




Thank you for buying ALIGN Products. The T-REX 450SE V2 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 450SE V2 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 aerobic capability for advanced fliers, and unsurpassed reliability for customer support.

感謝您選購亞拓產品，為了讓您容易方便的使用 T-REX 450SE V2 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 450SE V2 是由亞拓自行研發的新產品，不論你是需求飛行穩定性的初學者或是追求性能的飛行愛好者，T-REX 450SE V2 將是你最佳的選擇。

THE MEANING OF SYMBOLS 標誌代表涵義

	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。
	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。
	Do not attempt under any circumstances. 在任何禁止的環境下，請勿嘗試操作。

IMPORTANT NOTES 重要聲明

R/C helicopters, including the T-REX 450SE V2 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. After the sale of this product we cannot maintain any control over its operation or usage.



It is not a Toy!

T-REX 450SE V2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，製造商和經銷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過模型直昇機經驗的成人或有相當技術的人員在旁指導，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 450SE V2 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 warranty 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.

模型商品屬於操作技術且為消耗性商品，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，本公司全省分公司將提供免費技術指導、特價零件供應服務。



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 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意外，請飛行者務必注意飛行安全，並需了解自負任何意外之責任。

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

			
Transmitter(6-channel, helicopter system) 發射機(六動直昇機模式遙控器)	Receiver(6-channel or more) 接收機(六動以上)	Gyro 鎖式陀螺儀	9g Micro Servo x 3 pcs 6g Micro servox 1pc 動作控制9g伺服器x3 尾舵控制6g伺服器x1

ADDITIONAL TOOLS REQUIRED FOR ASSEMBLY 自備工具

							
Scissors 剪刀	Cutter Knife 刀子	Grease 潤滑油	CA 瞬間膠	Diagonal Cutting Pliers 斜口鉗	Needle Nose Pliers 尖嘴鉗	Hexagon Screw Driver 六角螺絲起子 3mm/2.5mm/2mm/1.5mm	Phillips Screw Driver 十字螺絲起子 φ3.0/φ1.8mm



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 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 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，相對的也潛在著一點危險性，場地的選擇也相對的重要。首先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，務必選擇在空曠場地並可適當搭配練習架練習飛行，這對飛行失誤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。



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.)

至飛行場飛行前，需確認是否有相同頻率的好手正進行飛行，因為開啓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)



ALWAYS BE AWARE OF THE ROTATING BLADES 遠離旋轉中零件

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旋轉時，切勿觸摸並遠離任何物件，以避免造成危險及損壞。



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！



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 纖維或聚乙烯、電子商品為主要材質，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。



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。



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.

請於自己能力內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。



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

- ☆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 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. 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.
- ☆Check for the tension of tail drive belt.

- ★每次飛行前應先確認所使用的頻率是否會干擾他人，以確保你自身與他人的安全。
- ★每次飛行前確定您發射機與直昇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，熄火降落開關，定速開關 (IDLE) 是否於關閉位置。
- ★開機時必須遵守電源開關的程序，開機時應先開啓發射機後，再開啓直昇機電源；關機時應先關閉直昇機電源後，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。
- ★開機請先確定直昇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崩齒的情形，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毀的零件，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：對損耗、有裂痕零件更新及定期保養檢查重要性。
- ★檢查所有的連桿頭是否有鬆脫的情形，過鬆的連桿頭應先更新，否則將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，可能造成接頭鬆脫而造成失控的危險。
- ★確定尾傳動皮帶的鬆緊度。

Standard Equipment 標準配備

When you see the marks as below, please use glue or grease to ensure flying safety.
標有下符號之組裝步驟，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: 使用瞬間膠固定
- R48: 使用金屬管狀固定缺氧膠固定
- T43: 使用螺絲鎖氧膠
- OIL: 添加潤滑油

When assembling ball links, make sure the "A" character faces outside.
各項塑膠製連桿扣接時，A字請朝外。



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 為強力金屬管狀(如軸承)接著劑，T43為螺絲膠，膠合螺絲或金屬內外徑請務必少量使用，必要時請用手去除多餘膠量，欲拆卸時可於金屬接合部位熱烤約15秒。(注意！塑膠件避免接近熱源)

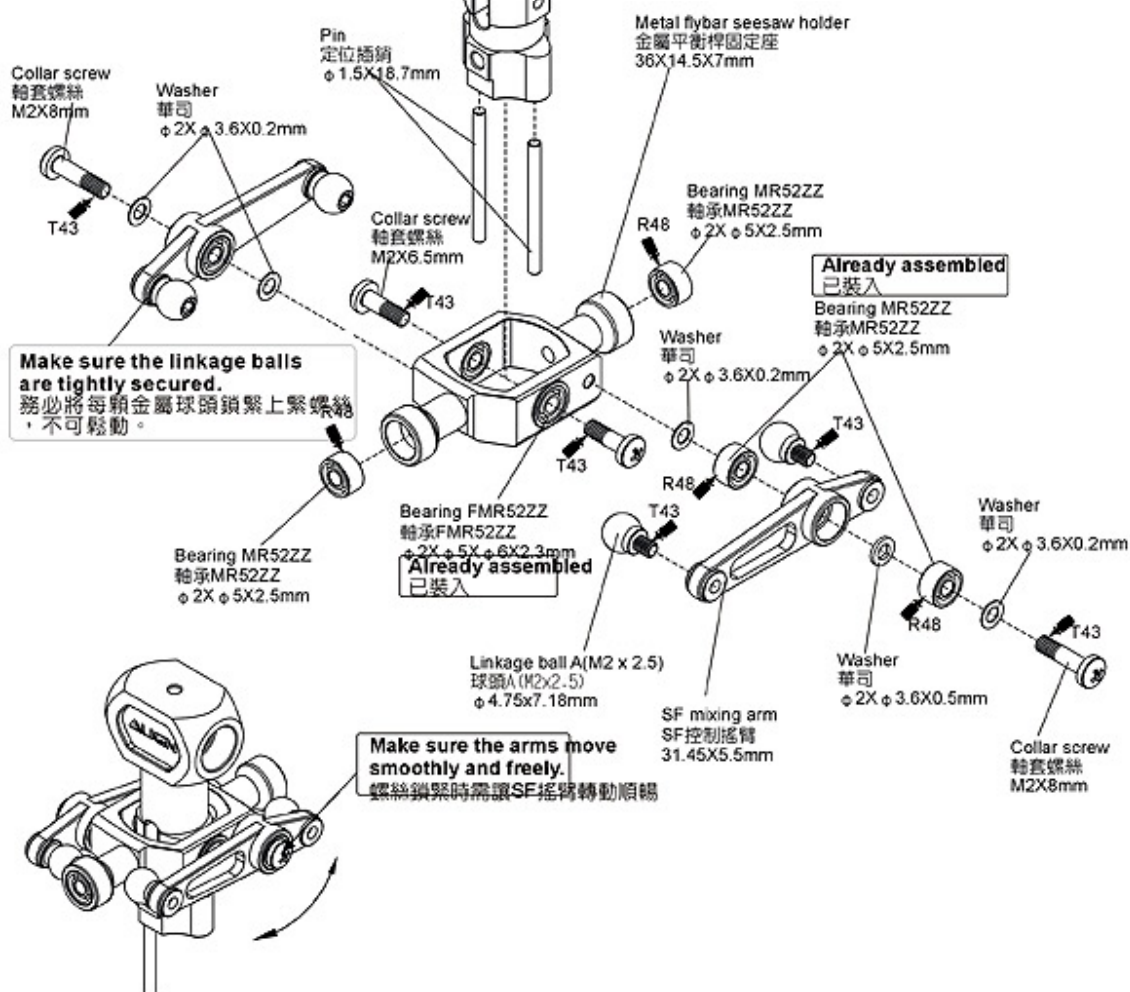
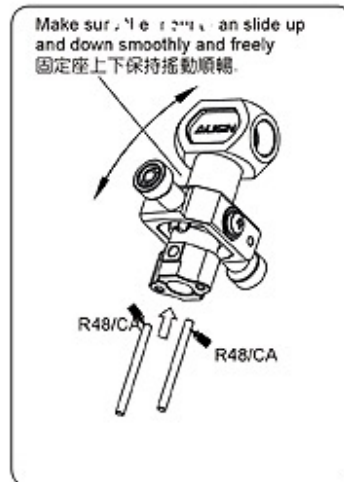
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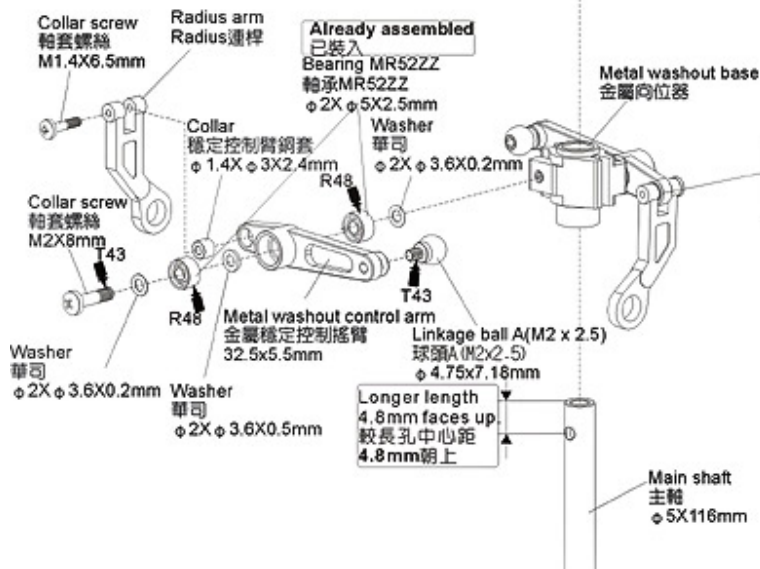
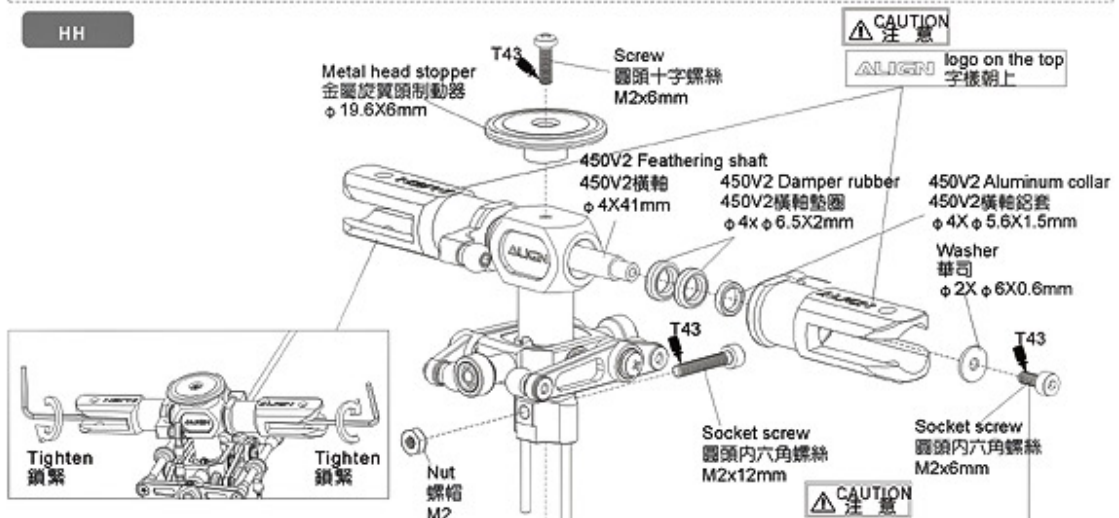
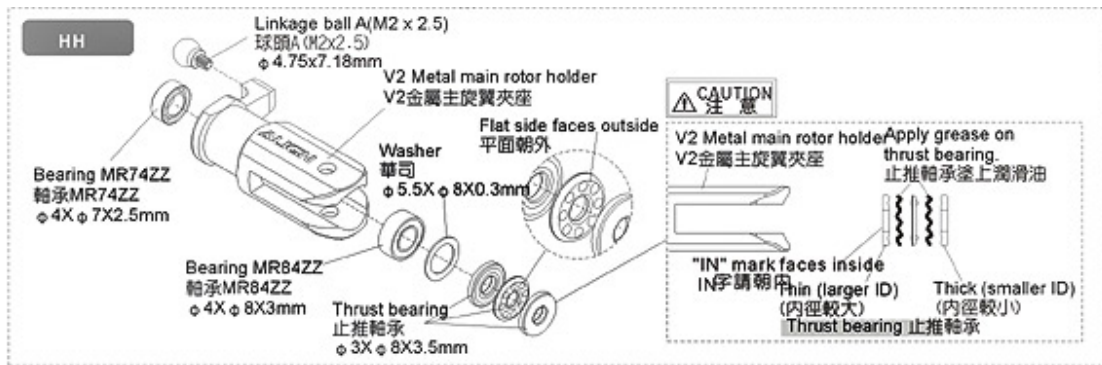
- ★ Insert the main rotor housing diagonally into the flybar seesaw holder.
- ★ 請將主旋翼固定座以對角方式裝入平衡桿固定座。

