

QX-20

Auto-Pathfinder 6 - Axis System

USER MANUAL

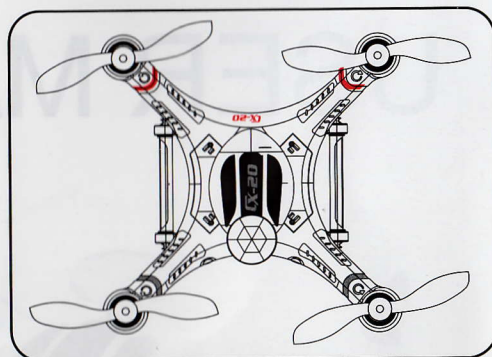
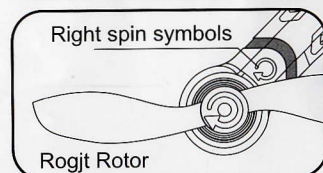
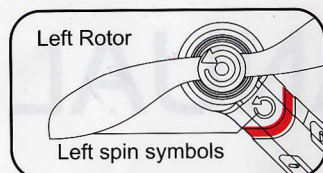


(D)

Assembly instruction

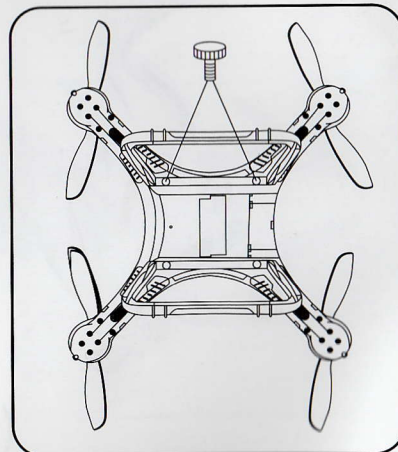
1. Loading the propeller

- (1) Prepare the propeller
- (2) The side which has the rotating mark on the propeller should be loaded with the face upward. When assembling, please make sure the rotating mark on the blade should be consistent with the rotating direction of the engine on the loading position.
- (3) Use the hexagonal wrench included to wrench tightly the decoration cap of the engine. Please note that the black decoration cap should be tightly twisted in anti-clockwise direction and the silver decoration cap should be tightly twisted in clockwise direction.



2. Assemble the tripod and fixing antenna

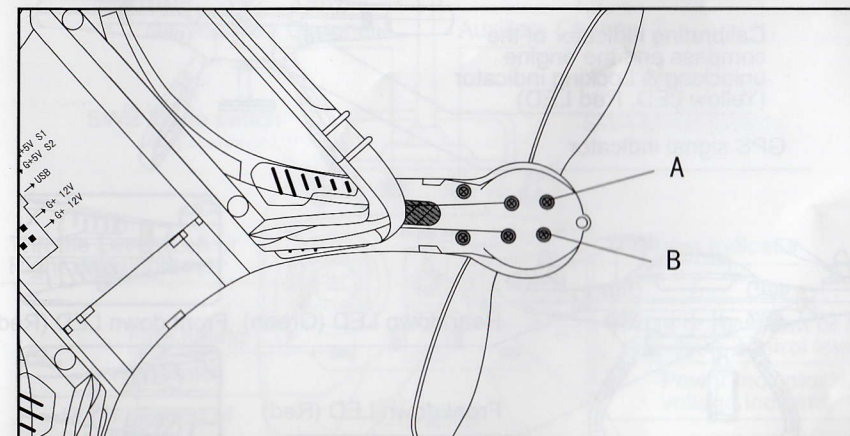
- (1) Prepare the aircraft and the tripod
- (2) Load one side of the tripod on the antenna hole on one side of the main body with antenna. Finally fix the tripod with tripod screws.
- (3) Follow the instruction mentioned above, please fix another side of the tripod on the main body of the aircraft.
- (4) Lock the antenna on the tripod fixing area. Use 3M transparent tape to fix the antenna on the tripod.



