# Super Combo DOMINATOR T-REX 470L M

## INSTRUCTION MANUAL

**RH47E01XT**

---

## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INTRODUCTION 前言</td>
</tr>
<tr>
<td>1-2</td>
<td>SAFETY NOTES 安全注意事项</td>
</tr>
<tr>
<td>3</td>
<td>EQUIPMENT REQUIRED FOR ASSEMBLY 自備設備</td>
</tr>
<tr>
<td>3</td>
<td>PACKAGE ILLUSTRATION 包裝說明</td>
</tr>
<tr>
<td>3</td>
<td>STANDARD EQUIPMENT 標準配備</td>
</tr>
<tr>
<td>4</td>
<td>SAFETY CHECK BEFORE FLYING 飛行前安全檢查重要事項</td>
</tr>
<tr>
<td>5-17</td>
<td>ASSEMBLY SECTION 組裝說明</td>
</tr>
<tr>
<td>18</td>
<td>EQUIPMENT INSTALLATION 各項設備配置圖</td>
</tr>
<tr>
<td>18</td>
<td>BATTERY INSTALLATION ILLUSTRATION 電池安裝示意圖</td>
</tr>
<tr>
<td>18</td>
<td>CANOPY ASSEMBLY 機罩安裝</td>
</tr>
<tr>
<td>20</td>
<td>ELECTRIC EQUIPMENT ILLUSTRATION 電子設備建議配置示意圖</td>
</tr>
<tr>
<td>20-21</td>
<td>MICROBEAST PLUS FLYBARLESS MANUAL 無搖控系統使用說明</td>
</tr>
<tr>
<td>22</td>
<td>SERVO SETTING AND ADJUSTMENT 伺服器設定調整</td>
</tr>
<tr>
<td>22</td>
<td>ADJUSTMENTS FOR VGyro AND TAIL NEUTRAL SETTING 陀螺儀與尾翼中立點設定調整</td>
</tr>
<tr>
<td>23</td>
<td>PITCH AND THROTTLE SETTING 主旋翼動力與油門設定</td>
</tr>
<tr>
<td>24</td>
<td>RC-384TX BRUSHLESS SPEED CONTROLLER INSTRUCTION MANUAL 無刷遙控器使用說明</td>
</tr>
<tr>
<td>24-27</td>
<td>RC-384TX BRUSHLESS SPEED CONTROLLER INSTRUCTION MANUAL 無刷遙控器使用說明</td>
</tr>
<tr>
<td>28-30</td>
<td>FLIGHT ADJUSTMENT AND SETTING 飛行動作調整與設定</td>
</tr>
<tr>
<td>31</td>
<td>TROUBLESHOOTING 飛行中狀況排除</td>
</tr>
</tbody>
</table>

---

**Highly efficient direct belt drive control system design for pristine F3C, F3N or extreme 3D flight.**

**高性能皮帶直驅 動靜皆宜**

---

**Thank you for purchasing of Align products. Please read the manual carefully before installing and be sure to retain the manual for future reference. 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，請務必詳閱本說明書，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，以做為日後參考。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。本說明書內記載的材質、規格或零件包裝之內容如有異動，請依亞拓官網公告為主。
Thank you for buying ALIGN Products. The T-REX 470LM Dominator 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 470LM Dominator is a new product developed by ALIGN. It features the best design available on the R/C helicopters market to date, providing flying stability for beginners, full aerobatic capability for advanced fliers, and unsurpassed reliability for customer support.

WARNING LABEL LEGEND

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.  
因未遵照操作說明，而使產品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，而使產品可能造成危險。

IMPORTANT NOTES

R/C helicopters, including the T-REX 470LM Dominator, are not toys. R/C helicopter utilizes 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.

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

T-REX 470LM Dominator 監控直升機並非玩具，它是結合了許多高科技產品所設計出來的休閒用品，所以商品的使用不慎或不熟悉都有可能造成嚴重傷害甚至死亡。使用之前請務必詳閱本說明書，務必切勿違背自行安全，注意！任何監控直升機的使用，製造商和經銷商都有未使用過零件使用的損失異常或無明顯所發生之意外皆無責任，本產品是提供給操作過玩具直升機經驗的成年人用以提供技術的學員在指導下合法監控飛行場飛行，以確保安全無虞下操作使用。產品出售後本公司將不負任何責任和使用控制上的任何責任與安全責任。

非本產品的使用者，您，是唯一對您自己操作的表現及行為負責的責任之人。

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. T-REX 470LM Dominator 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, 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.

