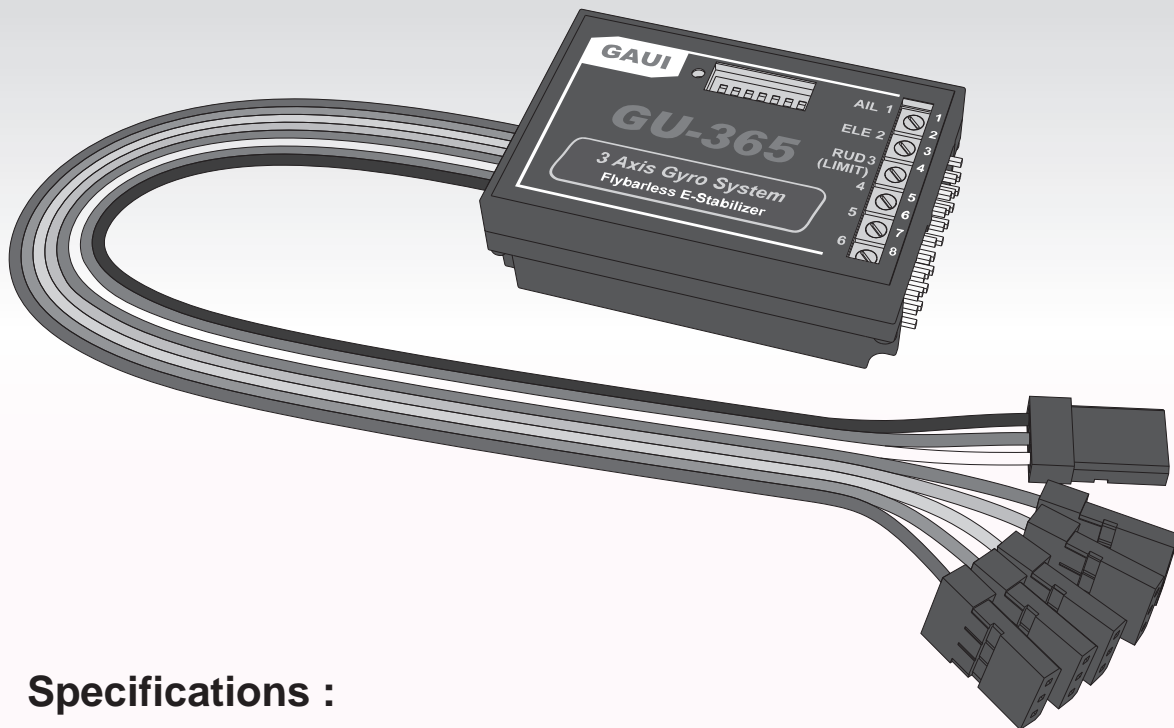


**GUEC**

# GU-365

## *Flybarless E-Stabilizer System (FES) Instruction Manual*

- **Suitable for all size EP helicopters**  
(NA for Nitro power helicopters)



### **Specifications :**

Control system : AHDCS (Active Helicopter Digital Control System)  
Content : 3-Axis gyro  
Operating voltage : 4 ~ 6V DC  
Dimensions : 44.5 x 31 x 14mm  
Weight : 18 g

