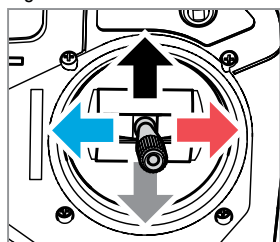
Return Home

(Red flashing LED on the 350 QX3)

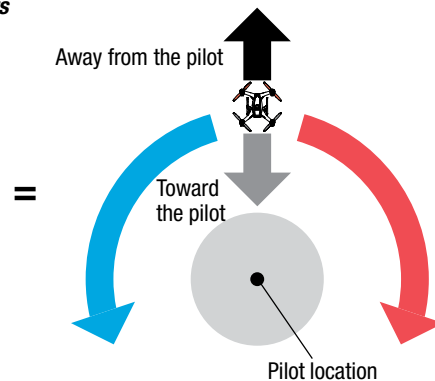
Flight Modes Explained

Smart Mode Stick Relativity Control Inputs

Right transmitter stick

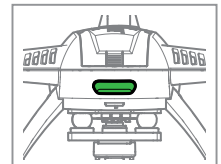


Stick commands move the 350 QX3 relative to the pilot location



Smart Mode

This flight mode is intended for the beginner pilot. For best results while using **Smart Mode**, it is recommended the pilot always turn to face the 350 QX3 while flying.

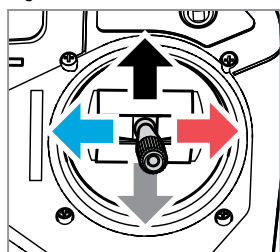


Solid Green LED

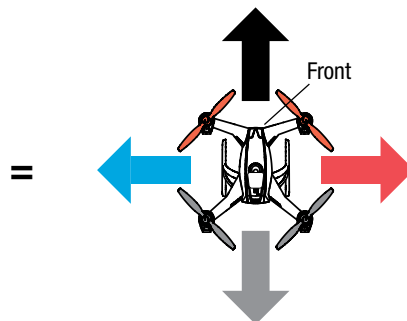
- **Stick Relativity**—While in **Smart Mode**, the path of the aircraft will always follow the control stick input direction relative to the pilot location, regardless of the direction the nose of the aircraft is pointing.
- **SAFE Circle™ feature**—In most scenarios, the quad will not enter the SAFE Circle.
- **Position Hold**—The aircraft will hold its position when elevator and aileron inputs are at neutral.
- **Self-Leveling**—Brings the 350 QX3 to a level attitude when the elevator and aileron inputs are at neutral.
- **100 m geo-fence**—The 350 QX3 uses GPS information to create a virtual barrier and will not travel farther than 100 meters from the home position.

AP Mode Control Inputs

Right transmitter stick

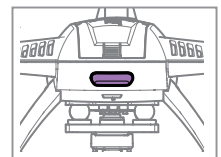


Stick commands move the 350 QX3 relative to the quadcopter's orientation



AP Mode

This flight mode keeps the 350 QX3 in a steady hover and locked into position while the controls are held at neutral, making it ideal for image/video capture.



Solid Purple LED

- **Control Input**—While in **AP Mode**, the 350 QX3 follows the control stick input direction relative to the position and orientation of the aircraft rather than the position of the pilot.
- **Position Hold**—The aircraft will hold its position when elevator and aileron inputs are at neutral.
- **Self-Leveling**—Brings the 350 QX2 AP to a level attitude when the elevator and aileron inputs are at neutral.
- **100 m geo-fence**—The 350 QX3 uses GPS information to create a virtual barrier and will not travel farther than 100 meters from the home position.

NOTICE: If the 350 QX3 loses GPS signal while flying in either **Smart** or **AP Mode**, the LED will flash either green or purple, depending on which flight mode you are currently using, and the 350 QX3 will default to a stable flight mode with similar control response as AP Mode without the availability of position hold. Return Home will not function. Please familiarize yourself with the controls in AP Mode to ensure a safe return of the 350 QX3 in the event of GPS signal loss.

