



## *E160 Helis* USER MANUAL



This product is compatible with FUTABA 2.4GHZ S-FHSS regulations.

Brushless motor, super power, compatible with 3-axis gyroscope and 6-axis gyroscope modes, 3-axis for ultra-stable flight and 6-axis for beginners.



## ITEM LIST

NO	PARTS	QUANTITY
1	Gift Box	1
2	Remote Control Box	1
3	Accessory Box	1
4	User Manual	1
5	Helicopter	1
6	Transmitter	1
7	Charger	1
8	Battery 7.4v 700mah 25C	1
9	Cross Screwdriver / Hex Wrench	1
10	Main Propeller/ Tail Propeller	1 Set



## NOTICE

- All instructions, warranties and other collateral documents are subject to change at the sole discretion of our company. For up-to-date product literature, please visit [www.jjrc.com](http://www.jjrc.com)

## WARNING

- Read the ENTIRE user manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property and cause serious injury. This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or other properties. This product is not intended for use by children without direct adult supervision. This manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or serious injury.

## ADDITIONAL SAFETY PRECAUTIONS AND WARNINGS

1. Age Recommendation: Not for children under 14 years. This is not a toy.
2. Always operate your model in open spaces away from full-size vehicles, traffic and people.
3. Follow the operation notice, warning and any support equipment (charger, battery, etc) carefully.
4. Keep away from any chemicals; keep children away from any small parts and electrical equipment.
5. Always keep away from water, especially for this product don't have waterproof function; It will be damaged by moisture.
6. Never place any portion of the model in your mouth as it could cause serious injury or even death.
7. Never operate your model with low voltage transmitter batteries.

## INTRODUCTION

- This is a super classic helicopter with excellent flight performance. Flybarless design, decrease resistance of rotor head. Quote to aerodynamics, the blades can supply strong power and keep stability. Using new type gyro, compatible with 3D and 6G modes. You can make a variety of stunts by 3D mode; 6G mode is suitable for beginners especially.
- After flying this mini helicopter, you will find other mini helicopters which you have flying are eclipsed, This is a incomparable and popularization helicopter. Beginners will find it is easy to fly, masters will find it is interesting. It is worth to be possessed.
- This manual with detailed instruction ,will help you learn more about the product. Please read it before your flying.

## TABLE OF CONTENTS

Item List .....	1
Notice .....	2
Warning .....	2
Additional Safety Precautions and Warnings .....	2
Introduction .....	2
Table of Contents.....	3
Helicopter Parameters .....	4
Warning and the Guide of Battery Usage .....	4
Battery Charging .....	4
Notice Before Flight .....	5
Pair the Transmitter with the Receiver .....	5
Throttle Curve and Pitch Curve Setting Reference Table .....	6
Initial Flight .....	7
Receiver Interface Diagram .....	7
About Remote Controller .....	8
Flight Battery Installment .....	9
Troubleshooting .....	9
Exploded View .....	11
Accessory List .....	12
Accessories List.....	13

## HELICOPTER PARAMETERS

Length	345 MM
Height	108 MM
Weight	156g
Length of Main Propeller	350MM
Diameter of Tail Propeller	62.5MM
Battery Specification	7.4v 700mah 25C
Flight Time	5-6 Min
Main Brushless Motor	1312
Brushless Tail Motor	1103

## WARNING AND THE GUIDE OF BATTERY USAGE

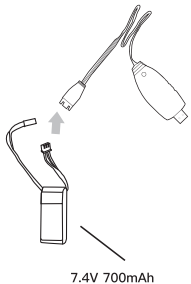


To ensure safety, please use the included standard charger

**WARNING:** It is recommended to use the original power supply charger when charging, otherwise property damage and injury will occur.

**Notice:** When it is lower than 7.4V, the lithium battery may be damaged, or it may no longer be charged. When the battery voltage is lower than 7.4V when the aircraft is flying, the power of the aircraft drops significantly. Please immediately land and charge the battery in time.

## BATTERY CHARGING



1. Users need to bring their own power adapter with USB socket or connect it to a computer USB socket.
2. Connect the dedicated USB charger to the power adapter, and the red light of the USB charger is always on.
3. Connect the voltage divider charging head of the battery to the USB charger. At this time, the red light of the USB charger is always on and the green light flashes, indicating it is in the charge
4. When the red and green lights of the USB charger are on, the charging is complete.

## Warning

1. To ensure safety, please charge under the supervision of someone.
2. Children cannot charge alone, they should charge with the assistance of an adult.
3. Please use the original standard charger of this product for charging. The charger of unknown origin may cause a fire and explosion accident.
4. It is recommended that users prepare their own 2A current adapter, which will shorten the charging time.

## NOTICE BEFORE FLIGHT

1. Make sure the battery power is full both for TX and helicopter.
2. Before open the power of TX, please make sure the TH. Stick at the bottom and the switch of TH.HOLD and 3D mode in back position (back cover direction).
3. Make sure the TX has paired with helicopter, or please pair them again.
4. Please open TX first, then connect the battery with the RX board on helicopter to pair with TX. When close, please cut the power of helicopter first, and then turn off the TX.
5. Keep away from crowd, cars, high-tension towers and pond. Then you can start your flying.

## PAIR THE TRANSMITTER WITH THE RECEIVER

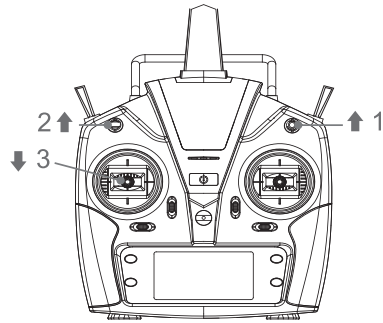
You buy the original model The pairing has been reset before factory. If you need to pair again, please comply with the following steps.

1. First open the remote control, make sure the throttle joystick is in the bottom position, 3D / IDLE switch in the OFF position
2. Take down the canopy for touching the code switch.
3. Charge the helicopter, the red lamp flashes slowly, press the code button for 1 second, then the red lamp will go out and get ready for pairing.
4. When the red and blue lights turn solid, the pairing has been successful.
5. Ensure there are no other remote controllers of the same type at work to avoid interference.

**Tips:** This product is compatible with all FUTABA 2.4GHZ S-FHSS remote controller.  
**Notice:** If the throttle of the transmitter has not been positioned at the lowest position with the throttle switch and 3D mode switch turned on, the transmitter will beep to prompt you that it fails to proceed to pair.

