1.0M Savage Bobber
Balsawood Scale Airplane

DANCING WINGS HOBBY ®

Instruction Manual

SCG38
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.

飞行参数
Specification

翼展:1000mm
机长:700mm
起飞重量: 580-620g

Wingspan:1000mm
Fuselage Length:700mm
Fly weight:580-620g

推荐配置
Suggested Equipment

马达：MM2208 1800-2600KV
桨叶：7inch
电调：20A
舵机：2.5-3.7g 6pcs
电池：2-3S 1300-1500mAh

Motor : MM2208 1800-2600KV
Prop : 7inch
ESC : 20A
Servo : 2.5-3.7g 6pcs
Batt : 2-3S 1300-1500mAh

工具
Tools Needed

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.
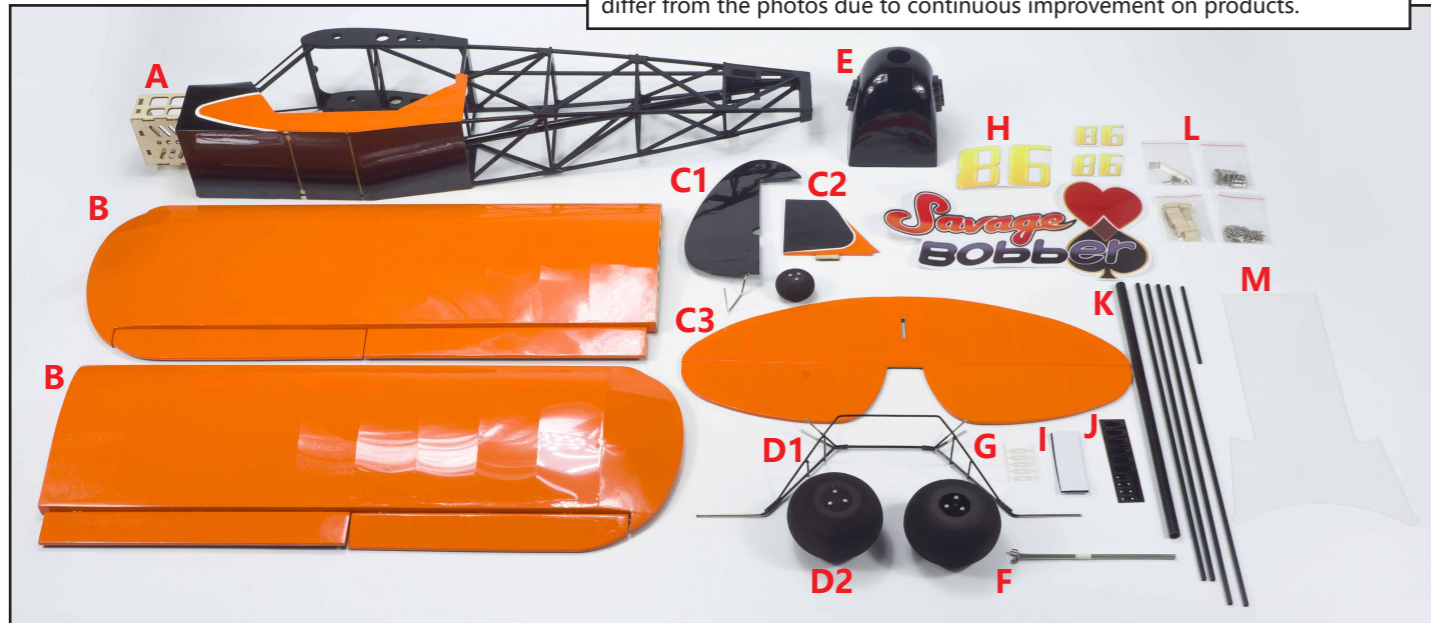

A:机身 fuselage   B:机翼 Wing   C1-2:垂直尾翼 Vertical tail   C3:水平尾翼 Horizontal tail

D1-2:起落架 Landing Gear   E:机头罩 cowling   F:钢丝连杆 Steel wire connecting rod

G:纸合页 Paper hinges   H:贴纸 Stickers   I:魔术贴 Velcro   J:舵角，玻纤片 Rudder horn, fiberglass sheet

K:碳管 Carbon tube   L:螺丝及配件 Screws and accessories   M:PVC风挡 PVC windshield

不同涂装版本，通用本说明书，安装方式相同。
This manual also for different painting versions,because the installation method is same.

