

MR25

ALIGN

BL HELI UPDATE INSTRUCTION 更新使用說明



For more detailed of BL HELI ESC instruction,
please check our website.

<http://www.align.com.tw/download-en/pr25/>

更多詳細說明請上官網。



Congratulations on your purchase of Align professional aerial photograph products! To ensure your success with this product, we would like to present the following information and important reminders.

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

INTRODUCTION

前言

ALIGN

We appreciate your patronage of Align professional aerial photography products. To ensure your success with this product, we would like to present the following information and important reminders.

In order for you to thoroughly enjoy the product, please read through this manual prior to assembly and setting up. Keep this manual handy for future reference.




承蒙閣下選用亞拓遙控世界系列產品，謹表謝意。進入遙控世界之前必須告訴您許多相關的知識與注意事項，以確保您能夠在學習的過程中較得心應手。

為了讓您容易方便使用，在開始操作之前，請您詳細的閱讀完這本說明書之後再進行安裝與設定，同時請您妥善保存這本說明書，作為爾後調整的參考。

1 SAFETY NOTES 安全注意事項

- Fly only in safe areas, away from other people. Do not operate R/C aircraft indoors or within the vicinity of homes or crowds of people. R/C aircraft are prone to accidents, failures, and crashes due to a variety of reasons including: lack of maintenance, pilot error, and radio interference. Pilots are responsible for their actions and damage or injury occurring during the operation or as of a result of R/C aircraft models.
- Prior to every flight, carefully check all parts such as blades, screws, frame, arms, etc; ensure they are firmly secured and show no unusual wears, or unforeseen danger may happen.
- 遙控飛行機屬高危險性商品，飛行時務必遠離人群，禁止於室內飛行。人為組裝不當或未定期檢修造成的機件損壞、電子控制設備不良，以及操控上的不熟悉、都有可能導致飛行失控損傷等不可預期的意外，請飛行者務必注意飛行安全，並需了解自負疏忽所造成任何意外之責任。
- 每趟飛行前須仔細檢查機身各部位之零/配件/電子設備之性能是否正常，及無損耗老化現象，並確實將螺絲鎖緊才能升空飛行。並做好定期檢修，避免零件或電子產品異常所造成不可預期意外。

2 WARNING LABEL LEGEND 標誌代表涵義

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

EQUIPMENT REQUIRED

自備設備

ALIGN



MR25/MR25P Racing Quad
MR25/MR25P 穿越機



Windows PC
Windows 電腦

[M425033XXT]



PR 25 Update
Programmer
PR25 燒錄器



PR25 Update
Programmer Wires
PR25 燒錄器線



MiniUSB
Micro USB 線



MR25/MR25P Accessory
更多MR25/MR25P 商品配件

BL HELI INTRODUCTION

BL HELI 介紹

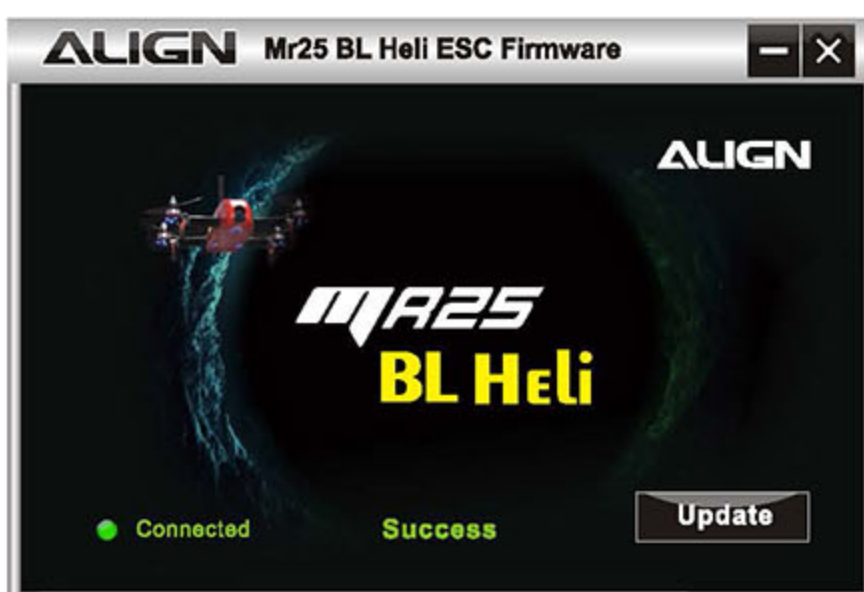
ALIGN

Align brand new BL-Heli with oneshot125 control signal function allow to make motor reaction much precise and faster. Also with excellent ESC power control algorithm and motor brake function, which allow to make motor speed control to be more precise and much delicate for more reliable and faster flight performance.

The BL-Heli is also equipped with protection circuit design, effectively provide well protection for ESC sensor in high-voltage, high-current, motor stalling conditions, which highly prevent the main board from burn out. Superior stall restart function can re-start and keep the motor rotating immediately to avoid accident spin stall crashes by hitting articles while flying.

亞拓BL Heli是運用one shot 125訊號控制，讓馬達反應更到位。搭配優異的電變控制演算法，強勁的馬達煞車功能，可更準確掌控馬達轉速，操控手感更細膩，宛如空中舞動的精靈隨心所欲。

BL Heli具備完整的硬體迴路保護程式，提供電變控制元件能有效對抗高電壓、高電流及驚人的馬達救機續飛功能，可瞬間啟動馬達防堵轉，避免馬達脫相過熱燒毀飛控電路板，減緩因飛行時輕碰造成馬達停轉而墜機的危險。



Delicate and reliable control feel
控制靈敏精準

Flight Performance Upgrade
操控手感細膩

Re-start the motor from spin stall
飛行性能提升

Precise and agile control
馬達堵轉續飛功能

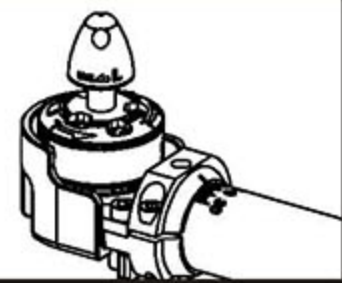
UPDATE PREPARATION

更新前準備

ALIGN



For safety reasons, please remove all propellers during initial setup.
設定MR25/MR25P的過程中，必須將螺旋槳拆下，以避免發生不可預期的危險。



