



### 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.

### 飞行参数 Specification

翼展: 1.6M (63")  
机长: 1.2M (47")  
起飞重量: ≈ EP 2.1kg / GP 2.7kg

Wingspan: 1.6M (63")  
Fuselage Length: 1.2M (47")  
Flying Weight: ≈ EP 2.1kg / GP 2.7kg

### 推荐配置 Suggested Equipment

**EP**  
马达: MO2817 900KV  
桨叶: 11inch  
电调: 60A (4S)  
电池: 4S 2200-2800mAh  
舵机: 37gx2pcs / 17gx2pcs  
通道: 4CH+

**GP**  
引擎: MO2817 900KV  
桨叶: 11inch  
舵机: 37gx3pcs / 17gx2pcs  
油箱: <350ml  
通道: 6CH+

**EP**  
Motor: MO2817 900KV  
Prop: 11inch  
ESC: 60A (4S)  
Battery: 4S 2200-2800mAh  
Servo: 37gx2pcs / 17gx2pcs  
Radio: 4CH+

**GP**  
引擎: MO2817 900KV  
桨叶: 11inch  
舵机: 37gx3pcs / 17gx2pcs  
油箱: <350ml  
通道: 6CH+

### 工具 Tools Needed





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



- TCG16-A:机身 Fuselage
- TCG16-B:机翼 Wing
- TCG16-C:水平尾翼 Horizontal tail
- TCG16-D:垂直尾翼 Vertical tail
- TCG16-E:起落架 Landing Gear+机轮 Wheels
- TCG16-F:前轮组 Front Steering set+ 机轮 Wheels
- J:碳管 Carbon tube
- H:马达座 Motor Mounting
- I: 螺丝及配件 Screws and accessories  
舵角 Rudder horn  
木块, 木杆 Wood block; Wood rod  
连杆 Connecting rod

### ★ 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

**01-1** 螺丝M4\*30mm+螺母 Screw M4\*30mm+Nut X2

**01-2** 螺丝M4\*15mm Screw M4\*15mm X4

**01-3** M4 自锁螺母 Self-locking nut X2

**01-4** 螺丝M3\*15mm Screw M3\*15mm X4

**01-5** 快装接头 EZ-connector

**01-6** 顶丝锁紧 顶丝锁紧

**01-7** 轮挡 Wheel stopper

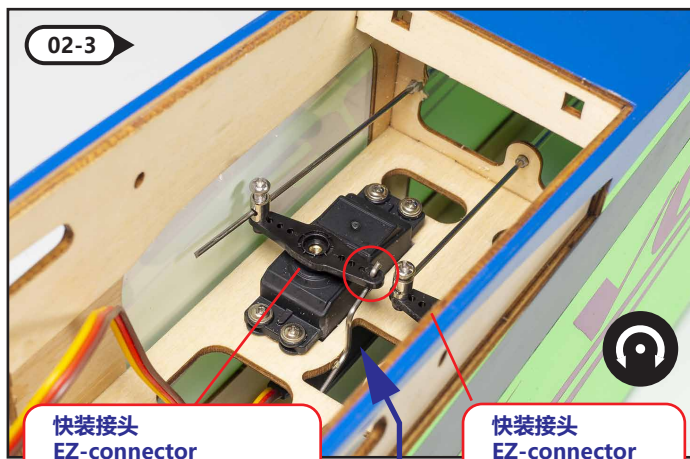
**01-7** 自攻螺丝 Self-tapping screw M3x15mm

## 02 水平尾翼, 垂直尾翼控制舵机安装 Install the control servos for horizontal and vertical tail

**02-1** 装入舵机 (舵机需要先通电回中) Install the servos (the servos need to be powered back into the center)

**02-2** 把钢丝连杆插入机身, 引导到机身中部。 Insert the steel wire connecting rod into the fuselage and guide it to the middle of the fuselage.