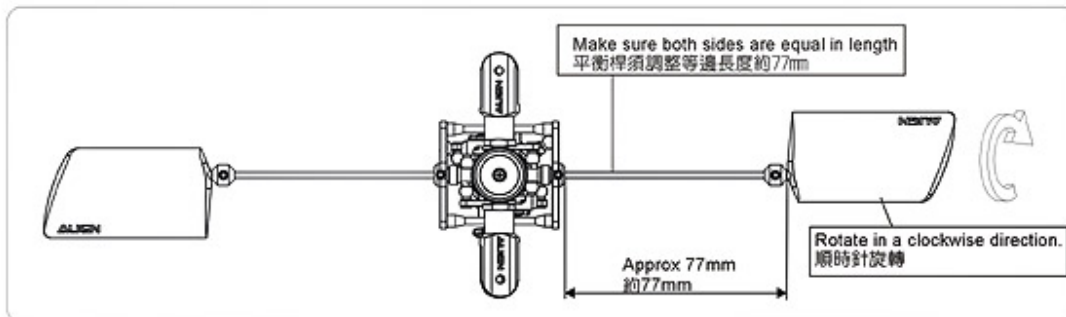
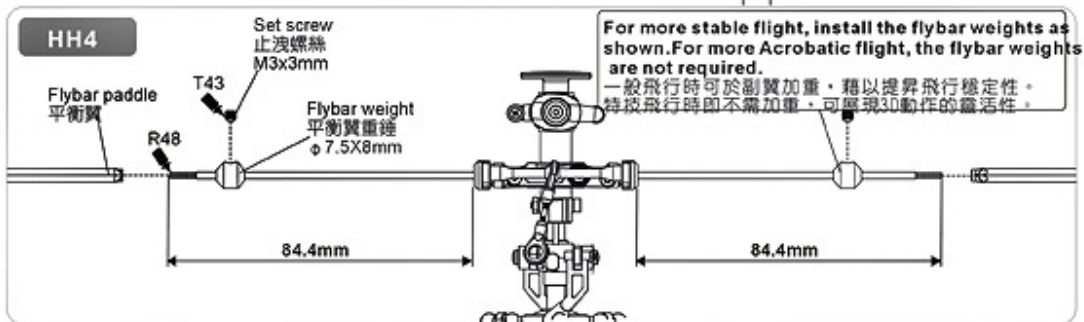
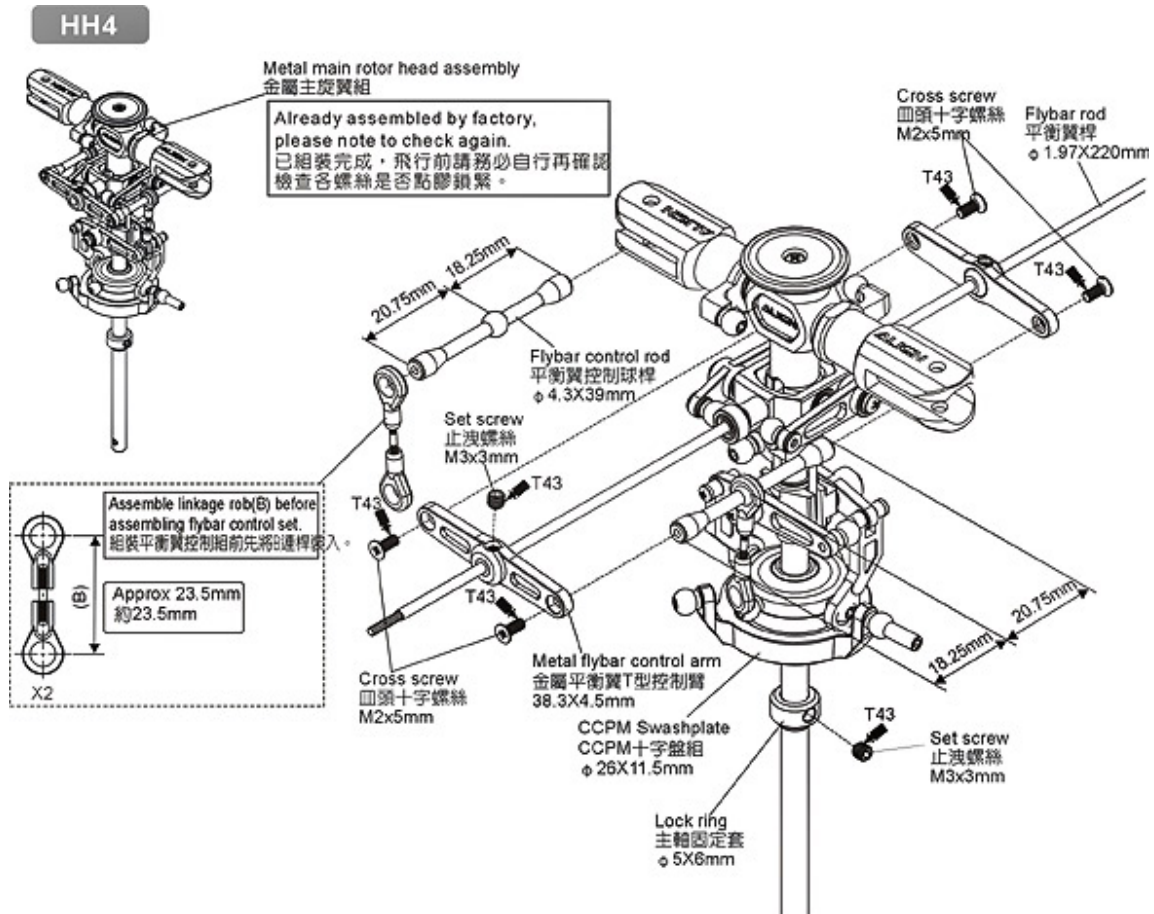
CAUTION
注意

