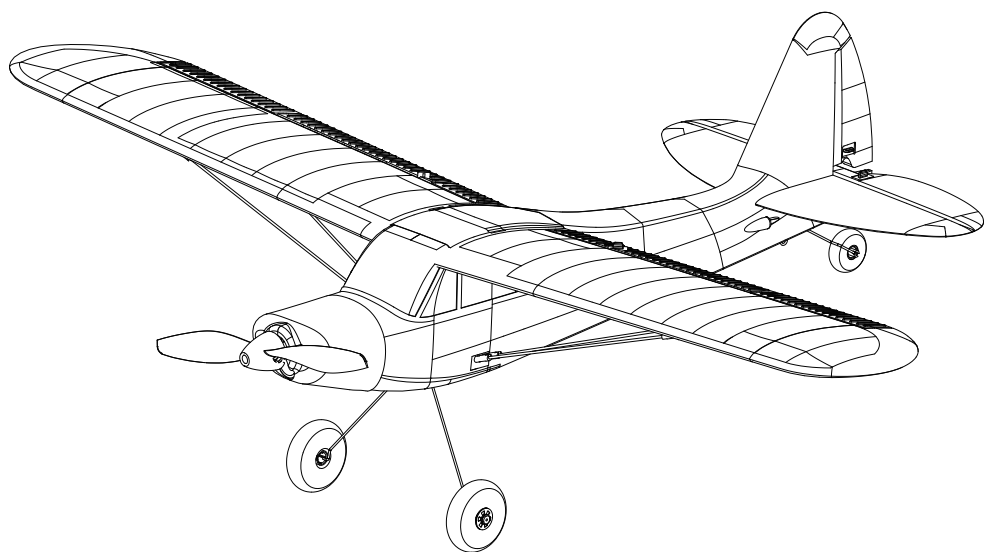


500mm PA-18 Operating Manual



Warning: This manual contains important information that will help you maintain and operate your model aircraft in a reliable and safe manner. Please read the instructions and warnings carefully prior to assembly, setup or use.

As this model aircraft is a sophisticated hobby product, it must be flown with safety and common sense in mind, failure in doing so may result in injury or property damage. This product is not intended for use by children without direct adult supervision.

Safety precautions and warnings

As the user, you are solely responsible for the safe operation and maintenance of this product. Follow the directions and warnings listed in this manual, as well as that of supporting equipment (chargers, batteries etc.) and always use common sense.

This is not a toy. Not for children under 14 years of age.

- ★Always operate your model in an open area away from buildings, cars, traffic or people. Never operate near people—especially children who can wander unpredictably. Never operate in populated areas for any reason, where injury or damage can occur.
- ★Always keep a safe distance in all directions around your model to avoid collisions or injury. This model is controlled by a radio signal subject to interference from many sources outside your control. Interference can cause momentary loss of control.
- ★Never catch the aircraft while it is in flight, the structure of the fuselage was not designed and protected for this purpose.
- ★Never operate your model in bad weather, including in excessively windy or precipitating conditions.
- ★Never operate your model with low transmitter batteries.
- ★Keep your throttle quadrant in its lowest position prior and after every flight. Use the throttle cut function if able.
- ★Always use fully charged batteries and move batteries before disassembly.
- ★Avoid water exposure to all equipment not specifically designed and protected for this purpose.
- ★Avoid cleaning this product with chemicals.
- ★Never lick or place any part of your model in your mouth as it could cause serious injury or even death.
- ★Keep all chemicals, small parts and anything electrical out of the reach of children.

Introduction

The PA-18 Super Cub is a two-seat, single-engine high-wing aircraft. It was developed from the PA-11 and inherits the excellent design of the J-3. Over nearly 40 years of continuous production, more than 9,000 PA-18s have been manufactured. Today, the PA-18 is widely used for bush flying, banner towing, and glider towing.

The 500mm PA-18 retains the low-speed handling and short takeoff and landing (STOL) capabilities of its real aircraft, while also incorporating propeller protection to prevent propeller damage; it features a one-button U-Turn function, making it even more beginner-friendly.

Moreover, thanks to the compact size of the 500mm PA-18, it can fly almost anywhere you can imagine, including basketball courts, parks, and even your backyard! The RTF configuration includes a 3-mode gyro (full-stabilizing, manual control, and optimized stabilization). The aircraft requires no assembly—just connect the battery, and you can start flying right away!

If you are a beginner, why not start your RC journey with this PA-18? If you are an experienced pilot looking to fly anywhere at any time, you should also give the 500mm PA-18 a try. We believe you can fully unleash its performance in your hands.

Features

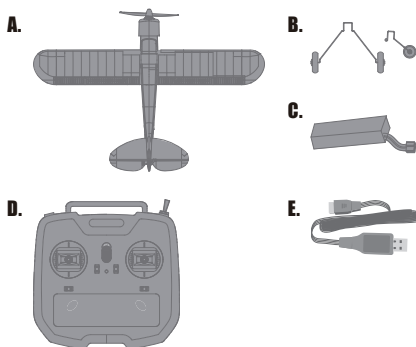
- High-wing design with dihedral for more stable flight.
- Powerful 1020 hollow cup motor.
- Lightweight and sturdy wire landing gear.
- Lightweight and durable EPP foam material.
- Propeller protection design.
- Gyro-assisted flight with one-button U-Turn function.