★ 装配提示符号 Assembly symbol guide

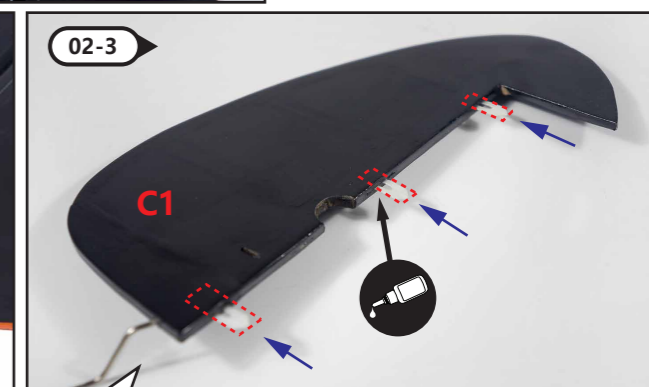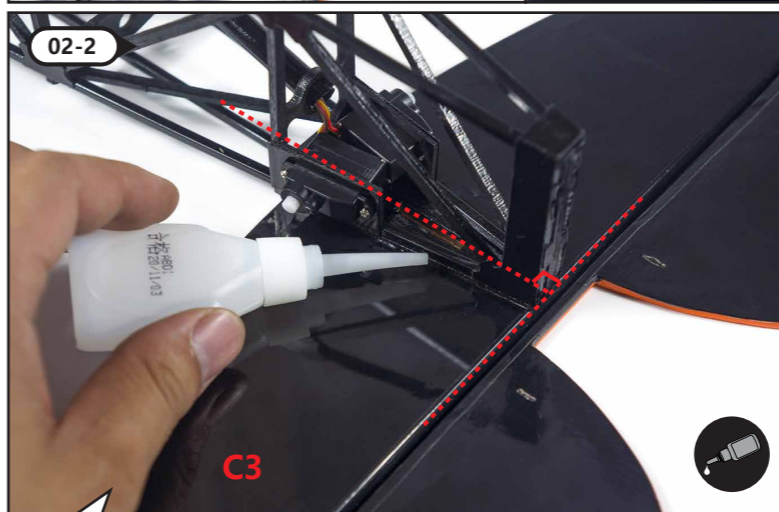|	
确保自由转动 Ensure free rotation	使用适量快干胶粘固 Use medium CA
使用少量快干胶粘固 Use thin CA	用铅笔做记号 Use a pencil
用力推入 Push tightly	用模型刀切割 Use hobby knife with
拧紧安装 Fully Tighten	加润滑油 Apply Oil
x2 重复拼装 Repeat multiple times	涂抹螺丝胶 Apply threadlock
左右对称安装 Assemble right and left	使用环氧胶粘固 Use epoxy adhesive

01 起落架安装 Assemble the Landing Gear

01-1

D1

01-2

D2
D2
D2
粘挡 wheel stopper
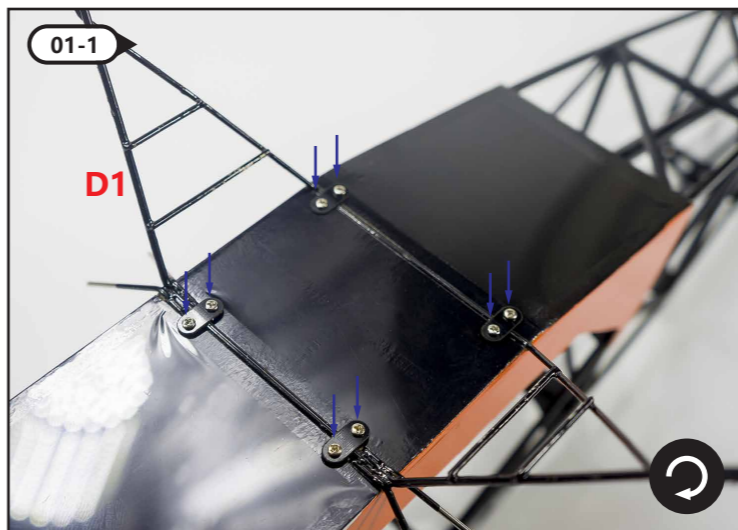
从J板上取下卡扣，按右图固定起落架到机身。
Remove the buckle from the J board, and fix the landing gear to the fuselage according to the picture on the right.

