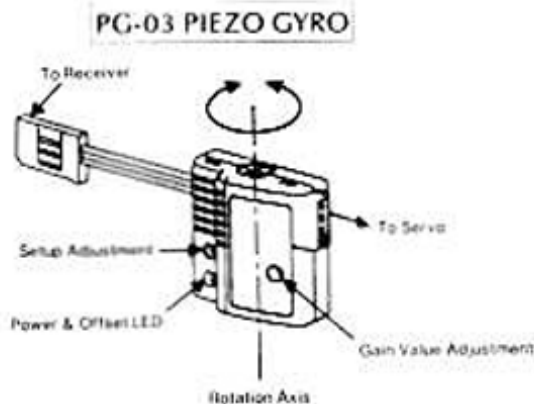


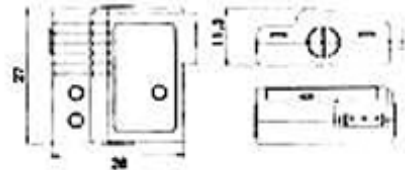
GWS PG-03 PIEZO GYRO INSTRUCTIONS

Note: Please read the instruction manual thoroughly before operation.



Specifications:

Dimension: 26.0 x 27.0 x 11.3 mm
Weight: 7.0 g (0.285 oz) with Plastic Case
4.8 g (0.169 oz) w/o Plastic Case
Power Supply: 4.8 ~ 6.0 Volts
Current Draw: 10mA (4.8V)
Gain Adjustment: Single rate, non-remote
Operating Temperature: - 5°C ~ 60°C
Applicable R/C System: Futaba, JR, Hi-tec,
Sanwa/Airtronics,
Multiplex, GWS

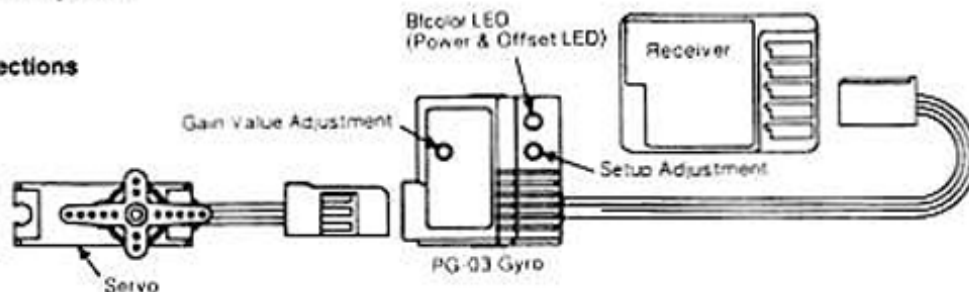


INTRODUCTION

Thank you for choosing Grand Wing Servo-Tech (GWS) PG-03 Piezo Gyro System. The PG-03 has been designed to use new micro piezo sensor, which has exclusively been developed for this state-of-the-art gyro system that has better and quicker response and is much stronger resistance in crash or unexpected external impact. Also, it has better temperature characteristic and neutral stability owing to new circuit design. The PG-03 ultra-light weight and super-compact size allows it to be installed in all size helicopters, airplanes, cars and boats. Please read the instruction manual completely before you attempt to operate the system.

INSTALLATION

Wiring and Connections



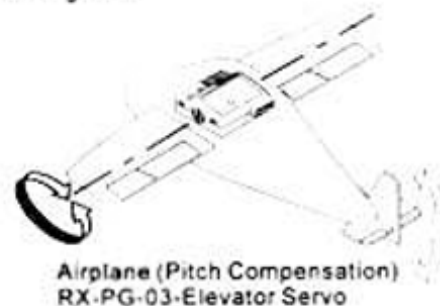
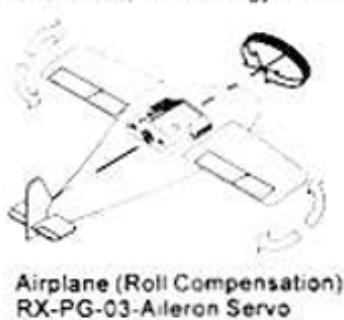
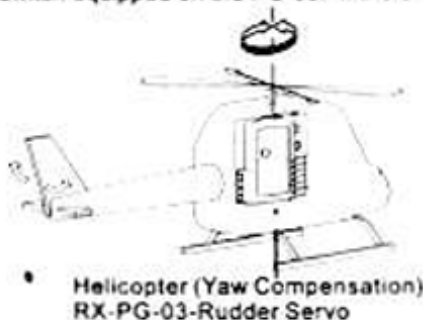
Disconnect the servo to be compensated from the receiver and plug the connector from the gyro there, then insert the servo connector to the gyro port. Be sure to observe the proper polarity on the connector and the gyro port (socket). If the wires on the components are excessively dragged each other, it is not possible to get best vibration absorption with the mounting foam tape, also it may cause possible disconnection during use.