1 REMOVE UPPER MAIN FRAME

拆開機身上側板

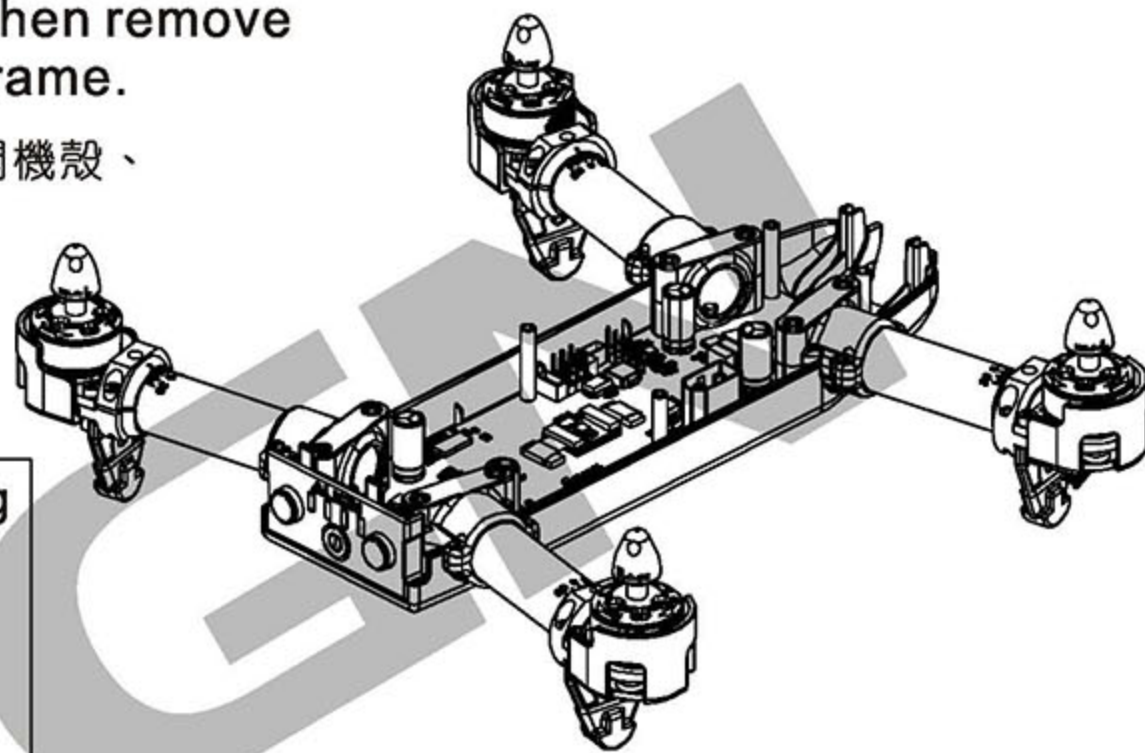
Remove all propellers from MR25/MR25P, then remove canopy, DV camera cable and upper main frame.

取出MR25/MR25P穿越機將螺旋槳拆下後，依序拆開機殼、DV攝影機排線、及機身上側板。



Please refer to MR25/MR25P racing quad manual for more assembly/disassembly instruction detail.

更多詳細拆解方法請詳閱MR25/MR25P穿越機使用說明書。



2 LINK CABLE SET WIRING INSTRUCTION

傳輸線接線方式

Before BL-Heli updating, make sure to connect PR25 Update Programmer to the PC :
Take USB cable for PC and PR25 Update Programmer connection.

進行BL Heli 更新前，必須將電腦與PR25燒錄器連接，連接方式如下：將傳USB輸線連接至電腦設備與PR25燒錄器上。

Please make sure to plug the wire to PR25 Update Programmer and align the arrow mark with the arrow mark on the top case.
請將PR25燒錄器線紅色端前方箭頭，對準PR25燒錄器插槽上的箭頭安插接線。



Make sure to follow the instruction and be aware of the pin/wire direction while assembling.
Any incorrect wiring may burn out the MRS flight control circuit board.

安裝時，請注意PR25燒錄器線的接線方向，接線錯誤將可能導致MRS飛控電路板燒毀。

BL HELI ESC UPDATE

BL HELI 電變程式更新

ALIGN

1 INSTALLATION STEPS

下載安裝BL HELI 程式

1. Please scan QR Code for link at ALIGN website to find related software.

請掃描QR Code連結亞拓網站下載相關軟體。

Compatible with



2. Download "MR25 BL Heli" profile, then "MR25 BL Heli" file will be at your desk after downloading.

下載『MR25 BL HELI』燒錄程式案。下載完成後，會在桌面上產生一個「MR25 BL HELI」資料夾。



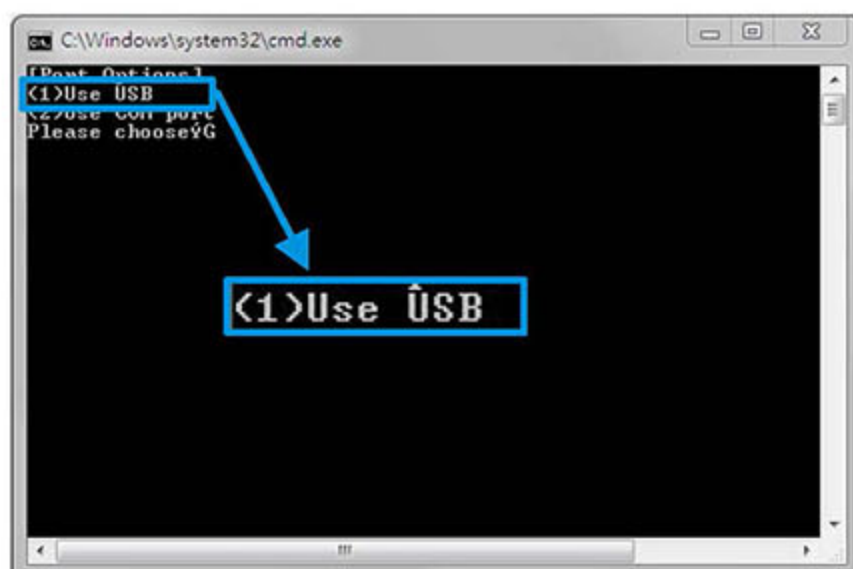
3. Open the BL-Heli.bat firmware, then click and choose (1) Use USB, then (2) Old CPU Rewriting program.

點選資料夾，開啓燒錄程式「BL Heli.bat」。

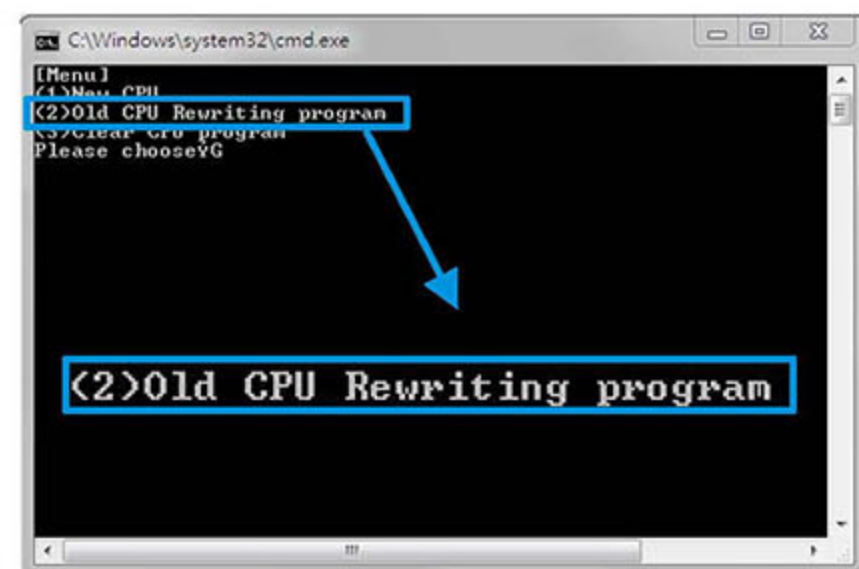
出現訊息視窗(如下圖)，先選擇視窗中「(1)使用USB」，再選擇視窗中「(2)舊CPU重寫程式」。



