Gpro Flybarless System
INSTRUCTION MANUAL

Utilizes with Bluetooth for phone setup adjust.
支援藍牙功能，可透過手機設定調整。

Please read this manual carefully before assembling.
We recommend that you keep this manual for future reference regarding tuning and maintenance.

3Axes MEMS 12bit CPU Bluetooth iOS Android 5.BUS
X.BUS Energy Stable GOV 30V-60V

Compatible with helicopter of all sizes from T-REX 250 to T-REX 800
Gpro Flybarless System. Here we use T-REX 700L DOMINATOR as an example.

Gpro無平衡翼系統電子設備相容小型直昇機至大型直昇機T-REX 250～
T-REX800。在此我們以T-REX 700L DOMINATOR作為操作範例。
1. INTRODUCTION

Thank you for buying ALIGN Products. The Gpro Flybarless System is designed as an easy to use. 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 Gpro Flybarless System is a new product developed by ALIGN, providing flying stability for beginners, full aerobatic capability for advanced flyers, and unsurpassed reliability for customer support.

Thank you for choosing ALIGN products. We hope that the Gpro Flybarless System will meet your needs. 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 Gpro Flybarless System is a new product developed by ALIGN, providing flying stability for beginners, full aerobatic capability for advanced flyers, and unsurpassed reliability for customer support.

WARNING LABEL LEGEND

FORBIDDEN
Do not attempt under any circumstances.

WARNING
Mishandling due to failure to follow these instructions may result in damage or injury.

CAUTION
Mishandling due to failure to follow these instructions may result in damage or injury.

IMPORTANT NOTES

R/C helicopters, including the 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.

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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 3GX Flybarless System 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.

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, ensure they are firmly secured.
- If you intend to fly, always ensure high standards of safety. People, like children, must be out of range of the helicopter.
- R/C aircraft are recognized as dangerous equipment, and the use of such equipment must be accompanied by proper safety measures. In the event of an accident, please contact your nearest Align representative for assistance.
- Every flight must be checked thoroughly, including the helicopter's position, pitch, and yaw, to ensure safe flying conditions.
LOCATE AN APPROPRIATE LOCATION

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.

FORBIDDEN 禁止

R/C 卡塔瓦特

PREVENT MOISTURE 預防潮濕環境

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.

FORBIDDEN 禁止

NOTE ON LITHIUM POLYMER BATTERIES 鋰聚合電池注意事項

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.

FORBIDDEN 禁止

PROPER OPERATION 妥善使用本產品

Always be aware of the rotating blades 遠離運轉中零件

During the operation of the helicopter, the main rotor and tail rotor will be spinning at a high rate of speed. The blades are capable of inflicting serious bodily injury and damage to the environment. Be conscious of your actions, and careful to keep your face, eyes, hands, and loose clothing away from the blades. Always fly the model a safe distance from yourself and others, as well as surrounding objects.

CAUTION 注意

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.

WARNING 警告

Always 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.

WARNING 警告

Operate this unit within your ability. Do not fly under tired condition and improper operation may cause in danger. Never take your eyes off the model or leave it unattended while it is turned on. Immediately turn off the model and transmitter when you have landed the model.

WARNING 警告

Obtain the assistance of an experienced pilot 避免獨自操控

Before turning on your model and transmitter, check to make sure no one else is operating on the same frequency. Frequency interference can cause your model, or other models to crash. The guidance provided by an experienced pilot will be invaluable for the assembly, tuning, trimming, and actual first flight or unforeseen danger may happen.

WARNING 警告

SAFETY OPERATION 安全操作

WARNING 警告

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FEATURES

- 3-axis gyroscope flybarless system to simulate the stability of mechanical flybar system, yet at the same time achieving agile 3D performance.
- Supports the semi-flybarless system, which improves stability and increases the stability of the system.

- Utilizes MEMS gyro sensors, which feature small footprint, high reliability, and excellent stability.

- Supports 12-bit ultra-high resolution, resulting in highly precise controls.

- Brand new CPU processes 20 times faster than previous generation. GPU power提升，速度提升20倍。

- Utilizes Bluetooth for phone setup adjust.

- Used with iOS for instant adjustment.

- Used with Android app for instant adjustment.

- Supports Spektrum and JR satellite receivers.

- Supports Futaba S.BUS architecture.

- Software upgradeable through PC interface adapter.

- Flybarless system dramatically improves 3D power output and efficiency, resulting in reduced fuel or electricity consumption.

- Highly sensitive gyroscopic sensors combined with advanced control detection routine providing higher hovering and aerobatic stability than other flybarless system.

- Suitable for all CCPM and mechanical mixing system.

- Suitable for flight at various speeds.

- Small footprint, lightweight, minimalists and reliable design.

SETUP PRE-CHECK

1. Connect the receiver and servos to the Gpro Flybarless system unit as per diagram found on page 5–6.
2. Digital servos must be used on cyclic to avoid damage to servos.
3. Prior to first use, please enter setup program through helicopter's Hardware Setup menu, followed by parameter tuning in each tab, then completes with flight parameter menu settings.
4. Before entering setup mode, all trims on transmitter need to be zeroed. Do not adjust the trim tab while flying. If helicopter experiences drifting during hover, this is an indication that swashplate was not leveled during setup. Should this occur, please enter the flybarless system "swashplate settings" mode, adjust the level of swashplate, and then complete the setup.
5. When Gpro is connected with both computer and Bluetooth device, the unit will self-disconnect with Bluetooth when computer setup is processing, that is Gpro system protection to avoid operating error. Please re-power Gpro to start setup via Bluetooth after computer setup is finished.
1. Connect all wires as shown in diagram. Receiver and Gpro wires are color coded to distinguish the different connection channels. Care should be taken to ensure proper wire color to channel connection.
2. While using the speed controller that not including BEC, you need to connect the BEC power with Gpro "BATT" port.
3. Receiver power is achieved by connecting the Gpro "S.BUS/X.BUS" port to the CH7 or BATT port on receiver using supplied signal wire.
4. To avoid damage to servos, only digital servos should be used for swashplate. Recommended spec: 0.08s/60 degrees or faster, with 12 Kg or higher torque.
5. Gpro has built in nitro governor function which require purchase of optional governor sensor.

