

# Heli-Max™



**Rotor Span:** 20.75 in [528mm]  
**Height:** 8.125 in [206 mm]  
**Length:** 23 in [584mm]  
**Weight:** 16 oz [454g]  
**Motor:** 380 Brushed Motor  
**Radio:** 5-Channel FM with 3 Micro Servos,  
Receiver, ESC, and Gyro

**INSTRUCTION MANUAL**

## **IMPORTANT PRECAUTIONS**

**WARNING!!** Read the entire instruction sheet included with this battery and charger. Failure to follow all instructions could cause permanent damage to the battery, charger or its surroundings, and cause bodily harm!

- Only use a LiPo approved charger. NEVER use a NiCd/ NiMH peak charger!
- Do not attempt to use this charger with NiCd or NiMH battery packs.
- Never charge in excess of 4.20V per cell.
- Only charge through the “charge” lead. Never charge through the “discharge” lead.
- Use only the supplied AC wall adapter to power the charger.
- If the battery should become damaged, discard the battery. Do not attempt to use a damaged battery.
- Do not leave the charger unattended while charging. Disconnect the battery and remove input power from the charger immediately if either becomes hot! However, It is normal for the charger to get warm.
- Disconnect the battery from the charger and carefully move the battery to a fireproof location if the battery begins to swell or smoke!
- Never charge at currents greater than 1C.
- Always charge in a fireproof location.
- Never trickle charge.
- Never allow the battery temperature to exceed 150° F [65° C].
- Never disassemble or modify pack wiring in any way or puncture cells.
- Never discharge below 2.5V per cell.
- Do not allow water, moisture or foreign objects into the charger.
- Do not block the air intake holes, which could cause the charger to overheat.
- Do not place the charger or any battery on a flammable surface or near a combustible material while in use.
- Do not charge on a carpet, cluttered workbench, paper, plastic, vinyl, leather, wood, and inside an R/C model.
- Never charge inside a full sized vehicle.
- Always disconnect the battery from the charger and the power supply from the charger when not in use.
- Do not attempt to charge a battery if it is swollen or hot.
- ALWAYS KEEP OUT OF REACH OF CHILDREN.

READ THROUGH THIS MANUAL BEFORE STARTING CONSTRUCTION.  
IT CONTAINS IMPORTANT INSTRUCTIONS AND WARNINGS  
CONCERNING THE ASSEMBLY AND USE OF THIS MODEL.

# Heli-Max™

Champaign, Illinois  
(217) 398-8970  
helihotline@hobbico.com

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## INTRODUCTION

Thank you for purchasing the Heli-Max AXE™ CP V3 RTF Helicopter. We are certain you will get many hours of enjoyment out of this model. If you should have any questions or concerns please feel free to contact us at:

**helihotline@hobbico.com.**

For the latest technical updates or manual corrections to the AXE CP V3 RTF visit the Heli-Max web site at **www.helimax-rc.com**. Open the "Helicopters" link, and then select the AXE CP V3 RTF. If there is new technical information or changes to this model a "tech notice" box will appear in the upper left corner of the page.

**CAUTION:** Be aware that the AXE CP V3 RTF operates on the same frequency band as larger R/C models. If flying your AXE CP V3 RTF within five miles of an R/C site, there is a real possibility that you could be operating your model on the same frequency (channel) as another R/C pilot. If this happens, a crash will result—with the person flying the more expensive model suffering the greater loss (and having greater potential for property damage or injury). The best thing to do is to join an R/C club and fly at the site where frequency control measures will be in effect. If you insist on flying elsewhere, **always be aware of your proximity to R/C flying sites.**

## AMA

We urge you to join the AMA (Academy of Model Aeronautics) and a local R/C club. The AMA is the governing body of model aviation and membership is required to fly at AMA clubs. Though joining the AMA provides many benefits, one of the primary reasons to join is liability protection. Coverage is not limited to flying at contests or on the club field. It even applies to flying at public demonstrations and air shows. Failure to comply with the Safety Code (excerpts printed in the back of the manual) may endanger insurance coverage. Additionally, training programs and instructors are available at AMA club sites to help you get started the right way. There are over 2,500 AMA chartered clubs across the country. Contact the AMA at the address or toll-free phone number below.



### Academy of Model Aeronautics

5151 East Memorial Drive

Muncie, IN 47302

Tele: (800) 435-9262

Fax (765) 741-0057

Or via the Internet at:

**www.modelaircraft.org**

**IMPORTANT!!!** Two of the most important things you can do to preserve the radio controlled aircraft hobby are to avoid flying near full-scale aircraft and avoid flying near or over groups of people.

## SAFETY PRECAUTIONS

***Failure to follow these safety precautions may result in severe injury to yourself and others.***

- Keep your face and body as well as all spectators away from the plane of rotation of the rotors whenever the battery is connected.
  - Keep these items away from the rotors: loose clothing, shirt sleeves, ties, scarfs, long hair or loose objects such as pencils or screwdrivers that may fall out of shirt or jacket pockets into the rotors.
  - The spinning blades of a model helicopter can cause serious injury. When choosing a flying site for your AXE CP V3 RTF, stay clear of buildings, trees and power lines. AVOID flying in or near crowded areas. DO NOT fly close to people, children or pets. Maintain a safe pilot-to-helicopter distance while flying.
1. Your AXE CP V3 RTF should not be considered a toy, but rather a sophisticated, working model that functions very much like a full-size helicopter. Because of its performance capabilities, the AXE CP V3 RTF, if not assembled and operated correctly, could possibly cause injury to yourself or spectators and damage to property.

**WARRANTY**

2. You must assemble the model according to the instructions. Do not alter or modify the model, as doing so may result in an unsafe or unflyable model. In a few cases the instructions may differ slightly from the photos. In those instances the written instructions should be considered as correct.

3. You must correctly install all R/C and other components so that the model operates correctly on the ground and in the air.

4. You must check the operation of the model before every flight to insure that all equipment is operating and that the model has remained structurally sound. Be sure to check linkages or other connectors often and replace them if they show any signs of wear or fatigue.

5. If you are not an experienced pilot or have not flown this type of model before, we recommend that you get the assistance of an experienced pilot in your R/C club for your first flights. If you're not a member of a club, your local hobby shop has information about clubs in your area whose membership includes experienced pilots.

We, as the manufacturer, provide you with a top quality, thoroughly tested helicopter and instructions, but ultimately the quality and flyability of your finished model depends on how you build it; therefore, we cannot in any way guarantee the performance of your completed model, and no representations are expressed or implied as to the performance or safety of your completed model.

**Remember: Take your time and follow the instructions to build a safe and enjoyable model.**

**ITEMS REQUIRED**

- Eight "AA" Alkaline Batteries for the Transmitter

**KIT INSPECTION**

Before starting assembly, take an inventory of the AXE CP V3 RTF to make sure it is complete, and inspect the parts to make sure they are of acceptable quality. If any parts are missing or are not of acceptable quality, or if you need assistance with assembly, contact Product Support. When reporting defective or missing parts, use the part names exactly as they are written in the Kit Contents list.

Heli-Max Product Support:  
3002 N. Apollo Drive, Suite 1  
Champaign, IL 61822  
Telephone: (217) 398-8970, ext. 5  
Fax: (217) 398-7721  
E-mail: [helihotline@hobbico.com](mailto:helihotline@hobbico.com)

**Heli-Max™** guarantees this kit to be free from defects in both material and workmanship at the date of purchase. This warranty does not cover any component parts damaged by use or modification. **In no case shall Heli-Max's liability exceed the original cost of the purchased kit.** Further, Heli-Max reserves the right to change or modify this warranty without notice.

In that Heli-Max has no control over the final assembly or material used for final assembly, no liability shall be assumed nor accepted for any damage resulting from the use by the user of the final user-assembled product. By the act of using the user-assembled product, the user accepts all resulting liability.

**If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to return this kit immediately in new and unused condition to the place of purchase.**

To make a warranty claim, send the defective part or item to Hobby Services at this address.

**Hobby Services  
3002 N. Apollo Dr., Suite 1  
Champaign, IL 61822  
USA**

Include a letter stating your name, return shipping address, as much contact information as possible (daytime telephone number, fax number, e-mail address), a detailed description of the problem and a photocopy of the purchase receipt. Upon receipt of the package the problem will be evaluated as quickly as possible.

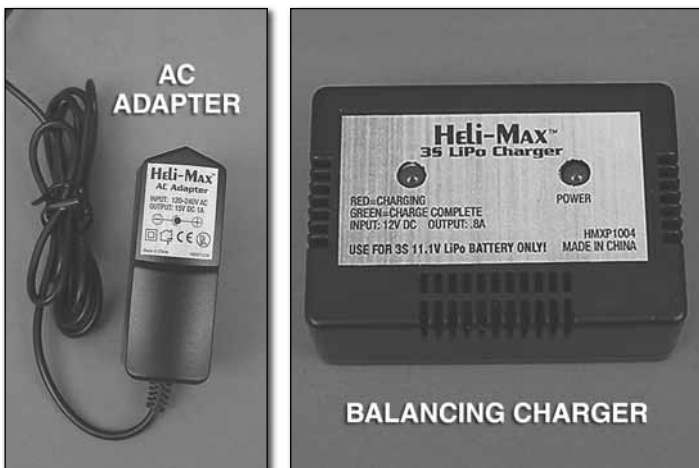
## KIT CONTENTS



- |                      |                 |  |
|----------------------|-----------------|--|
| 1. Transmitter       | 4. Helicopter   | 7. Training Gear (Carbon Rods, Fittings, Foam Balls) |
| 2. Main Rotor Blades | 5. Charger      | 8. DVD   |
| 3. Body              | 6. LiPo Battery |  |

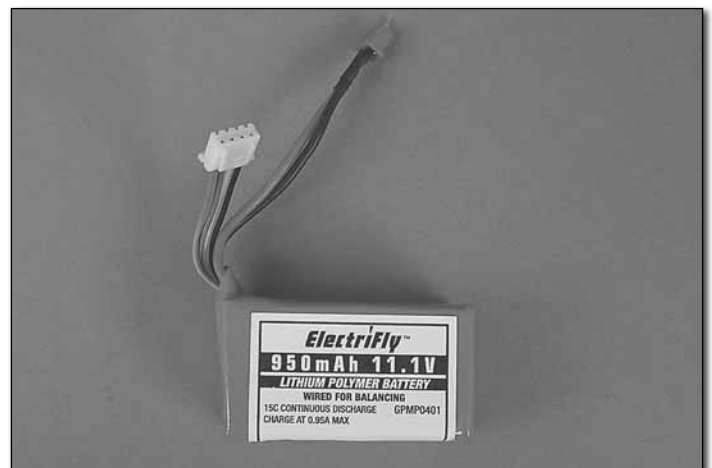
## BATTERY & CHARGER

### HMXP1004 3S LiPo CHARGER SPECIFICATIONS



<b>Input voltage:</b>	12V DC
<b>Battery types, # cells:</b>	3 lithium-polymer cells connected in Series (11.1V LiPo)
<b>Charge current:</b>	500mAh maximum
<b>Charge termination:</b>	Voltage detection
<b>Minimum battery capacity:</b>	500mAh
<b>Status indicator:</b>	two LEDs
<b>Input connectors:</b>	polarized DC power jack for DC input
<b>Output connectors:</b>	one balance plug
<b>Case size:</b>	1.8 x 1 x 2.6 in [45 x 25 x 66mm]
<b>Weight:</b>	1.3 oz [41g]

### GPMP0401 BATTERY SPECIFICATIONS



<b>Capacity:</b>	950mAh
<b>Number of Cells in Series:</b>	3
<b>Rated Voltage:</b>	11.1V
<b>Max. Charge Voltage:</b>	12.6V
<b>Min. Discharge Voltage:</b>	7.5V
<b>Maximum Recommended Charge Current:</b>	950mA
<b>Continuous Discharge Current:</b>	14.25A (15C)
<b>Pack Dimensions:</b>	2.6 x 1.5 x 0.9 in [66 x 37 x 22mm]
<b>Weight:</b>	2.9 oz [83g]



## ASSEMBLY INSTRUCTIONS

### INSTALL BATTERIES IN THE TRANSMITTER



1. Remove the battery cover from the back of the transmitter. Remove the battery box and install eight "AA" batteries in the transmitter. Check the polarity of each battery before replacing the battery cover.



