Sopwith Camel

Balsawood Airplane

Instruction Manual

DANCING WINGS HOBBY

S30

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

飞行参数
Specification

翼展:1200mm
机长:830mm
起飞重量: ≈1.4kg

Wingspan:1200mm
Fuselage Length:830mm
Fly Weight:≈1.4kg

推荐配置
Suggested Equipment

马达：MM2815-2820 800-1000KV
桨叶：12inch
电调：40-60A 3S
舵机：9g 4pcs
电池：3S 2200-2800mAh
通道：≥4CH

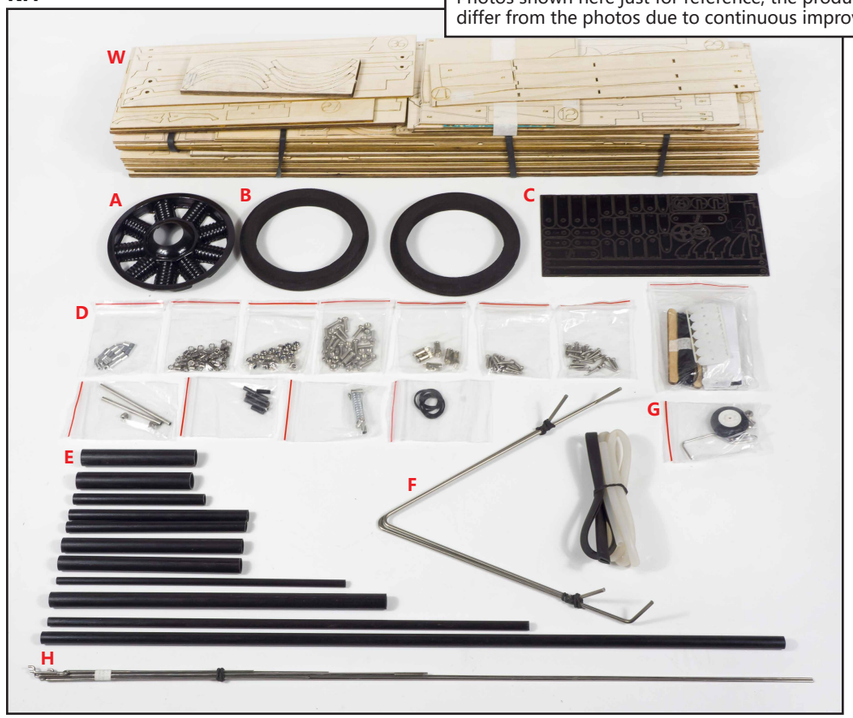
Motor : MM2815-2820 800-1000KV
Prop : 12inch
ESC : 40-60A 3S
Servo : 9g 4pcs
Batt : 3S 2200-2800mAh
Rx : ≥4CH

Tools Needed

DANCING WINGS HOBBY

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：像真引擎
Scale engine

B：轮圈
Rim

C：玻纤片
Fiberglass sheet

D：螺丝，配件
Screws and accessories

E：玻纤管
Fiberglass tube

F：起落架钢丝
Landing gear steel wire

G：尾轮组
Tail wheel

H：钢丝连杆
Steel wire connecting rod

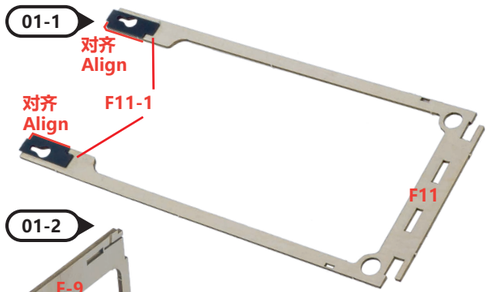
W：木构件
Wooden elements

快干胶 Fast dry adhesive　白乳胶 White latex　环氧胶 Epoxy glue

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.

01 机身安装 Assemble the Fuselage

01-1



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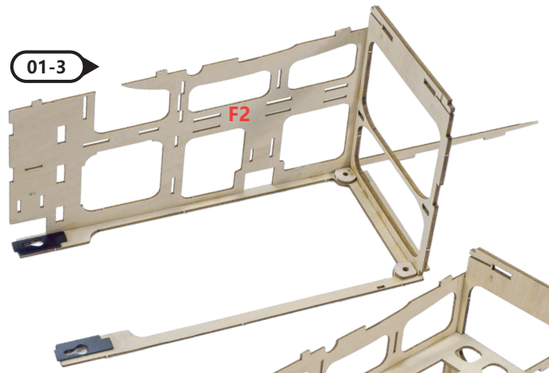
01-3



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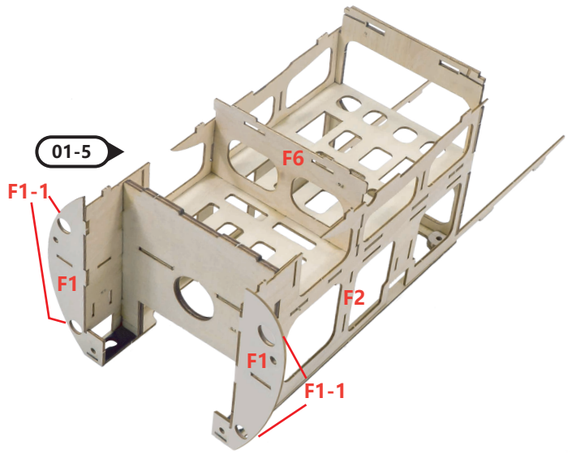
01-5



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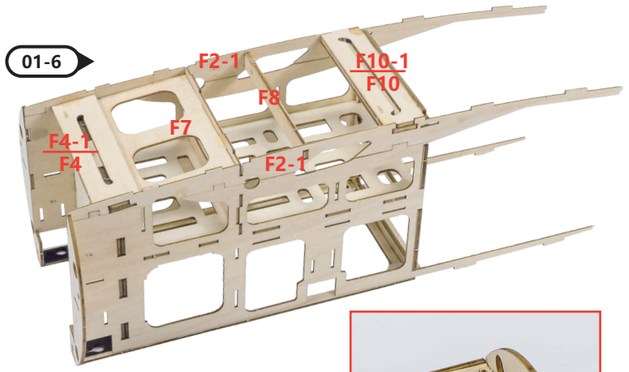

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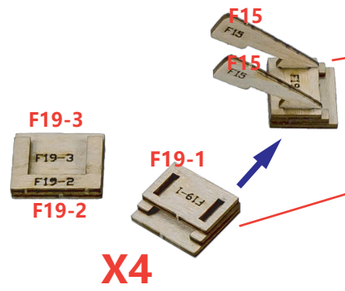

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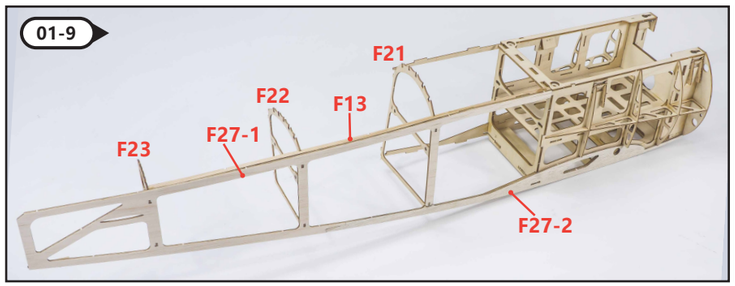
01-9



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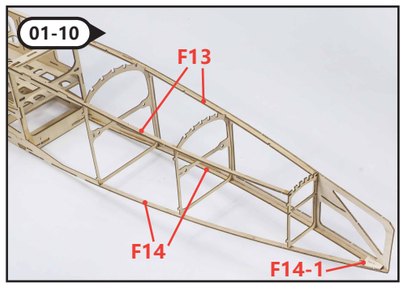

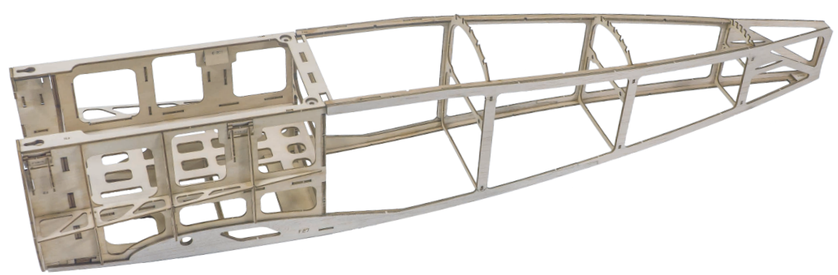

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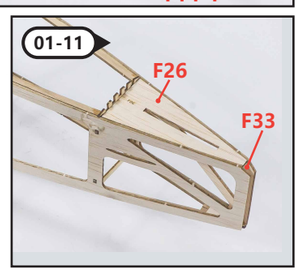

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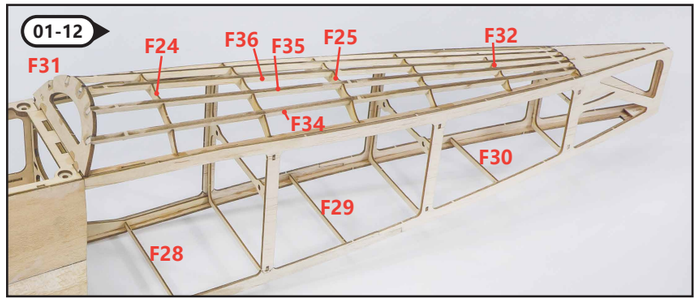

