

## CGY750 SOFTWARE UPDATE CHANGES (VERSION 1.10)

This software update adds or changes the following functions. In addition to the manual originally supplied with your system, please now refer to the following new instructions:

**[New function]**

All of the menu screen are in Swashset Basic menu.

**(Swashset Basic menu)**

**PhaseEqu**  
ON

**(13) Phase equalizer [default: off]**

This works to optimize the swash plate phase at the pirouette. Press the Data [+] or [-] key to activate the function ON or off.

**Caution:** This function needs the rotor revolution and direction, so please **set the rotor RPM and direction on the governor menu.**

**ROT\_Equa**  
ON

**(14) Rotational equalizer [default: off]**

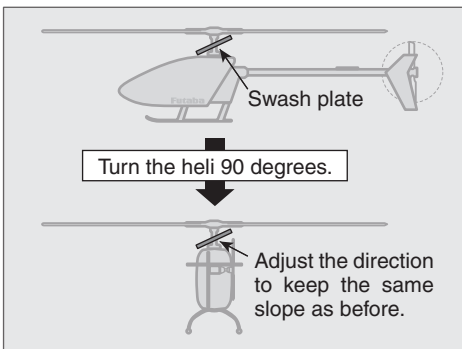
This works to optimize the pirouette stability. Press the Data [+] or [-] key to activate the function ON or off.

**Equa.Dir**  
Normal

**(15) Equalizer direction [default: Normal]**

This sets the equalizer rotation direction. To check the direction, turn the helicopter clockwise or counter-clockwise approx. 90 degrees. Make sure the swash plate keeps the same slope as before. It is very important to set the direction to work correctly with both the Phase and Rotational equalizer.

**Caution:** Always set the equalizer direction after the helicopter linkage is completed. The direction is changed when you change the swash gyro direction, servo linkage, etc.



**ROT\_Trak**  
+0.0 %

**(16) Rotational tracking [default: 0.0 % , ranges: -5.0 ~ +5.0 %]**

This sets the rotational compensation to match the pirouette speed to swash rotational speed. Adjust the values and find out the best pirouette stability.

**ROT\_His**  
27 dgt

**(17) Rotational null ranges [default: 16 dgt, ranges: 0 ~ 255 dgt]**

This sets the null ranges of the rotational calculation. About 5.5 dgt is equal to 1 deg/ sec of the pirouette speed.

**[Governor section]**

You can edit some of the governor menu on the Opr.Mode to Gyro+THR or H4-xx swash type.

**(Governor Basic menu at Gyro+THR or H4-xx mode)**

It sets the governor's fundamental functions.

**MODE**  
Push MODE +/- key

**Governor Basic**

**(1) Start display**

The editing menus are scrolled by pushing the mode + or - key.

**RPMset:1** ↔ **RPMset:2** ↔ **RPMset:3**  
1100rpm ↔ 1500rpm ↔ 1850rpm

**(2) Revolution setting [range: 1000 ~ 3000 rpm]**

This sets the main rotor revolution.

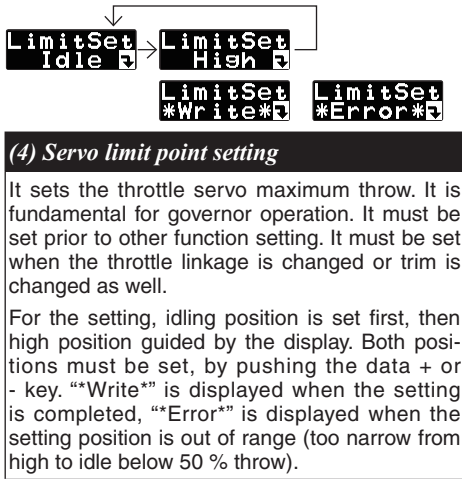
**Caution:** The RPM must be set for the Phase equalizer to work properly.

**B/FS\_Set** ↔ **B/FS\_Set**  
Inhibit ↔ 28%

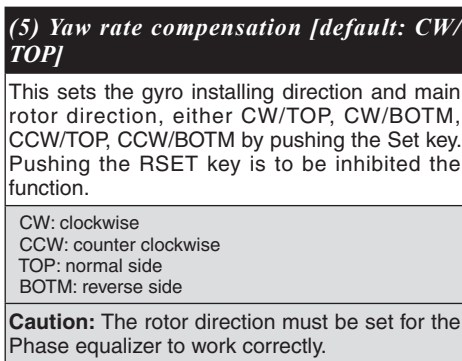
**(3) Battery failsafe setting [default: Inhibit]**

The throttle function goes into failsafe mode when the battery voltage is below B/FS voltage. When the function is activated, the throttle servo moves to B/FS position at B/FS condition. After moving the throttle stick to idle position, the B/FS condition is deactivated for 30 seconds. It returns to B/FS after 30 seconds pass.

Move the throttle stick to B/FS position as desired and push the "set" key to finish the setting. Pushing RSET inhibits the function.



**(4) Servo limit point setting**  
 It sets the throttle servo maximum throw. It is fundamental for governor operation. It must be set prior to other function setting. It must be set when the throttle linkage is changed or trim is changed as well.  
 For the setting, idling position is set first, then high position guided by the display. Both positions must be set, by pushing the data + or - key. "Write" is displayed when the setting is completed, "Error" is displayed when the setting position is out of range (too narrow from high to idle below 50 % throw).



**(5) Yaw rate compensation [default: CW/TOP]**  
 This sets the gyro installing direction and main rotor direction, either CW/TOP, CW/BOTM, CCW/TOP, CCW/BOTM by pushing the Set key. Pushing the RSET key is to be inhibited the function.

