



Esky®

敬告：遥控模型不是玩具，请详细阅读说明书以后飞行。
Warning: R/C model is not a toy, please fly it after reading the instruction detailedly.

LAMA V4 INSTRUCTION

EK1H-E033 / EK1H-E034

Specification

- (1) Main rotor diameter: $\Phi 340\text{mm}$
- (2) Weight: 230g
- (3) Length: 408mm, width: 85mm, height: 180mm
- (4) Power system: 180 motor*2pcs
- (5) KIT/ARF/RTF: RTF;
- (6) Transmitter: Standard 4 CH
- (7) Mix controller: 4 in 1 controller (Including gyro, mixer, ESC, receiver)
- (8) Servo: (8g, 1.3kg-cm, 0.12s/60°)
- (9) Battery: 7.4V 800mAh Li-polymer battery

产品参数

- (1) 主旋翼直径: $\Phi 340\text{mm}$
- (2) 总重量: 约230g
- (3) 机身长: 408mm, 宽: 85mm, 高: 180mm
- (4) 电机型号: 180马达*2pcs
- (5) 装配: RTF
- (6) 发射机: 标准四通道
- (7) 混控系统: 4合1控制器
(包含: 陀螺仪, 电子变速器, 接收机)
- (8) 伺服器: (重量: 8g, 扭力: 1.3kg-cm, 速度: 0.12s/60°)
- (9) 电池: 7.4V 800mAh 锂聚合物电池组

www.twf-sz.com
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★说明书内容如有需要任何改动，不需另行通知，TWF有最终修改权。
★Other notice is not required if any changes on the manual, TWF owns the final right of modification.

● 关于LAMA V4 About LAMA V4

Lama V4 is a kind of helicopters with new design idea and remote-control skill. Its power adopts sharing-axes reversal blades and dual-motor system. The "4 in 1" installation whose appearance adopts streamline and compounding design integrates the functions of Gyro, Mix controller, ESC and Receiver. The canopy can disassemble and install easily so as to adjust and mend the helicopter conveniently. It is also pretty and practical. LamaV4 possess of stable flight capability and the aerobatic action is so smooth and precise that beyond your expectation. The installation of two **ESKY** 8g servos provides a very smart and prompt reaction to the helicopter. So that the helicopter can hang in the air and do various skyways flight easily. 7.4V Li-polymer battery extends its flying time. We believe that LamaV4 can be the best choice for beginner and the best entertainment for flying master. It will bring infinite happiness to you and your friends. Let's enjoy the happy flying and fly to our dream.

Lama V4是一款投入了新的设计概念和遥控技术的直升机模型,它采用共轴反转双桨、双马达系统,四合一控制器集合了陀螺仪、电子调速器、接收机的功能。外观采用流线型和组合式设计,机头仓可以容易的拆卸和安装。方便了直升机的调整和维修,同时也更加美观和实用。飞行十分的稳定,飞行动作超出想象的平稳和准确,两颗**ESKY** 8克伺服器的装置使直升机的反应非常的敏捷和迅速,可以容易做出悬停和各种航线飞行。7.4V锂聚合物电池包使直升机的飞行时间更久。相信它一定能够成为初学者的最佳选择、飞行高手的良好消遣。将让您爱不释手,给您和您的亲友带来无限的快乐,尽享飞行的乐趣,超越您的梦想!

● 整机图 The whole parts of LAMA V4



工厂100%组装完成的LAMA V4, 只需充电即可飞行, 电子系统出厂时已经过专业人士调试, 无需再做调整。标准配备包含整机一台、发射机一个、充电器一组、螺旋桨一套, 充电电池一颗, 发射机5号电池一组(8个)。让你随时想飞就飞。

LAMA V4, has been completely assembled in the factory, it can fly after finishing charging the battery. Electronic system has been debugged by our engineer before packing, you need not to debug. Standard outfit include: a kit, a transmitter, a set of charger, a set of airscrew piece of chargeable battery, transmitter battery unit(8pcs), which are ready for fly.

● 电池的充电 Charging the battery pack

锂聚合物电池的充电方式如图示:
Diagrammatic of Li-po battery charging



⚠警告: 充电时间最长不得超过120分钟。

WARNING: The time for battery charging can not exceed 120 minutes.