飛機商品屬於需高技術及為消耗性之商品，如使用不慎使用後，會造成不等情況零件損耗。任何使用數字及結果造成商品不良或損壞，將不於保固條件內更換新品或維試，因使用數字及結果造成商品不良或損壞，本公司無法控制及負責。任何使用數字及結果造成商品不良或損壞，使用者應負全部責任。

2. SAFETY NOTES

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.

· 適用於飛行場飛行的飛機商品，因空氣及雲系環境及飛行場的環境，可能會造成不等情況造成商品不良或損壞。可考慮使用數字及結果造成商品不良或損壞，本公司無法控制及負責，對使用者的不當使用、設定、組裝、修改、或操作不良所造成的損失、要負責，使用者應負全部責任。

· 每次飛行前應仔細檢查，轉動數字及結果造成商品不良或損壞，本公司無法控制及負責，對使用者的不當使用、設定、組裝、修改、或操作不良所造成的損失、要負責，使用者應負全部責任。

· 每次飛行前應仔細檢查，轉動數字及結果造成商品不良或損壞，本公司無法控制及負責，對使用者的不當使用、設定、組裝、修改、或操作不良所造成的損失、要負責，使用者應負全部責任。
LOCATE AN APPROPRIATE LOCATION

R/C helicopters fly at high speed, thus posing a certain degree of potential danger. Choose a legal flying area, staying at least 300 feet away from power lines. 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.

NOTE ON LITHIUM POLYMER BATTERIES

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.

PREVENT MOISTURE

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 use of, or a crash. Do not operate or expose to rain or moisture.

PROPER OPERATION

If you have trouble assembling, any parts are designed to fit. If you have trouble assembling, please consult your nearest retailer.

OBTAIN THE ASSISTANCE OF AN EXPERIENCED PILOT

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.)

SAFE OPERATION

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 danger. Do not fly under Fred condition and improper operation may cause in danger. Never take your eyes off the model or leave it unattended while it is on. Turn immediately off the model and transmitter when you have landed the model.

ALWAYS BE AWARE OF THE ROTATING BLADES

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 clothing away from the blades. Always fly the model a safe distance from yourself and others, as well as surrounding objects.

KEEP AWAY FROM HEAT

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.
3. EQUIPMENT REQUIRED FOR ASSEMBLY

RADIO TRANSMITTER AND ELECTRONIC EQUIPMENT REQUIRED FOR ASSEMBLY

Transmitter
(6-channel or more, helicopter system)
發射器 (六個以上無線電傳輸信號)

Receiver
(6-channel or more)
接收機 (六個以上)

Remote Receiver
遙控天線

Battery
22.2V 6S 1,400~1,900mAh Li-Po Battery x 1
22.2V 6S 1,400~1,900mAh Li-Po 電池 x 1

RCC-360 intelligent Battery Charger
RCC-304 智能充電器

ADDITIONAL TOOLS REQUIRED FOR ASSEMBLY

Swashplate Leveler
十字平衡器

Digital Pitch Gauge
電子傾角器

Multi-function Tester
Voltmeter/Servo Diagnosis
多功能測試計
電壓電濁 / 伺服器測量

Phillips Screw Driver

Cutter Knife

Hexagon Screw Driver

Needle Nose Pliers

Oil

CA Glue

R48 Gear Oil

4. PACKAGE ILLUSTRATION

Part Quick Finder

470HC1
470HH1
470HB
470HB1
470HB3
470HT2
470HT3
470HG1
450HZ25

Canopy
330 Carbon Fiber Blade X 1set
380 復合碳纖翼片 X 1

470HT

470MX (1800KV) Brushless Motor x 1
470MX (1800KV) 無刷馬達 x 1
RCE-BL50X Brushless ESC x 1
RCE-50X 無刷電控伺服器 x 1
DS455M Digital Servo x 1
DS455M 數位伺服器 x 1
DS455M Digital Servo x 3
DS455M 數位伺服器 x 3
Microbeast PLUS Flybarless System x 1
微飛無動系統 x 1
6. SAFETY CHECK BEFORE FLYING 飛行前安全檢查重要事項

- 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 gears.
- Check for missing or lose 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 in out of control.

