Balsawood Airplane

1.2M Piper J3 Cub

Instruction Manual

S23

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.

● 因航空运输安全管制，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.

DANCING WINGS HOBBY

http://www.dwhobby.com/

CE RoHS

MADE IN CHINA

历史背景

Piper J-3 Cub是20世纪30年代最受欢迎的商用飞机。机身长度7码，独有的黄色和黑色涂装方案成为它标志性的特点，J-3做为那个时代最重要的教练机型，最终在第二次世界大战结束时训练了80%的美国军事飞行员。由于简单的结构，大约每20分钟就有一个新的J-3 Cub在流水线上生产出来，很多J-3 Cub飞机今天还在飞行。

The Piper J-3 Cub was the most popular commercial aircraft of the 1930's. Barely seven yards long and instantly recognizable in its yellow-and-black paint scheme, this nostalgic favorite became the foremost trainer of the era, eventually training 80% of the United States' military pilots by the end of World War II. A new Cub was rolling of the assembly line nearly every 20 minutes, and many of these beloved airplanes are still around today.

飞行参数

翼展: 1200mm
机长: 725mm
起飞重量≈750g

Wingspan: 1200mm
Length: 725mm
Flying Weight≈750g

推荐配置

马达: 2212-2216 900-1200KV
电调: 20-30A
桨叶: 9-10寸
舵机: 9g*4
电池: 3s 2200-2800mAh
通道≥4CH

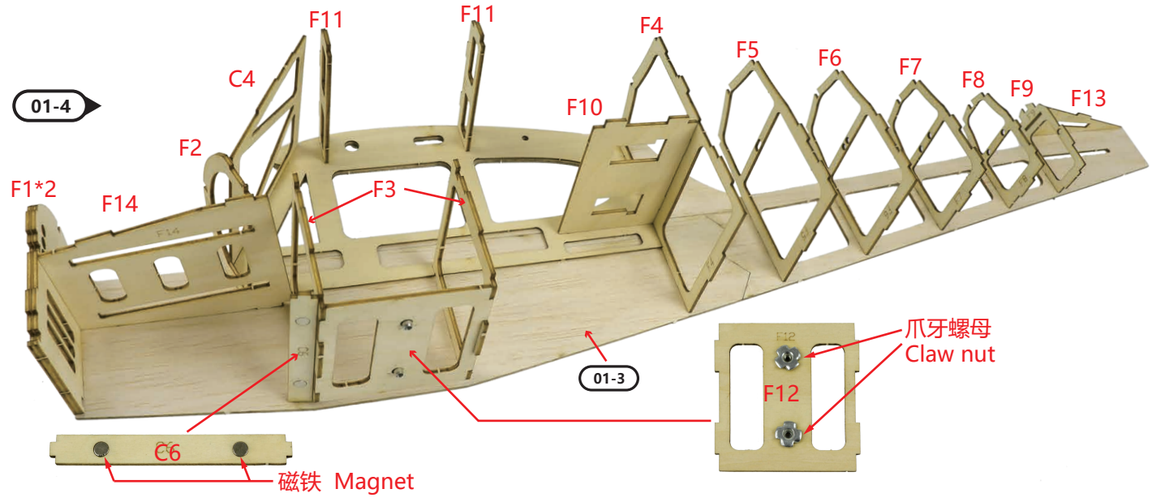
Motor: 2212-2216 900-1200KV
ESC: 20-30A
Propeller: 9-10 inch
Servos: 9g*4
Battery: 3s 2200-2800mAh
Radio≥4CH

DANCING WINGS HOBBY

散件 KIT

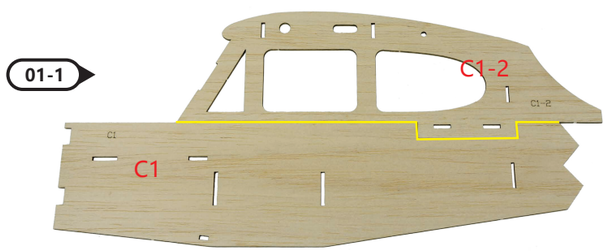
工具 Tools Needed

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有略有不同。
Photos shown here just for reference, the product you received maybe slightly differ from the photos due to continuous improvement on products.



