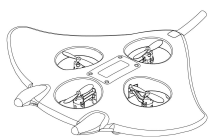
适合年龄14岁以上

魔鬼鱼飞行器使用说明书



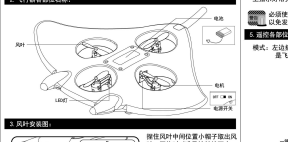
● 为保证航空无线电台电磁环境的要求，（禁止在以机场跑道中心线两侧各10公里，跑道两端各20公里范围）以及其机场第，机场，停止使用未免模型，正人机，在距离有关部门发布的禁飞区域，停止使用各类模型，正人机，

警告

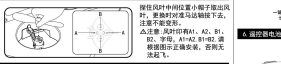
1. 包装和说明书含有重要信息，应保留。
2. 此款飞行器带有责任确保不会对他人的人身及财产造成伤害。
3. 调试发现飞行器或产品使用操作说明书上指标，注意飞行器飞行时与使用者或其他人保持2-3米的距离，避免飞行器飞行，降落时撞向人的头部，脸部和身体等，引起伤害。
4. 我司和销售商对因使用或操作不当而引起的任何损失和损坏以及人体的伤害不负任何责任。
5. 儿童操作飞行器时应由成年人从旁指导，本产品禁止14岁以下儿童操作。
6. 请遵照说明书或包装说明要求正确安装和使用，部分零件应由成人组装。
7. 产品含有小零件，请将其放置于小孩不能触及的地方，防止产生误食或窒息危险。
8. 严禁在马路上或和车的地方玩耍，以免造成意外。
9. 请及时将包装材料弃处，以免对儿童造成伤害。
10. 不要将形成金属飞行器，铁制或金属可能会使飞行器出现故障。
11. 充电线需插入与产品标示相同的指定电源5V-2A中。
12. 使用具特充电线会造成电池损坏并可能引发意外的危险。
13. 充电线不是玩具。
14. 给充电电池充电时，必须由成年人监护下进行，充电时必须远离易燃物，充电时监护人请不要离开直视并且防水。
15. 请不要短路、拆压电池，以免发生爆炸。
16. 不可直接不同类型的锂电池。
17. 飞行器使用可充电锂电池，需做出充电。
18. 切勿将电池短路，分解或投入火中，切勿将电池放在高温，里热的地方（如火中或电热装置附近）。
19. 飞行器里含非可能造成其他电器设备和磁性物件的地方使用，它们可能会造成相互干扰。
20. 请勿高温放射的键盘安保持安全距离，以免发生纹伤、烫伤危险。
21. 电机为发热部件，请勿触摸，以免烫伤。
22. 发光二极管激光镭射，勿直射光束。
23. 确保不要靠近耳朵使用!运用可能导致听力损坏。
24. USB充电线必须使用永公司提供的数据线给电池充电，否则会造成电池的损坏严重时会引发意外的危险。
25. 为保证航空无线电台磁环境的要求，在国家有关部门发布无线电管制令期间，区域内，应该按要求停止使用模型遥控器。
26. 飞行器电池电量用完后必关掉开关旋下电池，静止20分钟后充电，否则容易造成电池损坏。

1. 包含配件列表：

2. 飞行器各部位名称：

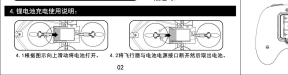


3. 风叶安装图：



现任风叶中间位置小箭子指出风叶，更换时对准马达轴旋下去。
注意不能受热。
⚠注意 .风叶印有A1 、A2、B1、B2、字母，A1=A2, B1=B2. 请根据图示正确安装，否则无法起飞。

4. 锂电池充电使用说明：



4.1 锂电图示和上等动锂电池打开。　4.2 将飞行器与电池连接图后断开然后等出电池。

4. 3 充电. 将USB充电线的USB接口插入电脑/供电口或者开启充5V-2A直流配置），并将USB充电线的另一端插头连接到电池插座上。充电时，USB充电线上指示灯常亮，充电完成时指示灯熄灭。

