FINWING SABRE 1900

USER MANUAL

FINWING

FINWING TECHNOLOGY
WWW. FINWINGHOBBY. COM
PATENT PENDING

Please read through the manual carefully before installation and flying

This manual aims to help direct the user on how to build the Sabre RC plane.

Please visit the www. finwing. cn official website for more introductions.

Warning:

1. This model airplane is not a toy, not recommended for children under 14 years old,
2. Be cautious and prepared while flying this plane as a range of issues could lead to a crash including the environment/weather, speed, pilot error, improper building/testing, interference or other component failures.
3. Flying field: Choose an adequate flying space at least 100 meters long/wide and in an unpopulated and non-built up area for safe flying. This includes avoiding flying over cities or other populated areas.
4. Please don't fly this model airplane in bad weather including rainy and/or windy environments.
5. Remember to unplug your flight/video battery when not in use to avoid any interference to others who might be on similar channels.
6. Please remember switch on the transmitter first before connecting the battery, and disconnect the battery first before switching off your transmitter.
7. Keep away from the propeller when the Airplane is powered as it can be dangerous and could lead to injury. Keep the powered plane away from children at all times to avoid any accidents or injury.

The Tail-boom has been split from the fuselage in order to fit into a smaller package that will also help to save on overall shipping costs.

Finwing Sabre Basic information

Wingspan:1900MM (74.8")

Length :1320MM (52")

Propeller :11*5.5" / 11*6"

Flap :Available (Options)

Max.AUW :4.0-4. 5kg (8.8-10IB)

EFFICIENT AUW:3.5-4. 0kg (7. 7-8. 8IB)

Hand launching :Available

Belly Armour :Options

Standard Nose cover:Included

Steerable undercarriage:Options

Professional Modules specially designed For HD aerial photography

Options Only

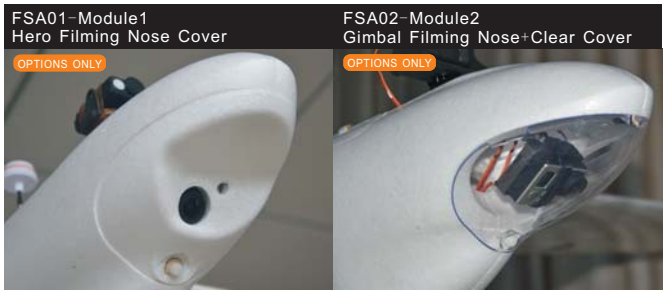
Module1:Hero Nose cover

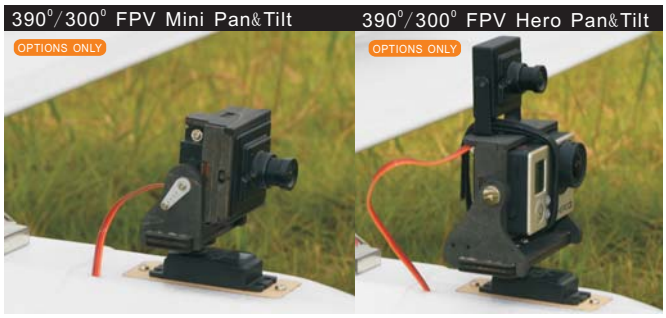
Module2:Gimbal with transparent cover

Module3:Downward facing filming

Hero 390/300 degree Pan&Tilt system

Mini Camera 390/300 degree Pan&Tilt system



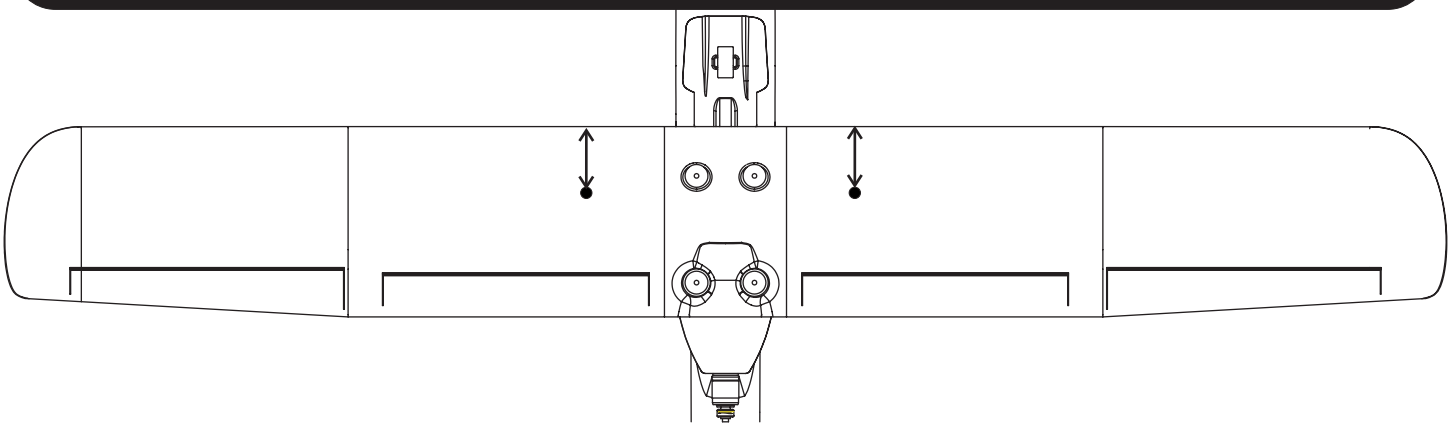


Sabre Premium Power system

1PCS Brushless Motor M2820(3542)
1PCS Premium Brushless 60A ESC OPTO
1PCS UBEC 6A
3PCS 23g Metal servo
1PCS 9g Plastic servo

Sabre advanced Power system

1PCS Brushless Motor M2815(3536)
1PCS Brushless 60A ESC SBEC
3PCS 17g Plastic servo
1PCS 9g Plastic servo