![Image of parts and diagrams]

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

| CA | Apply CA Glue to fix. |
| R48 | Apply Anaerobics Retainer to fix. |
| T43 | Apply Thread Lock to fix. |
| OIL | Add Grease. |

| CA | Use thread lock. |
| R45 | Use metal tube stud adhesive (eg. Bearings). |
| T43 | Apply thread lock. |
| OIL | Add Grease. |

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

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

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为强力金屬管状(如軸承)接著劑，T43為螺紋膠，使用螺絲或金屬內外徑要治需少量使用，必要時請使用去除多餘膠量，傾斜時可於金屬接合部位熱烘約15秒。

(注意！塑膠件避免接近熱源)
Thrust bearing and washer for radial bearing are wear items, and should be inspected for replacement after every 20 flights. For flights with high headspeed, the inspection interval should be reduced to ensure flight safety.
**470HH1**

- **Bearing**
  - φ1.5 x 4 x 1.2mm x4

- **Socket Button Head Screw**
  - φ6 x 4 x 1.2mm x6

- **Linkage Ball A**
  - M2 x 2.5

- **Linkage Ball G**
  - M2 x 2.5

- **Long Linkage Ball**
  - M2 x 2.5

- **Washer**
  - φ2 x 3 x 12mm x2

- **Socket Screw**
  - φ6 x 4 x 1.2mm x2

---

**470HH1**

- **470 Linkage Rod (A)**
  - φ6 x 2.5

- **470 EFL Linkage Ball A**
  - M2 x 2.5

- **Socket Collar Screw**
  - φ6 x 2.5 x 12mm x2

---

**CAUTION**

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.

---

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

若飛行中有偏離情形，可適當調整連桿頭長短改善。
PROGRESSIVE LIGHTWEIGHT LANDING SKID

Landing skid is tilted 5 degree forward which improves crashworthiness.
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.

CAUTION
Apply a little amount of T43 thread lock when fixing a metal part.

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.

470HB2

Socket Screw 圆頭內六角螺絲 M2.5x5mm x 4

Battery Latch Lever電池扣拉桿

Battery Latch 電池扣

Brushless ESC Mounting Plate 輸出器座

Brushless ESC Mounting Plate 輸出器座

Socket Screw 圓頭內六角螺絲 M2.5x5mm

Socket Screw 圓頭內六角螺絲 M2.5x6mm x 4

Battery Release Latch Installation Illustration 電池扣安裝示意图
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.

原裝零件出廠包裝如果是組裝品，請需再確認名螺絲是否臨緊上膠。
Insert the screws; however, do not tighten! Insert the tail boom and belt, place the belt over the pulley. Tighten all screws and confirm belt tension is correct.

Gently pull belt through the tail boom in the direction from the tail to nose of the helicopter.

For original manufacture package, if the product is already assembled by factory, please check again if screws are firmly secured and applied with some glue.

Already assembled by factory, please note to check again.

Apply a little amount of T45 threadlock when fixing a metal part.
**CAUTION**

- Apply a little amount of T43 thread lock when fixing a metal part.

For original manufactured package, if the product is already assembled by factory, please check again if screws are firmly secured and applied with some glue.

**470HB2**

- Socket Collar Screw (M2x12mm) x 1

**470HZ1**

- 470 Linkage Rod (A) 479 連杆(A)M2x16mm x 3
- Ball Link 連桿球 x 5

**470HZ3**

- Please add a main shaft spacer if necessary.
- Main Shaft Spacer (0.1)
  - ø 5.1x ø 9 x 0.1mm x 1
- Main Shaft Spacer (0.2)
  - ø 5.1x ø 9 x 0.2mm x 2

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.

**CAUTION**

Install the main shaft into the main drive gear after the belt has been installed, then align main shaft with the main shaft mounting sleeve, insert screw and tighten. DO NOT over tighten as this may cause damage of main shaft mounting sleeve.

**Note:**

Please ensure the main shaft is properly aligned and secured before use. Translation of the instructions may vary slightly due to the complexity of the diagrams.
1. Use a string or flexible wire to pull the belt through the boom. Feed one end through the boom, loop through belt and feed back through the boom. Gently pull both ends of the string or wire until the belt is completely pulled through the boom. Please refer to the diagram below. Confirm the belt is installed correctly and not turned more than 90 degrees. Improper installation of the belt can result in serious damage to the helicopter or people.

2. When assembling the tail boom ensure the boom is properly installed in the tail boom mount and check to make sure belt is in the correct position.