**METHOD 2: FUTABA S.BUS & JR X.BUS CONNECTIVITY METHOD**

1. For Futaba S.BUS and JR X.BUS receivers, connect wires as shown in diagram.
2. While using the speed controller that not including BEC, you need to connect the BEC power with Gpro "BATT" port.
3. Receiver power is supplied through S.BUS/X.BUS signal wired connected to Gpro's "S.BUS/X.BUS" port.
4. To avoid damage to servos, only digital servos should be used for swashplate. Recommended spec: 0.08s/60 degrees or faster, with 12 Kg or higher torque.
5. Gpro has built in nitro governor function which require purchase of optional governor sensor.
METHOD 3: JR / SPEKTRUM SATELLITE CONNECTIVITY METHOD

1. When binding, do not mix satellite receivers of different makes.
2. Incompatibility with future models of satellite receivers will be resolved through firmware updates.

1. 不同廠牌的衛星天線請勿交叉對頻。
2. 如有新型號衛星天線產生不兼容情形，將以回報更新方式解決。

1. For JR or SPEKTRUM satellite receivers, connect wires as shown in diagram.
2. While using the speed controller that does not including REC, you need to connect the REC power with Gpro "BATT" port.
3. To avoid damage to servos, only digital servos should be used for swashplate. Recommended spec: 0.8s/60 degrees or faster, with 12kg or higher torque.
4. Gpro has built in nitro governor function which require purchase of optional governor sensor.
5. For radios with less than 6 channels, channel 5/GEAR is used for rudder gyro gain. Speed governor cannot be used. For safety concern, two satellite receivers should be used, with each antenna perpendicular (90 degrees) from each other. A satellite receiver should be installed on each side of the frame, separate by minimum distance of 5cm.

1. 按照圖示進行接線，Gpro支援SPEKTRUM與JR雙衛星天線。
2. 使用無REC輸出的調速器時，請額外由Gpro的"BATT"孔位接入REC電源。
3. 十字湯必須安裝數位式陀螺，否則會造成陀螺損壞。
   建議規格：遙控0.8s/60度以内、扭力12kg以上。
4. Gpro內建進退器功能，可見購進退器時間片使用。
5. 為安全起見，請務必安裝兩個衛星天線，兩衛星天線角度必須呈90度之外，且須安裝於機身兩側，相隔至少5公分以上，

BINDING PROCEDURE 對頻方式

Binding : (Hold last command)
對頻：(保持最後指令)
Binding with Fail-safe: (Go to preset position)
對頻與失控保護：(預設預設模式)

Step 1: Connect power to Gpro, select the satellite receiver type and failsafe type.
Step 2: Re-connect power to Gpro, satellite receiver's LED will blink, indicating entering binding mode.

步驟1.將Gpro接上電源，選擇所使用的衛星天線及失控保護方式。
步驟2.將Gpro重新接電，此時衛星天線LED燈會開始閃爍進入對頻狀態。

Step 3: Activate binding mode on your transmitter. Receiver LED will remain lit indicating successful binding.
Note: In binding with failsafe mode, receiver's LED will go from fast blink to off immediately after successful binding, followed by slow blinks. Move the transmitter sticks to desired position to set the fail-safe position, which will be confirmed with steady lit of LED after 5 seconds.

步驟3.將遙控器開啟對頻模式，對頻完成衛星天線LED燈會恆亮。
註：如選“對頻與失控保護”，監控器對頻完成後，衛星天線上LED會由快速閃爍狀態熄滅，之後再亮起為慢速閃爍；在慢速閃爍狀態時，將遙控器上的所有搖桿放置於您所需要的預設安全位置，5秒後LED燈會恆亮，完成對頻。

Please disconnect motor wires during binding to prevent dangerous unforeseen circumstances.
對頻時請拆除馬達線，以免發生不可預見之危険。
1. SELECT H-1 SWASHPLATE TYPE

When using Gpro, transmitter must be set to H1 (1-servo-normal) traditional swashplate. Incorrect swashplate setting will cause setup problem and prevent helicopter from flying.

使用Gpro控制器必须选择H-1 (1-servo-normal)传统十字器。如果十字器类型设定错误，会造成无法设定及模型不正常无法飞行。

2. PC SOFTWARE INSTALL

Please go to http://www.align.com.tw/Gpro to download and install Gpro PC software.

Note: If you cannot setup the Gpro Windows version, please check whether you have installed the Microsoft .NET Framework 4.


3. LAUNCH THE PC SOFTWARE AND CONNECT TO Gpro

STEP 1: LAUNCH PC SOFTWARE

After software is installed, double click Gpro software and proceed to connect your Gpro with mini USB cable.

STEP 2: POWER ON YOUR TRANSMITTER AND RECEIVER

 conect the power 接上电源
4. HELICOPTER HARDWARE CONNECTION 直昇機硬體設定

STEP 1:

a. Select "Setup Menu" to enter helicopter hardware configuration.

b. Select "Create New Settings" to wipe our previous settings, and perform the setting from scratch.

1. New helicopters that have not been setup before, please select "Create New Settings" and perform the complete setup procedure.
2. After initial setting of the Gpro, user can select "Edit Current Settings" to make adjustment changes.