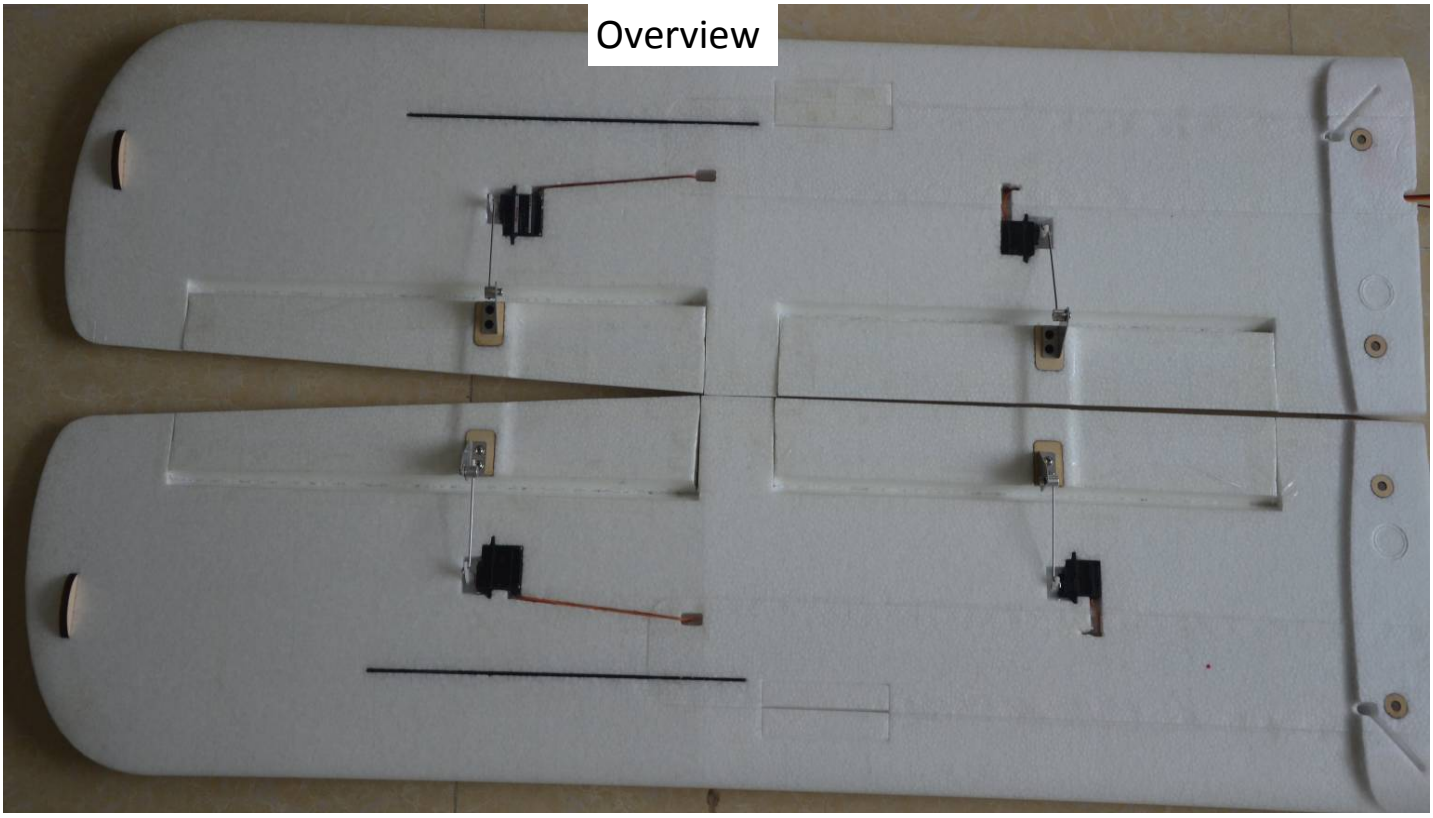


CG. 82. 5-85MM(3. 2"-3. 3") From the leading edge

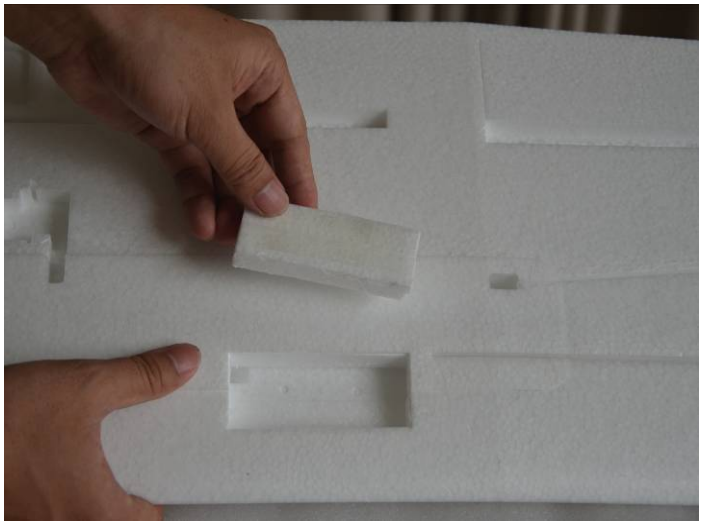
Finwing Sabre Wings installation

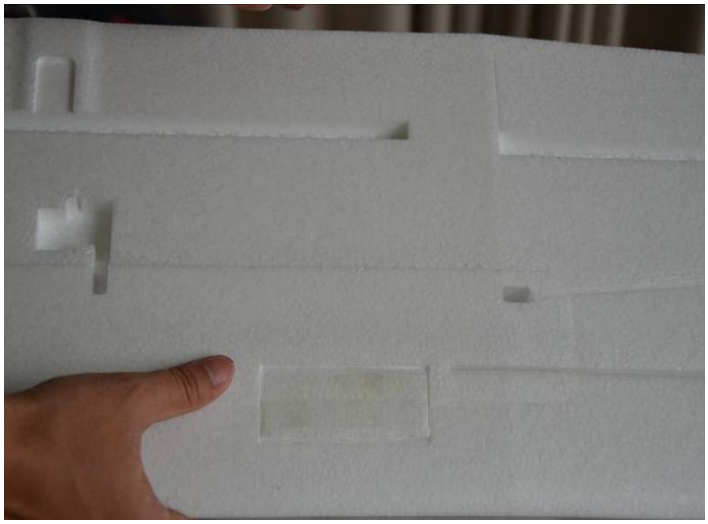
Aileron: 17g Plastic Gear Servo or 23g Metal Gear Servo. Flap: 9g servo

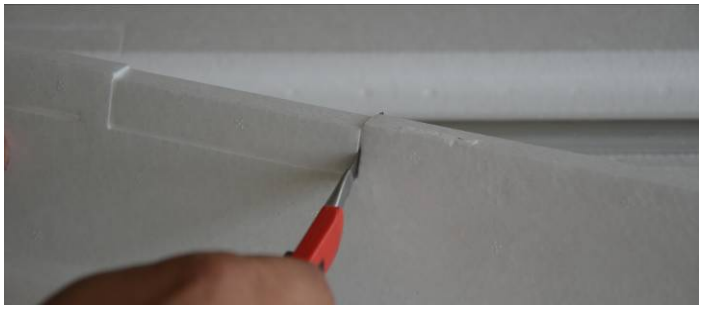
Flap is not must, Depends on your flying preference.

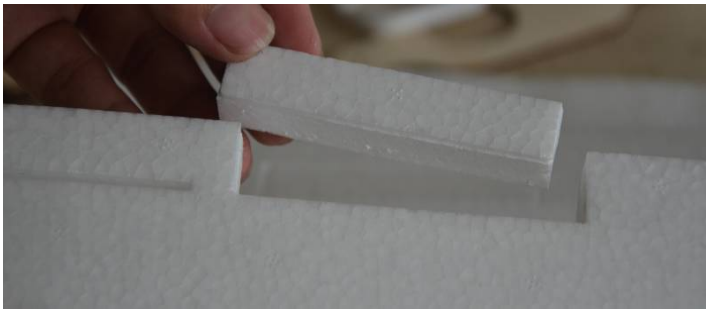


1 > There are two slots for VTX and UHF separately on left and right wing, the purpose is to avoid signal interference especially long range flying system. please cut out the slot foam according to you equipments' size before closing the wing-cover,
Please skip if you won't put VTX and UHF on the main-wing. For example put it on the cockpit and tail-boom is also no problem. it's depends on your preference.

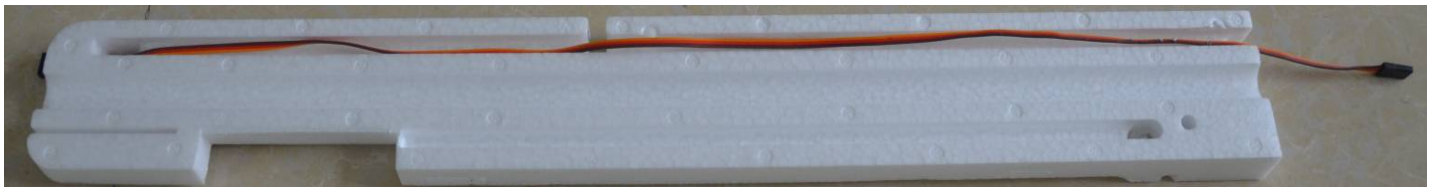






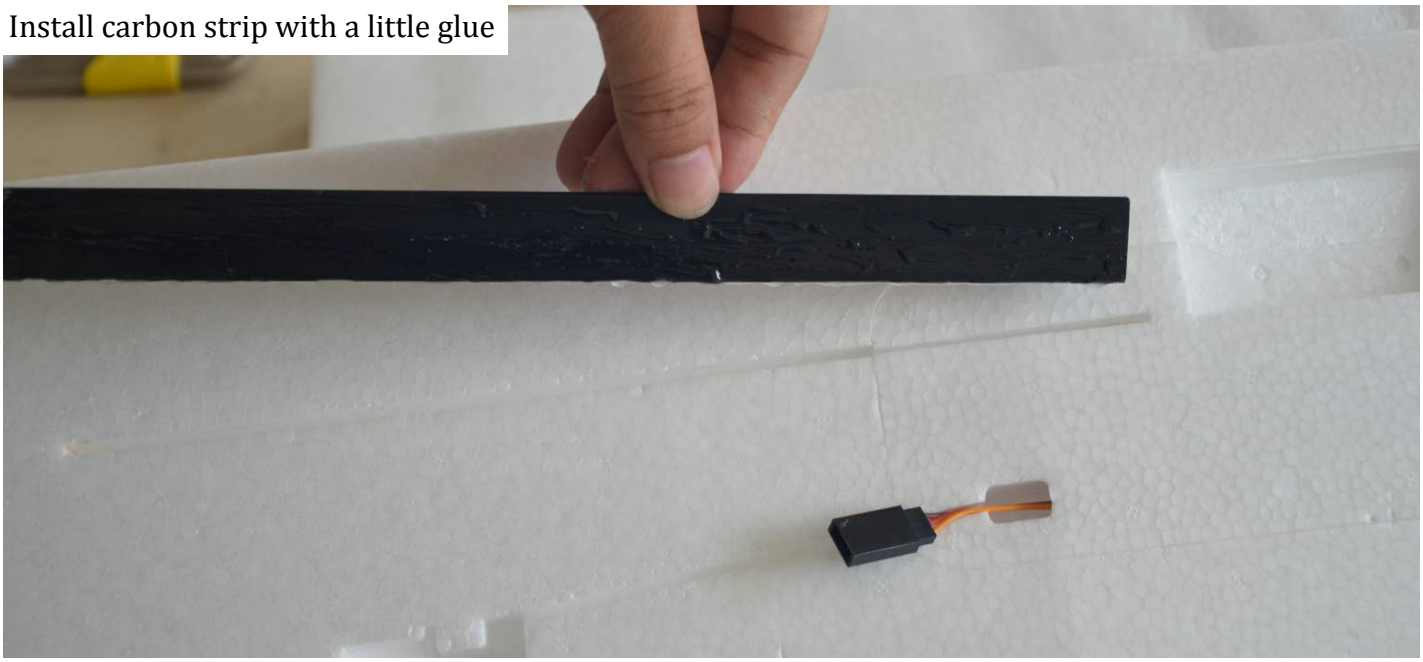


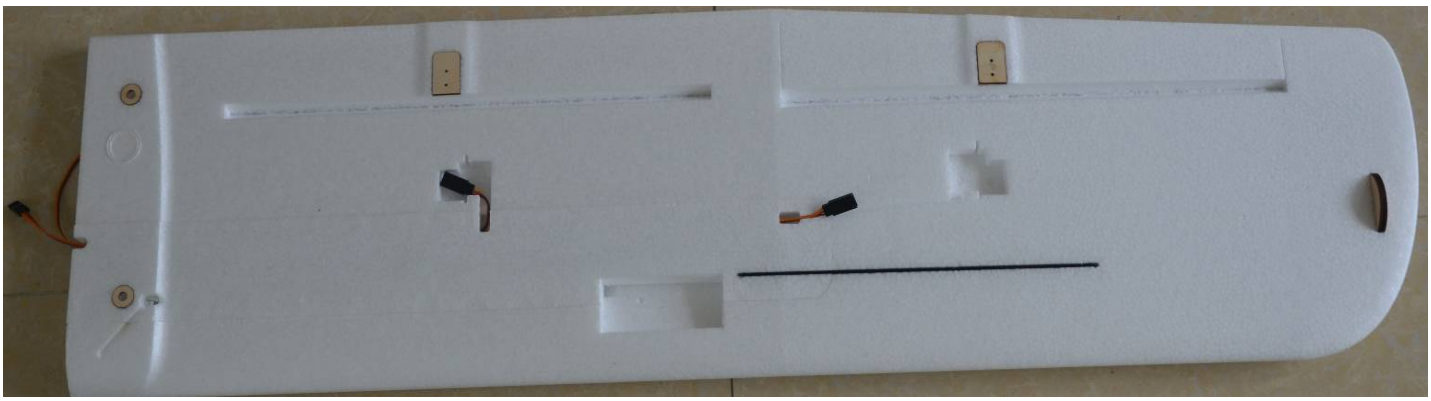
2 > Prepare the extension wires first, kits package included Aileron extension wires but no extension wires for flap servos. Spreading glue to the main wing cave, unnecessary glue to the wing-cover. Gluing time approximately 3-4 minutes, glue will dry quickly if too long.
After closing wing-cover, it's time to install the carbon strip with a little glue, and other small parts as the photos shown.



