Ages 14+

Mini FPV

LOBIT 100F

1080P Full HD Camera

Please read the instruction manual carefully before use.

DROGEN

LOBIT

Intro

Thank you for purchasing DROGEN products. DROGEN Lobit 100F is designed as an easy-to-use, full-featured RC model, capable of hovering and aerobatic flight maneuvers.
Please read the instruction manual carefully and follow all the instructions.
Be sure to retain the manual for future reference, routine maintenance and tuning.

Safety Notes

- Be cautious that this product is not designed for children under 14 years of age.
- Improper use of this product will result in serious injury.
  Be aware of your personal safety, safety of others and your surrounding environment.
- Keep Lobit out of reach of children.
- It is recommended that beginners learn to fly with more experienced pilots before attempting to fly Lobit 100F for the first time.
- Do not operate Lobit 100F near buildings, crowds of people, or trees to ensure the safety of yourself, others and your Lobit 100F.
- Lobit 100F contains many precision electrical components.
  Store the battery and Lobit in a dry area at room temperature. Exposure to water or moisture may cause malfunction resulting in loss of responsiveness, or a crash.
- For safety, only use the included DROGEN spare parts for replacement.
- When in operation, propellers will be spinning at high speed.
  The propellers are capable of inflicting serious injury or damage to property.
  Be careful to keep your body and loose clothing away from the propellers.
- Never take your eyes off Lobit 100F or leave it unattended while it is turned on.
  Stop operating immediately if Lobit 100F flies out of your sight.

Safety checks before flying

Carefully check all the parts of Lobit 100F. Broken parts will pose a risk of injury and hazard. If any problem is found before flight, do not fly Lobit 100F. Check with call centers and local agencies.

- Before operating, check that the batteries of the transmitter and Lobit 100F are charged for the flight.
- Before turning on the transmitter, check that the throttle stick is pulled completely down.
- Check the battery and power plug are securely fastened.
  Severe vibration during flight may detach the plug and result in loss of control.
- When turning on Lobit 100F, always turn on the transmitter first and then turn on Lobit 100F.
  Also, when turning off Lobit 100F, always turn off Lobit 100F first and then turn off the transmitter.

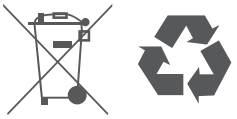
Safety advisory notice for Lithium-Polymer(Lipo)Batteries

Lipo batteries are different from conventional batteries in that their chemical contents are encased in a relatively lightweight foil packaging.
This has the advantage of significantly reducing their weight but it does make them more susceptible to damage if roughly or inappropriately handled.
As with all batteries, there is a risk of fire or explosion if safety practices are ignored.

- Charge and store Lipo batteries in a location where a battery fire or explosion (including smoke hazzard) will not endanger life or property.
- Keep Lipo batteries away from children and animals.
- Never charge the Lipo battery that has ballooned or swelled.
- Never charge the Lipo battery that has been punctured or damaged.
- After a crash, inspect the battery pack for signs of damage. Discard in accordance with your country's recycling laws.
- Never charge the Lipo battery in a moving vehicle.
- Never overcharge the Lipo battery.
- Do not charge Lipo batteries neat flammable materials or liquids.
- Ensure that charging leads are connected correctly. Reverse polarity charging can lead to battery damage or a fire or explosion.
- Have a suitable fire extinguisher (electrical type) or a large bucket of dry sand near the charging area. Do not try to extinguish electrical (Lipo) battery fires with water.
- Reduce risks from fire/explosion by storing and charging Lipo batteries inside a suitable container.
- Protect your Lipo battery from accidental damage during storage and transportation. (Do not put battery packs in pockets or bags where they can short circuit or can come into contact with sharp or metallic objects.)
- If your Lipo battery is subjected to a shock (such as a crash),place it in a metal container and observe for signs of swelling or heating for at least 30 minutes.
- Do not attempt to disassemble or repair the Lipo battery.

Lipo Battery Disposal & Recycling

Lithium-Polymer(Lipo) batteries must not be placed in with household trash. Please contact your environmental or waste agency or the supplier of your model for local regulations and the location of your nearest Lipo battery recycling center.



Charging the Lipo battery

3.7V 520mAh Lipo Battery

How to charge : Connect USB slot with USB charger, then connect the USB charger to a computer or other USB connector, such as a smart phone charger.
The LED lights up while charging and turns off when charging is complete.
The voltage of the USB is +5±0.5V.
The charging time is around 40 mins and the flying time is around 6 mins.

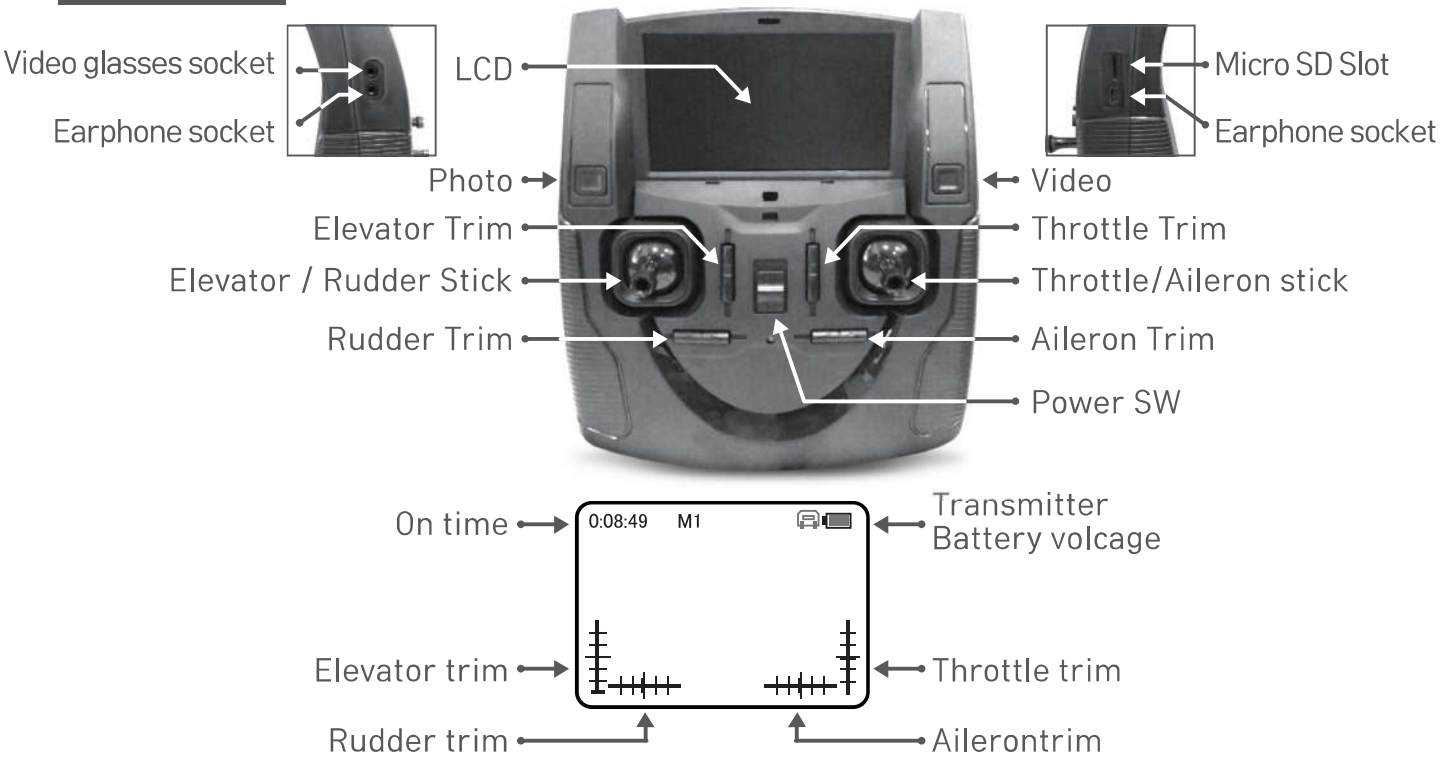
- Take out the battery with the battery compartment when you storage it.
- Always power off Lobit 100F when you charge the battery.