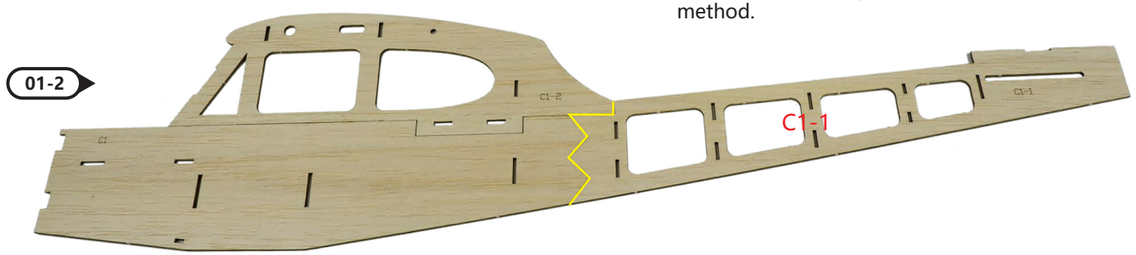
01 机身组装 Assemble the Fuselage

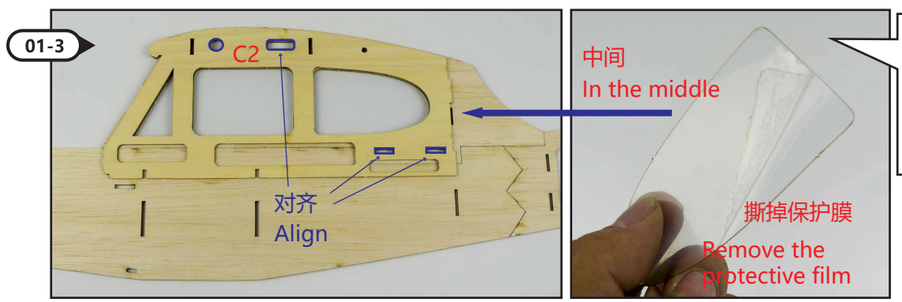
注意：进行拼装时，用美工刀从板材下取下各部件，用快干胶水定型，用白乳胶加固。
Note:While assembling,take down the parts from the board by knife,pls use the fast dry adhesiveas stabilization and whitelatex as reinforcement.



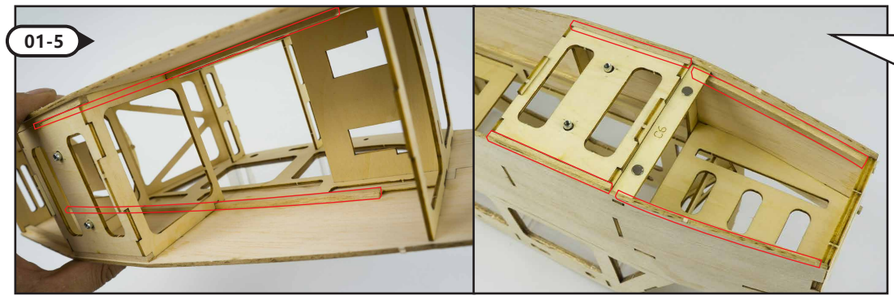
第一步拼装侧板，C1，C1-1，C1-2按图示粘贴在一起，粘贴时保持平整，左右2片相同拼装。

The first step is to assemble the side panels. C1, C1-1, and C1-2 are pasted together as shown in the figure. They are kept flat when pasted, and the two pieces at left and right are assembled in the same method.

