

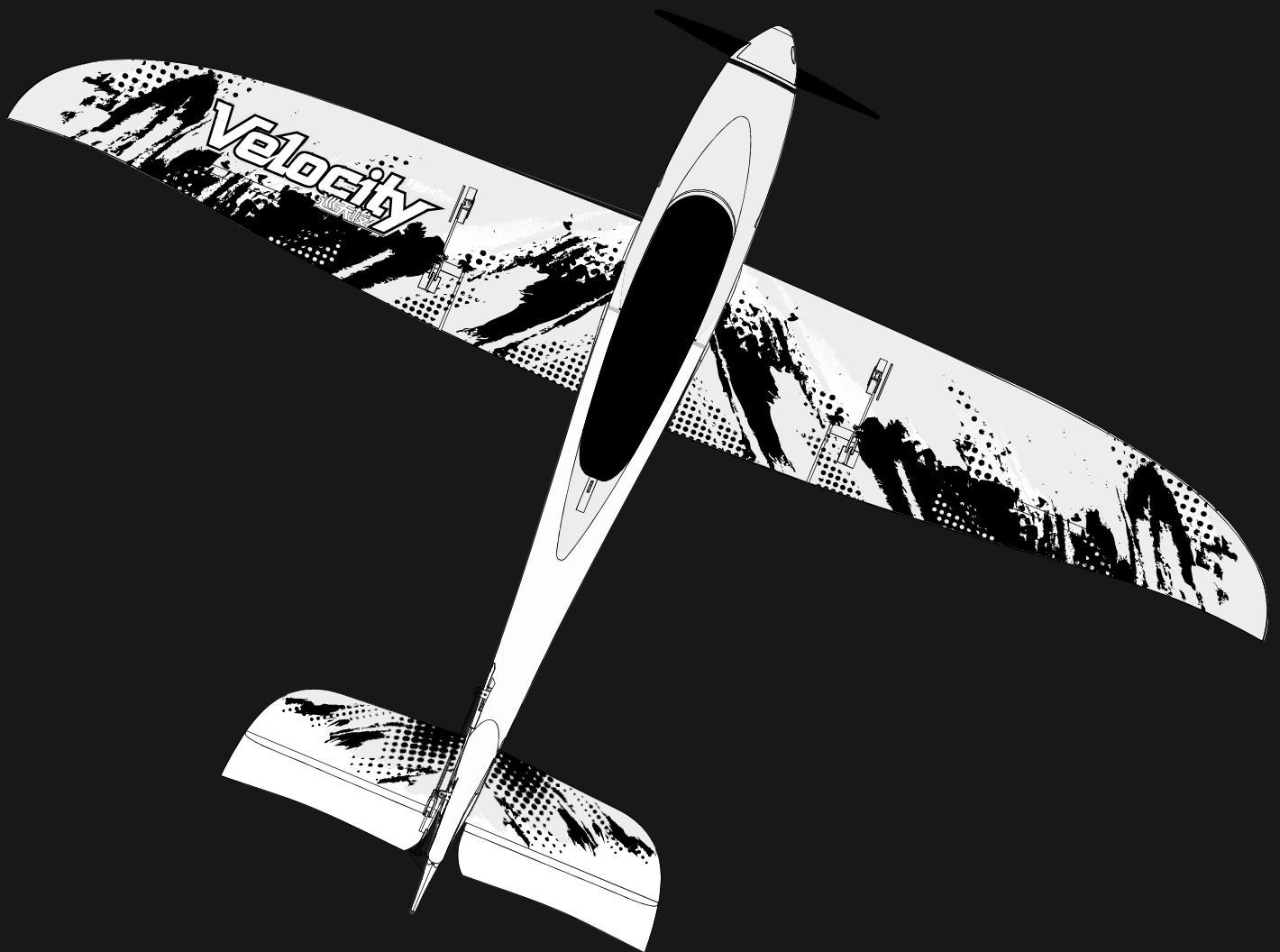


# Velocity User Manual

Wingspan: 1000mm

Length: 700mm

Empty Weight: 566G[W/O Battery]

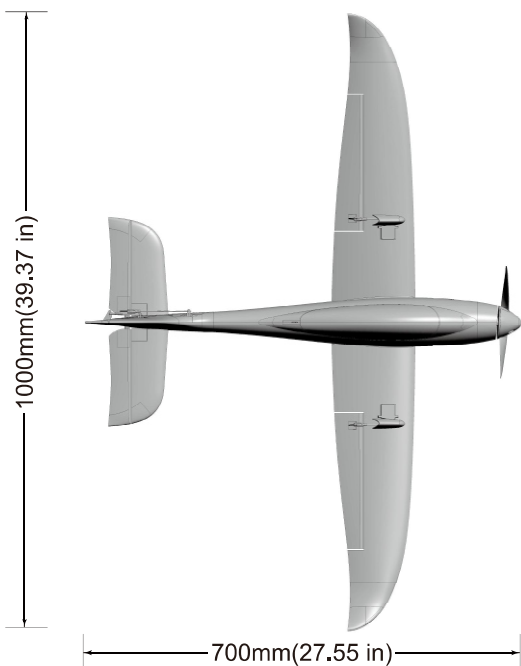


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- 1.This is not a toy! Operater should have a certain experience, beginners should operate under the guidance of professional players.
- 2.Before install, please read through the instructions carefully and operate strictly under instructions.
- 3.Cause of wrong operation,Freeewing 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.