Safety Advisory Notice for storing Lipo battery

Always partially charge your Lipo battery before storage.
Lipo batteries retain the power over a reasonable period.
It is not normally necessary to recharge stored Lipo batteries unless stored for periods longer than 3-6 months. If the battery runs down, replace it.

MODE 1 Transmitter

Main Menu

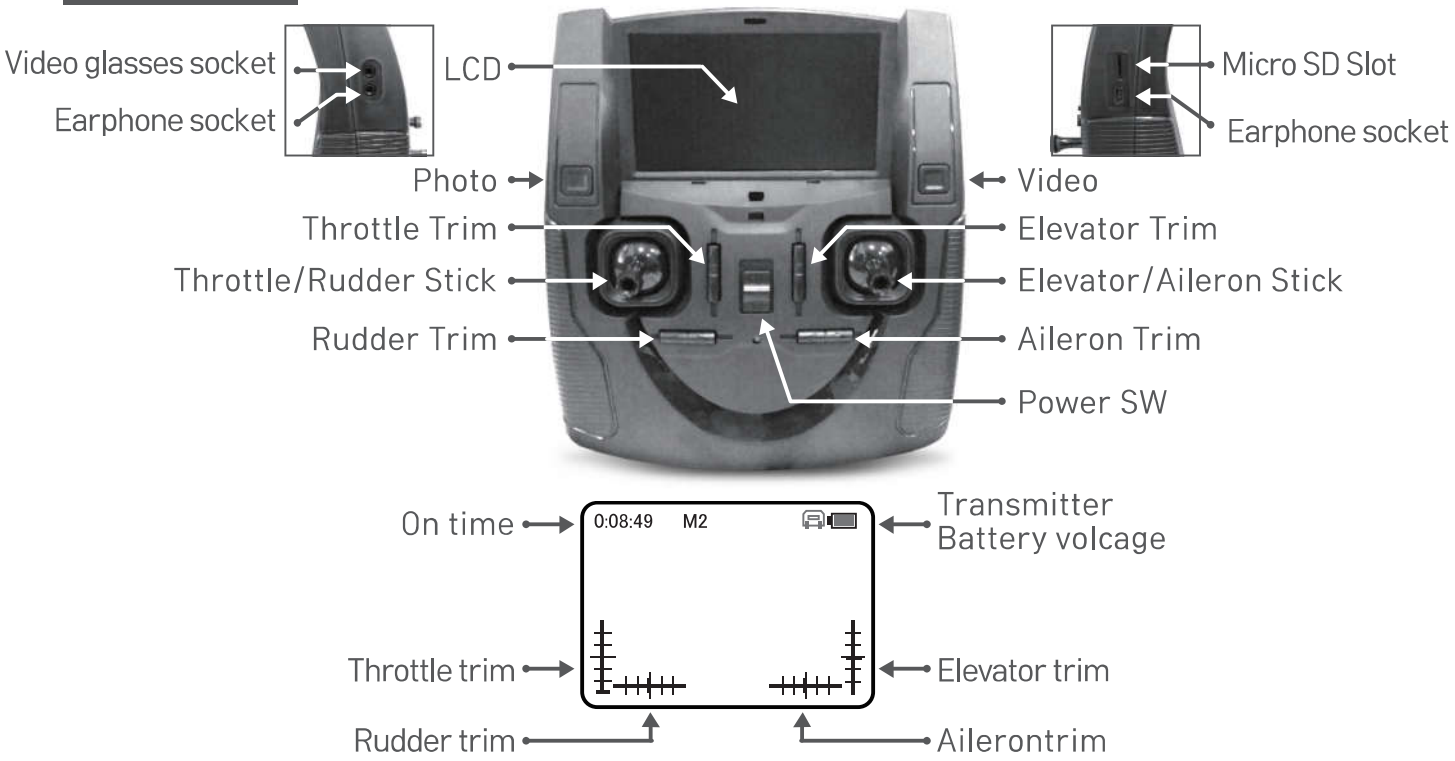


Input Key Function

Throttle / Aileron Stick	Move the stick forward or backward to make Lobit 100F ascend or descend. Move the stick left or right to make Lobit 100F roll left or right.
Elevator / Rudder Stick	Move the stick forward or backward to make Lobit 100F move forward and move backward. Move the stick left or right to make Lobit 100F yaw left or right.
Aileron Trim	Aileron trim adjusts for left and right drift.
Elevator Trim	Elevator trim adjusts for forward and backward drift.
Rudder Trim	Rudder trim adjusts for drift of left and right rotation or yaw.
Throttle Trim	Throttle trim is normally left at neutral. The lower trim turns LEDs on and off.
Power Switch	Push to ON to turn on the transmitter. Push to OFF to turn off.
Photo/Video	Press photo button to shoot a photo. Press video button to start recording videos and press again to stop recording.
USB socket	Only for engineer to upgrade the software , please do not use it to connect to computer.
Video glasses socket	Connect video glasses (not included, needs to be purchased).
Earphone socket	Connect earphone after we upgrade the transmitter, now there is no voice transmission.

MODE 2 Transmitter

Main Menu



Input Key Function

Throttle / Rudder Stick	Move the stick forward or backward to make Lobit 100F ascend or descend. Move the stick left or right to yaw Lobit 100F.
Elavator / Aileron Stick	Move the stick forward or backward to make Lobit 100F move forward and move backward. Move the stick left or right to make Lobit 100F roll left or right.
Aileron Trim	Aileron trim adjusts for left and right drift.
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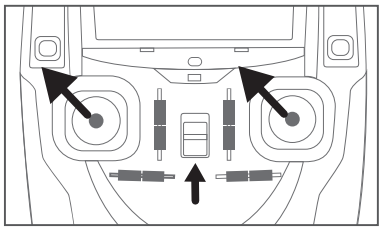
Changing mode and transmitter stick calibration

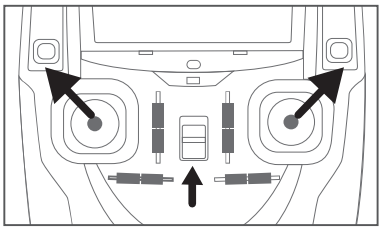
You can change the mode as you like by following the instructions below.

STEP 1



MODE 2

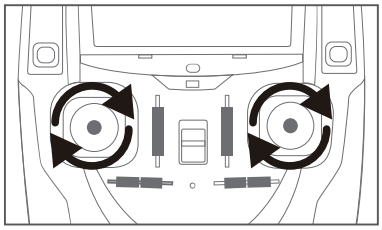
Push both sticks to the upper left position and hold.
Then power on the transmitter.



MODE 1

Push the left stick to the upper left position and right stick to the upper right position and hold, then power on the transmitter.

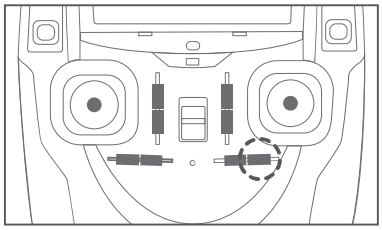
STEP 2



MODE 1 / MODE 2

Rotate both sticks twice.

