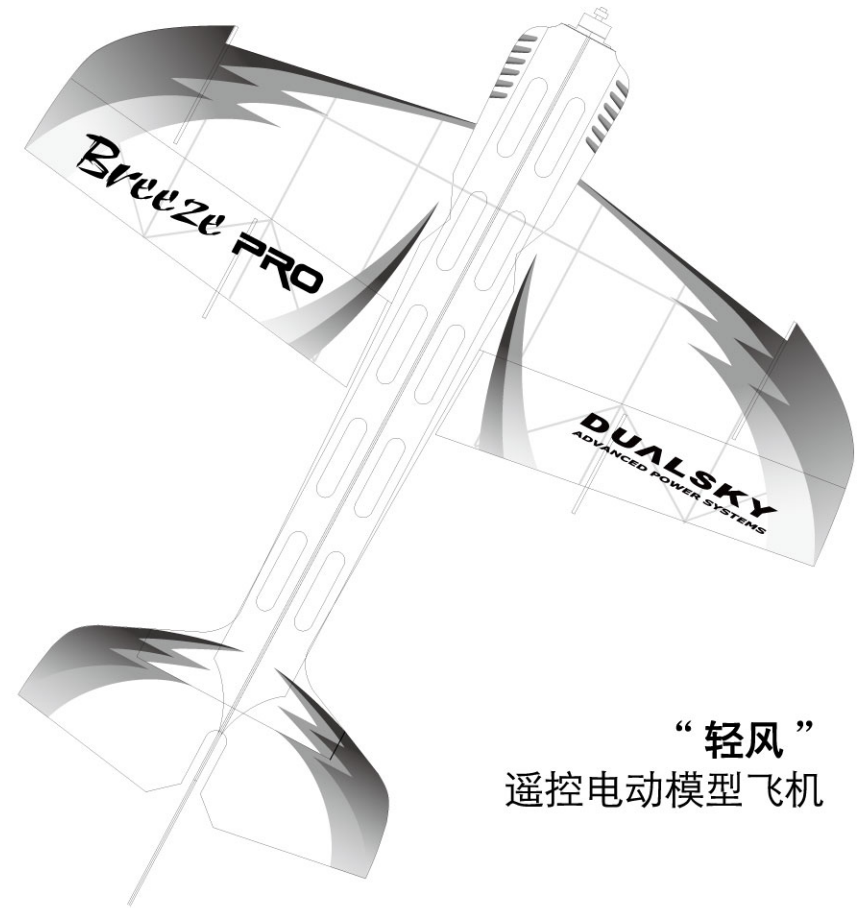


Breeze PRO

Assembly instructions

组装说明书

<http://www.dualsky.com>



“轻风”
遥控电动模型飞机

DUALSKY
ADVANCED POWER SYSTEMS

23HL9L1720

Shanghai Dualsky Models Co.,Ltd. Rm.1016,No.201,Xin JinQiaoRd, Shanghai China Tel:+86 21 50322161 Fax:+86 21 50322163
上海双天模型有限公司 中国上海市浦东新区新金桥路201号1016室 电话: +86 21 50322161 传真: +86 21 50322163

Before operating this unit, please read these instructions completely
请务必在使用前仔细阅读（组装说明书）

相关说明

Breeze PRO 是一款由珍珠板材料制作的室内版电动3D特技机。

珍珠板材料是一种制作轻型电动飞机的最佳材料。于其它的泡沫材料相比，它具有好裁切，重量轻等特点。

Breeze PRO 是经过多次飞行实验和调试后的产品。具有极佳的3D飞行性能和稳定性 由于它有着柔美的线条与合理的布局设计可以做出各种流畅的特技3D动作。

Features:

Breeze PRO is an indoor aerobatic 3D airplane made of Depron, a rigid yet light weight material. This model is an excellent choice for high performance aerobatics.

Breeze PRO is designed by a professional pilot from Dualsky team, it excels with unmatched flight characteristics and high flying performance. Stability is a key characteristic built into the plane to allow many different fluent 3D and pattern maneuvers.

详细阅读组装说明和注意事项有助于正确组装和使用该款 Breeze PRO 产品，希望该产品能给你带来愉快的组装与飞行的乐趣。

1. 副翼舵机推荐使用1个舵机，如选用安装2个舵机需考虑舵机的安装位置和重心调整。
2. 在安装升降舵和方向舵舵机时尽量使用产品预先开好的舵机位置，注意：在安装拉线或连杆时要避免互相干扰，以确保推拉运动，安全顺畅。
3. 注意：安装该机时应使用对材料无腐蚀性的粘合剂或快干胶。为了让性能达到更好，在粘合牢固的情况下尽量少用粘合剂，以减去不必要的重量。
4. 组装准确是优良飞行性能的保证，因此需检查零部件安装位置和角度无误方可涂胶固定。
5. 在装配无误的情况下机体强度足以应付各种特技飞行的需要，在发生摔机时，机头部分和机翼结合处比较容易破损，玩家可以适当用韧性较好的缓冲材料进行预先加强。

Before assembly, please spend some time to read our assembly instructions. This will ensure proper construction of the kit, allowing our Breeze PRO to bring you lots of enjoyment and satisfaction.

1. You are recommended using 1 servo for aileron...If you use 2 servos, please consider the assembly position and adjustment of center of gravity(CG).
2. You need to consider the reserved servo position when installing the elevator and rudder. Also make sure that moving control surfaces do not interfere with reinforcement parts such as strings and linkage poles.
3. Note: You should use FOAM SAFE glue for the material. In order to enjoy better performance, we suggest using just enough glue to connect the parts. Excess glue can add excess weight.
4. Correct assembly can assure good flying, before using glue or adhesive, please check the parts position and angle of alignment.
5. Our Breeze PRO is constructed in a way to allow for many kinds of aerobatic flight if assembled correctly. If your Breeze PRO is damaged, consider using extra carbon fiber in the front and wing joints to enhance strength before flying again. The nose is easily broken if you crash, so it will be better to add some pieces of Depron or EPP material at the nose area for reinforcement.