(1)



(2)



2

BL HELI ESC UPDATE

BL HELI電變程式燒錄

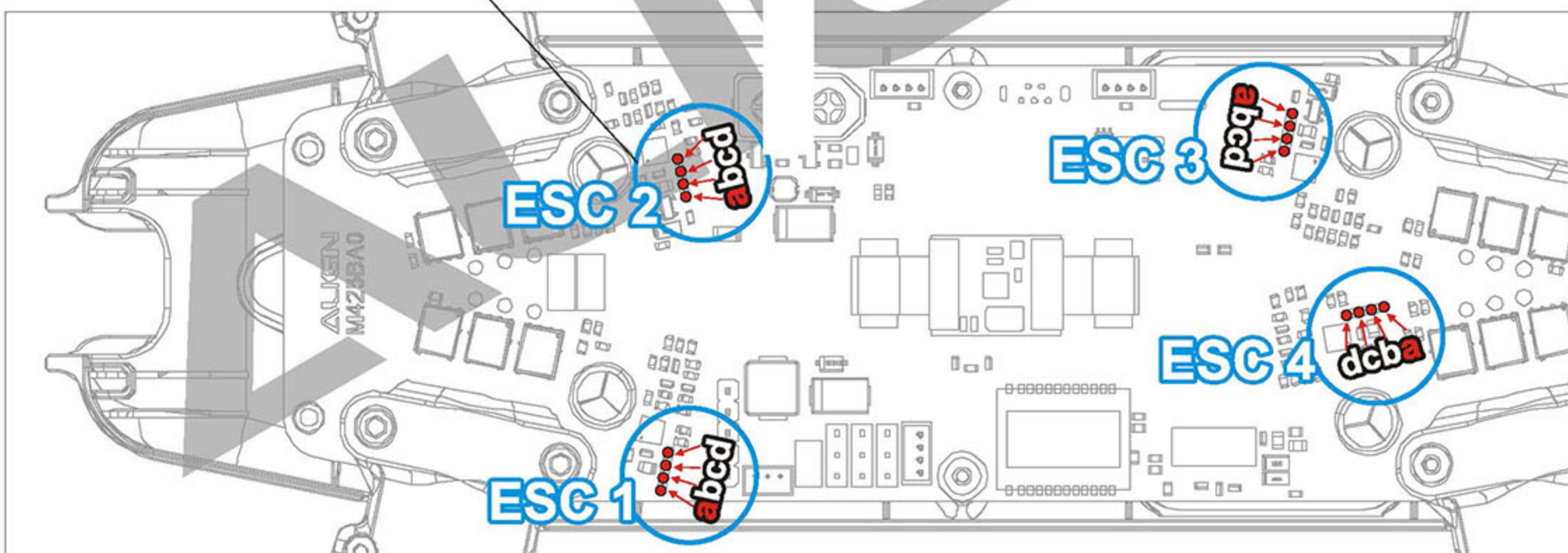
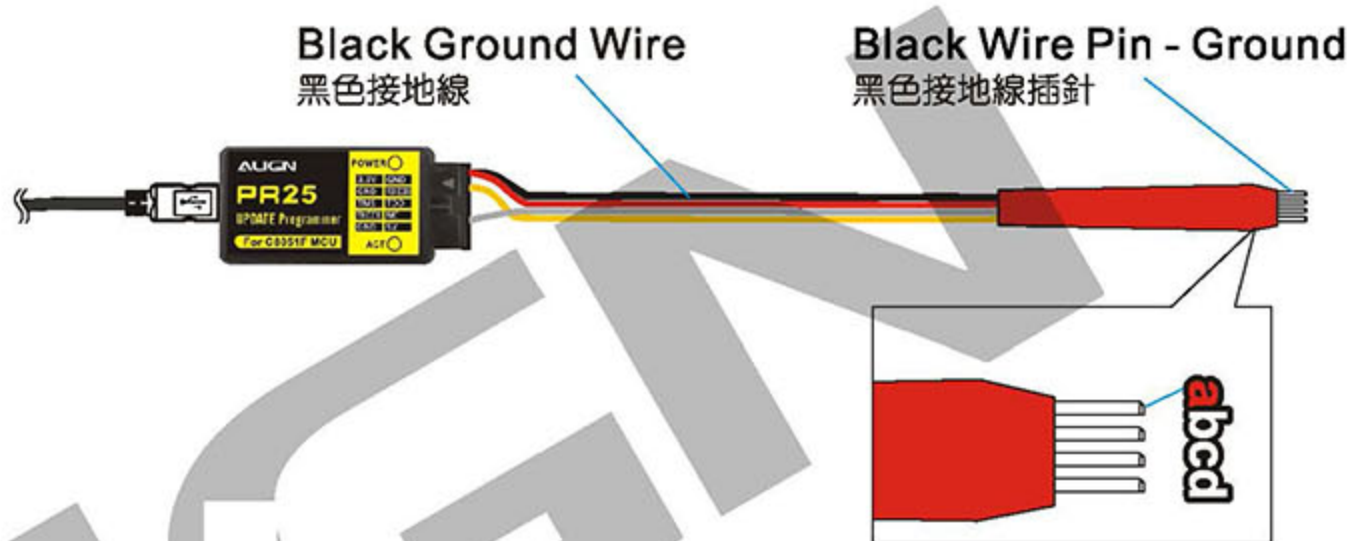
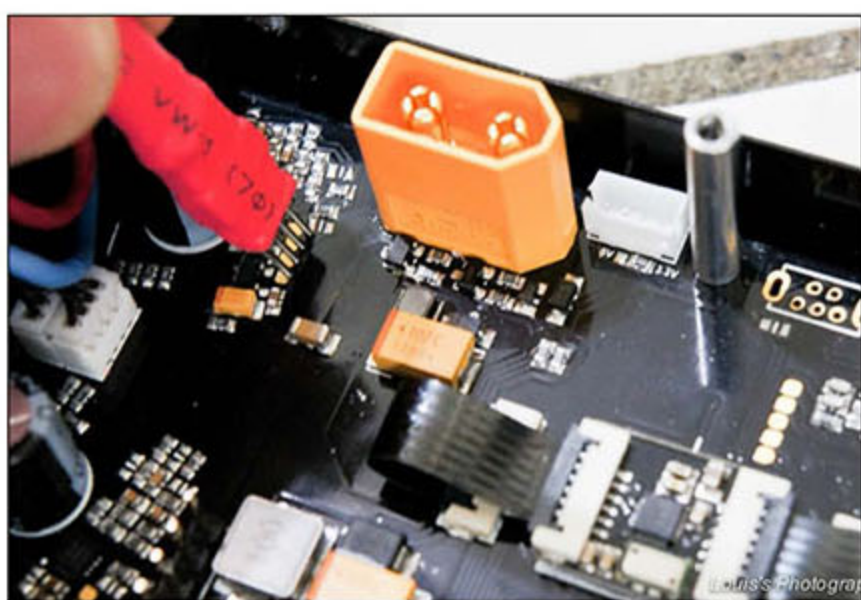


Make sure to be aware of the pin direction while updating.

