www.freewing-model.com

A-10 Thunderbolt II V2

TWIN 64mm EDF JET

USER MANUAL

WINGSPAN: 1100MM(43.3")
LENGTH: 1000MM(39.4")
EMPTY WEIGHT: 1390G (W/O BATTERY)

Introduction

Thanks for your purchasing our Freewing A-10 model plane. Now A-10 is the main ground attack aircraft in the United States Air Force, nicknamed the" Warthog". Our A-10A use dual 64mm EDF. We refer to lots of data, try the best to restore the details of true aircraft. We use lots of plastic parts and carbon tube, it let the disassembly work easier. In addition, we also installed the electric retracts and flaps in this jet which its wingspan is only 1100mm,players will enjoy more flight fun.

This is a very beautiful scale model,it has excellent flight performance and graceful flight attitude,.A-10A is the most attractable plane when you fly.

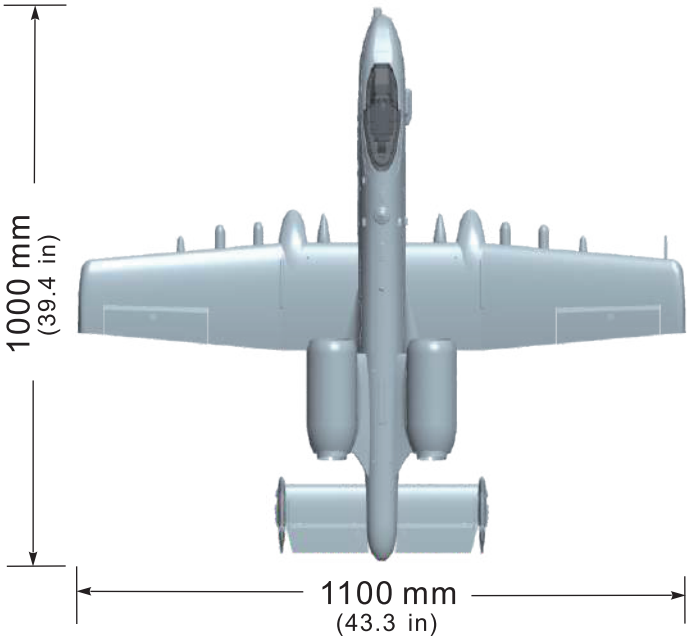
⚠ **NOTE:** This is not a toy. Not for children under 14 years. Young people under the age of 14 should only be permitted to operate this model under the instruction and supervision of an adult. Please keep these instructions for further reference after completing model assembly.

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.

Assembling Data Index

Product basic information



- Motor
  2840-2850KV
- ESC
  40A Brushless ESC
- Servo
  9g Servos 8pcs
- Battery
  4S 14.8V 3300mAh 25C
- Ducted fans
  64mm EDF12-blade
- PNP weight
  1390g(w/o Battery)
- Thrust
  2800g (98.8oz.) (For 4S Battery)

⚠ 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.

Landing Gear	Aileron	Flaps	Elevator	Rudder	Throttle
Yes	Yes	Yes	Yes	Yes	Yes

Package list

Open package and check the package list. (Different version include different contents)

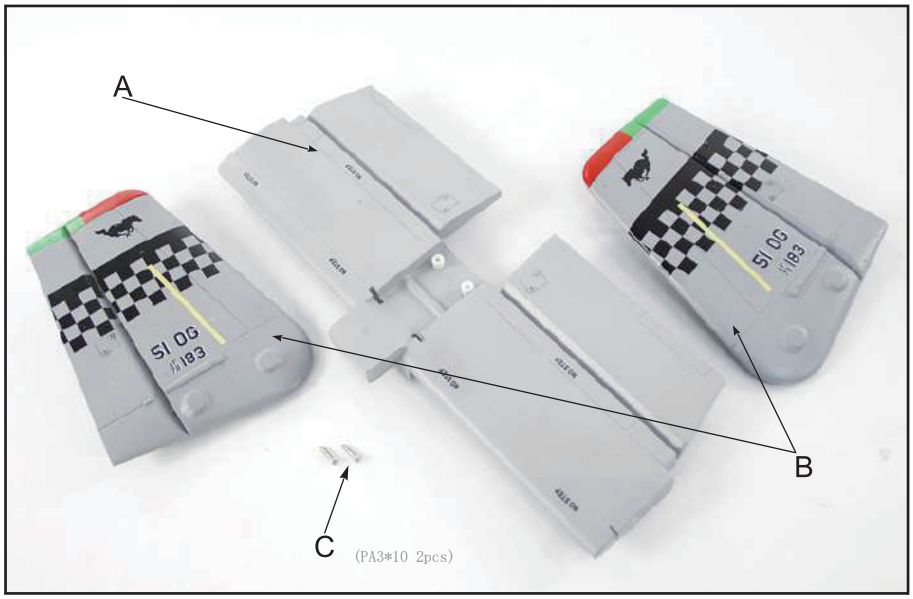
No.	Accessories Name	PNP	ARF+
1	Fuselage set	Yes	Yes
2	Main wing set	Yes	Yes
3	Tail wing set	Yes	Yes
4	Engine compartment	Yes	Yes
5	Guided missiles & connecting part	Yes	Yes
6	ESC/motor/ EDF	Yes	No

No.	Accessories Name	PNP	ARF+
7	servo	Yes	Yes
8	Battery	No	No
9	Y-wire	Yes	Yes
10	Landing gear set	Yes	Yes
11	Plastic accessories	Yes	Yes
12	Screwdriver & screw accessories	Yes	Yes

Instal the tail wing

Firstly, we remove fuselage, tail wing, glue and screws from package, and prepare to install.

A-Elevator
B-Left / right rudder
C-Screws (PA3*10 2pcs)



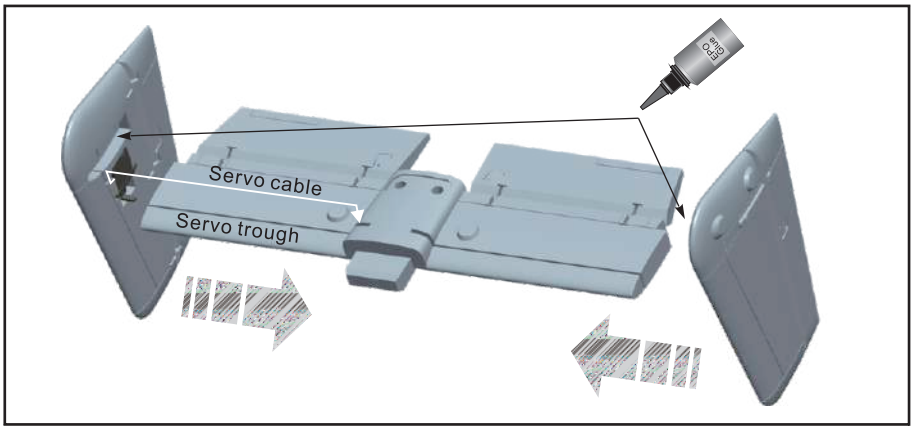
1.If installed the rudder' servo, we should loosen the rudder's servo wire.

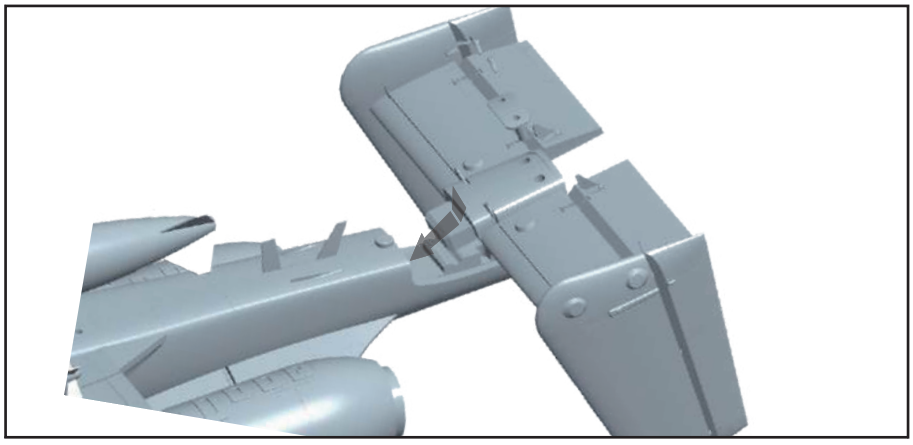
2.Glue on the indicated position and adhesive the rudder on the elevator.

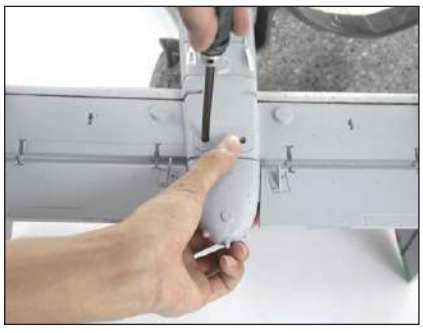
3.Press the rudder servo cable in the trough.

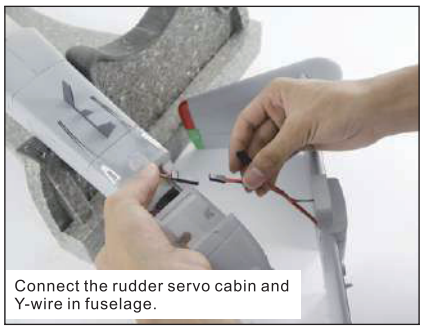
4.Connect the rudder servo cabin and Y-wire in fuselage.

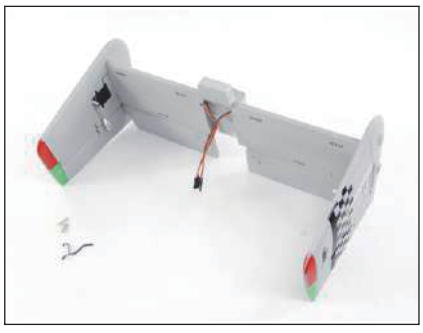
5.Fix the installed tail wing with two screws(C).





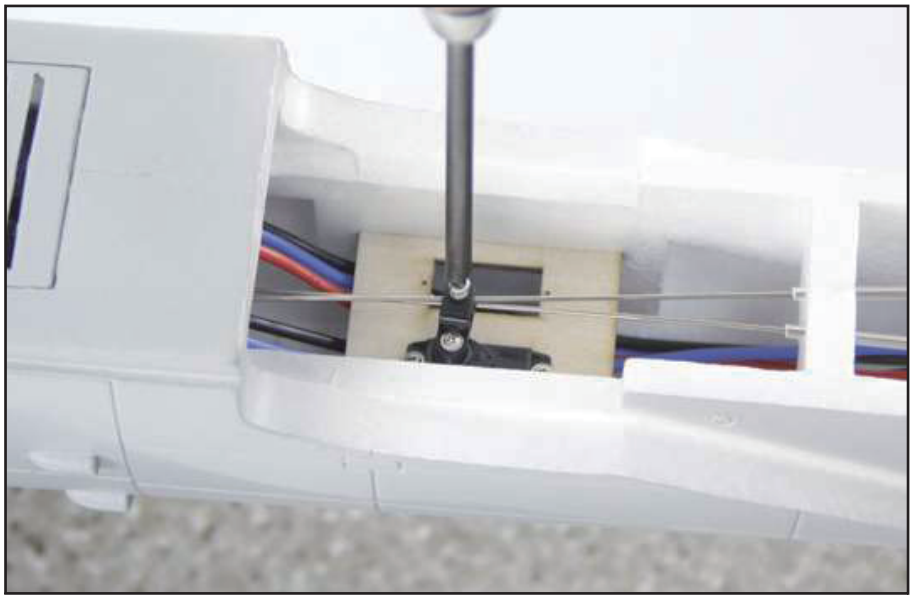



Connect the rudder servo cabin and Y-wire in fuselage.