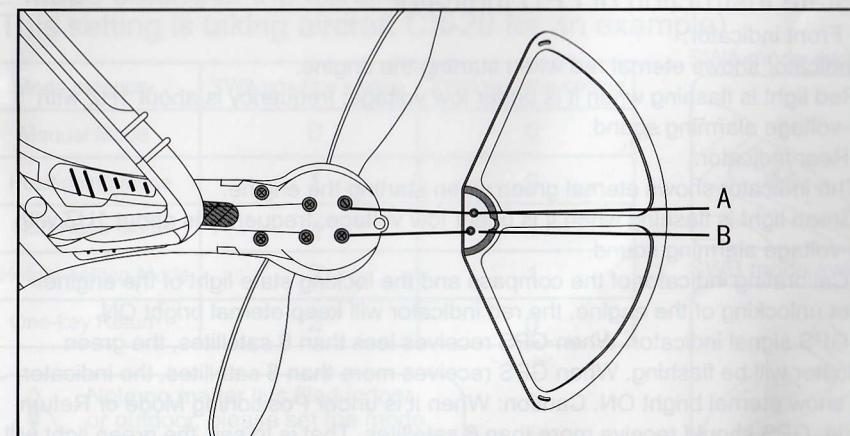
Assembly Instruction

3. Assembly instruction on the protecting ring (this part needs to be bought separately)

- (1) As picture 1 shown, please disassemble the A•B screws under the motor.

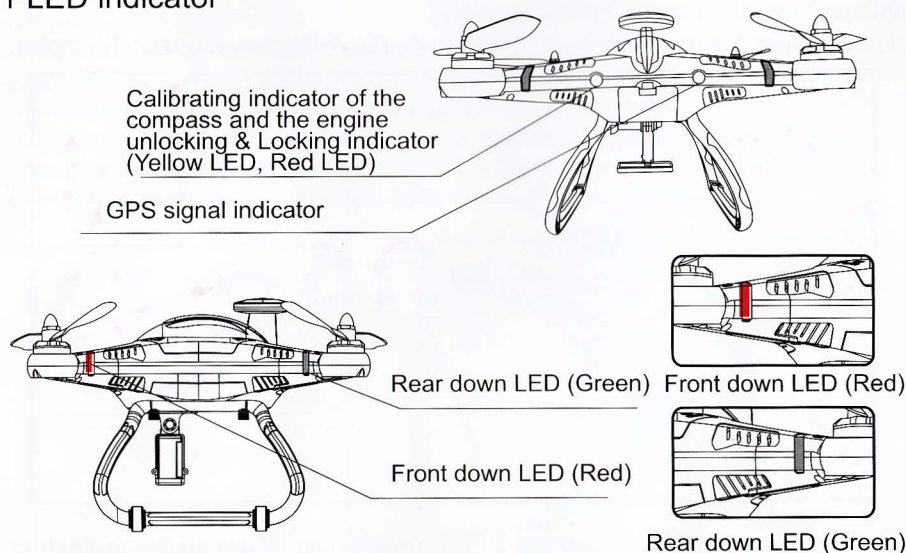


- (2) As picture 2 shown, insert the 2 PCS positioning pillars on the protecting ring into the screw position "A•B" under the engine, then fix it with the screws (size 3X12) that matched with the protecting ring.



2. Instruction and state instruction of the aircraft indicator

1 LED indicator



2. State instruction of LED indicator

(1) Front indicator:

- Indicator shows eternal red when starting the engine.
- Red light is flashing when it is under low voltage; frequency is about 1HZ with low-voltage alarming sound.

(2) Rear indicator:

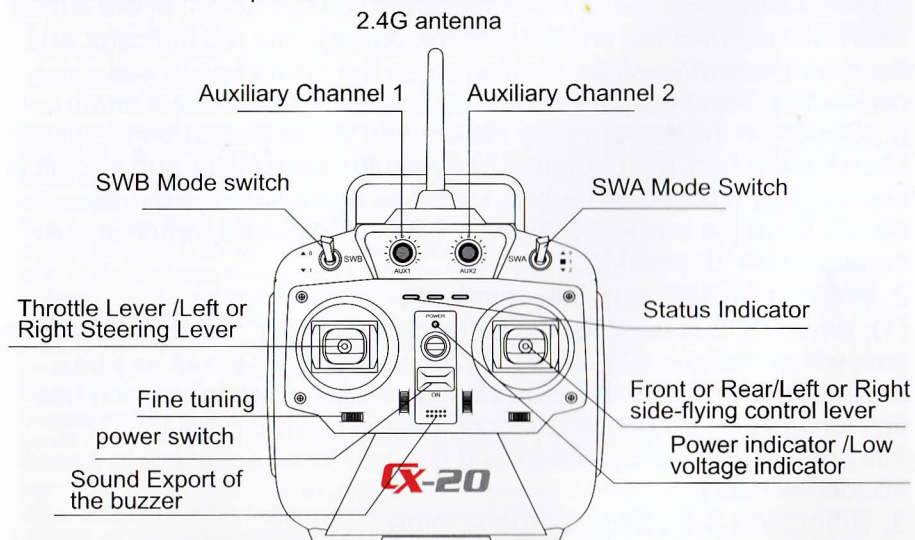
- The indicator shows eternal green when starting the engine.
- Green light is flashing when it is under low voltage; frequency is about 1HZ with low-voltage alarming sound.