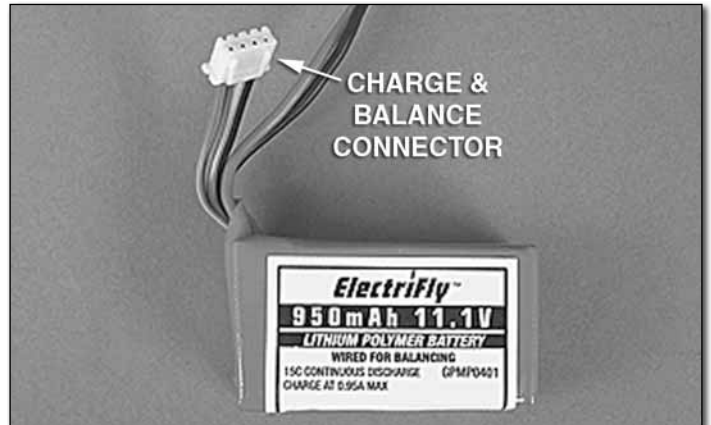
2. Turn on the transmitter using the power switch as shown above. Check the LEDs on the front of the transmitter. Only the Green LED should be on. If the Red LED is on or flashing, then the batteries need replacing.

### CHARGING THE FLIGHT BATTERY

**IMPORTANT!!** Always remove the LiPo battery pack from the helicopter and charge the battery in a location that is fireproof. Never leave the battery unattended while being charged! If the battery becomes hot, starts to smoke or begins to swell immediately disconnect the battery from the charger and carefully move the battery to a fireproof location!



1. Connect the input power plug from the AC Wall adapter to the charger. The power light should now be bright red and the charger indicator light should be off.



2. Always use the charge and balance connector on the battery when charging. **Do not use the discharge connector to charge the battery!**



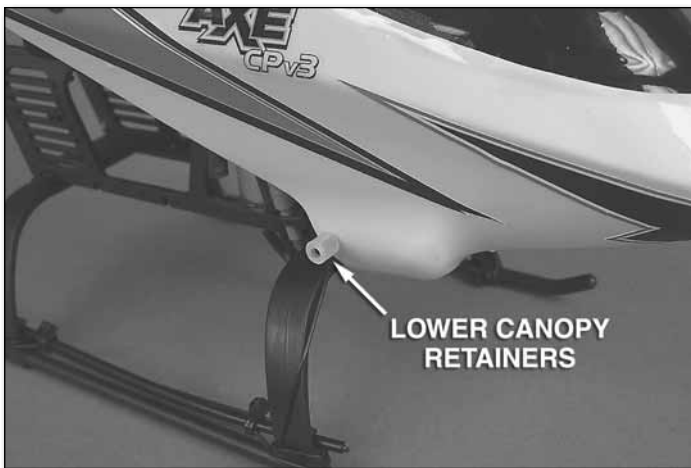
3. Connect the battery to the balance connector on the charger. The charge indicator light will turn to red, indicating

that the battery is being charged. If the charger indicator light turns to green immediately, then the battery is already fully charged.

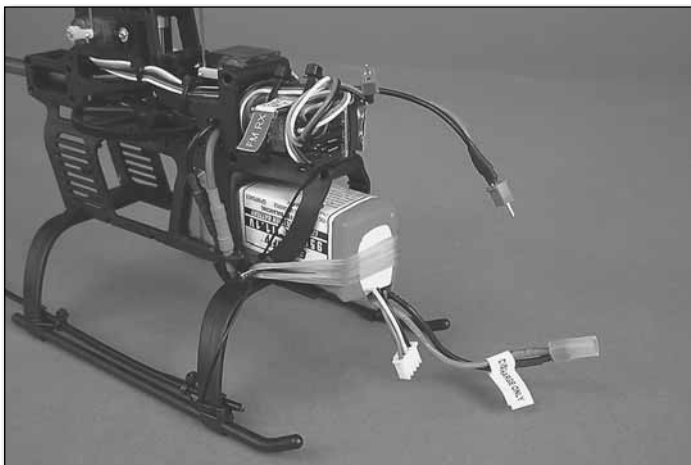
❑ 4. When the battery is fully charged, the charge indicator light will turn GREEN. Remove the battery from the charger at this time and disconnect the charger from its power source.

❑ 5. Charging time depends on the amount of charge remaining in the battery. The charge process may take as long as 2 hours and 30 minutes with a fully discharged battery.

### INSTALL THE BATTERY

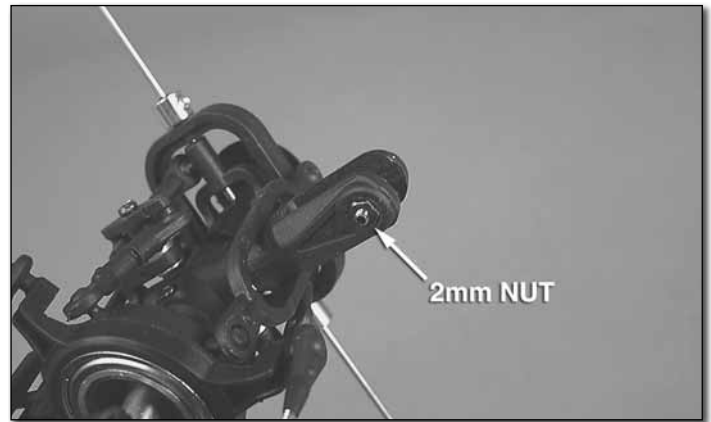


❑ 1. Remove the lower canopy retainers from the lower canopy mount.



❑ 2. Remove the canopy by sliding the canopy grommets off of the carbon rods. Slide the battery into the front of the battery tray as shown above. Use three rubber bands to hold the battery into the tray.

### INSTALL MAIN ROTOR BLADES



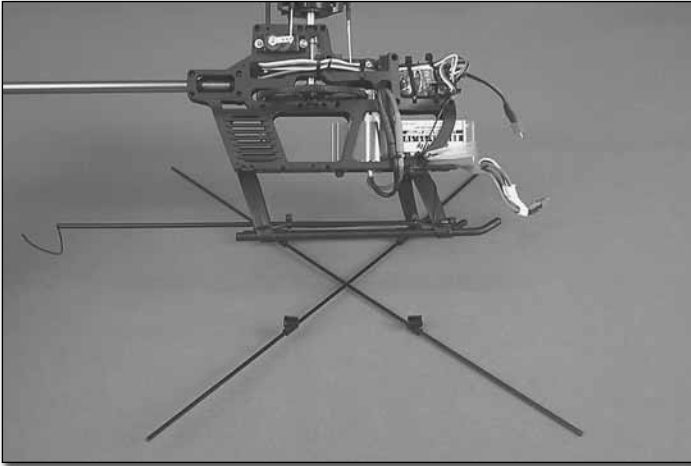
❑ Please make note of the 2mm nut used on the bottom of each blade grip. When removing the blade bolt, press upward on the nut to ensure it remains in the grip. Remove the blade grip bolts using the 1.5mm hex wrench. Slide a blade into the blade grip and re-install the 2 x 12mm socket head cap screw. Repeat for the other blade.

### BLADE TENSION TEST

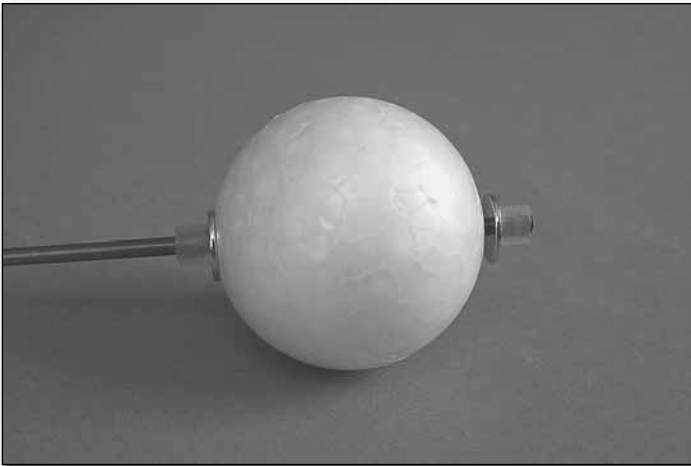
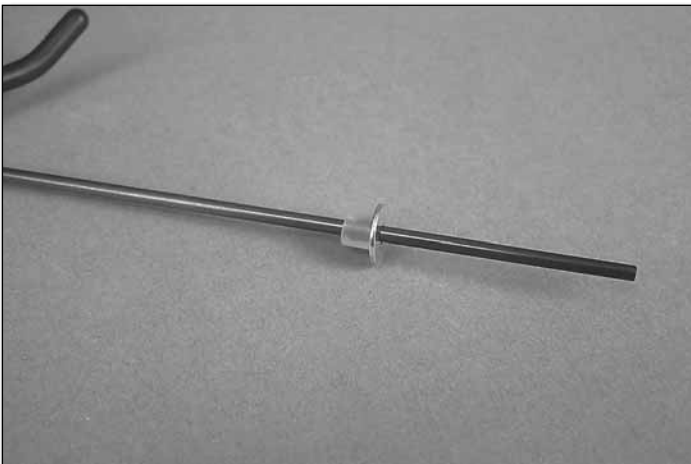


❑ To test the blade tension, hold the helicopter up sideways. The blades should support themselves until the helicopter is shaken slightly; then they will fall as shown in the picture above. The blades should be fairly loose but it is critical that both blades are the same tension.

## ASSEMBLE TRAINING GEAR



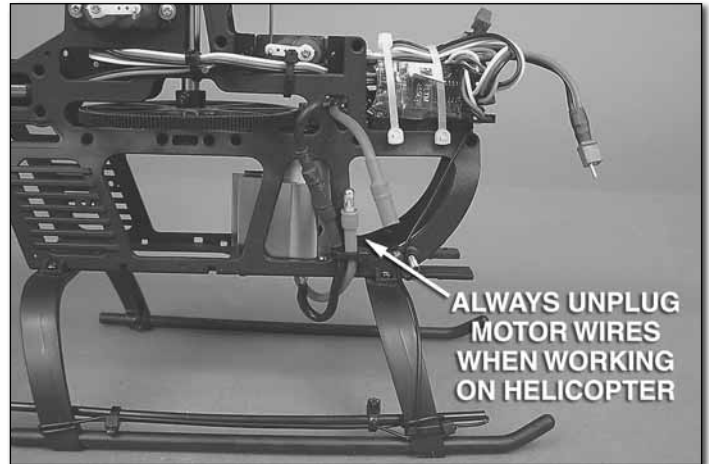
- ❑ 1. Snap the four plastic fittings onto the landing gear as shown. Slide the carbon rods through the underside of the fittings.



- ❑ 2. Cut the supplied silicone tubing into eight 1/8" [3mm] pieces. Please keep in mind that carbon rods are dangerous to handle and splinter easily. Using pliers, carefully slide the silicone tubing onto the carbon rod approximately 4" [102mm]. Now install a foam ball followed by a washer. Using pliers, install the last piece of fuel tubing. Repeat this step for the other three balls.

## GET THE MODEL READY TO FLY

### ELECTRIC MOTOR WARNING



Electric-powered models are very dangerous. Please remove the pinion gear or unplug the motor while working on the model. If your helicopter uses an electric tail motor, make sure it is unplugged as well.

### TURNING THE MODEL ON



Always turn the Transmitter on first and ensure the idle up switch is off. With the AXE CP V3 RTF sitting still, plug the battery into the ESC. The AXE CP V3 RTF must sit still for 10 seconds so the gyro can initialize and determine center. If the AXE CP V3 RTF is moved during this initialization, then the gyro will not operate properly.

Always step 15 feet away from the AXE CP V3 RTF before flipping any switches or operating the throttle. Do not hold onto the model and run it up. Safety first.

### RANGE CHECK

Ground check the operational range of your radio before the first flight of the day. For safety reasons, unplug the main motor so power cannot be applied to the main rotor blades. With the transmitter antenna collapsed and the receiver and

transmitter on, you should be able to walk at least 50 feet away from the model and still have control. Have an assistant stand by your model and while you work the controls, tell you what the servos are doing. If the controls do not respond correctly, do not fly! Find and correct the problem first. Look for loose servo connections or broken wires, corroded wires on old servo connectors, poor solder joints in your battery pack or a defective cell or a damaged receiver crystal from a previous crash.