LED Codes

CAUTION: If you see the LED signal for low battery (10.6V), immediately land your aircraft and recharge the battery.

CAUTION: Do not attempt to use Return Home with a low battery.

Startup Codes

Radio off or not bound to the quad	No LED
Initialization failed	
IMU initialization	
Fully charged battery	
Fully discharged battery	
Emergency mode (cycle power to reinitialize)	
Bind mode	

Flying Codes

GPS Disabled	
Smart Mode, waiting for GPS	
Smart Mode, GPS lock	
AP Mode, waiting for GPS	
AP Mode, GPS lock	
Return to home mode activated	
GPS lost while in Smart mode (in flight)	
GPS lost while in AP mode or return to home (in flight)	
Battery voltage below 10.9V	
Battery voltage below 10.6V	
Compass calibration needed	

GPS Functionality

To acquire a reliable GPS signal, it is important the 350 QX3 has a clear view of the sky. Obstructions that can affect the aircraft's ability to acquire an acceptable signal include:

- Flying close to or around tall/big buildings
- Flying under dense vegetation
- Flying indoors or under a structure

If you cannot acquire a GPS lock at startup, the motors cannot be started in either **Smart Mode** or **AP Mode**. You will have to re-bind the quadcopter with the GPS functions turned off to allow you to start the motors for flight (see the *Binding section*). It is not possible to use **Smart Mode** without having GPS enabled. If the 350 QX3 is initialized with GPS disabled, it will default to **AP Mode** without position hold, but will still be capable of altitude hold.

If you lose the GPS signal while flying, the aircraft will not have Stick Relativity, the SAFE Circle™ feature, Position Hold or Return Home functions available. We recommend maneuvering the 350 QX3 by steering with forward elevator and rudder only if GPS signal is lost.

CAUTION: Do not attempt to fly the 350 QX3 with GPS enabled while indoors or in a location where the GPS signal is known to be poor, as loss of signal could result in a crash.

GPS Functions

(see the *Binding section for turning GPS functions ON and OFF*)

With GPS ON

- If the 350 QX3 took off with GPS lock and a home position set, when Return Home mode is activated the quadcopter will fly back to the start position (maintaining altitude along the way), then reduce altitude to land.
- If the 350 QX3 loses GPS lock while flying in **Smart, AP or Return Home** mode, the LED will flash green, purple or red, depending on which flight mode you are currently using. The 350 QX3 will default to a stable flight mode with similar control response to **AP Mode** without the availability of position hold.
- If the 350 QX3 deviates too far from its intended GPS path when in Return Home mode, it will descend using the barometric pressure sensor to maintain the descent rate.
- Once the 350 QX3 has landed in Return Home mode, it will stop the motors.

With GPS OFF

- The LED will show solid white.
- The flight mode available will be similar in control response to **AP Mode** without the availability of position hold.
- Altitude hold will function normally.

Loss of GPS Signal

If the 350 QX3 loses GPS signal in flight, it will respond according to the following conditions:

Smart Mode: (Green flashing LED)

If the 350 QX3 loses GPS signal in flight while in **Smart Mode** the LED will flash green. The stick relativity feature of **Smart Mode** will not function. The 350 QX3 will follow the control stick input direction relative to the position and orientation of the aircraft rather than the position of the pilot, similar to the control response in **AP Mode**. Return home will not function. The aircraft will still use the pressure sensor to maintain altitude and control rate of descent. If GPS signal is reacquired, after receiving 5–10 seconds of reliable GPS signal, the **Smart Mode** functions return.

AP Mode: (Purple flashing LED)

If the 350 QX3 loses GPS signal in flight while in **AP Mode** the LED will flash purple. The quadcopter will not enter GPS position hold when the right stick is returned to center. Return home will not function. If GPS signal is reacquired after receiving 5–10 seconds of reliable signal, **AP Mode** functions return.