(3) Calibrating indicator of the compass and the locking state light of the engine. After unlocking of the engine, the red indicator will keep eternal bright ON.

(4) GPS signal indicator: When GPS receives less than 6 satellites, the green indicator will be flashing. When GPS receives more than 6 satellites, the indicator will show eternal bright ON. Caution: When it is under Positioning Mode or Return Mode, GPS should receive more than 6 satellites. That is to say, the green light will keep eternal bright ON.

Function of the transmitter and regular setting (take the left-hand for example)

1. Introduction of the panel of the transmitter



2. Mode setting of the transmitter

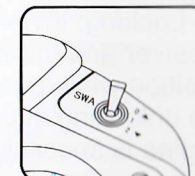
(This setting is taking aircraft CX-20 for an example)

Mode category	SWA position setting	SWB position setting
Manual Mode	0	0
Positioning Mode	1	0
Non-Nose Mode	1	1
Height-setting Mode	2	1
One-key Return	2	0

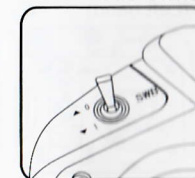


Note: no matter it is flied indoor or outdoor, please set the mode switch on Manual Mode.

SWA mode switch



SWB mode switch



Basic flying operation

1. Decoding

(1) Please load the battery into the battery compartment of the aircraft. Then well connect the aircraft with the battery. The red indicator and the green indicator will be flashing when the power line is well connected. This time please DO NOT move or shake the aircraft.

(2) Switch on the power of the transmitter. When the starting reminding sound is finished, the decoding between the transmitter and aircraft is successfully finished. <Caution 1. Please make sure the throttle should be at the lowest position. 2. SWA, SWB mode switch should be placed on "0" position.>

2. Waiting of GPS satellite-receiving

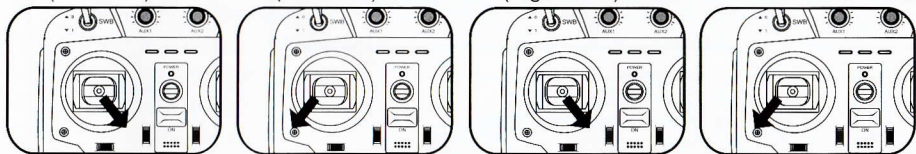
(1) When GPS is used for the first time in outdoor, the signal searching time will get longer. It takes about 2 minutes. Please wait and be patient. Please wait until LEDlight shows eternal bright can you use this function.(2) When flying indoor, please DO NOT use the GPS function (i.e. Positioning Mode and Return Mode) so as not to cause accidental injury.

3. Unlocking & Locking of the engine

(1) Unlocking: When decoding is successfully finished between the receiver and the transmitter, please pull the throttle lever to the lowest position while push the steering lever to the rightest side. Wait until the unlocking indicator gets eternal red, that represents unlocking of the engine is finished successfully.

(2) Locking: When the decoding is successfully finished between the receiver and the transmitter, please pull the throttle lever to the lowest position while pushing the steering lever to the leftest side. Wait until the unlocking indicator get flashing red, that means locking of the engine is successfully finished.

Unlocking of the engine (Left hand) Unlocking of the engine (Left hand) Unlocking of the engine (Right hand) Locking of the engine (right hand)



Basic flying operation

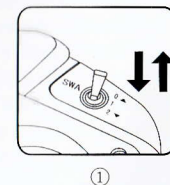
4. Calibration of the compass

When you conduct the initial flying on the new ground, please make sure calibrating the compass first. Only when you have calibrated the compass well can you make sure the normal returning voyage function of the aircraft.