Breeze PRO 性能与参数

机翼长度：780mm

机身长度：850mm

机翼面积：13.5dm²

动力要求：Dualsky XM2812-27 电机，建议使用拉力在200克以上的电机

电池选用：11.1V 250MAH-7.4V 300MAH, 放电C数16C以上的锂电池

电调：选用6A-10A电调

飞行重量：130g—150g左右

Breeze PRO Specifications

Wing Span: 780mm

Fuselage Length: 850mm

Wing Area: 13.5dm²

Motor: Dualsky XM2812-27, the thrust of the motor should be more than 200g

Battery: 11.1V 250MAH or 7.4V 300MAH, 16C Lipo packs(min)

ESC: Dualsky 6A or 10A ESC

Weight: 130g-150g

建议系统配置

* 配置一:

马达: Dualsky XM2812CA-27

电调: Dualsky XC1010BA (10 Amp)

或者XM2812RTR-27 马达/电调 套装

电池: Dualsky XP02502ES (250mAh, 7.4V)

螺旋桨: GWS 8x4HD

舵机: Dualsky 4.0-8.0g 微型舵机 (3个)

* 配置二:

马达: Dualsky XM2812CA-33

电调: Dualsky XC0610BA (6 Amp)

或者XM2812RTR-27 马达/电调 套装

电池: Dualsky XP02503ES (250mAh, 11.1V)

螺旋桨: GWS 7x3.5

舵机: Dualsky 4.0-8.0g 微型舵机 (3个)

Recommended power system setup

* Setup 1:

Motor: Dualsky XM2812CA-27

ESC: Dualsky XC1010BA (10 Amp)

Or XM2812RTR-27 motor/ESC combo

LiPo Batt.: Dualsky XP02502ES(250mAh,7.4V)

Prop.: GWS 8x4HD

Servos: 3 pieces of 4.0-8.0g servo

* Setup 2:

Motor: Dualsky XM2812CA-33

ESC: Dualsky XC0610BA (6 Amp)

Or XM2812RTR-27 motor/ESC combo

LiPo Batt.: Dualsky XP02503ES(250mAh,11.1V)

Prop.: GWS 7x3.5

Servos: 3 pieces of 4.0-8.0g servo

建议飞行设置

副翼最大舵量: 上60度 下60度

升降舵最大舵量: 上50度 下50度

方向舵最大舵量: 左45度 右45度

重心位置: 机翼前缘后90mm处

设备要求: 4通道以上的发射机, 舵机要求0.5公斤以上的拉力

Recommended Flying Setup

Max servo travel of aileron: 60 degrees up and 60 degrees down

Max servo travel of elevator: 50 degrees up and 50 degrees down

Max servo travel of rudder: 45 degrees left and 45 degrees right

CG Position: 90mm behind leading edge of the root of wing

Equipment: 4-channel radio system(min), torque of the servo should be greater than 0.5kg/cm.

以下环境不宜飞行

风力超过3级以上

高大建筑物的下风区

碎石场或者树林路灯等杂物多的场地

高压线附近等有强电磁干扰的场合

人群密集的场所

Do not fly under the conditions below

* Wind strong enough to make the trees rustle

* A street with many trees or street lamps

* Close to high voltage electrical wires

* High Population density areas

飞行注意事项

最理想的飞行环境是较大的室内体育馆, 大型广场或开阔的草坪。

Cautions for flying

Large gyms, front lawns and parks make excellent flying areas. Make sure you have permission to fly and follow safety guidelines set by local authorities. The calmer the wind, the better!

存放注意事项

- * 存放时必需取出电池
- * 存放时不应有任何外物或外力挤压模型
- * 最好使用结实的绳子将飞机悬挂起避免舵面和机身在重力作用下日久变形

Note for Storage

- * Please disconnect the Dualsky lipo packs when finished flying
- * Do not press or crush the airplane when storing
- * The best way to store is to hang the airplane to keep the control surface rigid



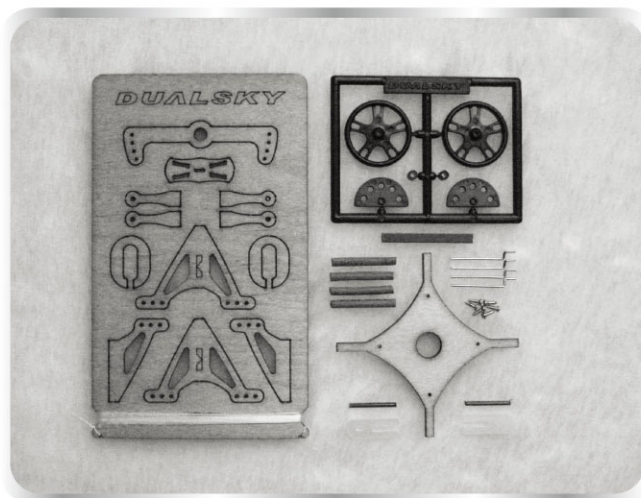
一. 包装内包含机体部件

| | |
|-----------------|----|
| 1. 机身+方向舵（垂直尾翼） | 3片 |
| 2. 升降舵（水平尾翼） | 1片 |
| 3. 配件包 | 1套 |
| 4. 减速板固定片（大） | 2片 |
| 5. 机轮挡装饰片 | 2片 |
| 6. 机身片 | 1片 |
| 7. 减速板 | 4片 |
| 8. 主翼翼刀 | 4片 |
| 9. 减速板固定片（小） | 2片 |
| 10. 主翼+副翼 | 4片 |
| 11. 机身加强片 | 2片 |

Body parts included in the packing

| | |
|-------------------------------------|------|
| 1. Fuselage + Rudder(vertical tail) | 3pcs |
| 2. Elevator(stabilizer) | 1pc |
| 3. Fittings bag | 1set |
| 4. Speed-down Stator(big) | 2pcs |
| 5. Wheel decoration part | 2pcs |
| 6. Fuselage piece | 1pc |
| 7. Speed-down board | 4pcs |
| 8. Wing fin | 4pcs |
| 9. Speed-down fixed flat (small) | 2pcs |
| 10. Wing + Aileron | 4pcs |
| 11. Fuselage stay bar | 2pcs |