Loss of Transmitter Signal

If the transmitter signal is lost for any reason, the 350 QX3 will respond according to the following conditions:

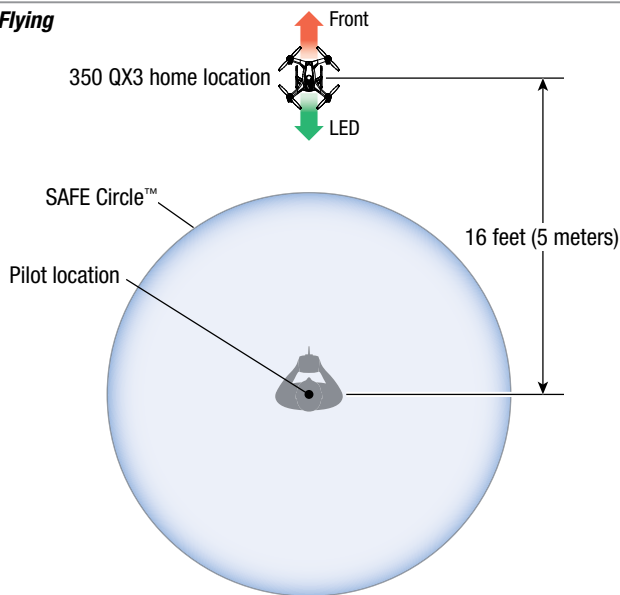
- If the motors are stopped, the 350 QX3 will disarm.
- If the motors are turning but the 350 QX3 is not flying, it will stop the motors and disarm.
- If the 350 QX3 is flying and has a good GPS lock with a home position set, it will activate the Return Home function (rapid red flashing LED) upon the loss of the transmitter signal.
- If the compass is faulty, not connected or if there is no GPS lock, the 350 QX3 descends slowly when the transmitter signal is lost.
- If the pressure sensor is not working, the 350 QX3 reduces power to control the decent when the transmitter signal is lost.

Flight Guidelines and Warnings

- Always keep aircraft in sight and under control.
- Always keep people and pets at least 35 feet (10 meters) away when the battery is connected.
- Keep children out of the vicinity of this product at all times.
- Always use fully charged batteries.
- Always keep transmitter powered on while aircraft is powered.
- Always remove batteries before disassembly.
- Always keep moving parts clean.
- Always keep parts dry.
- Always let parts cool after use before touching.
- Always remove batteries after use.
- Never operate aircraft with damaged wiring.
- Never touch moving parts.

Preparing the 350 QX3 For Flight

Smart Mode Flying



1. Power on the transmitter with the flight mode set to **Smart Mode**.
2. Remove the battery hatch. Install a fully charged battery pack, connect the blue EC3™ battery connector and reinstall the hatch.
3. With the quad on a level surface, turn on the power switch and allow the 350 QX3 to initialize. If the GPS is enabled, wait for the GPS signal to be acquired (solid green LED).

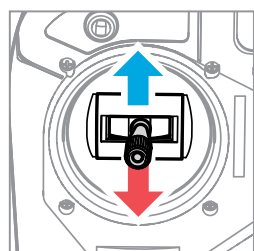
IMPORTANT: While in **Smart Mode**, the motors will not start if a GPS signal has not been acquired.

4. Move the aircraft to the desired home location and orient the aircraft pointed away from the pilot.
5. Step back approximately 16 feet (5 meters) from the home location.
6. To start the motors, move both sticks into the bottom inside corners, then back to center.
7. The props will begin to spin. The home position for GPS functions is set and your aircraft is ready to fly.

