G610 Agriculture Frame Installation Manual

Attention

This product is suitable for adults over 18 years old. The company will not bear any responsibility for personal injury or property damage caused by the following reasons. Please read the following terms carefully:

1. Obtain through abnormal channels, use non-company products or imitation products.
2. The installation, setting and use are not carried out correctly according to this user manual.
3. Self-modification and replacement of parts or accessories not produced by our company may cause damage to the aircraft due to poor operation.
4. The user controls the aircraft while drinking, taking drugs, or in poor physical or mental state.
5. Property loss and personal injury caused by the operator's subjective intention or improper operation.
6. Poor operation of this product caused by natural aging and wear of aircraft parts.
7. Use this product in a strict applicable environment exceeding the label of this product.
8. The user uses this product when the visibility is insufficient and the line of sight is blocked.
9. Users use this product in government air control areas, no-fly zones, etc.
10. Product damage caused by abnormal use.

About G610

G610 is a one-piece fuselage frame, with a simplified structure, high strength, good durability and reliability, making installation more convenient, reducing maintenance costs and improving installation efficiency. G610 is specifically designed for lightweight operations. Designed small-scale plant protection drone with an effective capacity of 10 L. It adopts a plug-in medicine box and a vertically placed battery, which can quickly replace the tank & battery. The body is small and lightweight, and it is optional to install obstacle avoidance and fixed-height radar. FPV camera is the first choice for small plant protection drones.

It adopts a three-section fuselage layout design, flight control in front box in middle part and battery in rear. The structure is exquisite and unique in shape. It extends the arms to both sides to maximize the distance between the nozzles and thereby increase the spray range. The design of the plug-in medicine box and the vertically placed battery can quickly make medicine tank & battery replacement, simple operation, time-saving and labor-saving, the machine arm adopts the cross and staggered folding method, which minimizes the folded size facilitates transportation. The whole machine adopts modular design, and each part can be quickly disassembled and replaced, which is convenient for maintenance. Optional extension rod Y-type double nozzles can effectively reduce droplet drift, and the roots are connected by soft silicone to prevent nozzles from breaking when impacted by external forces. FPV camera adapters are optional, suitable for most cameras on the market, and can meet the visualization of long-distance operations. The demand makes the flight more at ease, and at the same time reserves the installation position of the obstacle avoidance fixed-height radar to achieve more precise fixed height imitation effect.

You can learn about the latest information on the EFT official website

Website: www.effort-tech.com

Wechat

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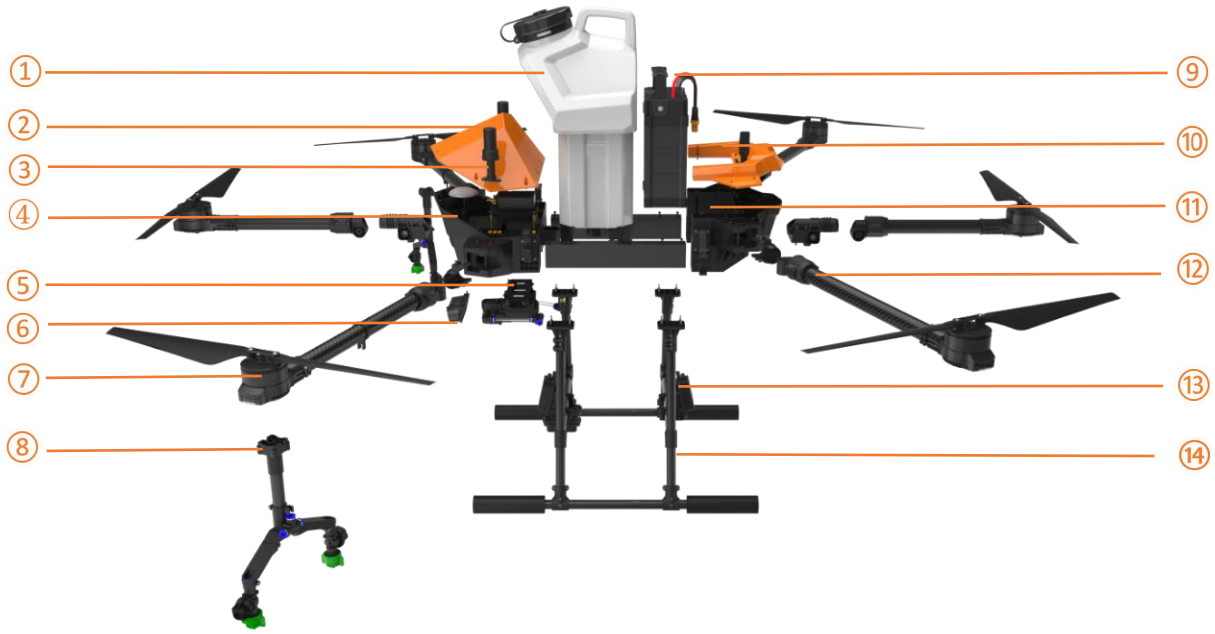
Part name