**⚠ 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.



**Standard Version**

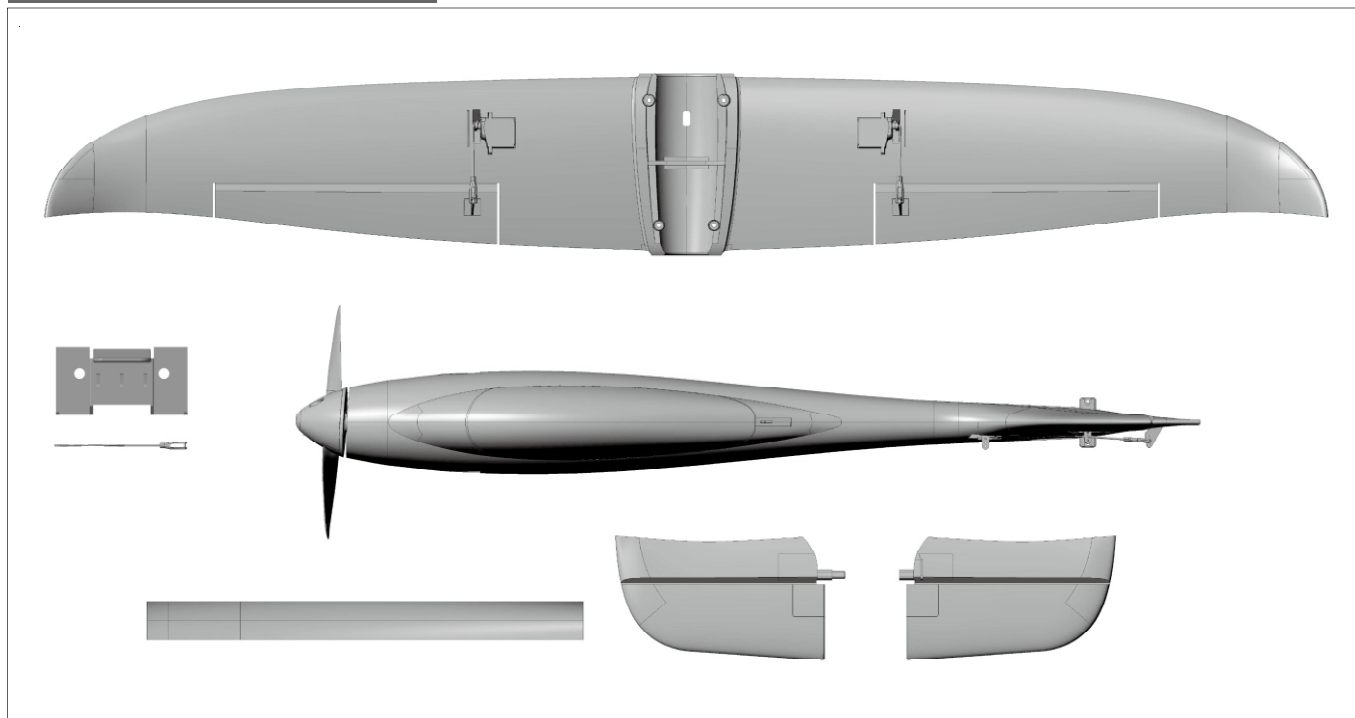
Wingload: 80.7g/dm<sup>2</sup>  
 Wing Area: 9.6 dm<sup>2</sup>  
 Motor: 2839-1480KV O/R Motor  
 Servo: 9g Digital plastic servo ×4  
 ESC: 40A Brushless  
 Propeller: 7x6 2-Blade  
 Weight: 566g(w/o Battery)

**Other features**

Material: EPO & Plastic  
 Aileron: Yes      Elevator: Yes  
 Rudder: Yes      Landing gear: No  
 Li-Po Battery: 4S 1800-2600mAh

**⚠ 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
1	Fuselage	Pre-installed all electronic parts	Pre-installed servo
2	Main wing	Pre-installed all electronic parts	Pre-installed servo
3	Horizontal tail	✓	✓
4	Protective cover	Pre-installed all electronic parts	Pre-installed servo
5	Battery fixed part	✓	✓

