1.8M Albatross DIII

Balsawood Scale Airplane

DANCING WINGS HOBBY

Instruction Manual

SCG31

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.

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
Historical Background

信天翁DIII战斗机是德国信天翁飞机制造厂生产的一款双翼战斗机,是德意志帝国陆军航空兵和奥匈帝国航空队在第一次世界大战期间使用的主力战机。该型战斗机装备一台梅赛德斯D.IIIa型发动机,最大起飞重量为937千克,最大飞行速度为187千米每小时。德国一战著名的战斗机王牌飞行员"红男爵"里希特霍芬的座机之一便是信天翁D3战斗机,不过红男爵本人貌似并不喜欢这款战斗机,因为信天翁DIII战斗机在训练和战斗中不止一次的出现过下部机翼折断的故障,也是因为这点颇受当时的德军战斗机飞行员的诟病。

The Albatros D.III was a biplane fighter aircraft used by the Imperial German Army Air Service (Luftstreitkräfte) during World War I. It was the preeminent fighter during the period of German aerial dominance known as "Bloody April" 1917.

Following the successful Albatros D.I and D.II series, the D.III utilized the same semi-monocoque, plywood-skinned fuselage. The upper wingspan was extended, while the lower wing was redesigned with reduced chord and a single main spar. "V" shaped interplane struts replaced the previous parallel struts. For this reason, British aircrews commonly referred to the D.III as the "V-strutter."

The D.III was considered pleasant and easy to fly, if somewhat heavy on the controls. The sesquiplane arrangement offered improved climb, maneuverability, and downward visibility compared to the preceding D.II. Like most contemporary aircraft, the D.III was prone to spinning, but recovery was straightforward.

飞行参数
Specification

翼展:1800mm（70.8 inch）
机长:1000mm（56 inch）
起飞重量: 5kg

Wingspan:1800mm (70.8inch)
Fuselage Length:1430mm (56inch)
Fly weight:5KG (About 11 pound)

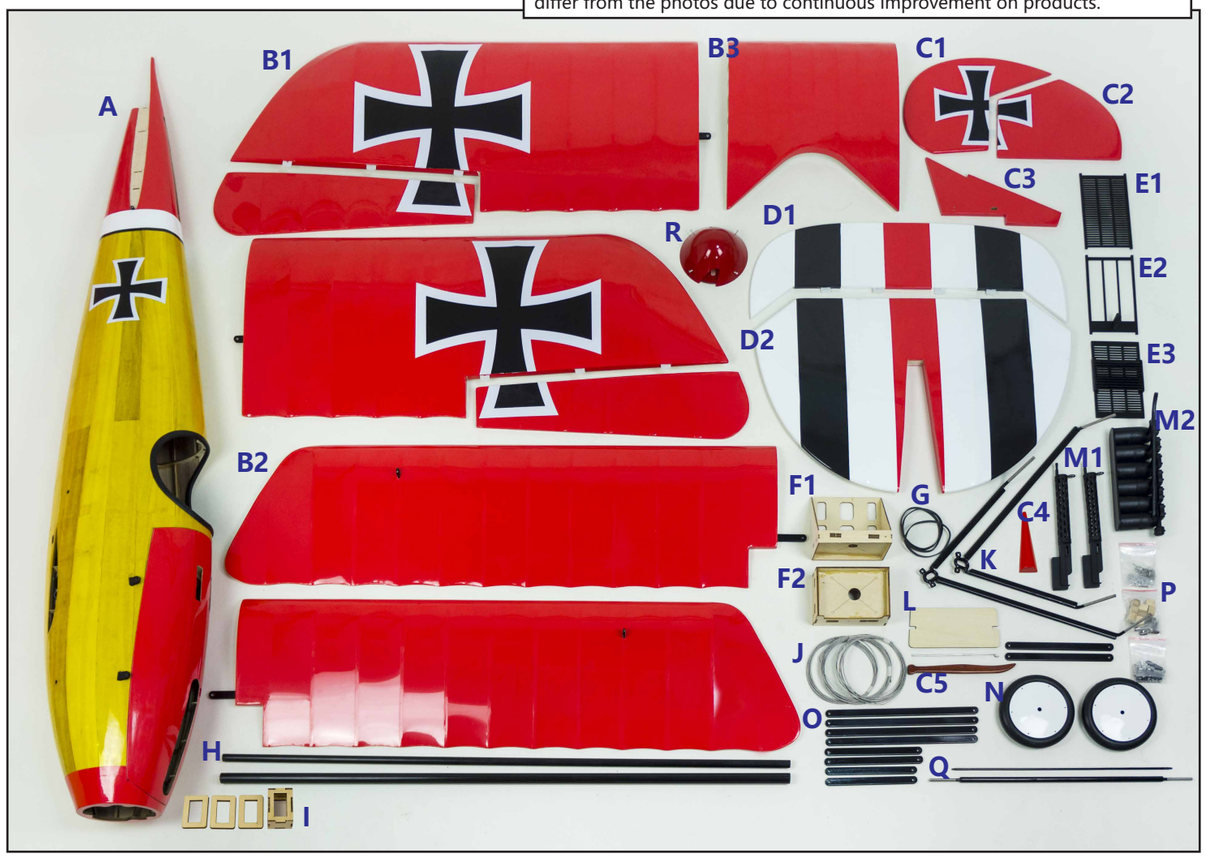
推荐配置
Suggested Equipment

油动:	2冲程 20cc gasoline(DLE-20CCRA) 4冲程 30cc gasoline 2冲程 90class Methanol 4冲程 120class Methanol	Oil engine:	2-stroke 20cc gasoline(DLE-20CCRA) 4-stroke 30cc gasoline 2-stroke 90class Methanol 4-stroke 120class Methanol
电动:	马达 5625-KV330 电池 6-8S 5000-8000mAh 电调 70A	Electric motor:	Motor : 5625-KV330 BATT : 6-8S 5000-8000mAh ESC : 70A
其他:	舵机 37g*2+1pcs / 17g*2pcs Y线 1pcs 延长线 30cm 4pcs		Servo: 37g*2+1pcs / 17g*2pcs Y wire 1pcs 30cm extended wire 4pcs

工具
Tools Needed

散件 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.