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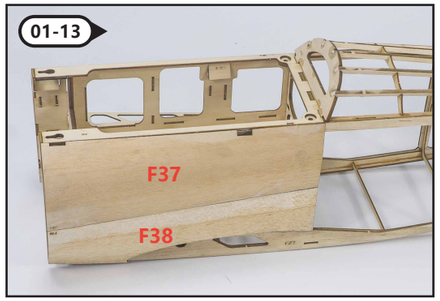

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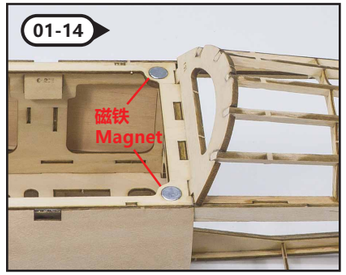

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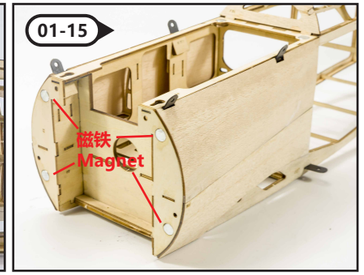

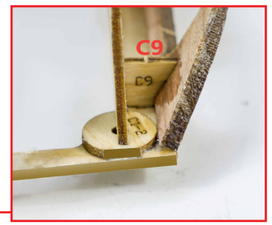

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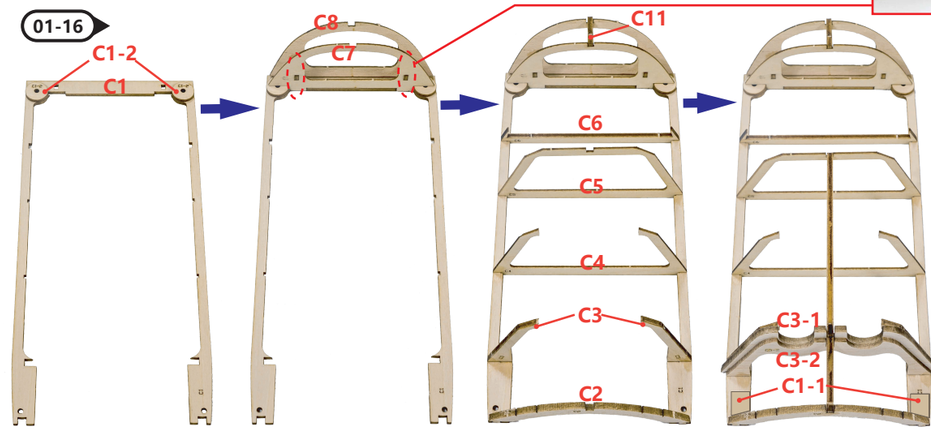

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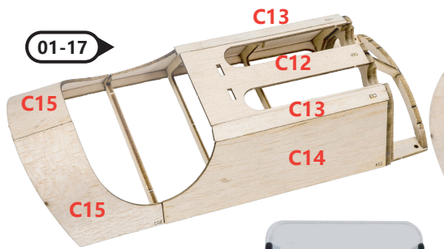
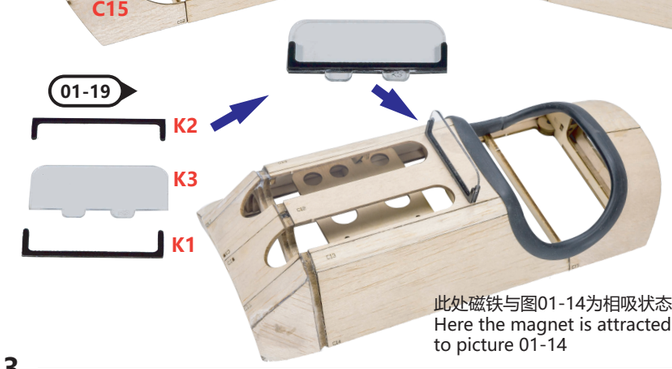


01-18

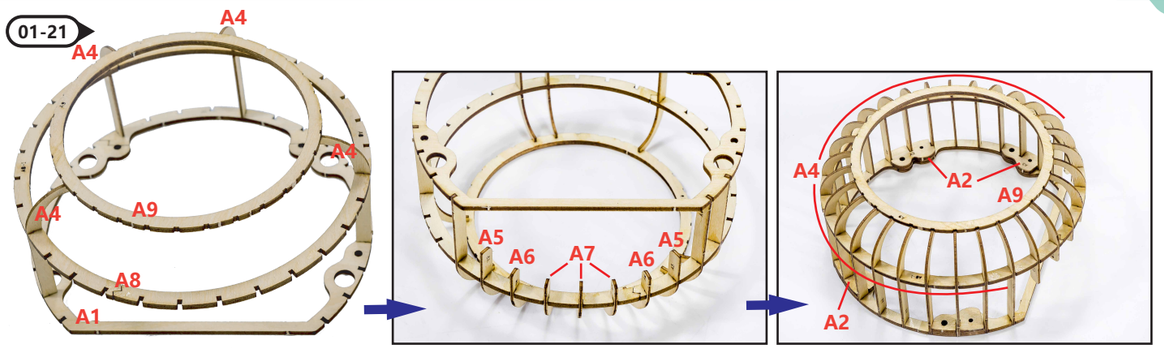
01-19



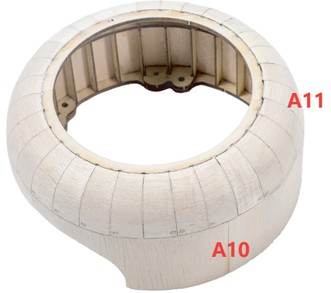
此处磁铁与图01-14为相吸状态
Here the magnet is attracted to picture 01-14

01-20

01-21



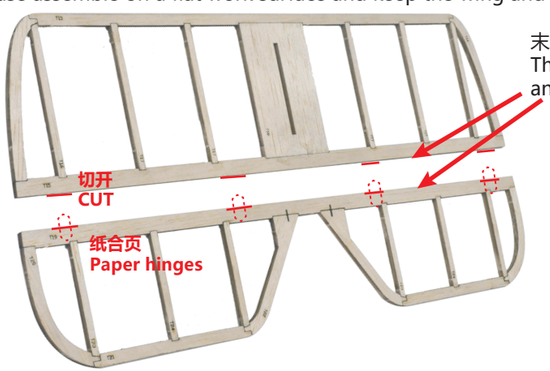
此处磁铁与图01-15为相吸状态
Here the magnet is attracted to picture 01-15



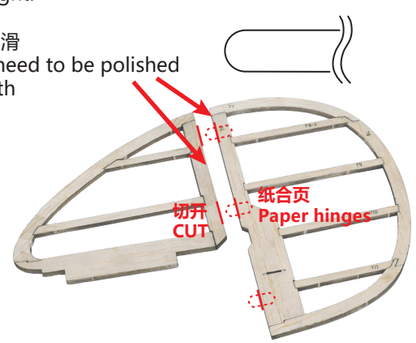
01-22

02 机翼、尾翼拼装 Assemble the Wing & Tail

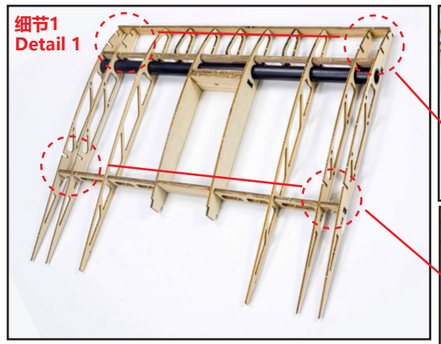
机翼及尾翼请参照1：1图纸进行拼装，具体编号见图纸，此处展示部分拼装细节。请在平整的工作台面上组装，并保持机翼及尾翼平直。
Please refer to the 1:1 drawing to assemble the wing and tail.
The specific numbers are shown in the drawings. Here are some of the assembly details.
Please assemble on a flat work surface and keep the wing and tail straight.

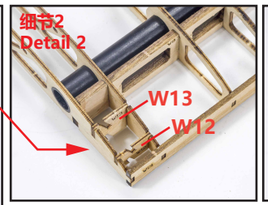


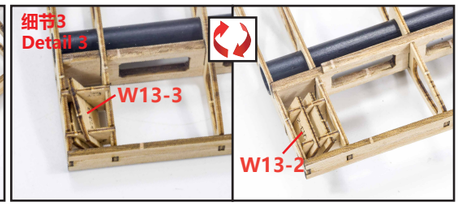
末端打磨圆滑
The ends need to be polished and smooth

