

The Blade 130 X helicopter is a high performance 3d helicopter, designed for intermediate to advanced pilots. It contains all the same control functionality of a much larger 3d helicopter, and as such requires a higher level of attention and maintenance than other models from the Blade line such as the CX, mCX, and mCP X helicopters. Through the feedback of our valued customers we have found the need to provide some information regarding certain aspects of this model in order for every Blade customer to have the best possible hobby experience.

### Roll on take-off

Flybarless systems have trouble coping when the helicopter is light on the skids. As soon as the blades start spinning the pilot needs to start flying it. When taking off with the 130 X, increase the throttle quickly to pop it off the ground. Letting the helicopter spool up slowly can cause vibration which will cause an unwanted roll. It is also recommended to take the helicopter off of a smooth surface such as concrete. The 130 X can get stuck in the grass very easily because it is so lightweight.

### Tail Resonance

Upon spool up, the helicopters will experience a vibration in the tail assembly, but only during spool up. The tail hits a resonant frequency at a certain head speed which does not indicate a problem with the helicopter. The key is to quickly move through this head speed range. To avoid this issue, advance the throttle from low throttle to about 75% throttle immediately. The goal is to pop the helicopter off the ground as quickly as possible without letting it stay at the head speed that causes the resonant vibration. Once it moves past this head speed and is off the ground and in the air, the vibration will disappear.

Tail resonance can also occur when holding the helicopter while spooling it up. Helicopters are not designed to be held static when the rotors are turning. Horizon Hobby does not support or recommend doing this!

### Tail Rotor Gear Stripping

If the tail is not holding (the helicopter is experiencing un-commanded pirouetting) stripped or slipping gears are usually the cause. The torque shaft has a flat side which matches a "D" shaped hole in the C gear, which may strip in the event of a crash. This may not be apparent until, with the helicopter powered off, you hold main rotor head still with one hand and GENTLY rotate the tail rotor with the other hand using light pressure. The tail should not spin freely. If the tail spins easily check the gears and make sure none of them are slipping on the shaft. Again, taking off on concrete or other smooth surface is recommended. Since the helicopter sits low to the ground, grass can grab the tail and potentially strip a gear.

### Motor Temperatures

A high performance motor generates heat. As with ALL electric motors, it is advised to allow the motor to cool between flights. This cool down period is essential to ensuring a long life for the motor in the Blade 130 X, especially on a hot day. After a flight, the motor will be warm but well within an acceptable range for a brushless motor. Generally, we have found that the motor temperature is approximately 160 degrees Fahrenheit depending on ambient temperature.

### Servo Response

You may notice the servo behavior is different when the model's main motor is powered on than when it is powered off. When the motor is off the gyros in the control board are turned off resulting in the servos operating like you are providing raw input to them.

**Example:** When you hold left cyclic the swashplate tilts left. Re-center the stick and the servos return to center position.

When the motor is on the gyros are on. As a result, the servos will act differently than when the motor is off. The same concept applies to the tail rotor.

**Example:** With the motor on and full left rudder command is given, the gyro builds up error until the heli moves into the expected orientation in space. When the stick is re-centered, the gyro thinks there is still error so it continues to apply full left rudder. The error buildup can be "corrected" by providing right rudder input.

The servos will return to neutral after throttle is reduced to 0% for 4 seconds.

### Gear Mesh

The Blade 130 X helicopter uses some very small gears that transmit a substantial amount of torque within the tail rotor drive system. Proper gear mesh is important. As part of a Pre-Flight check, it is recommended to ensure that the boom has not shifted out of the main frame, nor has the tail case backed out from the boom. If either has occurred (generally a fairly hard landing or crash is required for this to happen) it is required that the screws securing the boom are loosened, and the boom is pushed back into the main frame. The tail rotor case should also be fully seated, by pushing it back towards the main body onto the boom.

### Oscillations

The "gain" or sensitivity of the gyros on the Blade 130 X AS3X board come pre-set from the factory at a level that is suitable for most pilots. In certain conditions, the user may wish to adjust those gains. If the model experiences oscillations, it may be that the gain is slightly too high. For the sake of pure 3d performance, we have found that an occasional "wobble" during a hard 3d maneuver was preferred to reducing the gain too low. Adjustment can be made by following these directions:

### 3-Axis Gyro Menu

#### To Enter Programming Mode

1. TX on throttle set to high (100%)
2. Plug the flight battery into the helicopter.
3. The Status LED will go solid blue, then there will be a sequence of Red, Green, and Blue Flashing LED's
4. The RED LED will now be solid and the status LED will be flashing.

#### To change between axis use the Elevator stick.

Red LED = Elevator  
Green LED = Aileron  
Blue LED = Rudder

#### To change the gain value use the Aileron stick

There are ten steps available in either direction, total of 20 gain values for each axis.

The highest and lowest values are not high enough or low enough to cause the helicopter not to be flyable. It adjusts the gain in a window we determined was useful to the consumer.

Right Aileron increases the gain, the LED lights will start flashing faster.

Left Aileron decreases the gain, the LED lights will start flashing slower.

When the Axis LED is solid that is default value (*neutral gain*).

#### To reset the settings to default

Hold right rudder for 5 seconds while in programming mode, there will be a sequence of Red, Green and Blue flashing LED's to signify the default settings have been applied. Rudder value must be at 100% travel for this to occur.

#### To exit the menu.

Simply just unplug the battery. Set the throttle to low throttle or throttle hold and re-plug in the battery.