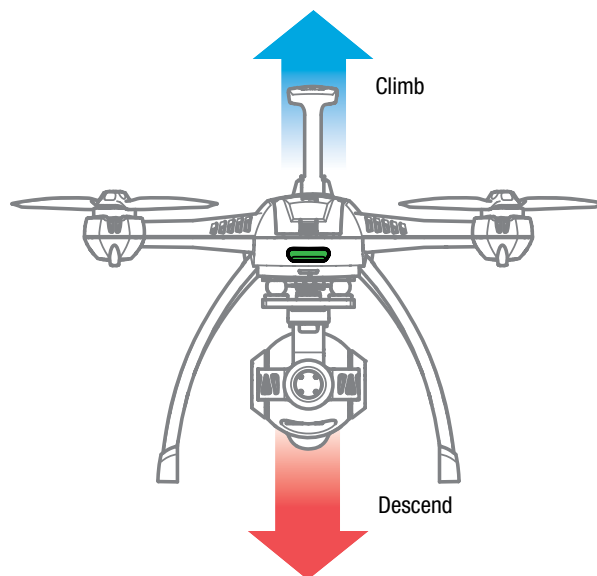
Lower the throttle stick fully and hold the bind button to stop the motors after flight.

CAUTION: When the home location is set (**step 6**), the 350 QX3 must be approximately 16 feet (5 meters) from where the pilot will stand during flight, pointing away from the pilot. If the aircraft is pointed in any other direction, the **SAFE Circle** feature will not function as expected and may result in personal injury or damage to property. Once the aircraft's motors are started, do not change your position.

Flying the 350 QX3



Throttle stick



Takeoff

The throttle control for the 350 QX3 changes the altitude of the quadcopter by moving the throttle stick above or below half throttle. As you move the throttle stick above half, the quadcopter will climb. As you move the throttle stick below half, the quadcopter will descend. The farther away from half you move the throttle stick, the faster the quadcopter will climb or descend.

To takeoff, slowly advance the throttle to slightly above half. The 350 QX3 will slowly climb. When the quadcopter reaches the desired height, ease the throttle back to half to hold that altitude.

Explore the flight envelope of the 350 QX2 AP in **Smart Mode** without fear of losing orientation. See the diagrams in the *Flight Modes Explained* section for more details on the aircraft's function in **Smart Mode**. In **Smart Mode**, the direction the aircraft is pointing does not affect the control, and the aircraft's response relative to you (*the pilot location*) does not change with orientation. **AP Mode** operates more like a conventional RC helicopter or multicopter.

NOTICE: If you begin to lose control, release the control sticks and the model will self-level.

Pay close attention to the LED while flying. If at any time the LED indicates the flight battery voltage is low (below 10.6V), as shown in the LED code section, land the 350 QX3 immediately and charge the flight battery.

Landing

To land the 350 QX2 AP there are two options:

- Guide the aircraft to where you wish to land. Slowly reduce the throttle below half to descend and land. When the quadcopter has landed, lower the throttle completely and press the bind button to stop the motors.
- Activate the Return Home function to return the 350 QX3 to the assigned home location and land automatically.

CAUTION: Do not activate the **Return Home** function if the 350 QX3 is showing the low battery indication. *Manually land the aircraft immediately.*

Return Home

NOTICE: Return home will only function if the 350 QX3 has GPS lock.

- When this feature is activated, the LED will rapidly flash red.
- The 350 QX3 will fly back to its assigned home location and land. After landing, the motors may take up to 5 seconds to stop.
- The return home function may be cancelled by switching back to Smart or AP Mode using the flight mode switch.
- To restart the props after landing in Return Home, move both transmitter sticks to the bottom inside corners and then back to center.

CAUTION: The 350 QX3 will not recognize the **SAFE Circle** feature when Return Home is used. Activating Return Home may cause the 350 QX3 to fly directly over the pilot if the aircraft was flown to a position behind where the pilot was standing when the home position was established.

After Your Flight

1. Turn off the power switch on the 350 QX3.
2. Turn off the power to your transmitter.
3. Unplug and remove the battery from the 350 QX3. Recharge your battery following the charging warnings and instructions.

