

# J3 Cub Firebird

## Instruction Manual

E31

### 飞行前的建议 PRE-FLIGHT CHECKS

- 安装舵机前，请先将舵机通电让舵机中心点回中，以便能更好的调试舵面。
- Check/adjust servo centering, in order to adjust the control surface better.
- 初次启动电机，您需要确认电机旋转的方向以适配您的机型。
- Double-check the spinning direction of motor at first usage, and sure it's suitable for your model.
- 请将重心 (CG) 调整至说明书所述位置并尽量靠近。如果有需要，您可以增加机头或者机尾的重量，以确保机体有更好的飞行姿态。
- Set the center of gravity (CG) at the position that manual already marked out. If necessary, add weight to the nose or tail to ensure the best flight performance.
- 检查机身内部，确保所有设备正常连接；检查机身表面，包括但是不限于蒙皮，固定螺丝，舱盖，座舱罩等位置。
- Double-check the inside of the fuselage, make sure all the equipments are correctly connected; Check the heat-shrink covering material's surface, Make certain all screws, bolts, cabin and canopy remain secure.
- 在飞行前，请检查您电池情况，若有低电压，电池损坏等情况，请您停止操作并马上更换电池。
- Take great care when connecting/disconnecting the battery, pls replace the battery immediately once found low voltage or damage to battery.
- 机身内部设备连接的方式，会和您的收发设备有关，在一些功能更多的收发设备上，您可以通过设置简化机身内部设备的连接。详情请查看您的收发设备以确认是否满足您需要的功能。
- The way the internal devices of the fuselage are connected will be related to your transmitter-receiver device. For those transmitter-receiver devices with more functions, you can simplify the connection of the internal devices of the fuselage. Check your device for details to see if it meets the features you need.
- 动力设备和收发设备第一次配对时，可能需要设置油门最大行程，请您自行设置。
- When the power system and transmitter-receiver device are paired for the first time, you may need to set the maximum stroke of the throttle. Please set it yourself.

### 注意事项 SAFETY PRECAUTIONS

- 这个产品不是玩具，而是一个复杂的具有难度的飞行器。您和您身边人的安全取决于您如何操作它，您需要了解相关知识，并谨慎操作。禁止没有成人陪伴的儿童独自操作该设备。不适合14岁以下人群使用。再次强调，这不是一个玩具。
- This product should not be considered a toy, but rather a complicated and sophisticated flying model. Your safety depends on how you use and fly it, If not correctly operated, could cause injury to you or your family members. Children must be accompanied by an adult at all times if operating this product. Not suitable for children under the age of 14. THIS IS NOT A TOY.
- 不要在机场，军事基地，居民区或其他任何受限制的地方飞行。
- Do not fly around some restricted location like airports, military bases, residential areas, etc.
- 您需要对发射机进行距离检查，以确保没有收到任何干扰。
- You will need to range check the transmitter to be sure you are not experiencing any interference.
- 始终保持先打开发射机后打开接收机，先关闭接收机后关闭发射机的步骤。
- Always turn on the receiver last after turning on the transmitter and shut off the receiver first before turning off the transmitter.
- 如果您是初学者，建议您在有经验玩家的协助下调试和飞行。
- If you are only a beginner to the radio control model flying, do not attempt to fly your model without any assistance or advice from advanced expert fliers.
- 请将相关物品放置在孩子们够不到的地方
- Keep relevant items out of reach of children.
- 这个设备的设计已经超过我们正常使用所需要刚性要求，但若您需要以超出我们推荐的动力飞行时，请合理控制动作幅度并适当增加机体强度。
- This product has been flight tested to meet or exceed our rigid performance and reliability standards in normal use, if you plan to perform any high-stress flying, you are solely responsible for taking any and all necessary steps to control movement range and reinforce the body strength.
- 您的设备中可能包括一些玻纤和碳纤维雕刻的部件，这些纤维部件所带的粉尘可能会引起眼睛，皮肤的不适，请您在需要的时候带上护目镜或者防尘服。
- This product may include some fiberglass and carbon-fiber reinforced plastic parts, which may cause eye and skin discomfort, pls wear the goggles or dust-proof clothes when needed.
- 因航空运输安全管理，您收到的产品可能没有清单中出现过的胶水，请您理解无法发送胶水给您的原因。您可以在当地文具店很方便的购买到您所需要的胶水。
- Due to air traffic safety control, the products you receive may not have the glue that appears in the list. Please understand and purchase the glue you need at your local stationery store.