1. For updating no. 1 & 2 & 3 & 4 ESC port, make sure to keep the black ground wire pins aligned with "a" pin port (as shown below).
2. If the update failure, please make sure to check the pin direction and whether it is well connected, then try again.

燒錄時務必注意插針方向：

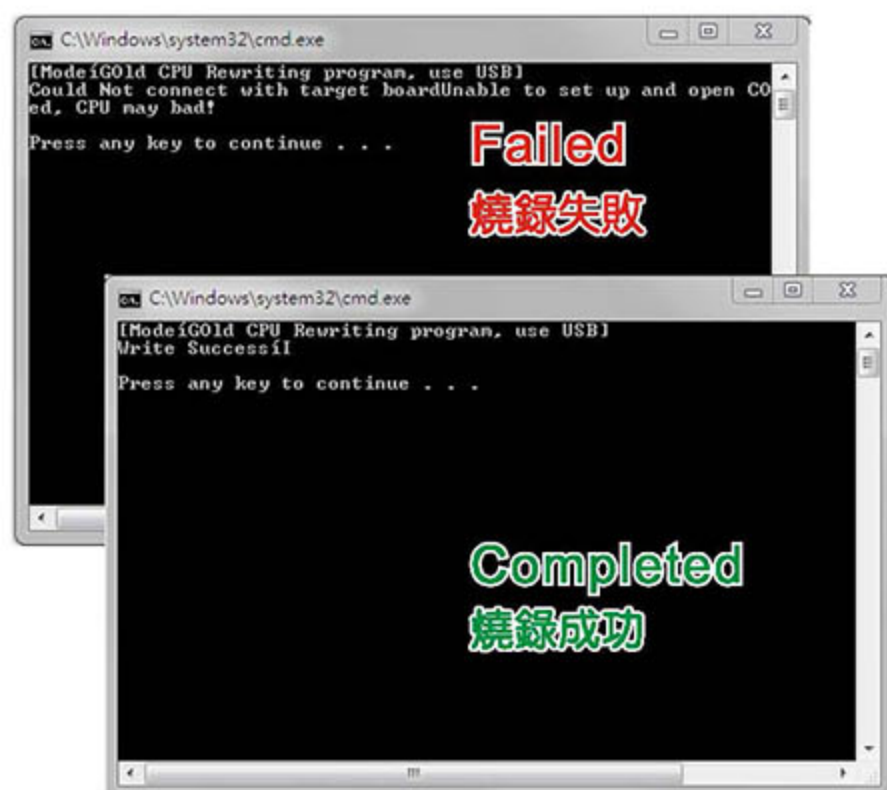
1. 燒錄ESC 1、2、3、4時，將PR25燒錄線(黑色-接地線)插針對準a位置pin腳(如圖示)。
2. 插入ESC端口時，需對準四個pin腳，插線錯誤將會導致燒錄失敗，請檢查插針位置準確並且沒有插反的現象。



Update and re-write CPU firmware through no. 1 & 2 & 3 & 4 ESC port on main board.

Plug the Update Programmer to the ESC port, then press any key to start CPU firmware rewriting.

透過電路板上的ESC端口1、2、3、4，將CPU重新寫入。
將燒錄器線插針插入機身底板的ESC端口，按鍵盤的任一鍵即可將CPU重新寫入。



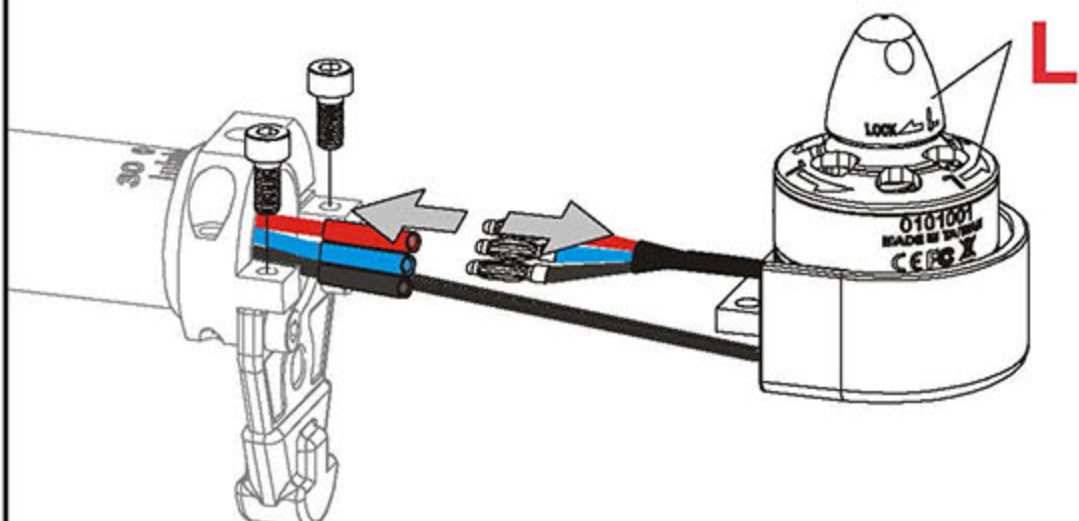
3

SWITCH AND OVERLAP THE SIGNAL WIRES OF MOTOR L

L向馬達的訊號線交換

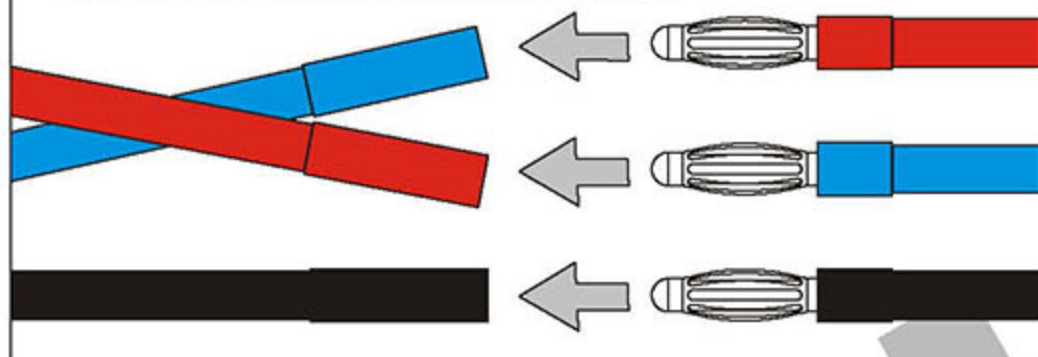
After completing BL-Heli firmware update, please switch and cross any two signal wires from motor "L" randomly, or the motor "L" will rotate in reverse direction and fail to take off.