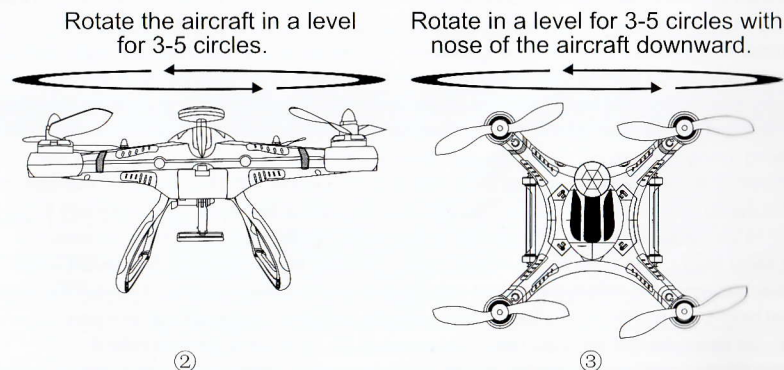
1. Calibrating steps:

(1) Pull the throttle lever to the lowest and then pull the SWB and SWA switch to "0" position to switch on the power of the aircraft (This time please DO NOT move or shake the aircraft) and then switch on the power of the transmitter. After several seconds, you will see the red indicator and green indicator flashing.

(2) When finish the steps above, please quickly pull the "SWA" Mode Switch from "0" to "2" position and then to "0" position as the picture ① shown. When the indicator on the left side of the aircraft turns into yellow, it means that it has already entered into the state of compass calibration.



(3) Then rotate the aircraft in a level to the same direction (as picture ② shown) (watch carefully the yellow LED indicator on the left side). Wait until the yellow LED indicator turns into slow flashing state, please rotate the aircraft into vertical 90 degree and fly in a level and in an constant speed toward the same direction.(As picture ③ shown). When the LED indicator turns into red flashing light, please place the aircraft in a level on the ground, this time please switch off the aircraft. The aircraft will automatically preserve and calibrate the data. Just reload the battery and re-decode it and you can conduct normal flying (If both of the yellow and red LED light are ON in the same time, that means the calibration is failed and you need to re-calibrate.) Note: Please make sure the calibration should be far away from any metallic object. Calibration instruction should be subject to the LED light on the left side.



5. Switch operation of the flying mode

(1) Manual Flying Mode: Place the switch of the SWA flying mode on "0" position, wait until the engine finish unlocking and then push the throttle control lever. This time you can make some normal cruising actions like flying FORWARD/BACKWARD, ASCENDING/DESCENDING, LEFT-SIDE FLYING/RIGHT-SIDE FLYING, TURN-LEFT/TURN-RIGHT, etc.

(2) Positioning Mode: When flying to a certain height by manual, please place the SWA mode switch on "1" position. When SWB is placed on "0" position, this time the aircraft will go into hovering state. Place the throttle lever to neutral position, the aircraft will keep the current height and position. <Caution: 1. When flying under the Positioning Mode and GPS signal indicator keeps eternal bright state, it means that it is under good signal. 2. The positioning is a comparative concept and the aircraft also has some movement in a certain area with the wind force and weather condition. Therefore, appropriate safe room should be kept when conduct this operation. 3. Under the positioning mode, the throttle lever should be placed on the neutral position. When the throttle lever is in the neutral position, the transmitter also has reminding sound of "Di, Di" to let you control it better.

(3) One-key Return Mode: When you need to cruise back, please place the SWB mode switch on "0" position first, then place the SWA mode switch on "2" position. This time the aircraft will be cruising back along the line between the starting point and returning point. When cruising back, if the height of the returned cruising point higher than 15 meters, the aircraft will be cruising back according to the current height. If it is less than 15 meters, the aircraft will be still ascending till 15 meters' height and then cruising back. <Caution: 1. When operating One-key Return, please make sure the indicator of the GPS signal should be in the state of eternal bright ON, that means it is under good signal. 2. It is highly suggested that switch firstly to the Positioning Mode when cruising back and only when the aircraft can be flying in stable state can you start cruising back. 3. When cruising back to the starting position, the aircraft will lock automatically. If you need to restart the engine, please place the switch of SWA mode on "0" position and then unlock it. 4. When you need to conduct action of One-Key Return, please do make it before unlocking and make sure the green indicator should be in the state of eternal bright "ON".