CAUTION: Always disconnect the Li-Po battery from the aircraft when not flying to avoid over-discharging the battery. Batteries discharged to a voltage below the lowest approved voltage may become damaged, resulting in loss of performance and potential fire when batteries are charged.

Location alert

The motors will beep under the following conditions:

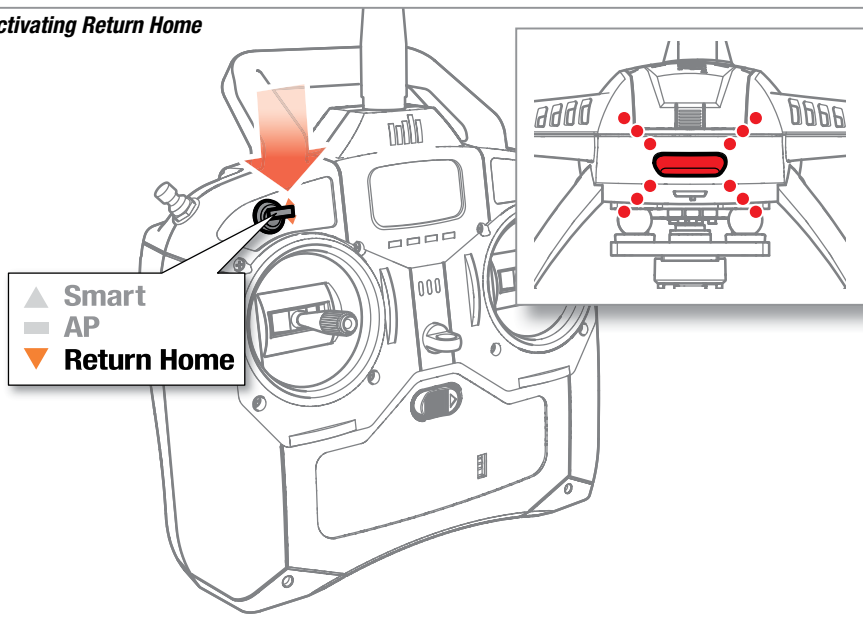
- At any time the props stop spinning after they have been initialized.
- After 30 seconds of no throttle input (waiting armed on the ground).

This will alert the pilot to the location of the aircraft if it lands in a location with low visibility.

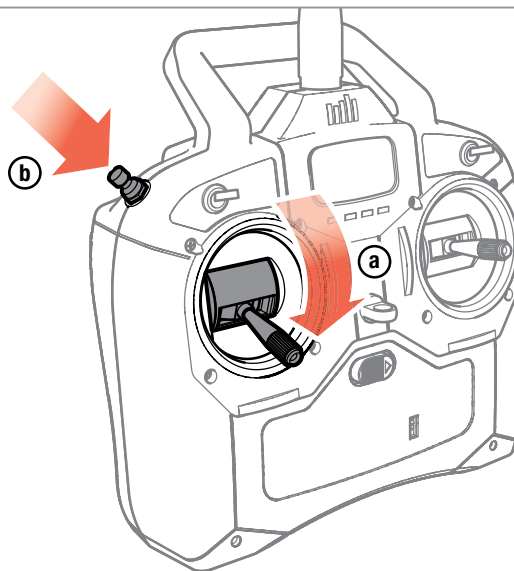
Beeping will continue until the battery can no longer supply enough power to the motors.

If the quadcopter crash lands and one or more motors are stopped by an impact, the quadcopter enters emergency mode. The LED will flash white and the motors will beep loudly.