① **10L quick release tank**
② **Front shell**
③ **RTK fixed**
④ **Front frame**
⑤ **Pump fixed**
⑥ **Camera fixed**
⑦ **X8 Motor set**
⑧ **Extend rod Y Nozzle fixed**
⑨ **16000mAh Smart battery**
⑩ **Rear shell**
⑪ **Rear frame**
⑫ **Arm folding fixed**
⑬ **Obstacle avoidance and ground radar**
⑭ **Landing gear**

Attention

- **1、 Please do not violently assemble during the assembly process, if you encounter difficulties, please call 0551-65536542**
- **2、When installing the hose, please do not bend excessively to avoid creases and affect the spraying effect**
- **3、Be sure to connect the aircraft power after completing all installation and connections**

Installation

Please bring your own medium-strength screw glue when installing. First complete the unpacking inspection, and then proceed to the tripod installation, fuselage installation, arm installation, flight control installation, power system installation, and spray system installation. If there are other options, install the option at last.

Unpacking inspection

EFT provides users with the following documents

1、 'Product Packing List'

2、 'Product installation instructions'

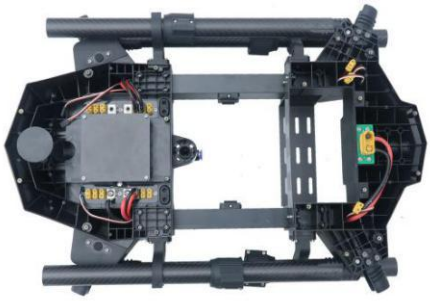
It is recommended that users use the "Product Packing List" to check and carefully check whether the items are missing or damaged. If there is any problem, please contact our company in time. Read the "Product Installation Instructions" carefully, follow the instructions to complete the installation step by step, and read the relevant precautions carefully.

Langing gear installation

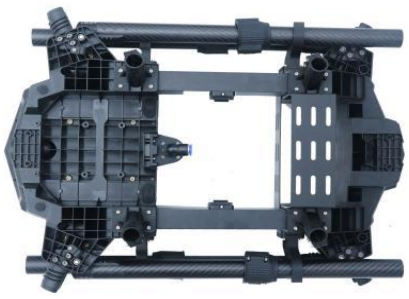
⚠ **Attention To install the body, some parts of the body must be disassembled first. Please pay attention to the installation position of the removed parts to facilitate later restoration.**

1.Remove the M3*8 fixing screws of the front shell.

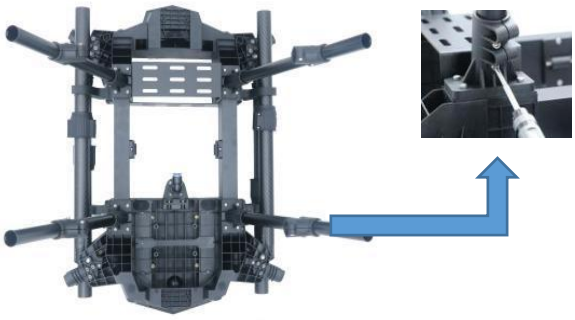
2.Remove the M3*8 fixing screws of the back shell.



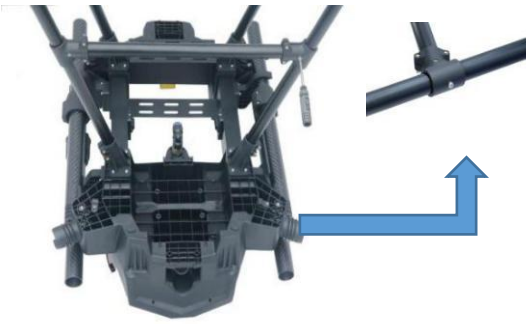
3.The front and rear shells removed.



4.Turn the fuselage over and prepare to install the tripod diagonal brace assembly.



5.The diagonal brace installation: insert the aluminum tube with the limited hole end into the tripod fixing seat, and reach the deepest part of the fixing seat. Use M3x8 cup head limit screws to fix the diagonal brace.



6.The radar pole installation: put the radar crossbar into the diagonal tee, fix the back limit screw, and then fix all the screws of the oblique tee.