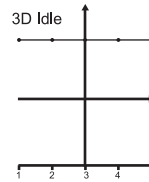
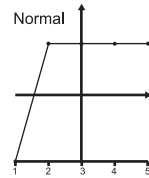
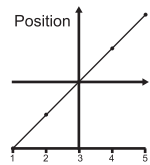
**Notice:**

1. When the remote control is turned on, the throttle hold switch is in the ON state, and the remote control beeps. The switch should be turned back to the OFF position.
2. When the remote control is turned on, the 3D switch is in the ON state, and the remote control will beep. The switch should be turned back to the OFF position.
3. When the remote control is turned on, the throttle stick is not in the lowest position, and the remote control will beep. The throttle stick should be pulled down to the lowest position.

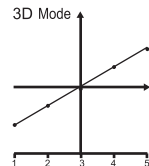
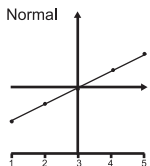


**THROTTLE CURVE AND PITCH CURVE**

Throttle Curve	Position	Normal	3D Idle
1	1	0	90
2	2	85	90
3	3	85	90
4	4	85	90
5	5	85	90



Pitch Curve	Position	Normal	3D Mode
1	1	25	32
2	2	35	40
3	3	50	50
4	4	58	60
5	5	65	68

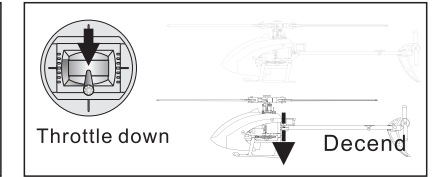
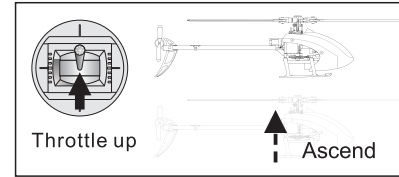


The above information is for your reference only, you can set the parameters to your demand.

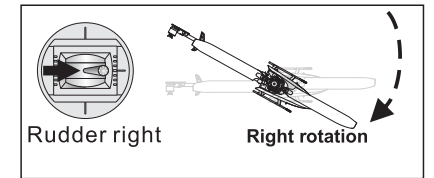
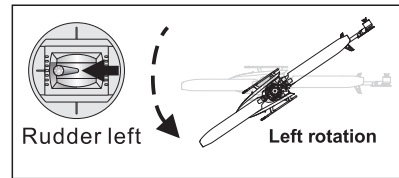
**INITIAL FLIGHT**

If you are not familiar with the control of the M03, take a few minutes to get familiar with them and then try your first flight.

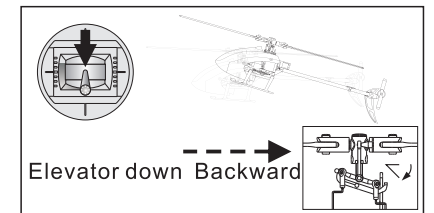
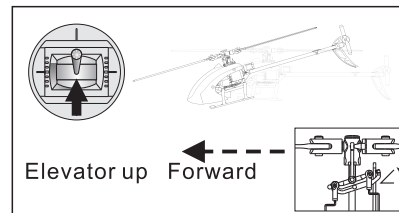
**Throttle**



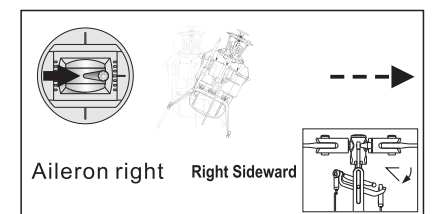
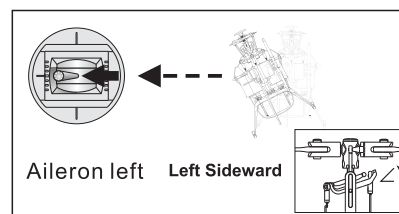
**Rudder**