**GAUI**

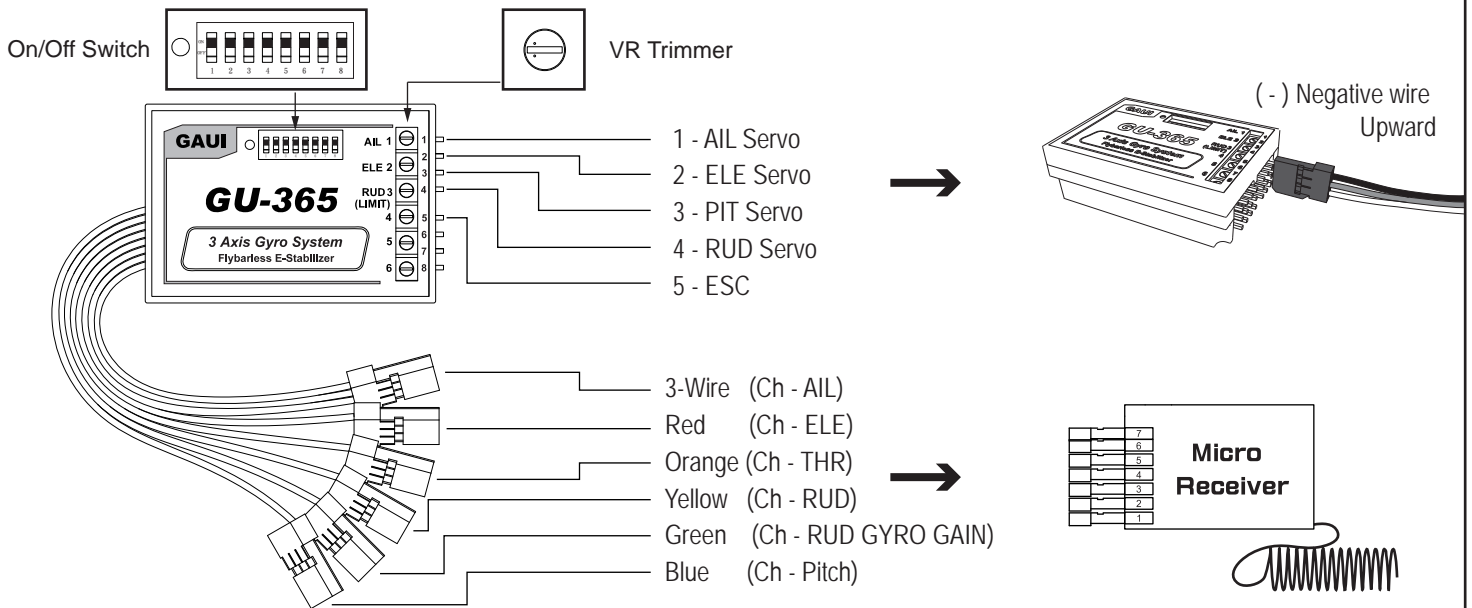
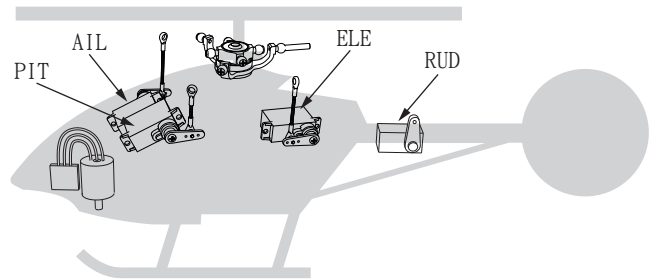
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Flying and Adjusting	P. 4

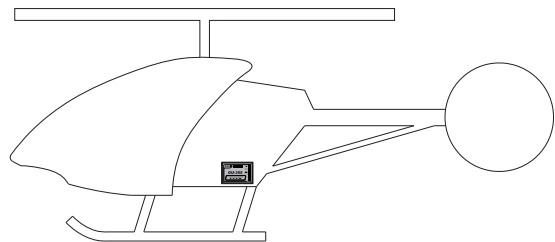
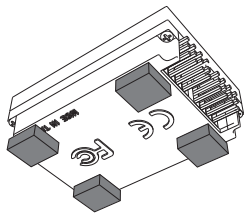
1. Make sure to read this instruction carefully before installing.

