A-4E/F Skyhawk

FREEWING 1/9 SCALE EDF JET

USER MANUAL

WINGSPAN:940MM
LENGTH:1430MM
EMPTY WEIGHT:2200G
(W/O BATTERY)

www. sz-freewing. com

MADE IN CHINA

Introduction

The A-4 Skyhawk commands a beloved place in aviation history. Designed by the innovative Ed Heinemann for Douglas Aircraft in the 1950s, the A-4 was optimized as a multi-role aircraft that used its low weight, high maneuverability, and straightforward reliability to lethal advantage. This aircraft's nearly 70 year history of distinguished service and its continued operation by certain countries to this day is testament to the timelessness of "Heinemann's Hotrod."

To honor this famed aircraft, Freewing and Motion RC proudly offer the Freewing 80mm A-4E/F Skyhawk! The first large foam electric PNP mass production A-4 in the world, this flying model is powered by a 3530-1850kv brushless outrunner motor and 12 blade EDF ducted fan, achieving a top speed of 106mph/170kph using the recommended 6s 4000mAh-5200mAh battery.

The Freewing 80mm A-4E/F Skyhawk features all new fold-and-twist retracts, with durable aluminum trailing link struts for confident operation on rough grass runways. Removable wings and flexible wing wire harnesses make transportation very convenient. Beyond the overall scale profile fidelity, other scale details include plastic split flaps, and detachable fuel tanks, AGM-12 missiles, and refueling probe.

Adding to the model's versatility, the later version avionics "hump" is also included! Attach this magnetic "hump" onto the fuselage's top spine to change between the -E and -F variations of the Skyhawk. Two decal sets are also included, depicting a US Navy A-4 from VA-22 and a US Marines A-4 from VMA-311. Fly these with pride, or personalize with another livery of your choosing!

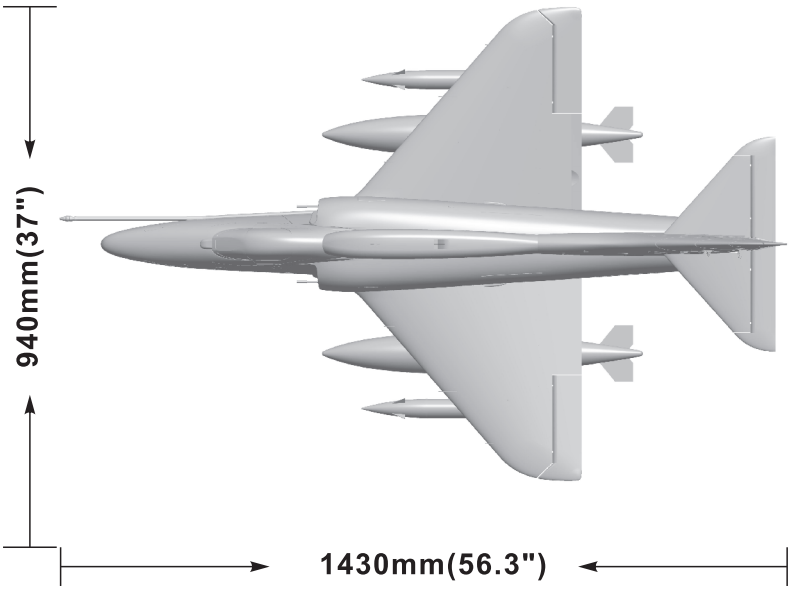
⚠ **NOTE:** This is not a toy. Not for children under 14 years. Young people under the age of 14 should only be permitted to operate this model under the instruction and supervision of an adult. Please keep these instructions for further reference after completing model assembly.

Note:

1. This is not a toy! Operater should have a certain experience, beginners should operate under the guidance of professional players.
2. Before install, please read through the instructions carefully and operate strictly under instructions.
3. Cause of wrong operation,Freewing and its vendors will not be held responsible for any losses.
4. Model planes' players must be on the age of 14 years old.
5. This plane used the EPO material with surface spray paint, don't use chemical to clean, otherwise it will damage.
6. You should be careful to avoid flying in areas such as public places,high-voltage-intensive areas,near the highway, near the airport or any other place where laws and regulation clearly prohibit.
7. You cannot fly in bad weather conditions such as thunderstorms,snows....
8. Model plane's battery, don't allowed to put in everywhere. Storage must ensure that there is no inflammable and explosive materials in the round of 2M range.
9. Damaged or scrap battery should be properly recycled, it can't discard to avoid spontaneous combustion and fire.
10. In flying field, the waste after flying should be properly handled,it can't be abandoned or burned.
11. In any case, you must ensure that the throttle is in the low position and transmitter switch on, then it can connect the lipo-battery in aircraft.
12. Do not try to take planes by hand when flying or slow landing process. You must wait for landing stop, then carry it.

Catalog

Product basic information



Standard version

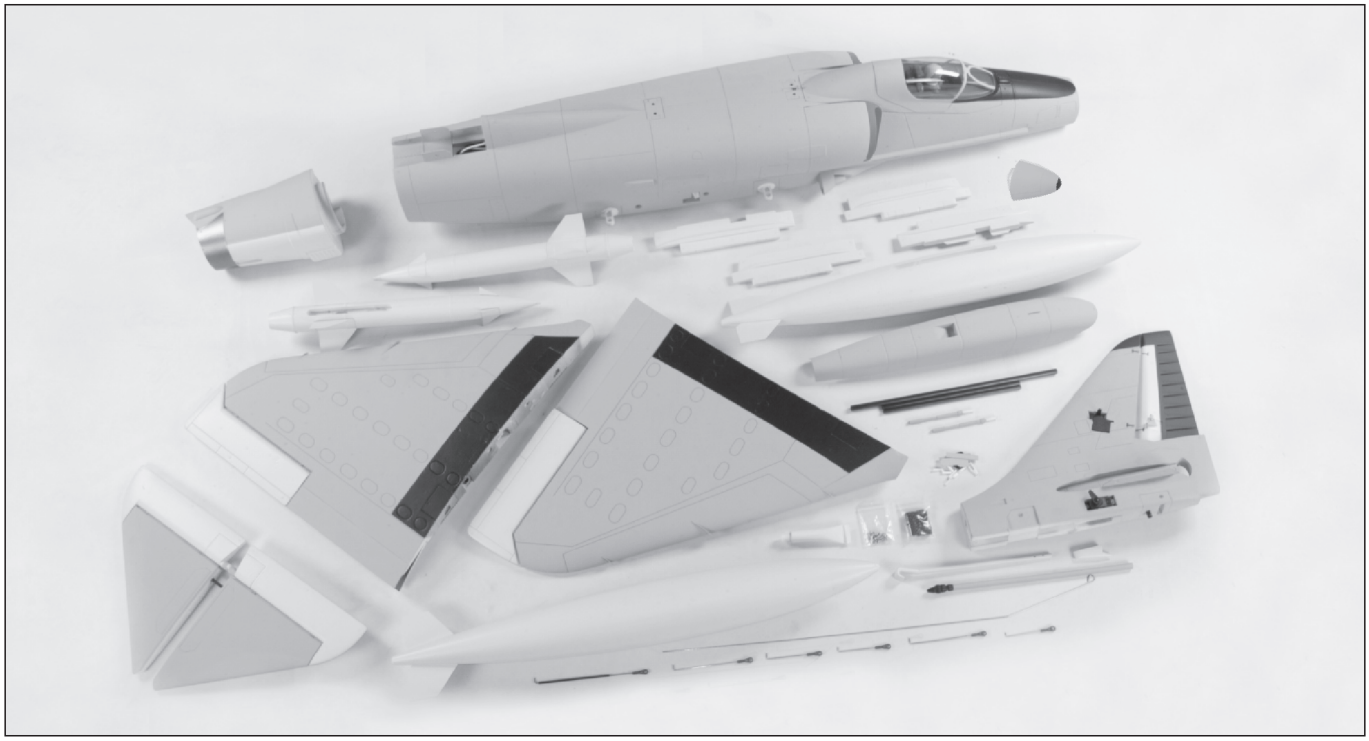
Wing loading: 116g/dm^2
Wing area: 24 dm^2
Motor: 3530-1850KV
brushless outrunner motor
Ducted fan: 80mm 12-blade fan
ESC: 100A brushless
Servo: 17g digital metal gear servo (1pcs)
9g digital metal gear servo (6pcs)
Flight speed : 170KPH/110MPH
Empty Weight: 2200g (without battery)
Thrust: 3200g (Uninstalled Bench Test)