充电是飞行前的一个重要准备工作,建议在首次飞行前,将电池完全放电,然后再遵循以下的充电指示。

△ 注意:

充电过程中想知道电池是否充满,可以用以下三种方法来判断。

1. 测电压:

是用电压表来测电池电压,这是最标准的方法!

2. 温度:

在充电时,不时查看电池的温度,发现电池开始升温时,就表示电已即将充满,需立刻断开充电器。

3. 用公式形式算出充电时间

充电时间=电池容量 / 充电电流

Charging battery should be part of your procedure for flight. It is recommended that you completely discharge the battery during the initial test flight and follow the charging guidelines outlined as below.

△ Note:

Do not leave the charger and battery unattended during the charging. Also please keep away from the combustibles. before the charging process, you can determine whether the battery is fully Charged as follows:

1. Voltage measurement:

Use a voltage indicator. This is the best way.

2. Temperature:

When charging, examine the temperature of the battery all the time. When the temperature of the battery is rising, it shows that the charging is close to finish. Please turn off the charger.

3. Calculation of the charging time:

Charging time = capacity of the battery / charging current

● 锂聚合物电池 About Lithium polymer battery

用锂聚合物电池来飞行直升飞机是您最好的选择。锂聚合物电池能提高直升机的飞行性能和延长飞行时间, 锂聚合物电池比镍氢电池更持久。总而言之,使用锂聚合物电池,您的直升机将有更好的特技飞行效果。

请注意锂聚合物电池充电器表面贴纸上的描述。

1. 接通电源后, 电源指示灯会一直显示红灯, 红灯未亮, 即表示电源没连接好。
2. 当充电指示灯一直显示绿灯时表示正在充电, 如果指示灯红绿灯交替闪烁, 表示充电有误。
3. 充电过程中充电指示灯为绿灯闪烁时表示电池即将饱和。绿灯完全熄灭后, 充电完成, 请断开电源。
4. 为了您更安全快捷的充电, 请使用 **ESKY** 原厂出品的充电器。
5. 锂聚合物电池在充电的时候应有人看护。
6. 充电时锂电池应单独放在阴凉通风的地方, 避免热源, 远离易燃易爆物品。
7. 充电时, 电池应该从直升机上取出, 不得放在直升机上充电。

Using **ESKY's** Li-Po battery to fly your helicopter is your best choice. The Li-Po battery will improve flight performance and flight time, which is longer than Ni-Mh battery. With Li-po battery, your helicopter will do the best aerobatic performance. Please notice the label on the battery.

1. The power light will be red when power on. If not, please check the power supply.
2. Charger light steady green, it is charging, if red and green flash, it indicates error charge.
3. The charger light flashing green indicates the battery will be full. After the green light blackout, please cut the power supply, The charge is complete.
4. Please use **ESKY** charger for a safe and swift charging.
5. Please look after the battery when you charge the Li-polymer batteries.
6. To avoid shining, please put the Li-Polymer batteries in the cool and ventilating place separately when charging, and far from the flammable and explosible things.
7. The battery must be took out of the helicopter when charging, and should not be charged with the helicopter.



● 直升机起飞步骤 The operation guide before fly



Step 1

1.Charging battery
给电池充电



Step 2

2.Loading battery
安装电池



Step 3

3.Draw out the antenna of transmitter completely
完全抽出发射机天线



Step 4

4.Opening transmitter
打开发射机



Step 5

5.Connecting battery
接通直升机电源



Step 6

6.The green light indicates ready to fly
绿灯一直亮即显示待飞

⚠ 注意:

直升机接通电源后, 红灯和绿灯交替亮, 有以下主要几种情况: (如图仅供参考)

- 1: 打开发射机后, 油门微调摇杆没有拉至最低。
- 2: 发射机内的电池没电了。(发射机没电时, 指示灯会显示红灯)
- 3: 晶体与四合一控制器上的频率不相同(一般情况下不会出现)。
- 4: 开始亮绿灯, 加油门后闪红绿灯, 可能是直升机电池电量不足需要充电。
- 5: 还有可能是四合一控制器坏了。

Attention:

After connecting power, the green light and the red light shine alternately, there are several situations: (just for reference)

- 1.After turn on the transmitter, throttling or rocking lever hasn't been pulled to the lowest.
- 2.The battery in the transmitter has been out of power.(When the transmitter is out of power, the indicating lamp display red light.
- 3.The frequency of Crystal and 4 in 1 controller are different(won't occur in general situation)
- 4.The green light shines first, and red light shines after power, which indicates that the battery volume of helicopter is not enough, need to charge.
- 5.The 4 in 1 controller has broken.



