

1:7 Stearman PT-17

Balsawood Scale Airplane



Instruction Manual

SCG37
ARF



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.

Historical Background

The Stearman PT-17 is a biplane formerly used as a military trainer aircraft, of which at least 10,626 were built in the United States during the 1930s and 1940s. Widely known as the Stearman, Boeing Stearman or Kaydet, it served as a primary trainer for the United States Army Air Forces, the United States Navy (as the NS and N2S), and with the Royal Canadian Air Force as the Kaydet throughout World War II.

Specification

翼展: 1400mm
机身: 1080mm
起飞重量: ~2.4Kg
Wingspan: 1400mm
Fuselage Length: 1080mm
Flying weight: ~2.4Kg

Suggested Equipment

马达: 2815-3520 800-900KV
桨叶: 12-13inch
电调: 60A 3-4S
舵机: 17g*2pcs; 37g*2pcs
电池: 4S 2200-2800mAh
通道: ≥4CH
Motor: 2815-3520 800-900KV
Prop: 12-13inch
ESC: 60A 3-4S
Servo: 17g*2pcs; 37g*2pcs
BATT: 4S 2200-2800mAh
Rx: ≥4CH

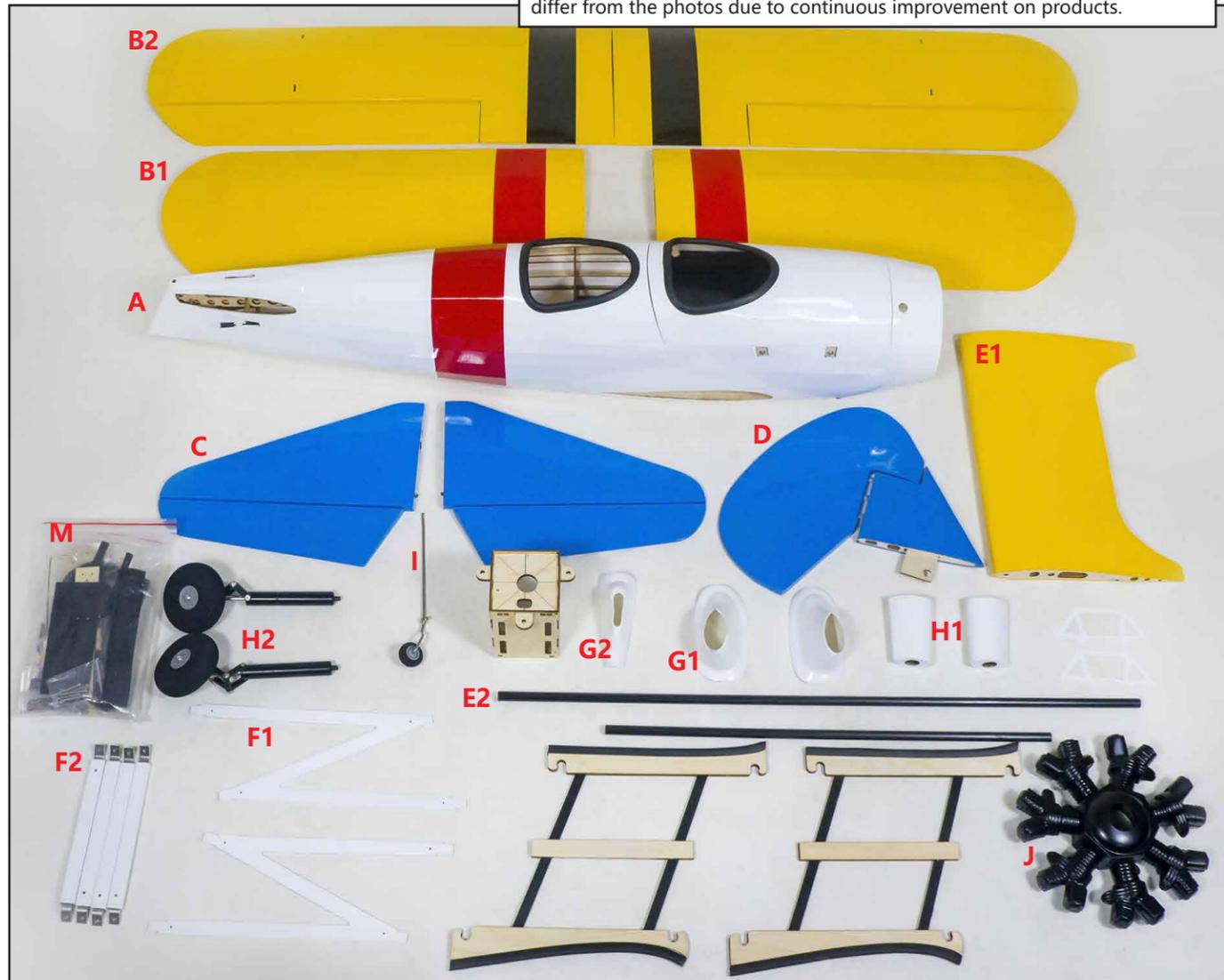
Tools Needed



DANCING WINGS HOBBY
<http://www.dwhobby.com/>



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 may be slightly differ from the photos due to continuous improvement on products.



A:机身 B1-2:上下机翼 C:水平尾翼 D:垂直尾翼 E1-2:机翼连接件 F1-2:支架 G1:前起落架装饰件
G2:后尾轮装饰件 H1-2:起落架 I:后尾轮 J:像真引擎 K:像真仪表板 L:贴纸 M:零件及螺丝包 N:机翼支架
A:Fuselage B1-2:Upper & Lower Wing C:Horizontal Tail Wing D:Vertical Tail Wing E1-2:Wing joint F1-2:Brackets
G1:Front landing gear decoration G2:Rear tail wheel decoration H1-2:Landing Gear I:Rear tail wheel
J:Scale engine K:Scale dashboard L:Sticker M:Parts & Screws N:Wing Bracket