### 飞行参数 Specification

翼展: 600mm (23.6inch)  
机长: 440mm (17.3inch)  
起飞重量≈85g

Wingspan: 600mm (23.6inch)  
Length: 440mm (17.3inch)  
Flying Weight≈85g

### 推荐配置 Suggested Equipment

推荐马达: MC1108 4000Kv  
推荐电调: 2S 5A ESC  
推荐舵机: 2.0g \* 4pcs (1.00pin)  
推荐桨叶: 5inch Prop  
推荐电池: 2S 150-200mAh  
推荐通道≥4CH

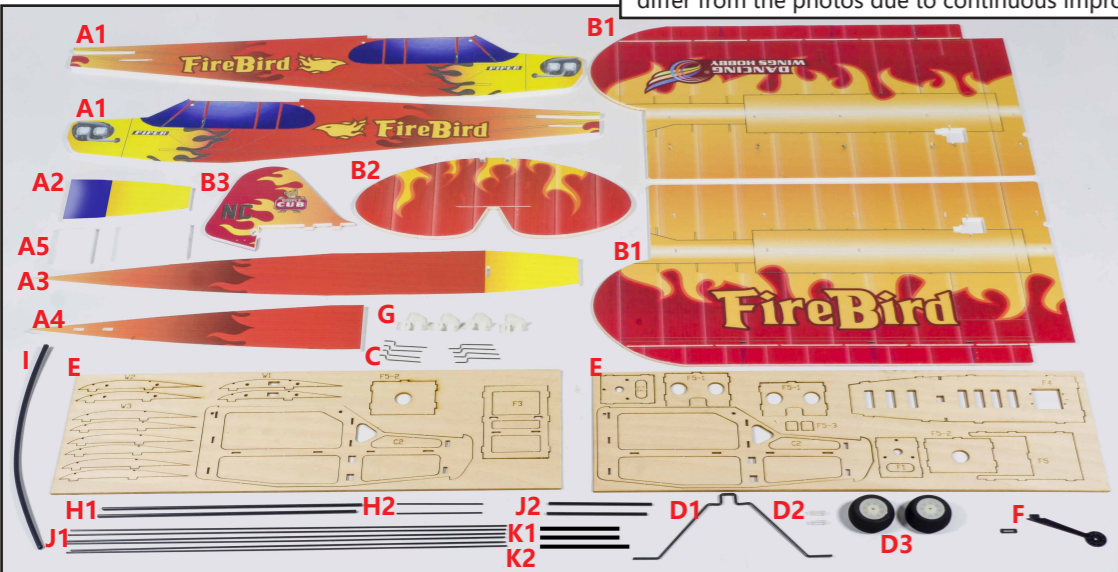
Suggested Motor: MC1108 4000Kv  
Suggested ESC: 2S 5A ESC  
Suggested Servos: 2.0g \* 4pcs(1.00pin)  
Suggested Propeller: 5inch Prop  
Suggested Battery: 2S 150-200mAh  
Radio≥4CH

### 工具 Tools Needed



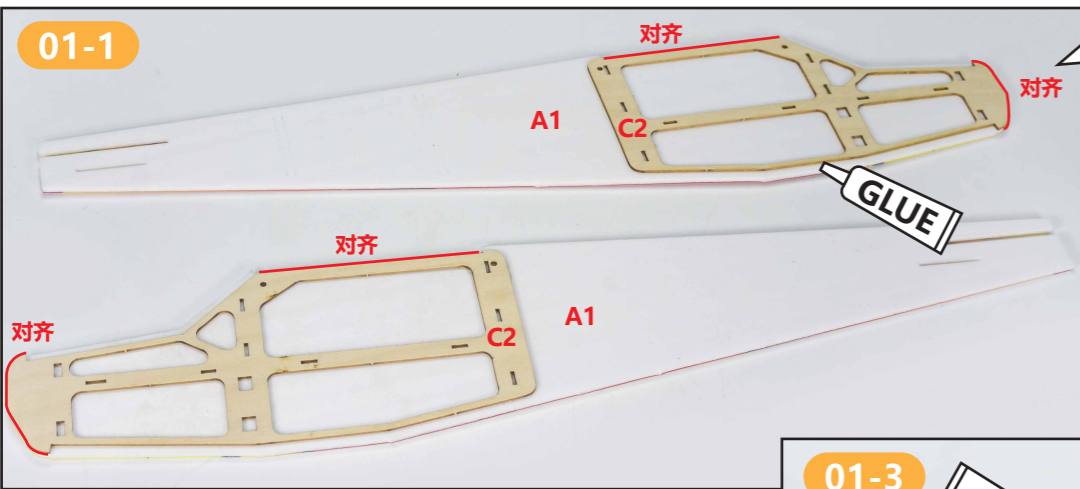
**KIT**

配件图仅做参考用，您收到的实物可能因为修改/优化的原因导致与图片略有不同。  
Photos shown here just for reference, the product you received may be slightly differ from the photos due to continuous improvement on products.