7.The tripod assembly installation: insert the tripod straight tee into the inclined aluminum tube, and fix all the screws of the straight tee.

8. Tighten the M4*12 screws of the tripod fixing seat after the tripod diagonal brace assembly is installed.

9.The finished diagonal brace.

10.The finished diagonal brace.

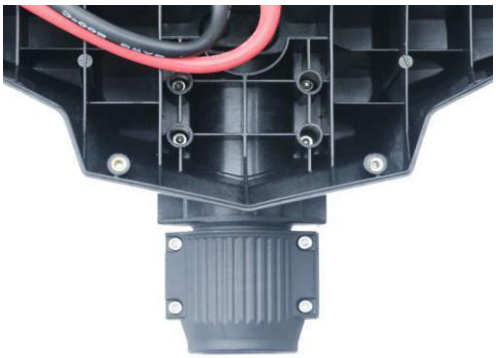
Arm Installation

⚠ Attention： Please check the front and rear thread disassemble and related accessories When installing the arm.

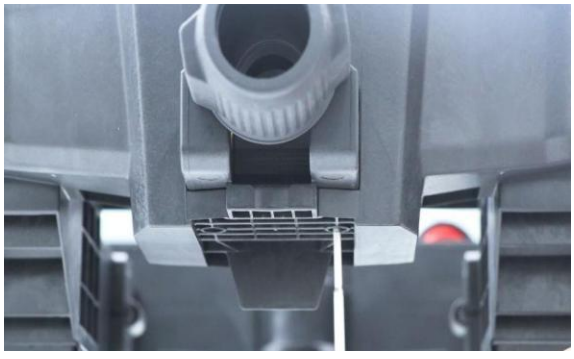
1、Front and rear threaded disassembly fixed.

2、M6*50 screws, front and rear carbon tube arm fixed.

3 、 The front and rear thread disassembly fixed installation: insert the front and rear thread disassembly parts into the front and rear holes to reach the end.



4、The front and rear thread disassembly fixed installation: align the screw holes and fix them with M3x10 screws.



5、The front and rear thread disassembly fixed installation : Fix the lower screw.

6、The front and rear arm fixed installation: insert the front and rear carbon tubes into the threaded disassembly parts.

7、The front and rear arm fixed installation: Use round head M6*50 screws to fix the arm.

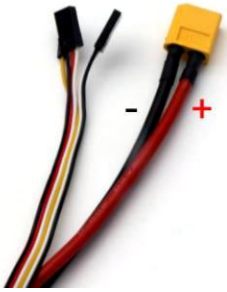
8、The front and rear arm fixed installation: Use M6 locknut to fix the reverse side.

9.The finished front and rear arm fixed.

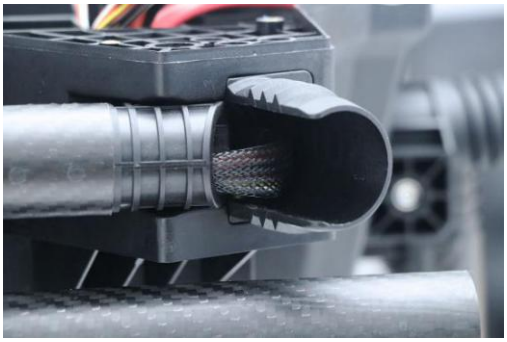
10.The finished front and rear arm fixed.

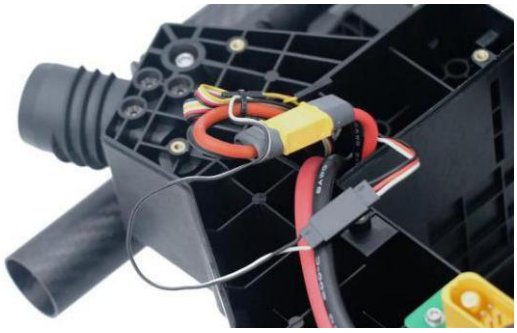
Motor set installation

This manual uses the Hobbywing X6 power set. It is recommended to install the propeller after the aircraft performance is debugged.