When tightening linkage balls and screws to plastic parts, please note to tighten them firmly and the best tightening torque is within 3~3.5 kgf.cm. Do not over tighten, or the plastic parts will break off or the screws strip.
螺絲及球頭鎖入塑膠件時務必注意，適當扭力鎖緊即可，鎖入力道控制在3~3.5kgf.cm內為佳。若力道太大可能會造成塑膠件破裂或螺絲滑牙、斷裂。

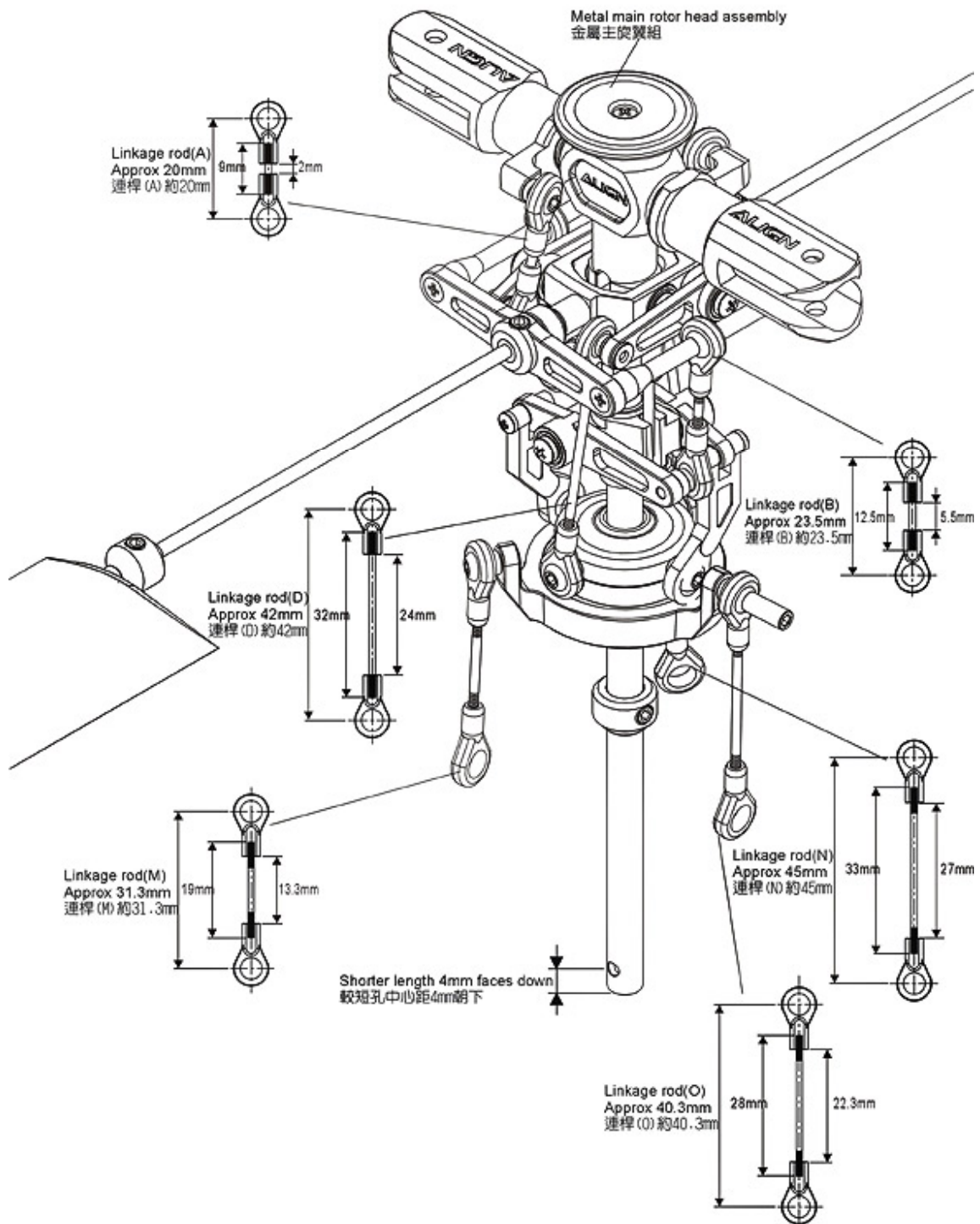
For original factory package, if the product is already assembled by Factory, please check again if screws are firmly secured and applied with some glue.
原廠零件出廠包裝如果是組裝品，請需再確認各螺絲是否鎖緊上膠。