必须使用永矿提供的飞行器充电线充电，不可用其他充电线充电。切记，以免发生意外的危险。

5. 遥控各部位的名称：

模式：左边摇杆对应的是飞行器的上升/下降和左转/右转，右边摇杆对应的是飞行器的前进/后退和左右侧飞。

6. 遥控器电池安装：

7. 飞行前环境要求：

请选择无风雪，风力小的室外空旷环境飞行，飞行时请远离人群，树木，电线，高大建筑物，纸张和物可发射塔等，不要在太小，东西多的室内环境飞行。

8. 飞行前准备说明（使用遥控器操作）：

8.1 飞行器对频打开飞行器电源，将其放置在水平面上，此时放置在水平面上的飞行器自动进入对频状态。机身指示灯闪烁。

⚠ 注意: 把飞机方向摆正，机头向正前方，一定要放置水平地面

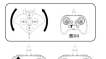
8.2 开始搜索对频，对频成功遥控器与直升机指示灯常亮，对频成功，开始实行各种功能操作。

飞行器/遥控器 必须确保电量充足，否则不能起飞！

8.3 水平校准操作：
将遥控器左右摇杆杆推至内八方向，如右图1图示1所示，校准飞行器。飞行器电源灯出现快闪再转为常亮时，表示校准成功。

8.4 水平微调操作：
在飞行中，直升机可能会在没有飞行员输入的情况下向右或向左旋转，为了纠正这个问题，你需要调整配平。

当飞机自动向左转的时候，连续按下此键（图示2），修正飞机使其不再连续旋转。



当飞机自动向右转的时候，连续按下此键（图示3），修正飞机使其不再连续旋转。

8.5 启动/停止

将遥控器上摇杆杆向上推动（图示4），此时飞行器可正常起飞，起飞后飞行器将向指示灯常亮。飞行过程中，长按急停键（图示5），飞行器会停止飞行。

⚠ 注意: 此功能操作只适合飞行器在失控状态下进行，正常情况建议使按一键起飞/降落键

8.6 一键起飞/降落

当对频完成后，轻按遥控器 "一键起飞/降落" 功能键（图示6），飞行器自动上升为未左右的高度，保持此高度不动飞行.再轻按此功能键时，飞行器会自动缓慢降落着地。

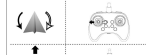
8.7 触飞功能演示

打开开关对频完成后，任意角度抛出（图示7），飞行器自动起飞，适合在空旷场地进行操作。

遥控器操作飞行器在起飞后，请按照以上顺序的步骤进行操作：
打开（参考8. 1）→遥控器进行对频（参考8. 2）→水平校准（参考8. 3）→水平微调（参考8. 4）→ 启动/停止（参考8. 5）→一键起飞与降落（参考8. 6）→触飞功能演示（参考8. 7）

9. 遥控器功能操控介绍：

遥控器摇杆前推飞行器上升，遥控器摇杆后拉飞行器下降。



遥控器摇杆往左推飞行器左旋头，遥控器摇杆往右推飞行器右旋头。

遥控器摇杆往前推飞行器往前飞行，遥控器摇杆往后拉飞行器倒退飞行。

遥控器摇杆往左推飞行器往左侧飞行，遥控器摇杆往右推飞行器往右侧飞行。

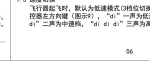
9. 2 一键 360° 翻滚

本飞行器通过下面的操杆操作可以做360度的飞行，为了更好的执行翻滚功能，确保飞行器和地面保持1. 5米左右高度，最好在上升的过程中操作飞行器进行翻滚，这样飞行器翻滚后更容易保持高度。

360° 翻滚
飞行器悬停时按住一下遥控器 ① 按立在一方向键飞行器向前后左右方向进行翻滚（图示8）

9. 3 速度切换

飞行器起飞时，默认为低速模式（3档位切换），短按遥控器左方向键（图示9），“di”一声为低速档。“di di”二声为中速档。“di di di”三声为高速档。



9. 4 一键 360° 盘旋骄飞

长按遥控器右方向键（图示10）进入一键盘旋模式，飞行器机头会以飞行器当前位置为固定半径盘旋。

9. 5 微调功能

1. 飞行器前进/后退微调，当飞行器离开地面；飞行器前方偏移时，连续按动上方向键已进行微调。飞行器前方偏移时，连续按动下方向键已进行微调。

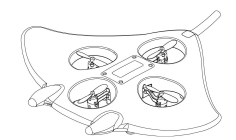
2. 飞行器左/右侧飞微调，当飞行器离开地面；飞行器前右方偏移时，连续按动左方向键已进行调整。飞行器前左方偏移时，连续按动右方向键已进行微调。