2. Install all electronic gears and set the switches on GU-365 correctly by below steps.

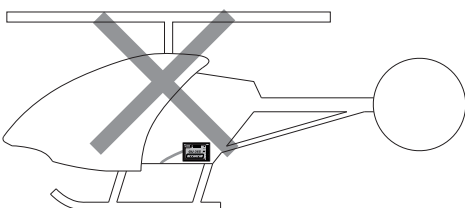
Switch NO.	Function	ON	OFF
1	Servo Select (Swash)	Analogue Servo	Digital Servo
2	Servo Select (Tail)	Analogue Servo	Digital Servo
3	Programmin		
4	Installation Select	Horizontal	Vertical
5	AIL Gyro direction	Normal	Reverse
6	ELE Gyro direction	Normal	Reverse
7	RUD Gyro direction	Normal	Reverse



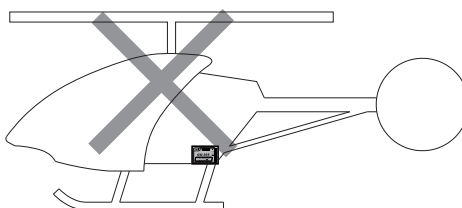
3. Cut the sponge tape into 8\*8mm squares, attach the GU-365 Gyro to heli as shown in figure below. ( it is highly recommended that installed it Vertically at the Left or Right side of the main frame, which can reduce the vibration on the Gyro and get a better 3D performance.)



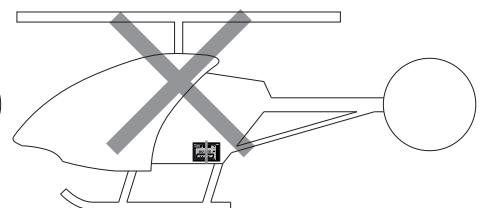
4. Make sure there is no any contact between gyro box and heli except the sponge tape, do not use cable ties or anything else to tighten it, all wires which connect to the gyro should not be pulled tightly that transfer the vibration from heli to Gyro.



Wires must not be pulled tightly



Gyro box must not have contact with heli except sponge tape

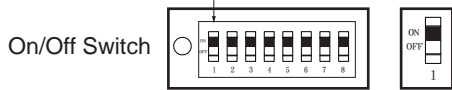


Gyro must not be tied

5. Set the On/Off Switch and VR Trimmer properly by follow steps.

## 6. Servo Select (Swatchplate)

Analogue Servo "Switch 1" to "ON"  
Digital Servo "Switch 1" to "OFF"



## 7. Servo Select (Tail)

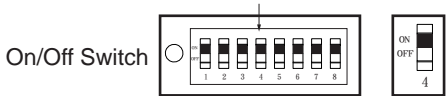
Analogue Servo "Switch 2" to "ON"  
Digital Servo "Switch 2" to "OFF"



## 8. Installation Select

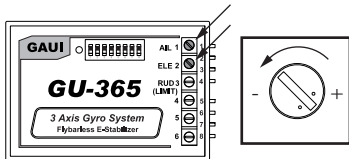
(It is recommended to install the GU-365 vertically at the Left or Right side of the main frame.)

Installed Horizontally "Switch 4" to "ON"  
Installed Vertically "Switch 4" to "OFF"



**\* Make sure to disconnect the motor wires before setting follow steps.\***

9. Turn the VR Trimmer "AIL 1" & "ELE 2" counterclockwise to the end point.  
The gain value of ROLL and Pitch Axis are Zero now.



10. Set the transmitter properly for below functions : Swashplate Type / Servo Reverse / Trim & Subtrim / AFR or Swash Mix ( Recommended initial setting : For H200 to H255 "AIL 50% / ELE 50%", For H425 to H550 "AIL 60% / ELE 60%", set the value properly to get the maximum travel ), the Throttle Curve and Pitch Curve also need to be set in this step. ( Before setting the pitch curve, set the PIT % in function AFR or Swash Mix to get the maximum travel of collective pitch ), make sure there is no mechanism interference at the maximum travel.

\* For Traditional Swashplate, the swashplate travel volumn is able to be set in the function Travel Adjust or End Point.

\* For CCPM Swashplate, do not change the initial setting of swashplate servos in the function Travel Adjust or End Point.

