

TREX 800E PRO INSTRUCTION MANUAL 使用說明書

RH80E16XT

ALIGN

Pure extreme **3D**
ultimate edition
純粹暴力3D血統

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MICROBEAST PLUS
6-AXIS MEMS SENSOR SYSTEM FOR RC-MODELS

Thank you for purchasing Align products. Please read the manual carefully before installing and be sure to retain the manual for future reference. All pictures shown are for illustration purpose only. Actual product may vary due to product enhancement. Specifications, contents of parts and availability are subject to change, ALIGN RC is not responsible for inadvertent errors in this publications.

承蒙閣下選用亞拓遙控世界系列產品，謹表謝意。使用前，請務必詳讀本說明書，相信一定能夠給您帶來相當大的幫助，也請您妥善保管這本說明書，以備日後參考。本公司將不對此印刷物之異動負責，也無法主動通知消費者任何更新或異動。所有圖片僅用於展示目的。產品可能因改良而有些不同。本說明書內記載的材質、規格或零件包裝之內容物如有異動，請依亞拓官網公告為主。

Thank you for buying Align products. The T-REX 800E PRO helicopter is special edition for extreme 3D flight, as same as other T-REX sibling, 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 800E PRO is a new product developed by ALIGN. It features the best design available on the Micro-Hell market to date, providing flying stability for beginners, full aerobatic capability for advanced fliers, and unsurpassed reliability for customer support.

感謝您選購亞伯產品，為了讓您容易方便的使用 T-REX 800E PRO 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，作為日後進行調校以及維修的參考。T-REX 800E PRO 是由亞伯自行研發的新產品，不僅您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 800E PRO 將是您最佳選擇。

WARNING LABEL LEGEND 標誌代表涵義

	Do not attempt under any circumstances. 在任何禁止的環境下，請勿嘗試操作。
	Mishandling due to failure to follow these instructions may result in damage or injury. 因為誤讀這些操作說明，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. 因為誤讀這些操作說明，而使用錯誤可能造成危險。

IMPORTANT NOTES 重要聲明

R/C helicopters, including the T-REX 800E PRO 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. This product is 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.

As the user of this product, you are solely responsible for operating it in a manner that does not endanger yourself and others or result in damage to the product or the property of others.

T-REX 800E PRO 遙控直昇機並非玩具，它結合了許多高科技產品所設計出來的系統用品，所以產品的使用不謹慎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，勿輕信並注意自身安全。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消耗異常或錯誤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符合當地合法遙控飛行場所飛行，以確保安全與正確操作使用，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。

做為本產品的使用者，您，是單一對於您自己操作的環境及行為負全部的責任之人。

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 800E PRO 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. As Align Corporation Limited has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability.

模型商品屬於高操作技術且為消耗性之商品，如經新裝使用後，會造成不等情況零件損耗，任何使用情況所造成產品不良或不滿意，將無法於保固條件內更換新品或退貨，如適用使用操作說明書，本公司全分公司或代理商將提供技術指導、特價零件供應服務，對使用者之不當使用、設定、組裝、修改、或操作不良所造成的損壞或傷害，本公司無法控制及負責。任何使用、設定、組裝、修改、或操作不良所造成的損壞、意外或傷害，使用者應承擔全部責任。

SAFETY NOTES 安全注意事項



- 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.
- Prior to every flight, carefully check rotorhead spindle shaft screws and tail blade grip screws, linkage balls and screws, ensure they are firmly secured.
- 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，人為疏忽不當或操作不慎、電子控制設備不良，以及操作上的不熟悉，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。
- 每趟飛行前須仔細檢查，主旋翼夾座螺絲、尾旋翼夾座螺絲，以及機身各部位球頭、螺絲，確實上緊螺絲才能安全飛行。



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 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. Do not fly your model in inclement weather, such as rain, wind, snow or darkness.

真飛機飛行時具有一定的速度，相對的也潛在著危險性。場地的選擇也相對的重要，請遵守當地法規到合法飛行場飛行。請勿選擇在建築物、高壓電線、樹木等附近飛行，以免對他人、房屋、建築物、高壓電線、樹木等造成危險，並避免造成自己與他人財產的損壞。請勿在下雨、打雷等惡劣天氣下操作，以確保本身及飛機的安全。



NOTE ON LITHIUM POLYMER BATTERIES 鋰聚電池注意事項

Lithium Polymer batteries are significantly more volatile than alkaline or Ni-Cd/Ni-MH batteries used in RC applications. All manufacturer's instructions and warnings must be followed closely. Mishandling of Li-Po batteries can result in fire. Always follow the manufacturer's instructions when disposing of Lithium Polymer batteries.

鋰聚電池的一般用在RC使用的鹼性電池、鎳鎘電池、鎳氫電池比較起來要相對危險的。請嚴格遵守鋰聚電池說明書之使用注意事項，不恰當使用鋰聚電池，可能造成火災並造成生命財產安全，切勿大意！



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.

真飛機內部也是由許多精密的電子零件所組成，所以必須絕對防止濕氣或水氣，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！



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，任何的升級改裝感維修，請使用原廠產品目錄中的零件，以確保品質的安全。請勿隨意拆解機身內部零件，請勿隨意使用，並勿用於安全、法外其它非法用途。



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 or unforeseen danger may happen. (Recommend you to practice with computer-based flight simulator.)

在飛機飛行前，應先確認是否相同頻率的飛機正在飛行，因為相同頻率的飛機將會導致自己與他人立即墜落意外。由於飛機操作技巧在學習初期有一定的難度，建議盡量尋求資深飛行員指導，能夠從熟練人員在旁指導，才可以提升飛行技巧，否則將會造成不可預期的意外發生。(建議儘量使用電腦及電子設備進入入門必經的選擇)



SAFE OPERATION 安全操作

Make sure to always be aware to keep your eyes and body away from blades rotation. Do not attempt to grab or make contact with the helicopter while the main blades are in motion. During take-off, landing, and flight, be sure to keep the helicopter away from all obstacles. Operators must stand at least 10 meters away from the helicopter. Never take your eyes off the model or leave it unattended while it is turned on, and immediately turn off the model and transmitter when you have landed the model. Operate this unit within your ability, do not fly under tired condition, improper operation may cause in danger, and always to avoid injury caused by loose parts due to improper assembly or any unforeseen dangers.

請隨時注意，無論在任何時候，都不能將視線中的真飛機對準眼睛，嚴格用手控制運行中的真飛機，當主旋翼轉動後，或旋翼/尾槳時，務必遠離障礙物。站立位置必須距離 10 公尺以上，不可在視線範圍外進行飛行。降陸後也應馬上關掉遙控飛機及遙控器電源，操作時切勿再換舞臺，危險後投擲及能力。避免因人為疏忽不當造成零件鬆動，而引發不可預期的意外發生，並遠離真飛機本身，過於疲勞、精神不振或不當操作，都可能引起不可預期的意外發生。



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.

在真飛機主旋翼及尾旋翼轉動時會以高速度下進行，在旋轉下的旋翼會造成自己與他人在身體上或環境上的嚴重損傷，請時刻遠離旋轉中的主旋翼及尾旋翼，並維持安全距離以避開造成危險及損壞。



KEEP AWAY FROM HEAT 遠離熱源

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

遙控飛機多半是以 PA 纖維或聚乙之類，電子零件為主要材質，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。



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



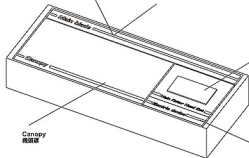
Transmitter

(6-channel or more, Helicopter system)
發射器 (六或以上通頻模式遙控器)Receiver (6-channel or more)
接收器 (六或以上)or
或Remote Receiver
遙控天線Intelligent Balance
Charger RCC-6CX
智慧型平衡充電器 RCC-6CXor
或RCC-300 Intelligent
Battery Charger
RCC-300 智慧型充電器22.2V 6S 4500-5200mAh
Li-Po Battery x 2 pcs
22.2V 6S 4500-5200mAh Li-Po 電池 x 2Receiver Battery
7.4V 2S 1900-2300mAh Li-Po x 1 pcs
接收器電池 7.4V 2S 1900-2300mAh Li-Po x 1

ADDITIONAL TOOLS REQUIRED FOR ASSEMBLY 自備工具

[H70118]
Swashplate Leveler
十字盤校正器[HET80001]
AP800 Digital Pitch Gauge
AP800 數位傾斜尺[HETMT901]
Multi-function Tester
多功能檢測計Philips
Screw Driver
十字螺絲起子
φ 3.0/φ 1.2mmCutter Knife
刀子Hexagon
Screw Driver
六角螺絲起子
3mm/2.5mm/
2mm/1.5mmNeedle
Nose Pliers
尖嘴鉗Oil
潤滑油CA Glue
瞬間膠Grease
潤滑油

PACKAGE ILLUSTRATION 包裝說明

760 Carbon Fiber Blades x 1set
760 碳纖維主翼 x 1 副800HT5
Carbon Fiber Tail Boom x 1
碳纖維尾管 x 1Quick Finder
零件快速導Optional Equipment
選購品Microbeast PLUS
Flybarless System x 1
微中微翼系統 x 1DS835M High Voltage Brushless Servo x 1
DS835M 高電壓無刷伺服器 x 1DS830M High Voltage Brushless Servo x 3
DS830M 高電壓無刷伺服器 x 3Hobby Wing PlatinumHV 200A Brushless ESC x 1
Hobby Wing PlatinumHV 200A 無刷調速器 x 1RCM-BL850MX (490KV/4535) Motor x 1
RCM-BL850MX (490KV/4535) 無刷馬達 x 1Canopy
機頭罩

There are many versions of T-REX 800E PRO for your choice. The SuperCombo includes additional electronics and other equipment. The Instruction Manual will refer to the T-REX 800E PRO Super Combo. You may purchase any additional items referenced in the instruction manual or any spare parts for other 800E PRO version by referring to more product information in this manual.