---

**DRIVE BELT ILLUSTRATION**

**Front**

- Tail belt must have a 90 degree counterclockwise turn from the front tail assembly to the rear tail assembly.

---

**WARNING**

**DO NOT** turn the belt greater than 90 degrees or the tail rotor system will fail.

---

**470HT2**

- **Bearing**: φ3xφ8x3mm x 2
- **Socket Button Head Screw**: 半圓頭內六角螺絲 (M2x5mm) x 4
- **Socket Button Head Screw**: 半圓頭內六角螺絲 (M2x12mm) x 1

---

**CAUTION**

Aim tail rotor hub at the concave of tail rotor shaft and fix it, please apply a little glue on the set screw.
### 470HT2

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thrust Bearing</td>
<td>轴承 (ø 1.6 x 4 x 8.2mm)</td>
<td>x 4</td>
</tr>
<tr>
<td>Collar A</td>
<td>螺纹锁紧圈 (ø 4 x 6.1x1.1mm)</td>
<td>x 1</td>
</tr>
<tr>
<td>Collar B</td>
<td>拆卸螺纹锁紧圈 (ø 2 x ø 3x2.5mm)</td>
<td>x 2</td>
</tr>
<tr>
<td>Socket Collar Screw</td>
<td>開孔內六角螺絲 (M2x4mm)</td>
<td>x 6</td>
</tr>
<tr>
<td>Socket Button Head Screw</td>
<td>開孔內六角螺絲 (M2x4mm)</td>
<td>x 2</td>
</tr>
<tr>
<td>Socket Button Head Screw</td>
<td>開孔內六角螺絲 (M2x4mm)</td>
<td>x 4</td>
</tr>
<tr>
<td>Slide Shaft</td>
<td>滾軸方向 x 1</td>
<td></td>
</tr>
<tr>
<td>Washer</td>
<td>結合螺母 (ø 2 x ø 4.6x0.3mm)</td>
<td>x 2</td>
</tr>
<tr>
<td>Washer</td>
<td>結合螺母 (ø 3 x ø 7x2.5mm)</td>
<td>x 2</td>
</tr>
<tr>
<td>Socket Collar Screw</td>
<td>開孔內六角螺絲 (M2x16mm)</td>
<td>x 2</td>
</tr>
<tr>
<td>Linkage Bail A</td>
<td>螺桿 (ø 4.7x57.1mm)</td>
<td>x 1</td>
</tr>
</tbody>
</table>

### Assembly Instructions

1. **The Metal Tail Rotor Holder is false assembly in factory**, make sure to apply little glue on screws and tighten them back appropriately before starting to fly. **Suggest to use torque wrench or torque lock for tightening screws with the torque value 3.0kg.cm.**

2. **Make sure to tighten the screws on each side with average strength, but no unilaterally tighten, or it may causes interference during rotation.**

3. **尾旋翼組裝完成後需徹底檢查零組件是否有膨脹與異位，並將螺絲鎖緊。**

### Notice

- **CAUTION 注意**

---

**The tail rotor hub and screws 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.**

**Any slight binding on control link may affect tail action during flight. Please be note while tightening M2x6mm collar screw, please adjust the ball link and make sure it is operating smoothly.**

**Apply suitable amount of T43 on the thread.**

**Tail control hinge should be dry and not greasy.**

**After complete the tail rotor assembly, please check if it rotates smoothly.**

**尾旋翼組裝完成後需徹底檢查零組件是否有膨脹與異位，並將螺絲鎖緊。**

**尾旋翼組裝完成後需徹底檢查零組件是否有膨脹與異位，並將螺絲鎖緊。**
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.

備註主旋翼葉片螺絲注意適當緊度即可，過緊可能導致主旋翼座受損，飛行意外發生。

<table>
<thead>
<tr>
<th>Main Blade Fixing Screw</th>
</tr>
</thead>
<tbody>
<tr>
<td>M3 Nut</td>
</tr>
<tr>
<td>M3 Socket Collar Screw</td>
</tr>
<tr>
<td>300 Carbon Fiber Blades</td>
</tr>
</tbody>
</table>

CAUTION

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，請需再確認各顆螺絲是否鎖緊上膠。
Set the motor pinion gear to main drive gear mesh to approximately 0.1mm to avoid excess power consumption motor burnt due to overload.