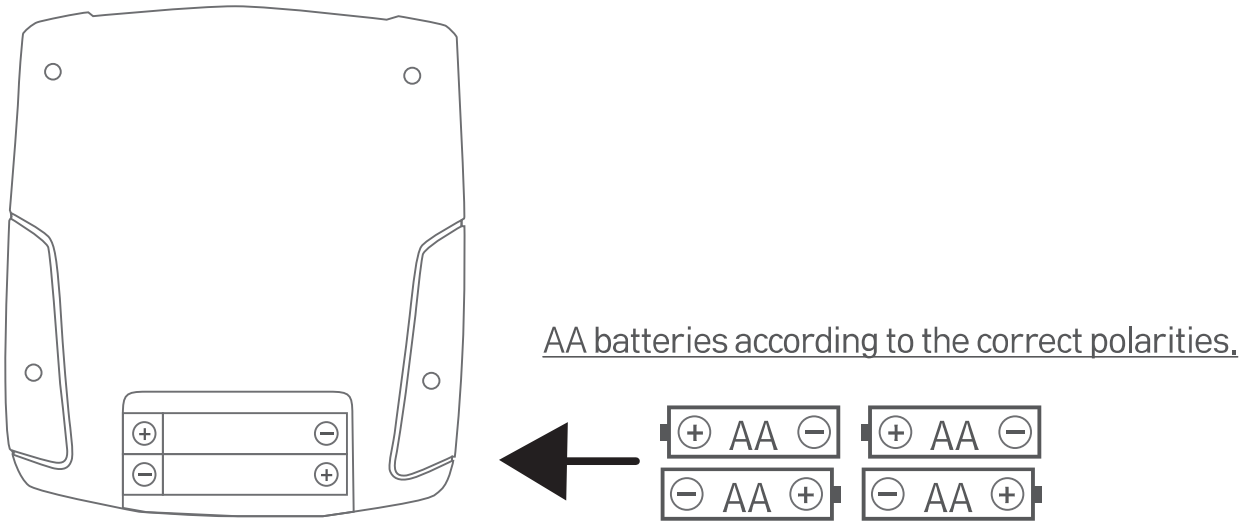
STEP 3



MODE 1 / MODE 2

Hold down any trim until the LED on the transmitter blinks red, indicating a successful calibration.

Transmitter battery installation

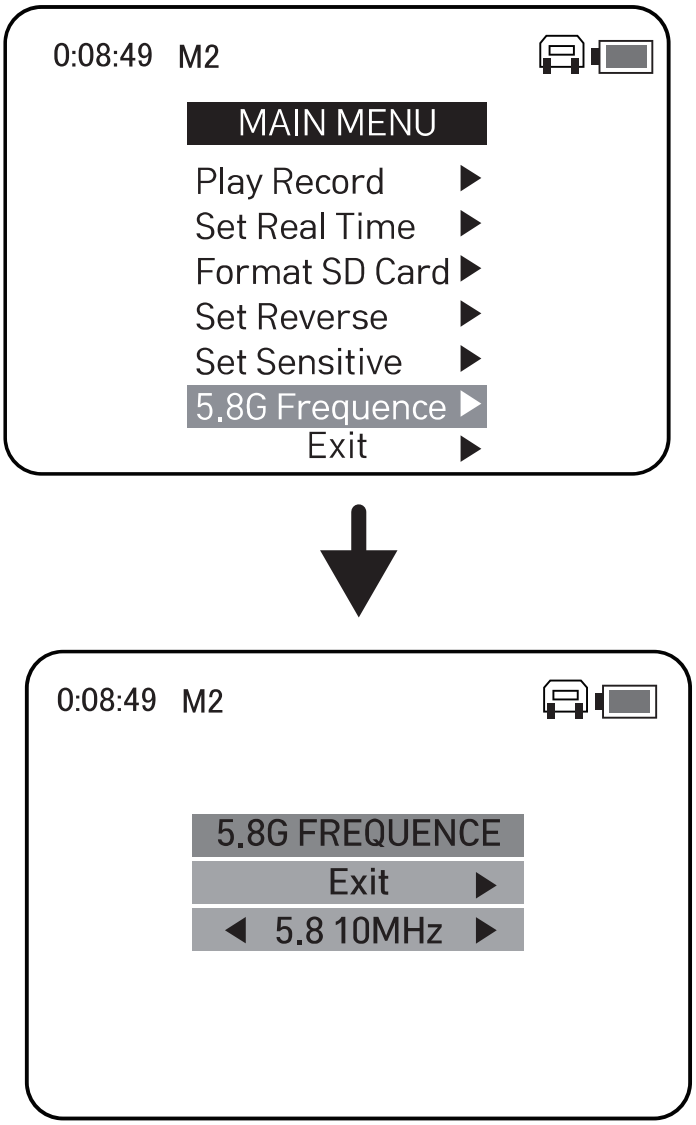


⚠ Notice

- Do not mix old and new batteries.
- Do not mix different types of batteries.
- Do not charge non-rechargeable batteries.
- The video will stop when the transmitter battery is low.
- When the SD card is full, it can't record anymore and the screen will display "SD Full".
- It is best to use a 4G+, and class 4+ SD card. Format in the transmitter before use.
- When the power on the transmitter is low, the red LED will blink quickly and the LCD screen will turn black. The transmitter and Lobit 100F will not bind if the batteries are low. Please replace with new batteries.
- If the batteries in the transmitter are running low while flying the Lobit100F, you will still have control.
  Please land the Lobit100F and then replace batteries in the transmitter.

Frequency Selectable

Your transmitter will automatically find the best frequency to ensure the quality live video transmission. In case there is any interference in your location, you can change the setting from the range 5.725 to 5.875 Ghz to get longer range and better video transmission.



Play Record · Set Real Time · Format SD Card
These three functions will not work on Lobit 100F as they are for other drones.