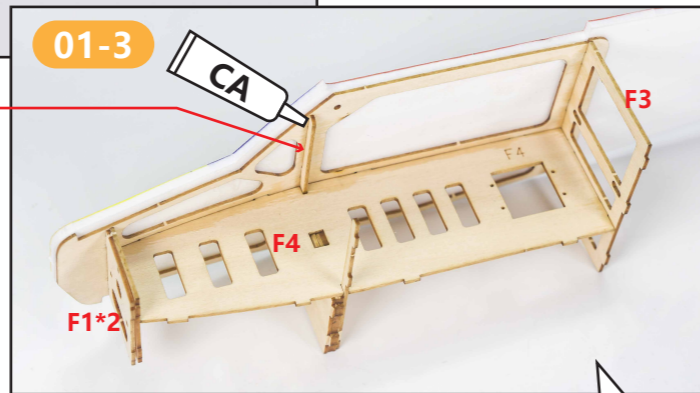
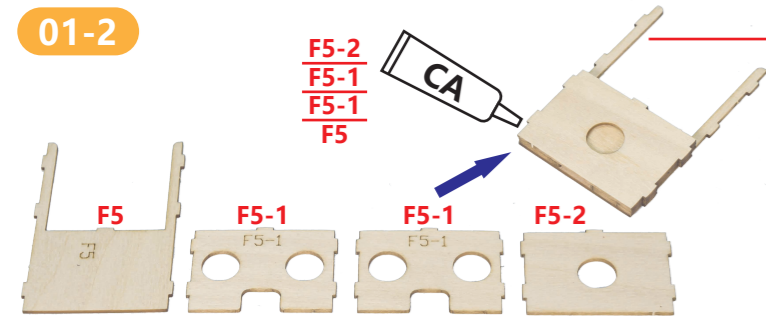


- A1-2: 机身 Fuselage
- B1: 机翼 Wing
- B2: 水平尾翼 Horizontal Tail
- C: 桨叶 Propeller
- D1-2: 起落架 Landing gear
- E: 加强木件 Reinforcement Wooden Parts
- F: 马达 Motor
- G: 舵角 Servo Horn
- H1-2: 连杆 Connecting rod
- I: 热缩管 Heat-shrinkable Tube
- J1-2: 碳杆 Carbon Rod
- K1-2: 碳片 Carbon sheet

**机身拼装 Assemble the Fuselage**

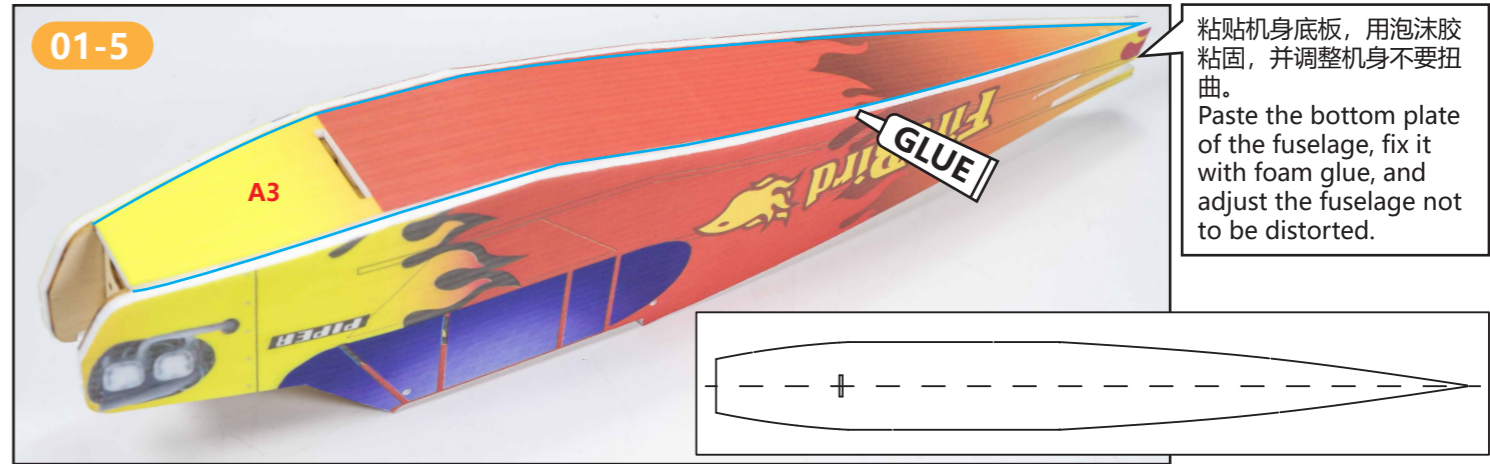


在两片A1的反面均匀涂抹泡沫胶, 粘贴木件C2。  
Apply the foam glue evenly on the reverse sides of the two pieces of A1, Paste the wood piece C2.



如上图拼装木件结构, 用快干胶粘固连接处。  
Assemble the wooden components as shown in the picture above, fasten the connection with fast-dry glue.

粘贴另一侧侧板。  
Paste the other side panel.