自攻螺丝 Self-tapping screw M1.5x6mm

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

02-1

C3

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.

02-2

C3
C3

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.

02-3

C1

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

02-4

C2
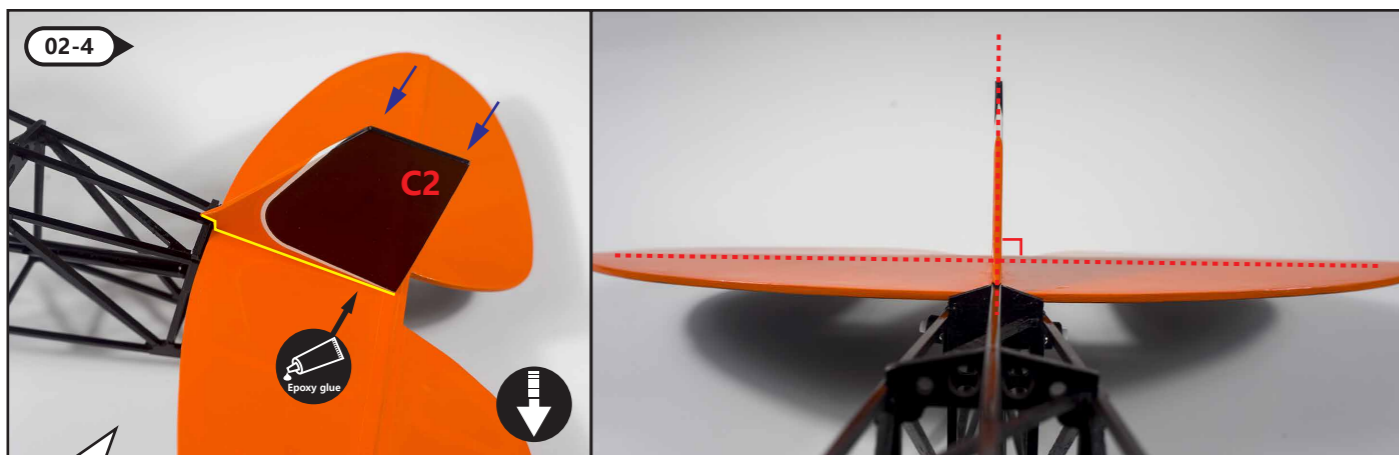
Epoxy glue

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.
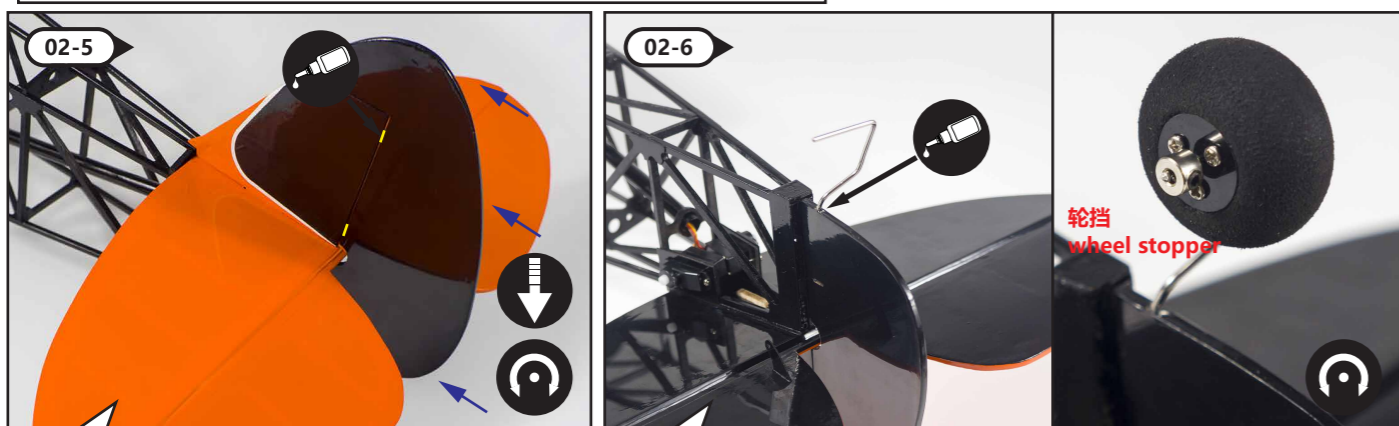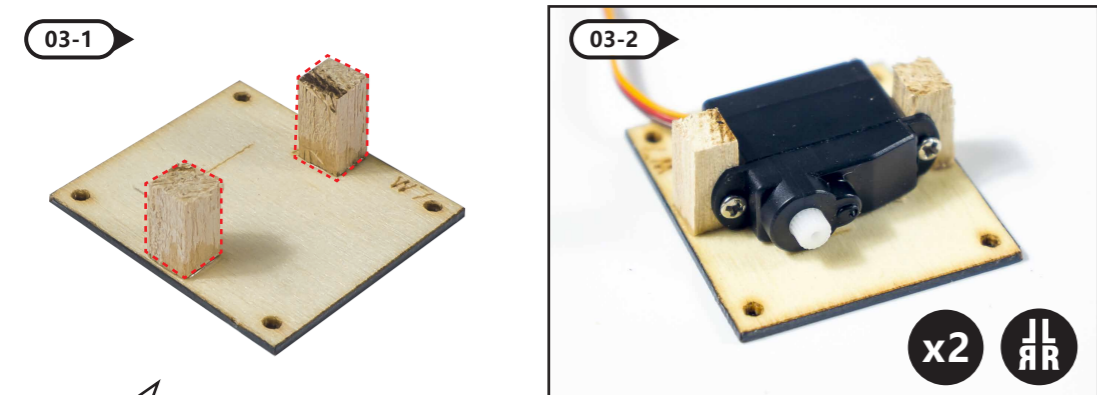
02-5