Press it firmly intermittently by the first half hour

Install carbon strip with a little glue





3 > Cut off the side connection of the control surface until feeling the control surface is rotatable freely
Aileron, flap and Elevator all do the same

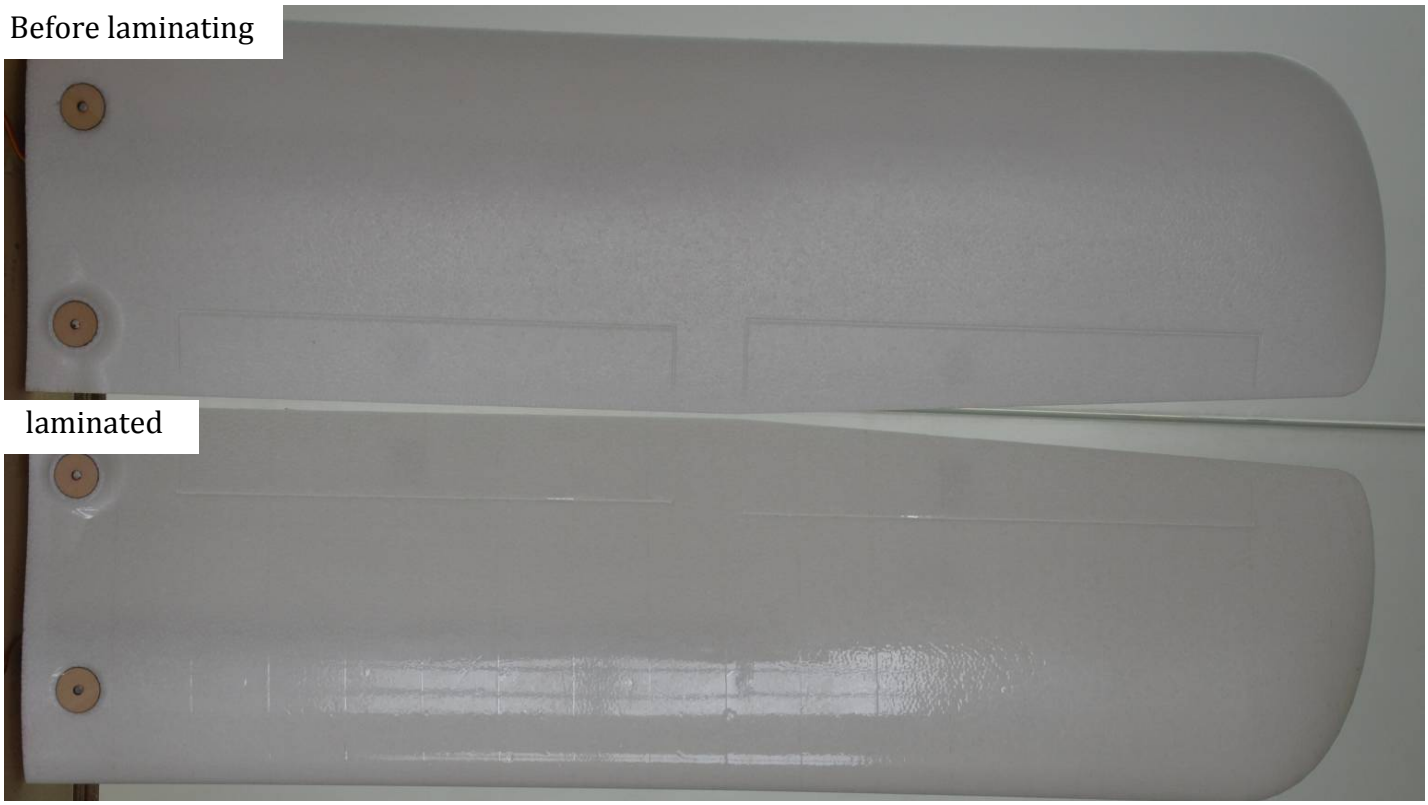
Cut off the Side connection of control surface

Reinforce the hinge is necessary for both sides just by the wrapping tape

For example how to reinforce the bottom side, move the control surface to the max. up position, then wrapping tape adhere to the slot, press it firmly. Move the control surface to the max. down position when reinforce the top side accordingly

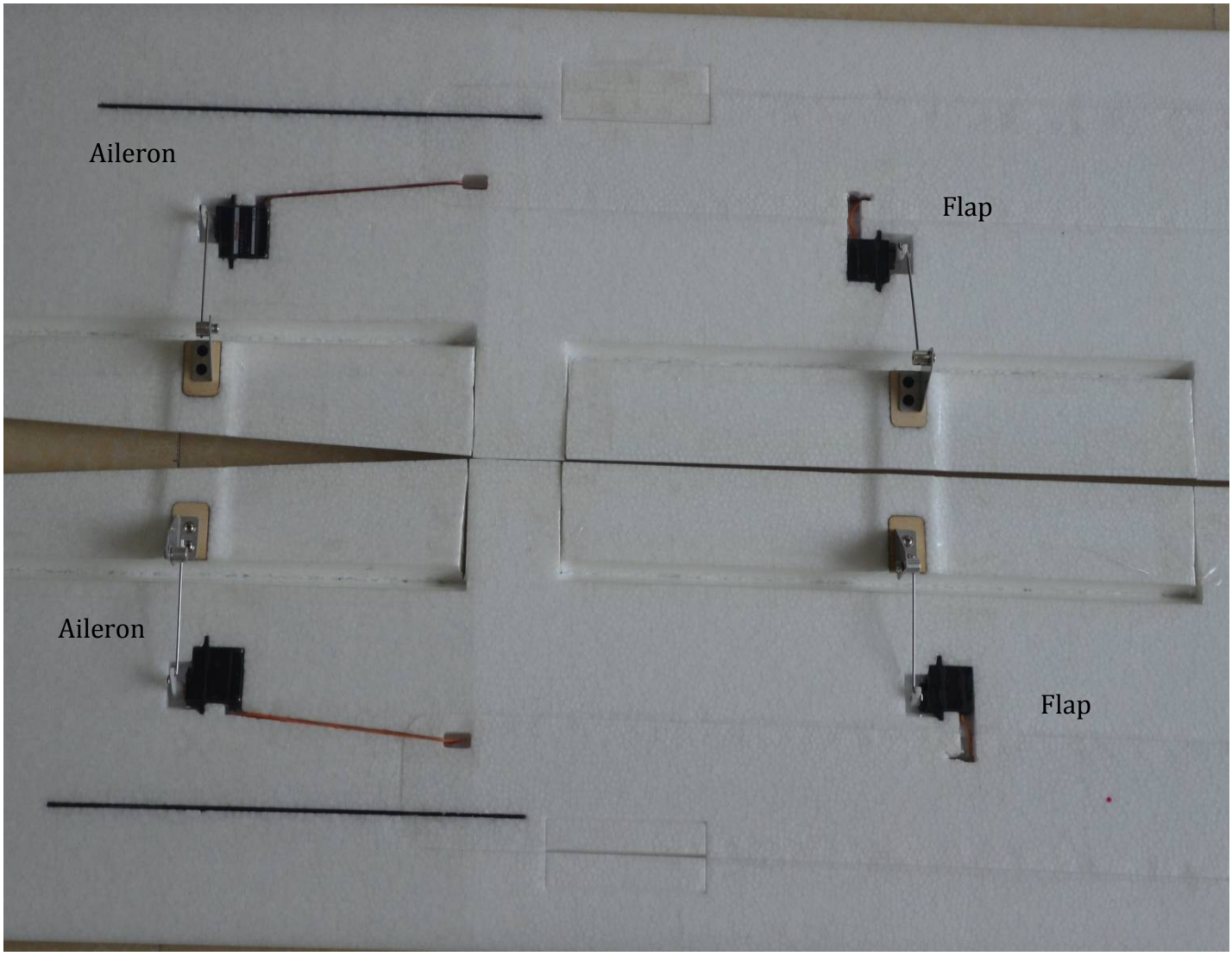
Tips : Laminate the wing
wrapping tape to laminate is more efficient and easy way to protect your airplane, but this is not the must works. Please skip if you don't want to laminate

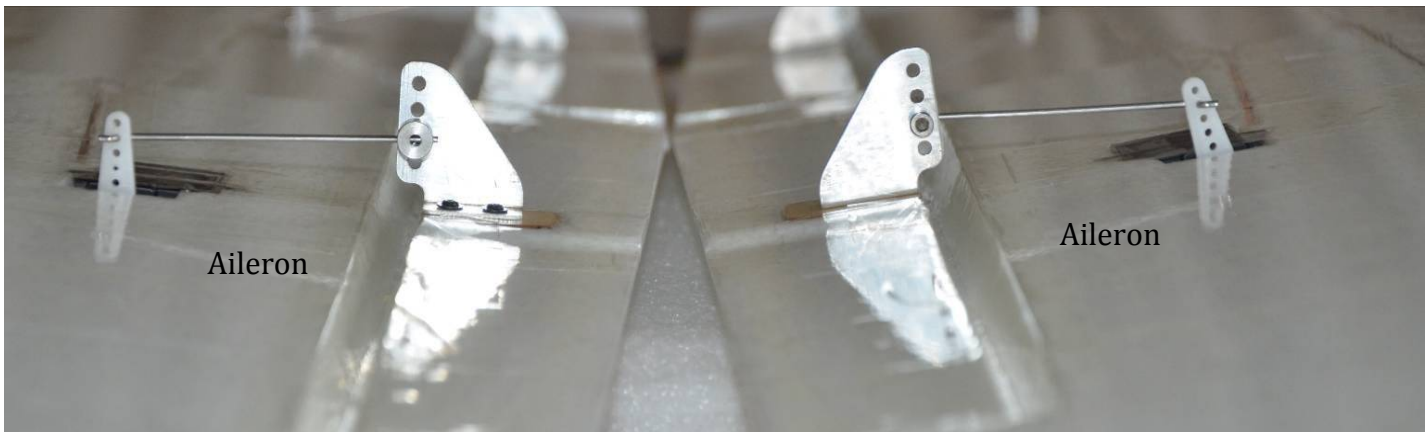
Before laminating



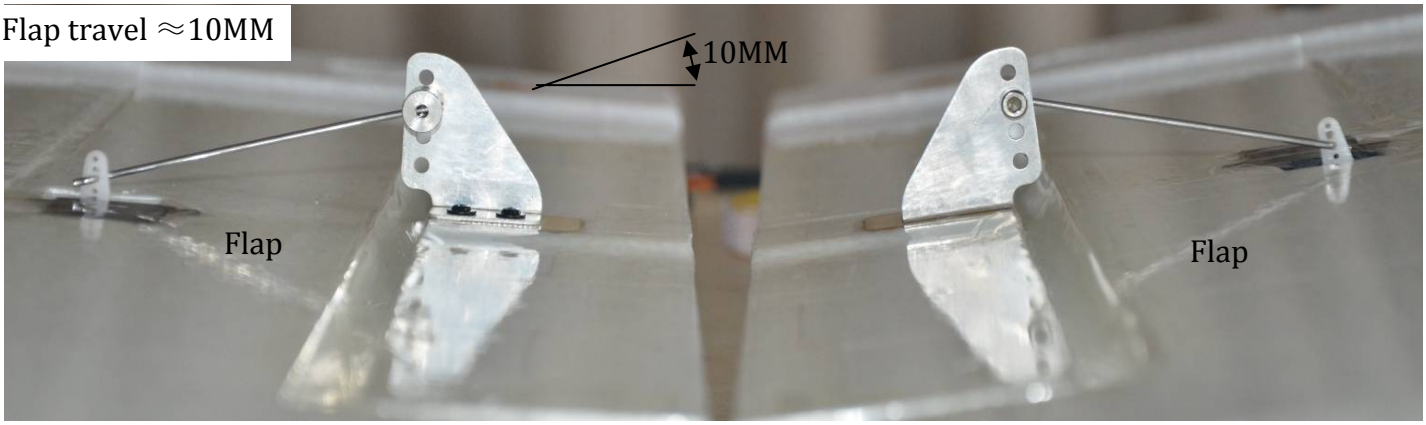
laminated

4 > Neutralize all servos, prepare to install Aileron, Flap servos ,
Note* flap travel is not the bigger the better, Approximately 10MM is okay





Flap travel ≈10MM



5 > Elevator and Rudder installation is similar to Aileron.