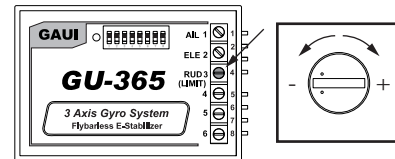
\* For JR TRANSMITTER, do not to use the "EXP" option in function "SWASH MIX". The swashplate might tilt to one side before take off if using the JR Tx.

11. Make sure the operating direction and neutral position of each Servo are set properly.

12. Check the operating direction of Tail Gyro in GU-365 :  
Normal "Switch 7" to "ON"  
Reverse "Switch 7" to "OFF"



13. Set the "Limit" of Tail servo by Trimmer RUD 3 (Limit) :  
Preset the Gyro Sensitivity at 65% to 80% and turn the Trimmer RUD 3 to set the Limit properly. ( Clockwise for increasing or Counterclockwise for decreasing )

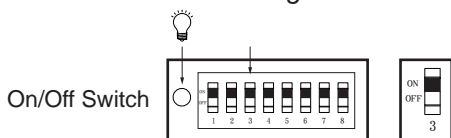


14. After finish the setting of Step 6 to 13, make sure to move the transmitter throttle stick to the lowest position, start to program the transmitter setting into GU-365 by steps below :

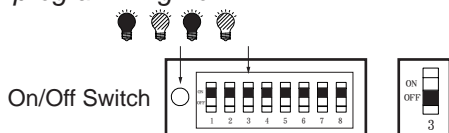
**\* IMPORTANT :**

1. Make sure to set the Swashplate Type correctly.  
( It is suitable for Traditional and 120° CCPM Swashplate )
2. Make sure the maximum travel of Pitch Axis (ELE) was set properly.  
( The type and servo mixing of swashplate will be programmed into GU-365 by receiving the transmitter signal from "ELE Stick" at its maximum travel in STEP 17.)

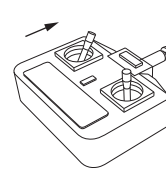
15. Make sure the " Switch 3 " is at " ON " position before programming. Turn on the power of transmitter, the monitor LED should light in " Green " .



16. Set the " Switch 3 " to " OFF " position, the monitor LED will be flashing in " Red ", the GU-365 is ready for programming now.



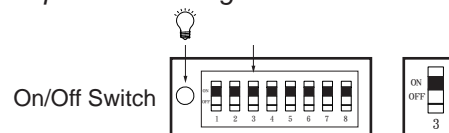
17. Move the transmitter " Elevator " stick to the highest position quickly and wait for 2 seconds, the settings of transmitter will be programmed into the GU-365, the monitor LED should be flashing in " Green " now.



Mode 1  
Elevator at Left

Mode 2  
Elevator at Right

18. Set the " Switch 3 " to " ON " position, the programming had been completed after the monitor LED lights in " Green ", turn off the power of Receiver and Transmitter to complete the setting.