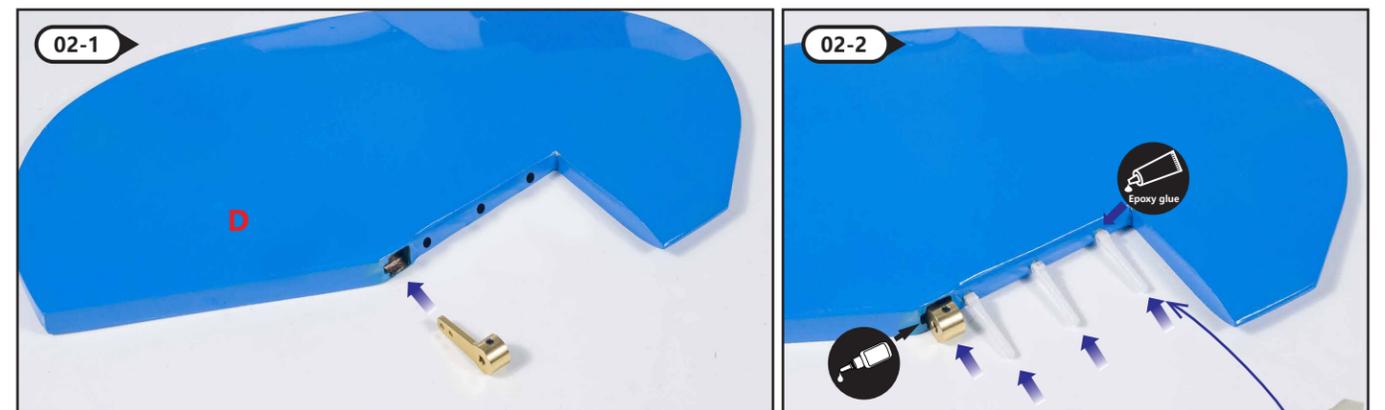
★ 装配提示符号
Assembly symbol guide

- | | | | |
|--------------------------------|--------------------------------|-----------------------------------|-------------------------------|
| 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 |
| 重复拼装
Repeat multiple times | 涂抹螺丝胶
Apply threadlock | 左右对称安装
Assemble right and left | 使用环氧胶粘固
Use epoxy adhesive |

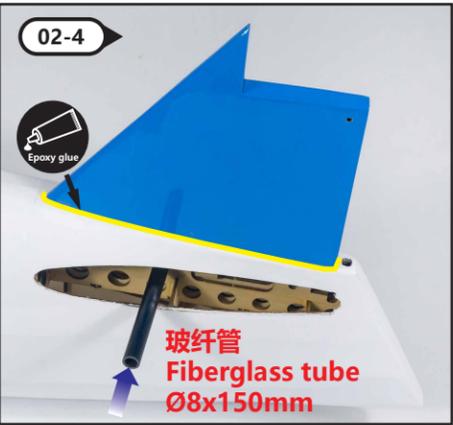
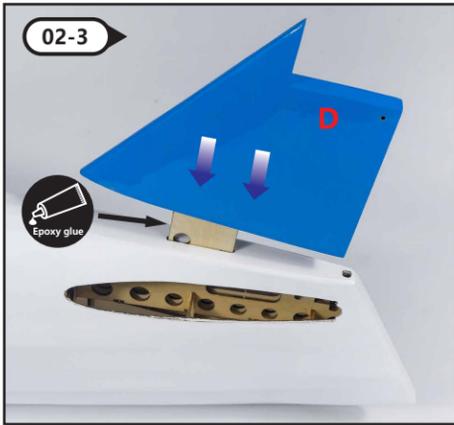
01 起落架安装
Assemble the Landing Gear



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

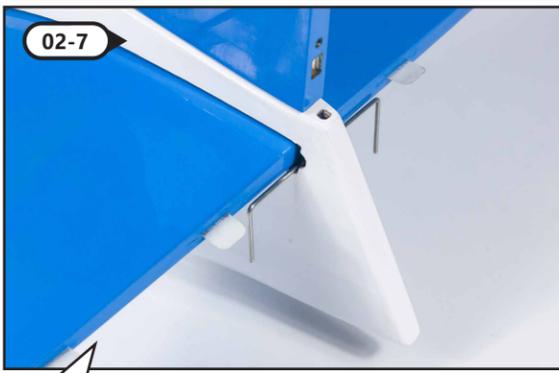


在针式铰链结合处打润滑油 (防止胶水焊死)。 润滑油
Apply oil to the joint of needle hinge (to prevent glue from sticking).
Lubricating oil



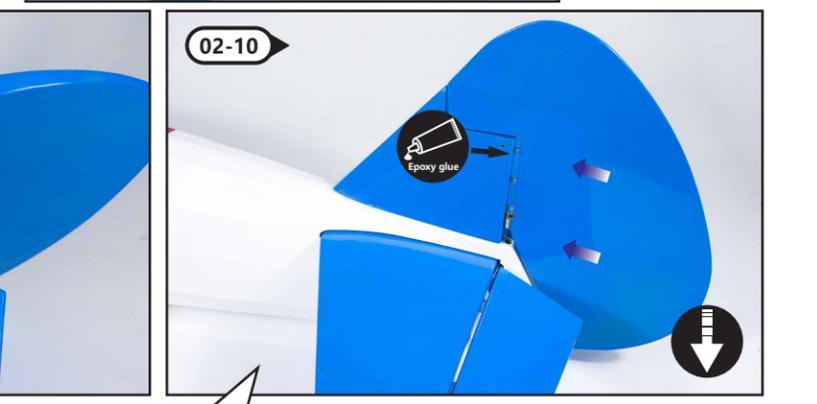
02-6 此时不要粘固
Do not glue at this point

将连接钢丝插入水平尾翼预切槽中, 然后检查两个舵面是否平直。如果没有, 可以将钢丝取出并调整, 直到舵面保持平整和笔直。
Insert the connecting steel wire into the pre-cut slot of the horizontal tail wing, then check the 2pcs rudder surface are straight and flat or not. If not, you can draw out the steel wire and adjust it until the rudder surface keep flat and straight.



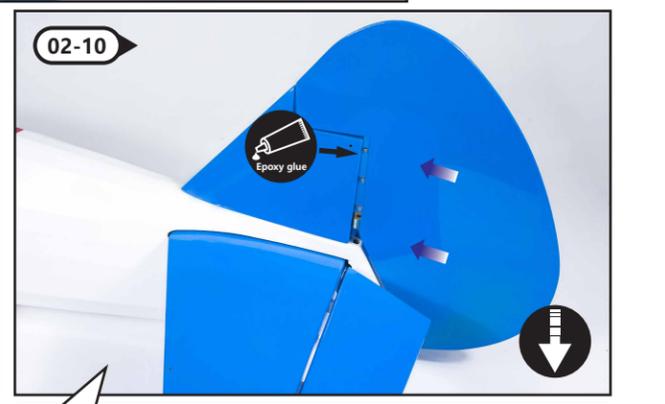
02-7

上一步骤调整后, 取下钢丝穿入机身尾部, 如上图。
After the adjustment in the previous step, remove the steel wire and insert it into the tail of the fuselage as shown in the above picture.



02-9

注意: 安装升降舵时, 舵角的预留孔放置到预留了连杆的一边, 和连杆相对, 方便后续安装。
Note: When install the elevator, the reserved hole of the rudder horn is placed on the side of the reserved connecting rod, opposite to the connecting rod, so as to facilitate subsequent installation.