二. 配件组包装内包含零配件

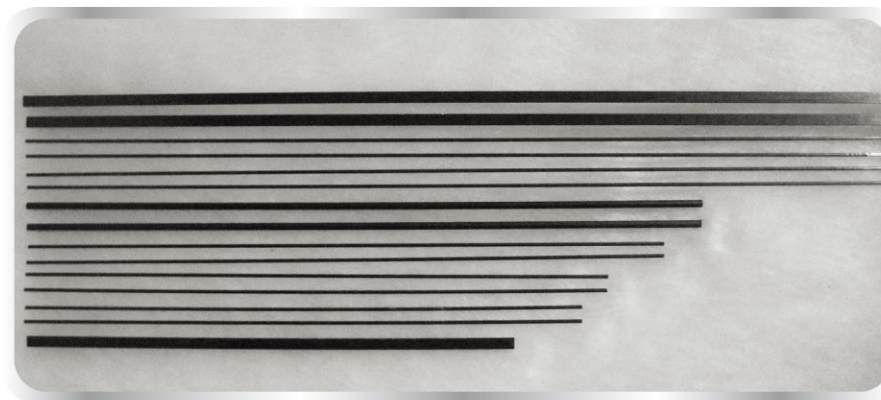


| | | |
|-----------|----|-----------------------|
| 1. 层板配件组 | 1片 | |
| 2. 机轮组 | 1套 | |
| 碳纤维轮轴 | 2根 | 尺寸: 长15mm×直径1.5mm |
| 纤维链接片 | 2片 | |
| 电机安装片 | 1片 | |
| 主翼撑杆固定片 | 1片 | 尺寸: 长30mm×宽3mm×厚0.5mm |
| 3. 副翼Z型钢丝 | 4根 | |
| 热缩套管 | 4根 | |
| 螺丝 | 6个 | |

Parts included in the packing

| | | |
|-------------------------------|------|---------------------------------|
| 1. Plywood fittings plate | 1pc | |
| 2. Wheels sets | 1set | |
| Carbon fiber Axle | 2pcs | size: long.15mm×diameter. 1.5mm |
| Fiber Axle joint | 2pcs | |
| Plywood plate for Motor plate | 1pc | |
| Wing stay bar | 1pc | size: 30mm×3mm× 0.5mm |
| 3. Aileron Z type steel wire | 4pcs | |
| Heat tube | 4pcs | |
| Screw | 6pcs | |

三. 碳纤维加强组



| | | | |
|-------|----|----|--------------------|
| 前缘加强片 | 2片 | 尺寸 | 长270mm×宽3mm×厚0.5mm |
| 主翼撑杆 | 4根 | 尺寸 | 长235mm×直径1mm |
| 起落架杆 | 2根 | 尺寸 | 长180mm×直径2mm |
| 副翼拉杆 | 2根 | 尺寸 | 长170mm×直径1mm |
| 上尾翼撑杆 | 2根 | 尺寸 | 长155mm×直径1mm |
| 下尾翼撑杆 | 2根 | 尺寸 | 长148mm×直径1mm |
| 尾撬片 | 1片 | 尺寸 | 长130mm×宽3mm×厚0.5mm |

(以上套材内配件内容可能会因为改进有所变动)

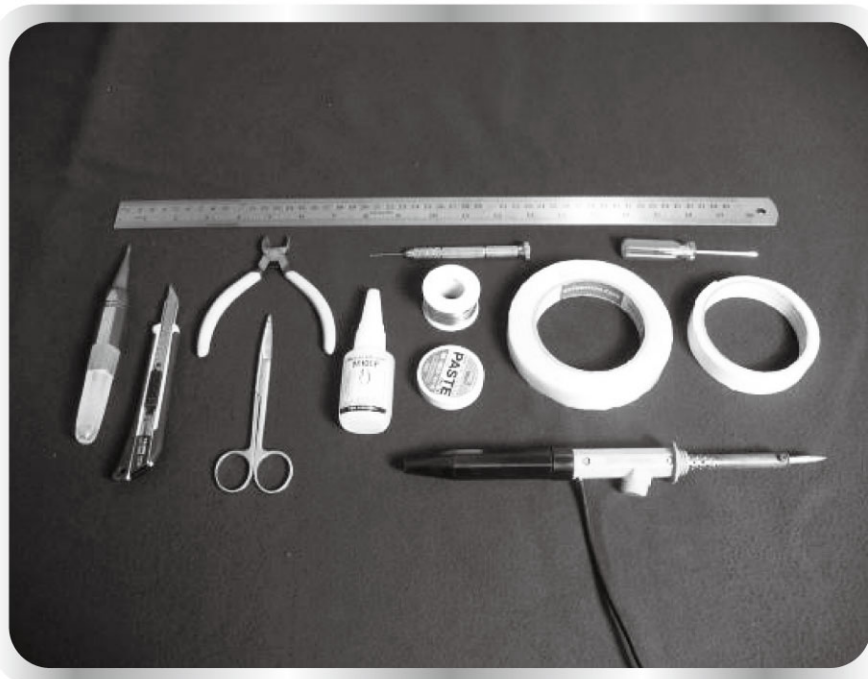
Carbon fiber fittings

| | | |
|--------------------------|-------|---------------------------|
| Front edge stay bar | 2pcs | size: 270mm×3mm×0.5mm |
| Wing stay bar | 4pcs | size: 235mm×diameter. 1mm |
| Undercarriage leg | 2pcs | size: 180mm×diameter. 2mm |
| Aileron pushrod | 2 pcs | size: 170mm×diameter. 1mm |
| Upper empennage stay bar | 2pcs | size: 155mm×diameter. 1mm |
| Down empennage stay bar | 2pcs | size: 148mm×diameter. 1mm |
| Tail fin | 1pc | size: 130mm×3mm×0.5mm |

(The above parts may some differ with future improvements)

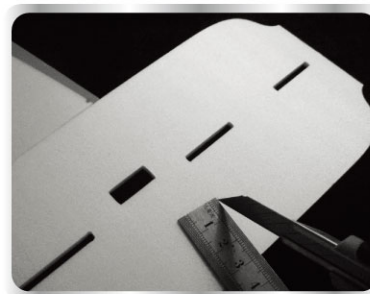
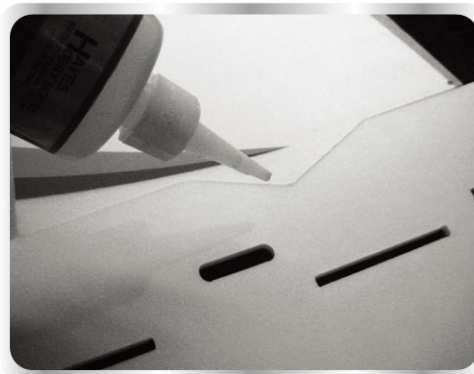
四. 在制作时应需配备以下工具，这样才能更方便无误的组装模型