### **BALANCE THE MAIN BLADES**

The AXE CP V3 RTF main rotor blades are already balanced and ready to fly.

## **PREFLIGHT**

### **IDENTIFY YOUR MODEL**

No matter if you fly at an AMA sanctioned R/C club site or if you fly somewhere on your own, you should always have your name, address, telephone number and AMA number on or inside your model. It is required at all AMA R/C club flying sites and AMA sanctioned flying events. Fill out the identification tag on the back cover and place it on or inside your model.

## **AMA SAFETY CODE (EXCERPTS)**

Read and abide by the following excerpts from the Academy of Model Aeronautics Safety Code. For the complete Safety Code refer to Model Aviation magazine, the AMA web site or the Code that came with your AMA license.

### **GENERAL**

- 1) I will not fly my model aircraft in sanctioned events, air shows, or model flying demonstrations until it has been proven to be airworthy by having been previously, successfully flight tested.
- 2) I will not fly my model aircraft higher than approximately 400 feet within 3 miles of an airport without notifying the airport operator. I will give right-of-way and avoid flying in the proximity of full-scale aircraft. Where necessary, an observer shall be utilized to supervise flying to avoid having models fly in the proximity of full-scale aircraft.
- 3) Where established, I will abide by the safety rules for the flying site I use, and I will not willfully and deliberately fly my models in a careless, reckless and/or dangerous manner.

- 5) I will not fly my model unless it is identified with my name and address or AMA number, on or in the model. **Note:** This does not apply to models while being flown indoors.
- 7) I will not operate models with pyrotechnics (any device that explodes, burns, or propels a projectile of any kind).

### **RADIO CONTROL**

- 1) I will have completed a successful radio equipment ground check before the first flight of a new or repaired model.
- 2) I will not fly my model aircraft in the presence of spectators until I become a qualified flier, unless assisted by an experienced helper.
- 3) At all flying sites a straight or curved line(s) must be established in front of which all flying takes place with the other side for spectators. Only personnel involved with flying the aircraft are allowed at or in the front of the flight line. Intentional flying behind the flight line is prohibited.
- 4) I will operate my model using only radio control frequencies currently allowed by the Federal Communications Commission.
- 5) **I will not knowingly operate my model within three miles of any pre-existing flying site except in accordance with the frequency sharing agreement listed** (in the complete AMA Safety Code).
- 9) Under no circumstances may a pilot or other person touch a powered model in flight; **nor should any part of the model other than the landing gear, intentionally touch the ground, except while landing.**

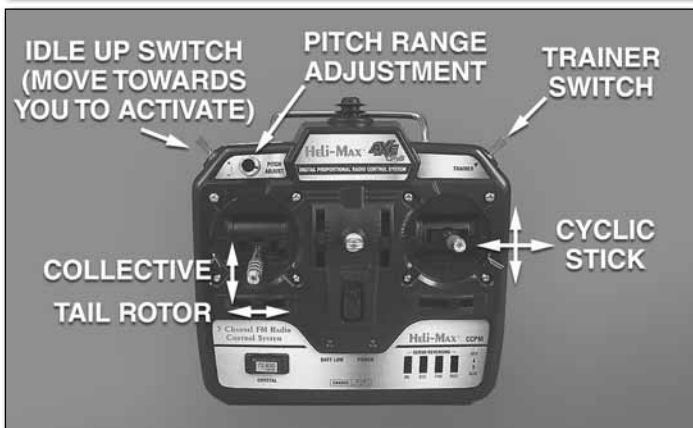


## CONTROLS

Always turn the transmitter on first and verify the idle up switch is set to normal. With the AXE CP V3 sitting still, plug the battery into the ESC. The AXE CP V3 will need to sit still for 10 seconds so the gyro can initialize and can determine center. If the AXE CP V3 is moved during this initialization, then the gyro will not operate properly. Re-install the body and your AXE CP V3 is ready for flying.

There is a safety built into the AXE CP V3 RTF that prevents the motor from activating unless the collective stick has been lowered to its lowest position. If the motor won't run and turn the main blades, please make sure the collective stick is all the way down and leave it there for two seconds.

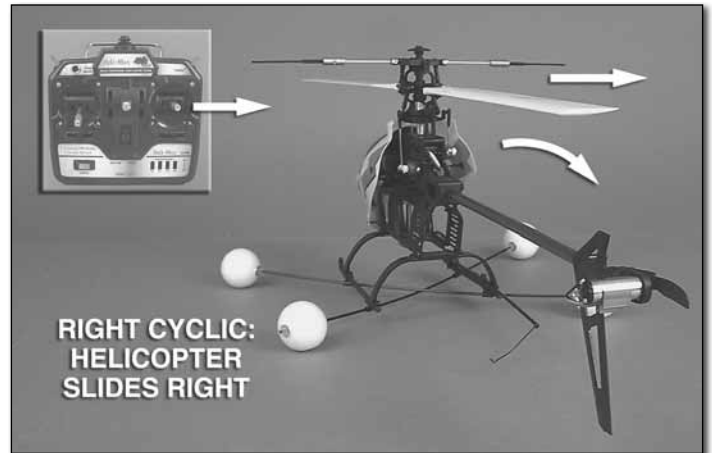
### TRANSMITTER CONTROLS



All controls are described with the tail pointing directly toward you. This is the best way to start out since it keeps the control inputs oriented in the same direction. Once you become comfortable you can work on side-in and nose-in hovering.

**Trainer System:** You can use a cable to connect two transmitters together and an instructor can take and give control back with the release of a switch. Be careful not to hit this switch while in flight as this would disable the transmitter output.

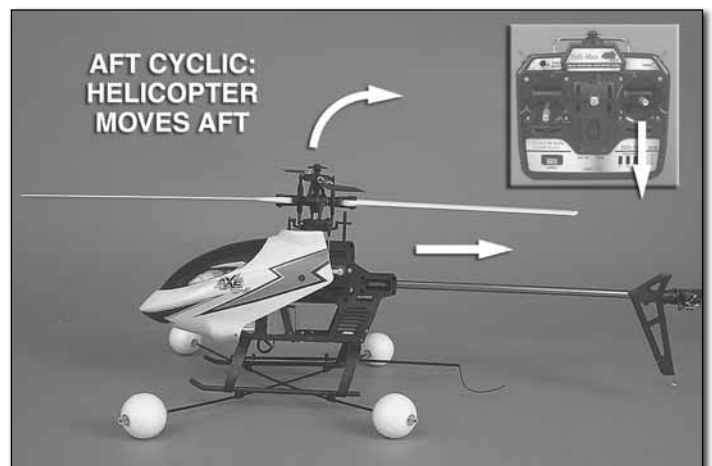
**Idle Up Switch:** Used for forward flight and aerobatics. This switch raises the main rotor RPM and also changes the lowest position on the throttle stick to around 40% throttle. This allows the AXE CP V3 RTF to perform aerobatics and inverted flight. This can be a dangerous switch since it raises the throttle. **Be extremely careful not to hit this switch accidentally or the motor will instantly come on to at least 40% power.**



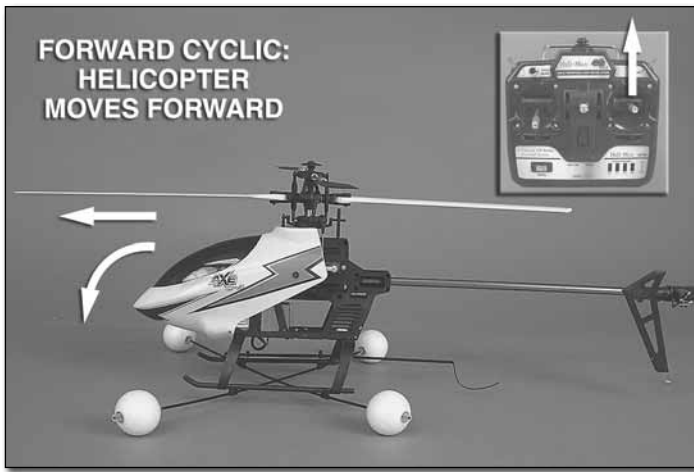
Moving the cyclic stick right will cause the helicopter to tilt right and start moving that direction.



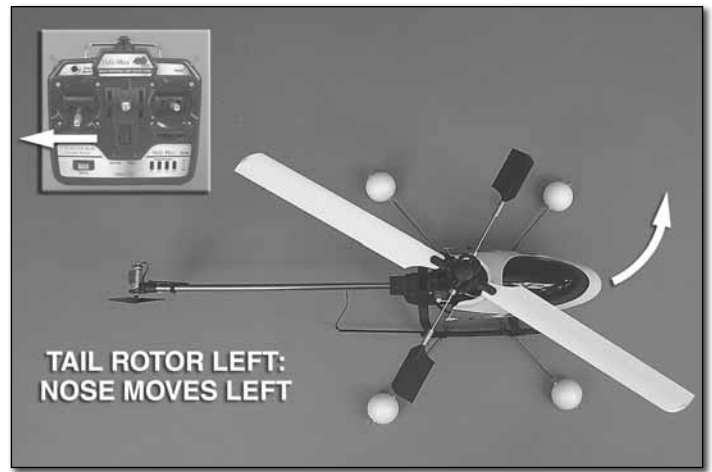
Moving the cyclic stick left will cause the helicopter to tilt left and start moving in that direction.



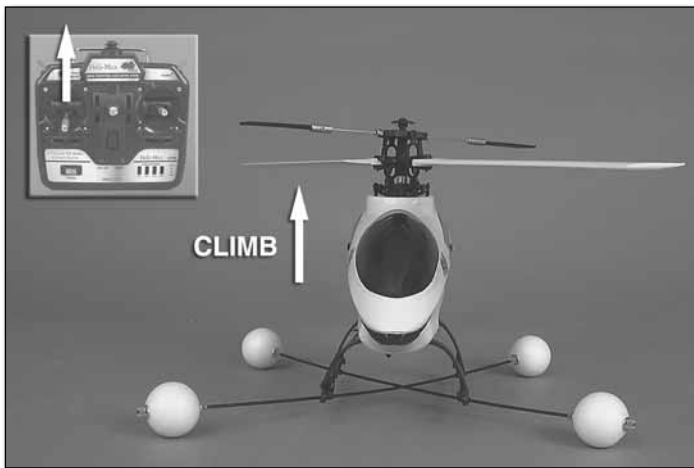
Moving the cyclic stick backwards (towards you) will cause the helicopter to tilt backwards and start moving that direction.



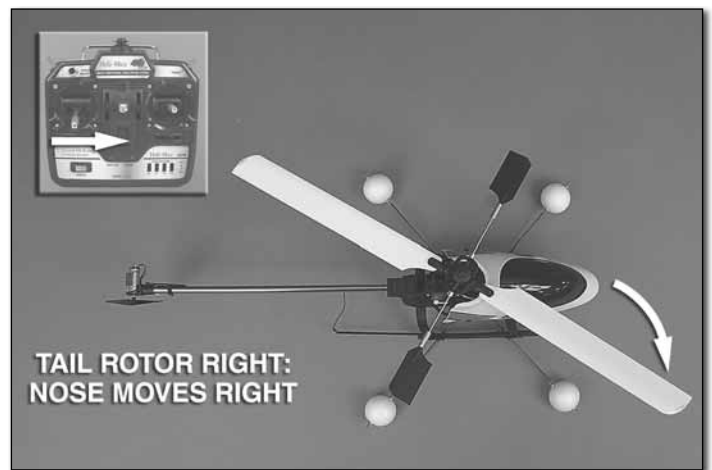
Moving the cyclic stick forward (away from you) will cause the helicopter to tilt forward and start moving that direction.