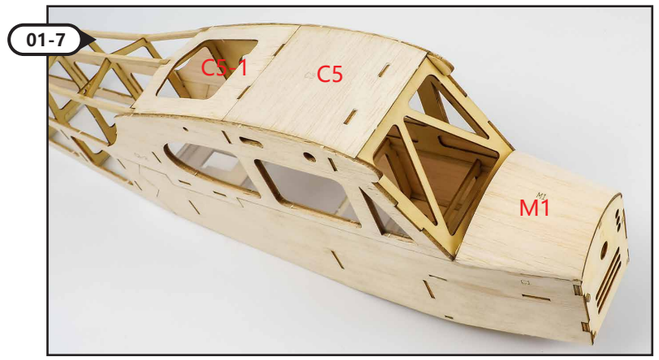


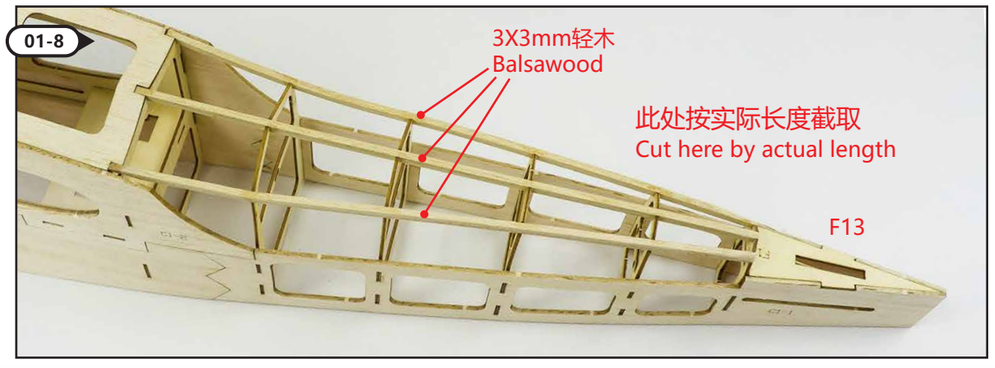


PVC片粘在侧板和C2中间，粘之前撕掉保护膜。
The PVC sheet is stuck in the middle of the side plate and C2, and the protective film is peeled off before sticking.

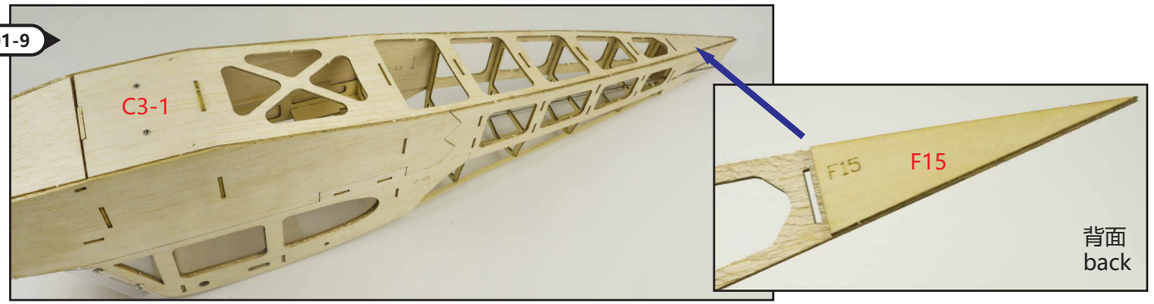


拼装另一边侧板，并在图示位置嵌入3x3mm轻木条，胶水固定。
Assemble the other side panel and embed the 3x3mm balsa wood strip in the position as picture shown,finally glue it.