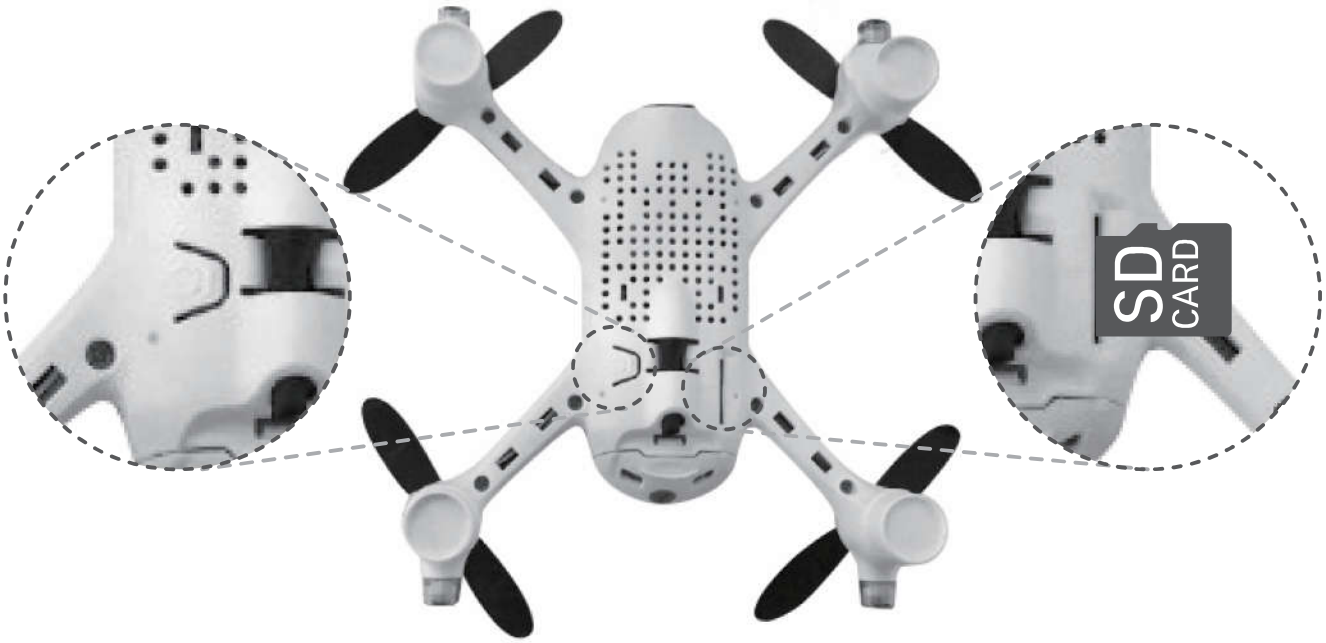
Camera recoding

Always power off the Lobit 100F before inserting or removing the SD card. Always stop the video recording function and power off the battery first, and then you can take out the SD card.

Use Power button to Record Videos

Press the button on the side of the Lobit 100F(near the SD card slot) to start recording. A red light inside the SD card slot will blink and the two red LEDs on the Lobit 100F will blink alternately when recording starts.

Press the button again to stop recording. The red lights will stop blinking and the video will be saved.

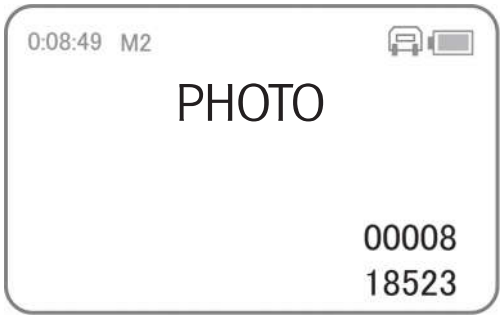


⚠ Notice

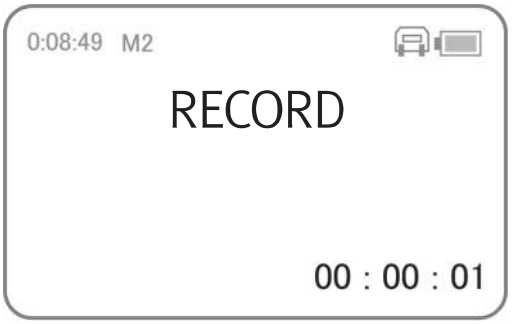
- Pressing the power button for 2 seconds will power off the Lobit 100F.
- Carefully and properly orient the SD card for insertion in the Lobit 100F (see the picture above). Avoid removing the SD card and re-inserting again too quickly otherwise the recording module will not work properly.
- First format the SD card in computer by connecting the quadcopter with the USB cable or use SD card reader.

Use Transmitter button to record videos / Take photos

You can also start recording/ taking photos by using the transmitter buttons. See below.



Press photo button. The blue numbers are displayed in the bottom of the screen and the red LEDs will blink one time. The first line means the number of photos shooted. The second line indicates the left space for photos.



Press the video button. The red recording time is displayed in the bottom of the screen when recording is started and the red LEDs on Lobit 100F will blink alternately.
Press the video button again. The white time Indicates the left recording space.

⚠ Notice

- Power off both the transmitter and the Lobit 100F before inserting or removing the SD card.
- If you don't want to save the video, just power off the Lobit 100F before you press the button again.

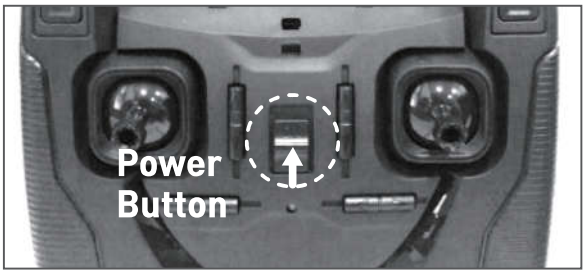
Play the Record

You can play the videos or review the photos by connecting Lobit 100F to computer with the USB cable or use SD card reader.

Fly the Lobit 100F

Power-On Safety Mode

Your Lobit 100F transmitter is designed with a Power-On safety feature that ensures that Lobit 100F motor will not start unless it detects a suitable control signal when the Lipo battery is connected.



Power on the transmitter and the red LED will blink. Do not move any other stick or trim before the transmitter and Lobit 100F finish pairing, or the Lobit 100F will drift. The transmitter LED will turn green after pairing is successfully completed.

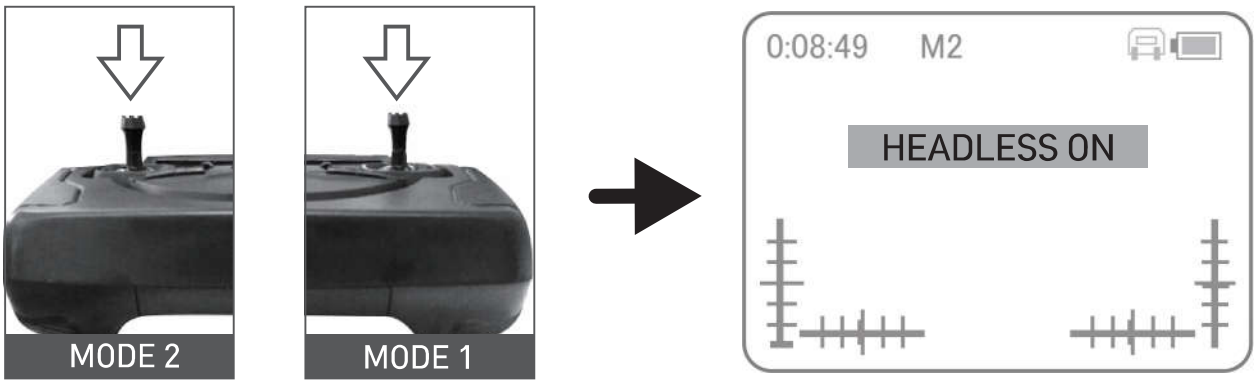
Press the power button under the Lobit 100F. Make sure the battery compartment pushed into the bottom. Put the Lobit 100F on a level surface before flight, or the Lobit 100F will drift.

After a “beep”, the red LED on the transmitter turns green and the red LED lights on the Lobit 100F turn steadily, indicating successful pairing.

Low Battery Alarm : The two red LEDs will blink at the same time and the Lobit 100F will descend and land down automatically to 5 meters or lower from the take off point when the Lobit 100F battery is low.

Headless Mode

Headless mode means the Lobit 100F will default any direction as its head in front of the transmitter. The blue lights on the Lobit 100F will blink and "HEADLESS ON" shows on the LCD screen when the Lobit100F is in headless mode.



Press the throttle stick briefly to switch on/ off headless mode.
Press the throttle stick to enter headless Mode , indicated by two "beeps".
Press the throttle stick again to exit headless Mode,indicated by one "beep".

Start / Stop the motors

When you need to stop the motors quickly you can use both stickers to stop the motors.