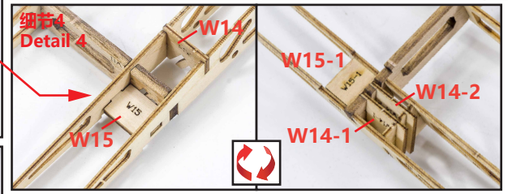


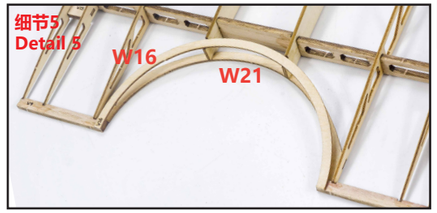
上机翼中间件 Middle part of upper wing

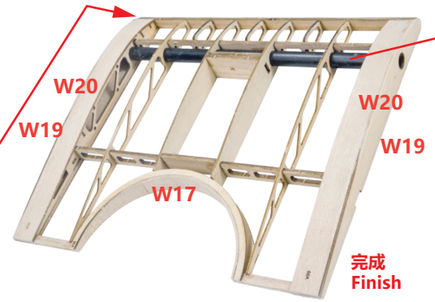






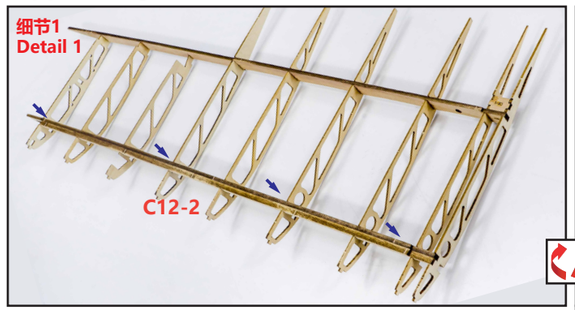


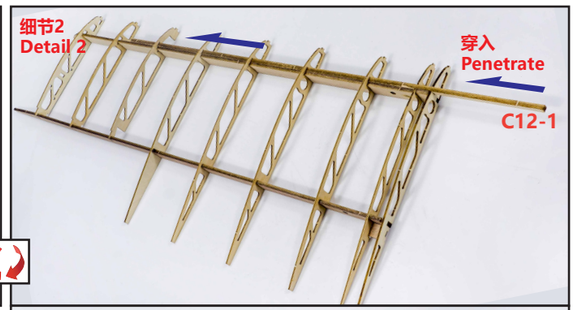


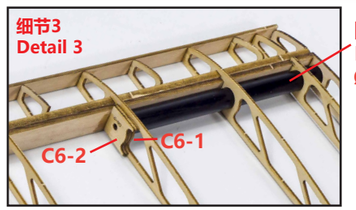


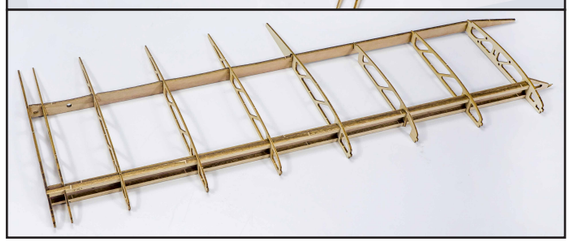
打磨机翼前缘，打磨成机翼一体弧度。
The leading edge of the wing is polished into an integral curvature of the wing.

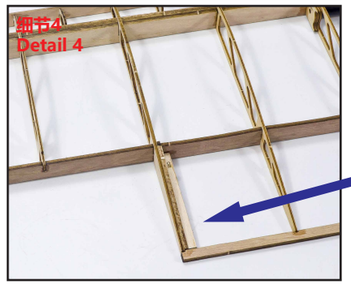
上机翼 Upper wing

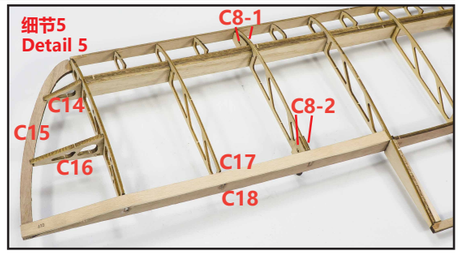


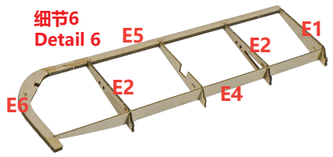


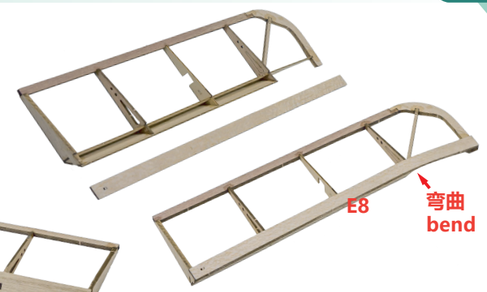


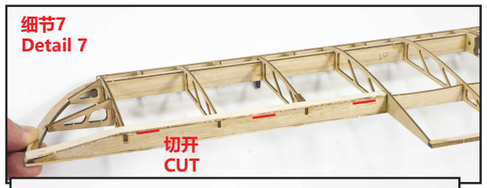




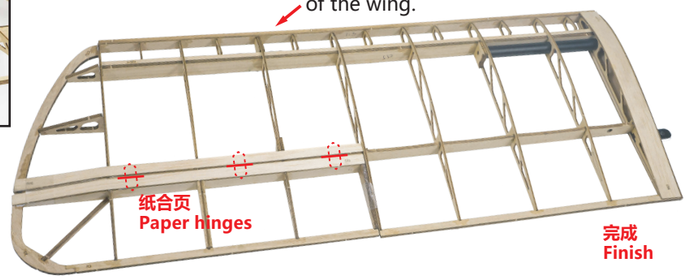




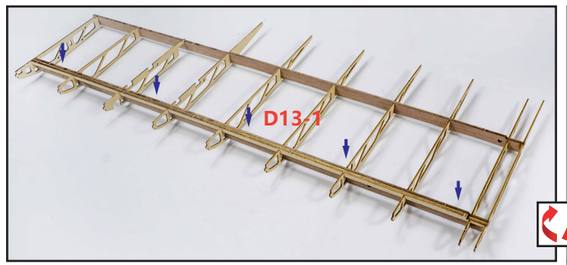


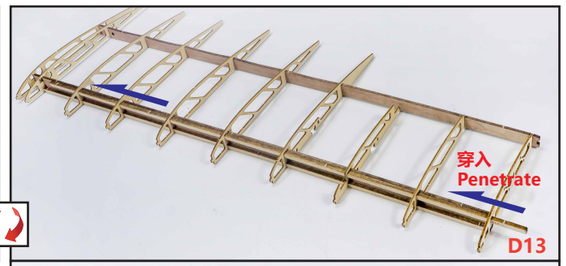


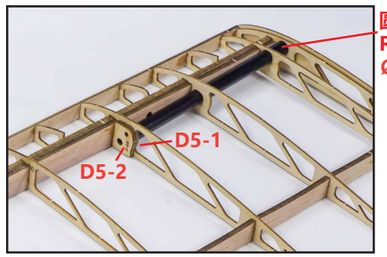
打磨机翼前缘，打磨成机翼一体弧度。
The leading edge of the wing is polished into an integral curvature of the wing.