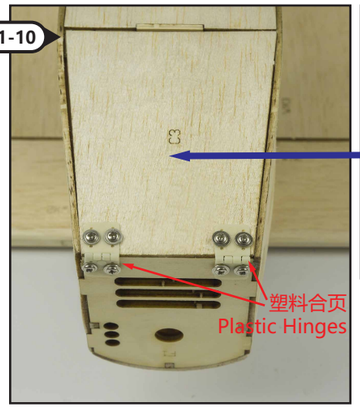




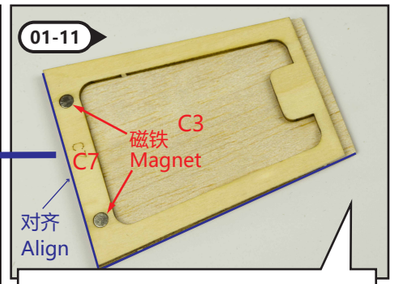
01-9



01-10



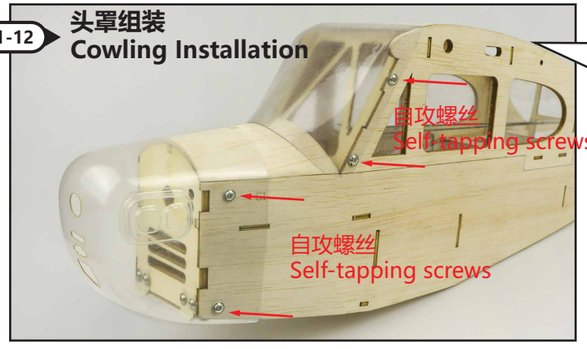
01-11



此处磁铁安装时与C6处磁铁为相吸状态。
When the magnet is installed, it is in a state of attraction with the magnet at C6.

01-12

头罩组装
Cowling Installation

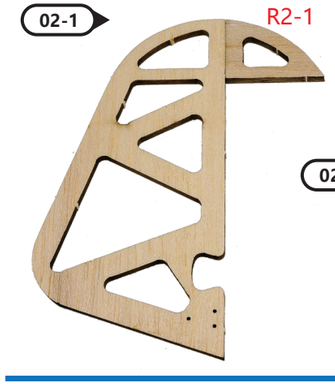


调整好头罩位置后，用自攻螺丝固定头罩到机身上。并在头罩上粘贴像真引擎。
After adjusting the position of the cowling, fix the cowling to the body with self-tapping screws.

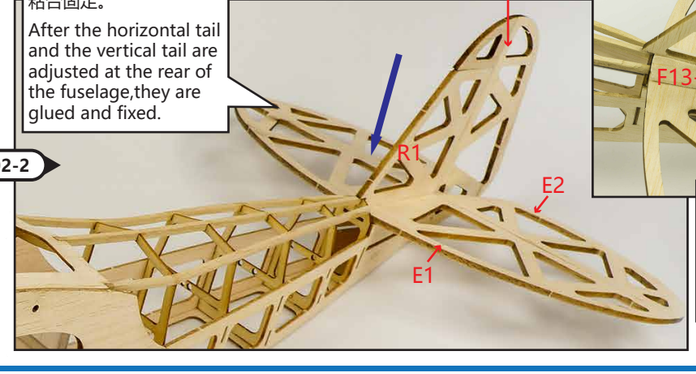
02 机翼，尾翼组装
Assemble the Wing and Tail

尾翼组装
Assemble the Tail

02-1

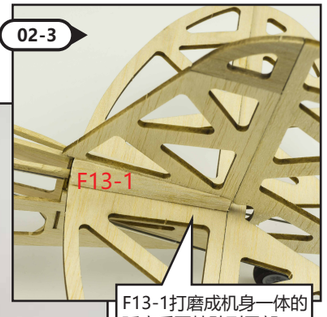


02-2



水平尾翼和垂直尾翼在机身尾部调整好后，用胶水粘合固定。
After the horizontal tail and the vertical tail are adjusted at the rear of the fuselage,they are glued and fixed.

02-3

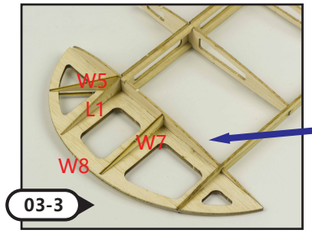


F13-1打磨成机身一体的弧度后再粘贴到尾部。
F13-1 is polished into the arc of the fuselage and then pasted to the tail.