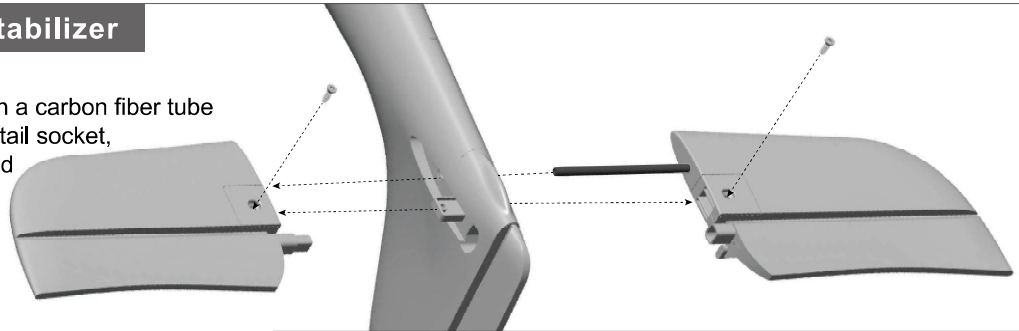
No.	Name	PNP	ARF Plus
6	Manual	✓	✓
7	Pushrod	✓	✓
8	Screw bag	✓	✓
9	Glue	✓	✓

## Install horizontal stabilizer

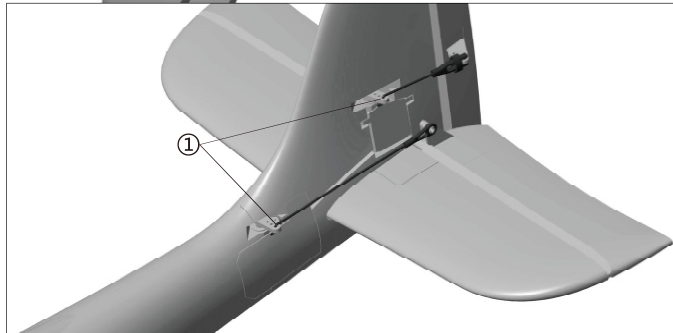
As the photo show,:

1. Insert the horizontal tail with a carbon fiber tube at one end into the vertical tail socket, install the horizontal tail, and then fix it with screws.

Screw (KA3x10mm 2pcs)



2. After adjusting the horizontal position of the elevator, install the "z" end of the elevator pushrod into the hole ① of the elevator servo arm, and buckle the ball head of the other end of the pushrod into the ball head on the elevator servo arm.

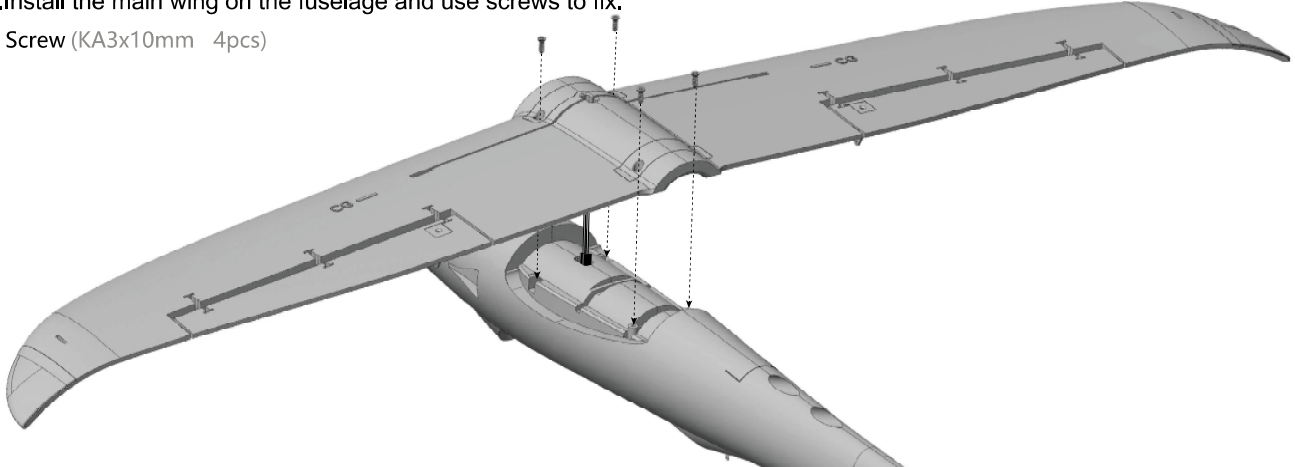


## Install main wing

As the photo show:

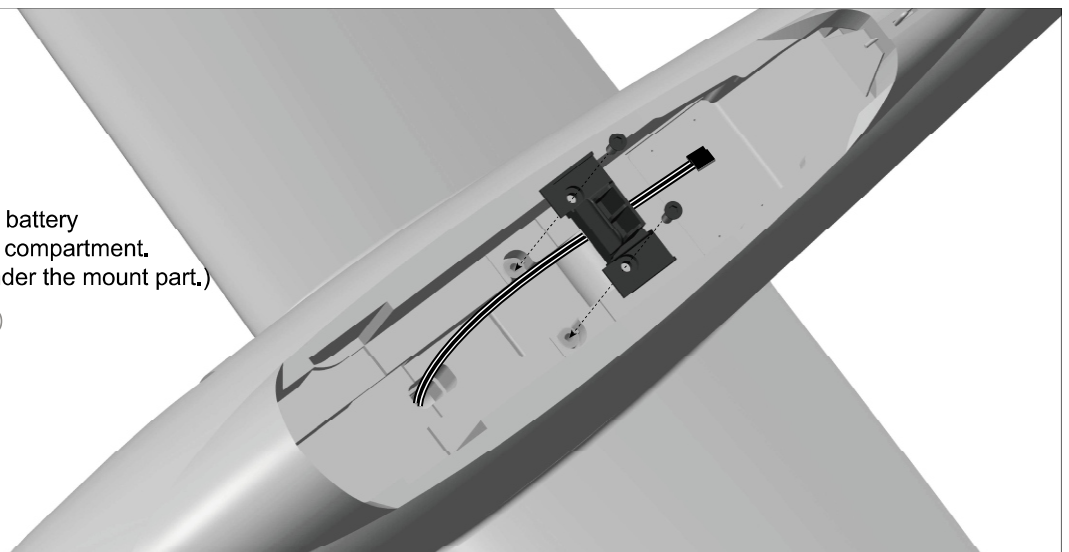
1. Install the main wing on the fuselage and use screws to fix.

Screw (KA3x10mm 4pcs)



2. Use the screws to fix the battery mount part in the battery compartment. (Note: servo cables is under the mount part.)

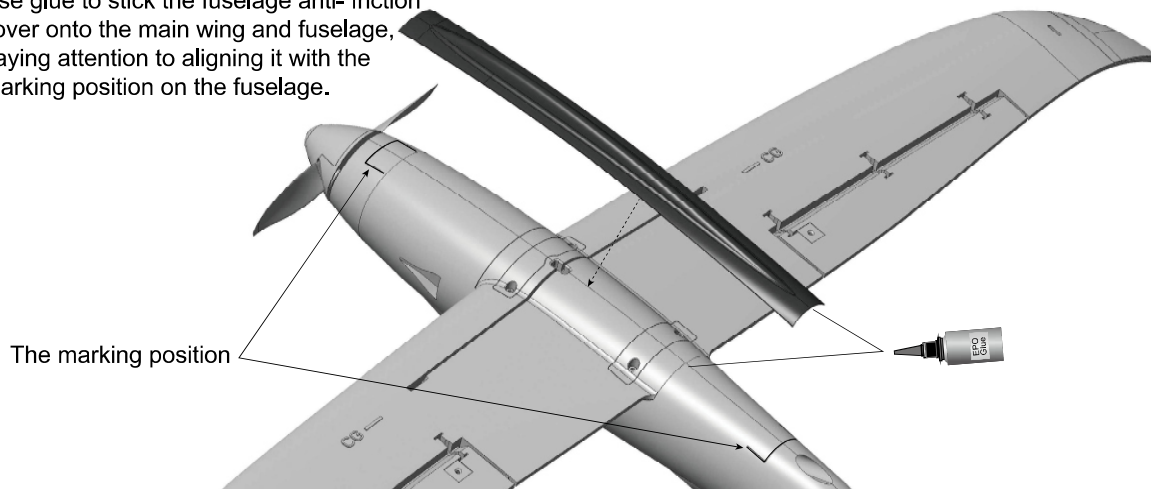
Screw (KA3x10mm 2pcs)



## Install the fuselage protective cover

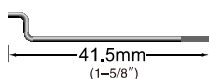
As the photo show:

1. Use glue to stick the fuselage anti-friction cover onto the main wing and fuselage, paying attention to aligning it with the marking position on the fuselage.



