ALIGN

EP-HELICOPTER

T-REX 500CF

KX017001TA

INSTRUCTION MANUAL

使用說明書

Contents

Thank you for buying ALIGN products. The T-REX 500 is the latest technology in Rotary RC models. Please read this manual carefully before assembling and flying the new T-REX 500 helicopter. We recommend that you keep this manual for future reference regarding tuning and maintenance.

承蒙閣下選用亞拓遙控世界系列產品，謹表謝意。
進入遙控世界之前必須告訴您許多相關的知識與注意事項，以確保您能夠在學習的過程中較得心應手。在開始操作之前，請務必詳閱本說明書，相信一定能夠給您帶來很大的幫助，也請您妥善保管這本說明書，以作為日後參考。

1.INTRODUCTION 前言

Thank you for buying ALIGN Products. The T-REX 500 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 T-REX 500 is a new product developed by ALIGN.
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.
感謝您購買亞拓產品，為了讓您容易方便的使用 T-REX 500 直昇機，請您詳細的閱讀完這本說明書之後再進行組裝以及操作這台直昇機，同時請您妥善的保存這本說明書，作為日後進行調整以及維修的參考。T-REX 500 是亞拓自行研發的新產品，不論您是追求飛行穩定性的初學者或是追求性能的飛行愛好者，T-REX 500 將是您最佳的選擇。

THE MEANING OF SYMBOLS 標誌代表涵義

⚠ WARNING 警告	**Mishandling due to failure to follow these instructions may result in damage or injury.** 因為疏忽這些操作說明，而使用錯誤可能造成財產損失或嚴重傷害。
⚠ CAUTION 注意	**Mishandling due to failure to follow these instructions may result in danger.** 因為疏忽這些操作說明，而使用錯誤可能造成危險。
⊘ FORBIDDEN 禁止	**Do not attempt under any circumstances.** 在任何禁止的環境下，請勿嘗試操作。

IMPORTANT NOTES 重要說明

R/C helicopters, including the T-REX 500 are not toys. R/C helicopter 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 ALIGN 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 at a legal flying field. After the sale of this product we cannot maintain any control over its operation or usage.
T-REX 500 遙控直昇機並非玩具，它是結合了許多高科技產品所設計出來的休閒用品，所以商品的使用不當或不熟悉都可能會造成嚴重傷害甚至死亡，使用之前請務必詳讀本說明書，勿輕忽並注意自身安全。注意任何遙控直昇機的使用，製造商和銷售商是無法對使用者於零件使用的損耗異常或組裝不當所發生之意外負任何責任，本產品是提供給有操作遙控模型直昇機經驗的成人或有相當技術的人員在合格指導於當地合法遙控飛行場飛行，以確保安全無虞下操作使用，產品售出後本公司將不負任何操作和使用控制上的任何性能與安全責任。

We recommend that you obtain the assistance of an experienced pilot before attempting to fly our products for the first time. A local expert is the best way to properly assemble, setup, and fly your model for the first time. The T-REX 500 requires a certain degree of skill to operate, and is a consumer item. Any damage or dissatisfaction as a result of accidents or modifications are not covered by any warrantee and cannot be returned for repair or replacement. Please contact our distributors for free technical consultation and parts at discounted rates when you experience problems during operation or maintenance.
模型商品屬於高度操作技術且為消耗性之商品，如經拆裝使用後，會造成不等情況零件損耗，任何使用情況所造成商品不良或不滿意，將無法於保固條件內更換新品或退貨，如遇有使用操作維修問題，本公司全省分公司或代理商將提供技術指導、折扣零件供應服務。

2.SAFETY NOTES 安全注意事項

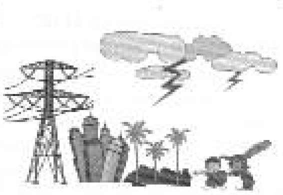
⚠ CAUTION 注意

Fly only in safe areas, away from other people. Do not operate R/C aircraft within the vicinity of homes or crowds of people. R/C aircraft are prone to accidents, failures, and crashes due to a variety of reasons including, lack of maintenance, pilot error, and radio interference. Pilots are responsible for their actions and damage or injury occurring during the operation or as of a result of R/C aircraft models.
遙控模型飛機、直昇機屬高危險性商品，飛行時務必遠離人群，人為組裝不當或機件損壞、電子控制設備不良，以及操控上的不熟悉，都有可能導致飛行失控損傷等不可預期的意外，請飛行者務必注意飛行安全，並需了解自負疏忽所造成任何意外之責任。

FORBIDDEN 禁止 LOCATE AN APPROPRIATE LOCATION 遠離障礙物及人群

R/C helicopters fly at high speed, thus posing a certain degree of potential danger. Choose an a legal flying field consisting of flat, smooth ground without obstacles. Do not fly near buildings, high voltage cables, or trees to ensure the safety of yourself, others and your model. For the first practice, please choose a legal flying field and can use a training skid to fly for reducing the damage. Do not fly your model in inclement weather, such as rain, wind, snow or darkness.

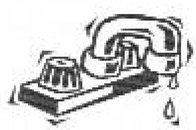
直昇機飛行時具有一定的速度，相對的也潛在着危險性，場地的選擇也相對的重要，請務遵守當地法規到合法操控飛行場地飛行。必須注意周遭有沒有人、高樓、建築物、高壓電線、樹木等等，避免操控的不當造成自己與他人財產的損壞。初次練習時，務必選擇在空曠合法專屬飛行場地並適當搭配練習架練習飛行，遭到飛行失敗所造成的損傷將會大幅的降低。
請勿在下雨、打雷等惡劣天候下操作，以確保本身及機體的安全。



FORBIDDEN 禁止 PREVENT MOISTURE 遠離潮濕環境

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.

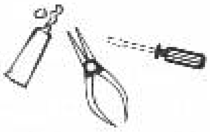
直昇機內部也是由許多精密的電子零組件組成，所以必須絕對的防止潮濕或水氣，避免在浴室或雨天時使用，防止水氣進入機身內部而導致機件及電子零件故障而引發不可預期的意外！



FORBIDDEN 禁止 PROPER OPERATION 勿不當使用本產品

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.

請勿自行改造加工，任何的升級改裝或維修，請使用亞拓產品目錄中的零件，以確保結構的安全。請確認於產品限界內操作，請勿過載使用，並勿用於安全、法令外其它非法用途。



WARNING 警告 OBTAIN THE ASSISTANCE OF AN EXPERIENCED PILOT 避免獨自操控

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.)

在飛行場飛行前，需確認是否有相同頻率的同好正進行飛行，因為開啟相同頻率的發射機將導致自己與他人立即干擾等意外危險。遙控飛機操控技巧在學習初期有著一定的難度，要盡量避免獨自操作飛行，需有經驗的人士在旁指導，才可以操控飛行。
(勤練電腦模擬器及老手指導是入門必要的選擇)

WARNING 警告 SAFE OPERATION 安全操作

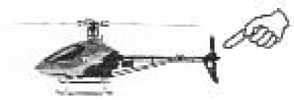
Operate this unit within your ability. Do not fly under tired condition and improper operation may cause in danger.

請於自己能力所及需要一定技術範圍內操作這台直昇機，過於疲勞、精神不佳或不當操作，意外發生風險將可能會提高。

CAUTION 注意 ALWAYS BE AWARE OF THE ROTATING BLADES 遠離運轉中零件

During the operation of the helicopter, the main rotor and tail rotor will be spinning at a high rate of speed. The blades are capable of inflicting serious bodily injury and damage to 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.

當直昇機主旋翼與尾旋翼運轉時，切勿靠近並觸摸任何物件，以避免造成危險及損壞。



CAUTION 注意 KEEP AWAY FROM HEAT 遠離熱源

R/C models are made up 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.

遙控飛機多半是以PA、纖維、聚乙烯、電子產品為主要材質，因此要盡量遠離熱源、日曬，以避免因高溫而變形甚至熔毀損壞的可能。

3.EQUIPMENT REQUIRED FOR ASSEMBLY 自備設備

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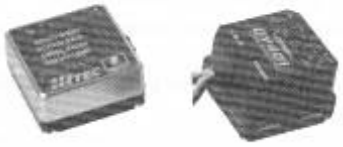
RADIO TRANSMITTER AND ELECTRONIC EQUIPMENT REQUIRED FOR ASSEMBLY 自備遙控及電子設備

Transmitter
(6-channel or more,helicopter system)

Receiver(6-channel or more)

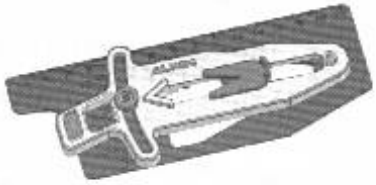
Suitable Mini Servos:
DS3405
S9257
S9650
HS-5245MG
HS-82MG

Mini Servo x 3pcs



Head Lock Gyro x 1pc

Tail Specialized Servo x 1pc



Pitch Gauge x 1pc

22.2V 6S 2100~2500mAh Li-Po Battery x 1pc

ADDITIONAL TOOLS REQUIRED FOR ASSEMBLY 自備工具

Scissors
剪刀

Cutter Knife
美工刀

Diagonal Cutting Pliers
斜口鉗

Needle Nose Pliers
尖嘴鉗

Oil
矽油

CA
瞬間膠

Hexagon Screw Driver
六角螺絲起子
3mm/2.5mm/2mm/1.5mm

Phillips Screw Driver
十字螺絲起子
3.0/# 1.8mm

4.SAFETY CHECK BEFORE FLYING 飛行前安全檢查需要事項

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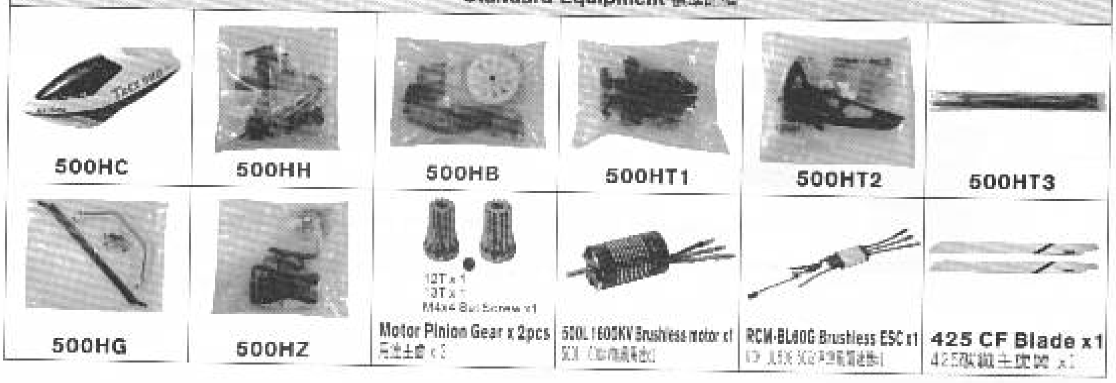
CAREFULLY INSPECT BEFORE REAL FLIGHT 實機飛行前請嚴格執行飛行前檢查動作

☆Before flying, please check to make sure no one else is operating on the same frequency for the safety.
☆Before flight, please check if the batteries of transmitter and receiver 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 receiver. Power OFF- Please turn off the receiver 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. Carefully inspect servos for interference and broken gear.
☆Check for missing or loose screws and nuts. See if there is any cracked and incomplete assembly of parts. Carefully check main rotor blades and rotor holders. Broken and premature failures of parts possibly cause resulting 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 result out of control.

★每次飛行前應先確認所使用的頻率是否會干擾他人，以確保您自身與他人的安全。
★每次飛行前確定遙控器與接收機電池的電量是在足夠飛行的狀態。
★開機前確認油門搖桿是否位於最低點，熄火開關(IDLE)是否於關閉位置。
★關機時必須遵守電源開關機的程序，開機時應先開啟遙控器後，再開啟接收機電源；關機時應先關閉接收機後，再關閉發射機電源。不正確的開關程序可能會造成失控的現象，影響自身與他人的安全，請養成正確的習慣。
★開機前先確定伺服機的各個動作是否順暢，及方向是否正確，並檢查伺服器的動作是否有干涉或齒輪損壞的情形，使用故障的伺服器將導致不可預期的危險。
★飛行前確認沒有缺少或鬆脫的螺絲與螺帽，確認沒有組裝不完整或損壞的零件，仔細檢查主旋翼是否有損壞，特別是接近主旋翼夾座的部位。損壞或組裝不完整的零件不僅影響飛行，更會造成不可預期的危險，注意損耗，有損壞零件更新及定期保養檢查的重要性。
★檢查所有的連桿頭是否有鬆脫的情形，鬆脫的連桿頭需先更新，否則將會造成直昇機無法操控的危險。
★確認電池及電源接頭是否固定牢靠，飛行中的震動或激烈的飛行，可能造成電源接頭鬆脫而造成失控的危險。

Standard Equipment 標準配備

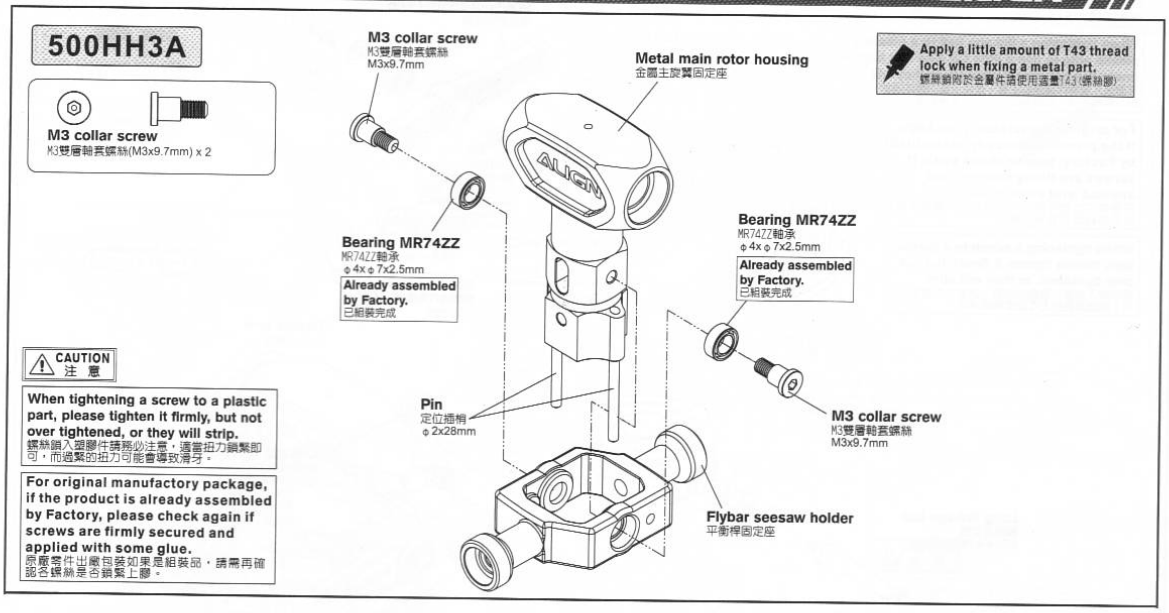


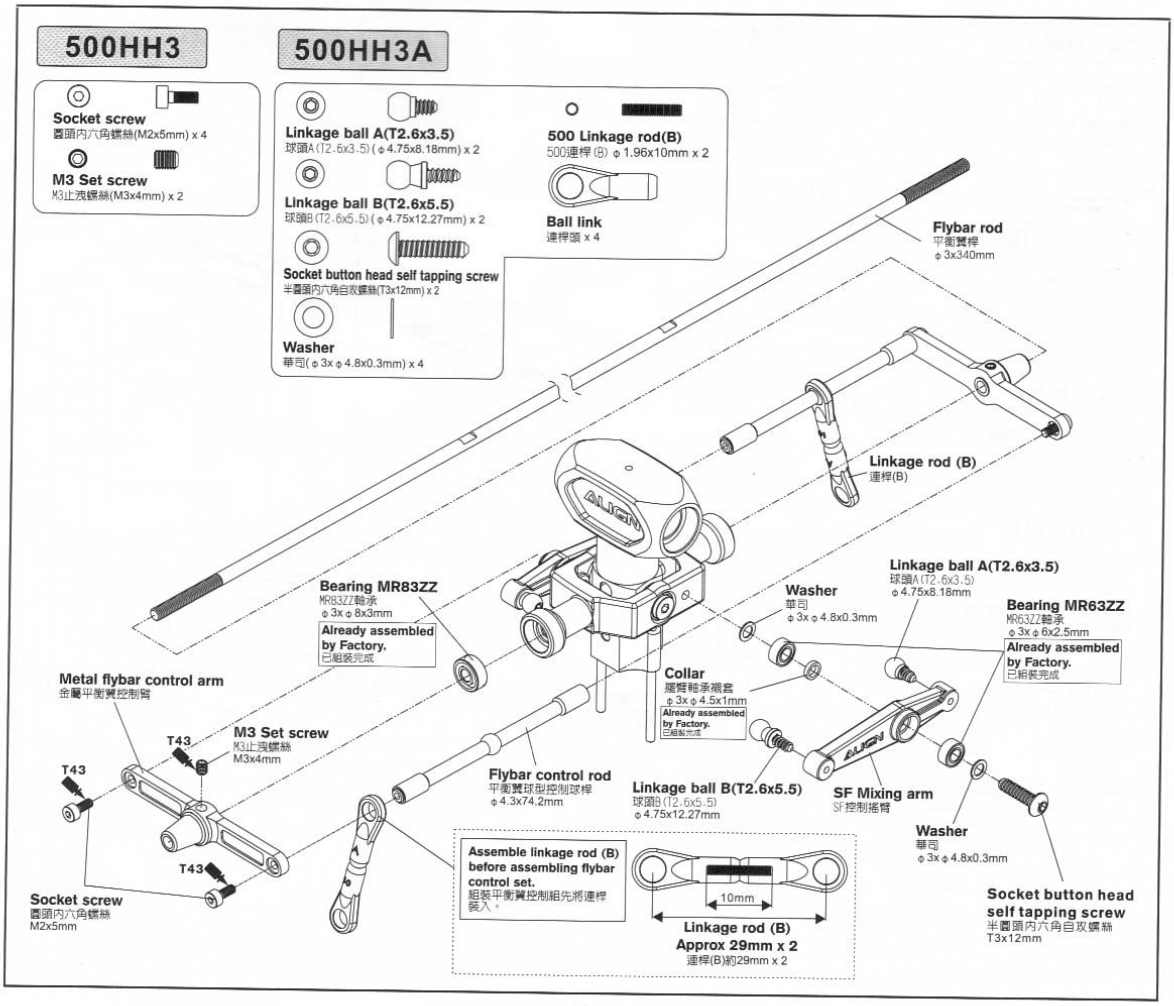
When you see the marks as below, please use glue or grease to ensure flying safety.
標有下列標記之組裝步驟，請配合上膠或上油，以確保使用之可靠度。

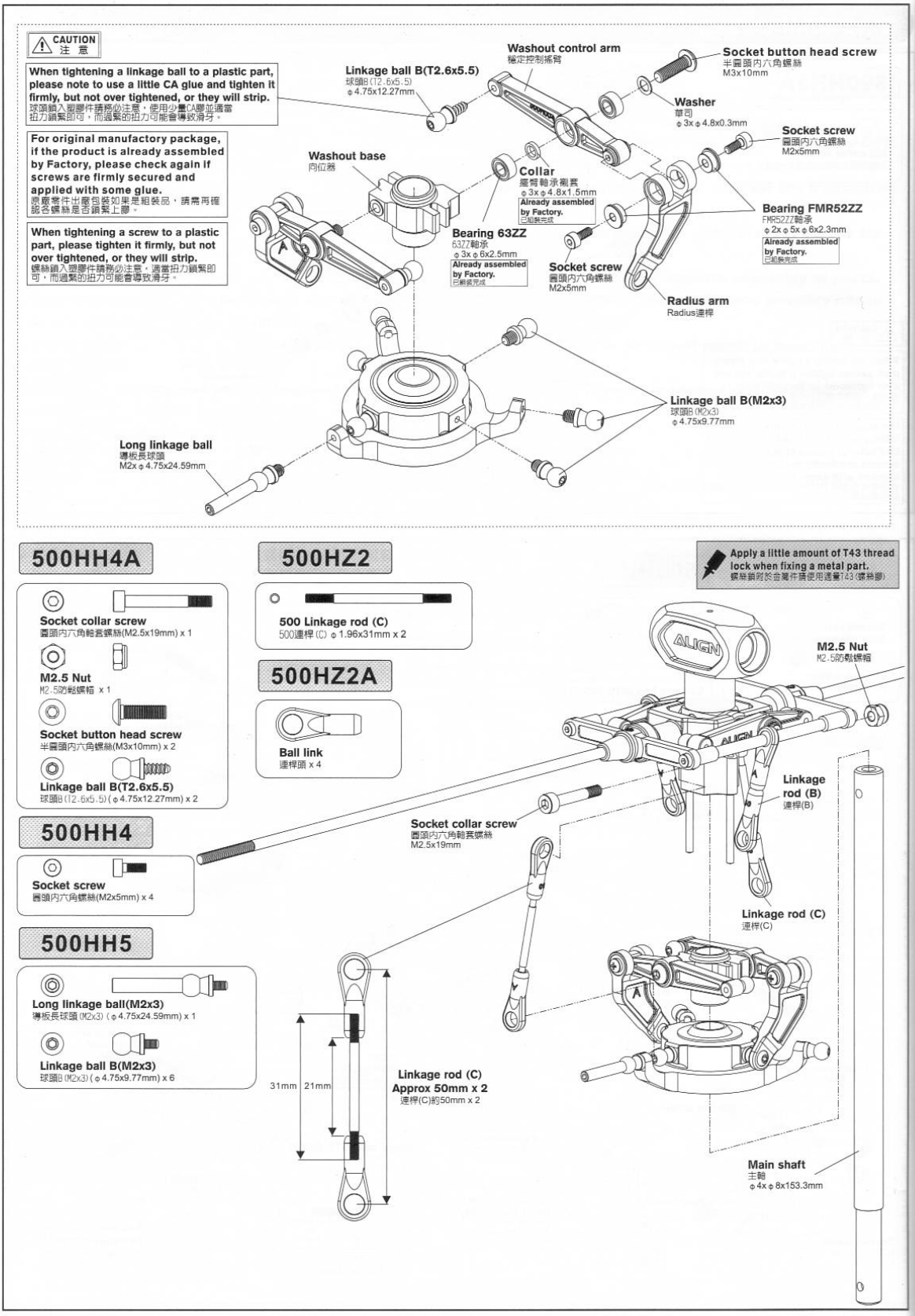
CA: Apply CA Glue to fix.
R48: Apply Anaerobics Retainer to fix.
T43: Apply Thread Lock to fix.
OIL: Add Grease.
CA:瞬間膠固定
R48:使用金屬套式固定軟膏膠固定
T43:使用螺絲膠
OIL:添加潤滑油