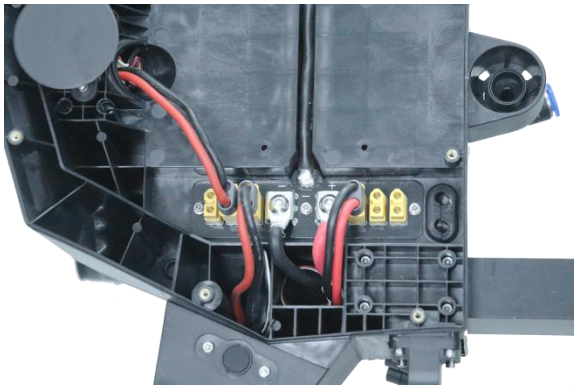


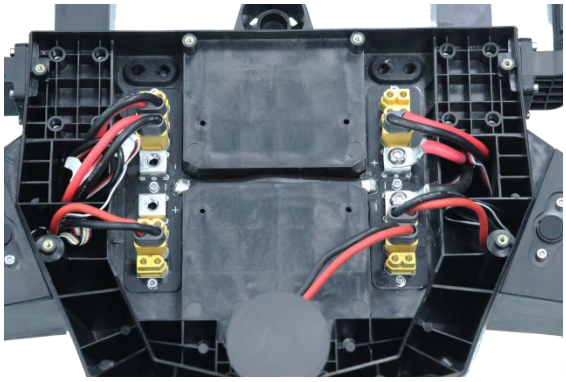
1、Put the motor harness into the snakeskin net tube, weld the XT60 male connector, and pay attention to distinguish the positive and negative poles. (It is recommended to use 10mm heat shrinkable tube to tighten the ends of the snakeskin net tube to avoid the snakeskin net tube from branching.)





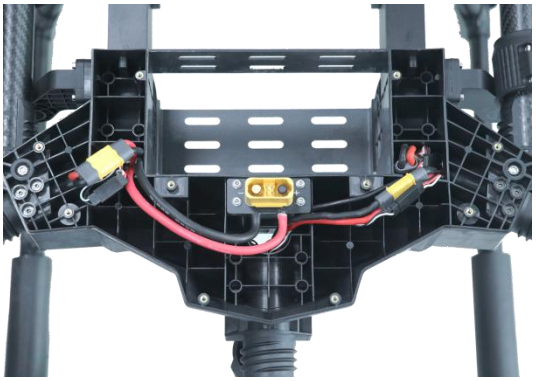
2、Install the power in sequence according to the direction of the fuselage head, pass the motor harness through the fuselage arm, and insert it into the reserved power supply line. Pay attention to distinguish the CW/CCW motor. (Note: The battery compartment is in the direction of the rear of the fuselage)



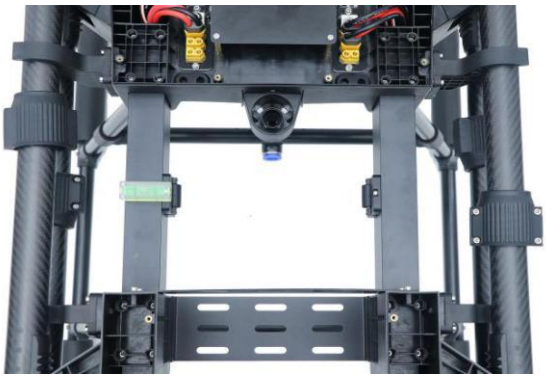


3、Pass the motor harness through the arm and insert it into the distributor board, paying attention to distinguish the CW/CCW motor. (Note: The battery compartment is in the direction of the rear of the fuselage)

4、Installation drawing of the power harness of the front fuselage.



5、Installation drawing of the power harness of the rear fuselage.



6、The body is calibrated horizontally.

7、Calibrate the body horizontally. Adjust the body level until the display is centered If it is not level.

8、Fully unfold the arms after adjusting the fuselage, tighten the nuts, and perform horizontal motor calibration. The calibration method is the same as that of the fuselage, and fix the motor screws.

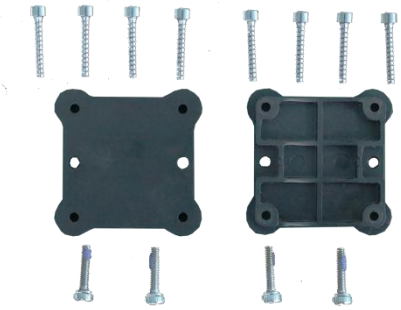
9、The picture of body after adjustment.

Spray system installation

This manual uses a Hobbywing 5L integrated water pump*1 and an extension rod Y-type double nozzle*4.

1、The extension rod
Y-type double nozzle.

2、Hobbywing 5L water pump.