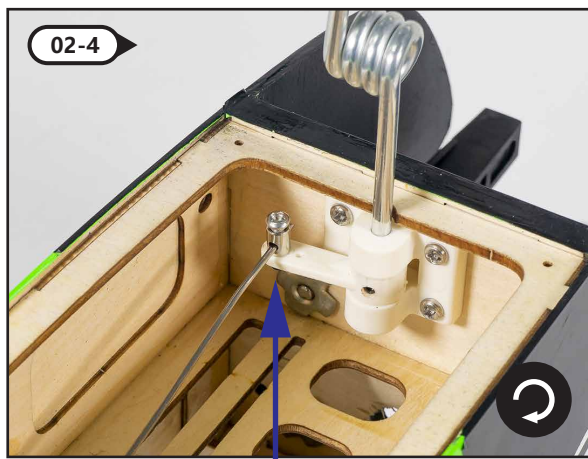




快装接头 EZ-connector

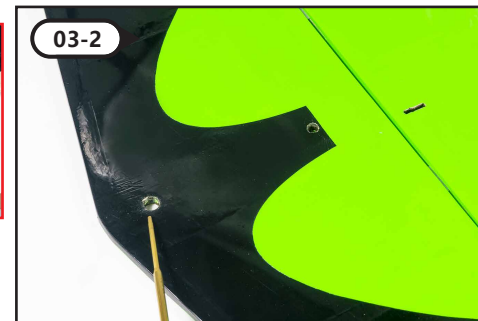
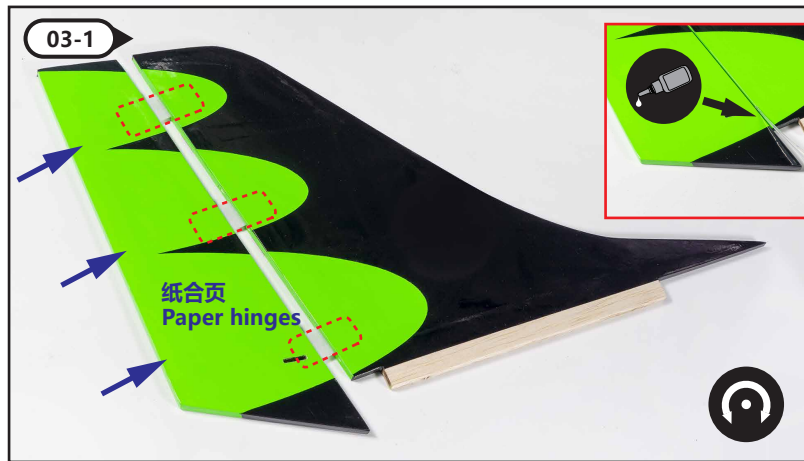


快装接头 EZ-connector



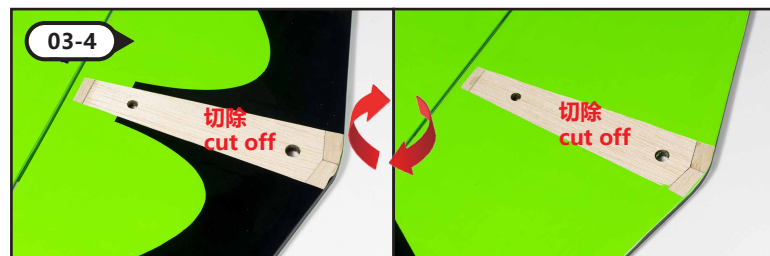
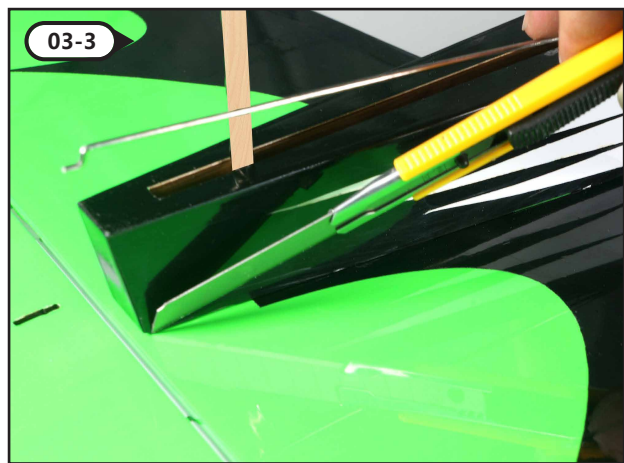
此处由一个异形钢丝连接前轮转向装置。  
The front wheel steering mechanism is connected here by a special shaped steel wire.

## 03 尾翼安装 Assemble the Tail Wing



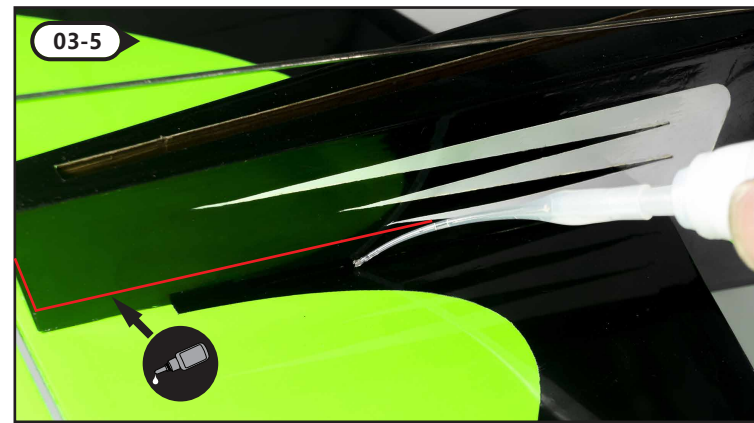
注意此处圆孔  
Pay attention to the round hole here

方向舵，升降舵通过纸合页连接到机翼，用CA胶粘固。粘好后保持舵面可以自由转动。  
The rudder and elevator are connected to the wing through paper hinges and are fastened with CA glue. After bonding, keep the rudder surface free to rotate.