10. 遥控器功能操控介绍：

问题	原因	解决方法
飞行器无灯闪烁，操作无反应	电池电量不足	为电池充电
飞行器即将动物飞机起来	1. 电池电量不足 2. 1. 遥控器没 2. 2. 场景中还有其	1. 为电池充电 2. 1. 重新遥控 2. 2. 场景中还有1、3、不同 入到对应了 距离1、3或对对了距离如对
飞行器受必须百度	遥控信号弱	重新遥控
我的遥控器了没有不能飞行器不能	1. 遥控信号 2. 马达不良	1. 重新遥控 2. 更换马达
螺旋桨有无异动飞行器无法控制起飞	三轴加速度传感器故障未充分平衡	将飞行器静放5-10秒后，或者通过校正水平校准，进行之了。 步骤可参考说明书 8. 3水平校准操作。

6 AGES AND UP

MANTA RAYS AIRCRAFT MANUAL



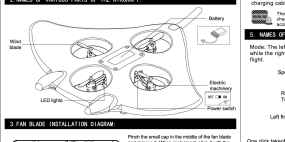
● To ensure the requirements of the electromagnetic environment for aviation radio stations, it is prohibited to operate on both sides of the airport runway centerline
Within a range of 10 kilometers and 20 kilometers at each end of the runway, the vicinity of aviation routes and routes. Stop using various models
Type, drones, etc. Stop using various models in the no fly zones issued by relevant national departments
UAV.

WARNING

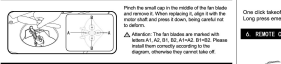
1. The packaging and instructions contain important information and should be retained.
2. You are responsible for ensuring that this aircraft will not cause harm to others' personal or property.
3. When debugging and installing the aircraft, it is necessary to strictly follow the operating instructions. Pay attention to maintaining a distance of 2-3 meters between the aircraft and the user or other people during flight to avoid hitting people's heads, faces, and bodies during flight or landing, which may cause injury.
4. Our company and the seller are not responsible for any loss, damage, or bodily injury caused by improper use or operation.
5. Children should be guided by adults when operating aircraft, and this product is prohibited for children under 6 years old.
6. Some parts require assembly instructions or packaging instructions for correct installation and use, and some parts should be assembled by adults.
7. The product contains small parts, please keep them out of reach of children to prevent the risk of accidental ingestion or suffocation.
8. It is strictly prohibited to play on the road or in areas with accumulated water to avoid accidents.
9. Please promptly put away the packaging materials to avoid causing harm to children.
10. Do not use conductive objects such as bodily fluids as it may cause malfunctions.
11. The charging cable should be inserted into the designated power supply 5V-2A that matches the product label.
Using other charging cables can cause battery damage and may pose an unexpected danger.
13. Charging cables are not toys.
14. When charging a rechargeable battery, it must be done under the supervision of an adult, and flammable materials must be kept away during charging. The guardian should not leave the monitoring area during charging.
15. Do not short-circuit or disassemble the battery to avoid explosion.
16. Do not mix different types of lithium batteries.
17. The aircraft uses rechargeable lithium batteries, which need to be unplugged for charging.
18. Do not short-circuit, disassemble or put the battery into fire; Do not place the battery in high temperature or hot places (such as in a fire or near an electric heating device).
Aircraft should be used as far away as possible from other electrical equipment and magnetic objects, as they may cause mutual interference.
20. Please maintain a safe distance from the high-speed rotating propeller to avoid the risk of cuts and burns.
21. The motor is a heating component, please do not touch it to avoid burns.
22. Light emitting diode laser radiation, do not direct the beam directly.
23. Do not use the model near your ears! Misuse may lead to hearing loss.
24. The USB charging cable must use the data cable provided by our company to charge the battery, otherwise it may cause serious damage to the battery and even pose a danger of accidents.
25. To ensure the requirements of the magnetic environment for aviation radio stations. During the period when relevant national departments issue radio control orders, the use of model remote controllers should be stopped within the district as required.
26. When the aircraft battery is fully charged, be sure to turn off the switch and unplug the battery. Wait for 30 minutes before charging, otherwise it may cause battery damage.