T-REX 800E PRO 系列商品有多種版本可供選擇，除標準配備會因您購買的商品版本而有些微不同，在包裝、設定上都是一致的，在此我們以 Super Combo 作為操作範例，您也可依照書面上的商品資訊來增添其他選購商品。



T-REX 800E PRO SUPER COMBO STANDARD EQUIPMENT			T-REX 800E PRO SUPER COMBO 標準配備 [RH80E16XT]	
				
800HC2	700FLH	800HB5	700HB11A	800HB8
				
700HB13	700HB14	800HT1	800HT8	800HG1
				
800HT5 Carbon Fiber Tail Boom x 1 碳纖維管 x 1	Repair Towel x 1 維修毛巾 x 1	850MX Brushless Motor (490KV/4535) x 1 850MX 無刷馬達 (490KV/4535) x 1	M4x4 Set Screw x 2 M4x4 止流螺絲 x 2 Motor Mount Thread Pinion Gear 12T x 1 馬達安裝齒輪 12T x 1	Microbeast PLUS Flybarless System x 1 無平面翼系統 x 1
				
DS830M High Voltage Brushless Servo x 3 DS830M 高電壓無刷伺服馬達 x 3	DS835M High Voltage Brushless Servo x 1 DS835M 高電壓無刷伺服馬達 x 1	Platinum HV 200A Brushless ESC x 1 200A 無刷調速器 x 1	800FLH4 730 Carbon Fiber Blades x 1set 730 碳纖維主旋翼 x 1組	

CAREFULLY INSPECT BEFORE REAL FLIGHT 請嚴格執行飛行前之檢查義務

- 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 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 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 if the battery and power plug are fastened. Vibration and violent flight may cause the plug loose and result in 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。
- 每次飛行前請確定發射器與接收器電池的電量充足足夠飛行的需要。
- 開機時請確認門桿桿是否位於最低點，熄火桿是否鬆開，定速開關(IDLE)是否於關閉位置。
- 開機時必須遵守電源開機的程序，開機時應先開啟發射器後，再開接收器電源；關機時應先關閉接收器後，再關閉發射器電源。不正確的開機程序可能會造成失控的現象，影響自身與他人的安全，請養成正確習慣。
- 開機前請先確定直昇機的各個動作是否正確，並檢查伺服器的動作是否有干涉或磨損的情形，使用故障的伺服器將導致不可預期的危險。
- 飛行前請確認沒有缺少或鬆動的螺絲與螺帽，確認沒有組裝不完善或磨損的零件，仔細檢查主旋翼交匯的部位，損壞或組裝不完全的零件不僅影響飛行，更會造成不可預期的危險。注意：每次飛行前的安全檢查、保養、及更換損耗零件，請確實嚴格執行以確保安全。
- 檢查所有的連接頭是否有鬆脫的情形，過鬆的連接頭應先更新，否則將造成直昇機無法操控的危險。
- 確認電池及電源插頭是否固定牢靠，飛行中的震動或激烈的飛行，可能造成電源插頭鬆脫而造成失控的危險。

When you see the marks as below, please use relative glue or grease to ensure flying safety.

標有以下符號之組裝步驟，請配合上膠或上油，以確保相對零件使用之可靠性。



• CA : Apply small amount of CA Glue to fix.

黏結膠：使用適量黏結膠固定

• R48 : Apply small amount of Anaerobic Retainer to fix.

缺氧膠：使用適量缺氧膠固定

• T43 : Apply small amount of Thread Lock to fix.

螺絲膠：使用適量螺絲膠

• OIL : Add small amount of OIL.

潤滑油：添加適量潤滑油

• Grease : Add small amount of Grease.

潤滑膏：添加適量潤滑膏

When assembling ball links, make sure the "A" character faces outside.

在裝配球桿連接頭時，"A"字朝外。



Keep plastic parts away from heat.
塑膠件避免靠近熱源。



CA Glue
黏結膠



Anaerobic Retainer
缺氧膠



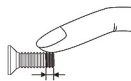
Thread Lock
螺絲膠



Grease
潤滑膏



Oil
潤滑油



T43 Glue width : approx. 1mm
T43 上膠寬度約 1mm

- Anaerobic Retainer (R48) is green penetrating threadlocker and is used to fix the metal tube before assembly at temperatures up to +180°C.
- Thread Lock (T43) is blue low strength threadlocker and is applied to the small screw (threads) or metal parts before assembly to prevent loosening. Ensure to apply only a small amount and wipe surplus off. When disassembling, recommend to heat the metal joint about 15 Seconds.
- Grease is kind of lubricant additive which is applied to the one-way bearings or thrust bearing.

Based on parts physical attributes, please apply small amount of the relative glue or grease accordingly to prevent any parts damage or loosening or unexpected danger happened.

- 缺氧膠 (R48) 為綠色高強度快速固化的缺氧膠，適合於金屬管固定用，可耐高溫至 180°C。
- 螺絲膠 (T43) 為藍色低強度螺絲膠，適合小型螺絲；使用於金屬內件或螺絲各樣螺絲，請務必適量使用，必要時請用手去除多餘膠量，欲拆卸時可於金屬接合部位加熱約 15 秒。
- 潤滑膏 (Grease) 為膏狀潤滑油，適用於單向軸承或止推軸承。

以上各類功能膠(油)請依零件屬性需求自行準確量取其用量，以達到最佳組裝狀態，避免因使用不當造成零件損壞或不可預期的意外發生。

3D & F3C MAIN ROTOR HOLDER ARM FINE CONTROL ACCURACY 3D & F3C 主旋翼夾座臂精細的控制精準度

The Instruction Manual will refer to the T-REX 800E PRO Super Combo with 3D main rotor holder arm. you may purchase any additional items referenced in the instruction manual or any spare parts for other T-REX 800E PRO version by referring to more product information in this manual.

在此我們以 Super Combo 搭配 3D 主旋翼夾座臂作為操作範例，您也可以依照書面上的商品圖錄來增添其他選購商品。

3D Main Rotor Holder Arm 3D 主旋翼夾座臂

[H76H001XXW]

3D Main Rotor Holder Arm
3D 主旋翼夾座臂

The 3D main rotor holder arm has excellent rigidity and toughness, suitable for extreme 3D flight, features with more direct and faster response, also enhance the flight stability, allowing to stimulate the infinite possibilities.

3D 主旋翼夾座臂擁有極佳的剛性與韌性，適用於極端暴力 3D 飛行，操控上更直接與更快速反應外，更提升飛行穩定，讓你想發出無限可能。

F3C Main Rotor Holder Arm F3C 主旋翼夾座臂

[H76H002XXW]

F3C Main Rotor Holder Arm
F3C 主旋翼夾座臂Optional Equipment
選購品

The new F3C main rotor holder arm, effectively doubling the flight stability, and the excellent fine control accuracy; not only in the static flight has more advantages in the dynamic flight also has more outstanding control feeling.

全新的 F3C 主旋翼夾座臂，有效加倍飛行穩定性能，與精細精準的控制精準度，不僅在靜態飛行有更加優勢，在動態飛行上也有更優良的操控手感。

700FLH16

CAUTION
注意

Thrust bearing and washer for radial bearing are wear items; therefore, it is recommended to inspect after every 20 flights and replaced as necessary. For flights with high headspeed, the inspection interval should be reduced to ensure flight safety.

止推軸承及徑向軸承屬於飛行消耗品，建議每 20 趟定期檢查及更換，高主旋翼轉速飛行，請縮短定期檢查之趟數，以確保飛行安全。

Thrust Bearing

止推軸承 (φ 10.2x φ 10x5.5mm) x 2

Bearing

軸承 (φ 10x φ 15x5mm) x 4

Spindle Bearing Spacer

滑軸止推墊圈 (φ 10x φ 16x1mm) x 2

Socket Collar Screw

圓筒內六角軸夾螺絲 (M3x6mm) x 4

Bearing

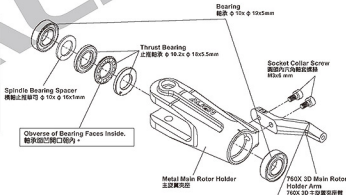
軸承 (φ 10x φ 15x5mm) x 4

Spindle Bearing Spacer

滑軸止推墊圈 (φ 10x φ 16x1mm) x 2

Socket Collar Screw

圓筒內六角軸夾螺絲 (M3x6mm) x 4

Observe of Bearing Faces Inside.
軸承面凸凹開口處內。CAUTION
注意

Apply Grease on Thrust Bearing.

止推軸承上抹滑油



THRUST BEARING 止推軸承

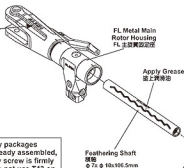
Metal Main Rotor Holder
金屬主旋翼夾座FORBIDDEN
禁止

The Rotor Holder is specialized for F3C or 3D flight only. Make sure to switch or replace the whole F3C or 3D main rotor holder arm completely. Strongly recommend not to apply F3C & 3D main rotor holder arm together on the helicopter at the same time.

組裝或替換 F3C/ 3D 飛行專用夾座臂時，須整組更替，嚴禁 F3C 主旋翼夾座臂與 3D 主旋翼夾座臂混合使用。



ALLEN
Logo on The Top
字樣朝上



Apply Grease
塗上潤滑油

700FLH16



Original manufacture packages contains product already assembled, please confirm every screw is firmly secured with T43. Do not use T43 on any plastic part.

原廠零件出廠包裝如果是組裝品，請需再確認每顆螺絲是否都緊上膠。請注意 T43 不可用在任何塑膠材質上。

The feathering shaft and feathering shaft socketscrews are wear items, and thus should be inspected for replacement after every 100 flights. For flights with high head speed, the inspection interval should be reduced to ensure flight safety.

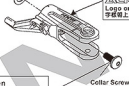
主翼翼轂軸組、轉柄和轉柄螺絲屬於飛行消耗品，建議每100趟定期檢查及更換。若主翼翼轂速度高時，請縮短定期檢查之週數，以確保飛行安全。



Please apply a small amount of T43 when tightening the feathering shaft socket screws and make sure to tighten firmly, but not over tighten. Suggest using a torque wrench or torque lock when tightening screws. Torque value 20.0kg.cm
轉柄螺絲組裝時需注意鎖附之緊度與使用適量的螺絲膠。建議搭配扭力扳手或扭力鎖裝轉柄螺絲。鎖正扭力值為20.0kg.cm。



ALLEN
Logo on The Top
字樣朝上



700FLH16

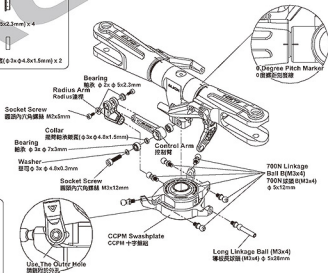


Apply a small amount of T43 thread lock when fixing a metal part.
螺絲鎖附於金屬件時使用適量T43(螺絲膠)。

700FLH16A



700FLH13



700FLH16A



Already assembled by Factory.
Before flying, please check if the screws are fixed with glue.
原廠組裝完成品，第一次飛行前請先確認螺絲是否上膠不會鬆動。



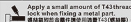
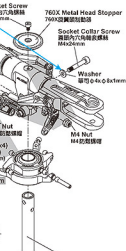
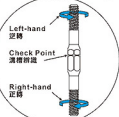
For installation, make sure the "Check Point" is face upward, then use plier or wrench grasp the center of hexagonal rod to adjust its suitable length, turns clockwise to decrease the length, turns counter clockwise to increase the linkage length.