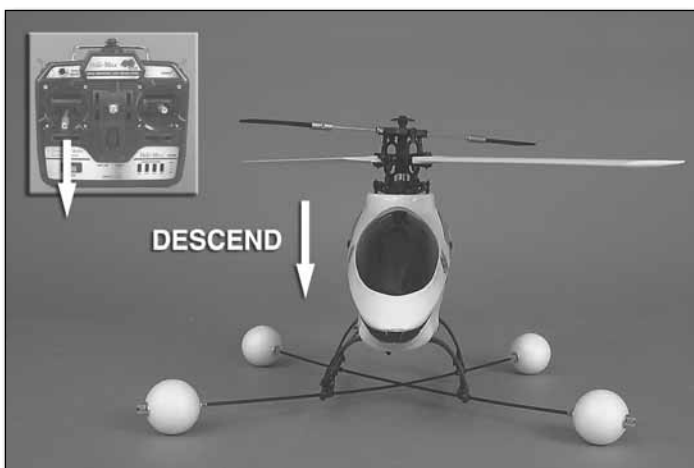
Moving the tail rotor stick left will cause the helicopter nose to move left (counterclockwise).



Moving the collective stick forward (away from you) will cause the helicopter to climb higher.

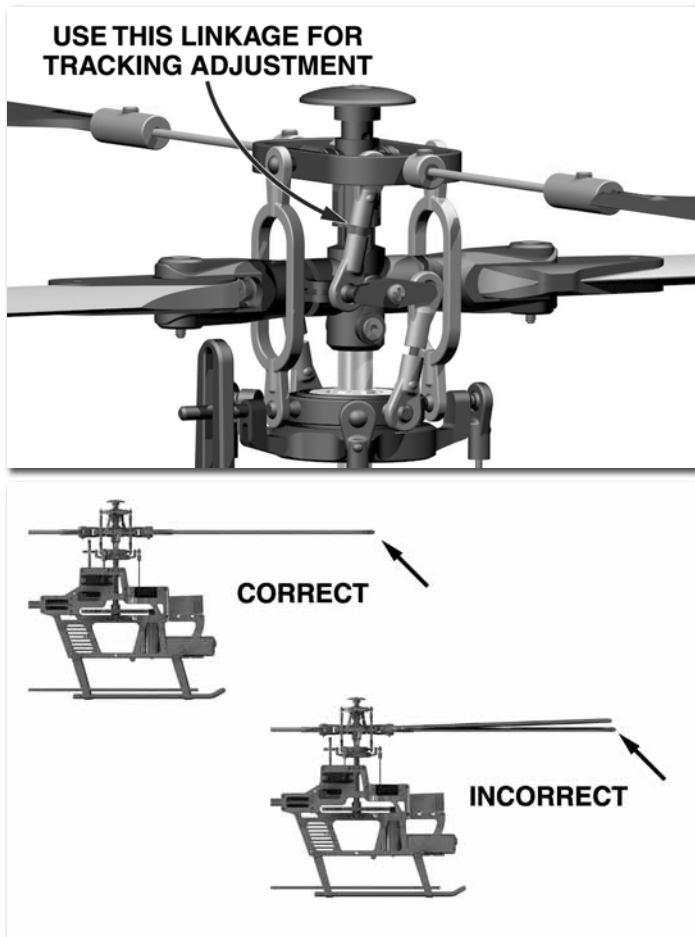


Moving the tail rotor stick right will cause the helicopter nose to move right (clockwise).



Moving the collective stick backwards (towards you) will cause the helicopter to descend.

## TRACKING THE MAIN BLADES



At zero pitch, bring the main rotor up to speed and observe whether the rotational planes of the blades are the same. If they are not, adjust one of the linkages to bring the blades into the same plane.

Apply the two different colored stripe decals to the tips of your main rotor blades. These decals help identify which blade is out of track.



The training gear is a big help to beginners. They soften not so perfect landings and help to prevent the helicopter from tipping over. Even if you have experience flying a helicopter, please consider using the supplied training gear for the first few flights.

## FLYING

### TAKEOFF

During your first flights it is important to have light winds and a helper to keep an eye on things around you. Also, if you are flying from grass, make sure it's cut low as this will allow the helicopter to slide around without catching. Also make sure there are no obstacles in your flying area to distract you.

Slowly add power and observe the model. If you feel it needs trimming, do so before lift off. You will find that model helicopters never allow you to return the sticks to center. Simply hold the sticks as needed to keep a steady hover. Please don't fight the trim too much as it is a normal thing to experience, Winds have a large effect on model helicopters. Please wait for calmer days and slowly work into windy days.

You will notice the cyclic controls lag slightly behind your inputs. This is perfectly normal and something you become accustomed to. It is normal to drift around some in a hover, until you get used to flying the model. The cyclic controls on the AXE CP V3 RTF are fairly sensitive so only small movements are necessary.

### HOVERING

Once the helicopter is in the air simply try to keep the helicopter in one spot. This will take some practice and wind has a big effect on the stability of the helicopter. Be patient and slowly progress. Trying to rush the learning process can be costly.

### LANDING

Level the helicopter into a steady hover and slowly decrease power until the helicopter settles onto the ground.

### BASIC MANEUVERS

Once you are comfortable with hovering at different orientations and landing, it's time to move on to more advanced maneuvers.

**Slow Pirouettes:** Add a small amount of tail rotor (left or right) and try rotating the helicopter slightly sideways and see if you can hold it there. If you become uncomfortable bring the tail back towards you. Once you are comfortable, try moving the helicopter to the side and turning back. Then fly back to the other side in straight lines.

You can try rotating the helicopter around 360°, which is called a pirouette. The helicopter can drift during this maneuver so make certain you have plenty of room when you first start practicing.

**Nose-In Hovering:** After pirouettes it's time to move onto nose-in hovering. The best bet is to wait for a calm day. Take off and climb to 15 feet, practice half pirouettes from tail-in to nose-in hovering, and try to lengthen the delay between

transitions. This will allow you to practice nose-in and still give you a chance to get out of trouble. As you improve you'll remain nose-in for longer periods of time.

**Forward Flight:** Now it's time to work into basic forward flight. Just take the basic hovering maneuvers listed above and slowly fly out farther and faster and always bring the helicopter back after one pass. Practice controlled slow flight in close as well. The more time you spend practicing here the easier things will be later on.

### AEROBATICS

So you are getting comfortable in fast forward flight? Well, now it's time to slowly progress into aerobatics. Once you are in forward flight start using the idle up switch which raises the rotor RPM for aerobatics and allows the AXE CP V3 RTF to fly inverted. Also, in wind it may be difficult to descend to land without the idle up on.

**Chandelles:** Your first step is chandelles. Fly straight across in front of you and pull up to a 45° angle. Now at the top, when the helicopter slows down to a stop, apply left or right tail rotor to bring the nose around 180° and continue back down the 45° angle. As you progress with the maneuver you can pull a greater angle than 45°, but 90° would be considered a stall turn.

**Loops:** Once you become comfortable with the chandelles and stall turns it's time to move onto the loop. The key to the loop is to enter with plenty of speed. Start pulling aft cyclic to enter the loop and as the model transitions to inverted at the top of the loop pull back on the throttle (towards negative (-) collective) this will help maintain altitude. As the model returns back to vertical add some positive (+) collective to maintain the speed. One of the most common mistakes made on loops is using too much negative (-) collective at the top.

**Flips:** Be certain to start with plenty of altitude. From an upright hover slowly add in full forward cyclic and as the model approaches vertical bring the collective stick back to center. Now as the model continues to inverted you will need to start adding in negative (-) collective (or pull the collective stick back towards yourself). As the model transitions back to vertical again bring the collective stick back to the middle and start adding in positive (+) collective as the model returns back to upright. It's simply a matter of timing. The most important thing is, do not throw the sticks around as this can cause the head speed to drop and may cause the tail to drift.

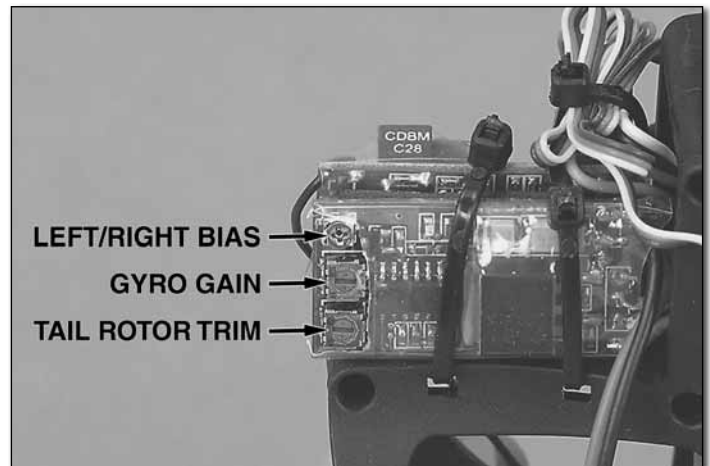
**Inverted Hovering:** Keep in mind flying a helicopter inverted is very difficult but can be learned. One of the main problems is 3 out of 4 of the controls are reversed (forward/aft cyclic, collective and tail rotor). You have to mentally reverse these while flying. It will take some practice.

Take the loop you learned above and just hold the inverted portion for short periods of time. As you become accustomed to the reversed controls, you will extend the time inverted. It is very difficult and will take some practice. Also, make sure you have plenty of altitude for recovery if needed.

### E-BOARD ADJUSTMENTS

**Note:** All of the e-board adjustments are pre-set and test flown at the factory. If you replace the e-board with a new one or need to re-adjust it for any reason, please follow the guidelines below. Never turn these adjustments more than 180° and only use a plastic non-conductive screwdriver to make the adjustment.

**Tip:** If you need to make adjustments consider using a felt-tip marker and place a mark on the adjusters so you can always return them back to the factory defaults.



**Left/Right Bias:** Is used to obtain a balanced feel between left and right tail rotor inputs. The adjustment is very sensitive so only make small changes. Turn clockwise to increase the left tail rotor bias.

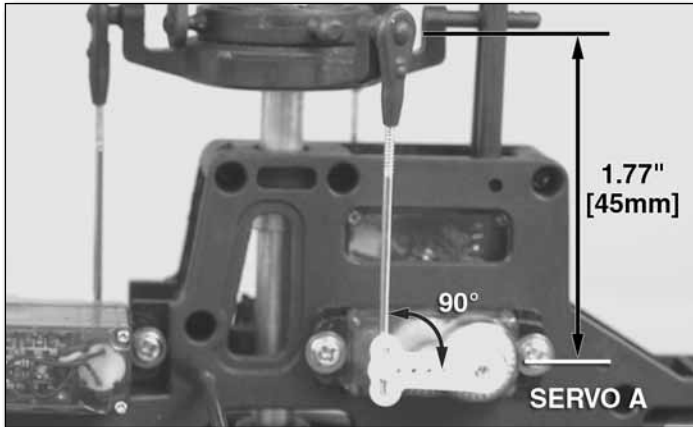
**Gyro Gain:** Turn clockwise to increase gain. Typically too little gyro gain causes the tail to slowly move around and drift. With the gyro gain too high, you will notice a very fast oscillation in the tail known as "wag." This adjustment is not very critical so please don't spend a lot of time trying to get "the best" setting possible.

**Tail Rotor Trim:** If the helicopter wants to drift one direction in a stable hover then try using this adjustment. The adjustment is very sensitive so only make small changes. Turn clockwise to add right tail rotor trim.

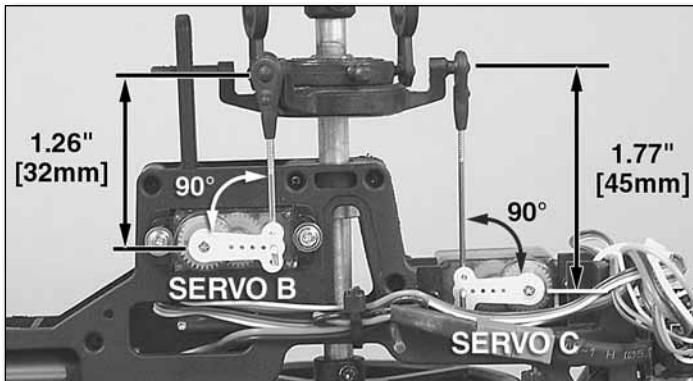


## SERVO SETUP

**Note:** The AXE CP V3 RTF is factory set-up and test flown so there is no need to make these adjustments unless you have damaged or changed a servo.