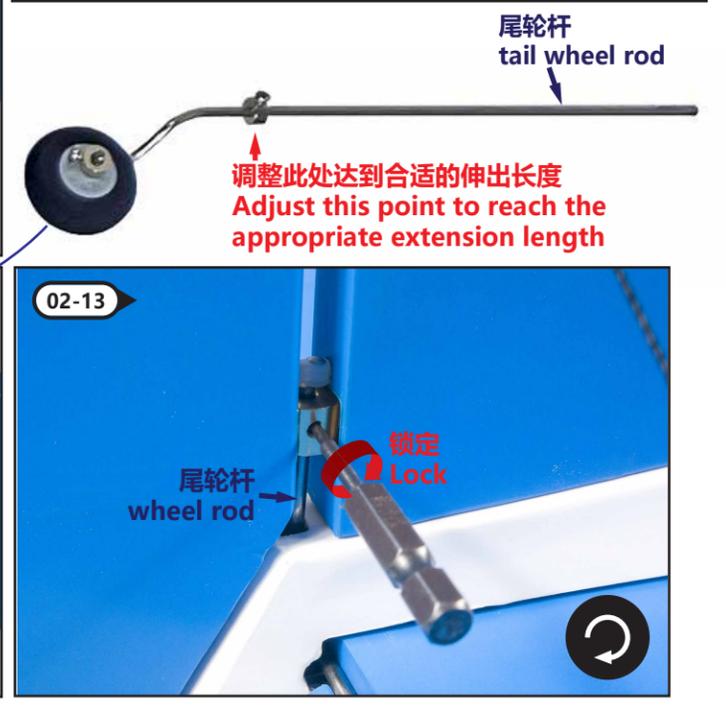
02-10

安装转向舵到垂直尾翼, 通过针式铰链连接, 并保持舵面可以自由摆动。
Install the steering rudder to the vertical tail, connect it through the pin hinge, and keep the rudder surface free to swing.

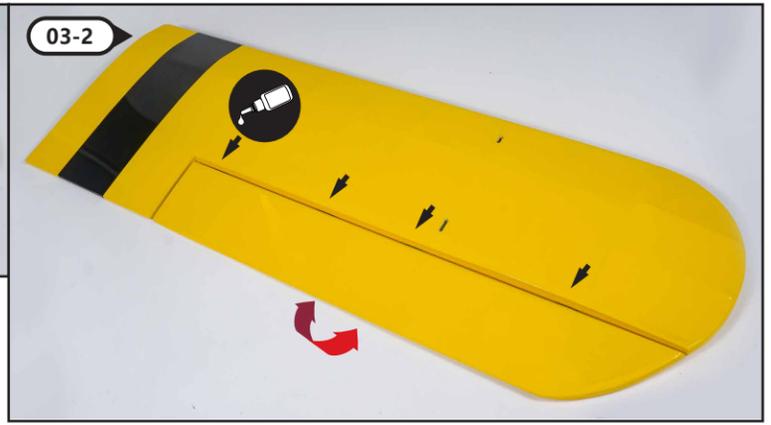
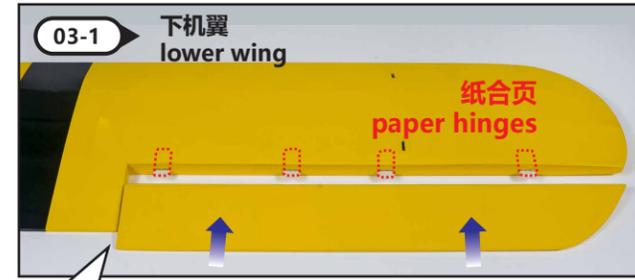


02-11

参考尾轮罩位置, 在上图螺丝位置钻孔, 孔内点入少量CA胶, 待胶水干后用自攻螺丝固定住装饰罩。
Refer to the position of the tail wheel cover, drill holes at the screw positions in the picture above, point a small amount of CA glue into the holes, and fix the decorative cover with self-tapping screws after the glue dries.

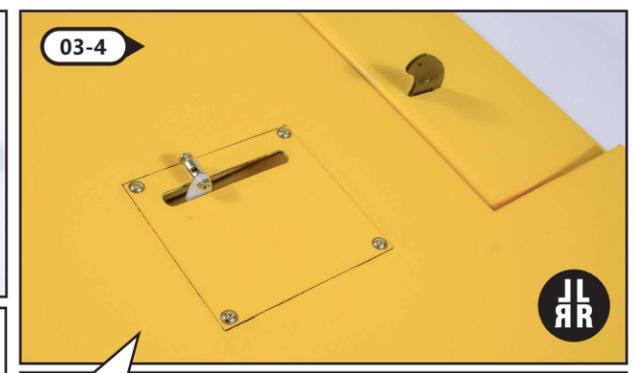
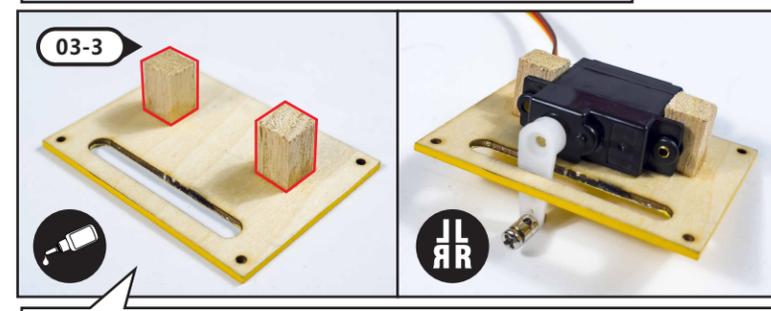


03 安装机翼
Assemble the Wing



03-1 下机翼 lower wing

把副翼安装到机翼上, 纸合页插入机翼和副翼的预留槽内, 两者通过纸合页连接。纸合页装好后用CA胶粘固, 同时保持副翼可以自由摆动。
Install the aileron on the wing, insert the paper hinge into the reserved slot of the wing and aileron, and the two are connected through the paper hinge. The paper hinge is fixed with CA glue after being installed. At the same time, the aileron can swing freely.

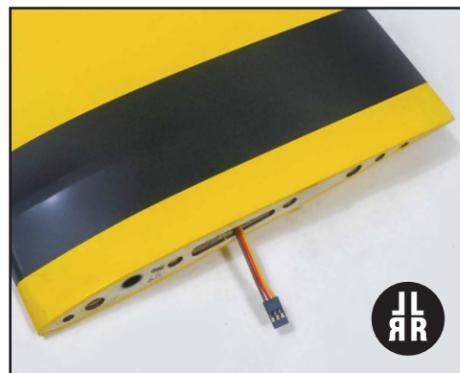


03-3

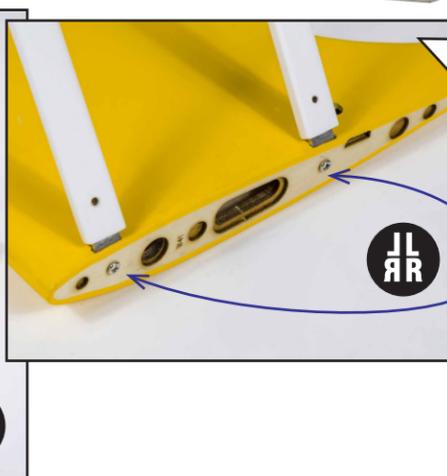
取下机翼上舵机盖板, 如图安装舵机。舵机用小木块固定住, 木块用CA胶粘在盖板上。
Remove the servo cover on the wing and install the servo as shown in the figure. The servo is fixed with small wooden blocks, which are stuck on the cover plate with CA glue.