A:机身 B1-3:机翼 C1-2:垂直尾翼 C3-5:尾撬 D1-2:水平尾翼 E1-3:水箱像真件 F1-2:马达/引擎座 G:橡皮筋 H:机翼连接杆 I:舵机安装盒 J:拉线 K:起落架 L:机身隔板 M1-2:像真件 N:机轮 O:机翼支架 P:螺丝/舵角/零件包 Q:起落架支杆 R:桨罩

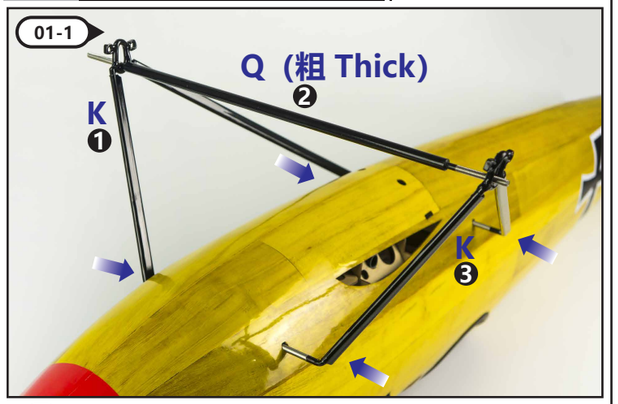
A: Fuselage B1-3:Wing C1-2:Vertical tail C3-5:Skid D1-2:Horizontal tail E1-3:Water tank parts F1-2:Motor/Engine mount G: Rubber band H:Wing linkage rod I:Servo box J:pull wire K:Landing gear L:Fuselage partition M1-2:Scale parts N:Wheel O:Wing bracket P:Screws/Rudder horn/Acc.pack Q:Landing gear bracket R:Spinner

装配提示符号 Assenbly symbol guide

- 确保自由转动 Ensure free rotation
- 使用适量快干胶粘固 Use medium CA
- 使用少量快干胶粘固 Use thin CA
- 用铅笔做记号 Use a pencil
- 用力推入 Push tightly
- 用模型刀切割 Use hobby knife with
- 拧紧安装 Fully Tighten
- 加润滑油 Apply Oil
- x2 重复拼装 Repeat multiple times
- 涂抹螺丝胶 Apply threadlock
- 左右对称安装 Assemble right and left

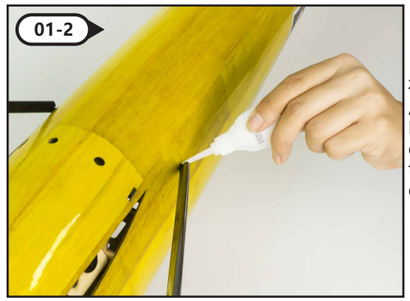
01 起落架安装 Assemble the Landing Gear

01-1



把起落架K插入机身，同时穿入支架Q。安装时按图示1.2.3步骤，先装一侧起落架，再穿入支架，然后装另一侧。
Insert the landing gear K into the fuselage, and then insert the bracket Q. When installing, follow the steps shown in figure 1.2.3, firstly install one side landing gear, then insert the bracket, and finally install the other side.

01-2



x4

在起落架4个插入孔处，用快干胶粘固。
Fasten with quick-drying glue at the four insertion holes of the landing gear.

01-3

DANCING WINGS HOBBY

在图示位置插入较细的支架Q，并把两个支架左右端用自锁螺母锁定。
Insert the thinner bracket Q in the position shown in the figure, and lock the left and right ends of the two brackets with self-locking nuts.

01-4

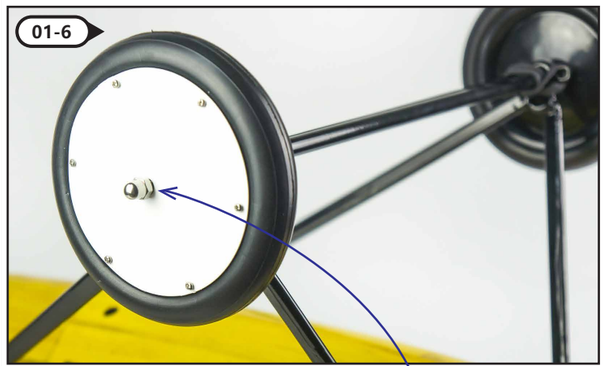
在起落架支架上穿入轴套，并用橡皮筋绑扎两个支架，橡皮筋绑扎在起落架突起的角上。
Insert the shaft sleeve on the landing gear bracket and bind the two brackets with rubber bands. The rubber bands are tied to the corners of the landing gear protrusions.

01-5

M1.6*8mm 自攻螺丝
M1.6*8mm Self-tapping screw

用自攻螺丝固定轮罩在轮子上。
Fix the wheel cover on the wheel with self-tapping screws.

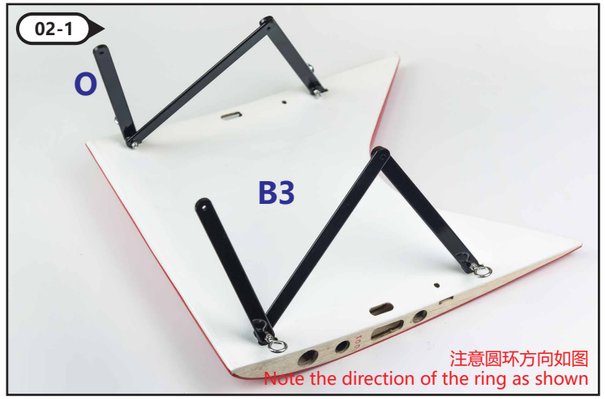
01-6



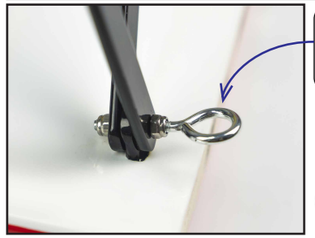
把轮子装到起落架上，用螺帽锁紧。
Install the wheels on the landing gear and tighten with nuts.