Other features

Material : EPO
Aileron: Yes
Split Flaps: Yes
Elevator: Yes
Rudder: Yes
Landing gear: Retractable, Suspension
Scale Pilot figure
Battery : 6S 4000~5200mAh (1pcs)

⚠ Note: The parameters in here are derived from test result using our accessories. If use other accessories, the test result will be different. Any problem since of using other accessories, we are not able to provide technical support.

Package list



Different equipment include different spareparts. Please refer to the following contents to check your sparepart list.

No.	Name	PNP	ARF Plus	Airframe
1	Fuselage	Pre-installed all electronic parts	Pre-installed servo	No electronic equipment
2	Main wing	Pre-installed all electronic parts	Pre-installed servo	No electronic equipment
3	Horizontal tail	√	√	√
4	Vertical tail	Pre-installed all electronic parts	Pre-installed servo	No electronic equipment
5	Drop tank & missiles	√	√	√
6	Magnetic Nose cone & drop tanks	√	√	√

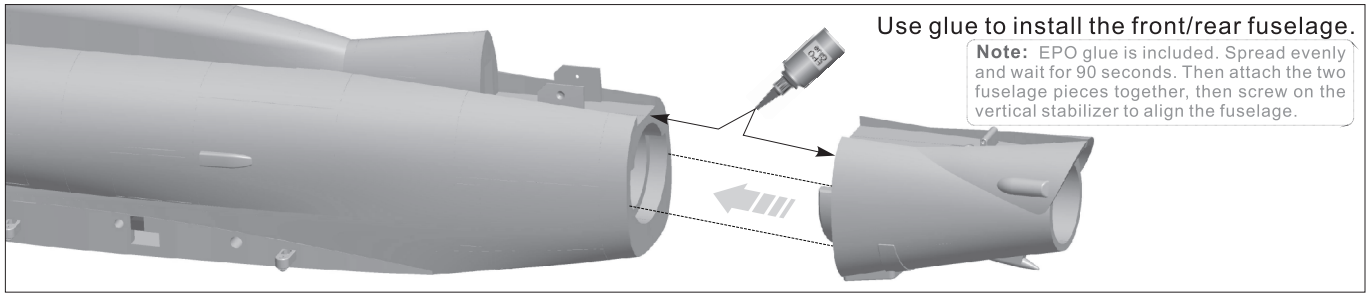
No.	Name	PNP	ARF Plus	Airframe
1	Scale accessories	√	√	√
2	Linkage Set	√	√	√
3	Carbon tube & Cannon barrels	√	√	√
4	Glue & Non-slip mat	√	√	√
5	Manual & Decals	√	√	√
6	Screw	√	√	√

PNP Install Instructions

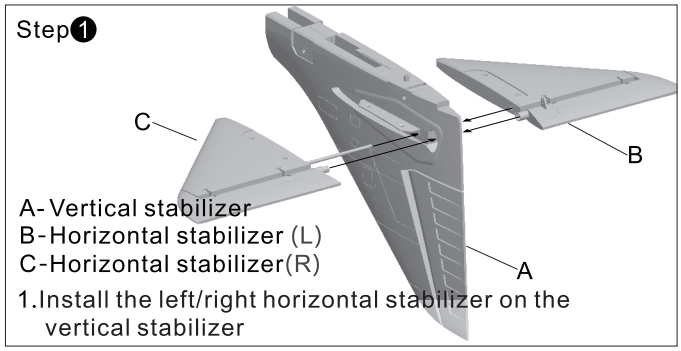
Traction steel wire use instruction

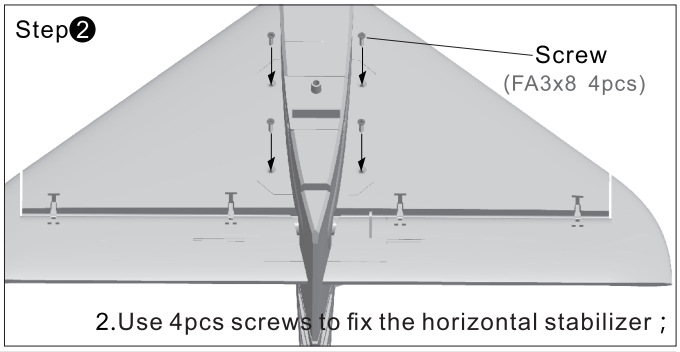
To minimize servo connections, the Elevator and Rudder servos' wires each reach from the servo itself directly to the receiver. A rigid steel wire hook is included in the box to allow you to pull the servo wires through the model's internal fuselage.

