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.

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兼容小型直昇機至大型直昇機T-REX 250～T-REX 800。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.

WARNING LABEL LEGEND

Do not attempt under any circumstances. In any prohibited environment, please not attempt.

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

Mishandling due to failure to follow these instructions may result in danger.

IMPORTANT NOTES

R/C helicopters, including the are not toys. R/C helicopters 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 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 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 assume 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 or result in damage to the product or the property of others.

 IMPORTANT NOTES 重要聲明

遙控直升機並非玩具，它是結合了許多高科技產品所設計出来的休閒用品，請詳讀本說明書，以確保您及他人自身安全。注意！使用遙控飛機時必須嚴格遵守各項規章制度，違者由使用者負完全責任。遙控飛機是專用於飛行愛好者的，因此在使用時必須注意安全，否則使用者需承擔一切責任。

做為本產品的使用者，您，是唯一對於自己操作的風險及行動負全部責任之人。

We recommend that you obtain the assistance of an experienced pilot before attempting to fly our products for the first time. The 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 is 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 user 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.

จำหน่ายให้แก่ผู้ใช้เพื่อการการใช้หรือการผลิต ไม่ได้รับความช่วยเหลือใด ๆ จากผู้ใช้ในเรื่องการชุดและการควบคุมรุ่นต่าง ๆ ของผลิตภัณฑ์ที่มีการเปลี่ยนแปลง หรือการใช้ที่ผิดปกติ แต่ละกรณีที่ผู้ใช้ต้องรับผิดชอบต่อความเสียหายที่เกิดขึ้น

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 own 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.

- 要預防飛機不出事故，必須留意在安全的環境中進行飛行，避免靠近人羣或住宅區。

- 要預防飛機不出事故，必須留意在安全的環境中進行飛行，避免靠近人羣或住宅區。
LOCATE AN APPROPRIATE LOCATION 适宜位置

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.

NOTE ON LITHIUM POLYMER BATTERIES 锂聚合电池注意事項

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.

PREVENT MOISTURE 防止湿气

Please use the replacement parts on the manual to ensure the safety of the instructors. This product is for R/C model, so do not use for other purpose.

PROPER OPERATION 勿使用非本产品

Always be aware of the rotating blades 遠離旋轉中零件

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

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 风险

Always operate in a safe environment, free of hazards. Never fly your model in areas with high electrical wires or in extreme conditions.

WARNING 预警

Always use proper safety equipment and follow all safety regulations. Do not fly in hazardous conditions.

WARNING 小心

Always operate your model in a safe manner. Do not use it if you are under the influence of alcohol or other substances.

WARNING 小心

Always be aware of your surroundings and the safety of others. Do not fly your model near other people or animals.

WARNING 注意

Always be aware of the weather conditions and flying conditions. Do not fly in poor weather conditions.

WARNING 小心

Always be aware of your altitude and flying time. Do not exceed your operating limits.

WARNING 小心

Always be aware of your radio frequency and do not interfere with other radio systems.

WARNING 小心

Always be aware of your personal safety and the safety of others. Do not fly your model in areas with high electrical wires or in extreme conditions.
FEATURES

- 3-axis gyroscope flybarless system to simulate the stability of mechanical flybar system, yet at the same time achieving agile 3D performance.
- Utilizes MEMS gyro sensors, which feature small footprint, high reliability, and excellent stability.
- Sensor with 12 bit ultra high resolution, resulting in highly precise controls.
- Brand new CPU processes 20 times faster than previous generation.
- Supports SPEKTRUM and JR satellite receivers.
- Supports Futaba S.Bus architecture.
- Supports JR X.Bus architecture.
- Software upgradeable through PC interface adapter.
- Built in speed governor function.
- Small footprint, light weight, minimalist design.