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.

02-6

轮挡
wheel stopper

调整尾轮支架角度，然后用CA胶粘固。装入尾轮，用轮挡固定。
Adjust the angle of tail wheel bracket,then fix with CA glue.Install the tail wheel and fix with wheel stopper.
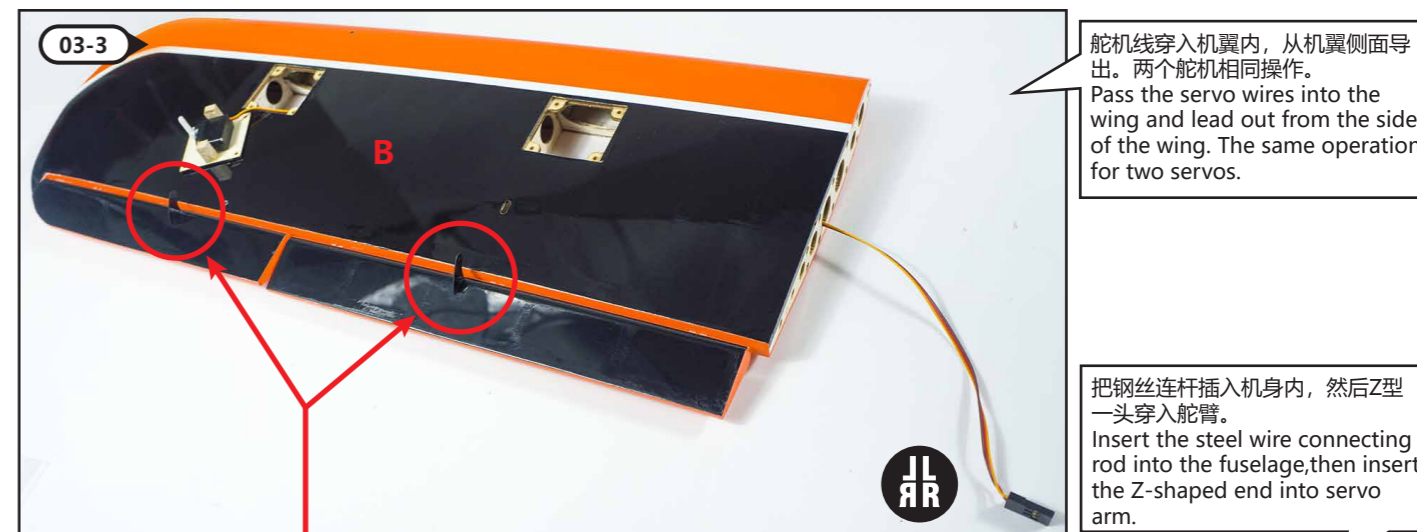
03 机翼安装 Install the Wing

03-1

03-2

x2

从机翼上取下舵机仓盖板，并在背面粘贴小木块，在小木块间安装舵机。安装舵臂时，将舵机通电回中。
Remove the servo compartment cover from the wing, paste the small wooden block on the back,
and install the servos between the small wooden blocks. When installing the rudder arm, power on the servos back to the center

03-3

B

舵机线穿入机翼内，从机翼侧面导出。两个舵机相同操作。
Pass the servo wires into the wing and lead out from the side of the wing. The same operation for two servos.