The items below are required for assembly

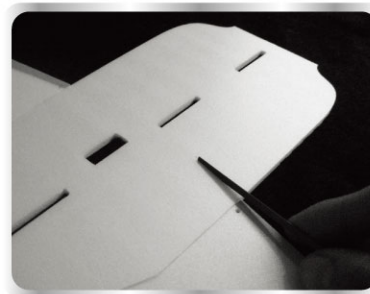


1. 将拼接处对齐后用手压住主翼和机身片确认吻合后方可涂胶。在涂胶时注意涂抹均匀，需等粘合剂固化后方可松手。注意：（涂胶时不要让胶渗透到反面，影响美观）如右图：

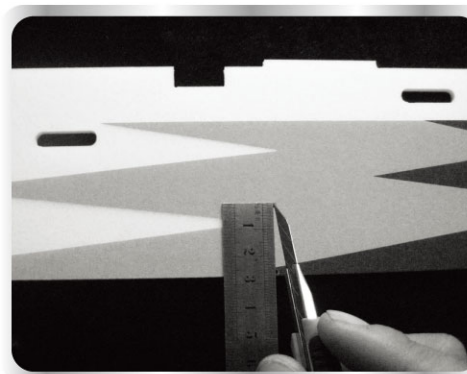
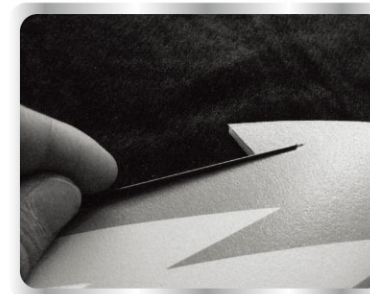
1. Place the wing and fuselage center on a smooth surface, test fit all two pieces together with the top face down on the table. When gluing always use wax paper under the surface to help from gluing the pieces to the table. Use your hands to press them together after applying a small amount of adhesive.



2. 拿直尺对齐前缘，并延伸到机身片30mm处用刀片将其切透，翼尖处切透20mm，在裁切时注意将刀片垂直切入。
2. Cut a slot in the fuselage with a sharp knife, the length is 30mm from the fuselage and 20mm from the wing tip.

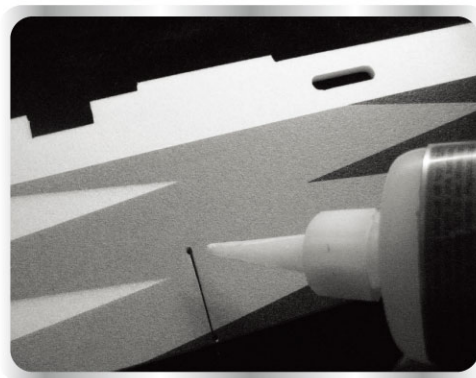


3. 把前缘加强片插入开好的槽内按到位置并等到粘合剂固化后方可松手。注意：涂胶时不要让胶渗透到反面，如上图：
3. As shown above, Insert the front edge stay bar into the slot properly and you can not move your hand until the glue is solidified. (Note: the glue should not soak to the opposite side.)



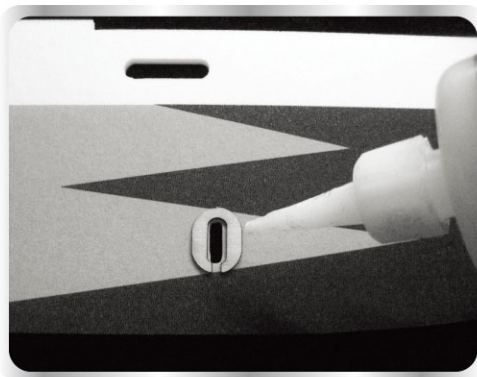
4. 用直尺按照机身上标记的小孔位置用刀片垂直切开长度约28mm，如左图：
4. As shown left, Cut a slot about 28mm length with a sharp knife along the marked holes on the fuselage.

5. 将主翼撑杆固定片准确的嵌入定位槽内用胶粘合，注意：粘合加强片时需露出机身1-2mm与撑杆定位片相连。



5. Put the wing stay bar into the slot, then use glue to fix. Note: the carbon strip must protrude below the fuselage bottom side by 1-2mm for connecting with the stay bar in Step 7.

6. 将层板配件板上两片起落架固定片取下，粘到机身开好的椭圆形孔上，如左图：



6. Take 2 pcs of undercarriage from the fittings sheet and glue them on the side of fuselage as shown left.

7. 将机身的头部与机身片头部对齐后垂直插入限位槽内用胶粘合，如右图：

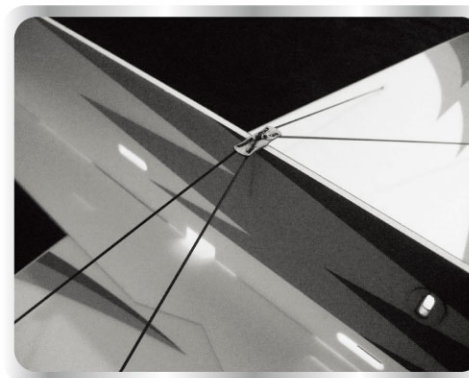


7. As shown right, Use adhesive to attach the fuselage and vertical surface of the fuselage. Make sure that they are perpendicular before gluing. THIS IS VERY IMPORTANT if they are not at 90° angle then the plane will not track correctly.

8. 垂直于机身，安装撑杆固定座，如右图：



8. As shown right, fix the base of the fuselage stay bar vertically on the fuselage.

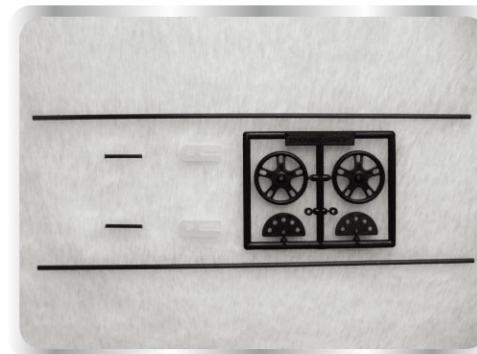


9. 放平机翼机身，用重物压住，将机翼撑杆穿过固定座，撑杆另一头固定到翼尖定位处。注意：撑杆须保持直线。

9. Place the wing and fuselage, press down firmly, then put one side of the wing stay bar through the base, the other side is fixed on the top of the wing. Note: The stay bar should remain straight, not buckled.