Install fuselage



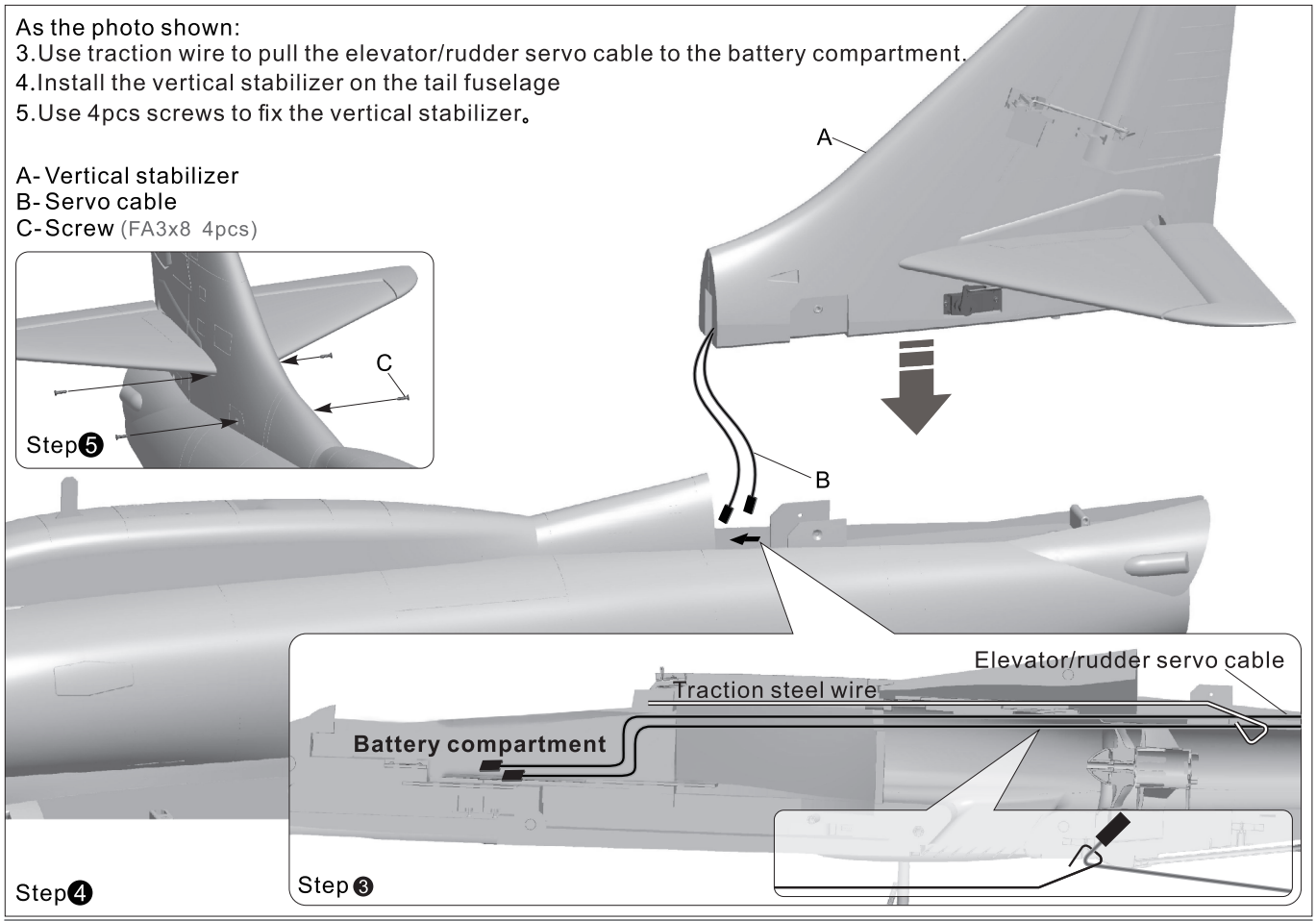
Install Horizontal stabilizer / Vertical stabilizer





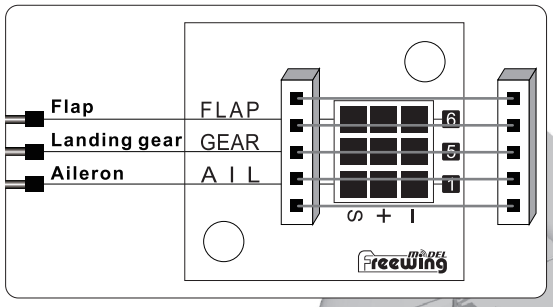
As the photo shown:
3.Use traction wire to pull the elevator/rudder servo cable to the battery compartment.
4.Install the vertical stabilizer on the tail fuselage
5.Use 4pcs screws to fix the vertical stabilizer。

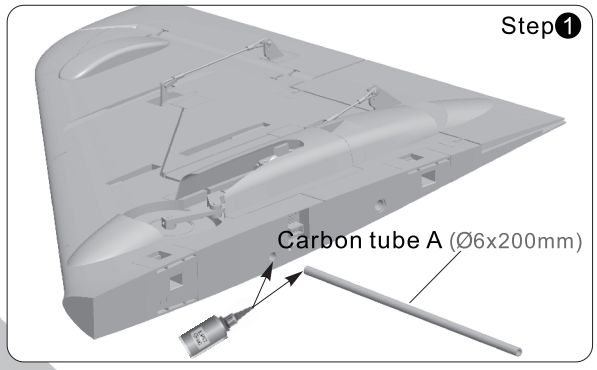
A- Vertical stabilizer
B- Servo cable
C- Screw (FA3x8 4pcs)

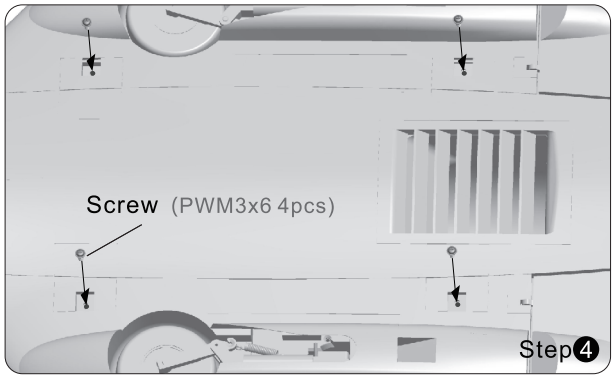


PNP Install instructions

Install Main wing





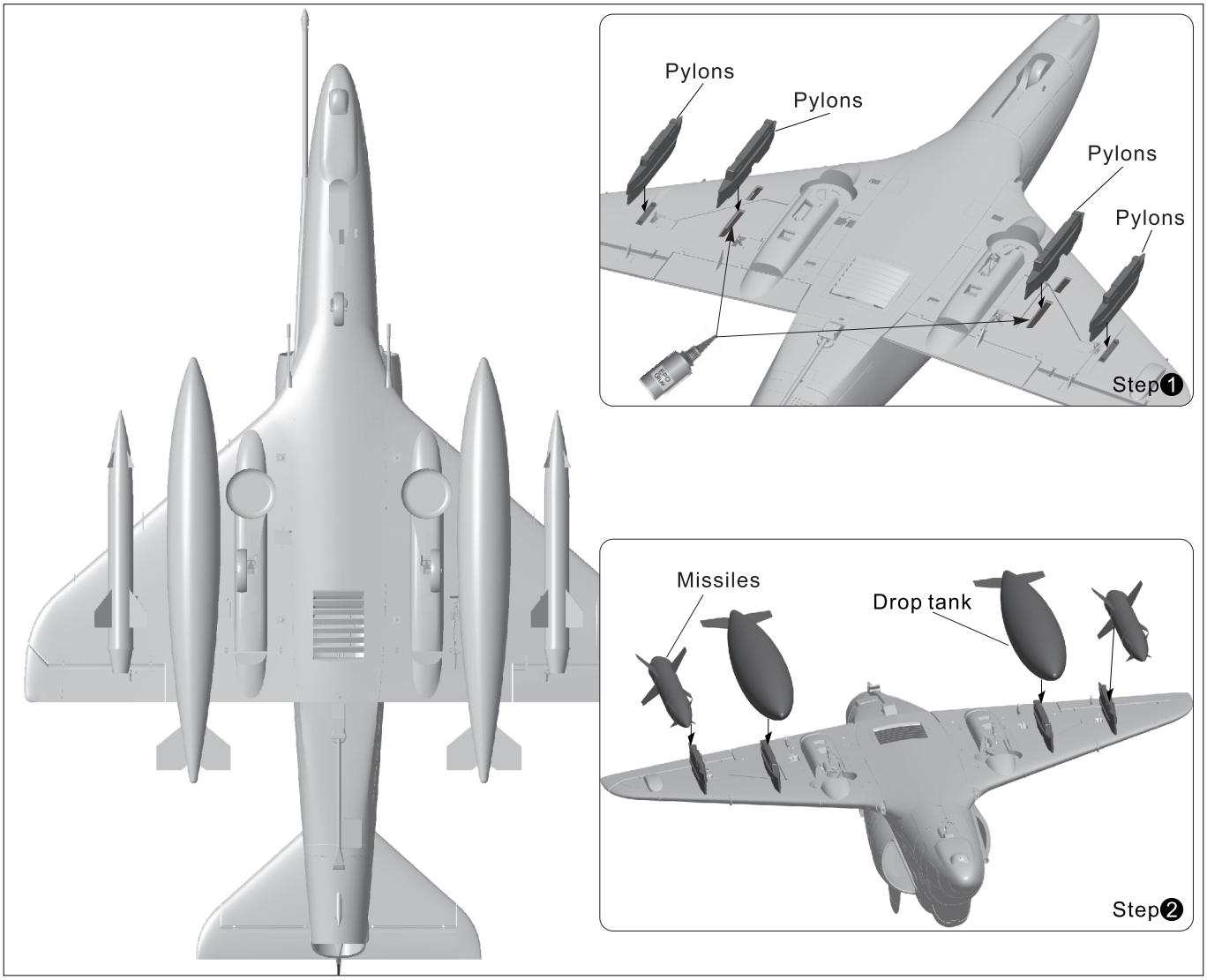


As the photo shown:

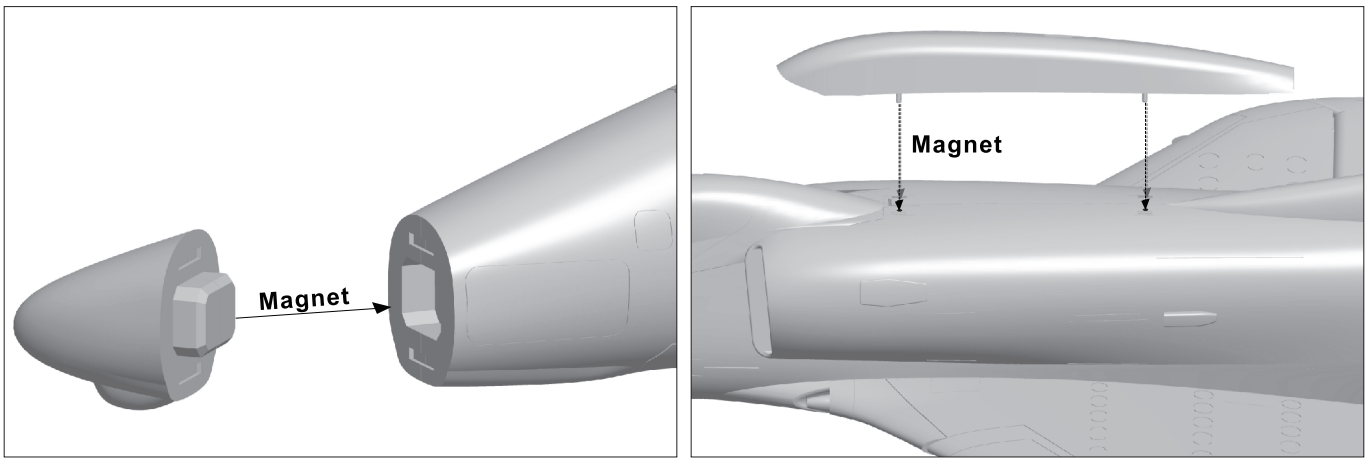
1. Attach the glue on the surface of carbon tube A, and insert carbon tube A to the main wing, ensuring both sides of the exposed rod are equal in length.
2. Insert the carbon tube B.
3. Insert the ribbon wire to the control board, then install the left/right main wing on the fuselage.
4. Use 4pcs screws to fix the main wing.

Install Missiles & Drop tank

Install the missles, plyons, and drop tanks according to these pictures.

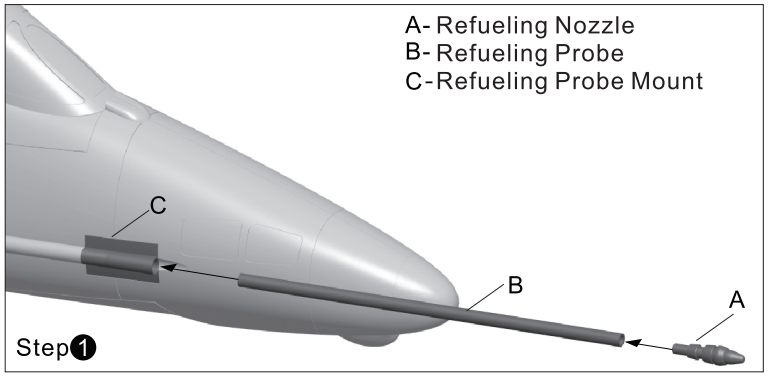


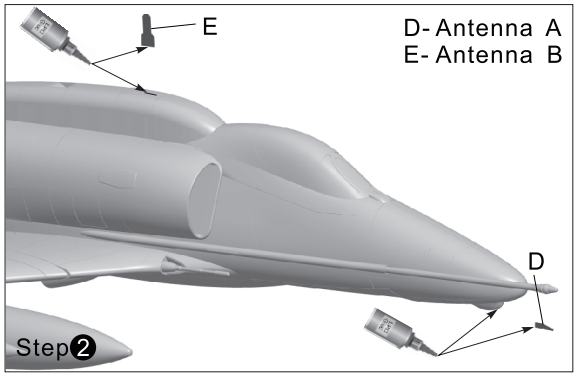
Install Magnetic nose cone and fuel tanks