把钢丝连杆插入机身内，然后Z型一头穿入舵臂。
Insert the steel wire connecting rod into the fuselage,then insert the Z-shaped end into servo arm.

03-4

x2

从J板上取下舵角，在襟翼和副翼的预留槽内安装舵角，用CA胶粘固。
Remove the rudder horn from the plate J, install the rudder horn in the reserved slots of the flaps and ailerons, and fix them with CA glue.

03-5

03-6

快装接头
EZ-connector

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.

03-7

襟翼、副翼控制舵机相同安装。左右机翼相同安装
The flaps and aileron control servos are installed in the same way. Same installation on left and right wings.
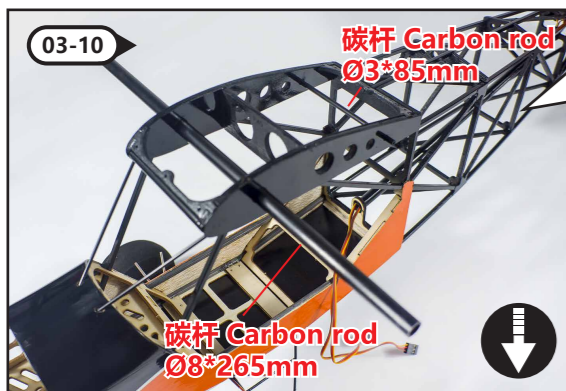
03-8

M
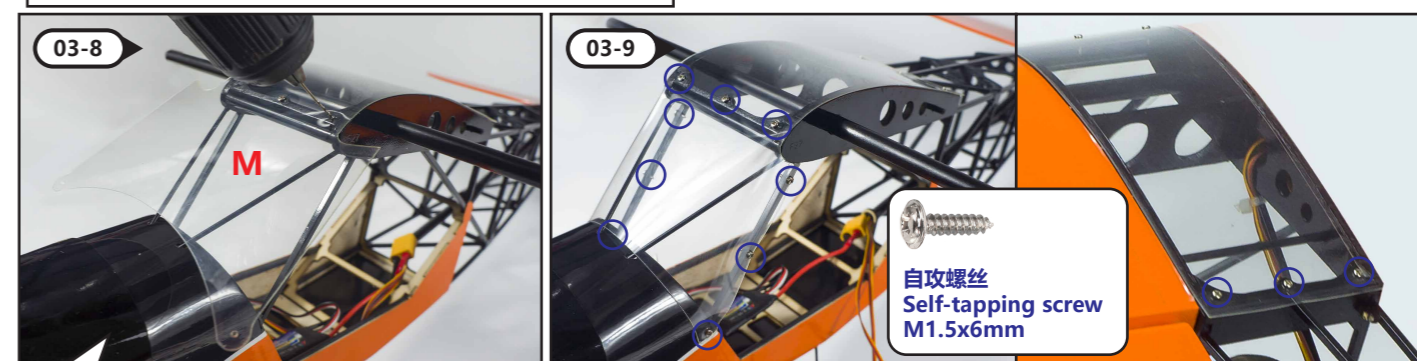
1.把PVC风挡折叠成上图形状。
Fold the PVC windshield into the shape shown on the left.

03-9

自攻螺丝
Self-tapping screw
M1.5x6mm

2.用自功螺丝把风挡固定到机身上，如上图所示。
Fix the windshield to the fuselage with self-tapping screw as shown in the figure below.
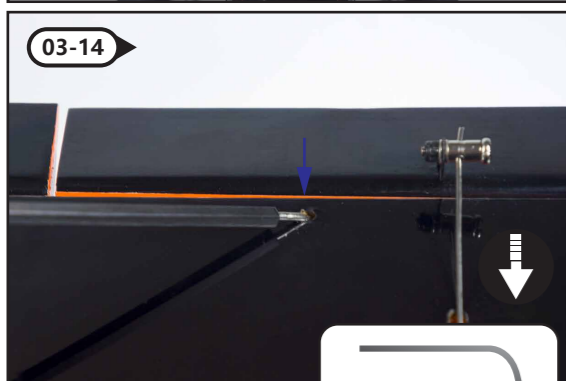
03-10

碳杆 Carbon rod
Ø3*85mm

碳杆 Carbon rod
Ø8*265mm

在左图所示位置，插入两根碳杆。
Insert two carbon rods as shown on the left.

