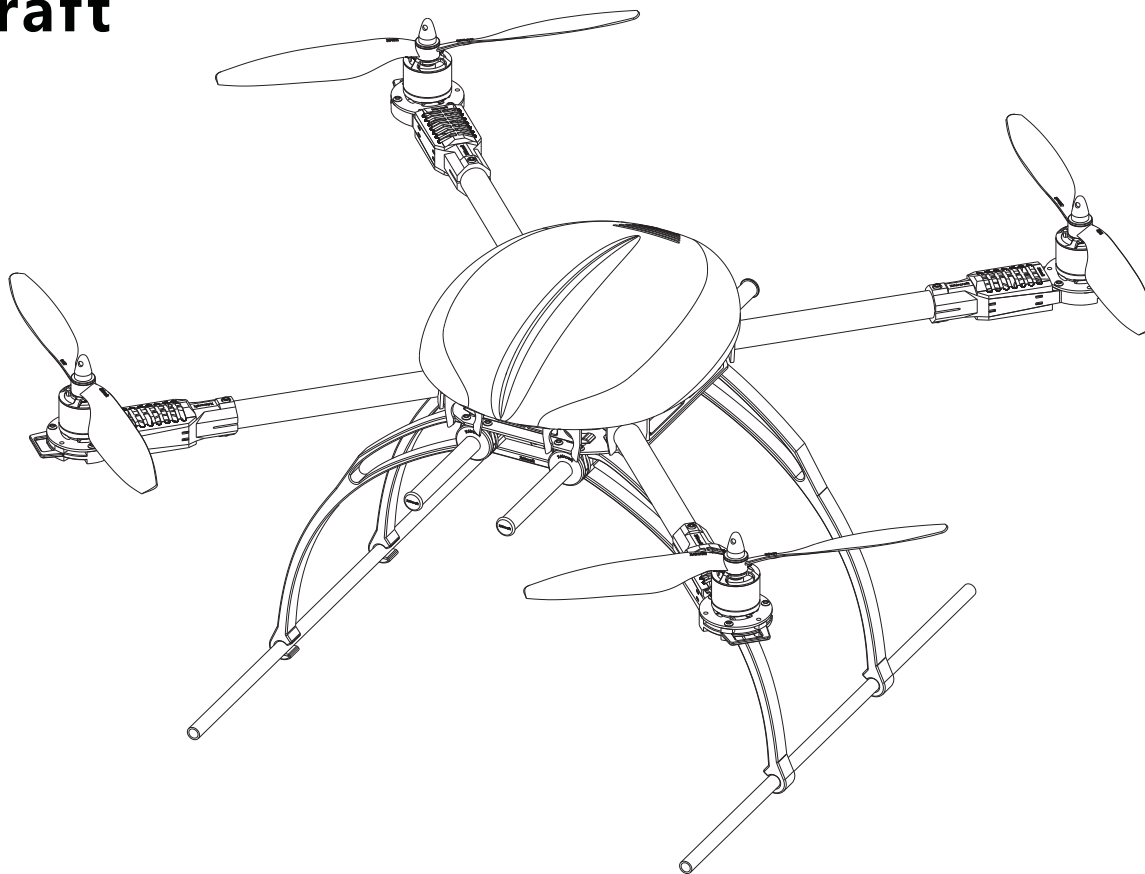


XAircraft



XAircraft X650 Value

Model: X650 V-4

在使用XAircraft X650 Value之前，请仔细阅读此说明书。
Read the manual carefully before using XAircraft X650 Value.

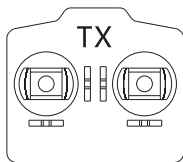
安装说明书
INSTRUCTION MANUAL

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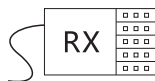
产品安装须知 Notice for Assembly

自备遥控及电子设备

Radio transmitter and electronic equipment required for assembly



遥控器 (4通以上)
Transmitter (4-channel or more)



接收机 (4通以上)
Receiver (4-channel or more)



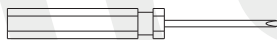
11.1V 3S 2200~5500mAh 锂电池 (瞬时放电能力>20C)
11.1V 3S 2200~5500mAh
Li-Po Battery (Instant discharge capacity>20C)

自备工具

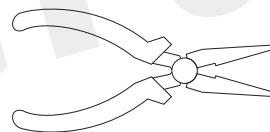
Additional tools required for assembly



六角螺丝刀
Hexagon Screw Driver
1.5mm/2.0mm



十字螺丝刀
Cross Screw Driver



尖嘴钳
Sharp nose pliers



螺丝胶
Screw Glue

标志含义

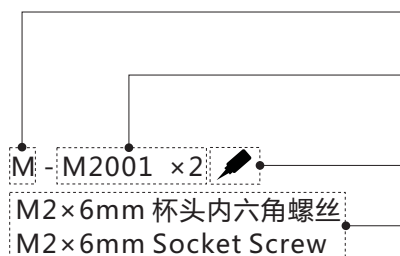
The Meaning Of Symbols



疏忽这些操作说明, 可能导致设备损坏。
Mishandling instructions may result in damage.



疏忽这些操作说明, 可能导致设备损坏或人员受伤。
Mishandling instructions may result in damage or injury.



袋编号
Packet Number

物品编号与所需数量
Product Number and Quantity

建议使用螺丝胶加固
Suggested to use screw glue
for higher intensity

名称
Name

飞行须知

免责声明

1. 请在当地法律法规允许的范围内使用本产品，XAircraft不承担因任何非法使用导致的法律责任。
2. 本产品属于遥控航模，请严格遵守航模产品的安全操作规范，XAircraft不承担因任何操作和使用控制上导致的任何性能、安全与法律责任。
3. 航模不是玩具，请在专业人员指导下飞行，并按本说明书安装和使用本产品，XAircraft不对因用户安装、配置、操作等导致的航模事故负责。

安全注意事项

X650 Value在给您带来快乐飞行体验的同时也潜藏着一定的危险。X650 Value在飞行时具有一定的飞行速度，且螺旋桨转速高达4000RPM以上，具有极大的破坏力。无论您是初学者还是经验丰富的玩家，安全意识都应该铭记于心！

1. 熟悉飞行环境，远离障碍物及人群，并确认是否存在不安全因素，如高压线、汽车、人群等。
2. 勿疲劳、酒后或精神不佳时飞行，以免发生意外。
3. 远离潮湿环境，切勿大风天气或雨天飞行，否则将造成电子设备故障发生危险。
4. 远离热源，以免造成电子设备或其它部件的损坏。
5. 初学阶段不要独自飞行。建议飞行之前先向有经验的飞行员获取帮助。
6. 准备救援工具，如手机、对讲机。
7. 请在安全起飞重量下飞行，切勿超载运行机器，以免发生危险。
8. 飞行前必须检查设备是否正常，是否存在同频干扰。
9. 远离运转中的机器，切勿用身体接触旋转中的电机或螺旋桨，更不要用手抓。飞行时切勿穿宽松衣服以免与遥控器或螺旋桨发生牵扯造成意外。
10. 在飞行前始终把遥控器油门杆保持在最低点。
11. 建议在无桨状态下试运行X650 Value，检查遥控设备和电机的工作是否正常，一切正常之后再安装螺旋桨，以免造成安全事故。
12. 请使用XAircraft提供的零件，用户使用其它来源的零件或改装本产品需独立承担相应的飞行责任。

飞行前检查

在飞行前请务必检查各零部件是否完好，如发现部件老化或磨损，请勿飞行；务必检查各个部件的安装情况，特别是以下部件的安装失误容易造成意外：

1. 检查螺旋桨是否安装正确和稳固。
2. 检查接收机连线是否稳固。
3. 检查电池扎带是否扎紧；检查电池电量是否充足。

4. 检查接收机是否扎紧。
5. 检查天线是否安装稳固。
6. 检查无刷电机与无刷电机调速器连接线是否稳固。

另外，如果接收机的安装或电调（ESC）与飞行控制器的连接方式不是XAircraft出厂默认的方式或更改过遥控器设置和飞行模式，请检查遥控器的各个通道的操作和电机的反应是否一致。