(4) Non-nose Mode: During the normal flying process, please place the SWA switch on "1" position first, then place the SWB switch on "1" position and then control the operating lever. This time if you push forward the FORWARD/BACKWARD control lever, the flying direction of the aircraft won't fly forward as per the nose direction but following the flying direction of the nose when it is unlocked. As for the other direction, it follows the same working principle. <1. For the green hand, we do suggest not to use this flying mode. When starting this function, the aircraft can still cruise back safely even in the event of long distance or not good sight view. This mode should be operated by the senior technician who has some experience in this regard. 2. When starting this function, the aircraft can still fly back safely when flying a long distance or under the condition of poor view sight.

(5) Height-setting Mode: Please switch the SWB switch to "1" position first when taking off manually, then place the switch of SWA on "2" position. This time you can control the throttle lever manually to get the right height you need and then set the throttle to the neutral position, the aircraft will still keep the current same height. Under the height-setting mode, operating the control lever, the aircraft will fly forward or backward, left-side flying or right-side flying as per the preset height. <1. Under the mode of preset height, the throttle should be placed on neutral position. If the throttle lever is on the neutral position, the transmitter will send out reminding sound of "Di, Di" so as to better control it.

2. Height-setting is comparative and the aircraft will have a certain height of fluctuation with the wind force and weather condition in real operation. Therefore, before operating this product, please make sure that you can find an appropriate safe height.

(6) Safe-fail Return: When the aircraft loses the control signal, the aircraft will enter into Safe-fail Return Mode, the aircraft will automatically fly back and land on the position where it is unlocked.

(7) Clear of the Safe-fail Return Mode: When the aircraft has already executed the Safe-fail Return Mode and the aircraft also can be cruising back to the visual scope, this time you can stop executing this mode. Please carry out the following operation on the switch key under the SWA Mode.

- When the aircraft enters into the Safe-fail Return Mode and the SWA key is on "0" position, the clear method can be as follows: Push the throttle lever to the middle "SWA" switch. After pulling it to "1" position, please switch it to "0" position. Then you can clear the Safe-fail Return Mode.
- When the aircraft enters into the Safe-fail Return Mode and the SWA key is on "1" position or "2" position, the clear way can be as follows: First of all, please push the throttle lever to the middle "SWA" switch and then pull it to "0" position, then switch to "1" position and then switch it to "0" position. Then you can clear the Safe-fail Return Mode.

Caution: <1> For the green hand or Junior Level, it is highly suggested that you'd better only use the Manual Flying Mode, Positioning Mode and One-key Return mode. Also only use the SWA mode switch. <2> Every time you fly this model, please make sure it should be under the Manual Mode.

Low voltage alarming protection of the aircraft

- Low voltage protection is equipped in order to protect the aircraft from being crashed or avoid any severe accident happening when the voltage of the aircraft is too low.
- Under the GPS Mode, in the case that the throttle lever is in the middle position, however, the aircraft is still under the state of falling, this reminds you of insufficient power with the aircraft (this time please be careful when flying.) This time just pull the throttle lever to the middle up position.
- Usually it will have safe-flying time for about 1-2 minutes when entering into low-voltage. Therefore, the operating personnel should timely adjust the flying distance and get ready for cruising back safely.

Low Voltage Protection of the transmitter

- Low Voltage Protection is equipped to prevent the signal from being interrupted when there is too low voltage with the transmitter.
- When the transmitter enters into Low Voltage, the buzzer will send out alarming sound of Di, Di while the power indicator will be flashing slowly.
- Please timely replace the batteries when alarming sound appears.