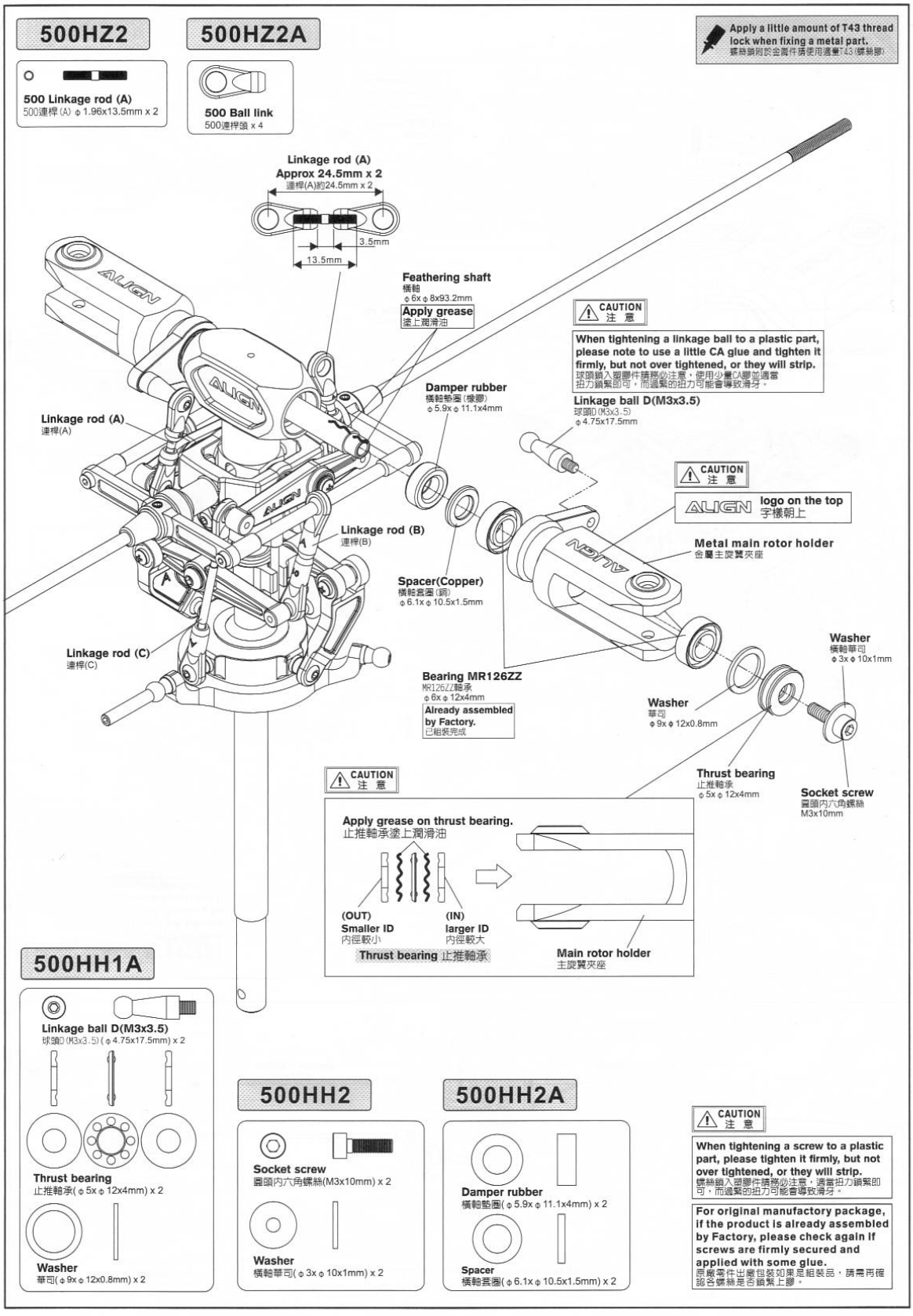
When assembling ball links, make sure the "A" character faces outside.
組裝球頭連桿時，A字需朝外。

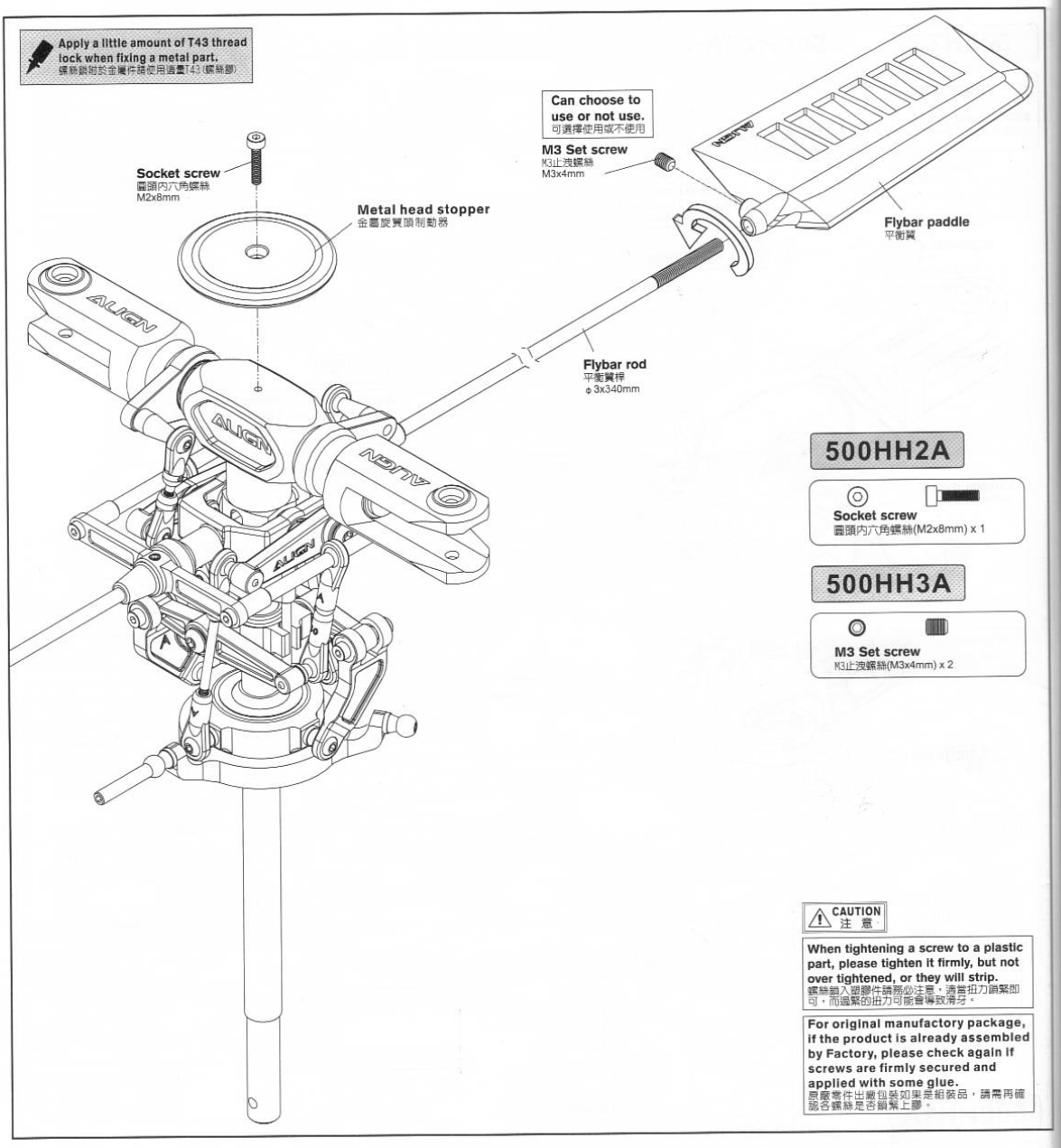
R48 metal tubular adhesive (eg. Bearings). T43 thread lock, apply a small amount on screws or metal parts and wipe surplus off. When disassembling, recommend to heat the metal joint about 15 Seconds.(NOTE: Keep plastic parts away from heat.)
R48 為適用金屬管狀(如軸承)接著劑，T43螺絲膠，適合鎖螺絲或金屬件等使用少量塗用，並去除多餘部量，欲拆卸時可於金屬部位加熱約15秒。(注意！塑膠件避免接近高熱)

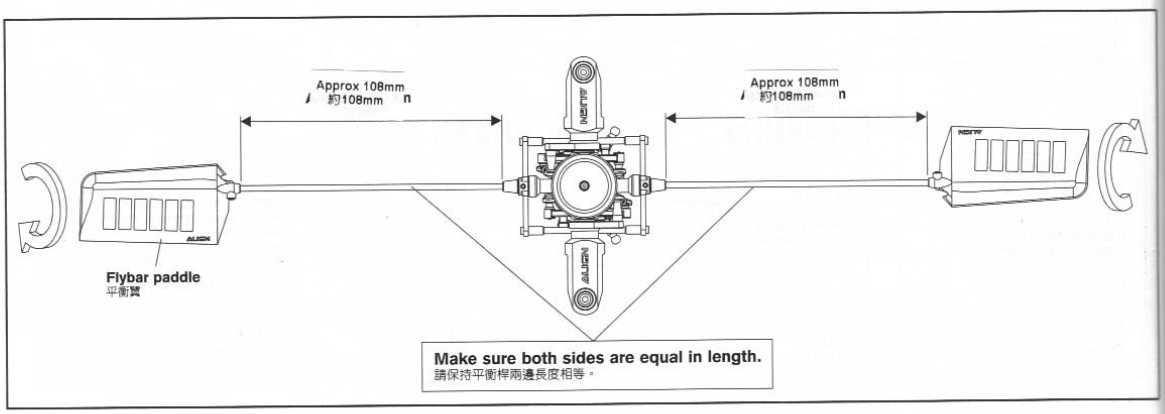












500HB1A

Bearing MR688ZZ
MR688ZZ軸承(φ 8x φ 16x5mm) x 2

500HB1B

Socket button head self tapping screw
半圓頭內六角自攻螺絲(T2.6x8mm) x 2

Socket button head self tapping screw
半圓頭內六角自攻螺絲(T2.6x10mm) x 6

Socket button head screw
半圓頭內六角螺絲(M2.5x10mm) x 8

Socket button head screw
半圓頭內六角螺絲(M3x6mm) x 4

M2.5 Specialty washer
M2.5特殊華司(φ 2.5x φ 6x2mm) x 14

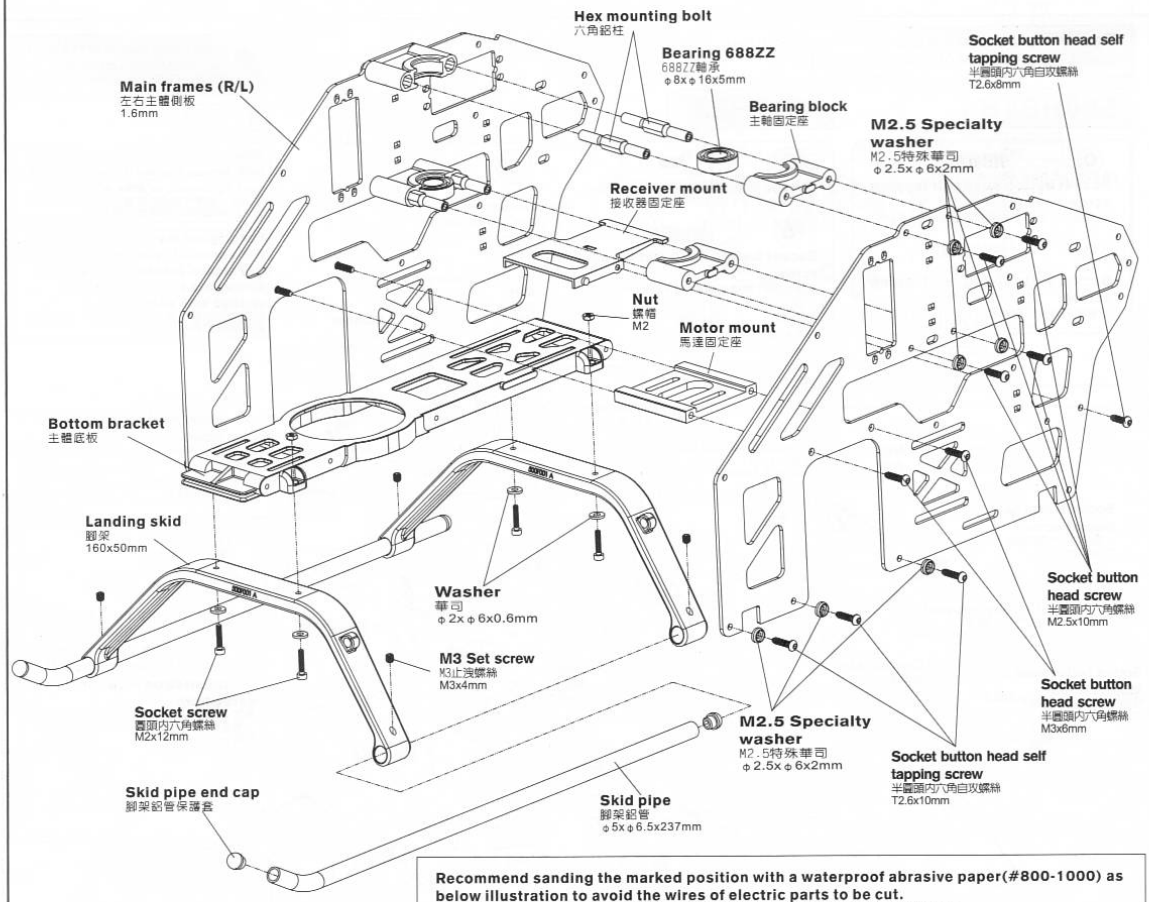
500HG1

Socket screw
圓頭內六角螺絲 (M2x12mm) x 4

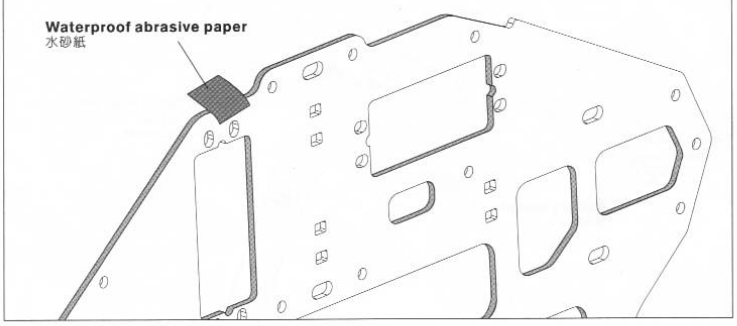
M3 Set screw
M3止洩螺絲(M3x4mm) x 4

Washer
華司(φ 2x φ 6x0.6mm) x 4

M2 Nut
M2螺帽 x 4



Recommend sanding the marked position with a waterproof abrasive paper(#800-1000) as below illustration to avoid the wires of electric parts to be cut.
建議於下圖色塊標示處，可使用#800~1000水砂紙打磨，可防止電子設備電線被割破。



CAUTION 注 意

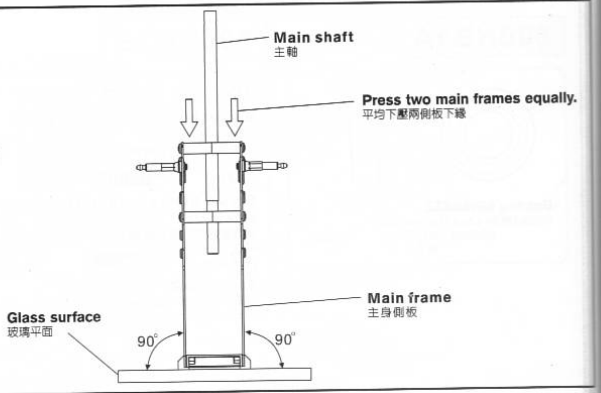
When tightening a screw to a plastic part, please tighten it firmly, but not over tightened, or they will strip.
螺絲鎖入塑膠件請務必注意，適當扭力鎖緊即可，而過緊的扭力可能會導致滑牙。

For original manufactory package, if the product is already assembled by Factory, please check again if screws are firmly secured and applied with some glue.
原廠零件出廠包裝如果是組裝品，請需再確認各螺絲是否鎖緊上膠。

Apply a little amount of T43 thread lock when fixing a metal part.
螺絲鎖附於金屬件請使用適量T43(螺絲膠)

Main frame assembly point:
First do not fully tighten the screws of main frames. Put the main shaft through the two bearings and check if the movements (up/down) 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 slowly tighten the screws. A correct assembly can help for the power and flight performance.

機身側板組立重點:
側板螺絲先不完全鎖緊，放入主軸貫穿二顆軸承確認上下移動必需滑順，主體底板必須與水平桌面(玻璃平面)踏實緊貼；請保持主軸滑順與底板平行桌面後慢慢鎖緊螺絲。正確側板的組裝對動力與飛行性能有顯著幫助。



Servo installation (DS3405/S9257/S9650)
伺服器安裝說明(DS3405/S9257/S9650)

Apply a little amount of T43 thread lock when fixing a metal part.
螺絲鎖附於金屬件請使用適量T43(螺絲膠)

CAUTION 注 意

When tightening a screw to a plastic part, please tighten it firmly, but not over tightened, or they will strip.
螺絲鎖入塑膠件請務必注意，適當扭力鎖緊即可，而過緊的扭力可能會導致滑牙。

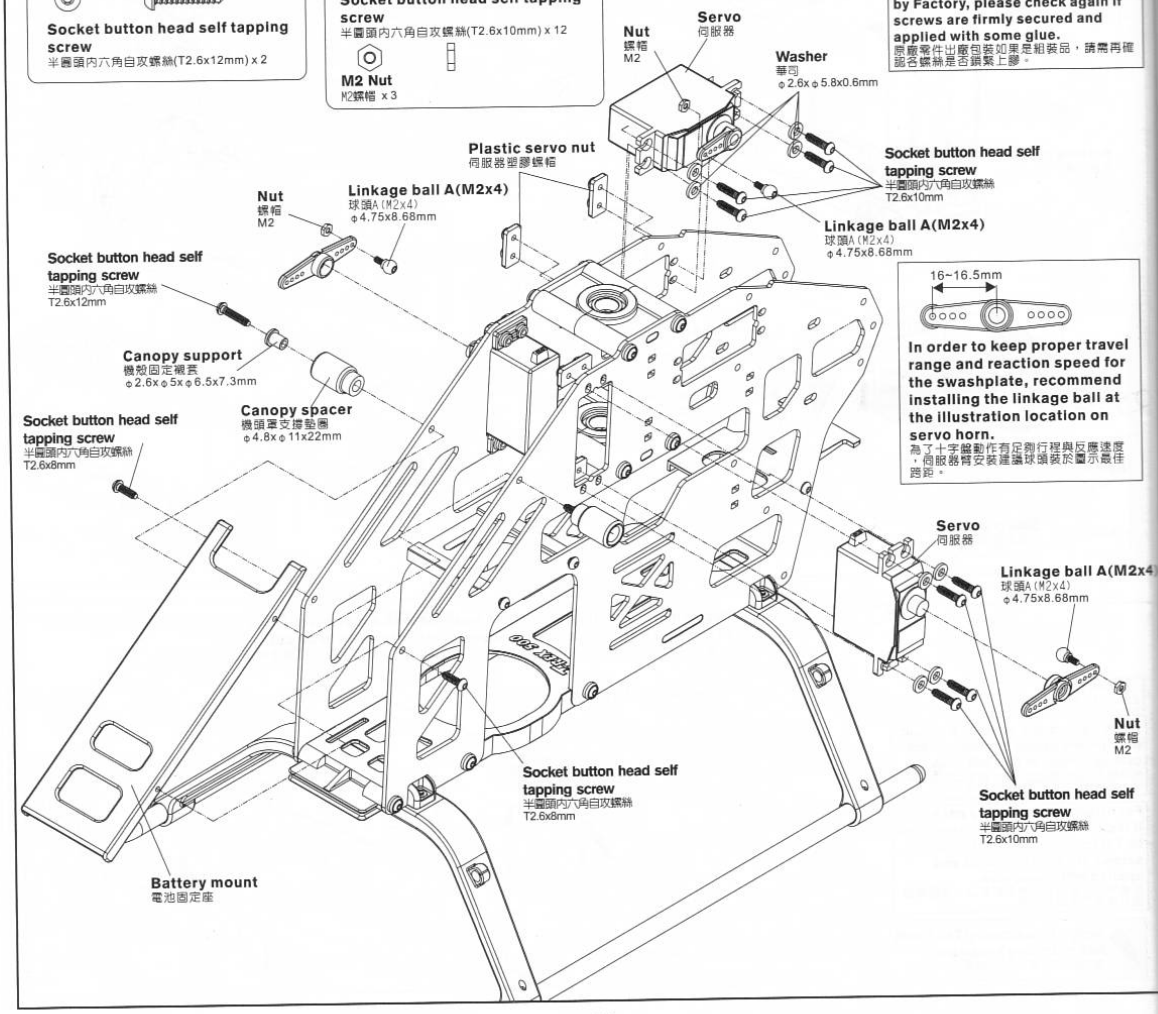
For original manufactory package, if the product is already assembled by Factory, please check again if screws are firmly secured and applied with some glue.
原廠零件出廠包裝如果是組裝品，請需再確認各螺絲是否鎖緊上膠。