SETUP PRE-CHECK

While using Gpro FBL system, be sure to turn off the following functions in the transmitter:

- Swash AFR
- Linkage Compensation
- Swash Mix
- Mixing
- Acceleration

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 through helicopter’s Hardware Setup menu, followed by parameter tuning in each tab, then concludes with flight parameter menu settings. Please ensure helicopter’s hardware settings has been completed before making changes to flight parameters.
4. Before entering setup mode, all trim 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 occurs, please enter flybarless system “swash plate settings” mode, adjust the level of swashplate, and then complete the setup again.
5. Please unlatch motor wires or activate throttle HOLD when performing Gpro configuration. After completing setup, remember to power Gpro back on.
6. 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. 將接收器及伺服器依照提示圖示連接（請參閱第5~6頁）。
2. 十字舵必須安裝數位舵器，否則會導致舵器損壞。 軟件規格：速度 6.00秒/60度以內；拉力 12kg.c.m 以上。
3. 第一次安裝Gpro Flybarless系統時，請先進行“直昇機設定”，並選擇“建立全新設定”，且逐一定出所有直昇機設定。
4. 進入設定前必須將旋翼的外周調整為，飛行時不可調整外周調整，若直昇機停駕時外周調整緊密，表示設定好十字盤可保持水平，請進入直昇機系統“十字盤調整設定”，調整好後設定十字盤額定水平後，重新設定設定。
5. 進行Gpro設定時，請按兩兩連結點選到伺服HOLD模式，才進行設定；設定完成後，請重新開機Gpro電源。
6. 當Gpro與電腦連結時，Gpro會關閉數位電路功能，還是為避免使用者連接使用電器及單機設定時，造成系統錯誤的保護措施。如果使用電器設定後要馬上使用單機連接功能，請重新開機Gpro電源，再進行單機設定。
**METHOD 1: STANDARD RECEIVER CONNECTIVITY METHOD**

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.

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**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 wire 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 12Kg or higher torque.

5. Gpro has built in nitro governor function which require purchase of optional governor sensor.

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When connecting to JR X.BUS, please select X.BUS "MODEA" in transmitter. Use JR X.BUS connector, transmitter请选择X.BUS"MODEA"模式。
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. 1. 電線時，請務必先確認電線的正確性。
2. 如有異常情況，請立即停止使用，並聯繫專業人員解決。

1. For JR or SPEKTRUM satellite 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 Gopro “BATT” port.
3. To avoid damage to servos, only digital servos should be used for swashplate. Recommended spec: 0.85/60 degrees or faster, with 12kg or higher torque.

4. Gopro 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. 機械畫面進行接線，Gopro 支援 SPEKTRUM 單片接收器。
2. 使用電池(BEC)輸出的變速器時，勿使用外由Gopro的“BATT”孔位輸入BEC電源。
3. 十字盤必須安裝數位伺服器，否則造成伺服器損害。
4. 經典模型：電流6.08A/60A以內；扭力12kg以上。
5. Gopro 內建定速器功能，可另購定速器附加使用。

BENDING 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) 對頻與失靈保護: (回復預設設置)

Step 1: Connect power to Gopro, select the satellite receiver’s type and failsafe type.
Step 2: Re-connect power to Gopro, satellite receiver’s LED will blink, indicating entering binding mode.
Step 3: Activate binding mode on your transmitter. Receiver LED will remain lit indicating successful binding.

Note: In binding with fail safe 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 failsafe position, which will be confirmed with steady light of LED after 5 seconds.

Please disconnect motor wires during binding to prevent dangerous unforeseen circumstances.

對頻時請拔除馬達線，以免發生不可預期之危險。
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遥控器必须选择 H-1 (1-servo-normal) 传输十字板。如果十字板类型设置错误，会引起设置问题并阻止直升机飞行。

2. PC SOFTWARE INSTALL

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

Please go to http://www.align.com.tw/Gpro/

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

After connecting, power on your transmitter and receiver to proceed.
STEP3:
PC interface will display connection status.

Password Setting

When using smartphone app to make configuration changes, a Bluetooth password must be set for pairing with the smartphone. The factory default password is "0000". We strongly recommend you to change your password to avoid interference with others while Bluetooth transmission. After changing the Bluetooth password, please enter the settings to set the password in the app to "0000". Strongly recommend using an unchanged password to avoid interference.

STEP1:

4. HELICOPTER HARDWARE CONNECTION 直昇機硬體設定

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.

b. 選擇"建立全新設定"，選擇此項目將Gpro清除設置所有設置，進行新的直升機設定。
   1. 新的直升機未經設定前，務必選擇"建立全新設定"按順序從頭開始的設定一遍。
   2. Gpro設置完畢後，玩家可選擇"修改現有設定"，調整Gpro 設定。

There are 7 settings for helicopter configuration. Press "Next" after completing each and every of the 7 settings.

