Curtis Youngblood.com

Solid G

Instruction Manual

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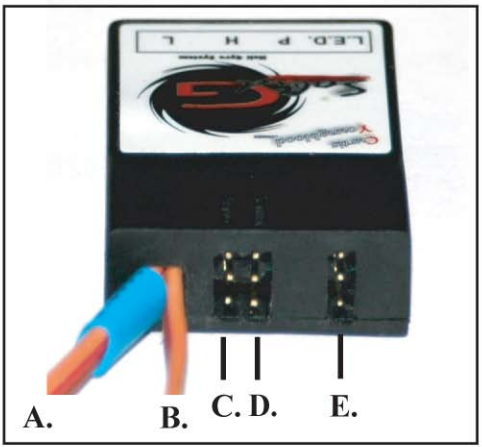
Table of Contents

Initial Setup - Mechanical Setup

1. Install Gyro Amp on the helicopter and plug in cables as indicated in the diagram below



A. Plug into AUX Channel
B. Plug into Rudder
C. Servo
D. Sensor
E. Display

Initial Setup - Mechanical Setup

2. Secure the sensor to the helicopter using the provided double stick tape. For added security lightly wrap the sensor on the heli with the provided velcro. Trim velcro to the desired length for mounting on different helis.

Note:

For futaba tail servos you need to trim off the plug tab.

Display unit is optional and can be purchased separately.

Go to Initial Setup - With display if you have the display unit. Otherwise, go to Initial Setup - Without display to setup your gyro.

Initial Setup - With Display Unit

Step 1. Turn the radio on. Plug the Display into the hole furthest from the wires. (E.)

Step 2. Push and hold the "P" button for 6 seconds. (This puts you in setup/display mode)

Step 3. **Servo Type** - Push "L" or "H" to scroll between the servo options. Select the type of servo.

Initial Setup - With Display Unit

Press and Release "P" Button

Step 4. **T/R Neutral -** The servo will go to neutral, and the amp will flash fast red/green. Now you can set your servo/pushrod geometry.

Press and Release "P" Button

Step 5. **Gyro Direction -** Push "L" or "H" to select normal or reverse. Move your helicopter and confirm the tail servo is moving in the correct direction relative to the helicopter.

Press and Release "P" Button

Step 6. **Right Tail Limit -** The servo starts in its neutral position. Give a right rudder input to start setting the limit. (Note: You must enter a right tail rotor input to start calibrating this setting. If you enter a left input, please turn off the gyro and re-enter the display mode.) The servo will now go to its default right limit. If this value is not enough, give full right rudder until it reaches the correct limit. If the limit is too much, give full left rudder to decrease the limit.

Press and Release "P" Button

Initial Setup - With Display Unit

Step 7. **Left Tail Limit -** The tail servo will go to its left limit. Give full left rudder to increase this limit, and full right to decrease.

Press and Release "P" Button

Step 8. **Gain -** Displays total gain value. When setting gain with the transmitter there are many options. But this gain number is the important one. You want it about 39% gain on this screen.

Note - if AUX channel is not used and unplugged, pushing "L" and "H" can be used to change the gyro gain.

Press and Release "P" Button

Initial Setup - With Display Unit

Step 9. **AUX Input -** AUX channel setting. Minimum gain is when the AUX channel is in neutral (1500). As you increase or decrease from neutral the gain increases. Adjust your AUX channel travel adjust or value in a mix to change gain setting.

Press and hold "P" Button for 6 seconds

Step 10. **Heli Type -** Scroll through the different heli type options following the on screen instructions, and select the heli that is most similar to the one you are flying.

When finished press and release the "P" button to go to normal operation.

Initial Setup- Without Display Unit

Step 1. Turn radio on and set T/R trim to neutral.

Press and Release "P" Button

Step 2. **Servo Type** - Push "L" and "H" to scroll through the servo options.

Standard Servo: Steady Green
JR 8700G: Flashing Green
Futaba 9253/JR 8900G: 1 Green / 1 Red
Futaba 9251 or 9256: 1 Green / 2 Red

Press and Release "P" Button

Step 3. **T/R Neutral** - The servo will go to neutral, and the amp will flash fast Red/Green. Now you can set your servo / pushrod geometry.

Press and Release "P" Button

Step 4. **Gyro Direction** - The LED with indicate what direction.

Normal: Steady Red
Reverse: Pulsing Red

Use the "L" and "H" buttons to change direction.

Press and Release "P" Button

Step 5. **Right Limit** - The Servo will start in its neutral position. The LED will light up with a steady green. Give a right rudder input to start setting the limit. The servo

will now go to its default right limit, and the amp light will flash red with an occasional green. If this value is not enough, give full right rudder until it reaches the correct limit. If the limit is too much give full left rudder to decrease the limit.

Press and Release "P" Button

Step 6. **Left Limit** - The LED will flash green with an occasional red. The servo will then go to the default left limit. Give full left to increase and full right to decrease the limit.

When finished press "P" to return to normal operations

Display Mode Menus

Turn on radio, hold down the "P" button for about 6 seconds to enter display mode. To toggle between parameters, push the "P" button briefly and release. To toggle between the menus, push "P" for about 6 seconds and release.