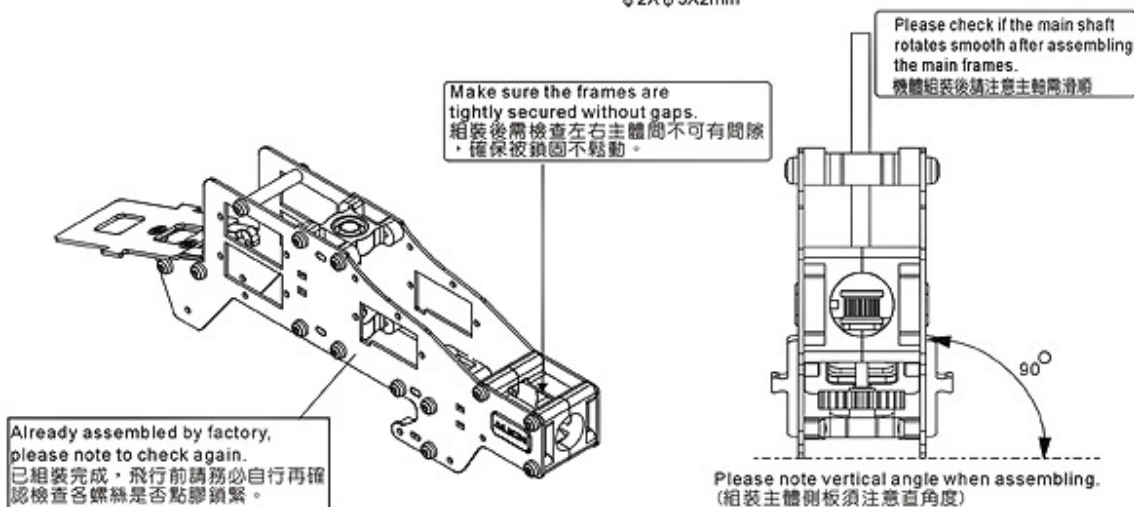
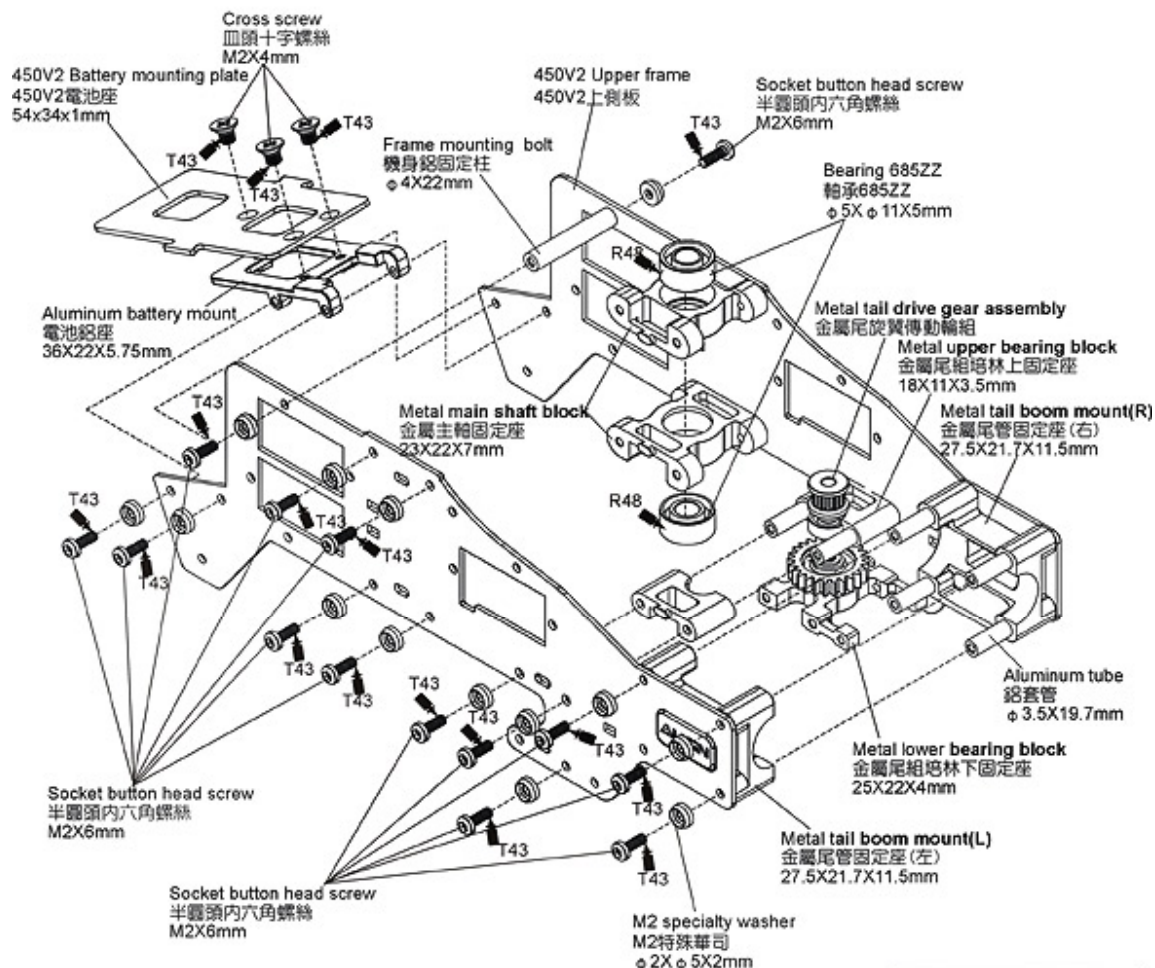
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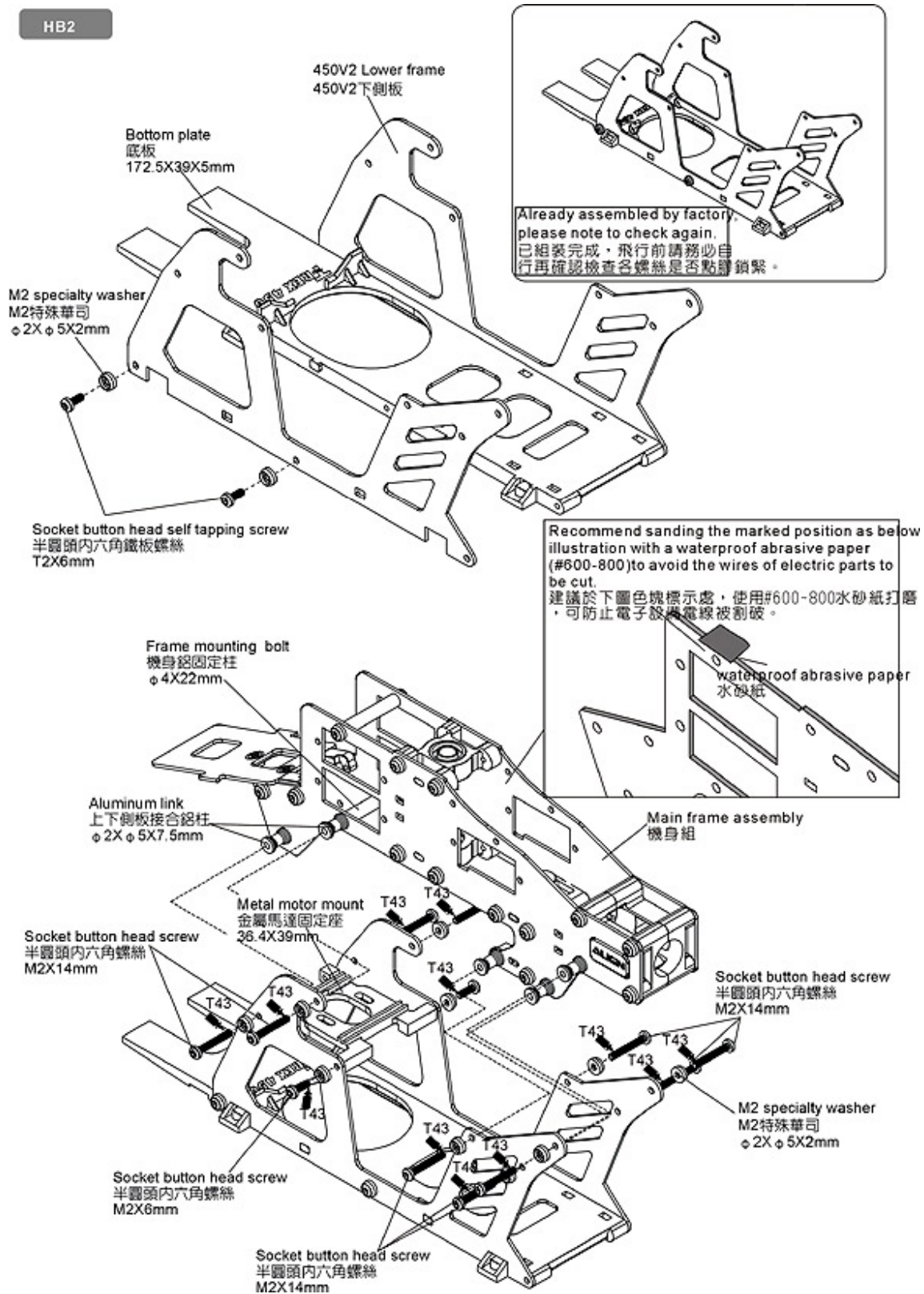
HB2

The screws must be firmly tightened, but not over tightened, or they will strip and become loose. Apply screwlock where screws are tightened into metal objects.

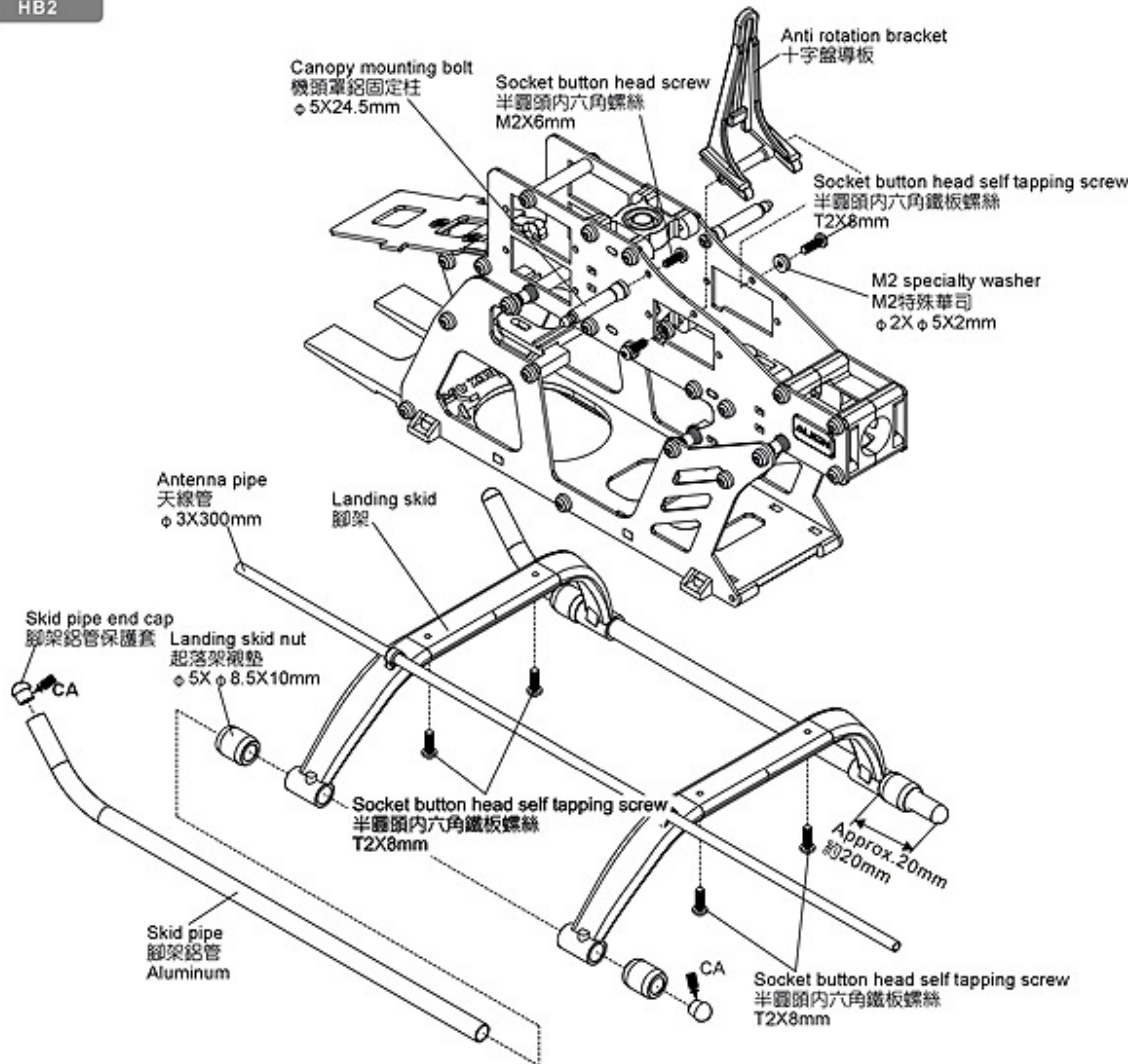
組裝側板時所使用的螺絲可視需要使用螺絲防鬆膠，要特別注意的是：螺絲必須確實鎖緊，但是要小心不能過度鎖緊，以免發生滑牙或斷裂現象。