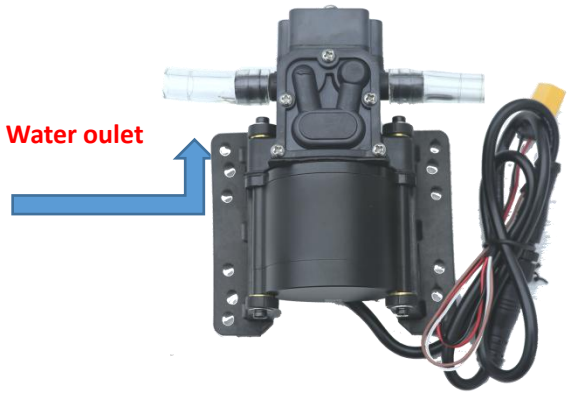


3、X6 adapter.

4、Install the X6 adapter on the body and fix it with M3*8 screws.

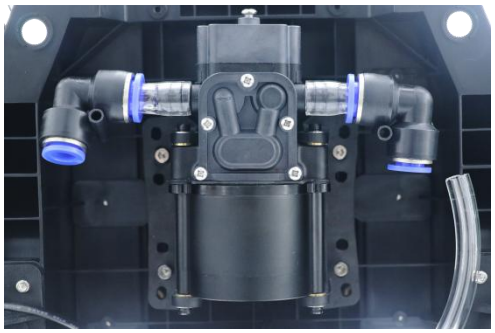
5、Fix the print head on the X6 adapter and fix it with M3*16 self-tapping.

6、Water pump installation; welding XT60 male head (note: distinguish between positive and negative).

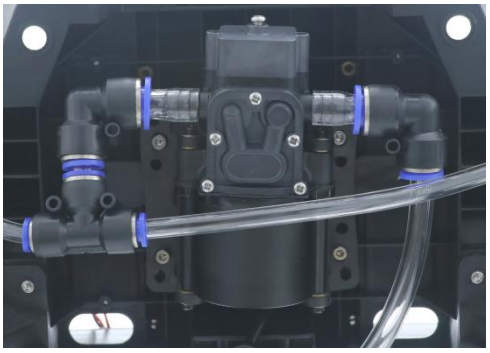


7、Water pump installation; use 12MM water pipe to connect the water inlet and outlet (note: "→" is the water outlet).

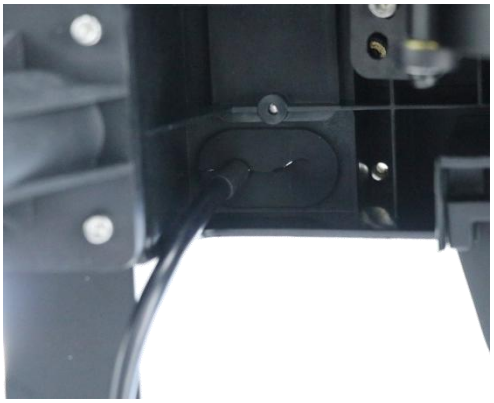
8、Water pump installation;:use the L-type pneumatic double pass to turn the water pipe to facilitate the connection of the water pipe in the next step.



9、Water pump installation: use M4*10 self-tapping screws to fix the water pump under the front fuselage.



10、Water pump installation: use T-shaped tee to tap the waterway.



11、Water pump installation: pass the water pump harness through the protective coil to the flight control compartment.

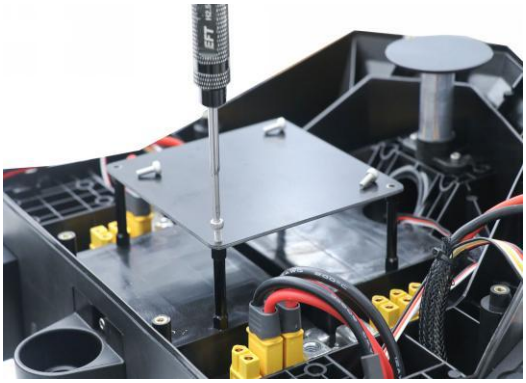
12、Water pump installation: use M4*10 self-tapping screws to fix the water pipe clamp, and the water pipe needs to pass through the pipe clamp.

13、Use M3*10 self-tapping screws to install the 30MM water pipe clamp, and fix the water pipe in the pipe clamp.

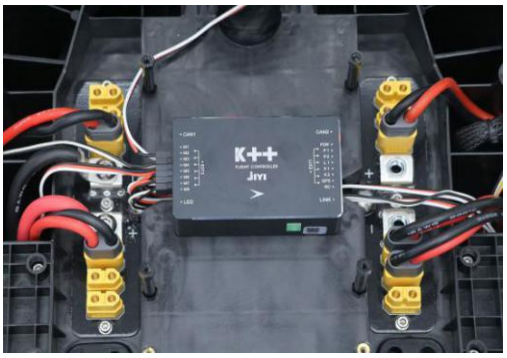
14、Connect the water pipe to the extension rod Y-type double nozzle T-type tee.