Instal the elevator

After installed the tail wing set, we need to adjust the elevator, then continue to arrange the following work. Since after installed the main wing set, we need to adjust the elevator servo and pushrod, it can't operate.



1.Use servo tester or other machine to center the elevator servo.

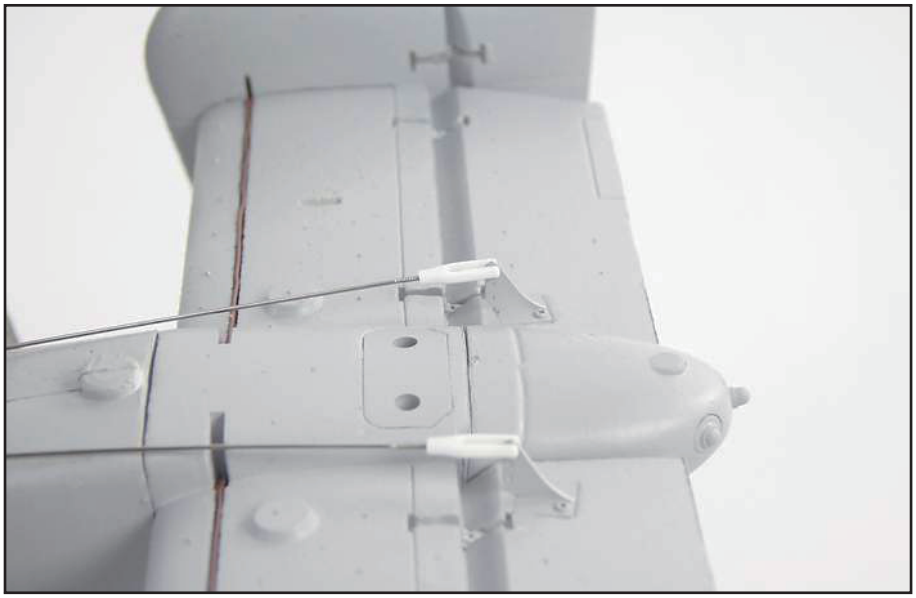
2.Loosen the metal wire of "U" shape servo arm, fixed the screw.

3.Pull the elevator pushrod out a proper distance.

4.Adjust the pushrod or clevis, when the elevator is centered, buckle the plastic clevis into the servo arm.

5.Use the same way to center another side of elevator.

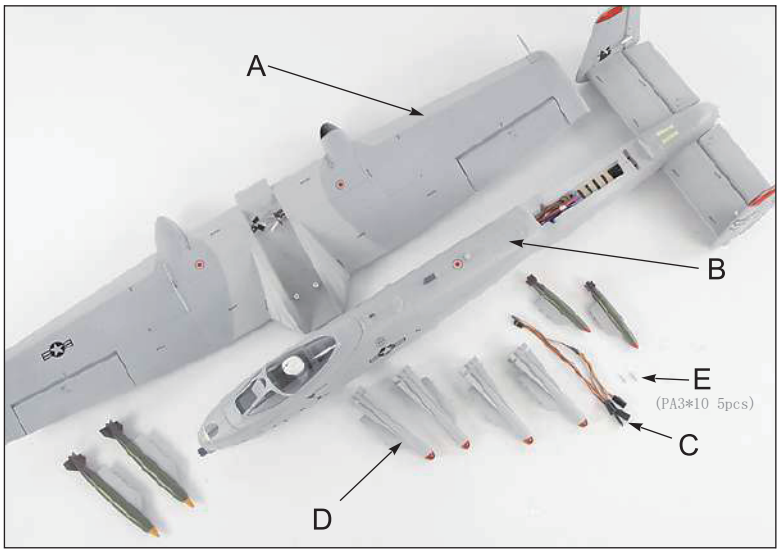
6.At last, fixed the fixing screw of "U" shape servo arm.



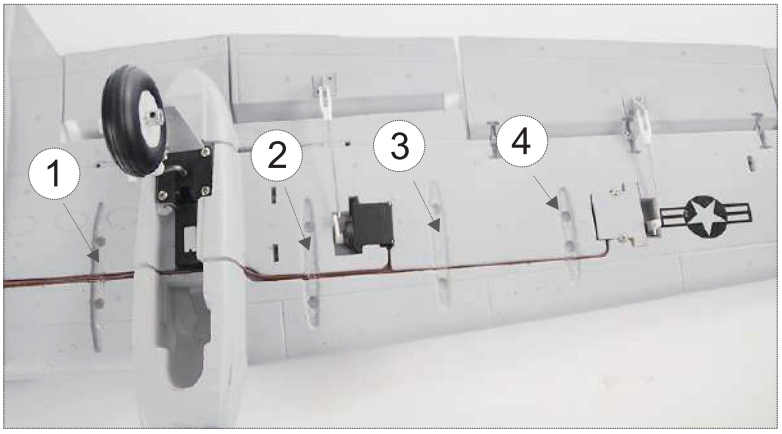
Instal the main wing

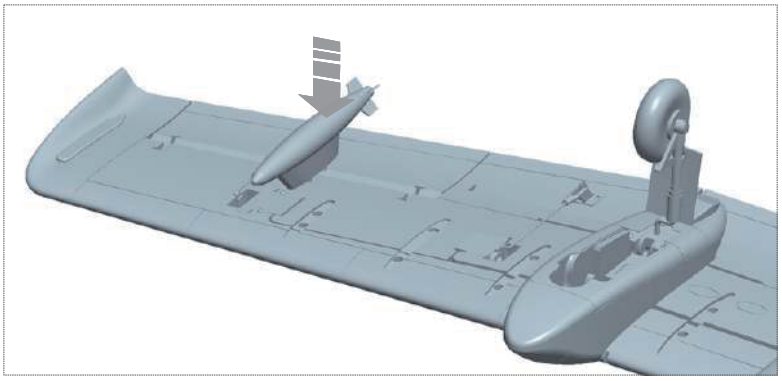
prepare these accessories

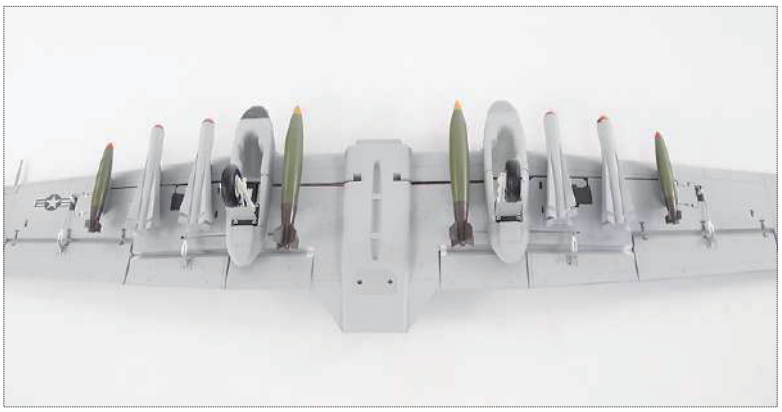
A-Main wing
B-Fuselage
C-Y wire (3 pcs)
D-Scale bombs (8 pcs)
E-Screw (PA3*10 5pcs)



1.As the right photo show, apply the glue to the indicated position and affix the bombs on the main wing.





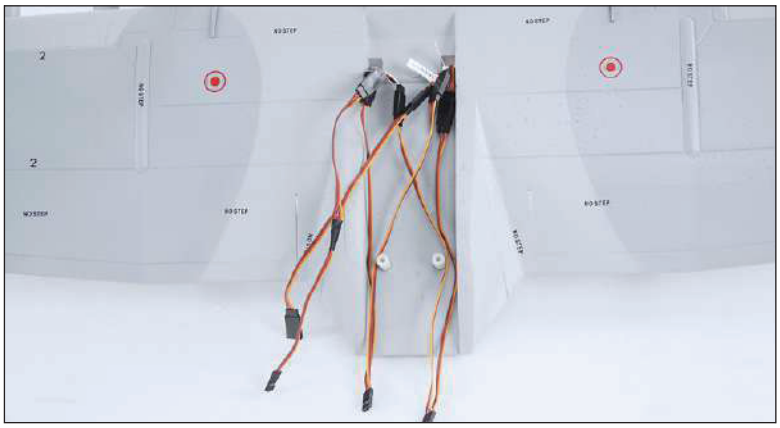


Instal the main wing

2.Use Y-wire to connect the left / right aileron servo.

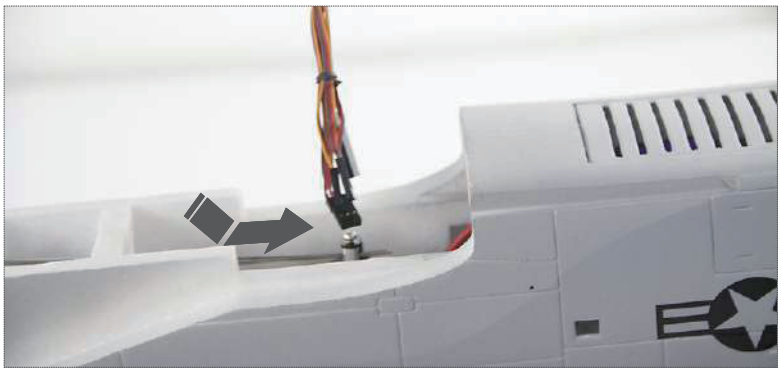
Use Y-wire to connect the left / right flap servo.

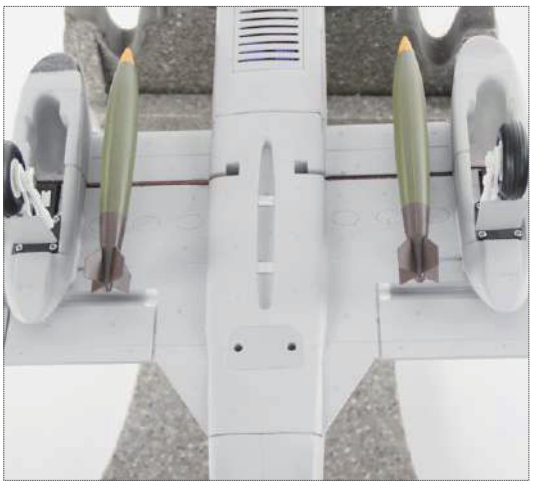
Use one “1 to 3” wire to connect the retracts, and reserve one cable to connect the nose retracts.