飞行控制说明

1. 启动：把遥控器油门杆拉到最低后打开遥控器电源开关，然后接通X650 Value的电源。轻微推杆以启动所有电机。
2. 停止：油门杆收到最低，约1秒后四旋翼电机停止工作。断开X650 Value电源后，再关闭遥控器电源开关。
3. 起飞或降落时一旦发生紧急情况，请立即把遥控器油门杆拉到最低，确保安全。
4. 前后左右与旋转等飞行控制与常规直升机等航模控制类似，但这些飞行动作是由各个相应通道独立控制的，请勿将遥控器设置为混控模式。

开始飞行

开机程序：开机时必须先打开遥控器电源开关并将油门杆拉到最低，再接通飞行器电源；关机时必须先断开飞行器电源，再关闭遥控器电源。不正确的开关机顺序可能造成飞行器失控而发生危险。

1. 将油门杆拉到最低，打开遥控器电源开关。
2. 接通X650 Value的电源。
3. 轻推油门（切忌将油门杆瞬间推到很大），当所有电机都正常低速运转后，轻推各操控杆以检查飞行器的动作和方向是否与您的操作一致。
4. 如果发现飞行器在飞行过程中向一边倾侧无法纠正，请将X650 Value连接到PC，使用调参软件对AHRS模块进行校准。

Before Flight

DISCLAIMER OF LIABILITY

1. Using XAircraft products within the limits permitted by local laws and regulations. XAircraft is not responsible for any illegal activities.
2. The X650 Value is an aeromodelling product only. Please strictly follow the aeromodelling safe function rules, XAircraft does not hold responsible for any control over its operation or usage.
3. Model aircraft are not toys! Fly under professional guidance and strictly follow instruction rules in this document. XAircraft is not responsible for consequences caused by improper install, wrong setting or operation.

SAFETY CAUTIONS

X650 Value gives users an enjoyable fly experience but is potentially dangerous at the same time. The blades rotate up to 4000RPM which can cause serious injuries or property damage. Safety awareness should be firmly followed by all users regardless of flying experience.

1. Familiarize yourself with fly environment and any obstacles. Identify any potential hazards such as power lines, cars, people, etc.
2. Do not fly the aircraft when fatigued, drunk or your mental state has been compromised which may cause an accident.
3. Stay away from wet areas. Do not fly in the rain or wet environments which can cause device failure and probably lead to danger. Do not fly at night or in windy conditions.
4. Stay away from any fire resulting in damage of the electronic parts or others such as the flight battery.
5. Do not fly alone during your preliminary flights. If you need help, please enlist the aid of an experienced pilot before flying for the first time.
6. Prepare rescue tools such as cell phones or other communication devices which should you need to call for help.
7. Please fly under safe take-off weight, do not overload the aircraft which can lead to danger.
8. Ensure all the equipment operates correctly before flight and that there is no transmitter interference or conflicts.
9. Do not touch any moving or powered parts. Do not try to catch the quadcopter which has rotating motors or blades for example. Keep loose clothing away from moving parts as they may get caught and could cause physical harm.
10. Always throttle down to minimum before fly.
11. Remove the propellers when testing the remote device or motors operation. Attach the propellers after you have tested that everything is working good to prevent an accident.
12. Assemble the aircraft with accessories XAircraft provides. XAircraft is not responsible for any consequence resulted from assembly with other accessories or modifications.

INSPECTIONS BEFORE FLIGHT

PLEASE PAY ATTENTION TO THE AGING AND WORN PARTS, AND FLY WHEN THEY ALL WORK WELL. PLEASE DO CHECK EVERY ASSEMBLY CAREFULLY BEFORE FLIGHT, especially lapses in these parts will easily cause DANGER.

1. Check that the propellers are secured properly.
2. Check that the receiver is receiving a stable signal.
3. Check that the battery is secured tightly and the battery is fully charged.
4. Check that the receiver is attached correctly.
5. Check the antenna is assembled tightly enough.
6. Check that the brushless motor and brushless ESC are secured to the airframe.

Before flight, please assemble receiver or connect ESC to FC as XAircraft factory defaults, if not, please DO CHECK the operations of Remote Control channels and consistence of motor reactions.

FLIGHT CONTROL INSTRUCTION

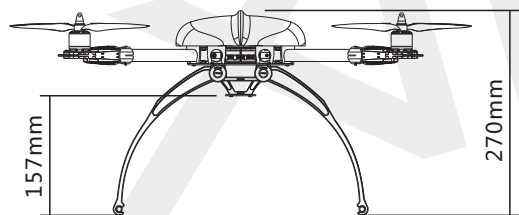
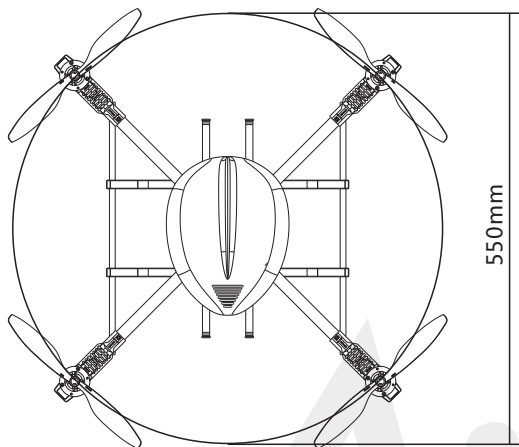
1. Start: Set the throttle stick to the lowest then turn on the transmitter. Connect the flight battery then slowly apply the throttle until all motors begin to run.
2. Stop: Move the throttle stick to the minimum. All motors should stop to work in about one second. First cut off the X650 Value then the RC powers off.
3. Any emergency occurs when taking off or landing, please move the throttle stick to the lowest position immediately to keep safe.
4. Flight control to the front, back, left and right is similar to the traditional RC helicopters but each motion is controlled by a separate channel. Do not use any channel mixing in your RC transmitter such as v-tail or swashplate mixing etc.

START TO FLY

Power ON/OFF Operations: Before plugging in the quad you have to turn on the RC and set the throttle stick to the lowest position. When powering off, you have to cut off the aircraft first then the RC powers off. Disorder in the on and off procedure will cause an accident.

1. Place the aircraft on the ground. Put the throttle stick to the lowest position then turn on the transmitter.
2. Connect the battery to the ESC board.
3. Start the Quad by applying power slowly with the throttle stick. When all the motors rotate at a slow speed you can move the stick to check the X650 Value actions according to your operation.
4. If you can not calibrate the tilt on one side during your flight, please connect X650 Value to the PC and use XAircraft configuration software to do the calibration.

产品特性 Features



空机重量：880克（不含接收机和电池）。

载重重量：720克。

最大安全起飞重量：1600克。请勿超过安全起飞重量飞行，以免发生危险！

留空时间：大于10分钟（在起飞重量为1200克时使用3S 3300mAh的电池）。

电池要求：11.1V 3S 2200mAh ~ 5500mAh的锂电池(T插)，瞬时放电能力>20C。

输入：最多可支持12通道的接收机，兼容所有航模遥控设备。飞行至少需要4个通道，建议使用6通道以上的遥控设备以便扩展。

输出：最多支持12路输出，支持XAircraft UltraPWM高速电调与普通电调。支持单轴和双轴增稳云台，兼容普通舵机与数码舵机。

扩展性：配合GPS模块（选购）、电子指南针（选购）可实现定点、定高、定向悬停，实现一键返回(Return to Home)功能。

Empty Frame Weight: 880g (receiver and battery not included)

Payload Capability: 720g

Maximum Gross Take-Off Weight: 1600g. DO NOT OVERLOAD ON X650 Value WHICH CAN LEAD TO DANGER.

Airborne period: >10mins (with 3S 3300mAh battery, take-off weight under 1200g)

Cell Chemistry: 11.1V 3S 2200mAh ~ 5500mAh Lithium Polymer, and instant discharge capacity >20C.

Input: Support a 12-CH receiver at most. Compatible with all the RC devices. It needs at least 4 channels to fly your aircraft. We recommend you to use RC device with 6 channels or more for expansion.

Output: Support 12-CH outputs at most. Compatible with XAircraft UltraPWM Hi-Speed ESC and normal ESC. Support Tilt or Pan/Tilt Camera Mount compatible with both normal and Hi-Speed digital servo.

Expansibility: Utilize GPS Module(optional) together with Compass(optional) that can realize position hold, height lock, heading lock and Return to Home.

