Heli-Max®

AXE 100 CX

AXE100 CX
Instruction Manual

NOTICE

The instruction manual, warranties and other associated documentation are subject to change without notice. Hobbico assumes no responsibility for inadvertent errors in this manual.

Heli-Max products are to be used by ages 14 and over.

HMXE0818 Axe 100 CX RTF
HMXE0828 Axe 100 CX Tx-R

INTRODUCTION

Thank you for purchasing the Heli-Max AXE 100 CX 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 visit the Heli-Max web site at www.helimax-rc.com. If there is any new technical information, changes or important updates to this model a “tech notice” box will appear on the 100 CX product page. Click the “tech notice” box to learn more about this important update.

All controls and responses from the AXE 100 CX are described with the tail pointing directly toward you. This is the best way to fly in the beginning since it keeps the control inputs oriented in the same direction as the model will respond.

When you see this symbol, please pay special attention and heed all warnings regarding the information within.

TECHNICAL SUPPORT

- Please note that we cannot provide any information on the pricing that you will find in your local retailer’s store for any products.
- If you need technical support or have any question, you can reach us by one of the following means. When contacting us, please include the name of the product you are referring to, its stock number and as much information about your question or issue as possible.
- For support outside the U.S. or Canada, please contact the distributor in your country. If unable to contact the appropriate distributor, please contact us. However, we are unable to respond to emails in languages other than English.

  EMAIL: helihotline@hobbico.com. Please be sure to list your full email address (ex: johndoe@aol.com) as well as at least one other means of daytime contact in your email.

  TELEPHONE: 1-217-398-8970, Select option 5. Available Monday-Friday, 8am-5pm U.S. Central Time.

  FAX: 1-217-398-7721. Please be sure to include a daytime telephone number or return fax number so that we can contact you.

REGULAR MAIL: If you prefer, we can always respond with a regular mailed letter. Simply write to us, including a brief explanation of your problem or question along with the product name.

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

217-398-0007

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.

AXE 100 CX Helicopter
TX 410 4-Channel SLT Transmitter
Heli-Max 150mAh LiPo Battery pack (1)
USB Charger
Small Phillips screwdriver
AA Batteries (4, *not included in the Tx-R version*.)

SPECIFICATIONS

Rotor Diameter:	190mm (7.48")
Empty Weight:	28.2g (.995 oz)
Weight RTF:	31.9g (1.25 oz)
Fuselage Length:	220mm (8.66")
Height:	126mm (4.96")
Width:	45mm (1.8")

OPERATIONAL WARNINGS

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

- Your AXE 100 CX should not be considered a toy. It should be treated as a working model that functions much like a full-size helicopter. Keep your face and body as well as all spectators away from the rotating blades whenever the battery is connected. Keep 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 away from the rotors. The spinning blades of a model of this type can cause injury.
- When choosing a flying site stay clear of buildings, trees and power lines. AVOID flying in or near crowded areas.
- DO NOT fly close to people or pets. Maintain a safe distance from the helicopter.
- Do not alter or modify the model. Doing so may result in an unsafe or unflyable model.
- When repairs are necessary you should correctly install all components so that the model operates properly on the ground and in the air. Please check the operation of the model before every flight to insure that all equipment is operating and that the model has remained structurally sound.
- Please allow a 10 minute cool down period after each flight so the motor controller and motors can cool down. Failure to do so may cause loss of control due to the controller overheating and shutting down.
- Inspect the rotor blades before each flight for nicks. If the blades have been damaged, replace them before flying the model again. Be sure to check linkages or other connectors often and replace them if they show any signs of wear or fatigue.
- After a crash you should inspect all plastic parts on the helicopter for damage before attempting to fly the model again.

BATTERY CHARGING

- Please read and understand the following regarding the usage of LiPo batteries.
- Through the use of the included LiPo battery you have assumed all risk and responsibility regarding a LiPo battery and its use.
- ALWAYS unplug your battery from the helicopter after use.
- ALWAYS recharge the batteries before storage to prevent the voltage from dropping below the 3.0 volts.
- It's best to store your batteries charged and at room temperature.
- Never disassemble, puncture or modify the battery pack in anyway.
- Never allow the battery temperature to exceed 150° F [65° C].
- If your battery begins to swell or becomes damaged in any way, stop using it. Contact Hobby Services at 217-398-0007 to learn the proper way to dispose of your battery.
- Only use the included charger with the included LiPo battery. Do not attempt to use the provided charger with NiCd, NiMH or batteries with other chemistries.
- Do not leave the charger unattended while in use and always charge your battery in a fire-resistant location.
- Disconnect the battery and remove input power from the charger immediately if either becomes hot!
- Do not allow water or other foreign objects to enter the charger. Keep the charger away from moisture and do not submerge in water.
- Please keep all electronic components out of the reach of children!