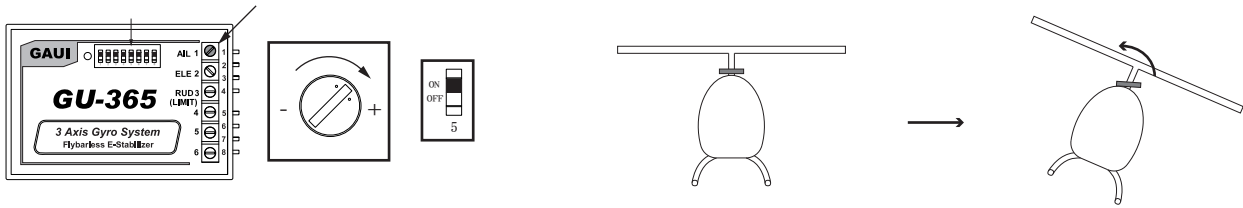


**\* TROUBLESHOOTING:**

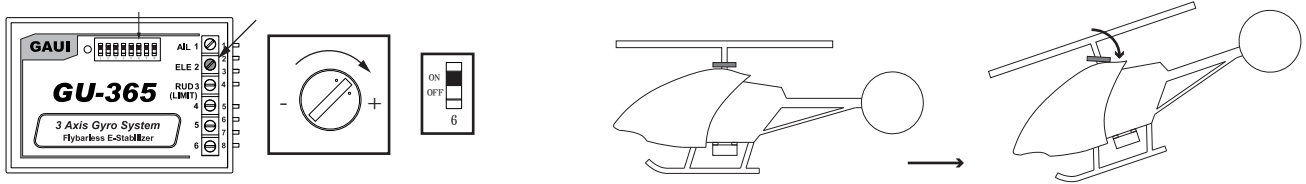
IF the monitor LED is still flashing in " Red " but not flashing in " Green " after step 17, it indicates the programming is fail, which might cause by the slower movement of " Elevator " stick from bottom to top. Reset it from step 14 to 18 until the monitor LED is able to light in " Green " .

IF the monitor LED lights in " Red " after step 18, it indicates the tail gyro of GU-365 is in non-heading-hold mode, set the transmitter function "Gyro Sen." properly to the heading-hold mode, the monitor LED will light in " Green " immediately.

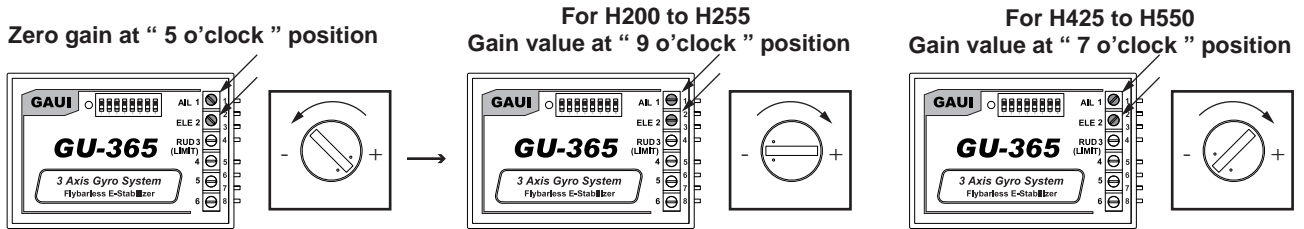
19. Turn the "AIL 1" gain trimers to maximum value (clockwise), tilt the heli to left or right to check the "AIL" gyro direction, if you tilt the heli to right side, the swashplate should tilt to the opposite side (left) automatically, set the "Switch 5" to the opposite position and check it again.



20. Turn the "ELE 2" gain trimers to maximum value (clockwise), tilt the heli to nosedown or taildown side to check the "ELE" gyro direction, if you tilt the heli to nosedown side, the swashplate should tilt to the opposite side (taildown) automatically, set the "Switch 6" to the opposite position and check it again.



21. After the gyro direction of "AIL 1" & "ELE 2" were confirmed correctly in step 19 and 20, turn both gain trimers to minimum value (counter clockwise), and turn them clockwise to the recommended position as shown in below:



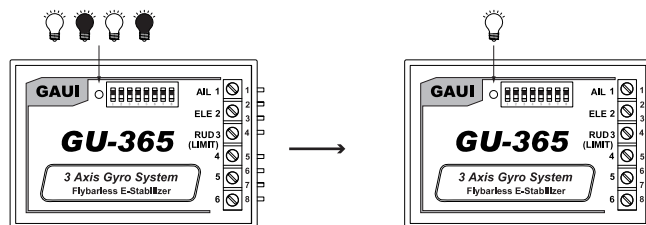
22. Make sure all movements of Swashplate and Tail are controlled correctly by GU-365 and transmitter.  
 \*No need to adjust the "Switch 8" and "VR Trimmer 4,5,6" on GU-365.