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.
A MOUNTING ORIENTATION OF MICROBEAST PLUS MICROBEAST PLUS 的安裝方向

The Microbeast PLUS unit can be mounted in nearly all possible orientations. The only restriction is that the plug connectors have to point in or against flying direction and the edges of the unit must be parallel to the rotation axis.

You have to choose whether MICROBEAST PLUS is mounted horizontally (printed surface 90 degrees to the main shaft) or vertically (printed surface in parallel with the main shaft).

Microbeast PLUS 可以安裝在機體的任何位置。唯一的限制是接線口必須和飛行方向一致。

您需要選擇水平安裝（印刷面與主軸呈垂直90度），或垂直安裝（印刷面與主軸平行）。

THE COLOR OF THE STATUS-LED SHOWS THE CURRENTLY SELECTED ORIENTATION:

<table>
<thead>
<tr>
<th>Status-LED</th>
<th>Mounting orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>Horizontal (Flat)</td>
</tr>
<tr>
<td>Red</td>
<td>Vertical (on the side)</td>
</tr>
</tbody>
</table>

Factory Setting 出廠預設值

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

http://www.align.com.tw/beastx/

Microbeast PLUS
Flybarless System (Position #1)
無平衡系統 (位置1)

Foam Tape
泡沫棉

RCE-8L50X Brushless ESC
RCE-8L50X 無刷電機電源器
9. BATTERY INSTALLATION ILLUSTRATION

Compatible Battery/適用電池
6S 22.2V 1,400mAh to 1,900mAh.
Max battery size
可容納電池最大尺寸

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

While drawing out the battery, pull this latch
to allow the battery to slide out along the rail.

Please attach the hook & loop tape to narrow side of battery.

Battery Mount
c電池固定板

Battery
c電池

Hook and Loop Tape
(Hooked)
魔術貼(勾狀)

Hook and Loop Tape
(Fuzzy)
魔術貼(捲毛狀)

Use the included hook & loop strap to fix the battery in place.
Start the strap 1cm below the battery mounting plate, go down
along the battery until it wraps around completely. The end of the
strap also needs to be 1cm away from the battery mounting plate.

1 cm above
1公分以上

1 cm above
1公分以上

Using the included foam tape on battery mount
will effectively reduce vibration of canopy.

以附贈泡棉膠固定於電池座，能有效降低機頭罩震動。
11. ELECTRIC EQUIPMENT ILLUSTRATION

12. MICROBEAST PLUS FLYBARLESS MANUAL

MICROBEAST PLUS Flybarless System as ALIGN helicopter standard equipment, must and compatible with ALIGN standard equipment including blades, servos, motor, battery and so on, please refer to flight and setup instruction in this manual.

ALIGN helicopter 標配使用 MICROBEAST PLUS 無平衡翼系統，須搭配 ALIGN 定翼機標準配件（主旋翼、伺服器、馬達）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 refer to the manual instruction prior to every flight to prevent any unforeseen danger.

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 V4.2 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。操作設定請同時參考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/
**PARTS IDENTIFICATION**

**MICROBEAST PLUS FLYBARLESS SYSTEM**

**MICROBEAST PLUS FLYBARLESS SYSTEM WIRING DIAGRAM**

---

**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 any abnormal voltage or insufficient power supply, suggest to upgrade the flybarless system to MICROBEAST PLUS HD (Optional) for better power back up. Please refer to BEASTX website for MICROBEAST PLUS HD assembly and setup instruction.

安裝、操控您的直昇機時，如未使用 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)，以確保充足、穩定的接收器電源。

MICROBEAST PLUS HD 使用、設定、維護，請參閱 MICROBEAST PLUS HD 官方說明。
13. SERVO SETTING AND ADJUSTMENT

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.

SERVO CONFIGURATION

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

14. ADJUSTMENTS FOR GyRO AND TAIL NEUTRAL SETTING

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 control pushrod. Tail pitch slider should be halfway 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%.

TAIL NEUTRAL SETTING

After the gyro is enable and under non-Head lock mode, correct setting photo. If the tail pitch assembly is not in the middle position, please adjust the length of rudder control rod to trim.

HEAD LOCK DIRECTION SETTING OF GyRO

To check the head lock direction of gyro is to move the tail counterclockwise and the tail servo horn will be trimmed counterclockwise. If it trims in the reverse direction, please switch the gyro to “REVERSE”.