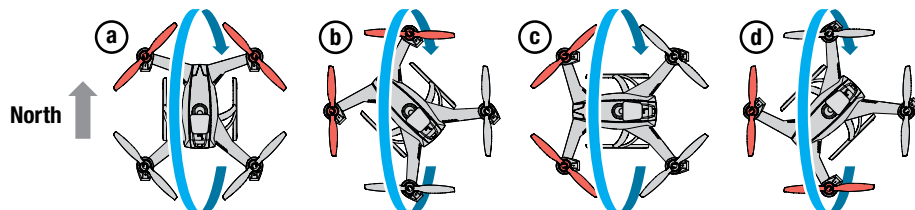
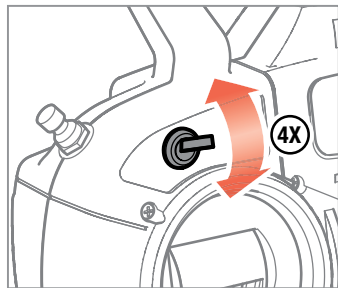
Activating Return Home



Motor Stop



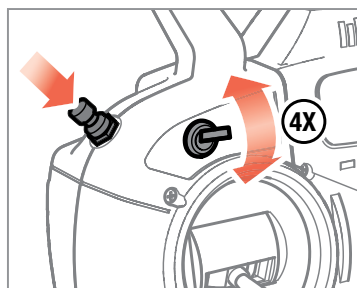
Calibration Procedures



Compass calibration procedure:

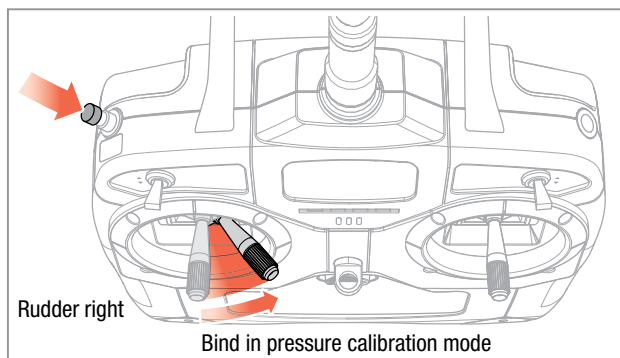
NOTICE: The following procedure has to be completed within 30 seconds after entering compass calibration mode.

1. Power the transmitter.
2. Power on the 350 QX3 and face the quadcopter pointing North.
3. Cycle the top left transmitter switch completely 4 times as shown at the left.
4. The 350 QX3 indicates it has entered compass calibration mode by slowly flashing the LED orange.
5. When the LED begins to flash rapidly, complete all 4 rotations of the 350 QX3 as shown in the illustration at left within 30 seconds, rotating the quad 45° counterclockwise between each rotation.
6. Hold the quad level, facing North and check the LED.
Green = Ready
Red = Repeat Compass Calibration



Accelerometer calibration procedure:

1. Power on the transmitter and 350 QX3 and place the quad on a flat, level surface.
2. While holding the bind switch on the transmitter, cycle the top left switch 4 times as shown at the left.
3. The 350 QX3 will emit a series of slow tones followed by a series of rapid tones, indicating the calibration has started.
4. Do not move the 350 QX3 while it performs the accelerometer calibration procedure.
5. When the procedure has completed, the 350 QX3 will emit a "happy" tone and the LED will display green indicating the calibration was successful. If it emits a "sad" tone and the LED displays solid red, repeat the calibration procedure.



Pressure Sensor Calibration

The pressure sensor is calibrated at the factory on the 350 QX3. Recalibration should only be necessary if you replace the sensor.

1. Place the 350 QX3 in a cold area. Allow it to remain in the cold for 30 minutes or more.
2. Bring the 350 QX3 out of the cold and into a warm area. The greater the difference in temperature between the cold and warm areas, the more accurate the calibration will be.
3. Ensure your transmitter is off and then connect a flight battery to the 350 QX3. Power the 350 QX3 ON and let it initialize. The status LED will remain off.
4. Hold the 350 QX3 upside down until the status LED flashes blue, indicating it has entered bind mode.
5. Set the quadcopter back upright.
6. Bind your transmitter to the 350 QX3 with the rudder stick fully to the right. The LED will blink red and blue rapidly. Leave the aircraft and transmitter powered on and allow the aircraft to warm up for 10 minutes. Do not move the aircraft during this time.
7. After 10 minutes the motors on the aircraft will beep to indicate the calibration is complete. Power off the aircraft and then your transmitter.