● LAMA V4的操控 Operation of LAMA V4

模拟器接口 (背面)
Simulator port (Back)

升降微调 (制式1)
Elevator trim lever(mode 1)
油门微调 (制式2)
Throttle(mode 2)

升降及副翼操作杆 (制式2)
Elevator(mode 2)/Aileron stick
油门及副翼操作杆 (制式1)
Throttle(mode 1)

方向舵微调
Rudder trim lever

晶体
Crystal

天线
Antenna

LED电压显示
LED Voltage indicator

油门微调 (制式1)
Throttle(mode 1)
升降微调 (制式2)
Elevator trim lever(mode 2)

油门及副翼操作杆 (制式1)
Throttle(mode 1)
升降及副翼操作杆 (制式2)
Elevator(mode 2)/Aileron stick

副翼微调
Aileron trim lever

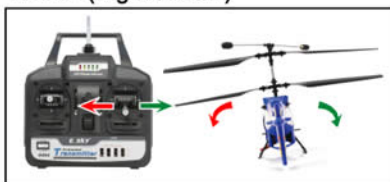
电源开关向上打开电源
Push the power switch to the upper position, to turn on the power.

如果购买ESKY加密狗, 即可利用模拟器接口接入电脑, 使用该发射机可以在电脑上进行模拟器飞行, 在电脑上想飞就飞。

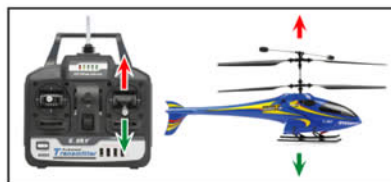
If you buy the ESKY softdog, you can connect it with the computer by connecting the simulator interface, you can control the simulator and begin simulating flight in the computer.

制式1 (右手油门)

Mode 1(Right throttle)



当副翼操作杆向左移动时, 直升机飞向左边,
当副翼操作杆向右移动时, 直升机飞向右边。
When the aileron stick is moved to the left,
the helicopter moves to the left.
When the aileron stick is moved to the right,
the helicopter moves to the right.



当油门操作杆向上推动时, 直升机上升,
当油门操作杆向下推动时, 直升机下降。
When the throttle stick is pushed up, the
helicopter lifts up.
When the throttle stick is pushed back, the
helicopter descends.



当方向操作杆向左推动时, 直升机机头向左转,
当方向操作杆向右推动时, 直升机机头向右转,
When the rudder stick is moved to the left,
the head of helicopter moves to the left.
When the rudder stick is moved to the right,
the head of helicopter moves to the right.



当升降操作杆向上推动时, 直升机向前飞,
当升降操作杆向下推动时, 直升机向后飞。
When the elevator stick is pushed up, the
helicopter forward.
When the elevator stick is pushed down,
the helicopter backward.

制式2 (左手油门) Mode 2(left throttle)



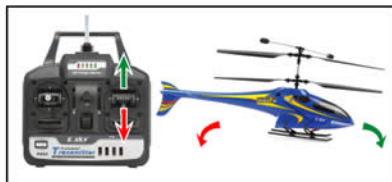
当副翼操作杆向左移动时, 直升机飞向左边,
当副翼操作杆向右移动时, 直升机飞向右边。
When the aileron stick is moved to the left,
the helicopter moves to the left.
When the aileron stick is moved to the right,
the helicopter moves to the right.



当油门操作杆向上推动时, 直升机上升,
当油门操作杆向下推动时, 直升机下降。
When the throttle stick is pushed up, the
helicopter lifts up.
When the throttle stick is pushed back, the
helicopter descends.



当方向操作杆向左推动时, 直升机机头向左转,
当方向操作杆向右推动时, 直升机机头向右转,
When the rudder stick is moved to the left,
the head of helicopter moves to the left.
When the rudder stick is moved to the right,
the head of helicopter moves to the right.