燒錄完成後請將L向馬達的訊號線任意挑選2條交換，否則會因轉動方向錯誤而無法順利飛行。

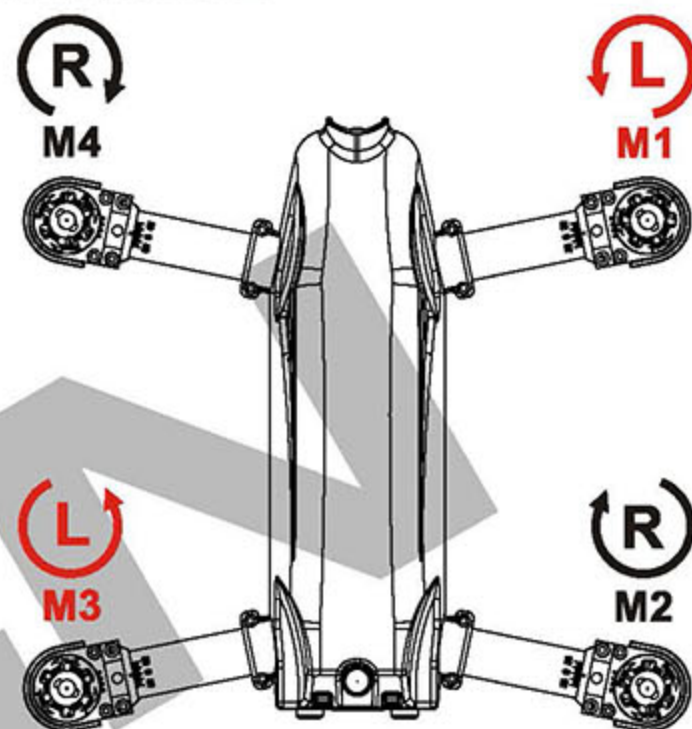


Switch and cross any two signal wires from motor "L" randomly.

L向馬達的訊號線任意挑選2條交換



Motor Rotation Direction Diagram 馬達轉向示意圖



MRS SOFTWARE INSTALLATION AND SETUP

MRS 安裝與設定

ALIGN

1

SOFTWARE DOWNLOAD AND INSTALLATION

MRS 下載安裝

Please scan QR Code for link to ALIGN website to find related software, or search "ALIGN MRS" in iOS / Android app store.

請掃描 QR Code 連結亞拓網站下載相關軟體，或是在 iOS/Android App store 搜尋 "ALIGN MRS"。

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



注意

For using BL Heli firmware, it only compatible with V1.5 version, so must update to MRS V1.5 firmware and Android V1.5 / iOS V1.5 APP at the same time.

BL HELI 程式更新，須同時更新 MRS 主程式及 APP 介面 V1.5 以上版本配合使用。

Compatible with



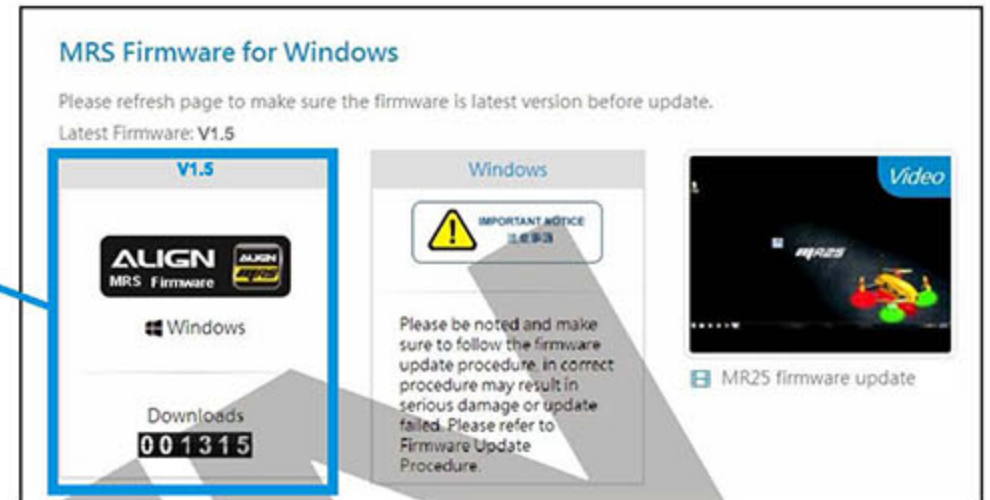
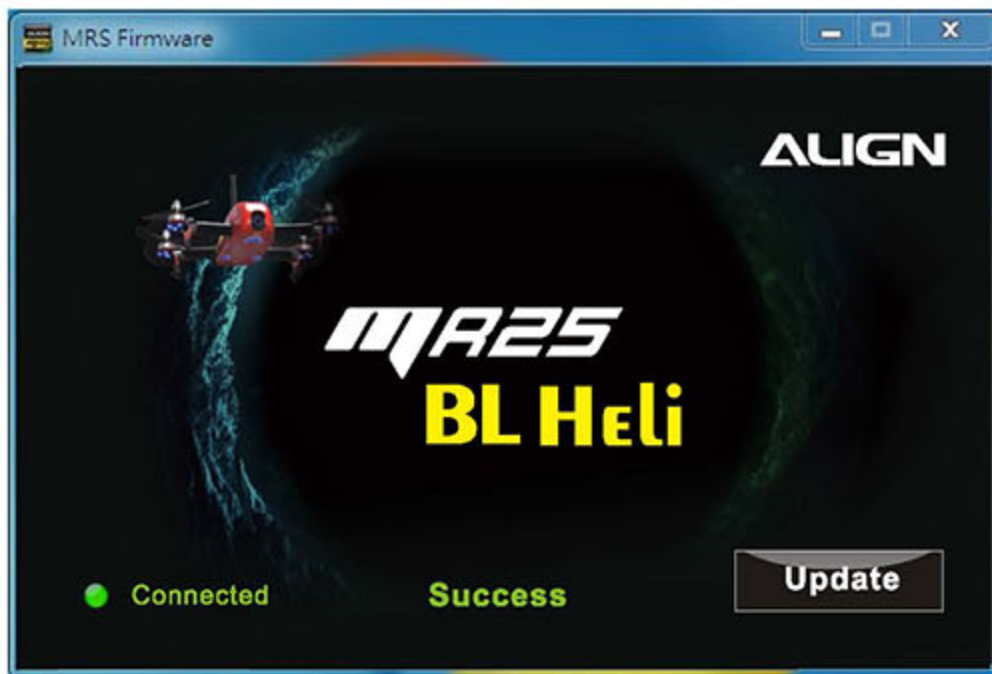
2

MRS FIRMWARE UPDATE

MRS更新主程式

After completing BL-Heli program update, then start updating the latest MR25 MRS firmware. Connect MR25 to the battery and power on. Open the latest MRS Firmware on computer, then choose MRS_firmware_V1.5.mrs to start updating.