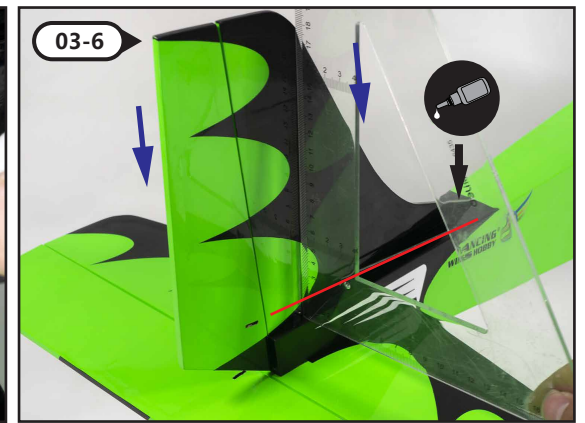


利用平尾和机身上两个M5的定位孔来保证平尾对齐。  
Use the positioning holes of the horizontal tail and the two M5 on the fuselage to ensure alignment of the horizontal tail.

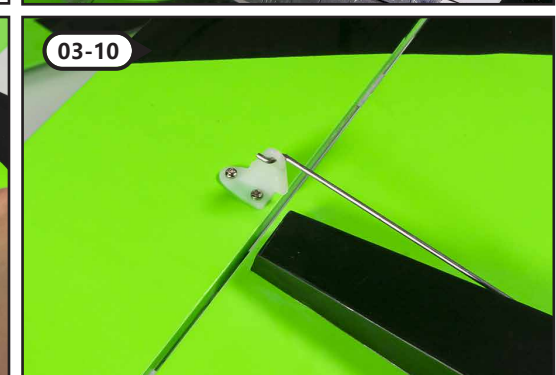
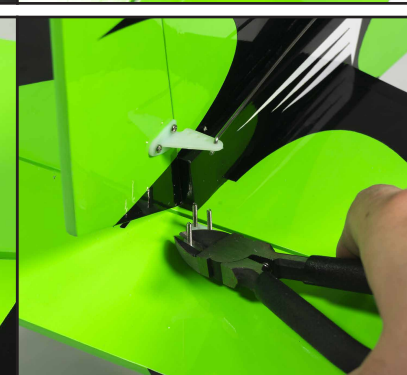
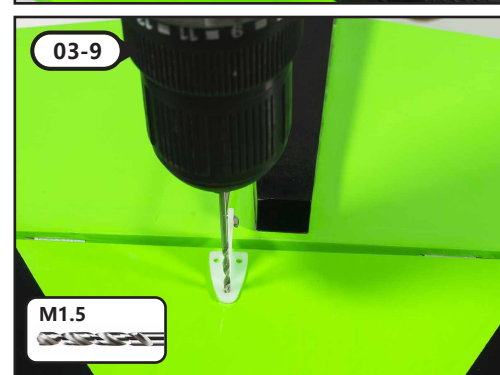
并对比机身形状切除水平尾翼部分蒙皮，方便后续步骤粘合。  
And compare the shape of the fuselage to cut off the horizontal tail part of the film, which is convenient for subsequent steps of bonding.