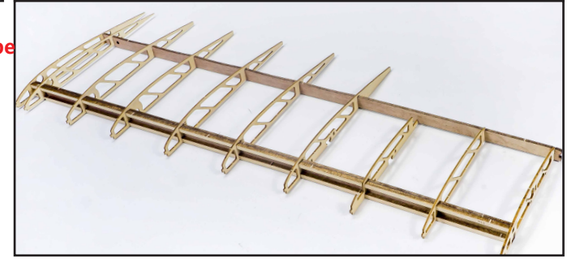


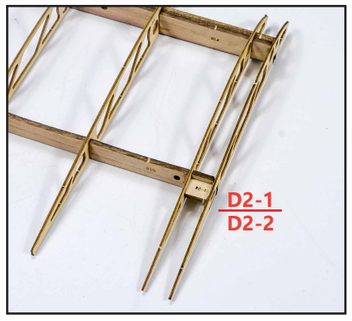
下机翼 Lower wing

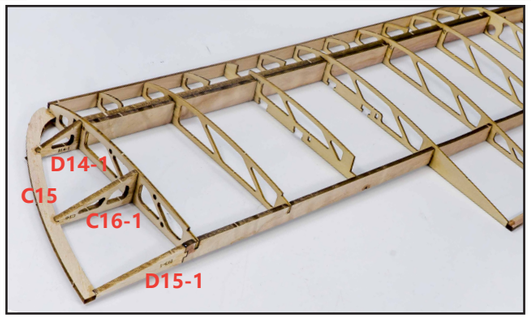


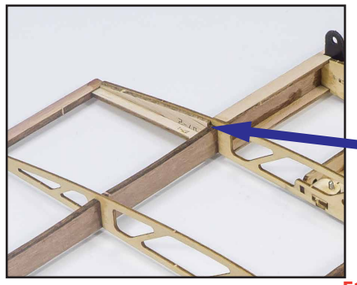


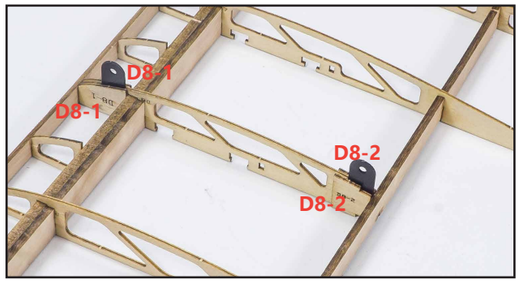


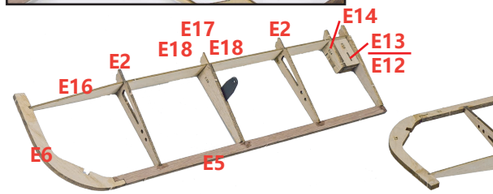


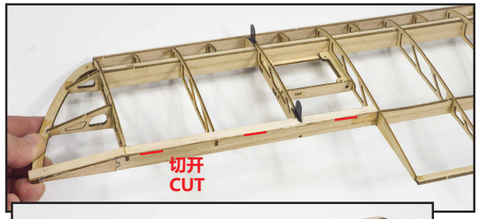




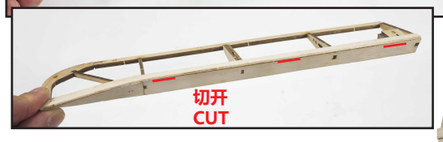


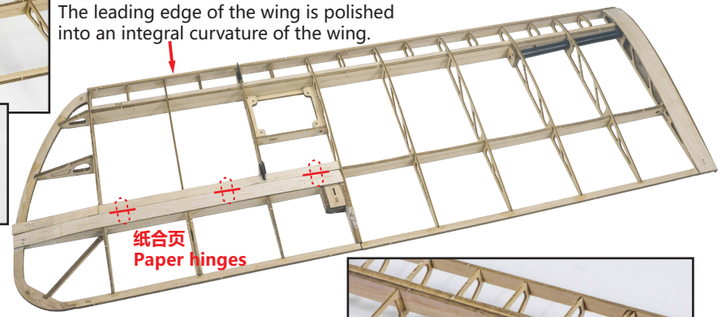


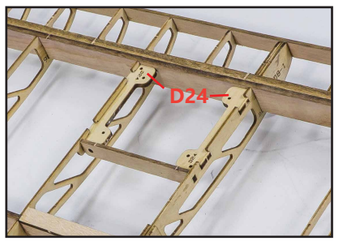


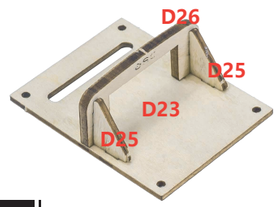


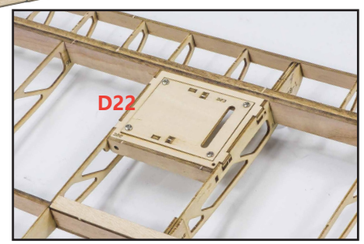
打磨机翼前缘，打磨成机翼一体弧度。
The leading edge of the wing is polished into an integral curvature of the wing.



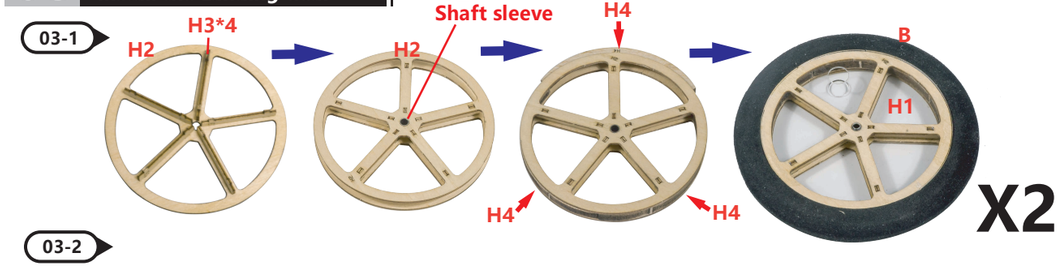


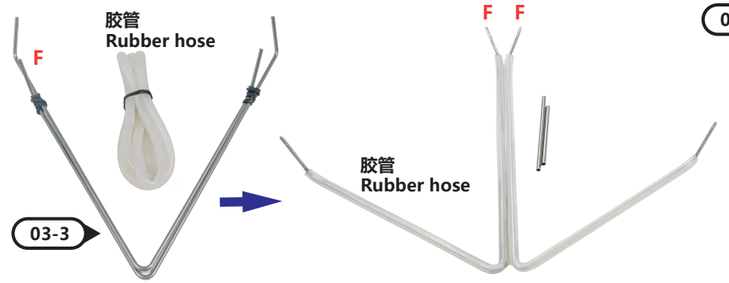






03 起落架组装 Install the Landing Gear



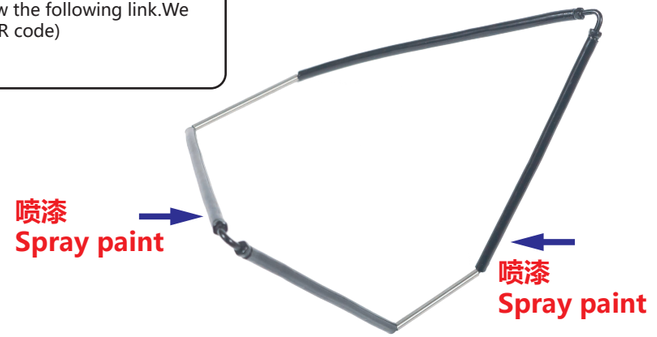


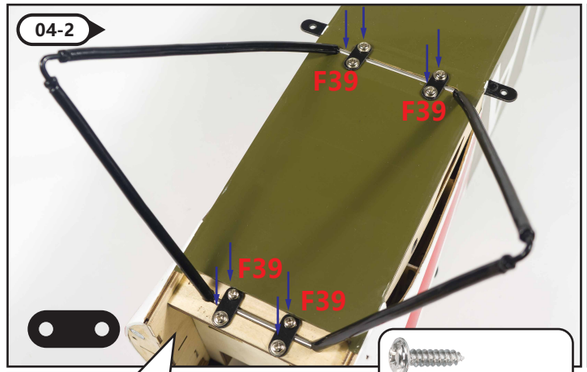
各部件组装完成，建议蒙皮后再进行后续组装。
After all parts are assembled, it is recommended to conduct subsequent assembly after covering the film.

蒙皮详细操作可查看以下链接内容，我们提供了蒙皮范本（可直接扫二维码）
For detailed operation of the film, please view the following link.We provide the example (can directly scan the QR code)
http://www.dwhobby.com/art/film

04 起落架安装 Assemble the Landing Gear

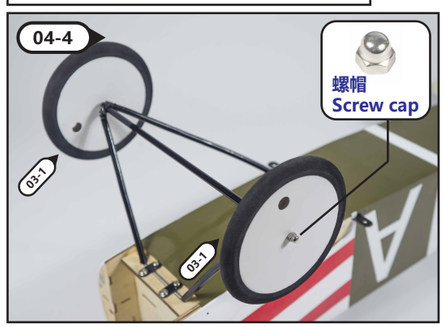
建议完成蒙皮后再进行后续安装步骤。
It is recommended to conduct subsequent assembly after covering the film.

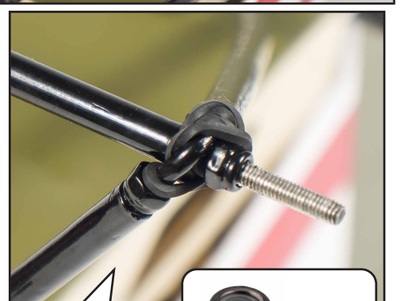




从C板上取下卡扣，按右图固定起落架到机身。
Remove the buckle from the C board, and fix the landing gear to the fuselage according to the picture on the right.

自攻螺丝
Self-tapping screw
M3x12mm



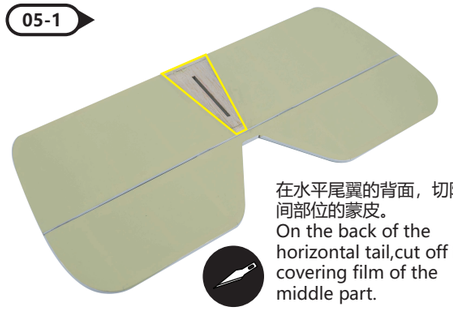


此处用橡皮筋绑扎固定。
Use rubber band to bind and fix here.

M3自锁螺母
Self-locking screw

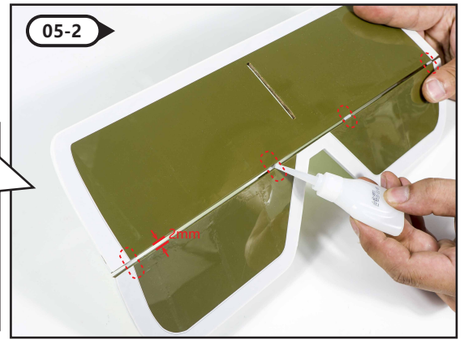
05 尾翼及尾轮安装 Assemble the Tail Wing and Tail Wheel

05-1



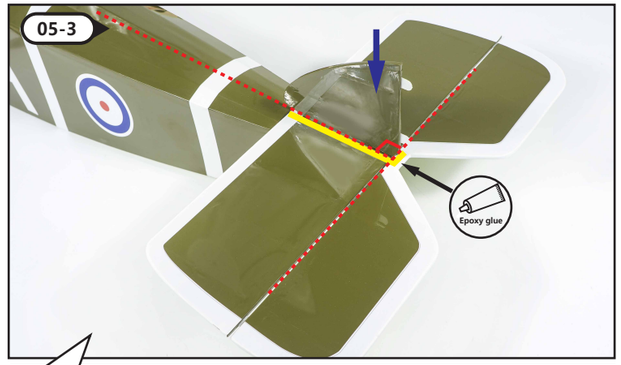
在水平尾翼的背面，切除中间部位的蒙皮。
On the back of the horizontal tail,cut off the covering film of the middle part.

05-2



在转向舵的预留槽内插入纸合页。少量CA胶粘固。
Insert the paper hinges into the reserved slot of the steering rudder,and fix with litte CA glue.

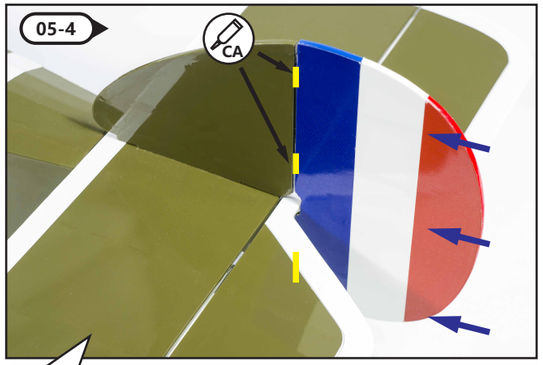
05-3



粘贴水平尾翼到机身尾部，并调整尾翼与机身垂直。
Paste the horizontal tail to the rear of the fuselage,adjust the tail to be perpendicular to the fuselage.