Flight controller Installation

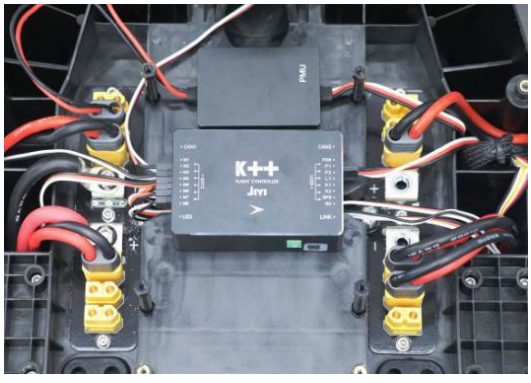
This manual uses Jiyi K++ flight control and H12 remote control.



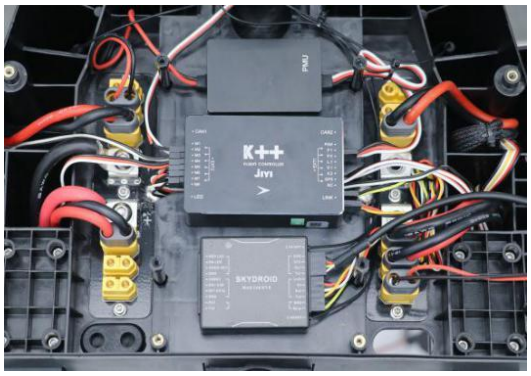
1、Remove the flight control mounting plate and prepare to install the flight control.



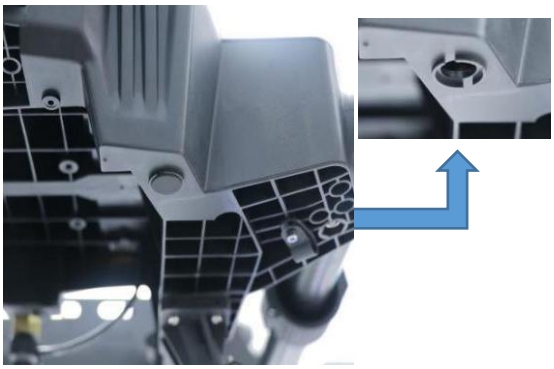
2、Install the main control: use 3M glue to fix the main control, and connect the ESC signal line (note: the direction of the flight control can be selected by the customer).



3、The PMU installation: use 3M glue to fix the PMU, connect the power cord to the power distribution board, and connect the signal line to the flight controller.

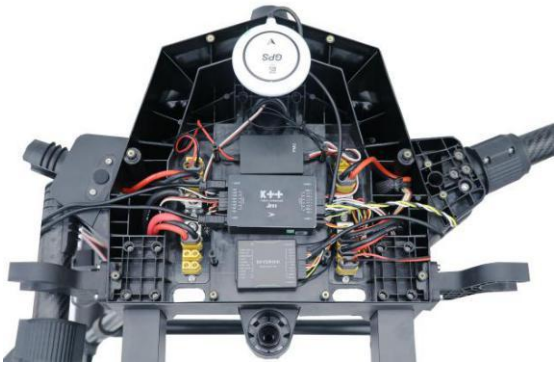


4、The H12 receiver installation: use 3M glue to fix the receiver, and connect the receiver harness to the flight control LINK port and RC port.

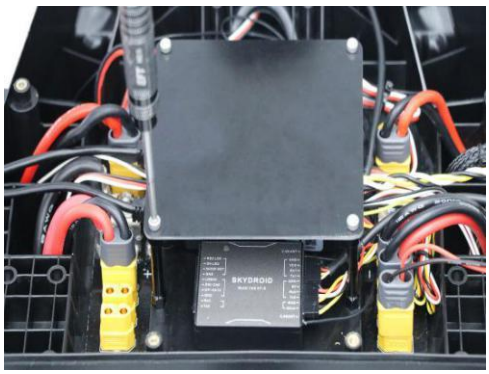


5、The H12 receiver antenna installation: remove the waterproof ring of the fuselage, and the antenna can be fixed in the reserved hole of the fuselage.

6、The H12 receiver antenna installation: Insert the receiver antenna into the reserved hole of the fuselage.



7、The GPS installation: use 3M glue to fix the GPS on the round tray.



8、Install the flight control reserve board.

9、The reserved version of flight control can be installed with other modules.

10、RTK accessories: the accessories are for the RTK antennas.