There are 7 settings for helicopter configuration. Press "Next" after completing each and every of the 7 settings.
STEP 2: RC TRANSMITTER AND RECEIVER

b. Movements on the transmitter such as aileron, elevator, collective pitch, etc, must match synchronously with the display on PC interface. Using the diagram below as example, if moving aileron stick does not result in any movement of aileron channel inside PC interface, change the channel number on the upper left corner of aileron so that channel matches between transmitter and PC interface.

Do not allow repetitive numbers when adjusting channel number, otherwise Gpro will not function properly.

Move the aileron stick, PC interface should display corresponding control movements. Perform this check on all channels.

Note: When using Gpro, every channel's neutral, direction, max/min end point must be set correctly. Throttle and pitch range must be set to straight diagonal line, and subtrim is set to 0 degrees. Using transmitter stick, channel direction, subtrim, and servo end point functions (EPA/Travel Adj), perform each channel's setting and adjustments.

Center the transmitter stick. At this point the aileron and elevator neutral point must be 0. If it's not 0, adjust using transmitter's subtrim function until 0 is achieved.
d. Confirm the direction of each channel. If interface displays opposite direction, reverse using the channel reverse function on transmitter so that movement of aileron corresponds to correct direction on interface. In addition, use EPA/Travel Adj function on transmitter to adjust the end points so that max/min travel corresponds to 100% and -100% on the interface.

Also confirm all movement directions are correct. Incorrect movements can be reversed through transmitter's reverse function.

Using the transmitter's EPA/Travel Adj function, adjust the maximum/minimum travel on the PC interface to 100% and -100% respectively.

Must adjust the max. and min. travel of aileron/elevator/pitch to correspond with 100% and -100% of transmitter stick.

**STEP3: SENSOR MOUNTING & BLADE DIRECTION**

a. Gpro can be mounted 4 ways as shown in diagram. Arrow can point forward or backward. User need to select one of the mounting choices based on helicopter design. The actual mounting of the gyroscope must match to the position selected here.

b. In order for Gpro to achieve optimal performance, the main rotor rotation direction needs to be selected. All Align helicopters are clockwise rotation.

c. Gpro 具備4種安裝方式，如圖示，箭頭可指向前後。使用者需根據旋翼機設計，選擇其中一種安裝方式。實際安裝位置必須與選擇的安裝位置相符。

d. 為確保Gpro有優異性能，必須設置主旋翼旋轉方向，所有亞型直升機都為順時針旋轉方向。

Select Gpro install position, and clockwise rotation on main rotor.  
選擇Gpro安裝方式，以及主旋翼順時針旋轉方向。
STEP 4: PITCH DIRECTION & SWASH TYPE

STEP 4：螺距方向和十字跷曲型

a. Gpio needs to know which direction swash plate moves during positive pitch movement. All Align helicopters have upward moving swashplate during positive pitch.

b. Select the swashplate type based on the helicopter. Then confirm the direction of each movement is correct. If reversed, correct by selecting the corresponding reverse option on this interface.

For this step, do not reverse the servo using transmitter’s reverse function.

Caution 注意
此步骤不可通过遥控器的反向功能来调整。

Swash plate must move up. If there are any incorrect servo movements, adjust the servo direction per diagram on left until correct movement is achieved.

Select positive pitch swash plate up mode, and HR-3 T-REX 700L Dominator swash plate type.

STEP 5: SWASHPLATE ADJUSTMENT

STEP 5：十字跷曲调整

a. Adjust the neutral point of each servo and swash plate level. Using the subtrim function on the interface here, adjust the neutral point of each servo so that servo arm is level at 0 degrees. Follow by the adjustment of push rod length or cyclic pitch subrims here to achieve horizontal level of swash plate.

b. Swash plate level can also be adjusted here through cyclic pitch trim function.

Swash leveler can be used during swash plate leveling adjustments.
c. After swashplate is leveled, adjust the collective pitch using the collective pitch subtrim and a pitch gauge, so that pitch is 0 degrees at collective pitch neutral point.

c. 十字盤水平後，利用集體螺距微調且搭配數位螺距規使用，將集體螺距中間點調為0度。

STEP 6: COLLECTIVE PITCH AND CYCLIC PITCH

a.1. Push throttle stick to maximum position. Using the positive collective pitch parameter and a pitch gauge, adjust the maximum pitch angle. At this time, the cyclic pitch subtrims below can be used to achieve swashplate level during maximum pitch.

a.1. 將油門桿推至最大，利用正向集體螺距搭配數位螺距規使用，來調整所需的螺距角度。此時也可以使用下方的循環螺距微調，來調整最大螺距時的十字盤水平。

a.2. Push throttle stick to minimum position. Using the positive collective pitch parameter and a pitch gauge, adjust the minimum pitch angle. At this time, the cyclic pitch subtrims below can be used to achieve swashplate level during minimum pitch.

a.2. 將油門桿拉回至最小，利用負向集體螺距搭配數位螺距規使用，來調整所需的最小螺距角度。此時也可以使用下方的循環螺距微調，來調整最小螺距時的十字盤水平。

CAUTION:

Please unplug motor wires or activate throttle HOLD when performing Gpro configuration.

進行Gpro設定時，請拔掉電纜線或切到油門HOLD模式，設定完畢後再重新開機Gpro電源。
b. Gpro's cyclic pitch must be set to 8 degrees. Push the "Set to 8 degrees pitch" button, swash plate will tilt to one side. Use a pitch gauge and adjust the cyclic pitch parameter until pitch achieves 8 degrees.

Note: When adjusting cyclic pitch, swashplate will be locked at "8 degrees cyclic pitch" or "0 degrees pitch" when selected. Press "Release" after completion of adjustments to unlock.

STEP 7: RUDDER SETTING
少顯7. 尾舵設定
a. First select the type of rudder servo.
b. Confirm rudder servo direction. Reverse on the interface if needed.