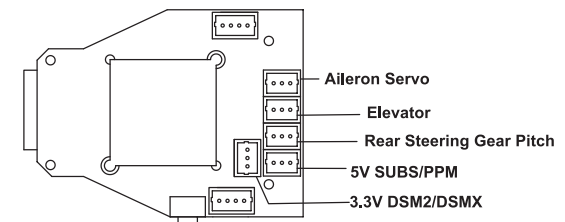
**Elevator**



**Aileron**

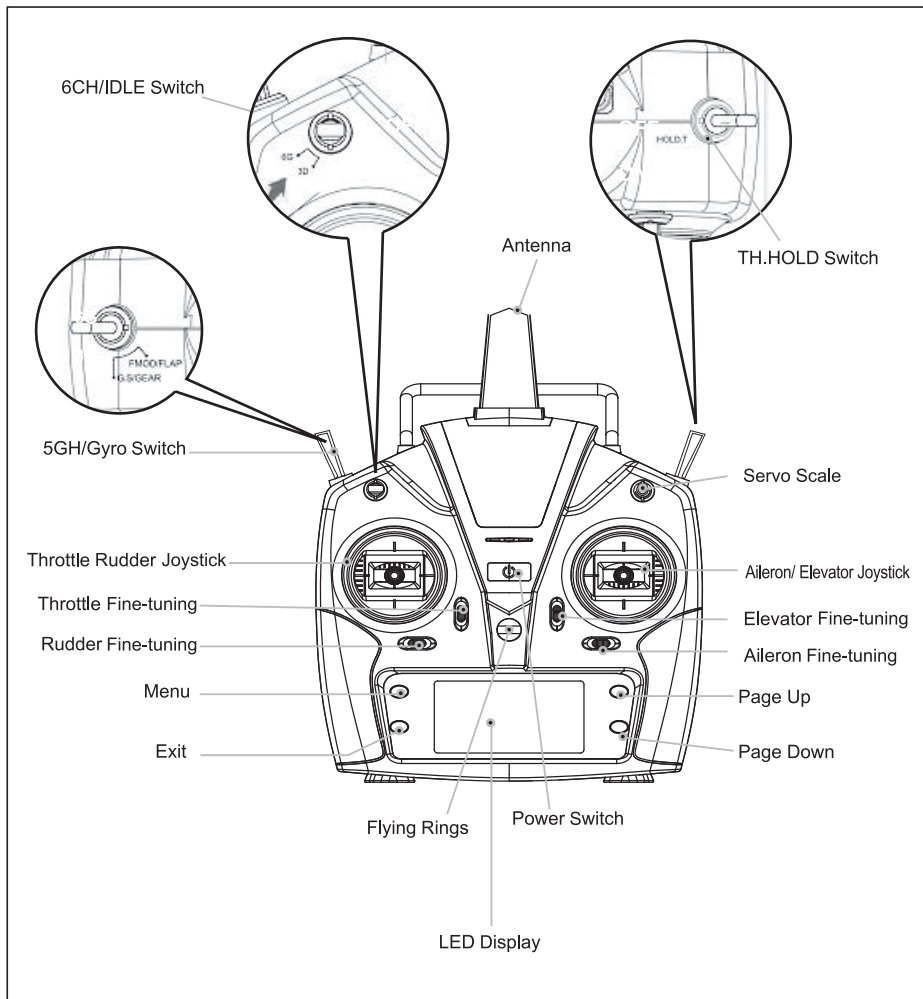


**RECEIVER INTERFACE DIAGRAM**

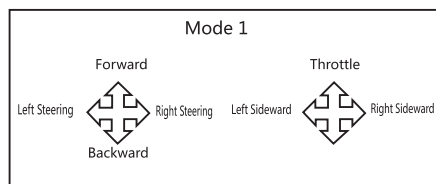


Notes: 3.3V is suitable for DSM receiver and 5V is suitable for FUTABA (S-BUS) J receiver.

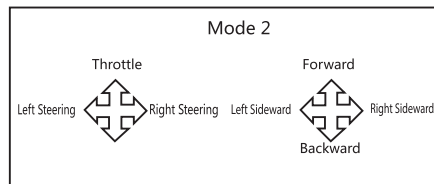
## ABOUT REMOTE CONTROLLER



### Right hand throttle



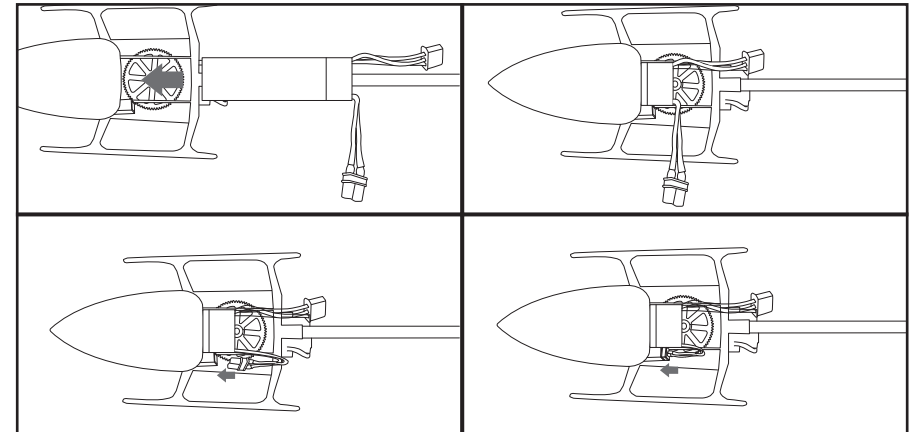
### Left hand throttle



This remote control supports CCPM 120 degree helicopter dedicated remote control, with 3D 6G switching high/low rudder capacity for two joystick modes, flameout switch (TH.HOLD) and other modes, large screen LCD display multi-function remote control.

## FLIGHT BATTERY INSTALLMENT

1. Put the throttle joystick to the bottom position.
2. Turn on the transmitter.
3. Install the battery into the rack and connect it properly with the receiving power.
4. Once the battery is connected, the signal starts to blink. Keep it still and wait until the signal light stops blinking, which means the receiver has completed self-inspection and gets ready for flight.

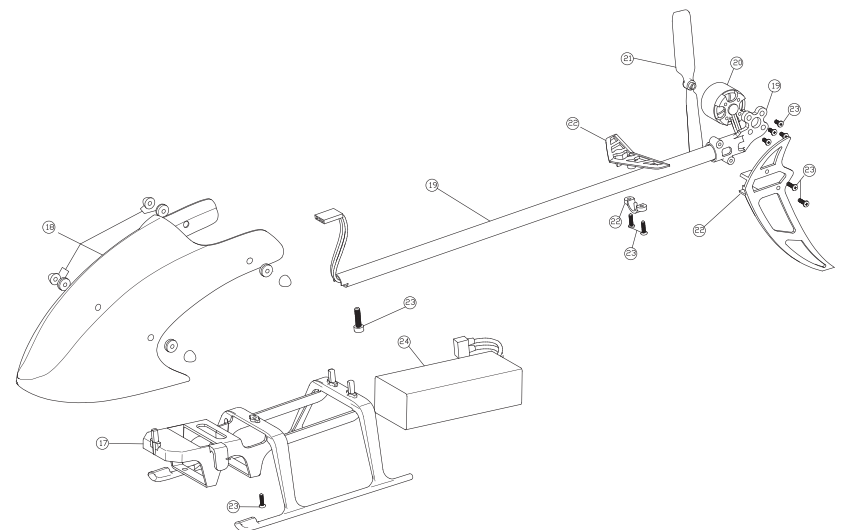
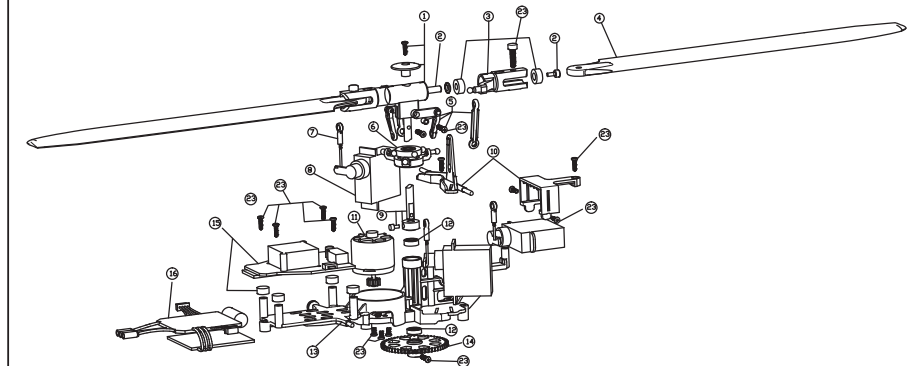


## TROUBLESHOOTING

	Problem	Cause	Solution
1	LED on receiver flashes constantly with no responses after connecting batteries to transmitter.	Transmitter is not bound to receiver. Pairing of the transmitter and receiver failed.	Re-pair (Refer to P.5, Programming your Transmitter)
2	The helicopter has no response after connecting batteries to receiver.	Check whether the transmitter and receiver connecting to power; check the voltage of transmitter and receiver; Battery pole flake contact is not good.	Open the transmitter, make sure the batteries connecting is good Replace and charge transmitter batteries Make sure the battery pole flake contact is good.
3	When push the throttle pole, the rotor do not rotate and the LED on Receiver flashes constantly.	Low battery voltage; batteries connection is not good.	Replace and charge the batteries, reconnect the batteries to the receiver board.
4	Helicopter takes off immediately, once the batteries and receiver connected.	Didn't put the throttle to the lowest	Put the throttle pole at the lowest position before open the transmitter.
5	Turn on the helicopter after binding successfully, the propeller rotate constantly but the helicopter can not take off.	Low charge in aircraft batteries or main gear loose.	Replace and charge the batteries ; press the spindle with gear tightly.