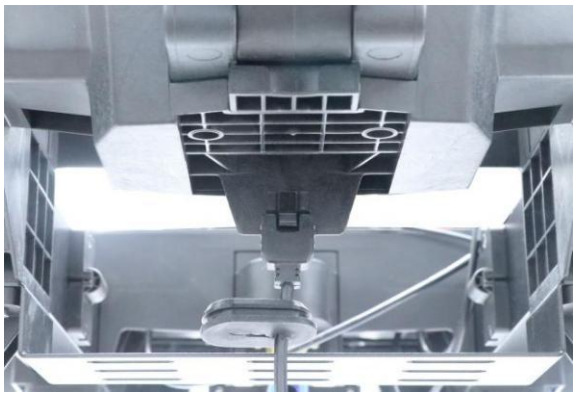
11、Install RTK accessories.

12、The finished RTK antenna (note: RTK feeder needs to be straight, L-shaped feeder is not available).

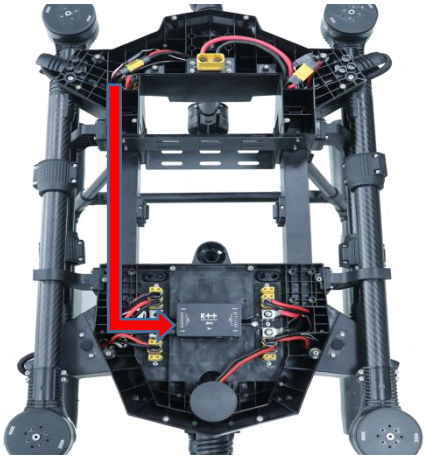
13、There are reserved holes for the RTK antennas at both ends of the front fuselage.

14、The RTK antenna needs to pass through the reserved hole to reach the flight control compartment.

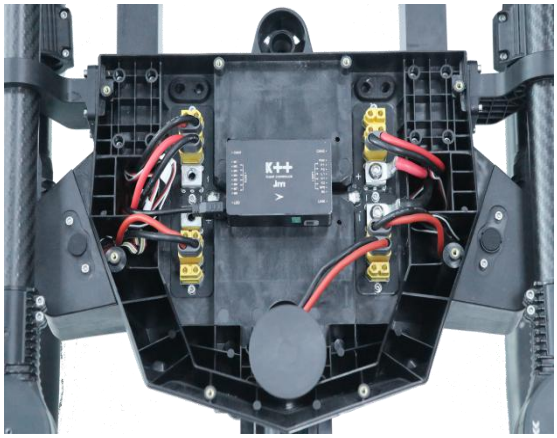
15、The LED light installation: Use 3M glue to fix the LED light on the patch position at the bottom of the tail.



16、LED light installation: LED light wire harness needs to pass through the protective coil.



17、The LED light installation: Through the crossbeam and reach the flight control compartment, and connect with the main control (note: the LED light harness needs to be 1M).



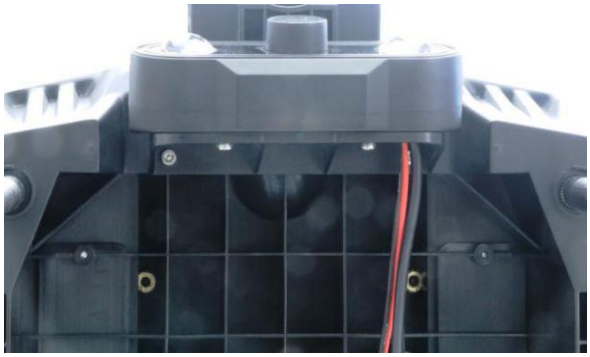
18、 The LED light installation: connect with flight controller.

Camera Installation

This manual uses a three in one camera.

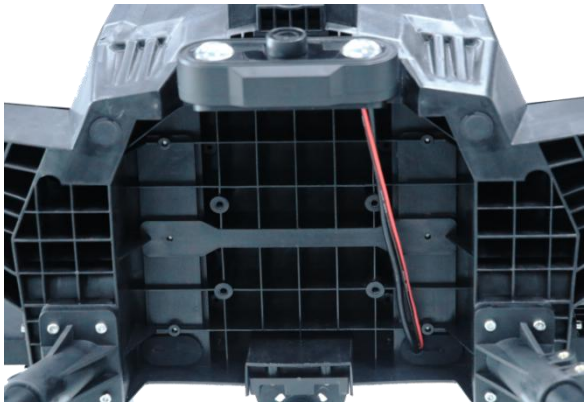
1、Camera adapter: Use M3*6 screws to fix the camera in the adapter plate, and then use M3*10 self-tapping screws to fix the camera adapter on the body.