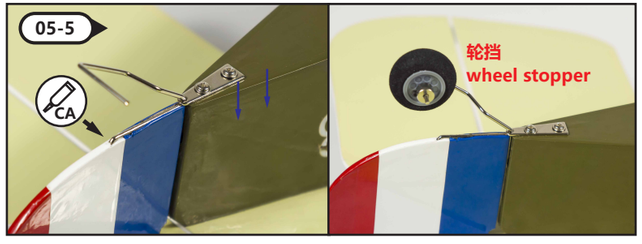
把垂直尾翼插入机身，用环氧胶粘固。并在胶水干固前调整位置相互垂直。
Insert the vertical tail into the fuselage,and glue firmly with epoxy glue.Adjust the vertical tail to be perpendicular to the horizontal tail before the glue get dry.

05-4



在垂直尾翼上安装转向舵，通过纸合页连接，调整间隙保持舵面可以自由摆动，连接处用CA胶粘固。
Install the steering rudder on the vertical tail by paper hinges,adjust the gap,and fix the connection with CA glue.

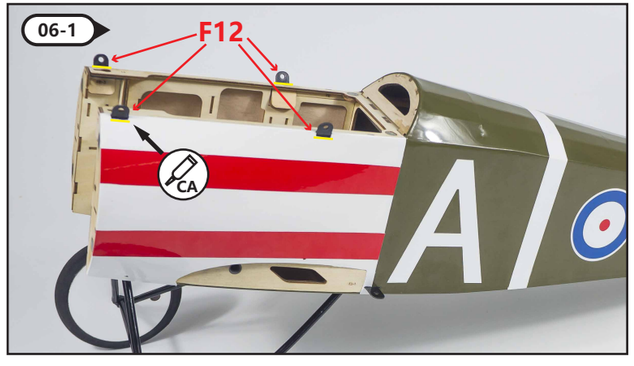
05-5



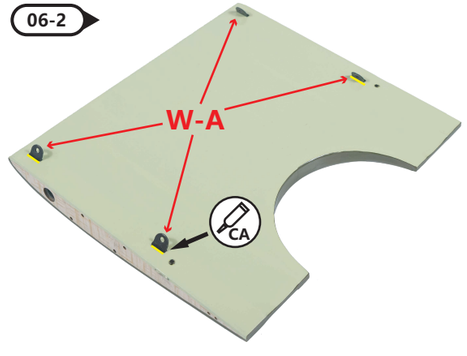
06 机翼安装 Install the Wing

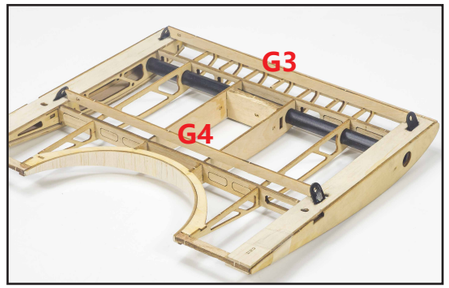
从C板上取下F12，W-A，安装到机身及机翼上，如下图所示。
Remove F12 and W-A from the C board and install them on the fuselage and wing, as shown in the figure below.

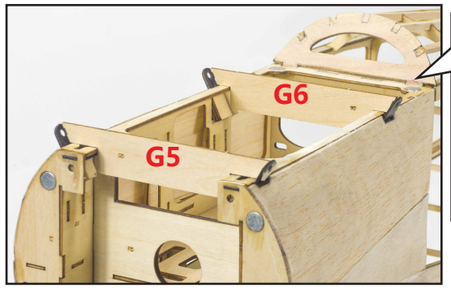
06-1



06-2

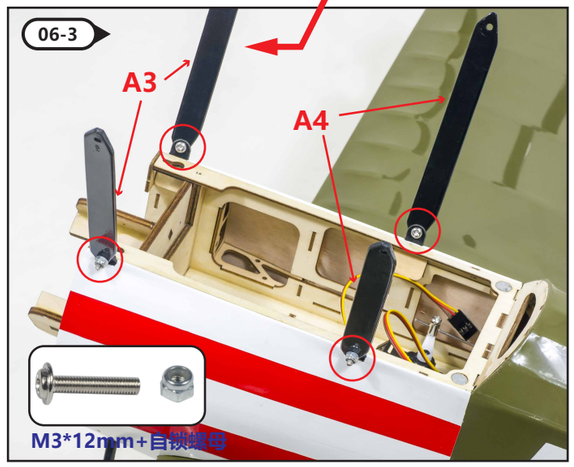




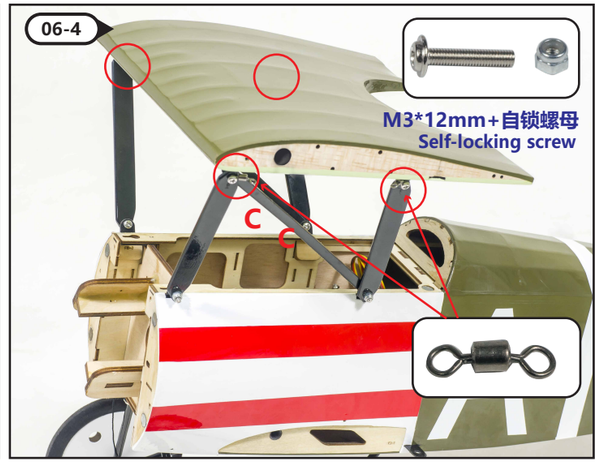


安装F12.W-A时，可用装配工具确定角度，调整好角度后，用胶水粘固,最后取下装配工具。
While installing F12.W-A, use assembly tools to determine the angle,after adjusting the angle, use glue to fix it, and finally remove the assembly tools.

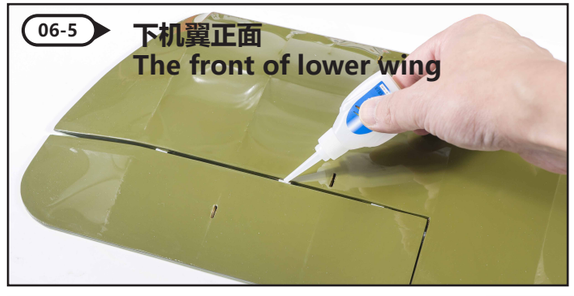
06-3



06-4

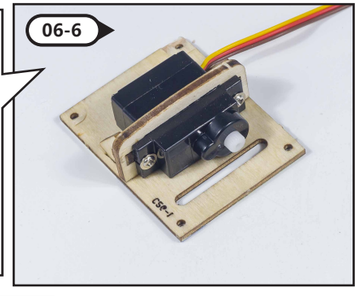


06-5

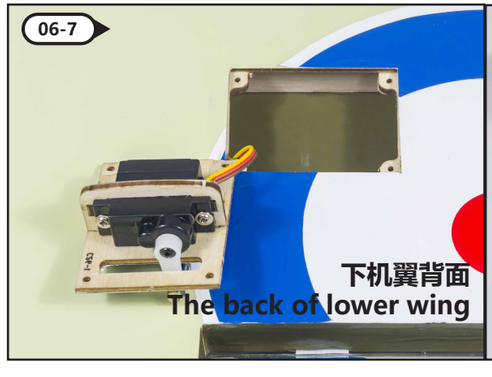


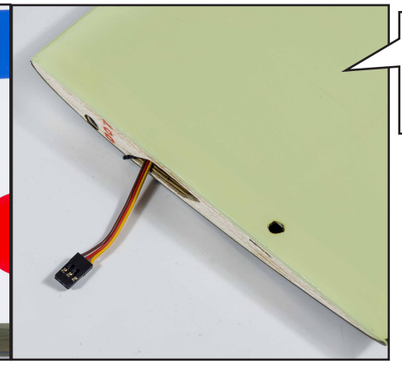
从机翼上取下舵机仓盖板，安装舵机。安装舵臂时，将舵机通电回中。
Remove the servo compartment cover from the wing,
and install the servos between the small wooden blocks. When installing the rudder arm, power on the servos back to the center.

06-6



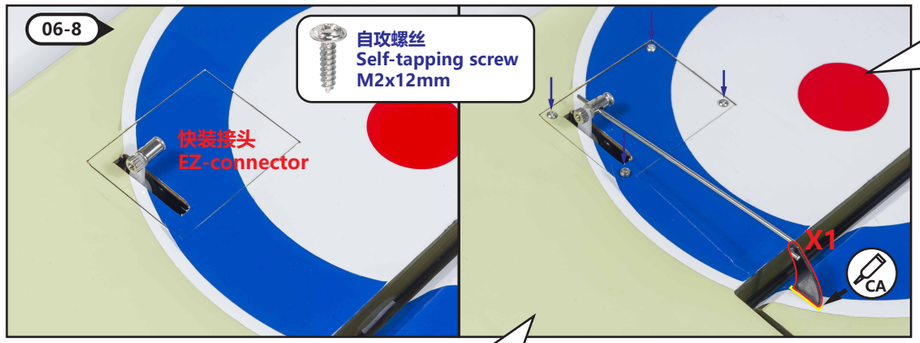
06-7





安装舵机到机翼上，将舵机线引导到机翼侧面导出。
Install the servo on the wing, and guide the servo line to the side of the wing

06-8



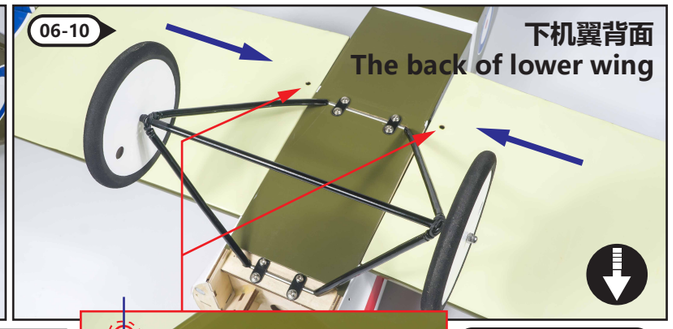
从C板上取下舵角，在副翼的预留槽内安装舵角，用CA胶粘固。钢丝连杆Z型一头穿入舵角。
Remove the servo horn from the C board,install it in the reserved groove of the aileron,
and fix it with CA glue.One end of the Z-shaped steel wire connecting rod is inserted into the servo horn.