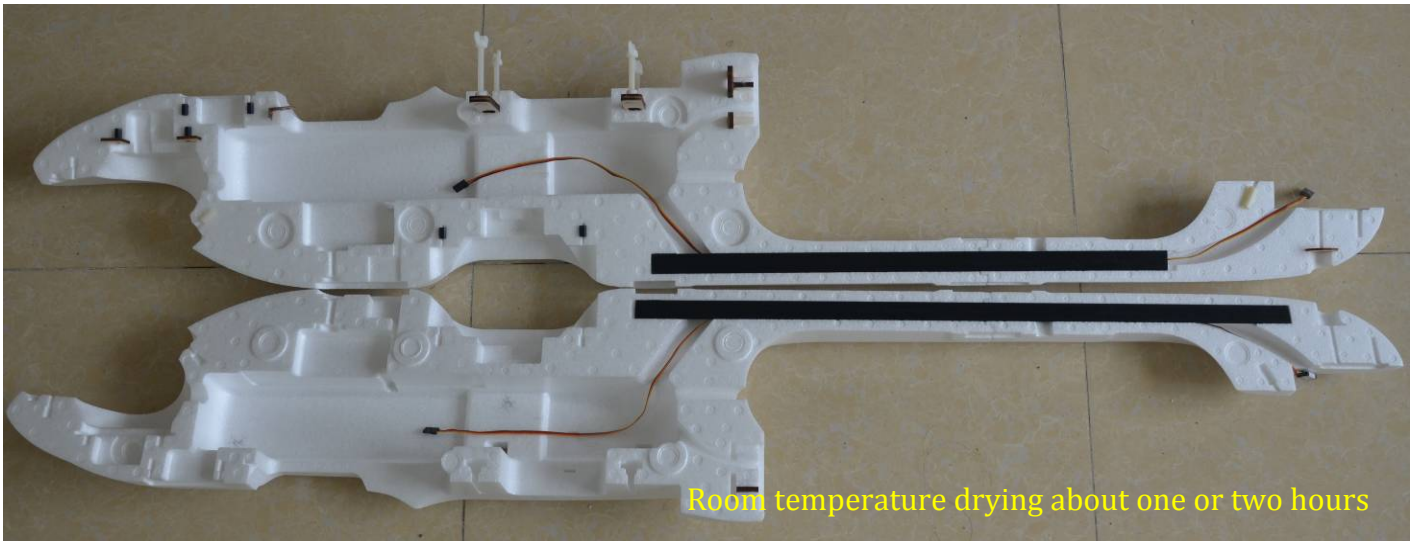
Rudder

Elevator

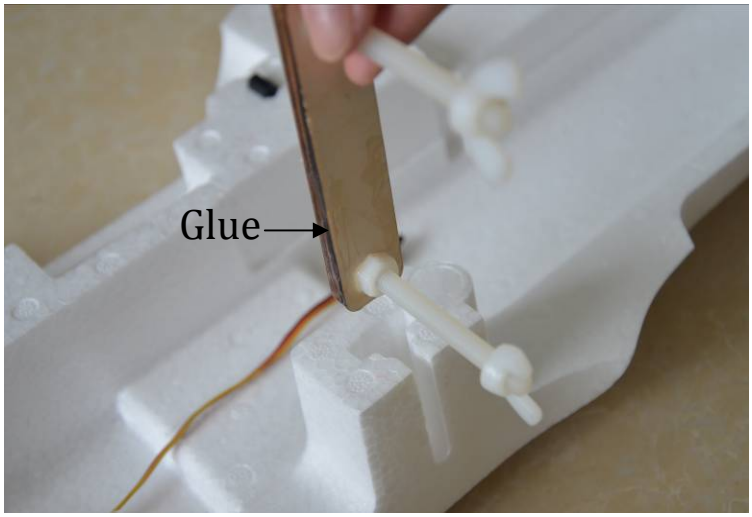
Finwing Sabre Fuselage installation

1> Join tail-boom to fuselage, glue to the joint contact surface then pressing firmly
Don't move it at least two hours drying time at room temperature , be sure don't twist the tail-boom !

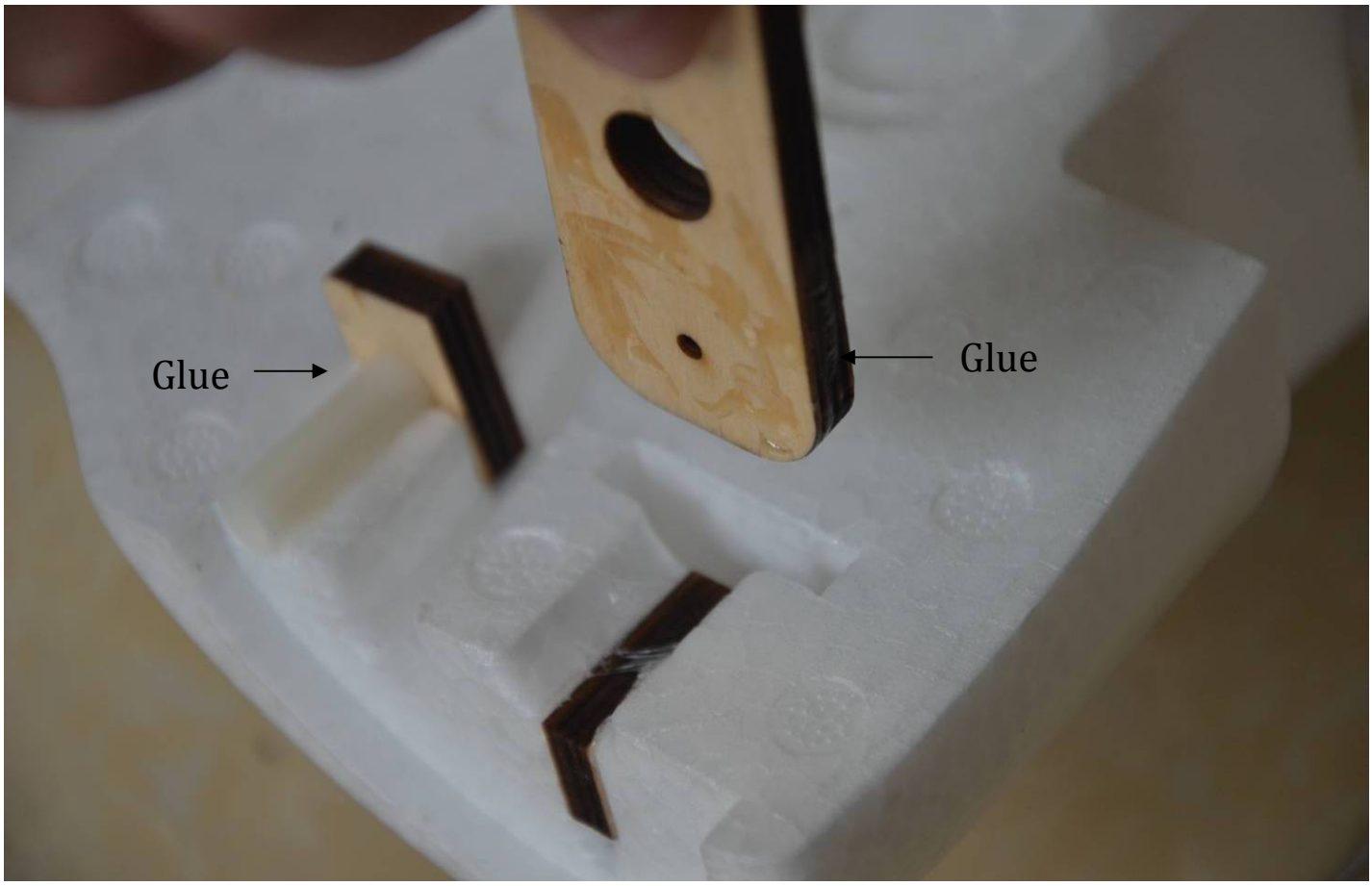
2> Two hours later, install the tail carbon strips, don't forget extension wires first, and some other extension wires if you need. For example UHF or GPS extension wires