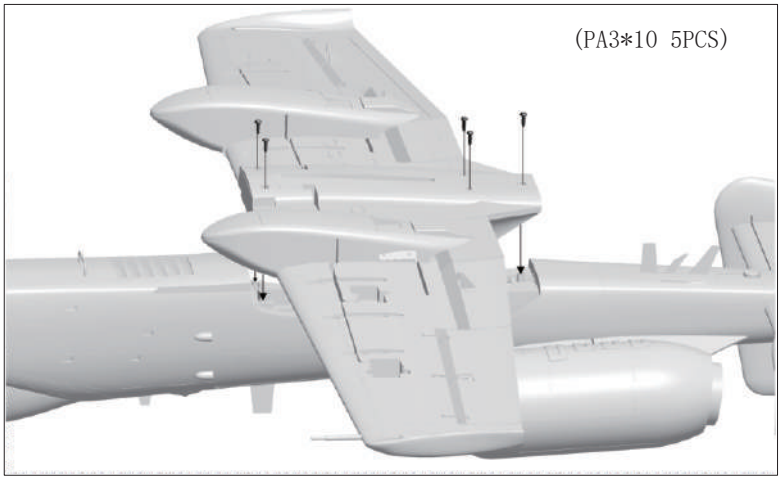


3.Bundled the Y-wires together with cable ties, and insert them into fuselage.

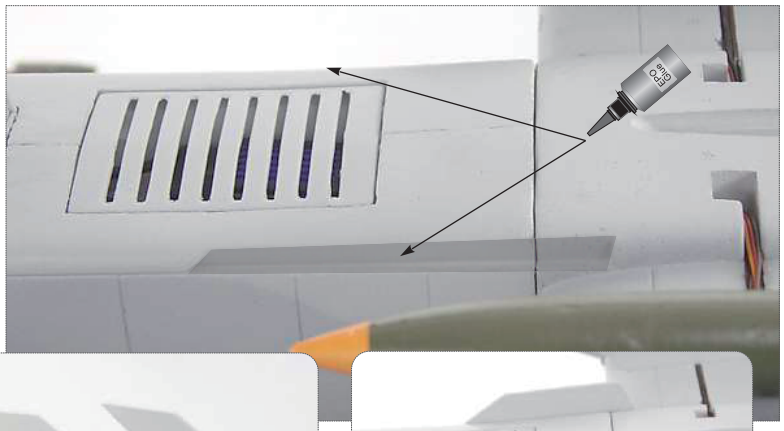
4.Press the main wing on the fuselage and fixed by two screws.







5.Installed main wing, then we glue the two pieces plastic decorated fins into the fuselage.



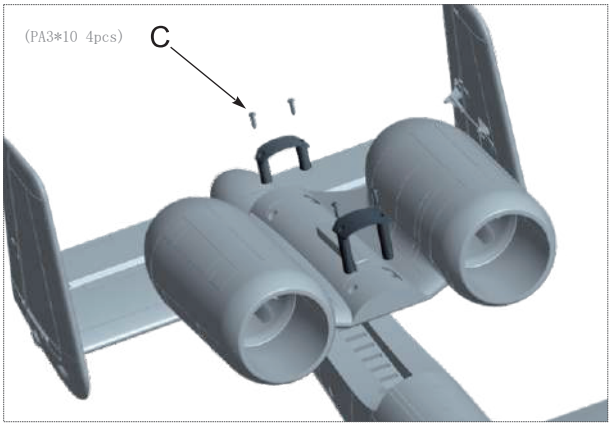
Instal the engine compartment

Firstly, remove these accessories

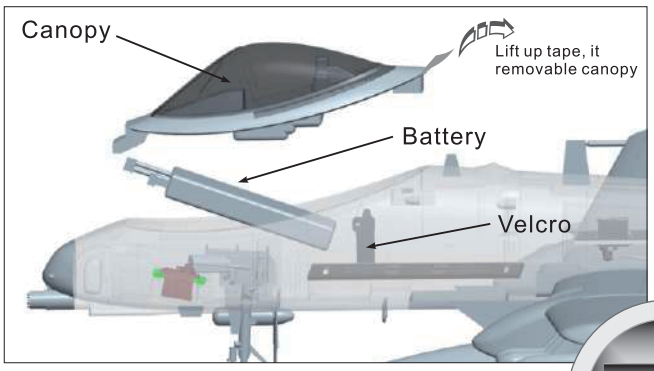
A-Engine compartment
B-Fuselage
C-Screw (PA3*10 4pcs)

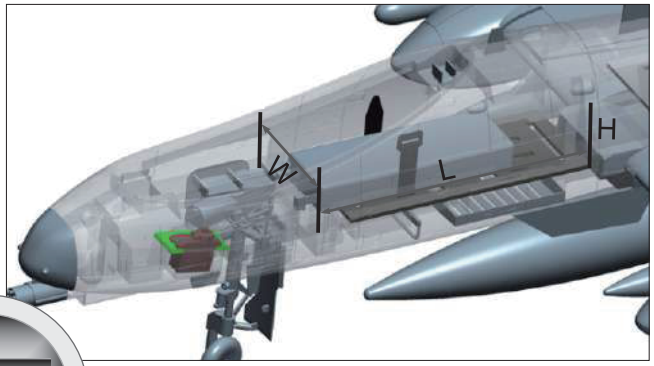
1.Connect the motor wire and ESC extention wire.

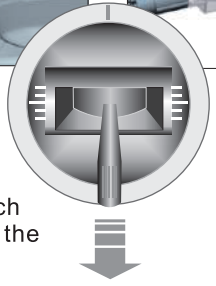
2.Put the engine compartment (A) on the fuselage(B), and install the “engine compartment fixed plastic part” ,then fixed by 4pcs screws(C).



Install on battery







Lift up tape,it removable canopy, then bundled battery with Velcro.

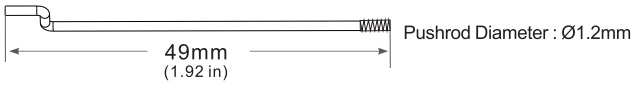
Before connect battery and receiver, please switch on the transmitter and check that the throttle is in the low position.

You can choose the battery refer to the battery cabin size.
L=190mm W=53mm H=40mm
The battery capacity and discharge rate we advise is in the following:

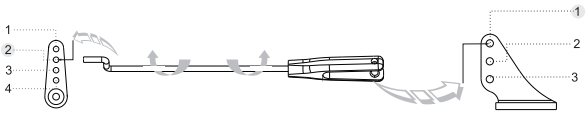
4S 14.8V 3000mAh ~ 4S 14.8V 3700mAh
Discharge rate≥ 25C

Different weight battery may affect its CG, please the correct range of CG indication.

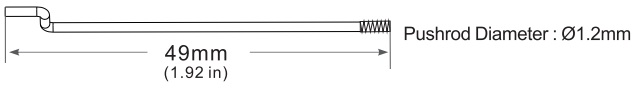
Aileron pushrod size



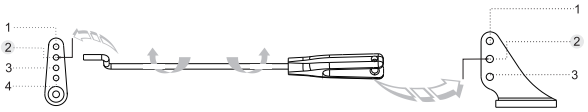
Aileron pushrod mounting hole



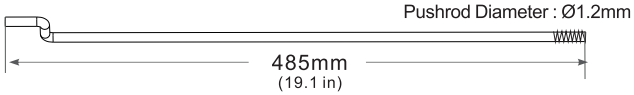
Rudder pushrod size



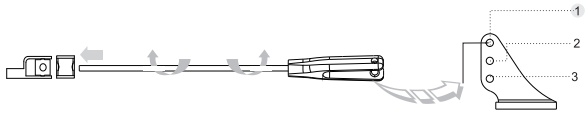
Rudder pushrod mounting hole



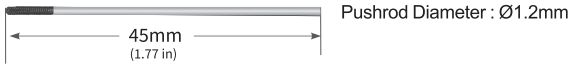
Elevator pushrod size



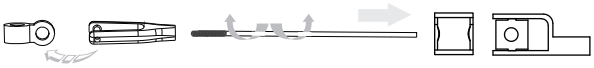
Elevator pushrod mounting hole



Nose gear steering pushrod length

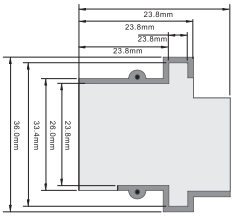


Nose gear steering pushrod mounting hole



Turn the clevis clockwise or counterclockwise on the pushrod, can increase or reduce the control distance.

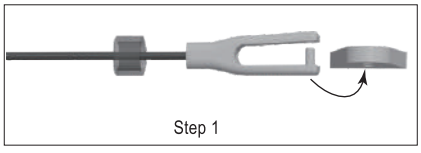
Note: we have installed all the servo box in aircraft, when players disassemble the servo, it will not damage the foam surface. If need to replace servo, please purchase **Freewing** servo ,or refer to the following drawing, choose the correct size servo!

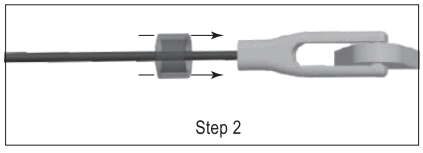


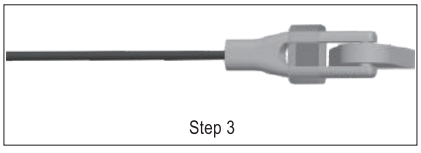
Important additional notes

The Y-type clevis used in this product is equipped with a transparent silicone ring for secondary reinforcement, which can effectively prevent the clevis from accidentally loosening.

As shown in the following figure, when you buckle the clevis into the control surface horn, use the silicone ring to cover the clevis.