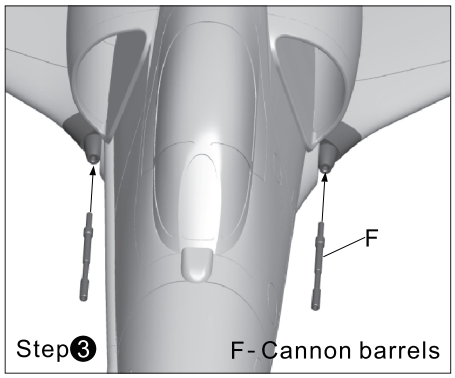


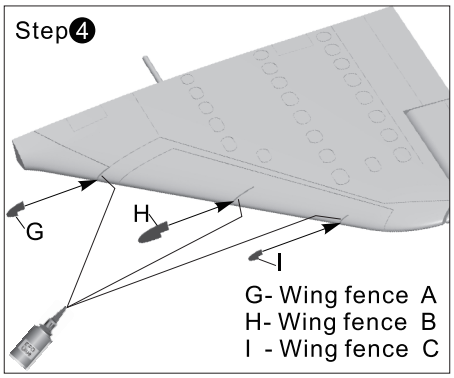
PNP Install instructions

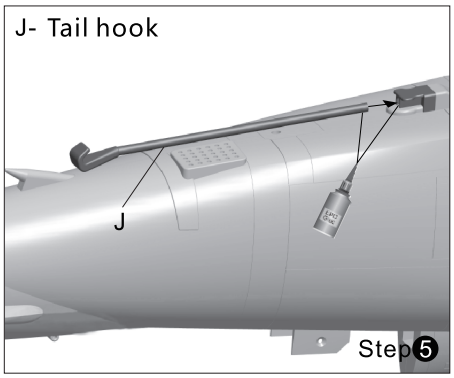
Install scale accessories





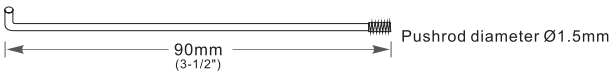






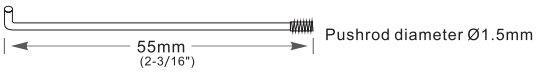
Pushrod instructions

Aileron pushrod size



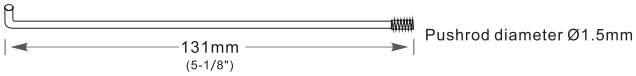
Aileron pushrod mounting hole

Flap pushrod size



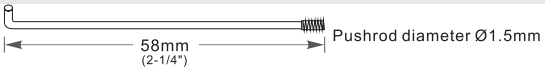
Flap pushrod mounting hole

Elevator pushrod size



Elevator pushrod mounting hole

Rudder pushrod size

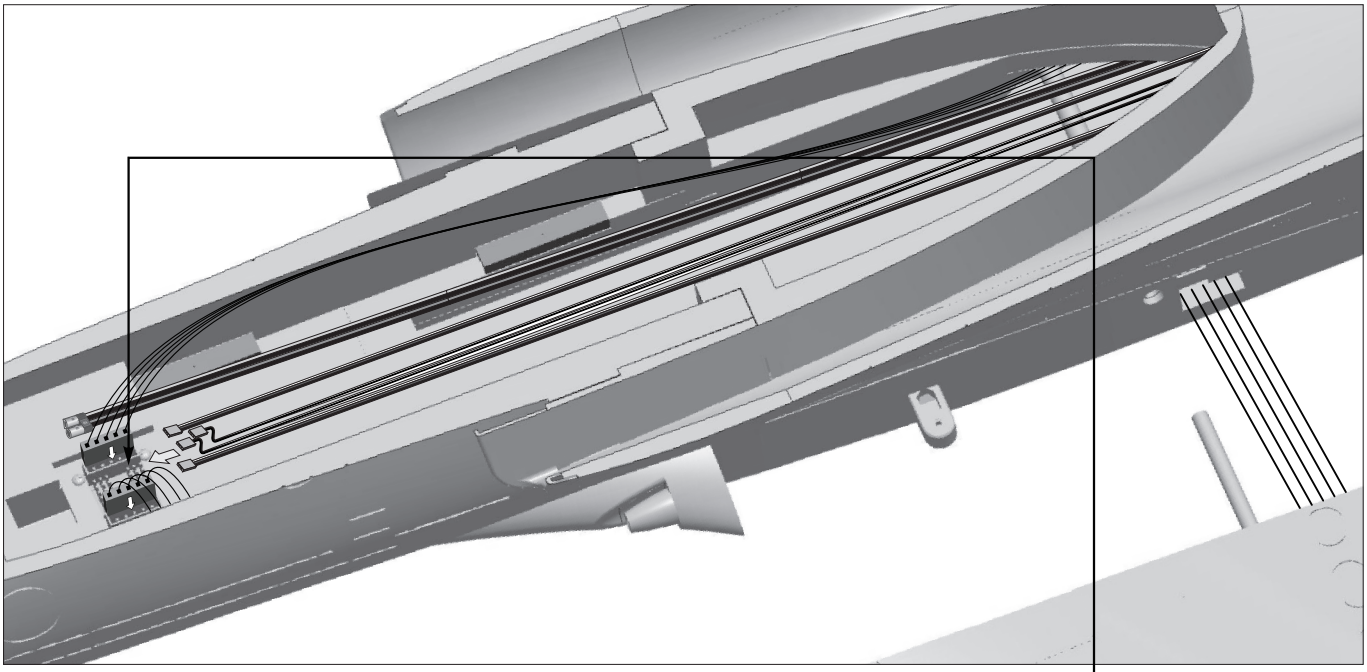


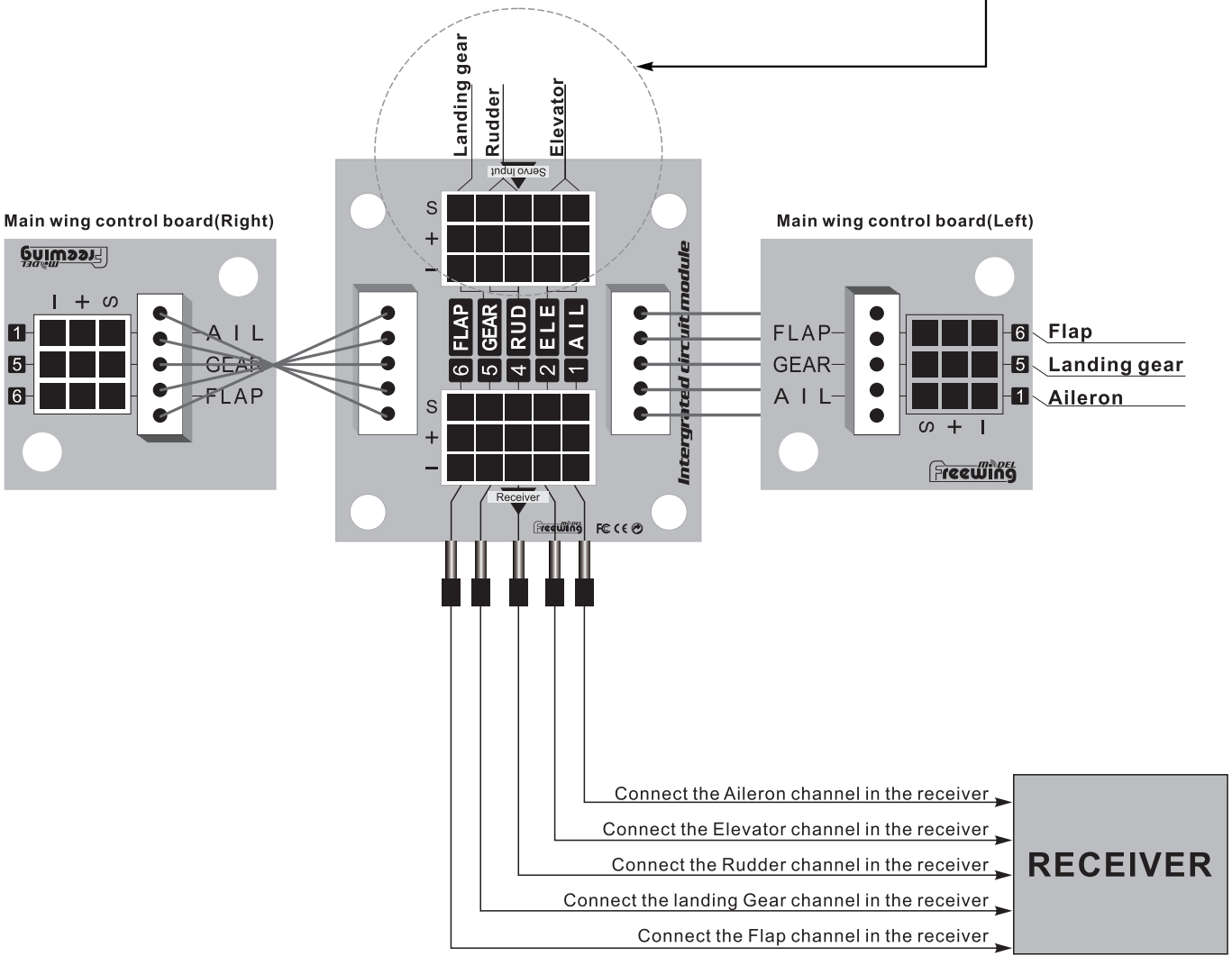
Rudder pushrod mounting hole

PNP Install instructions

Control board connection diagram

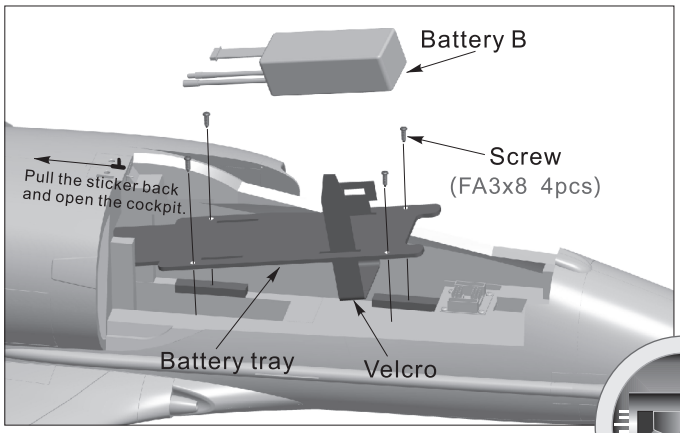
The A-4 uses a convenient flexible ribbon wire harness to consolidate wiring. Connect according to the photo.