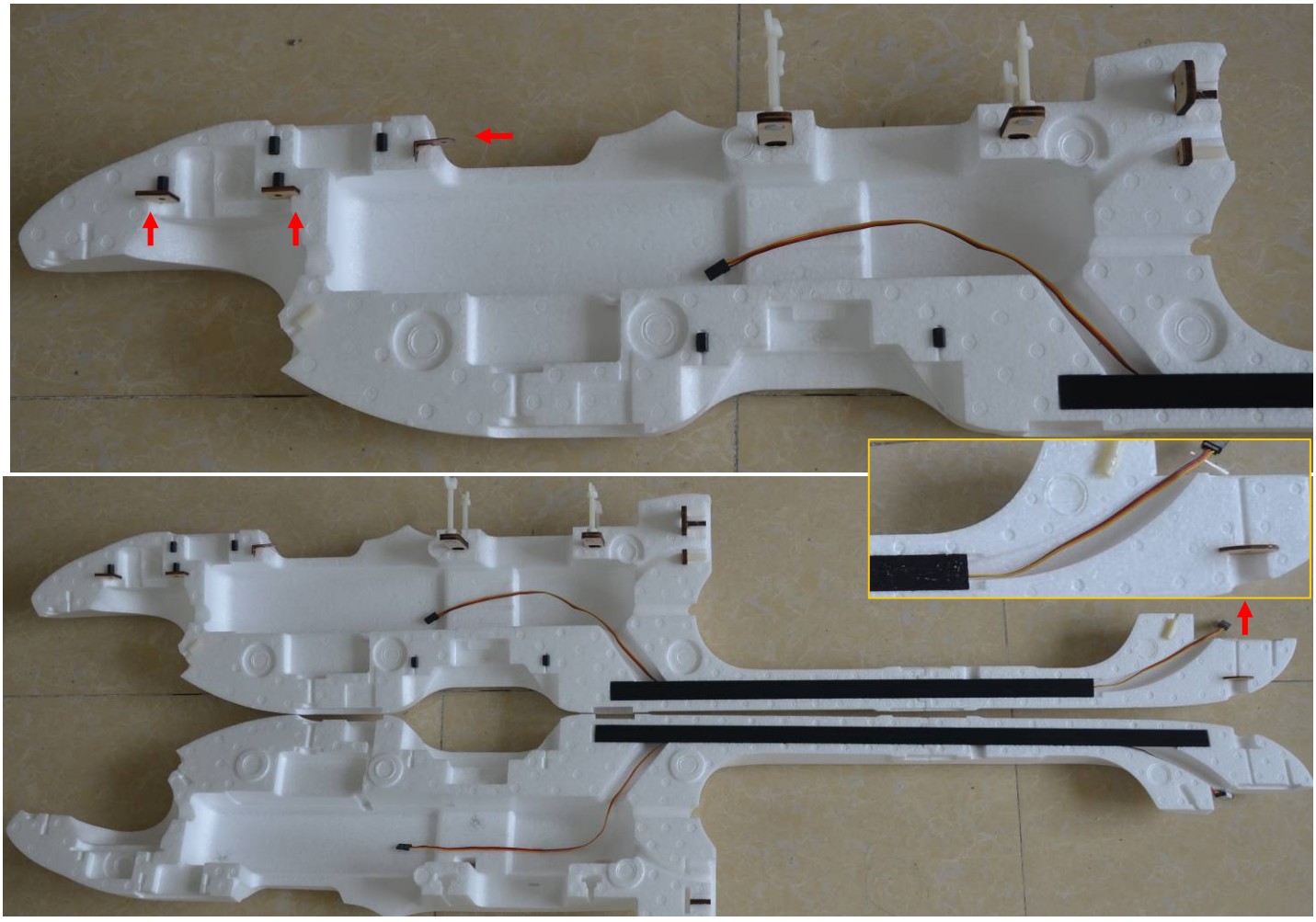
3> install the wing-fuselage joint parts, a little glue is necessary, A and B joint parts at correct slot



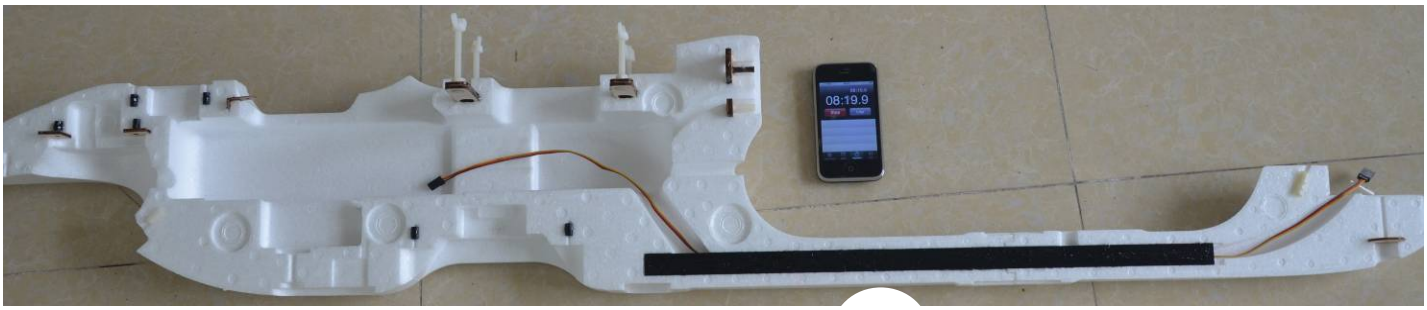
4> install the plywood, the motor mount will be secured to this plywood by screws



5> Double checking the fuselage again, be sure no parts missing !



6> It's time to close the fuselage, recommend glue to the right half fuselage, unnecessary glue to both half fuselage, or a little glue to the left half of fuselage is okay by some of the contact surface. Cost about 8 -9 minutes spreading glue to the right half of fuselage, glue will dry quickly if last too long!

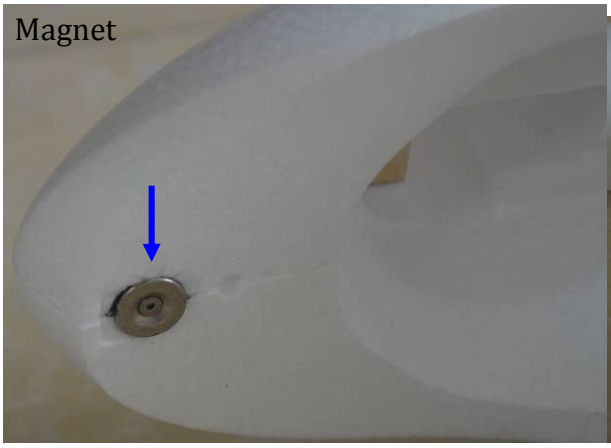


Pressing firmly by all part of the fuselage intermittently, especially during the first hour.

Room temperature drying about 24 hours before installation of motor

7> Install the following parts with glue during the period of fuselage drying

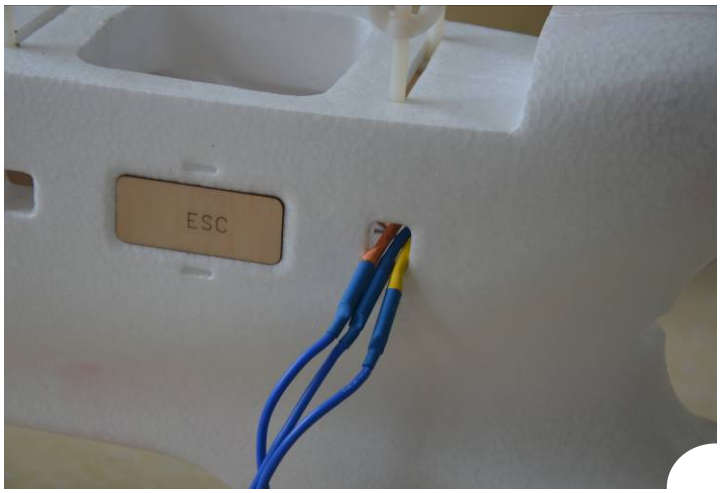
Recommend wrapping tape around the tail-boom joint

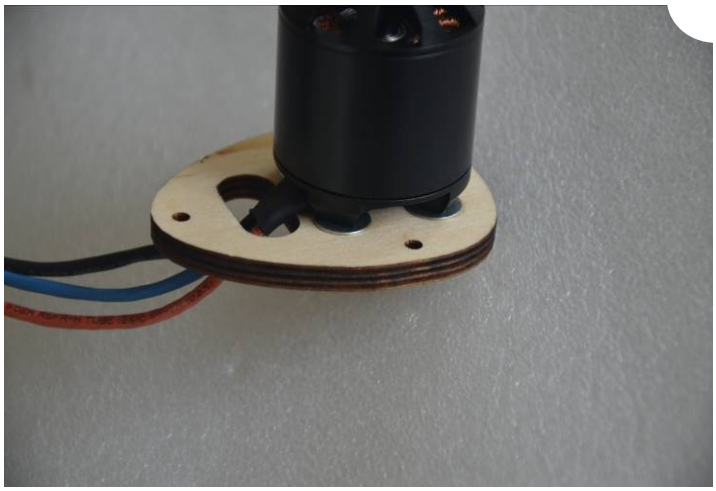
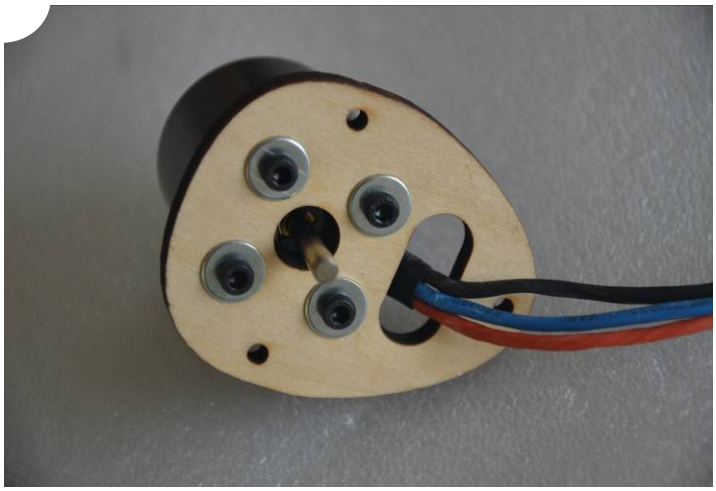


Please skip this if no undercarriage, hand launching only

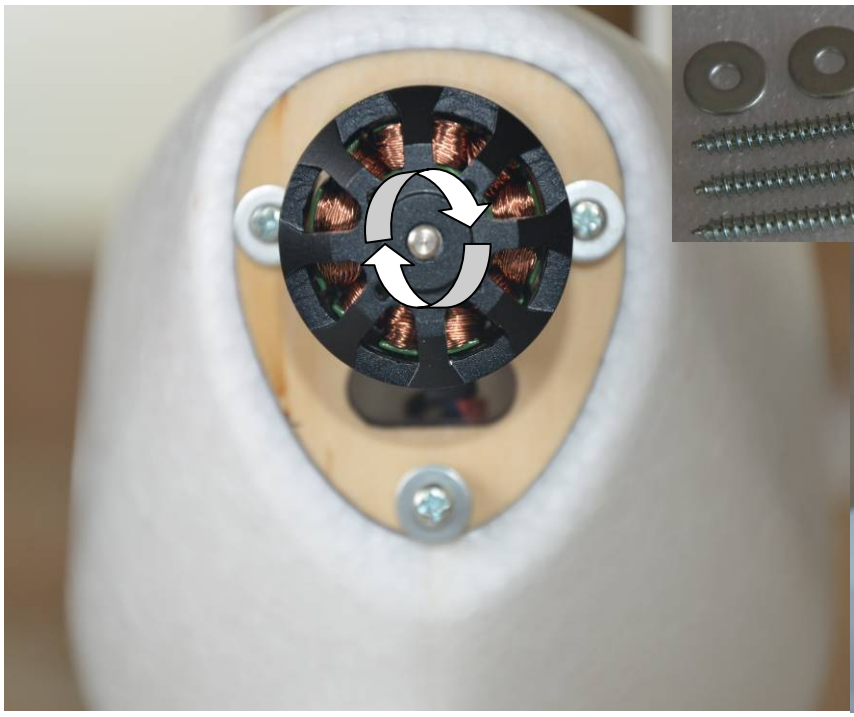
Remember let the fuselage dry about 24 hours at room temperature, at this period you can install Wings , Module 2, Undercarriage etc…