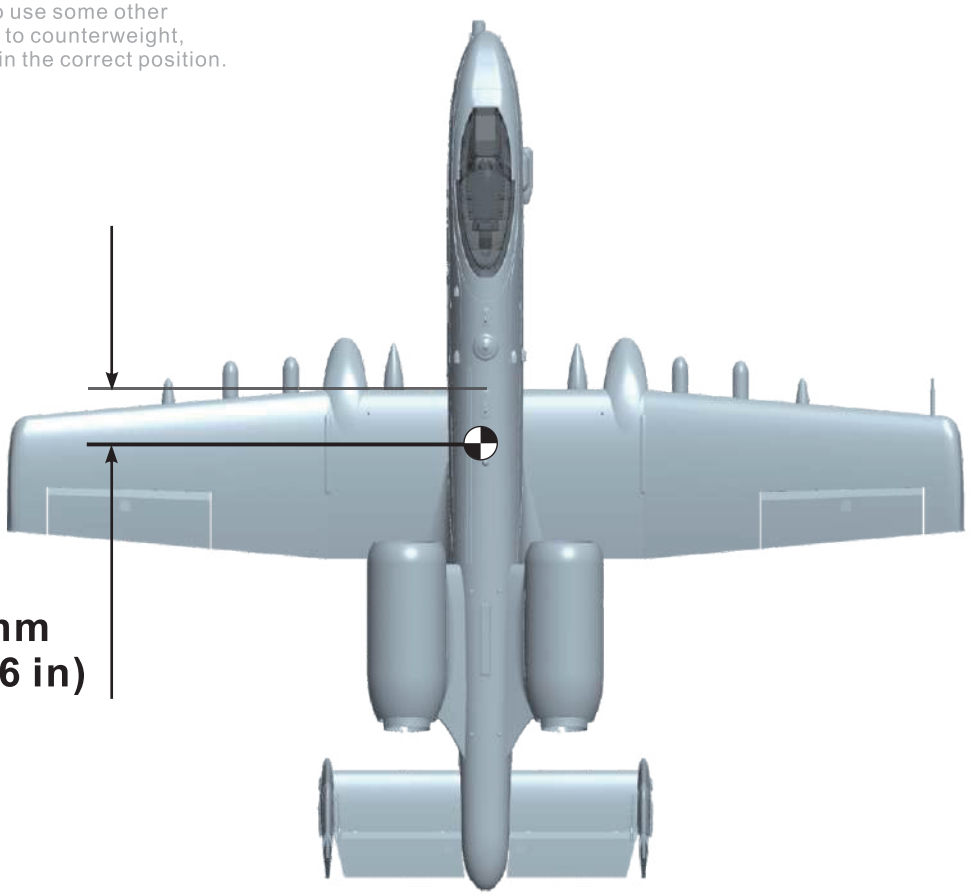




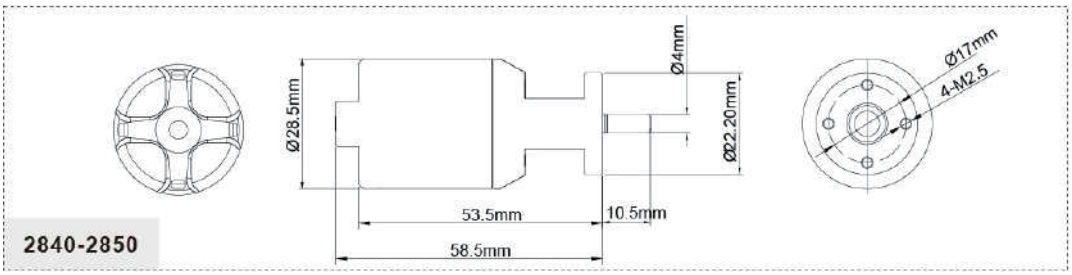
Correct center of gravity is directly related to the success of the flight, please refer to the following CG diagram to adjust your plane's center of gravity.

- 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.



Motor Specification



2840-2850KV brushless motor use 4S 14.8V lipo battery and 40A ESC.

⚠ **Note:** If you need other motor to use, please refer to the dimension shown on the left to select your motor, to make sure that the motor you purchased can install successfully.

Model	KV Value	Volate (V)	Current (A)	Pull (g)	RPM	Weight (g)	No Load Current	Propeller	ESC
2840-2850KV	2850RPM/V	14.8	40	1350	42180	145	2.7A	64mm Ducted Fan	40A

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

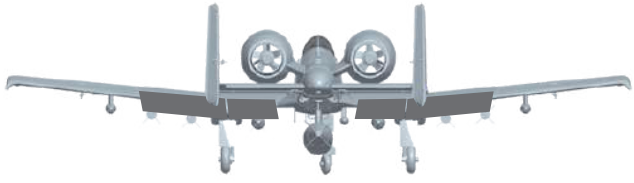
Rudder

Stick Left

Stick Right

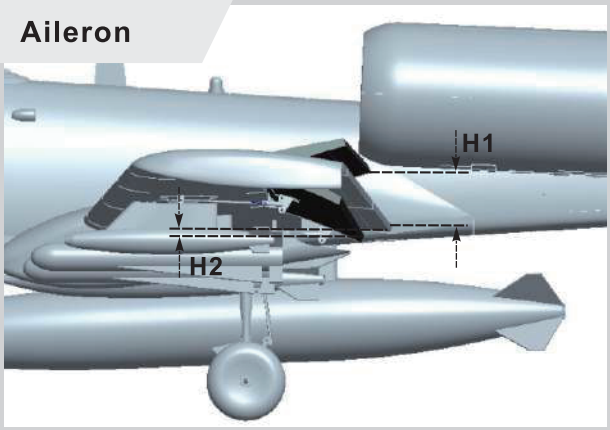
Optional Flaps

Flaps Down

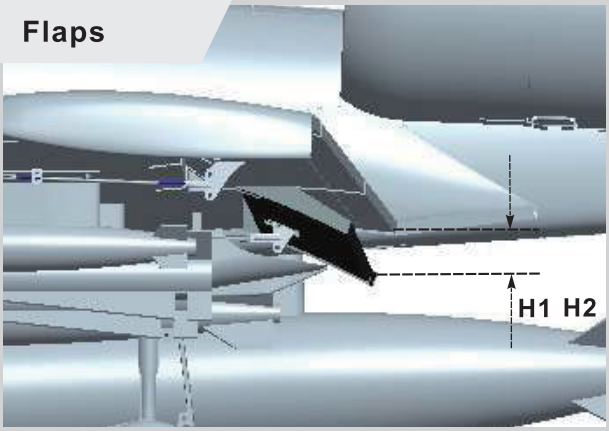


According to our testing experience, use the following parameters to set Aileron/Elevator Rate. Program your preferredExponential % in your radio transmitter. We recommend using High Rate for the first flight, and switching to Low Rate ifyou desire a lower sensitivity. On successive flights, adjust the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

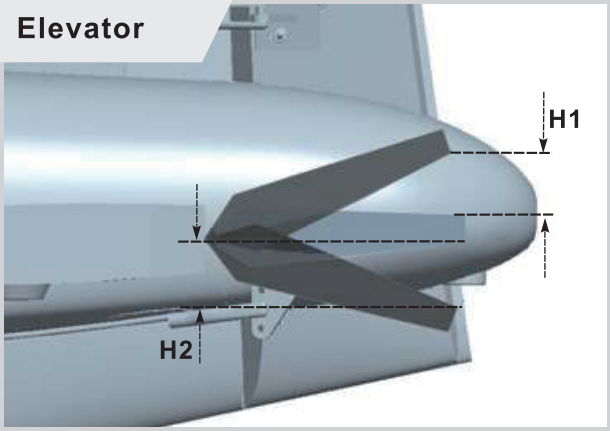
Aileron



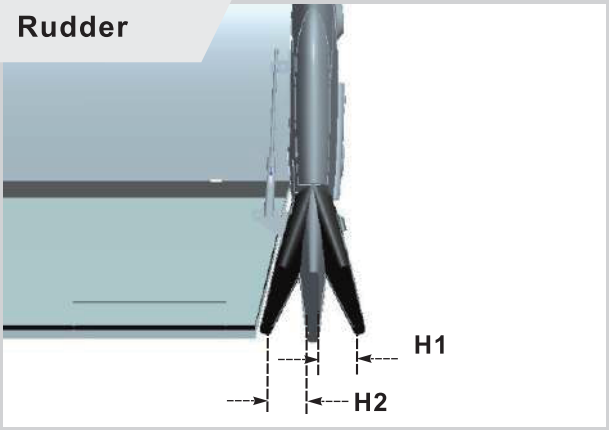
Flaps



Elevator



Rudder



	Aileron	Flaps	Elevator	Rudder
Low Rate	H1/H2 8mm/8mm	H1 14mm	H1/H2 4mm/4mm	H1/H2 5mm/5mm
High Rate	H1/H2 14mm/14mm	H2 21mm	H1/H2 8mm/8mm	H1/H2 9mm/9mm

Motor does not turn on	A) Li-Po battery depleted	A) Recharge Li-Po battery
	B) Transmitter batteries depleted	B) Replace or recharge batteries
	C) Transmitter not turned on	C) Turn on transmitter
	D) Li-Po battery not plugged in	D) Plug in Li-Po battery
	E) Motor not armed	E) Arm motor
	F) A crash has damaged an internal component	F) Replace
	G) ESC or other damaged	G) Check ESC or contact local distributor
Cub is difficult to control	A) You are flying in too much wind	A) Fly when there is no wind
	B) Li-Po battery depleted	B) Recharge Li-Po battery
	C) Transmitter batteries depleted	C) Replace or recharge batteries
	D) Transmitter antenna not extended completely	D) Extend transmitter antenna completely
	E) Surface control rate is too high	E) Use low rate to fly
The nose always move down when fly, always need to up elevator	A) CG is forward	A) Adjust CG backward refer to instruction
Cub constantly climbs or descends, or turns right or left without control input	A) The aircraft is out of trim adjustment	A) Adjust the transmitter trim tabs
	B) You are flying in too much wind	B) Fly when there is no wind
Elevator is too flexible, up and down is not stable	A) CG is backward	A) Adjust CG forward refer to instruction
Plane will be slant when taxi on the runway	A) Nose gear is not center.	A) Center nose gear
	B) Rudder is not center.	B) Center rudder
Take off is difficult	A) Thrust is not on the high position	A) Thrust is on the high position
	B) Taxi distance is not enough	B) Long taxi distance
	C) Elevator rate is not enough high	C) Use high rate of elevator
Cub will not climb	A) Li-Po battery is depleted	A) Recharge Li-Po battery
	B) Ducted fan is damaged	B) Check and replace ducted fan
	C) Motor is damaged	C) Check and replace motor
	D) ESC overheat protection,power reduction.	D) Landing firstly, check and select a more powerful ESC
Li-Po battery is slightly warm after charging	A) This is normal	A) The Li-Po battery may be slightly warm when fully charged. It should not be hot to the touch.
Motor vibrates excessively	A) Ducted fan is damaged	A) Check and replace ducted fan
	B) Motor is damaged	B) Check and replace motor
	C) Ducted fan is not balance	C) Adjust the ducted fan balance
	D) High speed will happen slightly vibrate	D) Its normal to use
Control surface move the wrong direction	A) Servo direction is reversed	A) Adjust servo reversing function

前　言

非常感谢您购买A-10模型飞机，A-10是目前美国空军主力对地攻击机，昵称为“疣猪”（Warthog）。我们的A-10A采用双64mm涵道，参考大量资料，尽可能的还原真实飞机的细节。我们在这架A-10A模型上,使用了大量的塑料配件和碳纤材料，让这款模型的拆装工作变得轻松；另外，我们还为这款翼展只有1100mm的飞机配置了电动收放起落架和襟翼，使得这款模型飞机的可玩性更高。