Plug charger into a USB port. A steady red light will glow letting you know the battery is charging. The light will flash slowly when the charge is complete. Remove the battery from the charger. Under normal operating conditions, the battery may take up to 60 minutes to recharge. Never leave the battery attached to the charger after charging is complete.

NOTE: A fast flash indicates a charge error. This is usually an indication that your battery is defective and should be replaced.

WARNING!! The charger supplied with the Heli-Max AXE 100 CX helicopter contains protective circuitry. If you experience any difficulties while charging the battery, please disconnect the battery from the charger and unplug the charger from the power source. Allow the battery and charger to rest for two hours as this will allow the charge protection circuit to reset. If this issue re-occurs during normal use, please contact our Technical Support Department for assistance.

TRANSMITTER (RTF Model)

RTF
READY-TO-FLY

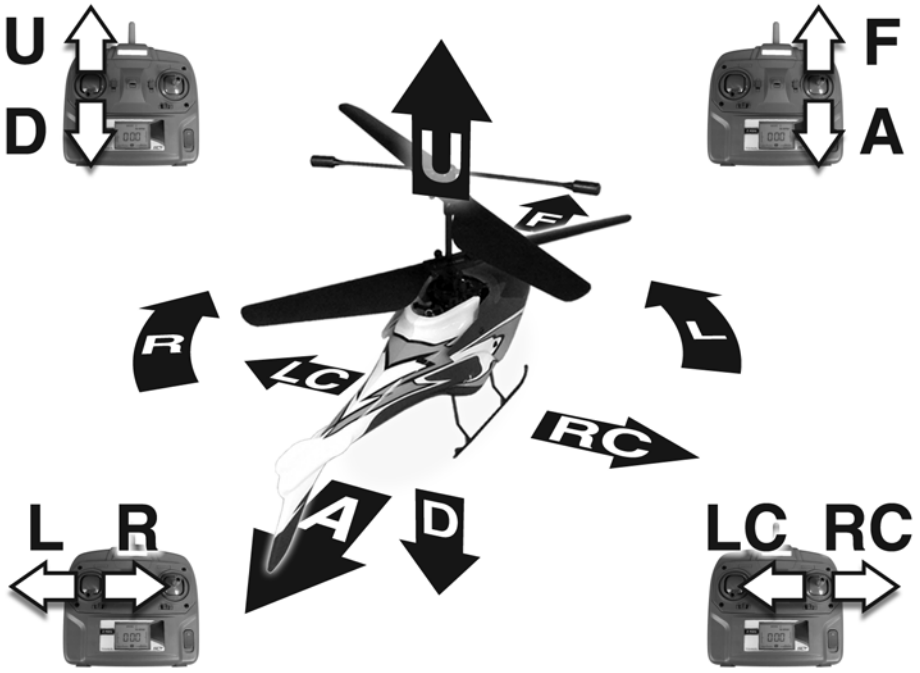
Please fully read the transmitter manual included with your helicopter to learn more about how to use and adjust your TX410.

TRANSMITTER SETUP AND CONTROLS

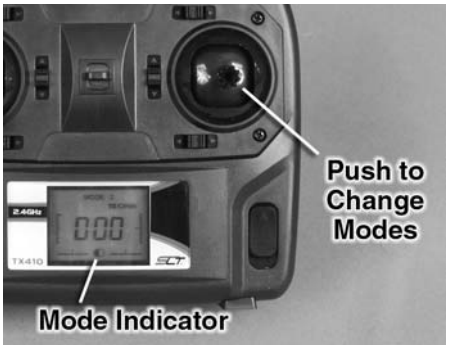
Remove the battery cover from the back of the transmitter and install the four "AA" batteries. Double-check the polarity of each battery before replacing the battery cover.

Turn the transmitter on and make sure that there is a blue light behind the Heli-Max panel at the top of the transmitter. The LCD screen should be on with a throttle position indicator and other information.

The transmitter can now be turned off until the model is ready for flight.



DUAL RATES

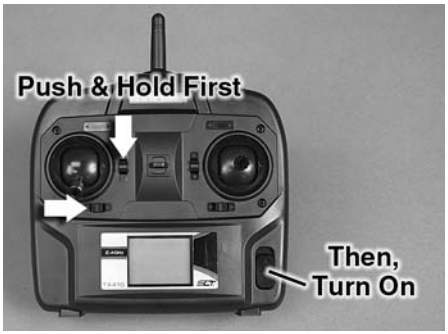


The transmitter has a dual rate function. This feature toggles between a flight mode that reduces the model's range of motion to make the AXE 100 CX easer to fly and one that allows the full range of motion so the AXE 100 CX can fly in a more aggressive manner. To toggle between these two flight modes, press down on the right control stick and release it. When the transmitter is in low rates, the ellipse in the lower center of the LCD screen will show a half ellipse and emit a single low pitch single beep. For high rates, the ellipse will be complete and the transmitter will emit a single high pitch beep.