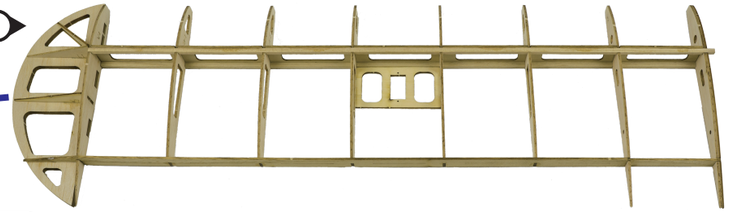
03 机翼组装
Assemble the Wing

机翼组装参照机翼1：1图纸进行，并在平整工作台上进行组装，保持机翼平直。
The wing is assembled as per the 1:1 drawing,and assembled on the leveling table to keep the wing straight.

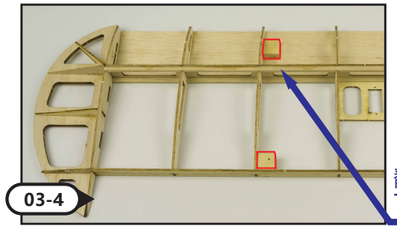
03-3



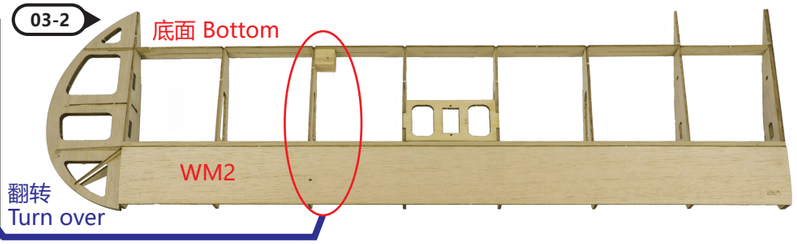
03-1



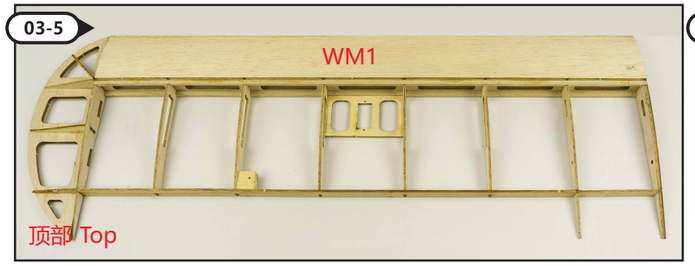
03-4



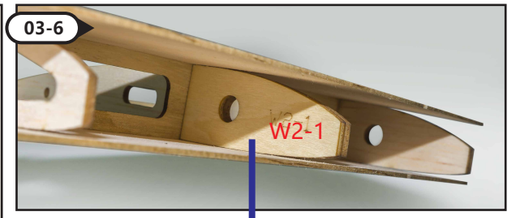
03-2



03-5



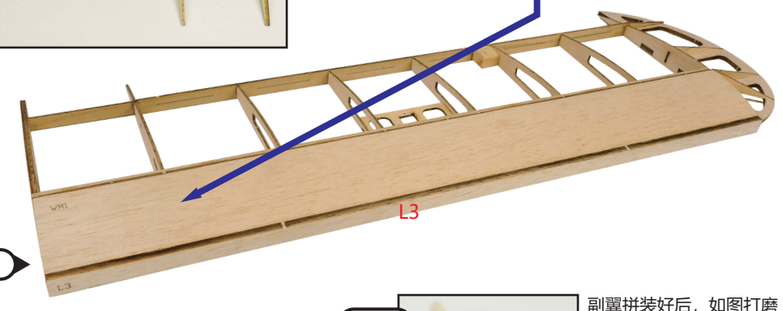
03-6



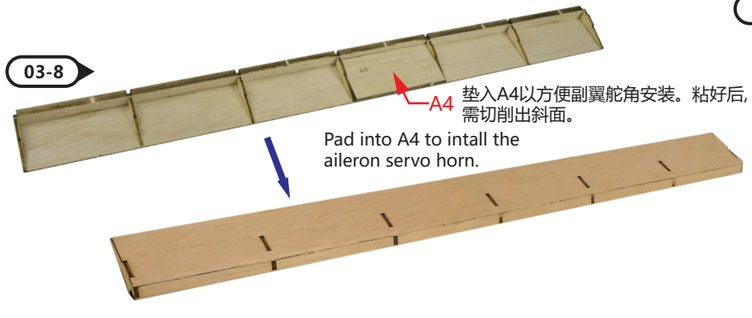
机翼前缘
Leading edge of the wing

粘贴机翼前缘L3并按机翼弧度打磨成弧形
The leading edge of the wing is polished to an arc according to the curvature of the wing.