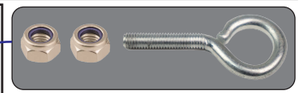
02 机翼安装 Assemble the Wing

02-1



注意圆环方向如图
Note the direction of the ring as shown





M3*20mm 螺丝+自锁螺母
M3*20mm screw+self-locking nut

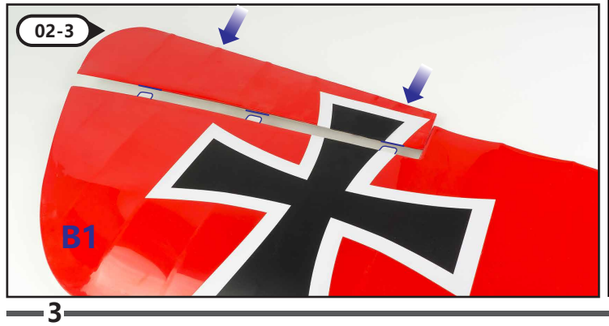
x4

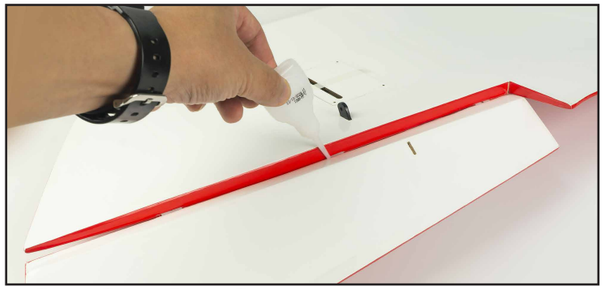
02-2

x4

前 Front M3*10mm 螺丝+自锁螺母
M3*10mm screw+self-locking nut
后 Back M3*15mm 螺丝+自锁螺母
M3*15mm screw+self-locking nut

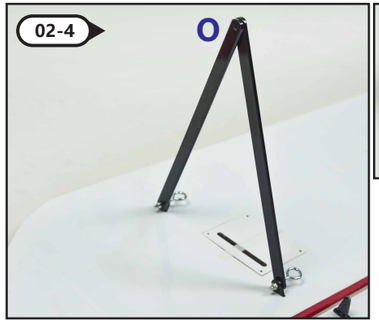
02-3

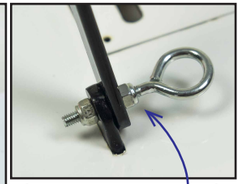


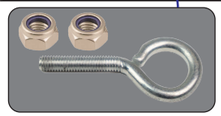


在纸合页缝隙间点入少量CA胶水粘固。
Put CA glue between the gaps of paper hinges

02-4



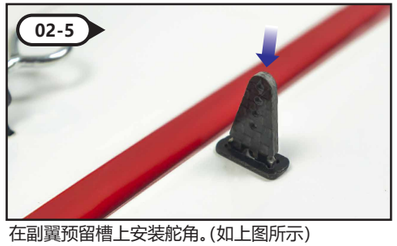




M3*20mm 螺丝+自锁螺母
M3*20mm screw+
self-locking nut

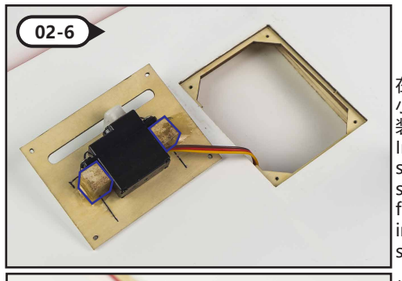
注意螺丝上的圆环朝机身方向。
Note that the ring on the screw needs to face the fuselage.

02-5

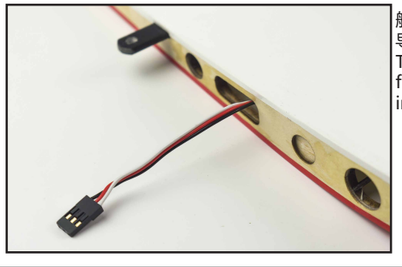


在副翼预留槽上安装舵角。(如上图所示)
Install the rudder horns on the aileron reserved slots. (As shown above)

02-6

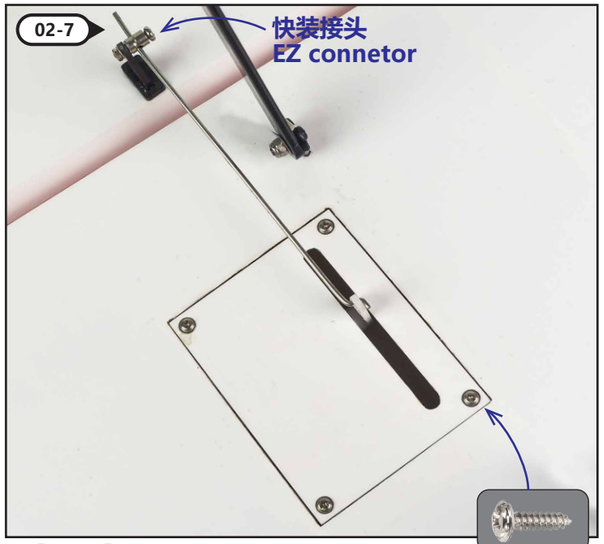


在舵机盖上安装舵机，粘贴小木块辅助固定舵机。（安装位置如图所示）
Install the servo on the servo cover and paste the small wooden blocks to fix the servo. (The installation location is as shown)



舵机线从机翼内侧预留孔导出。
The servo line is led out from the reserved hole inside the wing.