期屆時請將選擇中間有選擇標識該類上。請使用尖嘴鉗
迅速平穩地選擇中間六角形標記的圖解進行拆裝。嚴防針
鉗鬆動或滑移損壞圖解；更防針鉗鬆動造成損壞圖解。



You may adjust the length of ball link when tracking is off while flight.

若飛行中有雙葉情形，可適當調整皮帶角度改善。



MAIN ROTOR GRIP ARM AND LINKAGE ROD

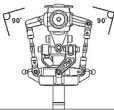
主腹置連桿與夾座體

SYMMETRICAL PITCH, THE BEST PRECISION

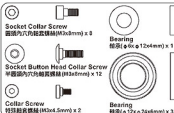
動作準確對稱，精確度更好

Main Rotor Grip Arm and Linkage Rod is at 90-degree angle symmetrically, allow to keep the best precise flight performance.

主旋臂選擇與夾座臂 90 度設計，使螺距動作成對稱比例，讓直昇機動作更精確且流暢。



800HB8



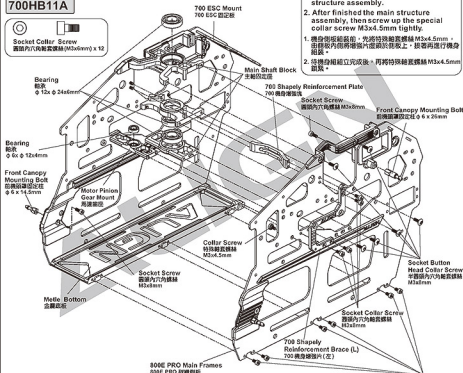
800HB7



- Before assemble the main structure, please roughly bolt the special collar screw M3x4.5mm inside the main frame, and then go into next process of main structure assembly.
- After finished the main structure assembly, then screw up the special collar screw M3x4.5mm tightly.

- 機身側板組裝前，先將特珠鉋蓋螺絲 M3x4.5mm，由機身內側將增強片固定於其板上，接著再進行機身組裝。
- 待機身組裝完成後，再將特珠鉋蓋螺絲 M3x4.5mm 鎖緊。

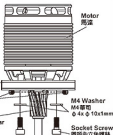
700HB11A



700HZ11



Make sure the motor mount is fully fastened before fasten the motor pinion gear mount.
先將馬達固定座鎖緊固定後，再將馬達齒座鎖緊。



Apply a small amount of T43 thread lock when fixing a metal part.
螺絲鎖付於金屬件時請使用微量 T43 (螺絲膠)。



Original manufactory packages contains product already assembled, please confirm every screw is firmly secured with T43. Do not use T43 on any plastic part.

原廠零件包裝內裝有組裝成品，請務必確認各螺絲皆牢固鎖上膠。請注意 T43 不可塗在任何的塑膠材質上。

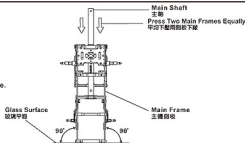


Main frame assembly key point :

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

機身傳組立重點：

鋼板螺絲先不完全鎖緊，放入主軸貫穿二鋼軸承確認上下移動必需滑順，主體底板必須與水平桌面緊密(玻璃平面)密實緊貼；請保持主軸滑順與底板平行桌面後慢慢鎖緊螺絲，正確鋼板的組裝對動力與飛行性能有顯著幫助。



700HB13



Socket Button Head Self Tapping Screw
半圓頭內六角自攻螺絲(T3x12mm) x 2

800HB7



Socket Collar Screw
圓頭內六角鎖套螺絲(M6x6mm) x 6



Socket Screw
圓頭內六角螺絲(M3x20mm) x 2

700HB11A



Socket Screw
圓頭內六角螺絲(M3x18mm) x 4

700HG2A



M3 Washer
M3華司(φ3xφ8x1mm) x 4



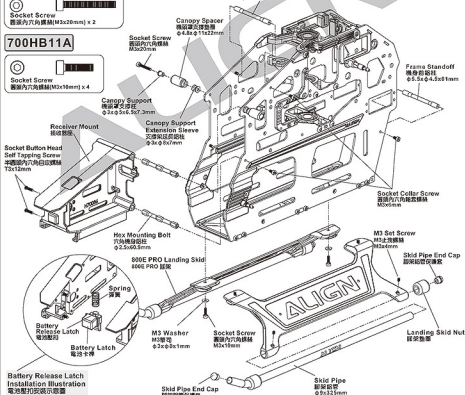
M3 Set Screw
M3止鎖螺絲(M3x4mm) x 4

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



Original manufacturer packages contains product already assembled, please confirm every screw is firmly secured with T43. Do not use T43 on any plastic part.

原廠零件包裝包裝如果屬組裝品，請確認每顆螺絲是否都緊上膠，請注意T43不可塗在任何的塑膠材質上。



700HZ9

Linkage Ball C
球頭 C(M2.5x3.5) (φ 5x8.5mm) x 1

Linkage Ball C
球頭 C(M2.5x4) (φ 5x12mm) x 3

700HB12

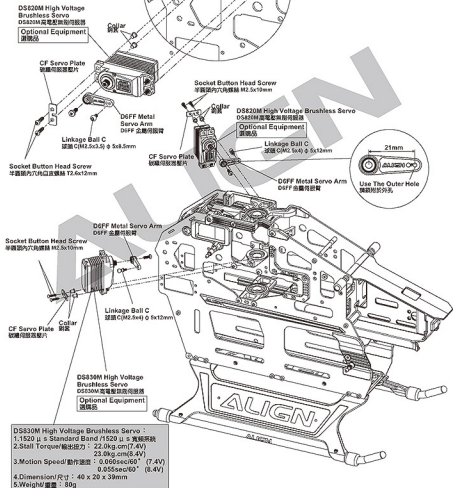
Socket Button Head Screw
半圓頭內六角螺絲 (M2.5x16mm) x 6

Apply a small amount of T43 thread lock when fixing a metal part.
鎖緊零件時請使用適量 T43 (螺絲膠)。

CAUTION
注意

Original manufactory packages contains product already assembled, please confirm every screw is firmly secured with T43. Do not use T43 on any plastic part.

原廠零件包裝包裝如果已經組裝，請確認每顆螺絲是否都裝上膠。請注意 T43 不可裝在任何的塑膠材質上。



800HB8



Collar Screw
特殊軸套螺絲 (M3x6.5mm) x 2

700HZ9



Linkage Ball C (M2x4)
球頭C (M2x4) (φ5x3mm) x 1
M2 Nut
M2 螺帽 x 1

700HB13



Socket Button Head Screw
半圓頭內六角螺絲 (M2.5x10mm) x 4



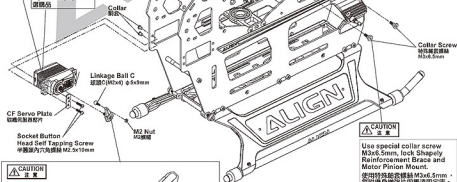
Socket Button Head Screw
半圓頭內六角螺絲 (M2.5x10mm) x 4



1. While assembling the motor mount, please make sure to properly loose M4 Set screw on 12T motor gear first, after fully fasten the motor mount with the motor pinion, then fasten back the M4 Set screw completely.
 2. Make sure the motor mount is fully fastened before fasten the motor pinion gear mount.
1. 安裝馬達座時，請先將 12T 馬達齒主軸的 M4x4mm 止咬螺絲適當放鬆，將馬達座固定和馬達齒座固定好後，再將馬達止咬螺絲鎖緊。
2. 將馬達座固定座鎖緊固定後，再將馬達齒座鎖緊。

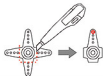
- DS835M High Voltage Brushless Servo :
1. 1520 μ s Standard Band / 1520 μ s 寬頻系統
 2. Stall Torque/輸出扭力 : 10.0kg.cm (7.4V)
12.5kg.cm (8.4V)
 3. Motion Speed/動作速度 : 0.03sec/60° (7.4V)
0.028sec/60° (8.4V)
 4. Dimension/尺寸 : 40 x 20 x 39.1mm
 5. Weight/重量 : 72g

DS835M High Voltage
Brushless Servo
DS835M 高壓無刷伺服馬達
Option Equipment
選購品



Please trim away the other servo horns, and fasten linkage ball on the outer hole.

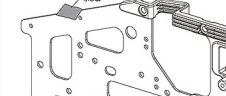
請先將原裝十字架角片切掉多餘的角三邊，並將球頭鎖附於最外孔。



Recommend sanding the marked position as below illustration with a waterproof abrasive paper (#800-1000) to avoid the wires of electric parts to be cut.

建議於下圖色塊標示處，使用 #800-1000 水砂紙打磨，可防止電子設備電路被割破。

Waterproof Abrasive Paper
水砂紙



Apply a small amount of T43 thread lock when fixing a metal part.
鎖絲鎖於金屬件時使用微量 T43 (鎖絲膠)。



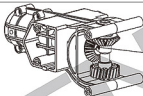
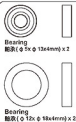
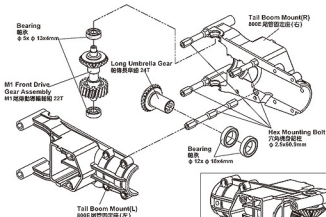
Original manufactory packages contains product already assembled, please confirm every screw is firmly secured with T43. Do not use T43 on any plastic part.

原裝零件出版包裝如果是組裝品，請確認每顆鎖絲都牢固鎖緊於金屬件上，請注意 T43 不可塗在任何的塑膠材料上。

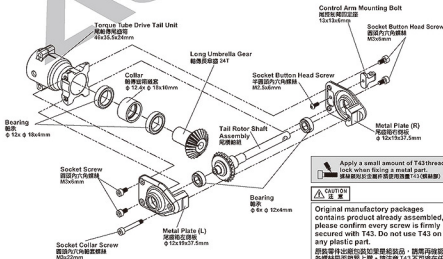


Use special collar screw M3x6.5mm, lock Shapely Reinforcement Brace and Motor Pinion Mount.
使用特殊軸套螺絲 M3x6.5mm，鎖於機身增強片與馬達齒座固定座。

800HT1



800HT8



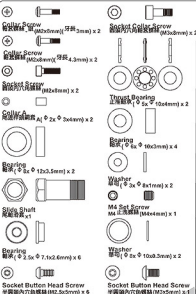
Apply a small amount of T43 thread
lock when fixing a metal part.
锁紧螺孔时金属件请使用微量 T43 (锁紧剂)。



Original manufacturer packages
contains product already assembled,
please confirm every screw is firmly
secured with T43. Do not use T43 on
any plastic part.

