

ELF HOBBY 240 GYRO

Instruction Manual

Thank you for buying an Elf Hobby 240 Gyro, Please read this manual thoroughly and use the gyro properly and safely, Keep this manual after reading for future reference.

- No part of this manual may be reproduced in any form without permission.
- The contents of this manual are subject to change without prior notice
- This manual is the primary written for the Elf Hobby 240 Gyro.

FORWARD

The ELF Hobby 240 gyro is a high performance, compact, light weight Heading Hold gyro developed for model helicopters and alike. Because the sensor and control circuit are integrated into one package it is simple to install.

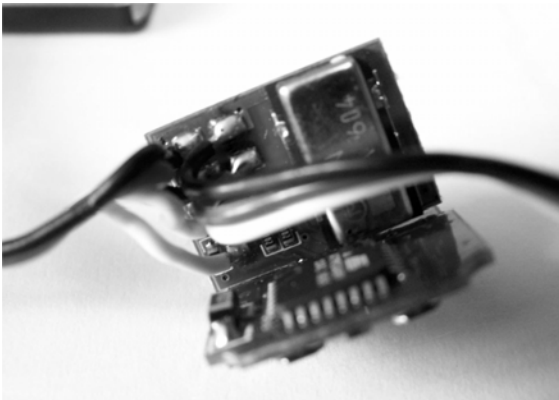
FEATURES

•Heading Hold system

This is accomplished by sensing the rate of motion, and the time of motion, then compensating for the distance. While this sounds complicated, the effect is that if you have the model dialed in, and point the nose north, with a heading hold gyro on the yaw axis the model will continue to face north until you command it to yaw. See also Heading Lock. This is not recommended for aircraft use while in flight due to the requirement to use YAW (rudder) command to turn the model. Often used for ground use only for perfect take off and landing runs.

•SMM (Silicon Micro Machine) gyro sensor

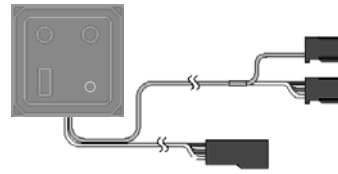
Extremely low drift SMM (Silicon Micro Machine) gyro sensor virtually eliminates rudder trim changes during flight.



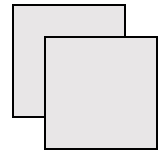
•Integrated, compact, and lightweight

Compact size (21x21x19mm) and light weight (15g) realized by high density mounting technology.

SET CONTENTS



240 GYRO

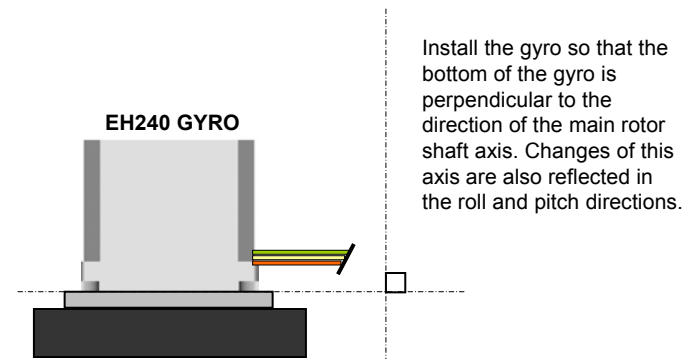


Double
sided tape
(2 sheets)

LED display Gyro operation state

Rapid flash	Displayed while data is being initialized at power ON.
Steady light	Indicates that the gyro is operating in the Heading Hold mode.
Off	Indicates that the power is OFF, or the gyro is operating in the normal gyro mode.
Slow flash	Displayed when there are no rudder operation signal being input from the transmitter. At this time, the rudder servo does not operate. Intermittent flash Alarm display when the power was turned on in the normal gyro mode. For the rudder neutral signal to be read correctly, set the transmitter to the heading hold mode and turn on the gyro power again.
Double flash	Displayed when the rudder signal from the transmitter in the Heading hold mode is different from the neutral signal memorized in the gyro. Also flashes when the rudder stick was operated.
Single flash	Displayed only when the transmitter sensitivity switch is rapidly switched between the normal and Heading Hold positions at least 3 times, then returned to the Heading Hold position and the transmitter rudder stick was rapidly moved to the left and right at least 3 times. After this display goes off, the rudder is in the neutral position.