当升降操作杆向上推动时, 直升机向前飞,
当升降操作杆向下推动时, 直升机向后飞。
When the elevator stick is pushed up, the
helicopter forward.
When the elevator stick is pushed down,
the helicopter backward.

⚠ 注意: 新手飞行时直升尾部始朝向自己。

Attention: Adjust the tail of helicopter to orientate flyer when freshener begin to control the flight.

● 直升机双桨的调整 Blade tracking adjustment

主旋翼出现复影表示需要对它进行调整

Blades out of normal tracking Adjustment needed



Main blades don't on one plane
飞行时, 主旋翼旋转不在同一平面



Main blades power-angle adjustment.
主旋翼功角的调整方法



Main blades rotate in one plane
主旋翼旋转在同一平面上

⚠ 注意:
如果主旋翼出现破裂或大量的划痕, 会影响直升机的飞行, 请及时更换。
更换时请注意主翼A和主翼B, 不能错换。

Attention:

If there is a breakage or lot scratch on main rotor, which may impact the flying of the helicopter, please change on time. Please pay attention to main rotor A and main rotor B while replace them, they shouldn't be confounded.

拆卸步骤 Disassembling instruction



拔下后纽扣
Pull out the rear fastener



拔下前纽扣，取下前机头罩
Pull out the front fastener and take the front canopy.



取下脚架
Remove the landing skid.



取下后机罩
Remove the rear hood.

伺服器拉杆的调节 Adjustment of Servo pull-rod.



飞行时，确保发射机油门微调调至最低，其他微调已经居中。如果直升机依然一直朝左或右边倾斜，请取下机壳，待飞状态下，检查十字倾斜盘是否水平。如果不是水平位置，可以取下两边伺服器拉杆调整至适当长度(如右图)，直至两边配合把倾斜盘保持在水平位置，再试飞。

When flying, ensure the accelerometer throttling of the transmitter has been regulated to the lowest position, other throttling are in position of centre. If the helicopter still lean to left or right, please remove the canopy. Examine the balance of the cross swashplate under state of ready to fly, if not horizontal, you can regulate the servo pull-rod, tighten or loosen(as the right picture). Adjust both sides to keep the swashplate in equilibrium and then test flight.



"四合一"控制器的调节 Adjustment of "4 in 1" controller

敬告:

"四合一"控制器出厂之前都经过专业人士的检测，一般无须再次调试，经过说明书所述的所有调试后，直升机依然出现以下几种情况，请按照说明谨慎调试四合一控制器。

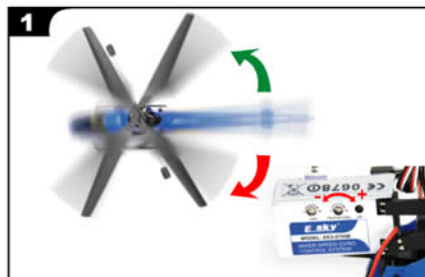
1. 飞行时，机尾总是往左或往右旋转不受控制，先试试发射机上的微调能否调节好，依然不受控制时，可以适当调节四合一上的前后马达比例调节孔，(Proportional)调小或调大一点("-"小; "+"大)。

2. 飞行时，机尾总是左右大幅度摆动不受控制，是因为尾部被锁的太紧，须调小陀螺仪的感度孔(GAIN); 如果是左右大幅度摆动，则调大感度。("-"小; "+"大)。

"4 in 1" controller are tested by engineer before entering the market, which don't need adjustment. If the helicopter still occurs below situations after all adjustments, please readjust the "4 in 1" controller according to the instruction.

1. The tail of helicopter spins to left or right and uncontrollable when flying, first try the adjustment on the transmitter, if it's still out of control, please adjust the motor ratio regulating port on the controller, turn small or large.

2. The tail of helicopter spins to left or right lightly and uncontrollable when flying, maybe the tail is locked too tight, you can adjust the gyro GAIN, if swing seriously, please enlarge sensitivity.