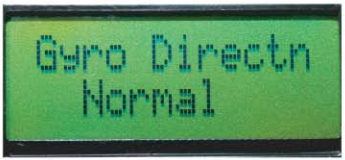
A. Initial Setup

Servo Type: Display the tail rotor servo type, choose the tail servo type.

T/R Neutral: Displays the tail rotor servo neutral. Servo moves to "actual servo neutral". In this mode, you can set up your push rod length and T/R geometry.

Display Mode Menus

A. Initial Setup



Gyro Direction: Selects gyro direction, confirm when rotating the heli to the left, the gyro gives right T/R.

Right Limit: Before setting right limit, confirm right stick input equals to right tail movement. If not, turn off receiver, reverse rudder channel direction and turn receiver back on. When switching to this parameter, the tail rotor will go to neutral. Give right tail rotor to start this setup. The tail rotor servo will then move to the present "right" limit. Hold full right to increase this limit, and full left to decrease.

Display Mode Menus

A. Initial Setup

Left Limit: The Tail Rotor will immediately move to the left limit when entering this parameter. Hold full left to increase this limit, and full right to decrease the left limit.

Gain: This is set using the AUX Channel you have the gain (wire with the blue heat shrink) plugged into. The value will be displayed here. If you are not using the AUX channel for gain, use the "L" and "H" to increase and decrease the gain respectively.

Display Mode Menus

A. Initial Setup

AUX Input: Displays the AUX channel input. Adjust this with the transmitter

B. Heli Type

Heli Type: Select the default helicopter type that most closely represents your helicopter.

Note- Each helicopter type has a different set of "default" parameters. When switching to a different Heli Type, a new set of default parameters (excluding the Initial setup parameters) will be loaded. However, your limits, gyro direction and servo type settings will remain.

C. Pirouette Menu

Right Stop Speed: Sets how hard the helicopter stops from a right pirouette. The higher the number the harder the stop.

Left Stop Speed: Sets how hard the helicopter stops from a left pirouette. The higher the number the harder the stop

C. Pirouette Menu

Left Cst/Rbd: Sets how far the helicopter "coasts" after you let go of the control input in a left pirouette. Higher is more coast.

Right Cst/Rbd: Sets how far the helicopter "coasts" after you let go of the control input in a right pirouette. A higher number is more coast

D. Response Menu

Pir Speed: Sets how fast the heli pirouettes. A higher number is a faster pirouette.

Pir Balance: Changes the relative speed of right and left pirouettes. A higher number speeds up a right pirouette, and slows down a left pirouette.

D. Response Menu

Pir Gain: Sets the pirouette gain, higher number is higher gain.

If the helicopter oscillates only in pirouettes but no where else, turn this gain down.

E. Gain Menu

Gain Balance: Balances the right and left gains.

Rate gain: Sets the Rate Gain, higher number is higher gain.

Heading Gain: Sets the heading gain, higher number is higher gain.

Notes

1. **To Reset** - Hold down both "L" and "H" buttons while switching on the receiver.

   This resets all models to default.

2. "Push and hold "P" about 6 seconds". The 6 seconds does vary a little depending on the radio being used. It could be as little as 5 seconds or as long as 10 seconds.

3. When turning on the gyro, the LED turns green, wait 5 seconds for the gyro to initialize before moving the helicopter, then LED turns off. If the LED stays on Red, there is no TR signal. Check your radio and installation.

4. The unit will exit a menu after about 30 seconds when no buttons have been pushed.

Notes

5. Start with travel adjust around 100% and increase or decrease travel adjust to get desired pirouette speed.

6. Plastic tail blades often require a higher gain setting. Carbon tail blades require a lower gain setting because of higher tail rotor power.

FAQ

Question 1: What is the difference between heli types?
Answer: It depends on the heli but we often change the stop responses and basic gains to get the best performance for a particular heli.

Question 2: If I change heli type, do I need to reset the initial parameters like servo type and limits?
Answer: No, changing heli types does not affect the settings on the initial settings menu.

Question 3: What if my heli is not an option on the list?
Answer: The Raptor 50 has the most general settings and would be a good option for helis not on the list.

Question 4: What if my servo is not an option in the servo type list?

Answer: The JR 8700G option is the most generic tail servo type. If that option does not work, check with your servo manufacturer to find which servo type it most closely matches.

Question 5: On the table why does my tail control seem to "stick" at each end when I am moving the controls?

Answer: This is normal and it does not do that in the air. Since the helicopter is not flying, it will not respond to the control input given. The gyro is throwing a large amount of control to try to make the heli move. This large control input actually builds up and takes a period of time to come back out once you come to a limit. This feature is part of why the Solid G has very consistent pirouettes. It is correct even though it looks strange on the table.

FAQ

Question 6: I have completed the initial setup but the servo is not moving, what is wrong?
Answer: Check to make sure you have all the plugs hooked up correctly, Also make sure you have it set on the correct servo type. If it still does not work unplug the unit and do the initial setup again.

Question 7: The light on the Amp stays on Red, what is wrong?
Answer: A red light on the amp indicates you are not getting a channel signal from the receiver. Make sure everything is plugged in and check that your radio is functioning properly.

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