原裝零件包裝如若是組裝品, 請再確認
各螺絲是否鎖緊上膠。請注意 T43 不可塗在任
何的塑膠件上。

800HT8



800HT9



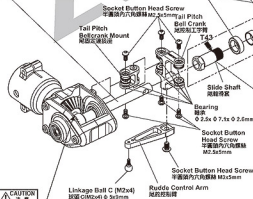
Apply Grease on Thrust Bearing.
止推軸承塗上潤滑油



Please tighten M2x8mm collar screw firmly but not over tightened. Over tighten the screw will cause the operation of control link unsmoothly.
鎖緊 M2x8mm 軸套螺絲時使用適力適，過緊則會造成尾旋翼控制連桿運動不順。

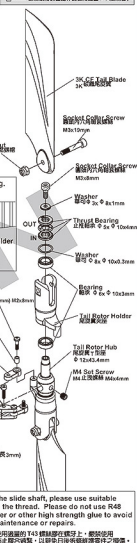


Aim tail rotor hub at the concave of tail rotor shaft and fix it, please apply a little glue on the set screw.
尾旋翼 T 型控制桿尾旋翼的凸凹對準上，請在固定螺絲上塗上。



Assembling Umbrella Gear: Please note to push the gear to the end at a fixed position, to make sure the gears mesh with each other smoothly.
安裝齒輪，請注意務必將齒輪推到底定位，以避免齒輪咬合不順暢。

Apply a small amount of T43 thread lock when fitting a metal part.
螺絲鎖緊於金屬件時使用適量 T43 (螺絲膠)。



While assembly the slide shaft, please use suitable amount of T43 on the thread. Please do not use R48 anaerobics retainer or other high strength glue to avoid damages while maintenance or repairs.
組立尾旋翼時，請使用適量的 T43 螺絲膠在螺絲上，嚴禁使用 R48 無膠合性黏膠防止膠合過緊，以免日後拆裝螺絲等件之毀壞。

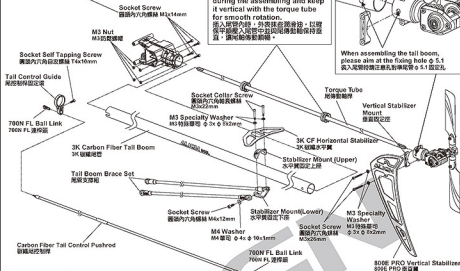
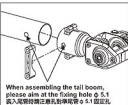


After complete the tail rotor assembly, please check if it rotates smoothly.
尾旋翼組裝完成後，請檢查尾旋翼是否旋轉順暢。



Already assembled by factory, please note to check again.
已裝完成，請務必自行再檢查。

When assembling into the tail boom, please apply some oil on the surface, to make it smooth during the assembling and keep it vertical with the torque tube for smooth rotation.
插入尾管內時，外表面應塗油，以確保平滑插入尾管中並與尾傳動軸保持垂直，請同時檢查動靜。



700NT1A



800HT4A

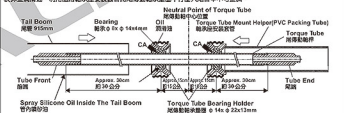


800HT8



TIP TO FIX THE TORQUE TUBE 傳動軸軸承固定位置

Please apply some CA glue to fix bearing on the torque tube, avoid CA glue from the dust or may cause the bearing stuck. When assembling into the tail boom, please apply some oil and use the attached torque tube mount helper to press the bearing holder of the torque tube into the tail boom horizontally. 請以少量 CA 高黏度固定於尾傳動軸上，避免 CA 達到軸承的防護蓋而導致軸承卡死，插入尾管內時，尾傳動軸承蓋外表面塗油潤滑，利用輔助固定座安裝並將尾傳動軸承座壓入尾管中不可歪斜。



800HT5



800HT6



CAUTION 注意

After moving the tail control rod adjustment sleeve to recommended position, glue the sleeve to carbon tail control rod with instant glue. 尾控制桿固定環調整至建議位置後，再將尾控制桿固定環黏與碳纖維尾控制桿前蓋以固定環與桿固定。



Apply a small amount of T43 thread lock when fixing a metal part.
鎖緊螺絲時於金屬件處使用適量 T43 (螺絲膠)。

700 Pro Metal Anti Rotation Bracket
700 Pro 十字防轉夾

800HB8

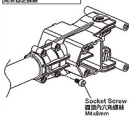


Socket Button Head Screw
半圓頭內六角螺絲 (M2.5x14mm) x 2

Socket Button Head Screw
半圓頭內六角螺絲 (M2.5x14mm)

Socket Button Head Collar Screw
半圓頭內六角鉗套螺絲 (M3x3mm)

Tail Boom Fixing Screw
尾管固定螺絲



Socket Screw
圓頭內六角螺絲 (M4x6mm)

M4 Washer
M4 墊圈
φ 4x φ 10x1mm

Socket Screw
圓頭內六角螺絲 (M4x14mm)

700NT1A



Socket Screw
圓頭內六角螺絲 (M4x6mm) x 1



Socket Button Head Collar Screw
半圓頭內六角鉗套螺絲 (M3x3mm) x 8



700HB11A



Socket Screw
圓頭內六角螺絲 (M4x14mm) x 2



M4 Washer
M4 墊圈
φ 4x φ 10x1mm) x 2

700HB14



Bearing
軸承 (φ 15x φ 21x6mm) x 2



One-way Bearing
單向軸承 (φ 15x φ 23x11mm) x 1



Spacer
700 導向垫片 φ 15x φ 22.7x0.7mm x 1



Socket Screw
圓頭內六角螺絲 (M2.5x8mm) x 6

Socket Screw
圓頭內六角螺絲 (M3x3mm)

Washer
墊圈 φ 3x φ 4.8x0.6mm

CNC Slant Thread
Main Drive Gear
CNC 斜齒主齒 1:127

One-way Bearing Cover
單向軸承上蓋
φ 21x φ 15.8x26mm



Washer
墊圈 φ 3x φ 4.8x0.6mm x 6



Socket Screw
圓頭內六角螺絲 (M3x3mm) x 6



Please fasten the screws to the φ 3.0 holes of the slant main gear.
螺絲鎖緊於斜主齒的 φ 3.0 孔位

One-way Bearing Shaft
單向軸承軸
φ 12x φ 15x41.5mm

Spacer
700 導向垫片
φ 18x φ 22.7x0.7mm

One-way Bearing Collar
單向軸承外圈
φ 6x φ 22x11.6mm

Apply Grease
塗上齒油

One-way Bearing Mount
單向軸承下座
φ 21x φ 6.5x23.5mm

Bearing
軸承 φ 15x φ 21x6mm

One-way Bearing
單向軸承 φ 15x φ 23x11mm

Please note the direction of bearing.
請注意軸承方向

One-way Bearing Collar
單向軸承外圈
φ 6x φ 22x11.6mm

Apply Grease
塗上齒油

One-way Bearing Mount
單向軸承下座
φ 21x φ 6.5x23.5mm

Bearing
軸承 φ 15x φ 21x6mm

One-way Bearing
單向軸承 φ 15x φ 23x11mm

Please note the direction of bearing.
請注意軸承方向

Socket Screw
圓頭內六角螺絲 (M2.5x8mm)

CAUTION

Original manufactory packages contains product already assembled, please confirm every screw is firmly secured with T43. Do not use T43 on any plastic part.
原廠零件包裝包裝的模型是組裝品，請再確認每顆螺絲是否鎖緊上緊。

Before tightening the screw, please rotate the bearing and check the concentricity of the bearing in order to have the screw firmly secured, to avoid the bearing stuck or heavy load at one side and cause slip.

上緊螺絲前需旋轉軸承檢查軸承同心度是否良好，才能將螺絲牢固鎖緊，以避免造成軸承卡死或單向負荷，即可產生打滑。



M1 Auto-rotation
Tail Drive Gear Set
M1 尾驅動主齒 1:147

Apply a small amount of T43 thread lock when fixing a metal part.
鎖緊前於金屬件面塗抹適量 T43 (防鎖膠)。

When tightening the main blade fixing screw, please tighten it firmly, but not over tighten, or it may cause the damage of main blade holder and result in danger.
鎖緊主旋翼螺絲時注意適量鎖緊即可，過緊可能導致主旋翼夾座受損，飛行意外發生。

Socket Collar Screw
圓頭內六角鉋緊螺絲 M5x32mm

730 Carbon Fiber Blades
730 碳纖維主旋翼

Linkage Rod(A)
連桿 A M3x41mm

M5 Nut
M5 防鬆螺帽

Linkage Rod(A)
連桿 A M3x41mm x 3

Standard Equipment:
Main Shaft Spacer(1)
標準件：主軸墊片 (1) $\phi 12 \times \phi 16 \times 5\text{mm}$

Spare part: Main Shaft Spacer(1-2)
Main Shaft Spacer(0.5)
Main Shaft Spacer(0.5)
備品：主軸墊片 (1-2) $\phi 12 \times \phi 16 \times 2\text{mm}$
主軸墊片 (0.4) $\phi 12 \times \phi 16 \times 2\text{mm}$
主軸墊片 (0.5) $\phi 12 \times \phi 16 \times 5\text{mm}$

700FLH16A

Main Blade Fixing Screw
主旋翼固定螺絲

Socket Collar Screw
圓頭內六角鉋緊螺絲 (M5x32mm) x 2

M5 Nut
M5 防鬆螺帽 x 2

700HZ18

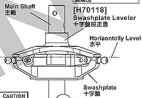
Elevator Ball Link
升降舵連桿 x 6

Collar
連桿套 x 6

Linkage Rod(A)
連桿 A (M3x41mm) x 3

Optional Equipment
選購品

[H70118]
Swashplate Leveler
十字盤校正器



CAUTION
注意

While using Flybarless system, please use the swashplate leveler to calibrate swashplate. Adjust the length of servo linkage rod to make sure the swashplate is leveled before start setting up to ensure the gyro provides the best performance.

使用無平衡系統，請務必使用十字盤調整器校正十字盤，調整伺服連桿長度，確保十字盤達到水平狀態，再進行基本機設定，這樣才能確保飛行性能達到最佳效果。

Socket Collar Screw
圓頭內六角鉋緊螺絲 M4x27mm

M4 Nut
M4 防鬆螺帽

M1 Start Thread Main Drive Gear Set
M1 新主齒輪組

800HB5

Socket Collar Screw
圓頭內六角鉋緊螺絲 (M4x27mm) x 1

M4 Nut
M4 防鬆螺帽 x 1

The lower edge of main gear need to be lined up with lower edge of pinion gear. This will ensure smooth meshing, and avoid interference between pinion's base and main gear which can lead to unusual wear.