當四個ESC 程式都燒錄好後開始更新主程式，電路板接上電源並開啓電源，開啓更新程式，選擇檔案 MRS_firmware_V1.5.mrs開始更新。



3

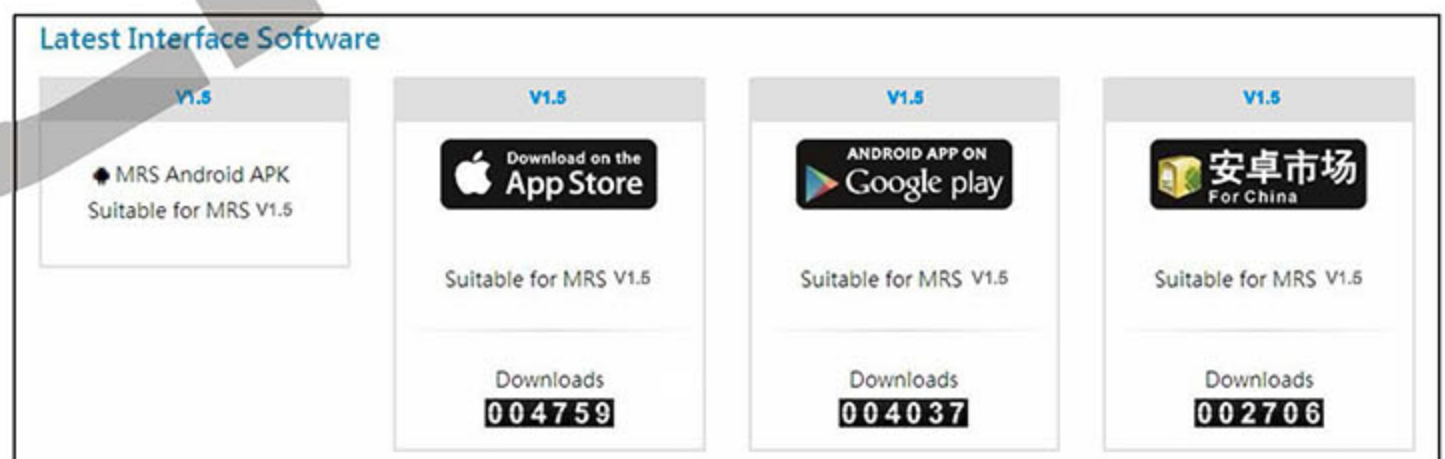
MRS SETUP

MRS設定

UPDATE APP INTERFACE 更新APP介面

Choose the system you use, then download the latest APP Interface.

選擇您使用的系統，下載最新版本的
操作介面。



CONNECTION STATUS LED DESCRIPTION 連線狀態燈號說明

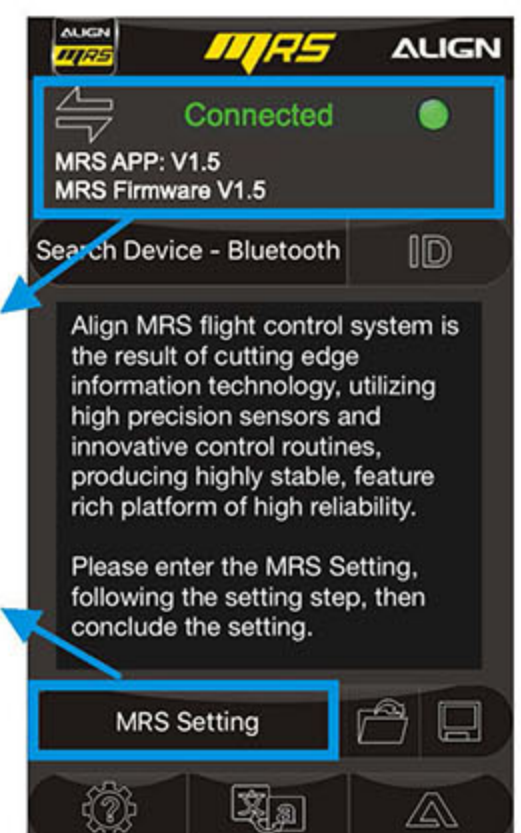
Green light for normal connection ; red light for disconnected.

After connect up MRS, the system will displays current firmware and interface of MRS version.

綠燈為正常連線；紅燈為未連線。

當MRS為正常連線狀態下，系統會顯示目前MRS的操作
介面版本與程式版本。

Click on "MRS Setup Menu" to enter the setup page.
選擇〔MRS飛行控制器設定〕進入MRS目錄選單。



4

TRANSMITTER DIRECTION SETUP CHECKING

遙控器正反向檢查

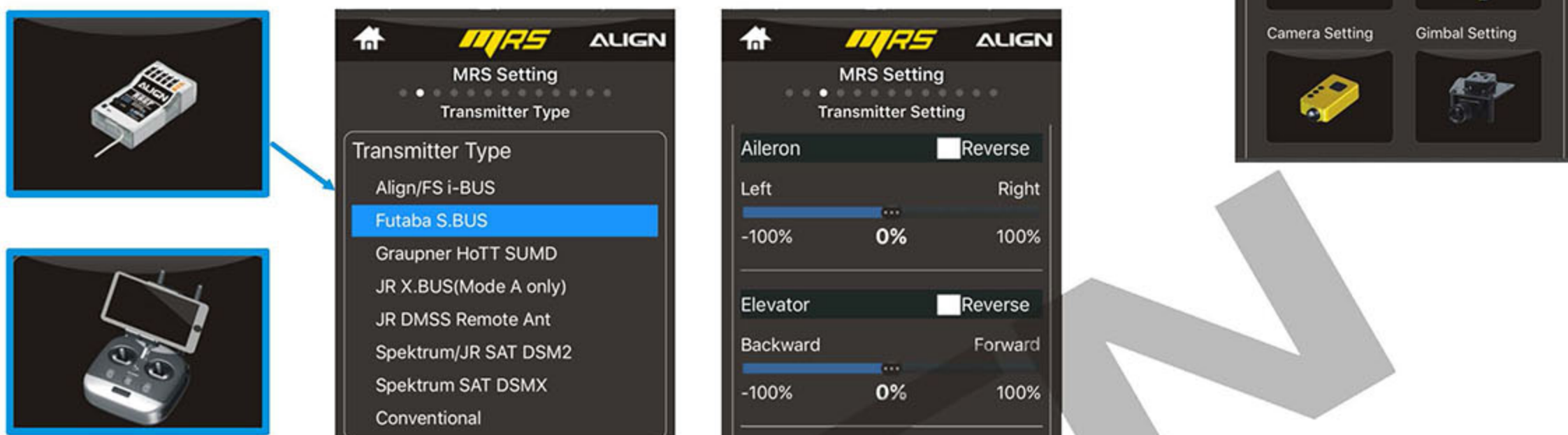
MRS Setting Selection MRS目錄選單

Each settings can be located quickly through this setting selection menu. We recommend following the sequence during MRS' initial setup.