〈 Start the motors 〉

Pull the two sticks as the picture shows.
(The right stick to bottom left and the left stick to bottom right)

〈 Stop the motors 〉

Pull the two sticks as the picture shows.
(The right stick to bottom right and the left stick to bottom left)

* You can also use the throttle stick to start / stop the motors. The Lobit 100F will ascend or descend.
* Always stop the the motors before power off the transmitter. If you power off the transmitter first, the motors will keep on for 3-4 minutes and the Lobit will land down slowly.

Controlling transmitter sticks

* To avoid loss of control, always move the transmitter sticks slowly.

Throttle increases /decreases the flying height of your Lobit 100F.
Lobit 100F can hold the altitude in the air.

Push the throttle stick up and the Lobit 100F will rise; Release the stick to the central position, the Lobit 100F will hover automatically and hold its altitude.
Pull the stick down and the Lobit 100F will fall. However, the changes of barometer sensors as well as earth magnetic field sensors may influence your Lobit's altitude.

Rudder rotates Lobit 100F left or right.

Elevator moves Lobit 100F forward and backward.

〈 MODE 2 〉 〈 MODE 1 〉

Aileron moves Lobit 100F left and right.

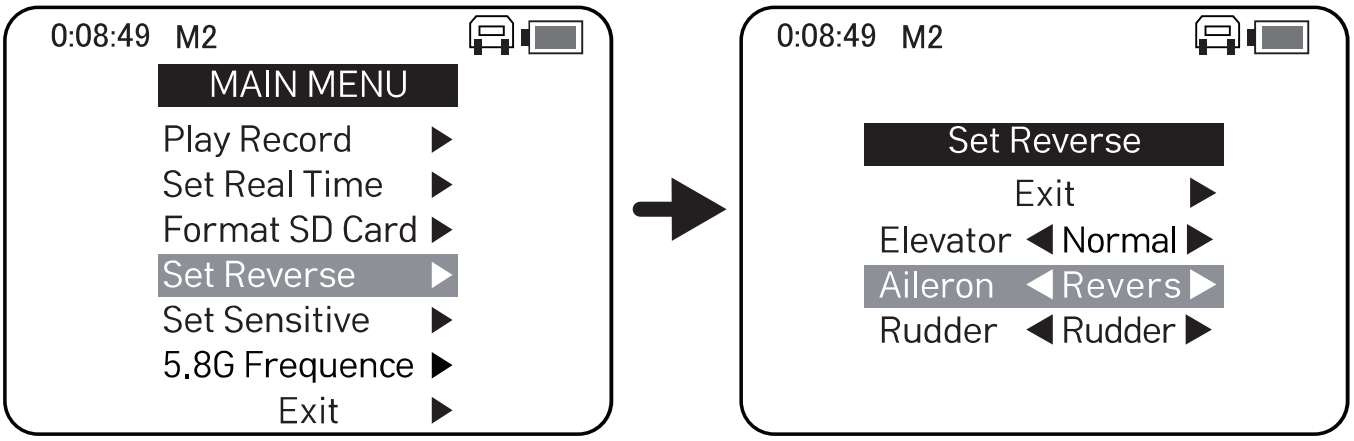
〈 MODE 2 〉 〈 MODE 1 〉

* When you exit the headless mode, controls will appear reversed if the Lobit 100F is flying towards you!

Advanced performance setup

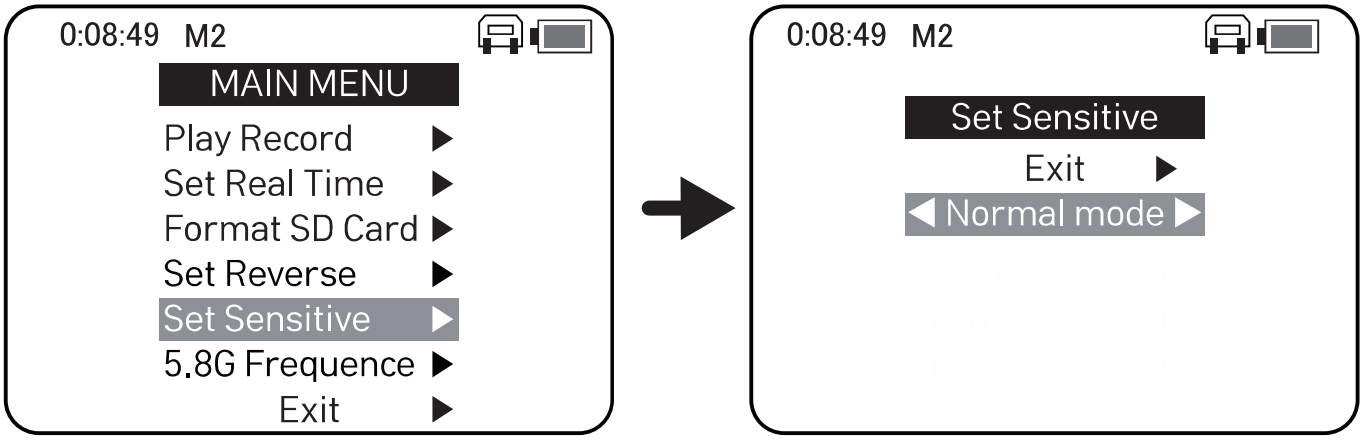
Reversing Channel Setup

If you would like to reverse any of the stick functions due to personal preference then follow the instructions below. Be aware that this will change the controls back to front.
Pull the throttle stick to the lowest position. Press and hold the elevator stick for 1 second to enter setting status, move the stick up/down to choose Set Reverse, push or exit.
Hold down the elevator stick for 2 seconds to exit.



Sensitivity setup

If you would like to change the sensitivity of any of the stick functions, then follow Instructions below. A higher sensitivity value will enable smaller/slower movement.

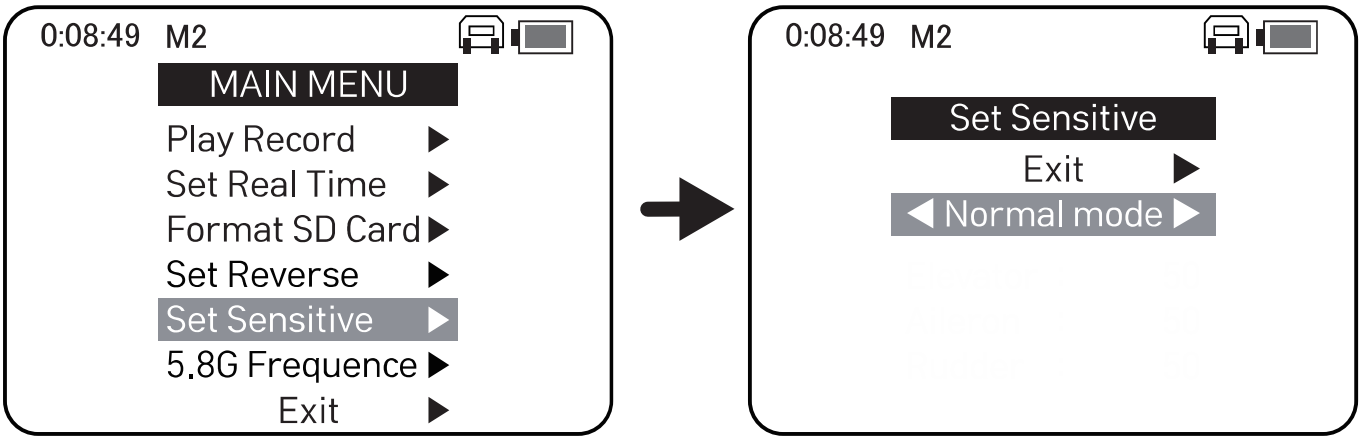


Pull the throttle stick to the lowest position. Press and hold the elevator stick for 1 second to enter setting status, move the stick up/down to choose Set Sensitive, push the elevator stick to the right, press the elevator/ aileron / rudder trim to set the sensitivity. Push the elevator stick to the right to exit. Hold down the elevator stick for 2 seconds to exit the setup menu.