Specifications

Wingspan	500mm/19.7 Inch
Overall length	350mm/13.8 Inch
Flying weight	Around 60g
Motor size	Hollow Cup 1020
Wing load	15.8 g/dm ² (0.03oz/in ²)
Wing area	3.8dm ² (58.9sq.in)
ESC	AIO ESC with two 1.3g Servos and Receiver
Radio	6 Channel
Servo	2g * 1pcs
Prop Size	2-Blade 5.1 Inch
Recommended battery	3.7V 380-400mAh

Kit contents

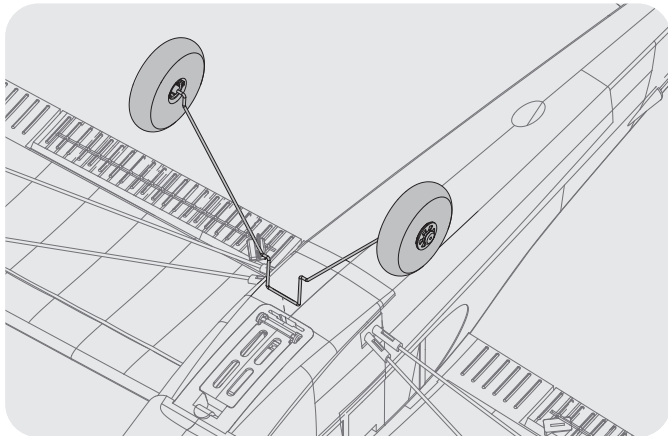
Before assembly, please inspect the contents of the kit. The photo below details the contents of the kit with labels. If any parts are missing or defective, please identify the name or part number (refer to the spare parts list near the end of the manual) then contact your local shop or email us: support@fmsmodel.com.



- A: Preassembled airframe D: 2.4GHz transmitter
B: Landing gear set E: USB charger
C: 3.7V 380mAh battery

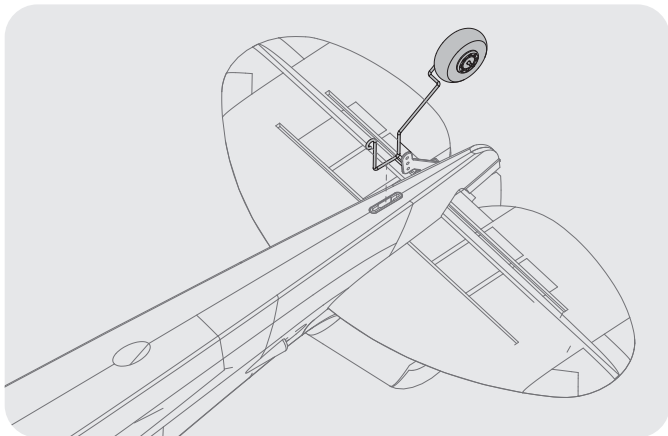
Nose landing gear installation

1. Insert the front landing gear into the slots as shown.



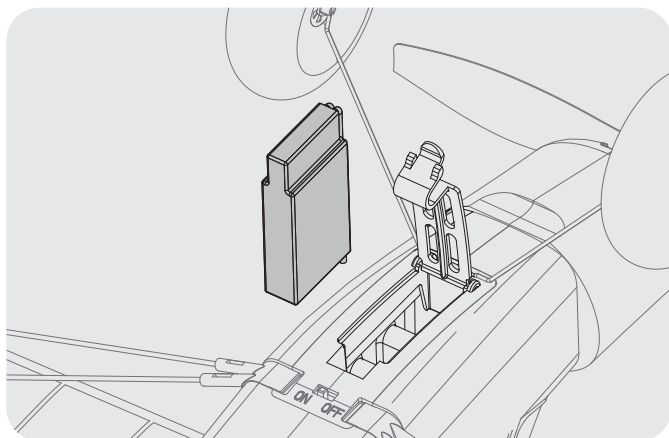
Rear landing gear assembly

1. Insert the rear landing gear into the slot as shown.



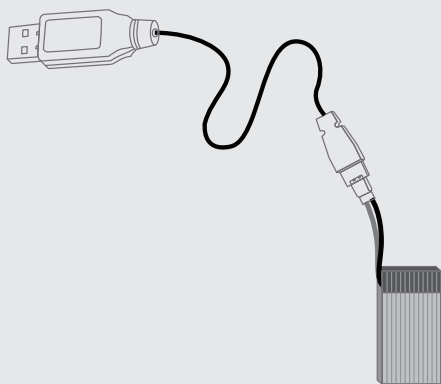
Battery installation

1.Remove the battery cover at the bottom of fuselage. Connect the fully charged battery to the receiver, then push the battery into the cabin, making sure the battery is well placed.