Solution to common problem

Common problem	Solution
Make circling when positioning.	(1) Too weak GPS signal. Please change to the spacious flying area and calibrate the compass. (2) Please fly manually for about 3-5 minutes and the system will automatically get the magnetic deviating angle and go ahead with the flying control.
The engine can not start.	(1) SWA mode switch is not placed on "0" position. (2) Voltage is too low, please replace the batteries.
Aircraft can not be ascending.	Please confirm if the blade is loaded upside down or not. If upside down, please reload it as per the correct direction indicated.
Cruising-back is not precise.	GPS signal is too bad. Change to another spacious flying area or re-calibrate the compass.
The aircraft can not make hovering or landing.	Re-lock it and then reload the battery and wait for a couple of seconds, only when the red or green indicator keeps flashing can you move the aircraft.
It can not be unlocked.	Too long interval during the period of decoding, SWA mode switch fails to be placed on "0" position. Please re-decode or re-calibrate the transmitter.

Calibrating method of the transmitter

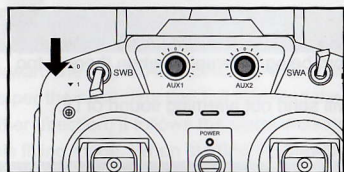
1. Preparation before calibrating

(1) Place the mode switch "SWA SWB" of the transmitter to "0" position with knob gap of the auxiliary channel "AUX1 AUX2" pointing at "0" position. Adjust the direction trimmer to the neutral position. (As for the judging method for neutral position of direction trimmer, Please push the trimmer in two direction under the state of the switching on the transmitter. When you hear a long sound of "Di", that represents it is in the neutral position. If not, please keep pushing the trimmer until it sends out sound of "Di, Di, Di". The hurrying sound of trimmer has been adjusted to the maximum. If you need weaker sound, please adjust the volume in the opposite direction.

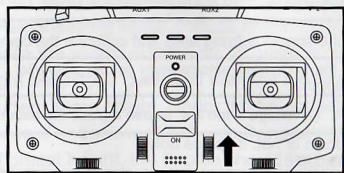
2. Finish the actions above.

(2) Pull the Mode Switch "SWB" to "1" position. The throttle is placed in the middle position (50%). Push it upward to the trimmer (as picture 1 shown). Switch on the power of the transmitter, indicator for the 3 modes will keep eternal bright ON, then push the control lever on both sides of the transmitter to the maximum and keep rotating in any direction (as picture 2 shown). After rotating for 2 circles, pull the throttle back to "neutral" position (50%), two direction of auxiliary channel "AUX1 AUX2" are rotated to the maximum and then placed back to the middle position, finally the mode switch "SWB" is pulled back to "0" position and wait until hearing sound of "Di", thus the calibration is finished.

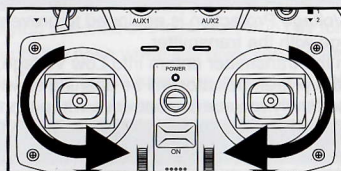
Pull the mode switch "SWB" to "1" position.



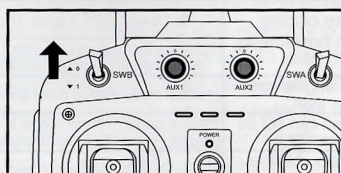
also the throttle is placed in the middle position (50%).



Push the control lever on both sides of the transmitter to the maximum and keep rotating in any direction (as picture 2 shown). After rotating for 2 circles, the throttle is placed to the neutral position (50%).

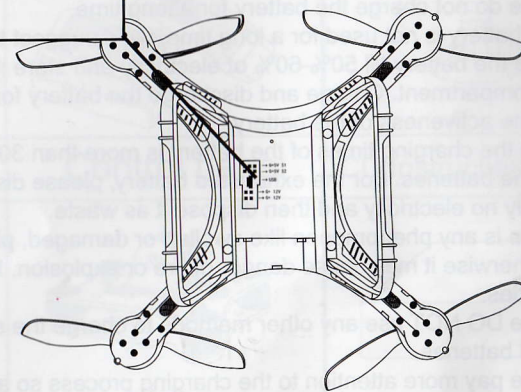
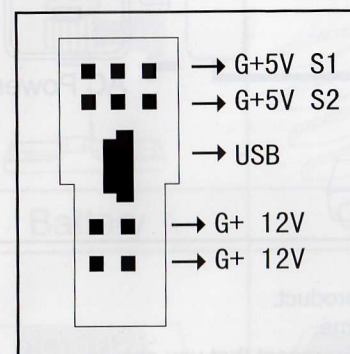


Pull the mode switch "SWB" to "0" position.