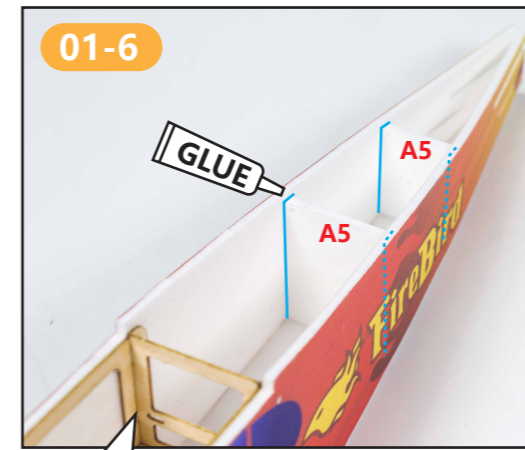


粘贴机身底板, 用泡沫胶粘固, 并调整机身不要扭曲。  
Paste the bottom plate of the fuselage, fix it with foam glue, and adjust the fuselage not to be distorted.

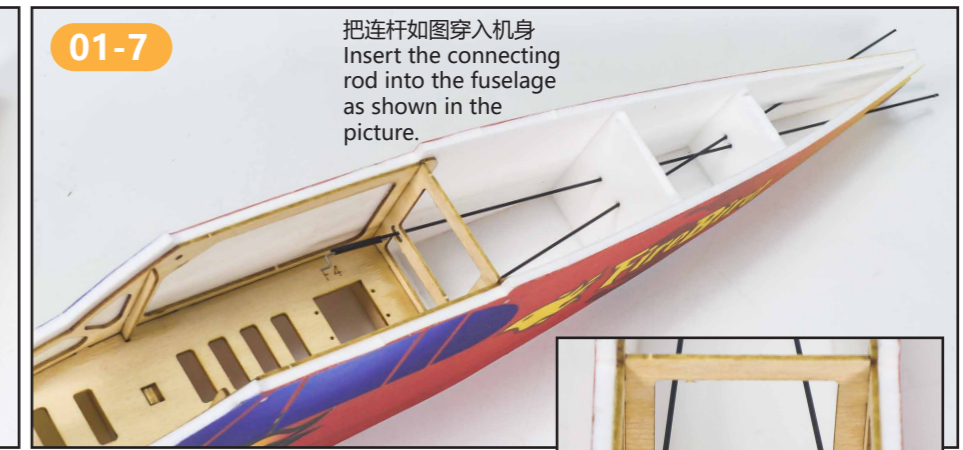
**钢丝连杆制作 Make the steel wire linkage**



如左图, 截取合适长度的热缩管, 把Z型钢丝和碳杆套在一起, 加热热缩管缩紧, 然后点入少量CA胶加固。  
As shown in the picture on the left, cut the suitable length of the heat shrinkable tube, sleeve the Z-shaped steel wire and the carbon rod together, heat the heat shrinkable tube to shrink it, and then add a small amount of CA glue to reinforce it.  
注意: 2根连杆只做好一端的Z型头, 另一端待后续步骤再制作。  
Note: For the two connecting rods, only one end of the Z-shaped head should be made, and the other end will be made in subsequent steps.



在机身侧板的虚线处粘贴2个隔板A5。用泡沫胶粘固。  
Paste two partitions A5 on the dotted lines on the side panels of the fuselage and fix with foam glue.



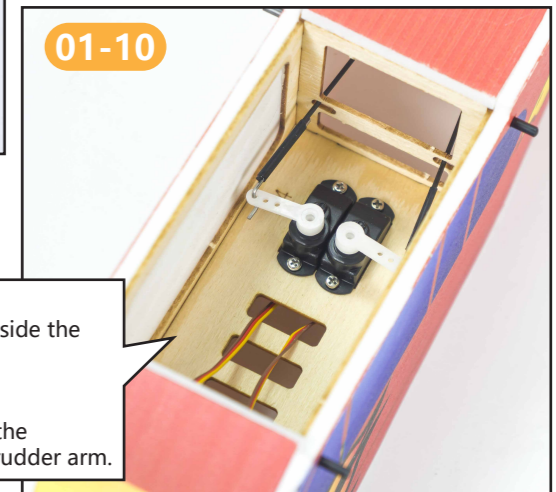
把连杆如图穿入机身  
Insert the connecting rod into the fuselage as shown in the picture.



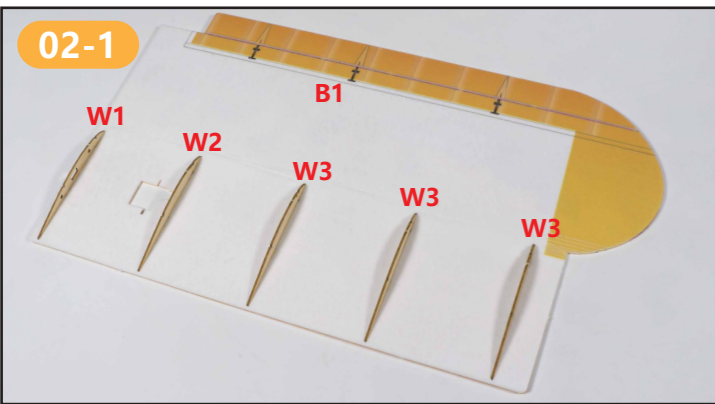
把舵机通电回中, 并安舵臂。  
Supply power for the servo and return it to center, install a servo horn.