Servo arms are perfectly level when the throttle stick is all the way down in normal mode (Idle Up Off). Helicopter left side Servo A pushrod length should be 1.77" [45mm].



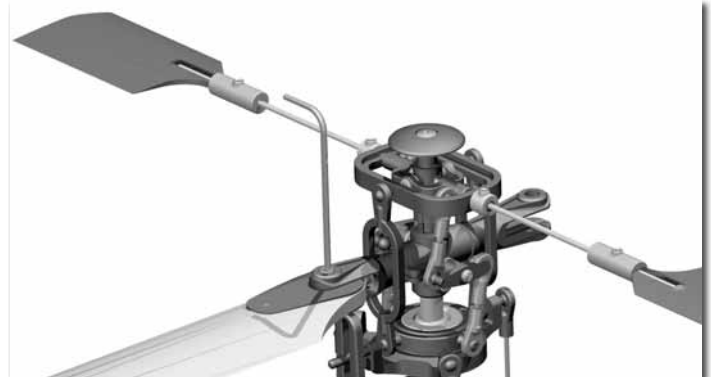
Servo arms are perfectly level when the throttle stick is all the way down in normal mode (Idle Up OFF). Helicopter right side Servo B pushrod length should be 1.26" [32mm] and Servo C pushrod length should be 1.77" [45mm].

## TAIL ROTOR REPLACEMENT

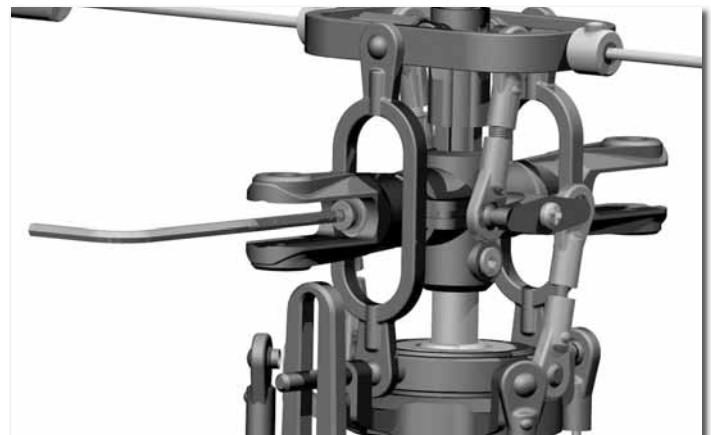


Use two small flat bladed screwdrivers to pry the old tail rotor from the motor. Try to apply even pressure to both sides of the tail rotor. When installing the new tail rotor please note that the beveled portion of the hub goes in towards the motor. Simply press the new propeller onto the tail motor.

## SPINDLE REPLACEMENT



Before starting, make note of the 2mm nut used on the bottom of each blade grip. When removing the blade bolt, press upward on the nut to ensure it remains in the grip. Remove the blade grip bolts using the 1.5mm hex wrench. Then, remove the blades from the helicopter

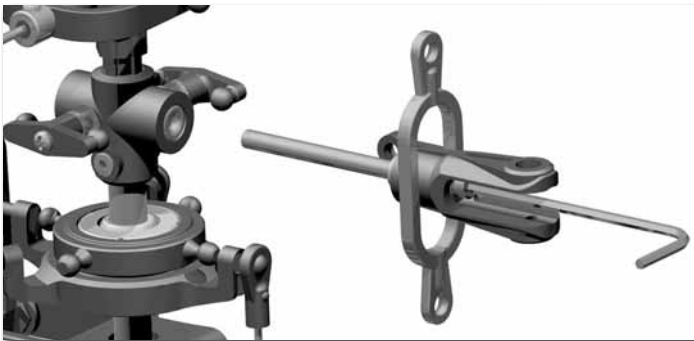


Use a 1.5mm hex wrench to remove a spindle screw. Remove the linkages from the blade grips. On the side where you removed the spindle screw, carefully remove the blade grip

by pulling outward. Remove the dampening spacer. Pull on the other blade grip and remove the spindle and blade grip. If the O-rings come loose, simply press them back into the head block.



New spindle installation. Apply threadlocking compound to one of 2mm screws. Slide the 2mm washer onto the screw and thread it into the new spindle. Slide one of the blade grips onto the spindle followed by one of the dampening spacers.



Using a 1.5mm hex wrench, slide the blade grip and spindle assembly through the head block. Make certain the O-rings are properly seated and do not slide out the other side.

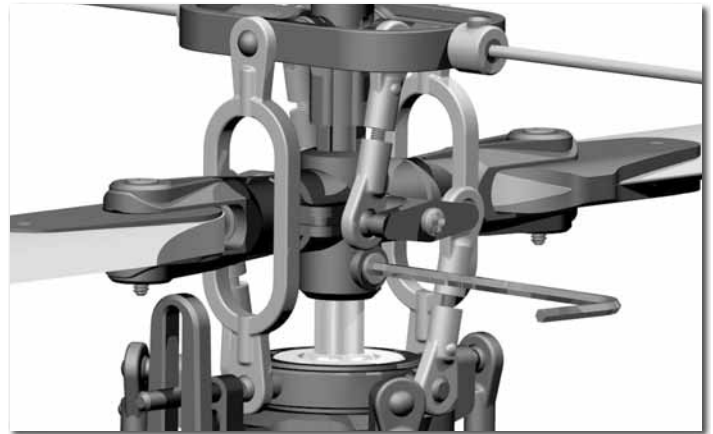


Place the other dampening spacer and blade grip onto the spindle. Apply threadlocking compound to the remaining 2mm spindle screw. Slide a 2mm washer onto the screw and install into the spindle. Using two 1.5mm hex wrenches tighten the spindle bolts.



Snap the ball links onto the blade grips and re-install the main blades.

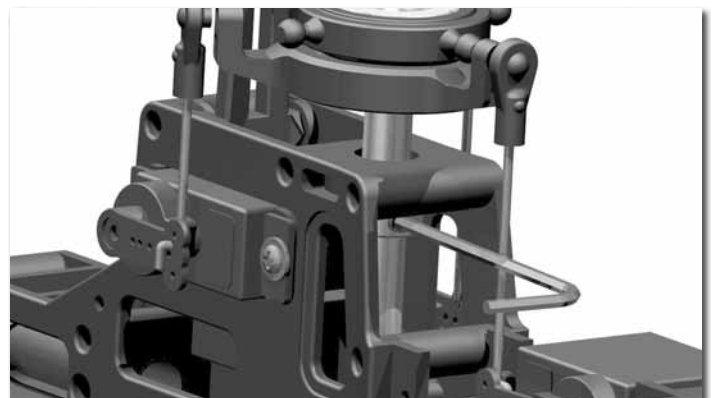
## MAIN SHAFT REMOVAL



Use a 1.5mm hex wrench to remove the head block retaining bolt. Using a pair of ball link pliers remove the oval links from the swashplate. While holding onto the main gear pull upward on the main rotor head assembly. If the head is difficult to remove simply try to rotate the main rotor head back and forth while holding onto the main gear. Please note there is a flat spot on the main shaft. You will not be able to rotate the head more than a few degrees due to this.

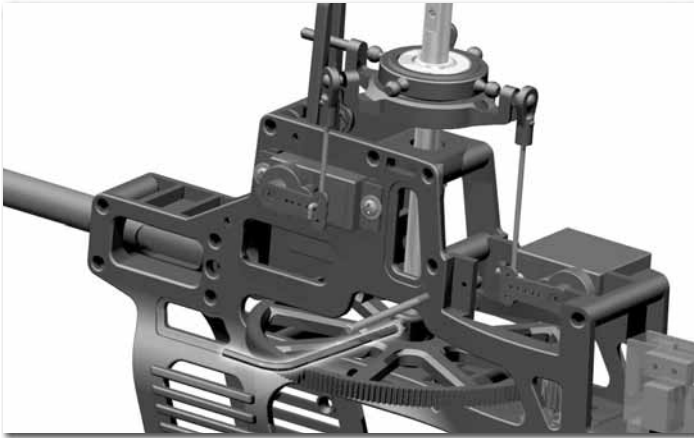


Use pliers to grasp the 2mm nut on the main gear. Insert a 1.5mm hex wrench into the main gear bolt and remove the screw.

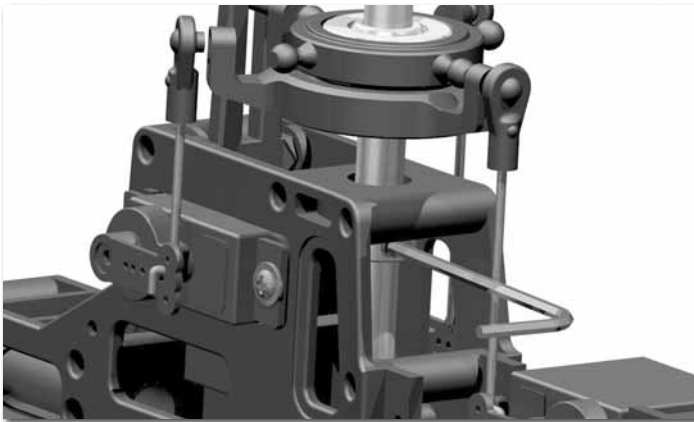


Insert a 1.5mm hex wrench into the main shaft collar set screw and loosen. Insert another 1.5mm hex wrench into the hole in the top of the main shaft. While holding onto the main gear try pulling upwards on the main shaft. If you are having difficulty removing the main shaft make certain you have loosened the set screw on the main shaft collar. If necessary try rotating the main shaft back and forth to help pull the shaft loose from the lower gear. If you decide to remove the main gear please note there is a small spacer located beneath it.

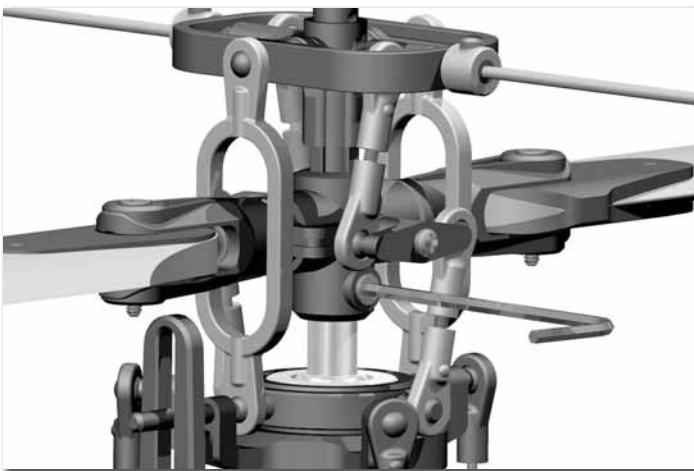
## MAIN SHAFT INSTALLATION



Using the 1.5mm hex wrench and pliers to hold the nut, re-install the lower main shaft bolt.



Insert a 1.5mm hex wrench into the main shaft collar set screw. While pushing downward on the main shaft, pull upward on the main shaft collar and tighten the set screw. There should be no vertical movement in the main shaft once you have completed this step.



Slide the main rotor head block back onto the main shaft. Make certain the flat spot inside of the head block is aligned with the flat spot on the main shaft. Use a 1.5mm hex wrench to re-install the 2mm bolt head bolt.