8 > ESC and Motor installation
ESC secured to the side of fuselage, it's very good for cooling,
Back to back Velcro included, cut half of the Velcro, one for ESC and another for VTX
Secure the motor to the motor mount plywood by washers and screws from kits' package (included)
without traditional cross shape motor mount is good to reduce the size of airplane's motor mount and produce as less air drag as possible



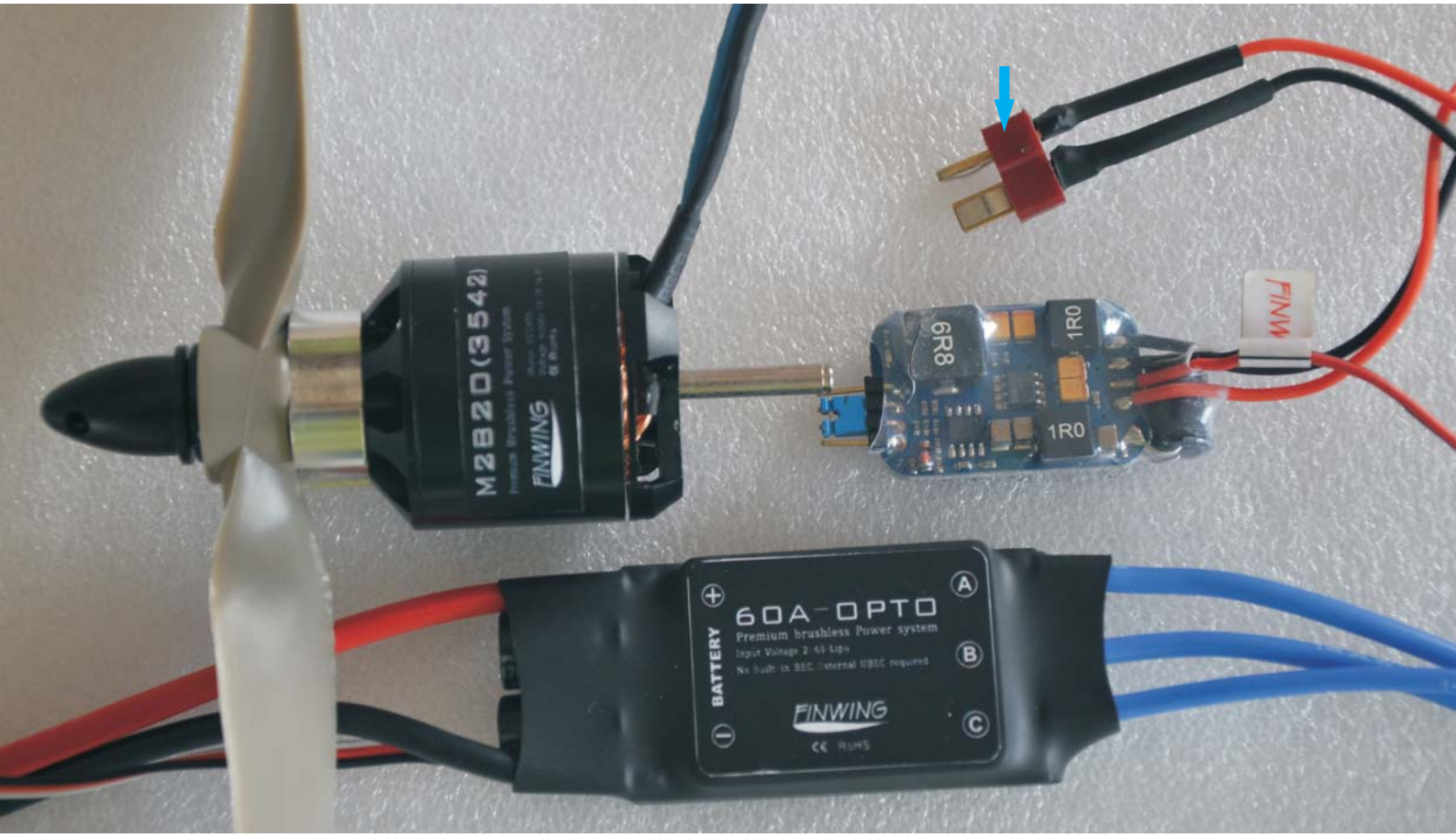




Secure the motor mount plywood to the airplane by washers and 3 PCS long screws (3*35MM)
Most of the Propeller should be: embed words toward the nose of airplane, don't be wrong direction !



Finwing Sabre Power System

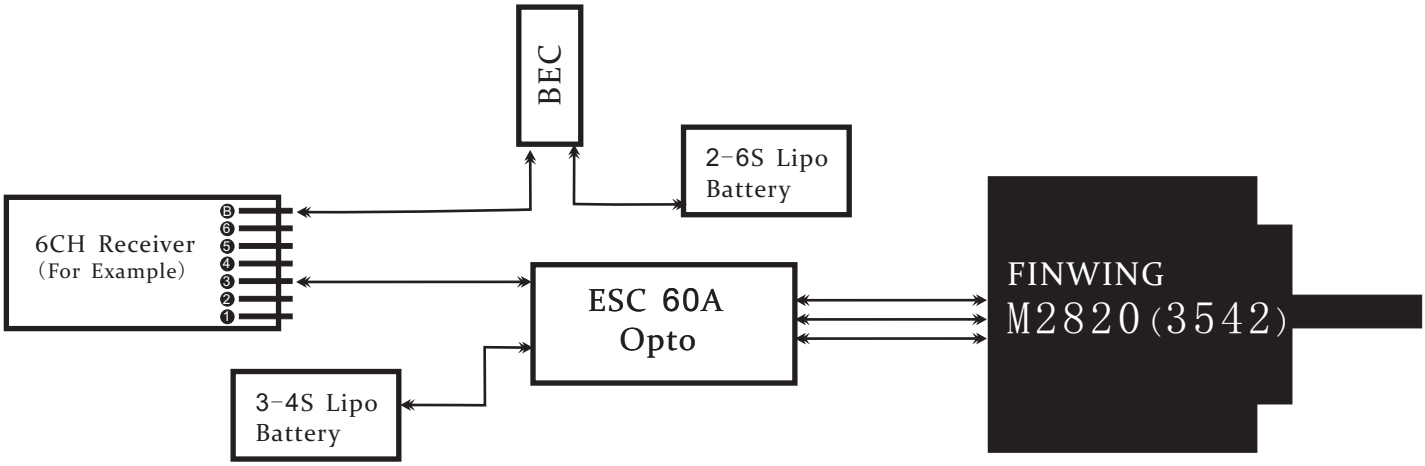
The following photo shown is sabre premium power system
Please solder a connector for the BEC power input
Connector type is depends on what type of your battery's connector



The premium 60A ESC opto plus a external BEC 6A
This combo is more safety and efficient to supply your airplane espeically FPV flying need supply lots of FPV gears, undercarriage, Pan&Tilt, etc. . .

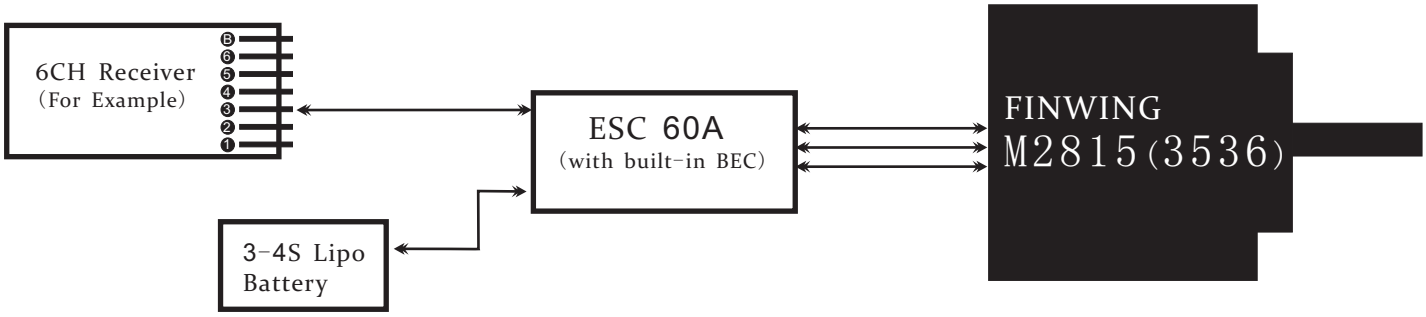
Diagram of wires connection (Premium power system)
*ESC type: Opto without buit-in BEC
*External 6A BEC

BEC Specification
Output: 5V/6A,5.5V/6A,6V/6A (Switchable by the Blue jumper)
Input: 5V-25V (2-6S Lipo, 5-18S NiMH/Nicd)
Continuous Current 6A, Brust current 10A
UBEC should be at least 5CM away from the receiver to avoid electronic interference



Finwing Sabre Power System

Diagram of wires connection (Advanced power system)
*ESC type: with build-in UBEC/SBEC