If the 350 QX3 displays the failed calibration code, power off the aircraft and then begin the pressure calibration procedure again.

Graphic User Interface

If you need to update the firmware in your quadcopter, download the PC user interface* at http://www.bladehelis.com/ProdInfo/Files/350_QX_PC_Interface.zip

Follow the on-screen instructions for installation and operation.

This graphic user interface allows you to monitor systems, adjust system settings and calibrate sensors.

Sensor Information Screen

- See status of all sensors and speed controls at a glance
- Check battery voltage and accelerometer operation

Calibration Screen

- Calibrate accelerometers and camera gimbal
- Review instructions for compass sensor and DX4 transmitter calibration
- Adjust geo-referenced flight boundaries

GPS Screen

- See number of available satellites and signal strength
- Verify latitude, longitude and altitude indications
- Verify GPS accuracy

Device Information Screen

- See programming software version
- See quad firmware version and vehicle ID
- Update firmware

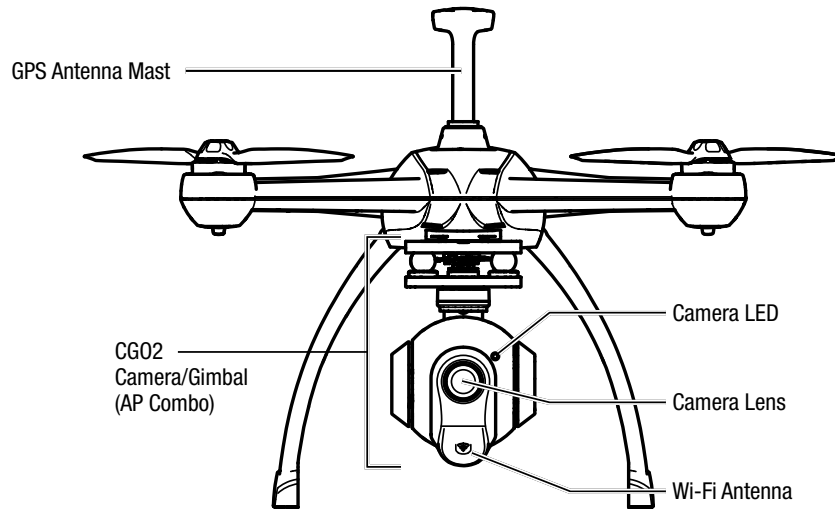
*Requires USB Interface (**BLH7840**) sold separately.