Port introduction of the transmitter and the instruction

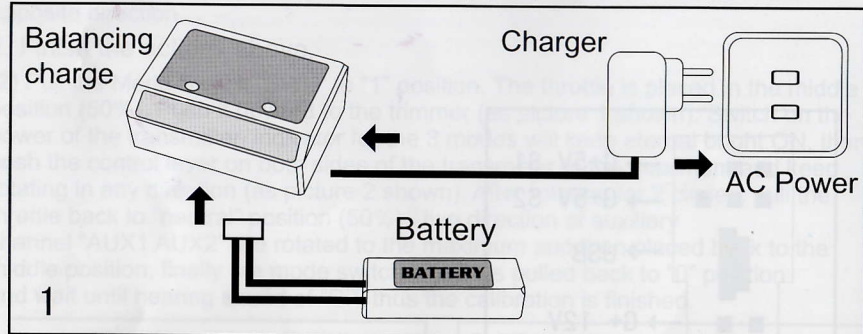
1. Port of "G+5V S1""G+5V S2" should correspond to the auxiliary channel "AUX1 AUX2" of the transmitter. When loading the camera made by our factory, you can adjust the pitching angle of the camera. It can also be used as the port for power supply for the 5V equipment.
2. "USB" port is for the purpose of modulating the flying parameter (please be cautious when using if you are not a professional expert.)
3. Port of "G+12V" can be used for supplying power to the 12V equipment.



Charging method of the battery and precaution

1. Charging method of the battery

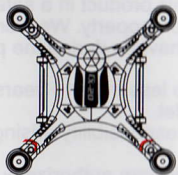

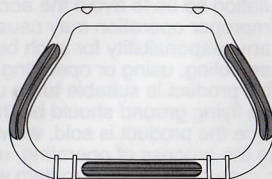
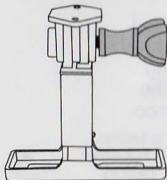
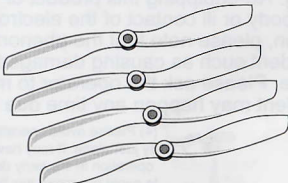

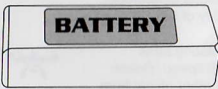
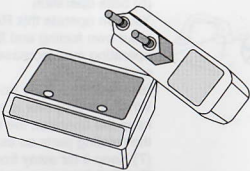
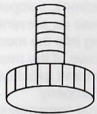

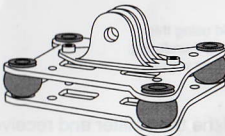
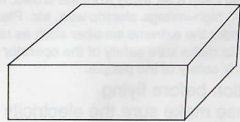
- (1) When the charger needs to connect with the balancing charger, please connect the charger with the AC power (100-240V, 50/60Hz; If required, please use the plug of power switch).
- (2) Green indicator on the balancing charger is the power indicator, the red light is the charging indicator (When loading the battery, the red indicator shows eternal bright, which represents it is under charging. If the light is OFF, that represents charging is finished). (As picture 1 shown)



2. Caution when using the battery

- (1) Only 11.1V 3S battery can be loaded in this product.
- (2) Please do not charge the battery for a long time.
- (3) If the battery is not used for a long time, we'd suggest that you should discharge the battery till 50%-60% of electricity and store it in the special-purposed battery compartment. Charge and discharge the battery for one time every 3 months to keep the activeness of the battery.
- (4) When the charging times of the battery is more than 300 times. We'd suggest to replace the batteries. For the exhausted battery, please discharge the battery till completely no electricity and then dispose it as waste.
- (5) If there is any phenomenon like swollen or damaged, please do not use it any more. Otherwise it may cause danger of fire or explosion. It is suggested to replace the batteries.
- (6) Please DO NOT use any other methods to charge the swollen batteries or damaged batteries.
- (7) Please pay more attention to the charging process so as to prevent from accident. When charging, please place the battery and charger on the cement ground where there is no flammable or combustible object nearby.

Part list inside the box

Aircraft	Transmitter	Tripod of the aircraft
		
Rack of the camera	Propeller X4	Crossing screwdriver (Hexagonal wrench)
		
Battery	Charger	Screw bag (M3X2) Screw with handle (5PCS) M2.5X5(4PCS) M3X12(10PCS)
		
Protecting rack of the propeller (not included)	Control panel	CD Instruction Manual
		



Dear Customer:
Hello!

