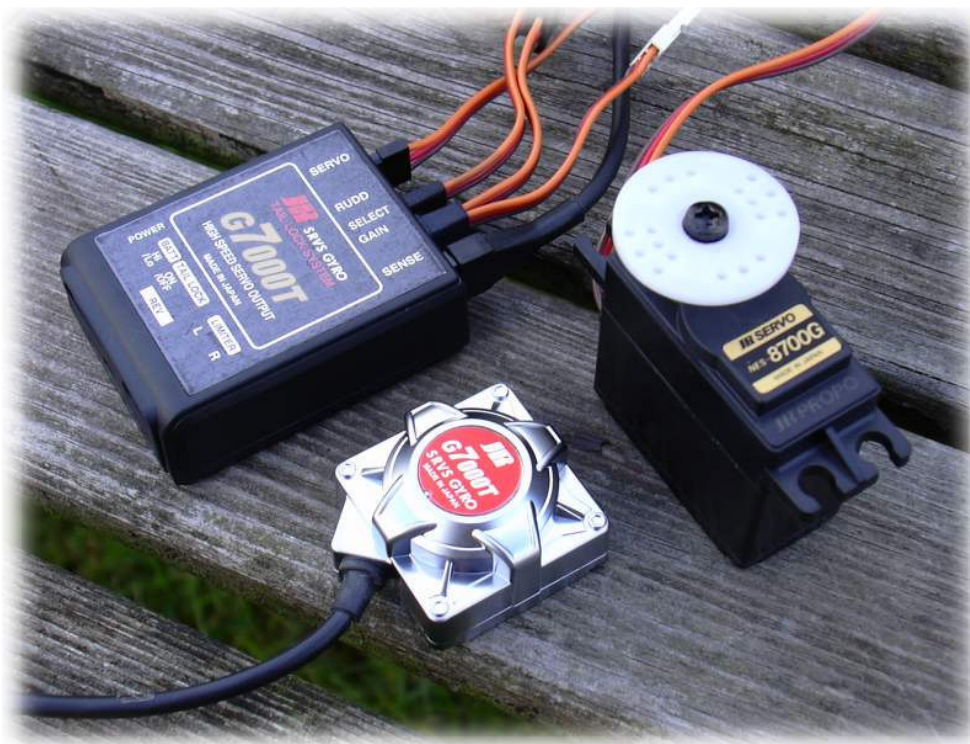


G7000T

JR

G7000T-SX SRVS EXTREME HEADING LOCK GYRO

Instructions



G7000T SRVS GYRO

Introduction

Congratulations on your purchase of JR's latest G7000T-sx gyro featuring the latest SRVS silicon ring sensor for outstanding holding power and drift free operation.

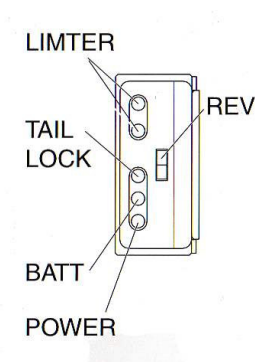
It is important to note that the operational features of the G7000T-sx are very different than that of other gyro systems. Many current settings, including the travel volume, exponential, dual rates, and tail rotor revolution mixing values (Rate model only) must all be changed from their previous normal settings in order to achieve the desired tail rotor/response and maximum performance that the G7000T-sx has to offer.

JR's new G7000T-sx features remotely selectable Rate and Tail Lock™ mode options. Tail Lock mode is highly recommended for use in helicopters as it will hold the tail of the model in position without the need for Revolution mixing.

Note: The G7000T-sx should not be used in airplanes while in the Tail Lock mode.

Carefully read these instructions so you will fully understand and become comfortable with the functions and operating characteristics of the G7000T prior to installation and initial test flights.

Control Box



The G7000T-sx control box allows you to visually check settings and to setup the hardware of the gyro system for optimal performance.