## OPTIONAL UPGRADE

*This section is provided to help you install the optional Futaba® GY240 AVCS heading hold gyro in the Heli-Max AXE CP V3 RTF. This section may be omitted if you do not intend to install this gyro.*

### Items Needed (must be purchased separately):

- (1) Futaba GY240 AVCS Gyro (FUTM0809) **OR** (1) Heli-Max HM4000 Heading Lock Gyro (HMXM1012)
- (1) Great Planes® ElectriFly™ C-12 Micro Brushed ESC w/BEC (GPMM2015)
- (1) W.S. Deans® Micro 2R Plug (WSDM3007) (for C-12 ESC)
- (2) Small Tie Wraps

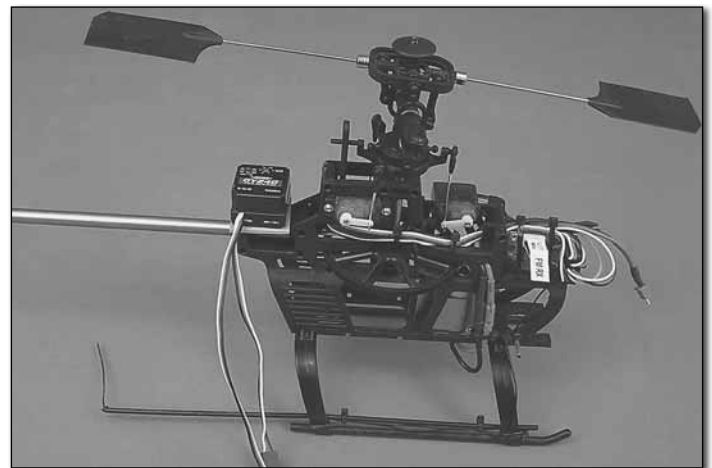
### Tools:

- Solder and Soldering Iron
- Wire Cutters

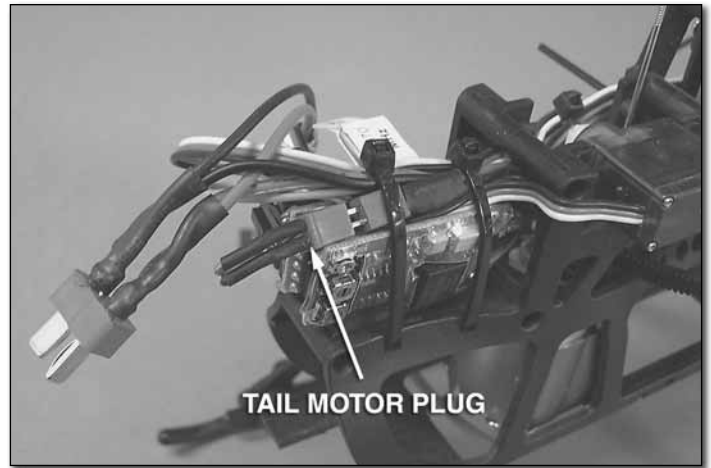
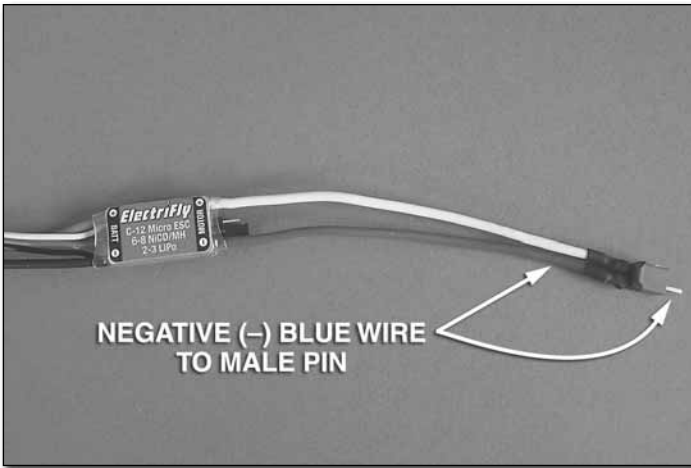
Installing a heading hold gyro into the Heli-Max AXE CP V3 RTF will make the model easier to fly. The gyro will now allow you to focus your concentration on the other controls instead of constantly flying the tail.

We highly recommend using the optional Great Planes 950mAh LiPo 11.1V 3s 15C battery (GPMP0401) for the best overall performance.

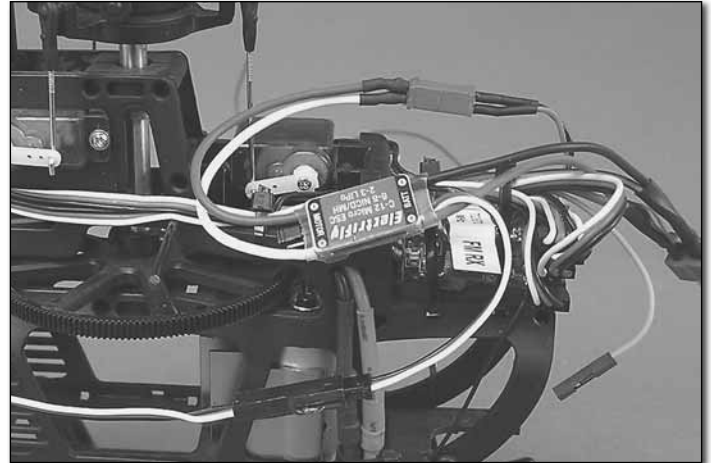
## INSTALLING THE GYRO



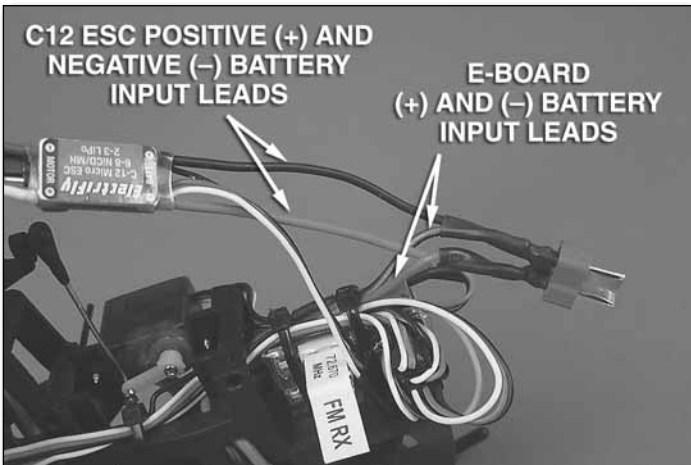
Use alcohol and a paper towel to remove any grease or mold release agents on the gyro and helicopter frame. Apply the double-sided foam mounting tape included with the gyro to the bottom of the unit. Carefully align the gyro as shown in the picture and mount the gyro onto the helicopter frame.



Solder a Micro Deans plug onto the motor wires of the C-12 ESC as shown. The negative (-) motor lead (blue wire) connects to the male pin on the connector. This will be connected to the tail motor in a later step.



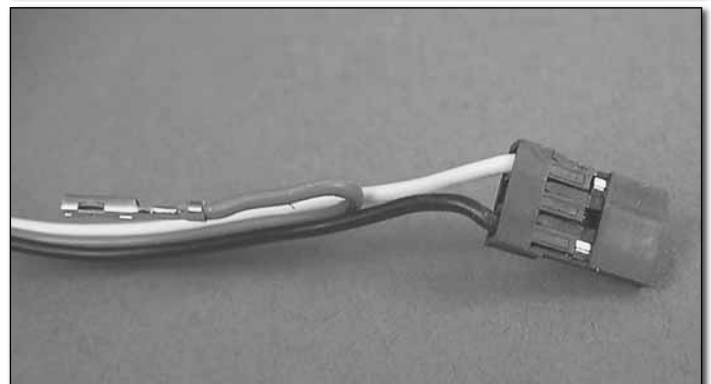
Disconnect the tail motor plug as shown above and connect the plug directly into the blue and white motor wires on the C-12 ESC.



It will be necessary to solder the E-Board and C-12 ESC to the battery connector as shown above. If you decide to use the Great Planes 950mAh LiPo battery (GPMP0401), we suggest installing a Deans Ultra Male Plug onto the ESC and E-Board to match the connector on the battery pack. The Deans Ultra Plug will better handle the increased current draw of more aggressive flight as your skill level advances.

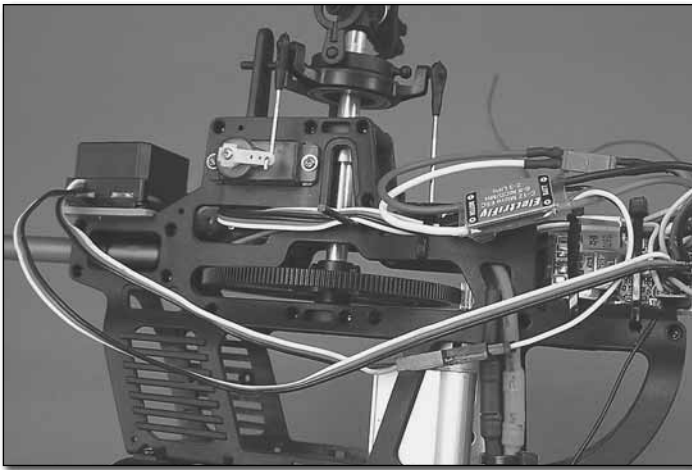


Using wire cutters, remove the Deans Micro connector from both battery input leads on the E-Board and the C-12 ESC. Remove 1/4" [6mm] of wire insulation from both the positive (+) and negative (-) leads of the C-12 ESC and E-Board.



Compare the battery pack connector to the ESC connector and verify the polarity is correct before soldering. Twist and solder together the positive battery lead from the C-12 ESC and the positive lead from the E-Board. Slide the supplied heat-shrink tubing (included with the Deans Ultra Plug) over the wires and solder them to the Deans connector. Repeat for the negative lead. Slide the heat-shrink tubing up the wire to the plug. Use heat to shrink the tubing.



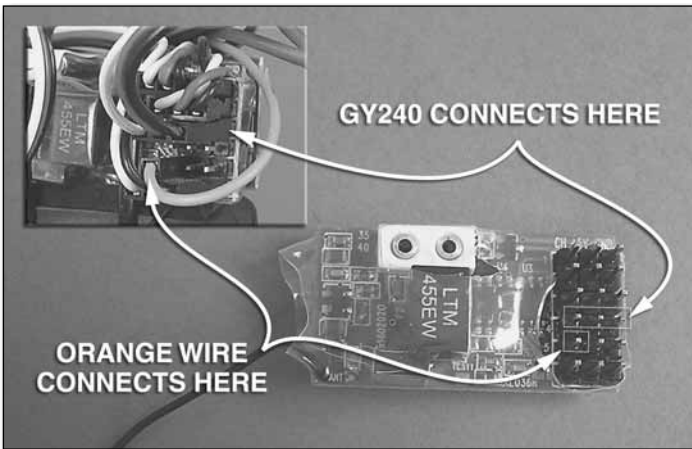


Since the E-Board provides power to the receiver and servos, the BEC in the C-12 ESC must be disabled. Carefully lift up the plastic tab on the C-12 ESC connector, remove the red pin from the plug, and fold it back over the wire. Wrap a piece of electrical tape or heat-shrink tubing around the connector pin and wire. Plug the C-12 ESC into the GY240 gyro.



On the gyro, set the "AVCS" switch to "ON" and set the "DIR" switch to "REV". Set the gain to 60% using the adjustment dial on the gyro. If necessary, adjust the gain to match your flying style or desired setup. The typical range of gain is 50% to 75%.

Review your work and verify that none of the wires can get caught in the main rotor gear or the swashplate. The helicopter is now ready for the test flight.



Remove the orange wire from the receiver and plug the GY240 into the same position. Verify the black wire (-) on the connector is towards the outside edge of the receiver. Now plug the orange connector into the next available position on the receiver (channel 5), and align it with the column of white wires on the other connectors.

### **FLIGHT INITIALIZATION**

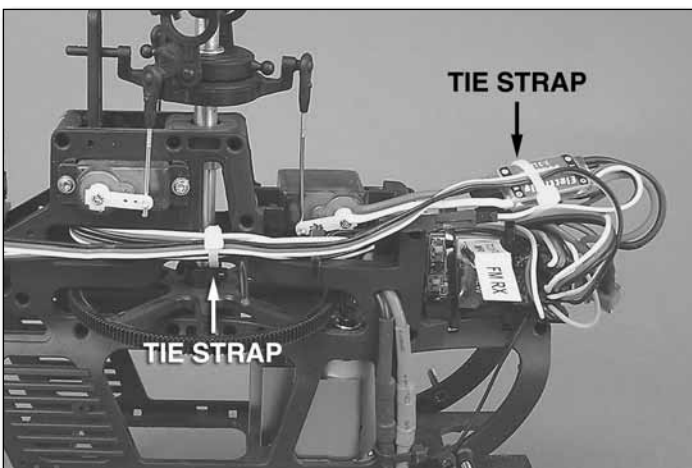
If this is your first time flying a heading hold gyro, be sure to take your time and become accustomed to the new gyro before jumping into your normal flying routine.