	Problem	Cause	Solution
6	Helicopter vibrates or shakes in flight.	Damaged rotor blades and lateral axis blade grips too tight causing the movement of the main rotor isn't smooth.	Change the main rotor blades, and lateral axis Loosen the blade grips properly.
7	Main rotor blades are shaking in flying.	Lateral axis is bent Lateral axis screw is not tight .There are some debris in the servo, causing shakes . The loose between the swashplates. Deformed or damaged tail rotor blades.	Replace the lateral axis. Tighten the lateral axis screw. Change the Bearing. Remove the servo, and clear debris. Compress the swash plates. change the tail rotor blades.
8	The sound of the main rotor becomes smaller.	Low battery voltage of helicopter.	Charge the battery or change a fully charged battery.
9	Helicopter has no reaction or can not fly smoothly.	Failure of binding	Rebind the helicopter and transmitter, make sure you place the helicopter static level next to the transmitter.
10	3D/6G model helicopter appeared yaw	Swashplate servos not back in to mid-position or damage	Length adjustment rod, so thatthe vertical spindle swashplate Replace the servo
11	Helicopter yaw occurs in 6G mode,	Helicopters hover need to reconfigure	Reference helicopter 6G mode setting
12	Helicopter took off spin to the left.	Tail motor power shortage loose blades Tail motor damage	Check with the tail rotor blades and the motor shaft, If loose replacement tail rotor blade. Motor damage Replace the tail motor.
13	Helicopter power is turned supreme speed governor electric sound	Brushless speed governor fault or poor contact	Check the connectors replace speed governor

## EXPLODED VIEW





## ACCESSORY LIST

NO	PARA NAME	QUANTITY
1	Rotor Head Set	1
2	Horizontal Axis Group	2
3	Rotor Clip Set	1
4	Paddle Group	2
5	Link Group	1
6	Swash Plate Group	1
7	Lower Link Group	2
8	Rudder Unit	1
9	Spindle Group	2
10	Servo Pressure Plate Group	1
11	Main Motor Unit	2
12	Bearing Set	1
13	Main Rack Group	1
14	Big Gear Set	1
15	Flight Control Motherboard	2
16	Governor Group	1
17	Landing Gear Group	2
18	Chassis Group	1
19	Tailstock Group	1
20	Tail Motor Unit	2
21	Chassis Group	1
22	Rear Wing	1
23	Screw Set	1
24	Battery	1
25	USB Charger Set	1
26	Remote Control Unit	1

**Notice for beginners:**

1. Please fly you models with guidance in the first time.
2. Before fly the models, you need to understand all the function of the transmitter and reaction cause by the rockers.
3. Don't use 3D mode hurried, Practice flying and hovering flight under 6G mode until you are familiar with it. Then you can practice flying and hovering flight under 3D mode. When you are familiar with these two modes you can practice inverted flight with guidance.
4. Practice hovering flight of inverted flight to lay a foundation for making more brilliant flying.
5. This model is not a toy. To avoid damage, please take a simulated flight through computing before 3D flying.

## ACCESSORIES LIST

<b>Part No: 2.E160.001</b> <b>Part Name: Rotor Head Set</b> 	<b>Part No: 2.E160.002</b> <b>Part Name: Horizontal Axis Group</b> 	<b>Part No: 2.E160.003</b> <b>Part Name: Rotor Clip Set</b> 	<b>Part No: 2.E160.004</b> <b>Part Name: Paddle Group</b> 
<b>Part No: 2.E160.005</b> <b>Part Name: Link Group</b> 	<b>Part No: 2.E160.006</b> <b>Part Name: Swash Plate Group</b> 	<b>Part No: 2.E160.007</b> <b>Part Name: Lower Link Group</b> 	<b>Part No: 2.E160.008</b> <b>Part Name: Rudder Unit</b> 
<b>Part No: 2.E160.009</b> <b>Part Name: Spindle Group</b> 	<b>Part No: 2.E160.010</b> <b>Part Name: Servo Pressure Plate Group</b> 	<b>Part No: 2.E160.011</b> <b>Part Name: Main Motor Unit</b> 	<b>Part No: 2.E160.012</b> <b>Part Name: Bearing Set</b> 
<b>Part No: 2.E160.013</b> <b>Part Name: Main Rack Group</b> 	<b>Part No: 2.E160.014</b> <b>Part Name: Big Gear Set</b> 	<b>Part No: 2.E160.015</b> <b>Part Name: Flight Control Motherboard</b> 	<b>Part No: 2.E160.016</b> <b>Part Name: Governor Group</b> 
<b>Part No: 2.E160.017</b> <b>Part Name: Landing Gear Group</b> 	<b>Part No: 2.E160.018</b> <b>Part Name: Chassis Group</b> 	<b>Part No: 2.E160.019</b> <b>Part Name: Tailstock Group</b> 	<b>Part No: 2.E160.020</b> <b>Part Name: Tail Propeller Unit</b> 
<b>Part No: 2.E160.021</b> <b>Part Name: Tail Propeller</b> 	<b>Part No: 2.E160.022</b> <b>Part Name: Rear Wing</b> 	<b>Part No: 2.E160.023</b> <b>Part Name: Screw Set</b> 	<b>Part No: 2.E160.024</b> <b>Part Name: Battery Pack</b> 
<b>Part No: 2.E160.025</b> <b>Part Name: USB Charger Set</b> 	<b>Part No: 2.E160.026</b> <b>Part Name: Remote Control Unit</b> 		