馬達齒下緣必須與主齒輪下緣水平咬合，如此才能確保齒輪順暢咬合，避免馬達主齒輪與副齒輪產生異常干涉磨損。



Washer
墊圈 $\phi 6 \times \phi 9 \times 0.6\text{mm}$



Original manufacturer packages contains product already assembled, please confirm every screw is firmly secured with T43. Do not use T43 on any plastic part.

原廠零件包裝內產品是預裝品，請確認每個螺絲是否鎖緊上緊。請注意 T43 不可塗在任何的塑膠材料上。

MOUNTING ORIENTATION OF MICROBEAST PLUS

MICROBEAST PLUS 的安裝方向



Please visit Align download area to get the completed instruction manual at Align website.

更多詳細的設定操作說明請至官網下載專區下載。
<http://www.align.com.tw/beastx/>

Microbeast PLUS provides 8 different direction choices can be installed on any position of helicopter.

Microbeast PLUS 提供 8 種不同方向選擇，可以安裝在機體的任何一個位置。

THE COLOR OF THE STATUS-LED SHOWS THE CURRENTLY SELECTED ORIENTATION:
LED 指示燈狀態顯示安裝方向。



Status LED Off*
Status-LED 燈熄滅*



Status LED Flashing Purple
Status-LED 燈
紫色閃爍



Status LED Purple
Status-LED 燈紫色



Status LED Flashing Red
Status-LED 燈
紅色閃爍



Status LED Red
Status-LED 燈紅色



Status LED Flashing Blue
Status-LED 燈藍色閃爍



Status LED Blue
Status-LED 燈藍色

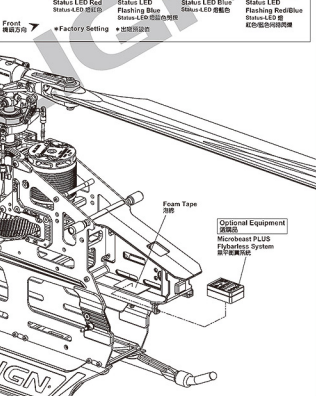


Status LED Flashing Red/Blue
Status-LED 燈
紅色藍色閃爍同時

Front
機頭方向

*Factory Setting

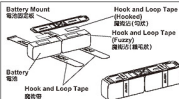
出廠預設值





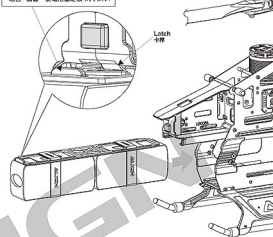
Please fix the 2 batteries on the battery mount evenly.

2 顆電池請平均固定於電池板上。



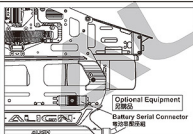
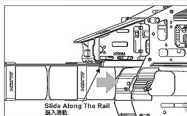
Slide the battery mounting plate along the rail until a "click" is heard to make sure the battery mounting plate is latched.

將電池固定板順著電池滑軌插入至發出 "喀嗒" 聲響，使電池固定板卡入卡桿。



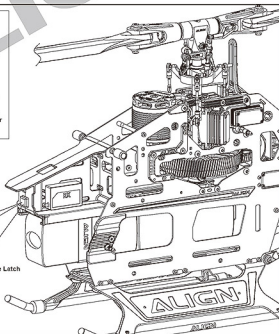
INSERT THE BATTERY FROM THE FRONT

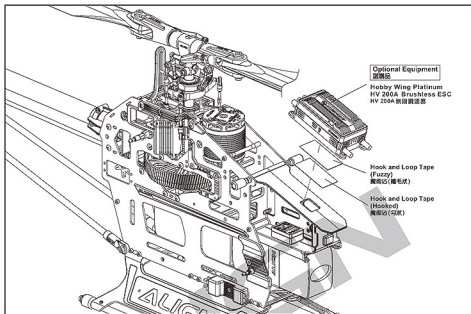
電池從前方置入



Press this latch to allow the battery to slide out along the rail.

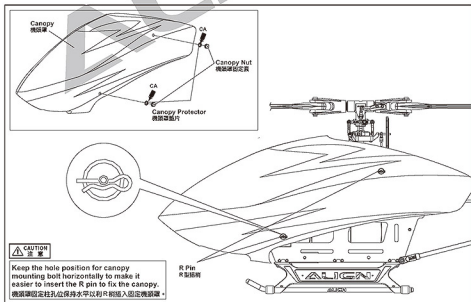
電池推出前請先將電池壓扣往內壓，順著滑軌推出。

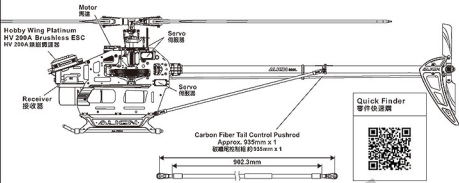




CANOPY ASSEMBLY

機頭罩安裝





MICROBEAST PLUS FLYBARLESS MANUAL 無平衡翼系統使用說明

ALIGN helicopter must equip with Flybarless System, please refer to ALIGN Helicopter standard equipment for flight and setup instruction in this manual.

ALIGN helicopter 須搭配平衡翼系統，請使用ALIGN直升機標準配件與飛行操作、設定指示。

USER NOTICE 使用注意事項



1. If assembling and operating the helicopter without using ALIGN standard equipment, including electronic equipment & blades...etc, please make sure there is a sufficiently large and stable power supply to your helicopter. If any abnormal voltage or insufficient power supply, suggest to upgrade the flybarless system to MICROBEAST PLUS HD (Optional) for better power back up.
 2. Please refer to BEASTX MICROBEAST PLUS/HD website for MICROBEAST PLUS/HD assembly and setup instruction.
 3. Any over use, incorrect setup, assembly, modification or misuse will lead to abnormal voltage, electronic devices damage, structural interference, and insufficient power supply. Make sure to carefully check every assembly and setup prior to the manual instruction prior to every flight to prevent any unforeseen danger.
1. 安裝、操作您的直升機時，如不使用ALIGN標準配件(含電子配件、主旋翼等)，請務必確定您的供電系統有足夠的供電能力，如發現電壓異常、供電不足，建議您升級使用MICROBEAST PLUS HD 無平衡翼系統(選配)，以確保供電充足、穩定的接收器電壓。
2. MICROBEAST PLUS/HD 使用、設定、接線，請參閱BEASTX MICROBEAST PLUS/HD 官方說明。
3. 任何電子配件、零件的設定、組裝、修改或操作不良所造成的電壓異常、電子零件損壞，即可能造成供電不穩定等問題，每趟飛行前請注意仔細檢查，防止機件及電子零件故障而引發不可預期的意外。

MANUAL LINK 設定操作連結

MICROBEAST PLUS Flybarless System is the V4.2 version out of the factory, please feel at ease using it. You can also link to BEASTX MICROBEAST PLUS/HD website to get the latest version and the latest news. And please refer to MICROBEAST PLUS V3.2.x and V4.1.5 instruction manual for operating and setting.

MICROBEAST PLUS 無平衡翼系統，出廠時主程式為V4.2版本。您也可以連結至BEASTX MICROBEAST PLUS/HD 官網查詢，隨時更新最新版本及各項最新訊息。操作設定請同時參閱V3.2.x版及V4.2版使用說明書。



Please visit Align download area to get the completed instruction manual at Align website.

更多詳細的設定操作說明請至官網下載專區下載。
<http://www.align.com.tw/beastx/>

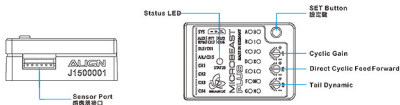


MICROBEAST PLUS

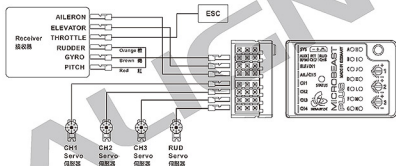
Optional Equipment
 選購品

PARTS IDENTIFICATION 各部位名稱

MICROBEAST PLUS FLYBARLESS SYSTEM 無平衡翼系統



MICROBEAST PLUS FLYBARLESS SYSTEM WIRING DIAGRAM 無平衡翼系統接線示意圖



For detail connectivity, please scan QR Code then follow MICROBEAST PLUS manual.

詳細接線方式，請掃描QR Code連結至MICROBEAST PLUS說明書。



Optional Equipment
選購品

MICROBEAST PLUS HD Flybarless System (Optional) MICROBEAST PLUS HD 無平衡翼系統 (選配)

If assembling and operating the helicopter without using ALIGN standard equipment, including electronic equipment & blades...etc, please make sure there is a sufficiently large and stable power supply to your helicopter. If there is any abnormal voltage or insufficient power supply, suggest to upgrade the flybarless system to MICROBEAST PLUS HD (Optional) for better power backup. Please refer to BEASTX website for MICROBEAST PLUS HD assembly and setup instruction.

安裝、操控您的直升機時，如非使用ALIGN標準配件(含電子配件、主旋翼等)，請務必確認您的供電系統有足夠的供電能力，如發現電壓異常、供電不足，建議您升級使用MICROBEAST PLUS HD無平衡翼系統(選配)，以能確保充足、穩定的接收器電源。MICROBEAST PLUS HD使用、設定、接線，請參照MICROBEAST PLUS HD官方說明。

To set this option is to turn on the transmitter and connect to BEC 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.

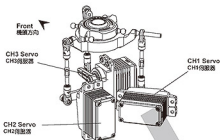
此項設定只適用於發射器，接上BEC電源即可進行操作。

注意：為了安全起見，設定前請先不要將飛控調速器與無刷馬達三條線接上，以免調整時啟動馬達而發生危險。

SERVO CONFIGURATION 伺服器配置

Following the servo configuration diagram on right, plug the servos to Gyro.

請依照右圖顯示的伺服器名稱，將伺服器接到陀螺儀。



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

陀螺儀與尾翼中立點設定

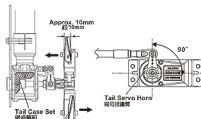
Turn off Revolution mixing (RVMX) mode on the transmitter, then set the gain switch on the transmitter and the gyro to non-head lock mode, or disable gain completely. After setting the transmitter, connect the helicopter power and proceed with rudder neutral point setting. **Note:** When connecting to the helicopter power, please do not touch tail rudder stick and the helicopter, wait for 3 seconds for gyro to enable, and the rudder servo horn should be 90 degrees to the tail servo. Tail pitch slider should be half way on the tail output shaft. This will be the standard rudder neutral point. After completing this setting, set the gain switch back to heading lock mode, with gain at around 70%.