03-11

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

03-12

Epoxy glue

03-13
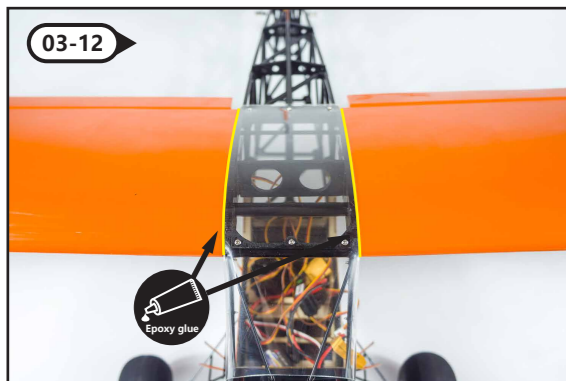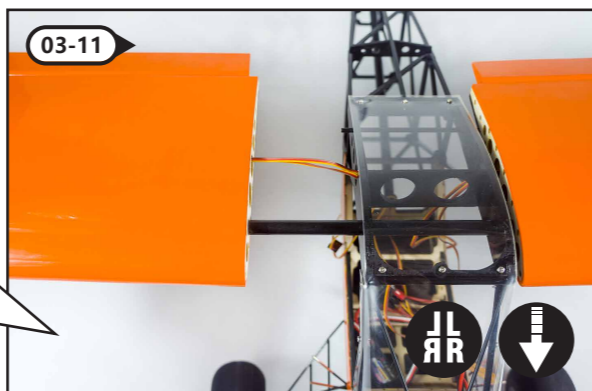
把两根方碳杆插入起落架上的支杆上，连接处少量CA胶粘固。
Insert the two square carbon rods into the bracket rods on the landing gear, and fix with litte CA glue.

03-14

L型钢丝
L-shaped steel wire

03-15

方碳管的另一端插入L型钢丝，然后把钢丝插入机翼上的预留孔中。此时暂不用胶水粘固。
Insert the other end of the square carbon tube into the L-shaped steel wire,which need to insert into the reserved hole on the wing. Don't use glue to fix at this time.

按03-13，03-14步骤装好左右机翼的支架后，调整左右机翼平直后，在L型钢丝位置用CA胶粘固。
Install the brackets of the left and right wings according to the steps 03-13 and 03-14, adjust the left and right wings to be straight, and fix them with CA glue at the position of the L-shaped steel wire.

---

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

04-1

Signal + -
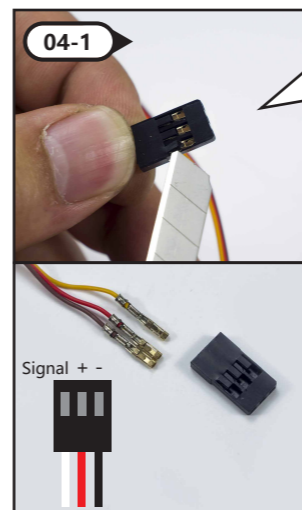
安装舵机前，取下舵机插头。因舵机不同，您可能需要此步骤。
Remove the servo plug before installing the servo.Depending on the different servos, you may need this step.

04-2

在舵机上安装舵臂，然后把舵机装在机身尾部舵机槽内。
Install the rudder arm on the servo, and then install the servo in the servo slot at the rear of the fuselage.

04-3

舵机线穿入机身内导管，引导到舱身位置。最后装回舵机插头，并注意线序。
Penetrate the servo wires into the guiding tube inside the fuselage and guide it to the cabin position. Finally, install the servo plug, and pay attention to the order of the wires.