CW: clockwise  
 CCW: counter clockwise  
 TOP: normal side  
 BOTM: reverse side

**Caution:** The rotor direction must be set for the Phase equalizer to work correctly.

**(Governor expert menu at Gyro+THR or H4-xx mode)**

**(1) Start display**



Quickly pressing the mode + or - key scrolls through the editing menu. Pressing and holding the mode + or - key for longer than one second returns to the governor basic menu.

**(2) Battery F/S voltage setting**



default: 3.8 v  
 ranges: 3.5 ~ 7.5 v

This sets the battery fail safe voltage. Set the proper voltage by the battery type. The battery characteristics are different for different manufacturers. Please make battery capacity is available for one flight (5-10 minutes) after setting the battery alarm. The value is changed by pushing DATA+ or - key. Suggested setting voltages are as follows.

- 4 cells NiCd or NiMH (Normal: 4.8v) = 3.8 v
- 2 cells LiFe (Normal: 6.6 v) = 6.0 ~ 6.2 v
- 2 cells LiPo (Normal: 7.4 v) = 7.2 ~ 7.4 v

**(3) Governor data reset**



This resets the governor parameter to default setting. The "Exec.?" is displayed by pushing data + or - key for confirmation. Pushing the data + or - key again completes the reset process. "Exec.—" appears before returning to the start display. Pushing the mode + or - key during the confirmation display will abort the reset process.

**Added menu on governor expert menu**

**(1) Governor on revolution setting (placed the next menu of StartDly)**



default: 60%  
 ranges: 50 ~ 90%

This sets the governor to be on revolution. The default value is 60 %. In this case, the governor will not be on condition until the engine revolution reaches 60 % of the setting revolution. When you feel that startup is too slow, increase the value to 65-70%. The starting time will be faster.

**Added menu on AIL and ELE gyros expert menu**

**(1) I gain setting (Placed the previous menu of the D Gain)**



default: varied by FLT.Mode  
 ranges: 0 ~ 100%

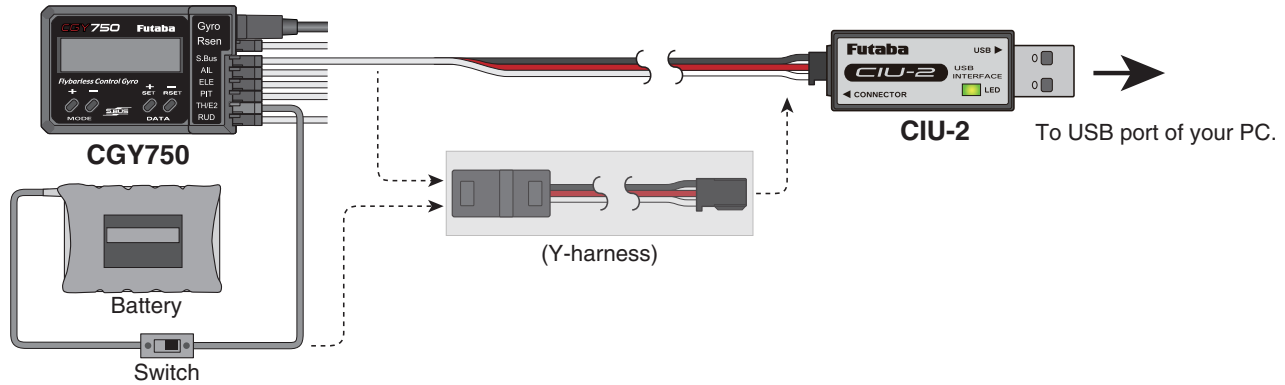
This adjusts the I gain (Integration gain) of the PID operation. Increasing the I gain results in more holding power, but the control feeling will be slower. When you get the wagging by increasing the I gain, reduce the gyro gain for the wagging to stop. The I gain to 0% is equal to the Normal mode. Select the values as your preferred flight style. The table shows the default I gain setting by flight mode.

Flight Mode	1	2	3	4	5
AIL I Gain	50%	50%	40%	30%	30%
ELE I Gain	40%	40%	30%	30%	30%

## CGY750 Software Updating Procedure

Please update CGY750 software as follows. Before updating, install the CIU-2 device driver and place into the state in which the CIU-2 is operated properly from the PC.

### [Connection]



1. Connect the CIU-2 to USB terminal of the PC.
2. Disconnect the S.BUS cable and connect the CIU-2 other side cable to S.BUS input of the CGY750.
3. Connect the battery to vacant servo terminal.
  - \*If there is no open servo terminal, use the Y-harness to connect the battery and CIU-2 cable. Or disconnect one servo connector and put the battery connector there.
  - \*It is not allowed to connect the battery to the revolution sensor terminal.
  - \*Connect the power switch between battery and power supply connector.

### [Updating procedure]

1. Download the update software from the Futaba web site. It is a zip formatted file. Use the Windows unzipping application to extract the two files, **GY750.bin** and **Update.exe**.
2. Push the MODE+ key of the CGY750 and supply the power to the CGY750. The screen shows "UPDATE READY".
3. Double click the **Update.exe** and run the update program. A dialogue box will ask if you want the update to proceed. Push yes button. The update is starting.
4. During the updating, progress will be shown in a bar graph and CGY750 screen shows "NOW WRITING".
5. It will take about 3 minutes to complete the programming. The PC shows the update finished message and CGY750 screen shows the "SUCCESS" when the update is successfully installed. Turn off the power and turn on again. The update has been correctly installed when the screen shows latest software version on the second line.