● LAMA V4飞行高手晋级 LAMA V4 Superior tips

如果您想晋升为LAMA V4室内飞行的高手，以下飞行图片可以告诉您飞一些简单的航线。(建议，一定要了解直升机飞行的操作，飞行自如以后，在试着飞航线，一定要谨慎，不要勉强，避免不必要的失误和损失。)

If you want to become a LAMA V4 indoor flying superior, the pictures listed below will tell you some simple flight line.(Advice: Mastering the basic operation, try the flight line after you can flight freely .Please be cautious, don't concede to avoid damage.

1. 寻一个固定的地点做为起降平台，在规定的范围内进行起飞和降落训练，起飞和降落要尽量保持平稳和垂直，动作不要过于猛烈，训练您定点起降技术。

Look for a fixed location as the flying flat, practice taking off and landing flying in regulated area, try to keep stable and vertical while taking off and landing. Try to practice take off and fall in a fixed decimal avoid violent actions.

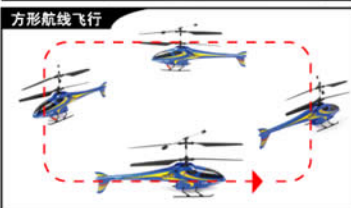
定点起飞降落



2. 以起降点为中心，划一个边长约为2M的正方形，让直升机绕正方形四边进行飞行，飞行高度大约为目测平视高度，在正方形的角点让直升机做90度的旋转，调整飞行的方向，训练您的直线飞行与飞行中进行直角调整航线。

Take the landing point as a centre, draw a square with 2M length of side, try to fly along the square, the flight height is about eye survey height, made the helicopter spin with 90 angle, adjust flying direction, practice straight flight and adjust rectangle flight line.

方形航线飞行



3. 以起降点为中心，划一个直径约为2M的圆，让直升机围绕圆圈进行飞行，在飞行中高度大约为目测平视高度，飞行速度要尽量保持均匀。训练您的曲线飞行的方向控制能力。

Take the landing point as a center, draw a circle with 2M diameter, try to fly along the circle, the flight height is about eye survey height, and keep a even flight speed. To train the directional control ability for curve flight.

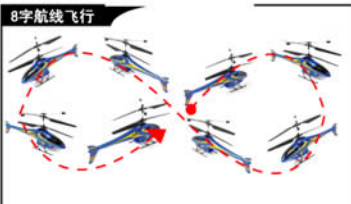
圆形航线飞行



4. 如果您对前面的动作掌握熟练了，那么您就可以进行漂亮“8”字飞行，飞行要点如图所示。

If you had command the above flight actions, then you can fly a nice "8", please find the tips in right picture.

8字航线飞行



4. 飞行后进行定点降落，如果这些动作都已经掌握的很好了，那你
就是一名优秀的LAMA V4飞行高手了。

Make a fixed-point landing after flying, if you had mastered all the skills, you would become an excellent LAMA V4 flying superior.