产品售后服务

1. 保修条例

- 1) 在正常使用状态下因产品质量引起性能故障时，XAircraft对X650 Value的电子电路部分承诺有限的质量保证（下文简称“质保”），质保对象不包括X650 Value的机身及其机械部件、电子设备外壳、电路连接线等部分。
- 2) 自购买XAircraft产品之日起（以购买凭证为准，下同）的三个月为质保期。
- 3) 在质保期内，且产品在质保范围内时，XAircraft提供免费的更换或维修服务。

2. 以下情形不在质保范围内

- 1) 未按照XAircraft官方说明书的指示进行安装或操作。
- 2) 因磨损、滥用、不当操作或化学试剂而引起的性能故障。
- 3) 因与非XAircraft提供的X650 Value部件一起使用而引起的性能故障。
- 4) 因进行改装而引起的性能故障。
- 5) 因液体滴入引起的电子设备的性能故障。
- 6) 因电子干扰而引起的性能故障。
- 7) 使用了劣质电源或连接不合理电压的电源导致XAircraft电子产品性能故障。
- 8) 意外或人为因素引起的性能故障（如搬运、碰撞、操作失误、输入不合适电压等）。
- 9) 不可抗拒力因素（包括但不限于火灾、地震、雷电等）引起的性能故障。
- 10) 在邮寄过程中造成配件损坏或丢失（遇到此类情况请向相关物流公司咨询）。

3. 有偿服务。当产品性能故障超出质保范围的，您可以选择有偿服务：

- 1) 自购买产品之日起一年内，有偿服务不收取除工本和运输之外的费用。
- 2) 超过一年的，有偿服务将收取检测、材料、维修和运输费用。

4. 服务流程

- 1) 当产品发生性能故障时，请您第一时间联系向您直接销售的销售商以便确认故障情况、服务范围和服务方式，或Email咨询service@xaircraft.com。
您需要提供：
 - a) 产品购买凭证。
 - b) 产品的SN，您可以在产品的外包装或本手册封底上找到它。
 - c) 尽可能详细的故障描述，如当时的环境（天气等）、操作和产品的表现等。
 - d) 您的联系方式。

- 2) XAircraft或销售商根据售后服务条款确认服务范围。

- 3) 产品送修后，根据产品损坏情况，如产生费用的，XAircraft或销售商将联系您确认费用，当您确认费用后再进行维修。对于严重损坏无法维修的：质保范围内的按条款进行更换；质保范围之外的只能进行退还处理。

5. 运费

- 1) 对于中国大陆的用户：产品在质保范围内的，用户需承担送修运费；产品在质保范围外的，用户需承担往返运费。
- 2) 对于中国大陆以外区域的用户，请联系当地经销商集中维修处理，以节省昂贵的物流费用。

After-Sale Service

1. Warranty Items

- 1) XAircraft provides a manufacturer's warranty on X650 Value electronic parts caused by non-accident error or no human error. It doesn't include the frame and its parts, cover on electronic parts and circuit lines and so on.
- 2) The warranty period takes effect from the purchasing day(the date is subject to the time on your Proof of Purchase) to the 90th day.
- 3) Among the warrant period, XAircraft provides repairments for free under circumstance within the warranty scope.

2. Situations below are NOT INCLUDED in the warranty

- 1) Users disobey the XAircraft X650 Value manual while installing or operating your XAircraft products.
- 2) Performance failure caused by worn-out, misuse, improper operation or chemical reagent.
- 3) Performance failure caused by intermixed with non-X650 Value parts.
- 4) Performance failure caused by modifications with non-X650 Value parts.
- 5) Performance failure on electronic device caused by liquid drop-in.
- 6) Performance failure caused by electronic interference.
- 7) Performance failure on electronic parts caused by using battery low in quality or choosing an unreasonable voltage source.
- 8) Performance failure caused by incidents or human error such as transportation, collision, improper operation or connecting to a wrong voltage source.
- 9) Performance failure caused by irresistible force including but not limited by fire, earthquake, lightning and so on.
- 10) Damage or lose happens during the post. Please consult to the relevant logistics corporation.

3. Paid-Service. You can choose paid service when performance failure occurs out of the warranty range.

- 1) From the time you purchase XAircraft X650 Value within a year, you only have to pay for the cost of material and shipping.
- 2) From the time you purchase XAircraft X650 Value over a year, you

have to pay for the cost of check, repairs, material and shipping.

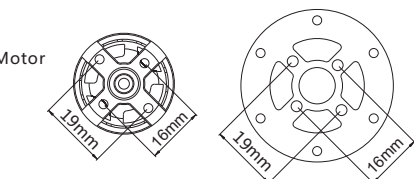
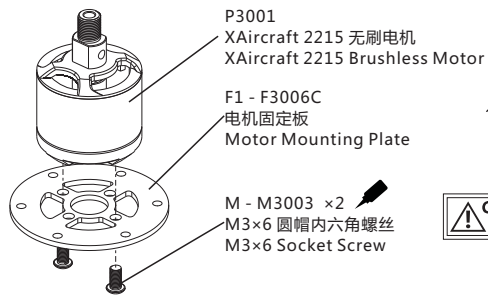
4. Procedure of Service

- 1) When performance failure happens to your X650 Value or extra purchasing parts, please contact distributor/seller immediately in order to confirm the failure, the range and way of service. You can alternatively email us: service@xaircraft.com. At the same time, you have to offer some evidence and details:
 - a) Proof-of-Purchase of XAircraft X650 Value.
 - b) Product SN, you can find it on the package.
 - c) Description in details such as the weather, environment, operation and aircraft motion.
 - d) Your contact information.
- 2) XAircraft or global distributor/seller strictly follows the warranty items to confirm the scope of service.
- 3) Users may have to pay for the repairment necessarily according to damage assessment which XAircraft or global distributor/seller will contact you to confirm whether it's satisfied for you. For the unrepairable parts you can choose to replace under the range of warranty scope otherwise we have to declare as a disabled product while beyond the warranty range.

5. Shipping Fee

- 1) Users in China Mainland have to pay for the shipping-out fee if XAircraft X650 Value has a performance failure among the warranty items. Beyond the warranty items users have to pay for the shipping fee out and back.
- 2) Users outside the China Mainland have to contact the local distributor/seller for centralized treatment case by case in order to save shipping cost.

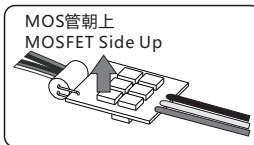
机身臂安装 Frame Arm Assembly



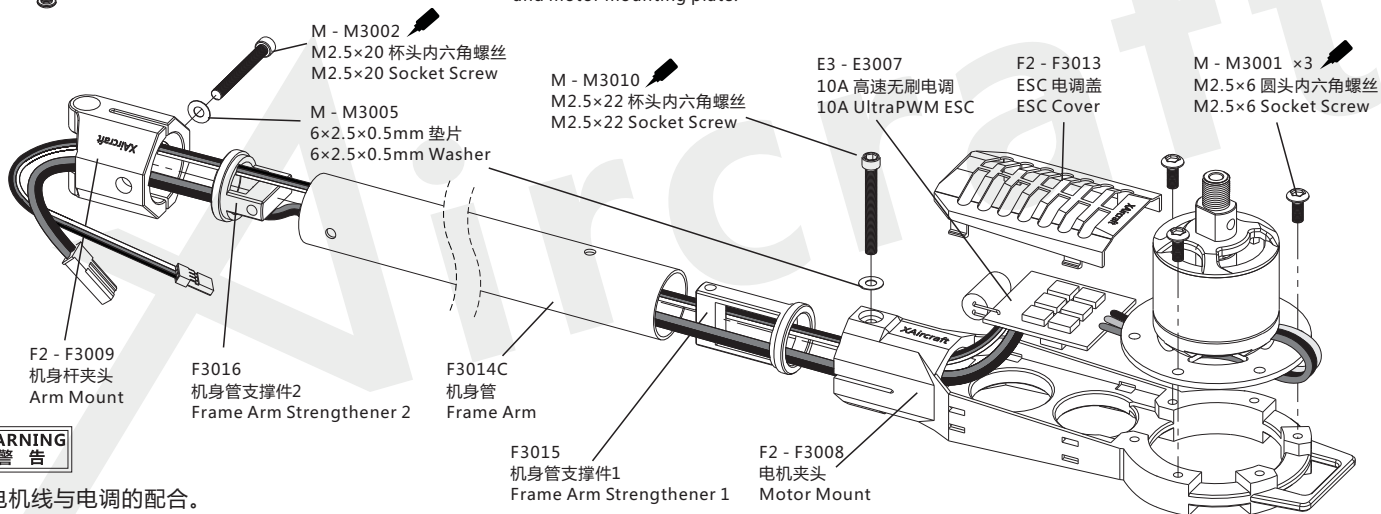
CAUTION 注意 安装时, 注意电机固定板与无刷电机的安装孔距。
Notice the hole distance of motor and motor mounting plate.