500HB1B

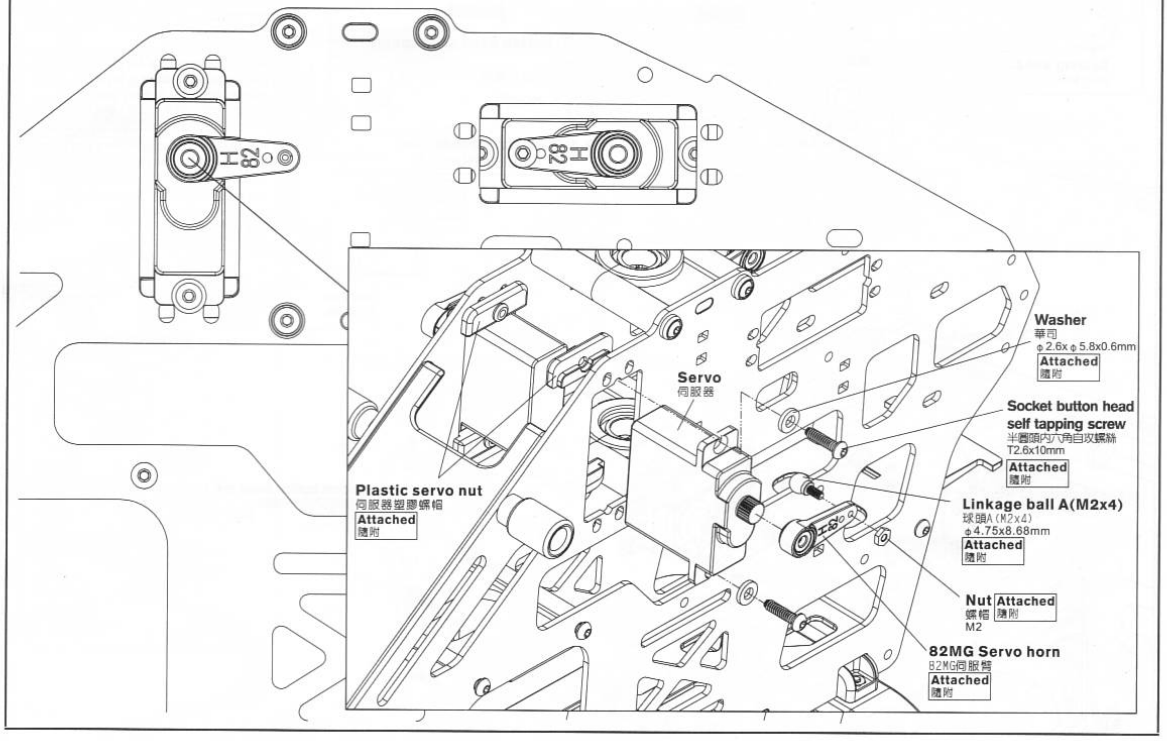
- Socket button head self tapping screw 半圓頭內六角自攻螺絲(T2.6x8mm) x 2
- Socket button head self tapping screw 半圓頭內六角自攻螺絲(T2.6x12mm) x 2

500HZ3

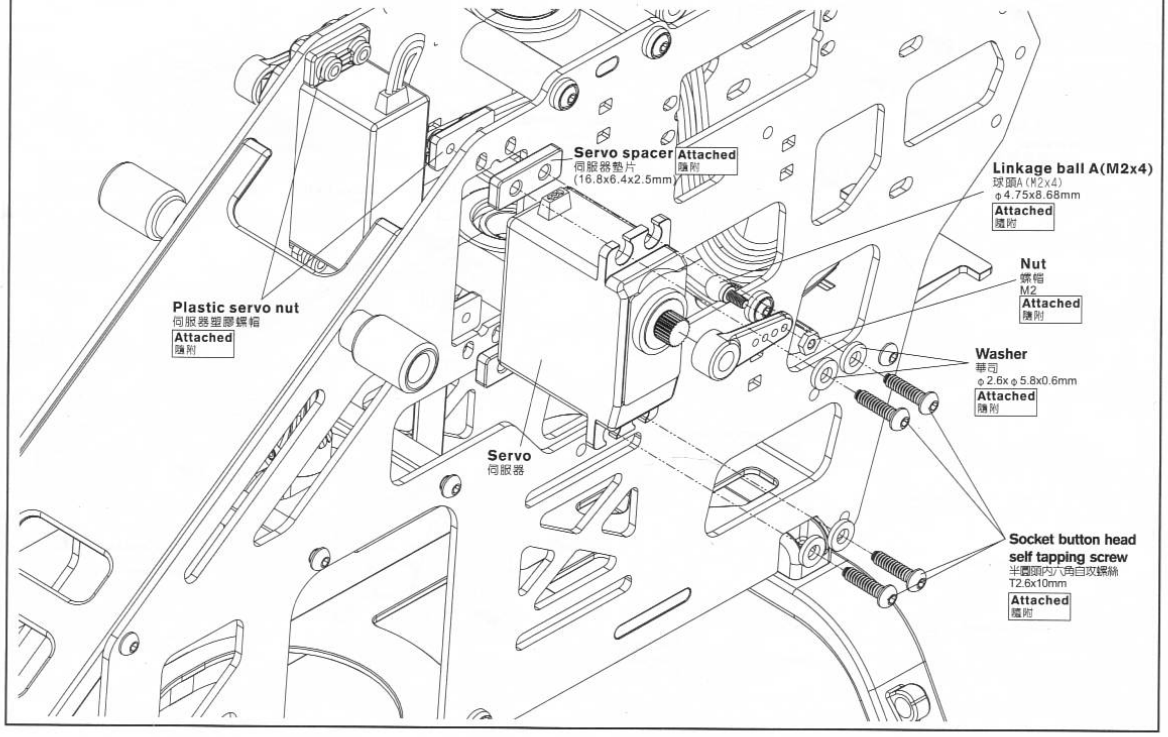
- Linkage ball A(M2x4) 球頭A(M2x4)(φ4.75x8.68mm) x 3
- Washer 華司(φ2.6xφ5.8x0.6mm) x 12
- Socket button head self tapping screw 半圓頭內六角自攻螺絲(T2.6x10mm) x 12
- M2 Nut M2螺帽 x 3



Servo installation (HS-82MG)
伺服器安裝說明(HS-82MG)



Servo installation (HS-5245MG)
伺服器安裝說明(HS-5245MG)



500HT1

Bearing 684ZZ
684ZZ軸承(φ4x φ9x4mm) x 2

500HT1A

Socket screw
圓頭內六角螺絲(M3x10mm) x 2

M3 Nut
M3防鬆螺帽 x 2

Socket button head self tapping screw
半圓頭內六角自攻螺絲(T2.6x10mm) x 8

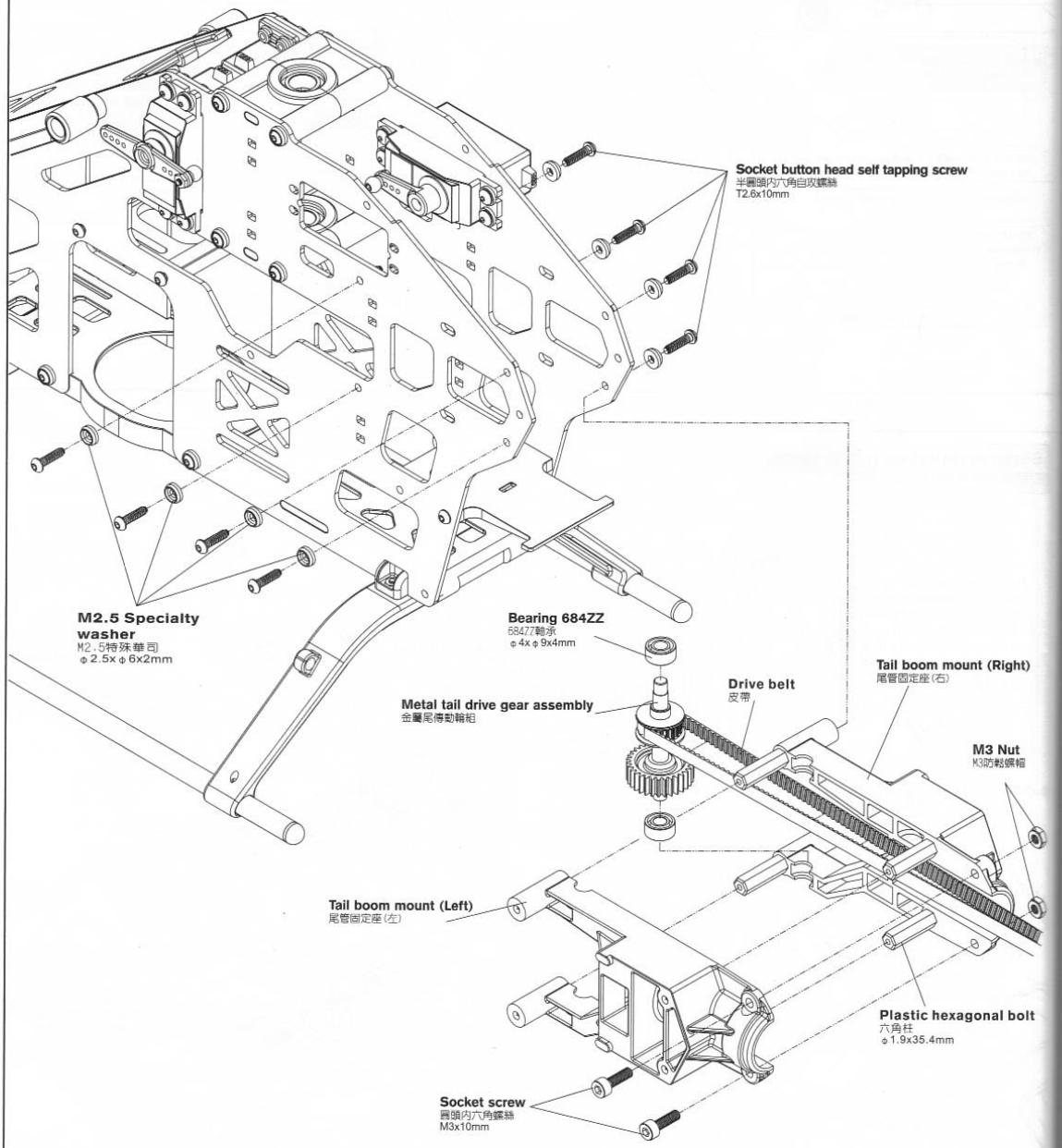
M2.5 Specialty washer
M2.5特殊華司(φ2.5x φ6x2mm) x 8

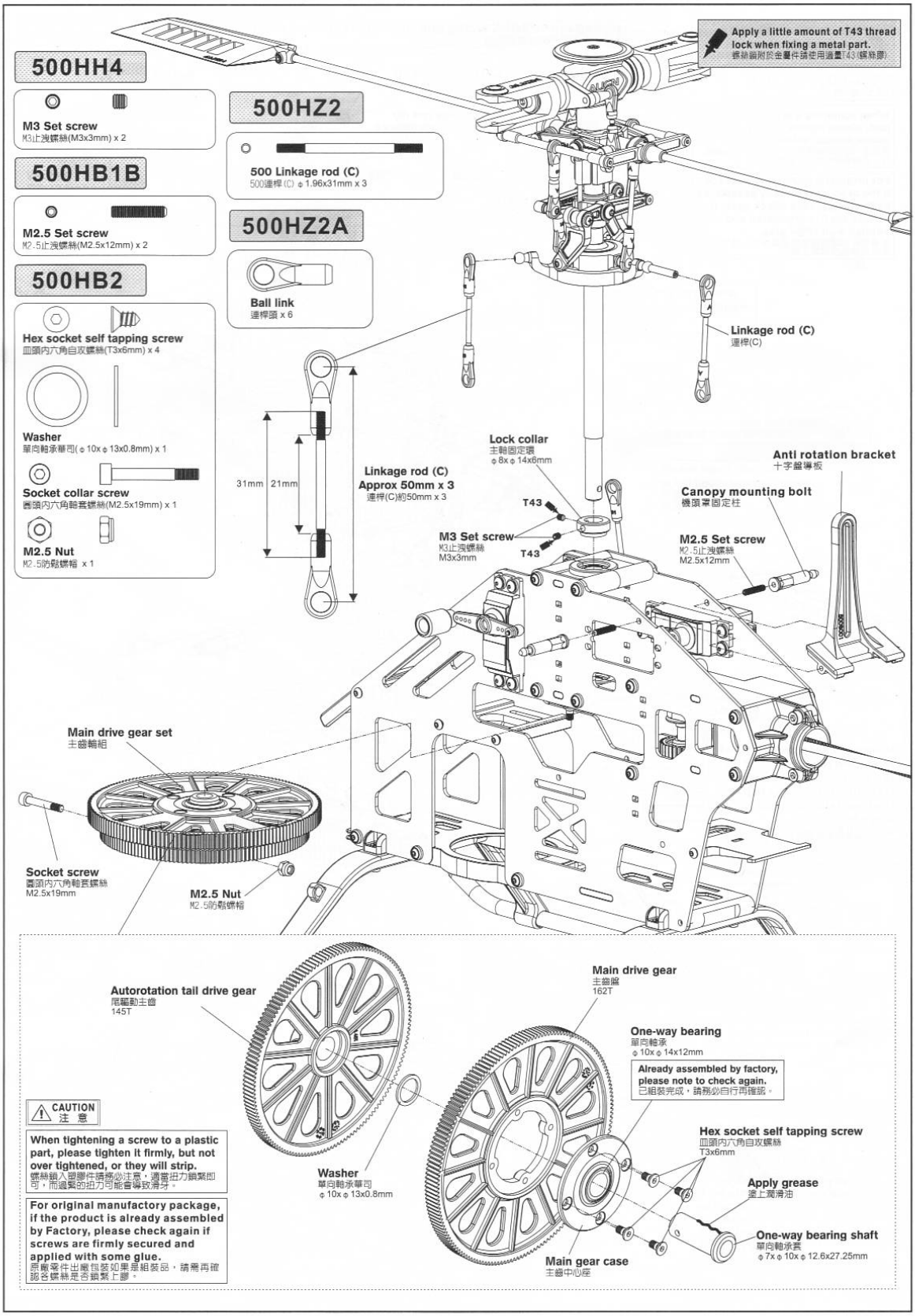
Apply a little amount of T43 thread lock when fixing a metal part.
螺絲鎖附於金屬件請使用適量T43(螺絲膠)

CAUTION 注 意

When tightening a screw to a plastic part, please tighten it firmly, but not over tightened, or they will strip.
螺絲鎖入塑膠件請務必注意，適當扭力鎖緊即可，而過緊的扭力可能會導致滑牙。

For original manufactory package, if the product is already assembled by Factory, please check again if screws are firmly secured and applied with some glue.
原廠零件出廠包裝如果是組裝品，請需再確認各螺絲是否鎖緊上膠。





Apply a little amount of T43 thread lock when fixing a metal part.
螺絲鎖附於金屬件請使用適量T43 (螺絲膠)

⚠ CAUTION 注 意

When tightening a screw to a plastic part, please tighten it firmly, but not over tightened, or they will strip.
螺絲鎖入塑膠件請務必注意，適當扭力鎖緊即可，而過緊的扭力可能會導致滑牙。

For original manufactory package, if the product is already assembled by Factory, please check again if screws are firmly secured and applied with some glue.
原廠零件出廠包裝如果是組裝品，請需再確認各螺絲是否鎖緊上膠。

Linkage rods A/B/C sizing and quantity reference chart
A/B/C連桿尺寸與數量對照圖

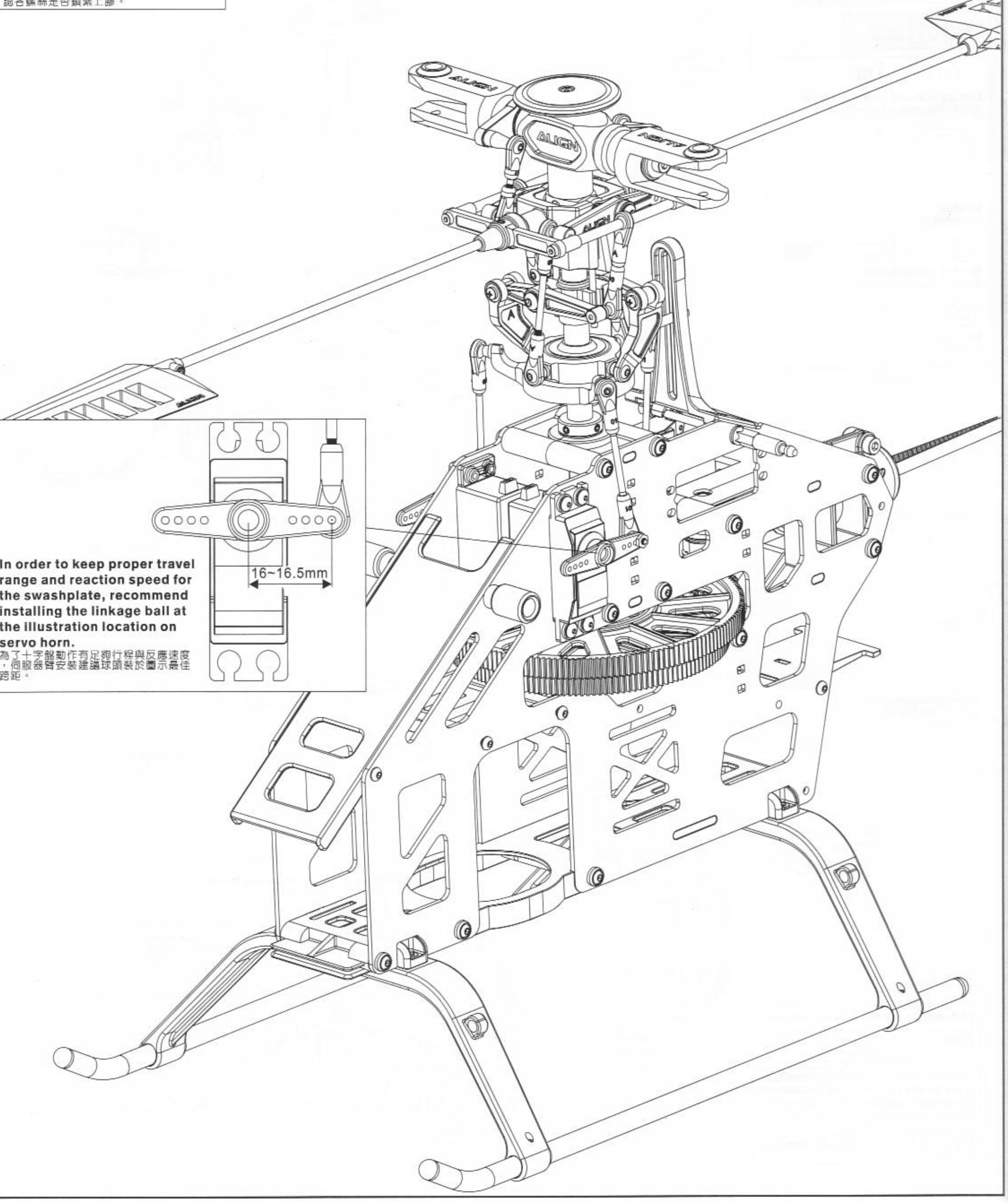
500 Linkage rod (A)
500連桿(A) ϕ 1.96x13.5mm x 2

500 Linkage rod (B)
500連桿(B) ϕ 1.96x10mm x 2

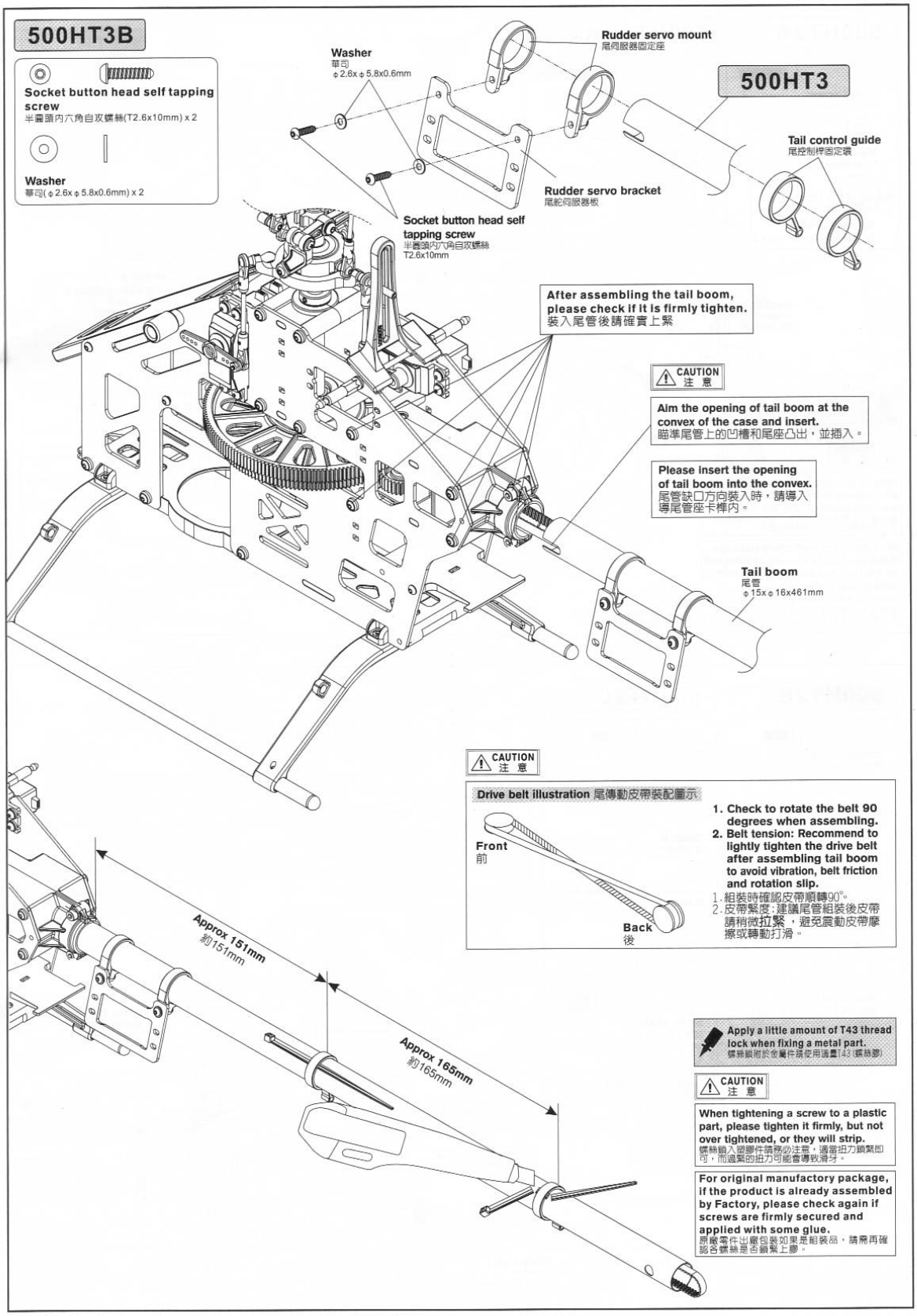
500 Linkage rod (C)
500連桿(C) ϕ 1.96x31mm x 5