连杆穿入快装接头，然后把快装接头安装到舵角上，调整钢丝位置后，锁紧快装接头螺丝。
Penetrate the connecting rod into EZ-connector,and then install the EZ-connector on the rudder horn. Adjust the position of the steel wire,then lock it firmly with screws.

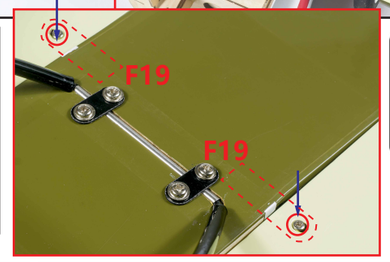
左右机翼相同安装
Same installation on left and right wings.

06-9

06-10

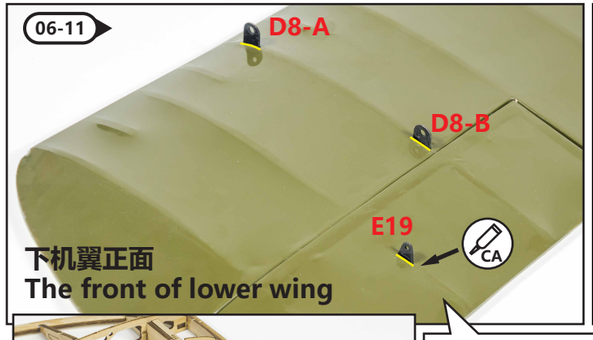


从C板上取F19，装到机身预留槽内，用胶水粘固。如图所示。
Remove the F19 from C board,install it in the reserved groove of the fuselage,and fix it with glue,as shown the picture.

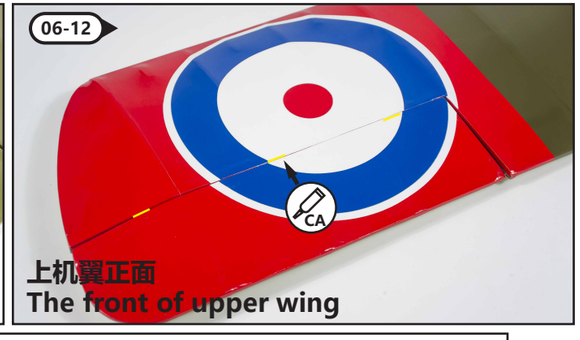


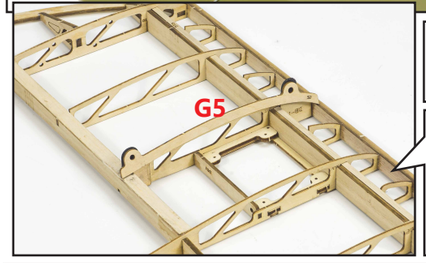
自攻螺丝
Self-tapping screw
M3x12mm

06-11



06-12

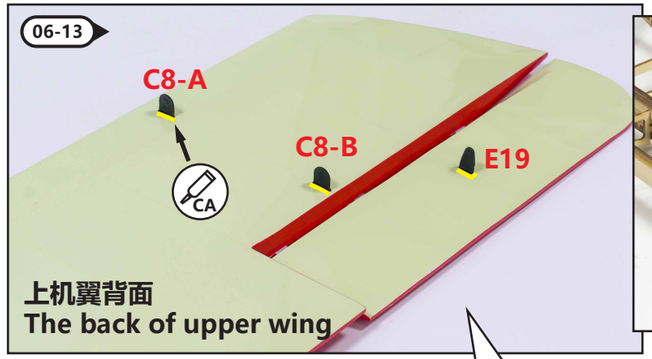


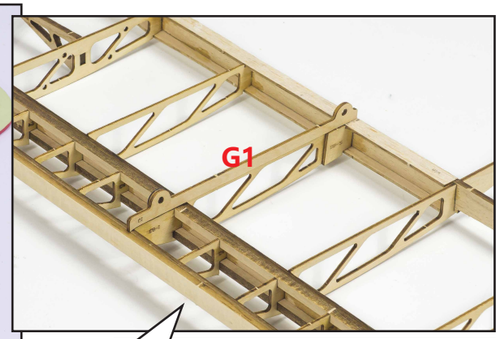


从C板上取D8-A，D8-B,E19，装到下机翼预留孔，用胶水粘固。如上图所示。
Remove the D8-A,D8-B and E19 from the C board,install them in the reserved groove of lower wing,and fix them with CA glue as shown above.

安装D8-A,D8-B时，可用装配工具确定角度，调整好角度后，用胶水粘固,最后取下装配工具。
When installing D8-A and D8-B, use assembly tools to determine the angle,after adjusting the angle, use glue to fix it, and finally remove the assembly tools.

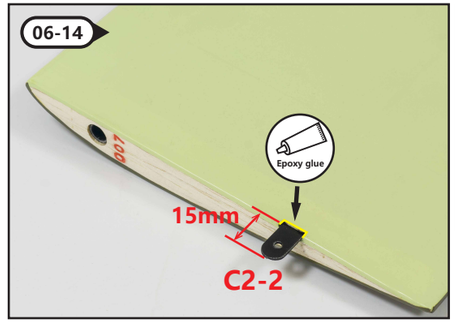
06-13





安装C8-A,C8-B时，可用装配工具确定角度，调整好角度后，用胶水粘固,最后取下装配工具。
When installing C8-A and C8-B, use assembly tools to determine the angle,after adjusting the angle, use glue to fix it, and finally remove the assembly tools.

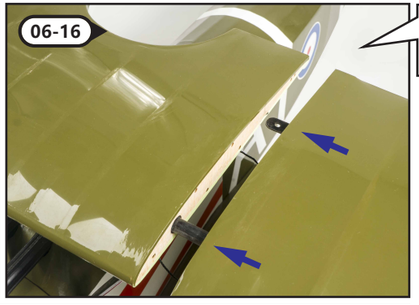
06-14



从C板上取C8-A，C8-B,E19，C2-2装到下机翼预留孔，用胶水粘固。如上图所示。
Remove the C8-A,C8-B,E19 and C2-2 from the C board,install them in the reserved groove of lower wing,and fix them with glue as shown in the picture.

06-15

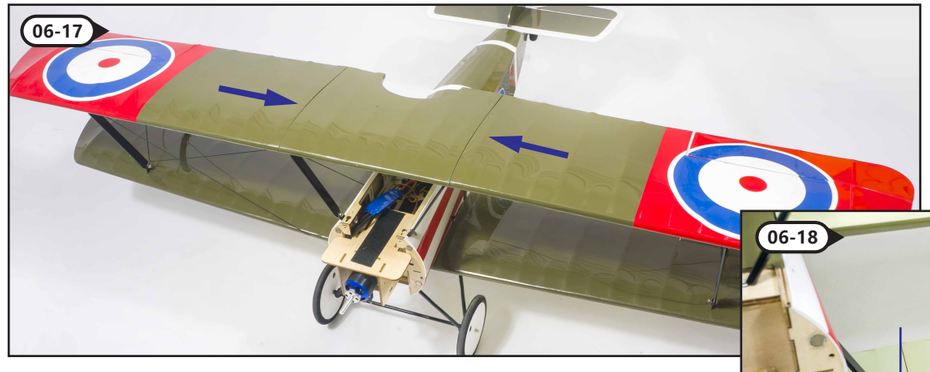
06-16



机翼插入连接杆。
Insert the wings into the connecting rod.

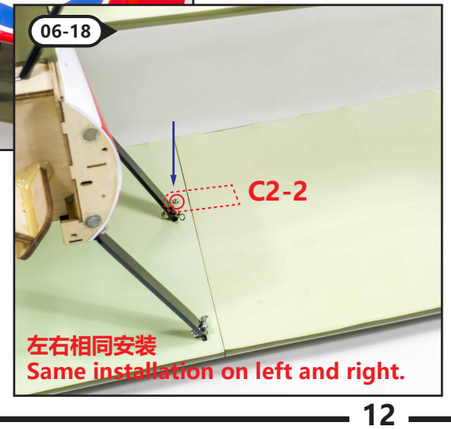
左右机翼相同安装
Same installation on left and right wings.

