

YU XIANG

EC135仿真直升机用户手册

EC135 Scale Helicopter User Manual

F06



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MADE IN CHINA



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简介 Introduction:

该模型根据EC135直升机1:32比例制作, 具有高仿真的细节外观, 酷炫灯光, 搭载了智能飞控, 下视觉定位模块 气压定高模块, 双无刷电机直驱, 非常适合初学者飞行。同时也是一个很好的静态模型展品。

This model is a 1:32 scale replica of the EC135 helicopter, featuring highly realistic detailed appearance, cool lighting effects, and equipped with intelligent flight control, Optical flow positioning module, and altitude hold module. With its dual brushless motor drive, it is especially suitable for beginners. It can also serve as an excellent static display model.

在操作直升机前, 请仔细阅读本使用手册, 本手册详细说明将帮助你了解产品, 不正确的操作会导致飞机模型损坏, 进而浪费您宝贵的时间和金钱。

Before operating the helicopter, please read this user manual carefully. This manual provides detailed instructions to help you understand the product. Incorrect operation may result in damage to the aircraft model, wasting your valuable time and money.

配件列表 What in box:

序号 No.	配件	Spare parts	数量 Quantity
1	彩盒	Color Box	1
2	吸塑内包装	Blister Packaging	1
3	用户手册	User Manual	1
4	直升机	Helicopter	1
5	发射机	Transmitter	1
6	USB充电器	USB Cable	1
7	电池 1200mah 7.4V	Battery 1200mAh 7.4V	1
8	十字螺丝刀/六角扳手	Cross Screwdriver/Hex Wrench	4
9	主螺旋桨	Main Rotor Blade	1
10	尾桨	Tail Rotor	

⚠ 注意 Caution:

我们公司可自行决定更改所有说明、保证和其他附属文件。获取最新的产品资料。请拜访

Our company reserves the right to change all specifications, warranties, and other accompanying documents. Please contact us for the latest product information.

⚠ 警告 Warning:

操作前请阅读整个用户手册以熟悉产品的功能。未能正确操作产品可能会导致产品损坏、人身财产损失并造成严重伤害。这是一个复杂的爱好产品。它必须谨慎和常识操作, 并且需要一些基本的机械能力。未能在安全的情况下操作本产品负责的方式可能会导致人身伤害或损坏产品或其他财产。本产品不适合在没有成人直接监督的情况下供儿童使用。本手册包含安全、操作和维护说明。在组装或使用之前, 必须阅读并遵守手册中的所有说明和警告, 以正确操作并避免损坏或严重伤害。

Please read the entire user manual before operating the product to familiarize yourself with its functions. Failure to operate the product correctly may result in product damage, personal and property losses, and cause serious injury. This is a complex hobby product that requires careful and sensible operation, as well as some basic mechanical skills. Failure to operate this product responsibly and in a safe manner may result in personal injury, damage to the product, or other property. This product is not intended for use by children without direct adult supervision. This manual contains safety, operational, and maintenance instructions. It is essential to read and follow all instructions and warnings in the manual before assembly or use to ensure proper operation and to avoid damage or serious injury.

⚠ 安全预防措施和警告 Safety Precautions and Warnings:

1. 年龄建议: 不适合14岁以下的儿童。这不是玩具。
2. 始终在远离全尺寸车辆、交通和人员的开放空间中操作您的模型。
3. 仔细遵循操作通知、警告和任何支持设备(充电器、电池等)。
4. 远离任何化学品; 让儿童远离任何小零件和电气设备。
5. 始终远离水, 特别是本产品不具备防水功能; 它会被湿气损坏。
6. 切勿将模型的任何部分放入口中, 否则可能导致严重伤害甚至死亡。
7. 切勿使用低压发射器电池操作您的模型。

1. Age Recommendation: Not suitable for children under 14 years old. This is not a toy.
2. Always operate your model in an open space away from vehicles, traffic, and people.
3. Follow operating notices, warnings, and any supporting equipment instructions (charger, batteries, etc.) carefully.
4. Keep away from any chemicals; keep small parts and electrical components away from children.
5. Always stay away from water, especially as this product is not waterproof; it will be damaged by moisture.
6. Do not put any part of the model in your mouth, as it may cause serious injury or even death.
7. Do not operate your model using low-voltage transmitter batteries.

直升机参数 Helicopter Specifications:

长度	Length	352 mm
高度	Height	120 mm
重量	Weight	278 g
主桨直径	Main Rotor Diameter	328 mm
尾桨直径	Tail Rotor Diameter	70 mm
电池规格	Battery Specifications	7.4V 1200mah 25C
飞行时间	Flight Time	8-10 Min
主无刷电机	Main Brushless Motor	2507
无刷尾电机	Brushless Tail Motor	1204

警告与电池使用指南 Warnings and Battery Usage Guide:



为确保安全，请使用随附的标准充电器。
For safety purposes, please use the provided standard charger.

警告：强烈建议使用随附的充电器为电池充电。

Warning: It is strongly recommended to use the included charger for battery charging.

注意：当电池电压低于 7.4V 时，锂电池可能会损坏，可能无法正常充电。

Caution: Lithium batteries may be damaged and may not charge properly when the voltage drops below 7.4V.

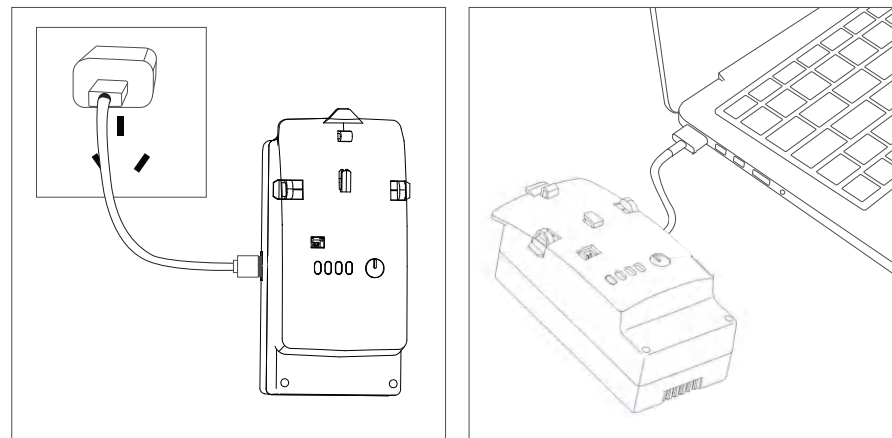
电池充电 Battery Charging:

- 1.将USB充电线与电脑USB接口或电源适配器进行连接
- 2.USB充电器另一端(安卓) type-c插头与电池连接，进行充电。
- 3.充电时当前电量指示灯闪动，4个灯常亮后充电完成。
- 4.充电完成后断开充电连接。

- 1.Connect the USB cable to a computer USB port or a power adapter.
- 2.Connect the USB 's other end (Type-C plug for Android) to the battery for charging.
- 3.During charging, the current battery level indicator will flash, and all four lights will remain solid when charging is complete.
- 4.Disconnect the charging connection after charging is complete.

注意:建议用户使用5V 2A的适配器进行充电，可以快速完成充电

Note: It is recommended to use a 5V 2A adapter for charging, as it will enable faster charging.

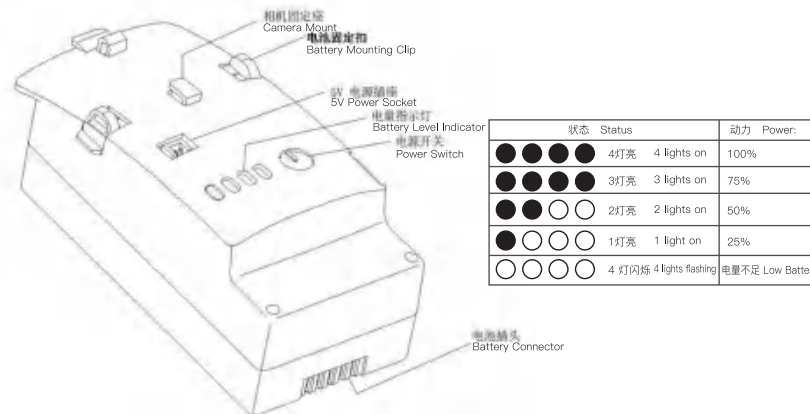


警告 Warning:

- 1.为了最大的安全，请在充电时监控电池。
- 2.请不要让孩子自己进行充电，但要确保成人全程监督。

- 1.To ensure maximum safety, monitor the battery while it is charging.
- 2.Do not allow children to charge the battery on their own, but ensure that an adult supervises the entire process.

电池功能及指示灯 Battery Functions and Indicators:



警告 Warning:

使用后请关闭电池，长时间开机可能会缩短电池寿命。
飞行后请从机舱内取出电池，以免过放对电池造成损坏。

After use, please turn off the battery as prolonged power-on time may shorten the battery lifespan.
After flying, remove the battery from the cabin to prevent damage due to over-discharge.

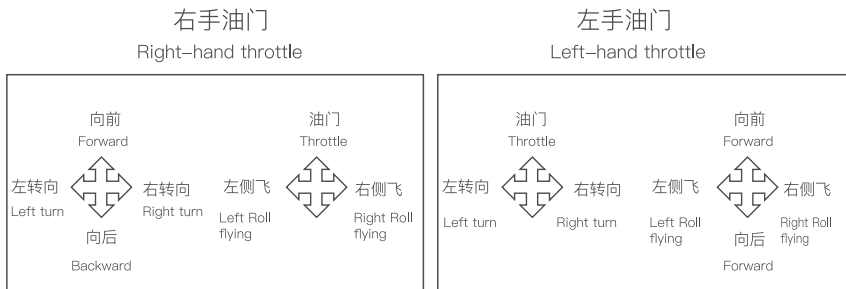
遥控器功能 Transmitter Functions:



⚠ 注意 Caution:

- 1 出厂默认为MODE2 左手油门，遥控器亮蓝灯，按方向右侧微调键开机转换飞行模式，MODE1 遥控器亮红灯与蓝灯。
- 2 如需校准遥控器摇杆，按副翼左侧微调键开机，遥控器滴滴滴三声，保持遥控器静止不动，自动默认校准摇杆。
- 3 遥控器出厂默认小舵量，大小舵量按键切换，滴滴两声大舵量，滴单声小舵量。

- 1.The default factory setting is MODE2 with left-hand throttle. The remote control's blue light is on. Press the right-side trim button to switch to MODE1, indicated by the remote control's red and blue lights.
- 2.To calibrate the remote control's joysticks, power on the remote control by pressing the left-side trim button. The remote control will emit three beeps. Keep the remote control still and it will automatically calibrate the joysticks.
- 3.The default setting for the trim buttons is small trim. Press the trim buttons to switch between small trim (two beeps) and large trim (one beep).



飞行器与遥控器对频绑定 Aircraft and Remote Control Frequency Binding:

飞行器套装购买时，出厂时遥控器已经与飞行器对频绑定，可直接上电使用，其他情况下，请按以下方法进行对频。

When purchasing the aircraft kit, the remote control already bound to the aircraft at the factory and can be used directly. In other cases, please follow the instructions below for binding.



- 1 按住遥控器副翼微调右侧按键，同时打开遥控器进入对频模式，此时遥控器开机后发出滴滴声音，遥控器指示灯快闪，进入对频
- 2 给飞行上电，并打开电池开关，飞行器指示灯黄灯快闪。
- 3 将飞行器靠近飞机0.5m距离内，保持飞行器静止不动。
- 4 遥控器发出滴滴两声，遥控器指示灯常亮，此时飞行器指示灯也恢复到绿灯常亮，对频完成。
- 5 如对频绑定不成功，请重复上述步骤，重新对频。

- 1.Press and hold the right-side trim button of the remote control's auxiliary joystick while turning on the remote control to enter binding mode. The remote control will emit a beep sound upon power on, and the remote control's indicator light will flash quickly, indicating it has entered binding mode.
- 2.Power on the aircraft and turn on the battery switch. The aircraft's indicator light will flash yellow.
- 3.Keep the aircraft still within 0.5m from the remote control.
- 4.The remote control will emit two beeps, and the remote control's indicator light will remain solid. At the same time, the aircraft's indicator light will also return to a solid green, indicating successful binding.
- 5.If the binding process is unsuccessful, please repeat the above steps to rebind.

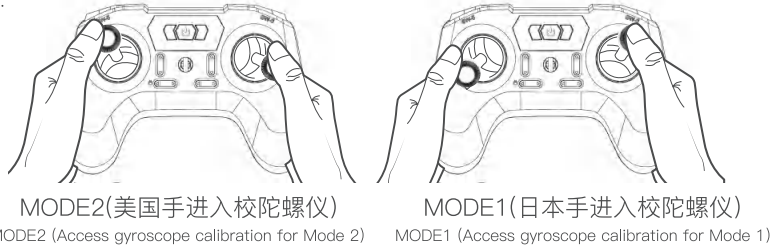
飞行器状态指示灯说明 Aircraft Status Indicator Light Explanation:

- | | | |
|------------------------------------|---|---|
| 1 黄灯快闪
1.Rapid yellow flashing: | 飞行器自检
Aircraft self-checking. | 飞行器保持静止，待自检通过
The aircraft should remain stationary until the self-check is completed. |
| 2 绿灯常亮
2.Solid green: | 下视觉光流模式
Downward visual optical flow mode. | 限高8米飞行
Limited to flying at a height of 8 meters. |
| 3 绿灯慢闪
3.Slow green flashing: | 下视觉环境差
Poor downward visual environment. | 降低飞行高度或更换飞行场地
Lower the flight altitude or change 4. the flying area. |
| 4 红灯常亮
4.Solid red: | 手动飞行模式
Manual flight mode. | 手动模式，密切关注飞行器
Exercise close attention when flying manually. |
| 5 红灯慢闪
5. Slow red flashing: | 一级低电
Low-level battery warning. | 控制飞行器在视觉范围内
Control the aircraft within visual range. |
| 6 红灯快闪
6. Rapid red flashing: | 二级低电
Critical-level battery warning. | 飞行器自动降落
The aircraft will initiate an automatic landing. |

螺仪校准 Gyroscope Calibration:

飞行器对频成功后，将遥控器（MODE2）如图示左手摇杆最上角 右手摇杆最下角2-3秒，此时飞行器指示灯黄灯快闪，指示灯有快闪变为绿灯常亮，校准完成。

After successful binding between the aircraft and the remote control, perform the following steps to calibrate the gyroscope. On the remote control (MODE2), hold the left joystick in the upper corner and the right joystick in the lower corner as shown in the diagram for 2-3 seconds. During this time, the aircraft's indicator light will flash yellow and then change to solid green, indicating that the calibration is complete.



进行陀螺仪校准时，务必将飞行器放置在水平面上，否则影响飞行。出厂已校准过陀螺仪，用户不必要再次进行校准，只有无法退出初始化或者手动姿态模式下存在偏航，则需重新校准陀螺仪。校准通过后指示灯根据当前遥控器开关位置提示，具体参照指示灯说明。

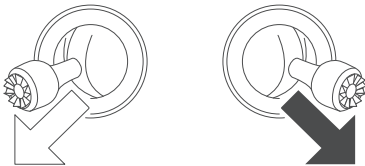
During gyroscope calibration, it is important to place the aircraft on a level surface to ensure accurate flight. The gyroscope is already calibrated at the factory, so users do not need to calibrate it again unless they are unable to exit the initialization or if there is yaw drift in manual attitude mode. In such cases, recalibration is necessary. After successful calibration, the indicator light will provide prompts based on the current position of the remote control's switch, as explained in the indicator light section.

手动启动/停止电机 Manual Motor Start/Stop:

启动电机

执行外扒掰杆动作可启动电机，启动电机后马上松开摇杆，油门摇杆上推大于50%，飞行器执行离地起飞。

Motor Start:
Perform the throttle stick action to start the motor. Immediately release the stick after starting the motor. Push the throttle stick upward by more than 50%, and the aircraft will take off.

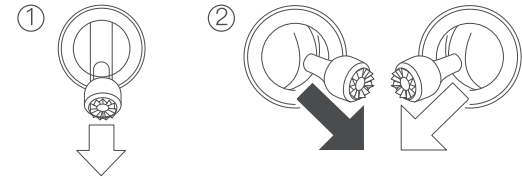


停止电机

电机启转后有两种停止方法

方法一：飞行器着陆之后，油门摇杆最低位置并保持3秒以上，电机停转。
方法二：飞行器着陆之后，两个摇杆同时内掰，电机立即停止。停止后松开摇杆。

Motor Stop:
There are two methods to stop the motor after it has started:
Method 1: After the aircraft has landed, move the throttle stick to the lowest position and hold it for at least 3 seconds to stop the motor.
Method 2: After the aircraft has landed, pull both joysticks inward simultaneously to stop the motor immediately. Release the sticks after the motor has stopped.



飞行器上锁:

长按锁定键 滴滴两声上锁，短按滴一声解锁，空中不可进行上锁操作，会导致电机停转，照成炸机风险。

Aircraft Locking:

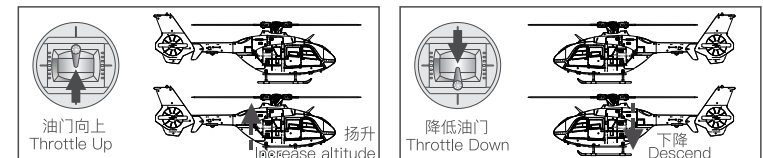
Long press the lock button to hear two beeps for locking, and short press for one beep to unlock. Locking should not be performed while the aircraft is in the air, as it may cause the motors to stop and pose a risk of crashing.

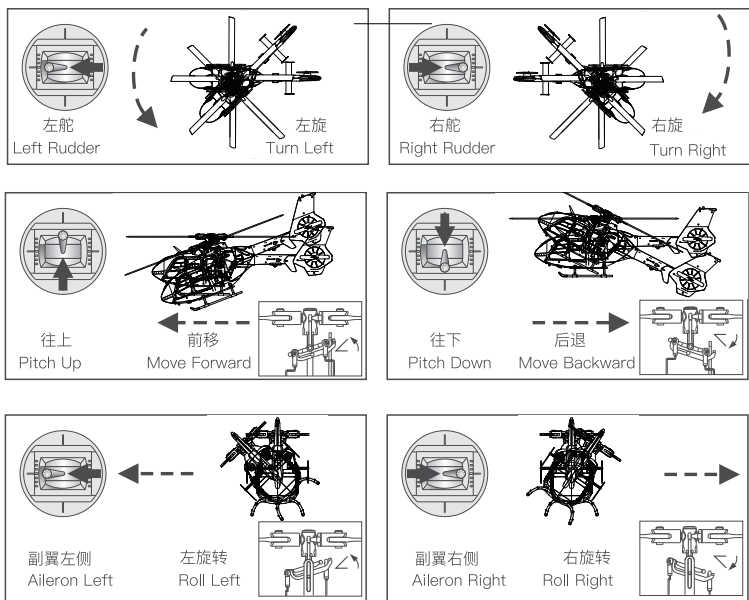


首次飞行 First Flight:

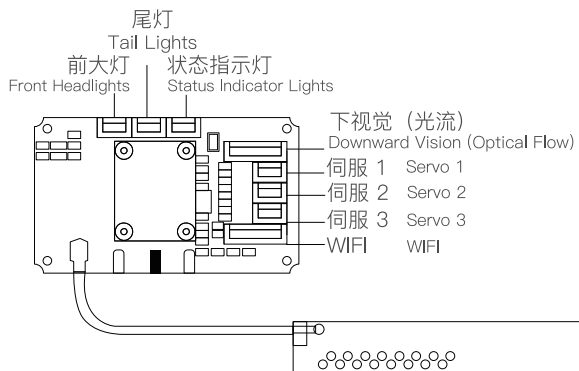
如果你对F06不熟悉，请花几分钟时间熟悉他们后，再尝试您的首次飞行。

If you are not familiar with F06, please take a few minutes to familiarize yourself with its controls before attempting your first flight.

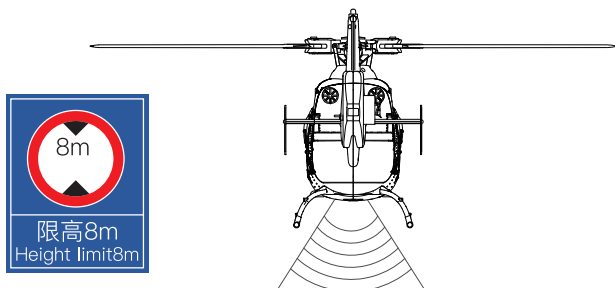




主控板插座示意图 Main Control Board Socket Diagram:



下视觉模式注意事项 Notes on Downward Vision Mode:



请务必留意周边飞行环境，视觉系统只在有限的条件下发挥辅助作用，不能代替人为判断和操控，用户应在飞行过程中时刻注意周边环境，全程保持对飞行器的控制并对操控行为负责。

Please pay attention to the surrounding flying environment. The vision system only serves as an auxiliary function under limited conditions. It cannot replace human judgment and control. Users should constantly be aware of the surrounding environment during flight, maintain control over the aircraft throughout the entire flight, and take responsibility for their actions.

下视觉系统对依靠镜头对下放物体进行锁定，限定起飞高度为8米，请避免在楼顶起飞，飞越楼顶，会照成下视觉失效进而出现飞机漂移。此时应立即将飞行器飞回或马上切换手动自稳模式。

下视觉系统无法识别没有纹理特征的表面，环境及无法在光照强度不足或过强中正常工作，在以下场景中下视觉系统无法工作。

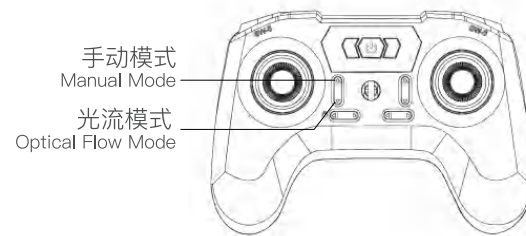
- 1 纯色表面 (例如纯黑 纯白 纯红 纯绿)
- 2 有强烈反光或倒影的表面
- 3 水面或透明物体的表面
- 4 运动物体的表面 (例如 人流上方 大风吹动的灌木和草丛)
- 5 光照剧烈快速变化的场景
- 6 特别暗或者特别亮的物体表面
- 7 对红外有很强吸收或者反射作用的材质表面

The downward vision system relies on the camera to lock onto objects below and limits the takeoff altitude to 8 meters. Please avoid taking off from rooftops or flying over rooftops, as it may cause the downward vision to fail, resulting in aircraft drift. In such cases, immediately fly the aircraft back or switch to manual stability mode.

The downward vision system cannot recognize surfaces without textured features and cannot function properly in environments with insufficient or excessive lighting. The following scenarios are where the downward vision system cannot work:

1. Solid color surfaces (e.g., solid black, solid white, solid red, solid green)
2. Surfaces with strong reflections or reflections
3. Water surfaces or surfaces of transparent objects
4. Surfaces of moving objects (e.g., above crowds, bushes, and grasses swaying in strong winds)
5. Scenes with rapidly changing lighting conditions
6. Surfaces that are exceptionally dark or exceptionally bright
7. Surfaces of materials that have strong absorption or reflection of infrared

手动模式飞行 Manual Mode Flight:



按手动模式键将关闭光流飞行模式，此时飞行器状态指示灯为红灯长亮，解除飞行器高度限制，飞行速度最快可达到10米/秒，请密切关注飞行器 谨慎操作。再次按遥控器油门微调下按键，打开光流模式，飞行器状态指示灯绿灯长亮

Pressing the Manual Mode button will disable the optical flow flight mode. In this mode, the aircraft's status indicator light will remain solid red, and the altitude restriction will be lifted. The maximum flight speed can reach up to 10 meters per second. Please closely monitor the aircraft and operate with caution. Pressing the throttle adjustment button on the remote control again will activate the optical flow mode, indicated by a solid green status indicator light on the aircraft.

一键降落 One-Key Landing:

飞行过程中，长按一键降落按键，飞行器将执行当前位置降落，降落过程中遥控器也可以对飞行器进行控制，降落过程中油门上推一下，可解除飞行器降落，也可以通过再次按一键降落按键，解除一键降落。

During flight, long-press the One-Key Landing button, and the aircraft will initiate a landing at its current position. While landing, the remote control can still be used to control the aircraft. Pushing the throttle up during the landing process will cancel the landing. Alternatively, pressing the One-Key Landing button again will cancel the one-key landing function.

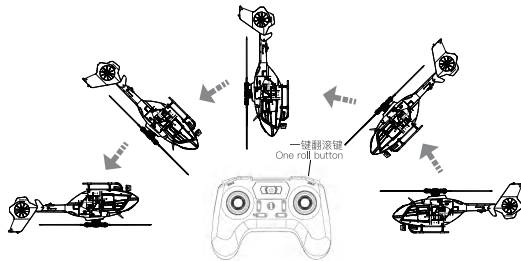
专家倒飞模式 Expert Inverted Flight Mode:

此模式适用于3D特技倒飞训练，需在室外开阔场地 无风或者微风情况下，进行倒飞悬停操作练习。

飞行器手动模式，飞行高度需大于9米，按右上一键倒飞按键，遥控器发出滴滴两声，升降摇杆向前或者向后快速打杆并迅速回中，飞行器根据摇杆指令自动翻滚180度并倒飞悬停，此时直升机的倒飞操作方式和3D直升机一样（油门摇杆向上推 飞行器下降，升降摇杆前推 飞机向机尾方向移动）

再次按一键倒飞按键，升降摇杆快速打杆，飞行器由倒飞滚转为正飞模式，恢复正常飞行。

This mode is designed for 3D aerobatic inverted flight training and should be conducted in open outdoor areas with calm or light wind conditions. In manual mode, with the flight altitude above 9 meters, press the upper right One-Key Inverted Flight button. The remote control will emit two beeps. Quickly push the elevator stick forward or backward and immediately return it to the center position. The aircraft will automatically perform a 180-degree roll and enter inverted flight hover. In this mode, the helicopter's control input is the same as that of a 3D helicopter (pushing the throttle stick up will make the aircraft descend, pushing the elevator stick forward will make the aircraft move towards the tail). Pressing the One-Key Inverted Flight button again and quickly moving the elevator stick will transition the aircraft from inverted flight to normal flight mode, restoring normal flight behavior.



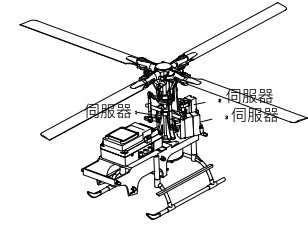
注意：飞行器只开放了向前和向后翻滚，没有开放左右侧翻滚
Inverted flight: Forwarder & Backwarder Roll Only. No For Left & Right!

螺距设定 Pitch Setting:

用户更换伺服器或其他主要部件后，有可能改变了螺距。正确的螺距设定，有助于飞行稳定，请按以下步骤进行螺距设定。

When users replace servos or other major components, it may alter the pitch setting. Correct pitch setting contributes to stable flight. Please follow the steps below for pitch setting.

长按两秒螺距设定
Long-press for two seconds for pitch setting.



- 1 飞行器通电并与遥控器绑定。
- 2 先长按遥控器上锁键 滴滴两声对飞行器上锁，再长按螺距设计键 发出滴滴两声，进入螺距设定。
- 3 通过摇杆调整对应的伺服器，直至飞行器十字盘水平，螺旋桨角度为0度。再短按锁定键 遥控器滴声解锁，退出螺距设定并保存。

1. Power on the aircraft and bind it with the remote control.
2. Long-press the lock button on the remote control to lock the aircraft with two beeps. Then long-press the pitch setting button to enter pitch setting mode with two beeps.
3. Use the joystick to adjust the corresponding servo until the aircraft's swashplate is level and the rotor blade angle is 0 degrees. Then, short-press the lock button on the remote control to unlock with a beep, exit the pitch setting mode, and save the settings.

注意：设定螺距需要有经验人士指导，错误的螺距设定会导致飞行性能降低。
Note: Pitch setting should be done under the guidance of an experienced individual. Incorrect pitch setting can result in reduced flight performance.

常见故障处理 Common Troubleshooting:

序号No.	问题 Issue	解决办法 Solution
1	上电后 指示灯一直快闪 After powering on, the indicator light keeps flashing rapidly.	飞行器处于陀螺仪自检状态 Please place the aircraft on a stationary and flat surface. The aircraft is in gyroscope self-checking state.
2	飞行器起飞不能悬停向一边倾斜 The aircraft tilts to one side and cannot hover after takeoff.	将飞行器放置在水平的桌面或地面上重新校准陀螺仪 Place the aircraft on a level tabletop or surface and recalibrate the gyroscope.
3	飞行器抖动的很厉害 The aircraft experiences severe shaking.	1检测飞行器桨叶有无破损，更换新的桨叶 2 检查主轴 横轴有没有弯曲 及时更换 Check for damaged rotor blades and replace them with new ones. Inspect the main shaft and cross-axis for any bending and replace them promptly.
4	飞行器无法解锁 指示灯红灯快闪 The aircraft cannot be unlocked, and the indicator light flashes red rapidly.	电池电量过低 请给电池充满电 The battery voltage is too low. Please fully charge the battery.
5	大风天气飞行不稳定 Unstable flight in strong wind conditions.	请在合适的天气条件下飞行 该飞行器可在4级风一下条件飞行 Fly in appropriate weather conditions. The aircraft is suitable for flying in wind conditions up to level 4.
6	直升机上电后无任何反应 灯慢闪 No response from the helicopter after power on, slow flashing light.	重新对频 对频时飞行器需水平放置 Rebind the frequency. During rebinding the aircraft should be placed horizontally.
7	下视觉飞行模式 绿灯慢闪 Slow flashing green light in downward vision flight mode.	地面监测环境分辨率 请更换环境测试 Ground environment may affect the performance of the downward vision system. Please test in a different environment.
8	直升机接通电源无上电音 No power-on sound when connecting power to the helicopter.	调速器故障或插头接触不良 更换调速器 排直插头 及时更换 The speed controller may be faulty or the plug connection is poor. Replace the speed controller and inspect the plug for timely replacement.
9	飞行中遥控器持续滴滴响 Continuous beeping from the remote control during flight.	飞行器电压低 进入一级报警 遥控器电压低 更换AAA电池 The aircraft voltage is low, triggering a level 1 alarm. Replace the AAA batteries in the remote control.