發射器內陀螺儀設定請關閉混合控制模式，並將發射器上的感度開關與陀螺儀切至“非鎖定模式”或將感度開關關閉。發射器設定完成後接上直升機電源，即可進行尾舵中立點設定。注意：當接上直升機電源時請勿碰動尾舵搖桿或旋轉機體，待3秒陀螺儀啟動完成後，尾舵感度開關與尾舵伺服器約成90度，尾翼翼控制組須正確置於尾翼舵的中點位置，即為標準尾舵中立點設定，設定完成後，切回至“鎖定模式”，感度設約70%左右。

TAIL NEUTRAL SETTING 尾翼中立點設定

After the gyro is enable and under non-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.

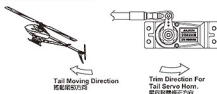
陀螺儀啟動後，在非鎖定模式下，尾舵伺服器與尾Pitch控制組正確位置。若尾Pitch控制組未量中時請調整尾舵控制桿的長度來修正。



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 clockwise and the tail servo horn will be trimmed counterclockwise. If it trims in the reverse direction, please switch the gyro to "REVERSE".

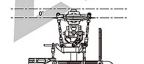
陀螺儀鎖定方向確認，當手搖尾舵順時鐘運動，尾舵感度應反時鐘修正，反時鐘時請切換陀螺儀上“鎖定反向”開關修正。



GENERAL FLIGHT 一般飛行模式

Stick Position at High/Throttle 100%/Pitch+12°
高轉速/油門100%/Pitch+12°Stick Position at Hovering/Throttle 70%/Pitch+5°
懸停狀態/油門70%/Pitch+5°Stick Position at Low/Throttle 0%/Pitch-2~0°
低轉速/油門0%/Pitch-2~0°

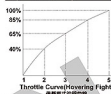
3D FLIGHT 3D特技飛行模式

Stick Position at High/Throttle 100%/Pitch+12°
高轉速/油門100%/Pitch+12°Stick Position at Middle/Throttle 50%/Pitch 0°
中等轉速/油門50%/Pitch 0°Stick Position at Low/Throttle 100%/Pitch-12°
低轉速/油門100%/Pitch-12°

1. Pitch range : Approx. ± 15 degrees.
2. If the pitch is set too high, it will result in shorter flight duration and poor motor performance.
3. Setting the throttle to provide a higher speed is preferable to increasing the pitch too high.
1. 傾正 (Pitch) 飛行範圍 $\pm 15^\circ$
2. 過大傾正設定，會導致動力與飛行時間降低。
3. 動力提升以較高轉速的設定方式，優於傾正過大的設定。

GENERAL FLIGHT 一般飛行模式

Throttle 油門	Pitch 傾正
5 100% High Speed 100% 高轉速	+12°
4 85%	
3 60%~85% Hovering 60%~85% 懸停	+5°
2 40%	
1 0% Low Speed 0% 低轉速	0~-2°

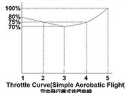


PITCH AND ROTATION SPEED PITCH與轉速關係

TIP: It is recommended to use a lower pitch setting when using higher RPM/Head speed. This will allow for better power. 搭配雙領：如果使用較高轉速這兩連動力建議搭配傾正 Pitch，將獲得最佳動力效能。

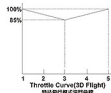
IDLE 1: SPORT FLIGHT

Throttle 油門	Pitch 傾正
5 100%	+10~+12°
4 75%	
3 70%	+5°
2 75%	
1 80%	-5°



IDLE 2: 3D FLIGHT

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



RCM-BL850MX (490KV/4535) MOTOR

RCM-BL850MX (490KV/4535) 無刷馬達

Power and torque requirements of enthusiasts, the high output 850MX motor was born in Align's R&D lab. With dramatic increase in torque and power output, capable of 5160 watts continuous power output and 11000 watts of burst power!

850MX Motor has passed various thorough inspections made by our technical department, including motive testing, static testing, magnetic field testing, heat resistance and magnetic loss testing, running balance and vibration testing, noise testing, and many hours of actual loading and flying testing, etc. Align is proud to provide the latest innovations in RC Modeling to its consumers. Please enjoy your Align products safely.

亞特格創製大馬力、高扭力的需求，研發設計出極強動力馬達的850MX馬達，動力輸出與扭力表現大為提升，持續輸出功率5160W，瞬間最大輸出功率可達11000W。本公司生產的高扭力馬達轉速4500RPM馬達，適用於RC電動模型，其高功率高效率輸出特性，適合電動飛機/適合空模機之高扭力高轉速電動動力用途。遠程控制可採用本公司城市飛翔板刷電機電子變速器。轉子採用高扭力材料於鐵磁鋼製成，定子採用高純度銅線繞製成，定子採用高純度銅線繞製成，耐高溫高壓，可承受高壓高扭力輸出及雙ZZ高轉速電容設計，採用亞特格獨立開發設計技術，使用壽命長、效率高、耐震不易變形、低溫損、高效率850型兩相馬達。該馬達馬達已通過本廠校準單位，實為精密耐用、靜音、磁場特性、強勁耐震兩相馬達、運轉平穩震動及噪音、耐震耐震飛行動態性能等全場最佳馬達。

SPECIFICATION 尺寸規格

(Unit unit:mm)

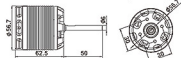


ILLUSTRATION 接線示意圖



KV	KV值	490KV(RPM/V)	Input Voltage	輸入電壓	12S
Stator Diameter	定子外徑	45 mm	Stator Thickness	定子厚度	35mm
Stator Arms	矽鋼片槽數	12	Magnet Poles	磁極總數	10
Max Continuous Current	最大持續電流	115A	Max Instantaneous Current	最大瞬間電流	250A(2sec)
Max Continuous Power	最大持續功率	5100W	Max Instantaneous Power	最大瞬間功率	11000W(2sec)
Dimension	尺寸	Shaft 6x5.7x112.5mm	Weight	重量	Approx. 570g

The motor rotates in different direction with different brand ESCs. If the wrong rotating direction happens, please switch any two motor to make the motor rotates in right direction.

由於各品牌電子變速器的兩端旋轉方向不同，若發生轉向錯誤時，請將馬達與電子變速器的接線任兩端對調即可。

HOBBY WING PLATINUM HV 200A BRUSHLESS SPEED CONTROLLER INSTRUCTION MANUAL

無線遙控器使用說明

ALIGN

PRODUCT FEATURES 產品特色

Optional Equipment
選購設備

Hobby Wing Platinum HV 200A Brushless ESC can be set up by ALIGN ASBOX Multifunction Programmer.

So please scan QR code for ALIGN website start downloading for more information:

<http://www.align.com.tw/download-en/asbox/>

Hobby Wing Platinum HV 200A 無線遙控器可透過ALIGN ASBOX 多功能設定盒進入參數設定，請掃描QR Code 連結至亞特格網站

下載相關資訊：<http://www.align.com.tw/download-en/asbox/>

- High performance microprocessor with a running frequency of up to 120 MHz for excellent motor speed-governing and super soft startup.
- Microprocessor powered by independent DC regulator has better anti-interference performance, which greatly reduces the risk of losing control.
- The maximum motor speed can reach 210,000 RPM (for 2 pole motor), 70,000 RPM (for 6 pole motor) and 35,000 RPM (for 12 pole motor).
- Multiple flight modes: Fixed-wing, Helicopter (Linear Throttle), Helicopter (Elite Governor), Helicopter (Store Governor).
- Data logging records the standardized RPM, minimum voltage and maximum temperature of the flight.
- "Restart in auto function" can manually interrupt the auto rotation and quickly restart the motor to avoid crashes caused by incorrect operations.
- WIFI module (sold separately) for programming the ESC wirelessly with your smart phone (iOS or Android).
- Internal anti-spark circuitry effectively eliminates electric sparks produced when the ESC is powered on.
- Independent output port for RPM (that is: motor speed) signals. • Separate programming port for ESC parameter setup through ALIGN ASBOX Multifunction Programmer.
- Separate programming port for ESC programming or parameter setting.
- Multiple protections like thermal shutdown protection, overload protection, over-current protection, etc.
- BEC is separated from other circuits of the ESC, it may keep normal output even when MOSFET board of the ESC is burnt or breakdown.
- Online firmware upgrade via ALIGN ASBOX Multifunction Programmer or WIFI module.
- 使用運行頻率高達120MHz的高性能微處理器，相容多種馬達馬達，具備優良的速度和超軟啟動性能。
- 微處理器採用獨立的穩壓IC供電，具有更好的抗干擾能力，能減少失控的風險。
- 支持馬達最高轉速可達 210,000 RPM (2極馬達)、70,000 RPM (6極馬達)、35,000 RPM (12極馬達)。
- 具有「固定翼模式/直升機線性油门模式/直升機定速模式/直升機存儲定速模式」4種飛行模式。
- 具有飛行記錄功能，可記錄每次飛行的最低電壓、最高溫度資料、最大電流、穩定轉速。
- 具有熄火降壓保護功能，在保護時間內可手動重新啟動馬達，避免熄火損壞馬達。
- 支援WIFI無線設定，透過手機端(蘋果及安卓)軟體可完成所有參數設定(需配WIFI模組)。
- 內置防火花電路，有效消除上電時產生的火花。
- 具有轉速 (RPM) 訊號輸出介面。
- 具有獨立參數設定介面，用於透過多功能LCD螢幕程式設定ALIGN ASBOX 多功能設定盒進行參數設定。
- 具備自動保護、溫度保護、過負載保護、電流保護等多重保護功能，可有效避免馬達使用壽命。
- BEC模組和電子調速器其他電路均獨立，當電子調速器馬達輸出出現故障時，可最大限度保護BEC正常輸出，並防止馬達損壞。
- 支援線上更新，設定電壓定數，透過電腦端(存儲模式)，升級電子調速器固件(需配ALIGN ASBOX多功能設定盒或WIFI模組)。

SPECIFICATIONS

產品規格

Model 型號	Main Applications 應用範圍	Input Voltage 輸入電壓	Cont./Peak Current 持續/峰值電流	BEC Voltage BEC
Hobby Wing Platinum HV 200A	For 700-800 Class Helicopter (Propeller: 700-800mm) 700-800級電動直升機 (槳 長: 700-800mm)	6-14S LiPo Battery (22.2V~51.8V) 6-12S 鋰電池 (22.2V~51.8V)	200A/300A	Switch-mode, 5V~8V Adjustable Voltage (Step: 0.1V), 10A/30A Cont./Peak Current 開關模式BEC, 輸出電壓5V~8V可調(步 長0.1V), 輸出電流持續 10A, 瞬間30A
	Throttle Signal/BEC Output & RPM Signal Transmission Wire 油門信號/BEC輸出及RPM信號傳輸線		Size/Weight 尺寸/重量	Separate Programming Port 獨立參數程式設計介面
	White/Red/Black: Throttle Signal Wire; Red/Brown/Yellow: BEC Output & RPM Signal Transmission Wire 白、紅、黑三色線為油門信號線; 紅、棕、黃三色線為 BEC輸出及RPM信號傳輸線		106x56x36mm/325g	For connecting ALIGN ASBOX Multifunction Programmer, WIFI module, or cooling fan. 用於連接ALIGN ASBOX多功能設定 盒或WIFI模組, 可為解熱散熱風扇供 電

USER GUIDE

使用說明書



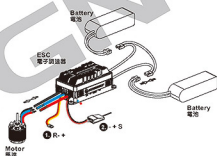
The default throttle range of this ESC is from 1100 μ s to 1940 μ s, so you need to re-calibrate the throttle range when the first time you use this ESC or after you replace the transmitter.