这是一款非常漂亮的仿真模型，它拥有优秀的飞行性能和优美的飞行姿态；当我们带着它去飞行时，A-10A模型飞机，绝对是最引人注目的产品。

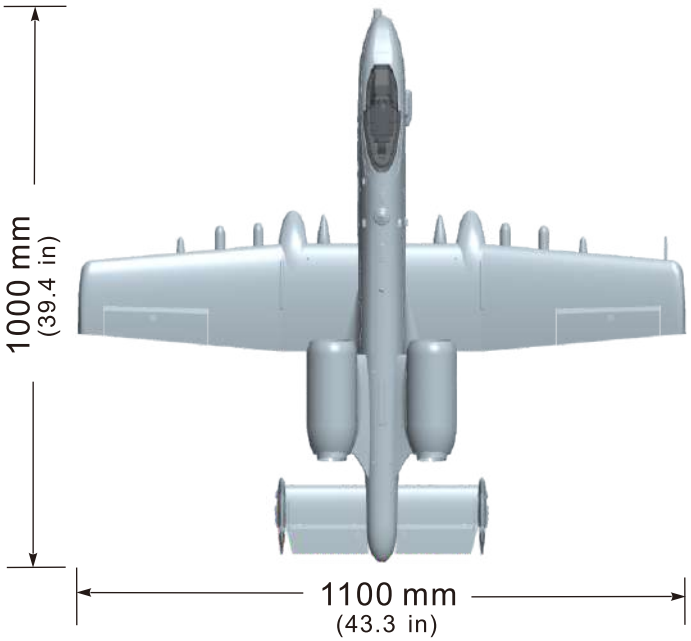
⚠ 注意：模型产品是具一定危险性的产品,请禁止14岁以下的儿童玩耍,14岁以上的儿童,请在有飞行经验的成人指导下使用,无飞行经验的购买者,应当在具有一定电动涵道飞机飞行经验的成人指导下使用！组装模型前,请仔细阅读说明书,按照说明书的要求进行安装.进行调试和飞行时,请根据说明书指示的参数进行调整。

重要提示

1.模型飞机不是玩具,操作者需要具备一定的经验;没有经验的初学者,必须在有丰富经验的专业人士指引下,逐步学习!
2.在组装之前,必须认真阅读产品说明书,严格按照说明书指示操作。
3.飞翼模型及其销售商，对于违反说明书的要求操作而造成的损失、将不负任何法律责任！
4.模型飞机的使用年龄必须是14岁以上的儿童或者成人。
5.此模型产品使用EPO材料制成，表面喷涂油漆，不可随意使用化学制剂擦拭，否则会损坏模型产品。
6.不可以在公共场合、高压线密集区、高速公路附近、机场附近或者其它法律法规明确禁止飞行的场合飞行。
7.不可以在雷雨、大风、大雪或者其它恶劣气象环境下飞行。
8.模型飞机的电池产品，不可以随意乱扔，乱放。存放时,必须保证周边2M范围内,无易燃、易爆物体。
9.损坏或者报废处理的模型飞机电池，应妥善回收处理，不准随意抛弃，避免自燃而引发火灾。
10.在飞场飞行时，应做到妥善处理飞行后所产生的垃圾，不可随意抛弃、焚毁模型及其配件。
11.在任何情况下,都必须保证油门杆处于起始位、发射机处于打开状态时，才能连接模型飞机内部的动力电池.
12.无论是模型飞机是在正常飞行过程中,或者是在缓慢降落过程中,都不要尝试用手去回收模型。必须等模型降落停稳以后，再进行回收！

组装资料索引

产品基本参数



- 电机
  2840-2850KV （在14.8V电压环境下使用）
- 电调
  40A 无刷电调
- 舵机
  9g 模拟舵机 8pcs
- 电池
  4S 14.8V 3300mAh 25C
- 涵道风扇
  12叶64mm 涵道
- PNP重量
  1390g (不含电池)
- 推力
  2800g (98.8oz.) （在14.8V电压环境下测试）

⚠ 注意：此处各项参数，均使用本公司配件测试得出，如果使用副厂配件，会有所差异。使用副厂配件时所产生的问题，我们将无法给予技术支持！

起落架	副翼	襟翼	升降舵	方向舵	油门
电动收放起落架 简易起落架	有	有	有	有	有

产品包装清单

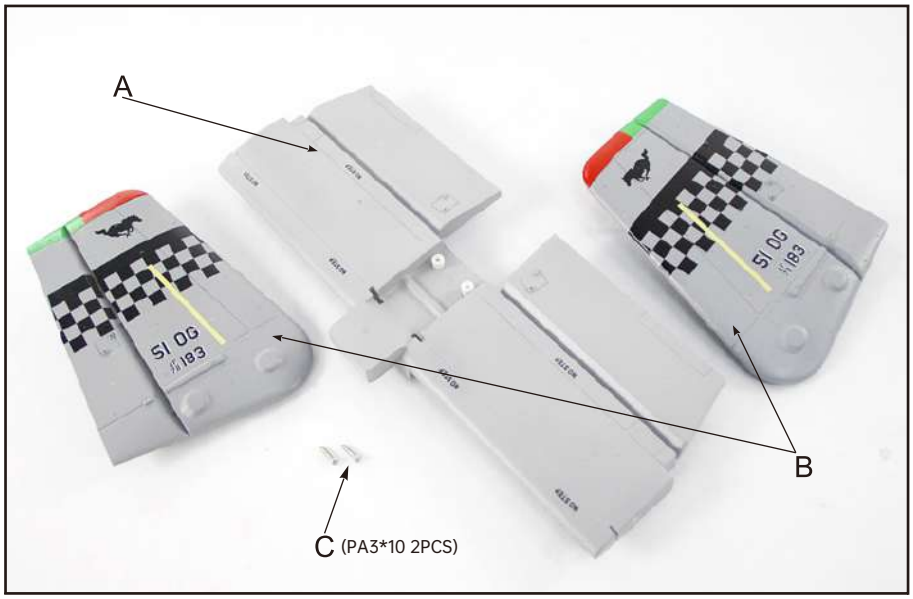
打开产品包装，核对包装清单。（不同配置的版本，包含内容不同！）

序号	配件名称	PNP	ARF+
1	机身套件（内置连接线）	有	有
2	主翼套件	有	有
3	尾翼套件	有	有
4	涵道舱	有	有
5	炸弹及其它泡沫配件	有	有
6	电机、电调、涵道	有	无

序号	配件名称	PNP	ARF+
7	舵机	有	有
8	电池	无	无
9	Y 线	有	有
10	起落架组件（已安装）	有	有
11	塑料配件（已安装）	有	有
12	螺丝刀及螺丝	有	有

首先，我们从包装盒内取出机身、尾翼组件、胶水、螺丝，准备安装；

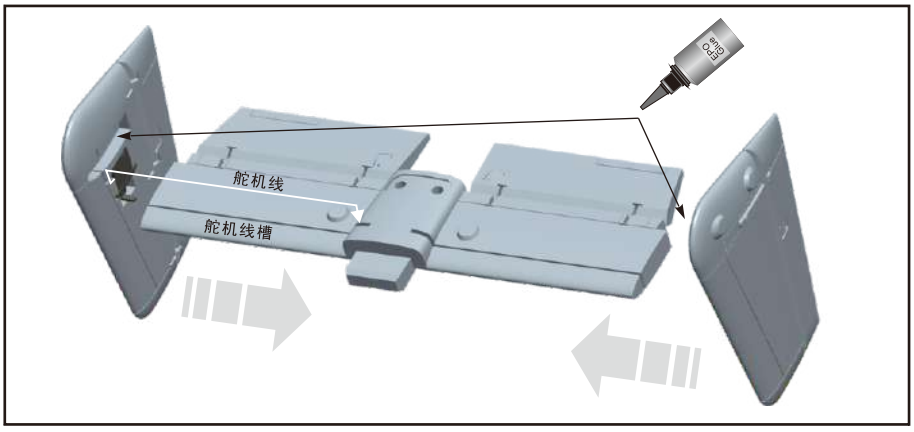
A - 平尾
B - 左、右垂尾
C - 螺丝 (PA3*10 2PCS)