Pushing rudder stick to left will cause tail pitch slider to slide right as shown above. Reverse rudder direction if incorrect.
尾舵打左舵，尾滑套會向右移動。如上圖所示。如果不正確，請更改尾舵方向。

c. Rudder center can be adjusted through Neutral Position setting. Please follow the diagram below, adjust so that servo horn is 90° to servo, and rudder pitch slider is in the middle position.

您可以利用尾舵中立點設定來微調中立點，調整請依下圖所示。伺服器與片頭與舵機垂直90°，且尾滑套應在中間位置。
d. Push rudder stick on transmitter all the way left, and adjust the parameter on interface so the rudder is at maximum left without binding. Perform the same for right rudder.

Note: Please set the rudder gain in unlock mode, actual gain value differs amongst servos and helicopters. The goal is to find the maximum gain without tail hunting. This can only be done through actual flight tests.

STEP 3: GLOW (NITRO) THROTTLE GOVERNOR

If your helicopter is an electric helicopter. This section can be skipped.

Glow (nitro) helicopters can activate governor function here. The RPM sensor must be installed correctly on helicopter.

a. Turn ON governor function, and enter the correct gear ratio.
b. Push throttle stick to minimum position, press SET to record minimum value. Then push throttle stick to maximum and press SET to record maximum value.

c. This speed governor function is for nitro power only. Do not activate this function if your helicopter is electric powered. Otherwise it may cause unintentional motor spin-ups, resulting in dangerous situations.
STEP 9: COMPLETE HELICOPTER SETUP.

After completing helicopter setup, please proceed to flight parameter setup.

完成直昇機設定後，請接續進行飛行參數設定。

6. PARAMETER MENU 飛行參數設定

Flight parameter consists of adjustments to improve helicopter flight characteristics and styles. You can fine tune these parameters to suit your preference. Gpro has flight enhancement specific to helicopter sizes. Please select the correct helicopter class on this settings page.

飛行參數是提升直昇機飛行性能與能力上的調整，可依照個人操控手法與喜好，調整符合您需求的飛行手感。Gpro有針對大小直昇機進行飛行優化，所以在此設定頁面，您必須選擇正確直昇機級別的設定。

Beginner Settings：If you are a beginner or unfamiliar with radio control, please select "Beginner Settings" so that Gpro can provide more stable and more suitable control feel.

初學者建議參數：若您剛入門或操控技術不純熟，建議選“初學者建議參數”，此設定也可以讓Gpro有更穩定，更適合您的操控手感。

When Gpro is connected to the PC or smartphone for configuration setup, Gpro will disable electronic speed control. After completing setup, remember to power Gpro back on.

當Gpro接上電腦或手機進行調整時，請務必主馬達電源，待完成調整設定後，務必重新啟動接收器電源。

**Gpro SPECIFICATIONS**

1. Operating voltage range: DC 3.5V-8.4V
2. Operating current consumption: <100mA @4.8V
3. X and Y axis Operating Angle Range: -300° to 300° degree
4. Z axis Operating Angle Range: -60° to 60° degree
5. Sensor resolution: 12bit
6. Supports 90/120/135/140 CCPM swashplates
7. Spectrum and JR Satellite antennas support (Replaces original factory receiver)
8. Futaba S.BUS/SJR X BUS system support
9. Rudder support 750 m narrow band servos.
10. Supports multi-blade rotor heads.
11. Engine speed governor range: 10500-21000 RPM
12. Operating Temperature: -20° to 55°degree
13. Operating Humidity: 0%-95%
14. Size/Weight: 36.5x28.2x15.6 mm Size/11.5g
15. 1.適用電壓: DC 3.5-8.4V
2. 消耗電流: <100mA @4.8V
3. 傾斜角度: -300° to 300° degree
4. 垂直角度: -60° to 60° degree
5. 感測器解析度: 12位元
6. 支援90/120/135/140度CPM旋翼片
7. 支援JR和JR衛星天線
8. 支援Futaba S.BUS/SJR X BUS系統接收機
9. 方向舵支援750mm窄頻電機
10. 支援多片螺旋刀
11. 機動速度範圍: 10500-21000 RPM
12. 操作溫度: -20° to 55°degree
13. 操作濕度: 0%-95%
14. 尺寸/重量: 36.5x28.2x15.6 mm/11.5g
15. 通過RoHS環保規範
1. SELECT H-1 SWASHPLATE TYPE

When using Gpro, transmitter must be set to H1 (1-servo-normal) traditional swashplate. Incorrect swashplate setting will cause setup problem and prevent helicopter from flying.

2. SOFTWARE INSTALL

Please scan QR Code link ALIGN website to find related software, or search "ALIGN Gpro" on the iOS / Android app store.

Compatible with

3. LAUNCH THE PC SOFTWARE AND CONNECT TO Gpro

STEP 1: POWER ON YOUR TRANSMITTER AND RECEIVER

STEP 2: CONNECTED BLUETOOTH DEVICE
4. HELICOPTER HARDWARE CONNECTION

**STEP 1: LAUNCH MOBILE DEVICE AND CONNECT TO Gpro**

- **Please select language.**  
  選擇您所使用的語言  

- **Search Device - Bluetooth**  
  搜尋裝置 - 藍牙  
  裝置名稱為 ALIGN BTH01  

- **Please launch bluetooth device**  
  請啟動藍芽設備  

- **Entering Password**  
  輸入藍牙密碼  

---

**Note:** 
Please launch bluetooth device  

- **Reset Bluetooth PW**  
  設定藍牙密碼  

When using smartphone app to make configuration changes, a Bluetooth password must be set for pairing with the smartphone. The factory default password is “3000”. We strongly recommend you to change your password to avoid interference with others while Bluetooth transmission.