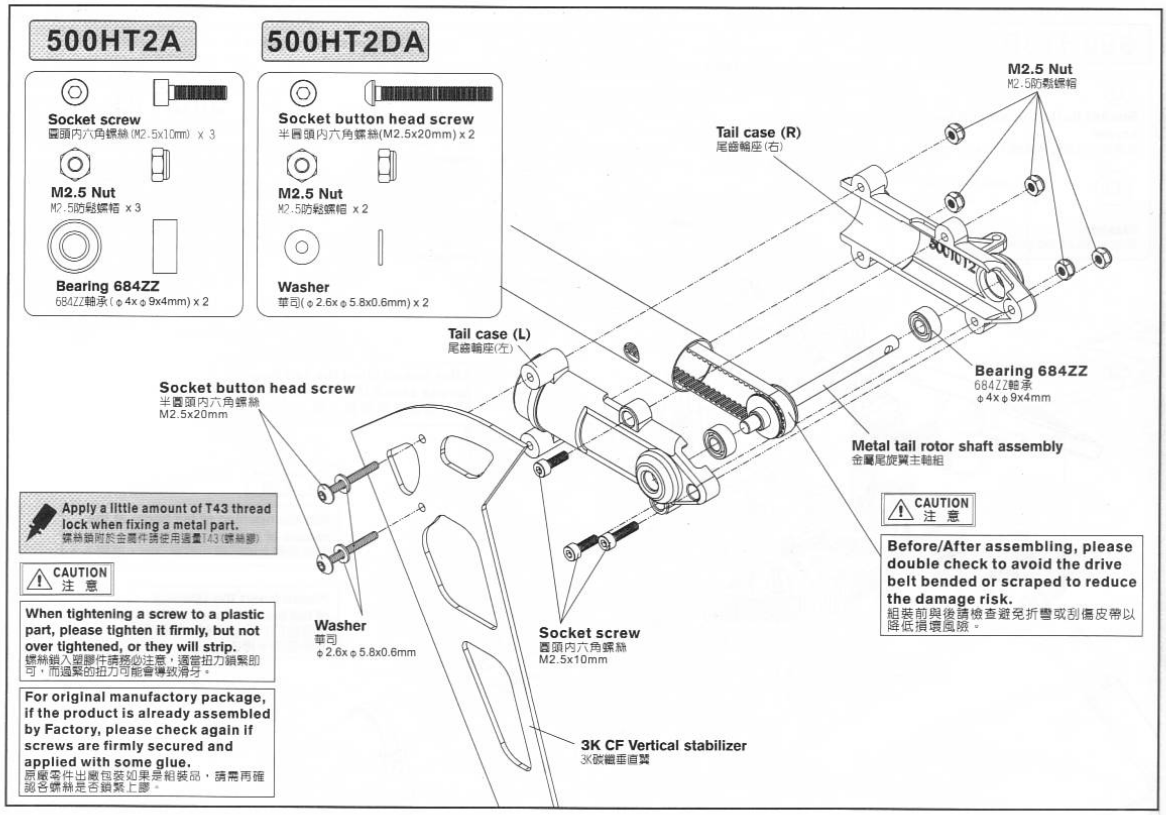
Ball link
連桿頭 x 14

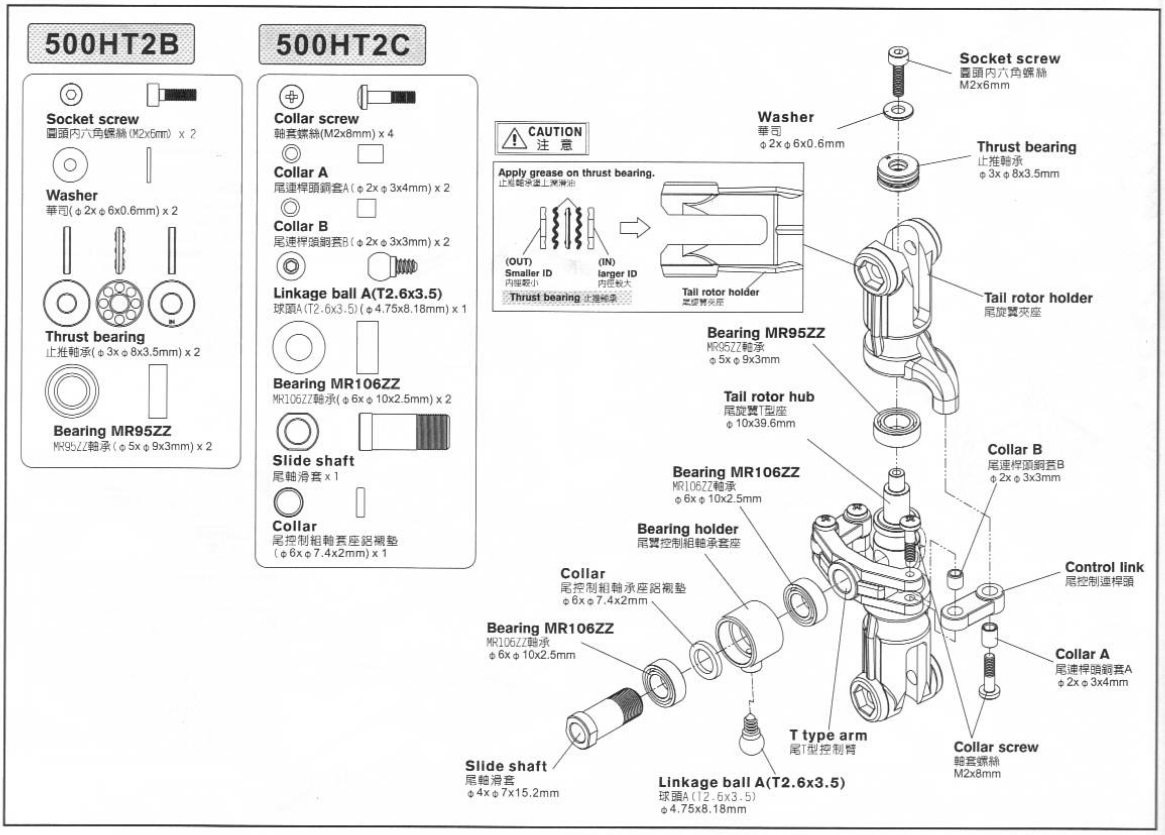
500 Ball link
500連桿頭 x 4

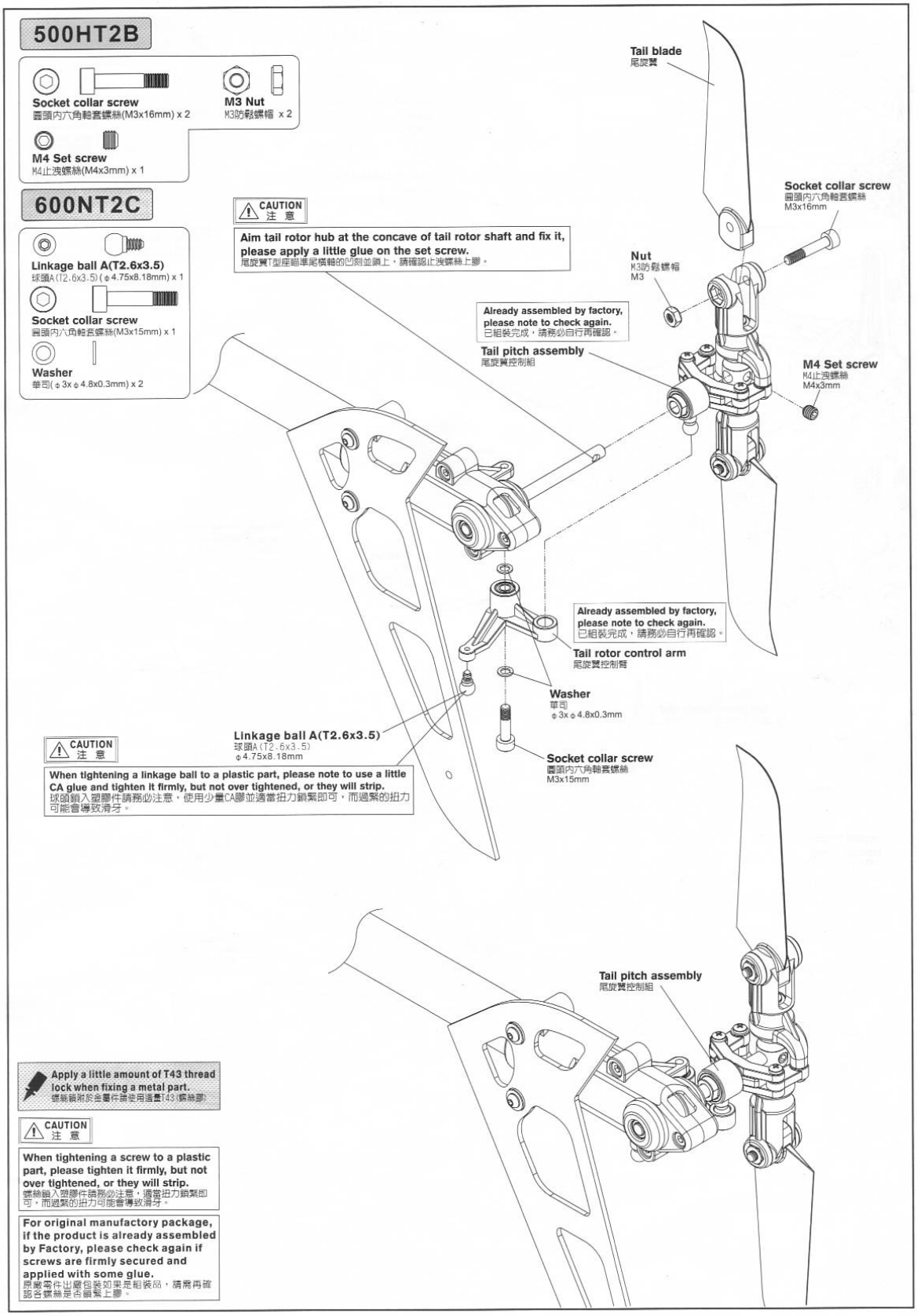


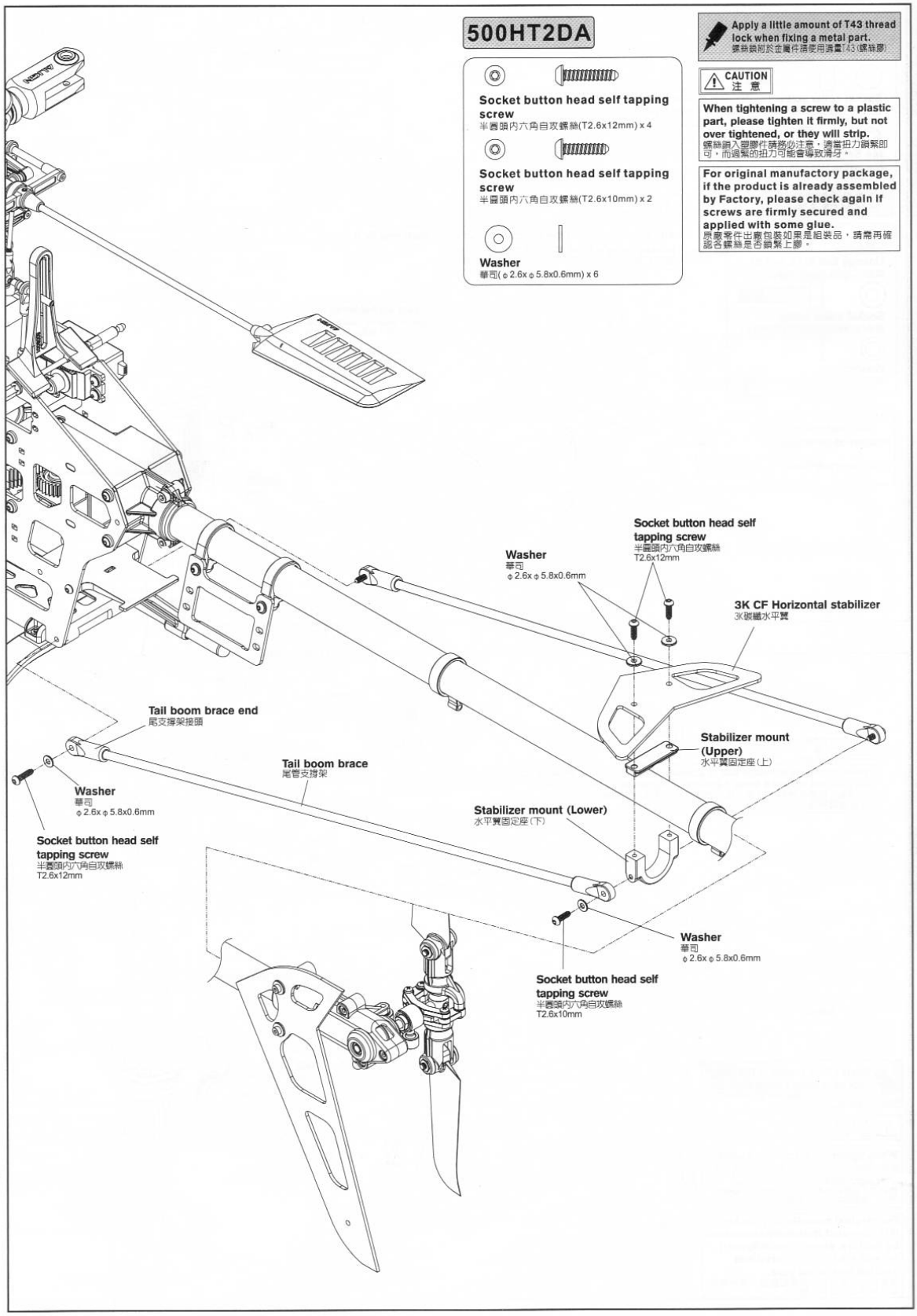
In order to keep proper travel range and reaction speed for the swashplate, recommend installing the linkage ball at the illustration location on servo horn.
為了十字盤動作有足夠行程與反應速度，伺服器臂安裝建議球頭裝於圖示最佳距距。

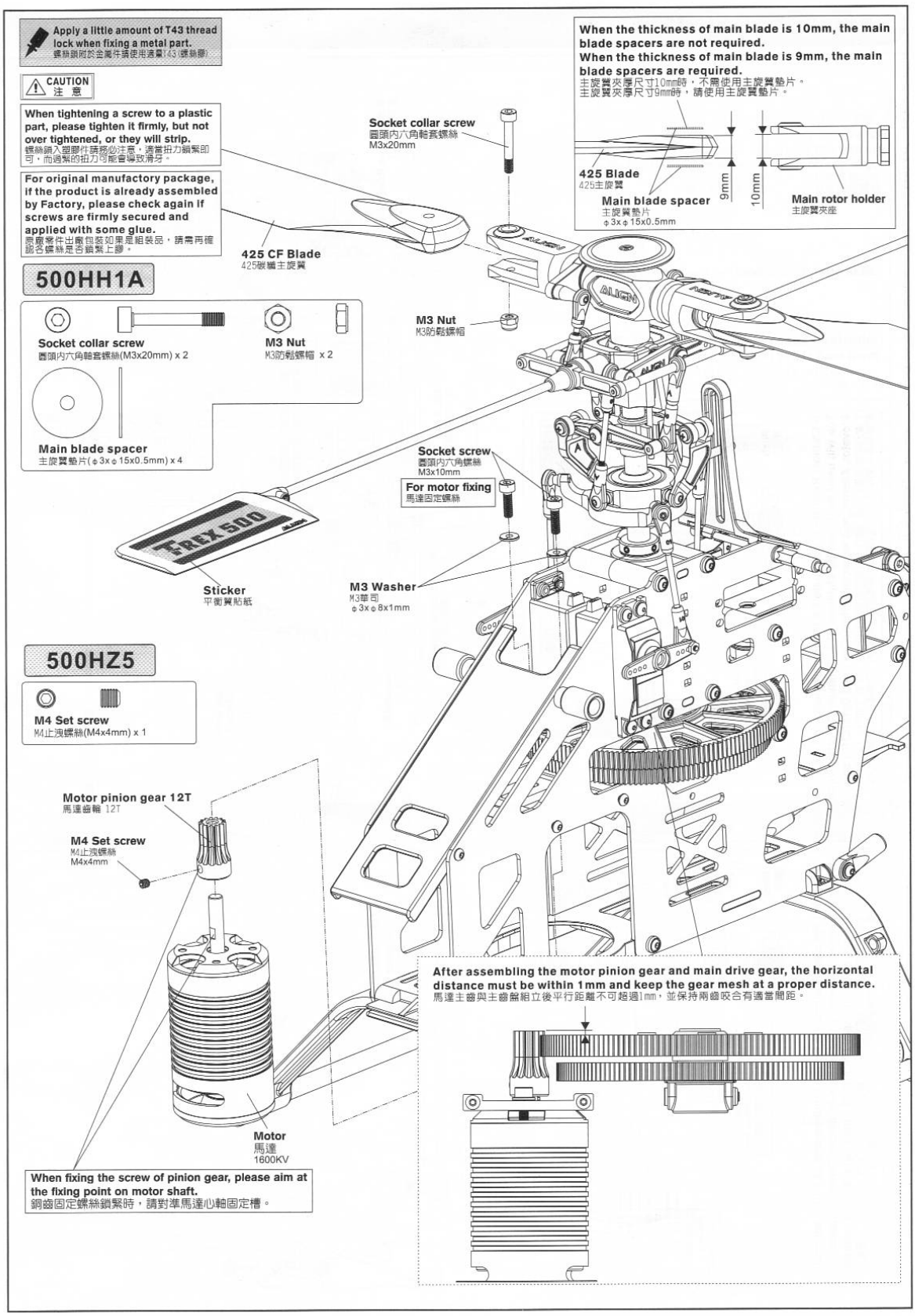




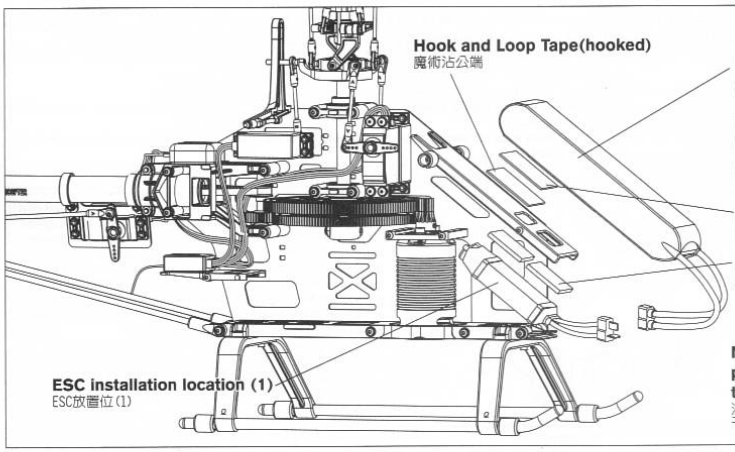








7.BRUSHLESS SPEED CONTROLLER INSTALLTION SUGGESTION ESC無刷調速器安裝建議位置



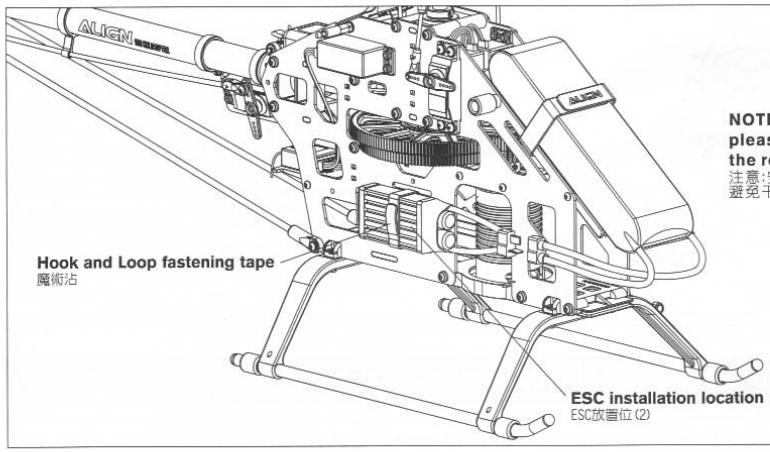
Installation Method (1) 安裝方式(1)

Use attached Hoop and Loop Tape, tape the Hoop side (hooked) on the battery mounting plate and the Loop side (fuzzy) on the battery to fix the battery in order to prevent any slip.
以附贈的魔術沾膠帶，將公端的魔術沾(勾狀)黏貼於電池座上，母端的魔術沾(纖毛狀)黏貼於電池上，可有效固定電池避免滑動。