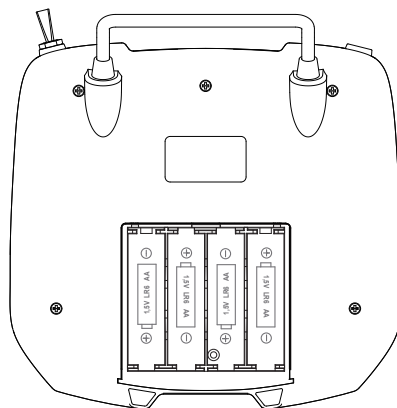
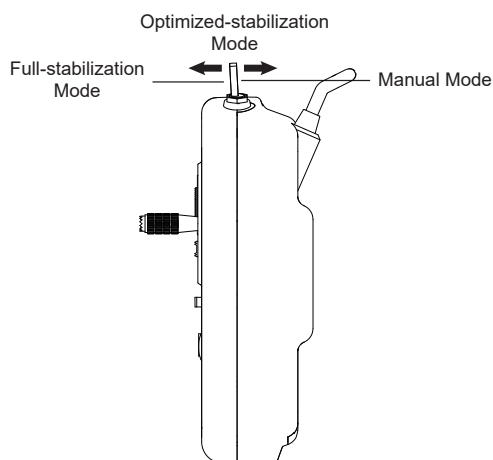
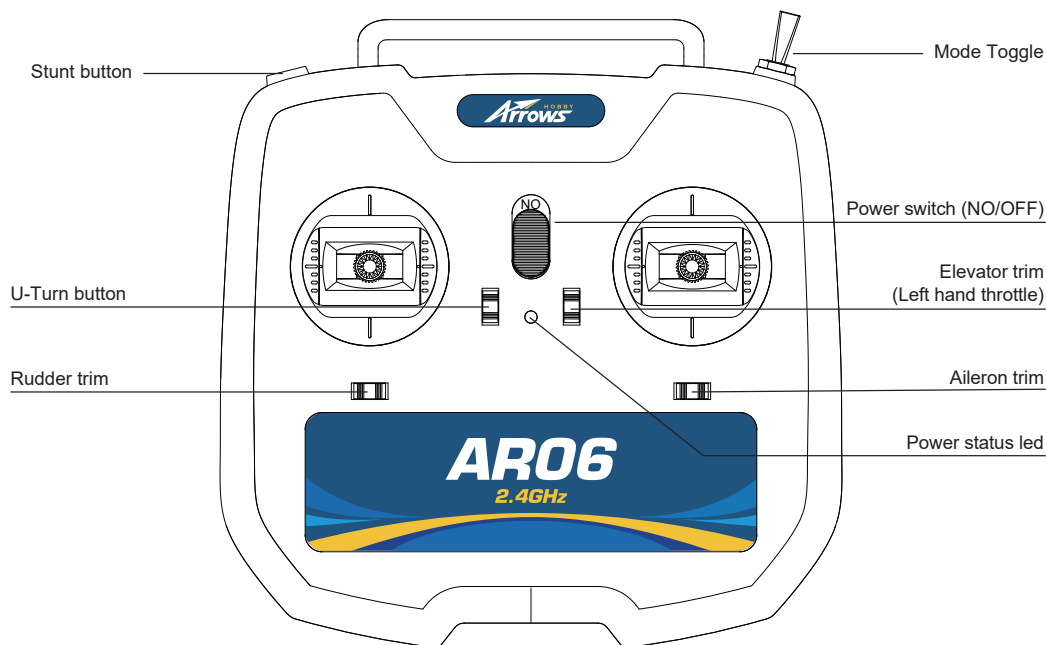


Charge the battery

- 1.Unplug the battery from your plane.
- 2.Carefully plug the charger into the USB port on your computer or USB adapter.
- 3.Connect battery into the charger.
- 4.The charging process takes about 1 hour. For safety reasons, never charge the battery for longer than 2 hours.
5. While charging, the red LED indicator will be constant on.When the charging is finished, the red LED will be off.



Transmitter Control Operation



Remove the battery hatch cover, place 4x "AA" cells into the battery hatch, then replace the battery hatch cover.

« — Transmitter Control Operation — »

Functionality

The flight control system is equipped with three flight modes: full-stabilization, Optimized-stabilization, and Manual control, which can be switched using a 3-position switch on the transmitter.

Full-stabilization Mode: This flight mode is specifically designed for beginners, but can also be used as an emergency mode for more advanced pilots. In the absence of new input commands, the Full-stabilization Mode uses onboard sensors to keep the aircraft in a level flight attitude.

Optimized-stabilization Mode: This flight mode utilizes high-precision gyro to effectively counteract the effects of gusts and turbulence without interfering with the stick controls.

Manual Mode: In this flight mode, gyro assistance is turned off, making the flight more challenging.

Instructions

Binding Procedure

The aircraft has already been bound to the transmitter at the factory. If the binding is lost, please follow the steps below: After connecting the battery to the aircraft, press and hold the stunt button on the transmitter, then turn on the transmitter's power to enter binding mode. The binding will be done after a few seconds.