Expert Mode

In expert mode, the sensitivity can be adjusted even further (up to 100) to give the user even more ability to maneuver the aircraft. Follow instructions below to switch this on/off.

Pull the throttle stick to the lowest position.
Press and hold the elevator stick for 1 second to enter setting status, move the stick up / down to choose Set Sensitive, push the elevator stick to the right, choose Normal mode, push the elevator stick to the right to enter into the expert mode, press the elevator/ aileron / rudder trim to set the sensitivity. Push the elevator stick to the right to exit this set. Hold down the elevator stick for 2 seconds to exit.



Aerial flip

Press and hold down the throttle stick for 1 second to enter flip mode, indicated by “beeps”. The beeps will last for 2 seconds. In this 2 seconds, push the accordance sticks to perform the flips.

– Left Flip –
Push the aileron stick to the left. Release the stick to the center position after the flip.

〈 MODE 2 〉

〈 MODE 1 〉

– Right Flip –
Push the aileron stick to the right. Release the stick to the center after the flip.

〈 MODE 2 〉 〈 MODE 1 〉

– Forward Flip –
Pull the elevator stick forward. Release the stick to the center after the flip.

〈 MODE 2 〉 〈 MODE 1 〉

– Backward Flip –
Push the elevator stick backward. Release the stick to the center after the flip.

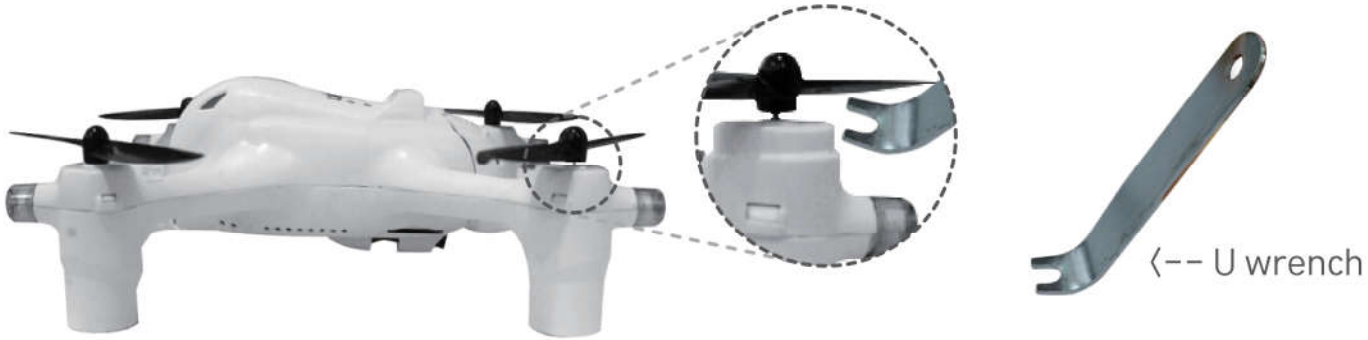
〈 MODE 2 〉 〈 MODE 1 〉

* When the Lobit 100F battery is low, performing flip is not possible.

Replacing propellers

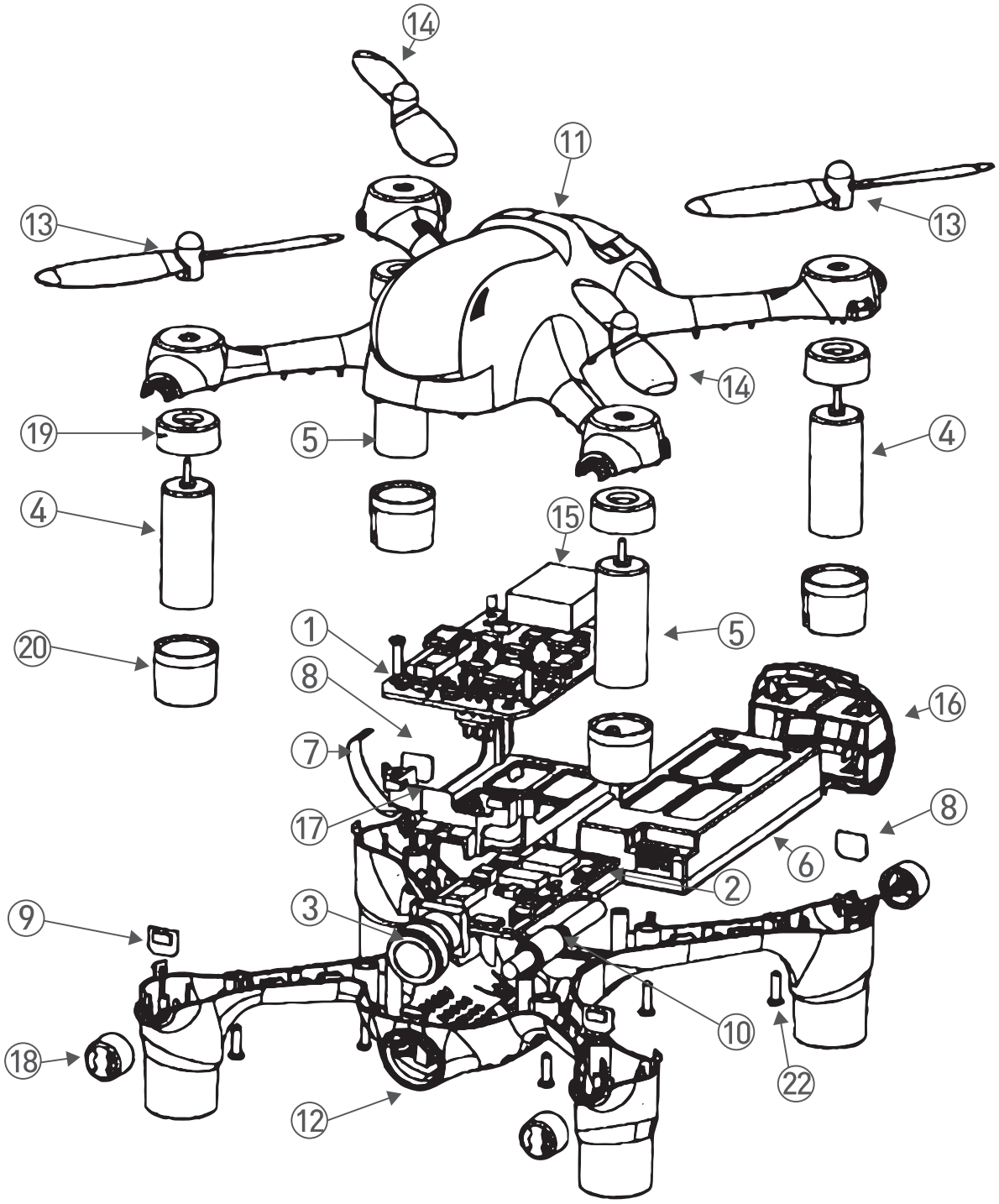
The Lobit 100F propellers are not identical. Each propeller is labeled with an 「A」 or 「B」.
When installing replacement propellers, be sure to install as shown below.
The Lobit 100F will not fly but will flip and crash If the propellers are not installed correctly.

Remove Propellers : Hold the propeller, insert the U wrench under the propeller, pull up and the propeller will easily come off the motor shaft.