Hook and Loop Tape(fuzzy)
魔術沾母端

Use Adhesive foam or Hoop & Loop tape to fix.
以泡棉雙面膠或魔術沾固定。

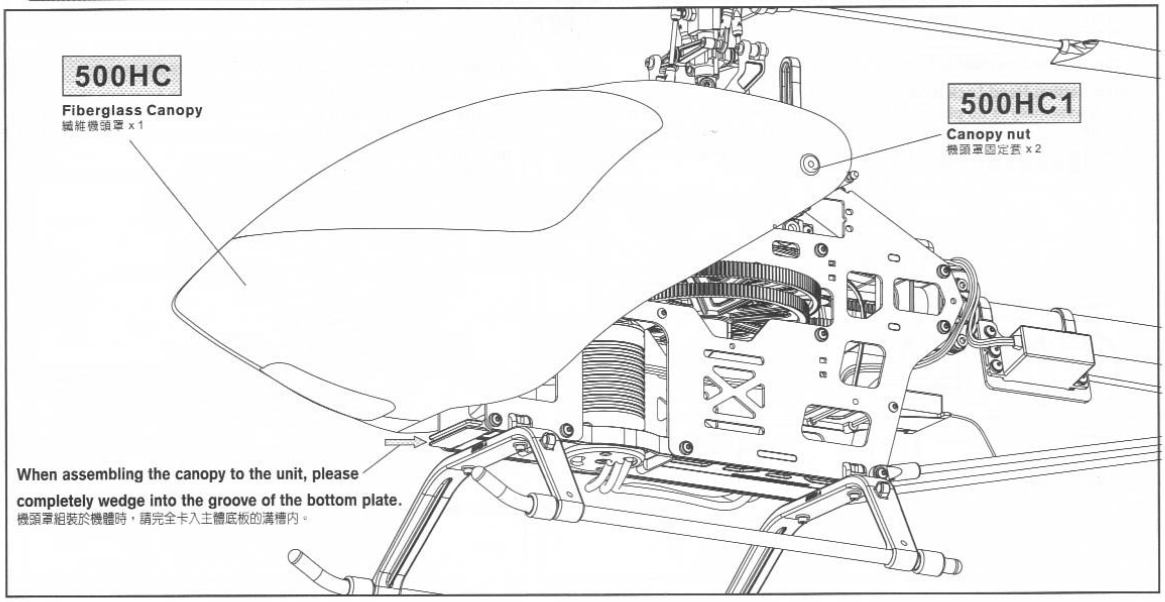
NOTE: When installing the speed controller, please keep a distance of at least 5cm from the receiver to avoid any interference.
注意:安裝ESC時請與接收器保持至少5cm以上的距離，避免干擾接收器。



Installation Method (2) 安裝方式(2)

NOTE: When installing the speed controller, please keep a distance of at least 5cm from the receiver to avoid any interference.
注意:安裝ESC時請與接收器保持至少5cm以上的距離，避免干擾接收器。

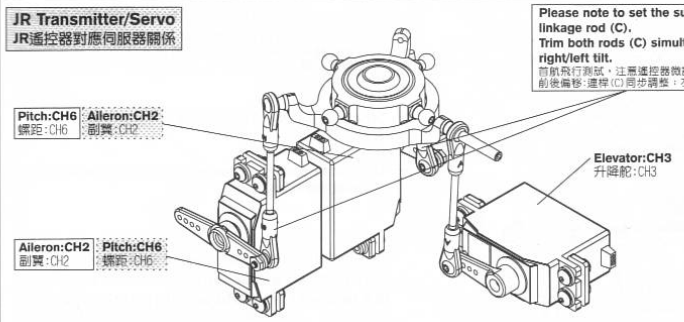
8.CANOPY ASSEMBLY 機頭罩安裝



9.SERVO SETTING AND ADJUSTMENT 伺服器設定與調整

To set this option is to turn on the transmitter and connect to the helicopter power. Note: For the safety, please do not connect ESC to the brushless motor before the setting in order to prevent any accident caused by the motor running during the setting.
此項設定只要開啓發射器，接上直昇機電源即可進行操作。注意：為了安全起見，設定前請先不要將無刷調速器與無刷馬達的三條線接上，以免調整時啓動馬達而發生危險。

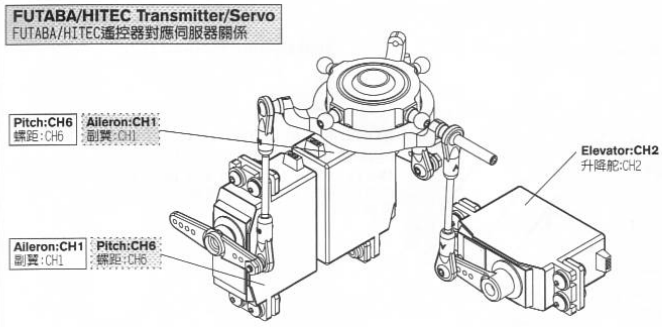
JR Transmitter/Servo
JR遙控器對應伺服器關係



Please note to set the subtrim neutral for the first trial flight. If the helicopter wags, please trim linkage rod (C).
Trim both rods (C) simultaneously to adjust for forward/backward tilt. Trim rod (C) separately for right/left tilt.
首航飛行測試，注意遙控器微調均設定中立點，若發現飛行時，機身前後左右偏移，請先調整遙桿(C)
前後偏移:遙桿(C)同步調整；左右偏移:遙桿(C)單獨調整為標準。

Positions of CH2、CH6 are exchangeable, After assembling as photo (Note:Set the transmitter under CCPM 120 degrees mode), pull throttle stick (pitch) upward. If one swashplate servo (or two servos) moves downward, adjust reverse switch (REV) on the transmitter to make it moves upward. If three servo move downward, adjust the travel value (+-) of SWASH CH6 on the transmitter to make them move upward. When the actions of Aileron and Elevator are opposite, adjust travel values of SWASH CH2 and CH3.
CH2、CH6可互換配置，依圖連結後(注意:遙控器須設定於CCPM 120°斗字盤模式)，將油門搖桿(Pitch)往上推，若十字盤伺服器有1個或2個往下移時，請調整遙控器的反轉開關(REV)使伺服器往上，若3個伺服器同時往下移時，請調整遙控器 SWASH CH6 行程量的正負值，使伺服器同時往上平移，副翼與前後動作相反時，同樣調整 SWASH CH2、CH3 行程量正負值。

FUTABA/HITEC Transmitter/Servo
FUTABA/HITEC遙控器對應伺服器關係



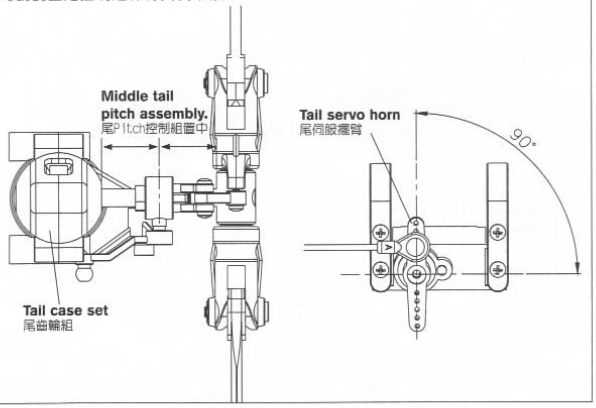
Positions of CH1、CH6 are exchangeable, After assembling as photo (Note:Set the transmitter under CCPM 120 degrees mode), pull throttle stick (pitch) upward. If one swashplate servo (or two servos) moves downward, adjust reverse switch (REV) on the transmitter to make it moves upward. If three servo move downward, adjust the travel value (+-) of SWASH CH6 on the transmitter to make them move upward. When the actions of Aileron and Elevator are opposite, adjust travel values of SWASH CH1 and CH2.
CH1、CH6可互換配置，依圖連結後(注意:遙控器須設定於CCPM 120°斗字盤模式)，將油門搖桿(Pitch)往上推，若十字盤伺服器有1個或2個往下移時，請調整遙控器的反轉開關(REV)使伺服器往上，若3個伺服器同時往下移時，請調整遙控器 SWASH CH6 行程量的正負值，使伺服器同時往上平移，副翼與前後動作相反時，同樣調整 SWASH CH1、CH2 行程量正負值。

10.ADJUSTMENTS FOR GYRO AND TAIL NEUTRAL SETTING 陀螺儀與尾翼中立點設定調整

Recommend to choose Head Lock type for Gyro and turn off Revolution mixing(RVMX) mode on the transmitter, then set the gain switch on the transmitter and the gyro to Head lock mode. The gain setting is about 70%, and after transmitter setting, connect to the helicopter power for working on tail neutral setting. Note: When connecting to the helicopter power, please do not touch tail rudder stickand the helicopter. Then wait for 3 seconds, make tail servo horn and tail servo at a right angle(90 degrees), tail pitch assembly must be correctly fixed about in the middle of the travel of tail rotor shaft for standard neutral setting.
陀螺儀選擇，建議選用鎖定式陀螺儀，且發射器內陀螺儀設定請關閉根軸混控模式，並將發射器上的感度開關與陀螺儀切至鎖定模式，感度設約 70% 左右，發射器設定完成後接上直昇機電源，即可進行尾中立點設置。注意:當接上直昇機電源時請勿撥動尾舵搖桿或碰觸機體，待3秒陀螺儀鎖定後尾伺服臂需與尾伺服器約成 90°，尾旋翼控制組須正確置於尾橫軸行程約中間位置，即為標準尾中立點設定。

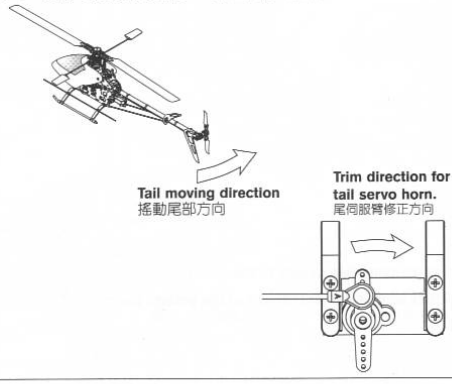
TAIL NEUTRAL SETTING 尾中立點設定

After setting Head Lock mode, correct setting position of tail servo and tail pitch assembly is as photo. If the tail pitch assembly is not in the middle position, please adjust the length of rudder control rod to trim.
陀螺儀鎖定後尾伺服器與尾 Pitch控制組正確擺置位置。若尾 Pitch控制組未置中時請調整尾控制連桿的長度來修正。

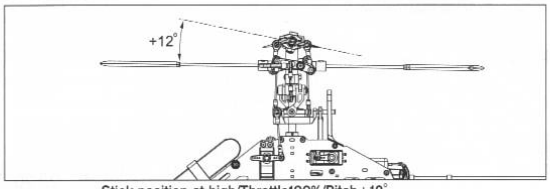


HEAD LOCK DIRECTION SETTING OF GYRO 陀螺儀鎖定方向設定

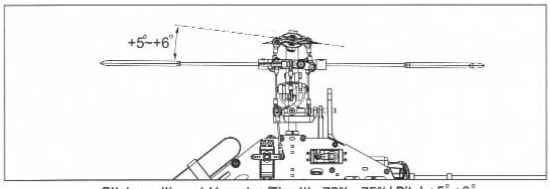
To check the head lock direction of gyro is to move the tail counterclockwise and the tail servo horn will be trimmed clockwise. If it trims in the reverse direction, please switch the gyro to"REVERSE".
陀螺儀鎖定方向確認，當手搖尾部反時鐘擺動，尾伺服臂應順時鐘修正，反向時請切換陀螺儀上"鎖定反向"開關修正。



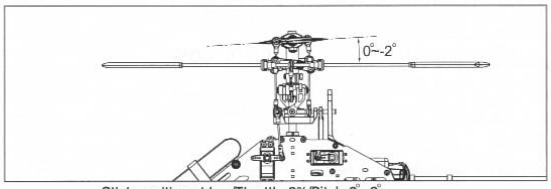
GENERAL FLIGHT 一般飛行模式



Stick position at high/Throttle100%/Pitch+12°
搖桿高速/油門100%/Pitch+12°



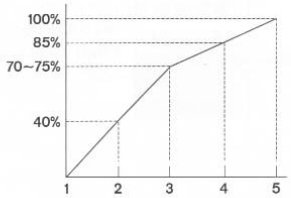
Stick position at Hovering/Throttle 70%~75%/ Pitch+5°~+6°
搖桿停懸/油門70%~75%/Pitch+5°~+6°



Stick position at low/Throttle 0%/Pitch-2°~0°
搖桿低速/油門0%/Pitch-2°~0°

GENERAL FLIGHT
一般飛行模式

	Throttle 油門	Pitch 螺距
5	100%High speed 100%高速	+12°
4	85%	
3	70%~75%Hovering 70%-75%停懸	+5°~+6°
2	40%	
1	0% Low speed 0%低速	-2°~0°

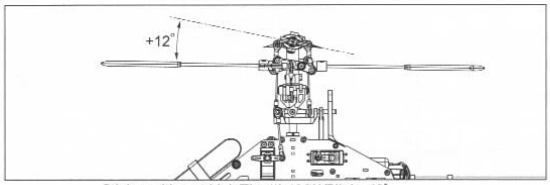


Throttle Curve(Hovering Fight)
停懸模式油門曲線

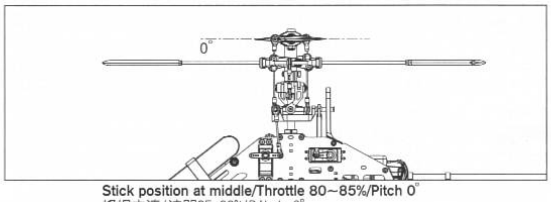
Pitch and Rotation Speed Pitch與轉速關係

TIP:It is recommended to use a lower pitch setting when using higher RPM\Head speed. This will allow for better power.
搭配要領:如果使用較高轉速馬達動力建議搭配調低 Pitch，將獲得較佳動力效能。

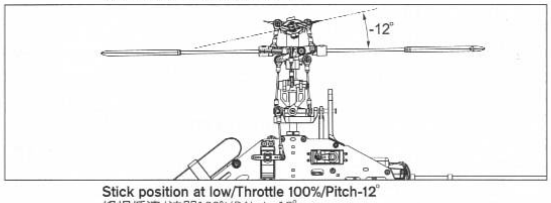
3D FLIGHT 3D特技飛行模式



Stick position at high/Throttle100%/Pitch+12°
搖桿高速/油門100%/Pitch+12°



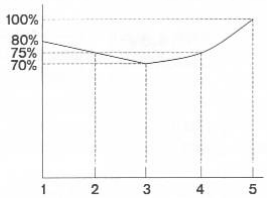
Stick position at middle/Throttle 80~85%/Pitch 0°
搖桿中速/油門85-90%/Pitch 0°



Stick position at low/Throttle 100%/Pitch-12°
搖桿低速/油門100%/Pitch-12°

IDLE 1:SPORT FLIGHT

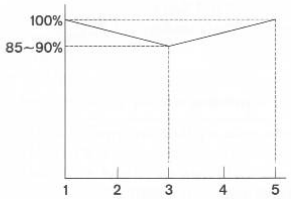
	Throttle 油門	Pitch 螺距
5	100%	+12°
4	75%	
3	70%	+5°~+6°
2	75%	
1	80%	-5°~-6°



Throttle Curve(Simple Aerobatic Flight)
空中飛行模式油門曲線

IDLE 2:3D FLIGHT

	Throttle 油門	Pitch 螺距
5	100% High 100%高	+12°
3	85~90% Middle 85~90%中	0°
1	100% Low 100%低	-12°



Throttle Curve(3D Flight)
特技飛行模式油門曲線

CAUTION 注意

1. Pitch range: Approx. 29(±14.5)degrees.
2. If the pitch is set too high, it will result in shorter fight 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)總行程約 29°(±14.5)。
2.過大螺距設定，會導致動力與飛行時間降低。
3.動力提昇以較高轉速的設定方式，優於螺距調大的設定。

12.POWER COLLOCATION REFERENCE 原裝動力數據參考表

ALIGN

Motor Pinion Gear 馬達主齒	Li-Po 電池規格	Main Rotor Blade 主旋翼規格	Pitch 螺距		Current(A) approx. 電流(A)大約值	Throttle Curve 油門曲線	RPM approx. 主旋翼轉速大約值
12T Suitable for elementary/ intermediate hovering, general 3D flight. 初中階、停懸及一般3D飛行適用	6S 22.2V (2100mAh)	425 Carbon Fiber Blades 425碳纖主旋翼	Hover 停懸	+5°	11	0/50/70/85/100%	2150
			Idle 1	+12°	30	80/70/100%	2450
				+5°	10		2020
				-5°	13		2260
			Idle 2	0°	11.5	85%Middle中	2500
				0°	15	100/100/100/100/100%	⚠ 2690
				±12°	30		2450
13T Suitable for Advanced 3D flight. 高階3D飛行適用	6S 22.2V (2500mAh)	425 Carbon Fiber Blades 425碳纖主旋翼	Hover 停懸	+5°	11.5	0/50/70/85/100%	2220
			Idle 1	+12°	34	80/70/100%	2550
				+5°	11.5		2080
				-5°	14		2330
			Idle 2	0°	14.5	85%Middle中	2630
				0°	17	100/100/100/100/100%	⚠ 2840
				±12°	34		2550
14T	5S 18.5V (2700mAh)	425 Carbon Fiber Blades 425碳纖主旋翼	Hover 停懸	+5°	13	0/60/80/90/100%	2400
			Idle 1	+12°	34.6	80/70/100%	2380
				+5°	11		1950
				-5°	14		2208
			Idle 2	0°	12.7	85%Middle中	2430
				0°	14.8	100/100/100/100/100%	2650
				±12°	34.6		2380
15T	5S 18.5V (2700mAh)	425 Carbon Fiber Blades 425碳纖主旋翼	Hover 停懸	+5°	14	100/60/80/90/100%	2400
			Idle 1	+12°	40	80/70/100%	2440
				+5°	12		2020
				-5°	15.5		2295
			Idle 2	0°	14.5	85%Middle中	2560
				0°	18.5	100/100/100/100/100%	⚠ 2760
				±12°	40		2440
16T	4S 14.8V (3200mAh)	425 Carbon Fiber Blades 425碳纖主旋翼	Hover 停懸	+5°	13.5	0/50/75/85/100%	1940
			Idle 1	±12°	35.5	80/70/100%	2110
				+5°	12		1720
				-5°	15.5		1940
			Idle 2	0°	11.5	85%Middle中	2200
				0°	14.5	100/100/100/100/100%	2410
				±12°	35.5		2110
17T	4S 14.8V (3200mAh)	425 Carbon Fiber Blades 425碳纖主旋翼	Hover 停懸	+5°	14.5	0/50/75/85/100%	1940
			Idle 1	+12°	36	80/70/100%	2080
				+5°	12.5		1770
				-5°	16.5		1998
			Idle 2	0°	12.5		2260
				0°	15.5	100/100/100/100/100%	2480
				±12°	36		2150
18T	4S 14.8V (3200mAh)	425 Carbon Fiber Blades 425碳纖主旋翼	Hover 停懸	+5°	14	0/50/75/85/100%	1880
			Idle 1	+12°	38.5	80/70/100%	2100
				+5°	13.7		1820
				-5°	18		2040
			Idle 2	0°	13.5	85%Middle中	2330
				0°	16.5	100/100/100/100/100%	2550
				±12°	38.5		2200

NOTE: 1. Please use a pitch gauge to adjust the pitch value. Incorrect excess pitch setting will result poor helicopter performance and reduce ESC's life and battery's life.

⚠2. For the safeties of flight and helicopter structure, please do not equip the power of main blade over 2650 RPM.

註:1.請務必使用螺距規來量測調整螺距，不正確的過大螺距設定不但無法發揮直昇機的特性，反會影響到無刷調速器與電池的壽命。

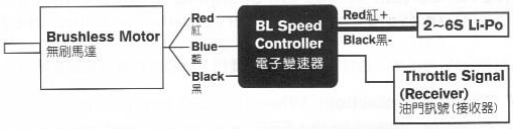
⚠2.為了飛行安全與機體結構安全，主旋翼轉速設定禁止超過2650RPM。

PRODUCT FEATURES 產品特色

1. 5-6V step-less adjustable BEC output allowing custom voltage setting to match servo specification.
2. BEC output utilizing switching power system, suitable for 7.4-22.2V (2s-6s) Li battery, with continuous current rating of 3A, and burst rating of 5A.
3. Three programmable throttle speed settings to support quick throttle response.
4. Include soft start and governor mode.
5. Small and compact PCB design for lightweight and simple installation.
6. Large heat sink for optimum thermal performance.
7. Highly compatible to work with 98% of all brushless motors currently on the market.
8. Ultra-smooth motor start designed to run with all kinds of brushless motors.
9. The power inlet utilizes a Japanese made "Low ESR" capacitor in order to provide stable power source.
10. The throttle has more than 200 step resolution that provides great throttle response and control.

1.5~6伏特無段可調式BEC輸出，可依伺服器規格與所需的特性自行設定電壓。
2.BEC輸入端採用交換式電源設計，適用7.4~22.2V(2S~6S)鋰電，持續耐電流3A，瞬間5A。
3.三段可程式油門反應速度，使動力的反應隨傳隨到。
4.具緩啓動及Govener Mode定速功能。
5.體積小，窄型設計，安裝於機身容易。
6.有散熱片設計，可延長電變壽命。
7.超高相容性，可對應市面上 98% 無碳刷馬達。
8.絕佳起步設計，無論國產、進口、內轉、外轉無刷馬達皆起步順暢。
9.電池電源端採用日製 Low ESR 低阻抗電解電容，大幅提高電源之穩定性。
10.油門達 200 段以上解析度，無格數之油門感覺。

WIRING ILLUSTRATION接線示意圖



SPECIFICATION 規格

Model 型號	Continuous Current 持續	Peak Current 瞬間	BEC Output BEC輸出	Dimension 尺寸	Weight 重量
RCE-BL60G	60A	70A	Output voltage: 5-6V step-less adjustment Continuous current 3A; Burst current 5A 輸出電壓:5~6V無段可調式 承受電流:持續3A、瞬間5A	65x28x12mm	55g

1. Good temperature situation for working at the maximum current
2. Supporting motor types: 2 ~10 pole in/outrunner brushless motors.
3. Supporting maximum RPM: 2 pole → 190,000 rpm ; 6 pole → 630,000 rpm.
4. Input voltage: 5.5V ~ 25.2V(2~6S Li-Po)

NOTE: 1. When setting to the Quick throttle response speed, the accelerative peak current will increase.
2. To minimize possible radio interference induced by switching power system, BEC should be installed at least 5cm away from the receiver. The use of PCM receiver is recommended.