## 包装清单

NO	零件名称	QUANTITY
1	包装彩盒	1
2	遥控器盒	1
3	配件盒	1
4	使用说明书	1
5	直升机	1
6	发射机	1
7	充电器	1
8	电池 7.4v 700mah 25C	1
9	十字螺丝刀+六角扳手	1
10	主桨+尾桨	1 Set

## 注意事项

- 所有的说明, 本公司有权更改担保及其他相关文件的权利, 更新的信息请访问本厂网址。

## 警告

- 操作前, 请阅读整个说明书以便了解该产品的功能。未能正确地操作本产品可能会导致产品损坏, 对人身财产造成严重损害。这是一个复杂的模型产品, 而不是一玩具。不仅要谨慎操作, 还需要具备操作常识和操作基础。若未能安全使用该产品, 会毁坏该产品或者对人身, 或者对其他财产造成损失。本产品不供没有成人监督下的儿童直接使用。本手册内容包括安全、操作、维护。因此, 在装配, 安装或使用产品前。我们必须阅读并遵守本手册中所有的提示和警告, 以便正确操作, 避免造成损伤或严重伤害。

## 附加安全措施防范和警告

1. 年龄建议: 不适合14岁以下的儿童, 这不是一个玩具。
2. 始终在开放的空间操作你的模型, 远离车辆、交通和人。
3. 必须仔细地遵循操作说明和警告, 以及任何可选的支持设备。(充电器, 可选充电电池等)
4. 始终保持远离所有的化学品, 细小部件跟用电设备需远离儿童接触。
5. 应避免与水接触, 尤其此设备的设计不具备防水功能; 水汽也会导致电子产品损害。
6. 切勿将模型的任何部件放在嘴里, 因为它可能会导致严重受伤甚至死亡。
7. 当发射机电电压过低时切勿操作你的模型。

## 简介

这是一款飞行性能超经典的直升机, 采用无副翼设计, 减少旋翼头的阻力。引用空气动力学设计的桨叶, 提供了强劲的动力及机体自稳性。电子采用新型陀螺仪, 集3轴与6轴模式一体, 3轴模式特技飞行, 你可以很轻松的做出各种特技动作, 6轴模式超稳定, 特别适合初学者飞行。

飞过这款微型直升机后, 你会发现以前飞过的微型直升机在他面前都会黯然失色, 这才是一款真正无法比拟的, 真正适合大众化的直升机, 初学者会觉得他很好飞, 飞行高手会觉得他很有趣, 是绝对值得拥有和称赞的。

本说明书有助于你详细了解该产品, 有详细的产品功能介绍, 飞行前请仔细阅读。

## 目录

包装清单 .....	14
注意事项 .....	15
警告 .....	15
附加安全措施防范和警告 .....	15
简介 .....	15
目录 .....	16
飞机参数 .....	17
电池使用警告与向导 .....	17
电池充电 .....	17
飞前注意事项 .....	18
发射机和接收机对码 .....	18
油门曲线与螺距曲线设置参照表 .....	18
首次飞行指挥 .....	19
接收机接口图 .....	19
发射机使用说明 .....	20
安装飞行电池 .....	21
如何排除飞行中的异常 .....	21
爆炸图 .....	22
零件清单 .....	23
配件列表 .....	24

## 飞机参数

长度	345 MM
高度	108 MM
重量	156g
主桨长度	350MM
尾桨直径	62.5MM
电池规格	7.4v 700mah 25C
飞行时间	5-6
主马达无刷马达	1312
锁尾无刷电机	1103

## 电池使用警告与向导

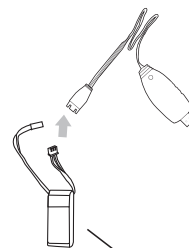


附带的电池充电器可以安全的给聚合物锂电池充电。

警告: 充电时建议使用原厂提供的电源充电器,否则会导致财产损失和伤害发生。

注意: 当低于7.4V时,锂电池可能会被损坏,或者可能不再接受充电,飞机飞行时电池电压低于7.4V时,飞行动力下降明显,请立即降落并且及时给电池充电。

## 电池充电



7.4V 700mAh电池

- 1.用户需自备具有USB插座的电源适配器,或者连接电脑USB插座。
- 2.将专用的USB充电器与电源适配器进行连接,此时USE充电器红灯常亮。
- 3.电池的分压充电头与USB充电器进行连接,此时USB充电器红灯常亮绿灯闪动,充电进行中。
- 4.当USB充电器红灯绿灯长亮,充电完成。

### 警告

- 1.为了确保安全,请在有人监护下进行充电。
- 2.儿童不可独自进行充电,要在成人协助下进行充电。
- 3.请使用本产品原装标配充电器进行充电,使用来历不明的充电器可能发生燃烧爆炸事故。
- 4.建议用户自备2A电流的适配器,将会缩短充电时间。



## 飞前注意事项

1. 确认发射机电源是否充足，直升机电源是否充足。
2. 打开发射机电源开关时，请确认发射机油门摇杆在最下方，确认发射机两侧的油门保持开关和特技模式开关拨向后面。（后壳方向）
3. 确认发射机与直升机是否同频，如果异常请重新对码。
4. 开机时先打开发射机，然后将电池连接上接收机进行对码，关机时先拔掉电池与接收机的连接线，再关闭发射机电源。
5. 寻找一个合适飞行的场地，远离人群、车、高压电塔、水塘等，方可进行安全愉快的飞行。

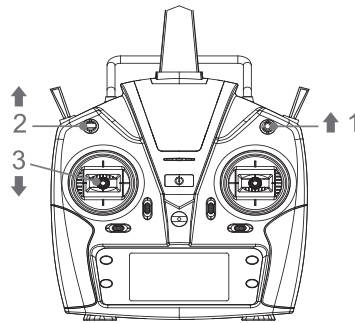
## 发射机和接收机对码

你购买的是原厂模型，在出厂时已经对码完成，如果需要从新对码，请按下一步骤操作。

1. 先将遥控器打开，确认油门摇杆在最下面位置，3D/IDLE开关OFF位置
2. 取下机壳，方便接触到对码开关。
3. 给飞机上电，红灯慢闪，按对码按键1秒，红灯熄灭，进入对码绑定状态。
4. 红灯蓝灯长亮，对码完成。
5. 对码时确定周围没有相同型号遥控器打开，以免影响对码。