X3  
自攻螺丝 Self-tapping screw M3x10mm

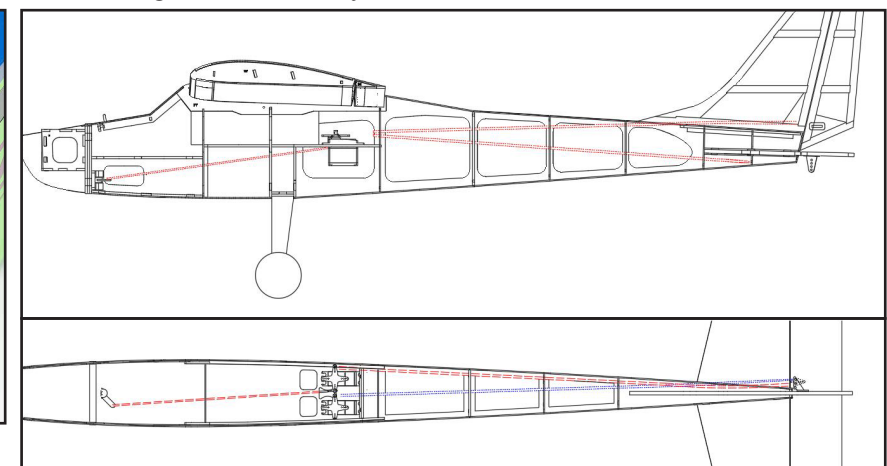
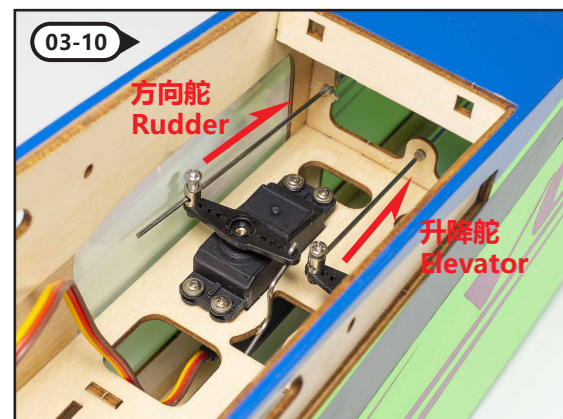


安装垂直尾翼，并调整与机身垂直，然后用CA胶粘固。  
Install the vertical tail and adjust it perpendicular to the fuselage, then fasten it with CA glue.



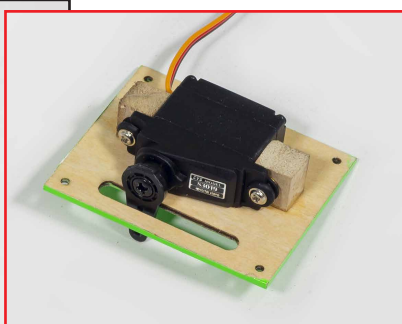
1. 在舵面上安装舵角，参考02-2钢丝连杆的位置确定舵角的位置，钻孔后，用螺丝固定舵角。  
1. Install the rudder horn on the rudder surface and determine the position of the rudder horn by referring to the position of 02-2 steel wire connecting rod. After drilling, fasten the rudder horn with screws.

2. 安装钢丝连杆连接舵机。钢丝连杆Z型一端穿入舵角，另一端穿入03-10图中的快装接头。调整好锁紧快装接头。  
Install the steel wire connecting rod and connect the servo. One end of the Z-shaped steel wire connecting rod is threaded into the rudder horn, and the other end is threaded into the EZ-connector shown in Figure 03-10. After adjustment, lock the EZ-connectors.



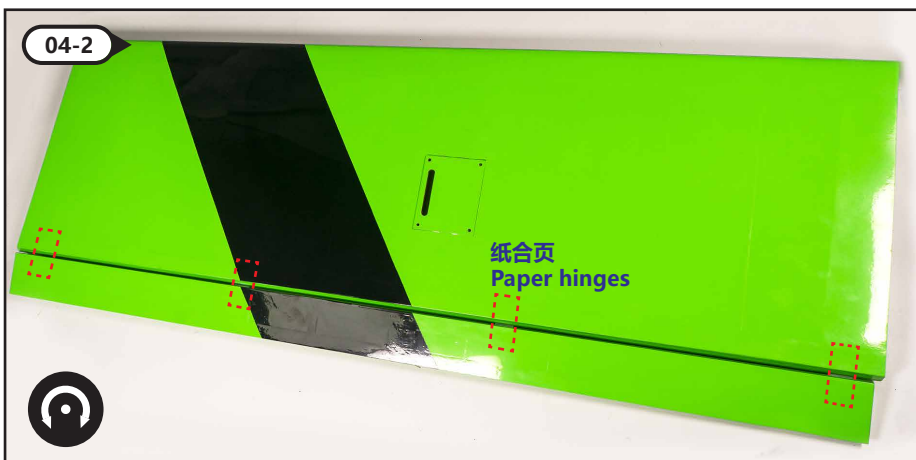


## 04 机翼安装 Wing installation

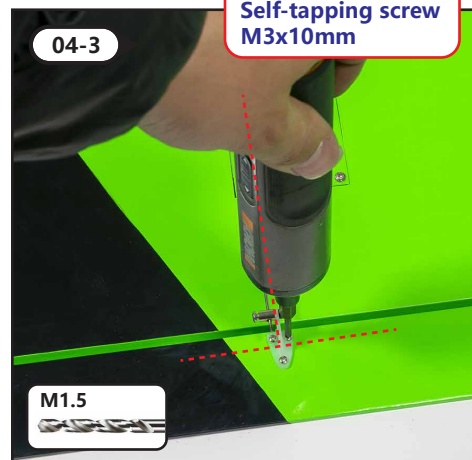


如图安装机翼上舵机，舵机线从机翼侧面导出。  
Install the servo on the wing, and the servo line is derived from the side of the wing.

