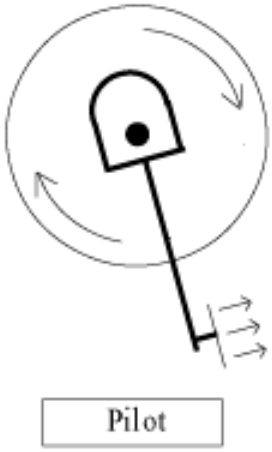
Tail Rotor Setup

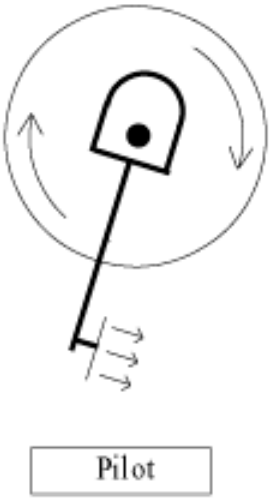
What separates airplane radio equipment from the helicopter version is in the control of the individual curves discussed earlier and in the Revo-mixing*.

Take a moment to consider the helicopter hovering in front of you.



1 Nose rotates left at hover.

Problem: Not enough pitch in tail rotor to match torque setting of engine.
Action: Increase pitch by shortening the rudder pushrod.



2 Nose rotates right at hover.

Problem: Too much pitch in tail rotor to match torque setting of engine.
Action: Decrease pitch by lengthening the rudder pushrod.

Once the tail rudder pushrod is adjusted correctly so the tail does not rotate (don't consider wind now) the revolution mixing can be adjusted.

***Revolution Mixing**

The revolution mixing function allows the helicopter to climb or descend without the tail rotating. These setting are set when using regular piezo rate gyros, if using a Heading Hold gyro remove all tail mixing. There is a high & low setting on the helicopter radio. The values shown will vary depending on engine, blade pitch and fuel but provide a starting point for the beginner.

For each flight mode setting, there will be different Revo-mixing amounts. For forward flight the settings will be lower than hovering due to the aerodynamic forces effecting the helicopter. Here is a starting point for revo values:

High Stick Setting:	40	Normal Flight
Low Stick Setting:	20	Mode

These values correspond to the total travel for the tail rotor pitch. To adjust the high setting, hold the helicopter at hover and increase the throttle so the helicopter climbs steadily. Notice the direction the nose rotates:

	Nose rotates	
High & Low	left	increase revo value to increase tail pitch.
	right	decrease revo value to decrease tail pitch.

To adjust the low setting, start from a high hover and decrease the throttle to descend, notice which direction the helicopter rotates.

Gyro Gain Adjustment

The gyro assists in holding the tail rotor, actually compensating for changes in wind direction or quick movements.

First check that the gyro is installed correctly by watching the rudder servo. While holding the rotor head move the rudder stick to the right and observe the direction the servo arm moves. Now quickly rotate the nose to the left, the servo horn should move in the same direction. If the rudder servo horn moves in the opposite direction reverse the gyro direction.

Generally the starting setting for the gyro gain is 60%, keep increasing the gain setting until the tail starts oscillating back and forth, then reduce the setting slightly.

Problem: Tail rotor makes sudden uncontrolled rotations.
Solution: The gyro direction is possibly set in the wrong direction.