1. 如果已经安装好垂尾舵机，那么，首先松开垂尾舵机线。

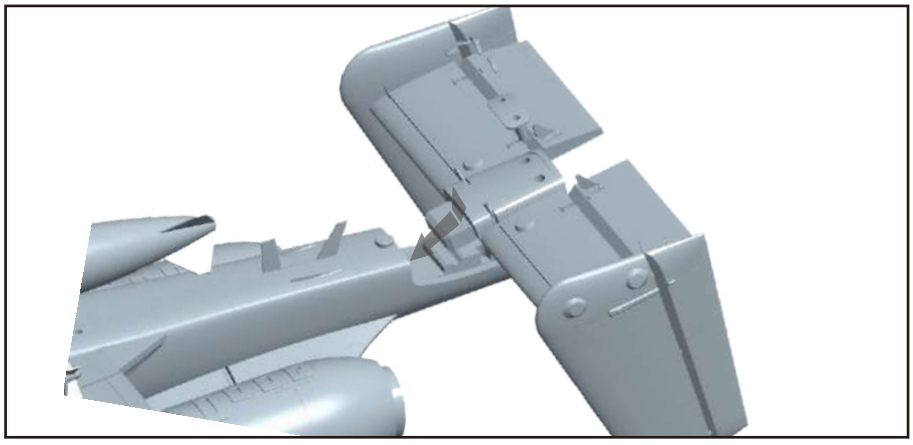
2. 在垂尾右图所示部位涂抹胶水，把垂尾粘合到平尾上；

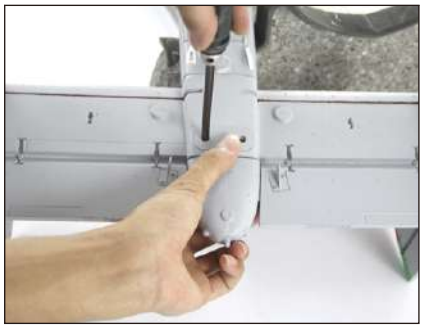
3. 将垂尾舵机线压入线槽内；



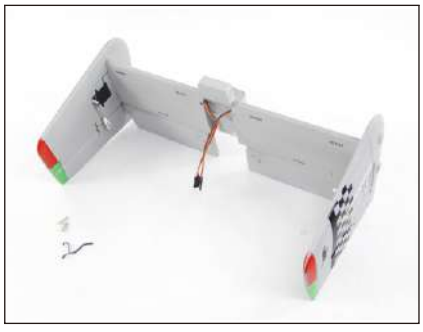
4. 把垂尾舵机线与机身内置Y线连接起来；

5. 把粘合好的尾翼套件，用2颗螺丝“C”固定到机身上；





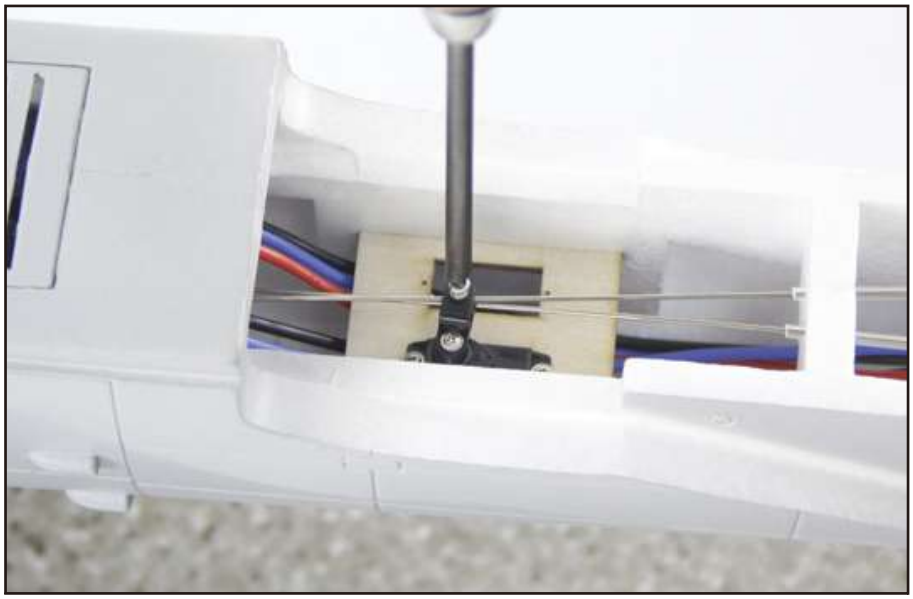

将垂尾舵机与机身内置的舵机延长线连接起来



尾翼安装完成后，我们需要调平水平舵面，才能继续后面的安装工作，因为主翼安装完成后，我们需要调试水平尾翼控制舵机及钢丝时，将无法操作！

1. 使用舵机测试仪或者其它设备，把平尾舵机摇臂居中；

2. 然后松开“U”型摇臂上的钢丝固定螺丝；

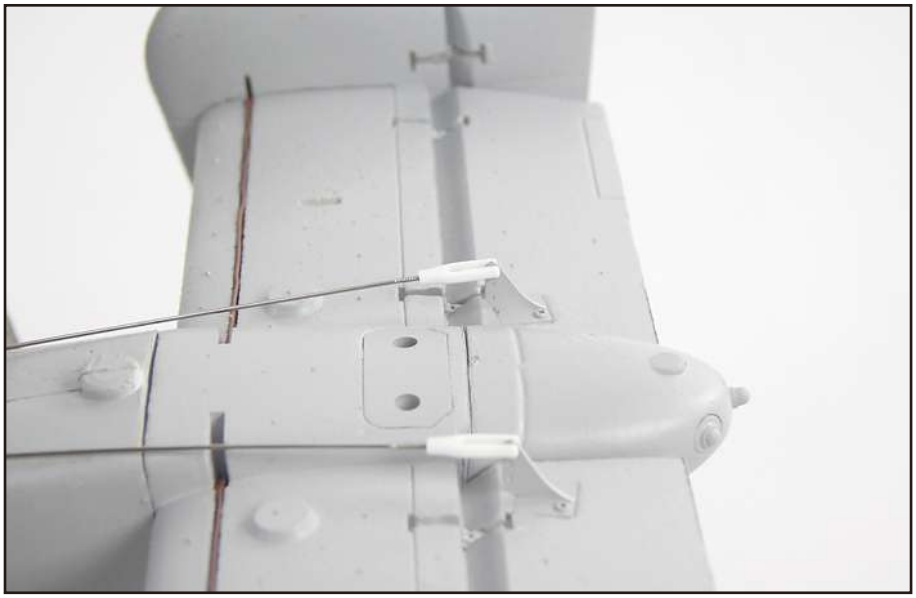


3. 将平尾舵面控制钢丝向外拉出适当距离；

4. 调节钢丝或者塑料夹头，直至观察水平舵面居中时，把塑料夹头扣入舵面遥臂内；

5. 用相同的步骤完成另一侧水平尾翼的居中工作；

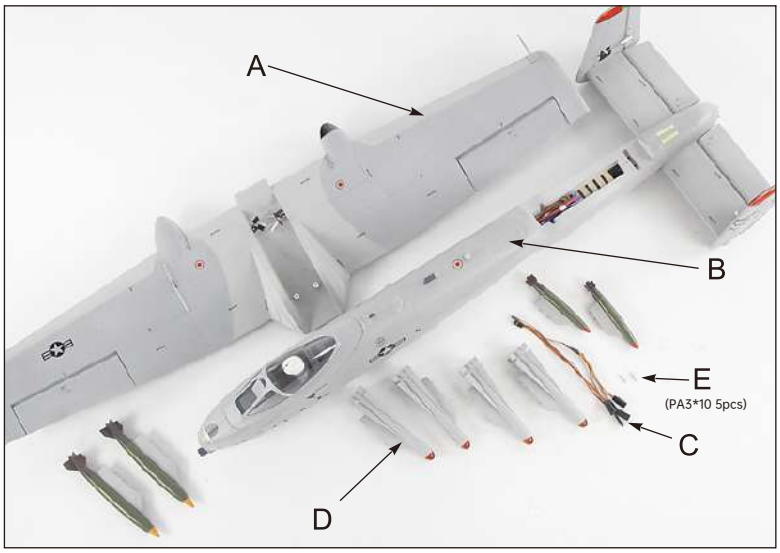
6. 最后，拧紧“U”型舵机摇臂上的钢丝固定螺丝；



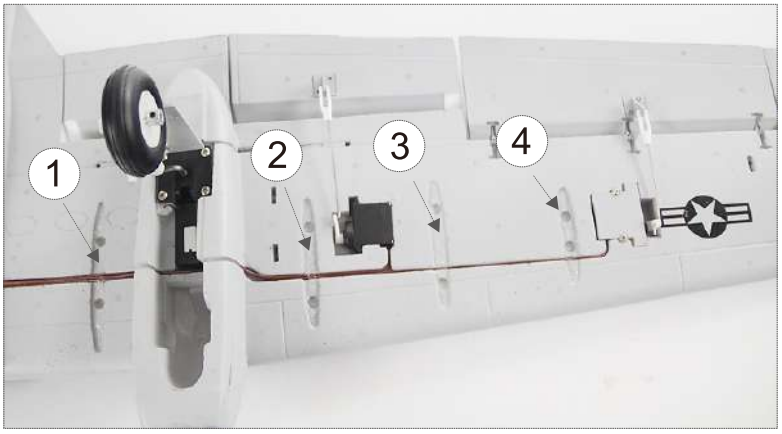
主翼安装

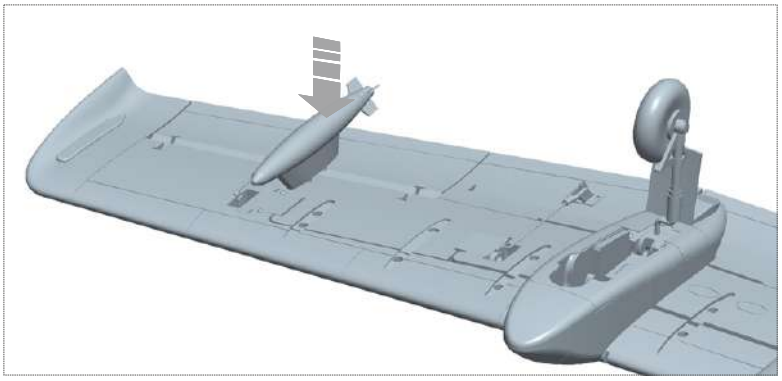
首先,准备好安装主翼所需要的配件:

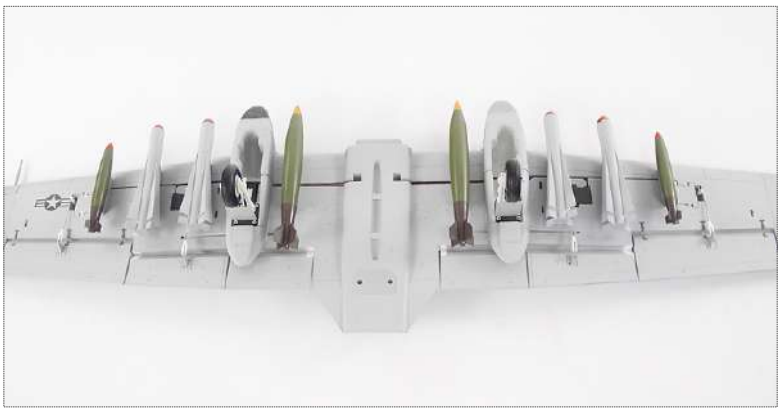
A - 主翼
B - 机身胴体
C - Y线 (3 pcs)
D - 炸弹 (8 pcs)
E - 螺丝 (PA3*10 5pcs)