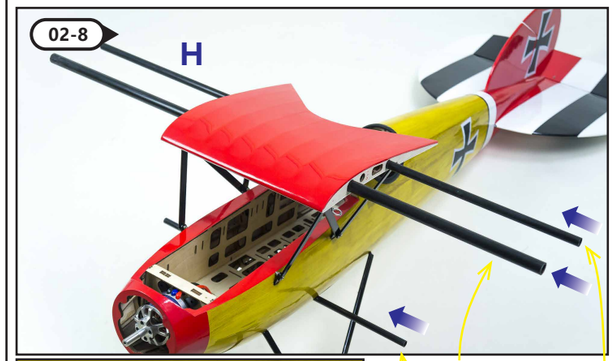
02-7

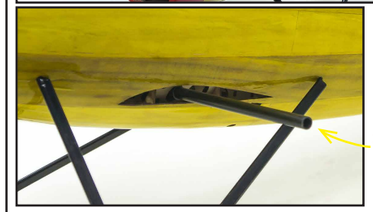


M2*10mm 自攻螺丝
M2*10mm Self-tapping screw

在舵臂上安装快装接头，钢丝连杆 Z 型一端穿入舵角，另一端插入舵臂的快装接头并锁紧。
Install the EZ connector on the rudder arm, one end of the Z-shape steel wire penetrates the rudder horn, and the other end is inserted into the EZ connector of the rudder arm and locked.

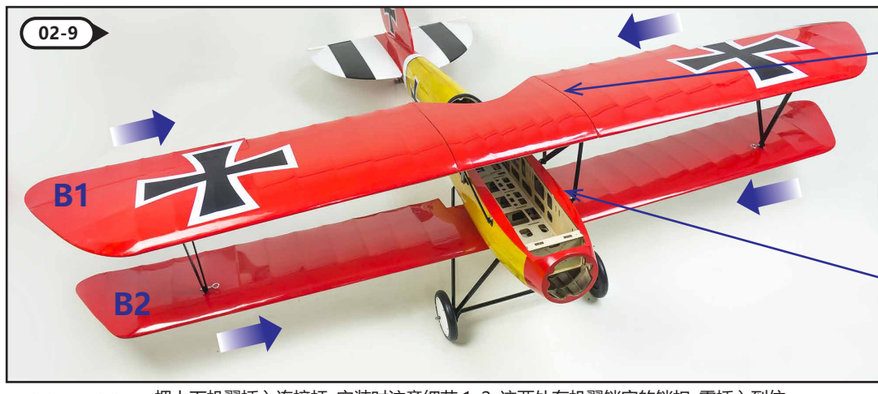
02-8

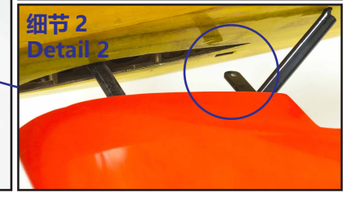




碳管 16*12*810mm
碳管 12*10*810mm
碳管 10*8*460mm

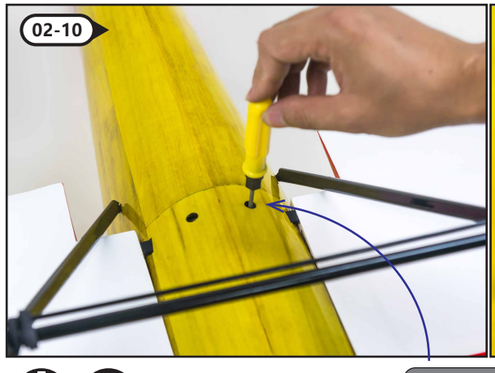
02-9

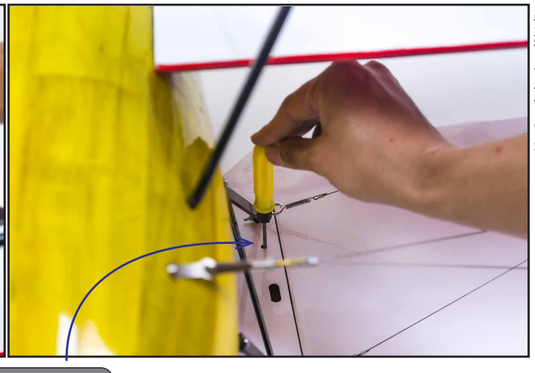




把上下机翼插入连接杆，安装时注意细节 1，2，这两处有机翼锁定的锁扣，需插入到位。
Insert the upper and lower wings into the connecting rod, and pay attention to details 1 and 2 when installing. There are two locks shown for locking the wings must be inserted into place.

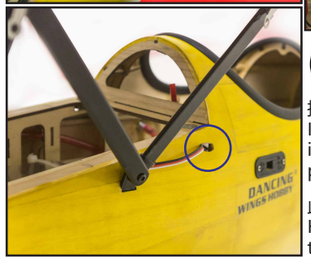
02-10





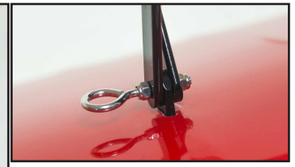
M3*15mm 螺丝
M3*15mm screw

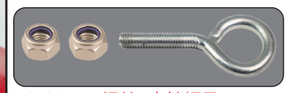
安装好机翼后，把飞机翻转过来，在左图两个位置用螺丝锁紧。
After installing the wings, turn the plane over and tighten it with screws in the two positions as shown left.



按图把机翼舵机的线导入机身。
Introduce the servo line of the wing into the fuselage according to the picture.

此处需用模型刀切小孔
Here you need to use a model knife to cut a small hole

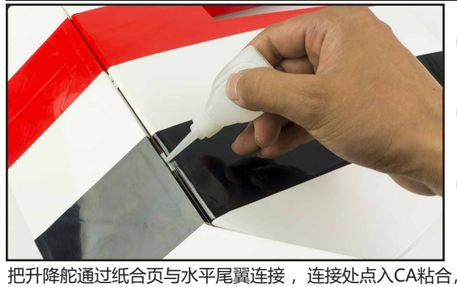




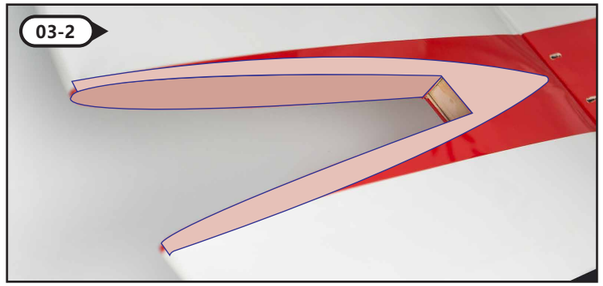
M3*20mm 螺丝+自锁螺母
M3*20mm screw+self-locking nut

上下机翼通过支杆连接，用螺丝螺母锁定。
The upper and lower wings are connected by brackets and locked with screws and nuts.