把调好的舵机装入机身内。  
Put the adjusted servo inside the fuselage.

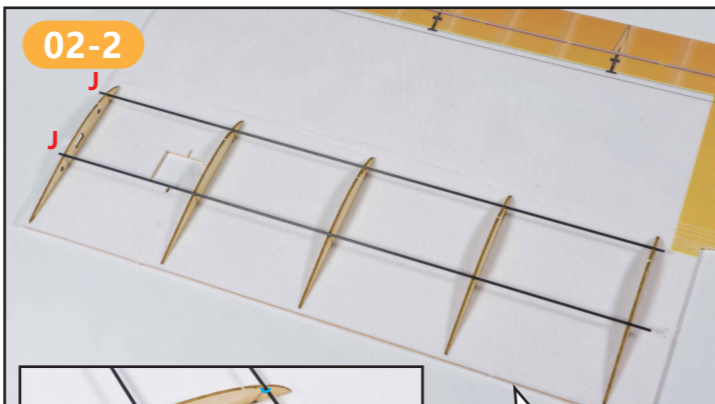
连杆Z型头穿入舵臂。  
Penetrate the Z-head of the connecting rod into the rudder arm.



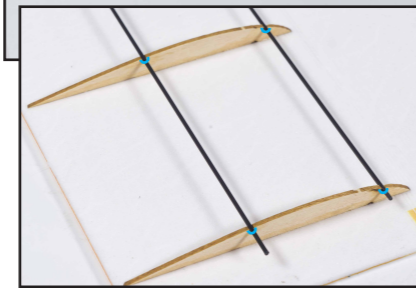
# 机翼拼装 Assemble the Wing



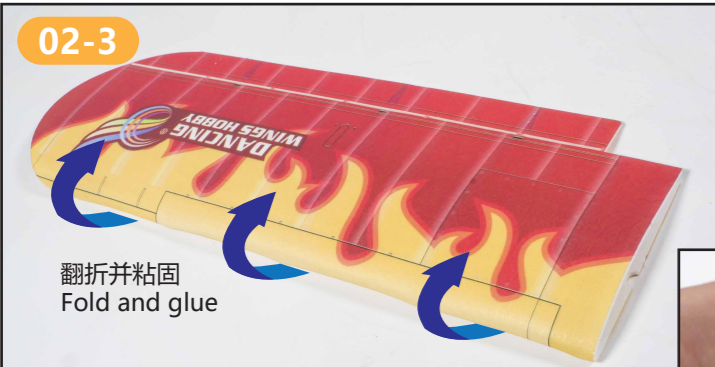
02-1



02-2



在翼肋凹槽内粘贴碳杆，如上图所示。  
Stick the carbon rod in the wing rib groove as shown in the picture above.



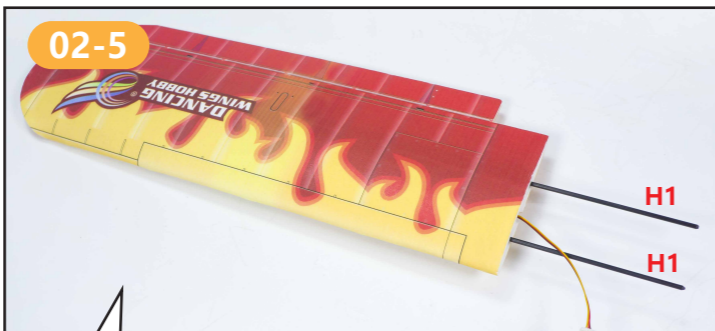
02-3

翻折并粘固  
Fold and glue



02-4

按右机翼拼装步骤完成左机翼拼装。  
Follow the right wing assembly steps to complete the left wing assembly.



02-5

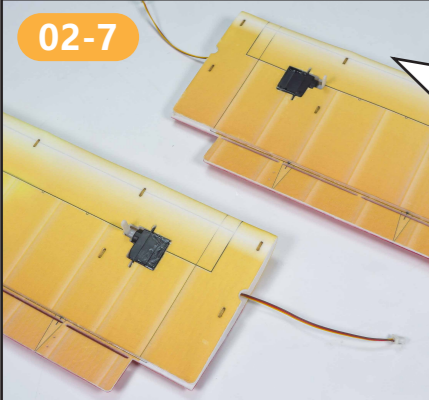
H1  
H1



02-6

把舵机通电回中，并安舵臂。  
Supply power for the servo and return it to center, install a servo horn.