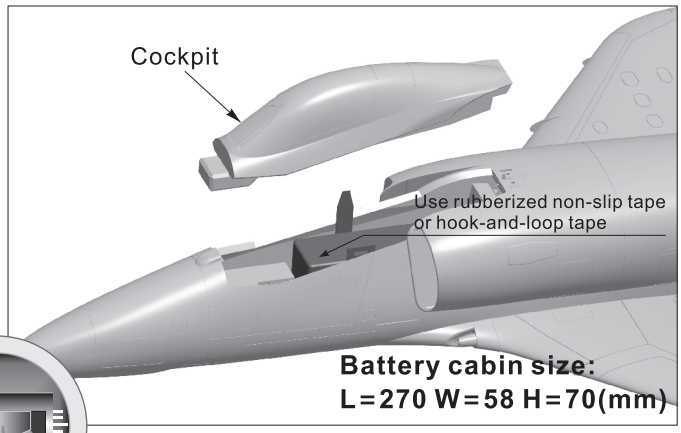




PNP Install instructions

Battery size





Before connecting the battery and receiver, please switch on the transmitter power and make sure the throttle stick is in the lowest position.

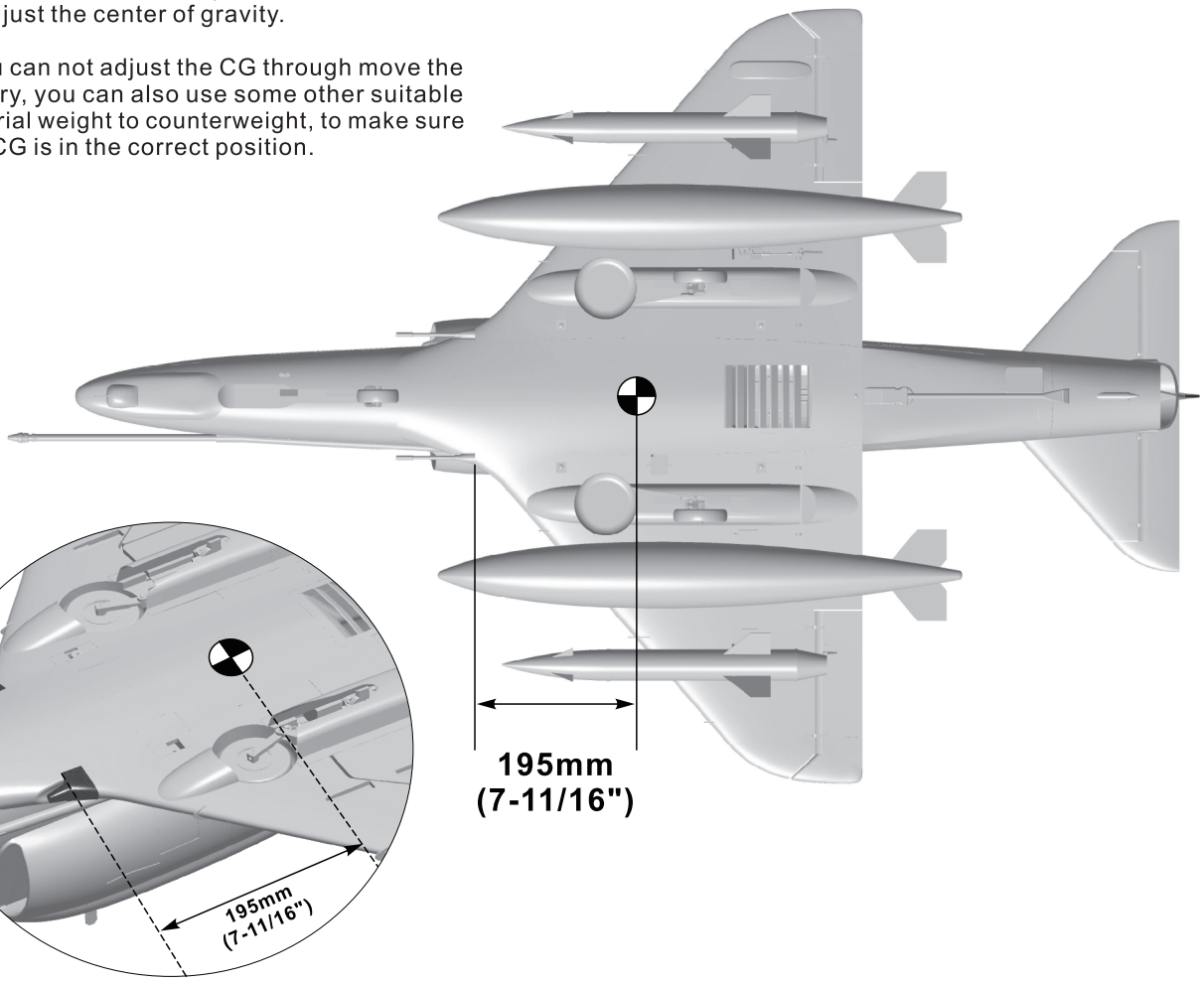
We recommend the following LiPo battery:
6S 22.2V 4000mAh ~ 6S 22.2V 5200mAh (1pcs)
Discharge rate of C ≥ 35C

Center of gravity

Correct center of gravity is directly related to the success of the flight, please refer to the following CG diagram to adjust your plane's center of gravity.

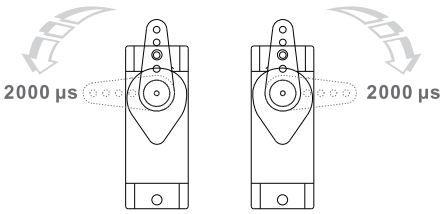
- You can move the battery forward or backward to adjust the center of gravity.

- If you can not adjust the CG through move the battery, you can also use some other suitable material weight to counterweight, to make sure that CG is in the correct position.