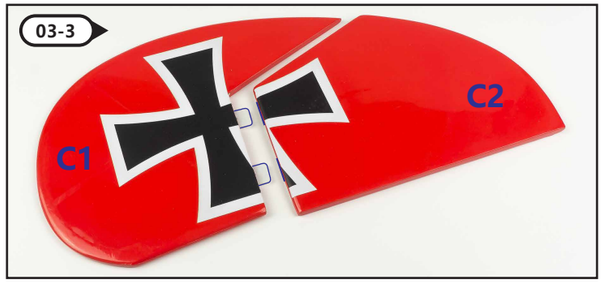
03 尾翼及滑橇安装 Assemble the tail and skid

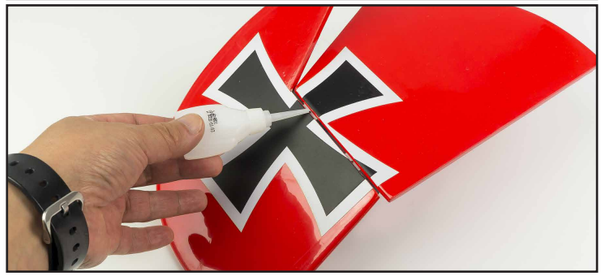


把升降舵通过纸合页与水平尾翼连接，连接处点入CA粘合，并保持舵面可以自由摆动。
Connect the elevator to the horizontal tail through paper hinges. The joints are glued with CA and keep the rudder surface swinging freely.

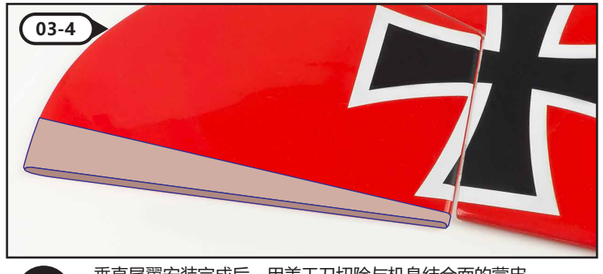


水平尾翼安装完成后，用美工刀切除与机身结合面的蒙皮。
After the horizontal tail is installed, use a utility knife to cut off the film of the joint surface with the fuselage.

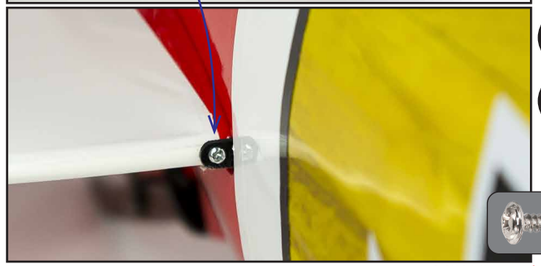




把转向舵通过纸合页与垂直尾翼连接，连接处点入CA粘合，并保持舵面可以自由摆动。
Connect the steering rudder to the vertical tail with paper hinges. The joints are glued with CA and keep the rudder surface swinging freely.



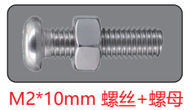
垂直尾翼安装完成后，用美工刀切除与机身结合面的蒙皮。
After installing the vertical tail, use a utility knife to cut off the covering film on the joint surface with the fuselage.



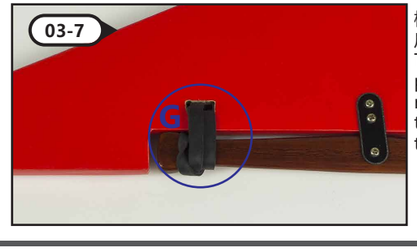
M2*10mm 自攻螺丝
M2*10mm Self-tapping screw

把垂直尾翼、水平尾翼安装到机身尾部，调整水平尾翼平行于机身，连接处用CA胶水粘固，然后调整垂直尾翼与水平尾翼垂直，用CA胶水粘固。
Install the vertical tail and horizontal tail to the tail of the fuselage, adjust the horizontal tail to be parallel to the fuselage, and fix the joint with CA glue, and then adjust the vertical tail to be perpendicular to the horizontal tail and fix with CA glue.

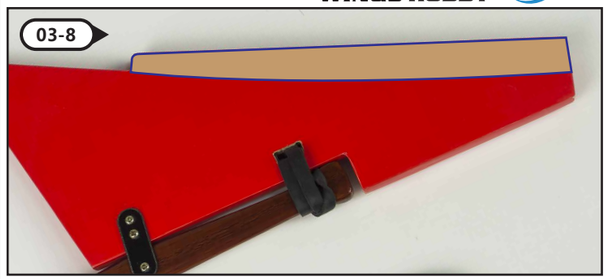
在机身尾部两侧有两处水平尾翼定位销，用自攻螺丝锁紧。
There are two horizontal tail locating pins on both sides of the tail of the fuselage,which need to be locked with self-tapping screws.



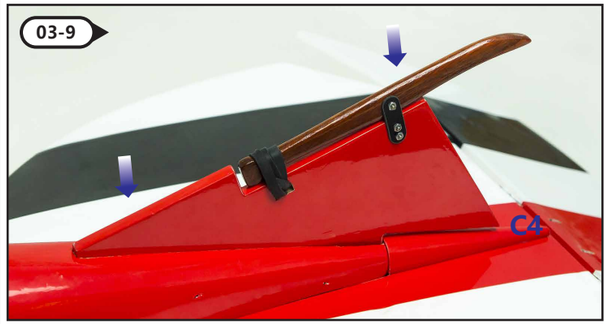
M2*10mm 螺丝+螺母
M2*10mm



橡皮筋穿入预留孔，然后缠绕绑扎滑橇。
The rubber band penetrates into the reserved hole, and then wraps and binds the skid.