Turn on the transmitter, center the tail rotor trim tab, extend the antenna, and verify the idle up switch is "OFF" (toward the back of the transmitter). Connect the flight battery and allow the gyro 10 seconds to initialize. The helicopter and tail rotor stick must remain still during this process.

### **ARMING THE TAIL ESC**

The tail motor ESC must be armed before each flight. The best time to do this is after you place the helicopter on the ground before taking off.

You will hear three beeps from the tail ESC once the gyro has initiated. Carefully apply full right tail rotor and you will hear 4 beeps. Apply full left tail rotor and you will hear another set of beeps. The tail ESC and motor are now armed and you are ready to fly. If you need to pick up the helicopter, firmly hold onto the main frame since the tail motor could operate at any time. You can hold full left tail rotor on the transmitter to prevent this from occurring.



Use two tie straps to attach the gyro wires to the frame. Bundle the wires and ESC together at the front of the helicopter.

### **FLYING**

If the tail wants to drift slowly due to wind gusts, your gain may be set too low. Increase the gain a small amount and see if performance improves. If the tail has a tendency to oscillate from left to right, your gain may be set too high. Reduce the gain and see if performance improves.

**GOOD LUCK AND GREAT FLYING!**

## ORDERING PARTS

Replacement parts for the Heli-Max AXE CP V3 RTF are available using the order numbers in the Parts List on page 18. The fastest, most economical service can be provided by your hobby dealer.

To locate a hobby dealer, visit the Hobbico web site at [www.hobbico.com](http://www.hobbico.com). Choose "Where to Buy" at the bottom of the menu on the left side of the page. Follow the instructions provided on the page to locate a U.S., Canadian or International dealer.

Parts may also be ordered directly from Hobby Services by calling (217) 398-0007, or via facsimile at (217) 398-7721, but full retail prices and shipping and handling charges will apply. Illinois and Nevada residents will also be charged sales tax. If ordering via fax, include a Visa® or MasterCard® number and expiration date for payment.

Mail parts orders and payments by personal check to:

Hobby Services  
3002 N. Apollo Drive, Suite 1  
Champaign, IL 61822

Be certain to specify the order number exactly as listed in the Parts List. Payment by credit card or personal check only; no C.O.D.

If additional assistance is required for any reason contact Product Support by e-mail at [helihotline@hobbico.com](mailto:helihotline@hobbico.com), or by telephone at (217) 398-8970.

### AXE CP V3 PARTS LIST

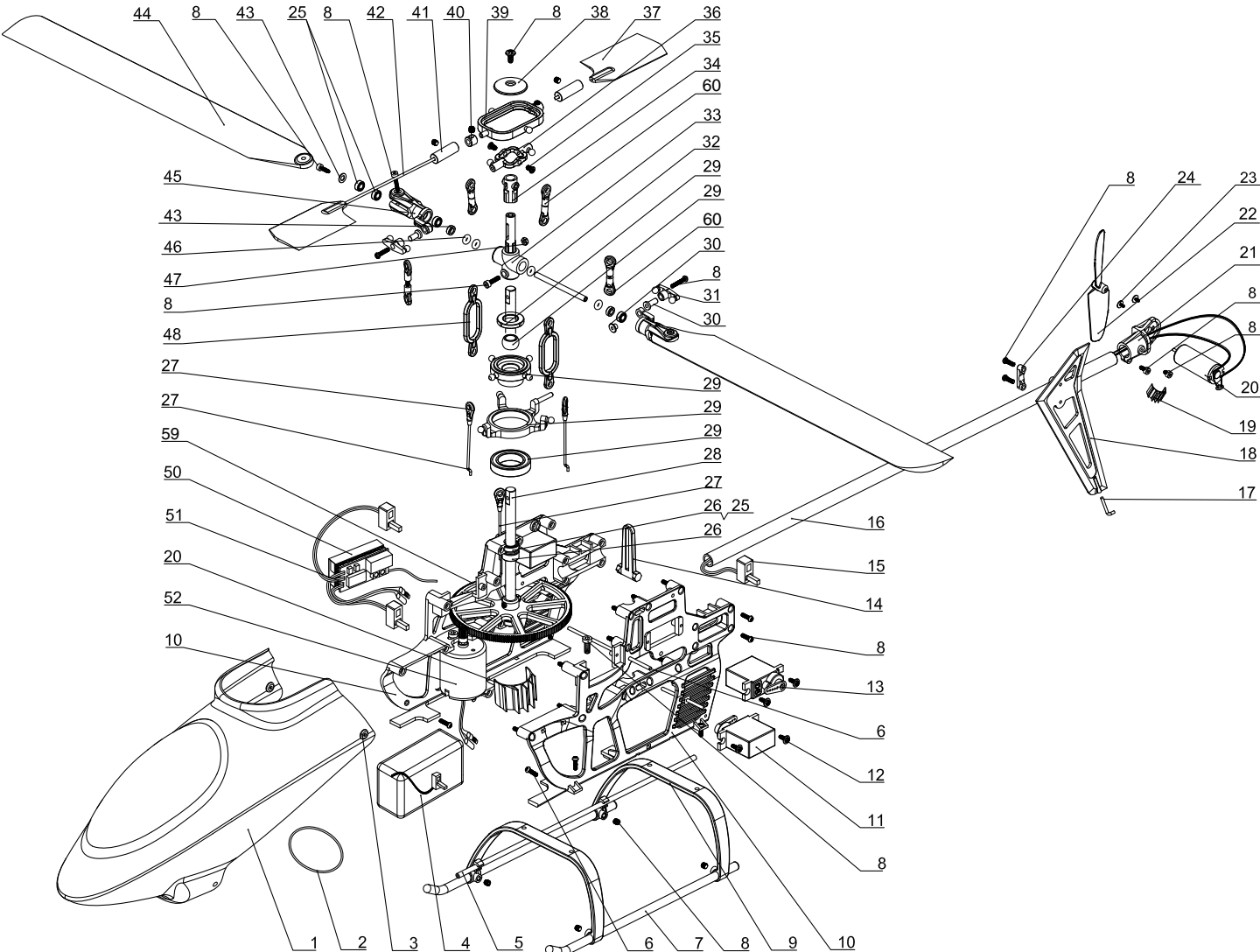
#	Stock #.....	Description.....	Includes
1	HMXE7442	Canopy White CPv3	1
2	HMXE8819	Battery Rubber Bands	3
3	HMXE7426	Canopy Grommets	2
4	GPMP0401	LiPo 111v 950 MHA AXE CPv3	1
5	HMXE4703	Antenna Tube	1
6	HMXE8605	Canopy Mounts	3
7	HMXE8901	Skids	2
8	HMXE7342	Screw Set	40
9	HMXE8902	Skid Supports	2
10	HMXE8407	Main Frame	2
11	HMXM2004	Servo	1
12	HMXE8814	Servo Mounting Screws	6
13	HMXE8818	Servo Arms w/screws	6
14	HMXE9002	Swashplate Stay	1
15	HMXE9554	Tail Motor Extension Wire	1
16	HMXE9550	Tail Boom	1
17	HMXE9551	Tail Fin Support Rod	1
18	HMXE9562	Tail Vertical Fin	1
19	HMXE8623	Heat Sinks	2
20	HMXE9553	Tail Motor	1
21	HMXE9564	DD Tail Motor Mount	1

#	Stock #.....	Description.....	Includes
22	HMXE9563	DD Tail Rotor Blade	1
23	HMXE9556	Tail Motor Screws	2
24	HMXE9561	Tail Vertical Fin Bracket w/screws	3
25	HMXE7301	Replacement Bearing Set	8
26	HMXE8405	Main Shaft Collar and Bushing	3
27	HMXE7627	Complete Linkage Set (Includes #60)	7
28	HMXE8406	Main Shaft	1
29	HMXE9001	Swashplate Assembly	1
31	HMXE8319	Bell-Hiller Mixing Arms	2
32	HMXE7806	Feathering Spindle	1
33	HMXE8607	Center Hub	1
34	HMXE9058	Slide Block	1
35	HMXE8606	Control Hub Screws	2
36	HMXE8801	Seesaw	1
37	HMXE7804	Flybar Paddles	2
38	HMXE8622	Head Button	1
39	HMXE8813	Stabilizer Control Hub	1
40	HMXE7805	Flybar Weights	2
41	HMXE8320	Bell-Hiller Weights	2
42	HMXE7803	Flybar	1
43	HMXE8323	Bell Hiller Dampening Spacer	4
44	HMXE8322	Reinforced Main Rotor Blades	2
45	HMXE8318	Bell-Hiller Main Blade Grips	2
46	HMXE7362	O-Ring Set	4
47	HMXE8621	Head Bolt and Nut	2
48	HMXE7802	Flybar Links	2
50	HMXM2005	Receiver	1
51	HMXM2003	E-Board (Mixer, Gyro, ESC)	1
52	HMXE8002	Main Motor, 380	1
59	HMXE8404	Main Rotor Gear	1
60	HMXE8321	Bell-Hiller Linkage Set	4
	HMXE7511	Decal Set	
	HMXE9552	Training Gear	2
	HMXP1004	3s LiPo Balance Charger	1
	HMXZ7006	Instruction Manual	1

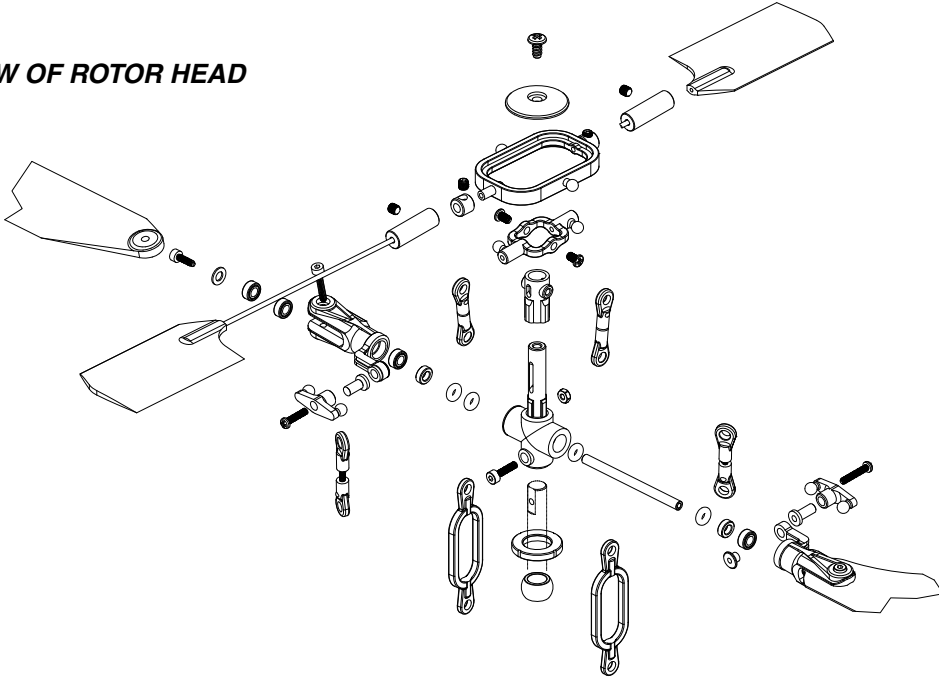
### OPTIONAL PARTS

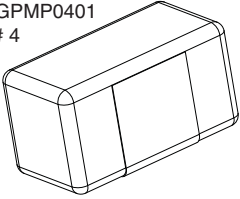

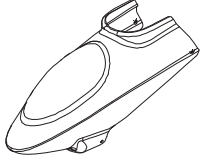

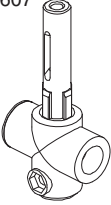
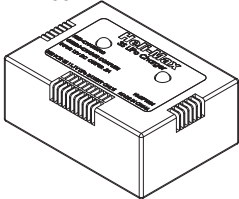

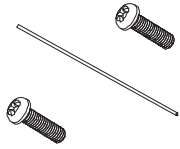
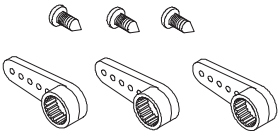
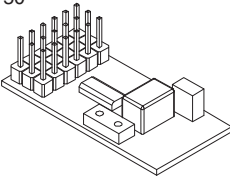
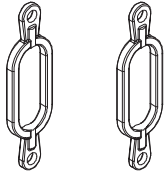
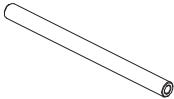