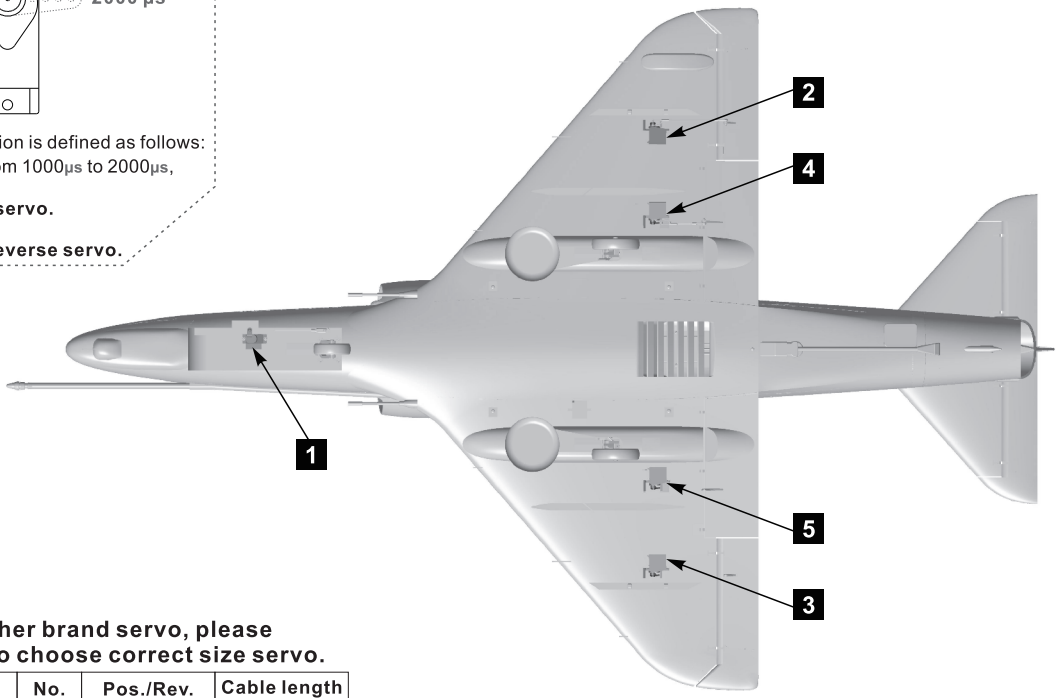


PNP Install instructions

Servos Introductions

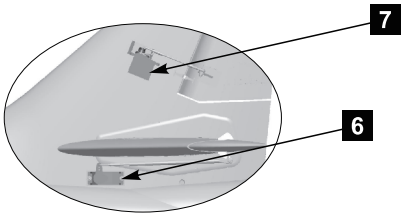


The servo positive or reverse rotation is defined as follows:
When servo input signal change from 1000μs to 2000μs,
The servo arm is
rotated clockwise, its **positive servo.**
The servo arm is
rotated counterclockwise, its **reverse servo.**



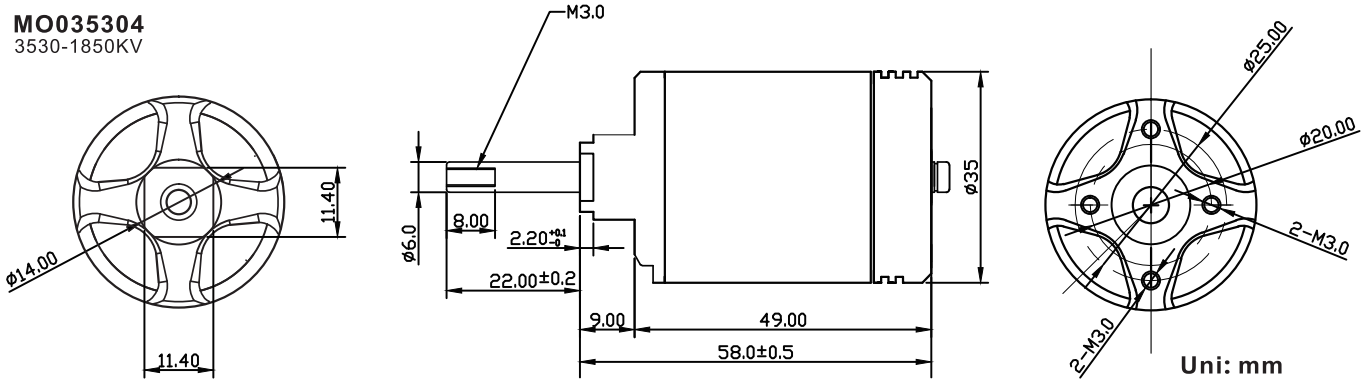
If you need to purchase other brand servo, please refer to the following list to choose correct size servo.

Position	Model	No.	Pos./Rev.	Cable length
Nose gear steering servo	9g Digital-MG	1	Positive	100mm
Aileron(L)	9g Digital-MG	2	Positive	250mm
Aileron(R)	9g Digital-MG	3	Positive	250mm
Flap(L)	9g Digital-MG	4	Positive	250mm
Flap(R)	9g Digital-MG	5	Positive	250mm
Elevator	17g Digital-MG	6	Positive	950mm
Rudder	9g Digital-MG	7	Positive	1050mm



Parameter of motor

MO035304
3530-1850KV



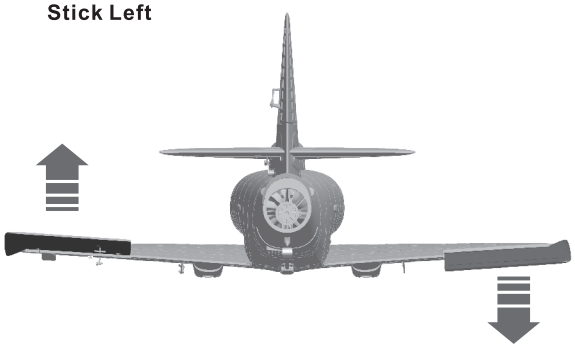
Item No.	Use motor	motor(KV)	Thrust(kg)	Current(A)	Use voltage (V)	Use ESC (A)	EDF Weight (g)	Max power (W)	Efficiency (g/w)
E7239	**MO035304** 3530-1850KV	1850	3200 (Bench)	90	22.2(6S)	100	318	2000	1.67

Control direction test

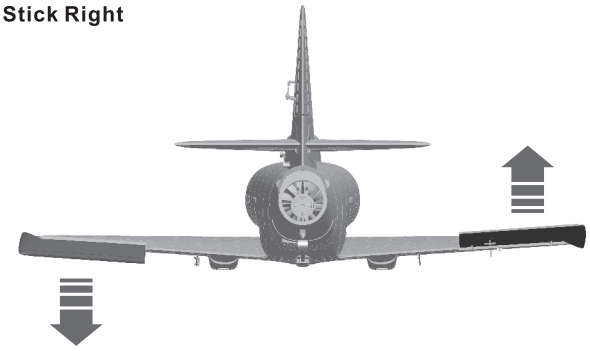
After installed the plane, before flying, we need a fully charged battery and connect to the ESC, then use radio to test and check that every control surface work properly.