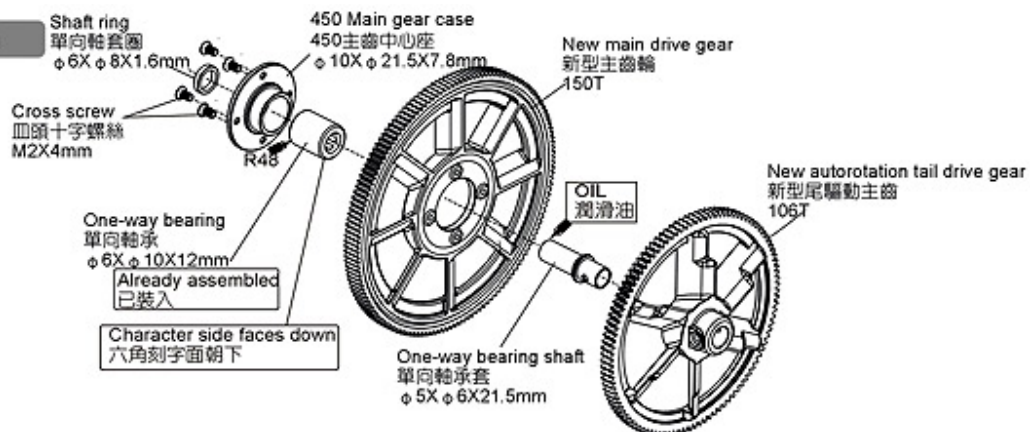
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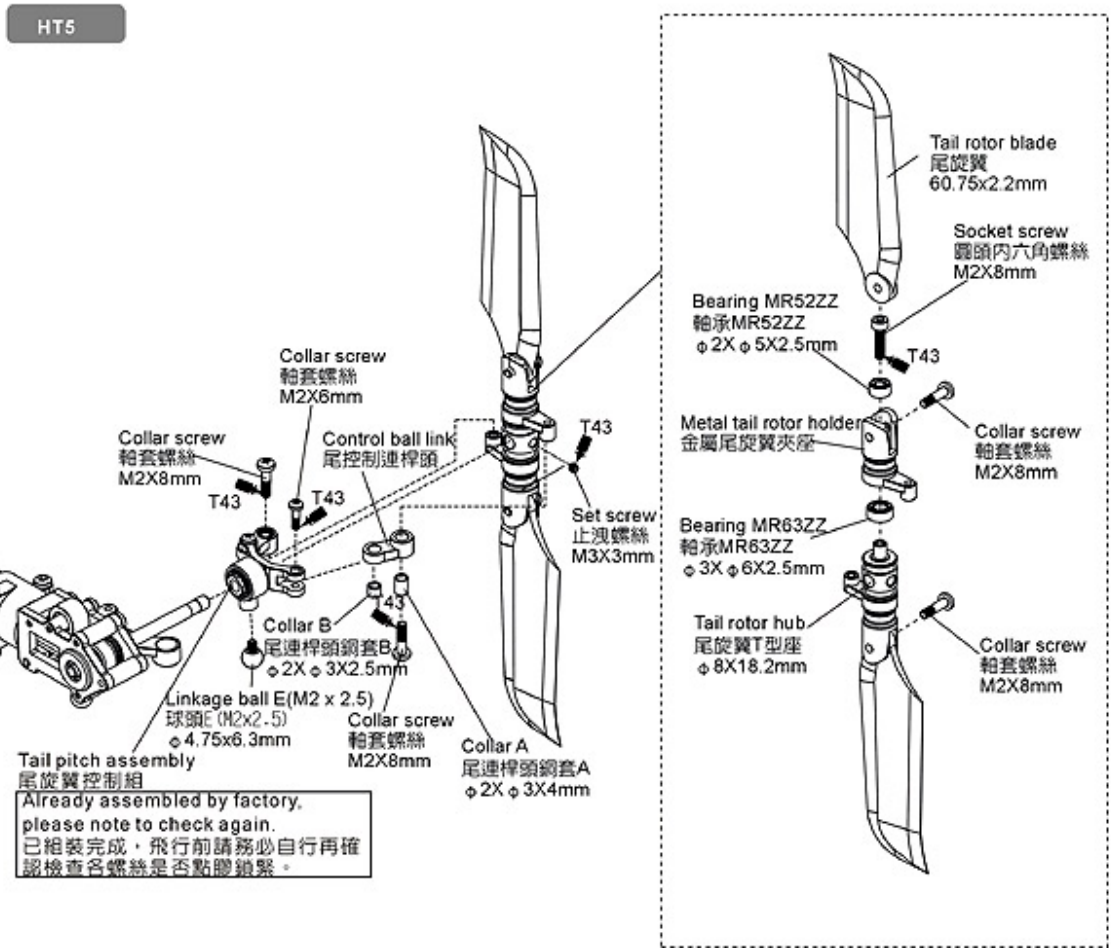
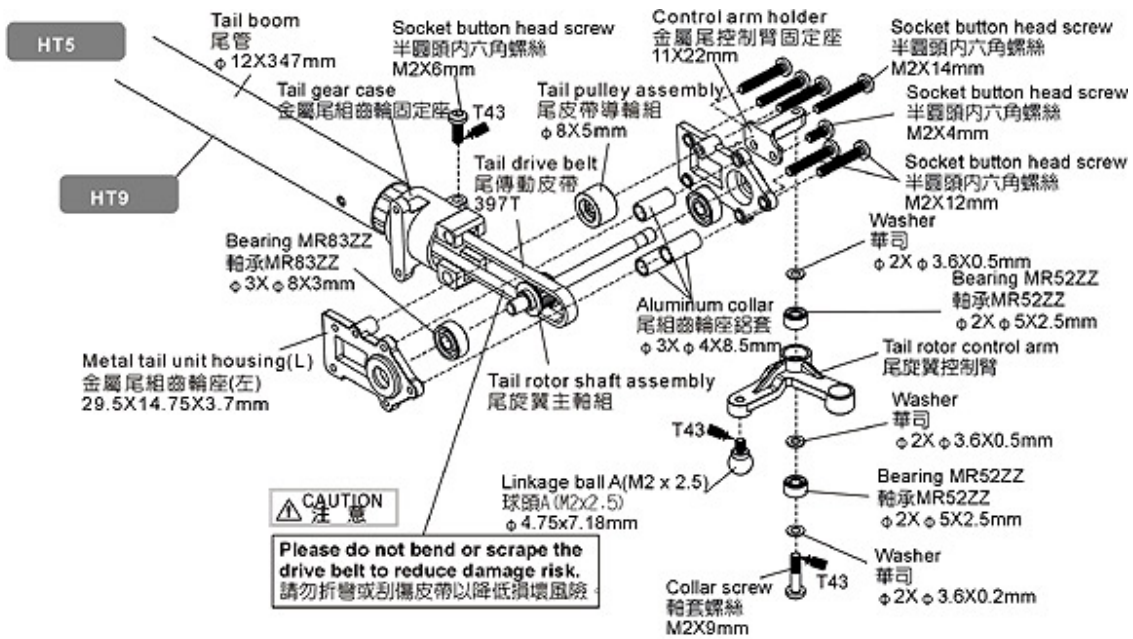