Install Propellers : Pinch the propeller hub, align the hole to the motor shaft and press straight down firmly but gently.

Exploded View



No.	Part Name	QTY
1	PCBA Receiver board	1
2	5.8GHz TX camera module	1
3	1080P camera module	1
4	820motors(clockwise)	2
5	820motors(counterclockwise)	2
6	Lipo battery (3.7V 529mAh)	1
7	FFC video cable	1
8	RedLED light cable	2
9	Blue LED light cable	2
10	5.8GHz antenna	1
11	Upper shell	1
12	Lower shell	1
13	Black Propeller A	2
14	Black Propeller B	2
15	Barometer sponge	1
16	Battery compartment cover	1
17	Battery compartment	1
18	Transparent LED hood	4
19	Motor upper rubber set	4
20	Motor lower rubber set	4
21	Screw	4
22	Screw	8

Troubleshooting

1. Transmitter and Lobit 100F do not pair.

Power on the Lobit 100F after the transmitter shows “Bind to Plane”.
Bring the transmitter close to Lobit 100F during biding. Make sure you do not move the transmitter sticks or trim during initial power-on.

2. Transmitter LED suddenly goes out.

Replace the AA batteries in the transmitter.

3. Trasmitter display is not showing the setting interface after holding down the Elevator stick for2 seconds.

The throttle stick needs to be in the fully down position.

4. Gyro is not working well.

(1) Battery voltage is too low.

(2) Pair the Lobit 100F with the transmitter again.

(3) Land the Lobit 100F with the throttle stick in the fully down position for 3 seconds and then take off again.

5. Lobit100F won’t perform flips.

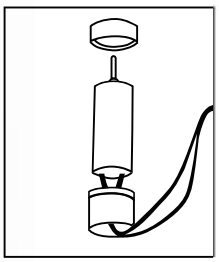
(1) Press and hold down the throttle stick for 1 second to enter into flip mode. Do the flip when the transmitter “beeps”.

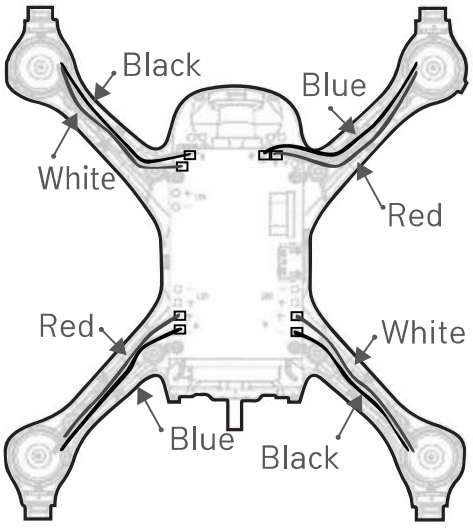
(2) Lipo power is too low. Recharge the Lobit 100F.

6. Lobit 100F is shaking and making noise.

Check that the motors, canopy, body and propellers are all properly positioned.

〈 Top View 〉





〈 Bottom View 〉

7. Can not take off.

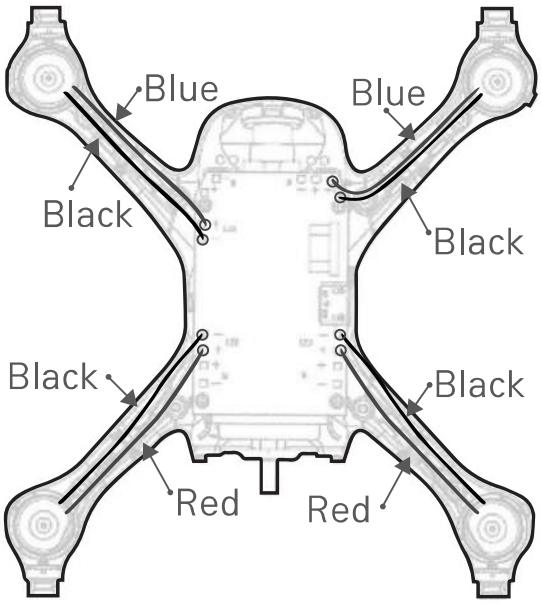
(1) Make sure the propellers are installed correctly.
The propellers are marked with "A" (clockwise) and "B" (counterclockwise).
Refer to the Top View picture below for the correct orientation.

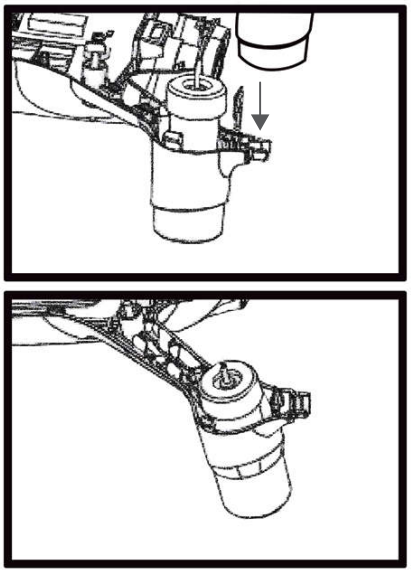
(2) Make sure that each motor is installed correctly. There are two different motors with different motor wire colors. Refer to the Bottom View picture below for the correct order.

8. Removing and installing LEDs

Removal : Unscrew and remove the upper shell and the motors.
Then desolder the thinner LED wires.

Instalation : Solder the red/ blue wire onto the anode / positive (+) lead of the LED, and the black wire on to The cathode / negative (–) lead of the LED.
Press the LED wires into the leg slots, then press the motor wires Into the leg slots.
Install the upper shell by screws. You can tell apart the color of the LED lights by the color of the LED wire; red wire is the red LED, blue wire is the blue LED.





9. The motors do not spin freely after a crash.

Press the shaft down from the top of the propeller and motor to remove any objects, or replace the motor.

10. One or more motors stop working.

(1) Spin the propellers to see if jammed the motors, make sure the propellers can spin normally.

(2) Resolder any broken motor connections.

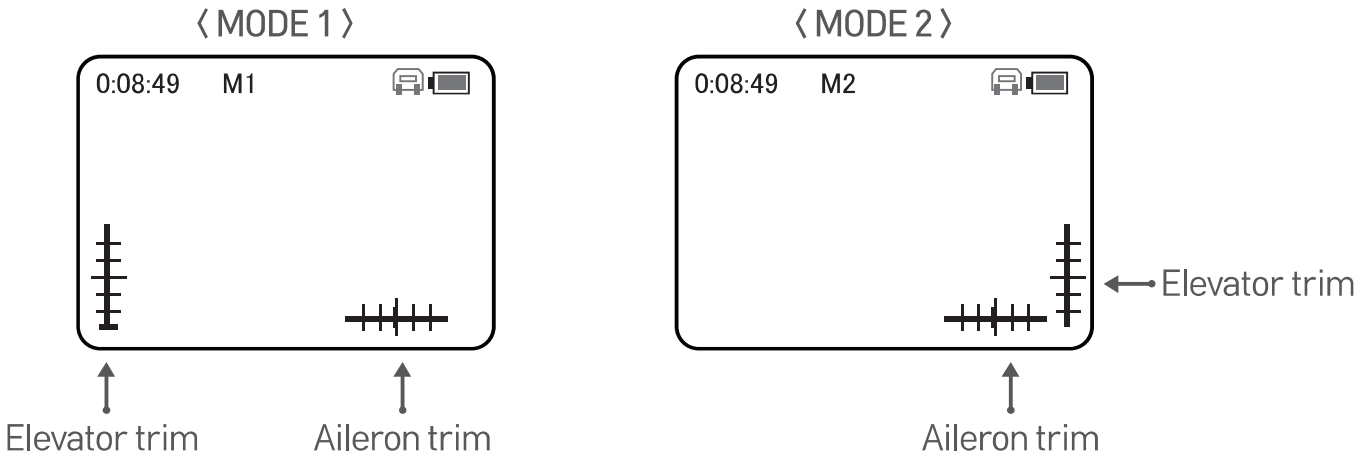
(3) Replace the motor.