1. 在右图所示其中一端主翼1、2、3、4位置，均匀涂抹胶水，将炸弹粘在主翼上；

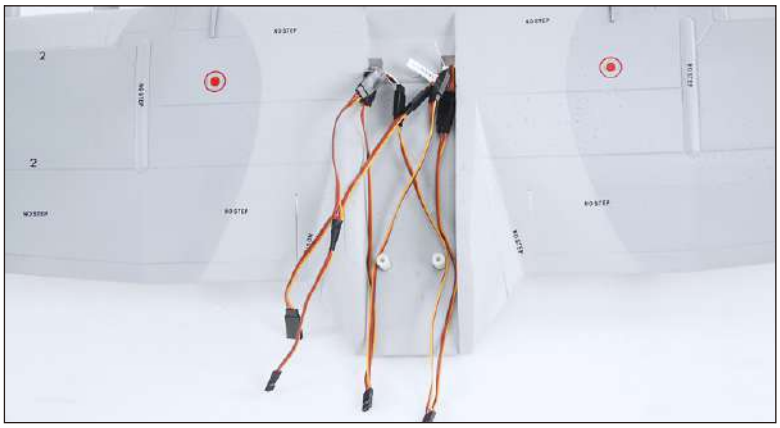


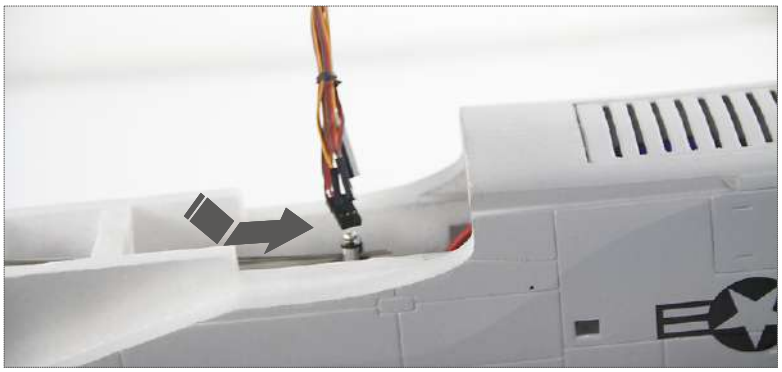


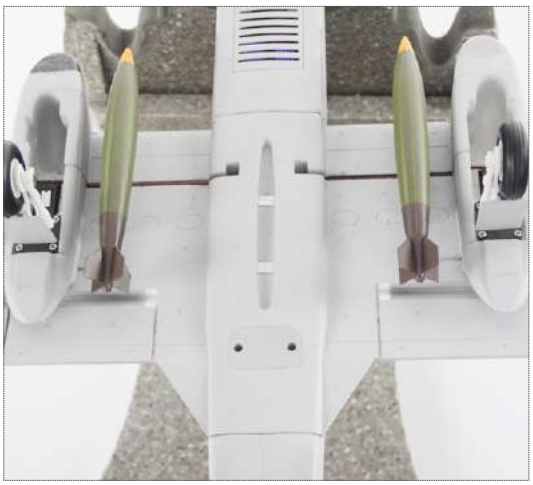


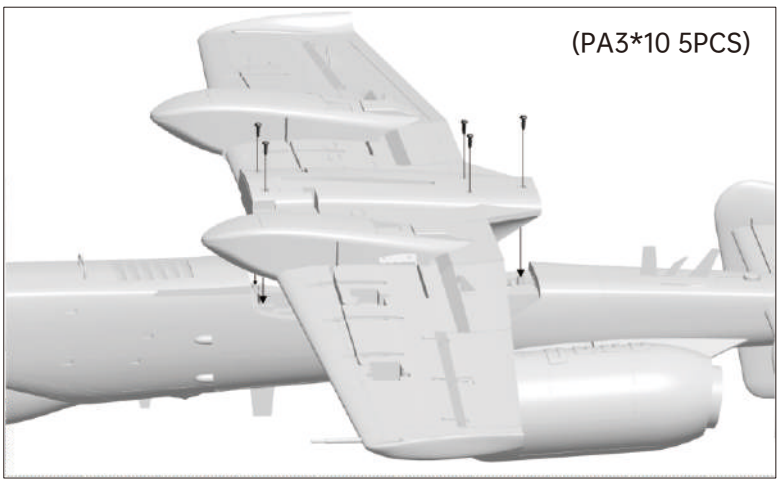
主翼安装

1. 分别用“Y”线连接左、右副翼舵机、左、右襟翼舵机、电动起落架；其中，电动起落架使用一条一对三线进行连接，同时预留一个接口连接前起落架；
2. 使用束线带将“Y”捆扎在一起，然后塞入机身；
3. 把主翼扣压进机身，同时用二颗螺丝固定主翼。

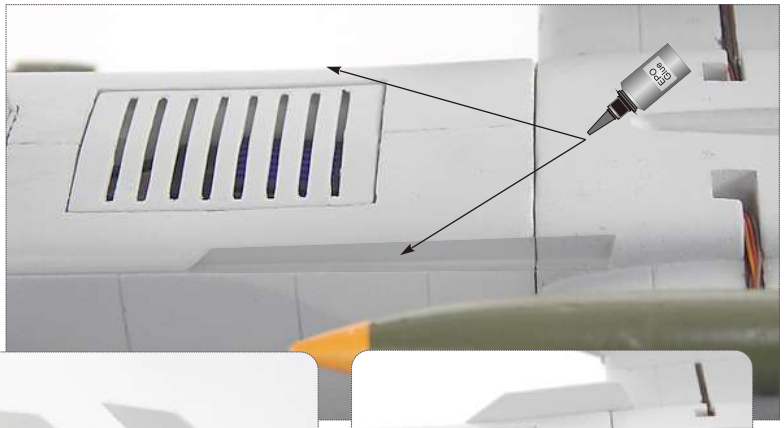








4. 主翼安装完成后，我们再用胶水将二片塑料腹鳍装饰件粘贴到机身上面。



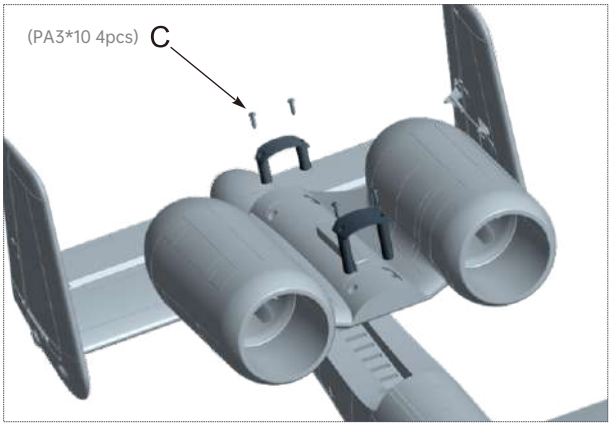
发动机舱安装

首先，准备以下配件，开始安舱A-10发动机舱；

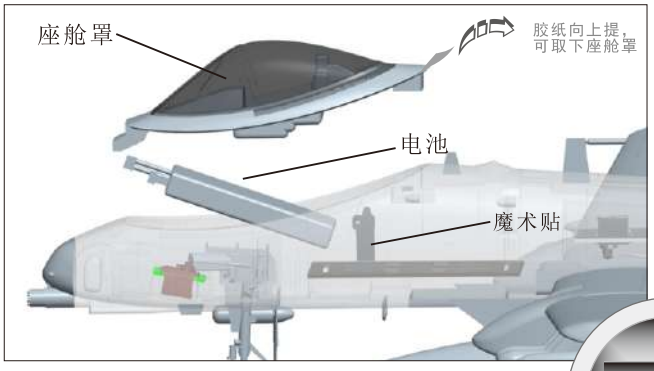
A - 发动机舱完成品
B - 机身胴体
C - 螺丝（4pcs）

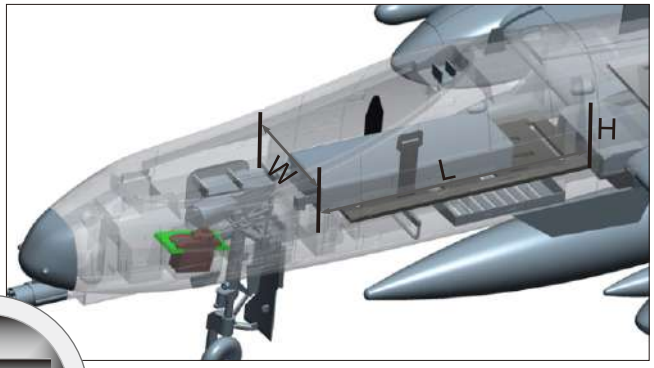
1. 把电机线同机身内置的电调延长线联接起来；

2. 把发动机舱放置到机身上，扣入“发动机舱固定塑料件”，最后用4颗螺丝固定。



电池安装说明





向上拉粘在座舱上的胶纸，取下座舱盖，然后用魔术贴捆绑电池。

将电池与接收机连接前，首先请打开发射机电源，确认油门杆处于低位。

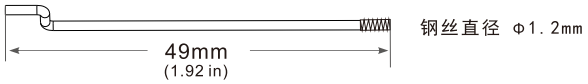
您可以参考电池舱尺寸，选择其它规格的电池！
L=190mm；W=53mm；H=40mm

我们建议使用的电池容量和放电倍率如下：
4S 14.8V 3000mAh ~ 4S 14.8V 3700mAh
放电倍率 **≥ 25C**

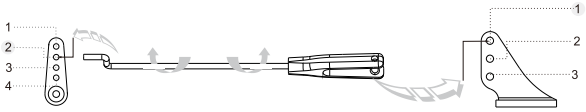
不同重量的电池，会影响重心！请注意飞机的重心在说明书指示的正确范内！

舵面控制钢丝介绍

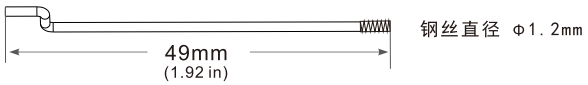
副翼控制钢丝尺寸



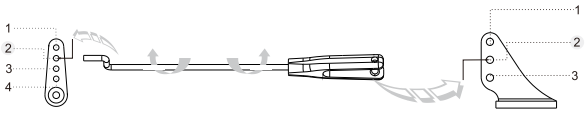
副翼舵机钢丝安装孔位



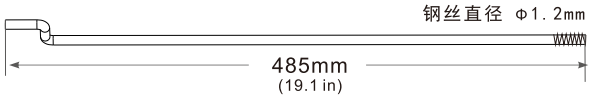
垂尾控制钢丝尺寸



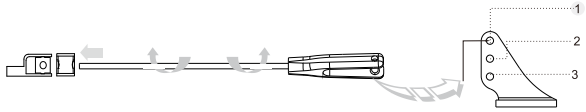
垂尾舵机钢丝安装孔位



平尾控制钢丝尺寸

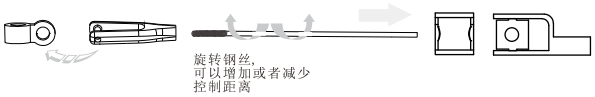


平尾舵机钢丝安装孔位

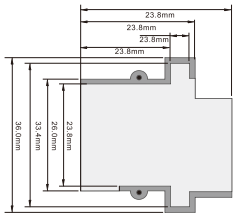


前轮转向控制钢丝尺寸

前轮转向舵机钢丝安装孔位

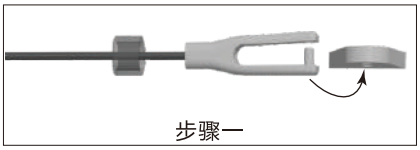


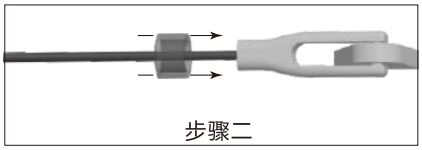
⚠ 注意：模型所有舵机安装位置已经安装好舵机盒，使玩家在拆卸舵机时，不会损伤机身表面。如果需要更换舵机，请购买原厂舵机或者参考下列图纸，选择尺寸相符的舵机！



重要附加说明:

本产品所使用的“Y”型夹头，均配备了透明硅胶圈进行二次加固，能有效防止夹头意外松开。
如下图所示，当您将夹头扣入舵面摇臂后，请使用硅胶圈套住夹头。


步骤一

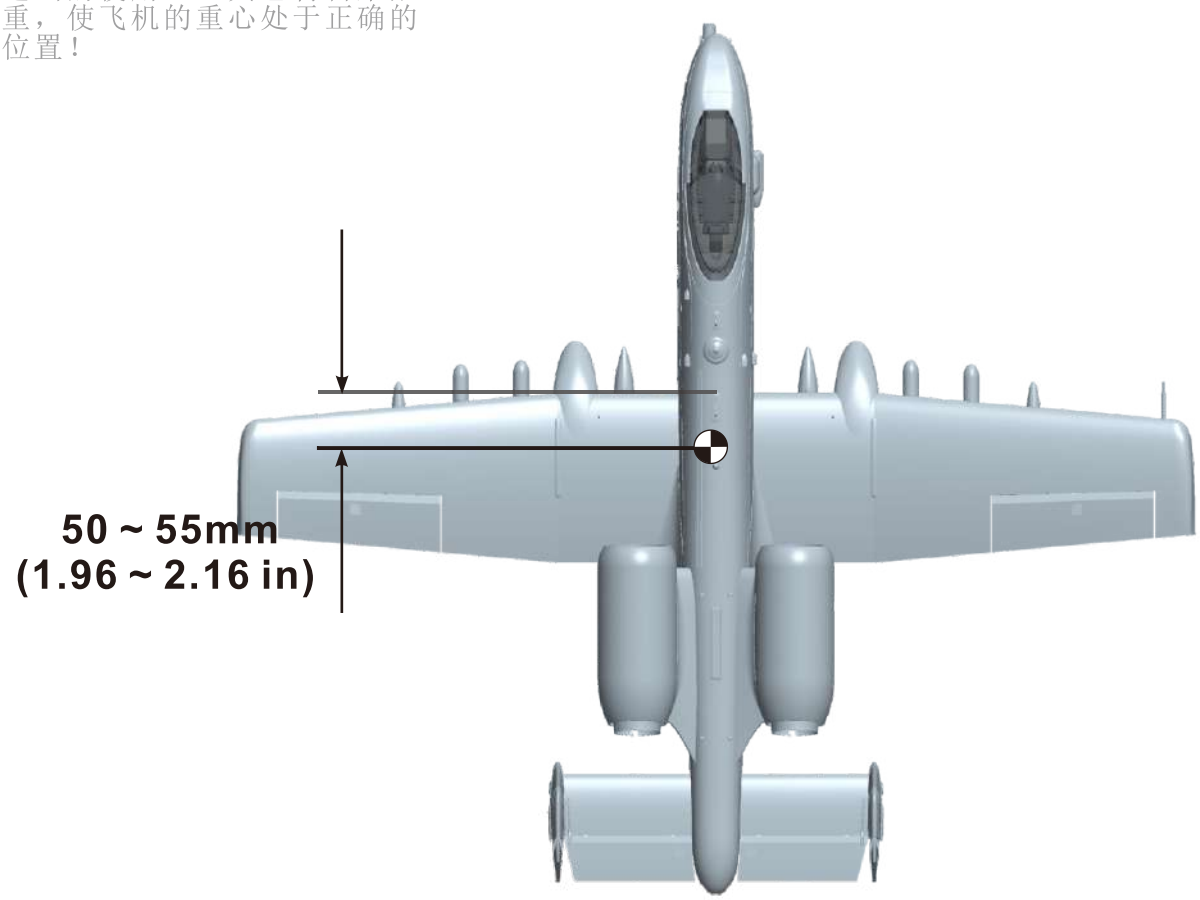

步骤二


步骤三

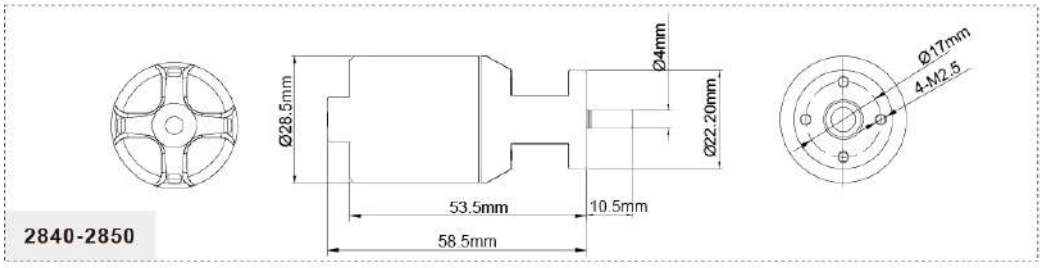
重心示意图

正确的重心，直接关系到飞行的成功与否，请参考下面的重心标示图，来调整飞机的重心。

-您可以将电池向前，或者向后移动，来调整飞机的重心;
-如果通过电调的移动无法调整到正确的重心位置，您还可以适当的使用一些其它材料来配重，使飞机的重心处于正确的位置！



电机参数



2840-2850KV无刷马达，使用4S 14.8V的电池和40A电调。

⚠ 注意：如果需要购买副厂马达使用，请参考左图所示的尺寸图，来选择马达，确保您所购买的马达能够顺利安装。

Model	KV Value	Volate (V)	Current (A)	Pull (g)	RPM	Weight (g)	No Load Current	Propeller	ESC
2840-2850KV	2850RPM/V	14.8	40	1350	42180	145	2.7A	64mm Ducted Fan	40A

舵面测试

当您按前面的步骤组装好飞机后，在飞行前，我们需要用一块充饱电的电池，连接到电调。用遥控器测试每个舵面的工作情况，检查是否正常！

副　翼

副翼摇杆
向左运动

副翼摇杆
向右运动

升降舵

升降摇杆
向下运动

副翼摇杆
向上运动

方向舵

方向摇杆
向左运动

方向摇杆
向右运动

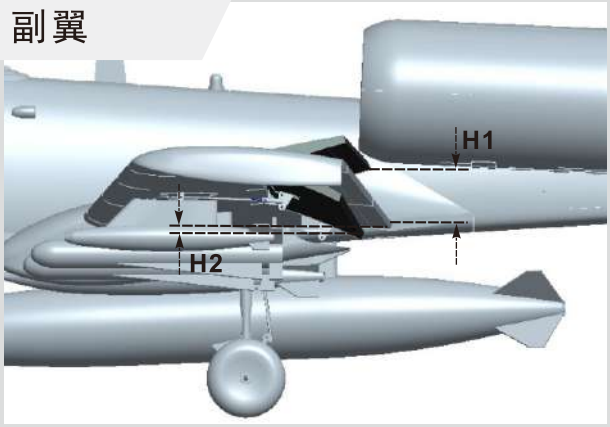
襟翼

襟翼放下

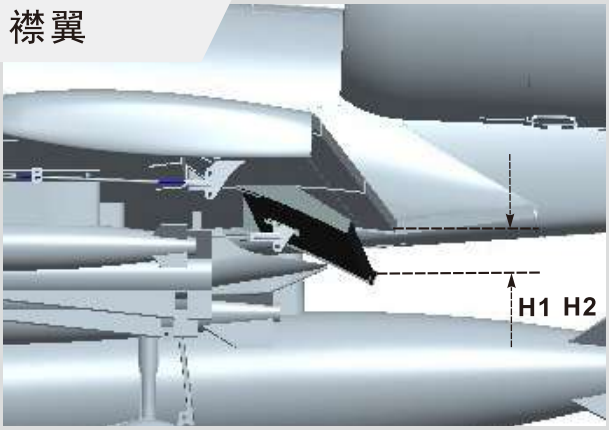
大、小舵参数

根据我们的测试经验, 我们认为, 按以下参数来设置大小舵量, 将有助于飞行, 舵量越大, 模型飞机的动作响应更快, 动作幅度可以更大。我们建议初次飞行使用大舵量起飞, 然后根据个人情况调整到适合您的舵量。

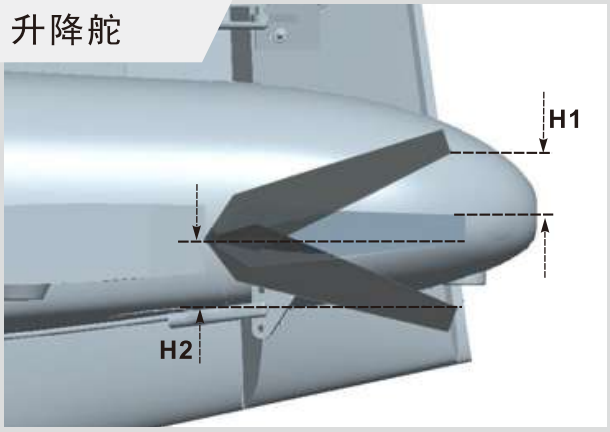
副翼



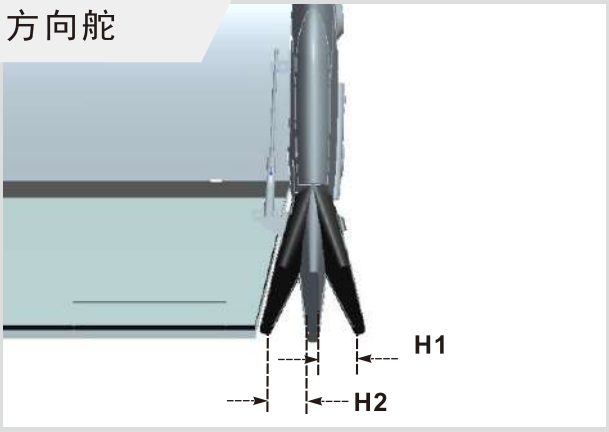
襟翼



升降舵



方向舵



	副　翼	襟　翼	升降舵	方向舵
小舵角	H1/H2　8mm/8mm	H1　14mm	H1/H2　4mm/4mm	H1/H2　5mm/5mm
大舵角	H1/H2　14mm/14mm	H2　21mm	H1/H2　8mm/8mm	H1/H2　9mm/9mm

电机不工作	A）电池电量耗尽	A）充电
	B）发射机电量耗尽	B）更换或者充电
	C）发射机开关没开	C）打开发射机开关
	D）电池没有连接好	D）检查并连接好电池
	E）电机连接错误	E）检查并正确连接电机
	F）因为摔机等原因损坏	F）更换
	G）其它或者ESC故障	G）检查ESC或者经销商
飞机难以控制	A）飞行中遇到强风或者乱流	A）无风的时候起飞
	B）电池电量耗尽	B）需要充电
	C）发射机电池电量耗尽	C）更换电池或者给电池充电
	D）发射机天线没有完全展开	D）展开发射机天线
	E）舵面的控制过量	E）使用小舵量进行飞行
飞行时机头一直向下，需要补偿升舵	A）重心靠前	A）参考说明书，向后调整重心
在没有控制发射机时，飞机总是向上、向下；或者飞机总是向左、向右倾斜	A）没有对升降舵、副翼进行微调	A）适当调节一些微调
	B）飞行时遇到太大的自然风力	B）先降落,选择无风天气飞行
飞行时升降舵异常灵敏，俯、仰不安定	A）重心靠后	A）参考说明书,向前调整重心
地面滑跑时方向会偏	A）前轮没有居中	A）居中前轮
	B）方向舵没有居中	B）居中方向舵
起飞困难	A）油门没有推到最大	A）油门推到最大
	B）滑跑助飞距离不够	B）尽可能滑跑得更远些
	C）升舵舵量不够	C）使用更大的舵量
飞机爬升困难	A）电池电量不足	A）需要重新充电
	B）涵道风扇损坏	B）确认并重新更换
	C）电机损坏	C）确认并重新更换
	D）电调过热保护，功率降低	D）先降落，确认并选择更大功率的电调
电流充电后发热	A）电池充电时,会产生热量,这是正常的	A）电流充饱电后,会发热，但用手触摸不烫
电机震动	A）涵道风扇损坏	A）确认并更换
	B）马达损坏	B）确认并更换
	C）涵道需要调节动平衡	C）调节动平衡
	D）高速运转时,可能产生轻微震动	D）轻微震动是正常的,可以使用
控制面向错误的方向运动	A）舵机方向装反	A）重新安装舵机