If the neutral of the tail servo is not 90°, adjust the tail pitch control horn to be at 90°.
15. PITCH AND THROTTLE SETTING

The rotational speed must set below 3,200 RPM for safety to prevent any unexpected danger.

General Flight (一般飛行模式)

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>100% High Speed 100% throttle</td>
</tr>
<tr>
<td>4</td>
<td>85%</td>
</tr>
<tr>
<td>3</td>
<td>65% – 70% Hovering 65%–70% throttle</td>
</tr>
<tr>
<td>2</td>
<td>40%</td>
</tr>
<tr>
<td>1</td>
<td>9% Low Speed 9% throttle</td>
</tr>
</tbody>
</table>

Throttle Curve (Hovering Flight)

Idle 1: Sport Flight

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>90%</td>
</tr>
<tr>
<td>4</td>
<td>85%</td>
</tr>
<tr>
<td>3</td>
<td>80%</td>
</tr>
<tr>
<td>2</td>
<td>75%</td>
</tr>
<tr>
<td>1</td>
<td>50%</td>
</tr>
</tbody>
</table>

Throttle Curve (Simple Aerobatic Flight)

Idle 2: 3D Flight

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>90% High 90% throttle</td>
</tr>
<tr>
<td>3</td>
<td>85% Middle 85% throttle</td>
</tr>
<tr>
<td>1</td>
<td>90% Low 90% throttle</td>
</tr>
</tbody>
</table>

3D Flight (3D特技飛行模式)

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>100% throttle</td>
</tr>
<tr>
<td>4</td>
<td>90%</td>
</tr>
<tr>
<td>3</td>
<td>85%</td>
</tr>
<tr>
<td>2</td>
<td>75%</td>
</tr>
<tr>
<td>1</td>
<td>50%</td>
</tr>
</tbody>
</table>

Pitch range: Approx. 25 degrees.

If the pitch is set too high, it will result in shorter flight duration and poor motor performance.

Setting the throttle to provide a higher speed is preferable to increasing the pitch too high.

While pitch set at 0 degree, make sure to set throttle below 85%.

CAUTION

1. 警告
2. 不可超過90% throttle
3. 動力損耗以較高轉速的設定方式，優於轉速極大的設定。
16. RCM-BL470MX 1800KV POWER COLLOCATION REFERENCE 原裝動力數據參考表

**RCM-BL470MX MOTOR 無刷馬達**

This new Brushless motor developed by the ALIGN POWER R&D TEAM, is packed with the latest, cutting edge technology available today. It features exceptional levels of high-torque power. The 470MX utilizes an 8-pole outrunner stator-rotor and univiated NdFeB extra strong magnets that traditional magnets cannot compare to. Also included is a high temperature, wear-resisting, low friction, double ZG high efficiency bearing. The 470MX will be the most revolutionary motor operating on low current amperage, and delivering high torque to RC models.

由亞拓動力麾下獨家研發出新款的無刷馬達，具有超高扭力特色，採用12槽矽鋼片，8極外轉子以及钕鐵硼強磁材料，傳統磁鐵無法比較的優秀特性，搭配耐高溫耐久的雙ZG高效率精密軸承設計，電流低，扭力強，將是下一波動力革命中最具代表性的那一顆星。

**SPECIFICATION 尺寸規格**

<table>
<thead>
<tr>
<th>KV</th>
<th>KV/度</th>
<th>1800KV(RPM/V)</th>
<th>Input Voltage</th>
<th>輸入電壓</th>
<th>6S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stator Arms</td>
<td>矽鋼片槽数</td>
<td>12</td>
<td>Magnet Poles</td>
<td>磁鐵槽数</td>
<td>6</td>
</tr>
<tr>
<td>Max Continuous Current</td>
<td>最大連續電流</td>
<td>40A</td>
<td>Max Instantaneous Current</td>
<td>最大瞬間電流</td>
<td>60A(2sec)</td>
</tr>
<tr>
<td>Max Continuous Power</td>
<td>最大連續功率</td>
<td>890W</td>
<td>Max Instantaneous Power</td>
<td>最大瞬間功率</td>
<td>1300W(2sec)</td>
</tr>
<tr>
<td>Dimension</td>
<td>尺寸</td>
<td>Shaft φ3.5x36.4x51.7mm</td>
<td>Weight</td>
<td>重量</td>
<td>Approx. 126g</td>
</tr>
</tbody>
</table>

17. RCE-BL50X BRUSHLESS SPEED CONTROLLER INSTRUCTION MANUAL 無刷遙控器使用說明

**PRODUCT FEATURES 產品特色**

1. 5V-6.4V 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 6A.
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.
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.