04-4

04-5
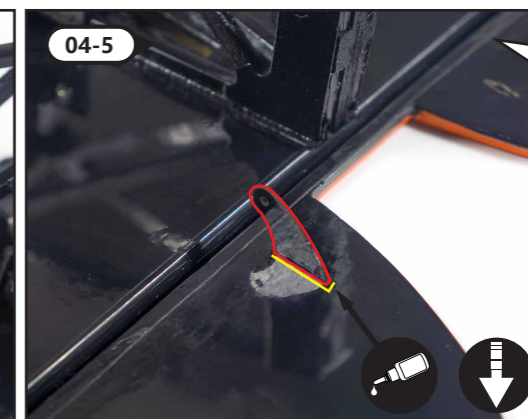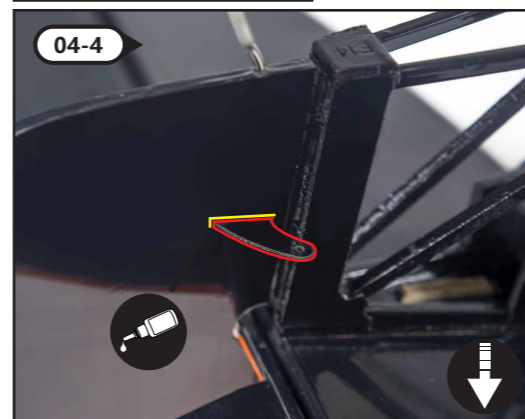
从J板上取下舵角，如左图插到舵面的预留槽内，用CA胶粘固。
Remove the servo horn from the J plate, insert it into the reserved groove of the rudder surface as shown on the left, and fix it with CA glue.

04-6
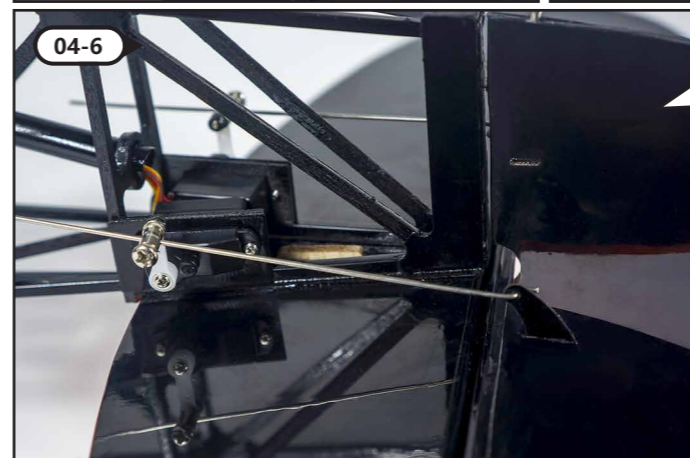
1.在舵机上安装舵臂，舵臂上安装快装接头。
Install the servo arm on the servo, and install the EZ-connector on the servo arm

2.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.

3.剪切多余钢丝。
3.Cut excess wires

04-7

安装方法同步骤04-6。
The installation method is the same as step 04-6.

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

05-1

05-2

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
M3x10mm

自攻螺丝
Self-tapping screw
M1.5x6mm

连接电调，并塞入舱身内。
Connect the ESC and put it into the cabin.

安装头罩，调整到合适位置，使马达轴伸出合适的长度。然后用自攻螺丝固定住头罩。
Install the cowling and adjust it to a proper position so that the motor shaft extends a proper length. Then fix the cowling with self-powered screws.
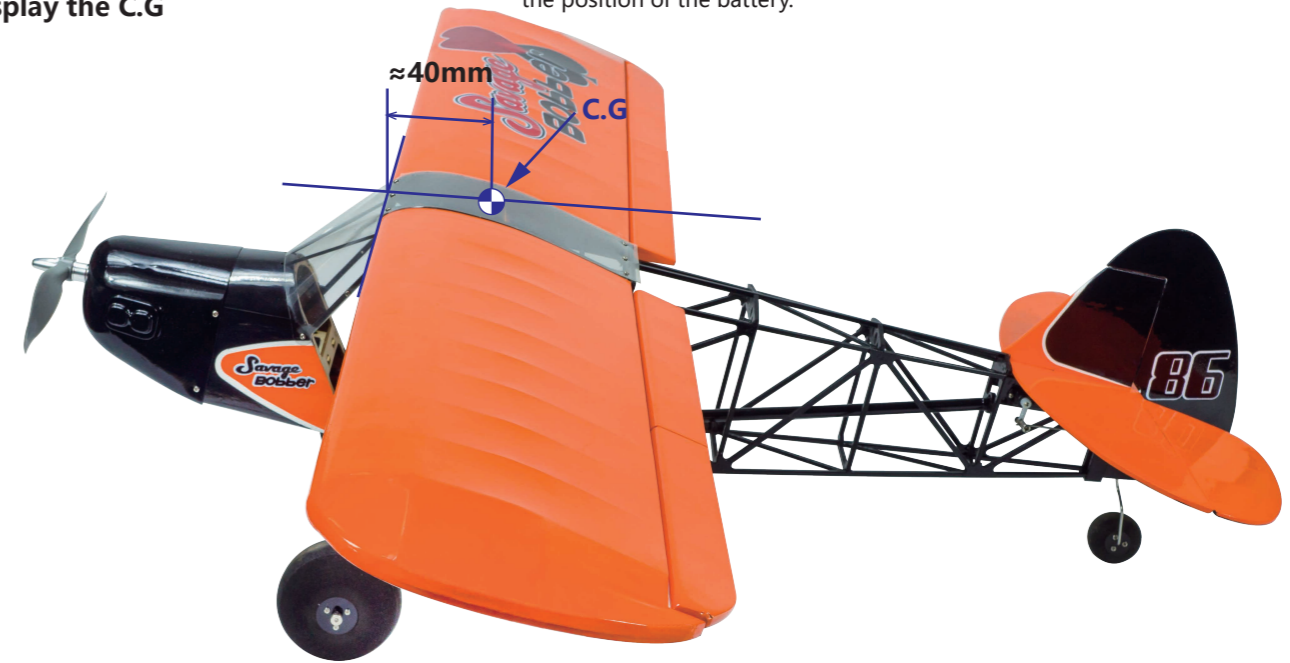
按左图安装桨夹及桨叶。
Install the propeller adapter and propeller according to the left picture.