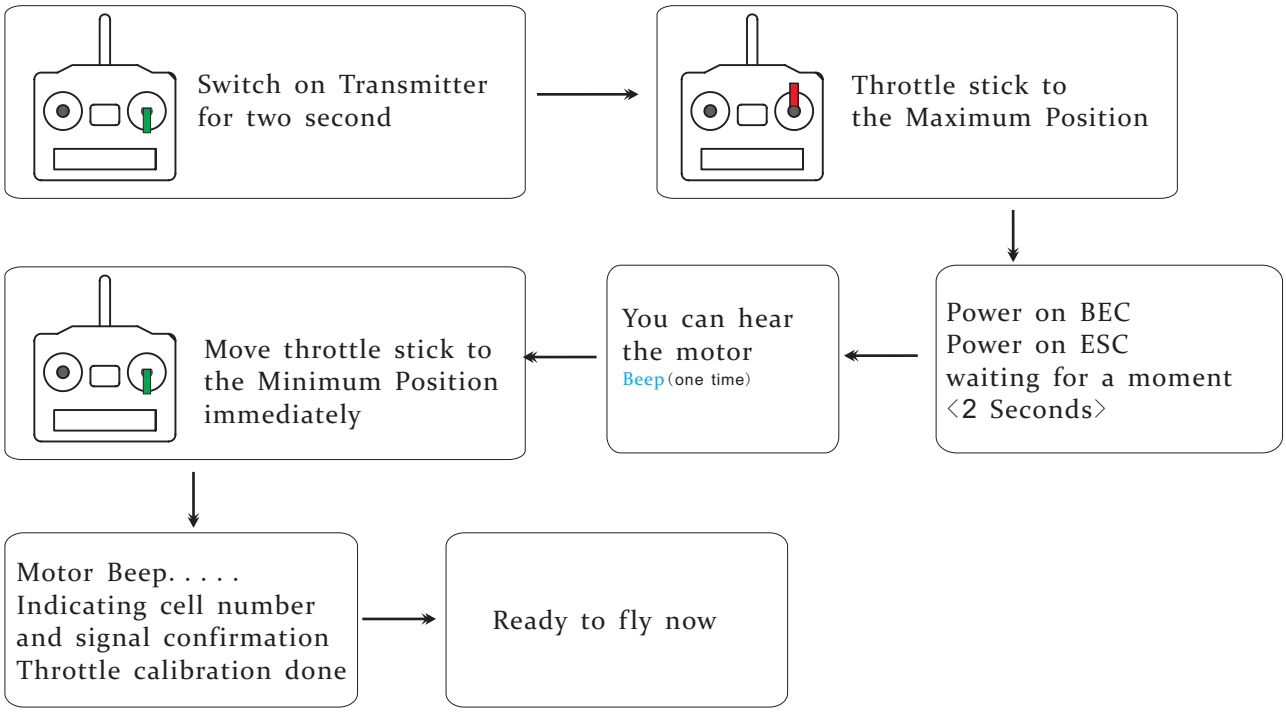


Throttle calibration

Throttle calibration setting is required by all power system for The first time use or changed new transmitter, replaced ESC, motor and battery.

*Note: it may cause "lost throttle signal" if no throttle calibration

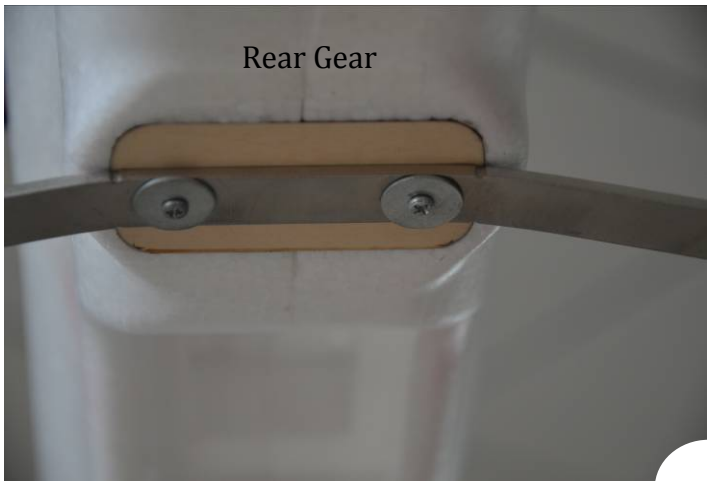
Note: USA, EU flyers' transmitter, the throttle stick should be at the left side of transmitter

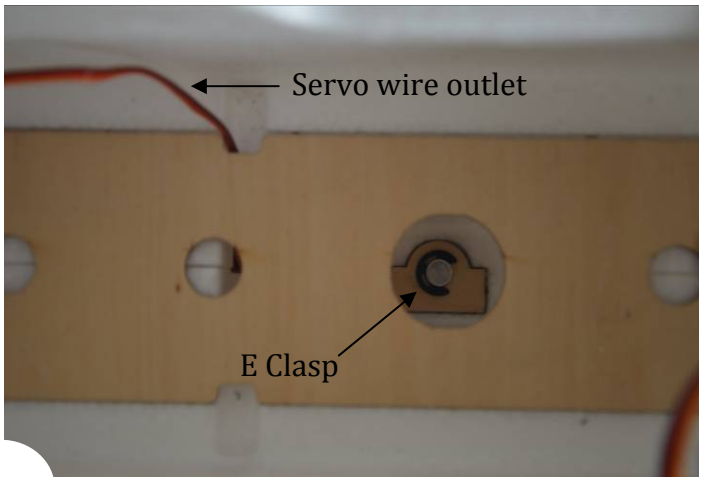


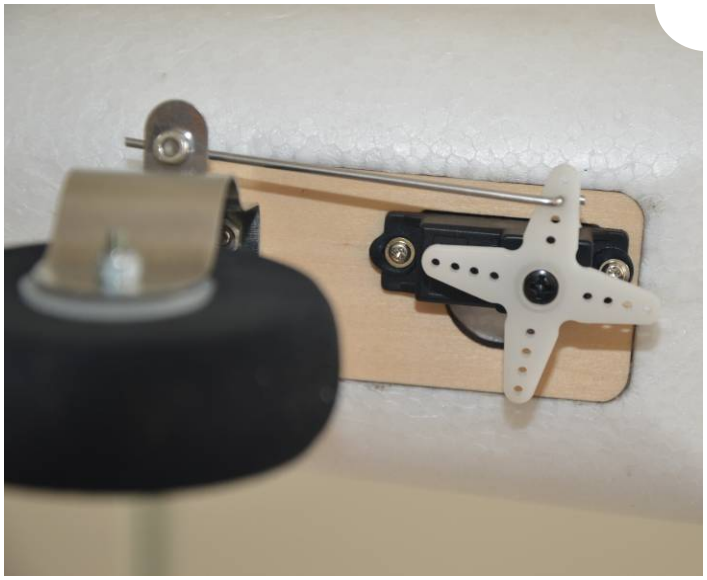
Undercarriage

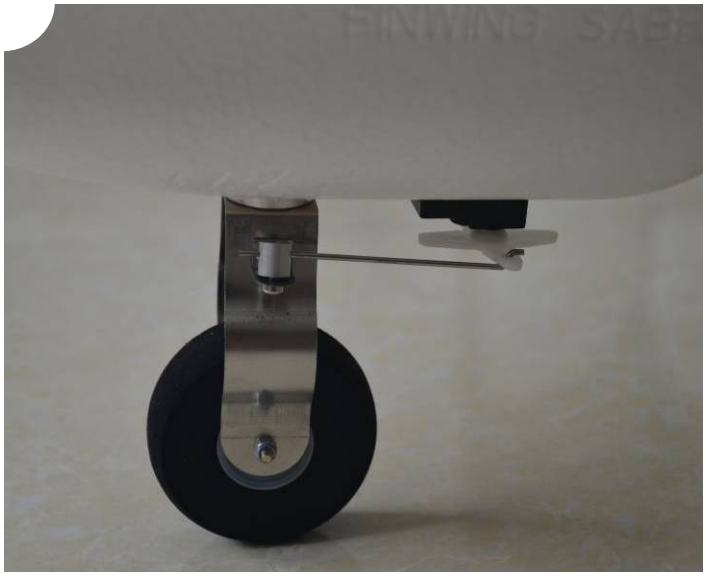
1> assembly the front gear as the photos shown

2> install undercarriage now, install the rear gear first, then neutralize the (23g)metal gear servo install the front gear as photos shown. Adjust the undercarriage direction correctly before flying







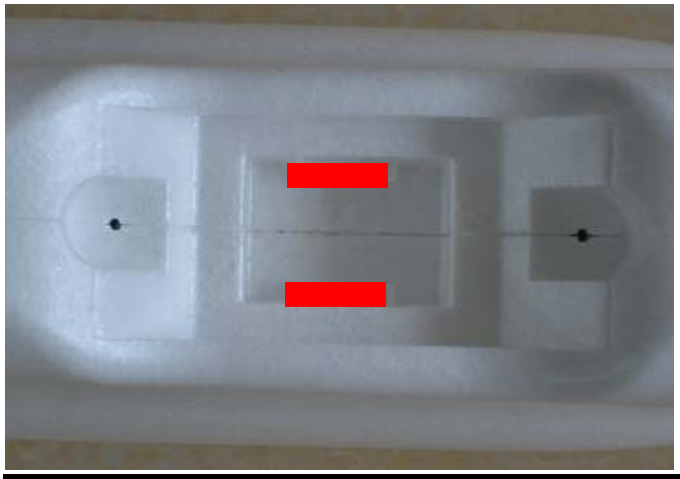


Module 1 Forward Hero Filming Nose

45^0 Forward Filming
Perfect for HD Aerial photography
The module 1 is available to install Hero2/Hero3/Hero4 or other Camera is possible.
Please setting reverse if you use Hero Camera,

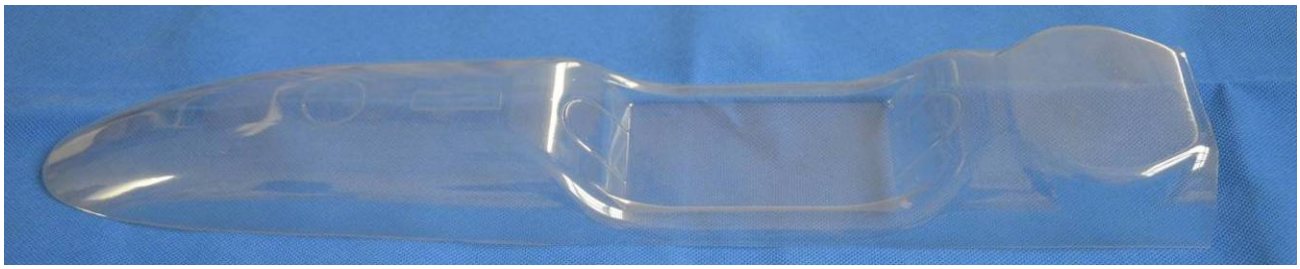
Module 3 Downward Filming

Downward filming module perfect for Air-mapping.
It's available to install Hero2/ Hero3/Hero4 or DIY other camera. Please cut out that foam as the red color shown if install Hero 2. because hero 2 thickness is more than Hero3 and Hero 4
The camera would be hid in the fuselage, don't be worry landing on grass land.