03-4

舵机盖板装回机翼, 用自攻螺丝锁定。舵机线穿入机翼内, 从机翼侧边导出。
Install the servo cover back into the wing and lock it with self tapping screws. Insert the servo wire into the wing and exits from the side of the wing.



在副翼预留槽内安装舵角，在舵机臂上安装快装接头。把连杆夹头一端夹住舵角，另一端穿入快装接头并锁定。
Install the rudder horn in the reserve slot of the aileron, and install the EZ-connector onto the servo arm. Clamp one end of the connecting rod to the rudder horn and insert the other end into the EZ-connector and lock it.



在上机翼中间件上安装支架，用螺丝锁定。
Install the bracket on the upper wing middle parts and lock it with screws.

自攻螺丝
Self-tapping screw
M3x10mm

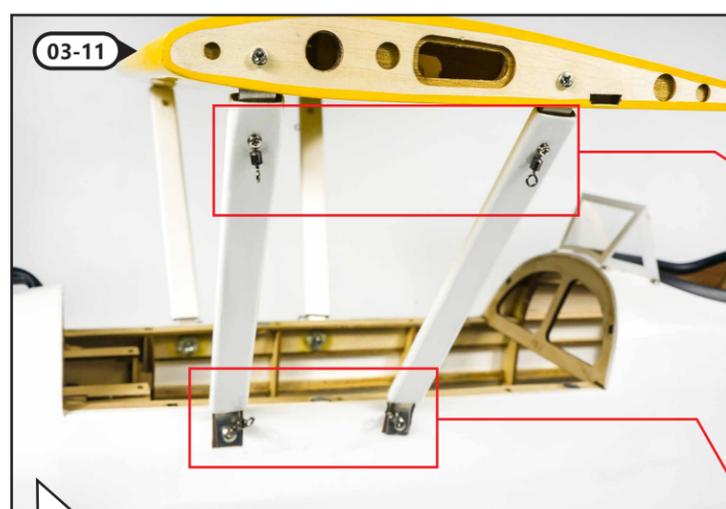
螺丝 Screw
M3x12mm



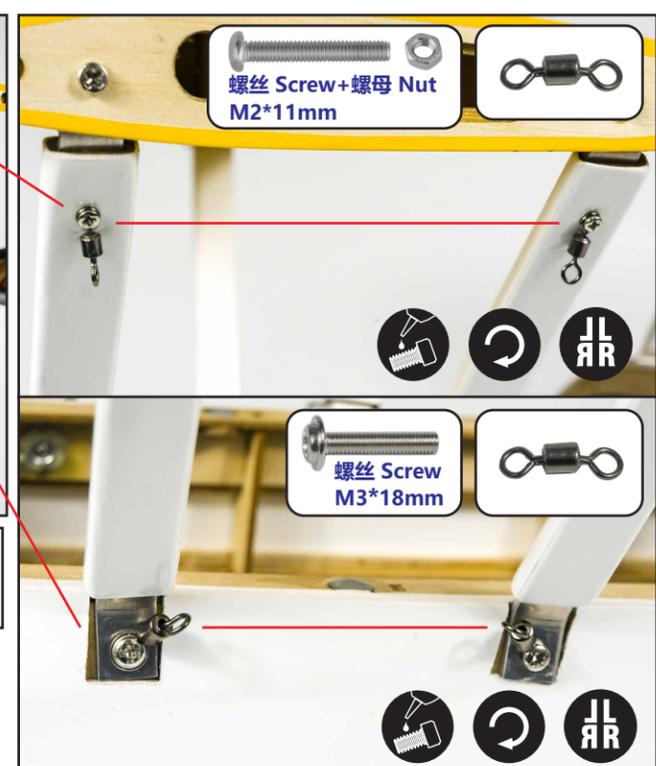
在上一步骤胶水未干前，按上图把机翼和中间连接件装到一起，并用螺丝把X01固定住，并把接处的缝隙调整到最小。待胶水干后可先拆下机翼方便后续安装。
Before the glue in the previous step is dry, install the wing and the intermediate connector together according to the above figure, fix X01 with screws, and adjust the gap at the joint to the minimum. After the glue is dry, the wing can be removed for subsequent installation.

按步骤03-8方法进行安装。待胶水干后可先拆下机翼方便后续安装。
Install according to step 03-8. After the glue is dry, the wing can be removed for subsequent installation.

螺丝 Screw
M3x30mm

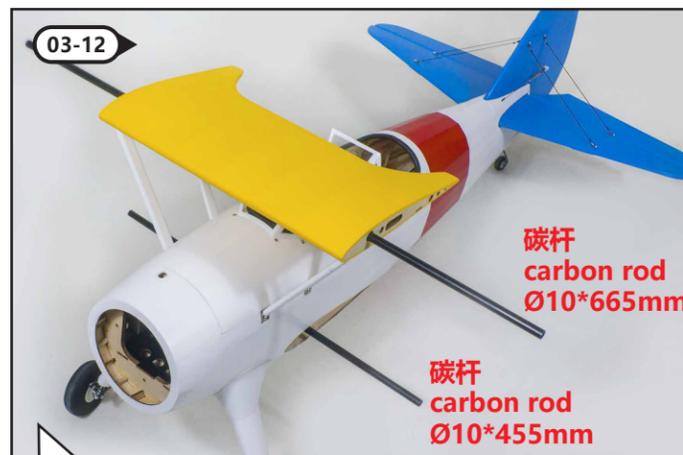


把中间连接安到机身，并注意几处螺丝的安装。
Install the middle connection to the fuselage, and pay attention to the installation of several screws.