Troubleshooting

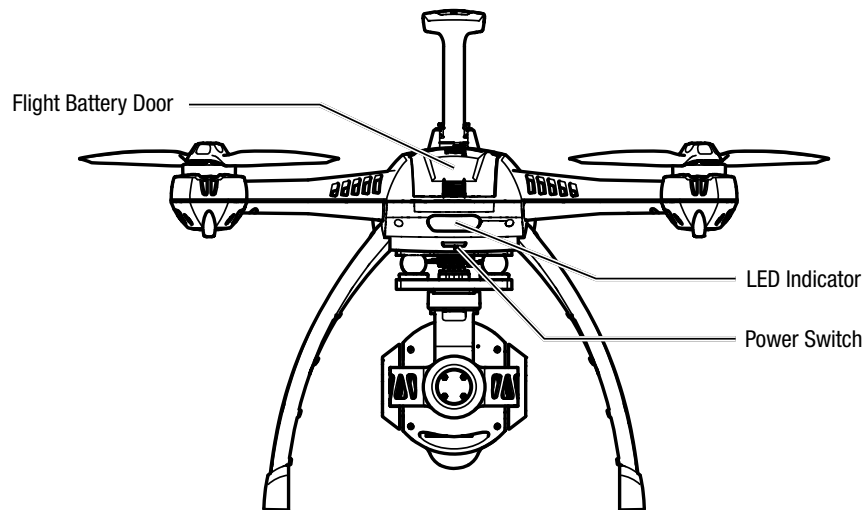
Problem	Possible Cause	Solution
350 QX3 will not initialize	The quadcopter was moved during initialization	Re-arm the aircraft, being cautious to avoid any movement during initialization
GPS will not lock	Heavy overcast	Wait for lighter cloud cover and re-lock or disable GPS
	Solar flares	Wait for disturbance to subside or disable GPS
	Aircraft is indoors	Disable GPS
	Objects blocking clear access to the sky (under a metal cover, inside a car, tall buildings, etc...)	Move aircraft to a clear area
	Video transmitter nearby	Re-position or remove video transmitter
GPS has reduced resolution	Raised threat level by the U.S. government	Wait for threat level to be reduced or disable GPS
	The GPS antenna coaxial cable is nicked, cut, or otherwise damaged	Replace the GPS antenna
GPS functions not operating properly	The compass has been exposed to a magnet	Move the aircraft away from the magnetic source. In worst case scenario, the compass may need to be replaced
	The GPS antenna coaxial cable is nicked, cut, or otherwise damaged	Replace the GPS antenna
	The aircraft is behaving erratically	Rebind the aircraft with the GPS function off
	Aggressive flight	Fly level for a few seconds before using other modes
Motors won't start	GPS lock has not been acquired	Ensure GPS antenna has clear view of sky and GPS lock has been acquired
	'Compass error' is indicated by the LED	See below for troubleshooting 'compass error'
	Incorrect start up procedure	Review start up procedure in manual
Blinking yellow led 'compass error' indication	Model is too close to a metal object or metal surface	Move model away from large metal objects or surfaces
	Compass needs calibration	Calibrate compass (see calibration reference)
Steady beeping, motors won't start	Throttle trim is not centered	Calibrate DX4 transmitter (AP or RTF version)
		Center throttle trim (BNF version)
Won't hold position in hover	Weak GPS signal	Check GPS antenna mast is extended
	Compass needs calibration	Calibrate compass (see calibration guide)
	Accelerometers need calibration	Calibrate accelerometers (see calibration guide)
Motors take a long period of time to shut off after completing return to home	Pressure calibration is needed	Refer to the Pressure Sensor Calibration section of this manual

Parts of the 350 QX3

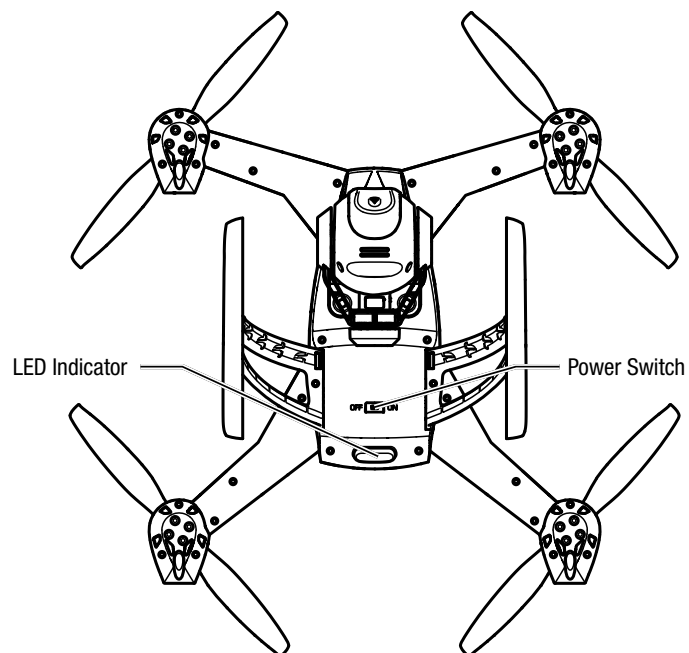
Front



Back



Bottom



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US 7,391,320. Other patents pending.
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