由MRS目錄選單可快速進入所要的選項頁，首次設定MRS建議依序進行設定及調整。

Transmitter and receiver direction setup checking.

請檢查接收器、遙控器正反向設定是否正確。



5

BATTERY/ESC

電池/ESC設定選項

Battery / ESC Setup Option

選擇電池設定/ESC選項



After setup, make sure to click "Confirm" at the bottom of each page to ensure and complete all the parameter settings.

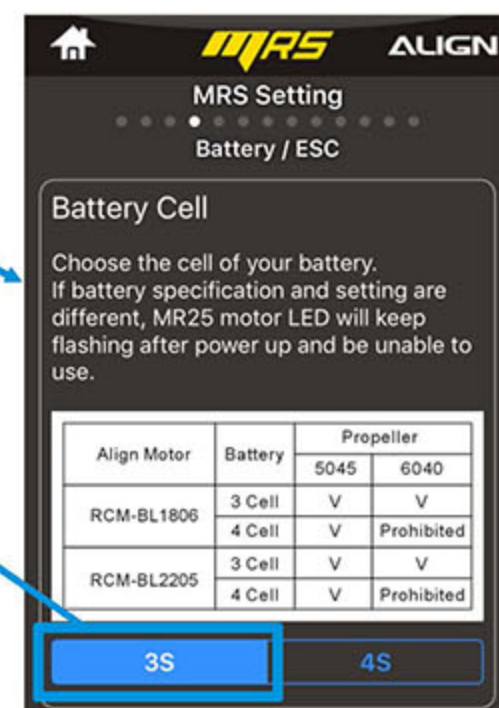
每次設定時，請務必按下“設定確認鍵”，確認此次參數設定已調校完成。



3S or 4S

Choose the cell of your battery.

選擇使用電池的規格。



BATTERY CELL 電池規格

Choose the cell of your battery. If battery specification and setting are different, MR25 motor LED will keep flashing after power up and be unable to use.

選擇使用電池的規格。如果使用的電池與設定的規格不同，MR25開機後馬達燈將會持續閃爍，並無法正常使用。



3Cell battery can be use Align standard **5045/6040 propellers**, 4Cell battery can use Align standard **5045 propellers only**, strictly prohibit to use other propellers instead of Align 5045 propellers; Improper usage will lead to ESC power outage, motor, electronic burn out and other unforeseen danger and accident.

3S電池請使用亞拓原廠 **5045/6040 螺旋槳**、4S電池只適用亞拓原廠 **5045 螺旋槳**，嚴禁使用它廠牌之螺旋槳，否則不當的動力輸出將導致 ESC 斷電、馬達、電子零件燒毀。

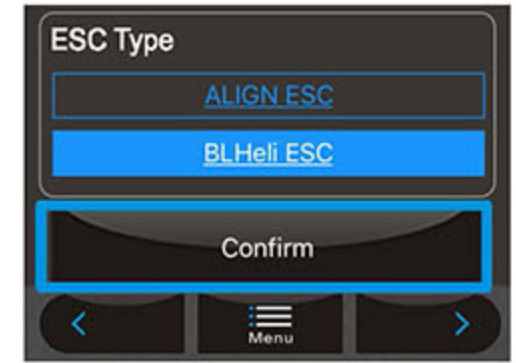
6

ALIGN/MR25 BL HELI ESC THROTTLE CALIBRATION

MR25 BL HELI電變行程校正

1. After completing BL Heli firmware, please choose BL-Heli option, then click "Confirm". Then turn off and restart MR25, MR25 will do throttle range calibration automatically.
2. Then power on MR25 again. And the calibration will be completely done after the beep sound stop or the light of power indicator stop flashing.

1. 電變更新BL Heli後，請選擇BL Heli選項，然後點選確認；接著重新開啓 MR25電源，MR25會自動執行BL Heli ESC油門行程校正。
2. 重新開啓MR25電源，開機後待響聲停止或電源指示燈全部熄滅代表校正完成。



CAUTION 注意

1. BL-Heli ESC must and only compatible with MR25 V1.5 firmware.
2. After BL-Heli ESC update, make sure to do BL-Heli ESC throttle range calibration priority for first flight.
3. Please follow the instruction and choose MR25 ESC option correctly and carefully. If any mistake, it may cause abnormal flight performance for MR25 or fail to take off.

1. BL Heli ESC程式必須搭配MR25 V1.5主程式。
2. 更新BL Heli ESC，首次飛行前必須執行BL Heli ESC油門行程校正。
3. 請正確選擇MR25 ESC程式選項，如果錯誤將會造成MR25異常或無法飛行。

7

GYRO CALIBRATION

陀螺儀校正

IMU GYRO CALIBRATION IMU陀螺儀校正

After BL-Heli ESC updating, must do gyro calibration essentially.

When gyro adjusting, make sure to place MR25 at horizontal location, or it may impact the precision calibration.

Set the MR25 motionless and level on the ground/table position, press "calibration" button, after process is completed, system will indicates "Success"; "Failed" means the aircraft didn't at horizontal location while calibration, please re-place and adjust again.

BL HELI程式更新後，必需要進行此陀螺儀校正功能。

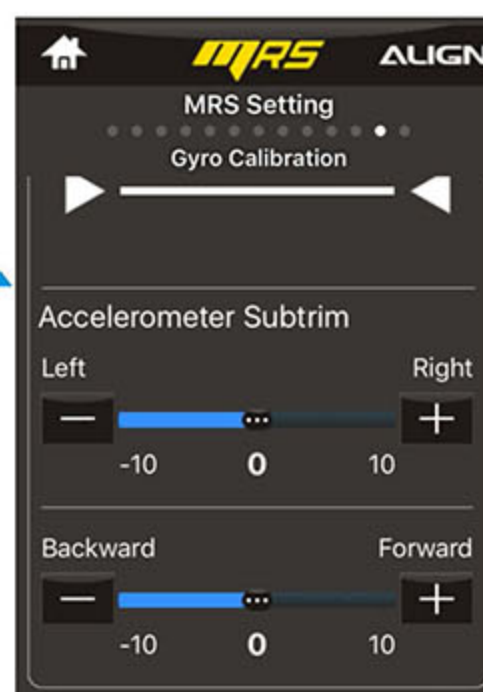
請注意使用陀螺儀校正時，必須將MR25靜止平放於水平面上，否則會影響校正精準度。

機子靜止放置好後，按下校正鈕，校正完成後會顯示“成功”。如果顯示“失敗”表示機子沒靜止水平，請重新執行校正。



First, set the accelerometer to 0 then process automatic correction. If drift issue still happen after calibration, please do accelerometer fine-tune further.