安装时, 注意电机固定板与无刷电机的安装孔距, 通过调整固定板的安装位置, 使安装样式如右图。

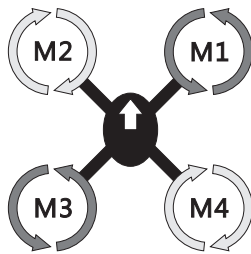


Notice the hole distance of motor and motor mounting plate. Assembled style as shown in right figure.



注意电机线与电调的配合。
Notice the wiring of motor and ESC.

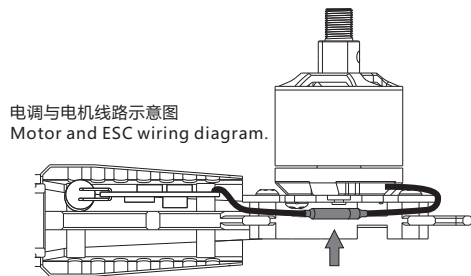
M2 电机 Motor 电调 ESC
Red 红 ———— 黄 Yellow
Black 黑 ———— 黑 Black
Yellow 黄 ———— 红 Red



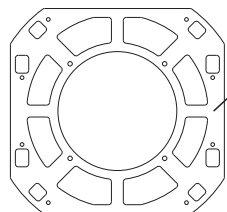
M3 电机 Motor 电调 ESC
Red 红 ———— 红 Red
Black 黑 ———— 黑 Black
Yellow 黄 ———— 黄 Yellow

M1 电机 Motor 电调 ESC
Red 红 ———— 红 Red
Black 黑 ———— 黑 Black
Yellow 黄 ———— 黄 Yellow

M4 电机 Motor 电调 ESC
Red 红 ———— 黄 Yellow
Black 黑 ———— 黑 Black
Yellow 黄 ———— 红 Red



机架安装 Frame Assembly

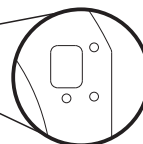
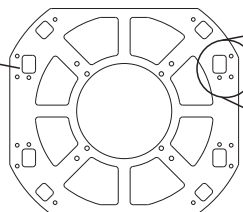


F1 - F3001C
机身上板
Fuselage Upper Plate

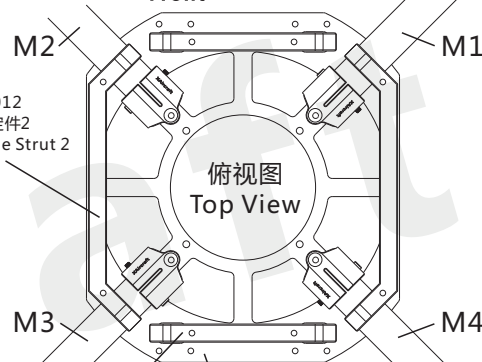


注意机身上板和下板的区别。
Notice the distinction between
Fuselage Upper Plate and Fuselage
Lower Plate.

F1 - F3002C
机身下板
Fuselage Lower Plate



该图不含机身上板
Fuselage Lower Plate is not
included in Top View.



俯视图
Top View

机身杆装配 Frame Arm Assembly

M - M3001 × 8
M2.5×6 圆头内六角螺丝
M2.5×6 Socket Screw

M - M3004 × 4
M3×8 圆头内六角螺丝
M3×8 Socket Screw

M - M3008 × 4
6×3×1.5mm 尼龙垫片
6×3×1.5mm Nylon Wahser

F1 - F3001C
机身上板
Fuselage Upper Plate

F2 - F3012
机身固定件2
Fuselage Strut 2

F2 - F3011
机身固定件1
Fuselage Strut 1

F1 - F3002C
机身下板
Fuselage Lower Plate

M - M3001 × 8
M2.5×6 圆头内六角螺丝
M2.5×6 Socket Screw

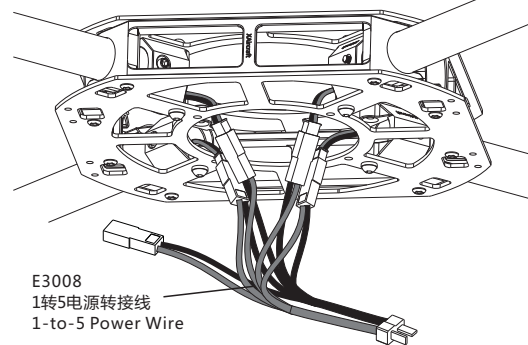
M - M3004 × 4
M3×8 圆头内六角螺丝
M3×8 Socket Screw

M - M3008 × 4
6×3×1.5mm 尼龙垫片
6×3×1.5mm Nylon Wahser

注意安装方向
Notice face.

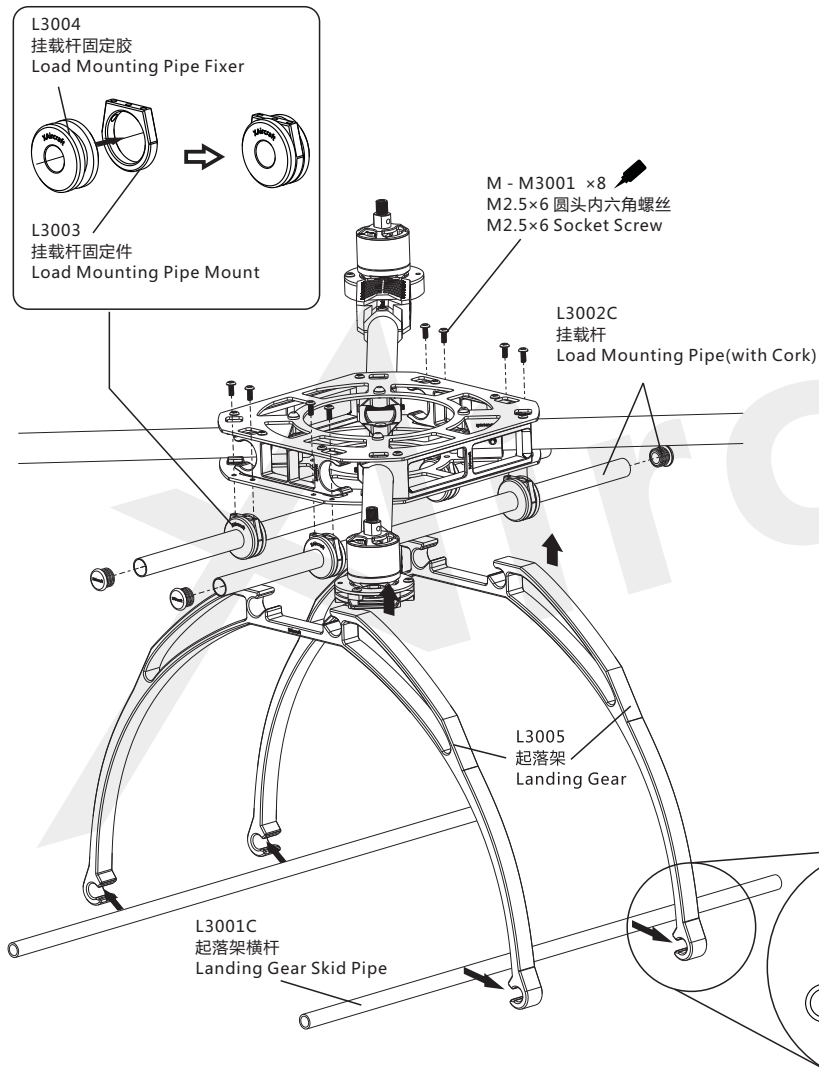
F2 - F3011
机身固定件1
Fuselage Strut 1

F1 - F3002C
机身下板
Fuselage Lower Plate

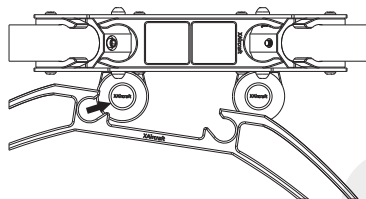


E3008
1转5电源转接线
1-to-5 Power Wire

起落架安装 Landing Gear Assembly

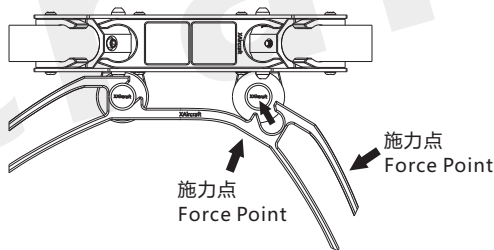


安装步骤 STEPS:



步骤1 Step1

先扣入一边的挂载杆，扣入时注意用力，避免损坏。
Assemble one side. DO NOT OVER-EXERT TO AVOID DAMAGE.