## Pushrod instructions

### Rudder pushrod length

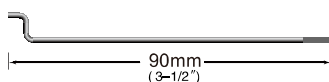


Pushrod diameter : Ø1.2mm

### Rudder pushrod mounting hole



### Elevator pushrod length

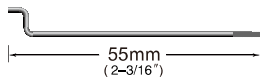


Pushrod diameter : Ø1.2mm

### Elevator pushrod mounting hole



### Aileron pushrod length

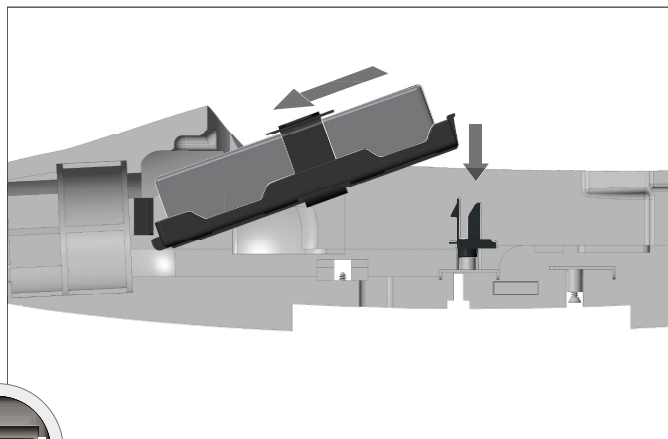
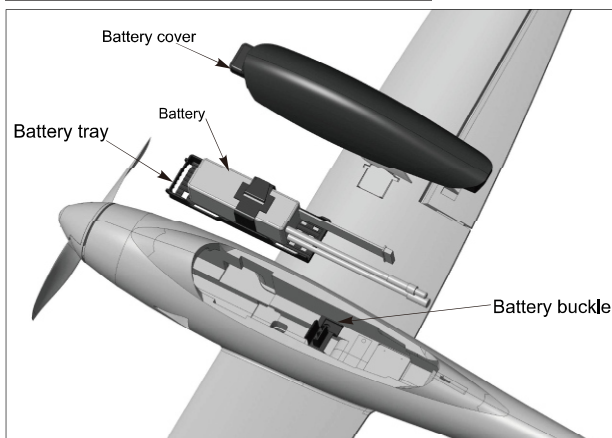


Pushrod diameter : Ø1.2mm

### Aileron pushrod mounting hole



## Install Battery

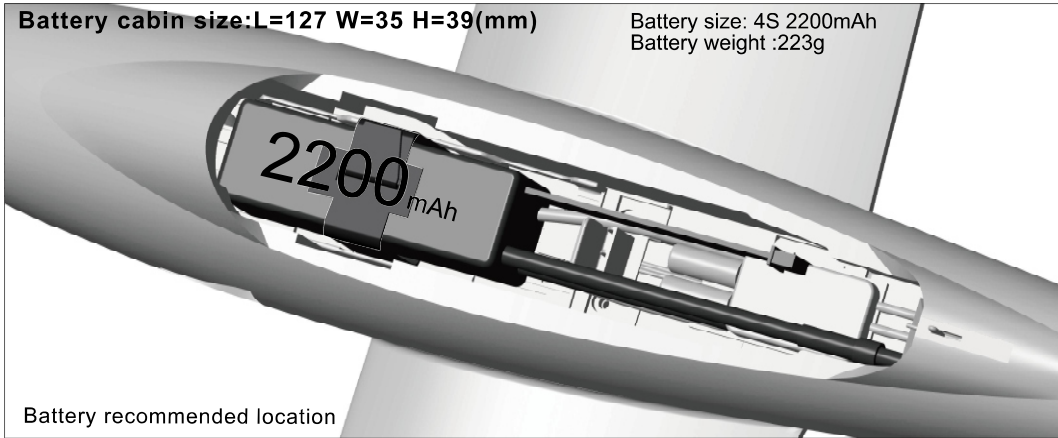


Before connecting the battery and receiver, please switch on the transmitter power and make sure the throttle stick is in the lowest position. Bind your receiver to your transmitter according to your transmitter's instruction manual.



Battery cabin size:L=127 W=35 H=39(mm)