直升機設定共有7個項目，每完成一項設定請按"Next"接觸設定，每項設定請逐一確認完成。
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.
   注：遙控器務必設定為H-1(1 servo normal)傳統十字盤模式。如果使用衛星接收器，請參考第6頁說明進行對頻。

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.
   註: 遙控器之各動作，如副翼、升降、集體傾角等，必須與電腦介面上的圖示同步。以下圖為例，若操作副翼桿時，如果電腦介面上副翼頻道沒有反應，此時，可以更改副翼左上角的頻道號碼，來讓遙控器與電腦介面的頻道正確對應。

Do not allow repetitive numbers when adjusting channel number, otherwise Gpro will not function properly.
調整頻道時，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, PC Interface should display corresponding control movements. Perform this check on all channels.
移動副翼桿時，電腦介面上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，遙控器各頻道中立點、方向與極限端點，必須確實設置正確。油門與傾角範圍設為直角對角線，並設置機翼微調為0度。利用遙控器操作，頻道設定與機翼極限端點（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，如果中立點不為0時，請利用遙控器內微調功能將中立點調整為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 stick 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.

STEP 3: SENSOR MOUNTING & BLADE DIRECTION

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

a. Gprio 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 Gprio to achieve optimal performance, the main rotor rotation direction needs to be selected. All Align helicopters are clockwise rotation.

For Gprio, users must adapt and check the Gyro installation direction. You need to change the installation direction, so that the Gyro operation direction matches the actual one. For Align helicopters, it is clockwise rotation by default and it is necessary to check the Gyro installation direction.
STEP 4: PITCH DIRECTION & SWASH TYPE

a. The RC needs to know which direction the 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: For this step, do not reverse the servo using transmitter’s reverse function.

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

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

STEP 5: SWASHPLATE ADJUSTMENT

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 swasharm 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.

Swash leveler can be used during swashplate leveling adjustments.
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，利用集體螺距旋鈕及調配數位螺距器使用，將集體螺距中間點調為0度。

**STEP6: COLLECTIVE PITCH AND CYCLIC PITCH**

步驟6: 集體螺距及循環螺距

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 swashplate level during maximum pitch.

a-1. 將油門桿推至最大，利用正向集體螺距數位螺距器使用，來調整所需的最大螺距角度。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。

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. 將油門桿推至最小，利用負向集體螺距數位螺距使用，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，請拔離馬達線或切換油門HOLD模式，設定完畢後再重新開設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 achieve 8 degrees.

**b.** Gpro 循環螺旋槳必須設定為“8度”。請先按“設定在8度螺距”；此時十字翼會傾斜一邊。使用數位螺旋槳調整“循環螺距”數值，讓角度達到8度。

**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.

註：調整循環螺距時，當您按下“設定在8度螺距”或“0度螺距”時，十字翼會鎖在這設定；調整完畢後請按“解除鎖定”後，才能解除鎖定。

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**STEP7: RUDDER SETTING**

**步驟7. 尾舵設定**

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

a. 選擇使用尾舵遙控器種類。
b. 確認尾舵方向，如果不正確，可調整介面上的尾舵方向。

![Image](image-url)

**Rudder Direction**

- Normal
- Reverse

**Mode 1**

**Mode 2**

**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.**

**c.** 您可以利用尾舵中立點設定來調整中立點。請按照下圖所示，伺服器樞的垂線與伺服器呈90°，且尾滑套須在中間位置。

![Image](image-url)
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.

d. 將遙控器尾舵桿拉至最左，調整介面上的數值，讓左舵至最大不干涉。

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.

註：請將尾舵的增益關閉於開鎖模式。實際的增益大小會隨著傳動器與伺服機的型號而有所不同。一般而言，應在實機飛行測試中進行調整。

STEP 3: GLOW(NITRO) THROTTLE GOVERNOR

Step 3：引擎自動機油器

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

如果您使用的直升機為電動的，此部分可以略過。

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

燃燒引擎的直升機可以在此設定汽油機油器的功能。汽油機油器必需正確安裝無誤。

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.

a. 將功能開關設為開，設定正確的齒輪比。

b. 將油門桿拉至最低，按下“設定”記錄最小值，接着油門推至最高，按下“設定”記錄最大值。

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.

此油門功能為引擎自動機油器功能，若您使用的直升機為電動的，請勿啟動此功能，否則會造成無意間油門過大，而引起危險的危險。
STEP 9: COMPLETE HELICOPTER SETUP.