提示：该产品通用所有FUTABA 2.4GHZ S-FHSS遥控器。

注意：发射机油门没在最下位置，油门保持开关及3D特技开关在打开状态，发射机会发出滴滴警告，无法进入对码程序。



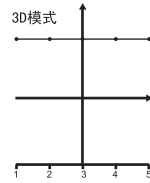
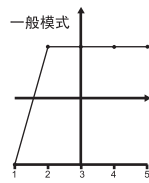
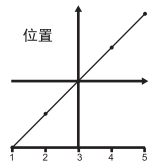
注意：1. 开启遥控器时，油门保持开关处于ON状态，遥控器会发出滴滴报警声，应将开关拨回OFF位置。

2. 开启遥控器时，3D开关在ON状态，遥控器会发出滴滴报警声，应将开关拨回OFF位置。

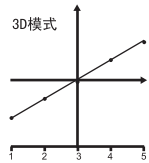
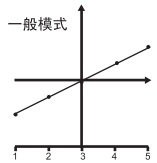
3. 开启遥控器时，油门摇杆未在最下位置，遥控器会发出滴滴报警声，应将油门摇杆拉倒最下位置。

## 油门曲线与螺距曲线设置参照表

油门曲线	位置	一般模式	3D模式
	1	0	90
	2	85	90
	3	85	90
	4	85	90
	5	85	90



螺距曲线	位置	一般模式	3D模式
	1	25	32
	2	35	40
	3	50	50
	4	58	60
	5	65	68

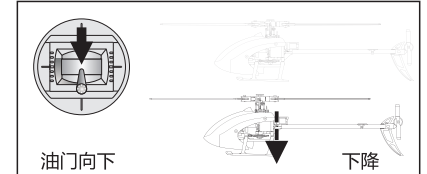
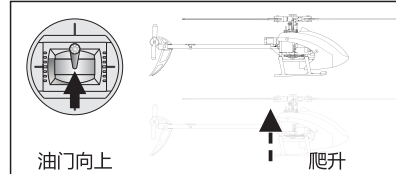


本设定供用户参考，用户可根据个人需求自由设定参数

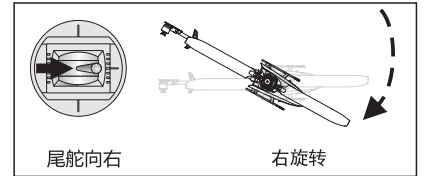
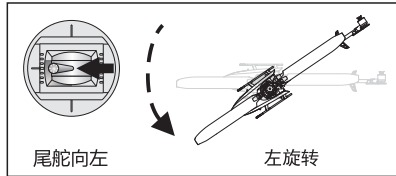
## 首次飞行指挥

如果你不熟悉直升机的控制，花几分钟熟悉它们，然后尝试你的第一次飞行。

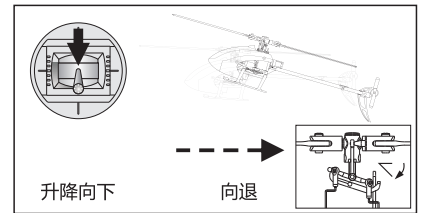
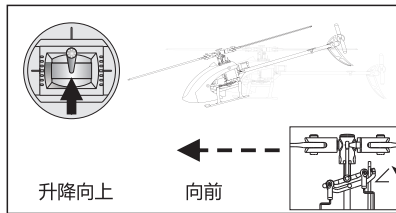
### 油门



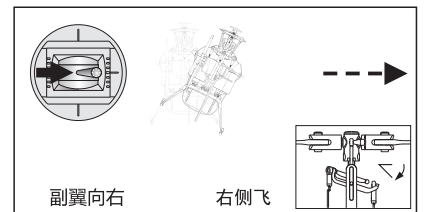
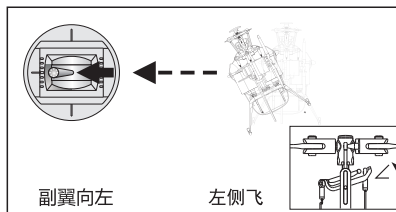
### 方向