1.持續最大電流需在機體散熱良好情況下。
2.支援馬達型式:二極至十數極之內外轉子無碳刷馬達。
3.支援最高轉速:二極→190,000rpm;六極→63,000rpm。
4.輸入電壓:5.5V~25.2V(2~6s Li-Po)
注意:1.設定為高油門反應速度時，加速瞬間電流會有增大情形。
2.內建Switching BEC，安裝時請與接收器保持至少5cm以上的距離以避免干擾接收器(建議使用較穩定的PCM系統接收器)。

FUNCTIONS 產品功能

1. Brake Option - 3 settings that include Brake disabled/Soft brake/Hard brake.
2. Electronic Timing Option - 3 settings that include Low timing/Mid timing/High timing. Generally, 2 pole motors are recommended to use low timing, while 6 or more poles should use Mid timing. High timing gives more power at the expense of efficiency. Always check the current draw after changing the timing in order to prevent overloading of battery.
3. Battery Protection Option- 2 settings that include Li-ion, Li-poly High/Middle cutoff voltage protection.
   The default setting is high cutoff voltage protection. CPU will automatically determine cell number of input Lithium battery (2S~6S). This option will prevent over-discharge of the battery. The following reference is the guideline for setting the Battery Protection option.
   3-1 Li-ion/Li-poly High cutoff voltage protection-When the voltage of single cell drops to 3.2V, the first step of battery protection mode will be engaged by the ESC resulting in reduced power. The pilot should reduce the throttle and prepare landing. If the voltage of single cell drops to 3.0V, the second step of battery protection mode will be engaged resulting in power cutoff. (*Note 1) For 11.1V/3cells Lithium battery, the full charged voltage will be approximately 12.6V. According to this input voltage, CPU will determine that this is a 3cell battery.
   First step protection: 3.2V x 3cell=9.6V
   Second step protection: 3.0V x 3cell= 9.0V
   When the voltage drops to 9.6V, the power will be reduced. When the voltage drops to 9.0V, the power will be cut off.
   3-2 Li-ion/Li-poly Middle cutoff voltage protection- This option is same as instruction 3-1, but when the voltage of single cell drops to 3.0V, the first step of battery protection will be engaged. When the voltage of single cell drops to 2.8V, the second step of battery protection will be engaged. (*Note 1)
   Note 1: Second step of battery protection only works when Aircraft mode is setting to the option 4-1.
   NOTE: THIS OPTION IS ONLY SUITABLE FOR A FULLY CHARGED BATTERY PACK IN GOOD WORKING CONDITION.
4. Aircraft Option: 3 settings that include Normal Airplane / Helicopter 1 / Helicopter 2.
   Normal Airplane Mode is used for general airplanes and gliders. When flying Helicopters, you can choose Helicopter 1 Mode, or Helicopter 2 Mode. Helicopter 1 Mode provides Soft Start feature. Helicopter 2 Mode provides Soft Start and Governor Mode.
5. Throttle response speed: 3 settings that include standard/ Medium/ Quick throttle response speed.
   The default setting is "quick speed". Use this option to adjust the setting according to flight character. For example, setting at Medium or Quick speed for 3D and powerful flight to make the power response more quickly, but note the accelerative peak current and power expense will increase.

6.BEC output voltage setting: 5-6V step-less adjustment.

This option allows custom voltage setting. Default setting is 5.5V; please adjust the voltage according to the specification of the servo (speed and resistance). Prior to entering the setup mode, a voltmeter needs to be connected to the power inlet of the receiver (as illustration) to monitor the selected voltage. The voltage is set by varying the throttle stick position from low (5V) to high (6V).

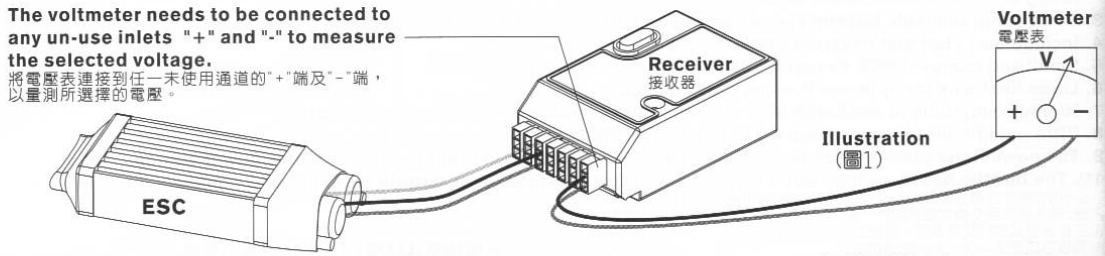


Illustration (圖1)

NOTE: Certain servos are designed to work with high voltage, while other servos are designed for lower voltage. To avoid damage to servos, please follow the servo's factory specification to determine the proper voltage setting.

注意:部份伺服器不適合較高的電壓下操作，請依原廠適用電壓規格設定，避免造成伺服器燒毀。

7. Thermal Protection: When the ESC temperature reaches 80°C for any reason, it will engage the battery protection circuit, reducing power to the ESC. We recommend mounting the ESC in a location with adequate air flow and ventilation.

8. Safe Power On Alarm: When the operator turns on the ESC, it will automatically detect the transmitter signal. The ESC will emit a confirmation tone and enter normal operation mode if the throttle is set to the lowest position. If the throttle position is at full throttle, it will begin to enter Setup Mode. If the throttle is in any other position, the ESC will emit an alarm and not enter into user mode for safety precautions.

9. Aircraft Locator: If the aircraft should land or crash in an unexpected location and become lost, the pilot can enable the Aircraft Locator Option. The Aircraft Locator Option is engaged by turning off the transmitter. When the ESC does not receive a signal from the transmitter for 30 seconds, it will start to send an alarm to the motor. The sound of the alarm will aid the pilot to locate the aircraft. This option will not work with a PCM receiver that has SAVE function enabled, or with low noise resistant PPM receivers.

1.**煞車設定**:三段選擇分為無煞車 / 軟性煞車 / 急煞車

2.**進角設定**:三段選擇分為低進角 / 中進角 / 高進角
設定時機分為二極以及六極以上無碳刷馬達，二極無碳刷馬達一般適用低進角，若希望馬達轉速提高，可將進角設定為中進角。六極以上無碳刷馬達一般適用中進角，若希望馬達轉速提高，可將進角設定為高進角。然而進角之調整需要注意電流之變化，避免電池過載，影響電池及馬達壽命。

3.**電池保護電壓設定**:二段選擇分為 Li-Ion、Li-Po 高截止電壓保護/中截止電壓保護
出廠設定為高截止電壓保護：此功能會自動判定所輸入鋰電池的cell數(2~6S)，並提供使用者對該電池之放電保護，以避免因放電電壓過低而造成電池損壞，以下為設定值之解說：
3-1 Li-Ion/Li-Po高截止電壓保護：當鋰電單cell壓降達3.2V時，電變會啓動第一階段保護，使動力間歇性中斷，此時使用者應將油門收小，準備降落；而當單cell電壓持續壓降達到3.0V時則會啓動第二階段保護，完全限制動力輸出(註1:僅在4-1選項"一般飛機模式"下才會啓動第二階段保護)。
例:以一個使用11.1V 3cell鋰電池之系統而言11.1V鋰電池充飽電壓約12.6V，此輸入電壓CPU會自動判定為3cell鋰電。
第一階段保護:3.2Vx3cell=9.6V 第二階段保護:3.0Vx3cell=9.0V 當電壓降至9.6V時，動力會間歇性中斷，當壓降達到9.0V時則完全限制動力輸出。
3-2 Li-Ion/Li-Po中截止電壓保護:同3-1功能說明，但單cell壓降達到3.0V時，會啓動第一階段保護，單cell壓降達到2.8V時啓動第二階段保護(註1)。
注意:以上功能僅適用於充飽電，且功能正常的鋰電池。

4.**飛機模式設定**:三段式選擇分為:一般飛機模式/直昇機模式1/直昇機模式2
使用於一般飛機或滑翔機時，請設定於一般飛機模式，使用於直昇機時可選擇直昇機模式1：具有緩啓動功能，或直昇機模式2:具有緩啓動及Govener Mode定速功能。

5.**油門反應速度設定**:三段選擇分為標準/中速/快速
出廠設定值為"快速"油門反應速度，此功能提供使用者依所需的飛行特性來作適當的調整，例如3D飛機與劇烈的3D直昇機飛行時可設定為中速或快速，使動力反應更加快速、靈敏，但須注意提高油門反應速度時，加速瞬間電流與耗電量會有增大的情形。

6.**BEC輸出電壓設定**:5~6V無段調整
本功能提供使用者自行設定BEC輸出電壓，初始電壓為5.5V，使用者可依伺服器的規格與所需的特性(速度與扭力)自行更改設定；進入此項設定前，請先將電壓表連接到接收器的電源端(如圖1)，用以監看所選擇的電壓，設定時以油門搖桿的位置來決定輸出電壓，油門搖桿最低為5伏特，最高為6伏特，之間的電壓值可移動搖桿的位置任意設定。

7.**溫度保護**:當電變因不良之空氣對流或是過載輸出導致溫度上升達 80℃時，電變會啓動溫度保護，而使動力間歇性中斷，建議將電變裝置在機艙內空氣對流之位置，並實際使用電流表量測輸出電流，以達到電變之最佳效率。

8.**開機防暴衝提醒功能**:當使用者開啓電變電源時，系統會自動偵測發射機之設定，如果發射機油門未置於最低點，或未置於最高點準備進入設定模式，馬達將不會轉動，同時會有警示聲響提醒。

9.**尋機功能**:當飛機降若再長草區無法以目視定位時，使用者可將發射機關閉，當電變無法接收來自接收機信號時，電變會於三十秒後使馬達發出警示聲響，以利定位。此功能不適用於設定了 SAVE 功能之 PCM 接收機，或抗雜訊低之 PPM 接收機。

SETUP MODE 設定模式

1. Setup mode: Make sure to connect the ESC to the throttle channel of the receiver. Please refer to the user manual of your radio system. The second step is to connect the 3 power-out signal pins to the brushless motor.
Before you turn on the transmitter, please adjust the throttle stick to the maximum full throttle position. Proceed to connect the battery to the ESC. You will hear confirmation sounds as soon as you enter the SETUP MODE. Please refer the attached flow chart for details.

2. Throttle stick positions in Setup mode: Setup mode includes six settings: Brake, Electronic Timing, Battery Protection, Aircraft, Throttle Response Speed and BEC output voltage. Every setting has three options. Simply place the throttle stick in the highest, middle, and lowest positions for each setting. For example, first brake setting (Hard): move the stick to the highest position. Then timing setting (mid): move the throttle stick in the middle position.

1. **進入設定模式**:將電變與接收器之油門 Channel 連接，不同之遙控系統請參閱您遙控系統之使用手冊，馬達之三條線亦與電變連接，將發射器之油門搖桿推到最高點，便之於全油門狀態，先開啓發射器電源，再將電源連接至電變，進入設定模式後，馬達將有設定模式之提示聲響。請參考第二頁程式化設定模式說明。
2. **設定模式中之動作**:設定模式共含有六項設定，分別為煞車、馬達進角、電池保護、飛機模式、油門反應速度級 BEC 輸出電壓等設定，詳細內容請參考產品功能之解說。每一項設定中各含三段設定，各項設定以油門搖桿之上、中、下位置來決定其設定值。
例如:煞車設定時，油門搖桿撥至最高，則設定為急煞車，進入第二項進角設定時，油門搖桿撥至中間，則設定為中進角。

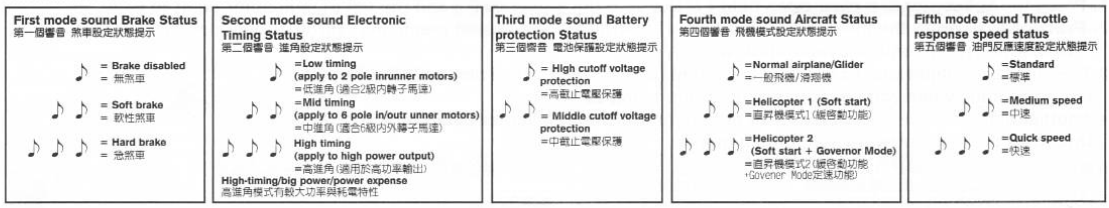
Mode 設定模式 / Throttle position 油門搖桿	Low 低	Middle 中	High 高
Brake 煞車設定	●**Brake disabled(1-1)** 無煞車 (1-1)	**Soft brake(1-2)** 軟性煞車 (1-2)	**Hard brake(1-3)** 急煞車 (1-3)
Electronic Timing 進角設定	**Low-timing(2-1)]** 低進角 (2-1)	●**Mid-timing(2-2)** 中進角 (2-2)	**High-timing(2-3)** 高進角 (2-3)
Battery Protection 電池保護電壓設定	●**High cutoff voltage protection(3-1)** 高截止電壓保護 (3-1)	**Middle cutoff voltage protection(3-2)** 中截止電壓保護 (3-2)	—
Aircraft 飛機模式設定	**Normal Airpane/Glider(4-1)** 一般飛機 / 滑翔機 (4-1)	●**Helicopter 1 (Soft Start)(4-2)** 直升機模式1 (緩啓動功能) (4-2)	**Helicopter 2 (Soft Start+ Governor Mode)(4-3)** 直升機模式2 (緩啓動+Govener Mode定速功能) (4-3)
Throttle response speed 油門反應速度設定	**Standard(5-1)** 標準 (5-1)	**Medium speed(5-2)** 中速 (5-2)	●**Quick speed(5-3)** 快速 (5-3)
BEC output voltage BEC輸出電壓設定	**5.0V**	●**5.5V**	**6.0V**

Note: "●" **default setting**
註: "●" 表示出廠設定值

Chart A
表A

SETUP INSTRUCTION 開機使用模式

SETUP INSTRUCTION 開機模式設定響音提示說明

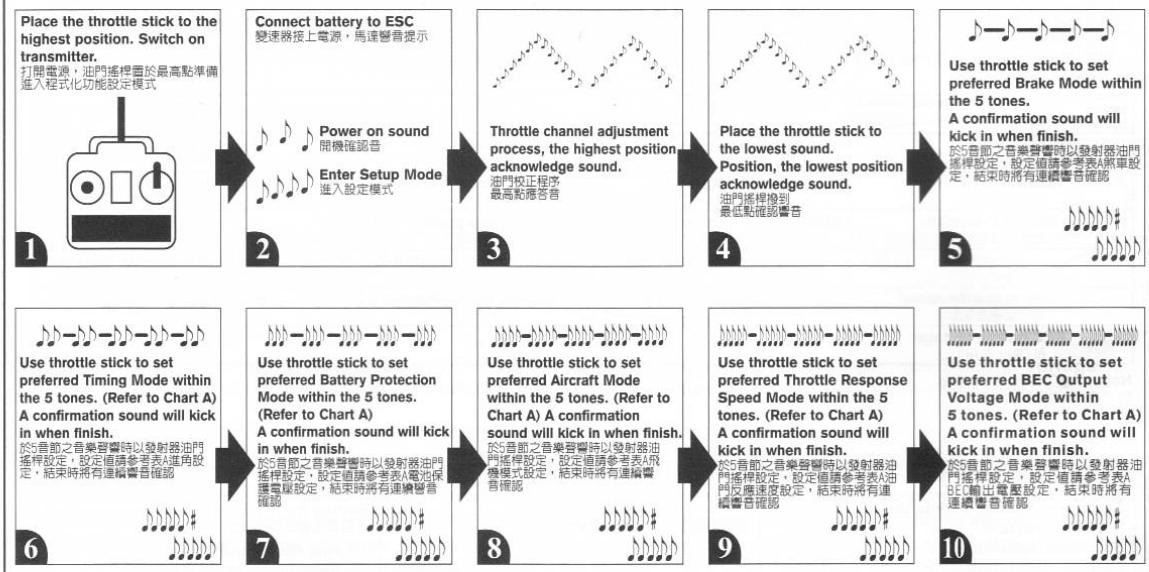


INSTRUCTIONS ON AIRCRAFT MODE SETTINGS 飛機模式設定使用說明

Normal Airplane/Glider Mode (Option 4-1):
This option is applied to general airplanes and gliders.
Helicopter 1 Mode (Option 4-2):
This option provides a soft start feature and is applied to Helicopters for Normal, Idle Up 1, or Idle Up 2 modes. Please note that the sensitivity of the gyro should be set lower when flying in Idle Up 1 or Idle Up 2 modes if tail hunting (wag) occurs due to higher rotor speed.
Helicopter 2 Mode (Option 4-3):
This option supports soft start as well as Governor Mode features and is applied to Helicopters for Idle Up 1 and Idle Up 2 modes(not suitable for Normal Flight Mode). When Governor Mode is in use, the throttle should be set between 75% and 85%. Again if tail wag occurs, lower the sensitivity of the gyro to eliminate the hunting effect. The Governor Mode may not work properly in cases of insufficient rotor speed (due to improper gear ratio), poor battery discharge capability, and improper setting of gyro sensitivity and the blade pitch, etc. Please make sure all the proper adjustments have been done when using Governor Mode.

一般飛機模式(選項4-1):適用於一般飛機及滑翔機。
直昇機模式1(選項4-2):具有緩啓動功能，適用於Normal、Idle1、Idle2等飛行模式，當切換至Idle1或Idle1
直昇機模式2(選項4-3):模式,如有較高轉速造成陀螺儀有輕微的追蹤現象，此時應將陀螺儀的感度設定分別降低。
具有緩啓動及Govener Mode定速功能，適用於Idle1、Idle2特技飛行模式(不適合Normal飛行模式下選用)，選擇定速功能時，油門應定速在75%~85%之間，如果飛行時發現有輕微的追蹤現象時，應降低陀螺儀的感度；由於轉速不足(齒比搭配不當)，電池效能不佳，陀螺儀感度設定不當，Pitch設定錯誤，皆會導致無法發揮定速的功能，甚至產生尾部偏擺的情形，所以選擇此模式時應針對相關條件進行確認。

SETUP MODE 程式化設定模式　**Minimum 4 channel radio is required** 四動以上標準發射器均可執行設定



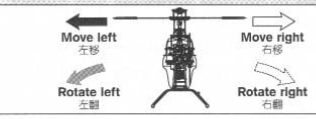
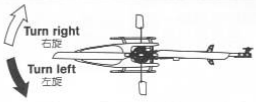
14.FLIGHT ADJUSTMENT AND SETTING 飛行動作調整與設定

PLEASE PRACTICE SIMULATION FLIGHT BEFORE REAL FLYING 飛行前請事先熟練模擬飛行

Do a simulation flight until you familiarize your fingers with the movements of the rudders, and keep practicing until the fingers move naturally.

1. **Place the helicopter in a clear open field (Make sure the power OFF) and the tail of helicopter point to yourself.**
2. **Practice to operate the throttle stick(as below illustration) and repeat practicing "Throttle high/low", "Aileron left/right", "Rudder left/right", and "Elevator up/down".**
3. **The simulation flight practice is very important, please keep practicing until the fingers move naturally when you hear operation orders being call out.**
4. **Another safe and effective practice method is to use the transmitter flying on the computer through simulator software sold on the market.**

在還沒瞭解直昇機各動作的操控方式前，嚴禁通電飛行，請先進行模擬飛行的練習，並不斷的重複，直到手指可熟練的控制各個動作及方向。
1.將直昇機放在空曠的地方(確認電源為關閉)，並將直昇機的機尾對準自己。
2.練習操作遙控器的各搖桿(各動作的操作方式如下圖)，並反覆練習油門高/低、副翼左/右、 升降舵前/後及方向舵左/右操作方式。
3.模擬飛行的練習相當重要，請重複練習直到不需思索，手指能自然隨著喊出的指令移動控制。
4.另外一種最有效、最安全的練習方式，就是透過市面販售的模擬軟體，以遙控器在電腦上模擬飛行，熟悉各種方向的操控。

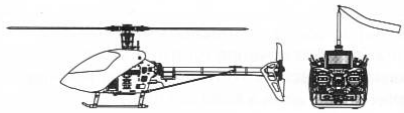
Mode 1	Mode 2	Illustration 圖示
	Aileron 副翼 	
	Elevator 升降/前後 	
	Throttle 油門 	
	Rudder 方向 	

FLIGHT ADJUSTMENT AND NOTICE FOR BEGINNERS 初學飛行調整與注意

CAUTION 注意

◎Check if the screws are firmly tightened.
◎Check if the transmitter and receivers are fully charged.
◎再次確認→螺絲是否鎖固?
◎發射器和接收器電池是否足夠。

★When arriving at the flying field.
★當抵達飛行場



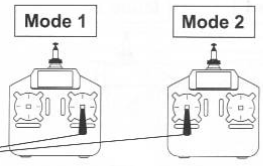
CAUTION 注意

If there are other radio control aircraft at the field, make sure to check their frequencies and tell them what frequency you are using. Frequency interference can cause your model, or other models to crash and increase the risk of danger.
假使飛行場有其他遙控飛機，請確認他們的頻率，並告知他們你正在使用的頻率，相同的頻率會造成干擾導致失控和大大地增加風險。

STARTING AND STOPPING THE MOTOR 啓動和停止馬達

CAUTION 注意

First check to make sure no one else is operating on the same frequency. Then place the throttle stick at lowest position and turn on the transmitter.
首先確認附近沒有其他相同頻率的使用，然後打開發射器將油門搖桿推到低點。



CAUTION 注意

Check if the throttle stick is set at the lowest position.
確認油門搖桿是在最低的位置。

★Check the movement.
★動作確認

ON! Step1
First turn on the transmitter.
先開啓發射器

◎Are the rudders moving according to the controls?
◎Follow the transmitter's instruction manual to do a range test.
◎方向舵是否隨著控制方向移動？
◎根據發射器說明書進行距離測試。

ON! Step2
Connect to the helicopter power
接上直昇機電源

OFF! Step3
Reverse the above orders to turn off.
關閉電源時請依上述操作動作反執行。

Main rotor adjustments 主旋翼雙槳平衡調整

CAUTION 注意

Tracking adjustment is very dangerous, so please keep away from the helicopter at a distance of at least 5m.
調整軌跡非常危險，請於距離飛機最少5公尺的距離。

1.Before adjusting, apply a red piece of tape on one blade, or paint a red stripe with a marker or paint to identify on blade.
2.Raise the throttle stick slowly and stop just before the helicopter lifts-off ground. Look at the spinning blades from the side of the helicopter.
3.Look at the path of the rotor carefully. If the two blades rotate in the same path, it does not need to adjustment. If one blade is higher or lower than the other blade, adjust the tracking immediately.
4.Linkage rod (A): Regular pitch trim (For large variations). Linkage rod (C): Slight pitch trim (For slight variations).