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

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特性與風格上的調整，您可依照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级别的設定。

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連接電腦或手機進行調整時，請拔除主電源及電源線，完成調整設定後，務必重新啟動接收器電源。

Gpro SPECIFICATIONS Gpro產品規格

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°~±300° degree
4. Z axis Operating Angle Range: ±90°~±60° degree
5. Sensor resolution: 12bit
6. Supports 50/120/135/140 CCPM swashplates
7. Spektrum and JR Satellite antennas support (Replaces original factory receiver)
8. FUTABA S.BUS/JR X BUS system support
9. Rudder support T60 // narrow band servos.
10. Supports multi-blade rotor heads.
11. Engine speed governor range: 10500~21000 RPM
12. Operating Temperature: -20~65 degree
13. Operating Humidity: 0%~95%
14. Size/Weight: 36.5x25.2x15.8 mm Size/11.5g
15. RoHS certification stamp

1. 適用電壓: DC 3.5~8.4V
2. 消耗電流: <100mA @ 4.8V
3. 側向及前後旋翼角度: ±300°/sec
4. 傾斜角度: ±60°/sec
5. 感測器解析度: 12位元(12 BIT)
6. 支援90°/120°/135°/140° CCPM swashplates
7. 支援Spektrum和JR衛星天線
8. 支援FUTABA S.BUS/JR X BUS系統接收機
9. 單桿伺服器支援
10. 支援多重螺旋槳
11. 機動式轉速調節範圍: 10500~21000 RPM
12. 操作溫度: -20~65 °C
13. 操作濕度: 0%~95%
14. 尺寸/重量: 36.5x25.2x15.8 mm/11.5g
15. 無RoHS有害物質
1. SELECT H-1 SWASHPLATE TYPE

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

使用Gpro遥控器必须选择H1（1-servo-normal）传统十字盘。如果不正确设置十字盘，会发生设置问题，导致无法飞行。

2. SOFTWARE INSTALL

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

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

Compatible with

Windows  
Android APP  
Download on the App Store

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**

**步驟1：手機開啓Gpro APP程式並搜尋藍牙裝置**

---

**Note:** Please launch Bluetooth device

**電：請啓動藍牙功能**

---

**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. Please completing each and every of the 7 settings...**

直昇機設定共有7項設定，每項設定須逐一維護完成。
**STEP 2: RC TRANSMITTER AND RECEIVER**

**Step 2: 調整接收機與發射器**

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.*

a. 請先選擇所使用接收機類型。

注意：遙控器都必須設定為 H-1 (1. Servo - Normal) 傳統十字盤模式。如果是使用衛星天線，請參考第 6 頁說明飛行對頻。

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.

b. 遙控器之各動作，如副翼、升降、集錦傾斜等，必須與介面上的頻道顯示一致。以下圖為例，若按動副翼搖桿時，如果介面上副翼頻道無反應時，此時，可以更改副翼桿上下角的頻道號碼，使遙控器與介面上的頻道正確對應。

**CAUTION**

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

調整頻道號碼時，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.

揹動副翼搖桿，介面上副翼頻道必須有正確輸出反應，同様檢查其他頻道。

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.

注：使用 Gpro，各頻道中立、方向及最大最小行程，必須確認設置正確。

注意：設定此項目時，要確認油門與螺距曲線為預設直線，並將減速及旋轉設定為 0 度。利用搖桿調整、頻道正反向內及調整伺服器行程（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.

c. 將搖桿置中，此時副翼、升降桿中立點必須為 0，如果不是 0 值，請利用遙控器內微調功能將中立點調整為 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 stick(s) 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 AFP interface to 100% and -100% respectively.

STEP3 : SENSOR MOUNTING & BLADE DIRECTION

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

Select Gyro Mount 

Select Gyro Mount & Blade Direction

Select Gyro Mount & Blade Direction

Select Gyro Mount & Blade Direction

Select Gyro Mount & Blade Direction

Select Gyro Mount & Blade Direction
STEP 4: PITCH DIRECTION & SWASH TYPE

a. The pilot 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.