---

**a. Select “Setup Menu” to enter helicopter hardware configuration.**

**b. Select “Create New Settings” to wipe our previous settings, and perform the setting from scratch.**

1. New helicopters that have not been setup before, please select “Create New Settings” and perform the complete setup procedure.
2. After initial setting of the Gpro, user can select “Edit Current Settings” to make adjustment changes.

---

**a. 設定項目** 設入機器功能設定。  
**b. 建立全新設定** 選擇此選項將 Gpro 清除重置所有設定，進行新的直升機設定。

1. 新的直升機未設定前，務必選擇“建立全新設定”按鈕進行完整設定一遍。
2. Gpro 初次設定完畢後，玩家可選擇“管理現有設定”，調整 Gpro 設定。

---

There are 7 settings for helicopter configuration. Please completing each and every of the 7 settings.

直升機設定共有7項設定，每項設定須逐一確認完成。

---

17
STEP 2: RC TRANSMITTER AND RECEIVER

a. First please select the receiver type.
   Note: Transmitter must be set to H-1 (1. Servo-Normal) swashplate type. Please refer to page 6 for binding instruction if satellite receivers are used.
   請先選擇您所使用接收器型號。
   注意：遙控器必須設定為 H-1 (1. servo-normal) 總體十字盤模式。若您使用衛星接收器，請參考第6頁設定說明對頻。

b. Movements on the transmitter such as aileron, elevator, collective pitch, etc., must match synchronously with the display on App interface. Using the diagram below as example, if moving aileron stick does not result in any movement of aileron channel inside App interface, change the channel number on the upper left corner of aileron so that channel matches between transmitter and App interface.
   遙控器之各動作，如副翼、升降、集體傾斜等，必須與介面上的頻道顯示一致。以下圖為例，若操作副翼桿時，如果介面上副翼頻道沒有反應，此時，可以更改副翼桿左上角的頻道號碼，來讓遙控器與介面的頻道正確對應。

   **CAUTION**
   Do not allow repetitive numbers when adjusting channel number, otherwise Gpro will not function properly.
   調整頻道編號時，不得有重複號碼同時顯示，否則會造成Gpro運作錯誤。

   Move the aileron stick, App interface should display corresponding control movements. Perform this check on all channels.
   搖動副翼桿時，介面中副翼頻道必須有正確輸出反應，同理檢查其他頻道。

   Note: When using Gpro, every channel's neutral, direction, max/min end point must be set correctly. Throttle and pitch range must be set to straight diagonal line, and subtrim is set to 0 degrees.
   Using transmitter stick, channel direction, subtrim, and servo end point functions (EPA / Travel Adj), perform each channel's setting and adjustments.
   註：使用Gpro遙控器各個頻道中立點，方向與最大最小行程，必須確認設置正確。
   注意：設定EPA項目時，需確認油門與螺距曲線為預設斜直線，並檢查電機裁剪是否為0讀，利用遙控器搖桿，頻道正向反向內橈測何何範圍等功能(EPA、Travel Adj)功能，進行各頻道的設定與校正。

c. Center the transmitter stick. At this point the aileron and elevator neutral point must be 0. If it’s not 0, adjust using transmitter's subtrim function until 0 is achieved.
   將搖桿置中，此時副翼、升降舵中立點必須為0。若中立點不為0時，請利用遙控器內裁剪功能將中立點調整為0。

   **Center transmitter sticks.**
   遙控器搖桿置中

   **SUB TRIM**
   1: AIL 0
   2: ELE 0
   3: THR 0
   4: RUD 0
   5: STE 0
   6: PIT 0
   7: AUV 0
d. Confirm the direction of each channel. If interface displays opposite direction, reverse using the channel reverse function on transmitter so that movement of sticks corresponds to correct direction on interface. In addition, use EPA/Travel ADJ function on transmitter to adjust the end points so that max/min travel corresponds to 100% and -100% on the interface.

Also confirm all movement directions are correct. Incorrect movements can be reversed through transmitter's reverse function.

Using the transmitter's EPA/Travel ADJ function, adjust the maximum/minimum travel on the A/F interface to 100% and -100% respectively.

Must adjust the max and min travel of aileron/elevator/pitch to correspond with 100% and -100% of transmitter stick.

STEP 3: SENSOR MOUNTING & BLADE DIRECTION

a. Gpro can be mounted 4 ways as shown in diagram. Arrow can point forward or backward. User need to select one of the mounting choices based on helicopter design. The actual mounting of the gyroscope must match to the position selected here.

b. In order for Gpro to achieve optimal performance, the main rotor rotation direction needs to be selected. All Align helicopters are clockwise rotation.

c. Gpro 具備4種安裝方式，如介面圖示，箭頭指向標提示前或後後，使用者必須依直昇機結構設計，選擇其一方式安裝，所選安裝方式必須與實際安裝相同，否則會造成Gpro修正方向錯誤。

d. 為讓Gpro 向更優異性能必須設置主旋翼旋轉方向，所有亞拓直昇機皆為順時針旋轉方向。

Select Gpro install position, and clockwise rotation on main rotor.

選擇Gpro安裝方式，以及主旋翼順時針旋轉方向
**STEP 4: PITCH DIRECTION & SWASH TYPE**

**步驟4: 螺旋槳方向與十字盤調整**

a. Gopro needs to know which direction swashplate moves during positive pitch movement. All Align helicopters have upward moving swashplate during positive pitch.
b. Select the swashplate type based on the helicopter. Then confirm the direction of each movement is correct. If reversed, correct by selecting the corresponding reverse option on this interface.

**CAUTION 注意**

For this step, do not reverse the servo using transmitter’s reverse function.