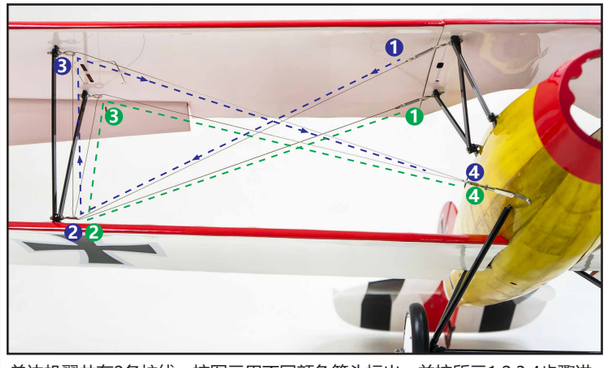
滑橇安装完成后，用美工刀切除与机身结合面的蒙皮。
After installing the skid, use a utility knife to cut off the covering film on the joint surface with the fuselage.



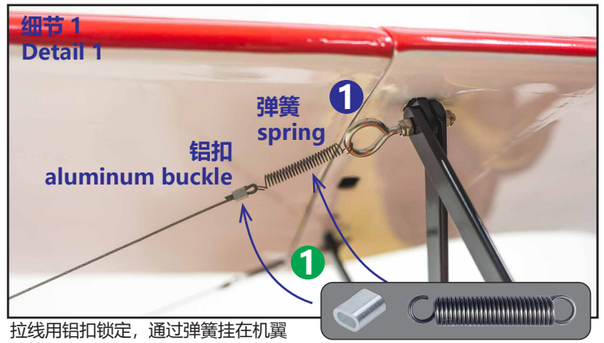
把安装好的滑橇插入机身尾部，调整滑橇与机身垂直，然后在连接处用大量CA胶粘固。
Insert the installed skid into the rear of the fuselage, adjust the skid to be perpendicular to the fuselage, and then fix it with a lot of CA glue at the joints.

同时粘贴机身尾部补件C4。（如图所示位置）
At the same time paste the fuselage tail supplement C4. (position as shown)

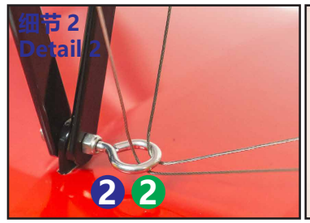
04 机翼拉线安装 Assemble the pull wires of the wing

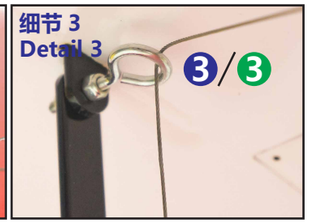


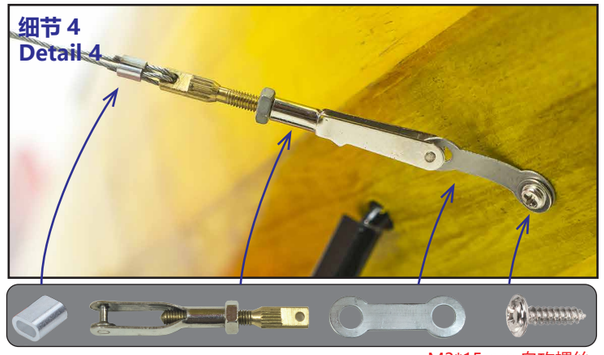
单边机翼共有2条拉线，按图示用不同颜色箭头标出，并按所示1.2.3.4步骤进行拉线。具体固定细节在，细节1，2，3图示中标出。
The unilateral wing has a total of 2 pull wires, which are marked in different colors according to the illustration, and follow the steps shown in 1.2.3.4. The specific fixing details are marked in the illustrations of details 1, 2, 3.



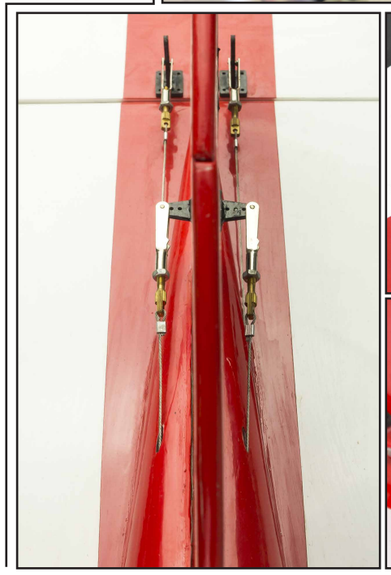
拉线用铝扣锁定，通过弹簧挂在机翼的挂环上。
The pull wire is locked with an aluminum buckle and hung on the wing ring via a spring.

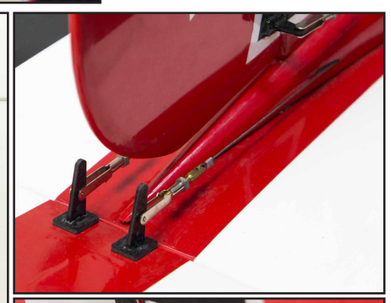


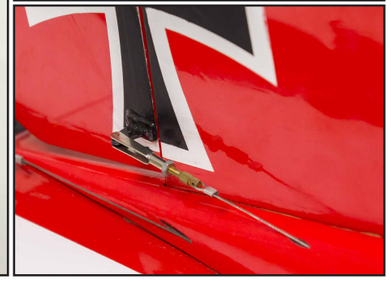




M3*15mm 自攻螺丝
M3*15mm Self-tapping screw



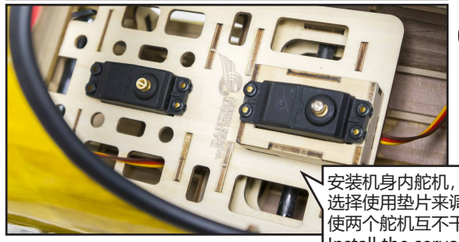




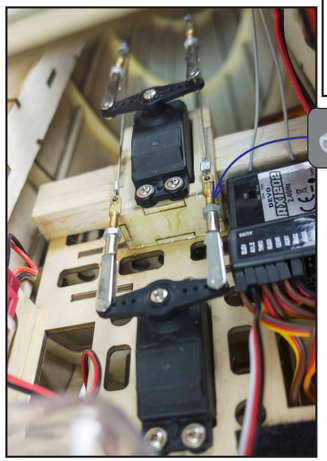
在细节4上自攻螺丝时，在机身内垫入木块，用CA胶粘固，并把自攻螺丝固定在木块上。
When drilling the self-tapping screws in detail 4, pad the wooden block in the fuselage, fix it with CA glue, and fix the self-tapping screw on the wooden block.