REV – This switch reverses the sense of the gyro.

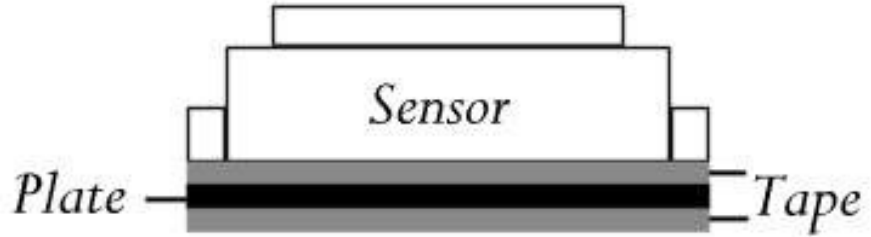
LIMITER – These pots allow the physical servo travel to be set to stop over travelling and binding of the tail rotor linkage.

TAIL LOCK – Green/Heading Lock, Red/Rate Mode.

Installation

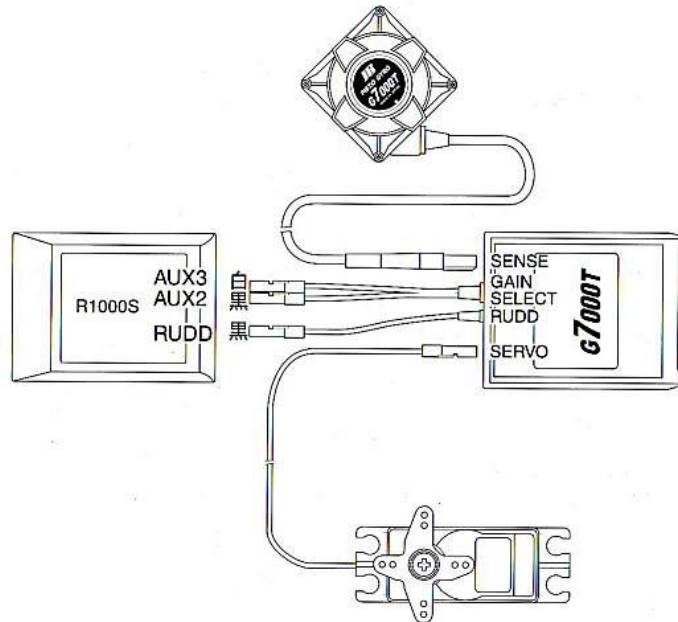
The G7000T-sx features a very sensitive Silicon Ring Sensor that must be protected from vibration as much as possible.

Included in the box are two pieces of double sided foam tape and a metal plate. These should be combined as shown below:

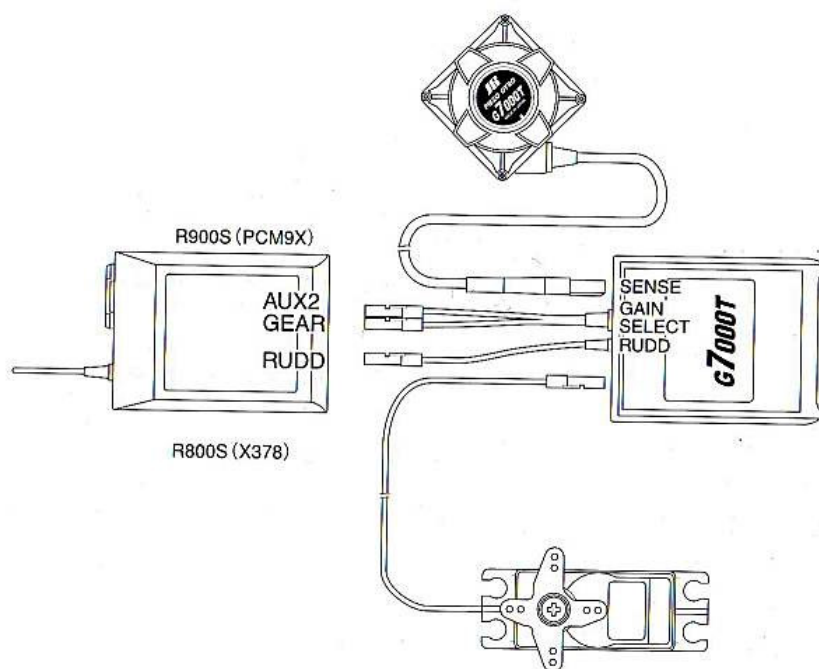


Refer to the following diagrams for proper wiring of your G7000T-sx gyro:

PCM10x Wiring

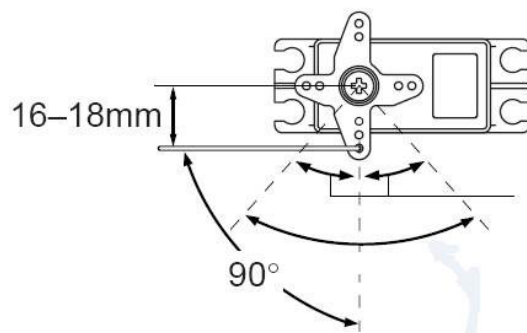


PCM9x/X3810/X378 Wiring



The G7000T-sx should be mounted in the designated area as specified by your Heli's instruction manual.

Many helicopters provide mounting bases near the main shaft. Use them only if they are positioned away from heat generating sources. If it is not possible to locate the sensor near the main shaft, an alternate location to consider is on the front radio bed/tray.



Remove unused servo horn arms to prevent obstruction. For best performance, attach the tail control rod ball to the servo arm at a distance of approximately 16-18mm from the center mounting screw of the servo arm. The performance of the G7000T-sx will be greatly reduced if the control linkage is attached at a distance of less than 16mm, as this position will not make full use of the G7000T-sx's sensing capabilities.

Setup

After some experience and flight time is gained, these values can be adjusted to suit your preference. Use these values as a starting point.

- Travel Adjust
Left Rudder 150%
Right Rudder 150%
- Dual Rates
Hover Mode/Low Rate 80%
Stunt Mode/High Rate 100%
- Exponential Values
Hover Mode/Low Rate 50% 50%
Stunt Mode/High Rate 50% 50%
- Gyro Gain Values
Hover Mode/High Rate 90% 75%
Stunt Mode/Low Rate 75% 0-65%

Note: If it is necessary to reduce gain values below this level to stop hunting, move the servo arm ball in one hole towards the centre of the on the servo arm and re-test.

- Revolution Mixing
(Rate Mode/Heli Only) Hover Mode 5%L 5%R
(Rate Mode/Heli Only) Stunt Mode 5%L 5%R

The G7000T-sx features two manual servo travel limiters located on the control box. This manual setting allows you to use a full 150% travel value in your radio setup for the best resolution, while being able to reduce the physical travel of the servo to remove any tail linkage binding.

The travel adjustment pots increases or decreases the travel of the servo either to the left or right. To set the physical travel of the servo, move the servo via the transmitter stick to its extreme Left/Right positions while looking at the tail pitch control slider on the back of the model. If there is visible clearance at maximum travel increase the servo travel with the appropriate limiter pot. If binding is occurring in one or both directions, reduce the appropriate travel limit pot as needed until binding is removed.

Remote Gyro Gain Access

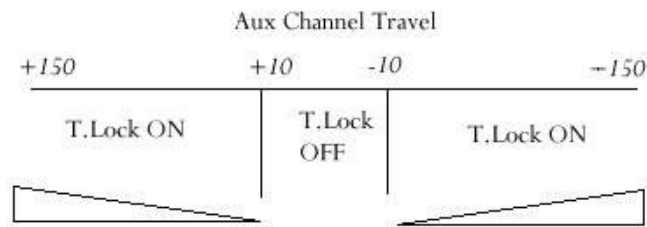
JR PCM 10 Series Systems: Connect to Aux 3 Channel

If you are using a PCM-10, 10S, 10SX, 10SxII or 10X and would like to make use of the Code 44 gyro sensitivity adjustment feature, you will need to enter code 44 and activate this function. If code 44 is not activated, then the gain adjustment would be made through the servo travel adjust function for the Aux 3 channel.