螺丝 Screw+螺母 Nut
M2*11mm

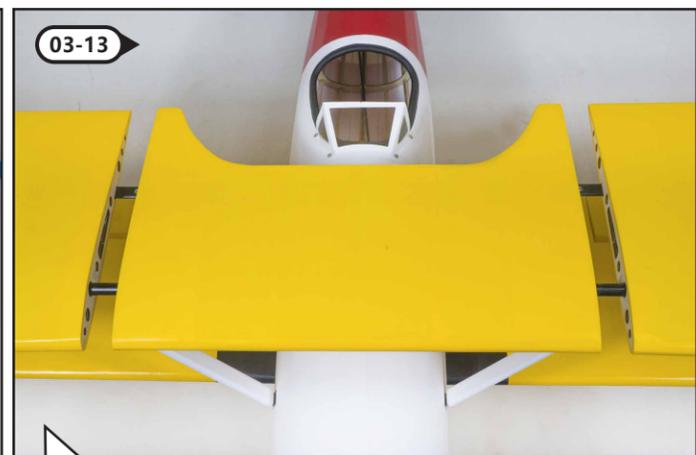
螺丝 Screw
M3*18mm



在上图位置插入碳杆。
Insert the carbon rod in the position shown above.

碳杆
carbon rod
Ø10*665mm

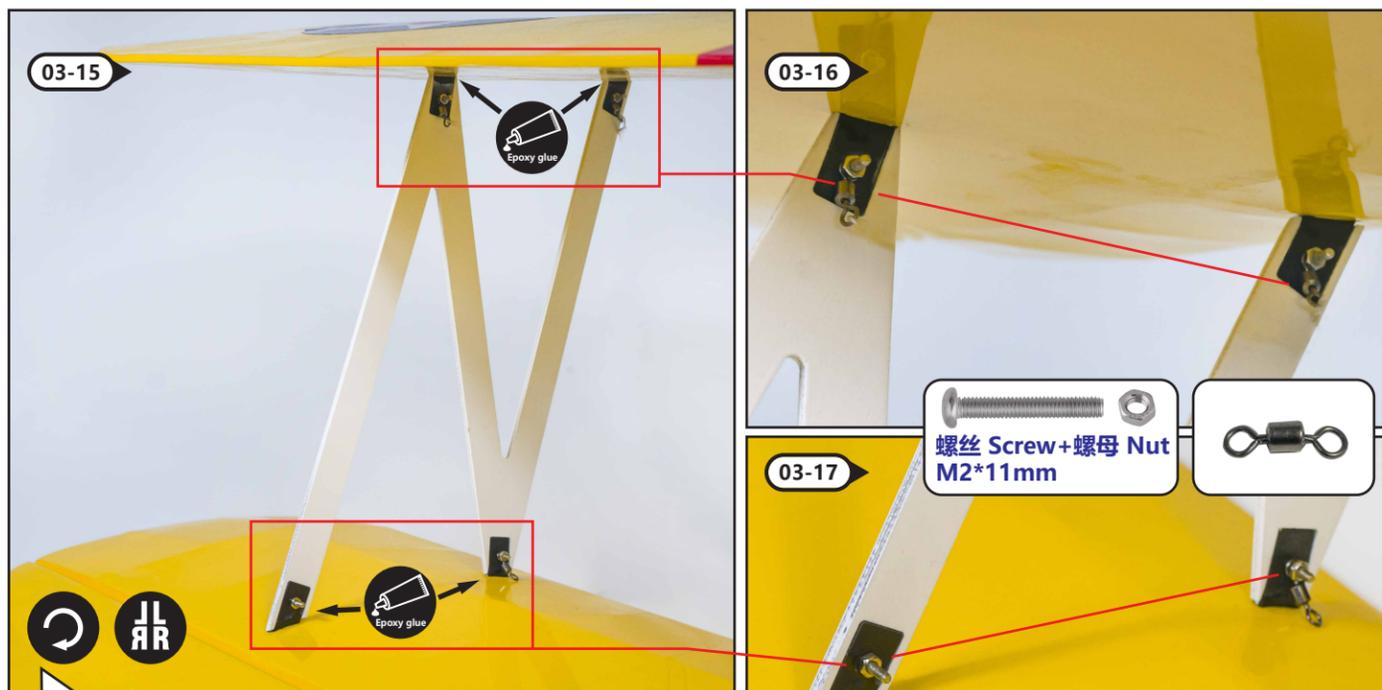
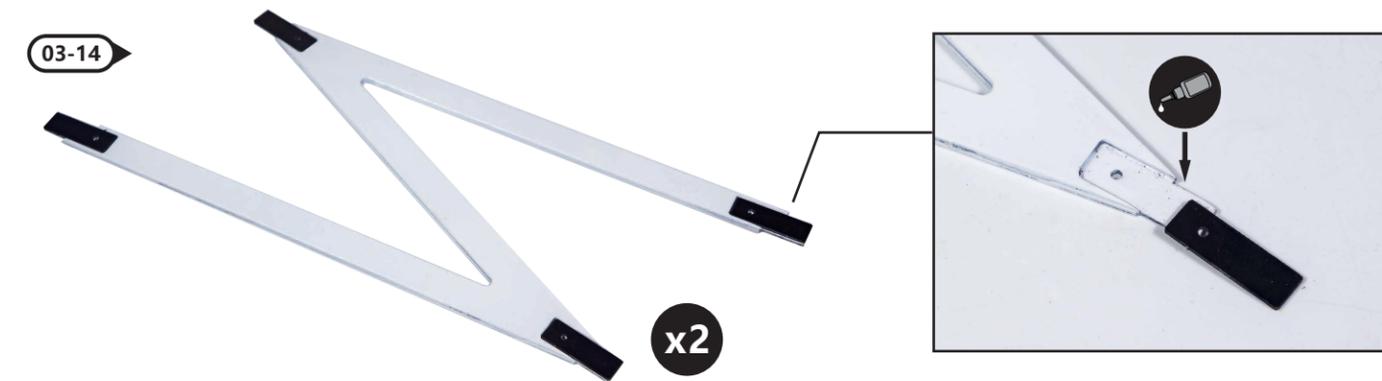
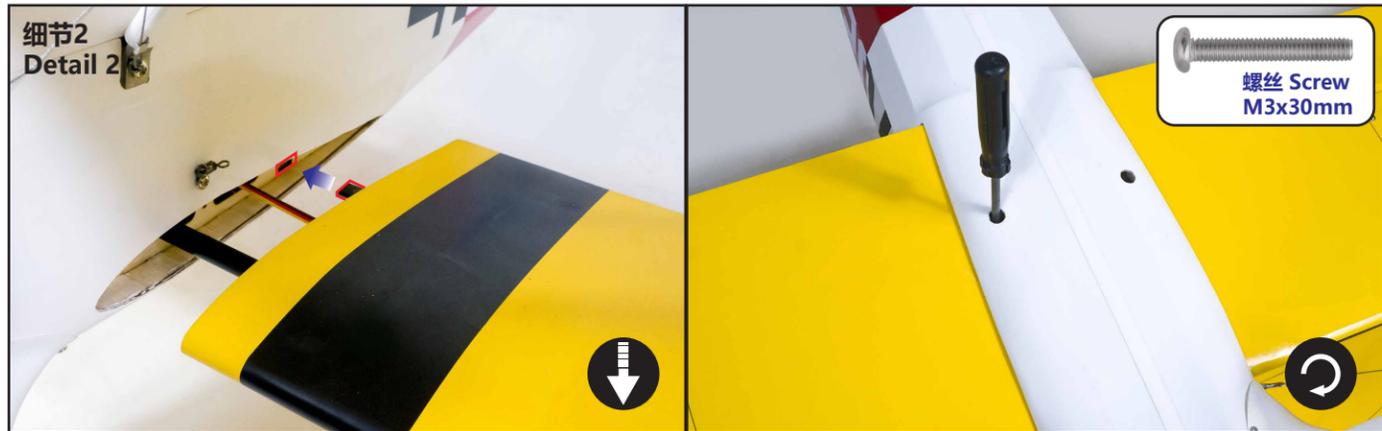
碳杆
carbon rod
Ø10*455mm



上下机翼对插到碳杆上。注意几处固定细节。
Insert the upper and lower wings into the carbon rods. Pls take care of some fixed details.