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

STEP 5: SWASHPLATE ADJUSTMENT

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 subtrim here to achieve horizontal level of swashplate.
b. Swashplate level can also be adjusted here through cyclic pitch trim function.
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. 取下水平後，利用集體螺旋槓裁剪且搭配數位螺旋槓使用，將集體螺旋槓中間點調為0度。

STEP 6: COLLECTIVE PITCH AND CYCLIC PITCH

步驟6：集體螺旋槓及循環螺旋槓

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. 將油門搖桿推至最大，利用正向集體螺旋槓裁剪數位螺旋槗使用，來調整所需的最大螺旋槗角度。同時也可以使用下方的循環螺旋槗微調，來調整最大螺旋槗時的十字槗水平。

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. 將油門搖桿推至最小，利用負向集體螺旋槗裁剪數位螺旋槗使用，來調整所需的最小螺旋槗角度。同時也可以使用下方的循環螺旋槗微調，來調整最小螺旋槗時的十字槗水平。

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

進行Spro設定時，請拔除馬達線或切換油門HOLD模式，設定完畢後再重新開啓Spro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 achieve 8 degrees.

b. Gpro 循環螺旋槳必須設定為 8 度。請按下“設定為 8 度螺旋槳”按鈕，螺旋槳板將傾斜到一邊。使用螺旋槳角度測量儀調整“循環螺旋槳”參數，直到角度達到 8 度。

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

註：調整循環螺旋槳時，當您按下“設定為 8 度螺旋槳”或“設定為 0 度螺旋槳”時，十字盤會鎖定在設定期限。調整完畢後請按下“解除鎖定”後，十字盤會解除鎖定。

STEP7: RUDDER SETTING
步驟 7：舵機設定

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

a. 先選擇使用舵機伺服器種類。
b. 確認舵機方向。如果必要，可在介面中反轉。

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

尾舵打左舵，尾滑動片會向右移動。如上圖所示。如果不正確，請更改舵機方向。

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.
c. 您可以利用尾舵中立點設定來調整中立點。請按照下圖所示，伺服器片須與舵滑動呈 90° , 且尾滑動片須在中間位置。
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.

e. Push rudder stick on transmitter all the way right, and adjust the parameter on interface so the rudder is at maximum right 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.
STEP 9: COMPLETE HELICOPTER SETUP.

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

完成直升機設定後，請接續進行飛行設定。

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.

飛行參數是提升飛行機及格行性及風格上的調整，您可依照個人操控手感與喜好，調節符合您需求的飛行手感。Gpro有針對大小直升機進行飛行優化，故在設定頁面，您必須選擇正確直升機類級別的設定。

CAUTION 注意

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使用藍牙傳輸器(BTH01)進行調整時，請拔除主馬達電動力線，待完成調整設定後，務必重新開機後啟動電源。

BLUETOOTH DEVICE SPECIFICATIONS 藍牙傳輸器(BTH01)產品規格

1. Operating voltage range: DC 3.3V ~ 6.4V
2. Operating current consumption: <100mA @ 4.8V
3. Operating Temperature: -20 ~ 65degree
4. Operating Humidity: 5% ~ 95%
5. RoHS certification stamp
6. Size: 34.3 x 18.2 x 8.5 mm
7. Weight: Approx. 7.8g
**STEP 1**

Turn on Transmitter, and then receiver power.

先開放遙控器電源，再開啟接收器電源。

**STEP 2**

Do not move the helicopter or control sticks so the gyro sensor can initialize properly.

請勿移動直昇機和操縱桿，以便陀螺儀感應器進入初始化程序。

**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 movable. 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，斬位板會水平跳動一次表示成功初始化。當斬位板在跳動時傾斜，表示設定錯誤，請重新設定飛翔系統。主顯示器若紅色閃爍，請檢查機體是否靜止，或是否有鬆動的接頭。成功初始化後，綠色主顯示器指示為鎖定模式，紅色指示為非鎖定模式。

![Swashplate jumps up and down 1 times horizontally represents successful initialization.](image)

![Swashplate jumps up and down 1 times tilted represents setup error.](image)

![Green = rudder in heading lock mode. Red = rudder in normal mode.](image)

**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.

將直升機前傾，陀螺儀應將十字盤向後修正，如果不正確，重新進入“直升機設定的陀螺儀&主旋翼方向”確認陀螺儀安裝方向是否正確。

![Swashplate correction direction.](image)

![Helicopter tilting direction.](image)
**STEP 6**

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

檢查直昇機機體重心是否適當請先調整直昇機機體重心位置至主軸中心線下方位置。

**STEP 7**

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

確定所有功能正常，重啟閉機，完成開機程序後進入飛行測試。

---

**HELICoPTER CG CHECK PROCEDURE**

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.