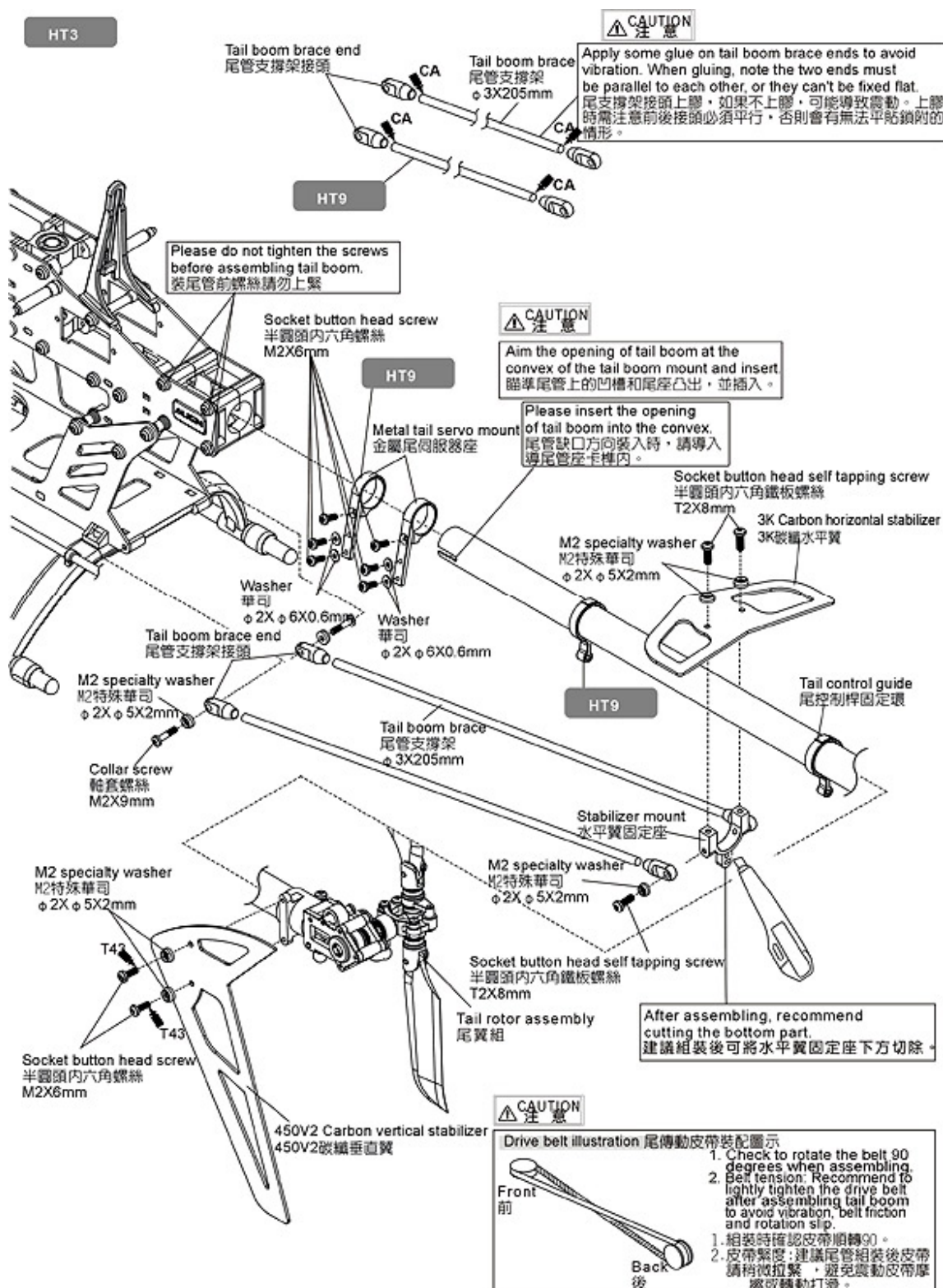
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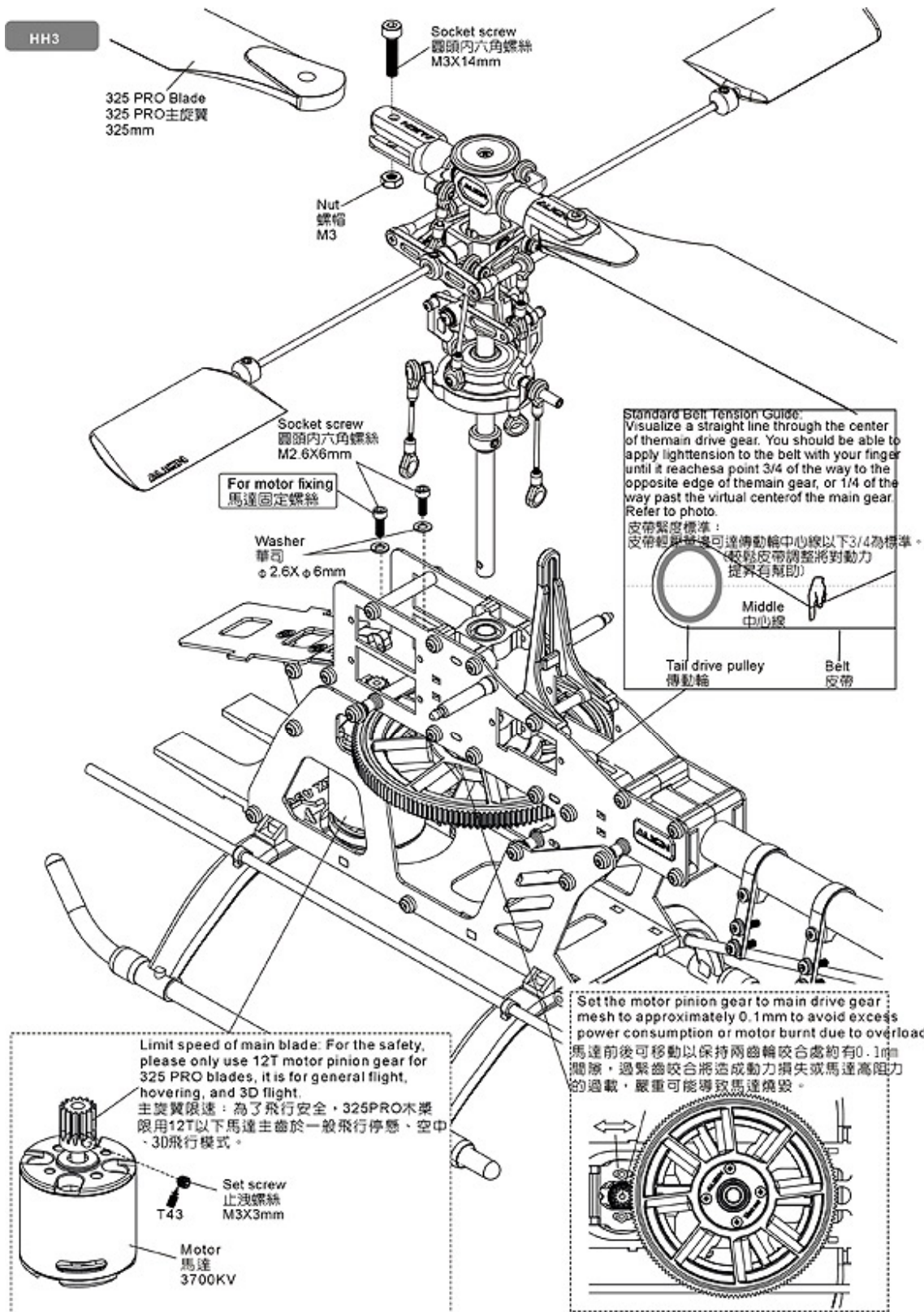


HB6



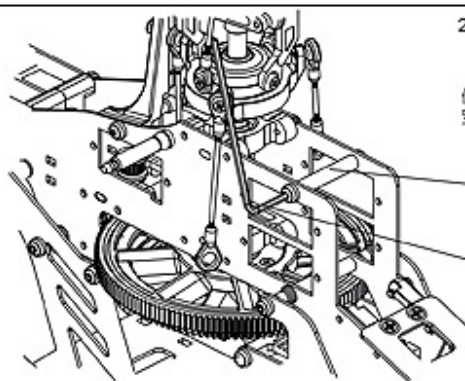
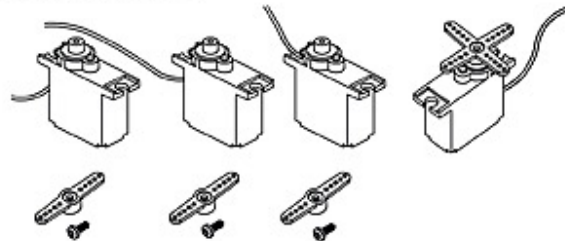






1. Please prepare three micro servos (9g) for CCPM swashplate control and one quick speed (0.12sec/within 60 degrees) micro servo (6-9g) for tail rudder control. First remove the servo horn from the three servos for swashplate.

請準備3個型號相同的小型伺服器(9g)作為CCPM十字盤控制用, 1個速度較快(0.12sec/60度以內)的小型伺服器(6-9g), 作為尾舵控制用; 首先將十字盤控制用伺服器的舵片拆下。



2. Use a 1.5mm Hex wrench, remove the aluminum bolts from the main frames to install the servos. After installation, note to reinstall the aluminum bolts.

使用1.5mm的六角扳手將固定於機身的鋁固定柱暫時拆下, 以便安裝伺服器。安裝完成後要記得將固定柱裝回。

Frame aluminum bolt
機身鋁固定柱

1.5mm Hex wrench
1.5mm六角扳手

3. First install the servo inside the lower mount. Note the output shaft must be oriented toward the rear of the helicopter.

如圖示, 先將伺服器安裝於下方的固定座, 注意伺服器齒輪軸需偏向直昇機的後方。

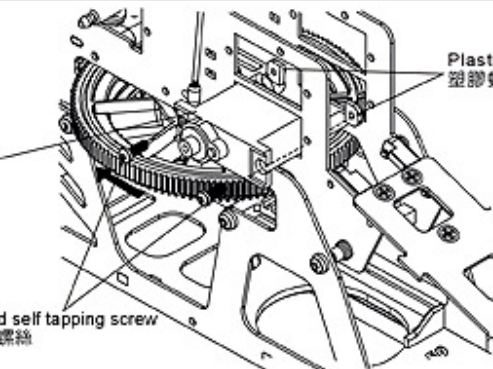
Servo
伺服器

Plastic nut
塑膠螺帽

4. Use T2x8 Socket button head self-tapping screw and nuts to fix the servo from two sides.

以零件包所附的T2x8半圓頭內六角鐵板螺絲與塑膠螺帽, 將伺服器的兩側鎖附固定。

Socket button head self tapping screw
半圓頭內六角鐵板螺絲
T2X8mm



5. Next, install the second servo inside the upper mount.

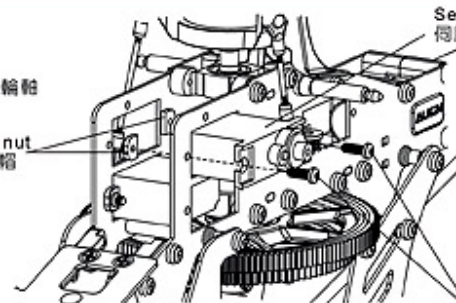
Note the output shaft must be oriented toward the rear of the helicopter. Then use the screws to fix.