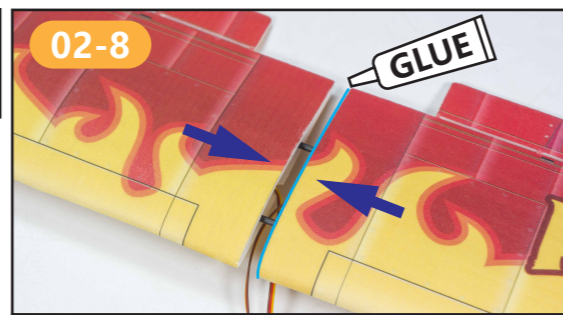
把两根碳杆插入机翼。  
Insert two carbon rods into the wing



02-7

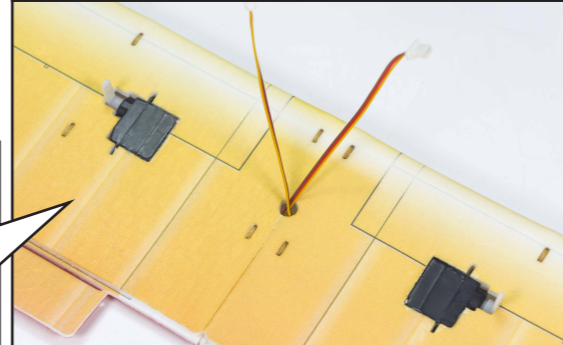
在机翼背面预留槽内粘贴舵机，并把舵机线导入机翼内，从侧面导出。  
Paste the servo in the reserved slot on the back of the wing, guide the servo line into the wing and lead it out from the side.

把两部分机翼对插在一起，连接处用泡沫胶粘合。并把舵机线从预留孔导出。  
Insert the two parts of the wings together and glue the joints with foam glue. And lead the servo line out of the reserved hole.



02-8

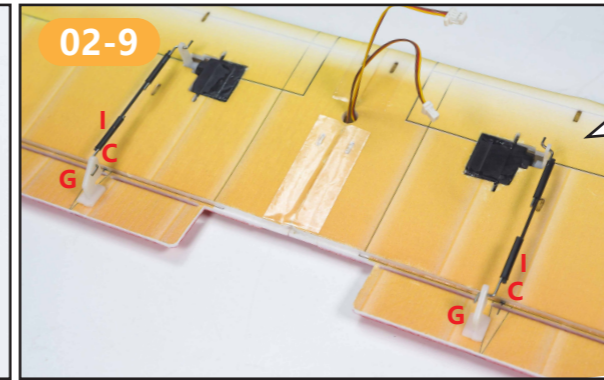
GLUE



参考前面制作连杆的步骤做好两个短连杆。  
Refer to the previous steps of making connecting rod to make two short connecting rods.



02-9



把制作好的一端Z型头穿入舵机的舵臂，然后参考尾翼上舵角的位置，确定连杆合适的长度，并切除多余的碳杆。  
Insert the finished Z-shaped end into the rudder arm of the steering gear, and then refer to the position of the rudder horn on the tail to determine the appropriate length of the connecting rod, and cut off the excess carbon rod.

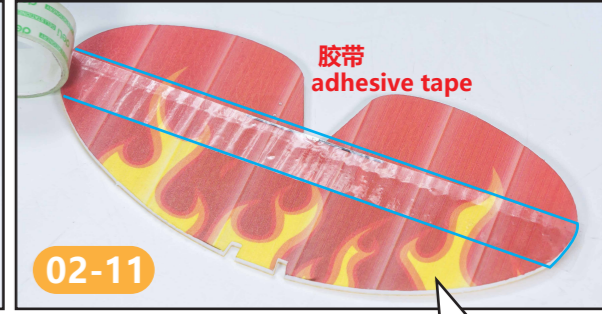
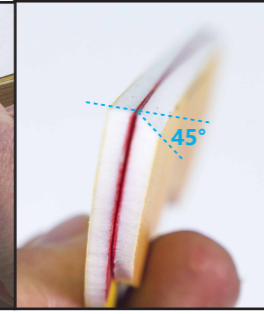
然后对照连杆制作步骤安装另一端的Z型头。  
Then follow the steps to make the Z-shaped head at the other end of the connecting rod.

完成Z型头后，把Z型头穿入舵角，把舵角用泡沫胶粘在舵面上。  
After finishing the Z-shaped head, insert the Z-shaped head into the rudder horn, and glue the rudder horn to the rudder surface with foam glue.



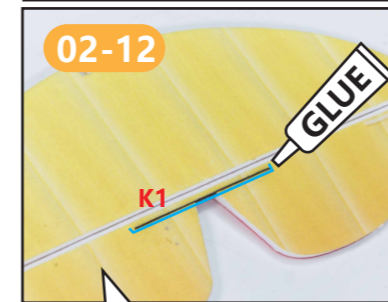
02-10

用模型刀切割升降舵与机身连接处，切出45度斜面。  
Cut the connection between the elevator and the fuselage with a model knife and cut a 45 degree slope.