電池安裝後，將直昇機如圖示舉起，等待直昇機停止轉動後檢視機體方向，正確重心應落在機體（主軸附近）位置。

Adjust the frame’s CG within +/- 60 degrees from level. 以外水平上下為度角 60° 內為適當的範圍來調整機體的重心。

---

**7. FLIGHT ADJUSTMENT AND SETTING**

**PLEASE PRACTICE SIMULATION FLIGHT BEFORE REAL FLYING**

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/down”, “Aileron high/low”, “Rudder high/low”, 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.

在沒有熟悉直昇機各動作的操控方式前，請先進行電腦模擬飛行的練習，一種最有效、最安全的練習方式。就是透過市場販售的模擬軟體，以模擬器在電腦上模擬飛行，熟悉各種動作的操控並不斷的重複，直到手指自然無意識的控制各個動作及方向。

1. 將直昇機放在空曠的地方（確認電源已關閉），並將直昇機的機尾對著自己，
2. 模擬操作油門桿（各動作的操作方式如圖示），並反覆練習油門高/低、副翼左右、方向舵前/後及方向舵左右操作方式。
3. 模擬模擬的練習相當重要，請重複練習直到不再思索，手指能自然隨著喊出的指令移動控制。
| Mode 1 | Mode 2 | Illustration
<table>
<thead>
<tr>
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<tbody>
<tr>
<td><img src="image" alt="Aileron" /></td>
<td><img src="image" alt="Move left" /></td>
<td><img src="image" alt="Move right" /></td>
</tr>
<tr>
<td><img src="image" alt="Elevator" /></td>
<td><img src="image" alt="Fly forward" /></td>
<td><img src="image" alt="Fly backward" /></td>
</tr>
<tr>
<td><img src="image" alt="Throttle" /></td>
<td><img src="image" alt="Forward rotate" /></td>
<td><img src="image" alt="backward rotate" /></td>
</tr>
<tr>
<td><img src="image" alt="Rudder" /></td>
<td><img src="image" alt="Turn right" /></td>
<td><img src="image" alt="Turn left" /></td>
</tr>
</tbody>
</table>

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**FLIGHT ADJUSTMENT AND NOTICE**

- **CAUTION**
- Check if the screws are firmly tightened.
- Check if the transmitter and receivers are fully charged.
- When arriving at the flying field.

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**

- **CAUTION**
- Are the rudders moving according to the controls?
- Follow the transmitter's instruction manual to do a range test.

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 the movement.
- もののまま

ON! Step1
First turn on the transmitter.

ON! Step2
Connect to the helicopter power

OFF! Step3
Reverse the above orders to turn off.
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 Gpro, resulting in over-corrections.

Rubber skid stoppers installed

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 Gpro, 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 or paint to identify on blade.
2. Raise the throttle stick slowly and stop just before the helicopter lifts-off ground. Look at the spinning blades from the side of the helicopter.
3. Look at the path of the rotor carefully. If the two blades rotate in the same path, it does not need to 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.

Tracking adjustment is very dangerous, so 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. +6°–6° when hovering.

FLIGHT ADJUSTMENT AND NOTICE

- 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 safely, please carefully check if every movement and directions are correct when hovering.

- Do not attempt until you have some experiences with the operation of the helicopter.
STEP 1 THROTTLE CONTROL PRACTICE 油門控制練習

1. 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.

2. 將直昇機開始離地時，慢慢降低油門將飛機降下。持續練習飛機從地面
   上升和下降直到您們控制住油門控制很順。

Mode 1 Mode 2

STEP 2 AILERON AND ELEVATOR CONTROL PRACTICE 副翼和升降控制練習

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.

1. 慢慢升起油門搖桿。
2. 使直昇機向後/向前/向左/向右，慢慢的反向移動副翼和升降桿並將直昇機飛回原來位置。

Mode 1 Mode 2

⚠️ CAUTION ⚠️

- If the nose of the helicopter moves, please lower the throttle stick and land the helicopter. Then move your position diagonally behind the helicopter 10M and continue practicing.
- If the helicopter flies too far away from you, please land the helicopter and move your position behind 10M and continue practicing.
- 慢慢移動直昇機頭部時，請降低油門並且降落，然後移動自己的位置到直昇機的正後方10公尺再繼續練習。
- 慢慢遠離直昇機太遠時，請先降落直昇機，並將位置後方10公尺再繼續練習。

STEP 3 RUDDER CONTROL PRACTICING 方向舵操作練習

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.

1. 將油門搖桿慢慢升起。
2. 將直昇機機頭移動左或右，然後慢慢反方向操作方向舵並將直昇機飛回原本位置。

Mode 1 Mode 2

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.

當你熟悉 STEP1-3 動作熟悉了，在地上畫圈並在這個圈圈的範圍內練習飛行，以增加你操控的準確度。

You can draw a smaller circle when you get more familiar with the actions. 你可以畫小一些的圈圈。

STEP 5 DIRECTION CHANGE AND HOVERING PRACTICE 改變直昇機方向和練習停旋

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.

當你熟悉 STEP1-4 動作熟悉了，站在面對直昇機側邊並繼續練習 STEP1-4。之後，站在直昇機機頭右邊重複步驟練習。
<table>
<thead>
<tr>
<th>Blade Tracking</th>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracking is Off</td>
<td>Pitch linkage rods are not even length</td>
<td>Adjust length of DFC ball link.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Headspeed too low</th>
<th>Excessive pitch</th>
<th>Adjust DFC ball link to reduce pitch by 4 to 5 degrees.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hover</td>
<td>Hovering throttle curve is too low</td>
<td>Increase throttle curve at hovering point on transmitter (around 60%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hovering throttle curve is too high</th>
<th>Adjust DFC ball link to increase pitch by 4 to 5 degrees.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Rudder Response</th>
<th>Drifting of tail occurs during hovering or delay of rudder response when centering rudder stick</th>
<th>Rudder neutral point improperly set</th>
<th>Reset rudder neutral point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tail oscillates (hunting, or wags) at hover or full throttle</td>
<td>Rudder gyro gain too low</td>
<td>Increase rudder gyro gain</td>
<td></td>
</tr>
<tr>
<td>Elevator and aileron action causes helicopter to oscillate forward/backward or left/right</td>
<td>Swashplate gain in flight parameters is too high, causing oscillation</td>
<td>Lower swashplate gain.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oscillation during flight</th>
<th>Worn servos, or slack in control links</th>
<th>Replace servo, ball link, or linkage balls.</th>
</tr>
</thead>
</table>

| Drifting during flight | Swashplate gain in flight parameter is too low | Increase swashplate gain. |

<table>
<thead>
<tr>
<th>Control Response</th>
<th>Slow Forward/Alt/Left/Right input response</th>
<th>Increase flying style or flight response.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitive Forward/Alt/Left/Right input response</td>
<td>Flying style or flight response setting or Flight Parameter is too low.</td>
<td></td>
</tr>
<tr>
<td>Flying style or flight response setting or Flight Parameter is too high.</td>
<td>Lower flying style or flight response.</td>
<td></td>
</tr>
</tbody>
</table>
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 and swashplate neutral point is 0 in Gpro’s “transmitter and receiver” setting.
   (5) Ensure there are no movement during Gpro’s initializing process.

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

3. Helicopter cannot maintain level plane during pirouetting or helicopter tilting forward/back/left/right during takeoff?
   Please re-adjust swashplate level.
   (1) 高度為尾輪固定位置不平或起飛時直升機能有左右或多側傾斜現象
   (2) 請調整尾輪固定位置不平或起飛時直升機能有左右或多側傾斜現象

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

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) Only digital servos are supported by Gpro.

6. Unstable hover, over-sensitive 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.
   (3) 調整尾輪固定位置不平或起飛時直升機能有左右或多側傾斜現象

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.
   (3) 調整尾輪固定位置不平或起飛時直升機能有左右或多側傾斜現象

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.
   (1) 在安全預防下，Gpro 會在進入參數設定模式時禁用 ESC。若在飛行前透過藍牙傳輸器調校 Gpro 之後，必須重新接電才能飛行。

9. No response when adjusting rudder gain, as if rudder is not compensating.
   Check correct setting on rudder gain channel.
   (1) 設定尾輪固定位置不平或起飛時直升機能有左右或多側傾斜現象

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

尾輪固定位置不平或起飛時直升機能有左右或多側傾斜現象
(1) 將尾輪固定位置不平或起飛時直升機能有左右或多側傾斜現象
(2) 將尾輪固定位置不平或起飛時直升機能有左右或多側傾斜現象