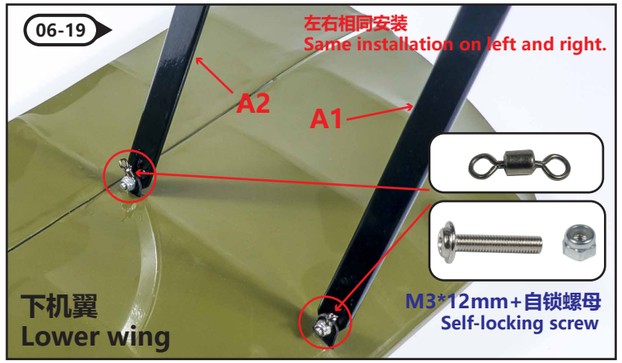
06-17

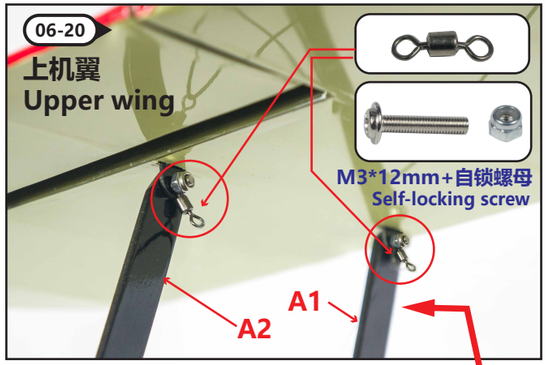


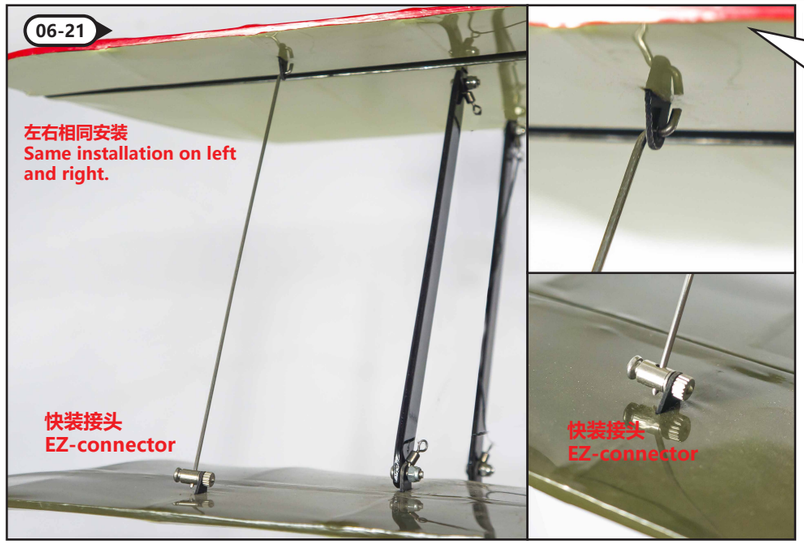
自攻螺丝
Self-tapping screw
M3x12mm

06-18





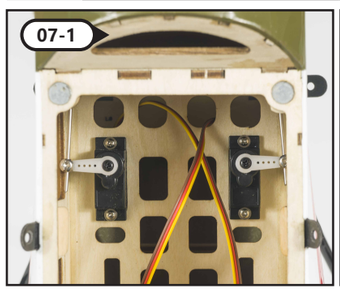




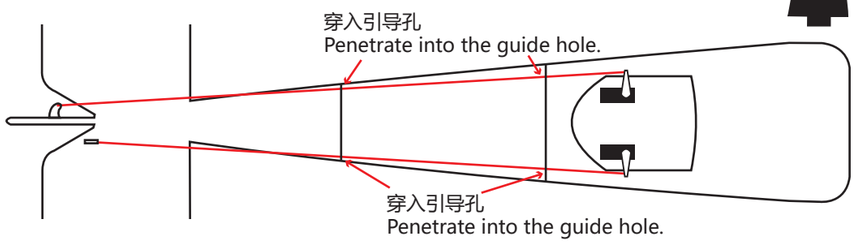
安装上下机翼联动连杆，一端Z型头穿入舵角，一端用快装接头固定。
Install the upper and lower wing linkage connecting rod, one end of the Z-shaped head penetrates into the servo horn,
and another end is fixed with a EZ-connector.

喷漆
Spray paint

07 方向舵舵机及连杆安装 Install the rudder steering gear and connecting rod



从C板上取下舵角，如图04-2,04-3插到舵面的预留槽内，用CA胶粘固。
Remove the servo horn from the C plate, insert it into the reserved groove of the rudder surface as shown on the left, and fix it with CA glue.



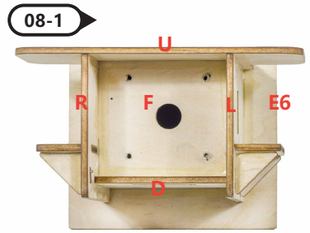
1.在舵机上安装舵臂，舵臂上安装快装接头。
Install the servo arm on the servo, and install the EZ-connector on the servo arm

2.钢丝连杆从预留孔插入机身内引导到机身中部。
The steel wire's connecting rod is inserted into the fuselage from the reserved hole and guided to the middle of the fuselage.

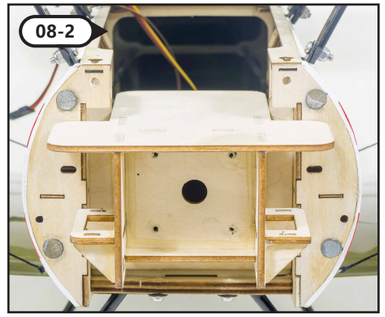
3.舵机与舵面通过钢丝连杆连接，钢丝连杆Z型一端穿入舵角，另一端插入快装接头，然后锁紧快装接头螺丝固定钢丝。
The servo and the rudder surface are connected by a steel wire connecting rod.
One end of the steel wire connecting rod is inserted into the servo horn, the other end is inserted into the EZ-connector, and then tighten the EZ-connector screw to fix the wire.

08 安装马达及头罩 Install the Motor and Cowling

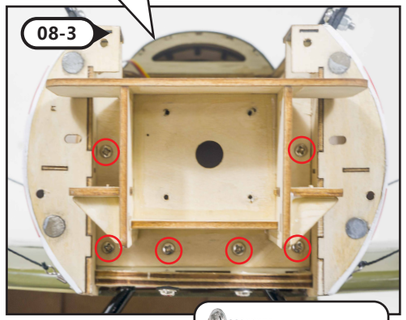
电动马达安装示范
Electric motor installation demonstration

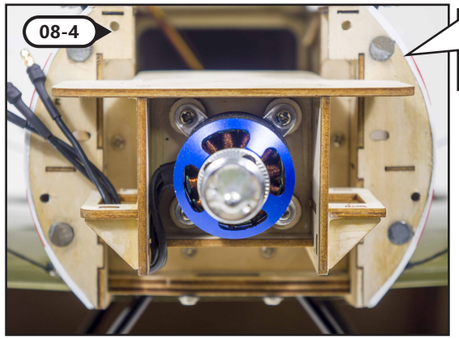


电动马达座
Motor mounting board for electric power



用自攻螺丝把马达座固定到防火墙。
Fasten the motor mounting board on the firewall with self-tapping screws.

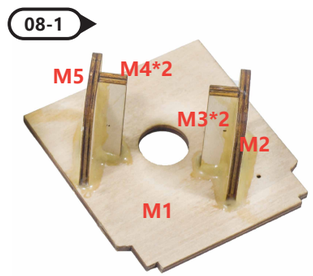




用自攻螺丝把马达固定到马达座上。
Fix the motor to the motor mount with self-tapping screws.

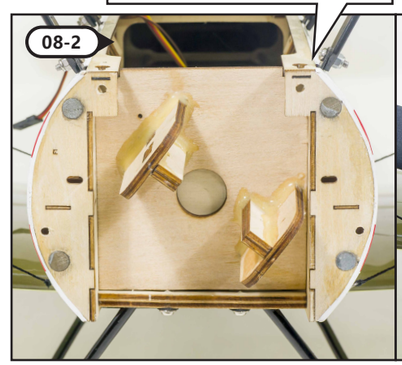
自攻螺丝
Self-tapping screw
M2x12mm

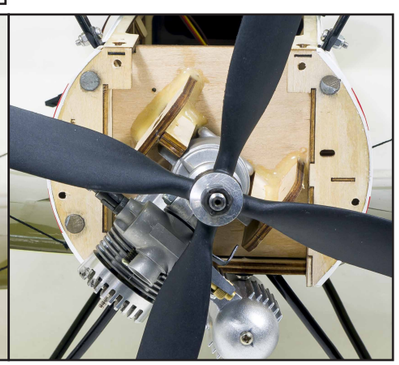
引擎安装示范
Engine installation demonstration

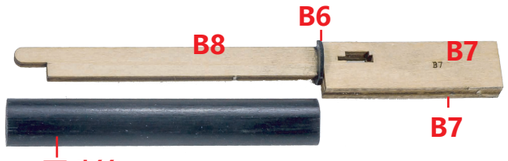


油动引擎座
Engine mounting board for gas power

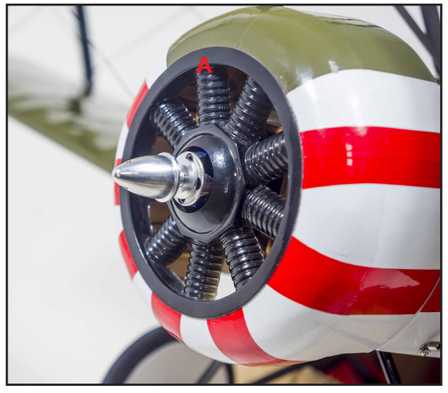
马达座用环氧树脂粘贴到防火墙上。
Glue the motor mounting board to the firewall with epoxy glue.