02-11

胶带  
adhesive tape



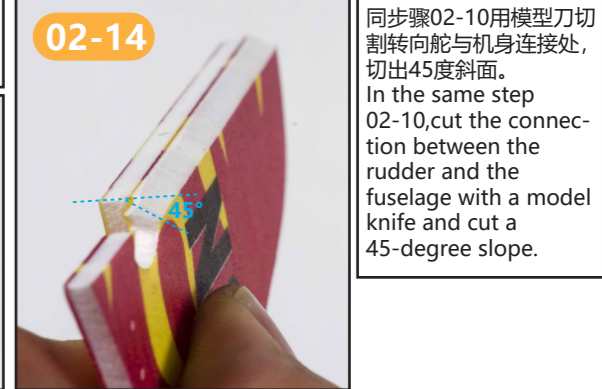
02-12

在上图水平尾翼位置嵌入碳片。  
Insert the carbon sheet inside the horizontal tail as shown above.



02-13

把水平尾翼粘到机身，用泡沫胶粘固。并保持居中和水平。  
Glue the horizontal tail to the fuselage and fix with foam glue. And keep it centered and horizontal.



02-14

同步步骤02-10用模型刀切割转向舵与机身连接处，切出45度斜面。  
In the same step 02-10, cut the connection between the rudder and the fuselage with a model knife and cut a 45-degree slope.



02-15



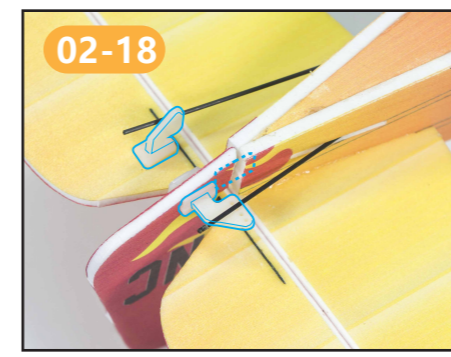
02-16

Paper Hinges

纸合页插入尾翼末端，用胶水粘固。  
Insert the paper hinge at the end of the tail and fix with glue.



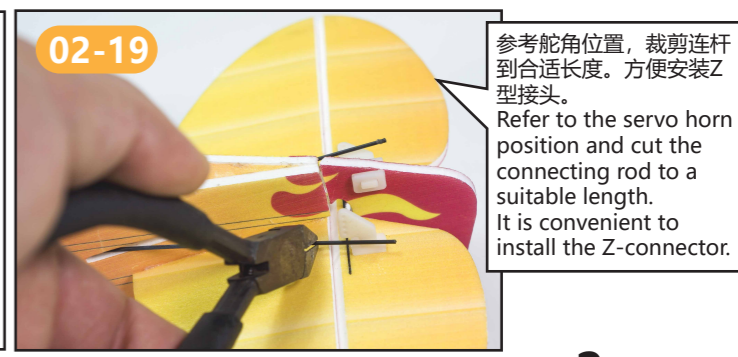
02-17



02-18

纸合页插入机身尾部，用胶水粘固，并保持舵面可以自由转动。  
Insert the paper hinges into the rear of the fuselage and fix with glue, and keep the rudder surface free to rotate

安装舵角  
Intall the servo horn



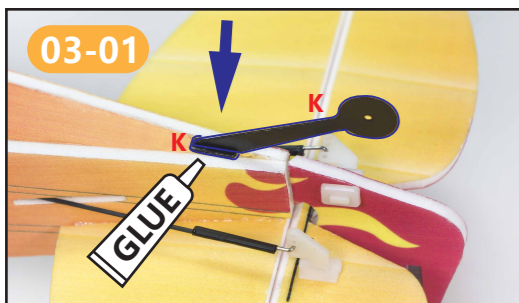
02-19

参考舵角位置，裁剪连杆到合适长度。方便安装Z型接头。  
Refer to the servo horn position and cut the connecting rod to a suitable length. It is convenient to install the Z-connector.

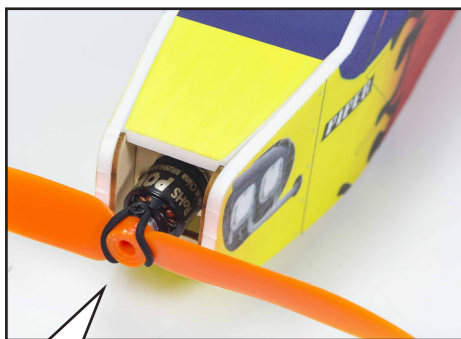


02-20  
 然后对照连杆制作步骤安装另一端的Z型头。  
 Then follow the steps to make the Z-shaped head at the other end of the connecting rod.  
 把Z型头穿入舵角，然后用热缩管固定住。点入少量CA胶粘固。  
 Penetrate the Z-shaped head into the servo horn, and then fix it with a heat-shrinkable tube. Add a small amount of CA glue to cement.