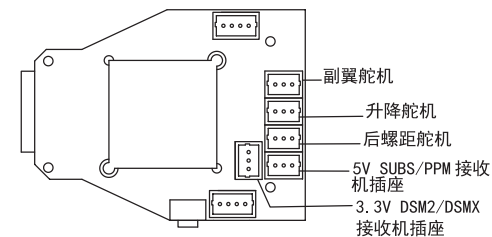
### 升降



### 副翼

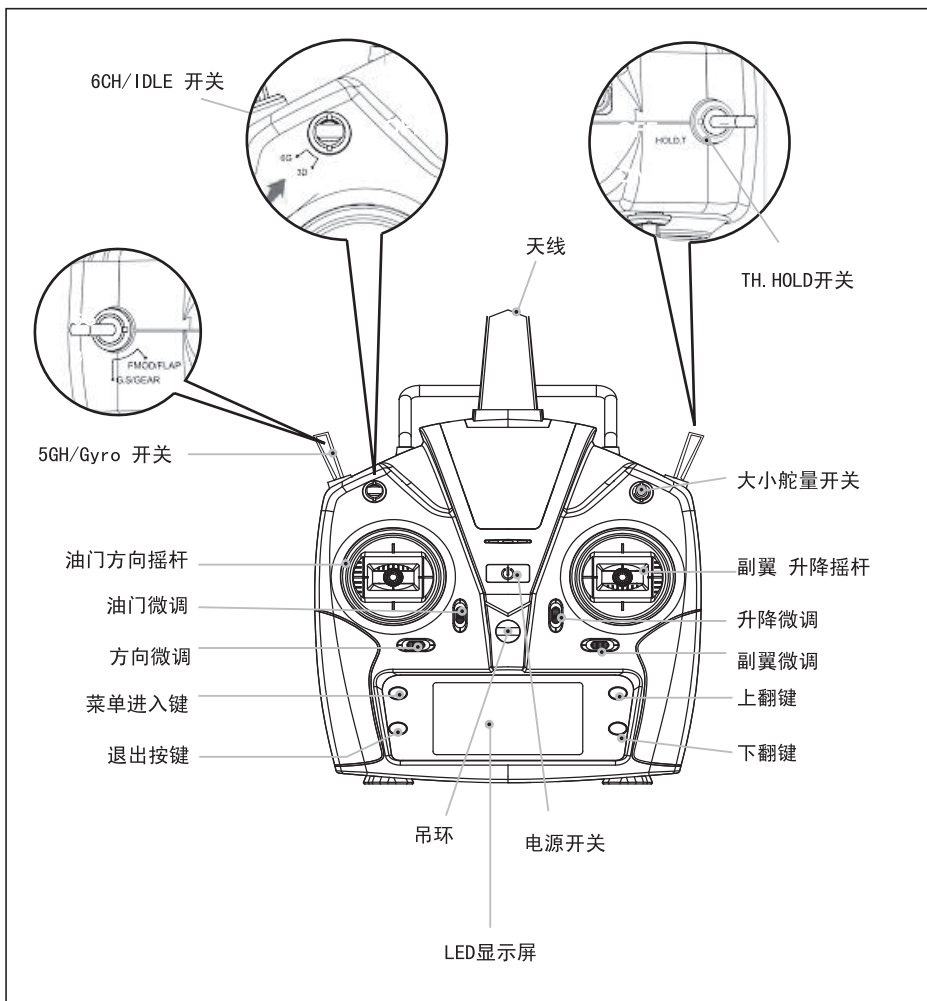


## 接收机接口图

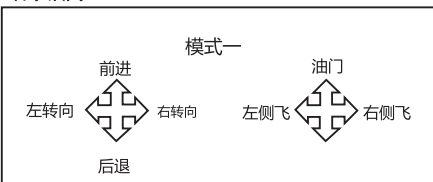


备注：3.3V适合DSM接收机，5V适用于FUTABA(S-BUS)J接收机。

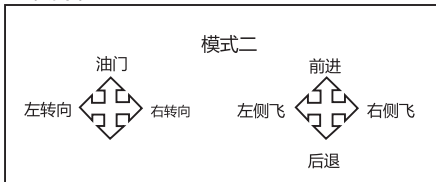
## 遥控器使用说明



右手油门



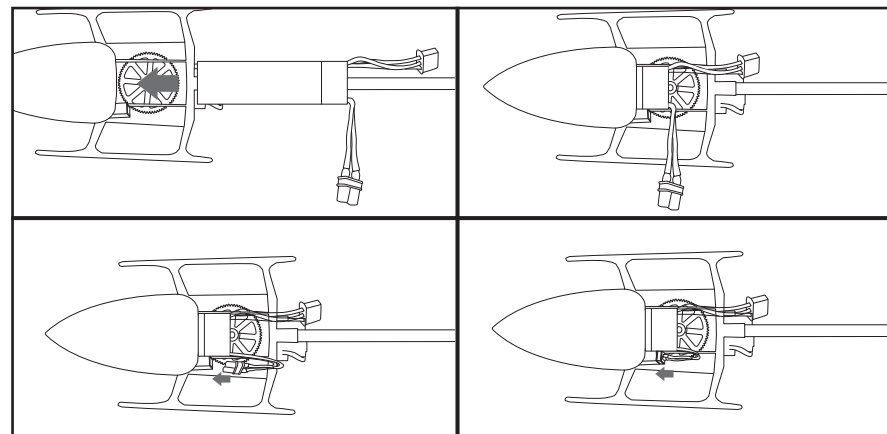
左手油门



该款遥控器支持CCPM120度直升机专用遥控器，具有3D 6G切换 大小舵量转换 2种操纵杆模式，熄火开关（TH. HOLD）等模式，大荧幕LCD显示屏多功能遥控器。

## 安装飞行电池

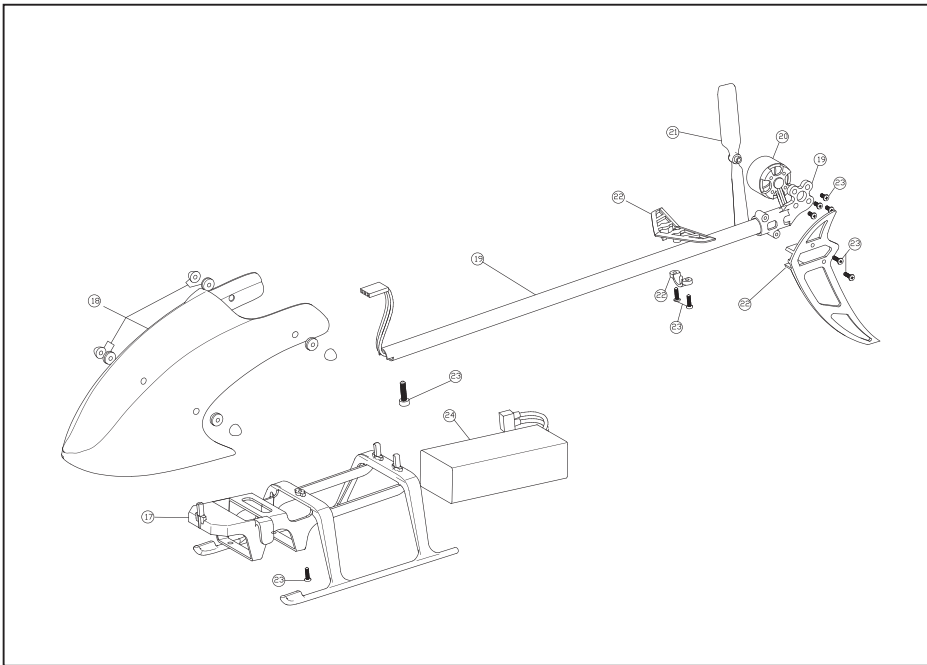
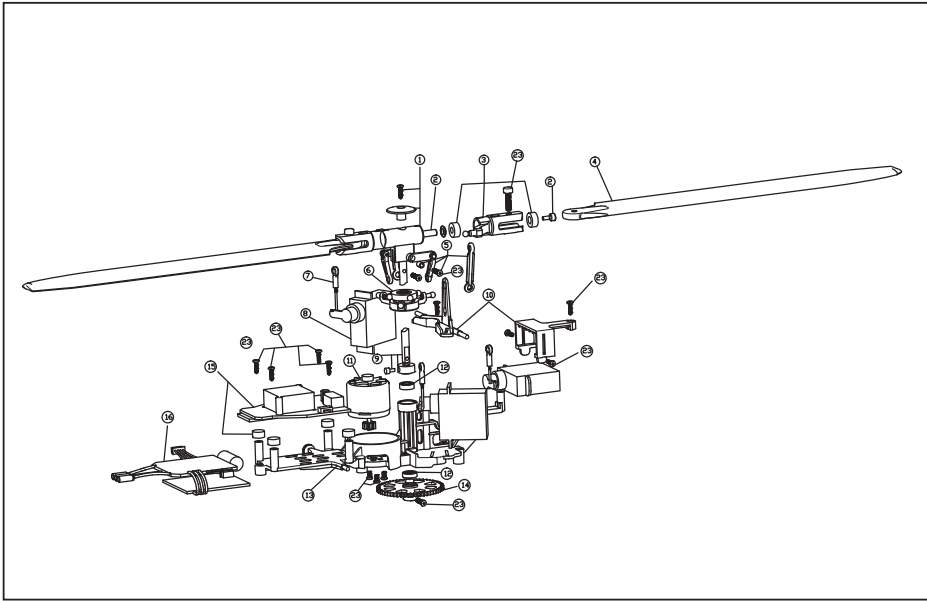
- 1.将油门拉杆打到最低位。
- 2.打开发射机。
- 3.将电池装入机架内并与接收机电源进行正确连接。
- 4.接通电池后信号灯闪烁，静止平放待信号灯停止闪烁，接收机自检完成，即可飞行。