1.調整前先在其中一支主旋翼的翼端，貼上有顏色的貼紙或畫上顏色記號，方便雙槳調整辨識。
2.慢慢的推起油門搖桿到高點並且停止，在飛機離開地面前，從飛機側邊觀察主旋翼轉動。
3.仔細觀察旋翼軌跡(假如兩支旋翼移動都是相同軌跡，則不需要調整;可是如果一支旋翼較高或較低產生“雙槳”的情形時，則必須立刻調整軌跡)。
4.連桿(A)為一般螺距調整(雙槳翼大時使用)。連桿(C)為螺距微調調整(雙槳微幅差異時使用)。

A.When rotating, the blade with higher path means the pitch too big. Please lengthen pitch linkage rod (A) for regular trim or shorten linkage rod (C) for slight pitch trim.
B.When rotating, the blade with lower path means the pitch too small. Please shorten pitch linkage rod (A) for regular trim or lengthen linkage rod (C) for slight pitch trim.

A.旋翼轉動時較高軌跡的主旋翼表示螺距(PITCH)過大，請調長連桿(A)修正，或需要更小的螺距微調時，請調短連桿(C)修正。
B.旋翼轉動時較低軌跡的主旋翼表示羅距(PITCH)過小，請調短連桿(A)修正，或需要更小的螺距微調時，請調長連桿(C)修正。

CAUTION 注意

Incorrect tracking may cause vibrations. Please repeat adjusting the tracking to make sure the rotor is correctly aligned. After tracking adjustment, please check the pitch angle is approx. +5~6° when hovering.
不正確的旋翼軌跡會導致震動，請不斷重複調整軌跡，使旋翼軌跡精準正確。
在調整軌跡後，確認一下Pitch角度在停旋時應為大約+5-6°。

FLIGHT ADJUSTMENT AND NOTICE FOR BEGINNERS 初學飛行調整與注意

CAUTION 注意

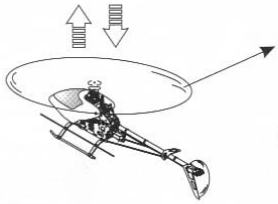
◎Make sure that no one or obstructions in the vicinity.
◎You must first practice hovering for flying safety. This is a basic flight action. (Hovering means keeping the helicopter in mid air in a fixed position)
◎確認鄰近地區沒有人和障礙物。
◎為了飛行安全，你必須先練習停旋，這是飛行動作的基礎（停旋:直昇機滯留空中並保持固定位置）。

◎Please stand approximately 5m diagonally behind the helicopter.
◎練習時，請站在直昇機後方5公尺。

Beginner may install a training landing gear to avoid any crash caused by offset effect while landing.
必要時初學者可以在腳架下方安裝練習架，可避免降落時因重心偏移導致主旋翼或直昇機損毀。

STEP 1 THROTTLE CONTROL PRACTICE 油門控制練習

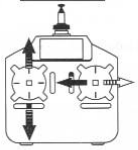
Mode 1 Mode 2

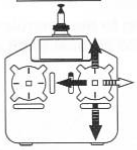


◎When the helicopter begins to lift-off the ground, slowly reduce the throttle to bring the helicopter back down. Keep practicing this action until you control the throttle smoothly.
◎當直昇機開始離地時，慢慢降低油門將飛機降下。持續練習飛機從地面上升和下降直到你覺得油門控制很順。

STEP 2 AILERON AND ELEVATOR CONTROL PRACTICE 副翼和升降控制練習

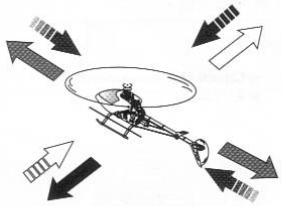
Mode 1 Mode 2





1.Raise the throttle stick slowly.
2.Move the helicopter in any direction back, forward, left and right, slowly move the aileron and elevator sticks in the opposite direction to fly back to its original position.

1.慢慢升起油門搖桿。
2.使直昇機依指示:移動向後/向前/向左/向右，慢慢的反向移動副翼和升降搖桿並將直昇機開回到原來位置。



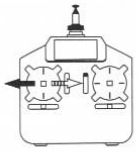
CAUTION 注意

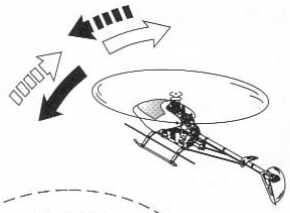
◎If the nose of the helicopter moves, please lower the throttle stick and land the helicopter. Then move your position diagonally behind the helicopter 5m and continue practicing.
◎If the helicopter flies too far away from you, please land the helicopter and move your position behind 5m and continue practicing.
◎當直昇機機頭偏移時，請降低油門並且降落，然後移動自己的位置到直昇機的正後方5公尺再繼續練習。
◎假如直昇機飛離你太遠，請先降落直昇機，並到直昇機後5公尺再繼續練習。

STEP 3 RUDDER CONTROL PRACTICING 方向舵操作練習

1.Slowly raise the throttle stick.
2.Move the nose of the helicopter to right or left, and then slowly move the rudder stick in the opposite direction to fly back to its original position.

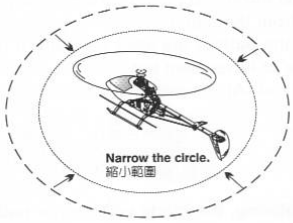
1.慢慢升起油門搖桿。
2.將直昇機機頭移動左或右，然後慢慢反向移動方向舵搖桿並將直昇機飛回原本位置。





STEP 4

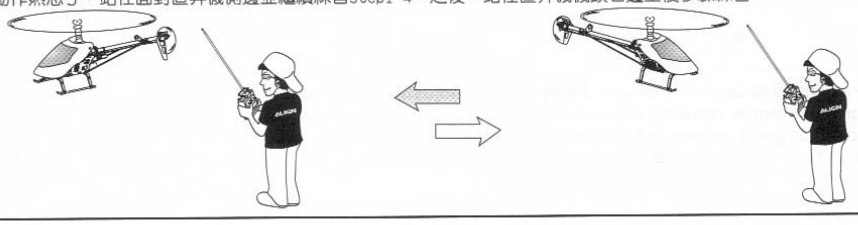
After you are familiar with all actions from Step1 to 3, draw a circle on the ground and practice within the circle to increase your accuracy.
當你覺得 step1-3 動作熟悉了，在地上畫圈圈並在這個圈圈的範圍內練習飛行，以增加你操控的準確度。



◎You can draw a smaller circle when you get more familiar with the actions.
◎當你更加習慣操作動作，你可以畫更小的圈圈。

STEP 5 DIRECTION CHANGE AND HOVERING PRACTICE 改變直昇機方向和練習停旋

After you are familiar with Step1 to 4, stand at side of the helicopter and continue practicing Step1 to 4. Then repeat the Step1 to 4 by standing right in front of the helicopter.
當你覺得step1-4動作熟悉了，站在面對直昇機側邊並繼續練習step1-4。之後，站在直昇機機頭右邊重複步驟練習。

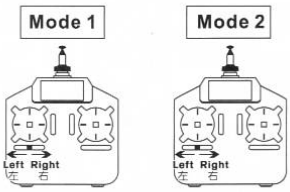


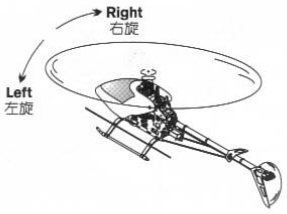
ADJUSTMENT OF EACH TRIM 飛行動作微調

Slowly raise the throttle stick and just as the helicopter lift-off the ground, you can use the trim to correct the action if the helicopter leans in a different direction.
慢慢升起油門搖桿，當直昇機剛剛離開地面時，若直昇機傾向不同方向，可使用微調修正動作。

1.Adjustment of rudder trim 調整方向舵微調

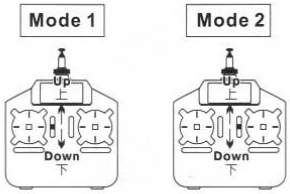
Just before the helicopter lift-off, the nose lean left/right...
When leans right, adjust the trim to left side.
When leans left, adjust the trim to right side.
在直昇機正要起飛時，機頭朝左/右方向偏移...
向右偏移時，微調向左調整。
向左偏移時，微調向右調整。

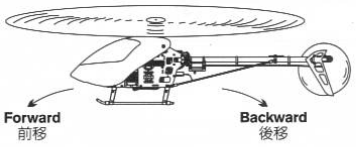




2.Adjustment of elevator trim 調整升降舵微調

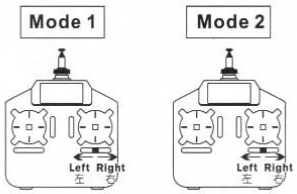
Just before the helicopter lift-off, the nose lean forward/backward...
When leans forward, adjust the trim down.
When leans backward, adjust the trim up.
在直昇機正要起飛時，機頭朝前/後方向偏移...
向前偏移時，微調向下調整。
向後偏移時，微調向上調整。

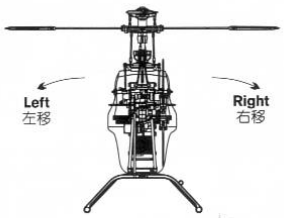




3.Adjustment of Aileron trim 調整副翼微調

Just before the helicopter lift-off, the body lean left/right...
When leans right, adjust the trim to left side.
When leans left, adjust the trim to right side.
在直昇機正要起飛時，機身朝左/右方向偏移...
向右偏移時，微調向左調整。
向左偏移時，微調向右調整。

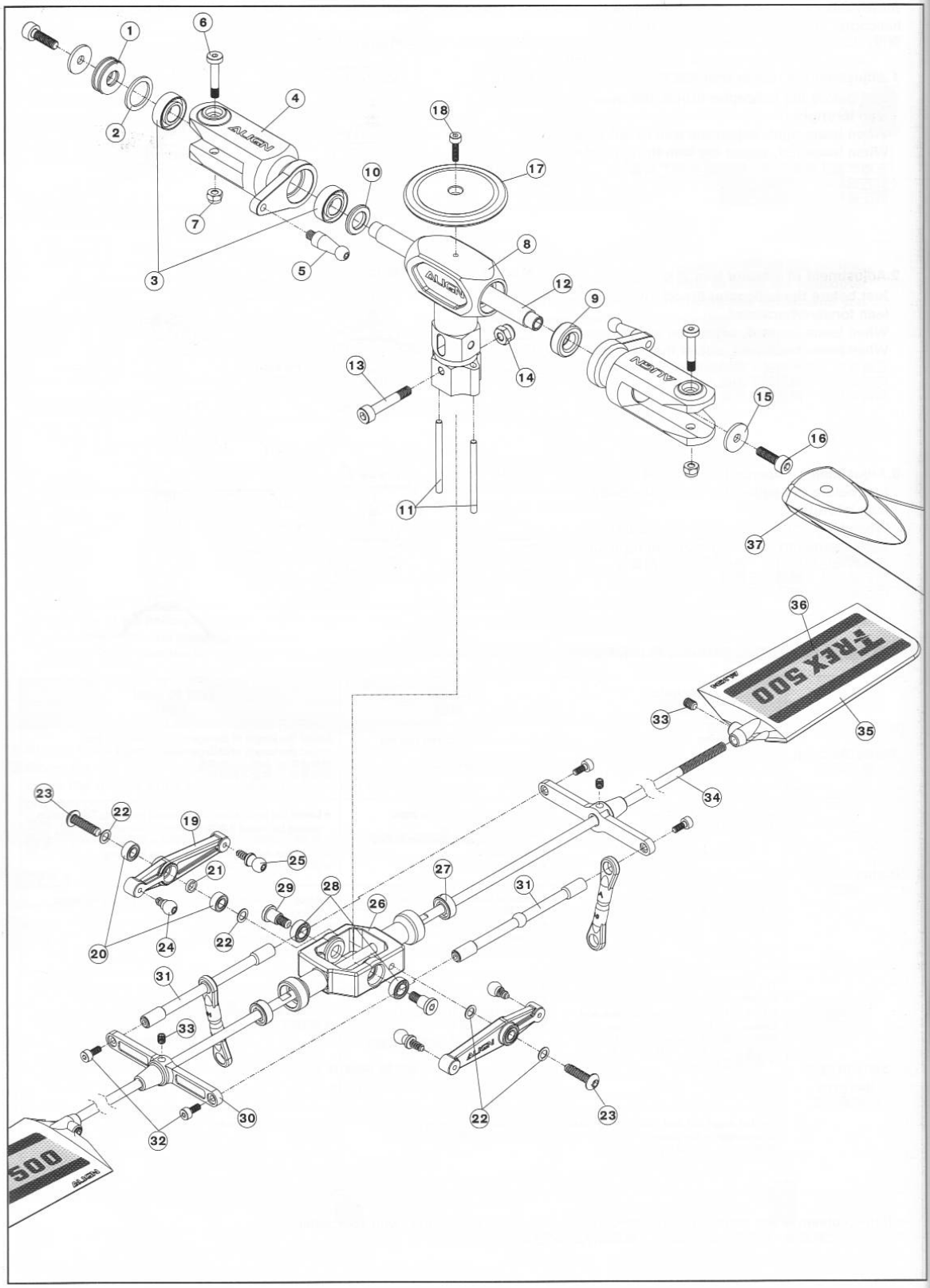




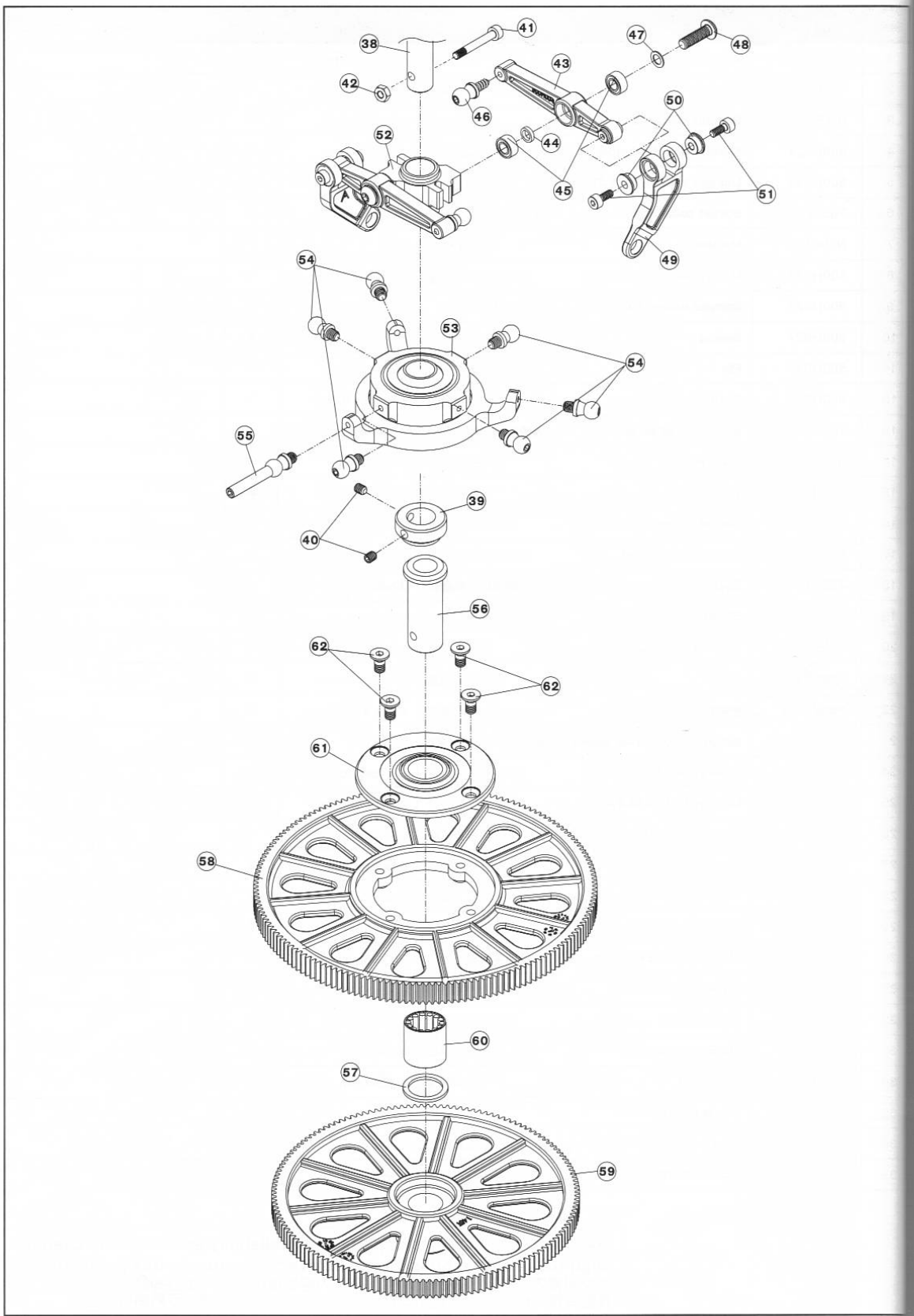
TROUBLE SHOOTING DURING FLIGHT 如何排除飛行中的狀況

	Situation 狀況	Cause 原因	Way to deal 對策
Blade Tracking 雙槳平衡	**Out of tracking** 雙槳	**Adjustment of pitch rod has not been done.** PITCH連桿長度調整不平均	**Adjust the length of linkage rod(A)→Regular trim** **Adjust the length of linkage rod(C)→Slight trim** 調整連桿(A)長度→一般調整 調整連桿(C)長度→微調整
During Hovering 停旋	**Low rotation of the rotor** 主旋翼轉速偏低	**★Pitch of main blade is high.** ★主旋翼的PITCH偏高 **★Throttle curve is too low during hovering.** ★停旋點油門曲線過低	**★Lower the pitch about 5~6°during hovering(The rotation should be about 2,000~2,200rpm during hovering).** ★調低Pitch停旋Pitch約5-6°(停旋時主旋翼需為約2000-2200rpm) **★Heighten the throttle curve during hovering.** ★調高停旋點油門曲線
	High rotation of the rotor 主旋翼轉速偏高	**★Pitch of main blade is low.** ★主旋翼的PITCH偏低 **★Throttle curve is too high during hovering.** ★停旋點油門曲線過高	**★Adjust the pitch rod(A)(The rotation should be about 2,000~2,200rpm during hovering).** ★調整連桿(A)(停旋時主旋翼需為約2000-2200RPM) **★Lower the throttle curve during hovering.** ★調低停旋點油門曲線
Sensitivity of the gyro 陀螺儀感度	**The tail leans to one side during hovering, or when trim the rudder and return to the neutral, the tail lags and cannot stay in a control position.** 停旋時尾翼向某一邊偏移，或撥動方向舵並回復到中立點時，尾翼產生延遲，無法停頓在所控制位置上。	**★Failure setting of tail neutral point.** ★尾中立點設定不當 **★The sensitivity of the gyro is low.** ★陀螺儀敏感度偏低	**★Reset tail neutral point.** ★重設尾中立點 **★Increase the sensitivity.** ★增加感度
	The tail wags left and right during flight at hovering or full speed. 停懸或全油門時尾翼左右來回搖擺。	**The sensitivity of the gyro is high.** 陀螺儀敏感度偏高	**Decrease the sensitivity.** 降低感度

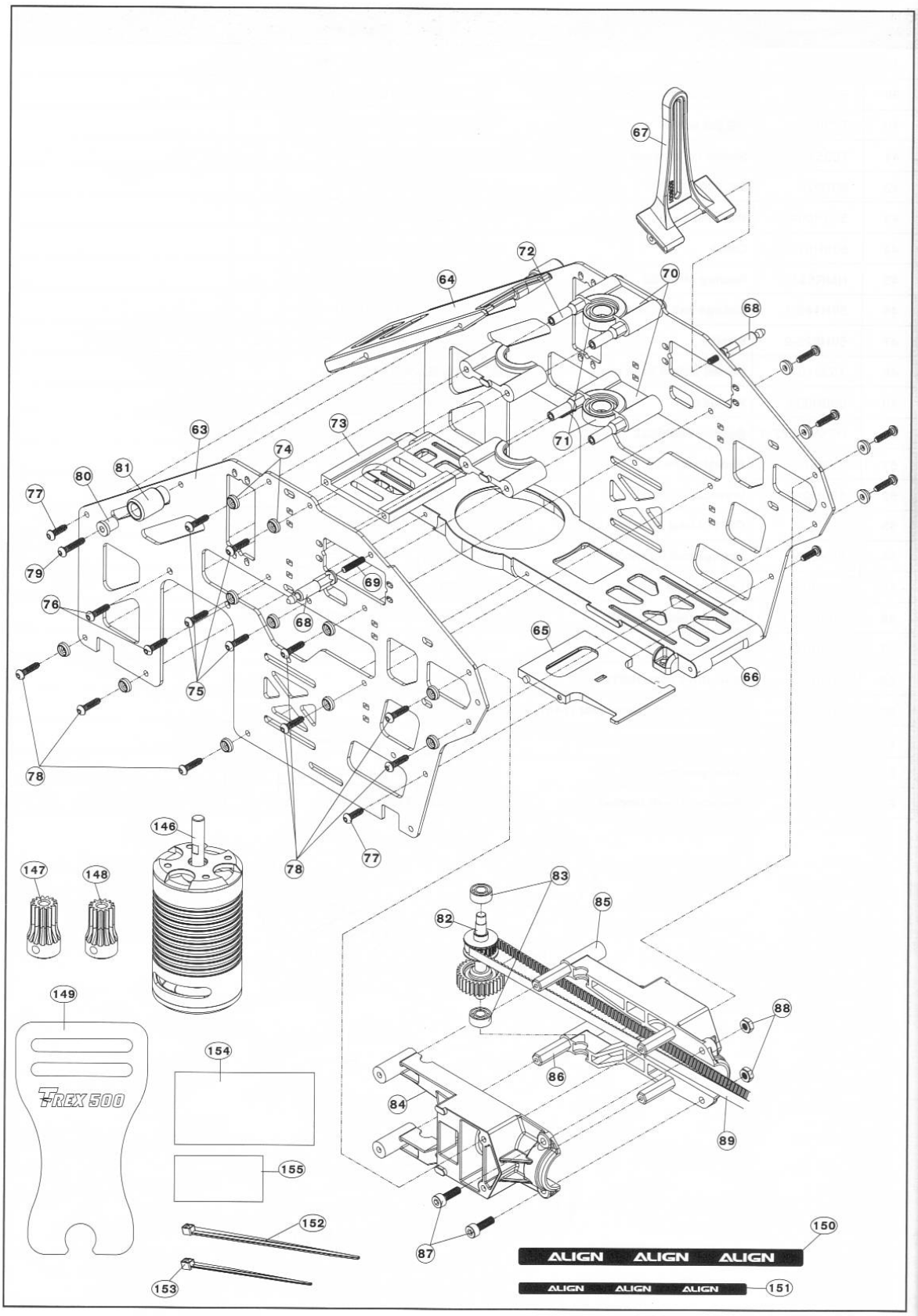
※If the problem is still there even after tried above, stop flying and contact with your seller.
※在做完以上調整後，仍然無法改善情況時，應立即停止飛行並連絡您的經銷商。