Thank you for choosing chengxing model aviation products. To allow you to fast, secure grasp fly Disc operation, please read the instructions carefully, and also please keep the original specification, Tsui will access later reference.

Important Declaration

- (1) This product is not a toy but precise equipment integrating the expertise of mechanic and electronic with the aerial mechanic and high-frequency transmitting knowledge. It requires correct assembly and modulation so as to avoid the accident. The product holder should operate this product in a safe way. Any improper operation may cause severe injury to the human body or loss of property. We won't take any responsibility for such behavior as we can not control the user's behaviors during the period of assembling, using or operating.
- (2) This product is suitable to be used by the experienced player or player no less than 14 years old.
- (3) The flying ground should be the legal flying ground for the R/C flying model.
- (4) Once the product is sold, we won't take any responsibility for any safety responsibility arising during the process of operating, using or controlling.
- (5) In case there is any problem with using, operating or repairing problem, we can authorize our sales agent to provide relevant technical support and after-sale service. Please contact our local sales agent.

Safety Precaution

This R/C flying saucer is one high dangerous commodity. Please keep it far away from the people or crowd when flying. Re-equipping this product or improper assembly, damage of the mechanic body or ill contact of the electronic controlling component, not familiar with operation, please note that the phenomenon listing above may result in unforeseen accident such as causing damaged to the flying saucer or causing injury to the people. Please ask the operator to make sure the flying safety and know that any accident may happen any time due to negligence.

(1) Stay away from obstructions and crowd remote Control UFO with uncertain flight speed and status flight, potentially dangerous. Must be away from the crowd, high flying story building, high-voltage wires, etc., while avoiding the rain, thunder and lightning and other inclement weather flight, to ensure that the pilots, the crowd around and security of property.

(2) Keep it far away from moisten environment The internal part of the flying saucer is composed of many precise electronic component and the mechanic parts. Please do prevent the moisture or water from seeping into the mechanic body so as not to cause breakdown of the mechanic and electronic component and avoid causing accident.

(3) Use this product properly.

Please use the original component to upgrade or re-equip or repair this model so as to make sure safety of this flying saucer. Press the operating instructions guidance methods operation using this product. Please do not use it for any other purpose that beyond the safety law. (1) Please keep it away from the obstacle or crowd. It may have some uncertainty with the flying speed or flying state when flying this model and it may have the potential danger.

Please also keep it far away from the crowd, high-rising skyscraper, high-voltage electric wire, etc. Please also avoid using this product under the extreme weather such as raining, storming, thundering, etc. so as to make sure safety of the operator and the crowd as well as the property safety of the people.

Precaution before flying

- (1) Please make sure the electricity volume of the transmitter and receiver should be in the saturation state.
- (2) Before starting, please check if the throttle lever and throttle trimmer of the transmitter is on the lowest position.
- (3) When starting, please also follow the sequence of switch on and switch off. Please switch on the power of the transmitter first when starting, then switch on the power of the flying saucer. Please switch off the power of the flying saucer first if you need to power off, then switch off the power of the transmitter. Improper switch-on or switch-off may cause losing control of the flying saucer or even affect your own safety and others. Please form a good habit of correctly switching on and switching off.



(4) Please avoid operating this R/C flying saucer by just alone. It may have some difficulty in learning operation in the early day of learning. Please try to avoid operating this flying model alone. Some experienced player is required to give guidance.

(Also you can use the simulated computer software to practice or ask the experienced player to give you some guidance. This is also one of the best learning methods.)

(5) Safe operation

You can operate this R/C flying saucer according to your own feeling and flying skill. Fatigue or improper operating may increase the probability of the accidental risk.

(6) Keep it far away from the high-rotating parts When the propeller is rotating in high speed, please keep the operator, the crowd or any other object from the rotating parts so as not to cause danger or damaged.

(7) Keep it far away from the heat source

The R/C flying saucer is composed of material like metal, fiber, plastic or electronic component. Please keep it far away from the heat source and avoid being exposed under the direct sunlight as too high temperature may cause deformed or even damaged this product.