03-7



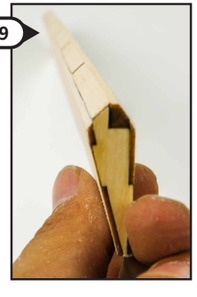
03-8



垫入A4以方便副翼舵角安装。粘好后，需切削出斜面。
Pad into A4 to intall the aileron servo horn.

在尾翼上安装副翼，通过纸合页连接。安装好后使副翼可以自由摆动。
Install ailerons on the tail wing and connect them through paper hinges. Installed so that the aileron can swing freely.

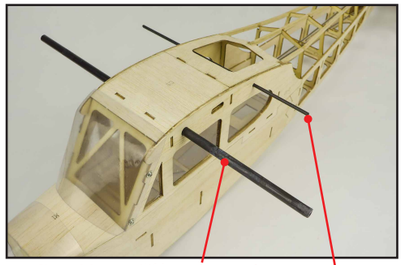
03-9

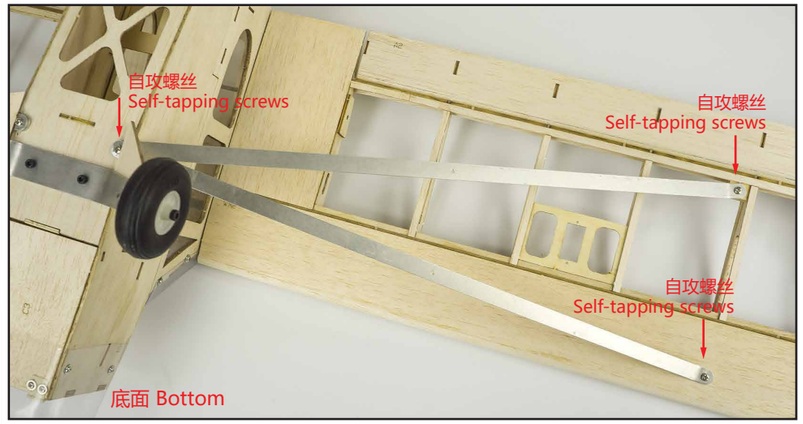


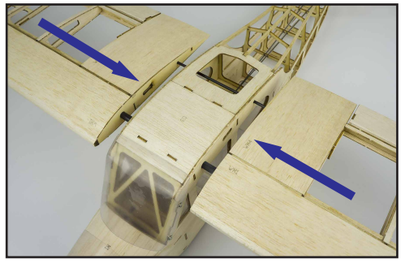
副翼拼装好后，如图打磨成斜角。
After the ailerons are assembled,polished as shown in the figure.