Aileron

Stick Left

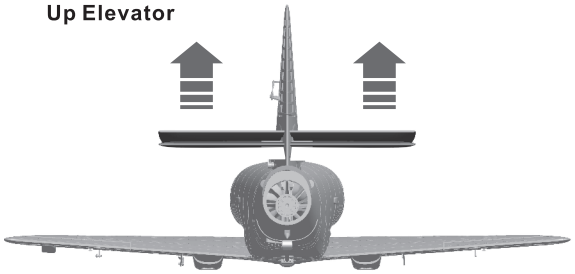


Stick Right

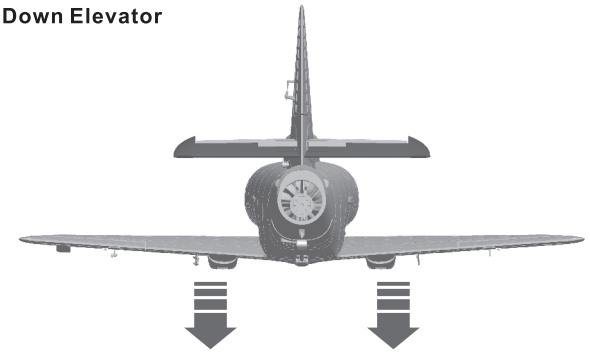


Elevator

Up Elevator

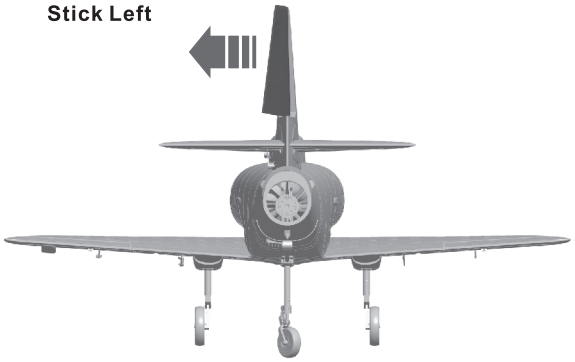


Down Elevator

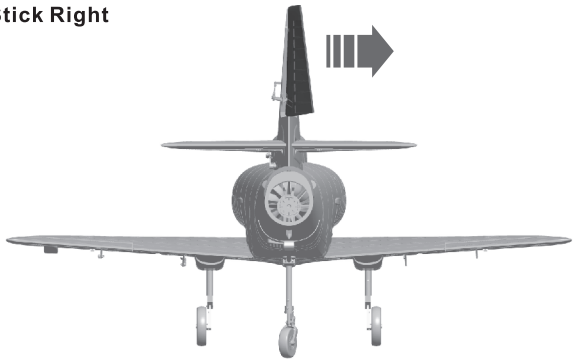


Rudder

Stick Left

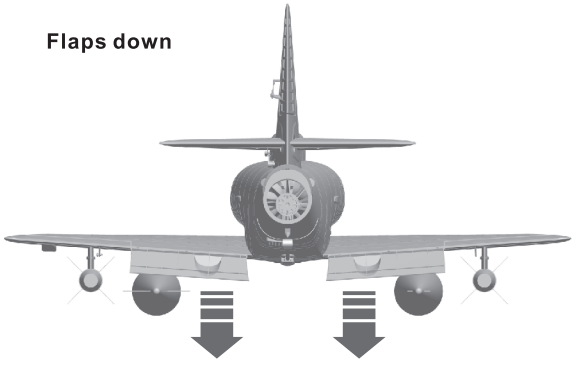


Stick Right



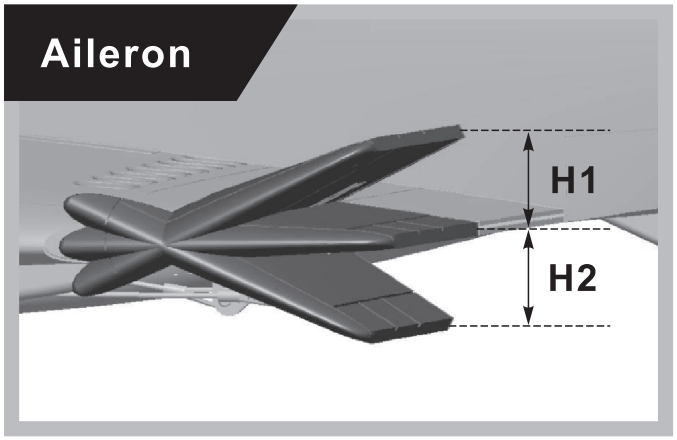
Flaps

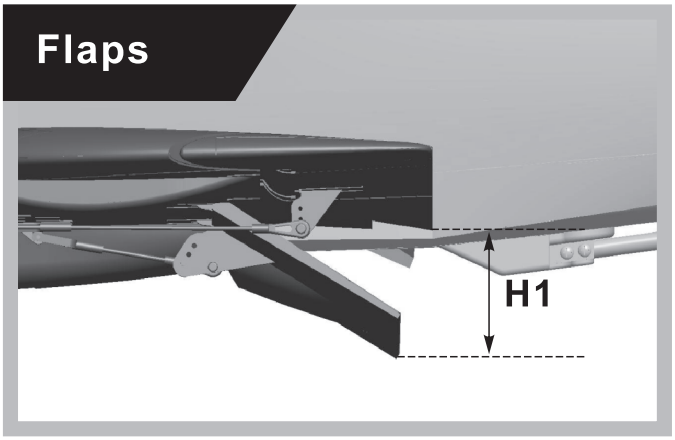
Flaps down

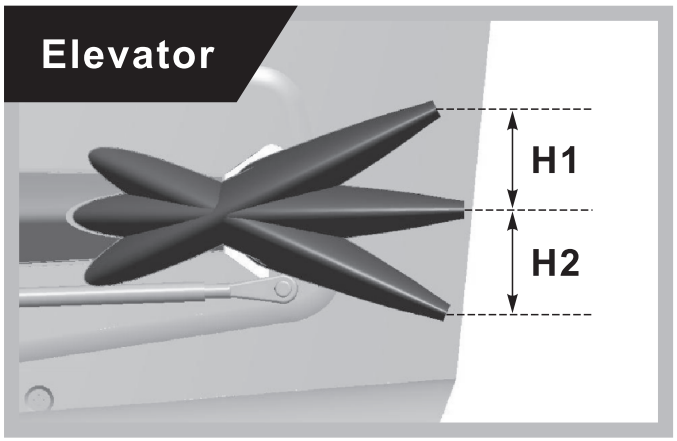


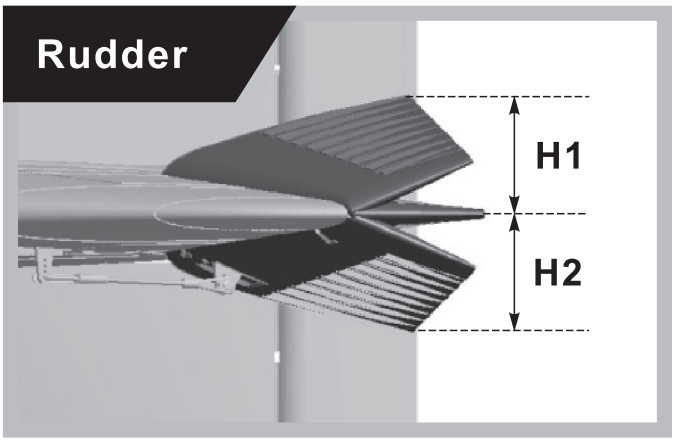
Dual rates

According to our testing experience, use the following parameters to set aileron/elevator rate, it will be useful for flight. In low rate, it will operate more stable. In high rate, it will operate more sensitive. We advise to use high rate in your first flight, then according to your habit to choose low/high rate.









	Aileron(measured closest to the fuselage)	Elevator(measured closest to the fuselage)	Rudder(Measured from the bottom)	Flaps
Low Rate	H1/H2 18mm/18mm D/R Rate：65%	H1/H2 21mm/21mm D/R Rate：80%	H1/H2 24mm/24mm D/R Rate：80%	H1 27mm
High Rate	H1/H2 24mm/24mm D/R Rate：100%	H1/H2 25mm/25mm D/R Rate：100%	H1/H2 30mm/30mm D/R Rate：100%	H1 43mm

⚠ Flight attention: 1.When the flaps are down, the nose will go down also, so we need to mix the flap-to-Up-elevator, please set the mix parameter as the following data:
Flap rate: 27mm, mix the elevator rate: 2mm
Flap rate: 43mm, mix the elevator rate: 3.5mm
2.The weapons weight of this model plane is mainly distributed in the tail. When you fly with full weapons, please check the CG again.

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HK Freewing Model International Limited

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