此步驟不可調整遙控器的鏡面反向功能。

---

**STEP 5: SWASHPLATE ADJUSTMENT**

**步驟5: 十字盤調整**

a. Adjust the neutral point of each servo and swashplate level. Using the subtrim function on the interface here, adjust the neutral point of each servo so that servo arm is level at 0 degrees. Follow by the adjustment of push rod length or cyclic pitch subtrims here to achieve horizontal level of swashplate.

b. Swashplate level can also be adjusted here through cyclic pitch trim function.

**B. 可以利用環形調整功能，調整十字盤水平。**

---

**Swash plate must move up. If there are any incorrect servo movements, adjust the servo direction per diagram on left until correct movement is achieved.**

十字盤必須向上，如果有伺服動作錯誤，請調整上圖所示的伺服動作方向，使十字盤動作正確。
c. After swash plate is leveled, adjust the collective pitch using the collective pitch subtrim and a pitch gauge, so that pitch is 0 degrees at collective pitch neutral point.

c. 十字盤水平後，利用集體螺距微調且搭配數位螺距規使用，將集體螺距中間點調為0度。

---

**STEP 6: COLLECTIVE PITCH AND CYCLIC PITCH**

**步驟6：集體螺距與循環螺距**

a-1. Push throttle stick to maximum position. Using the positive collective pitch parameter and a pitch gauge, adjust the maximum pitch angle. At this time, the cyclic pitch subtrims below can be used to achieve swash plate level during maximum pitch.

a-1. 將油門搖桿推至最大。利用正向集體螺距搭配數位螺距規使用，來調整最大螺距角度。此時也可以使用下方的循環螺距微調，來調整最大螺距時的十字盤水平。

![Image](image1.png)

a-2. Push throttle stick to minimum position. Using the positive collective pitch parameter and a pitch gauge, adjust the minimum pitch angle. At this time, the cyclic pitch subtrims below can be used to achieve swash plate level during minimum pitch.

a-2. 將油門搖桿推至最小。利用負向集體螺距搭配數位螺距規使用，來調整最小螺距角度。此時也可以使用下方的循環螺距微調，來調整最小螺距時的十字盤水平。

---

**CAUTION**

Please unplug motor wires or activate throttle HOLD when performing Gpro configuration.

進行Gpro設定時，請拔除馬達線或切到油門HOLD模式，設定完畢後再重新啟動Gpro電源。
b. Gpro’s cyclic pitch must be set to 8 degrees. Push the “Set to 8 degrees pitch” button, swashplate will tilt to one side. Use a pitch gauge and adjust the cyclic pitch parameter until pitch achieve 8 degrees.

Note: When adjusting cyclic pitch, swashplate will be locked at “8 degrees cyclic pitch” or “0 degrees pitch” when selected. Press “Release” after completion of adjustments to unlock.

STEP 7: RUDDER SETTING

a. First select the type of rudder servo.
b. Confirm rudder servo direction. Reverse on the interface if needed.

Pushing rudder stick to left will cause tail pitch slider to slide right as shown above. Reverse rudder direction if incorrect.

Rudder center can be adjusted through Neutral Position setting. Please follow the diagram below, adjust so that servo horn is 90° to servo, and rudder pitch slider is in the middle position.

c. You can adjust rudder center to 90° to servo horn. Neutral position is 0°, and the angle is 90°.
d. Push rudder stick on transmitter all the way left, and adjust the parameter on interface so the rudder is at maximum left without binding. Perform the same for right rudder.

Note: please set the rudder gain in unlock mold, actual gain value differs amongst servos and helicopters. The goal is to find the maximum gain without tail hunting. This can only be done through actual flight tests.

STEP 8: GLOW(NITRO) THROTTLE GOVERNOR

If your helicopter is an electric helicopter. This section can be skipped.

Glow(nitro) helicopters can activate governor function here. The RPM sensor must be installed correctly on helicopter.

a. Turn ON governor function, and enter the correct gear ratio.
b. Push throttle stick to minimum position, press SET to record minimum value. Then push throttle stick to maximum and press SET to record maximum value.

This speed governor function is for nitro power only. Do not activate this function if your helicopter is electric powered. Otherwise it may cause unintentional motor spin-ups, resulting in dangerous situations.

Nitro Governor Mode
STEP 9: COMPLETE HELICOPTER SETUP.

After completing helicopter setup, please proceed to flight parameter setup.

5. PARAMETER MENU  飛行參數設定

Flight parameter consists of adjustments to improve helicopter flight characteristics and styles. You can fine tune these parameters to suit your preference. Gpro has flight enhancement specific to helicopter sizes. Please select the correct helicopter class on this settings page.

飛行參數是提升直昇機飛行特性與風格的調整，您可依個人操控手感與喜好，調整符合您需求的飛行手感。Gpro有針對大小直昇機進行飛行優化，所以在此設定頁面，您必須選擇正確直昇機級別的設定。

Beginner Settings: If you are a beginner or unfamiliar with radio control, please select "Beginner Settings" so that Gpro can provide more stable and more suitable control feel.

初學者建議參數：如果您初入門不熟悉操控技術不熟悉，建議設定，初學者建議參數，此預設值可以讓Gpro有更穩定、更適合您的操控手感。

As a safety precaution, please disconnect the motor wires during binding to prevent dangerous unforeseen circumstance. If adjustment to Gpro is done through Bluetooth prior to flight, Gpro needs to be power cycled before flying again.

當Gpro使用無線傳輸器(BTH01)進行調整時，請拔除主馬達電源線，待完成調整設定後，務必重新開機啟動電源。

BLUETOOTH DEVICE SPECIFICATIONS  藍芽傳輸器(BTH01)產品規格

1. Operating voltage range: DC 3.3V~4.4V
2. Operating current consumption: <100mA @ 4.8V
3. Operating Temperature: -20~65°C
4. Operating Humidity: 5%~95%
5. RoHS certification stamp
6. Size: 34.3x18.2x8.5 mm
7. Weight: Approx. 7.8g
6. Gpro FLYBARLESS PREFLIGHT CHECK

**STEP 1**
Turn on Transmitter, and then receiver power.
先開放頻控器電源，再開設接收器電源。

**STEP 2**
Do not move the helicopter or control sticks so the gyro sensor can initialize properly.
請勿移動旋翼機與搖桿桿桿，以利陀螺儀感應盤進入初始化程序。

**STEP 3**
As shown, swashplate will jump horizontally once indicating successful initialization. If the swash plate is tilted while jumping, this is an indication of improper setup, requiring performing the flybarless setup again. (Please refer to flybarless system setup). Until the helicopter is properly initialized, helicopter pitch will not be moveable. If the system cannot initialize and the STATUS LED is flashing red, please check to ensure helicopter is stationary, or if there are any loose connections. After proper initialization, green STATUS LED indicates rudder tail locking mode, while red LED indicate non-tail locking mode.

如圖所示，當陀螺儀完成初始化一次表示旋翼機已正常初始化。若陀螺儀維持在斜動位置，表示設定錯誤，需再進行"無飛輪模式"設定。若系統無法正常初始化，紅色LED閃爍時，請確認旋翼機是否穩定，或是否有松動。完成初始化後，綠色LED表示尾翼鎖定模式，紅色LED表示非鎖定模式。

---

**STEP 4**
Tilt the helicopter forward, gyro should compensate by tilting swashplate back. If incorrect, go back to helicopter setup and check for proper setting in gyro and main rotor direction.
將直升機向前傾，陀螺儀應將十字盤修正，如果不正確，重新進入"直升機設定的陀螺儀主旋翼方向"確認陀螺儀設置方向是否正確。

---
**STEP 5 步骤5**

Tilt the helicopter right, gyro should compensate by tilting swashplate left. If incorrect, go back to helicopter setup and check for proper setting in gyro and main rotor direction.

将直升机向右倾，陀螺仪应向左修正。如果不正确，重新调整直升机设置并检查陀螺仪和主旋翼设置是否正确。

**STEP 6 步骤6**

Check the center of gravity (CG) and adjust component placement until CG point is right on the main shaft of the helicopter.

检视直升机重心位置是否适当，调整重心位置至主轴中心位置。

**STEP 7 步骤7**

With all above steps checked, restart the system and begin flight test.

完成所有步骤后，重新启动系统并开始飞行测试。

---

**HELIQUETOR CG CHECK PROCEDURE 直升機重心檢視方式**

After installed the battery, hold the helicopter as shown. Once the helicopter stops rotating, the helicopter's CG can be seen at where the head is pointing relative to the main shaft.

电池安装后，将直升机如图所示举起，等待直升机停止转动后检查机头方向，确认重心位置在机头（主轴附近）位置。

Adjust the frame's CG within +/- 60 degrees from level. 以水平线上下夹角 60° 内为基准，判断机头的重心。

---

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

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

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”, “Altitude up/down”, “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.

在開始練習之前，請先將遙控器及飛機放入空曠的地方，切斷電源並保持飛機穩定。在試飛前進行模擬飛行，直到習慣手指的動作方式。

1. 將遙控器放在空曠的地方並切斷電源，並將飛機的尾部對準自己。

2. 練習操作油門桿（各動作的動作方式如下面），並反覆練習：高度（上/下）、方向（左/右）及方向舵（左/右）的操作方式。

3. 訓練飛行的練習非常重要，請反覆練習直到手指能夠自然對應相關指令移動控制。
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<tr>
<td>Turn left 左轉</td>
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</tbody>
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**FLIGHT ADJUSTMENT AND NOTICE 飛行調整與注意**

- **CAUTION 注意**
  - Check if the screws are firmly tightened.
  - Check if the transmitter and receivers are fully charged.
  - 再次確認螺絲是否鎖緊？
  - 頭發射器及接收器電池是否足夠。

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

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 啟動和停止馬達**

- **CAUTION 注意**
  - Check if the throttle stick is set at the lowest position.
  - 確認油門桿桿已在最低的位置。

- 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？
  - 機械發射器說明書進行距離測試。

- Check the movement.
- 動作確認

ON! Step1 First turn on the transmitter.
ON! 第一步 打開發射器

ON! Step2 Connect to the helicopter power.
ON! 第二步 接上直升機電源

OFF! Step3 Reverse the above orders to turn off.
OFF! 第三步 倒轉上述操作動作及電源。
This procedure is best performed on soft surfaces such as grass. The use of rubber skid stoppers is recommended on hard surfaces to prevent vibration feedback from the ground to Gopro, 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 Gopro, and will disappear once the helicopter lifts off the ground. If manual trim is applied, the helicopter will tilt immediately after lift off.

Main rotor adjustments (主旋翼葉片平衡調整)

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 the ground. Look at the spinning blades from the side of the helicopter.
3. Look at the path of the rotor carefully. If the two blades rotate in the same path, it does not need to adjustment. If one blade is higher or lower than the other blade, adjust the tracking immediately.

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

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

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.

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

Flight adjustment and notice (飛行調整與注意)

* During the operation of the helicopter, please stand approximately 10M diagonally behind the helicopter.

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

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 STEP1 to 3, draw a circle on the ground and practice within the circle to increase your accuracy.

STEP 5 DIRECTION CHANGE AND HOVERING PRACTICE

After you are familiar with STEP1 to 4, stand at side of the helicopter and continue practicing STEP1 to 4. Then repeat the STEP1 to 4 by standing right in front of the helicopter.