04 各部件组装 Components Assembly

机翼组装
Wing Assembly



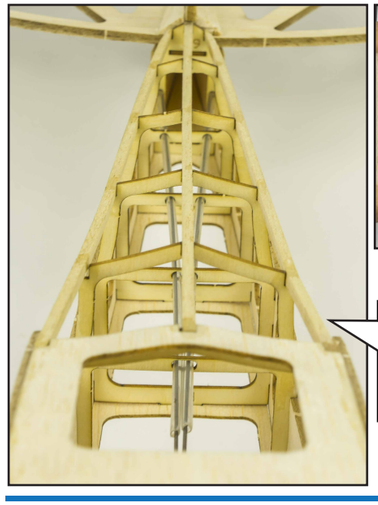




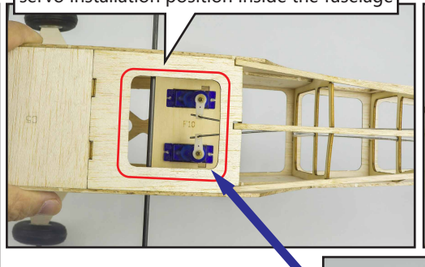
起落架组装
Landing Gear Installation

后尾轮组装
Rear Wheel Installation

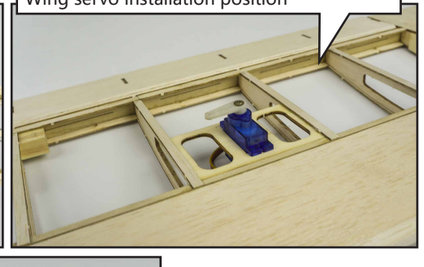
舵机安装位置图示
Display of servo installation



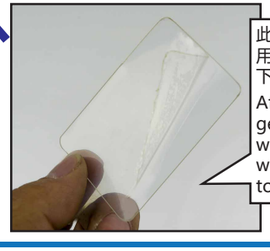
机身内舵机安装位置。
servo installation position inside the fuselage



机翼舵机安装位置。
Wing servo installation position



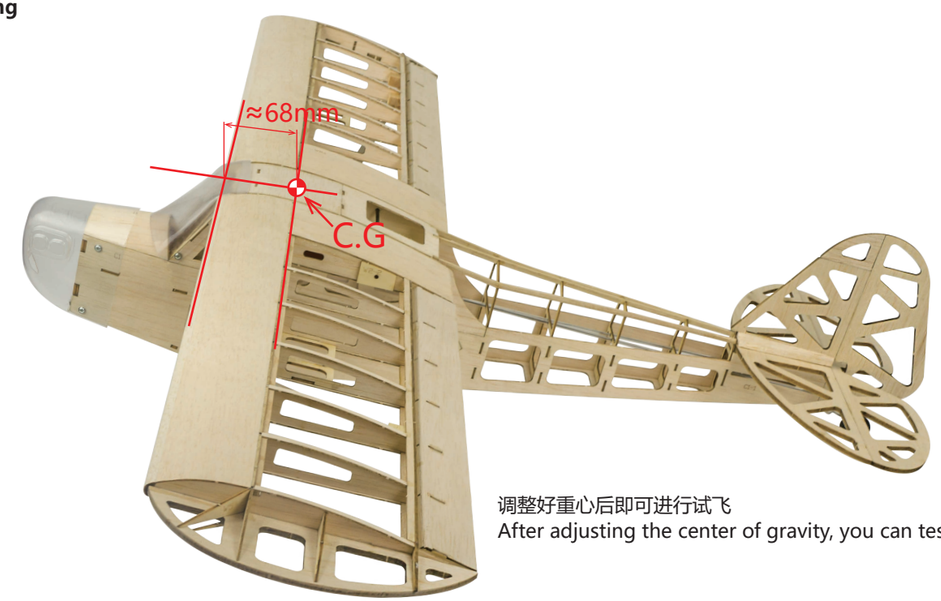
机身内部插入连杆导管，导管中穿入钢丝。
Insert the connecting rod inside the fuselage, and insert the wire into the duct.



此处调整好舵机后，把PVC片用双面胶粘贴到窗户处。方便下次调整时开启。
After adjusting the steering gear here, paste the PVC sheet with double-sided tape to the window. it's more convenient to open and adjust nex time.