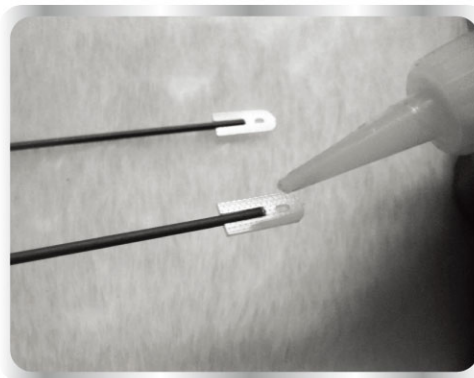
10. 起落架零件组由起落架杆、轮子套件、轮轴、轮轴固定片、轮挡加强片组成。

10. The undercarriage fittings including undercarriage leg, wheel fittings, axle, orientation plate, strength plates.



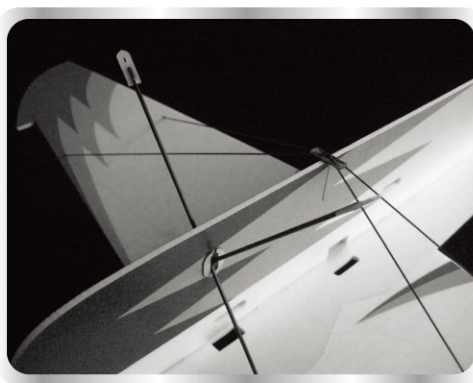
11. 起落架杆插入轮轴固定片上用胶粘合，注意：这位置较受力，建议适当加强。

11. Insert the bar of the landing gear into the orientation plate as shown above then fix with glue. Note: This part can be a force fit, you can reinforce this part appropriately.



12. 起落架布局与结构，如左图：

12. The installation of the landing gear is as shown left.



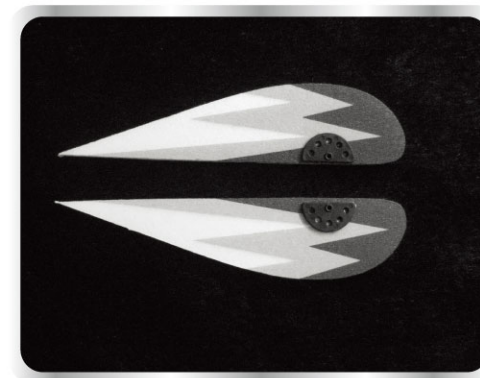
13. 将轮轴插入轮轴固定片槽内调整完角度和位置后用胶固定，注意：此处较受力，建议适当加强。

13. Insert the axle into the hole of the orientation plate, use glue to fix it after adjusting the angle and position. Note: This part can be a force fit, you can reinforce this part appropriately.



14. 将轮挡加强片用胶固定在轮挡装饰片孔位上，如右图：

14. As shown right, glue the strength plates to the holes of the wheel decoration pants.

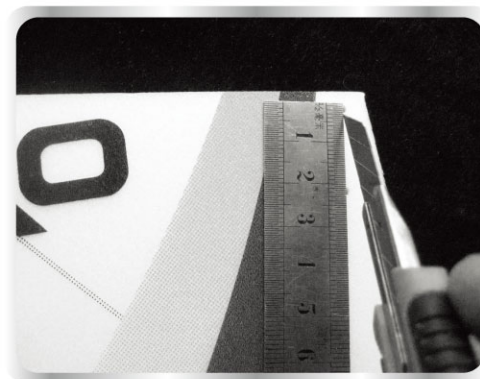


15. 用胶固定起落架装饰片，如左图：

15. As shown left, glue the undercarriage decoration plates in place.

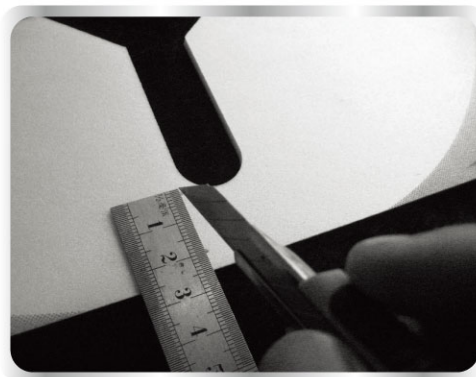
16. 将副翼上标记的舵角位置切开，注意：要垂直裁切，如右图：

16. As shown right, Cut a vertical slot with a sharp knife along the marked dots for the aileron control horn.



17. 将升降舵上标记的舵角位置切开，注意：要垂直裁切，如右图：

17. As shown right, Cut a vertical slot with a sharp knife along the marked dots for the elevator control horn.



18. 将方向舵标记的舵角位置切开，注意：要垂直裁切，如左图：

18. As shown left, Cut a vertical slot with a sharp knife along the marked dots for the rudder control horn.



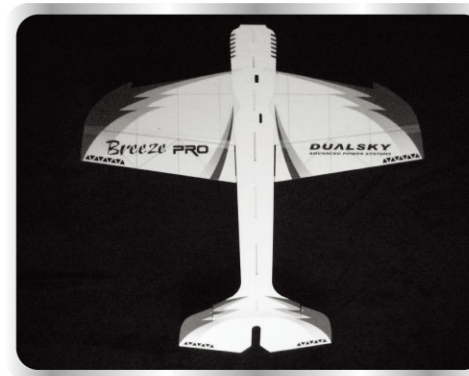
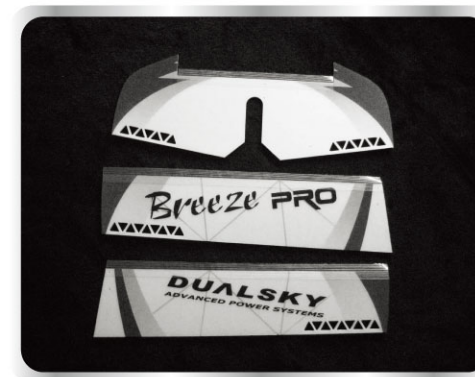
19. 将胶带粘到副翼上，如右图：