Location

Find most ideal location on your model to mount the gyro, area in low vibration or follow the manufacturer recommended location of your model. Please make sure that the setup and gain value adjustment trimmers are accessible for future adjustment.

Mounting

Attach the supplied double-sided adhesive foam tape to the bottom of the gyro and mount it to the ideal position of your model. A conventional adhesive tape for a gyro mounting is not suitable because it can not absorb vibration enough for the ultra-light PG-03 gyro. It is always essential to check if the gyro is compensating in the proper direction as no reversing switch equipped on the PG-03. If the direction is reversed, rotate the gyro itself 180 degrees.



Control linkage

To get the best performance and result from the PG-03 gyro, it is important to check for binding and slop on all control linkages on your model. If any problem is found, you have to remove and correct it before operating your radio control system including the PG-03 gyro. Remember that you need to repeat the same procedure regularly.

SETUP AND ADJUSTMENT

This is a rate dampening system featuring an easy setup procedure assisted by LED indication and the system is a mix of the transmitter command and gyro. The setup trimmer will synchronize the input and output signals correctly.

Setup Adjustment

- 1 Connect all components (receiver, servos, gyro, battery pack, switch harness etc.) as per the wiring diagram and the instruction manual of your radio system.
- 2 To activate the PG-03 gyro, first turn on your transmitter, then your receiver. Normally, the bicolor LED (Power & Offset LED) will light either in **red** or **green**. It means that the neutral position is offset.
- 3 Turn the setup trimmer with a small screwdriver (not supplied) in either direction (clock-wise or counter-clock-wise) until the bicolor LED starts to light in **red and green** simultaneously. By adjusting the setup trimmer in this proper manner, the input and output signals will be synchronized perfectly when no movement is detected by the gyro.
- 4 Then, rotate your model on the gyro rotation axis, the LED will turn on in red or green and check if the gyro is compensating in the proper direction. If the direction is incorrect, just rotate the gyro itself 180 degree and mount it again firmly and securely.
- 5 When the setup trimmer is adjusted correctly, the servo arm will remain in a stationary position throughout the entire gain value range.
- 6 It is requested to follow the same procedure when you install the gyro to other model, or use a different radio control system.

Gain Value Adjustment

The gain value of the PG-03 is adjusted around the center position (50%) of the trimmer at the GWS factory that would be suitable adjustment for average and advance fliers. However, it may need a fine readjustment of the gain value in accordance with your rotor speed of the helicopter, engine output power, pilot skill and experience etc.

- The gain value (sensitivity) will increase with rotating of the trimmer to clock-wise and decrease to counter-clock-wise. For novice helicopter fliers, turn the trimmer 20-30 degrees to clock-wise from the center position. For expert and 3-D helicopter fliers, turn it 20-30 degrees to counter-clock wise.
- If your helicopter oscillate (hunting), reduce the gain value until the helicopter no longer hunts.
- When you increase the gain value of your airplane too much, you may have dull feelings on controls. Especially for elevator or aileron control, it is recommended the adjustment to be lower value first.

PRECAUTIONS

- Always handle the PG-03 gyro with a special care during operation and transportation. This new piezo sensor has much stronger resistance against crash or external impact, yet fragile.
- It is very important to find the location for mounting the gyro in less (or low) vibration area of your model.
- Always turn on the receiver (gyro) last after turning on the transmitter, and shut off the receiver (gyro) first before turning off the transmitter.
- Do not get water, oil or fuel on the gyro, protect the gyro from dirt.
- Do not expose the gyro in the sunshine (heat) too long.

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