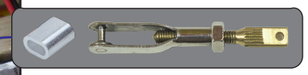
05 机身内舵机安装 Install the servos inside the fuselage

在图示舵机位粘舵机盒。
Stick the servo box in the position of the servo shown in the figure.

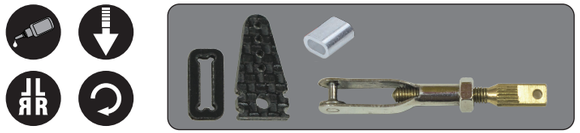


安装机身内舵机，根据舵机的尺寸选择使用垫片来调整舵机高度，并使两个舵机互不干涉。
Install the servos inside the fuselage, and use the gasket to adjust the height according to the size of the servo, so that the two servos do not interfere with each other.





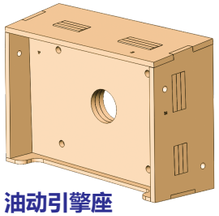
使用一字舵臂安装到舵机上，升降舵，转向舵分别通过两条钢丝拉线的方式控制。钢丝拉线从机身尾部预留槽穿出，并保证钢丝在机身内不交叉。
Install a straight arm on the servo,the elevator and the rudder are controlled by two steel wires. The steel wire pulls out through the reserved groove at the rear of the fuselage, and ensures that the steel wire does not cross in the fuselage.



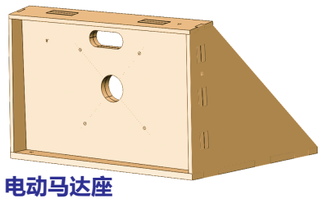
在升降舵和转向舵预留孔处安装舵角，连接机身内导出的钢丝拉线。（按图示安装）
Install the rudder horns at the reserved holes of the elevator and rudder, and connect the steel wire drawn from the fuselage. (Install as shown)

06 动力 / 桨叶安装 Install the power system/ propeller

此款信天翁提供2种马达安装座，分别对应油动引擎，电动马达。请根据您所选的动力分别安装，此处展示安装图示供参考。
This Albatross provides two types of motor mounts, which correspond to oil-powered engine and electric motor. Please install separately according to the power you selected. The installation diagram is shown here for reference.

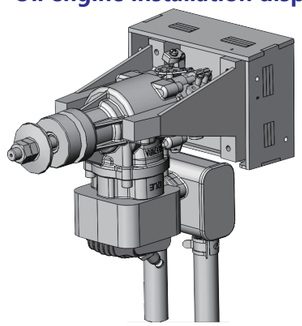


油动引擎座
Oil engine mount

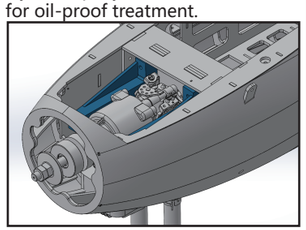


电动马达座
Electric motor mount

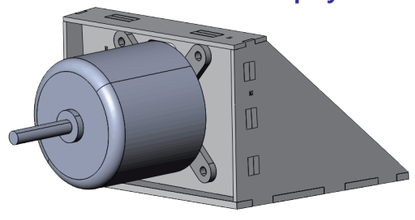
油动引擎安装展示 Oil engine installation display



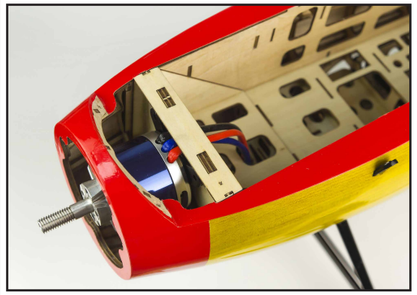
建议在防火墙上涂一层环氧树脂，做防油处理。
It is recommended to apply a layer of epoxy resin on the firewall for oil-proof treatment.



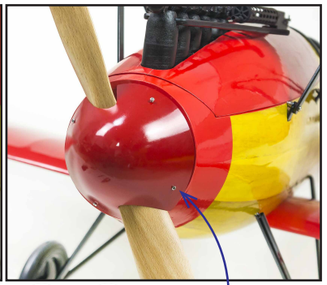
电动马达安装展示 Electric motor installation display



DANCING WINGS HOBBY



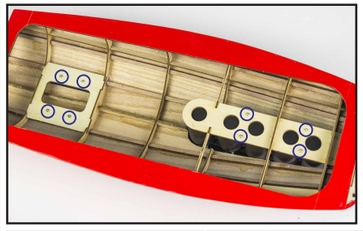
根据您所选用的马达，调整安放马达座到合适的位置，然后用环氧树脂胶粘固与机身连接处。
According to the motor you choose, adjust and place the motor mount to the appropriate position, and then use epoxy resin to fix the connection with the fuselage.