19. As shown right, place a piece of tape on the top of the aileron.



20. 将胶带粘到副翼和升降舵上，作为铰链，如右图：

20. As shown right, place a piece of tape on the top(broken lines) of the aileron and elevator.

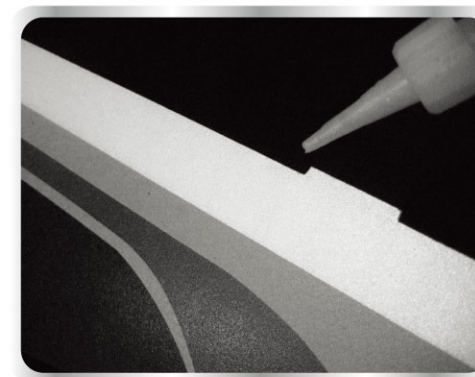


21. 将副翼和升降舵黏贴到机身上，如左图：

21. As shown left, connect the aileron and elevator onto the fuselage.

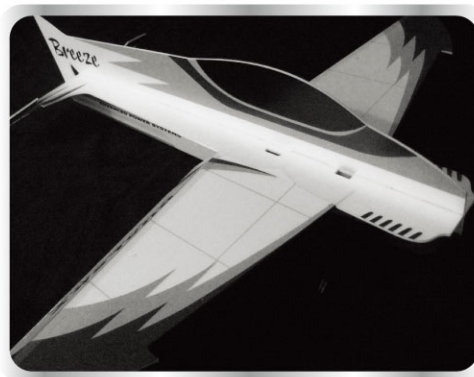
22. 用胶将机身结合面涂抹均匀，如右图：

22. As shown right, use glue to attach the top of the fuselage perpendicular to the wing.



23. 将机身垂直插入限位槽内用手轻轻按压直至粘合牢固，注意：机头部位安装时必须齐平方可粘胶，如右图：

23. As shown right, set the fuselage into the slots vertically and use adhesive to stick. (Note: Before gluing, you need to confirm the front of the fuselage is kept flush with the other panels).



24. 方向舵粘到机身上，如左图：

24. As shown left, connect the rudder to the fuselage.



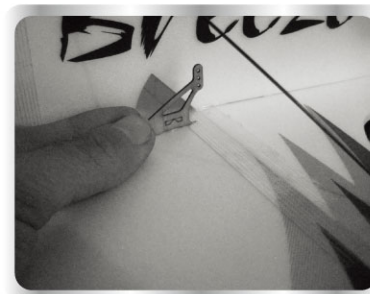
25. 将上下尾翼撑杆 分别撑在上图位置：

25. Install the stay bar on upper and down empennages as shown above.



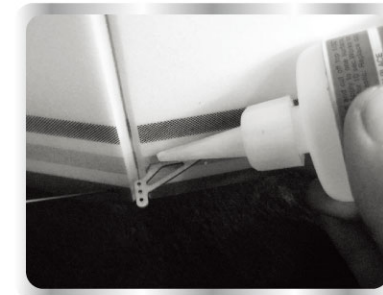
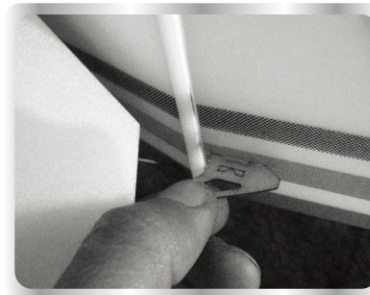
26. 将舵角插入到位后用胶固定，注意：安装时舵角的孔位需垂直于铰链处。

26. As shown right, insert the control horn into the slot and fix by glue, Note: The control horn should be vertical to the surface.



27. 将升降舵舵角上的标记对准切口方向并插入预先开好的槽内用胶固定，如上图：

27. As shown above, insert the elevator control horn into the slot and fix with glue according to the marks on the elevator.

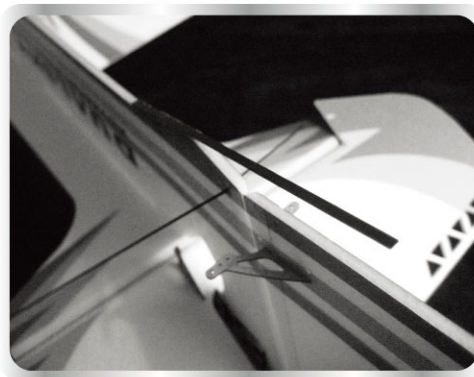


28. 将方向舵舵角上的标记对准切口方向并插入预先开好的槽内用胶固定，如上图：

28. As shown above, insert the rudder control horn into the slot and fix with glue.

29. 将尾撬片安装上，如右图：

29. As shown right, install the tail skid.



30. 将翼刀粘合面用胶涂抹后，垂直插入定位槽，直至粘合牢固。

30. Put glue on the wing fin and insert into the slot vertically, until fixed tightly in place.

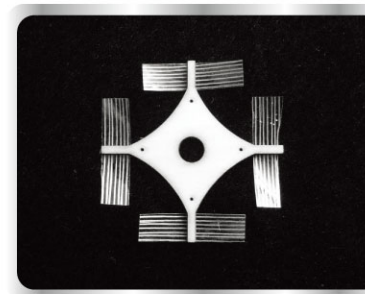
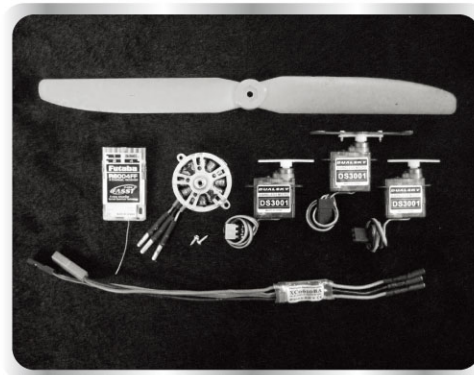


31. 如右图：

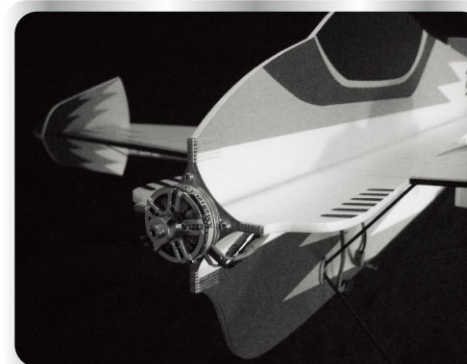
- Dualsky XM2812CA-27 马达 1个
- Dualsky XC0610BA 电调 1个
- Dualsky DS3001 5g 舵机 3个
- 4CH微型接收机 1个
- GWS 8x4HD 螺旋桨 1个

31. As shown right the following items (or similar) are required to complete the model:

- Dualsky XM2812CA-27 motor 1pc
- Dualsky XC0610BA ESC 1pc
- Dualsky DS3001 5g servo 3pcs
- 4CH mini size receiver 1pc
- GWS 8x4HD prop 1pc



32. 将胶带居中粘贴到十字层板电机安装片上，并固定在机头上，适当用胶水加强，如上图：
32. As shown above, use fiber tape, such as 3M Blendederm to stick the motor base on the front of fuselage tightly, then glue it.