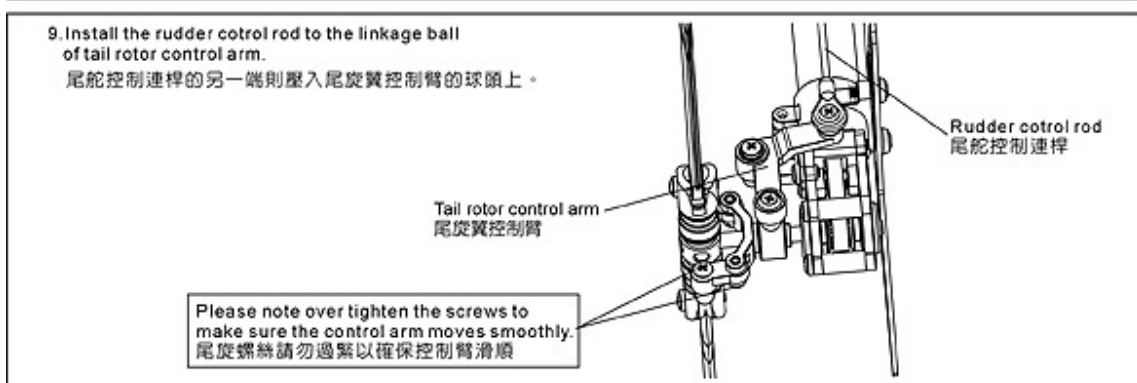
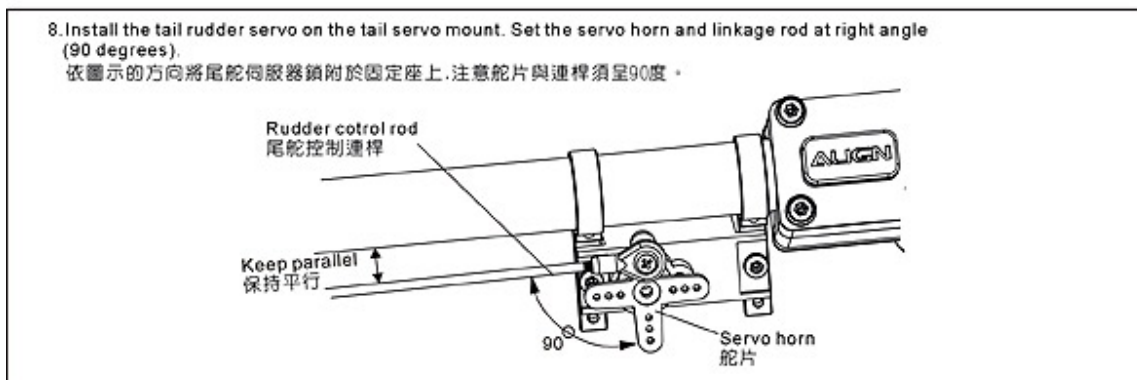
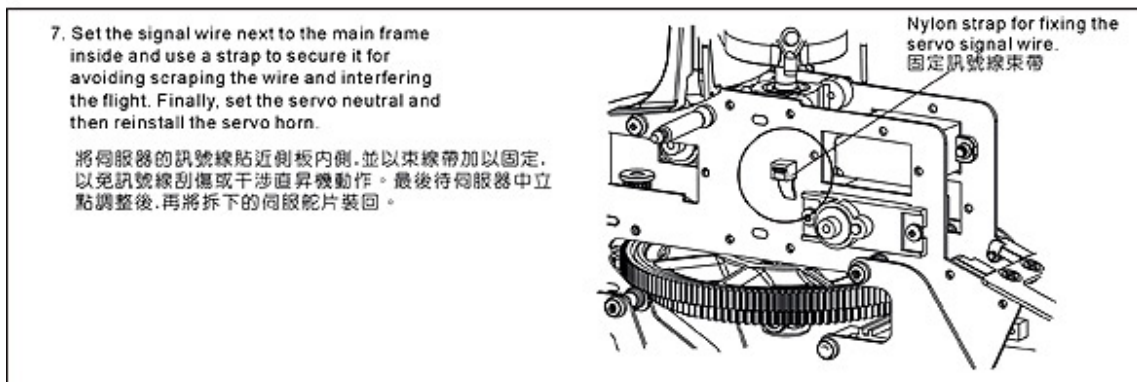
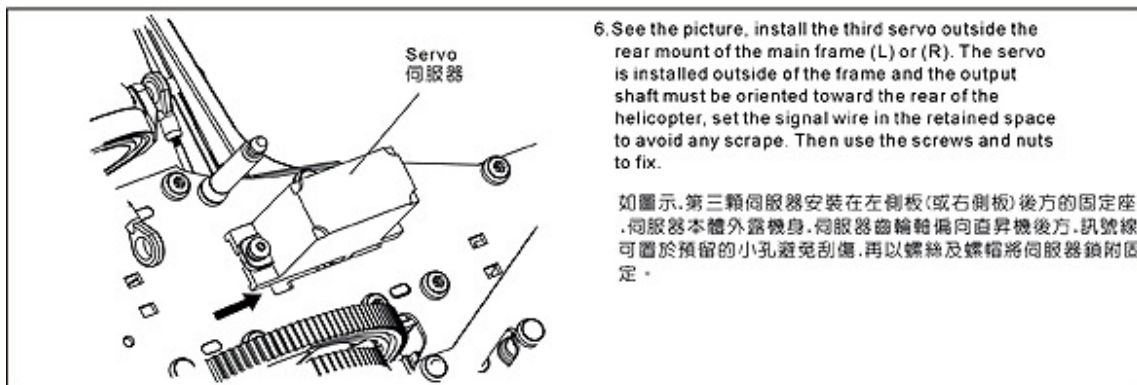
接下來, 將第二顆伺服器安裝於上方的固定座, 伺服器齒輪軸須偏向直昇機的後方, 再以螺絲將伺服器鎖附固定。

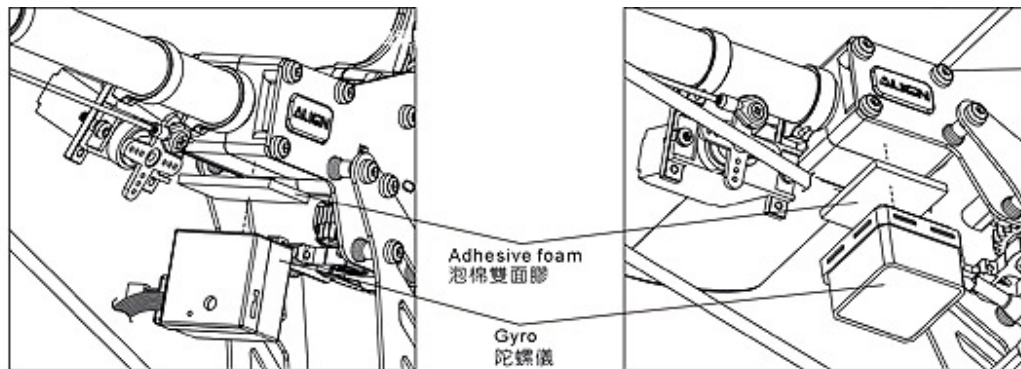
Plastic nut
塑膠螺帽

Servo
伺服器

Socket button head self tapping screw
半圓頭內六角鐵板螺絲
T2X8mm

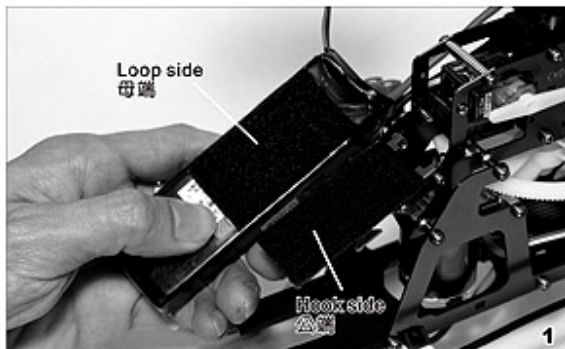






First clean the mounting surface and the bottom surface of the gyro. Then use a adhesive foam to secure the gyro on the top of the tail boom mount.
先將陀螺儀與尾管固定座的貼合面擦拭乾淨,再使用泡棉雙面膠確實將陀螺儀固定。

Battery mounting and fixing 電池安裝與固定



Use Hook and Loop Tape, tape the Hook side (hooked) on the battery mounting plate and the Loop side (fuzzy) on the battery (see illustration) to fix the battery and avoid any slip.