定点降落



● 结束飞行步骤 Finish flight steps



Step 1
1 Disconnect battery
拔掉直升机电源



Step 2
2 Turn off the transmitter
关闭发射机

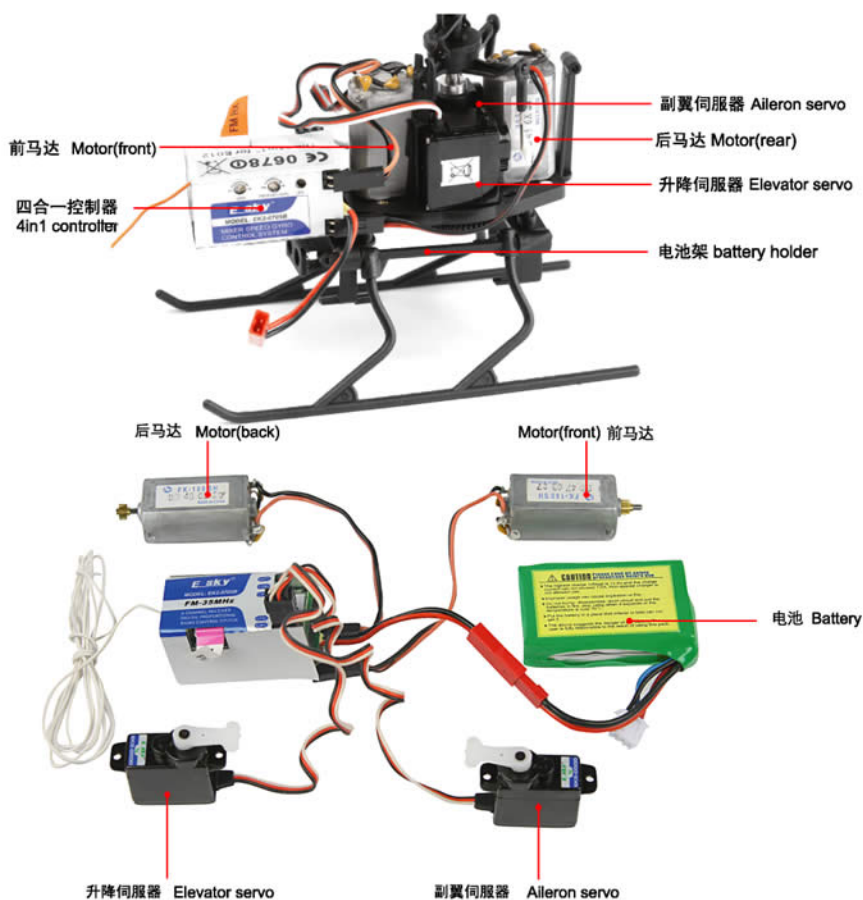


Step 3
3 Retract the antenna of
transmitter completely
完全收回发射机天线



Step 4
4 Take out the battery, pay attention
to the storage and maintaining.
取出电池，注意存放和保养。

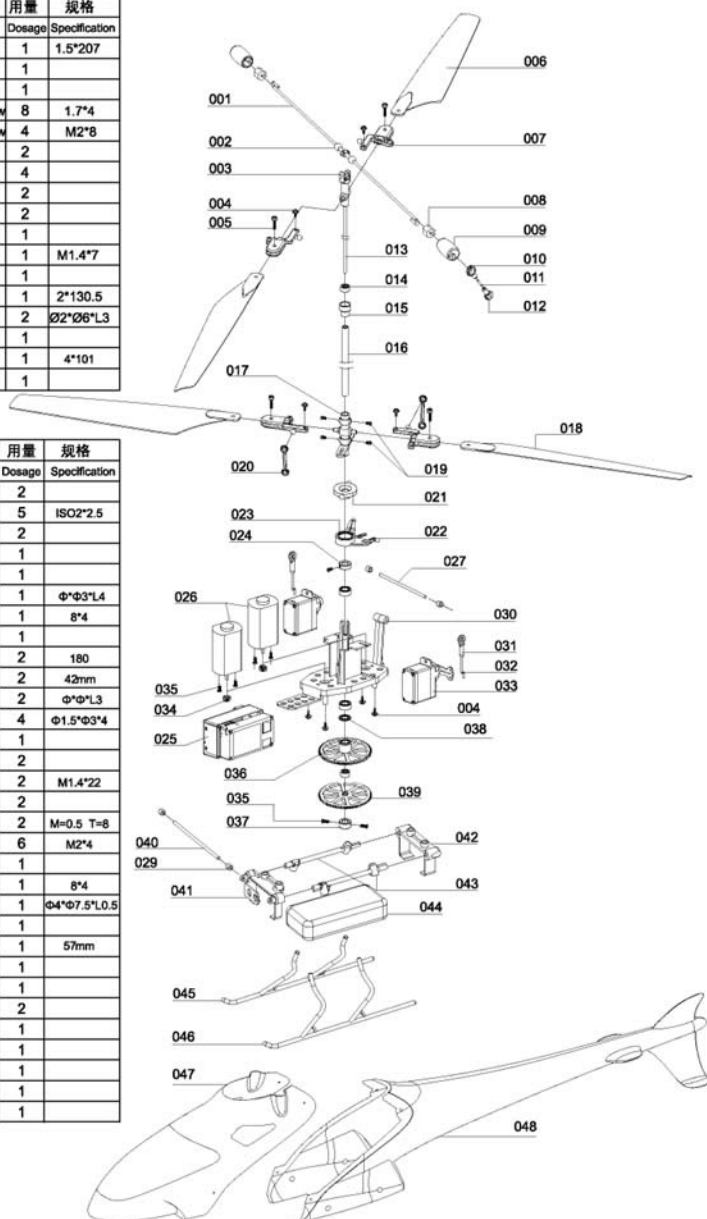
● 机体局部设备示意图 Construction schematic diagram to inner equipments.