Transmitter Alert Features

1. When the aircraft battery voltage drops below 3.7V, the transmitter will start to emit a "beep beep beep beep" warning sound, and as the voltage continues to drop, the warning frequency will gradually increase.
2. When the transmitter's battery is low, the indicator light will flash red, accompanied by a short "beep beep" warning sound.

Powering On and Activation

1. Place the aircraft on a level surface, turn on the transmitter, and power on the aircraft.
2. Point the aircraft in the intended flight direction, push and hold the U-Turn button upwards for about 1 second. After hearing a "beep" sound and the rudder moves left and right once, the U-Turn function is successfully activated.
3. Quickly push the throttle to the highest position, then pull it back to the lowest position. After hearing the "beep beep" sound, the aircraft is ready to fly.

U-Turn and Stunts

1. Once the U-Turn activation is completed, when the aircraft is flying at a distance of more than 20 meters, pull the U-Turn button downwards. The aircraft will turn around according to the nose direction at the time of activation (for example, if the aircraft was pointing north during activation, it will turn around and fly south). During this period, you can take control of the aircraft at any time using the control sticks.

2. When the aircraft is flying at a height of at least 20 meters, press the stunt button and quickly move the right stick in the desired direction to perform a stunt (pull the elevator stick to perform a loop, or push the aileron stick left or right to perform a roll). After completing one stunt, the aircraft will return to normal flight.

Functionality Limitation:

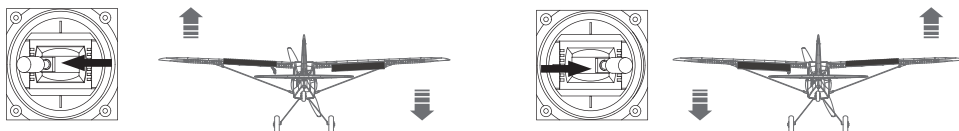
U-Turn function should be engaged only when orientation is lost, and it should be treated as a last resort. Wind drift, obstacles, and heading inaccuracy may cause mission failure. Maintain throttle control and be prepared to override.

Control Surface Test

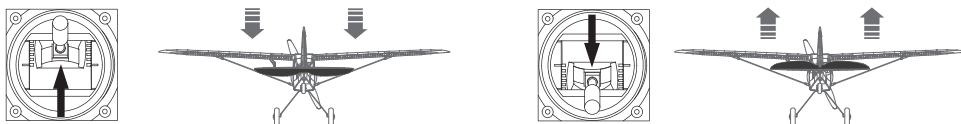
After assembly and prior to your first flight, make sure all control surfaces respond correctly to your transmitter by referring to the diagram below.

Note: During control surface test, ensure the throttle stick is positioned at its lowest position to prevent accidental motor activation and potential accidents.

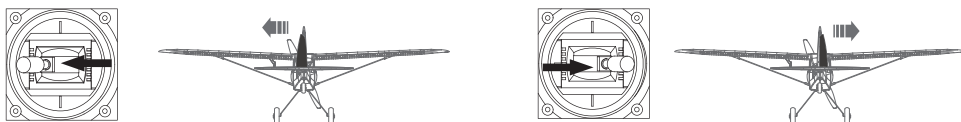
Aileron



Elevator



Rudder



Flight Checklist (Final Pre-Flight Check)

At this stage, you will perform a final inspection of the environment and aircraft functions, just like a real pilot, to ensure a safe operation.

- ☐ Environment: Wind speed is below Beaufort Scale 2. Flight area must be clear of people, buildings, and power lines.
- ☐ Structure: Verify all structural components are securely installed.
- ☐ Battery: Aircraft battery must be fully charged (full voltage = $4.2V \times \text{number of cells}$; e.g., $1S = 4.2V \times 1 = 4.2V$).
- ☐ Signal: Transmitter and receiver have established communication (The receiver indicator light steady on, control surfaces respond to input).
- ☐ Control Surfaces: All control surfaces deflect in the correct direction.
- ☐ Center of Gravity: Center of gravity falls within the recommended range.
- ☐ *Note: It is recommended to develop a thorough pre-flight check habit before every flight.

Problem	Possible Cause	Solution
Aircraft will not respond to the throttle but responds to other controls.	- ESC is not armed. - Throttle channel is reversed.	- Lower throttle stick and throttle trim to lowest settings. - Reverse throttle channel on transmitter.
Excessive vibration or propeller noise.	- Damaged spinner, propeller, motor or motor mount. - Loose propeller and spinner parts. - Propellor installed backwards.	- Replace damaged parts. - Tighten parts for propeller adapter, propeller and spinner. - Remove and install propeller correctly.
Reduced flight time or aircraft underpowered.	- Flight battery charge is low. - Propeller installed backward. - Flight battery damaged.	- Completely recharge flight battery. - Replace flight battery and follow flight battery instructions.
Control surfaces unresponsive or sluggish.	- Control surface, control horn, linkage or servo damage. - Wire damaged or connections loose.	- Replace or repair damaged parts and adjust controls. - Do a check of connections for loose wiring.
Controls reversed.	Channels are reversed in the transmitter.	Do the control direction test and adjust controls for aircraft and transmitter.
Motor loses power Motor power pulses then motor loses power.	- Damage to motor, or battery. - Loss of power to aircraft. - ESC uses default soft Low Voltage Cutoff(LVC).	- Do a check of batteries, transmitter, receiver, ESC, motor and wiring for damage(replace as needed). - Land aircraft immediately and recharge flight battery.

«— Spare parts list

AHRF101	Fuselage	AHRF110	Beginner Pack
AHRF102	Wing	AHRF111	Mini Plane Prop Claw Plate (2 pcs)
AHRF103	Horizontal Stabilizer	AHRXX006	Receiver (4-in-1 integrated)
AHRF104	Propeller & Spinner	AHDJX012	Mini Plane Motor Mount
AHRF105	Linkage Rods	AHBAT010	3.7V 400mAh Battery (51005 Plug)
AHRF106	Landing Gear Set	AHCHR003	Charger
AHRF107	Wing Strut Set	AHKVXC002	1020 Hollow-cup motor
AHRF108	Control Horn Set	AHSER033	2g digital gear servo positive with 50mm wire (SH1.25 plug)
AHRF109	Decal Sheet	AHTXX004	AR06 Transmitter (only for 500mm Pa-18 & 410mm T-28)

重要提示：

1. 在组装、调整及飞行前请务必认真阅读产品说明书以熟知产品的特性。请严格按照说明书提示进行飞机的组装、调整及飞行。
2. 模型不是玩具，具有一定的危险性，操作者需要具备一定的飞行经验，初学者请在专业人士指导下操作。
3. 禁止十四岁以下儿童在任何情况下操作、飞行。

警告

★作为用户，您对本产品的安全操作和维护负全部责任。请始终严格遵照产品指导说明及安全警告操作本产品及其相关配置（例如遥控器、充电器、电池等）。

★本产品由无线电遥控器控制，在飞行过程中，可能会受到外界强信号源干扰而导致失控，甚至坠机，因此，在飞行过程中务必始终与飞机保持一定的安全距离，避免意外碰撞、受伤。

★请勿随意暴露置放模型飞机的电子产品，尤其是电池，存放时请务必保证周围三米之内无易燃易爆物体。

★在任何情况下，都务必保证油门杆处于起始位、发射机处于通电状态时，才能连接模型飞机内部的动力电池。

★在任何情况下，都不要尝试用手去回收飞行中的模型飞机，必须要等模型飞机降落停稳以后，再进行回收。

★请勿在公路、人群、高压线密集区、机场附近及其它法律法规明确禁止飞行的场合飞行。

★请勿在雷雨、大风、大雪或者其它恶劣气象环境下飞行。

★请勿将相关化工类产品、零部件、电子部件等置于儿童可触及的范围。

★请勿将本产品尤其是未经特别设计和保护的电子件暴露于潮湿的环境中，以免造成损坏。

★请勿将本品任意处置于口中，以免造成人身伤亡。

★请勿在发射机电池低电量的情况下操纵模型飞机。

★请勿在配件未充分冷却的情况下触碰或移动。

★请勿使用化学制剂擦拭清洁本产品。

★务必保证飞机在整个操作过程中始终在视线范围和遥控控制距离内。

★务必保证在拆卸飞机之前移除电池。

★务必保证所使用的电池是满电状态。

★务必保证使用的所有线束完好无损。

飞机简介

PA-18 Super Cub是一款双座、单引擎上单翼飞机。他由PA-11改进而来，并继承了J-3的优良设计。在连续将近40年的建造下，超过9000架PA-18被生产出来。目前，PA-18被普遍用于灌木飞行、拖曳广告横幅和牵引滑翔机。

500mm PA-18依然继承了真机的低速操控性和短距起降能力(STOL)，与此同时，还加入了螺旋桨保护，从此不再惧怕螺旋桨断裂；加入了一键掉头功能，对新手更加友好。

此外，得益于500mm PA-18的紧凑尺寸，使它几乎能够在所有你想象得到的地方飞行，包括篮球场，公园，甚至是你自家后院！整机RTF配置自带3档陀螺仪（自稳、手动、增稳），且无需组装，只需安装好电池，即可马上享受飞行！

如果您是新手，不妨从这款PA-18开始您的飞行之旅！如果您是经验丰富的飞行员，又想在任何场地随时飞行，也不妨试试这款500mm PA-18，相信在您的手里，能让它的性能发挥的淋漓尽致。

特征：

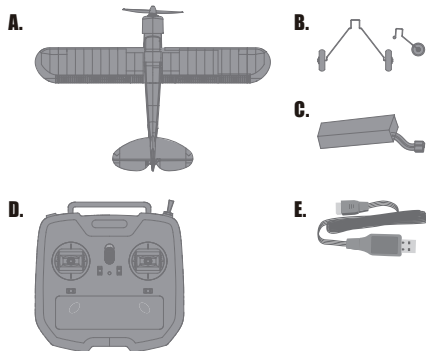
- 上单翼设计，带上反角，飞行更稳定
- 动力充足的1020空心杯电机
- 轻巧坚固的钢丝起落架
- 轻质耐用的EPP泡沫材质
- 螺旋桨保护设计
- 陀螺仪辅助飞行，一键掉头功能

产品基本参数

翼展	500mm /19.7 Inch
机身长	350mm /13.8 Inch
飞行重量	约 60克
电机	空心杯1020
翼载荷	15.8g/dm ² (0.03oz/in ²)
翼面积	3.8dm ² (58.9 sq.in)
电调	集成板带舵机 (1.3g * 2pcs)
遥控器	6通道
舵机	2g * 1pc
桨尺寸	2叶 5.1英寸
推荐电池	3.7V 380-400mAh

！注意：此处各项参数，均是使用原装配置测试得出，如果使用他厂配件，会有所差异。使用他厂配件时所产生的问题，我司将无法给予技术支持。

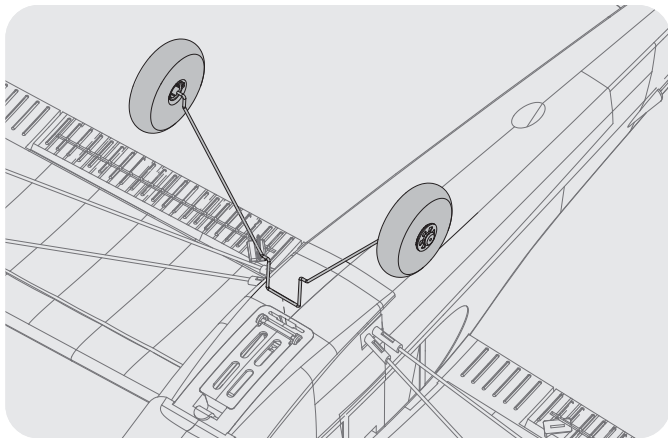
产品包装清单



- A: 飞机
B: 主起落架组
C: 电池
D: 遥控器
E: 充电线

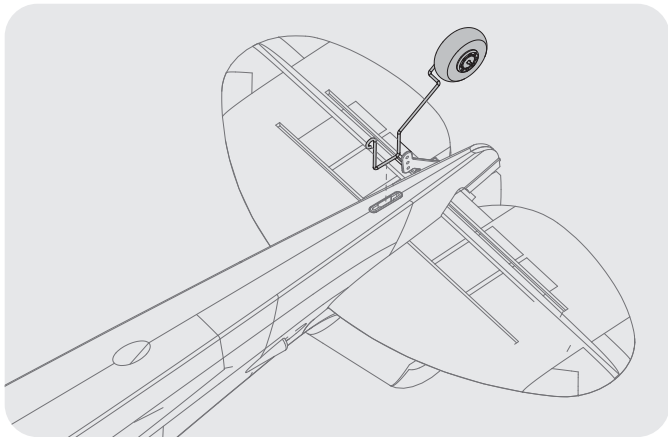
主起落架安装

1. 如图所示，将前轮钢丝卡入槽位。



尾轮安装

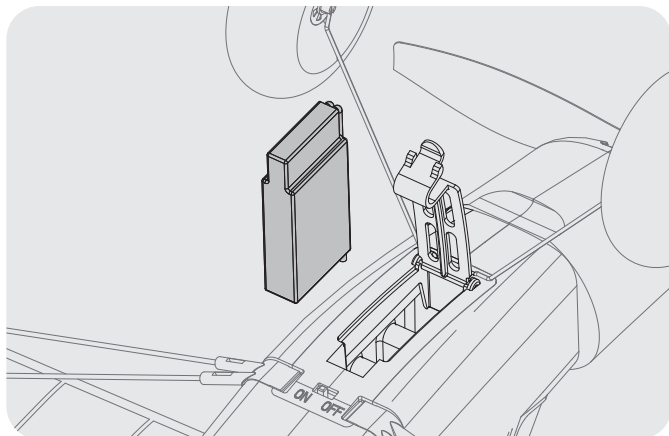
1. 如图所示，将后轮钢丝卡入槽位。



—— 电池安装 ——

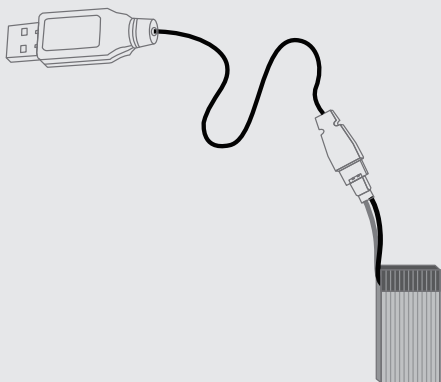


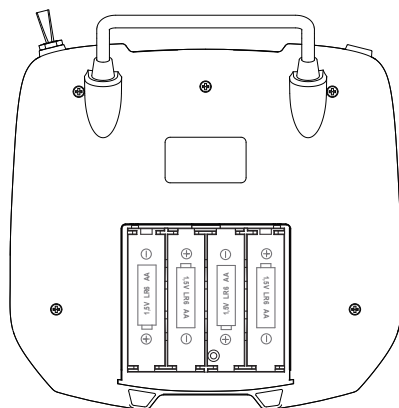
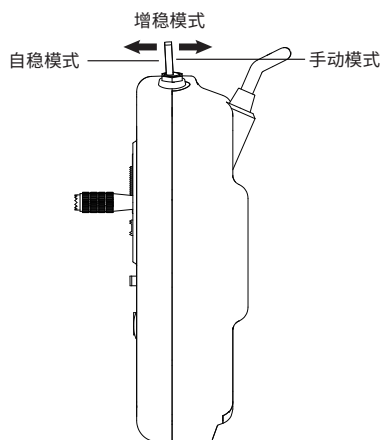
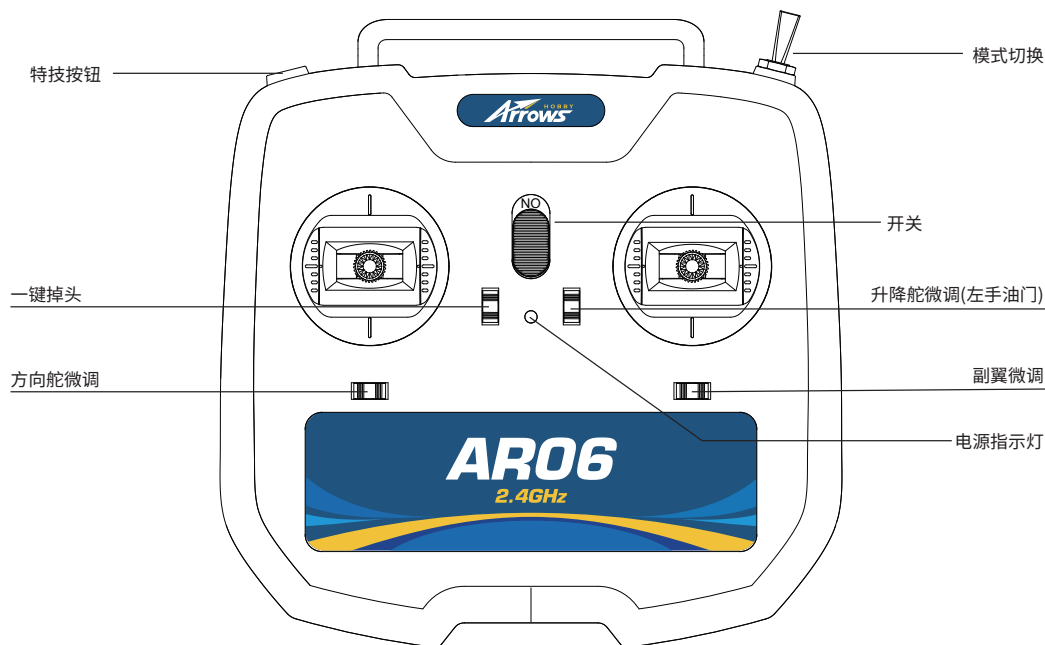
1. 打开飞机底部的电池舱盖，连接电池与接收机引线，将电池装入机舱并妥善固定，盖上电池舱盖。



«—— 充电说明 ——

1. 拔掉飞机上的电池插头。
2. 将充电器插至电脑的 USB 接口或 USB适配器。
3. 连接电池到充电器上。
4. 充电耗时约为 1 个小时。安全起见，请勿持续充电超过 2 小时。
5. 充电时红灯常亮，充电完成后，红灯熄灭。





取下电池盖,把4节AA电池按极性装入电池盒内,然后把遥控器电池盖盖上。

功能介绍

飞控系统配有自稳，增稳，手动3种飞行模式，使用遥控器上的3段开关来切换模式。

自稳模式——此飞行模式是专为初学者设计的，但也可用作更高级飞行员的紧急模式。在未有新指令输入的情况下，自动校准模式通过机载传感器，来使飞机保持水平的飞行姿态。

增稳模式——此飞行模式利用高精度陀螺仪，可在不干预摇杆操作的前提下，有效消除阵风 and 湍流的影响，以保持稳定的飞行姿态。

手动模式——此飞行模式将断开陀螺仪的辅助，使飞行更加有挑战性。

操作步骤

飞机对频操作

飞机出厂已完成对频，若对频失效，请按照以下操作：飞机接上电池后，按住遥控器的特技按钮的同时，打开遥控器电源进入对频，对频成功。

遥控器提醒功能

1. 飞机电池电压低于3.7V时，遥控器会开始发出“滴滴滴滴”警告声，并随着电压的降低逐渐加快警告频率。
2. 遥控器电池电量不足时，指示灯红灯闪烁，并带有“滴滴滴滴”短促警告声。

通电与激活

1. 将飞机置于水平面上，遥控器开启，飞机通电。
2. 把飞机面向即将飞行的方向，往上推并按住一键掉头按钮大约1秒钟，听到“滴”提示音后，方向舵左右摆动1次，一键掉头按钮功能被激活完成。
3. 快速把油门推到顶再拉到底听到“滴滴”提示声后，油门解锁成功。

掉头与特技

1. 在保证掉头激活已经完成的情况下，飞机在飞出20米以上距离后，往下按动一键掉头按钮，飞机将根据你激活时的机头指向掉头（如激活时飞机指向北边），飞机将掉头往南边飞行；期间操作摇杆可随时接管飞机。
2. 飞机在至少20m的高度飞行时，按下特技按钮后，快速操作右手摇杆方向，即可进入特技动作（拉起升降舵进入筋斗特技，往左或右压副翼进入横滚特技），特技完成后1次后，将回复正常飞行状态。

功能限制说明：

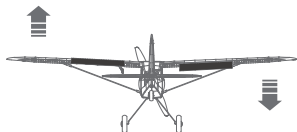
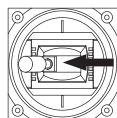
本一键掉头功能仅应在完全失位时启用，且必须视为最后救机手段。需注意：风偏、障碍物及航向误差均可能导致飞行任务失败。请始终保持油门控制并做好随时手动接管的准备。

在计划飞行之前，需要使用遥控器测试每个舵面的工作情况，确保摇杆动作与各个舵面动作的对应关系如下图所示：

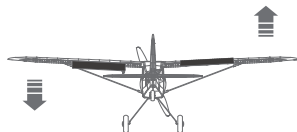
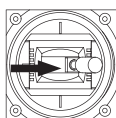
注意：在舵面调试中，请务必将油门摇杆置于最低位，以免电机意外启动发生事故。

副翼

副翼摇杆
向左运动

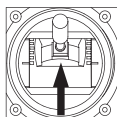


副翼摇杆
向右运动

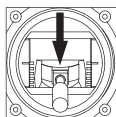


升降舵

升降摇杆
向上运动

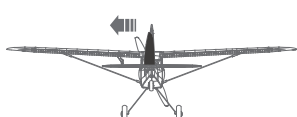
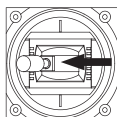


升降摇杆
向下运动

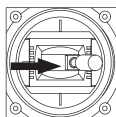


方向舵

方向摇杆
向左运动



方向摇杆
向右运动



« — 飞行检查单(起飞前最后确认)

到这一步，你将会需要像真实的飞行员一样，对环境和飞机的功能做最后的检查，以确保安全。

- ☐ 环境：风速小于2级，飞行范围远离人群、房屋及高压线。
- ☐ 结构：确认机体结构件安装紧固。
- ☐ 电量：飞机电池电量充足（满电电压为 $4.2V \times \text{电池S数}$ ，如1S为 $4.2V \times 1 = 4.2V$ ）。
- ☐ 信号：遥控器与接收机已成功通信（指示灯常亮，舵面操控有响应）。
- ☐ 舵面检查：各舵面偏转方向正确。
- ☐ 重心检查：重心在推荐范围内。
- ☐ 建议每次飞行前都养成良好的检查习惯。

问题	问题原因	解决方式
油门推杆无响应，但舵机有响应	——电调未连接电机 ——油门通道反向	——降低油门推杆和油门微调设定 ——反过来重新装油门通道
桨的噪音过大或者震动过大	——桨罩、桨、电机、电机架坏了 ——桨或者桨罩的小部件松动了 ——桨装反了	——更换损坏的配件 ——把桨、桨夹和桨罩的小部件拧紧 ——反过来重新装桨
飞行时间变短，飞机无力	——电池电量低 ——桨装反了 ——电池坏了	——重新给电池充电 ——依照电池说明书更换新的电池
飞舵面不动，或者动作响应较慢	——舵面、舵角、连接杆、舵机坏了 ——连接线坏了或者接头松了	——更换或者维修坏了的配件 ——检查所有连接线，确保所有接头无松动现象
舵面反向	——遥控器发射机通道反向	——检查通道控制（舵面）方向，调试飞机舵面和遥控器的舵面控制杆
电机无力	——电机或电池坏了 ——电调用了不合适的低压保护装置	——检查电池、发射机、接收机、电调、电机是否有损坏（如有，请及时更换） ——立刻操控飞机降落，重新给电池充电

«— 配件列表

AHRF101	机身	AHRF110	入门配件包
AHRF102	机翼	AHRF111	小飞机系列螺旋桨爪盘 (2个)
AHRF103	平尾	AHRXX006	接收机 (四合一集成)
AHRF104	桨+桨罩	AHDJX012	电机架
AHRF105	连接杆	AHBAT010	3.7V 400mAh 电池 (空对空插头)
AHRF106	起落架组	AHCHR003	充电器
AHRF107	翼撑	AHKVXC002	1020空心杯电机
AHRF108	舵角组	AHSER033	2g 塑胶数码正向舵机50mm线长 (SH1.25 插头)
AHRF109	贴纸	AHTXX004	AR06发射器 (仅供500 PA-18 和410mm T-28 使用)

MADE IN CHINA