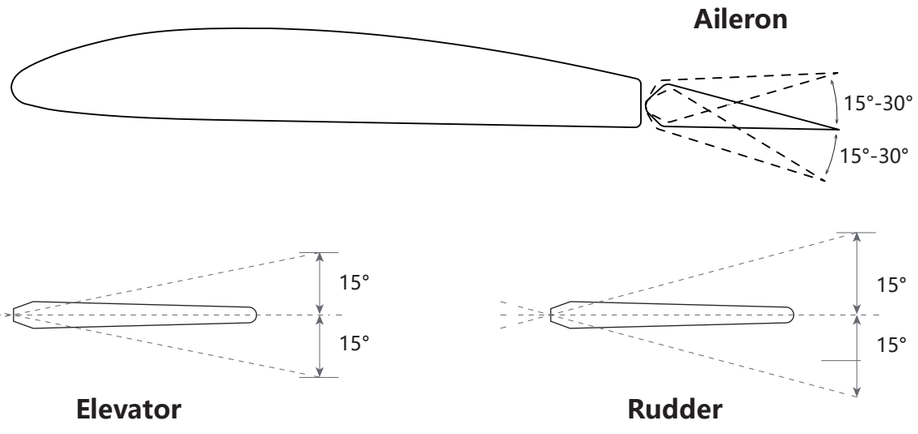
05 设置和调试 Assemble the Wing and Tail

起飞重心设置
C.G. Setting



调整好重心后即可进行试飞
After adjusting the center of gravity, you can test flight.

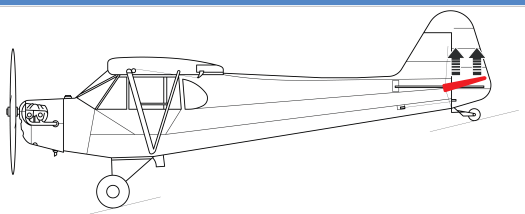
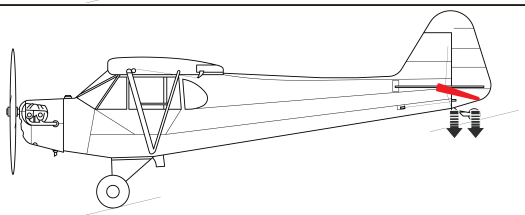
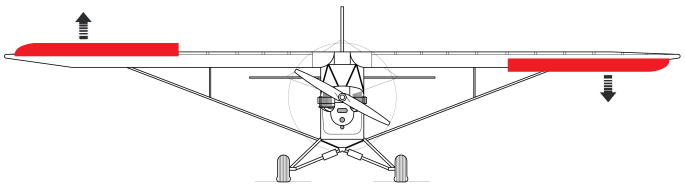
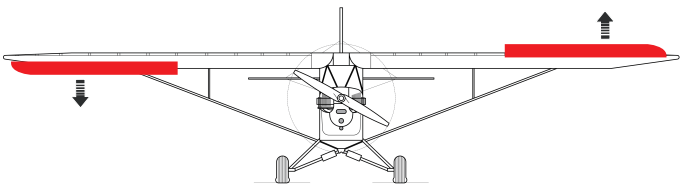
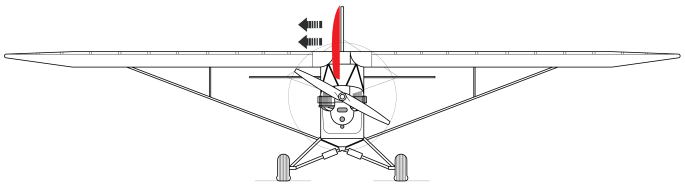
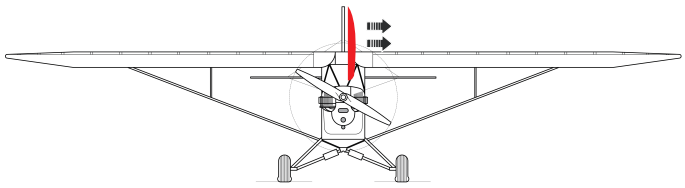
通常情况下，舵面角度的设置如下：
Usually, the control throws set as below:



		常规飞行(Normal Flying)	3D飞行 部分机型支持 (3D Flying only support some models)
副翼	Aileron	±（15°-30°）	±40° 或者更大(or larger)
平尾	Elevator	±15°	±40° 或者更大(or larger)
垂尾	Rudder	±15°	±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 models with V-tails,flaps and leading edge wings,some with small control surface 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.

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	

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。详细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.

机翼为可拆卸设计
The wing is detachable