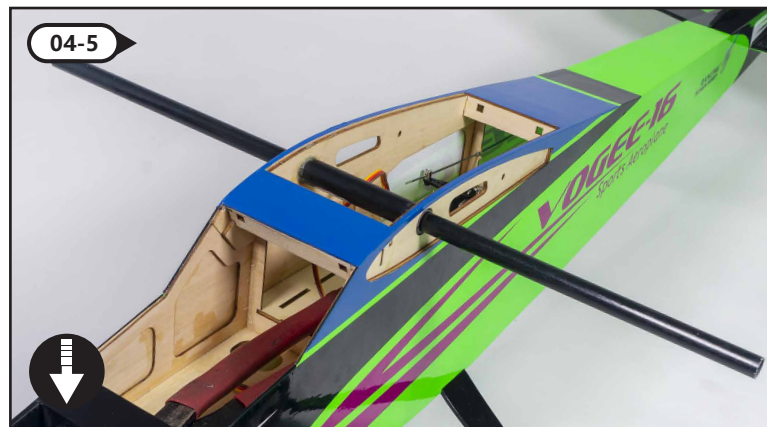
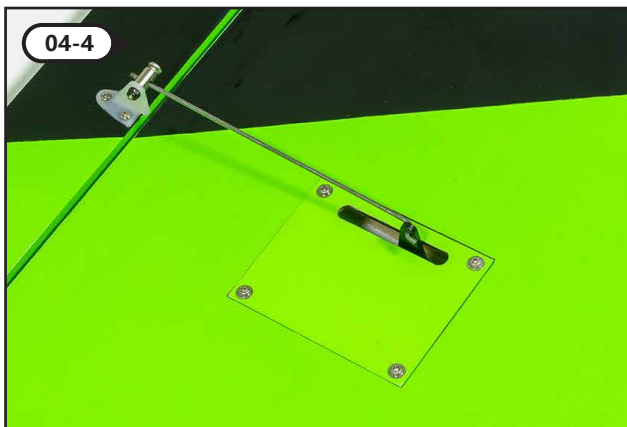
**X3**  
自攻螺丝  
Self-tapping screw  
M3x10mm



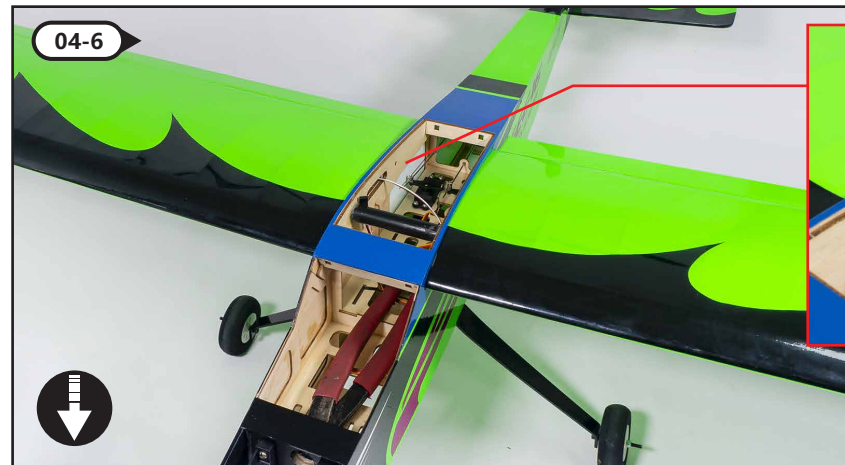
副翼通过纸合页连接到机翼，用CA胶粘固。粘好后保持副翼可以自由摆动。  
The aileron is connected to the wing through paper hinges and is cemented with CA glue. Keep the aileron free to swing after being glued.



在舵面上，垂直于舵角的位置安装舵角，用M2钻头钻孔，用螺丝固定舵角。  
Install the rudder horn perpendicular to the rudder surface, drill with an M2 drill bit, and fix the rudder horn with screws.



副翼上安装舵角，安装钢丝连杆连接舵机。钢丝连杆Z型一端穿入舵臂，另一端通过快装接头连接舵角。  
The rudder horn is installed on the aileron, and the steel wire connecting rod is installed to connect the servo. One end of the Z-shaped steel wire connecting rod goes through the rudder arm, and the other end connects the rudder horn through the EZ-connector.