電子调速器的油門行程出廠預設值為1100 μ s~1940 μ s, 當首次使用電子调速器或者更換其他遙控器使用時, 均需要重新設定油門行程。

I. Connections 接線示意圖

1. RPM Signal Wire (Yellow) & BEC Output Wire (Red/Brown): plug it into the RPM input channel on the flybarless system. (This wire can be used for providing RPM signal data when using external speed-governing device, plug it into the battery channel or any unoccupied channel on the receiver. (For better BEC power supply, we recommend plugging this wire into the battery channel or any unoccupied channel on FBL system if the FBL system is permitted.
2. Throttle Signal Wire (White/Red/Black): plug it into the throttle channel on the receiver or the corresponding channel on the FBL system, such as RX B channel on the VBAR system. For which channel you should plug it in, it depends on what kind of receiver and FBL system you use. The White wire is for transmitting throttle signals, the Red & Black cables are parallelly connected in the BEC output wire, which means BEC voltage output wire and ground cable.

1. RPM信號線(黃)及BEC輸出線(紅、棕): 插入飛平平衡系統轉速輸入通道; (當使用外部定速時, 可使用RPM信號線提供轉速信號輸入, 這類線外的BEC輸出線插入接收機電池專用通道或任意閒置通道。為獲得更好的BEC供電效果, 在飛平平衡系統允許的情況下, 建議將BEC線插入飛平平衡系統的電池專用通道或任意閒置通道。)
2. 油門信號線(白、紅、黑): 插入接收機油門通道或飛平平衡系統對應通道, 如VBAR系統的RX B通道, 依接收機類型及飛平平衡系統類型而定。其中白線用於傳送油門信號, 而紅線和黑線分別並聯在內部BEC的輸出端(即BEC電壓輸出線和地線)。



II. Throttle Range Calibration 油門行程校準操作方法



During the ESC/Radio calibration, please set the throttle curve to NORMAL and ensure the corresponding throttle amounts to the maximum throttle endpoint and the minimum throttle endpoint on your transmitter are respectively 100% and 0%.

進行油門行程校準時, 請將油門曲線設置為NORMAL, 並確保遙控器油門最高點對應的油門值為100%, 油門最低點對應的油門值為0%。

1. Turn on the transmitter and move the throttle stick to the top position.
開啟遙控器, 將油門杆打到最高點。
2. Connect the ESC to a battery. The motor will emit "123" indicating the ESC is powered on normally.
電子调速器接電池, 馬達鳴叫"123"提示音, 表示供電正常。
3. 5 seconds later, the motor will emit two short beeps indicating the maximum throttle position has been successfully calibrated and accepted.
等待5秒, 馬達發出"嗶-嗶"雙短鳴音, 表示油門最高點校準成功。
4. Move the throttle stick to the bottom position. 1 second later, a short beep will emit indicating the minimum throttle position has been accepted.
將油門杆拉到底, 等待1秒, "嗶"一聲提示音, 油門最低點校準成功。
5. The ESC will keep beeping indicating the number of LiPo cells you have plugged in. (A long beep represents 5, a short beep represents 1. E.g. The ESC will beep two long beeps and two short beeps to indicate a 12S LiPo pack.
馬達將繼續鳴叫提示當前電池電壓(長音響一次, 短音響一次, 例如: 12S電池將鳴叫"嗶-嗶-嗶-嗶")。
6. The motor will beep a long beep to indicate the calibration is completed, the power system is ready to go.
馬達鳴叫"長音響"代表校準成功, 系統準備就緒, 可隨時起飛。

PLEASE PRACTICE SIMULATION FLIGHT BEFORE REAL FLYING 飛行前請先熟練電腦模擬飛行

A safe and effective practice method is to use the transmitter flying on the computer through simulator software sold on the market. 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.

在運送與練習飛機各動作的操作方式前，嚴禁實際飛行，請先進行電腦模擬飛行的練習，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，並不斷的重複，直到手指可熟練的控制各個動作及方向。

1. 將直升機放在空曠的地方(保證電認為關機)，並將直升機的機尾對準自己。

2. 練習操作遙控器的各桿(各動作的操作方式如下圖)，並反覆練習油门高/低、副翼左/右、升降前/後及方向左/右操作方式。

3. 模擬飛行的練習非常重要，請重複練習直到不覺思索，手指能自然隨著喊出的指令移動控制。



Mode 1	Mode 2	Illustration 圖示	
		Move Left 左移	Move Right 右移
		Rotate Left 左轉	Rotate Right 右轉
		Fly Forward 前進	Fly Backward 後退
		Forward Rotate 前翻	Backward Rotate 後翻
		Ascend 上升	Descent 下降
		Turn Right 右旋	Turn Left 左旋

FLIGHT ADJUSTMENT AND NOTICE 飛行調整與注意



- Check if the screws are firmly tightened.
- Check if the transmitter and receivers are fully charged.
- 再次確認一機軸是否鎖緊?
- 發射器和接收器電池是否足電。



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，並告知他們您正在使用的頻率，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 啟動和停止馬達



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機，然後打開發射器將油门桿移到最低點。

- Check the movement.
- 動作確認



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

ON! Step2
Connect to the helicopter power
接上面昇機電源



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

- 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。



OFF! Step3
Reverse the above orders to turn off.
將油门桿移到最高位置上操作動作反執行。



This procedure is best performed on soft surfaces such as grass. The use of rubber skid stopper is recommended on hard surface to prevent vibration feedback from the ground to Gyro, resulting in over-corrections.

將直升機置於柔軟地面上。建議硬地應將腳架裝上避震墊圈。避免升空前腳架與過硬的地面震動太大反映至機身上的Gyro，影響無平衡系統升空後過量修正。

Rubber Skid Stoppers
Installed
裝上避震墊圈



If swashplate should tilt prior to lift off, do not try to manually trim the swashplate level. This is due to vibration feedback to the Gyro, and will disappear once helicopter lifts off the ground. If manual trim is applied, helicopter will tilt immediately after liftoff.

直升機離地前，十字盤可能因Gyro震動的反應，使十字盤有傾斜的情形，此時請勿刻意將十字盤修正為水平狀態，此現象只要離地升空後立即解除，可平衡升空；否則應將十字盤修正為水平時，反而會造成感應器過量修正，一離地即偏往修正方向的危險。

MAIN ROTOR ADJUSTMENTS 主旋翼雙槳平衡調整

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 be adjustment. If one blade is higher or lower than the other blade, adjust the tracking immediately.

1.調整前先在其中一支主旋翼的葉片，貼上有顏色的小貼紙或畫上顏色記號，方便觀察調整所需。

2.慢慢將起飛門搖桿拉到高度位置並停止，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(從側面看)兩支旋翼移動是否同軌跡，則不需調整，可見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。

a. When rotating, the blade with higher path means the pitch is too big. Please shorten DFC ball link for regular trim.

b. When rotating, the blade with lower path means the pitch is too small. Please lengthen DFC ball link for regular trim.

a. 旋翼轉動時較高軌跡的主旋翼表示螺距(PITCH)過大，請縮短DFC連接桿修正。

b. 旋翼轉動時較低軌跡的主旋翼表示螺距(PITCH)過小，請延長DFC連接桿修正。



Tracking adjustment is very dangerous, so please keep away from the helicopter at a distance of at least 10m.

調整軌跡非常危險，請於距離飛機最少10公尺的距離。

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. $+5^{\circ}$ ~ -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角度在停機時應為大約 $+5^{\circ}$ ~ -6° 。

Color Mark 有標示記號的主旋翼



FLIGHT ADJUSTMENT AND NOTICE 飛行調整與注意



⊗ Do not attempt to grab or make contact with the helicopter while the main blades are in motion and keep your eyes away from the helicopter. During take-off, landing, and flight, be sure to keep the helicopter away from all obstacles. Operators must stand at least 10 meters away from the helicopter to avoid injury caused by loose parts due to improper assembly or any unforeseen dangers.

⊗ 嚴禁用手抓或進行中的直升機，並禁止將直升機對著眼睛，當主旋翼轉動後，或起飛/試飛時，務必遠離飛機，站立位置必須距離10公尺以上，避免因人為組裝不當造成零件脫落，而引發不可預期的財產及人員損傷。



⊗ Make sure that no one or obstructions in the vicinity.

⊗ For flying safety, please carefully check if every movement and directions are correct when hovering.

⊗ 確認附近地區沒有人和障礙物。

⊗ 為了飛行安全，您必須先確認停機時各項操縱動作是否正確。



Do not attempt to fly until you have some experiences with the operation of helicopter.

嚴禁無熟練操控飛行經驗者強行飛行。

	Problem 狀況	Cause 原因	Solution 對策
Blade Tracking 雙槳平衡	Tracking is Off 雙槳	Pitch linkage rods are not even length PITCH連桿長度調整不平均	Adjust length of Linkage rod A. 調整連桿A長度
Hover 停懸	Headspeed too low 主旋翼轉速偏低	Excessive pitch 主旋翼的PITCH偏高	Adjust ball link to reduce pitch by 4 to 5 degrees. Hovering headspeed should be around 1700-1800RPM. 調整連桿球頭Pitch約+4-5度 (停懸時主旋翼轉速約1700-1800RPM)
		Hovering throttle curve is too low 停懸點油门曲線過低	Increase throttle curve at hovering point on transmitter (around 60%) 調高停懸點油门曲線(約60%)
	Headspeed too high 主旋翼轉速偏高	Not enough pitch 主旋翼的PITCH偏低	Adjust ball link to increase pitch by 4 to 5 degrees. Hovering headspeed should be around 1700-1800RPM. 調整連桿球頭Pitch約+4-5度 (停懸時主旋翼轉速約1700-1800RPM)
		Hovering throttle curve is too high 停懸點油门曲線過高	Decrease throttle curve at hovering point on transmitter (around 60%) 調低停懸點油门曲線(約60%)
Rudder Response 舵舵反應	Drifting of tail occurs during hovering, or delay of rudder response when centering rudder stick. 停懸時尾翼向某一邊偏航，或撥動方向舵杆回中位時，尾翼產生延遲，無法停懸在所控制位置上。	Rudder neutral point improperly set 尾中位點設定不當	Reset rudder neutral point 重設尾中位點
		Rudder gyro gain too low 尾舵陀螺儀增益偏低	Increase rudder gyro gain 增加尾舵陀螺儀增益
	Tail oscillates (hunting, or wags) at hover or full throttle 停懸或全油门時尾翼左右來回搖擺。	Rudder gyro gain too high 尾舵陀螺儀增益偏高	Reduce rudder gyro gain 降低尾舵陀螺儀增益

If above solution does not resolve your issues, please check with experienced pilots or contact your Align dealer.