**SPECIFICATION 尺寸規格**

<table>
<thead>
<tr>
<th>Model</th>
<th>Continuous Current 輸入電流</th>
<th>Peak Current 峰值電流</th>
<th>BEC Output BEC輸出</th>
<th>Dimension 尺寸</th>
<th>Weight 重量</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCE-BL50X</td>
<td>50A</td>
<td>70A</td>
<td>Output voltage: 5-8.4V step-less adjustment Continuous current 3A; Burst current 6A 輸入電壓：5-8.4V無段可調式 承受電流：持續3A；瞬間6A</td>
<td>66x32x18.5mm</td>
<td>62g</td>
</tr>
</tbody>
</table>
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 → 63,000 rpm.
4. Input voltage: 7.4V ~ 22.2V (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 2.4G receiver is recommended.

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 a
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 22.2V/6cells Li-Ion battery, the full charged voltage will be approximately 22.5V.
According to this input voltage, CPU will determine that this is a 3cell battery.
First step protection: 3.2V x 6cells=19.2V
Second step protection: 3.0V x 6cells=18V
When the voltage drops to 19.2V, the power will be reduced. When the voltage drops to 18V, 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: 5V~8.4V step-less adjustment.
This option allows custom voltage setting. Default setting is 6.5V; 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 input 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 (8.4V).

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：部份伺服器不適而較高的電壓下操作，請依原廠電壓規格設定，避免造成伺服器損毁。
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. 風速設定：二段式設定為無煞車/軟性煞車/急煞車
2. 距離設定：三段式設定為低速時/中速時/高速時
3. 三段式設定為低速時/中速時/高速時
4. 三段式設定為低速時/中速時/高速時
5. 三段式設定為低速時/中速時/高速時
6. 三段式設定為低速時/中速時/高速時
7. 三段式設定為低速時/中速時/高速時
8. 三段式設定為低速時/中速時/高速時

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.

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.

 Mode of Throttle Position Low Middle High Brake Disabled(1-1) Soft Brake(1-2) Hard Brake(1-3) Electronic Timing Low-time(2-1) Mid-time(2-2) High-time(2-3) Battery Protection High-Cutoff Voltage Protection(3-1) Middle-Cutoff Voltage Protection(3-2) Normal Airplane/Glider(4-1) Helicopter 1(4-2) Helicopter 2(4-3) Aircraft Battery Protection High-Cutoff Voltage Protection(3-1) Middle-Cutoff Voltage Protection(3-2) Normal Airplane/Glider(4-1) Helicopter 1(4-2) Helicopter 2(4-3) BEC Output Voltage 5.0V 5.5V 6.4V Note: * Default Setting
CURRENT SETTINGS INDICATOR BEEPS EXPLANATION

First beep group brake status
- Brake disabled
- Soft brake
- Hard brake

Second beep group electronic timing
- Low timing
- High timing

Third beep group battery protection cutoff
- High cutoff voltage
- High cutoff voltage protection

Fourth beep group aircraft status
- Normal airplane/Glider
- Helicopter 1 (Soft start)
- Helicopter 2

Fifth beep group throttle response
- Standard
- Medium speed
- Quick speed

INSTRUCTIONS ON AIRCRAFT MODE SETTINGS

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.

SETUP MODE

Minimum 4 channel radio is required. Four motor speed ESCs and power system are required.
PLEASE PRACTICE SIMULATION FLIGHT BEFORE REAL FLYING
飛行前請事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.

In order to ensure the correct operation of the transmitter, please keep the helicopter steady. The most effective and simplest method is to operate the transmitter through the mouse, and simulate the movement of the helicopter through the mouse. When you need to control the helicopter, you can use your fingers to control the movements of the rudders, and your hands to control the movements of the elevators.

FLIGHT ADJUSTMENT AND NOTICE
飛行調整與注意

- When arriving at the flying field.
- 若離停飛行場

Check if the screws are firmly tightened.

Check if the transmitter and receivers are fully charged.

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.

STARTING AND STOPPING THE MOTOR
啓動和停止馬達

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.

Check if the throttle stick is set at the lowest position.

Are the rudders moving according to the controls?

Follow the transmitter’s instruction manual to do a range test.