先將加速計微調設定為0再進行自動校正，如果校正完還有偏移再進行加速計微調。



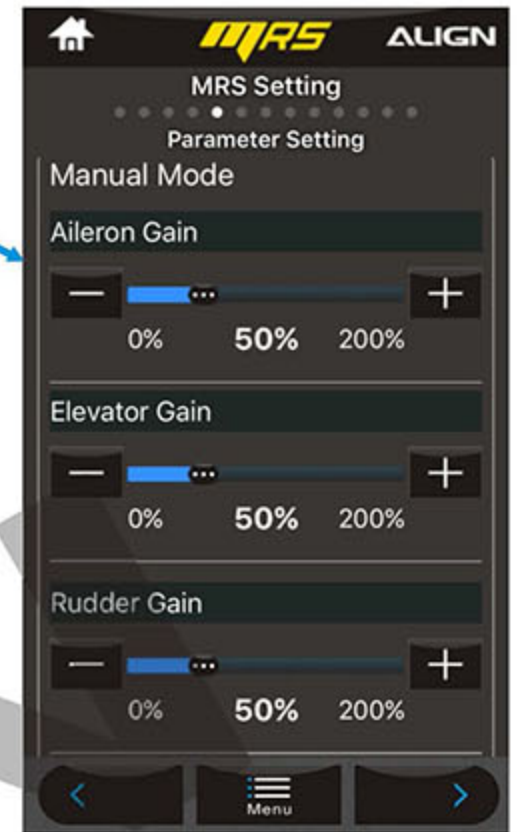
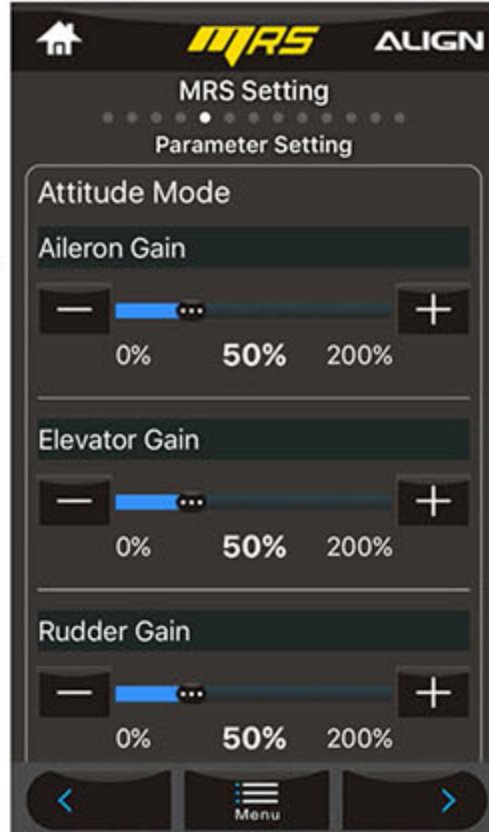
8

PARAMETER SETTING

飛行參數設定

2. The default gain settings is 50% for beginners. Allow to adjust gain settings max. to 200% for advanced/professional pilots.

2. 感度出場預設為50%適合初學者飛行，APP1.5版最大可調整至200%適合供高階飛手飛行。



PRE-FLIGHT CHECKLIST AND WARNINGS

飛行前檢查與注意

ALIGN

Prior to every flight, carefully check all parts such as blades, screws, frame, arms, etc; ensure they are firmly secured and show no unusual wears, or unforeseen danger may happen.

Make sure to double check all APP parameter setting before flying. Incorrect settings will affect to unexpected and unpredictable safety danger.

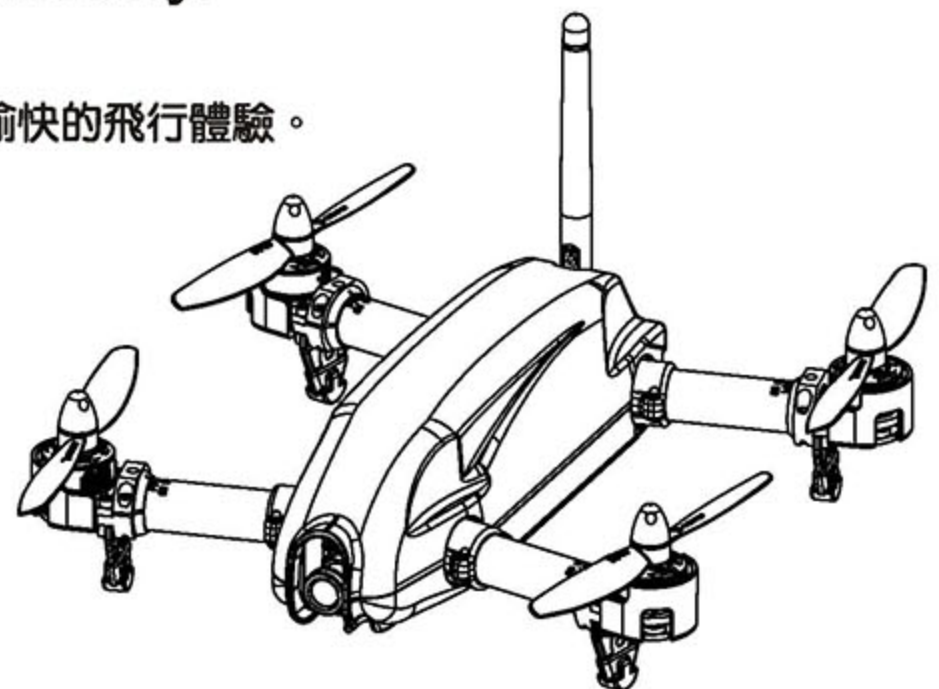
每趟飛行前須仔細檢查機身各部位之零/配件/電子設性能是否正常，及無損耗老化現象，並確實將螺絲鎖緊才能升空飛行。並做好定期檢修，避免零件或電子產品異常所造成不可預期的意外。

飛行前務必確認APP內所設定的參數是否正確，不正確的設定將會影響飛行狀態的安全，嚴重將導致不可預期的危險。

Make sure to do all safety check carefully and seriously.

Wish you a joyful flight experience.

飛行前做好各項安全檢查才能有更美好的飛行狀態，祝福您有一個愉快的飛行體驗。



www.align.com.
www.a
www.align.com
www.align
www.align.
www.align.com.tw
www.align.com.tw

www.align.com.tw

ALIGN