23. Auxiliary Tail Gyro :

It is recommended to use the built-in tail gyro for initial tail setting. When using the Auxiliary Tail Gyro, remove the plugs from receiver which come with "Yellow" and "Green" wire, connect the Auxiliary Tail Gyro with receiver directly. Check the transmitter setting of "Gyro Sen." to make sure the Auxiliary Tail Gyro is in heading-hold mode before flying, now the monitor LED of GU-365 will only light in "Red" due to the tail control signal was bypassed.

24. The ESC wiring is able to bypass the GU-365 and connect with receiver directly, the monitor LED of GU-365 will only light in "Red" due to the ESC signal was bypassed.

After turn on the power of transmitter and receiver, do not move the helicopter until the monitor LED lights "Green". If tail control signal and ESC signal bypassed the GU-365, do not move the helicopter until 3 seconds after power turned on, in this condition, the monitor LED will only light in "Red".



## Flying Test :

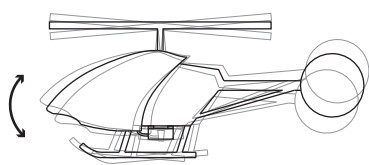
1. Be sure to balance your blades before flying, the vibration on the main shaft which caused by the unblanced blades may result in a failure of swashplate gyro operation.
2. Put the heli on a level ground, turn on the power of the transmitter and receiver, since the Gyro initializes the data when the power is turned on, set the AIL, ELE, RUD sticks to the neutral position and do not move the helicopter for approximately 3 seconds until the monitor LED lights in Green, if it lights in Red, set the transmitter switch to the heading hold position.
3. Make sure the swashplate is level before take off. If it is not level, please wait for 30 seconds until it backs to level position or turn off the receiver power and back to the step 2 to initialize the swashplate to level position.
4. Take off and hover to check that does the heli wag in any direction of 3 Axis, if it wags as nose up and down, reduce the ELE gain value by turning the "ELE 2" gain trimer counter-clockwise, if it wags left and right, reduce the AIL gain value by turning the "AIL 1" gain trimer counter-clockwise.
5. If the tail wags, reduce the Rudder gain value on your transmitter.
6. For CCPM swashplate, the function of "AIL %" and "ELE %" in "AFR / SWASH MIX" will be changed after GU-365 was installed. The initial function of "AIL %" and "ELE %" are able to change the maximum travel of "AIL" and "ELE", after you finish Step 18 (page 2), the Roll Rate and Pitch Rate are able to be changed in this function (setting the value of "AIL %" and "ELE %"), now it is not able to change the maximum travel of "AIL" and "ELE" in this function. Make sure to set the maximum travel of "AIL" and "ELE" in Step 10 (Page 2).

The flying characteristic of "Roll" and "Pitch" will be more similar to the flybar-equipped helicopter if you set more value of "AIL %" and "ELE %" in the "AFR / SWASH MIX" function.

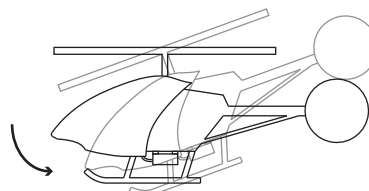
\*the function of "PIT %" in "AFR / SWASH MIX" won't be changed after GU-365 installed. you may still set the maximum travel volumn for Collective Pitch in this function.

7. Roll and Pitch movement are able to be set properly by changing the value in transmitter function "AIL D/R" and "ELE D/R". The Yaw Rate is able to be changed by setting the value in transmitter function "RUD D/R".

8. If the heli does not wag but tilt to one direction, it resulted from the vibration which caused the the failure of swashplate gyro operation, fix the problem by following steps :



If the nose wags up and down,  
reduce the gain value on  
"ELE 2" trimer (counter - colckwise).



If it tilts to one direction, reduce the  
vibration which transfered to the  
gyro by following steps.

- (1) Make sure there is no any contact between gyro box and heli except the sponge tape, and all wires which connect to the gyro should not be pulled tightly that transfer the vibration from heli to Gyro.
- (2) Change the postition where the gyro installed, it should be installed away from vibration.
- (3) Reduce the vibtation of your heli can fix the problem basiclly.



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