### 起落架安装 Install the Landing Gear

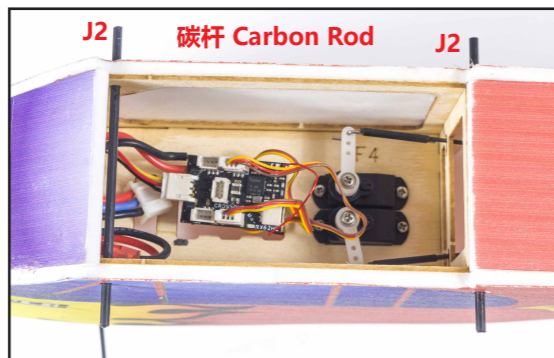


### 电子设备安装调试 Power System Installation and Adjustment



用螺丝把马达固定到机头，并在马达上安装装接头和桨叶。  
 Fix the motor to the aircraft nose with screws, and install the EZ-connector and the propeller onto the motor.

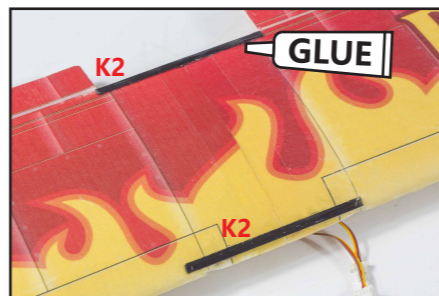
马达安装时设置右拉下拉角2°  
 When install the motor, please set the right pull-down angle 2°



舱身内电子设备安装示范。  
 Demonstration of the installation of electronic equipment in the cabin.

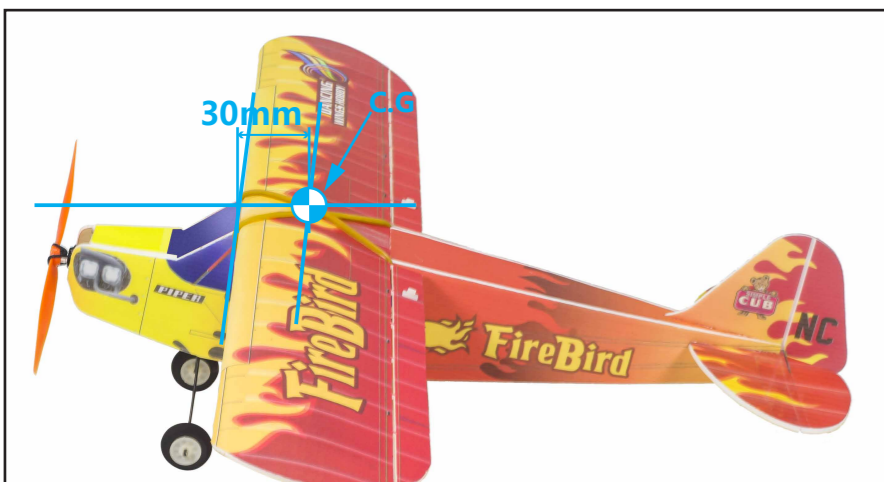
此处推荐 AEO RX15X-E系列多合一接收机。  
 AEO RX15X-E series all-in-one receiver is recommended here.

说明链接: Description link:  
<https://www.aeorc.com/rx14amp14eamp15e-series-mini-receiver-user-manual-a0074.html>



橡皮筋绑扎  
 fix with rubber band

### 重心位置展示 Display for C.G



注意: 设置重心时, 可用电池配重, 调整电池位置以达到合适的重心。然后用魔术胶带把电池固定机身。

Note: When you adjust CG, you can use battery as balance weight, adjust battery position to find the suitable CG, then fasten the battery on the fuselage with magic tape.



常规飞行(Normal Flying)

副翼 Aileron ± (15°-30°)

平尾 Elevator ±15°

垂尾 Rudder ±15°

常用襟翼 Flap (起飞 take-off) 15°-20° (降落 Landing) 20°-40°

3D飞行 部分飞机支持(3D Flying only support some models)

±40° 或者更大(or larger)

±40° 或者更大(or larger)

±40° 或者更大(or larger)

部分特殊机型会有V型尾翼, 襟翼, 前缘机翼或舵面很小等, 可以以常规飞行的角度作为参考, 在您不确认且没有有经验人员指导的情况下, 我们建议您先以小角度试飞以确认您的设置是否正确。

Some special models will have V-tails, flaps, leading edge wings, etc., which can be used as a reference for conventional flight angles. If you do not confirm and there is no experienced person to guide you, we recommend that you first test at a small angle to confirm that your settings are correct.



更多电子设备调试细节可参考以下链接查看 (可直接扫二维码)  
 More details about power system adjustment, please refer to below link: (You can scan QR Code directly.)

<http://www.dwhobby.com/art/connection>

### 地面控制方向测试 Control Directions Tests

	遥控器动作 Transmitter Command	飞机反应 Aircraft Reaction
升降舵 Elevator	升降杆下拉 Lifting rod down	
	升降杆上推 Lifting rod up	
副翼 Aileron	转向杆向右 Steering rod to the right	
	转向杆向左 Steering rod to the left	
方向舵 Rudder	方向杆向右 Direction rod to the right	
	方向杆向左 Direction rod to the left	