## 除飞行中的异常

状况	原因	对策
1 电池与接收机连接后，接收机提示灯持续闪烁，操作无反应。	发射机与接收机对码失败。	请重新执行发射机与接收机对码对码（参阅P.5发射机与接收机对码）
2 电池与接收机连接后，直升机没有任何反应。	检查发射机与接收机是否接通电源；检查发射机与接收机电池电压；电池极片接触不良。	打开发射机，确认电池安装位置；使用完全充电的电池；重新插入电池，确认电池与电池极片的接触是否正常。
3 推动油门摇杆时，马达不转，且接收机提示灯开始闪烁。	直升机电池电压不足；电池插头与接收机插座接触不良。	将电池充电或更换一个充满电的电池；重新连接电池与接收机。
4 电池与接收机连接，对码成功后，直升机马上起飞。	打开发射机前，油门摇杆没有置于最下方。	打开发射机前，将油门摇杆置于最下方。
5 对码成功后，启动直升机，主桨有持续转动，但不能飞。	直升机电池电压不足主轴齿轮松开。	将电池充电或更换一个充满电的电池，将主轴与齿轮压紧。
6 直升机震动的很厉害。	主桨变形，横轴弯曲，尾桨变形，桨夹螺丝锁太紧，导致主桨不动。	更换主桨，更换主轴，更换尾桨，将桨夹螺丝适当拧松。
7 飞行时主桨出现双桨产生抖动。	横轴弯曲，横轴螺丝没锁紧，桨夹轴承磨损，舵机有杂物进入导致抖动，上斜盘与下斜盘松动，尾桨变形或破损。	更换横轴，锁紧横轴螺丝并运动顺畅，更换轴承，取下舵机，清除舵机杂物，压紧上斜盘与下斜盘，更换尾桨。
8 直升机主桨声音变小。	直升机电池电压不足。	将电池充电或更换一个充满电的电池。
9 直升机无任何反应或不能平稳飞行。	信号绑定失败。	重新绑定，绑定时小直升机需水平放置。
10 直升机3D/6G模式下都出现偏航	十字盘没回中或者舵机损坏	调整连杆的长度，使十字盘与主轴垂直更换舵机
11 直升机在6G模式下出现偏航，	直升机悬停需要重新设定	参考直升机6G模式设定
12 直升机起飞向左打转。	尾马达力量不足 桨叶松动 尾马达损坏	检查尾桨叶与马达轴的配合，如果松动更换尾桨叶。马达损坏更换尾马达。
13 直升机接通电源调速器无上电音	无刷调速器故障或接触不良	检查接头 更换调速器

## 爆炸图



## 零件清单

NO	零件名称	QUANTITY
1	旋翼头组	1
2	横轴组	2
3	旋翼夹组	1
4	桨叶组	2
5	连杆组	1
6	十字盘组	1
7	下连杆组	2
8	舵机组	1
9	主轴组	2
10	舵机压板组	1
11	主电机组	2
12	轴承组	1
13	主机架组	1
14	大齿轮组	1
15	飞控主板组	2
16	调速器组	1
17	起落架组	2
18	机壳组	1
19	尾杆组	1
20	尾电机组	2
21	尾桨组	1
22	尾翼组	1
23	螺丝组	1
24	电池组	1
25	USB充电器组	1
26	遥控器组	1

### 新手飞行注意事项

- 1: 第一次接触模型直升机的请在有经验的指导下飞行。
- 2: 新手飞行要在地面全部了解遥控器的功能后及摇动摇杆飞机出现的反应，充分了解后才能飞行。
- 3 不能急于3D动作飞行，要循序渐进现在6G模式下把飞机正飞四面悬停练习，要熟练掌握后再进行3D正飞四面悬停，两种模式都熟练掌握后在有经验人指导下进行倒飞练习。
- 4 倒飞仍要进行四面悬停练习，为你以后能做更漂亮的动作打基础。
- 5 6通模型飞机不是玩具，为减少不必要的损坏，请你在进入3D练习时，可以先在电脑模拟器内进行练习，熟练掌握后再实际飞行。

## 配件列表

零件编号: 2.E160.001 零件名称: 旋翼头组 	零件编号: 2.E160.002 零件名称: 横轴组 	零件编号: 2.E160.003 零件名称: 旋翼夹组 	零件编号: 2.E160.004 零件名称: 桨叶组 
零件编号: 2.E160.005 零件名称: 连杆组 	零件编号: 2.E160.006 零件名称: 十字盘组 	零件编号: 2.E160.007 零件名称: 下连杆组 	零件编号: 2.E160.008 零件名称: 舵机组 
零件编号: 2.E160.009 零件名称: 主轴组 	零件编号: 2.E160.010 零件名称: 舵机压板组 	零件编号: 2.E160.011 零件名称: 主电机组 	零件编号: 2.E160.012 零件名称: 轴承组 
零件编号: 2.E160.013 零件名称: 主机架组 	零件编号: 2.E160.014 零件名称: 大齿轮组 	零件编号: 2.E160.015 零件名称: 飞控主板组 	零件编号: 2.E160.016 零件名称: 调速器组 
零件编号: 2.E160.017 零件名称: 起落架组 	零件编号: 2.E160.018 零件名称: 机壳组 	零件编号: 2.E160.019 零件名称: 尾杆组 	零件编号: 2.E160.020 零件名称: 尾电机组 
零件编号: 2.E160.021 零件名称: 尾桨组 	零件编号: 2.E160.022 零件名称: 尾翼组 	零件编号: 2.E160.023 零件名称: 螺丝组 	零件编号: 2.E160.024 零件名称: 电池组 
零件编号: 2.E160.025 零件名称: USB充电器组 	零件编号: 2.E160.026 零件名称: 遥控器组 		