2、Camera installation: Use M3*6 screws to fix the camera in the

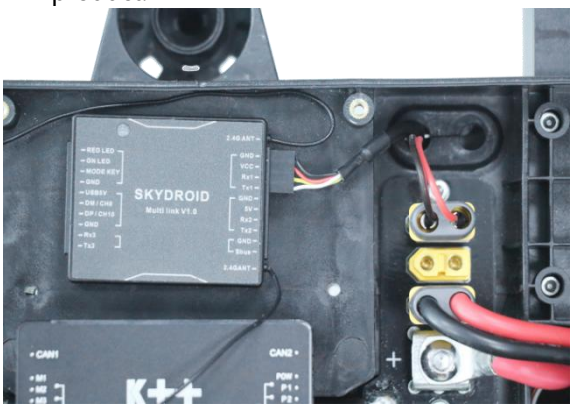


3、Camera installation: The camera is fixed on the fuselage.

4、Camera installation: The finished product.

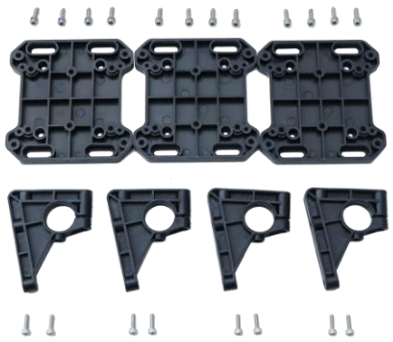


5、Camera installation: the wire harness passes through the guard coil.



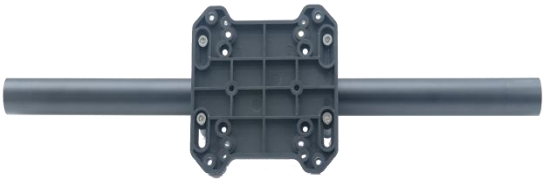
6、Camera installation: the main power line of the wiring harness is connected to the power distribution board, and the signal line is connected to the receiver.

Radar installation



1、Radar fixed plate.

2、Insert the L-shaped radar adapter and fix it with M*10 screws.



3、This is the rear obstacle avoidance radar adapter: use M4*10 self-tapping

4、This is the front obstacle avoidance and ground defense radar adapter: the ground defense radar adapter is parallel to the ground.

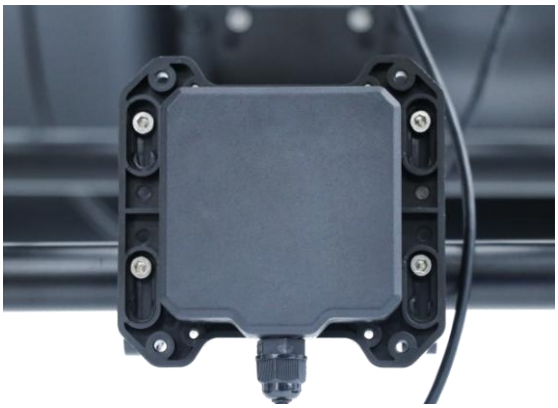
5、The picture of the finished front obstacle avoidance radar and ground defense radar adapter.

6、The picture of the radar adapter.

7、The radar fixing plate installation : install the adapter plate on the tripod diagonal support.

8、Install the radar on the radar adapter board.

9、The radar fixing plate installation：This is the installation method of ground defense radar, which can be directly fixed with M4*10 self-tapping screws.



10、The radar fixing plate installation：This is the installation method of front and rear obstacle avoidance radar which can be fixed with M3*6 screws on the reverse side.

⚠ Attention

Please pay attention to safety during the installation process. EFT will not be responsible for the damage and loss caused by improper operation of the user.

Appendix

Specifications

Frame Specifications	Recommended configuration
Wheelbase：1460MM	Motor：HobbywingX6
Expanded size：1362*1498*673MM	Paddle：23-24 inch folding paddle
Folded size：806*505*673MM	ESC：60-80A FOC
Tank capacity：10L	Supply voltage：12S
Frame weight：6.5kg（without spary systems）	Max take-off weight：27.2kg

Brushless water pump specifications	
Use voltage：12-14S（DC44-60.9V）	Flow rate：5L/min
Maximum power：150W	Protection level：IP67
Pressure：0.35Mpa	Weight：388g（without wire 338g）
Current：≤2.5A	Size：123x76x52mm
Travel range：1100-1940us	

More product support

EFT Website：www.effort-tech.com

EFT Wechat account：

This manual is subject to update without notice

If you have any questions or suggestions about the manual, please contact us through the following methods

Contact number: 0551-65536542

Contact email: infor@effort-tech.com