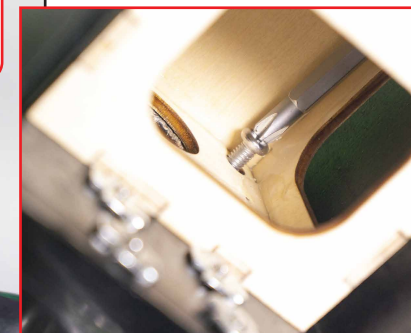
**X2**  
手拧螺丝  
Self-tapping screw

## 05 安装马达，引擎 Install the motor and engine

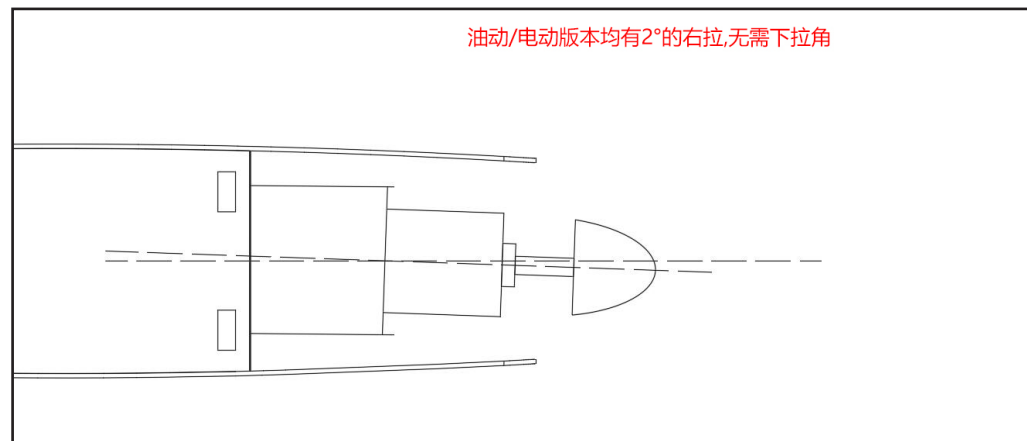
马达安装示范 Motor installation demonstration



**X4**  
螺丝M4\*15mm  
Screw M4\*15mm



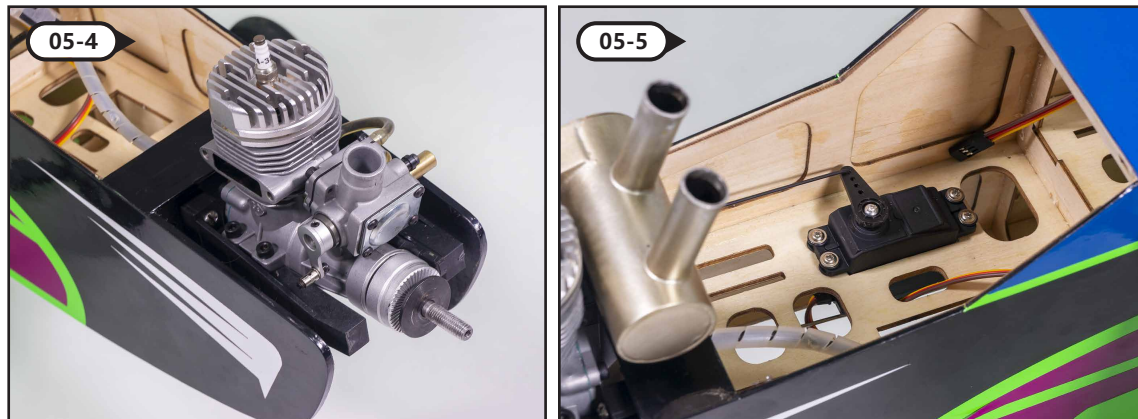
油动/电动版本均有2°的右拉,无需下拉角



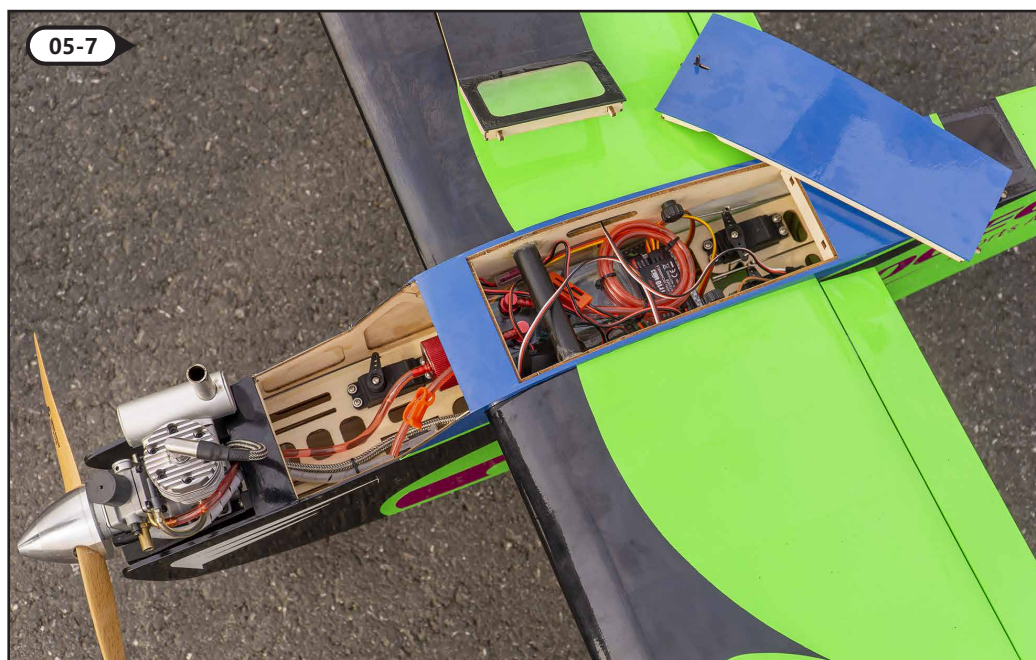
安装桨叶，用桨夹固定。  
Install the propeller and fix it with prop adapter.