33. 电机安装在电机固定座上，并且把电调链接好固定在机身上，如左图：
33. As shown left, install the motor on the motor base, then connect ESC to the motor and fix it on the fuselage.

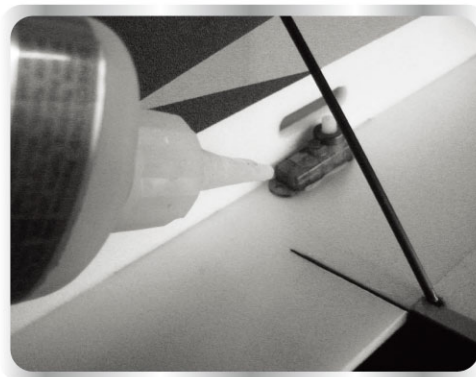
34. 用螺丝将舵机摇臂固定在加长摇臂上（加长摇臂可根据用户需求选装）。

34. As shown right, fix the lengthened servo arm on the servo arm with screws. (User can choose the lengthened servo arm based on your equipment).



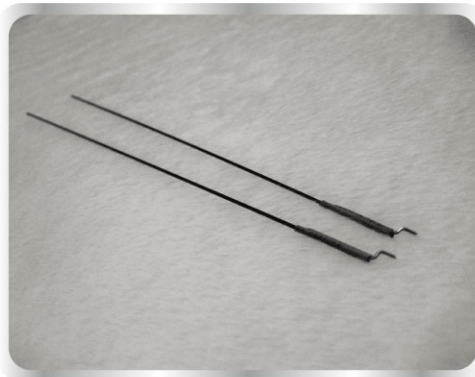
35. 副翼舵机嵌入舵机孔位中并用胶固定，如右图：

35. As shown right, fix the aileron servo in the holes and fix with glue.



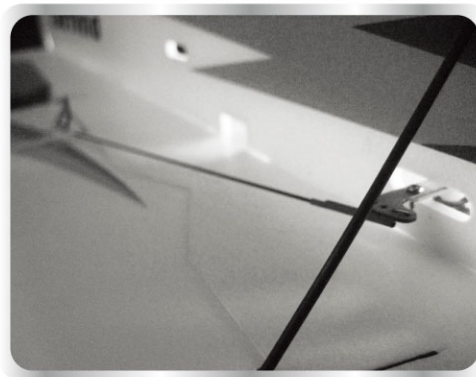
36. 将Z型钢丝链接到副翼连杆并且用热缩套管套住后加热（注意：套住后用胶渗入加固）。

36. Connect the Z type steel wire and shrink tube to the rod for the aileron, heat the shrink tube and fix one end with glue.



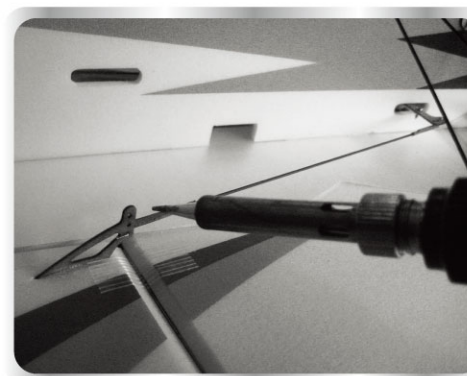
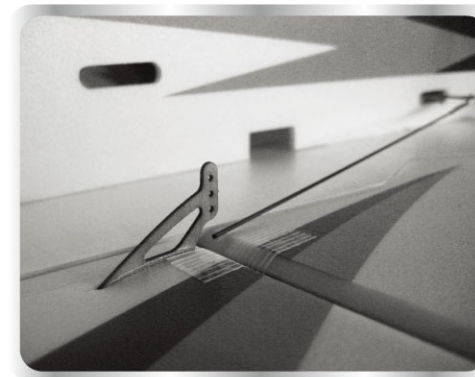
37. 将摇臂插到舵机上，调至中立点位置，如右图：

37. As shown right, put the servo arm on the servo and adjust to the neutral position.



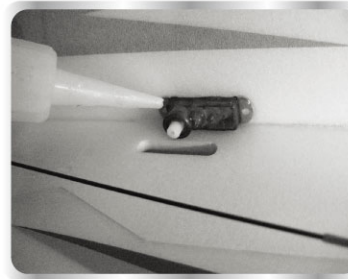
38. 将副翼调平后再裁切副翼拉杆长度，套材中副翼拉杆配的较长，用户可根据调整后的长度需要裁切，如右图：

38. As shown right, center the aileron, then cut to length the aileron rod. (User can adjust the length as they need, the aileron rod is overlength).



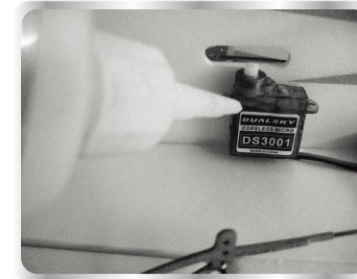
39. 将热缩套管和Z型钢丝连接到舵角和连杆上，用电烙铁加热热缩套管将其固定，并用适量胶水加固。

39. As shown left, Connect the shrink tube and Z type steel wire to the rod for the aileron and the control horn, heat the shrink tube and use glue to fix.



40. 方向舵和升降舵舵机嵌入到位后并用胶固定，如上图：

40. As shown above, fix the rudder and elevator servos to the fuselage with glue, please consider the position and length of leads.