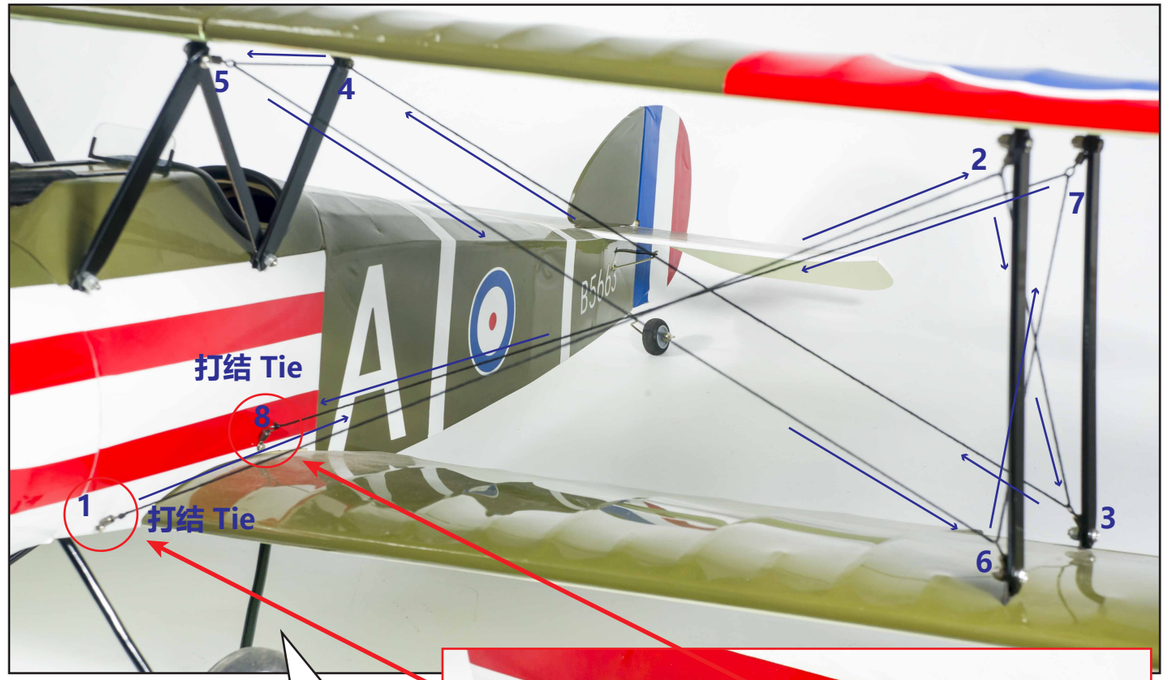


仿真机枪粘贴到舱身盖上，并粘贴风挡。
Stick the simulated machine gun on the cabin cover and paste the windshield.



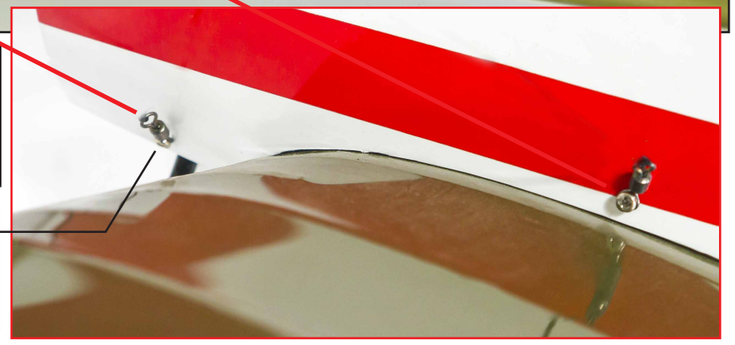
舱身盖与机头罩均为磁吸设计。
Both the cockpit cover and the cowling are magnetically designed.

09 机翼拉线安装示范 Display the wiring for wing



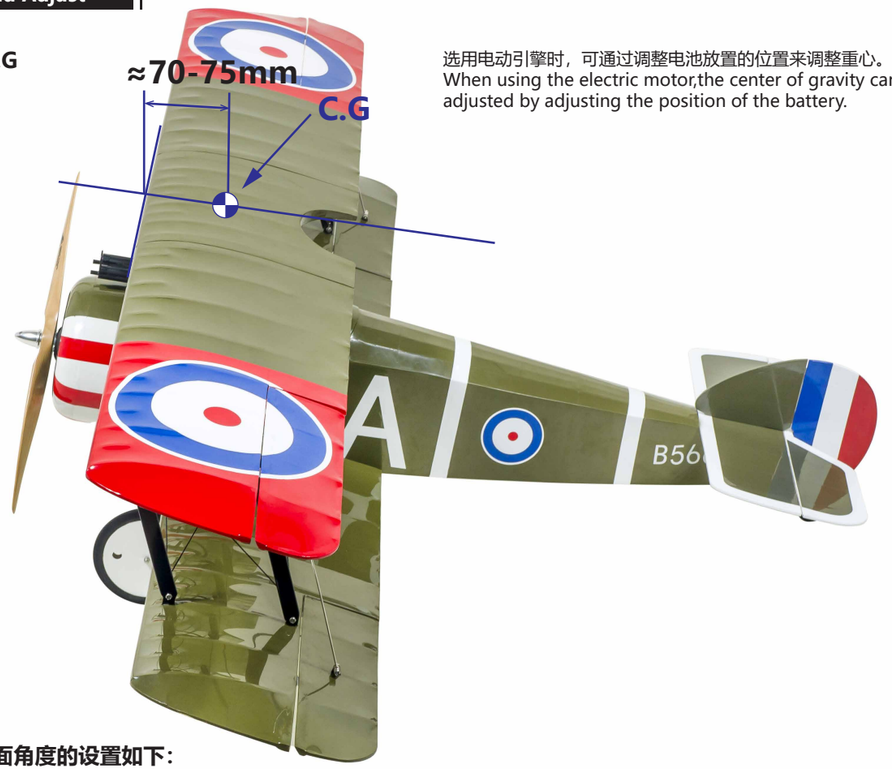
此处拉线为1条，按图示数字顺序进行穿线，并打结。
（左右机翼相同安装）
Here there is one pull wire,thread the wire and tie them in the order of the numbers shown in the figure.
(The left and right are installed in the same way.)

自攻螺丝
Self-tapping screw
M2x12mm



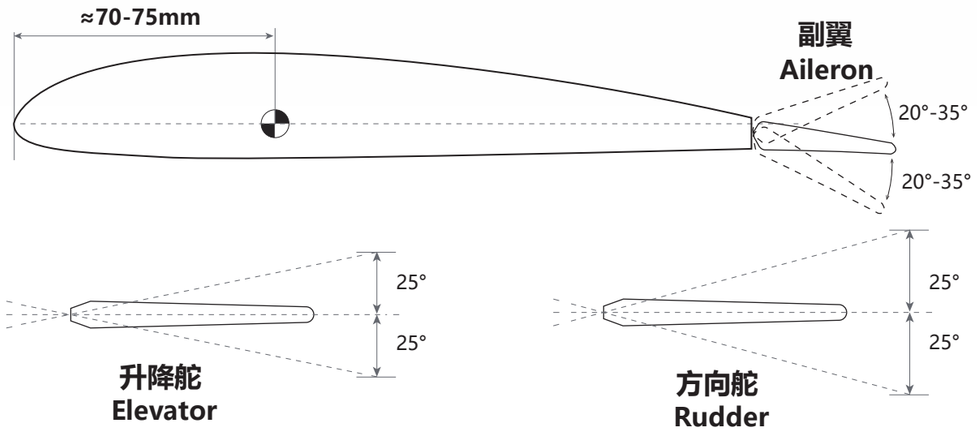
10 设置和调试 Set and Adjust

重心位置展示
Display the C.G



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.

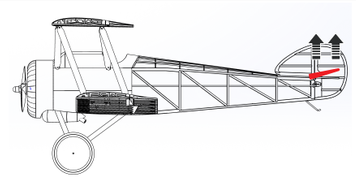
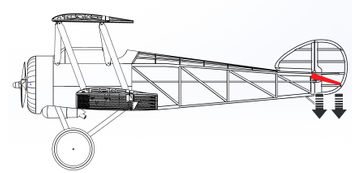
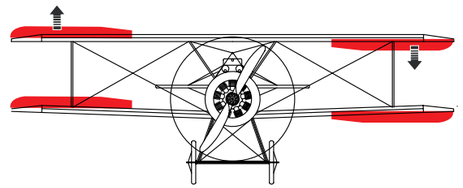
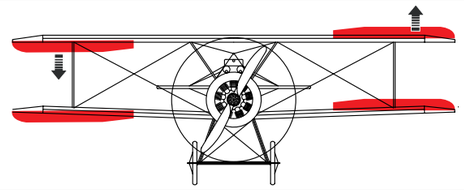
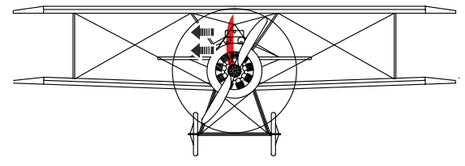
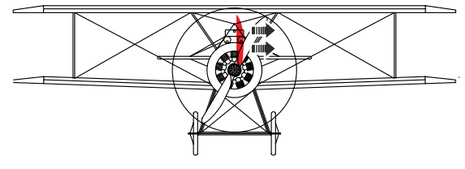
通常情况下，舵面角度的设置如下：
Usually, the control throws set as below:



	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.

Control Directions Tests

	Transmitter Command	Aircraft Reaction
Elevator	Lifting rod down	
	Lifting rod up	
Aileron	Steering rod to the right	
	Steering rod to the left	
Rudder	Direction rod to the right	
	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