## 引擎安装示范 Engine installation demonstration

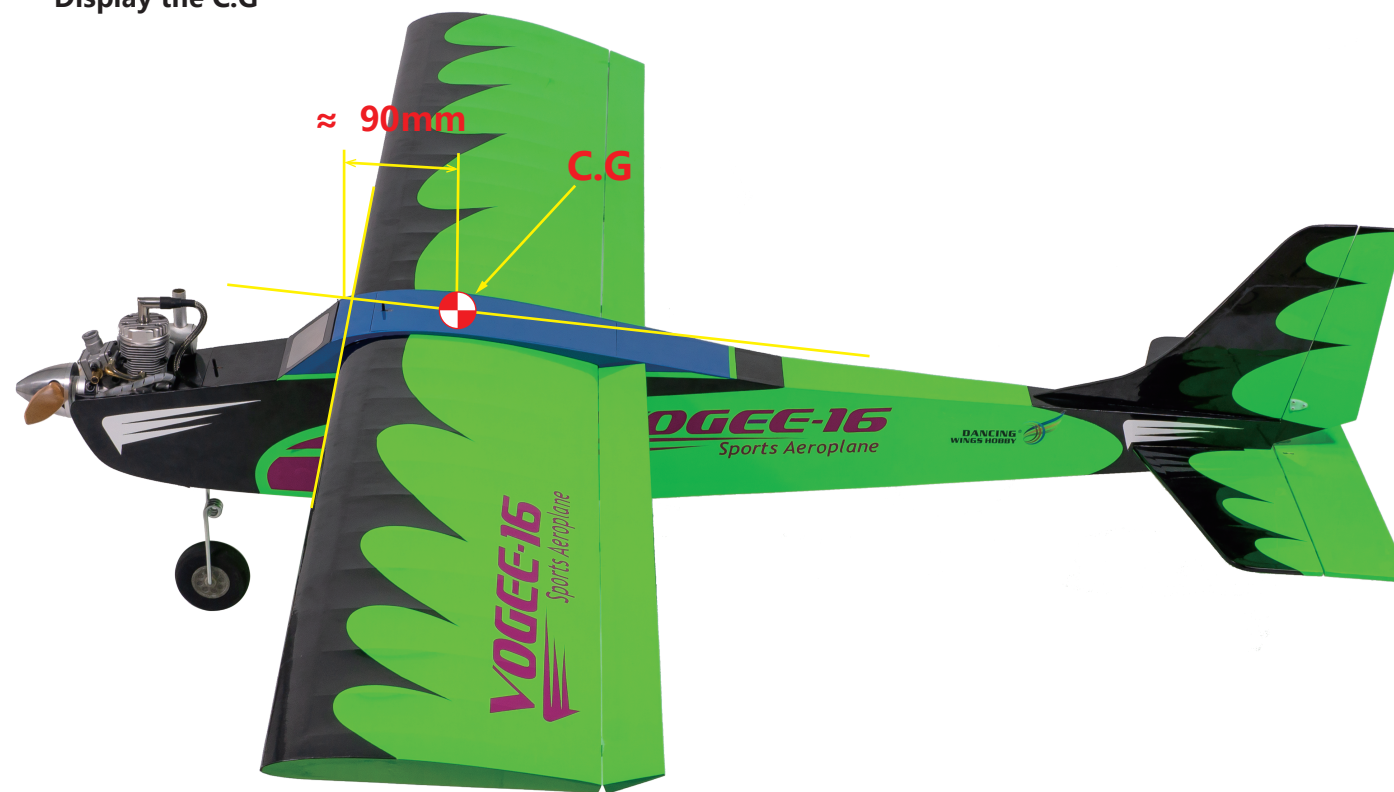


油门控制舵机安装位置展示  
Throttle control servo  
installation position  
display



## 06 设置和调试 Set and Adjust

### 重心位置展示 Display the C.G

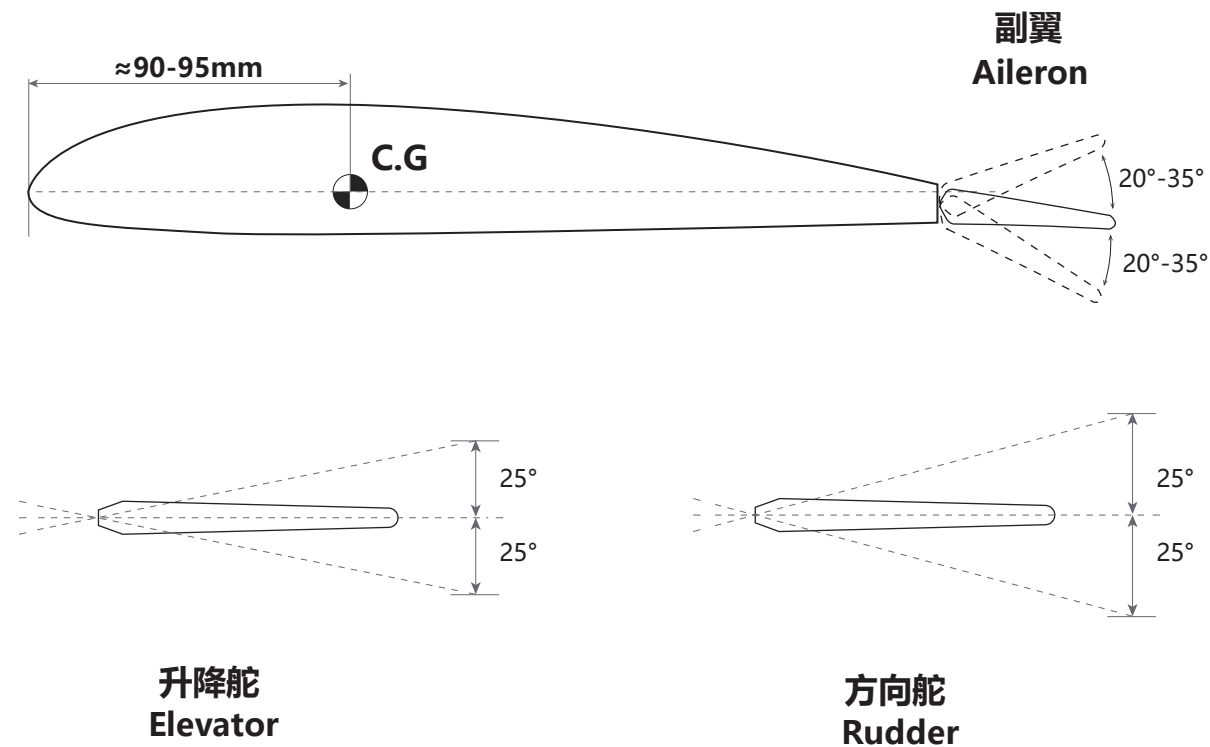


使用油动引擎时可能需要在机头部进行配重，并且油箱放置在重心位置。  
When using an oil-powered engine, it maybe necessary to counterweight the head of the airplane, and the oil tank is placed at the center of gravity.

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	$\pm (15^\circ-30^\circ)$	$\pm 40^\circ$ 或者更大(or larger)
平尾 Elevator	$\pm 15^\circ$	$\pm 40^\circ$ 或者更大(or larger)
垂尾 Rudder	$\pm 15^\circ$	$\pm 40^\circ$ 或者更大(or larger)
常用襟翼 Flap	(起飞 take-off) $15^\circ-20^\circ$ (降落 Landing) $20^\circ-40^\circ$	

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>