11. The Lobit 100F always drifts to one direction.

Calibrate the accelerometer as follows

(1) Before calibrating the accelerometer, make sure that the propellers, motors and body are in good condition with the battery fully charged.
Ensure that the battery compartment installed correctly.
Pair the Lobit 100F and transmitter, then put the Lobit 100F in expert mode.

(2) Set both the aileron and elevator trim to the middle so that the LCD displays 50.



(3) Pull the Throttle stick fully down and move the Rudder stick to the lower right position. Quickly move the Aileron stick to the left and right repeatedly until the two headlights blink, indicating successful calibration.
This calibration will reduce excessive drifting when doing level yaw turns.

〈 MODE 1 〉 〈 MODE 2 〉

(4) If the Lobit 100F still drifts to one side, add a few sheets of paper(the number of sheets will vary depending on the amount of drift)to the side of the Lobit 100F that drifts. The paper will help counter balance and create a level offset angle.

12. The video is not being saved to the SD card.

Always stop the video recording function then power off the battery, after that you can take out the SD card. Always power off the quadcopter before inserting or removing the SD card. This allows the memory to be properly saved to the SD card.

13. The transmitter will not power on.

Check the battery connection.
If the transmitter battery power is low, you will need to replace with new AA batteries.

First Person View(FPV)instructions

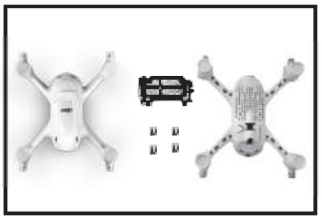
For those just starting FPV with the Lobit 100F, please start slowly and use the following guidance.

1. Learn how to fly the Lobit 100F and maintain control both indoors and outdoors at an altitude no higher than 10 feet before you advance to FPV flight and higher altitudes.
   A large part of being successful in FPV is training your fingers and brain to know how the model will respond with your inputs so you can predetermine your stick movements.
   It is very different to look at an LCD or goggles and determine hover, altitude and speed.
   You will need to visually correlate and remember how the model reacts with stick movements and also the differences of those movements when in no wind and windy conditions.

2. When flying indoors or outdoors, allow for plenty of free space with no couches, tables, trees buildings or other objects that you might fly into.
   A large area with soft grass is a perfect outdoor area to learn to fly.
   An asphalt parking lot is a terrible place to learn to fly. It is recommended that you use safety spotter for your FPV flights!

3. First learn to master hovering, then master flying a square or rectangular pattern by recognizing features that are picked out before you begin your FPV flight.

Spare part Chart

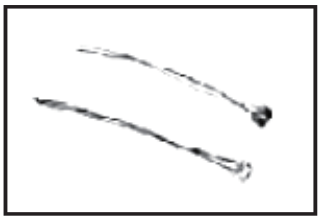


Body Shell
Product Code : T01F01

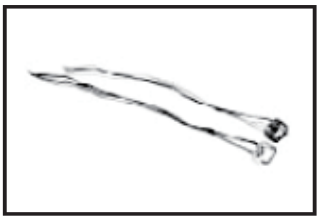
Propellers
Product Code : T01A01

Motor
Product Code : T01A02

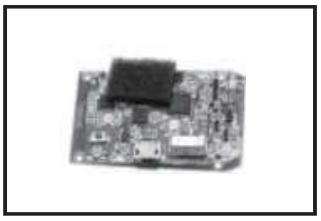
Battery set
Product Code : T01F02



Blue LED
Product Code : T01A03

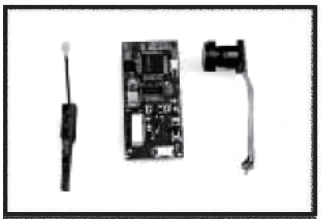


Red LED
Product Code : T01A04

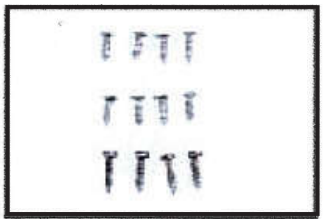


Receiver PCBA board
Product Code : T01A05

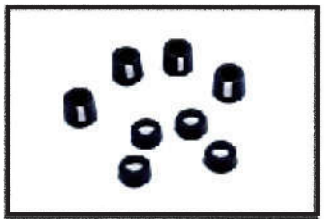
Transmitter
Product Code : T01F07



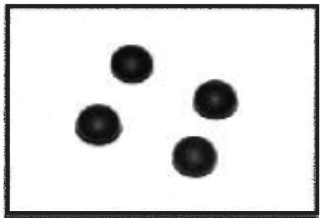
5.8GHz Transmitter Camera module
Product Code: T01F03



Screw set
Product Code : T01F05



Motor sleeve set
Product Code: T01A06



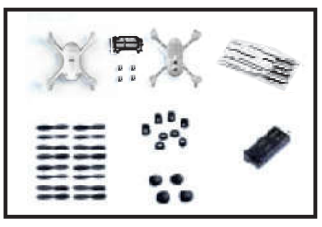
Rubber feet
Product Code : T01A07

FFC video cable
Product Code : T01F04

charger
Product Code : T01A08

U wrench
Product Code: T01A09

LiPo battery charger
Product Code: T01A10



Crach pack
Product Code: T01F06

FCC Statement

NOTICE;
This device complies with part 15 of the FCC Rules
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

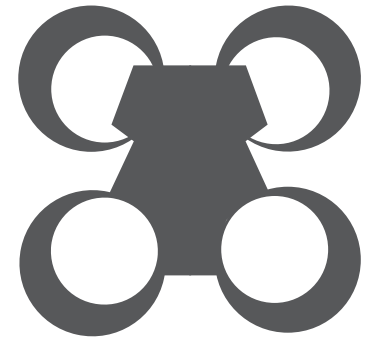
Product warranty

Thank you for choosing Lobit 100F.
Please read the instruction manual carefully before use.
Free repair may not be provided if you do not have this warranty.
Warnings and precautions in this instruction manual are provided to keep your safety and to prevent any property damages. If any problem happens, please read the instruction manual.
You can also make an inquiry by visiting stores, agencies and service centers.
Damages which are made while your Lobit 100F is being used properly as the manual instructs, can be repaired for free under product warranty period which lasts for 3 months.

Product warranty period : 3 months after initial purchase
Inquiry : 82)70-5066-4097
Service Center : 82)70-5066-1232
Home page : www.lobit.co.kr
Company address : D-1004, Smartyvalley, Songdomirae-ro 3, Yeonsu-gu, Incheon, Korea.

All the warnings and precautions given in the instruction manual are provided to prevent any accidents, property damages and etc. from happening. Therefore, please read the instruction manual very carefully before use. Keep the instruction manual where it can be easily reached and found. If any problem is found during use, refer to the instruction manual or please make an inquiry to agencies, vendors and service centers. If Lobit 100F is broken while it is being used properly as the instruction manual states, free repair will be provided under product warranty period which lasts for 3 months.

You can make after-service inquiries to **www.lobit.co.kr**



WWW.LOBIT.CO.KR

Serial Number