如果在做完以上調整後，仍然無法改善情況時，應立即停止飛行並向有經驗的飛手諮詢或連絡您的經銷商。

Thank you for purchasing and supporting ALIGN products.

The Align Team is dedicated to you by innovating and developing new RC Helicopters, Multicopters, and Multi-Rotor Agricultural Drone. We strive to provide a more diversified experience for our customers. Visit our website at www.align.com.tw for latest news, information, and updates about our extensive line of products for the RC enthusiasts.

Good Flying!

再次感謝您對亞拓系列商品的喜愛與支持，您的肯定是對我們最大的認同。

亞拓團隊秉持創新研發的精神，開發遙控直昇機／空拍任務無人機／植保無人機系列商品，提供給您體驗更多樣化的飛行樂趣。您可以透過下列連結，隨時瞭解亞拓的最新動態，以及各項訊息分享。

祝福您有一個愉快的飛行體驗。



ALIGN Flight Safety 亞拓飛行安全宣導

<http://www.align.com.tw/flysafe-en/>



ALIGN T-REX Helicopter 亞拓遙控直昇機

<http://www.align.com.tw/helicopter-en/>



ALIGN Multicopter 亞拓空拍/任務無人機

<http://www.align.com.tw/multicopter-en/>



ALIGN Multi-Rotor Agricultural Drone 亞拓植保無人機

<https://www.align.com.tw/index.php/demeter/>



ALIGN Website 亞拓官網

<http://www.align.com.tw>



ALIGN Shopping Cart 亞拓購物車

<http://shop.align.com.tw/index.php?language=en>



ALIGN Quick Finder 亞拓零件快速購

<http://shop.align.com.tw/partfinder.php?language=en>



ALIGN FaceBook

<https://www.facebook.com/Align-Corporation-194493419543/?ref=mf>



ALIGN Instagram

<https://instagram.com/aligncorporation/>



ALIGN YouTube

https://www.youtube.com/channel/UCaPj_K5DNo7HSmP1eytUvMQ



ALIGN Youku

<http://i.youku.com/u/UMTQ0NjEwNjczNg==>

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一、標示資訊項目 (註：其中口處請依產品特性勾選)

本產品最大起飛重量：5.76 公斤	(1)
☒ 應 ☐ 免 依據無人機管理規則至民航局「遙控無人機規範管理系統」(https://drone.caa.gov.tw/) 進行線上註冊，註冊號碼應標明於機身顯著處。	(2)
☐ 應 ☒ 免 具備主動限制或告警功能之圖資軟體系統。	(3)
☐ 具型式檢驗(認可)標識且應向民航局申請辦理實體檢驗。 ☒ 免辦理檢驗或認可。	(4)(5)
操作人口免持操作證 ☒ 應持普通操作證 ☐ 應持專業操作證。	(6)
操作本產品前，經檢查確符合飛航安全條件後從事活動，並禁止飲酒或使用影響精神之藥物，亦不得於公告禁止或限制區域飛航，其餘詳見本產品所附操作手冊說明。	(7)(8)
違反上述規定者，中央及地方主管機關得依民航法禁止其活動，並處以新臺幣1萬至150萬元罰鍰，情節重大者沒入遙控無人機。	(9)(10) (11)
本標示依據遙控無人機管理規則第17條第1項規定辦理。	

二、相關法規說明：

- 遙控無人機管理規則(以下簡稱管理規則)第9條第1項：自然人所有之最大起飛重量250公斤以上之遙控無人機及政府機關(構)、學校或法人所有之遙控無人機，應由其所有人向民航局申請註冊，並將註冊號碼標明於遙控無人機上顯著之處後，始得操作。
- 管理規則第9條：註冊號碼應依下列方式標明於遙控無人機上顯著之處：一、以標識、圖則、標章或其他所能顯著之方式標明，且應確保每次飛航活動時不至於被塗抹、磨損、剝離或模糊。二、標章位置應為遙控無人機之固定結構外部。三、其顏色應使註冊號碼與背景明顯反差，且以內嵌或凸顯標識。
- 管理規則第12條第1項：最大起飛重量1公斤以上且裝置導航設備之遙控無人機，應具備主動限制或告警功能之圖資軟體系統，以防止遙控無人機進入禁航區、限航區及航空站或飛行場四週之一定距離範圍；其圖資應符合本法第4條第4項及第99條之13第1項公告之範圍。
- 管理規則第13條：遙控無人機之設計、製造、改裝，應由設計者、製造者或改裝者檢附申請書向民航局申請型式檢驗，經型式檢驗合格者，發給型式檢驗合格證，並發給型式檢驗證書。一、遙控無人機，應由進口者依第一項規定向民航局申請型式檢驗，或檢附申請書向民航局申請認可，經認可者，發給認可證明文件及認可證書。二、前二項之遙控無人機，其型式構造應經民航局公告者，得免辦理檢驗或認可。
- 管理規則第15條第1項：最大起飛重量25公斤以上之遙控無人機，為確保遙控無人機符合設計、製造、改裝之性能要求，應由其所所有人檢附申請書向民航局申請實體檢驗，經檢驗合格者，發給實體檢驗合格證。
- 管理規則第20條：遙控無人機操作證分普通、專業及特種三種，申請者年齡及其他規定如下：
A. 普通操作證：申請者應年滿14歲，經申請後，由民航局發給。
B. 專業操作證：申請者應年滿18歲，經申請後，由民航局發給。
C. 特種操作證：申請者應年滿18歲並符合相關專業規定後，經資格檢核及學、術科測驗合格後，由民航局發給。
前項各類操作證之操作權限如下：一、普通操作證：得於普通遙控無人機或專業操作證之操作人在旁指導監督下，學習指導者操作權所附範圍及最大起飛重量未達15公斤之遙控無人機。二、專業操作證：得操作自然人所有最大起飛重量25公斤以上、未達150公斤且裝置導航設備之遙控無人機。三、專業操作證：得操作政府機關(構)、學校或法人所有之遙控無人機及自然人所有最大起飛重量15公斤以上之遙控無人機。
- 管理規則第25條：操作人從事遙控無人機飛航活動，應依遙控無人機製造者所提供之維修指引對遙控無人機系統進行維護及檢查，符合安全飛航條件後始得活動。
- 管理規則第27條：操作人操作遙控無人機應遵守下列事項：一、血液酒精濃度不得超過百分之0.02或吐氣中酒精濃度不得超過每公升0.1毫克。二、不得受酒精作用而影響，導致行為能力受到損傷。三、不得對任何生命財產造成危險之操作行為。四、從事第30條第1項核准之飛航活動，應依向條項第3款民航局核准之作業手冊內容執行。
- 民用航空法遙控無人機專章第110條之1：遙控無人機之所有人或操作人有下列情事之一者，由民航局廢止其操作證，並處新臺幣30萬元以上150萬元以下罰鍰，並得沒入遙控無人機：一、違反第99條之13第1項規定，於禁航區、限航區及航空站或飛行場四週之一定距離範圍內從事飛航活動。二、違反第99條之14第1項第1款規定，逾距地面或水面高度400呎從事飛航活動。
- 民用航空法遙控無人機專章第110條之2：遙控無人機之所有人或操作人有下列情事之一者，禁止其活動，並處新臺幣6萬元以上30萬元以下罰鍰，情節重大者，並得沒入遙控無人機：一、違反第99條之10第2項規定，未領有操作證而操作遙控無人機。二、違反第99條之13第3項規定，未投保或未足額投保責任保險而從事遙控無人機活動。遙控無人機之所有人或操作人有下列情事之一者，禁止其活動，並處新臺幣3萬元以上15萬元以下罰鍰；情節重大者，並得沒入遙控無人機：一、違反第99條之10第1項有關遙控無人機註冊或標明註冊號碼之規定。二、違反第99條之13第2項有關註冊資料、縣(市)政府公告區域、時間及其他管理事項之規定。三、違反第99條之14第1項第2款至第10款遙控無人機飛航活動應遵守之規定。本條規定之處罰，除同時違反第99條之13第1項或第99條之14第1項第1款由民航局處罰外，由直轄市、縣(市)政府處罰之。
- 民用航空法遙控無人機專章第110條之3：違反第99條之17所定規則有關類別識別、檢驗、認可、維修與檢查、飛航活動之活動許可及內容、製造者及進口者之登錄及責任、飛航安全相關事件之通報等事項規定者，禁止其活動，並處新臺幣1萬元以上150萬元以下罰鍰；情節重大者，並得沒入遙控無人機。

※有隨後請遙控無人機法規最新資訊，請詳見：<https://drone.caa.gov.tw/> 或掃描右方QR Code連結。

感謝您購買亞拓系列商品，謹表謝意！

- 亞拓空拍/任務無人機、遙控無人機、植保無人機、圖「衛星導航無人機」，民航局已有預先登錄資料，操作者可直接往交通部民用航空局無人機專網註冊完成，登錄系統下拉選擇機型即可快速完成註冊程序。
- 亞拓遙控直昇機、FPV穿越機、多軸空拍機系列商品，其屬於「自製無人機(自航或空機型)」，飛友需自行辦理型式檢驗作業。
- 相機參數、構造、尺寸(長×寬×高)、飛機實重/直昇機實重半磅/多旋翼實重、使用動力、導航方式…等詳細資訊，請連結右側QR Code「亞拓無人機註冊資料」，或參考「亞拓無人機註冊教學」進行登錄註冊。



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Specifications & Equipment/規格配備:

Length/機身長:1490mm

Height/機身高:402mm

Main Blade Length/主旋翼長:780mm

Main Rotor Diameter/主旋翼直徑:1740mm

Tail Rotor Diameter/尾旋翼直徑:301mm

Motor Drive Gear/馬達主齒:12T

Main Drive Gear/傳動主齒:112T

Autorotation Tail Drive Gear/尾翼傳動主齒:104T

Tail Drive Gear/尾翼傳動齒:22T

Drive Gear Ratio/齒輪傳動比:9.33 : 1 : 4.73

Flying Weight(Without battery)/全配重(不含電池):Approx. 4100g