Battery size: 4S 2200mAh  
Battery weight :223g



Battery recommended location

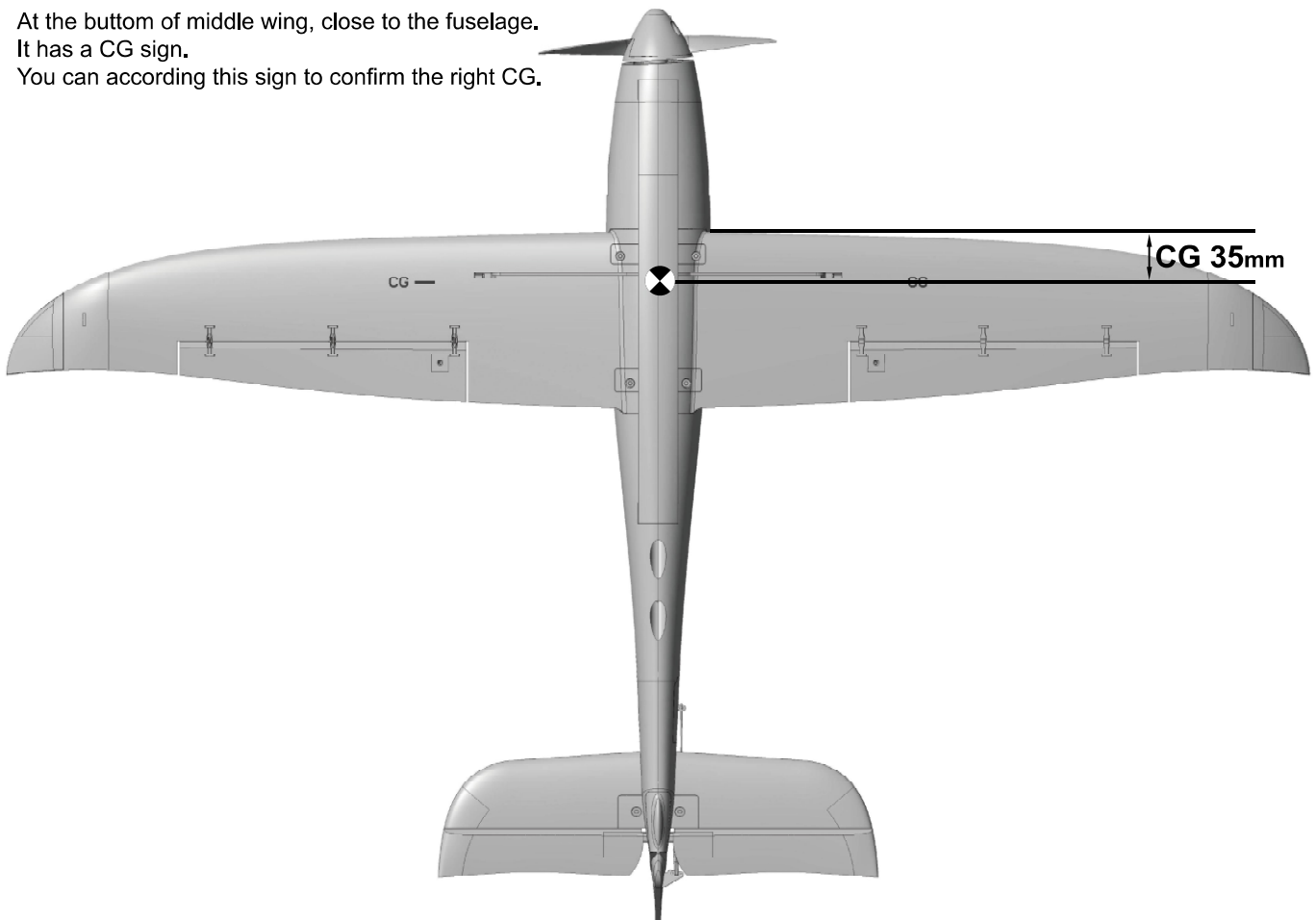
We recommend the following LiPo battery:  
**4S 14.8V 1800mAh~4S 14.8V 2600mAh**  
Discharge rate of C  $\geq$  35C

## Center of Gravity

Correct Center of Gravity ("CG") is critical for enabling safe aircraft stability and responsive control. Please refer to the following CG diagram to adjust your aircraft's Center of Gravity.

- Depending on the capacity and weight of your chosen flight batteries, move the battery forward or backward to adjust the Center of Gravity.
- If you cannot obtain the recommended CG by moving the battery to a suitable location, you can also install a counterweight to achieve correct CG. However, with the recommended battery size, a counterweight is not required. We recommend flying without unnecessary counterweight.

At the bottom of middle wing, close to the fuselage.  
It has a CG sign.  
You can according this sign to confirm the right CG.