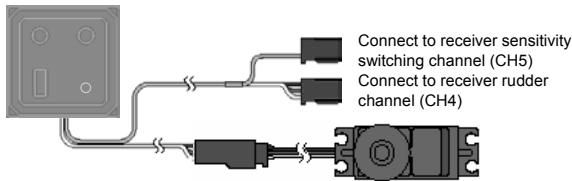
• GYRO installation



Install the gyro so that the bottom of the gyro is perpendicular to the direction of the main rotor shaft axis. Changes of this axis are also reflected in the roll and pitch directions.

Always install the GY401 using the double-sided sponge tape supplied.

• GYRO connection



Connect to receiver sensitivity switching channel (CH5)
Connect to receiver rudder channel (CH4)

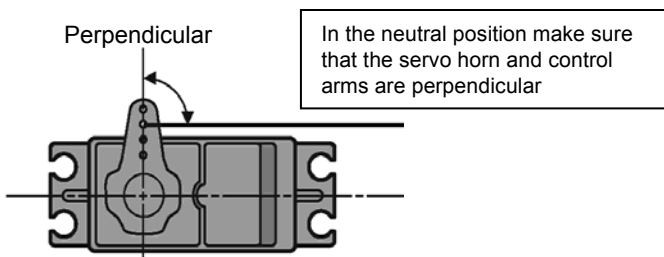
• Rudder servo linkage check

Set the transmitter gyro sensitivity switch to the Heading Hold position and turn on the transmitter power, then turn on the gyro power (shared with receiver). Since the 240 Gyro initializes the data when the power is turned on, set the rudder stick to the neutral position and do not move the helicopter for approximately 3 seconds.

If the monitor LED lights, the gyro is operating in the Heading Hold mode.

When the power is turned on in the normal mode, the monitor LED will display an alarm by flashing intermittently. Set the sensitivity switch to the heading hold position and turn on the gyro power again

Next, switch the transmitter switch to the normal gyro mode position and check the linkage.



In the neutral position make sure that the servo horn and control arms are perpendicular

Move the rudder stick to the left and right, and check the direction of operation of the tail rotor. If the tail rotor rotates in the wrong direction, adjust the direction with the transmitter reverse function.

• Gyro sensitivity setting criteria

The gyro sensitivity differs with the servos used and the fuselage. Generally, the faster the servo operating speed, the higher the gyro sensitivity. Also, when the main rotor speed is raised, the tail sensitivity of the helicopter itself rises and the gyro sensitivity at idle up must be dropped below the sensitivity when hovering. This tendency is greater with larger class helicopters than with electric class helicopters. Start sensitivity adjustment with a gyro sensitivity of 70 ~ 80% when hovering and 60 ~ 70% during flight as the criteria and search for the best sensitivity for the helicopter used.

• Gyro operation direction check

If the rudder servo moves to the left when the nose of the helicopter moves to the right, the gyro direction is correct.

If the rudder servo operates in the reverse direction, switch the switch.

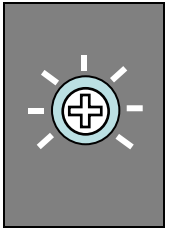
Since the switches are close to each other, switch them carefully.



When the rotor rotates clockwise, if you try to fly while the gyro direction is wrong, the nose will rotate to the left and

• Limit Setting

Move the rudder stick to the left and right and adjust the limit trimmer so that the servo operating angle does not strike the linkage. During flight, the servo will not operate beyond this limit and the linkage will be protected. If the setting is too low, the gyro performance will be affected.



Operation Precautions

Never move the fuselage for about 3 seconds after turning on the gyro power (shared with receiver).

Since the data inside the gyro is automatically initialized as soon as the power is turned on, if the fuselage is moved, the neutral position will change. If this occurs, turn the power off and on again. When turning on the power, set the transmitter switch to the Heading Hold position and turn on the transmitter power switch, then turn on the gyro power.

Do not operate the rudder trimmer while flying in the heading hold mode.

When the power is turned on, the GY401 assumes that the rudder stick is in the neutral position. If the rudder trimmer is moved during flight, the neutral position will change.

Avoid sudden temperature changes.

Sudden temperature changes will cause the neutral position to change. For instance, do not fly the model immediately after removing it from inside a heated vehicle in the winter and an air conditioned vehicle in the summer. Let the model stand for about 10 minutes to allow the temperature inside the gyro to stabilize before turning on the power. Also, consider sudden temperature changes when the gyro is exposed to direct sunlight or is installed near the engine. Take measures so that the gyro is not exposed to direct sunlight.

When using the gyro in the Heading Hold mode, set revolution mixing to 0% or OFF.

In the Heading hold mode, all rudder corrections are made by the GY401. Therefore, if rudder mixing is ON, the model will operate the same as if the neutral position changed.