● 机体爆炸图 Exploded view

序号 NO	名称 Description	用量 Dosage	规格 Specification
001	平衡杆Flybar	1	1.5*207
002	平衡翼杆Flybar	1	
003	主旋转头A Center hub set A	1	
004	伞头十字螺丝Umbrella-head screw	8	1.7*4
005	内六角螺丝Inner hexagonal screw	4	M2*8
006	主旋翼A Main blade A	2	
007	主翼夹头Main blade grip set	4	
008	配重块Balance weight	2	
009	稳定锤Stabilizing weight	2	
010	单孔拉杆A Control link A	1	
011	无头螺杆Threaded bar	1	M1.4*7
012	单孔拉杆B Control link B	1	
013	主轴B Main shaft B	1	2*130.5
014	滚珠轴承Ball bearing	2	Ø2*Ø6*L3
015	轴承架Bearing bracket	1	
016	主轴A Main shaft A	1	4*101
017	主旋转头B Center hub set B	1	

序号 NO	名称 Description	用量 Dosage	规格 Specification
018	主旋翼B Main blade B	2	
019	圆头十字螺丝Round screw	5	ISO2*2.5
020	双孔连杆Ring-like push-rod	2	
021	倾斜内盘Inner swashplate	1	
022	倾斜外盘Outer swashplate	1	
023	滚珠轴承Ball bearing	1	Φ*Φ3*L4
024	定位环Collar set	1	8*4
025	四合一控制器4 IN 1 controller	1	
026	主马达Main motor	2	180
027	机身支杆A Airframe bearing rod A	2	42mm
028	滚珠轴承Ball bearing	2	Φ*Φ*L3
029	胶套Plastic cannula	4	Φ1.5*Φ3*4
030	机架Main frame	1	
031	拉杆头Push-rod head	2	
032	拉杆A Push-rod A	2	M1.4*22
033	伺服器Servo	2	
034	主马达齿Main motor gear	2	M=0.5 T=8
035	圆头十字螺丝Round screw	6	M2*4
036	齿轮B Main gear B	1	
037	齿轮固定环Fix collar for gear	1	8*4
038	垫片washer	1	Φ4*Φ7.5*L0.5
039	齿轮A Main gear A	1	
040	机身支杆B Airframe bearing rod B	1	57mm
041	前电池架Front battery holder	1	
042	后电池架Rear battery holder	1	
043	左右电池架固定杆Fixed link for battery holder	2	
044	电池Battery	1	
045	右滑撬Landing skid (right)	1	
046	左滑撬Landing skid (left)	1	
047	机头罩Canopy	1	
048	尾机身Tail airframe	1	



● 配件图 Spare parts picture

180马达 Main motor set(8T)	180马达 Main motor set(8T)	2*6*3轴承 Bearing 2*6*3	轴承座/固定环 Bearing set collar	主旋翼A Plastic blade A
主旋翼B Plastic blade B	稳定锤 Stabilizer set	主旋翼头A Center hub set A	齿轮和轴设置B Gear&shaft B	旋转夹头 Main blade grip set
主旋转头B Center hub set A	主齿轮A Gear & shaft set A	轴承4*8*3 Bearing 4*8*3	锂聚合物电池 7.4V Li-Polymer battery 7.4V	适配器 switching adapter
伺服器 Servo 8g	四合一控制器 4 IN 1 Controller	锂充 Charger	4通道发射机 4CH Transmitter	工具包 Allen Key
机架 frame kit	单孔拉杆 Control link	倾斜盘 swashplate	机壳支杆 canopy shoring	螺丝组 screw sets
滑撬 landing skit	电池架 battery holder	银色机壳组 Silver canopy set	银色机头罩 silver canopy cover	
银色机身 silver airframe	蓝色机壳组 blue canopy set	蓝色机头罩 blue canopy cover	蓝色机身 blue airframe	



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