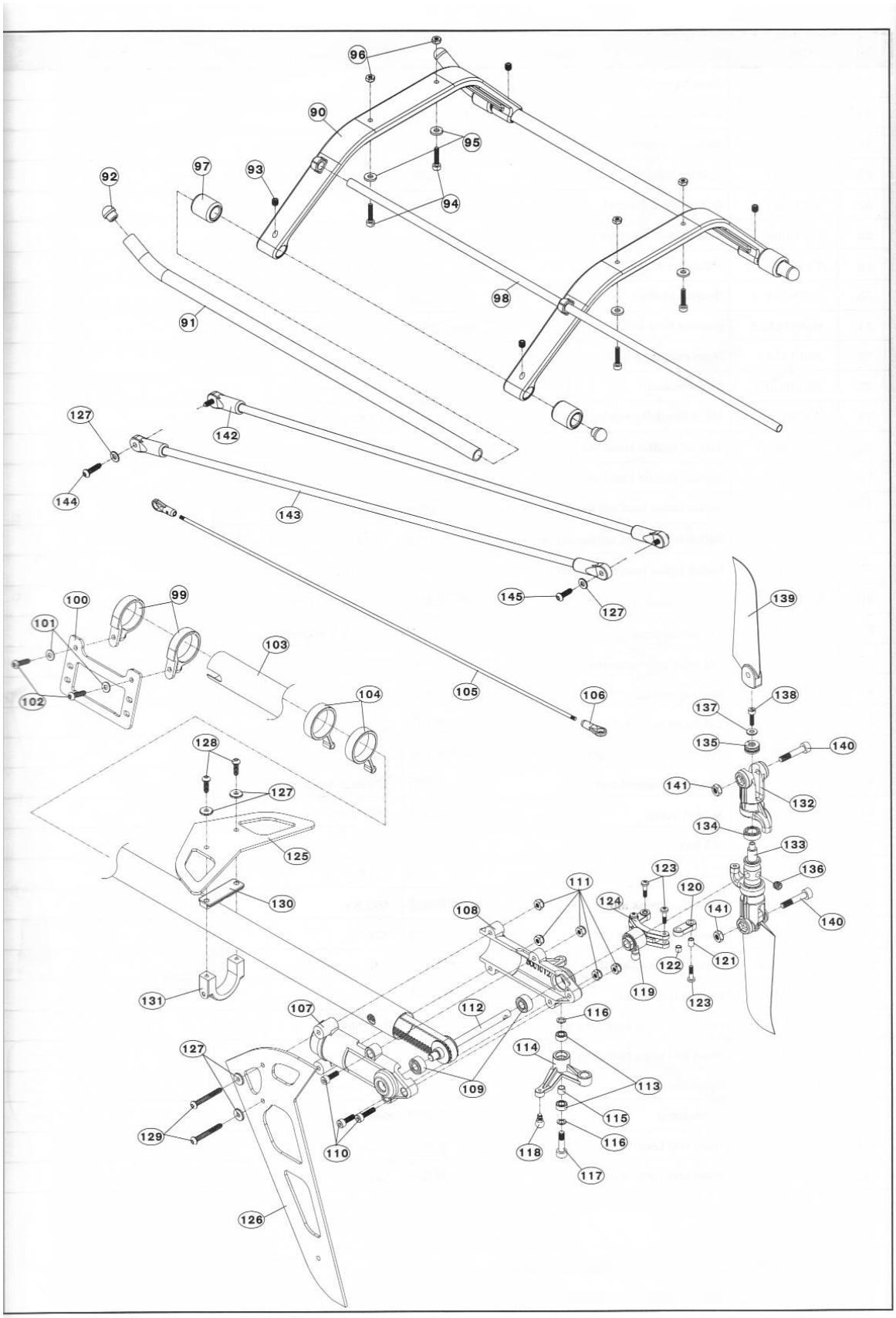
No.	Code No.	Name	Specification	Quantity	Remarks
1	HF512M	**Thrust bearing** 止推軸承	φ5xφ12x4mm	2	
2	500H025	**Washer** 華司	φ9xφ12x0.8mm	2	
3	HMR126ZZ	**Bearing MR126ZZ** MR126ZZ軸承	φ6xφ12x4mm	4	
4	500H024	**Metal main rotor holder** 金屬主旋翼夾座		2	
5	500H033	**Linkage ball D (M3x3.5)** 球頭D(M3x3.5)	φ4.75x17.5mm	2	
6	T63020	**Socket collar screw** 圓頭內六角軸套螺絲	M3x20mm	2	
7	N10030	**M3 Nut** M3防鬆螺帽	M3	2	
8	500H010	**Metal main rotor housing** 金屬主旋翼固定座		1	
9	500H028	**Damper rubber 80°** 橫軸墊圈-80°	φ5.9xφ11.1x4mm	2	
10	500H027	**Spacer** 橫軸套圈	φ6.1xφ10.5x1.5mm	2	
11	500H019	**Pin** 定位插梢	φ2x28mm	2	
12	500H011	**Feathering shaft** 橫軸	φ5xφ6x76.2mm	1	
13	T62519	**Socket collar screw** 圓頭內六角軸套螺絲	M2.5x19mm	1	
14	N10025	**M2.5 Nut** M2.5防鬆螺帽	M2.5	1	
15	500H026	**Washer** 橫軸華司	φ3xφ10x1mm	2	
16	T63010	**Socket screw** 圓頭內六角螺絲	M3x10mm	2	
17	500H009	**Metal head stopper** 金屬旋翼頭制動器	φ34x7mm	1	
18	T52008	**Socket screw** 圓頭內六角螺絲	M2x8mm	1	
19	500H003	**SF Mixing arm** SF控制搖臂	46.5x6mm	2	
20	HMR63ZZ	**Bearing MR63ZZ** MR63ZZ軸承	φ3xφ6x2.5mm	4	
21	500H018	**Collar** 擺臂軸承襯套	φ3xφ4.5x1mm	2	
22	50H022-2	**Washer** 華司	φ3xφ4.8x0.3mm	4	
23	S93012	**Socket button head self tapping screw** 半圓頭內六角自攻螺絲	T3x12mm	2	
24	50H144-1	**Linkage ball A (T2.6x3.5)** 球頭A(T2.6x3.5)	φ4.75x8.18mm	2	
25	50H145-1	**Linkage ball B (T2.6x5.5)** 球頭B(T2.6x5.5)	φ4.75x12.27mm	2	
26	500H002	**Flybar seesaw holder** 平衡桿固定座		1	
27	50TMR83ZZ	**Bearing MR83ZZ** MR83ZZ軸承	φ3xφ8x3mm	2	
28	HMR74ZZ	**Bearing MR74ZZ** MR74ZZ軸承	φ4xφ7x2.5mm	2	
29	50H119-2	**M3 collar screw** M3雙層軸套螺絲	M3x9.7mm	2	
30	500H021	**Metal flybar control arm** 金屬平衡翼控制臂	46x12.5mm	2	
31	500H012	**Flybar control rod** 平衡翼球型控制球桿	φ3.5x59.1mm	2	
32	T52005	**Socket screw** 圓頭內六角螺絲	M2x5mm	4	
33	T73004	**M3 Set screw** M3止洩螺絲	M3x4mm	4	
34	500H013	**Flybar rod** 平衡翼桿	φ3x340mm	1	
35	500H006	**Flybar paddle** 平衡翼		2	
36	D05003	**Sticker** 平衡翼貼紙		6	
37	KU110013	**425 CF Blade** 425碳纖主旋翼	425mm	1set	



No.	Code No.	Name	Specification	Quantity	Remarks
38	500H014	**Main shaft** 主軸	φ4xφ8x153.3mm	1	
39	500H029	**Lock collar** 主軸固定環	φ8xφ14x6mm	1	
40	T73003	**M3 Set screw** M3止洩螺絲	M3x3mm	2	
41	T62519	**Socket collar screw** 圓頭內六角軸套螺絲	M2.5x19mm	1	
42	N10025	**M2.5 Nut** M2.5防鬆螺帽	M2.5	1	
43	500H004	**Washout control arm** 穩定控制搖臂		2	
44	500H018	**Collar** 擺臂軸承襯套	φ3xφ4.5x1mm	2	
45	HMR63ZZ	**Bearing MR63ZZ** MR63ZZ軸承	φ3xφ6x2.5mm	4	
46	50H145-1	**Linkage ball B (T2.6x5.5)** 球頭B(T2.6x5.5)	φ4.75x12.27mm	2	
47	50H022-2	**Washer** 華司	φ3xφ4.8x0.3mm	2	
48	T53010-2	**Socket button head screw** 半圓頭內六角螺絲	M3x10mm	2	
49	500H005	**Radius arm** Radius連桿		2	
50	HFMR52ZZ-1	**Bearing FMR52ZZ** FMR52ZZ軸承	φ2xφ5xφ6x2.3mm	4	
51	T52005	**Socket screw** 圓頭內六角螺絲	M2x5mm	4	
52	500H016	**Washout base** 向位器	φ8x16x14.5mm	1	
53		**CCPM Metal Swashplate** 金屬CCPM十字盤組		1	
54	50H043	**Linkage ball B (M2x3)** 球頭B(M2x3)	φ4.75x9.77mm	6	
55	500H034	**Long linkage ball (M2x3)** 導板長球頭(M2x3)	φ4.75x24.59mm	1	
56	500B011	**One-way bearing shaft** 單向軸承套	φ7xφ12.6x27.25mm	1	
57	500B013	**Washer** 單向軸承華司	φ10xφ13x0.8mm	1	
58	500B007	**Main drive gear(162T)** 主齒盤(162T)	162T	1	
59	500B010	**Autorotation tail drive gear (145T)** 尾驅動主齒(145T)	145T	1	
60	50NHF1012	**One-way bearing HF1012** 單向軸承HF1012	φ10xφ14x12mm	1	
61	500B012	**Main gear case** 主齒中心座	φ14xφ40x9mm	1	
62	S83006	**Hex socket self tapping screw** 皿頭內六角自攻螺絲	T3x6mm	4	



No.	Code No.	Name	Specification	Quantity	Remarks
63	500B008	**Main frame(L/R)** 左右主體側板	1.6mm	2	
64	500B002	**Battery mount** 電池固定座		1	
65	500B005	**Receiver mount** 接收器固定座		1	
66	500B003	**Bottom bracket** 主體底板		1	
67	500B001	**Anti rotation bracket** 十字盤導板		1	
68	500B006	**Canopy mounting bolt** 機頭罩固定柱		2	
69	T72512	**M2.5 Set screw** M2.5止洩螺絲	M2.5x12mm	2	
70	500B004	**Bearing block** 主軸固定座		4	
71	HMR688ZZ	**Bearing MR688ZZ** MR688ZZ軸承	ϕ8x ϕ16x5mm	2	
72	500B014	**Hexo mounting bolt** 六角鋁柱		4	
73	500B009	**Motor mount** 馬達固定座	40x39x5mm	1	
74	500B016	**M2.5 Specialty washer** M2.5特殊華司	ϕ2.5x ϕ6x2mm	22	
75	T52510	**Socket button head screw** 半圓頭內六角螺絲	M2.5x10mm	8	
76	T53006	**Socket button head screw** 半圓頭內六角螺絲	M3x6mm	4	
77	S92608	**Socket button head self tapping screw** 半圓頭內六角自攻螺絲	T2.6x8mm	4	
78	S92610	**Socket button head self tapping screw** 半圓頭內六角自攻螺絲	T2.6x10mm	14	
79	S92612	**Socket button head self tapping screw** 半圓頭內六角自攻螺絲	T2.6x12mm	2	
80	500B019	**Canopy support** 機頭罩固定襯套	ϕ2.6x ϕ6.5x7.3mm	2	
81	50NB039	**Conopy spacer** 機頭罩支撐墊圈	ϕ4.8x ϕ11x22mm	2	
82		**Tail drive gear assembly** 尾傳動輪組		1	
83	50B684ZZ	**Bearing 684ZZ** 684ZZ軸承	ϕ4x ϕ9x4mm	2	
84	500T001	**Tail boom mount (Left)** 尾管固定座(左)		1	
85	500T002	**Tail boom mount (Right)** 尾管固定座(右)		1	
86	500T003	**Plastic hexagonal bolt** 六角柱	ϕ1.9x35.4mm	4	
87	T63010	**Socket screw** 圓頭內六角螺絲	M3x10mm	2	
88	N10030	**M3 Nut** M3防鬆螺帽	M3	2	
89	500T016	**Drive belt** 皮帶	541T	1	
146	KX870001A	**500L Brushless motor** 500L無刷馬達	1600KV	1	
147	500M002	**Motor pinion gear 12T** 12T馬達主齒	12T	1	
148	500M003	**Motor pinion gear 13T** 13T馬達主齒	13T	1	
149	500H032	**Main blade holder** 主旋翼固定架泡棉		1	
150	K10378	**Hook and Loop fastening tape** 魔術帶	15x250mm	2	
151	K10379	**Hook and Loop fastening tape** 魔術帶	10x200mm	2	
152	VCM-98	**Nylon strap** 紮線帶	2.5x160mm	2	
153	VCM-99	**Nylon strap** 紮線帶	2.5x100mm	4	
154	50B052	**Hook and Loop Tape** 魔術沾	85x44mm	1	
155	K10365	**Hook and Loop Tape** 魔術沾	54x28mm	1	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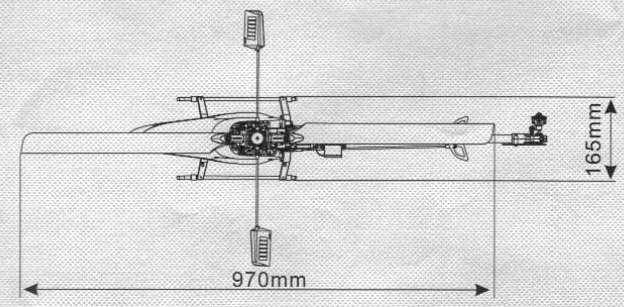
No.	Code No.	Name	Specification	Quantity	Remarks
90	500F001	**Landing skid** 腳架	160x50mm	2	
91	500F003	**Skid pipe** 腳架鋁管	φ5xφ6x237mm	2	
92	500F002	**Skid pipe end cap** 腳架鋁管保護套		4	
93	T73004	**M3 Set screw** M3止洩螺絲	M3x4mm	4	
94	T52012	**Socket screw** 圓頭內六角螺絲	M2x12mm	4	
95	W10020	**Washer** 華司	φ2xφ6x0.6mm	4	
96	N10020-1	**M2 Nut** M2螺帽	M2	4	
97	500F004	**Landing skid nut** 腳架墊圈	φ6.4xφ10.5x12mm	4	
98	500F005	**Antenna pipe** 天線管	φ2xφ3.9x400mm	1	
99	500T004	**Rudder servo mount** 尾伺服器固定座	φ16x27.2x5.6mm	2	
100	500T018	**Rudder servo bracket** 尾舵伺服器板	52.5x33.45x1.6mm	1	
101	W10026	**Washer** 華司	φ2.6xφ5.8x0.6mm	2	
102	S92610	**Socket button head self tapping screw** 半圓頭內六角自攻螺絲	T2.6x10mm	2	
103	500T028	**Tail boom** 尾管	φ15xφ16x461mm	1	
104	500T008	**Tail control guide** 尾控制桿固定環		2	
105	500T031	**Rudder control rod** 尾舵控制連桿	φ1.96x406mm	1	
106	50Z124	**Ball link** 連桿頭		2	
107	500T011	**Tail case (L)** 尾齒輪座(左)		1	
108	500T012	**Tail case (R)** 尾齒輪座(右)		1	
109	50B684ZZ	**Bearing 684ZZ** 684ZZ軸承	φ4xφ9x4mm	2	
110	T62510	**Socket screw** 圓頭內六角螺絲	M2.5x10mm	3	
111	N10025	**M2.5 Nut** M2.5防鬆螺帽	M2.5	5	
112		**Tail rotor shaft assembly** 尾橫軸組		1	
113	HMR63ZZ	**Bearing MR63ZZ** MR63ZZ軸承	φ3xφ6x2.5mm	2	
114	50T096-1	**Tail rotor control arm** 尾旋翼控制臂		1	
115	50T097	**Collar** 尾旋翼控制臂鋁套	φ3xφ4.9x5mm	1	
116	50H022-2	**Washer** 華司	φ3xφ4.8x0.3mm	2	
117	T63015	**Socket collar screw** 圓頭內六角軸套螺絲	M3x15mm	1	
118	50H144-1	**Linkage ball A(T2.6x3.5)** 球頭A(T2.6x3.5)	φ4.75x8.18mm	1	
119		**Tail pitch assembly** 尾旋翼控制組		1	
120	50T105	**Control link** 尾控制連桿頭		2	
121	50T106	**Collar A** 尾連桿頭銅套A	φ2xφ3x4mm	2	
122	50T127	**Collar B** 尾連桿頭銅套B	φ2xφ3x3mm	2	
123	T12008-4	**Collar screw** 軸套螺絲	M2x8mm	4	
124	500T015	**T type arm** 尾T型控制臂		1	
125	500T030	**3K CF Horizontal stabilizer** 3K碳纖水平翼	1.6mm	1	
126	500T029	**3K CF Vertical stabilizer** 3K碳纖垂直翼	1.6mm	1	
127	W10026	**Washer** 華司	φ2.6xφ5.8x0.6mm	8	
128	S92612	**Socket button head self tapping screw** 半圓頭內六角自攻螺絲	T2.6x12mm	2	

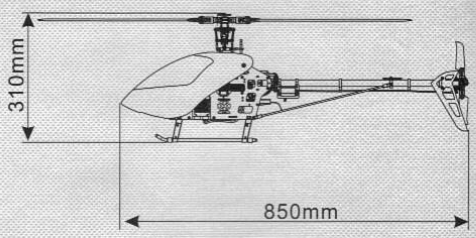
No.	Code No.	Name	Specification	Quantity	Remarks
129	T52520	**Socket button head screw** 半圓頭內六角螺絲	M2.5x20mm	2	
130	500T009	**Stabilizer mount (Upper)** 水平翼固定座(上)		1	
131	500T010	**Stabilizer mount (Lower)** 水平翼固定座(下)		1	
132	500T013	**Tail rotor holder** 尾旋翼夾座		2	
133	500T024	**Tail rotor hub** 尾旋翼T型座	φ9x36.6mm	1	
134	50BMR95ZZ	**Bearing MR95ZZ** MR95ZZ軸承	φ5xφ9x5mm	2	
135	HH2016	**Thrust bearing** 止推軸承	φ3xφ8x3.5mm	2	
136	T74003	**M4 Set screw** M4止洩螺絲	M4x3mm	1	
137	W10020	**Washer** 華司	φ2xφ6x0.6mm	2	
138	T62006	**Socket screw** 圓頭內六角螺絲	M2x6mm	2	
139	500T014	**Tail blade** 尾旋翼		2	
140	T63016	**Socket collar screw** 圓頭內六角軸套螺絲	M3x16mm	2	
141	N10030	**M3 Nut** M3防鬆螺帽	M3	2	
142	500T007	**Tail boom brace end** 尾支撐架接頭		4	
143	500T022	**Tail boom brace** 尾支撐架	φ1.9xφ3.9x320mm	2	
144	S92612	**Socket button head self tapping screw** 半圓頭內六角自攻螺絲	T2.6x12mm	2	
145	S92610	**Socket button head self tapping screw** 半圓頭內六角自攻螺絲	T2.6x10mm	2	

ALIGN

Specifications & Equipment/規格配備:

Length/機身長:850mm
Height/機身高:310mm
Main Blade Length/主旋翼長:425mm
Main Rotor Diameter/主旋翼直徑:970mm
Tail Rotor Diameter/尾旋翼直徑:200mm
Motor Pinion Gear/馬達主齒:12T/13T
Main Drive Gear/傳動主齒:162T
Autorotation Tail Drive Gear/尾驅動主齒:145T
Tail Drive Gear/尾翼傳動齒:31T
Drive Gear Ratio/齒輪傳動比:1:13.5:4.68/1:12.46:4.68
Weight(Without Power System)/空機重:935g
Flying Weight/全配重:Approx 1700g





Features:

★Rigid carbon fiber frame design. ★Rotor head/tail with thrust bearings.
★Electric power system. ★Beautiful factory painted fiberglass canopy.
★Tail servo boom mount. ★Direct-to-swash CCPM linkage. ★Fully driven tail auto rotation system.
★Simple and light weight design provides awesome flight performance and extreme 3D capability.
★Center of gravity of Battery tray designed close to the rotor head. ★Tail rotor drive belt system.

亞拓電器股份有限公司
ALIGN CORPORATION LIMITED
http: //www.align.com.tw
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