## 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



### Rudder

Stick Left

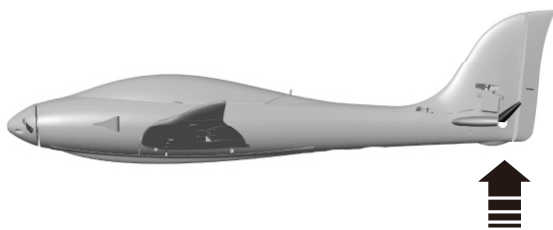


Stick Right

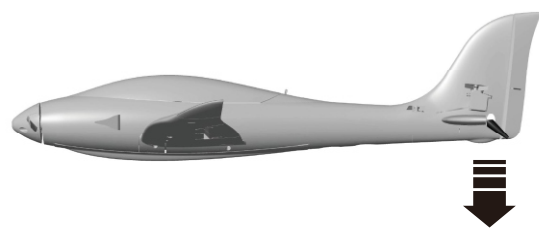


### Elevator

Stick down



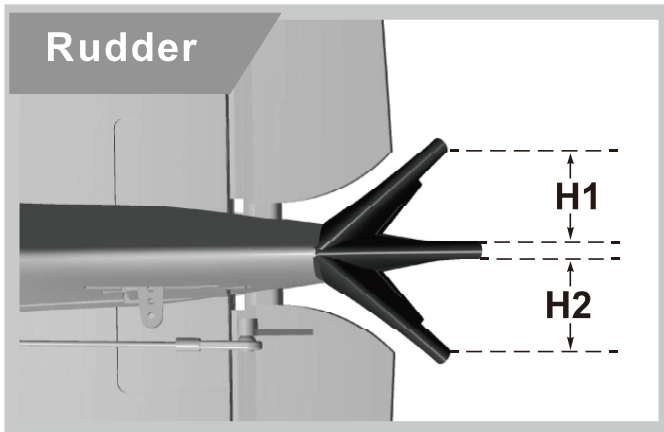
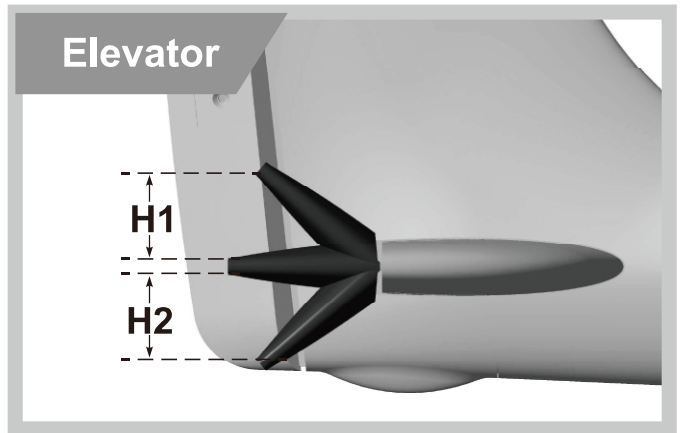
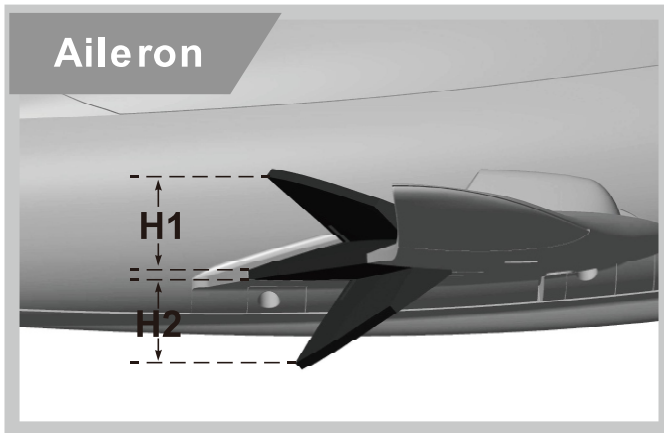
Stick up





## Dual Rates

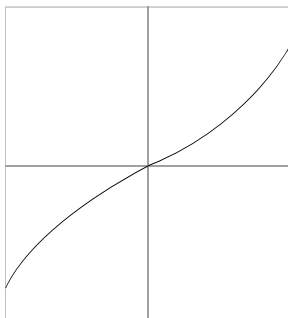
According to our testing experience, use the following parameters to set Aileron/Elevator Rate. Program your preferred Exponential % in your radio transmitter. We recommend using High Rate for the first flight, and switching to Low Rate if you desire a lower sensitivity. On successive flights, adjust the Rates and Expo to suit your preference.



	<b>Aileron</b> (Measured closest to the fuselage)	<b>Elevator</b> (Measured closest to the fuselage)	<b>Rudder</b> (Measured from the bottom)
<b>Low Rate</b>	H1/H2 7mm/7mm D/R Rate: 80%	H1/H2 7mm/7mm D/R Rate: 60%	H1/H2 10mm/10mm D/R Rate: 80%
<b>High Rate</b>	H1/H2 9mm/9mm D/R Rate: 100%	H1/H2 8.5mm/8.5mm D/R Rate: 80%	H1/H2 13mm/13mm D/R Rate: 100%

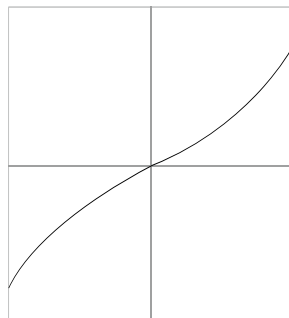
## Remote Control EXP Setting Suggestion

1. Aileron EXP curve is shown as below :



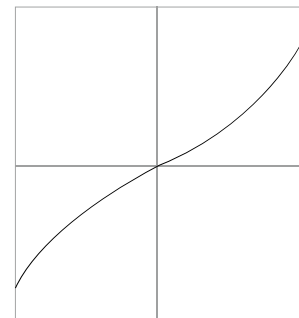
Futaba brand Remote Control : EXP A -30  
EXP B -30