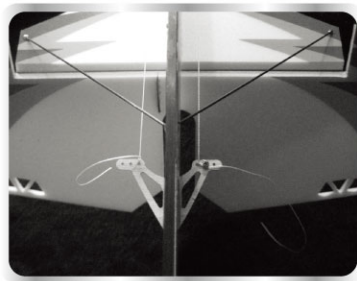
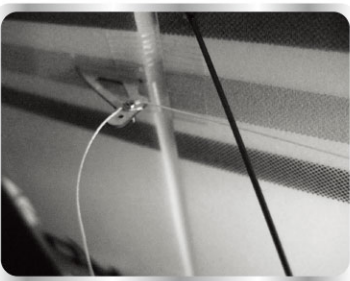
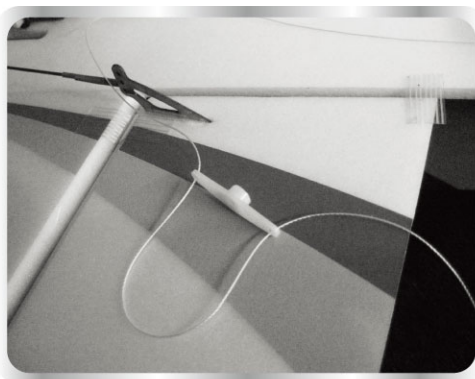
41. 将操纵线穿入方向舵舵角后打上结用胶固定，如右图：



41. As shown right, pass the string through the hole of the rudder horn and attach, then use glue to fix it.

42. 将操纵线穿过方向舵舵机摇臂，如左图：

42. As shown left, pass the string through the rudder servo arm.



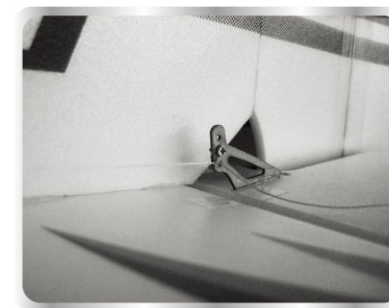
43. 将方向舵摇臂固定在舵机上调至中立点，操纵线穿过另半边舵角孔，收紧操纵线后绕在固定螺丝上拧紧螺丝（注意：在穿线时应避开机身加强杆，松紧适度）。

43. Fix the rudder servo arm on the servo and adjust the neutral position. Then pass it through the hole of the control horn, farthest hole. Make the string tight and attach it on the screw, then screw tightly.



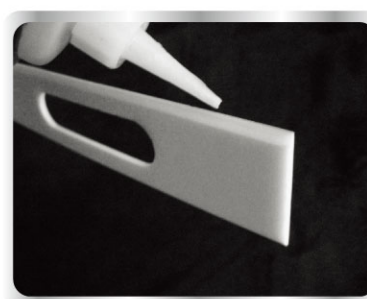
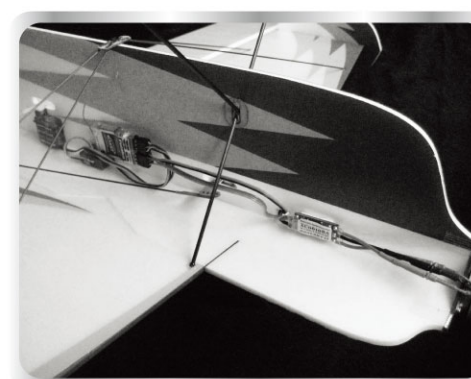
44. 升降舵操纵线也同样操作，如上图：

44. The same way to fix the elevator string as above.



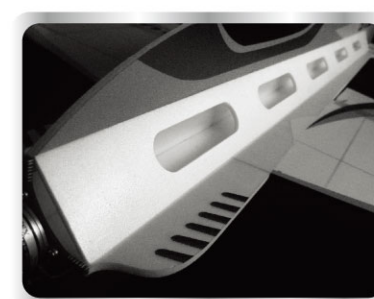
45. 电子设备的整体布局，如左图：

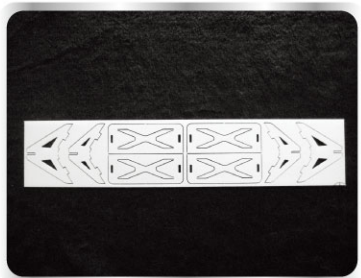
45. Fit the RC equipment as left.



46. 用胶均匀涂抹在机身加强片上，对齐电机安装座末端侧45度粘在机身侧面（注意：在粘合时主翼与升降舵要保持平行）如上图：

46. Shown as above, glue the edges of fuselage strength bar, align the end of motor mount, stick on the fuselage and side fuselage in 45 degree (note: Keep the wings parallel with the elevators).





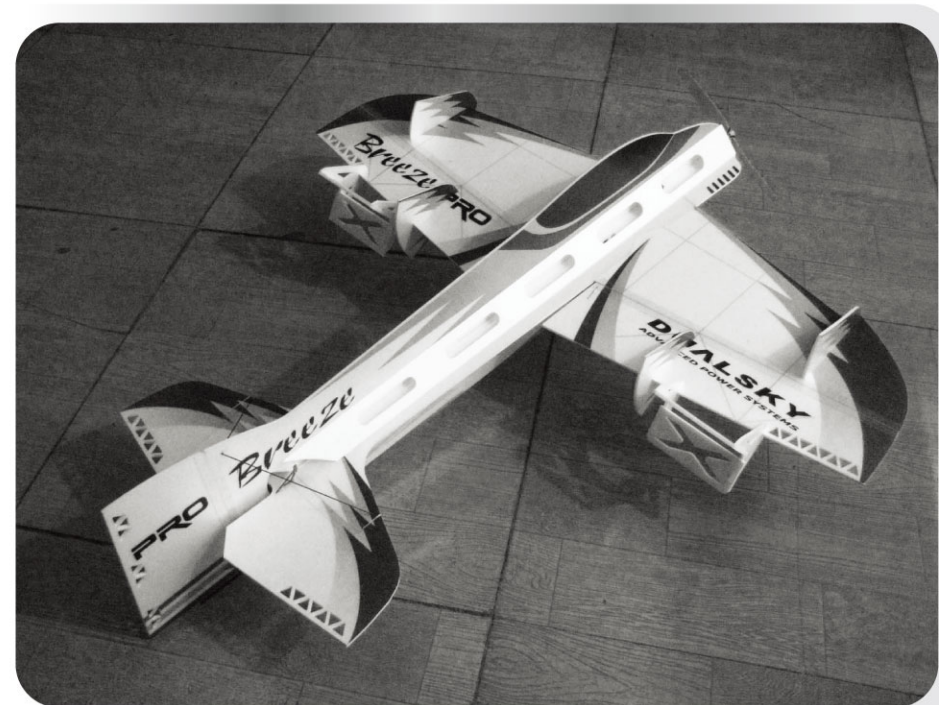
47. 减速板套件（此配件根据用户的需要，选配使用）。

47. Slowdown brakes (This part is optional based on the users flying requirements).



48. 此限位器是让用户选配安装推拉杆结构使用（此配件只限于直径1mm碳纤维推拉杆）推拉杆需用户另购。

48. This part can be used for assembling the push-pull rod with 1mm fiber rod, The user will need to buy the rod separately.



49. 如上图 制作完成的 Breeze PRO 整体效果。

49. As shown above, this is the completed Breeze PRO.