JR XP9303, XP8103 and X-378 Systems: Connect to Aux 2 Channel

If you are using any version of the JR XP9303, XP8103 or X-378 and would like to make use of the gyro sensitivity adjustment feature, you will need to enter the function mode and activate the Gyro Sens function. If Gyro Sens is not activated, then the gain adjustment would be made through the servo travel adjust function for the Aux 2 channel.

Rate Mode / Heading Lock Selection



The Auxiliary channel which controls the heading lock of the gyro is controlled as per the diagram above.

Set your travel adjust values so that you may switch in and out of heading lock using the nominated Auxiliary channel. You will see the light change on the control box as the gyro enters Heading Lock (Green) and Rate Mode (Red).

Control Rod Arm Adjustment

Following is the setup and adjustment procedure that must be followed to achieve the highest level of performance from your system.

Step 1: Set the G7000T to the Rate Mode position as described above.

Step 2: Unhook the control linkage from your servo and swing the servo arm out of the way. Lightly grasp the pushrod at the servo end and run the linkage through its entire travel. The linkage should move through its entire range smoothly with very little friction and no rough spots. Work on the linkage system until this is achieved.

Step 3: On your transmitter, set all trimmers (sub-trim, trim offset, mechanical trim, etc.) to zero. For heli, set the throttle/pitch stick at exactly the hover position (standard hover position is 50%). Turn off or zero out both the revolution mixing up and down and the acceleration mixing.

Step 4: Turn on your receiver and allow the model to remain totally motionless for 3 seconds. This procedure is necessary to allow the G7000T-sx time to establish and record the centre or neutral positions.

Step 5: Remove the servo arm and replace it so that it is exactly 90° to the tail rotor pushrod (see diagram). You may find that the spline in the servo output shaft are just offset enough on your servo arm so as to not allow 90° positioning. Rotate the servo arm to another arm and try again. Find the arm that is closest to 90° and secure it in place with the provided screw.

Trimming Neutral with Sub-Trim

When in tail lock mode, the servo arm may "creep" or move slightly. This movement is normal, and can be corrected by changing the sub trim value in your radio system for the rudder channel. Enter the sub-trim function of your system and add a left or right value for the rudder channel. Re-center the rudder servo with the control stick and re-test. Add/reduce sub trim as needed until the servo will remain motionless, and in the neutral position. A value of 6-8 is generally all that is required for this final trimming.

Confirming Servo/Gyro Direction

Step 1: Be sure the rudder servo is moving in the proper direction. A right rudder command should move the nose to the right (if you're unsure, seek help from someone more experienced). Reverse the servo direction in the transmitter if necessary.

Step 2: Give a right rudder command and note the direction the rudder servo moves (clockwise or counterclockwise). Now pick up the helicopter and quickly move the nose to the left. The servo should move in the same direction as a right rudder command. If it moves in the opposite direction, switch the small reverse switch located on the G7000T-sx Control Box in the opposite direction.

Important: When the reversing switch on the gyro is changed, this will also reverse the direction of the tail servo. If the gyro reversing switch is changed, it will be necessary to reverse the direction of the servo using the transmitter's servo reversing function.

Flight Testing

Step 1: With the model in Rate Mode lift off into a steady hover and trim the tail rotor **mechanically**. **Do not** use any trims on the transmitter at this stage.

Step 2: With the model trimmed in Rate Mode switch to Heading Hold and trim the model using the Sub Trim function on your transmitter.