1. INCLUDES ACCESSORY LIST:

2. NAMES OF VARIOUS PARTS OF THE AIRCRAFT:

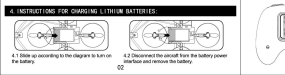


3. FAN BLADE INSTALLATION DIAGRAM:



Pinch the small cap in the middle of the fan blade and remove it. When replacing it, align it with the motor shaft and press it down, being careful not to deform.
⚠ Attention: The fan blades are marked with letters A1, A2, B1, B2, A1=A2, B1=B2. Please install them correctly according to the diagram, otherwise they cannot take off.

4. INSTRUCTIONS FOR CHARGING LITHIUM BATTERIES:



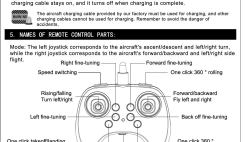
4.1 Slide up according to the diagram to turn on the battery　4.2 Disconnected the aircraft from the battery power interface and remove the battery.

4.3 Charging: Insert the USB port of the USB charging cable into the computer's USB port (or use a 5V-2A power adapter), and connect the other end of the USB charging cable plug to the battery socket. When charging, the indicator light on the USB charging cable stays on, and it turns off when charging is complete.

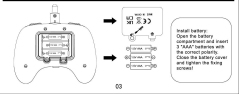
The aircraft charging cable provided by our factory must be used for charging, and other USB charging cables cannot be used for charging. Remember to avoid the danger of accidents.

5. NAMES OF REMOTE CONTROL PARTS:

Mode: The left joystick corresponds to the aircraft's ascent/descent and left/right turn, while the right joystick corresponds to the aircraft's forward/backward and left/right side flight.



6. REMOTE CONTROL BATTERY INSTALLATION:



7. PRE FLIGHT ENVIRONMENTAL REQUIREMENTS:

Please choose to fly in an outdoor open environment without wind or snow, with low wind speed. When flying, please stay away from crowds, trees, and power lines Tall buildings, airports, and signal transmission towers, etc. Do not fly in indoor environments that are too small or have too many things.

8. PRE FLIGHT PREPARATION INSTRUCTIONS (USING REMOTE CONTROL OPERATION):

8.1 Turn on the power supply of the aircraft and place it in the
On the horizontal plane, the aircraft placed on the horizontal plane at this time Automatically enter the frequency matching state, and the body indicator light flashes.
⚠ Attention: Turn the plane in the right direction, with the nose facing straight ahead.Be sure to place it on a level ground

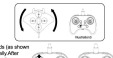
8.2 Start searching for the matching frequency. If the matching frequency is successful, the remote control and helicopter indicator lights will remain on. If the matching frequency is successful, various functional operations will be carried out.

The aircraft/remote control must ensure sufficient power, otherwise it cannot take off

8.3 Horizontal calibration operation:
Push the left and right joystick of the remote control to the inner eight directions, as shown in the right picture (Figure 1). Calibrate the aircraft. When the power light of the aircraft flashes quickly and then turns on, the calibration is successful.

8.4 Horizontal trimming operation:
During flight, the helicopter may rotate to the right or left without pilot input. To correct this issue, you need to adjust the balance.
When the airplane automatically turns left, press this button continuously (as shown in Figure 2) to correct the airplane so that it no longer rotates continuously.

When the airplane automatically turns right, press this button continuously (as shown in Figure 3) to correct the airplane so that it no longer rotates continuously.



8.4 StartStop
Push the joystick on the remote control upwards (as shown in Figure 4), and the aircraft can take off normally.After takeoff, all indicator lights of the aircraft will remain on. During the flight, long press the emergency stop button (as shown in Figure 5) to stop the aircraft from flying.

⚠ Note: This function operation is only suitable for aircraft in a state of loss of control. Under normal circumstances, it is recommended to lightly press the one-key takeoff/landing.

8.6 One click takeoff and landing
After completing the frequency matching, lightly press the "One Click Takeoff/Landing" function button on the remote control (as shown in Figure 6), and the aircraft will automatically ascend to an altitude of about 2 meters, maintaining a stable flight at this altitude. When you lightly press this function key again, the aircraft will automatically land slowly.