2. Elevator EXP curve is shown as below :



Futaba brand Remote Control : EXP A -30  
EXP B -30

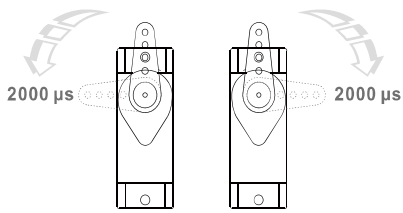
3. Rudder EXP curve is shown as below :



Futaba brand Remote Control : EXP A -30  
EXP B -30

Spektrum brand Remote Control : EXPO 30% 30% | Spektrum brand Remote Control : EXPO 30% 30% | Spektrum brand Remote Control : EXPO 30% 30%

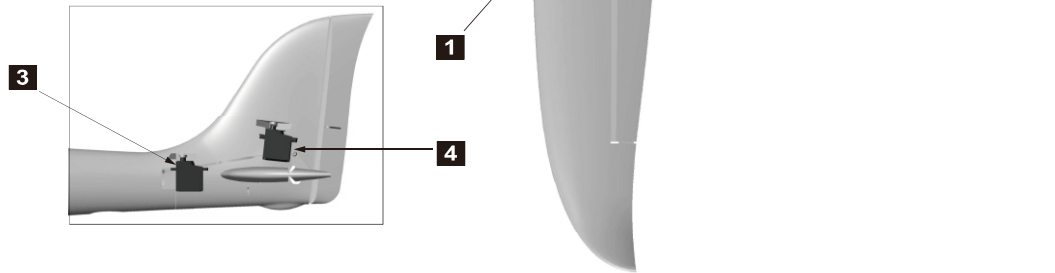
## Servo Direction



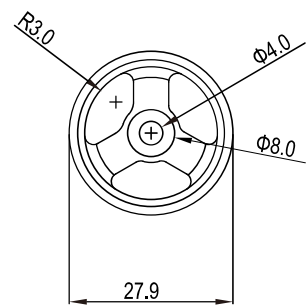
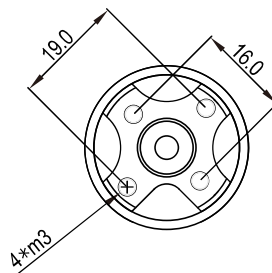
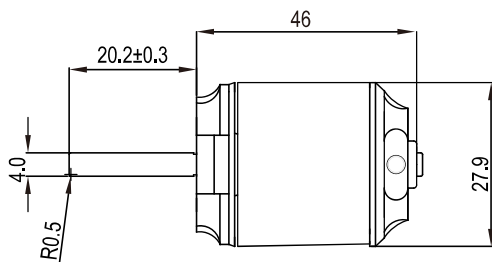
The servo positive or reverse rotation is defined as follows:  
 When servo input signal change from 1000μs to 2000μs,  
 The servo arm is **rotated clockwise**, its **positive servo**.  
 The servo arm is **rotated counterclockwise**, its **reverse servo**.

If you need to purchase another brand's servo, please refer to the following list to choose a suitable servo.

Position	Servo regulation	No.	Pos. / Rev.	Cable length
Aileron(L)	9g Digital-Plastic	1	Positive	300mm
Aileron(R)	9g Digital-Plastic	2	Positive	300mm
Rudder	9g Digital-Plastic	3	Positive	300mm
Elevator	9g Digital-Plastic	4	Positive	400mm



## Motor Specification



2839-1480KV  
 Units:mm

Item No.	KV Value	Volate (V)	Current (A)	Pull (g)	Motor Resistance	Weight (g)	No Load Current	Propeller	ESC
MO128391	1480RPM/V	14.8	36	1350	0.02 Ω	100	2.3A/10V	2-blade 7x6e	≥ 40A



**Dongguan Freewing Electronic Technology Ltd**  
**HK Freewing Model International Limited**

Add.: FeiYi Building, face to Labor Bureau, Fumin Middle Road, Dalang Town,  
Dongguan City, Guangdong Province, China

Web: <http://www.sz-freewing.com>      [www.freewingmodel.com](http://www.freewingmodel.com)

Email: [freewing@sz-freewing.com](mailto:freewing@sz-freewing.com)

Tel: 86-769-82669669      Fax: 86-769-82033233

**东莞市飞翼电子科技有限公司**  
**香港飞翼模型国际有限公司**

地址: 广东省东莞市大朗镇富民中路402-408号飞翼楼二楼

Web: <http://www.sz-freewing.com>      [www.freewingmodel.com](http://www.freewingmodel.com)

Email: [freewing@sz-freewing.com](mailto:freewing@sz-freewing.com)

Tel: 86-769-82669669      Fax: 86-769-82033233