步骤2 Step2

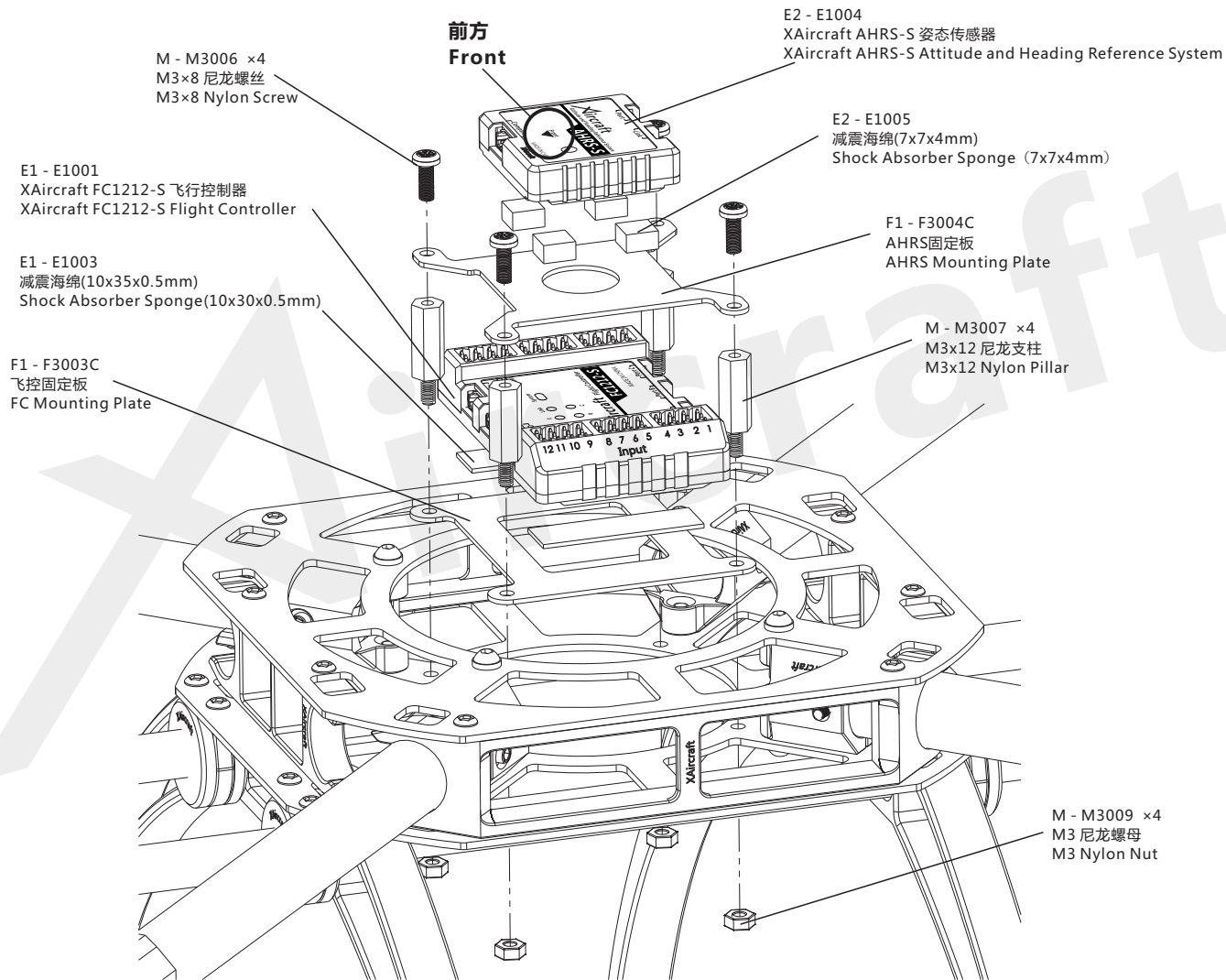
弯曲起落架，将另一边也扣入挂载杆。弯曲时注意用力，以免损坏起落架。

Bend the other side of landing gear as shown in the figure, and assemble it.



压入横杆时注意用力，以免损坏。
Assemble landing gear pipe carefully to avoid damage.

飞控与AHRS安装 Flight Controller and AHRS Assembly



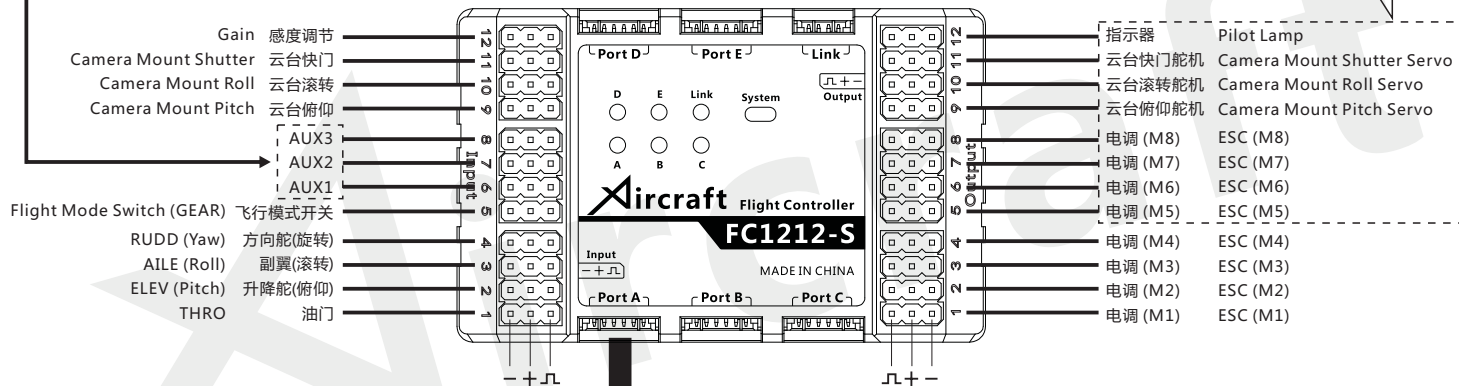
电路接线示意图 Circuit Wiring

常见接收机接线示意图在下一页

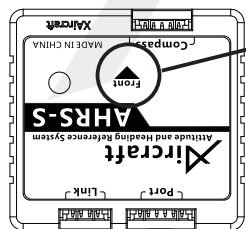
Common receiver wiring is in the next page.

根据模块扩展自由设置对应功能。
Set the function according to the expansion module.

电调(M5~M8)、云台俯仰舵机, 云台横滚舵机、云台快门舵机, 指示器均为自选配件, 并不包含在X650 Value中。
ESC(M5~M8), Camera Mount Pitch/Yaw/Shutter Servo, Pilot Lamp are the option parts, not including in the X650 Value.



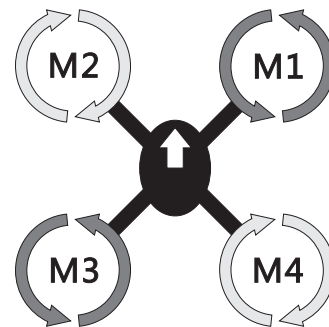
AHRS可插接到FC1212-S的Port A至Port E中的任何一个。
AHRS can be connected to any port among Port A and Port E on FC1212-S.