螺丝 Screw
M3x12mm



上下机翼间安装支撑件，调整机翼平直后用环氧树脂粘固，左右相同安装。
Install supports between the upper and lower wings. After adjusting the straightness of the wings, glue them with epoxy glue, and install them the same on the left and right.

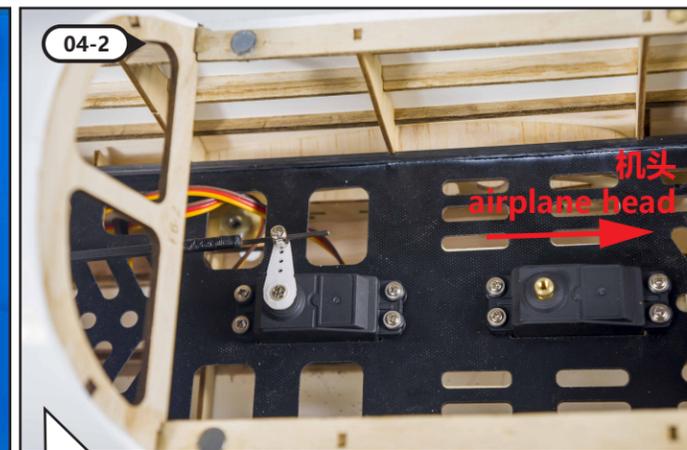


在图中位置安装螺丝。
Install the screws in the position shown in the figure.

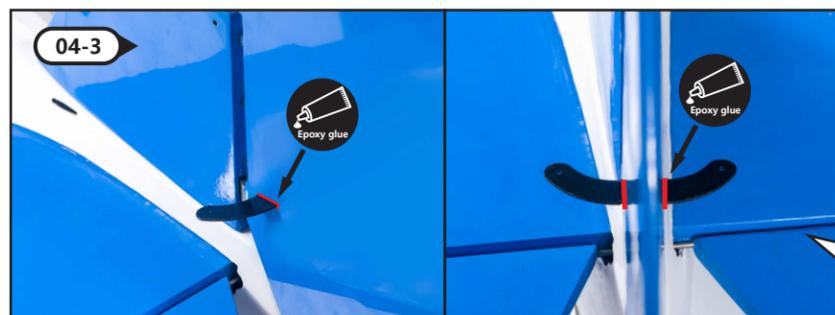
04 方向舵舵机及连杆安装
Install the rudder steering gear and connecting rod



在升降舵预留孔上安装舵角，用环氧树脂粘固，并把连杆扣到舵角上。
Install the rudder horn on the reserved hole of elevator, fix it with epoxy glue, and fasten the connecting rod to the rudder horn.



如上图在机身内安装舵机，并把连杆另一端与舵机连接，通过快装接头固定住连杆。
Install the servo inside the fuselage as shown in the figure above, connect the other end of the connecting rod with the servo, and fix the connecting rod through the EZ-connector.

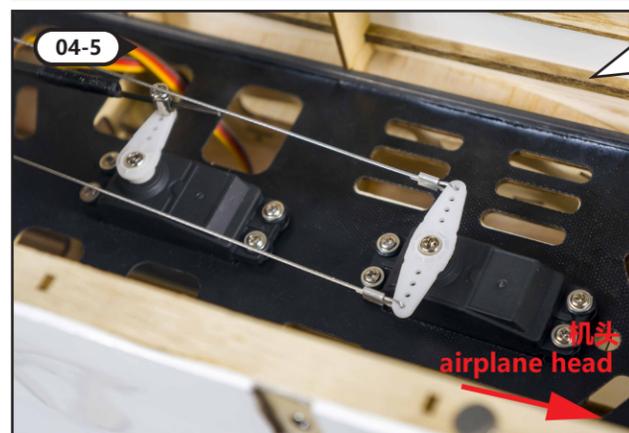


步骤04-2选用小舵机时，可用马达座木片辅助安装。
Step 04-2 When you choose a small servo, use the wood chip of the motor base to assist in the installation.

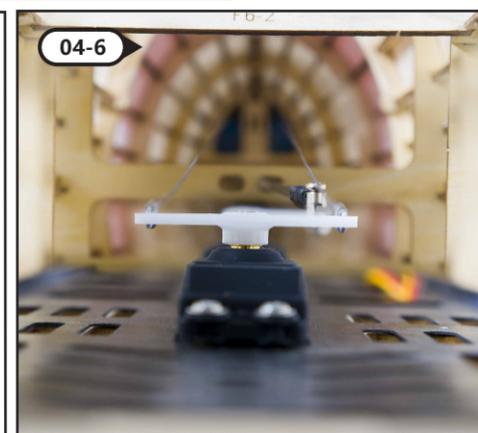
在方向舵的预留孔上安装舵角，用环氧树脂粘固。
Install the rudder horn on the reserved hole of the rudder and fix it with epoxy glue.



方向舵通过两根钢丝绳拉线与舵机相连，安装方式见04-4,04-5,04-6图示。
The rudder is connected to the servo through two steel wires, pls refer to the figure 04-4,04-5,04-6 for the installation method.



在方向舵控制舵机上，安装一字型舵臂，两根钢丝绳穿入舵臂，调整钢丝绳连杆紧绷后，用铝扣锁紧。
Install a straight rudder arm on the control steering gear of the rudder, insert two steel wires into the rudder arm, adjust the tension of the steel wire connecting rod, and then lock it with an aluminum buckle.