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# Troubleshooting 飛行中狀況排除

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<td>Decrease throttle curve at hovering point on transmitter (around 60%). 調低停懸點油門曲線約60%</td>
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<tr>
<td>Rudder Response 尾舵反應</td>
<td>Drifting of tail occurs during hovering or delay of rudder response when centering rudder stick. 停懸的尾舵向某一邊偏移，或球舵方向返回時的反應延遲，尾舵產生反應，無法停在所控制位置上。</td>
<td>Rudder neutral point improperly set 動中立點設定不正確</td>
<td>Reset rudder neutral point 重設中立點</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rudder gyro gain too low 尾舵的陀螺儀感度偏低</td>
<td>Increase rudder gyro gain 增加尾舵陀螺儀感度</td>
</tr>
<tr>
<td></td>
<td>Tail oscillates (hunting, or wags) at hover or full throttle 停懸時油門或最大油門時，尾舵擺動。</td>
<td>Rudder gyro gain too high 尾舵的陀螺儀感度偏高</td>
<td>Reduce rudder gyro gain 降低尾舵陀螺儀感度</td>
</tr>
<tr>
<td>Oscillation during flight 飛行抖動</td>
<td>Elevator and aileron action causes helicopter to oscillate forward or backward or left-right. 升降舵和副翼動作使得直升機在前後或左右方向上突然上下顛簸。</td>
<td>Swashplate gain in flight parameters is too high, causing oscillation. 飛行參數中的十字盤感度偏高，產生振動</td>
<td>Lower swashplate gain. 將十字盤感度調低</td>
</tr>
<tr>
<td></td>
<td>Helicopter front bobbles (nods) during forward flight. 直升飛機在前進時，頭部左右顛簸。</td>
<td>Worn servo, or slack in control links 伺服器磨損，控制結構有問題</td>
<td>Replace servo, ball link, or linkage balls. 更換伺服器，連桿頭，連桿</td>
</tr>
<tr>
<td></td>
<td>Helicopter pitches up during forward flight or aileron input causes helicopter to drift 直升飛機在前進時突然出現傾斜。</td>
<td>Swashplate gain in flight parameter is too low. 飛行參數中的十字盤感度偏低</td>
<td>Increase swashplate gain. 將十字盤感度調高</td>
</tr>
<tr>
<td>Drifting during flight 飛行偏移</td>
<td>Slow Forward/Alt/Left/Right input response 前後左右動作反應速度慢</td>
<td>Flying style or flight response setting or Flight Parameter is too low. 飛行參數中的飛行風格或飛行反應偏低</td>
<td>Increase flying style or flight response. 調高飛行風格或飛行反應</td>
</tr>
<tr>
<td></td>
<td>Sensitive Forward/Alt/Left/Right input response 前後左右動作反應過快</td>
<td>Flying style of flight response or Flight Parameter is too high. 飛行參數中的飛行風格或飛行反應偏高</td>
<td>Lower flying style or flight response. 降低飛行風格或飛行反應</td>
</tr>
</tbody>
</table>

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

*在以上調整後，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通知您的經銷商。*
Q&A

Q&A 1
Gpro cannot power up after power is applied?
(1) Check if transmitter and helicopter power are on.
(2) Check for proper power to system, and working power cable between Gpro and receiver.
(3) Check if proper receiver type selected.
(4) Check if elevator/aileron channels neutral point is 0 in Gpro’s “transmitter and receiver” setting.
(5) Ensure there are no movement during Gpro’s initializing process.

Q&A 2
Incorrect swashplate movement after setting up Gpro.
(1) Check if transmitter is set to H-1 (1-Servo-Normal) traditional swashplate type.
(2) Check “Swashplate Type” on Gpro is set correctly.
(3) Check for correct swashplate servo direction.
(4) Check for correct swashplate servo channel sequence.

Q&A 3
Helicopter cannot maintain level plane during pirouetting or helicopter tilting forward/back/left/right during takeoff?
Please re-adjust swashplate level.
(1) Check if swashplate is set to H-1 (1-Servo-Normal) traditional swashplate type.
(2) Check “Swashplate Type” is set correctly.
(3) Check swashplate servo direction is correct.
(4) Check swashplate servo channel sequence is correct.

Q&A 4
Helicopter tilts forward/back during vertical ascend/descent?
Please adjust the “Collective Pitch Elevator Compensation” option in Flight Parameters. If helicopter’s tail tips down when elevator is pulled hard up, this setting can also be adjusted. The more the tail, the larger the compensation value.

Q&A 5
Helicopter drifts during flight?
(1) Increase the “Swashplate Gain” in Flight Parameters.
(2) Check if the swashplate servos are too slow (recommended spec calls for servo speed within 0.08sec/60 degree).
(3) Note: Only digital servos are supported by Gpro.

Q&A 6
Unstable hover, oversensitive control effect?
(1) Try using the “Recommended Beginner Parameters” option in flight parameter.
(2) Lower the “Flying Style” and “Flight Response” parameter in flight parameter menu.

Q&A 7
Incorrect helicopter swashplate and rudder compensation direction?
(1) Check Gpro installation position setting is set correctly.
(2) Check proper channel sequence of the swash plate servos.

Q&A 8
Can parameters be adjusted through Bluetooth during flight?
No. As a safety precaution, Gpro will disable ESC when entering parameter setting mode. If adjustment to Gpro is done through Bluetooth prior to flight, Gpro needs to be powered cycled before flying again.

Q&A 9
No response when adjusting rudder gain, as if rudder is not compensating?
Check correct setting on rudder gain channel.

Q&A 10
Spring action after pirouetting?
(1) Check overall rudder system, and if there are sufficient left/right travel on rudder.
(2) If sufficient rudder gain, increase gain until there are slight hunting on the rudder, then slightly back off the gain until ideal feel is achieved.

Appendix A

Appendix B