注意方向
Notice Direction

E1006
6-pin 信号连接线
6-pin Signal Cable

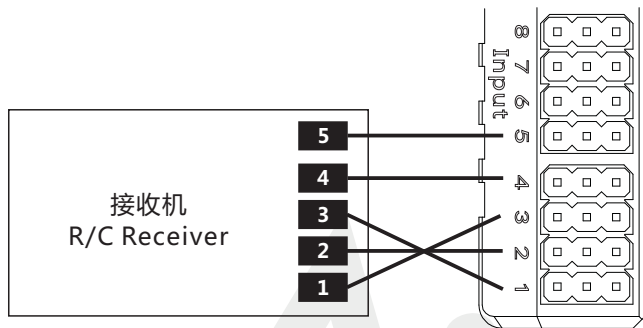
信号连接线 (E1002) 不正确连接会造成电子设备烧毁。
Incorrect installation of signal cables(E1002) can cause damage on electronic devices.



电机示意图
Motor Diagram

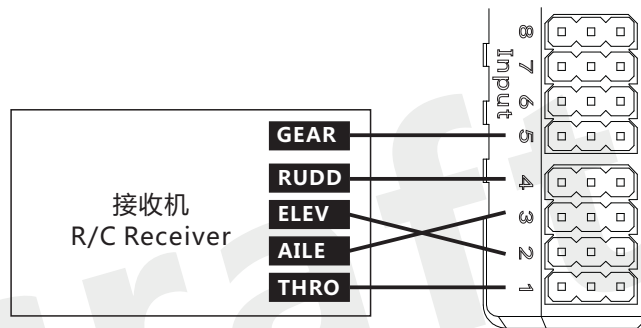
常见接收机接线示意图 Common Receiver Wiring

HITEC, FUTABA, 天地飞 (WFLY) 接收机接线示意图
HITEC, FUTABA, WFLY Receiver Wiring



- 1 选择飞机类型为固定翼。
 - 2 通道均设为反舵。
 - 3 关闭所有混控模式。
 - 4 摇杆的微调归中。
 - 5 关闭油门与EXP曲线，等试飞1-2个起落后再根据个人习惯调整油门与EXP曲线。如果您的遥控设备没有EXP和油门曲线设置也不必担心，这不是必须的。
- 1 Choose Fixed Wing type.
 - 2 Set all channels reversed.
 - 3 Shut down mixed control.
 - 4 Stick trim middling.
 - 5 Shut down Throttle and EXP curve first, and adjust it according to your own habit after your several flies. It is not an essential part so when you have no EXP and Throttle curve setting in your radio, there is no need to panic.

JR, Spektrum 接收机接线示意图
JR, Spektrum Receiver Wiring



- 1 选择飞机类型为固定翼。
 - 2 关闭所有混控模式。
 - 3 摇杆的微调归中。
 - 4 关闭油门与EXP曲线，等试飞1-2个起落后再根据个人习惯调整油门与EXP曲线。如果您的遥控设备没有EXP和油门曲线设置也不必担心，这不是必须的。
- 1 Choose Fixed Wing type.
 - 2 Shut down mixed control.
 - 3 Stick trim middling.
 - 4 Shut down Throttle and EXP curve first, and adjust it according to your own habit after your several flies. It is not an essential part so when you have no EXP and Throttle curve setting in your radio, there is no need to panic.

机身盖安装 Frame Cover Assembly



飞行时必须安装机身盖，以防机身杆移位发生危险。

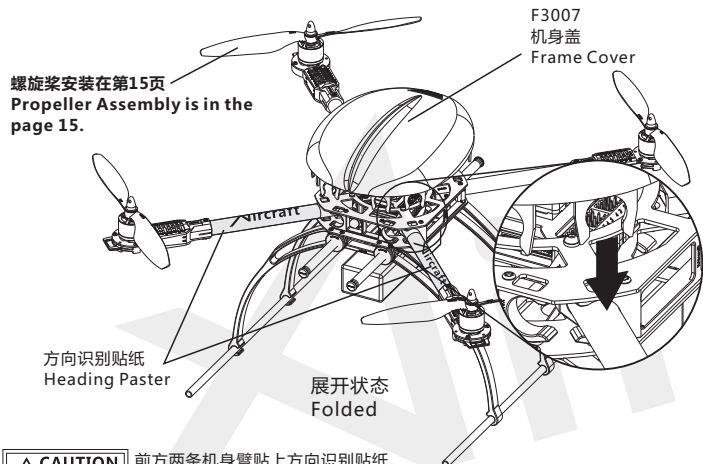
Frame cover must be assembled to avoid DAMAGE in flight.



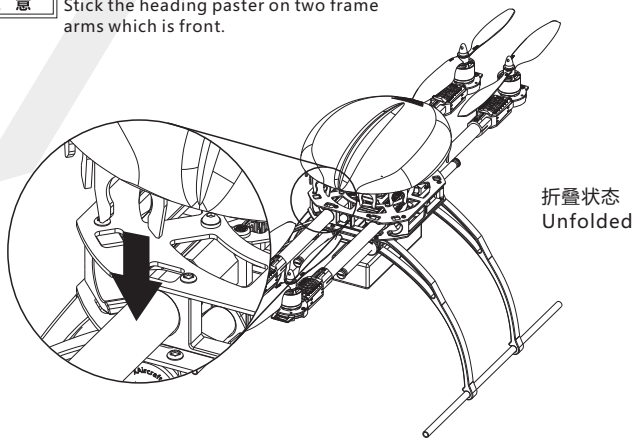
折叠或展开机架时，应先将机身盖取下，待折叠或展开后再将机身盖装回。

Before folding or unfolding, please unload the frame cover.

After folded or unfolded, assemble the frame cover.

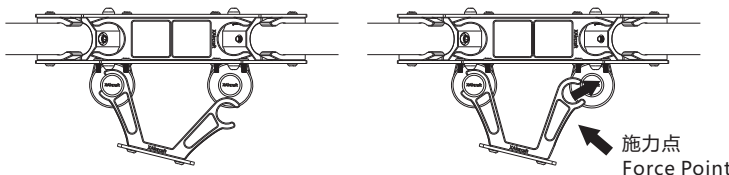
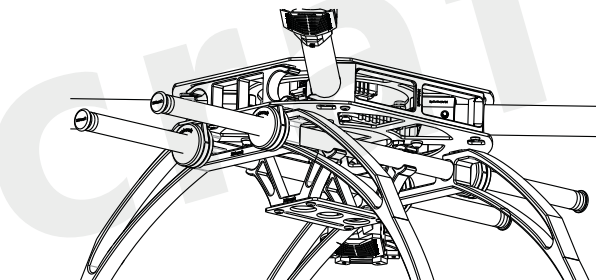
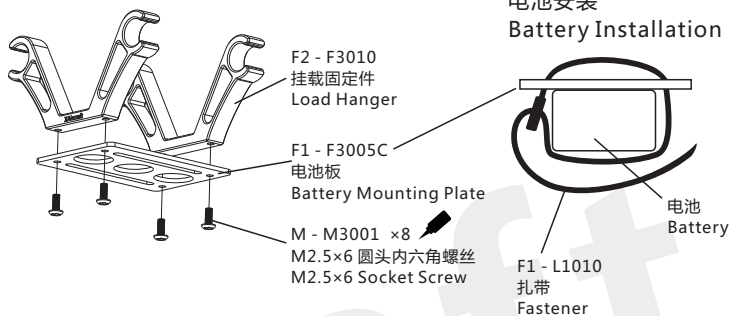


前方两条机身臂贴上方向识别贴纸。
Stick the heading paster on two frame arms which is front.



电池挂载架安装 Battery Mounting Assembly

电池安装 Battery Installation



步骤1 Step1

先扣入一边的挂载杆，扣入时注意用力，以免损坏挂载固定件。

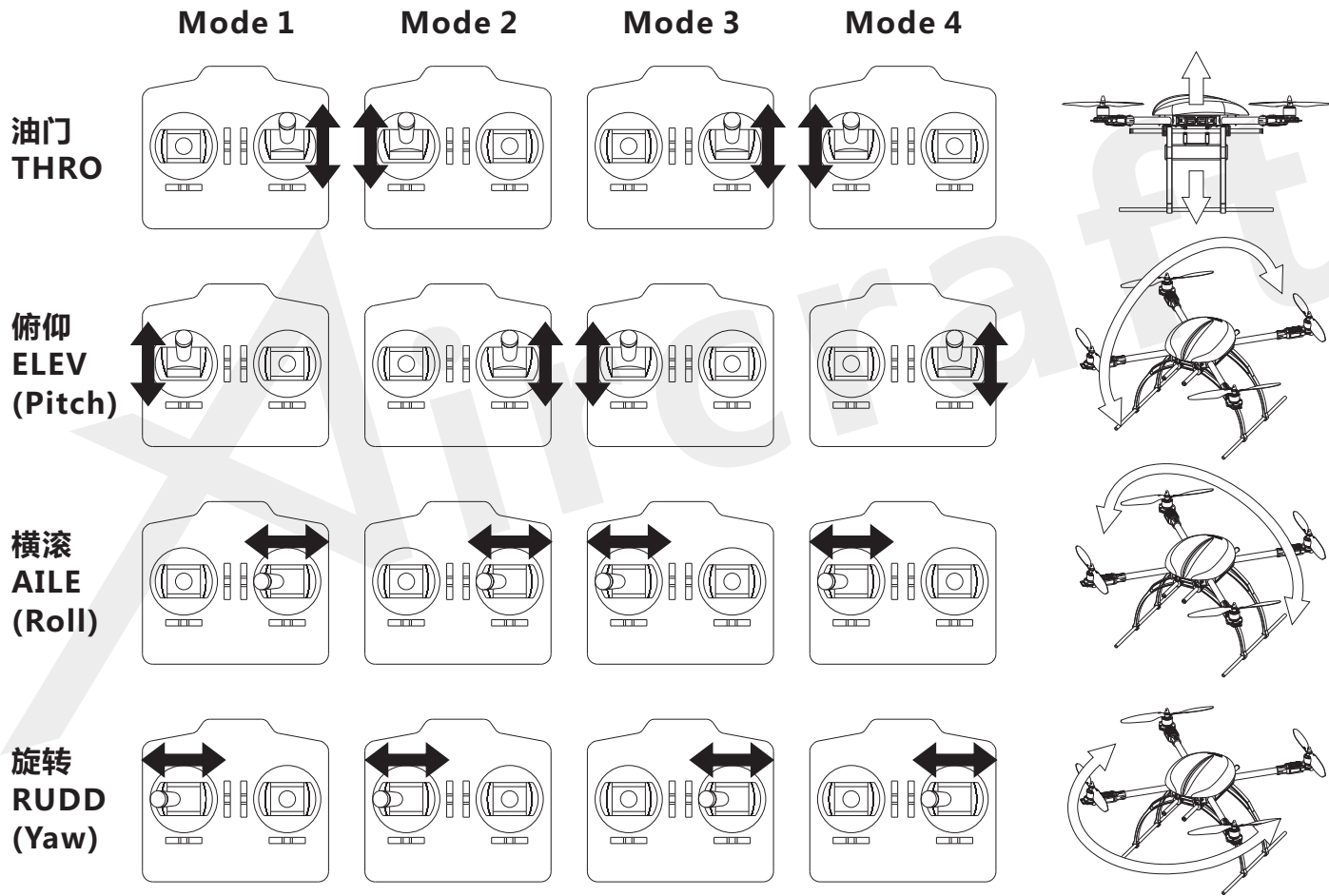
Assemble one side of hanger.
DO NOT OVER-EXERT TO AVOID DAMAGE.

步骤2 Step2

使挂载固定件变形，并将其压入挂载杆。注意用力避免损坏挂载固定件。

Assemble the other side of hanger as shown in the figure.
DO NOT OVER-EXERT TO AVOID DAMAGE.

遥控器模式示意图 RC Mode Illustration



无桨通电测试 Power-on Test without Propellers

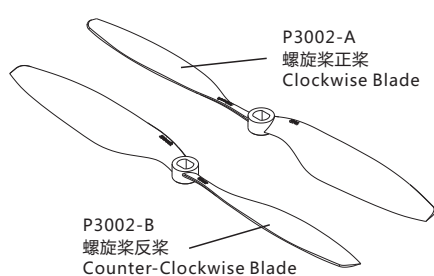
电路安装完成后，请勿安装螺旋桨，进行X650 Value无桨通电测试。

- 1 将遥控器油门收到最小后打开遥控器开关。
- 2 X650 Value接通电源。
- 3 轻推油门。
- 4 观察四个电机启动是否顺畅，旋转方向是否正确。
 - a) 如果电机没有启动或启动不畅，则将油门收到最小，断开X650 Value的电源，检查电路和电机后重新测试，直到正常。
 - b) 如果旋转方向不正确，则将油门收到最小，断开X650 Value电源，对调任意两条电机线，直到电机旋转方向都正确。
- 5 推动各操纵杆，观察电机的转速是否有变化。
- 6 测试完成，将油门收到最小，断开X650 Value的电源。

After electronic parts installation, DO NOT install the propellers and follow in steps.

- 1 Lowest the RC throttle then turn on the transmitter.
- 2 Power on X650 Value.
- 3 Apply the throttle slowly.
- 4 Note if four motors rotate smoothly
 - a) If motor does not rotate or not smoothly enough, please throttle down to the lowest then unplug X650 Value. Check on electronic circuit and motors to retest until it works fine.
 - b) If not in the right direction, lower the throttle to minimum and power off X650 Value. Swap any motor wire of three connecting to the holes until it works in the right way.
- 5 Poke all control sticks to observe motor rotation speed changes or not.
- 6 Throttle back to lowest and power off X650 Value.

螺旋桨安装 Propeller Assembly



螺旋桨印有XAircraft标志面朝上，并确保螺旋桨旋转时方向正确。

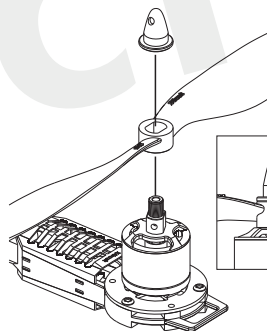
Make sure the XAircraft Logo side up, and check the rotation of blades.



桨夹必须拧紧，以免飞行时脱落造成危险。建议用螺丝刀穿过桨夹上的孔来拧紧桨夹。

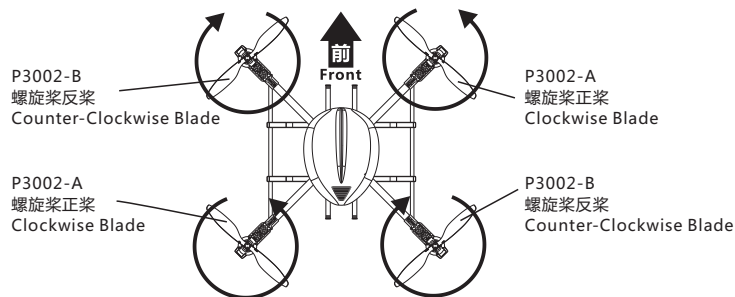
We recommend you use the driver to poke through the hole on the locker for better tighten in case of any loose of the screw during your flight.

螺丝刀
Screw Driver



螺旋桨必须贴紧电机，以保证四个螺旋桨的高度一致性。

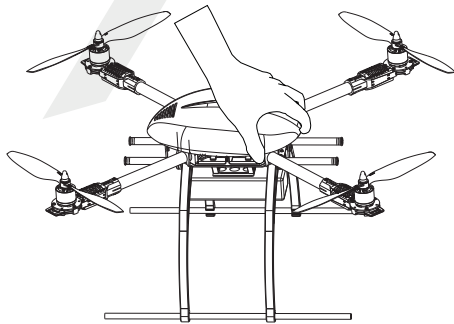
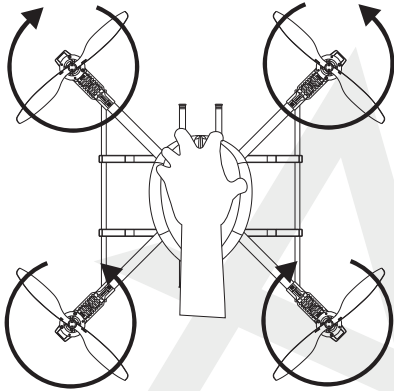
Close Motor Blade to motor to make sure 4 blades in the same height.



地面摇杆操作测试 Stick Function Test On Ground



测试时请注意安全，避免被螺旋桨击中。
Pay attention to rotating blades from getting hurt.



首次通电测试完成并确认正常后，安装螺旋桨，进行地面摇杆操作测试。

- 1 将 X650 Value 放到水平地面上，遥控器放到 X650 Value 旁边。
- 2 将油门收到最小后打开遥控器。
- 3 X650 Value 接通电源。
- 4 左手按住 X650 Value 的机身抵抗飞行器的升力（注意安全，避免螺旋桨伤到自己），右手轻推油门到 20% 的油门量，并保持。
- 5 观察四个螺旋桨的启动是否顺畅，旋转方向是否正确。
 - a) 如果旋转方向不正确，则将油门收到最小，断开 X650 Value 电源，重新安装螺旋桨后再次进行测试，直到螺旋桨的旋转方向都正确。
 - b) 如果旋转不畅，则将油门收到最小，断开 X650 Value 电源，检查电路和电机后，重新测试直至正常。
- 6 如果正常，保持 20% 的油门量，尝试分别轻推俯仰、横滚、旋转（杆量为 30%），左手感觉飞行器是否有朝相应方向运动的趋势。
- 7 如果俯仰、横滚、旋转的方向不正确，则调整接收机信号线的连接顺序，再次进行测试直至正常。
- 8 将油门收到最小，断开 X650 Value 的电源。

After power-on test and everything goes fine then install propellers to do stick function test on ground.

- 1 Put X650 Value level in ground, beside it is transmitter.
- 2 First throttle down to lowest then turn on the transmitter.
- 3 Power on X650 Value.
- 4 Hold back the lift of X650 Value (Be careful not to be hurt) and apply Throttle to 20% slowly and keep it for a while.
- 5 Observe whether all propellers spin freely to the right direction.
 - a) If not in the right direction, lower the throttle to minimum and power off X650 Value. Reinstall propellers to test again until it works in the right way.
 - b) If not in a smooth way, throttle down to lowest and power off X650 Value. Check electronic circuit and motors to retest until it goes well.
- 6 If every part works fine, and keep the throttle at 20% and try to push stick slightly in Pitch, Roll and Yaw (stick value 30%). Feel whether aircraft attempts to move to the corresponding direction.
- 7 If showing wrong direction to any of Pitch, Roll and Yaw, adjust signal cable connection order of receiver to test again until it becomes normal.
- 8 Throttle back to lowest and power off X650 Value.

姿态传感器工作状态测试 AHRS Function Test



测试时请注意安全，避免被螺旋桨击中。

Pay attention to rotating blades from getting hurt.

地面摇杆操作测试后，进行传感器工作状态测试。

- 1 拔出飞行模式选择通道（默认为Input5）的连接线。
- 2 将遥控器油门收到最小后打开遥控器开关。
- 3 X650 Value接通电源。
- 4 半蹲姿势，左手抓紧X650 Value的底部，举到前上方，高度高于头顶。
- 5 右手轻推油门至20%的杆量。
- 6 尝试使用左手使飞行器前、后、左、右倾斜，感觉飞行器是否阻止您使飞行器倾斜。
- 7 如果飞行器没有阻止您使它倾斜，则将油门收到最小，断开X650 Value电源，重新检查电路安装（如AHRS的安装方向是否正确，连接线是否接好）后再次测试。
- 8 如果飞行器的反应正确，将油门推最小，断开X650 Value的电源，就可以进行首次试飞了。

After X650 Value stick function test on ground now it goes sensor test.

- 1 Unplug Flight Mode channel signal cable (default Input 5).
- 2 Throttle down to lowest then turn on the transmitter.
- 3 Power on X650 Value.
- 4 Squat and grasp the bottom side of X650 Value to lift it higher than your head.
- 5 Apply throttle slowly to 20%.
- 6 Try to bank the aircraft forwards, backwards, left side and right side and feel it whether aircraft has stopped your moving.
- 7 If no resistance, throttle down to lowest and power off X650 Value. Check if electronic parts installs properly. (Like AHRS installation orientation or good connection). Then test again.
- 8 If aircraft reacts perfect, throttle down to lowest and power off X650 Value. Now you can start your first fly and enjoy it.

零部件清单 Parts List

袋编号 Packet	物料编号 Product Code	名称	Name	数量 Amount
E1	E1001	XAircraft FC1212-S 飞行控制器	XAircraft FC 1212-S Flight Controller	1
	E1002	3-pin 信号线	3-pin Signal Cable	6
	E1003	减震海绵 (10×35×0.5mm)	Shock Absorber Sponge (10×30×0.5mm)	1
E2	E1004	XAircraft AHRS-S 姿态传感器	XAircraft AHRS-S Attitude and Heading Reference System	1
	E1005	减震海绵 (7×7×4mm)	Shock Absorber Sponge (7×7×4mm)	1
	E1006	6-pin 信号线	6-pin Signal Cable	1
	E3007	XAircraft BLC-10A 高速无刷电调	XAircraft BLC-10A UltraPWM Brushless ESC	4
	E3008	1转5电源转接线	1-to-5 Power Wire	1
E4	E1009	XAircraft USB-Link	XAircraft USB-Link	1
	E1010	USB线	USB Cable	1
	E1011	4-pin 信号线	4-pin Signal Cable	1
F1	F3001C	机身上板	Fuselage Upper Plate	1
	F3002C	机身下板	Fuselage Lower Plate	1
	F3003C	飞控固定板	FC Mounting Plate	1
	F3004C	AHRS固定板	AHRS Mounting Plate	1
	F3005C	电池板	Battery Mounting Plate	1
	F3006C	电机固定板	Motor Mounting Plate	4
	L1010	扎带	Fastener	2
	F3007	机身盖	Frame Cover	1
F2	F3008	电机夹头	Motor Mount	4
	F3009	机身杆夹头	Arm Mount	4
	F3010	挂载固定件	Load Hanger	2
	F3011	机身固定件1	Fuselage Strut 1	2
	F3012	机身固定件2	Fuselage Strut 2	2
	F3013	ESC电调盖	ESC Cover	4
	F3014C	机身管	Frame Arm	4
	F3015	机身管支撑件1	Frame Arm Strengtheners 1	4
	F3016	机身管支撑件2	Frame Arm Strengtheners 2	4
	L3001C	起落架横杆	Landing Gear Skid Pipe	2
	L3002C	挂载杆(含管塞)	Load Mounting Pipe(with Cork)	2
	L3003	挂载杆固定件	Load Mounting Pipe Mount	4
	L3004	挂载杆固定胶	Load Mounting Pipe Fixer	4

袋编号 Packet	物料编号 Product Code	名称	Name	数量 Amount
	L3005	起落架	Landing Gear	2
	P3001	XAircraft 2215 无刷电机	XAircraft 2215 Brushless Motor	4
	P3002-A	XAircraft 10寸螺旋桨(正)	XAircraft 10inch Clockwise Blade	2
	P3002-B	XAircraft 10寸螺旋桨(反)	XAircraft 10inch Counter Clockwise Blade	2
	P3003	桨夹	Blade Locker	4
M	M3001	M2.5×6 圆头内六角螺丝	M2.5×6 Socket Screw	40
	M3002	M2.5×20 杯头内六角螺丝	M2.5×20 Socket Screw	4
	M3003	M3×6 圆头内六角螺丝	M3×6 Socket Screw	8
	M3004	M3×8 圆头内六角螺丝	M3×8 Socket Screw	8
	M3005	6×2.5×0.5mm垫片	6×2.5×0.5mm Washer	8
	M3006	M3×8 尼龙螺丝	M3×8 Nylon Screw	4
	M3007	M3×12 尼龙支柱	M3×12 Nylon Pillar	12
	M3008	6×3×1.5mm尼龙垫片	6×3×1.5mm Nylon Washer	8
	M3009	M3 尼龙螺母	M3 Nylon Nut	4
	M3010	M2.5×22 杯头内六角螺丝	M2.5×22 Socket Screw	4
	附赠包1	附赠包1	Steel Screw Pack	1
	附赠包2	附赠包2	Nylon Screw Pack	1
	赠送	方向识别贴纸	Heading Paster	1



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