05 安装拉线
Install the stay wire

05-1

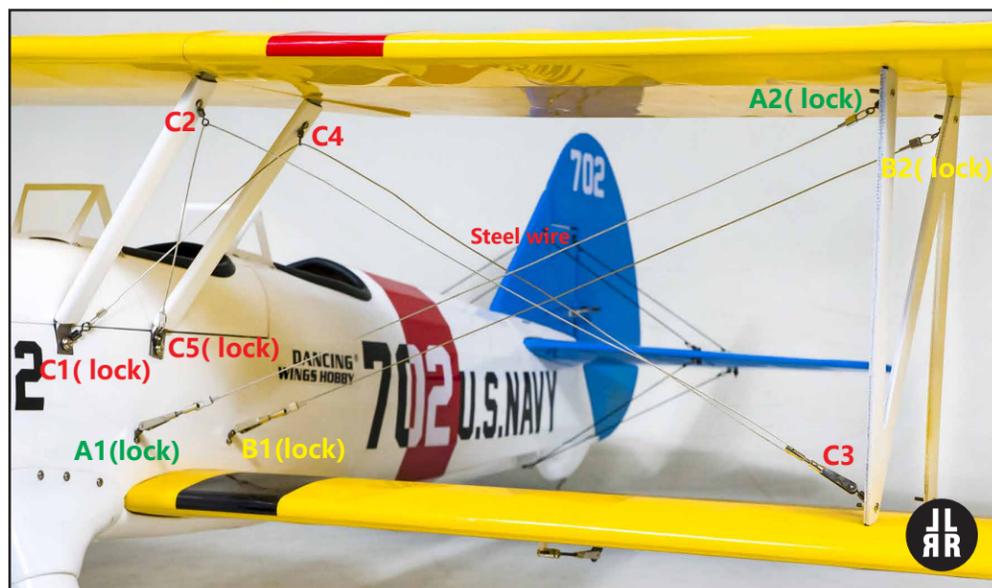
M2.5

在钻孔内点入少量CA胶，待固化后再拧入螺丝。
Put a small amount of CA glue into the drill hole, and screw it in after solidification.

自攻螺丝
Self-tapping screw
M2x11mm

确认舱身内的2块预留小木块位置，并在机身侧面钻孔，2个孔钻在小木块位置。
Confirm the position of two reserved wooden blocks in the cabin and drill holes on the side of the fuselage. Two holes are drilled on the wooden blocks.

机翼拉线安装示范
Display the stay wire for wing



PT17共设置3条拉线，图中按颜色区分拉线，按数字顺序进行安装。
There are totally two stay wires for this PT-17, pls identify them by color and proceed the wiring by numerical order.

安装时请注意细节图。
Please pay attention to the details during installation.

- A1→A2
- B1→B2
- C1→C2→C3→C4→C5

细节1
Detail 1

细节2
Detail 2

铝扣 Alu. buckle

卡扣 Buckle

铝扣 Alu. buckle

卡扣 Buckle

铝扣 Alu. buckle

卡扣 Buckle

铝扣 Alu. buckle

尾翼拉线安装示范 Display the stay wire for tail wing

05-4

05-5

M1.5

M1.5

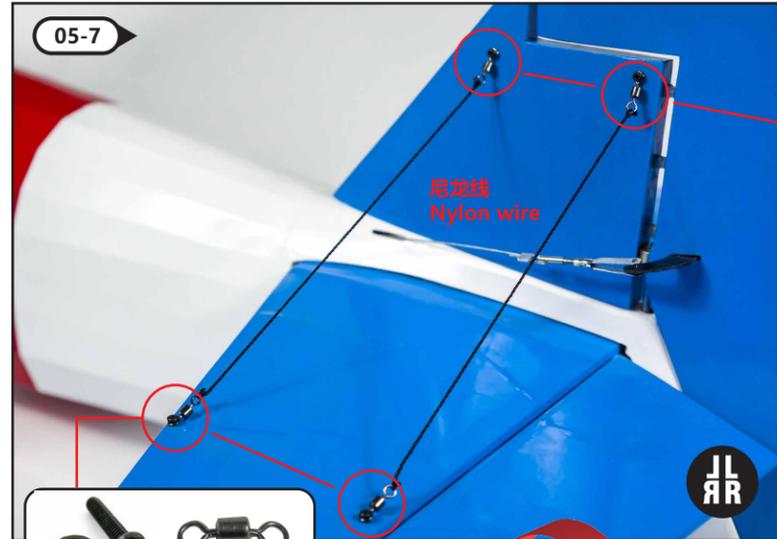
上图垂直尾翼的记号位置钻2个孔，在孔内点入少量CA胶。
Drill two holes at the mark positions of the vertical tail as shown above and put a small amount of CA glue into the drill hole.

上图水平尾翼的记号位置钻2个孔，在孔内点入少量CA胶。
Drill two holes at the mark positions of the horizontal tail as shown above and put a small amount of CA glue into the drill hole.

05-6

M1.5

如图在机身尾部钻孔，在孔内点入少量CA胶。
Drill holes at the tail of the fuselage as shown in the figure, and put a small amount of CA glue into the holes.



05-7

尼龙线
Nylon wire

螺丝 Screw+螺母 Nut
M2*15mm

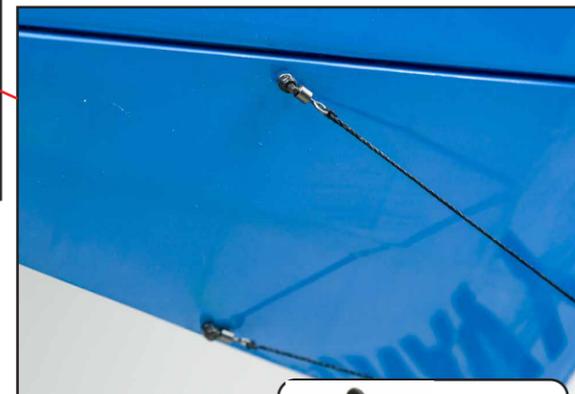


05-8

左右相同安装。并调整垂直尾翼与机身垂直。
Install the left and right in same method, and adjust the vertical tail make sure it is vertical with fuselage.



自攻螺丝
Self-tapping screw
M1.5x10mm

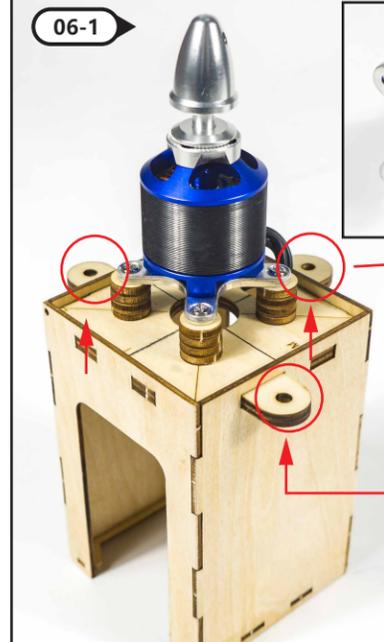


螺丝 Screw+螺母 Nut
M2*15mm



螺丝 Screw+螺母 Nut
M2*20mm

06 安装马达, 像真件
Install the moto and scale parts



06-1

螺丝 Screw
M3*18mm

X3
爪牙螺母 Nut
M3

安装马达时设置右拉, 下拉角度2°
Pls set the control throw to the right/
down as 2° when installing the motor.