OFF! Step3 Reverse the above orders to turn off.

Checklist: Before the flight, make sure all steps are completed.
This procedure is best performed on soft surfaces such as grass. The use of rubber skid stoppers is recommended on hard surface to prevent vibration feedback from the ground to Gyro, resulting in over-corrections.

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 lift-off.

MAIN ROTOR ADJUSTMENTS

1. Before adjusting, apply a red piece of tape on one blade, or paint a red stripe with a marker 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 adjusted. If one blade is higher or lower than the other blade, adjust the tracking immediately.

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

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.

FLIGHT ADJUSTMENT AND NOTICE

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.

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.

Do not attempt until you have some experiences with the operation of helicopter.
STEP 1 THROTTLE CONTROL PRACTICE

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.

STEP 2 AILERON AND ELEVATOR CONTROL PRACTICE

1. Raise the aileron 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.

STEP 3 RUDDER CONTROL PRACTICING

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.

STEP 4

After you are familiar with all actions from STEP 1 to 3, draw a circle on the ground and practice within the circle to increase your accuracy. You can draw a smaller circle when you get more familiar with the actions.

STEP 5 DIRECTION CHANGE AND HOVERING PRACTICE

After you are familiar with STEP 1 to 4, stand at side of the helicopter and continue practicing STEP 1 to 4. Repeat the STEP 1 to 4 by standing right in front of the helicopter.
<table>
<thead>
<tr>
<th>Problem 狀況</th>
<th>Cause 原因</th>
<th>Solution 解策</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Blade Tracking 雙葉平衡</strong></td>
<td>Tracking is Off 雙葉</td>
<td>Pitch linkage rods are not even length PITCH主軸螺絲調整不平衡</td>
</tr>
<tr>
<td>Hover 停懸</td>
<td>Headepeed too low 主旋翼轉速過低</td>
<td>Excessive pitch 主旋翼的PITCH過高</td>
</tr>
<tr>
<td></td>
<td>Hovering throttle curve is too low 停懸時油門曲線過低</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Headepeed too high 主旋翼轉速過高</td>
<td>Not enough pitch 主旋翼的PITCH過低</td>
</tr>
<tr>
<td></td>
<td>Hovering throttle curve is too high 停懸時油門曲線過高</td>
<td></td>
</tr>
<tr>
<td><strong>Rudder Response 尾舵反應</strong></td>
<td>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移，或方向舵反應延遲</td>
<td>Rudder neutral point improperity set 軟中立點設定不當</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rudder gain too low 尾舵陀螺儀反應過低</td>
</tr>
<tr>
<td></td>
<td>Tail oscillates (hunting, or wags) at hover or full throttle 停懸或全油門時尾翼左右来回顛簸</td>
<td>Rudder gyro gain too high 尾舵陀螺儀反應過高</td>
</tr>
</tbody>
</table>

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

※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請教或連絡您的經銷商。

31
Thank you for purchasing and supporting ALIGN products.

The Align Team is dedicated to you by innovating and developing new RC Helicopters, Multicopters, and FPV Racing Quads to provide a more diversified experience for our customers. Visit our website at www.align.com.tw for the 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，開發遙控直升機／多軸飛行機／穿越機系列商品，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 T-REX Helicopter 亞拓遙控直昇機

ALIGN Multicopter 亞拓多軸飛行機

ALIGN FPV Racing Quad 亞拓穿越機

ALIGN Website 亞拓官網
http://www.align.com.tw

ALIGN Shopping Cart 亞拓購物車

ALIGN Quick Finder 亞拓零件快速購

ALIGN FaceBook
https://www.facebook.com/Align-Corporation-194493419543/?ref=mf

ALIGN Instagram
https://instagram.com/aligncorporation/

ALIGN YouTube
https://www.youtube.com/channel/UCaPji_K5DNo7HSmP1eytUvMQ

ALIGN Youku
http://i.youku.com/u/UMTQ0NjEwNjczNg==

ALIGN
Specifications & Equipment:

Length: 755mm
Height: 210mm
Main Blade Length: 380mm
Tail Blade Length: 69mm
Main Rotor Diameter: 850mm
Tail Rotor Diameter: 181mm
Motor Pinion Gear: 11T
Main Drive Gear: 121T
Autorotation Tail Drive Gear: 58T
Tail Drive Gear: 15T
Drive Gear Ratio: 11:1:3.73
Flying Weight (without battery): Approx. 860g