8.7 Jetlison function demonstration
After turning on the switch to complete the frequency, the aircraft is thrown out at any Angle (Figure 7), and the aircraft automatically takes off, which is suitable for operation in an open field.After turning on the switch to complete the frequency, the aircraft is thrown out at any Angle (Figure 7), and the aircraft automatically takes off, which is suitable for operation in an open field.

The aircraft/remote control must ensure sufficient power, otherwise it cannot take off

Before takeoff, please follow the above sequence of steps to operate the remote control.aircraft:Open (refer to 8.1) → Remote control starts frequency matching (refer to 8.2) → Horizontal calibration (refer to 8.3) → Horizontal fine-tuning (cf. 8.4) → StartStop (cf. 8.5) → One-click take-off and landing (cf. 8.6) → Jetlison function demonstration (cf. 8.7)

9. INTRODUCTION TO REMOTE CONTROL FUNCTION CONTROL:

Push the remote control joystick forward to raise the aircraft, Pull the remote control joystick to lower the aircraft.

Push the joystick of the remote control to the left and turn the head of the aircraft to the left.
Push the remote control joystick to the right and turn the aircraft's head to the right.

Push the remote control joystick forward to fly the aircraft forward, and pull the remote control joystick backward to fly the aircraft backwards.

Push the remote control joystick to the left to fly the aircraft to the left, and push the remote control joystick to the right to fly the aircraft to the right.

9.2 One click 360 ° Roll
This aircraft can perform 360 degree flight through the joystick operation below. In order to better perform the rolling function and ensure that the aircraft and ground maintain a height of about 1.5 meters, it is best to operate the aircraft to roll during the ascent process, so that it is easier to maintain altitude after rolling.

360 ° rolling
When the aircraft is hovering, press the remote control ① Press ② any direction key to roll the aircraft forward, backward, left and right (Figure 8).

9.3 Speed Switching
When the aircraft takes off, it defaults to low-speed mode (3-speed switch), short press remote
The left directional key on the controller (as shown in Figure 9) indicates low gear with a "di" sound, medium gear with two "di di" sounds, and high gear with three "di di di" sounds.

9.4 One click 360 ° hovering and flying
Long press the right directional key on the remote control (as shown in Figure 10) to enter one key hover mode, and the aircraft nose will hover with a fixed radius based on the current position of the aircraft.

9.5 Fine tuning function

1. Fine adjustment of aircraft forward/backward, when the aircraft leaves the ground:
When the aircraft deviates towards the rear, continuously press the up arrow key ① for fine adjustment.
When the aircraft deviates forward, continuously press the down arrow key ② to make fine adjustments.

2. Fine tune the left/right side of the aircraft when it leaves the ground:
When the aircraft deviates to the right, continuously press the left directional key ③ to adjust.
When the aircraft deviates to the left, continuously press the right directional key ④ for fine adjustment.

10. INTRODUCTION TO REMOTE CONTROL FUNCTION CONTROL:

PROBLEM	REASON	RESOLVENT
The aircraft indicator light flashes and there is no response to the operation	Low battery level	Charge the battery
Aircraft blades rotate but cannot fly	1. Insufficient battery power 2.1 Blade abnormality 2.2 Anti-blade installation error	1. Charge the battery 2.1 Replacing propeller blades 2.2 The fan blades are marked with A, B, and the letter A represents the blade installed with A. If the fan blade is damaged, replace it with B
The aircraft is shaking violently	Blade deformation	Replace the propeller blade
Fine tuned to the end, but still unable to make the aircraft smooth	1. Blade deformation 2. Motor malfunction	1. Replace the blade 2. Replace the motor
After the impact, the aircraft cannot control the aircraft automatically	Three axis acceleration sensor loses balance due to impact	Let the aircraft sit still for 5-10 seconds, or calibrate it through the horizontal calibration of the circuit, refer to 8.3 Horizontal Calibration Operation.

FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
•Reorient or relocate the receiving antenna.
•Increase the separation between the equipment and receiver.
•Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
•Consult the dealer or an experienced radio/TV technician for help.
Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

RF Exposure Information
The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.