06-2

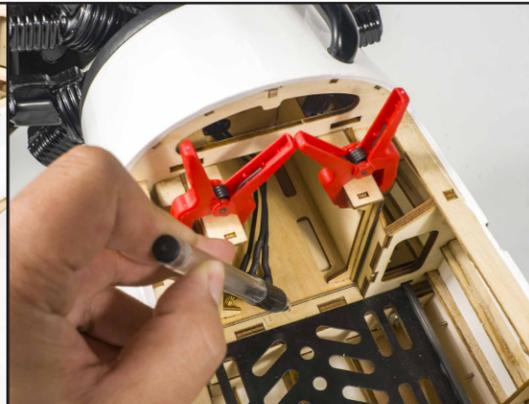


06-3

橡胶条
Rubber strip
进气管
Intake pipe



06-4



在马达座上涂抹环氧胶, 然后把马达座装入机身头部, 并调整合适伸出长度, 调整好后可用夹子辅助固定住马达座, 待胶干固后取下夹子。
Apply epoxy glue on the motor base, then install the motor base into the head of the fuselage, and adjust the appropriate extension length.
After adjustment, fix the motor base with the help of a clip, and remove the clip after the glue is dry.



自攻螺丝
Self-tapping screw
M1.5x10mm

06-5



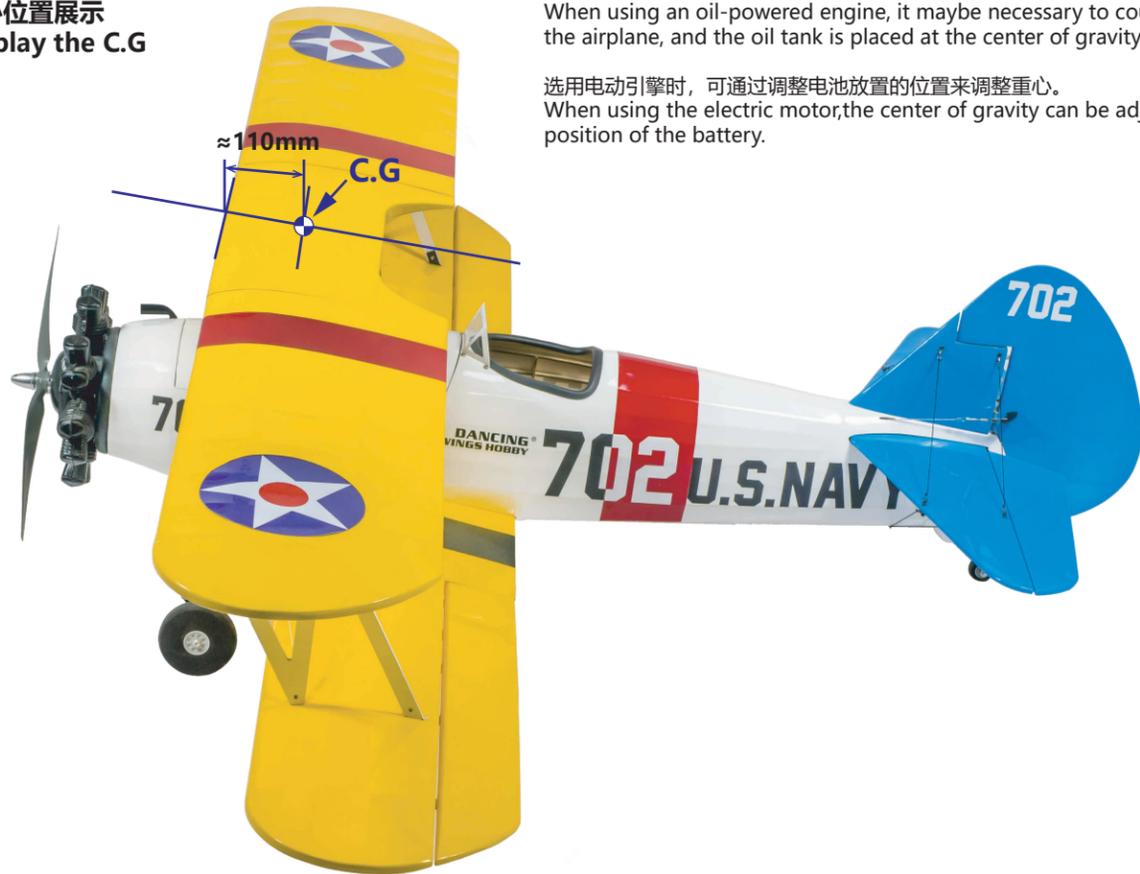
06-6

飞行员放置座
pilot seat



07 设置和调试
Set and Adjust

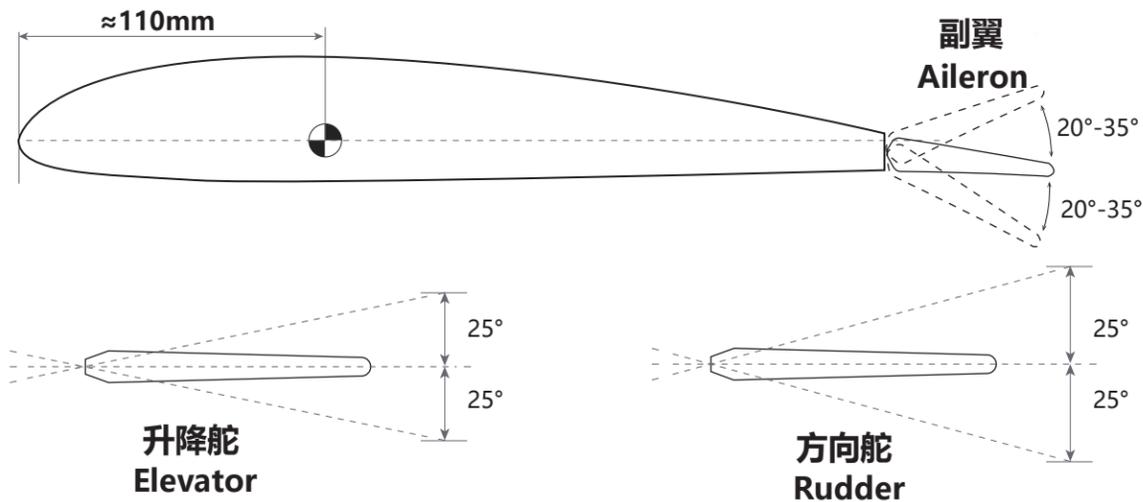
重心位置展示
Display the C.G



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 may be 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.

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>