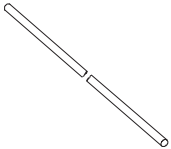
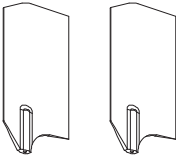
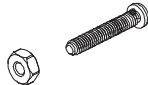
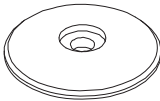
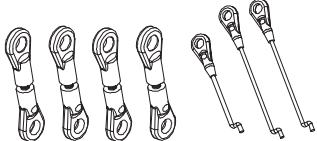

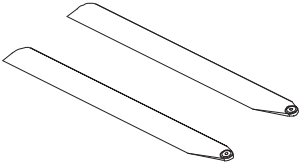
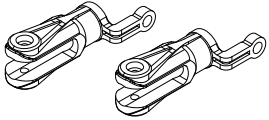
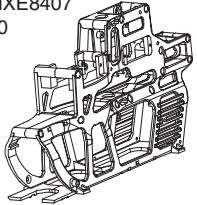
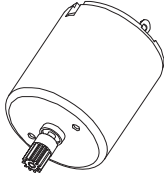

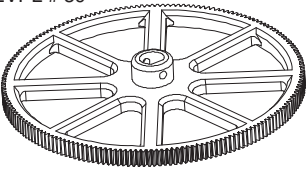
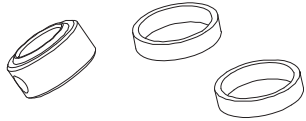
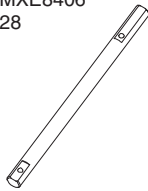
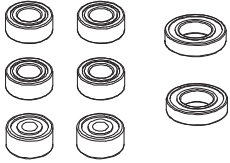
HMXE7450	Carbon Fiber Vertical Fin w/Hardware
HMXE7451	Carbon Fiber Horizontal Fin w/Hardware
HMXE7452	Carbon Fiber Flybar Paddles
HMXE7453	Carbon Fiber Tail Boom
HMXE7454	CNC Swashplate Assembly
HMXE7455	CNC Center Hub & Head Button
HMXE7456	CNC Slide Block & Seesaw
HMXE7459	CNC Bell-Hiller Main Blade Grips
HMXE7657	CNC Flybar Carrier

**EXPLODED VIEW**

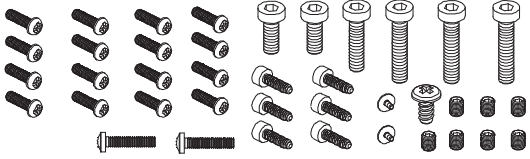
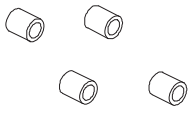
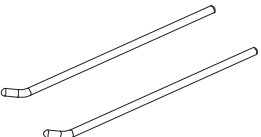
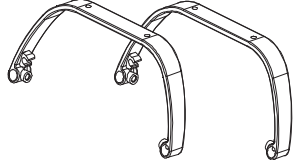
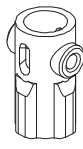
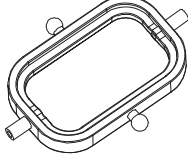
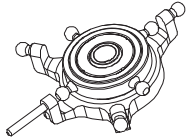
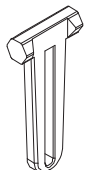
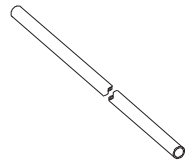
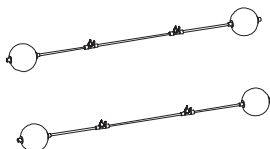
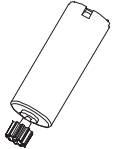
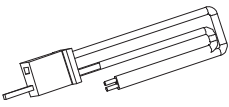
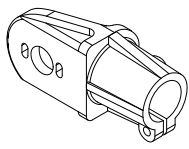

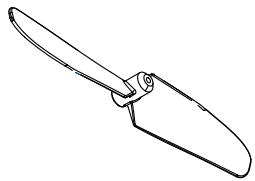
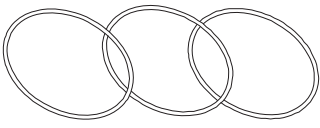

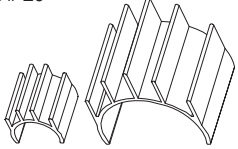
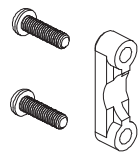
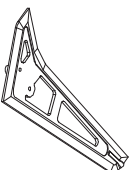
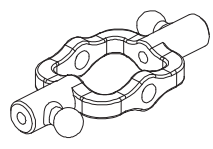
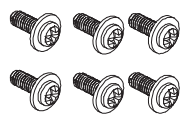
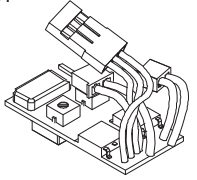
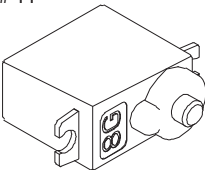


**DETAILED VIEW OF ROTOR HEAD**



<p>LiPo Battery 950 mAh 11.1V Part # GPMP0401 EVPL # 4</p>  <p>1 PC</p>	<p>Antenna Tube Part # HMXE4703 EVPL # 5</p>  <p>1 PC</p>	<p>Canopy Part # HMXE7420 EVPL # 1</p>  <p>1 PC</p>	<p>Canopy Grommets Part # HMXE7426 EVPL # 3</p>  <p>2 PCS</p>
<p>Center Hub Part # HMXE8607 EVPL # 33</p>  <p>1 PC</p>	<p>3s LiPo Balance Charger Part # HMXP1004</p>  <p>1 PC</p>	<p>Control Hub Pin Part # HMXE8606 EVPL # 35</p>  <p>2 PCS</p>	<p>Canopy Mounts Part # HMXE8605 EVPL # 6</p>  <p>3 PCS</p>
<p>Servo Arms with Screws Part # HMXE8818 EVPL # 13</p>  <p>6 PCS</p>	<p>Receiver Part # HMXM2005 EVPL # 50</p>  <p>1 PC</p>	<p>Flybar Links Part # HMXE7802 EVPL # 48</p>  <p>2 PCS</p>	<p>Feathering Spindle Part # HMXE7806 EVPL # 34</p>  <p>1 PC</p>
<p>Flybar Weights Part # HMXE7805 EVPL # 41</p>  <p>2 PCS</p>	<p>Flybar Part # HMXE7803 EVPL # 42</p>  <p>1 PC</p>	<p>Flybar Paddles Part # HMXE7804 EVPL # 37</p>  <p>2 PCS</p>	<p>Head Bolt &amp; Nut Part # HMXE8621 EVPL # 8</p>  <p>2 PCS</p>
<p>Head Button Part # HMXE8622 EVPL # 38</p>  <p>1 PC</p>	<p>Linkage Set Part # HMXE7627 EVPL # 27</p>  <p>5 PCS</p>	<p>O-Ring Part # HMXE7362 EVPL # 46</p>  <p>4 PCS</p>	<p>Main Rotor Blades Part # HMXE8322 EVPL # 44</p>  <p>2 PCS</p>
<p>Main Blade Grips Part # HMXE8318 EVPL # 45</p>  <p>2 PCS</p>	<p>Main Frame Part # HMXE8407 EVPL # 10</p>  <p>2 PCS</p>	<p>Main Motor, 380 Part # HMXE8002 EVPL # 52</p>  <p>1 PC</p>	<p>Main Rotor Shaft Bushing Part # HMXE8403 EVPL # 43</p>  <p>2 PCS</p>
<p>Main Rotor Gear Part # HMXE8002 EVPL # 59</p>  <p>1 PC</p>	<p>Main Shaft Collar &amp; Bushing Part # HMXE8405 EVPL # 26</p>  <p>3 PCS</p>	<p>Main Shaft Part # HMXE8406 EVPL # 28</p>  <p>1 PC</p>	<p>Replacement Bearing Set Part # HMXE7301 EVPL # 25</p>  <p>8 PCS</p>



<p>Screw Set Part # HMXE7342 EVPL # 8</p> <p>40 PCS</p> 	<p>Silicon Seccure Tubes Part # HMXE8701</p> <p>4 PCS</p> 	<p>Skids Part # HMXE8901 EVPL # 7</p> <p>2 PCS</p> 	
<p>Skid Supports Part # HMXE8902 EVPL # 9</p> <p>2 PCS</p> 	<p>Slide Block Part # HMXE9058 EVPL # 27</p> <p>1 PC</p> 	<p>Stabilizer Control Hub Part # HMXE8813 EVPL # 39</p> <p>1 PC</p> 	<p>Swashplate Assembly Part # HMXE9001 EVPL # 29</p> <p>1 SET</p> 
<p>Swashplate Stay Part # HMXE9002 EVPL # 14</p> <p>1 PC</p> 	<p>Tail Boom Part # HMXE9550 EVPL # 16</p> <p>1 PC</p> 	<p>Training Gear Part # HMXE9552</p> <p>2 PCS</p> 	<p>Tail Motor Part # HMXE9553 EVPL # 20</p> <p>1 PC</p> 
<p>Tail Motor Extension Wire Part # HMXE9554 EVPL # 15</p> <p>1 PC</p> 	<p>Tail Motor Mount Part # HMXE9564 EVPL # 21</p> <p>1 PC</p> 	<p>Tail Motor Screws Part # HMXE9556 EVPL # 23</p> <p>2 PCS</p> 	<p>Tail Rotor Blade Part # HMXE9563 EVPL # 22</p> <p>1 PC</p> 
<p>Battery Rubber Bands Part # HMXE8819 EVPL # 2</p> <p>3 PCS</p> 	<p>Washer Set Part # HMXE9900 EVPL # 43</p> <p>4 PCS</p> 	<p>Heat Sinks Part # HMXE8623 EVPL # 20</p> <p>2 PCS</p> 	<p>Tail Vertical Fin Bracket with Screws Part # HMXE9561 EVPL # 24</p> <p>3 PCS</p> 
<p>Tail Vertical Fin Part # HMXE9562 EVPL # 18</p> <p>1 PC</p> 	<p>Seesaw Part # HMXE8801 EVPL # 36</p> <p>1 PC</p> 	<p>Servo Mounting Screws Part # HMXE8814 EVPL # 12</p> <p>6 PCS</p> 	<p>E-Board (Mixer, Gyro, Exc) Part # HMXM2003 EVPL # 51</p> <p>1 PC</p> 
<p>Servo Part # HMXM2004 EVPL # 11</p> <p>1 PC</p> 			

**OPTIONAL PARTS**



CF 3D Vertical Fin w/Hardware (1 Set)  
Part # **HMXE7450**



CF 3D Horiz Fin w/Hardware (1 Set)  
Part # **HMXE7451**



CF 3D Flybar Paddles (2 Pcs)  
Part # **HMXE7452**



CF Tail Boom (1 Set)  
Part # **HMXE7453**



CNC Swashplate Assembly (1 Set)  
Part # **HMXE7454**



CNC Center Hub & Head Button (1 Set)  
Part # **HMXE7455**



CNC Slide Block & Seesaw (1 Set)  
Part # **HMXE7456**



CNC Flybar Carrier (1 Set)  
Part # **HMXE7457**



CNC Bell-Hiller (1 Set)  
Part # **HMXE7459**



CF Main Rotor Blades (2 Pcs)  
Part # **HMXE7469**



Great Planes 11.1V, 950 mAh Axe CP V3 LiPo Battery  
Part # **GMPM0401**



ElectriFly PolyCharge™ LiPo Charger  
Part # **GPM3010**



ElectriFly Triton2™ Charger  
Part # **GPM3153**



DuraTrax® IntelliPeak™ ICE™ Charger  
Part # **DTXP4170**



ElectriFly Triton™ Jr Charger  
Part # **GPM3152**



Heli-Max HM4000 Heading Lock Gyro  
Part # **HMXM1012**

This model belongs to:

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Name

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Address

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City, State Zip

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Phone number

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AMA number