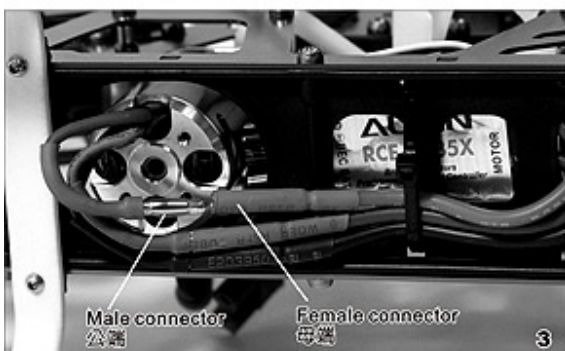
以附贈的魔术沾膠帶,將公端的魔术沾(勾狀)粘貼於電池座上,母端的魔术沾(絨毛狀)粘貼於電池上(如照片所示),可有效的固定電池,避免滑動。



Adjust the battery position forward or backward to set the center of gravity until the model holds a level position when levelly lift up the main rotor blades to make the model in the air. After checking the center of gravity, use a hook and loop fastening tape to secure the battery.

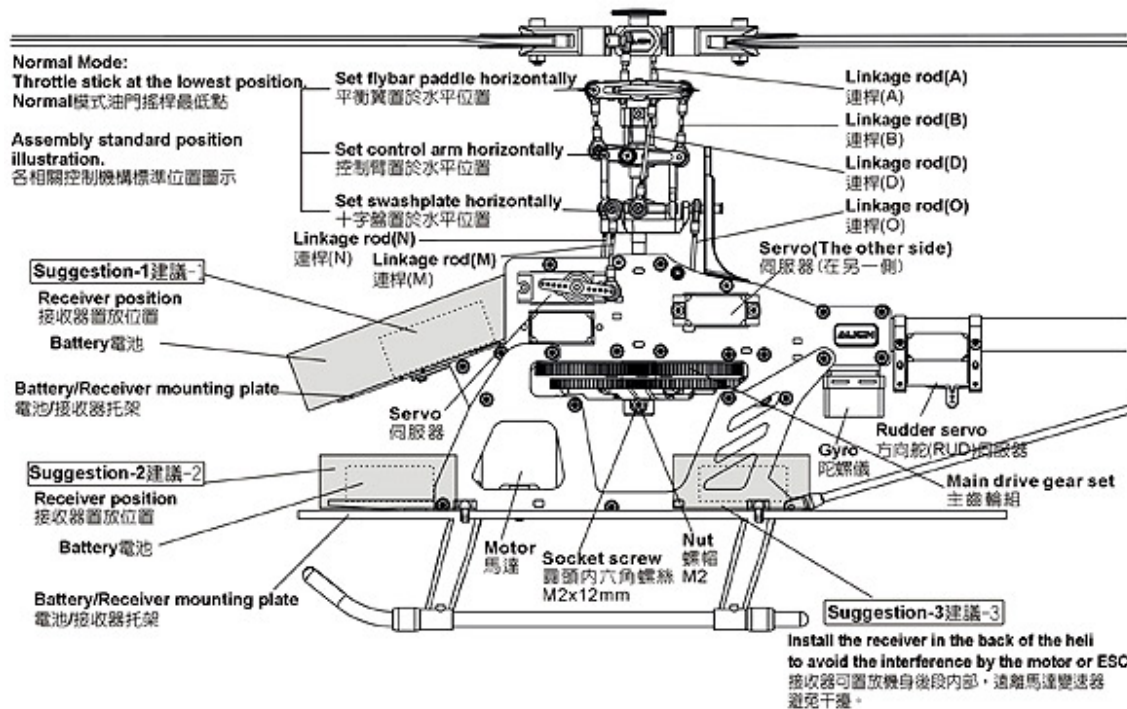
移動電池的前後來調整直昇機的重心,直到水平提起主旋翼使機身懸空時,機身也呈水平狀態,重心確認後,以所附的魔术帶將電池束緊固定。

Motor and ESC connection 馬達與調速器的連接



Follow the illustration to install the ESC and use a strap to secure it. Please solder the three wires of motor by 3.0mm male gilt connectors; solder the wires of ESC by the female gilt connectors. After soldering, put on the heat shrink tubes according to the colors and heat the tubes to shrink. Finally, insert the gilt connectors of motor and ESC according to the colors.

調速器可依照左圖建議的位置安裝,並以束線帶固定,馬達端的三條出口線請以公端3.0mm鍍金接頭焊接,調速器則焊上母端,完成後依相同的顏色套上熱縮套管加熱收縮,最後依相同的顏色將馬達與調速器的鍍金接頭插入。



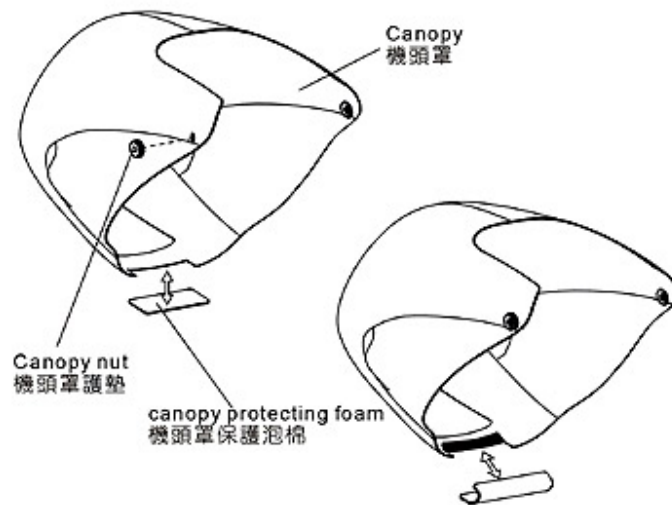
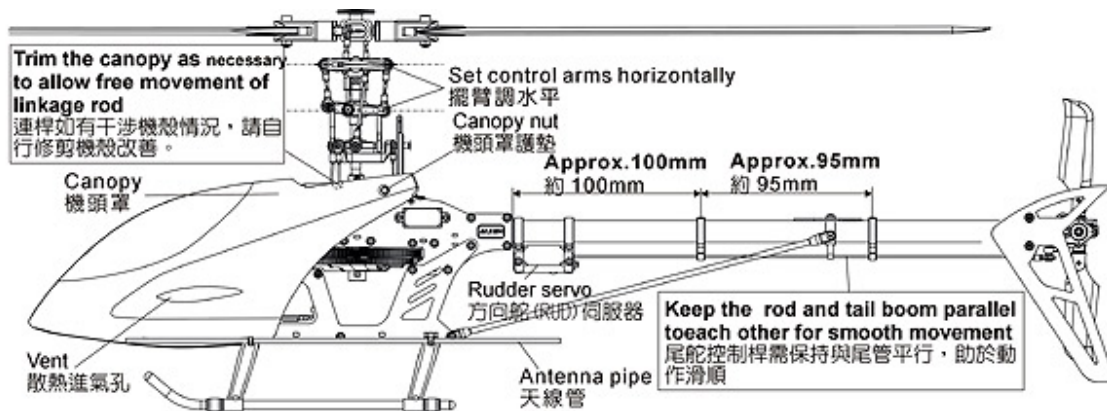
- ★ Apply a red piece of tape on one blade, or paint a red stripe with a marker or paint to identify one blade.
★ Run the helicopter at a safe distance and have someone look at the spinning blades at the reference angle shown in the photo. If the blade tracking is not set correctly, you will be able to identify the blade with the red identifying mark rotating higher or lower than the other blade. Adjust the linkage rod length shorter or longer to make both blades track level.
★ 可使用膠帶或附贈的紅、藍貼紙分別貼於兩支旋翼，或於單支旋翼端處畫上顏色記號，方便雙槳調整辨識。
★ 標示顏色葉端高(螺距過大)請調整連桿(A)修正，或需更小螺距微調修正請調短連桿(D)修正。

Please check the followings when the power or speed gets abnormally slow:

1. Check the battery is the correct specification for the helicopter and is fully charged.
2. Check if the pitch setting is too high. (If the pitch setting is too high, it will affect the power efficiency and flight time.)
3. Check the tightness of the main rotor blades. Blades should be tightened so that they do not move freely, but can be moved by applying slight pressure by hand.
4. Check for vibration on the main and tail rotors (vibration can be caused by main shaft/feathering shaft wear, damage, or loosens, check all linkages and bearings for excess play or wear).
5. Check for interference caused by improper gear mesh or belt tension.

您的標準動力配置如有發現動力效能與速度明顯降低時!可注意下列幾點因素:

1. 電池規格效能與電力是否足夠!
2. Pitch是否過大!(過大pitch設定，將明顯影響動力效能與飛行時間)
3. 主旋翼是否有雙槳!
4. 主旋翼與尾旋翼是否明顯震動!(主軸、主/橫軸變型與鬆動所產生震動※必要時請更新或上膠固定)
5. 各傳動齒或傳動軸是否太緊的干涉!(特別注意!馬達主齒與主齒輪需有適當間隙)
6. 皮帶是否太鬆而震動或太緊的干涉!



First clean the taping surface of canopy, and then tape a canopy protecting foam on as illustration.
先將機頭罩貼合面擦拭乾淨，再使用機頭罩保護泡棉貼附於上圖所示