x4

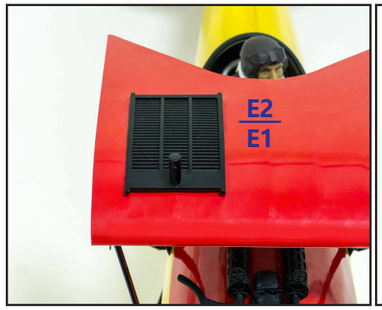
M2*10mm 自攻螺丝
M2*10mm Self-tapping screw

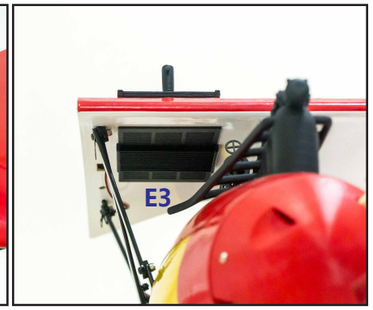
07 像真件安装 Install the scale parts



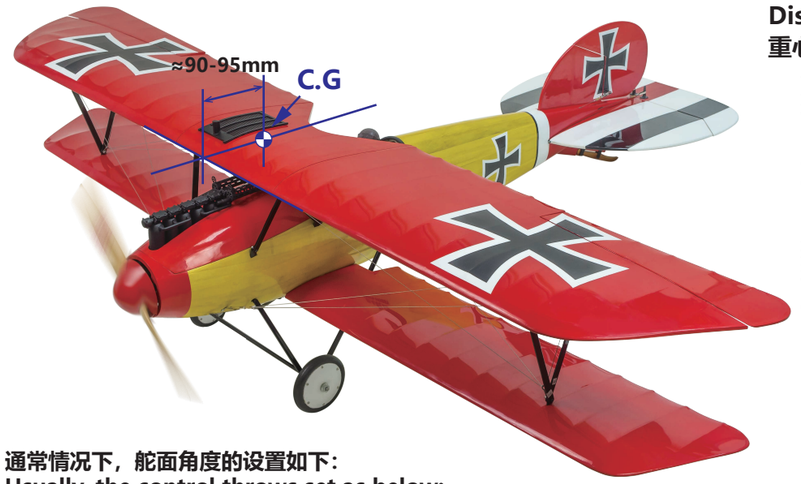
M2*10mm 自攻螺丝
M2*10 mm Self-tapping screw

用自攻螺丝固定飞行员木板座到机身，方便后期调试时可以取下
Fix the pilot board seat to the fuselage with self-tapping screws, which can be removed during later debugging.





08 设置和调试 Set and Adjust

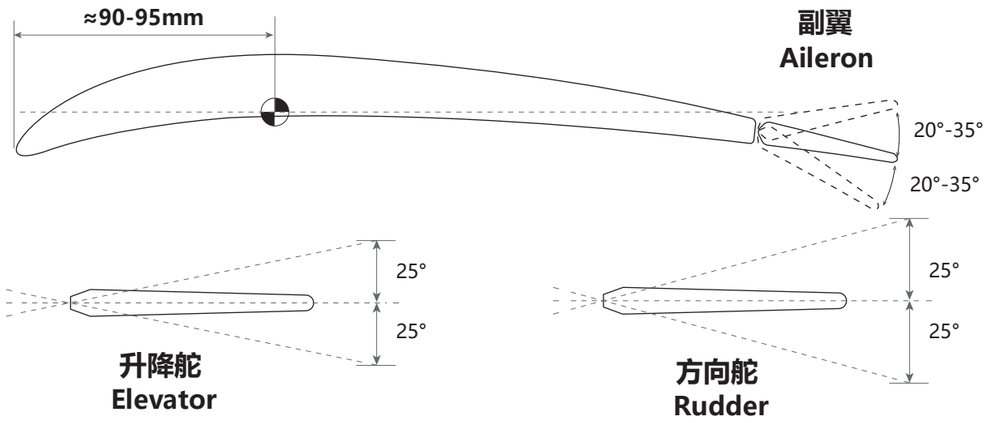


Display the C.G
重心位置展示

使用油动引擎时可能需要在机头部进行配重，并且油箱放置在重心位置。
When using an oil-powered engine, it maybe necessary to counterweight the head of the airplane, and the oil tank is placed at the center of gravity.

选用电动引擎时，可通过调整电池放置的位置来调整重心。
When using the electric motor,the center of gravity can be adjusted by adjusting the position of the battery.

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

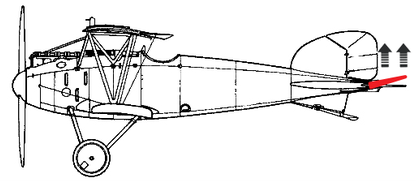
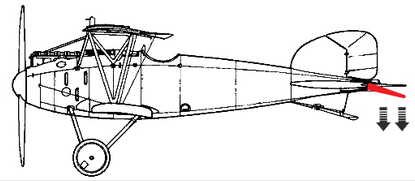
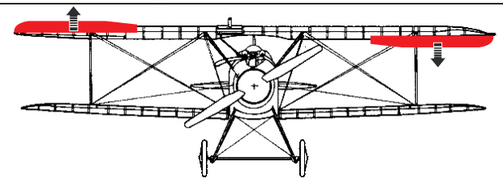
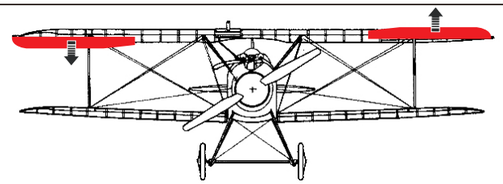
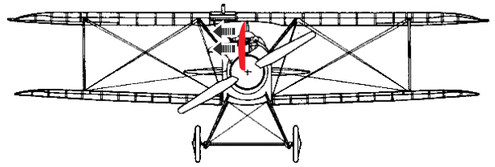
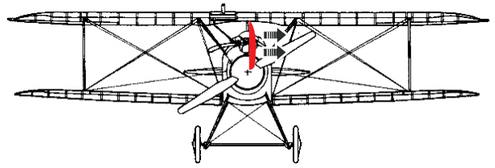


	常规飞行(Normal Flying)	3D飞行 部分飞机支持(3D Flying only support some models)
副翼 Aileron	±（15°-30°）	±40° 或者更大(or larger)
平尾 Elevator	±15°	±40° 或者更大(or larger)
垂尾 Rudder	±15°	±40° 或者更大(or larger)
常用襟翼 Flap	(起飞 take-off）15°-20° （降落 Landing）20°-40°	

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.

DANCING WINGS HOBBY

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	

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