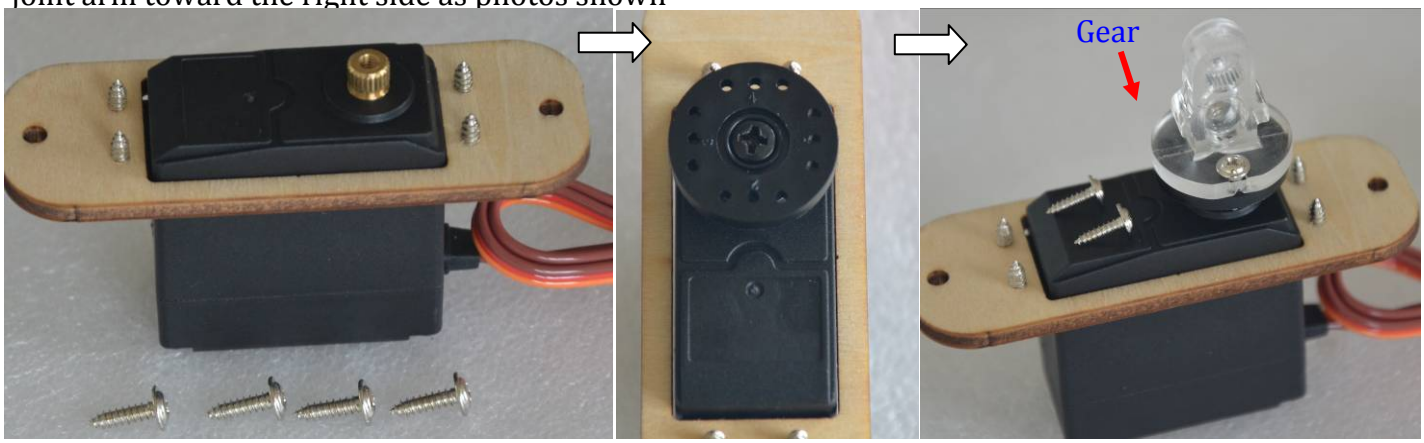
Belly Armor

Belly shell made by the Blister mould, please cut off the extral flat material, finally as below

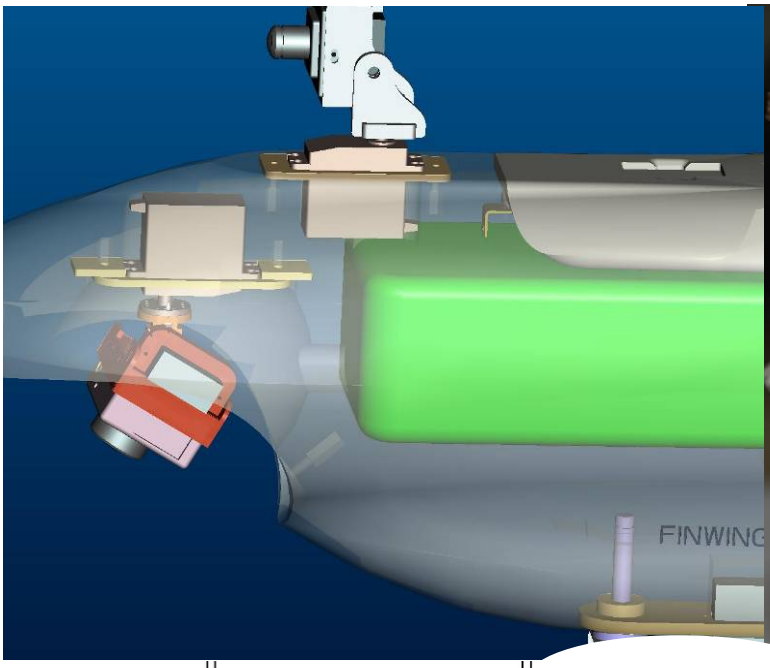


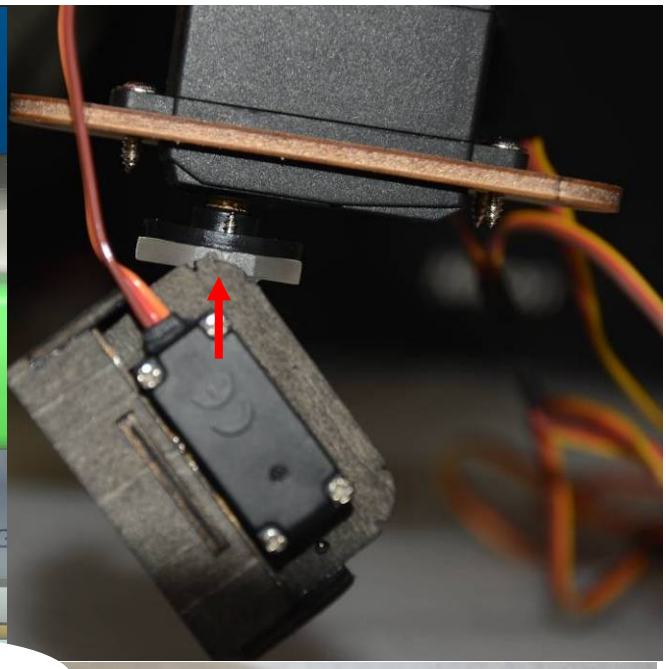
Module 2

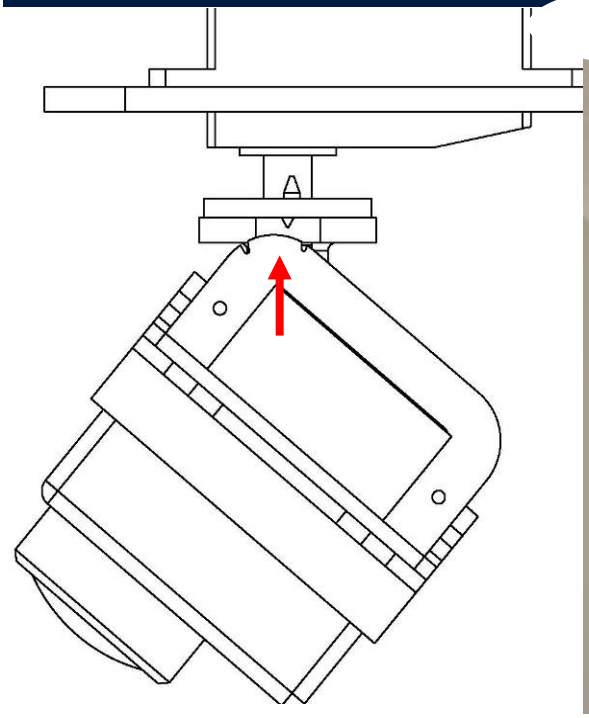
>Secure plywood to the servo, then Secure the servo arm and the joint arm subsequently, Gear of the joint arm toward the right side as photos shown



>Install the Tilt module, recommend initial position as the photos shown, but you can adjust it according to your reference, you can install it more downward if you would like downward video most of the time. FYI: We also flying without rubber band and video no vibration,

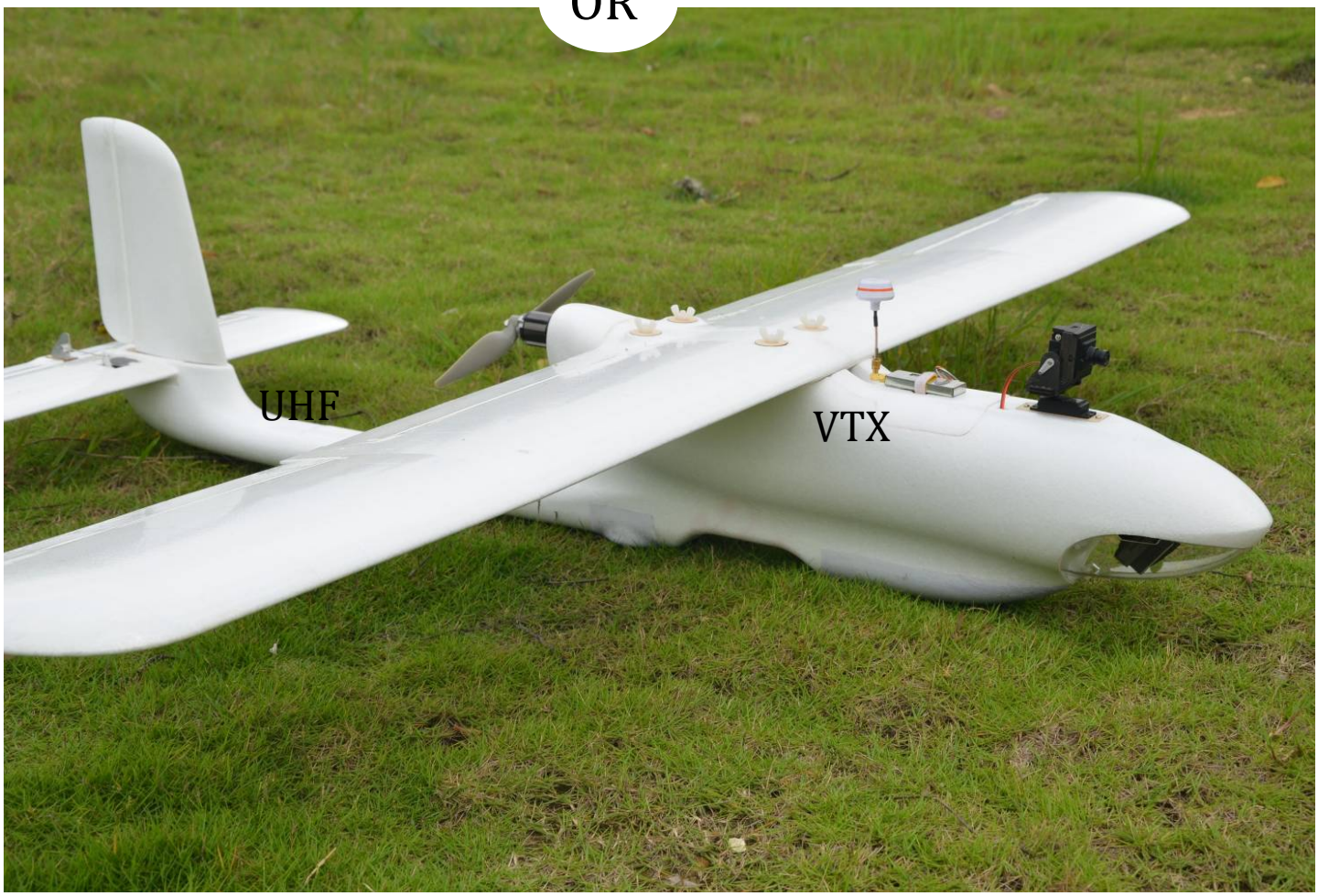






FYI FPV Gears Layout

OR



FYI FPV Gears Layout