The G410T should be mounted as close to the center of gravity (normally the main shaft) as possible. 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 up front on the servo tray.

FEATURES
- Compact integrated design for easy installation/connection
- No moving parts for a nearly unlimited service life
- Linear dynamic range up to 720°/second
- Tail Lock™ and Rate modes
- Manual gain control for easy setup
- Patented offset drift canceler
- Silver/chrome finish to isolate RF & dissipate heat
- Compatible with JR and other brand radio systems

INTRODUCTION
JR’s latest Piezo gyro, the G410T, utilizes a new state-of-the-art integrated design for easy installation, while retaining the same performance levels found in the previous JR NEJ-G400. It is important to note that the operational features of the G410T 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 must all be changed from their previous normal settings in order to achieve the correct tail rotor/control surface response and maximum performance that the G410T has to offer.

Gyro Instructions

G410T Gyro

CONNECTIONS
RX Rudd – Connect to the desired control surface as shown.

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

Setup
Step 1: Set the Tail Lock™ switch located on the side of the G410T to the “off” position
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 fricition 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. 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 G410T time to establish and record the center 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 at right). You may find that the splines in the screw output shaft are not exactly 90° to the tail rotor pushrod (see diagram at right). 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.

CONNECTIONS (cont’d)

Radio Type Polarity Connections

<table>
<thead>
<tr>
<th>JR</th>
<th>Futaba/NRC</th>
<th>Airtronics Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>red to red</td>
<td>red to red</td>
<td>red to red</td>
</tr>
<tr>
<td>brown to brown</td>
<td>brown to black</td>
<td>brown to black</td>
</tr>
<tr>
<td>orange to orange</td>
<td>orange to white</td>
<td>orange to white</td>
</tr>
</tbody>
</table>

Please note that if the system is connected incorrectly, the G410T will not function, but no damage will occur to any of the radio components. After successful connection, secure the gyro to the servo connection with a small piece of tape to prevent possible disconnection during use.

Servo Selection

In general, the quicker the transit time and the more accurate the centering tendencies of the servo, the better the gyro will perform. If a servo with a slow transit time is used, the G410T may become too quick for the servo, resulting in a “wag” or “hunt-ing” situation which will require the user to reduce the percentage of gain. This reduction in gain will also reduce the holding power and, therefore, the performance of the G410T.

Installation & Hookup

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

Setup
Step 1: Set the Tail Lock™ switch located on the side of the G410T to the “off” position
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.

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Set up the G410T by following the setup and adjustment procedure that must be followed to achieve the highest level of performance from your system.

SETUP & ADJUSTMENT

The G410T should be mounted as close to the center of gravity (normally the main shaft) as possible. 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 up front on the servo tray.

Installing the G410T

Refer to the following diagram for proper gyro positioning.

Helicopter Installation

Mount the G410T with the label facing upward, as shown in the diagram at right.

SPECIFICATIONS

Operating Voltage: 4.8V-6.0V
Operating Current: 20mA
Dimensions: 24.5H x 30W x 30L
Weight: 19 g
Gyro Gain: Manual adjustable, single rate
Tail Lock/Rate Modes: Manual on/off
Step 6: Move the Tail Lock™ switch back to the “on” position. 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 for the rudder channel.

For best performance, attach the tail control rod ball to the servo arm at a distance of approximately 16–18 mm from the center mounting screw of the servo arm. The performance of the G410T will be greatly reduced if the tail control rod ball is attached at a distance of less than 16mm, as this position will not make full use of the G410T’s sensing abilities.

Initial Transmitter Settings

<table>
<thead>
<tr>
<th>Travel Adjust</th>
<th>Left Rudder</th>
<th>Right Rudder</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>150%</td>
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</table>

<table>
<thead>
<tr>
<th>Dual Rates</th>
<th>Hover Mode/Low Rate</th>
<th>Stunt Mode/High Rate</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>80%</td>
<td>100%</td>
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</table>

<table>
<thead>
<tr>
<th>Exponential Values</th>
<th>Hover Mode/Low Rate</th>
<th>Stunt Mode/High Rate</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>45%</td>
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</table>

<table>
<thead>
<tr>
<th>Gyro Gain Values</th>
<th>Hover Mode</th>
<th>Revolution Mixing (Rate Mode/Heli Only)</th>
<th>Stunt Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>70–80%</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

After some experience and flight time is gained, these values can be adjusted to suit your preference.

G410T Gyro/Servo Direction

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.

2. Give a right rudder command and note the direction the rudder servo moves (clockwise or counter-clockwise). 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 G410T gyro 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.

Gain Value Adjustments

On initial test flights it will be necessary to adjust the mechanical control linkage/tail rotor blade pitch so the helicopter will have no tendency to rotate while in the hover position. Minor “fine tuning” adjustments can be made using sub trim. Once this has been achieved, increase the hover gain until the helicopter starts to oscillate (hunts). Back down the value just before the hunting point. The value should be between 65 and 95%. If so, proceed to the next step. If not, do the following:

- Hunting occurs at less than 65% gain in hover—move the rudder pushrod connection at the servo inward one hole on the servo arm.
- No hunting occurs at more than 65% gain in hover—move the rudder pushrod connection at the servo outward one hole on the servo arm.

Advanced Flights—fly the helicopter in fast forward flight and increase the gyro gain value until oscillation (hunting) occurs. Reduce the value slightly, just below the point of hunting. Try a few high speed passes and see if hunting occurs. Reduce the gain if necessary.

FLIGHT ADJUSTMENT

Gain values will need to be fine-tuned on the initial test flights. Please refer to the flight adjustment section for more information.

TEMPERATURE STABILIZATION

Please note that like all Piezo style gyros, sudden changes in temperature can affect the neutral position of the gyro. Before the first flight of the day, please allow the gyro 10–15 minutes to adjust to the outside flying environment. The gyro should remain in the off position during the period.

Gain values can be adjusted to suit the G410T’s sensing abilities. For best performance, attach the tail control rod ball to the servo arm at a distance of approximately 16–18 mm from the center mounting screw of the servo arm. The performance of the G410T will be greatly reduced if the tail control rod ball is attached at a distance of less than 16mm, as this position will not make full use of the G410T’s sensing abilities.

WARRANTY COVERAGE

This limited warranty gives you specific legal rights; you may also have other rights which may vary from state to state. This warranty is limited to the original purchaser of the unit and is not transferable.

Within your letter, advise us of the payment method you prefer to use. Horizon Service Center accepts VISA or MasterCard. Please include your card number and expiration date. Mail your system to:

Horizon Service Center
4105 Fieldstone Road
Champaign, Illinois 61822
(217) 355-9511
www.horizonhobby.com

Normal Non-Warranty Repairs

Should your repair cost exceed 50% of the retail purchase cost, you will be provided with an estimate advising you of your options.

Repair Service Instructions

To receive warranty service, you must include a legible photocopy of your original dated sales receipt to verify your proof-of-purchase date. Providing that warranty conditions have been met, your equipment will be repaired without charge.

Warranty Repair

To receive warranty service, you must include a legible photocopy of your original dated sales receipt to verify your proof-of-purchase date. Providing that warranty conditions have been met, your equipment will be repaired without charge.