电子设备，电池仓展示
Display the electronics and battery compartment

07 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.

≈40mm

C.G

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

≈40mm

副翼
Aileron
20°-35°
20°-35°

升降舵
Elevator
25°
25°

方向舵
Rudder
25°
25°
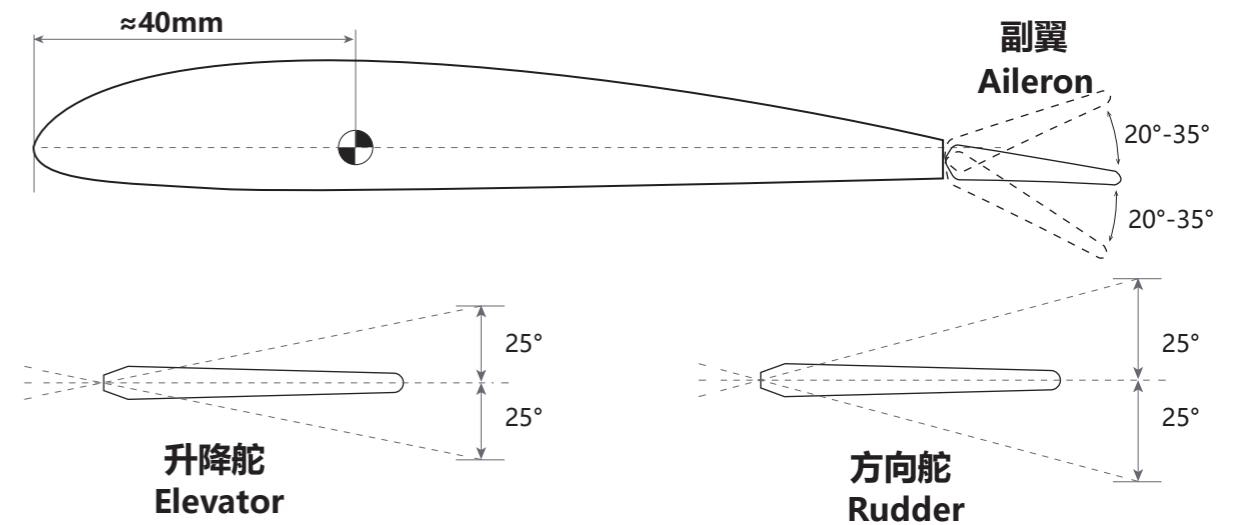
常规飞行(Normal Flying)		3D飞行 部分飞机支持(3D Flying only support some models)
副翼 Aileron	±（15°-30°）	±40° 或者更大(or larger)
平尾 Elevator	±15°	±40° 或者更大(or larger)
垂尾 Rudder	±15°	±40° 或者更大(or larger)
常用襟翼 Flap	（起飞 take-off）15°-20°（降落 Landing）20°-40°	

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

NOTE: