

**KDS MODEL**

**innova 700**  
**INSTRUCTION MANUAL**  
**使用说明书**



# 1. INTRODUCTION 前言

Thank you for buying KDS Products. The KDS 700 Helicopter is designed as an easy to use, full featured helicopter R/C model capable of all forms of rotary flight. Please read the manual carefully before assembling the model, and follow all precautions and recommendations located within the manual. Be sure to retain the manual for future reference, routine maintenance, and tuning. The KDS 700 is a new product developed by KDS. It features the best design available on the micro-Heli market to date, providing flying stability for beginners, full aerobatic capability for advanced fliers, and unsurpassed reliability for customer support.

感谢您选购KDS 产品，为了让您容易方便的使用KDS 700直升机、请您详细的阅读完这本说明书之后再进行组装以及操作这台直升机，同时请您妥善的保存这本说明书、作为日后进行调整以及维修的参考。KDS 700是由KDS自行研发的新产品，不论你是需求飞行稳定性的初学者或是追求性能的飞行爱好者。KDS 700将是你最佳的选择。

## IMPORTANT NOTES 重要声明

R/C helicopters, including the KDS 700 are no toys. R/C helicopters utilize various high-tech products and technologies to provide superior performance. Improper use of this product can result in serious injury or even death. Please read this manual carefully before using and make sure to be conscious of your own personal safety and the safety of others and your environment when operating all KDS products. Manufacturer and seller assume no liability for the operation or the use of this product. Intended for use only by adults with experience flying remote control helicopters. After the sale of this product we cannot maintain any control over its operation or usage.

KDS 700 遥控直升机并非玩具，它是结合了许多高科技产品所设计出来的休闲用品，所以商品的使用不当或不熟悉都可能会造成严重伤害甚至死亡，使用之前请务必详读说明书，勿轻忽并注意自身安全！任何遥控直升机的使用，制造商和经销商是无法对使用者于零件使用的损耗异常或组装不当所发生之意外负任何责任，本产品是提供有操作过模型直升机经验的成人或有相当技术的人员在旁指导，以确保安全无虞下操作使用，产品售出后本公司将不负任可操作和使用控制上的任可性能与安全责任。



It is not a Toy!

## NOTE 声明

Fly only in safe areas, away from other people. Do not operate R/C helicopter within the vicinity of homes or crowds of people. R/C helicopter is prone to accidents, failures, and crashes due to a variety of reasons including, lack of maintenance, pilot error, and radio interference. Pilots are liable for their actions and damage or injury occurring during the operation or as a result of R/C helicopter models.

# 2. SAFETY NOTES 安全注意事项

## • LOCATE AN APPROPRIATE LOCATION 远离障碍物及人群

R/C helicopters fly at high speed, thus posing a certain degree of potential danger. Choose an appropriate flying site consisting of flat, smooth ground, a clear open field, or a large open room, such as gymnasium or warehouse without obstacles. Do not fly near buildings, high voltage cables, or trees to ensure the safety of yourself, others and your model. Do not play your model in inclement weather, such as rain, wind, snow or darkness.

直升机飞行时具有一定的速度，相对的也潜在着一定危险性，场地的选择也相对的重要，请需遵守法规到合法遥控飞行场地飞行。必须注意周围有没有人、高楼、建筑物、高压电线、树木等等，避免操控的不当造成自己与他人财产的损坏。初次练习时，务必选择在空旷合法专属飞行场地并适当搭配练习架飞行，这对飞行失误造成的损伤将会大幅的降低。请勿在下雨、打雷等恶劣天气下操作，以确保本身及机体的安全。



## • OBTAIN THE ASSISTANCE OF AN EXPERIENCED PILOT 避免独自操控

Before turning on your model and transmitter, check to make sure no one else is operating on the same frequency. Frequency interference can cause your model, or other models to crash. The guidance provided by an experienced pilot will be invaluable for the assembly, tuning, trimming, and actual first flight(recommend you to practice with computer-based flight simulator).

至飞行场飞行前，需确认是否有相同频率的同好正进行飞行，因为开启相同频率的发射机将导致自己与他人立即干扰等意外危险。遥控飞机操控技巧在学习初期有着一定的难度，要尽量避免独自操作飞行，需有经验的人士在旁指导，才可以操控飞行。（勤练电脑模拟器及老手指导是入门必要的选择）。



## • **ALWAYS BE AWARE OF THE ROTATING BLADES** 远离运转中零件

During the operation of the helicopter, the main rotor will be spinning at a high rate of speed. The blades are capable of inflicting serious bodily injury and damage the environment. Be conscious of your actions, and careful to keep your face, eyes, hands, and loose clothing away from the blades. Always fly the model a safe distance from yourself and others, as well as surrounding objects. Never take your eyes off the model or leave it unattended while it is turned on. Immediately turn off the model and transmitter when you have landed the model.



当直升机主旋翼与尾旋翼运转时，切勿触摸并远离任可物件，以避免造成危险及损坏。

## • **PREVENT MOISTURE** 远离潮湿环境

R/C models are composed of many precision electrical components. It is critical to keep the model and associated equipment away from moisture and other contaminants. The introduction or exposure to water or moisture in any form can cause the model to malfunction resulting in loss of use, or a crash. Do not operate or expose to rain or moisture.



直升机内部也是由许多精密的电子零组件组成，所以必须绝对的防止潮湿或水气，避免在浴室或雨天时使用，防止水气进入机身内部而导致机件及电子零件故障而引发不可预期的意外！

## • **KEEP AWAY FROM HEAT** 远离热源

R/C models are made up of various forms of plastic. Plastic is very susceptible to damage or deformation due to extreme heat and cold climate. Make sure not to store the model near any source of heat such as an oven, or heater. It is best to store the model indoors, in a climate-controlled, room temperature environment.



遥控飞机多半是以PA维修或聚乙烯、电子商品为主要材质，因此要尽量远离热源、日晒以避免因高温而变形甚至熔毁损坏的可能。

## • **PROPER OPERATION** 勿不当使用本产品

Please use the replacement of parts on the manual to ensure the safety of instructors. This product is for R/C model, so do not use for other purpose.

请勿自行改造加工，任何的升级改装或维修，请使用KDS产品目录中的零件，以确保结构的安全。请确认于产品限界内操作，请勿过载使用，并勿用于安全、法令外其它非法用途。



## • **SAFE OPERATION** 安全操作

Operate this unit within your ability. Do not fly under tired condition or improper operation, which may cause danger.



请于自己能力内及需要一定技术范围内操作这台直升机，过于疲劳、精神不佳或不当操作，意外发风险将可能会提高。

## 3.SAFETY CHECK BEFORE FLYING 飞行前安全检查重要事项

Before flying, please check to make sure no one else is operating on the same frequency for the safety. Before flying, please check if the power of transmitter and helicopter are enough for the flight.

Before turn on the transmitter, please check if the throttle stick is in the lowest position, IDLE switch is OFF.

When turn off the unit, please follow the power on/off procedure. Power ON-Please turn on the transmitter first, and then turn on helicopter power. Power OFF-Please turn off the helicopter power first and then turn off the transmitter. Improper procedure may cause out of control, so please to have this correct habit.

Before operation, check every movement is smooth and directions are correct. Inspect servos carefully for interference and broken gear.

Check for missing or loose screws and nuts. See if there is any cracked and incomplete assembly of parts.

Check main rotor blades and rotor holders carefully. Broken and premature failures of parts possibly result in a dangerous situation.

Check all ball links to avoid excess play and replace as needed. Failure to do so will result in poor flight stability.

Check the battery and power plug are fastened. Vibration and violent flight may cause the plug loose and lead to out of control.

Check for the tension of tail drive belt.

每次飞行前应先确认所使用的频率是否会干扰他人，以确保你自身与他人的安全。

每次飞行前确定你发射机与直升机电池的电量是在足够飞行的状态。

开机前确认油门摇杠是否位于最低点，熄火降落开关，定速开关（**IDLE**）是否于关闭位置。

关机时必须遵守电源开关机的程序，开机时应先开启发射机后，再开启直升机电源；关机时应先关闭直升机电源，再关闭发射机电源。不正确的开关机程序可能会造失控的现象，影响自身与他人的安全，请养成正确的习惯。

开机请先确定直升机的各个动作是否顺畅，及方向是否正确，并检查伺服的动作是否有干涉或崩齿的情形，使用故障的伺服器将导致不可预期的危险。

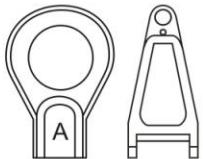
飞行前确认没有缺少或松脱的螺丝与螺帽，确认没有组装不完整或损毁的零件，仔细检查主旋翼是否有损坏，特别是接近主旋翼夹座的部位。

损坏或组装不完整的零件不仅影响飞行，更会造成不可预期的危险。注意：对损耗、有裂痕零件更新及定期保养检查得要性。

检查所有的连杆头是否有松脱的情形，过松的连杆头应先更新，否则将造成直升机无法操控的危险。

确认电池及电源接头是否固定牢靠，飞行中的震动或激烈的飞行，可以造成接头松脱而造成失控的危险。

When you see the marks as below, please use  
glue or grease to ensure flying safety.  
标有下符号之组装步骤，请配合上胶或上油，以确保  
使用之可靠度。



- 502 : Apply CA glue to fix.  
509 : Apply anaerobics retainer to fix.  
340 : Apply thread lock to fix.  
OIL : Add grease.  
502 : 使用瞬间胶固定  
609 : 使用金属管状固定缺氧胶固定  
340 : 使用螺丝缺氧胶固定  
OIL : 添加润滑油



Red  
红色



Green  
绿色



340 Glue width:approx. 1mm  
340上胶宽度约1mm

When assembling ball links, make sure the "A" character faces outside.  
各项塑胶制连杠头扣接时，A字请朝外。

609 Lubrication grease. 340 thread lock, apply a small amount on screws or metal parts and wipe surplus off. When disassembling, recommend to heat the metal joint about 15 seconds. (NOTE: Keep plastic parts away from heat.)

609 为滑润脂，340为螺丝胶，胶合螺丝或金属内外径请务必少量使用，必要时请用手去除胶量，欲拆卸时可以金属接合部位热烤约15秒。（注意！塑胶件避免接近热源）

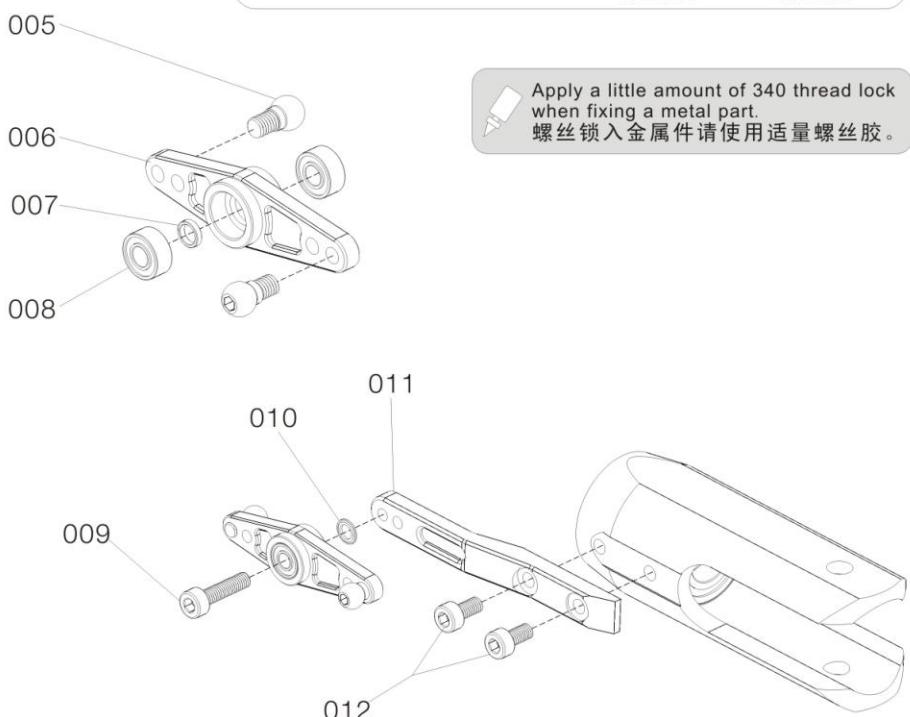
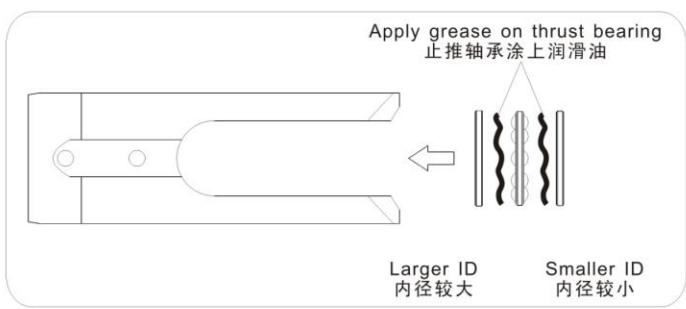
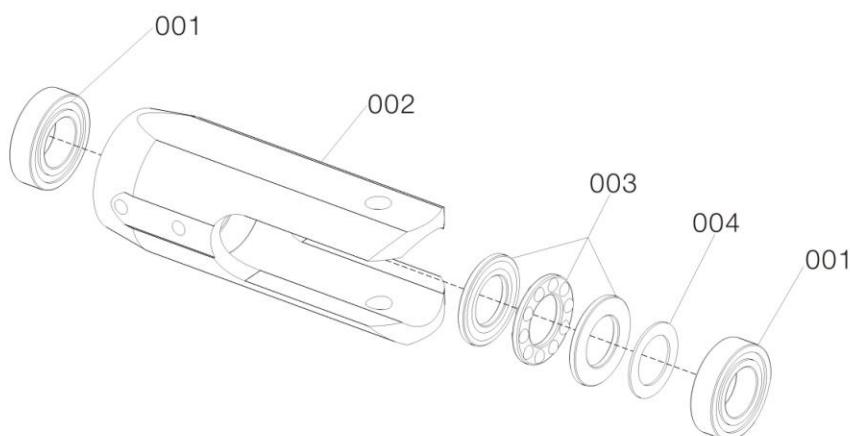
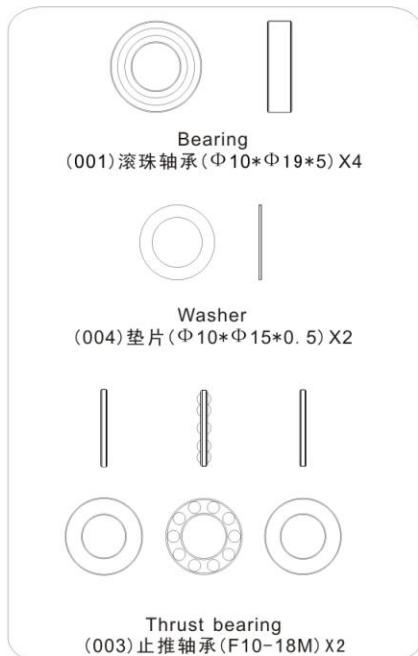
## 4. ASSEMBLY PROCESS OF MAIN ROTOR HEAD

主旋转头组装步骤(1)

Dosage form of spare parts 零件用量表

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
001	700-3	Bearing 滚珠轴承	4	$\Phi 10 * \Phi 19 * 5$
002	700-3	Metal main rotor holder 主翼夹头	2	
003	700-3	Thrust bearing 止推轴承	2	F10-18M
004	700-3	Washer 垫片	2	$\Phi 10 * \Phi 15 * 0.5$
005	550-58TTs	Linkage ball A 球头A	4	$\Phi 5 * 8.5$
006	700-6	Bell control arm set 贝尔控制臂	2	

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
007	700-6	Collar 铝套	2	$\Phi 3 * \Phi 4 * 1$
008	700-6	Bearing 滚珠轴承	4	$\Phi 3 * \Phi 7 * 3$
009	700-56	Socket screw 圆柱头内六角螺丝	2	M3*12
010	700-57	Washer 台阶垫片	2	$\Phi 3 * \Phi 5 * 0.5$
011	700-5	Main rotor branch control arm 主翼支臂	2	
012	700-56	Socket screw 圆柱头内六角螺丝	4	M3*6



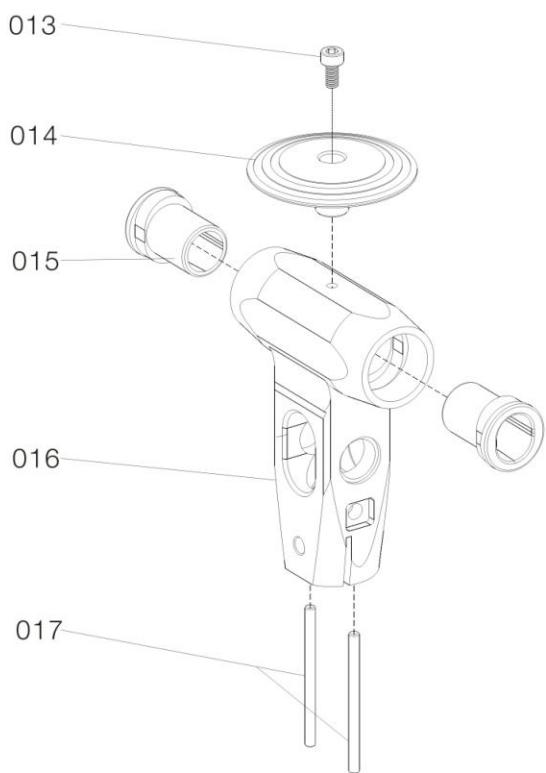
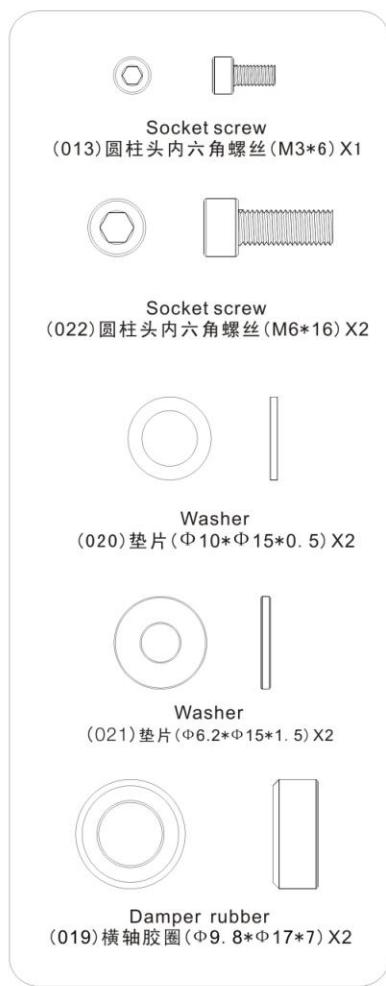
## 4. ASSEMBLY PROCESS OF MAIN ROTOR HEAD

主旋转头组装步骤(2)

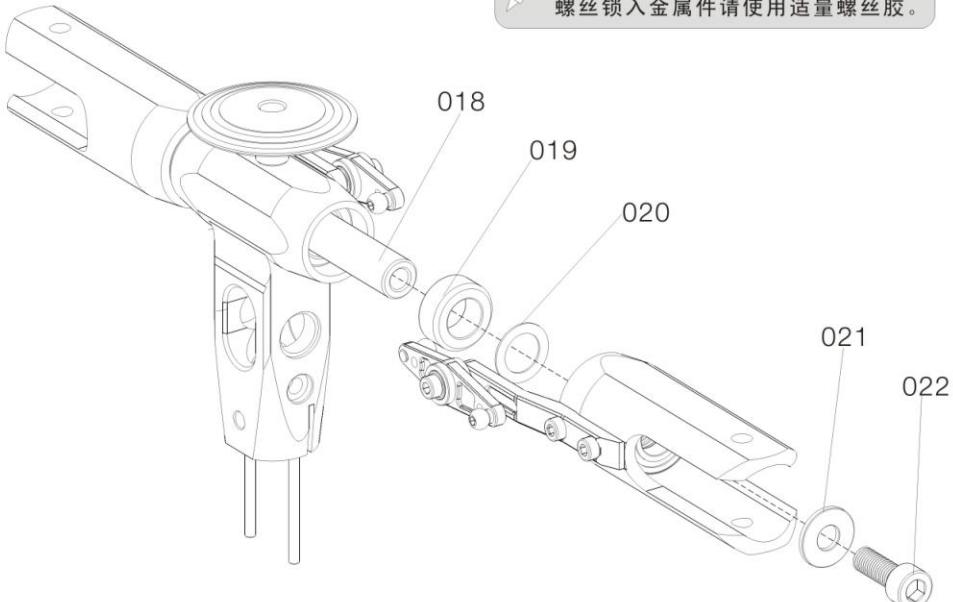
Dosage form of spare parts 零件用量表

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
013	700-56	Socket screw 圆柱头内六角螺丝	1	M3*6
014	550-8-TTS	Braking plate 刹车碟	1	
015	700-36	Feathering shaft sleeve 横轴套管	2	
016	700-7	Metal main rotor housing 金属主旋翼固定座	1	
017	700-7	Pin 固定座插销	2	Φ2.5*36

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
018	700-37	Feathering shaft 横轴	1	Φ10*104.8
019	700-35	Damper rubber 横轴胶圈	2	Φ9.8*Φ17*7
020	700-57	Washer 垫片	2	Φ10*Φ15*0.5
021	700-57	Washer 垫片	2	Φ6.2*Φ15*1.5
022	700-56	Socket screw 圆柱头内六角螺丝	2	M6*16



Apply a little amount of 340 thread lock when fixing a metal part.  
螺丝锁入金属件请使用适量螺丝胶。



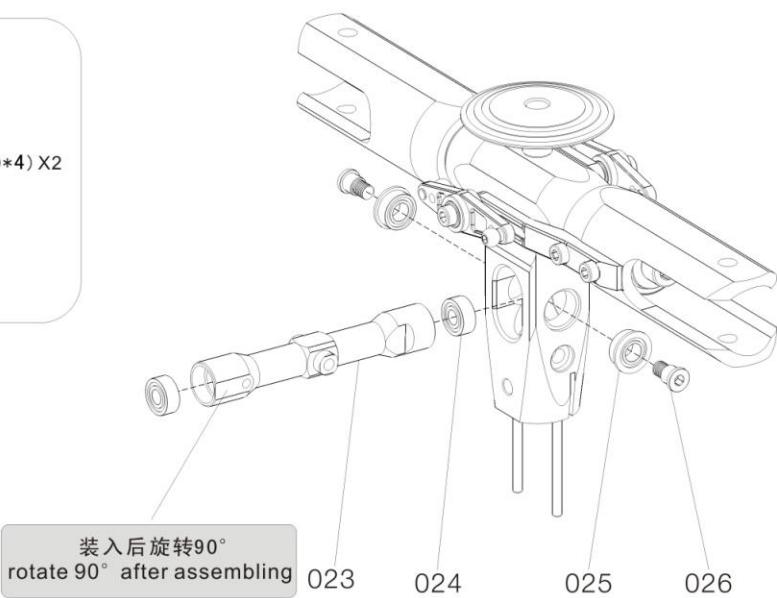
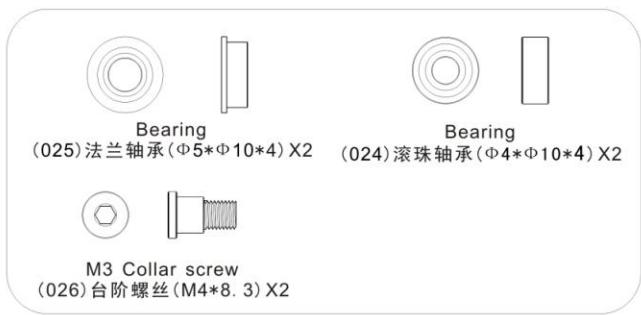
## 4. ASSEMBLY PROCESS OF MAIN ROTOR HEAD

主旋转头组装步骤(3)

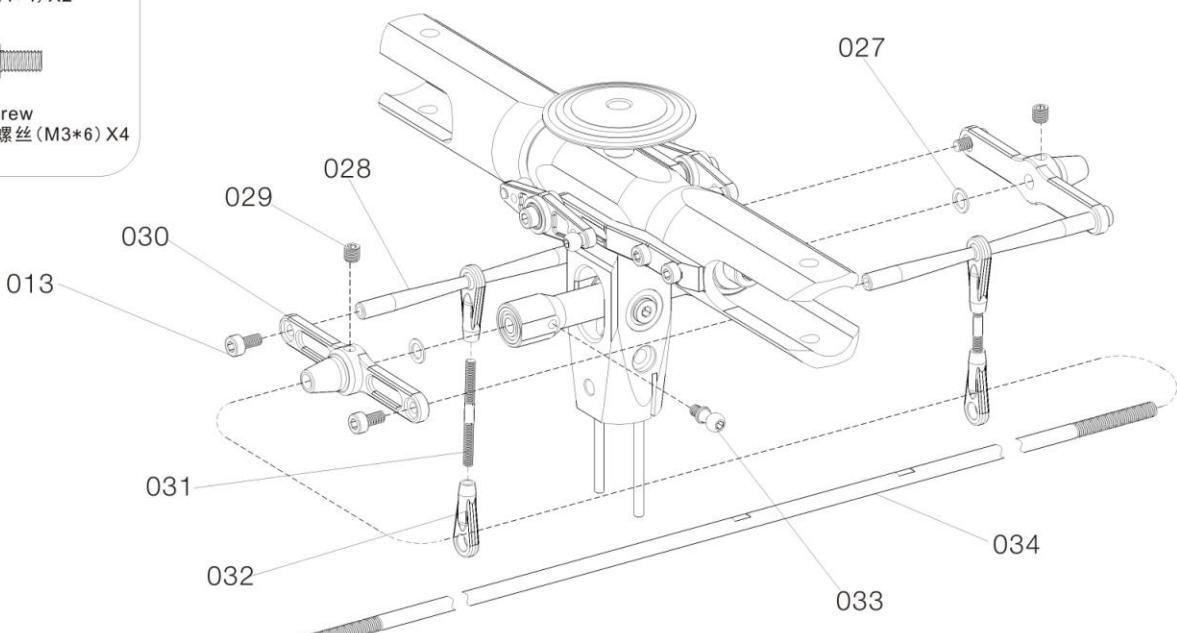
Dosage form of spare parts 零件用量表

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
023	700-10	Metal flybar seesaw holder 金属平衡杆固定座	1	
024	700-10	Bearing 滚珠轴承	2	$\Phi 4 * \Phi 10 * 4$
025	700-7	Bearing 法兰轴承	2	$\Phi 5 * \Phi 10 * 4$
026	700-56	M3 Collar screw 台阶螺丝	2	M4*8. 3
027	700-57	Washer 垫片	2	$\Phi 4.2 * \Phi 8 * 0.5$
028	700-9	Flybar control rod 平衡翼球型控制杆	2	

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
029	700-56	KIMI screw 基米螺丝	2	M4*4
030	700-9	Metal flybar control arm 金属平衡翼控制臂	2	
031	700-53	Linkage rod (A) 连杆(A)	2	$\Phi 2.2 * 30$
032	700-54	Ball link 拉杆头	4	
033	550-58TT	Linkage ball B 球头B	2	$\Phi 5 * 10.7$
034	700-11	Flybar rod 平衡杆	1	$\Phi 4 * 540$



Apply a little amount of 340 thread lock when fixing a metal part.  
螺丝锁入金属件请使用适量螺丝胶。



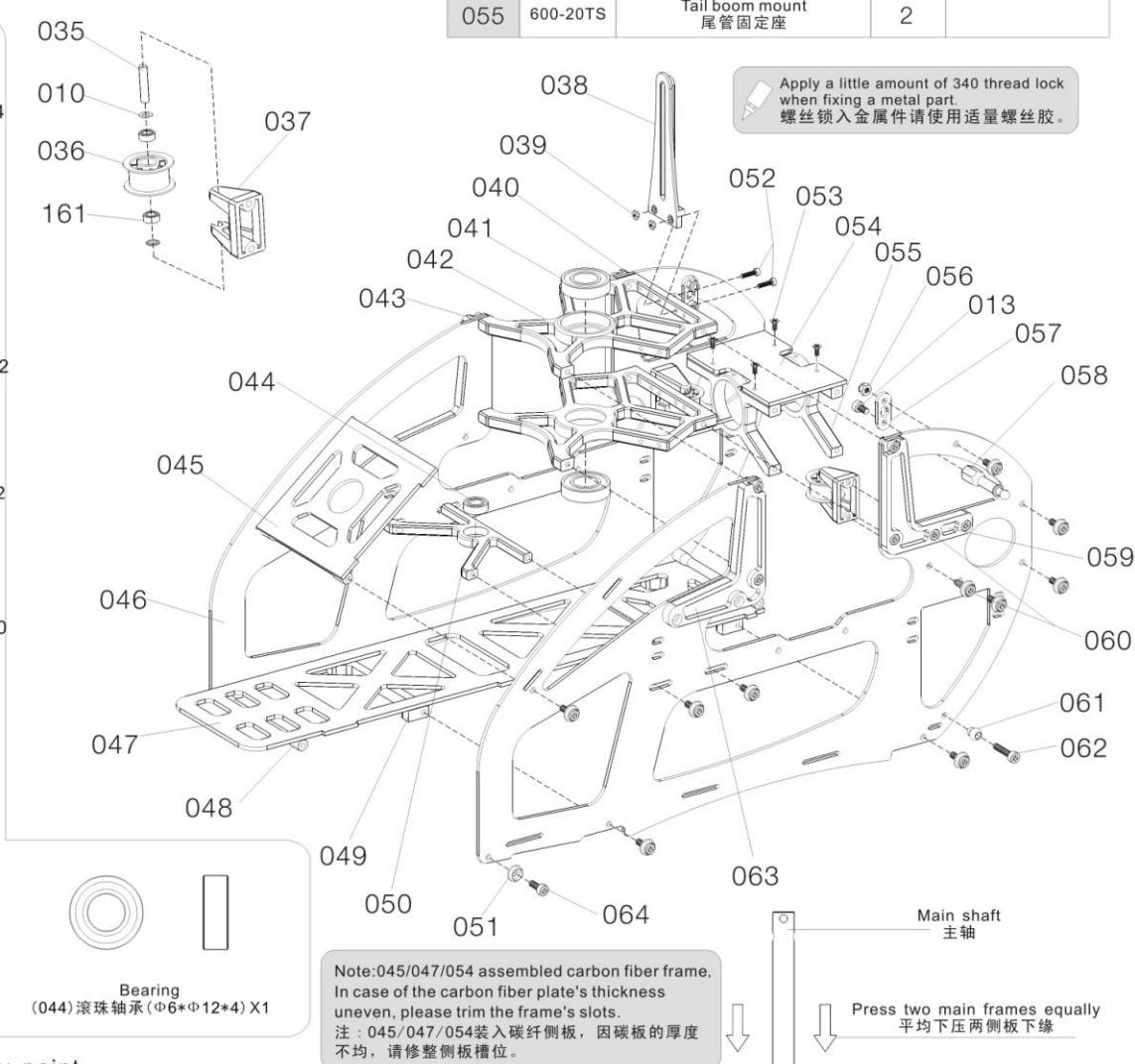
## 5. ASSEMBLY PROCESS OF MAIN FRAME AND POWER SYSTEM

主体侧板与动力系统组装步骤(1)

Dosage form of spare parts 零件用量表

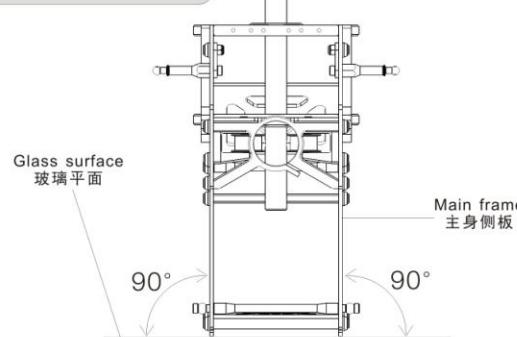
No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
035	600-34TS	Pin 皮带轮压轮销	2	$\Phi 3 \times 14.8$
036	600-34TS	Belt wheel 皮带压轮	2	
037	600-34TS	Belt wheel holder 皮带压轮座	2	
038	550-23TTS	Anti-rotation bracket 十字盘导板	1	
039	700-56	M2 Nut 螺母	2	M2
040	600-22TS	Rear strengthening plate(right) 后右加强块	1	
041	700-17	Bearing 滚珠轴承	2	$\Phi 12 \times \Phi 24 \times 6$
042	700-17	Main shaft mounting holder 主轴固定座	2	
043	600-22TS	Front strengthening plate(right) 前右加强块	1	
044	600-19TS	Bearing 滚珠轴承	1	$\Phi 6 \times \Phi 12 \times 4$

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
045	600-43TS	ESC mounting plate ESC固定板	1	
046	600-41TS	Main frame 碳纤侧板	2	
047	600-42TS	Battery mounting plate 电池固定板	1	
048	600-45TS	Frame mounting bolt 机身铝固定柱	3	
049	600-45TS	Landing skid mount 脚架固定座	2	
050	600-19TS	Socket screw 马达下固定座	1	
051	600-55TS	Washer 螺丝铝垫	30	
052	700-56	Socket screw 圆柱头内六角螺丝	2	M2*8
053	700-56	Socket screw 沉头内六角螺丝	4	M2*5
054	600-44TS	Receiver mount 接收机固定板	1	
055	600-20TS	Tail boom mount 尾管固定座	2	



Note: 045/047/054 assembled carbon fiber frame.  
In case of the carbon fiber plate's thickness uneven, please trim the frame's slots.  
注：045/047/054装入碳纤侧板，因碳板的厚度不均，请修整侧板槽位。

Press two main frames equally 平均下压两侧板下缘



Main frame assembly key point:

First do not fully tighten the screws of main frames and put two bearings through the main shaft to check if the movements are smooth. The bottom bracket must be firmly touched the level table top(glass surface) : please keep the smooth movements on main shaft and level bottom bracket, then tighten the screws slowly. This assembly can help for the power and flight performance.

机身侧板组装重点：

侧板螺丝不完全锁紧，放入主轴贯穿二颗轴承确认上下移动必须滑顺，主体底板必须与水平旧面(玻璃平面)踏实紧贴，请保持主轴滑顺与底板平行旧面后慢慢锁紧螺丝。正确侧板的组装对动力与飞行性能有明显帮助。

## 5. ASSEMBLY PROCESS OF MAIN FRAME AND POWER SYSTEM

主体侧板与动力系统组装步骤(2)

Dosage form of spare parts 零件用量表

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
056	700-56	M3 Nut 防松螺母	2	M3
057	600-79TS	Canopy mounting bolt holder 机壳铝柱固定板	2	
058	600-63TS	Canopy mounting bolt 机壳固定柱	2	
059	600-22TS	Rear strengthening plate(left) 左后加强块	1	
060	700-56	Socket screw 圆柱头内六角螺丝	4	ST3*10
061	600-59TS	Linkage Ball 斜撑杆球头	2	
062	700-56	Socket screw 圆柱头内六角螺丝	2	M3*14
063	600-22TS	Front strengthening plate(left) 左前加强块	1	
064	700-56	Socket screw 圆柱头内六角螺丝	30	M3*8

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
065	600-68TS	Landing skid 脚架	2	
066	700-56	KIMI screw 基米螺丝	4	M3*3
067	550-69TTs	Landing skid pipe rubber ring 脚架管垫圈	4	
068	600-67TS	Landing skid stopper 脚架管塞	4	
069	600-67TS	Skid pipe 脚架铝管	2	
070	700-56	Socket screw 圆柱头内六角螺丝	4	M3*10

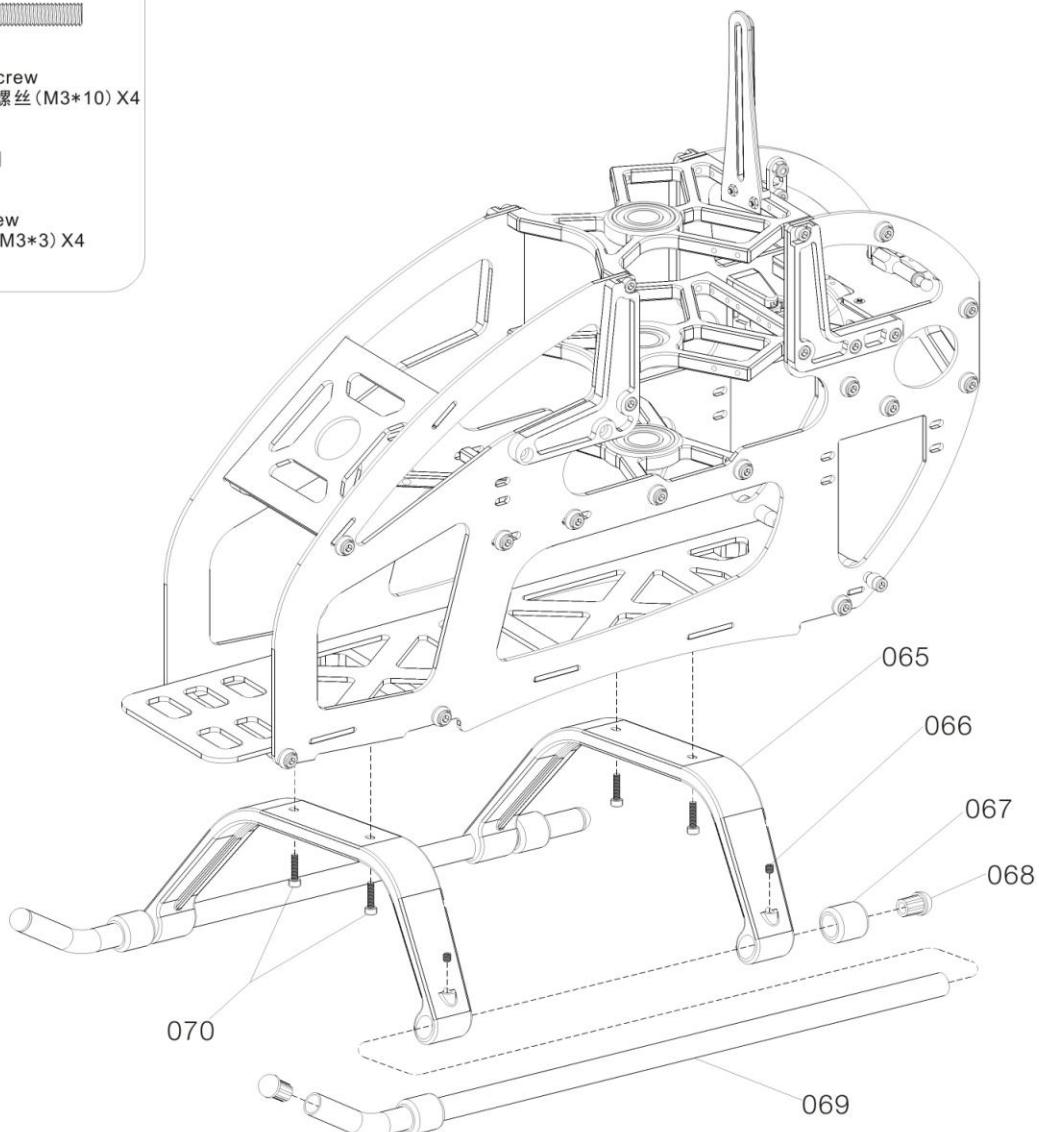
Apply a little amount of 340 thread lock  
when fixing a metal part.  
螺丝锁入金属件请使用适量螺丝胶。



Socket screw  
(070) 圆柱头内六角螺丝 (M3\*10) X4



KIMI screw  
(066) 基米螺丝 (M3\*3) X4



## 5. ASSEMBLY PROCESS OF MAIN FRAME AND POWER SYSTEM

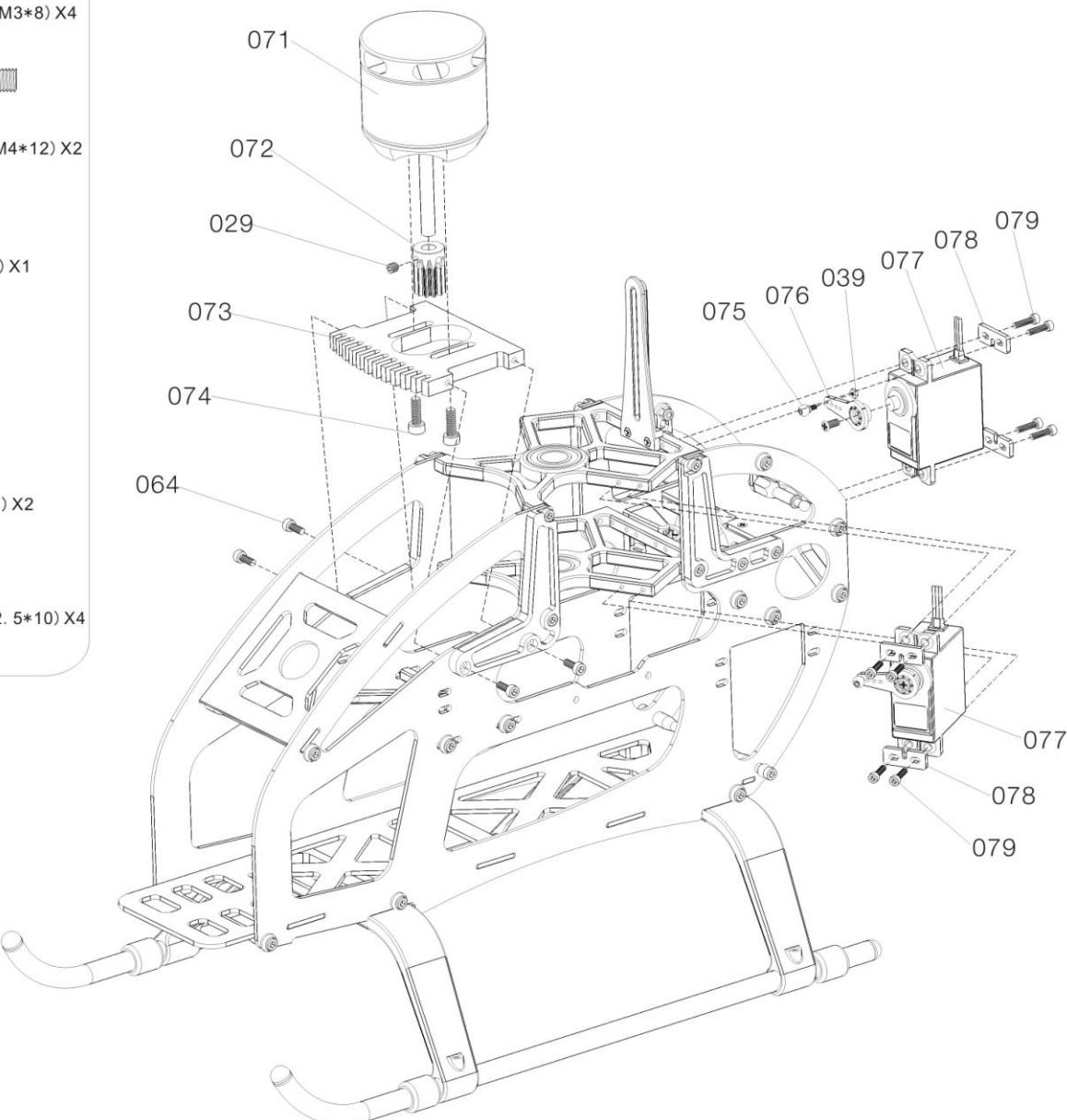
主体侧板与动力系统组装步骤(3)

Dosage form of spare parts 零件用量表

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
071		Motor 马达	1	Kv450
072	600-73TS	Motor pinion 马达齿轮	1	12T
073	600-21TS	Motor mount 马达固定座	1	
074	700-56	Socket screw 圆柱头内六角螺丝	2	M4*12
075	550-58TTS	Linkage ball C 球头C	2	Φ5*8.5

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
076	2004-11	Servo horn 伺服器舵角片	2	
077	2004-11	Servo 伺服器	2	680
078	550-64TTS	Servo plate 伺服器压片	4	
079	700-56	Socket screw 圆柱头内六角螺丝	8	M2.5*10

Apply a little amount of 340 thread lock when fixing a metal part.  
螺丝锁入金属件请使用适量螺丝胶。



## 5. ASSEMBLY PROCESS OF MAIN FRAME AND POWER SYSTEM

主体侧板与动力系统组装步骤(4)

Dosage form of spare parts 零件用量表

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
080	600-65TS	Servo mount 伺服器固定座	2	
081	2004-7	Servo 伺服器	1	690
082	700-56	Socket screw 圆柱头内六角螺丝	4	ST3*10



M2 Nut  
(039) 螺母(M2) X2



Socket screw  
(082) 圆柱头内六角螺丝(ST2.5\*10) X4



Socket screw  
(079) 圆柱头内六角螺丝(M2.5\*10) X4

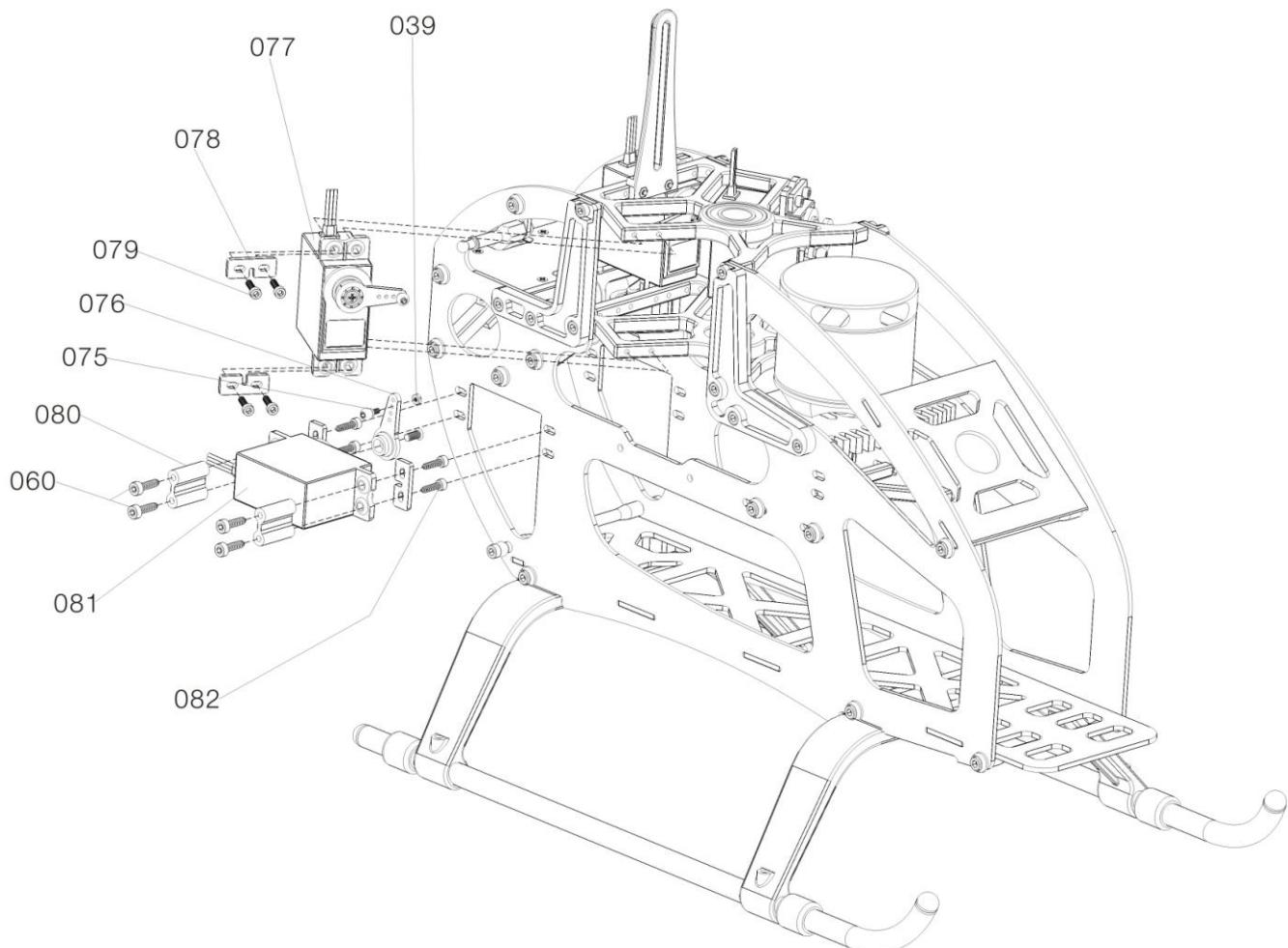


Linkage ball C  
(075) 球头C(Φ5\*8.5) X2



Socket screw  
(060) 圆柱头内六角螺丝(ST3\*10) X4

Apply a little amount of 340 thread lock when fixing a metal part.  
螺丝锁入金属件请使用适量螺丝胶。



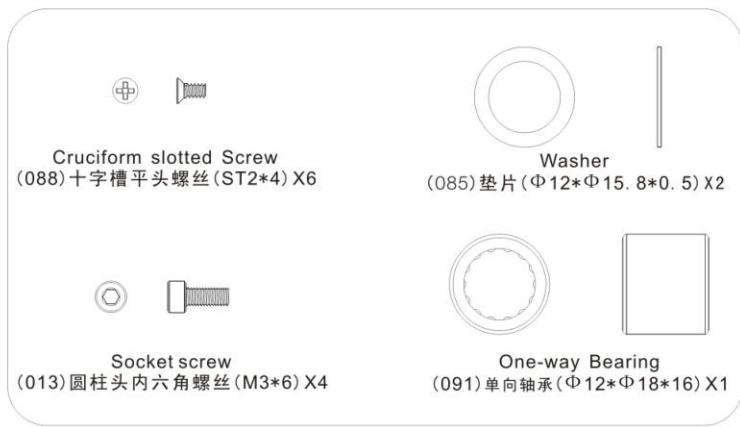
## 5. ASSEMBLY PROCESS OF MAIN FRAME AND POWER SYSTEM

主体侧板与动力系统组装步骤(5)

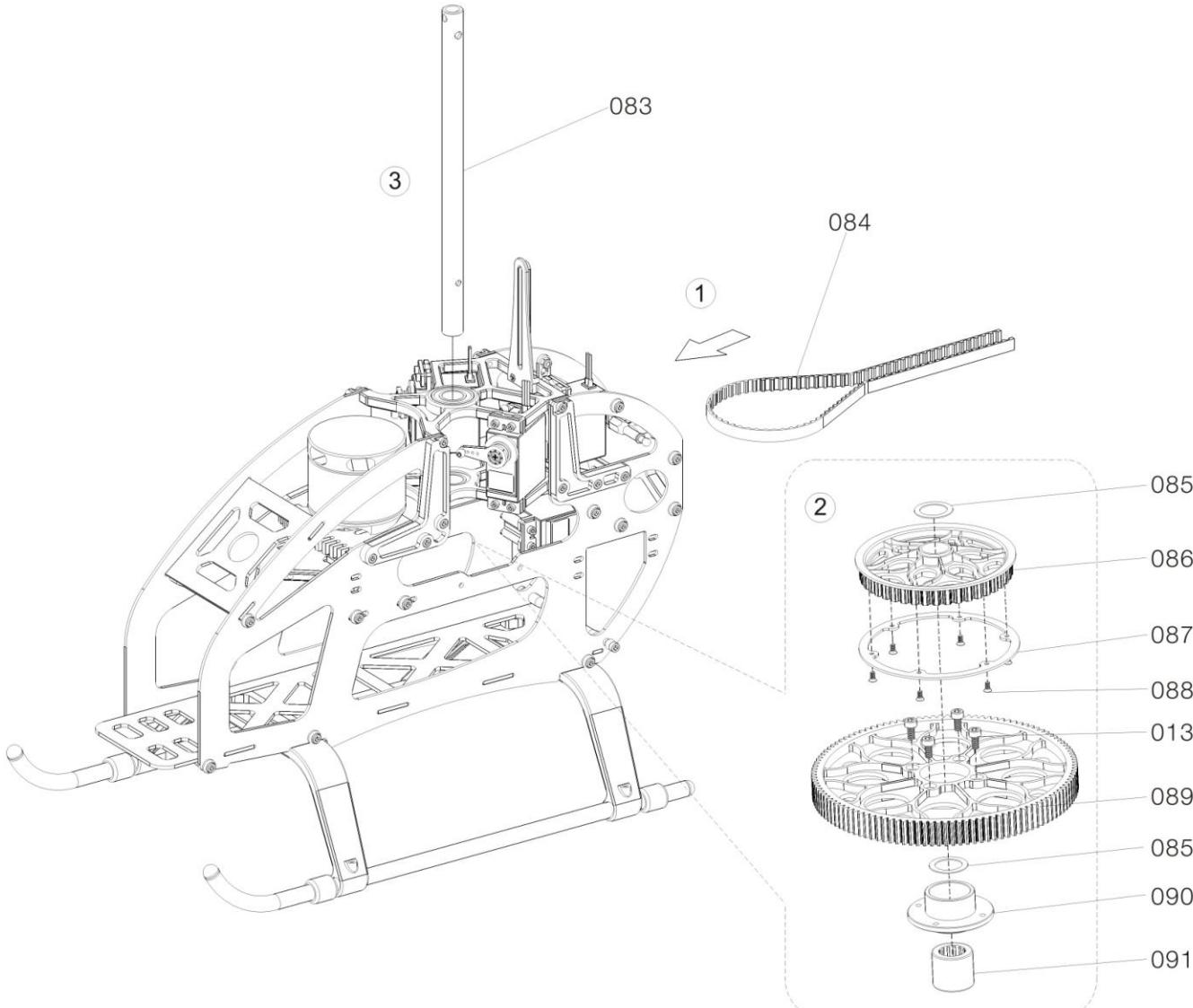
Dosage form of spare parts 零件用量表

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
083	700-38	Main shaft 主轴	1	
084	700-66	Belt 皮带	1	825XL
085	700-57	Washer 垫片	2	$\Phi 12 * \Phi 17 * 0.5$
086	600-52TS	Pulley 皮带轮	1	
087	600-52TS	Pulley cover 皮带轮盖	1	

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
088	700-56	Cruciform slotted Screw 十字槽平头螺丝	6	ST2*4
089	600-51TS	Main drive gear 主齿轮	1	
090	600-50TS	One way bearing block 单向轴轴承座	1	
091	600-50TS	One-way Bearing 单向轴承	1	$\Phi 12 * \Phi 18 * 16$



Apply a little amount of 340 thread lock when fixing a metal part.  
螺丝锁入金属部件请使用适量螺丝胶。



## 5. ASSEMBLY PROCESS OF MAIN FRAME AND POWER SYSTEM

主体侧板与动力系统组装步骤(6)

Dosage form of spare parts 零件用量表

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
092	700-38	Pin 皮带轮销子	1	Φ3*18
093	700-38	Collar 铝套	1	Φ12*Φ15*8.7
094	600-18TS	Bearing 滚珠轴承	1	Φ12*Φ24*6
095	600-18TS	Main shaft bearing block 下主轴轴承座	1	



Bearing  
(094) 滚珠轴承(Φ12\*Φ24\*6) X1



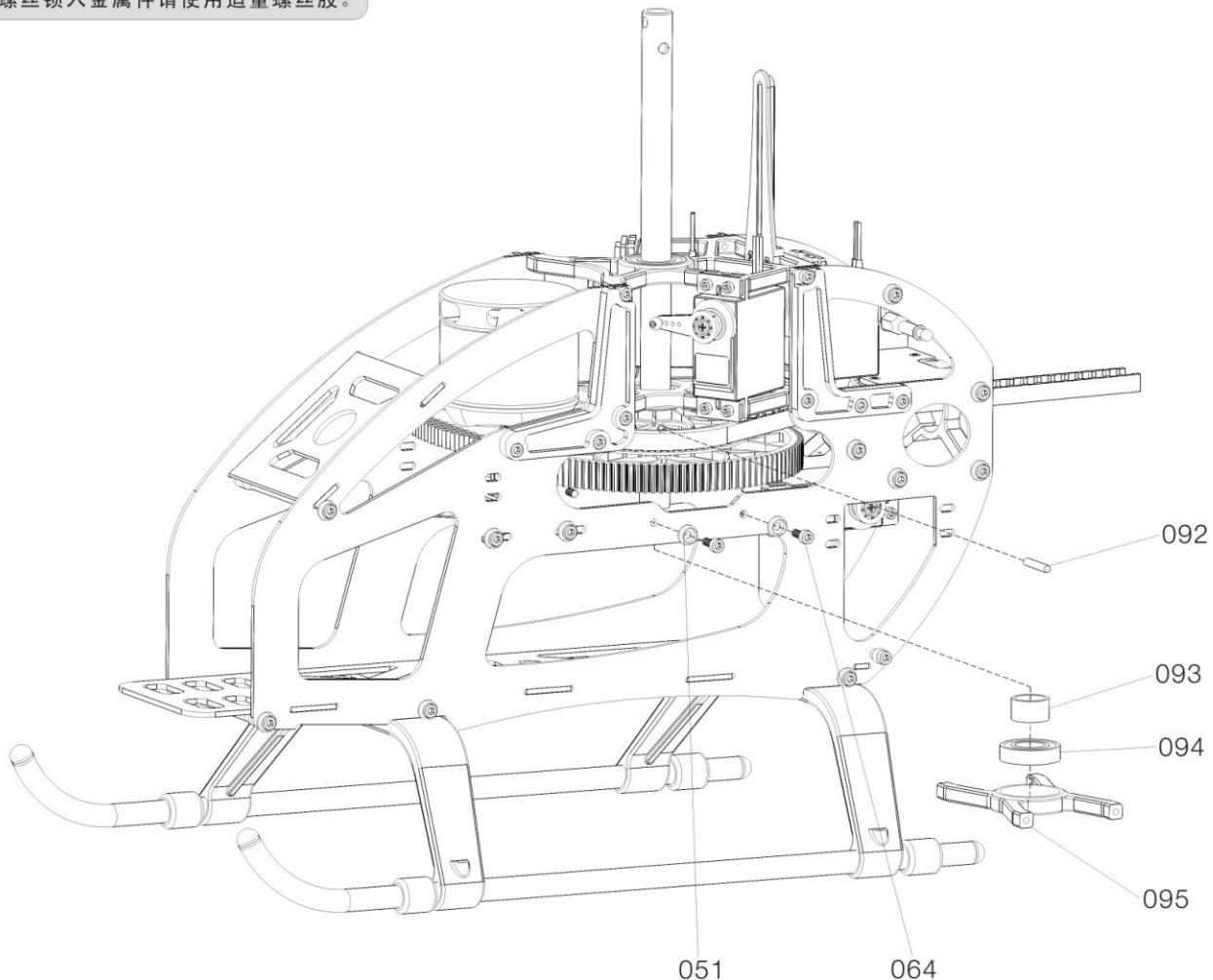
Collar  
(093) 铝套(Φ12\*Φ15\*8.7) X1



Socket screw  
(064) 圆柱头内六角螺丝(M3\*8) X4



Apply a little amount of 340 thread lock when fixing a metal part.  
螺丝锁入金属件请使用适量螺丝胶。



## 5. ASSEMBLY PROCESS OF MAIN FRAME AND POWER SYSTEM

主体侧板与动力系统组装步骤(7)

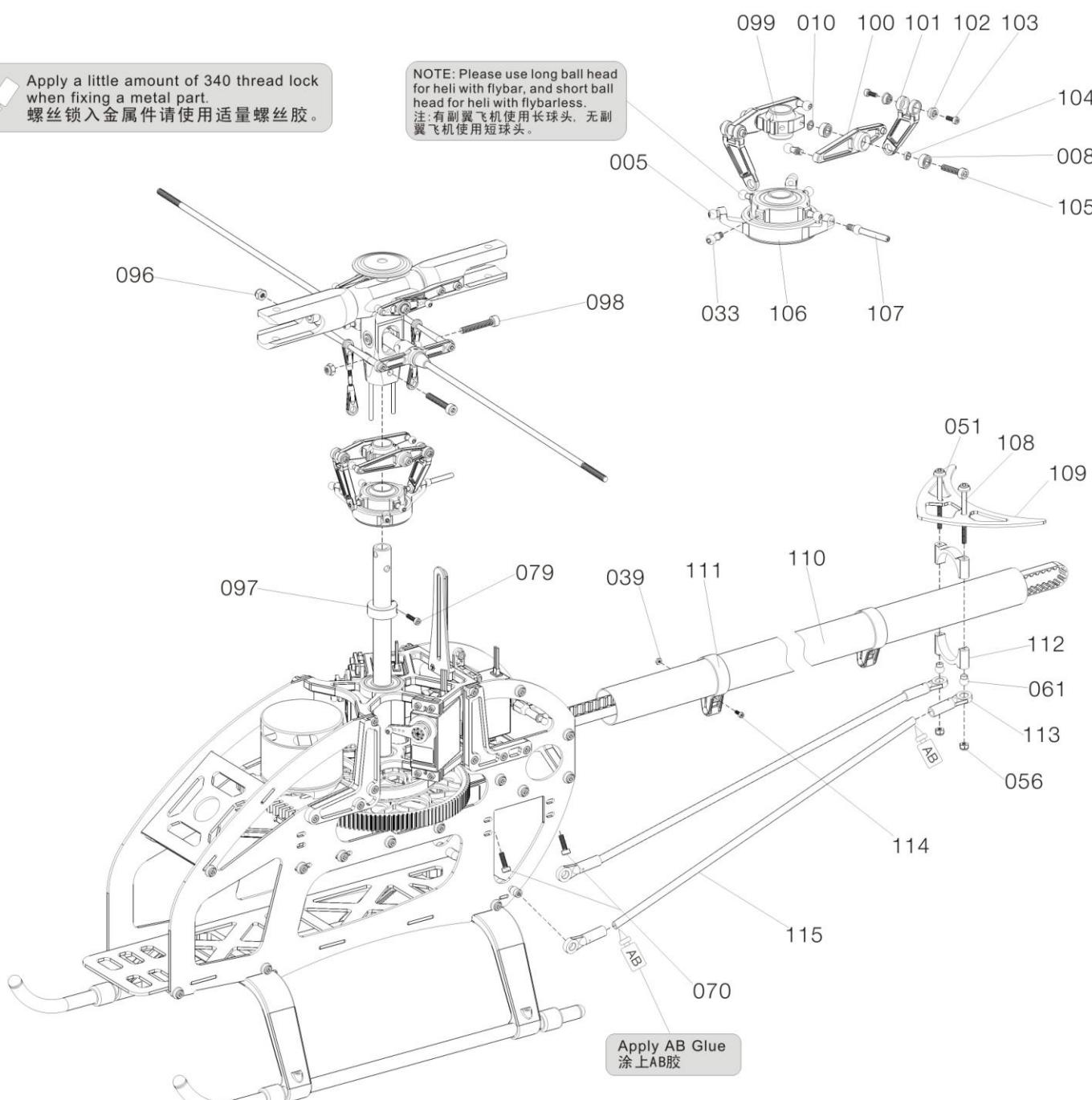
Dosage form of spare parts 零件用量表

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
096	700-56	M4 Nut 防松螺母	2	M4
097	700-40	Lock collar 主轴固定环	1	
098	700-56	Socket screw 圆柱头内六角螺丝	1	M4*25
099	700-12	Metal washout base 金属向位器	1	
100	700-13	Metal washout control arm 金属稳定控制摇臂	2	
101	700-14	Shear type arm 剪型臂	2	
102	700-14	Bearing 法兰轴承	4	MF52zz
103	700-56	Socket screw 圆柱头内六角螺丝	4	M2*5
104	700-13	Collar 铝套	2	Φ3*Φ4*1.6
105	700-56	Socket screw 圆柱头内六角螺丝	2	M3*12

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
106	700-16	Swashplate 倾斜盘	1	
107	550-58TT	Swashplate mounting pin 倾斜盘固定销	1	
108	700-56	Socket screw 圆柱头内六角螺丝	2	M3*40
109	550-47TT	Horizontal stabilizer 碳纤水平翼	1	
110	700-48	Tail boom 尾管	1	
111	550-49TT	Tail control fixing ring 尾控制杆固定环	2	
112	550-46TT	Tail unit mount 尾波箱固定座	2	
113	700-60	Tail boom brace end 尾支撑杆接头	4	
114	700-56	Socket screw 圆柱头内六角螺丝	2	M2*6
115	700-60	Tail boom brace 尾支撑杆	2	

Apply a little amount of 340 thread lock when fixing a metal part.  
螺丝锁入金属件请使用适量螺丝胶。

NOTE: Please use long ball head for heli with flybar, and short ball head for heli with flybarless.  
注:有副翼飞机使用长球头, 无副翼飞机使用短球头。



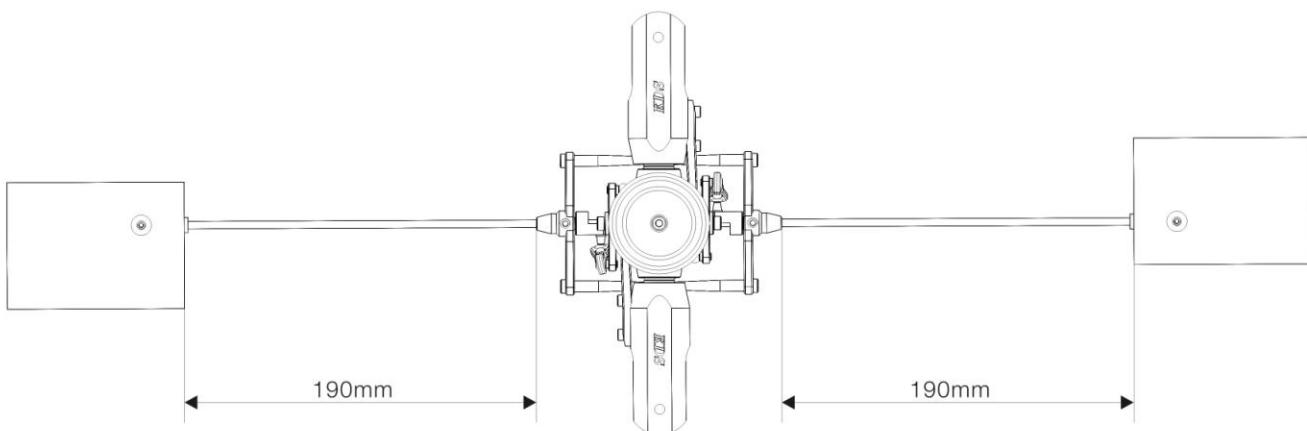
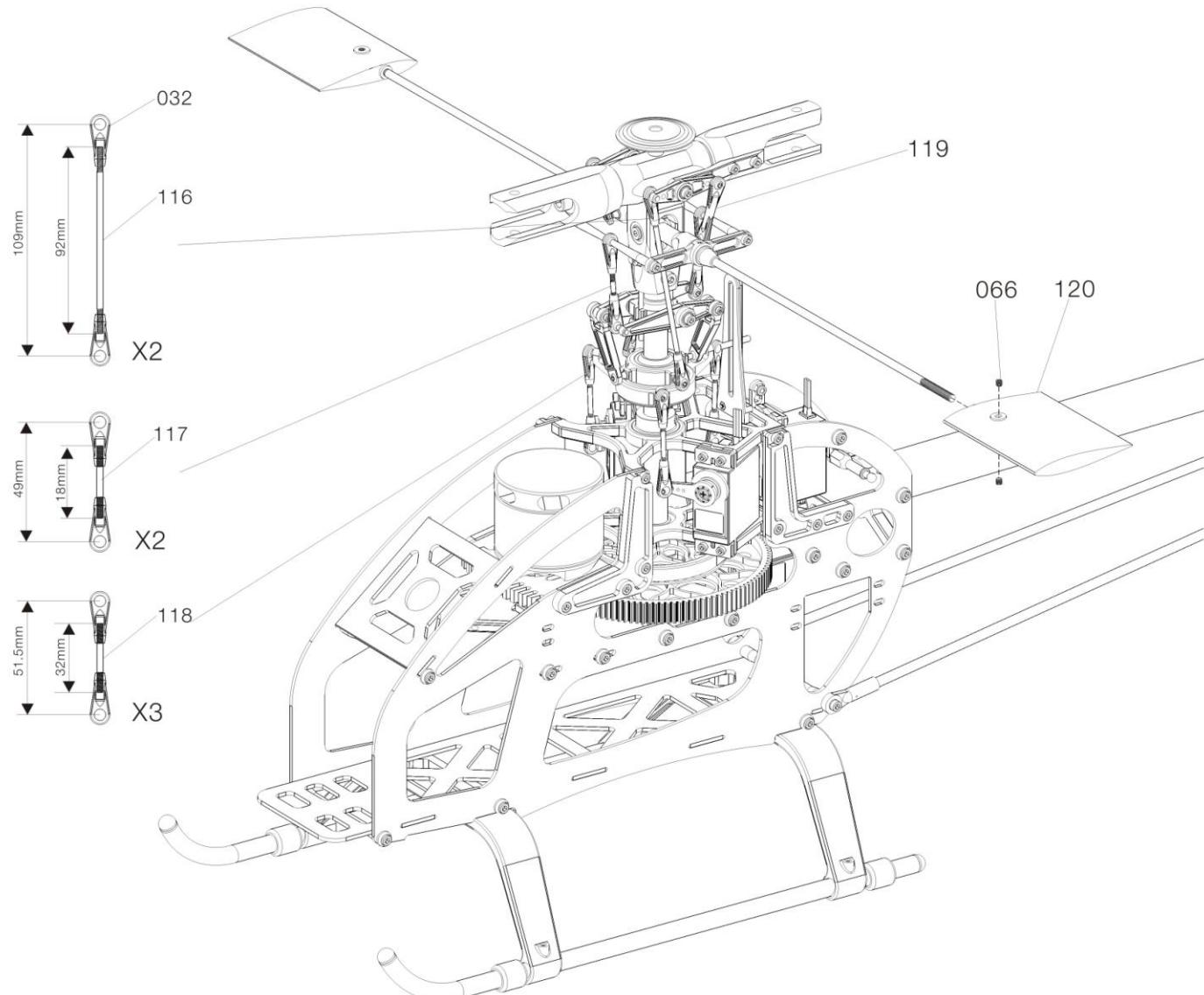
## 5. ASSEMBLY PROCESS OF MAIN FRAME AND POWER SYSTEM

主体侧板与动力系统组装步骤(8)

Dosage form of spare parts 零件用量表

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
116	700-53	Linkage rod (A) 连杆A	2	Φ2.5*92
117	700-53	Linkage rod (B) 连杆B	2	Φ2.2*30
118	700-53	Linkage rod (C) 连杆C	3	Φ2.2*32
119	700-54	Diplopore linkage rod 双孔连杆	2	
120	1191-700	Flybar paddle 平衡翼	1	

Apply a little amount of 340 thread lock when fixing a metal part.  
螺丝锁入金属件请使用适量螺丝胶。



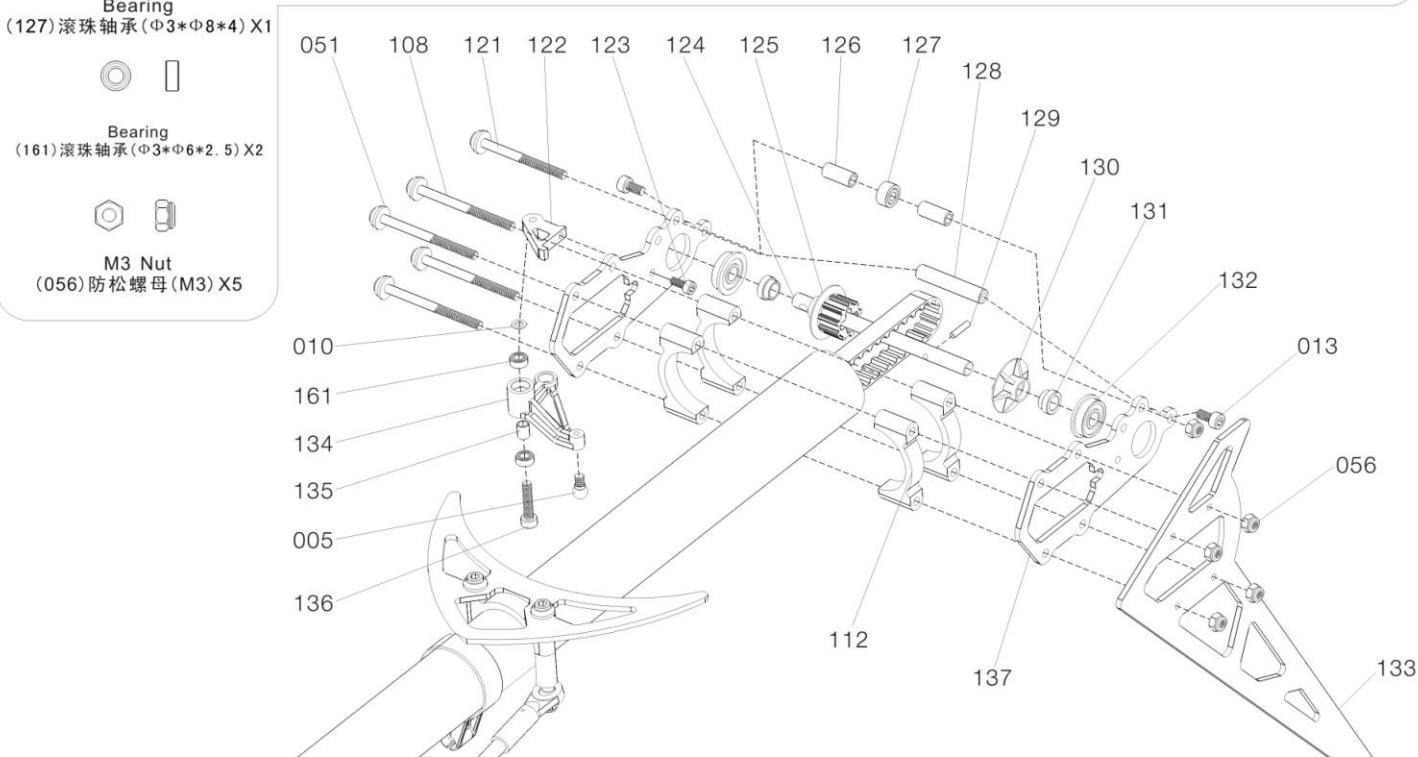
## 5. ASSEMBLY PROCESS OF MAIN FRAME AND POWER SYSTEM

主体侧板与动力系统组装步骤(9)

Dosage form of spare parts 零件用量表

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
121	700-56	Socket screw 圆柱头内六角螺丝	1	M3*35
122	550-30TTS	Control arm mount 尾控制臂固定座	1	
123	700-56	Socket screw 圆柱头内六角螺丝	1	M2.5*6
124	550-27TTS	Tail shaft 尾轴	1	Φ5*75
125	550-27TTS	Drive belt pulley 尾皮带轮	1	
126	550-33TTS	Drive belt pulley bolt 皮带压轮柱	2	
127	550-33TTS	Bearing 滚珠轴承	1	Φ3*Φ8*4
128	550-33TTS	Tail unit mounting bolt 尾齿箱固定铝柱	1	
129	550-27TTS	Pin 尾皮带轮销子	1	

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
130	550-27TTS	Belt pulley cover 皮带轮盖	1	
131	550-27TTS	Isolated ring of tail pulley 皮带轮隔套	2	
132	550-24TTS	Bearing 法兰轴承	2	Φ5*Φ13*4
133	600-32TS	CF Vertical stabilizer 碳纤垂直翼	1	
134	550-29TTS	Tail rotor control arm 尾舵控制L臂	1	
135	550-29TTS	Collar 尾控制L臂铝套	1	Φ3*Φ4*5.1
136	700-56	Socket screw 圆柱头内六角螺丝	1	M3*14
137	550-24TTS	Metal tail plate 尾齿箱侧板	2	
161	550-29TTS	Bearing 滚珠轴承	1	Φ3*Φ7*3



Apply a little amount of 340 thread lock when fixing a metal part.  
螺丝锁入金属件请使用适量螺丝胶。

## 5. ASSEMBLY PROCESS OF MAIN FRAME AND POWER SYSTEM

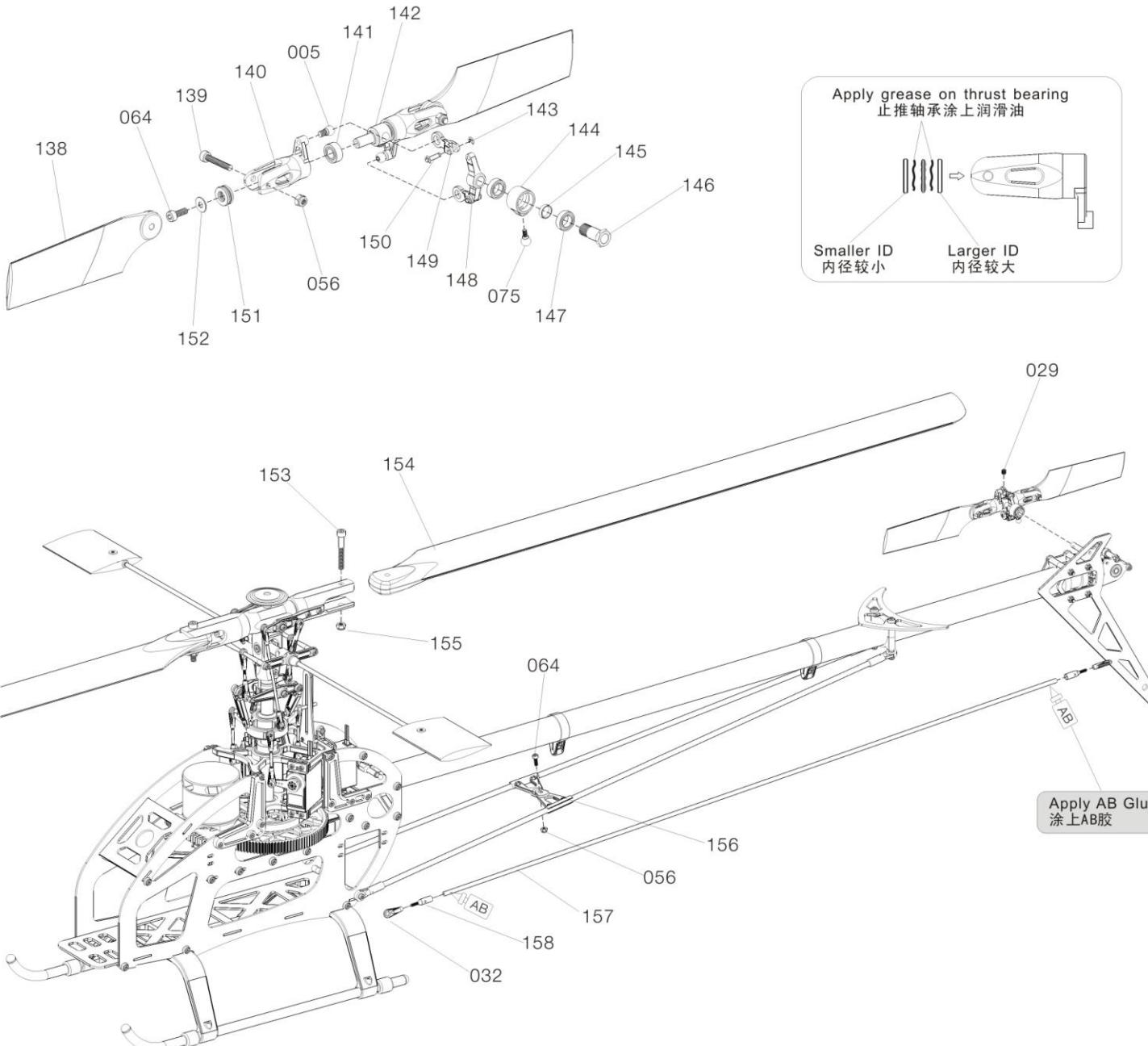
主体侧板与动力系统组装步骤(10)

Dosage form of spare parts 零件用量表

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
138	1193-8	CF Tail blade 碳纤尾旋翼	1	
139	700-56	Socket screw 圆柱头内六角螺丝	2	M3*18
140	550-25TT	Tail rotor holder 尾旋翼夹座	2	
141	550-25TT	Bearing 滚珠轴承	2	$\Phi 5 * \Phi 10 * 4$
142	550-26TT	Tail rotor T type holder 尾旋翼T型座	1	
143	550-28TT	E-ring E扣	4	
144	550-28TT	tail blade control bearing sleeve 尾翼控制轴承套	1	
145	550-28TT	Washer 尾控制套垫圈	1	$\Phi 6 * \Phi 7 * 2$
146	550-28TT	Tail bearing sleeve 尾轴承套	1	

Apply a little amount of 340 thread lock when fixing a metal part.  
螺丝锁入金属件请使用适量螺丝胶。

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
147	550-28TT	Bearing 滚珠轴承	2	$\Phi 6 * \Phi 10 * 3$
148	550-28TT	T type arm 尾T型控制臂	1	
149	550-28TT	Conterol link head 尾控制连杆头	2	
150	550-28TT	Pin 销子	2	$\Phi 2 * 9$
151	550-25TT	Thrust bearing 止推轴承	2	F5-10M
152	700-57	Washer 垫片	2	$\Phi 3 * \Phi 8 * 0.6$
153	700-56	Socket screw 圆柱头内六角螺丝	2	M5*32
154	1193-10	Main blade 主旋翼	1	690
155	700-56	M5 Nut 防松螺母	2	M5
156	550-61TT	Tail boom brace fixture 尾撑杆固定座	2	
157	700-62	Tail linkage rod 尾拉杆	1	$\Phi 4 * 830$
158	700-62	Push Link connecting set 尾拉杆连接件	2	



## 6. ASSEMBLY PROCESS OF FLYBARLESS SYSTEM

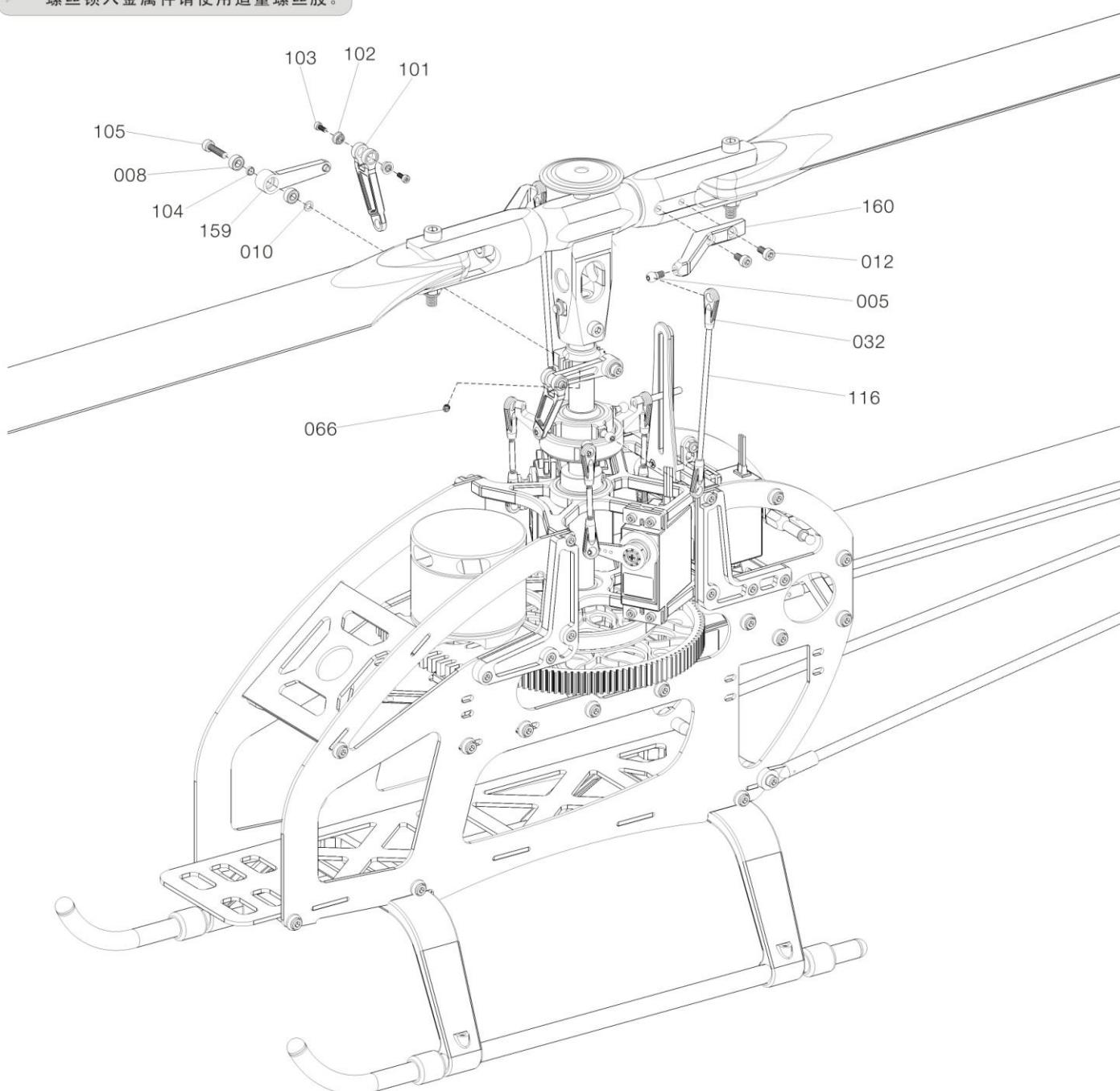
无副翼系统组装步骤

Dosage form of spare parts 零件用量表

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
105	700-62	Socket screw 圆柱头内六角螺丝	2	M3*12
008	700-15	Bearing 滚珠轴承	4	$\Phi 3 * \Phi 7 * 3$
104	700-15	Collar 铝套	2	$\Phi 3 * \Phi 4 * 1.6$
159	700-15	Washout control arm 无副翼向位器臂	2	
010	700-57	Washer 台阶垫片	2	$\Phi 3 * \Phi 5.5 * 0.5$
103	700-56	Socket screw 圆柱头内六角螺丝	4	M2*5
102	700-14	Bearing 法兰轴承	4	MF52zz

No.序号	Part No. 配件编号	Description 名称	Quantity 数量	Specification 规格
101	700-14	Shear type arm 剪型臂	2	
160	700-4	Branch arm 无副翼支臂	2	
012	700-56	Socket screw 圆柱头内六角螺丝	4	M3*6
005	700-58TTS	Linkage ball A 球头A	2	$\Phi 5 * 8.5$
032	700-54	Ball link 拉杆头	4	
116	700-53	Linkage rod (A) 连杆A	2	$\Phi 2.5 * 92$
066	700-56	KIMI screw 基米螺丝	2	

Apply a little amount of 340 thread lock when fixing a metal part.  
螺丝锁入金属件请使用适量螺丝胶。

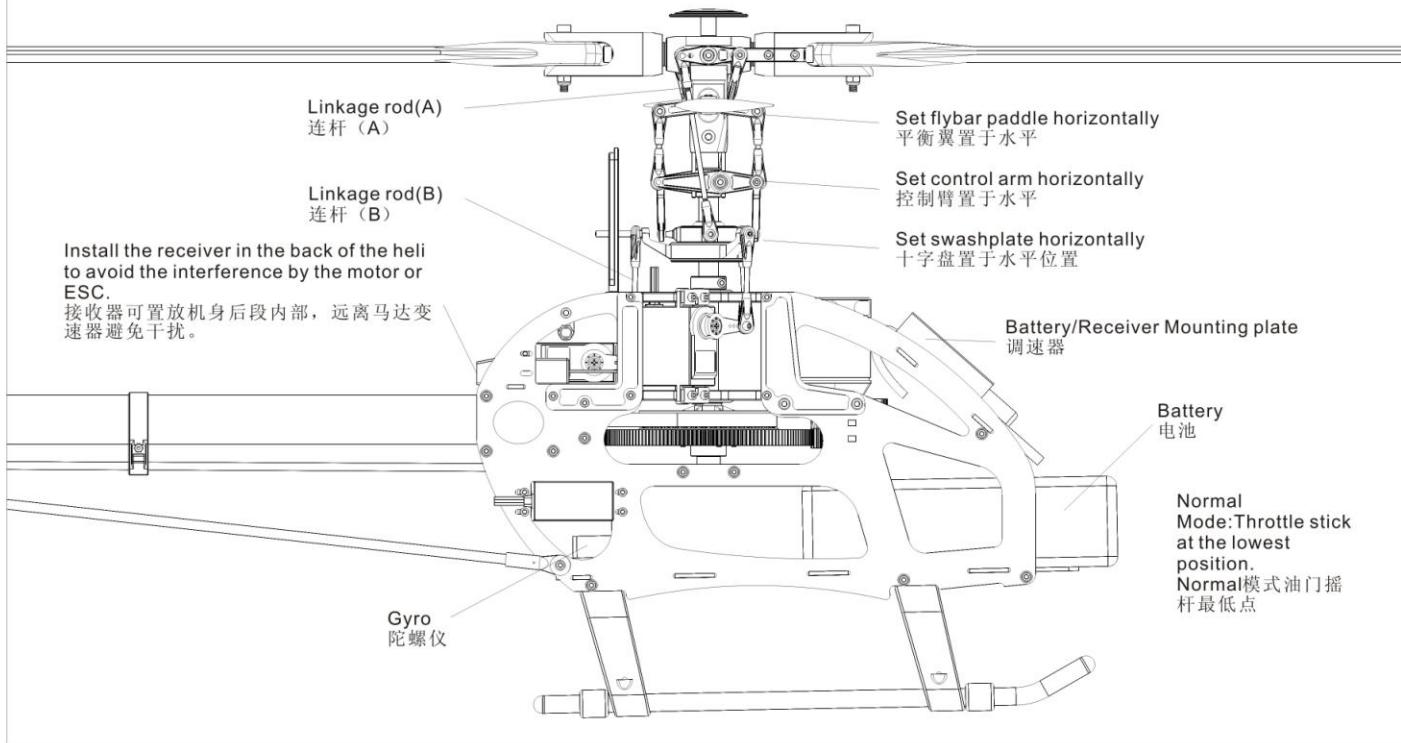


## 7.EQUIPMENT ILLUSTRATION 设备建议配置图示

### PARTS AND EQUIPMENT ASS EMBLY ILLUSTRATION 零件与组件的组装图

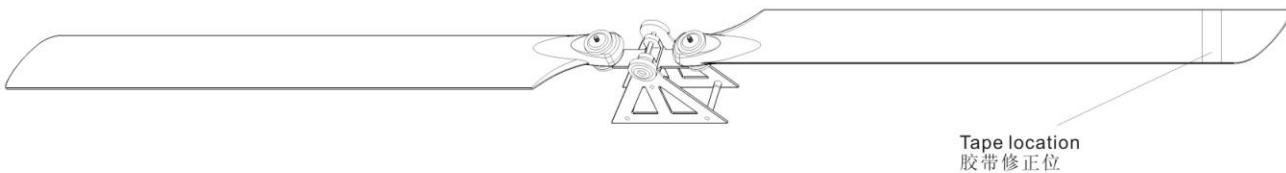
#### Illustration of Main Rotor's Pitch at 0 degree

主旋翼pitch 0度角，各相关结构摆位示意图



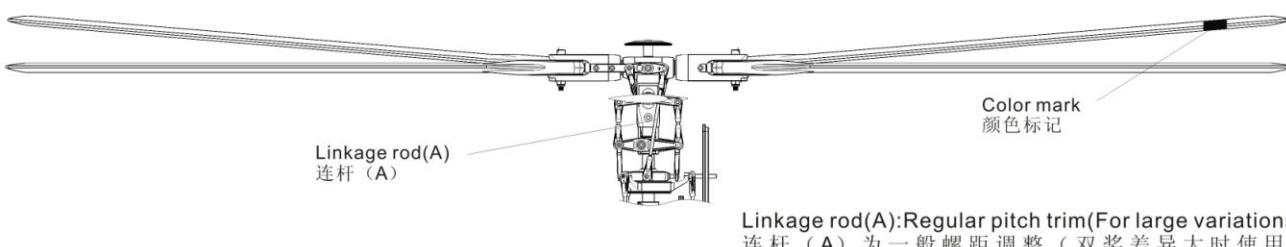
## 8.MAIN ROTOR BLADE BALANCING AND CORRECTION

### 设备建议配置图示



Important-Before flying it is necessary to balance the blades. Screw the rotor blades together as in the illustration. The rotor blades are properly balanced when they are suspended exactly horizontally. If not, the blades are not in equilibrium. This is corrected by applying tape to lighter blade.

当主旋翼转动时，请先执行平衡校正将两支主旋翼使用M3螺丝固定保持两支将成一直线，至于测试跨台后可以用胶带修正达两支主旋翼成水平最佳状态。

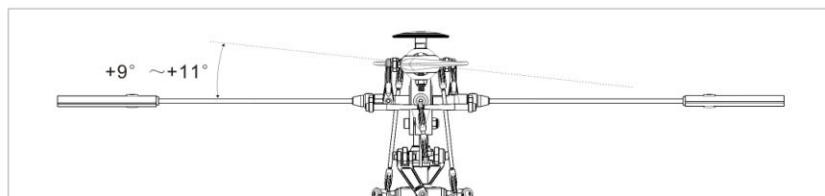


Apply a red piece of tape on one blade, or paint a red stripe with a marker or paint to identify one blade. Run the helicopter at a safe distance and have someone look at the spinning blades at the reference angle shown in the photo. If the blade tracking is not set correctly, you will be able to identify the blade with the red identifying mark rotating higher or lower than the other blade.

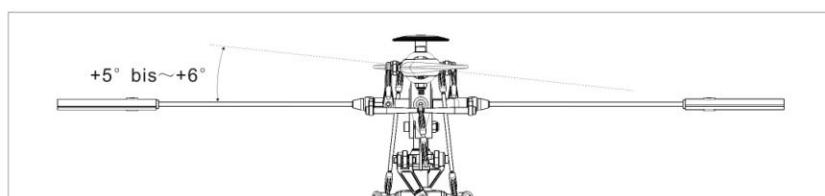
可使用螺旋桨附赠的红、蓝贴纸分别贴于两桨翼端，或于单桨翼端处画上颜色记号，方便双桨调整辨记。标示颜色桨偏高（螺距过大）请调整连杆 (A) 修正。

## 9.PITCH AND THROTTLE SETTING 主旋翼螺距与油门设定

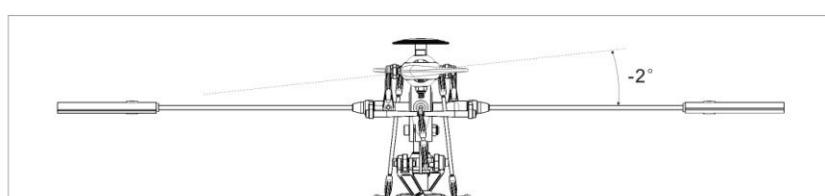
### GENERAL FLIGHT 一般飞行模式



Stick position at high/Throttle 100%/Pitch+9° ~+11°  
摇杆高速/油门100%/Pitch+9° ~+11°

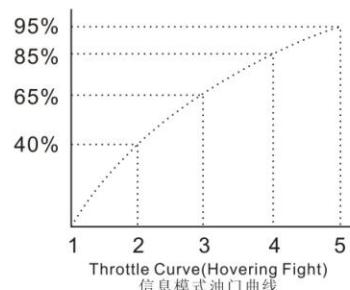


Stick position at high/Throttle 65%~70%/Pitch+5° ~+6°  
摇杆停息/油门65%~70%/Pitch+5° ~+6°

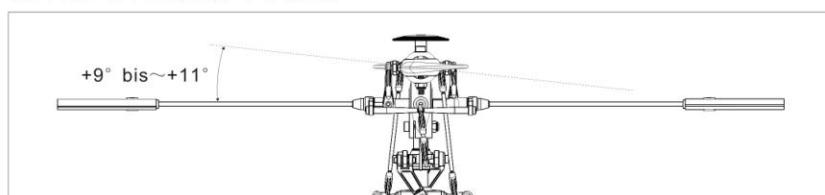


Stick position at low/Throttle 0%/Pitch 0°  
摇杆低速/油门0%/Pitch 0°

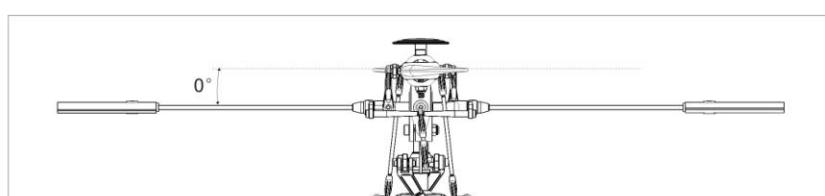
Standard-Flug	
Throttle 油门	Pitch 螺距
5 100%High speed 100%高速	+9° ~+11°
4 85%	
3 65%Hovering 100%停息	+5° ~+6°
2 40%	
1 0%LOW SPEED 100%低速	-2°



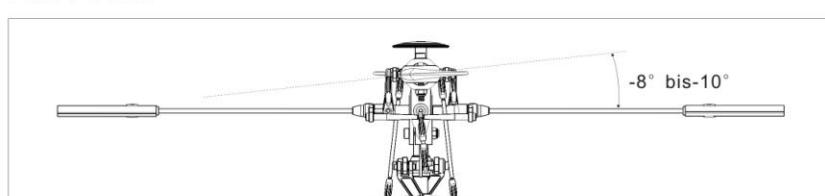
### 3D FLIGHT 3D特技飞行模式



Stick position at high/Throttle 100%/Pitch+9° ~+11°  
摇杆高速/油门100%/Pitch+9° ~+11°

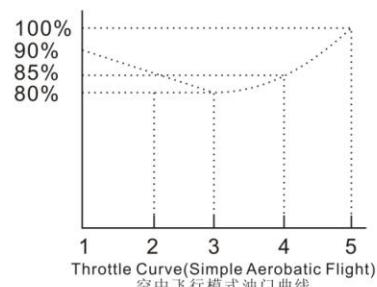


Stick position at high/Throttle 90%/Pitch 0°  
摇杆高速/油门90%/Pitch 0°

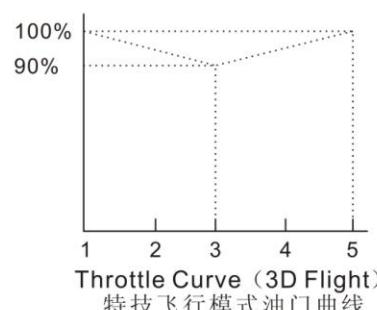


Stick position at low/Throttle 100%/Pitch-8° ~-10°  
摇杆低速/油门100%/Pitch-8° ~-10°

IDLE1:SPORT FLIGHT	
Throttle 油门	Pitch 螺距
5 100%	
4 85%	
3 80%	+5° ~+6°
2 85%	
1 90%	-5°



IDLE1:SPORT FLIGHT	
Throttle 油门	Pitch 螺距
5 100%	+9° ~+11°
3 90%	-5°
1 100%	+8° ~+10°

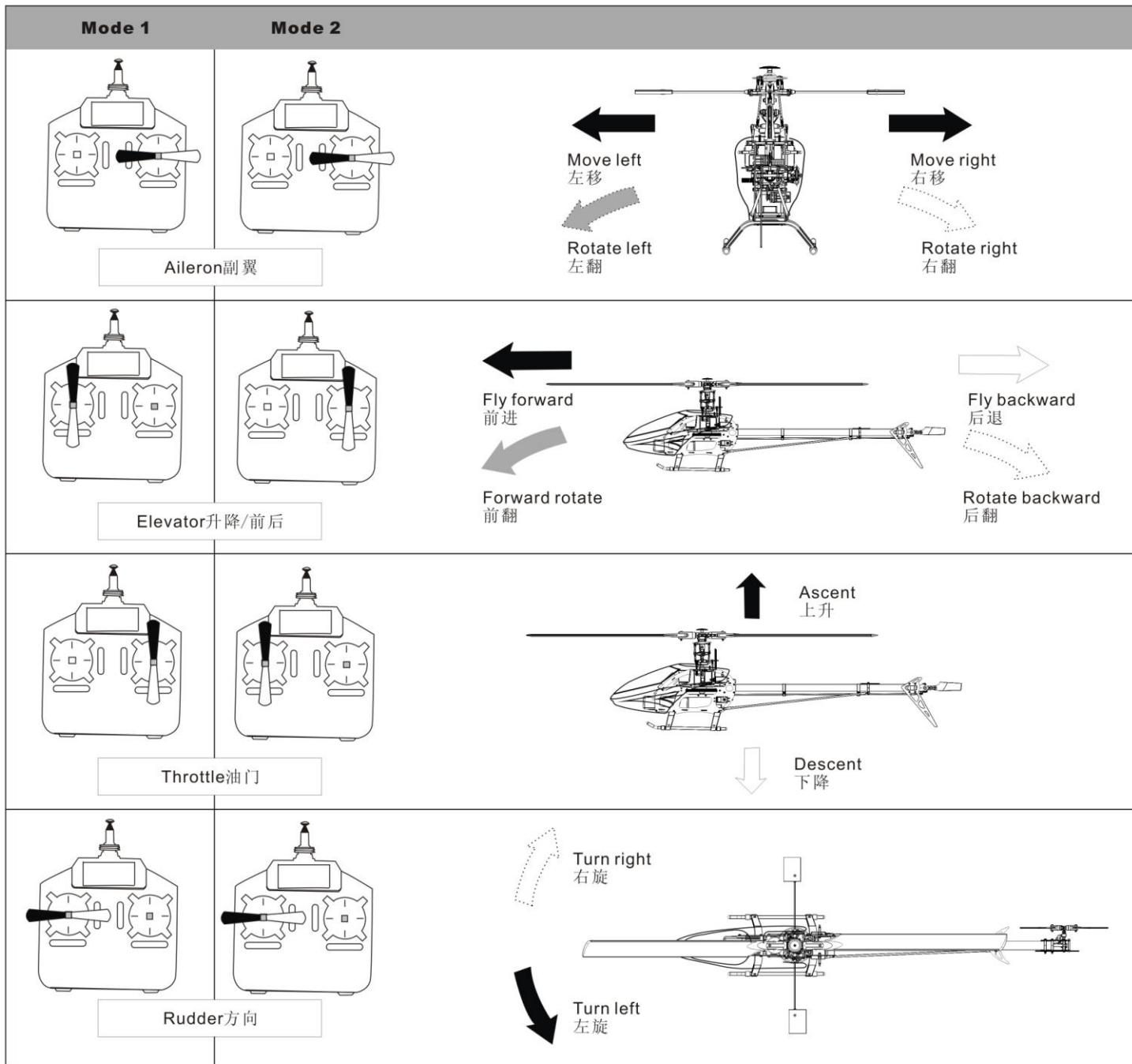


- 1. Pitch range: Approx. 25 degrees.
- 2. If the pitch is set too high, it will result in shorter flight duration and poor motor performance.
- 3. Setting the throttle to provide a higher speed is preferable to increasing the pitch too high.
- 1. 螺距 (Pitch) 总行程约25°。
- 2. 过大螺距设定，会导致动力与飞行时间降低。
- 3. 动力提升以较高转速的设定方式，位于螺距调大的设定。



CAUTION!  
注意

## 10.FLIGHT ADJUSTMENT AND SETTING 飞行动作调整与设定



## 11.PARTS LIST 零件明细(1)

						
700-3 Main rotor holder 大桨夹	700-4 Flybarless branch arm of main holder 无副翼桨夹支臂	700-5 Flybar branch arm of main holder 有副翼桨夹支臂	700-6 Control lever arm 支臂摇臂	700-7 Main housing 中联	550-8TT Brake plate 刹车盘	700-9 Flybar control set 日字框
						
700-10 Flybar rod holder 副翼杆固定座	700-11 Flybar rod 4.0mm副翼杆	700-12 Washout base 向位器	700-13 Washout base control arm 有副翼向位器摇臂	700-14 Shear type arm 剪型臂	700-15 Washout base control arm 无副翼向位器摇臂	700-16 CCPM swashplate 十字盘
						
700-17 Main shaft bearing block 主轴轴承座	600-18TS Main shaft bearing block (down) 主轴轴承下座	600-19TS Motor mount (down) 马达固定下座	600-20TS Tail boom stiffener 尾管固定座	600-21TS Motor mount 马达固定座	600-22TS Frame strengthening plate 侧板加强片	550-23TT Anti-rotation bracket 十字盘导轨
						
550-24TT CF tail unit plate 碳纤尾波箱侧板	550-25TT Tail rotor holder 尾桨夹	550-26TT Tail rotor hub 尾中联	550-27TT Tail rotor shaft assembly 尾轴	550-28TT Tail pitch assembly 尾推滑块	550-29TT Tail arm 尾摇臂	550-30TT Tail arm holder 尾摇臂固定座
						
550-31TT Tail unit holder 尾波箱座	600-32TS Vertical fin 垂直翼	550-33TT Tail unit connecting bolt 尾箱连接柱	600-34TS belt wheel 压带轮	700-35 Feathering shaft rubber ring 横轴减震胶圈90	700-36 POM Feathering shaft tube POM横轴套管	700-37 Feathering shaft 横轴
						
700-38 Main shaft 主轴	700-40 Main shaft lock ring 主轴限位环	600-41TS CF Frame set 碳纤侧板	600-42TS CF bottom plate 碳纤底板	600-43TS CF battery plate 碳纤电调板	600-44TS CF plate of receiver 碳纤接收机板	600-45TS Canopy mounting bolt 机架连接柱
						
550-46TT Stabilizer mount 水平翼固定座	550-47TT Carbon horizontal stabilizer 碳纤水平翼	700-48 Tail boom 尾管	550-49TT Tail boom brace mounting ring 尾推杆固定环	600-50TS Main gear mount 大齿盘固定座	600-51TS Main drive gear 大齿盘	600-52TS Tail drive gear 小齿轮

## 11.PARTS LIST 零件明细(2)



## 12. REGULAR MAINTENANCE 常规维修

Regular maintenance is required to keep the KDS 700 helicopter in optimal and safe flying condition. The model requires precise configuration of the components and settings to be kept by the owner. Maintain regular maintenance on the model to avoid accidents or loss, and optimum performance.

请定期检查：KDS 700 电动遥控直升机为精密零组件构成之精细模型商品。所以飞行者须注意确保各控制组件及结构之性能良好，使能发挥优异稳定飞行特性。如果您的维护不当，飞行时将可以导致意外或任何损失，建议您注意养成直升机定期检查的习惯，以确保让您的爱机随时保持最佳性能。

### MAIN ROTOR CHECKLIST 主旋翼机构检查重点

1. Main Rotor Housing: when the main rotor housing is worn or faulty, there will be obvious vibration and poor flight control. Check the main rotor, main shaft, and feathering shaft for wear or deformity. Replace parts as necessary to eliminate imbalance.
  2. O-Rings: The O-Rings will lose their elasticity over time. This will cause excess play on rotor and cause instability. Replace them as needed.
  3. Main Rotor Holder: When the helicopter dose not fly or reacts sluggishly, even after checking for proper setting of pitch and throttle, check the following items: Plastic parts, Bearings, Ball bearings, Rotor Blades. Check for excess play or broken parts, or binding or restricted movement. It is important to check for main rotor balance before each flight. Operating the model when out of balance will cause excessive wear and premature failure of parts, possibly resulting in a dangerous situation.
  4. Control Arm Assembly: Check regularly for cracked, worn, bent or binding control arms and pushrods. Smooth movement of control arms and linkages is required for stable, vibration free flight.
  5. Swashplate: Check for excess slop in the main ball where the main shaft rides on, and slop or looseness between the plastic and metal surfaces. Swashplate wear will result in poor stability and lack of control during flight. Replace them as necessary.
1. 主旋翼固定座：当主旋翼运转发生异常时，飞行当中发生的震动情形，请检查主旋翼、横轴、主轴是否有变形或平衡不良，必要时请将主旋翼头固定座更新。  
2. 主旋翼缓动油封：缓动油封长期使用会发生弹性疲乏，会影响飞行稳定性，此时建议更新。  
3. 主旋翼夹座：主旋翼夹座一般飞行前虽然确认过螺距，但实际飞行时仍需增加螺距行程才足够使用，如果飞行时升降动作迟缓情形：检查重点包含了塑胶件以及轴承、球轴承等，塑胶件及球轴承若发现明显间隙，轴承钢轴脱落均需要更换新品。注意：飞行前主旋翼必须详细的做好动平衡的动作，并请修正双桨不良的状况，以提升升力效能，注意因平衡不佳将各导致零件损坏与松脱。  
4. 控制臂组：定期检查各控制臂控制滑顺，减少左右摇晃虚位可确保停态稳定性能。  
5. 十字盘组：当十字盘组发生严重虚位时，会导致停态时稳定性不稳定，操控性能也会劣化，并可能发生不明原因的双桨现象，严重时则必须更新。

### FUSELAGE/CHASSIS 机身组检查重点

1. Main Shaft Bearing: Normal replacement interval for proper operation is between 60-100 flights. If flying 3D or extreme aerobatics often, inspect the bearing more frequently and shorten the interval as necessary.
  2. One-way Bearing: One-way bearings have longer lifetimes. Failure is not common. To keep the one-way bearing in good operation, remove it to clean and lubricate after every 50 flights. If the main drive gear is loose, you should replace the one-way bearing.
  3. Drive Belt: KDS uses only top quality, stretch-proof belts. It is however, impossible to prevent the belt from stretching or wearing out. Check belt tension regularly, and check for the wear on the teeth. Replace it as necessary.
1. 主轴轴承：主轴轴承经长期重负载运作，正常飞行约60-100趟必须更换新品以维持动作顺畅度。但是若经常进行激烈的3D飞行，建议您必须时常检查主轴轴承，当发现主轴轴承有明显的间隙或是转动有明显的阻碍都必须更换新品。  
2. 单向轴承组：单向轴承级并不常发生损坏的情形。但是为了保持良好的顺畅的运作，建议您约50趟的周期当中请拆卸下来上油。如果发生主齿轮明显异动，请立即更换单向轴承盘。  
3. 尾转动皮带：尾转动皮带虽然采用日制原装纤维耐变形皮带，长时间使用时仍然会产生延展的现象。请随时检查施以心向尾管重新拉伸修正调整，以维持良好的尾舵控制机能。如果当您发现皮带的边缘磨耗严重现象或是断齿的状况，为了维护飞行的安全建议你将它更新。

### LINKAGE RODS & CONNECTING PARTS 控制杆组头检查重点

During assembly, take special care to keep the connecting parts in smooth operation, and avoid excess play or binding. Failure to do so will result in poor flight stability. The linkage rods and ends will break and wear due to normal usage, crashing, and poor maintenance and environment. Check for wear and proper operation regularly, replace them as needed. 控制连杆、控制臂连接座、升降舵连接座组装时请特别注意各连接部位需保持滑顺且尽量减少轴向左右摇晃间隙，此要点将严重影响飞行稳定性能各连接杆如因跌机损坏之外。因自然磨损或是因飞行场地恶劣因素也会发生磨损或松脱的情形。当您发现任何连接杆发生间隙或是轻推即可脱出，建议您立即更新，确保飞行性能与安全。

### TAIL ROTOR SYSTEM 尾旋翼系统检查重点

1. Tail Rotor Control Set: Check the tail rotor bearing regularly. If there is excess play or gaps, replace it immediately. Avoid any binding or improper contact on the tail components and bearings as this will cause excess wear and heat, potentially melting or deforming the tail system.
  2. Tail Unit Assembly: Avoid flying in tall grass or weeds. If grass or weed becomes lodged in the tail rotor unit, it will interfere with the operation, and cause the helicopter to lose control. Always check for foreign objects in the tail and clean them off immediately. Avoid using lubricants on the exposed surfaces of the model as it will attract and collect dirt and debris, and cause failure.
  3. Tail Rotor Housing: Disassemble tail rotor housing for cleaning and maintenance after every 50 flights. If the tail does not operate smoothly or shows any signs of stress or wear, please replace immediately.
  4. Tail Rotor: Check the tail rotor blades regularly for damage, especially if the helicopter ever strikes the ground while flying, or after hard landings. Damaged tail rotor blades can induce vibration.
1. 尾齿轮组：尾齿轮组请注意尾旋翼轴承的检查，当您发现轴承有明显的间隙时请更新，避免轴承咬死，并请注意尾舵轮不可将它锁死。必须能保持顺畅运动以免发生塑胶件熔毁的情形。  
2. 尾旋翼控制滑座：当您于草地飞行时，请注意避免尾旋翼滑座是否有发生落地时卷入杂草的状况，若有必须立即将它清除再进行下一次飞行，否则可能会因为杂草纤维阻碍动作。造成尾旋翼控制失常的情形，平常保养尽量避免使用润滑油于外部结构，避免沾染灰尘等杂物，严重时甚至会发生其它部位轴承磨损及尾旋翼滑座无法运作的情形。  
3. 尾旋翼固定座：尾旋翼固定座飞行约50趟左右请拆卸进行清洁保养，确认轴承间隙是否正常。如转动不顺或间隙过大请更换轴承，确保控制系统完善。  
4. 尾旋翼：飞行时发生触地的情形请立即检修。若发现尾旋翼有明显的外观损坏时请立即更换。以避免发生尾部震动并因此损坏其它零件，确保飞行品质。



SPECIFICATION (规格)	INNOVA 700
Length (长度)	1400mm
Width (宽度)	195mm
Height (高度)	410mm
Main Rotor Diameter (主旋翼直径)	Φ1560mm
Main Blade Length (主旋翼长度)	690mm
Motor Pinion (马达齿)	12T
Brushless Motor (无刷马达)	450KV
Main Drive Gear (主传动齿轮)	115T
Autorotation Tail Drive Gear (尾驱动主齿)	42T
Drive Gear Ratio (齿轮传动比)	9.6:1:4.6
Weight(w/o power) (空机重量, 不含马达)	2500g

## KDS MODEL

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