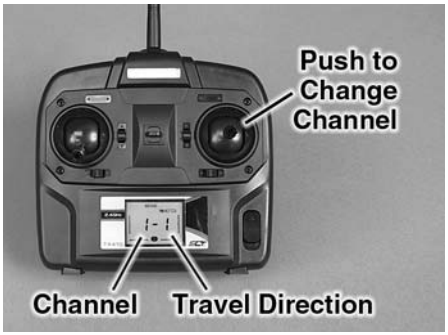
SERVO REVERSING

This transmitter uses the Tactic SLT protocol and can be used with other SLT receivers. In those applications, it may be necessary to reverse the servo travel direction as follows:

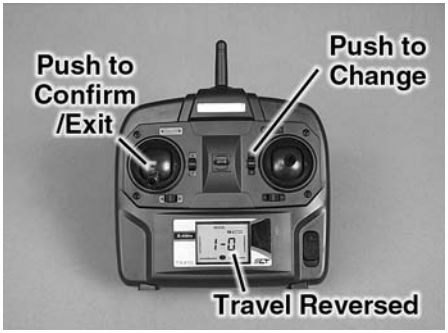
With the transmitter OFF, push and "hold" the rudder trim button to the right and the throttle trim button down. Then turn ON the transmitter.



Let go of the trim buttons and you will see 1-1 or 1-0 displayed. The first Digit is the channel number. To change the channel you want to reverse, push down on the right stick. To reverse the travel direction, push the elevator trim button up or down so the second number changes. The V-Cam travel direction settings should be "1" for all channels.



To confirm the change and exit to normal operation, push down on the left stick. The changes will not be saved if the power is turned off before the left stick assembly is pushed down.



TRANSMITTER (Tx-R Model)

Tx-R™ TRANSMITTER-READY

Your AXE 100 CX uses the Tactic protocol. With the simple addition of the Tactic Anylink™ to your favorite transmitter, be it Futaba®, JR®, Spectrum® or other compatible system, you can fly your Heli-Max AXE 100 CX with a familiar transmitter. Any other SLT compatible aircraft transmitters like the Tactic TTX402/TTX403 can also be used with the 100 CX.

The following setup guides for Futaba, Spektrum, and Tactic systems should work for most transmitters that are currently available. You may find that you need to set the servo travel for the throttle channel to maximum so the ESC on the AXE 100 CX will arm.

AXE 100 CX Futaba	AILE	ELEV	THRO	RUDD
	1	2	3	4
Type	HELI			
Swash	H-1			
Reverse (REVR)	N	N	N	N
Dual Rates (D/R)	140/100	140/100		140/100
Exponential (EXPO)	–10	–10		–10
Timer (TIMR)	7 Min			

AXE 100 CX Spektrum	THRO	AILE	ELEV	RUDD
	1	2	3	4
Type	HELI			
Swashplate Type	90 degree			
Reverse	R	R	R	R
Dual Rates (D/R)		100/80	100/80	100/80
Exponential (EXPO)		+10	+10	+10
Timer	7 Min			

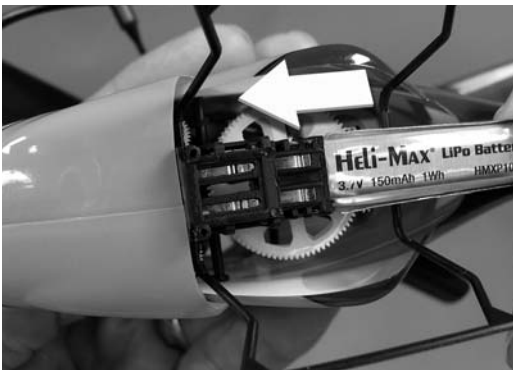
AXE 100 CX Tactic TTX 650	AILE	ELEV	THRO	RUDD
	1	2	3	4
Type	HELI			
Swash	1 Servo			
Reverse (REVR)	N	N	N	N
Dual Rates (D/R)	100/80	100/80		100/80
Exponential (EXPO)	–10	–10		–10
Timer (TIMR)	7 Min			

Please verify that the servos respond to the controls as described in the next section of the manual. You may need to reverse one or more channels to make the servos respond correctly.

PREFLIGHT PROCEDURES

Electric motors are very dangerous. Do not work on the model while the flight battery is plugged in as interference may cause the main rotor blades to spin, possibly causing injury.

- Examine the model for any loose screws and damaged parts. Make sure that the linkage and the rotor blades are not loose.
- Turn on the transmitter. Check the battery charge indicator to make sure that the transmitter battery will have enough power for your flying session.



Install the flight battery by sliding the battery into the battery tray.

Place the helicopter on a flat surface and wait a few seconds to allow the control board to calibrate. When you hear the servos move, the board is linked to the transmitter. Move the right stick to the right and verify that the left servo moves up in response. When the right stick is pulled back, the right servo should rise. Slowly advance the throttle to test the motors. While the motors are spinning slowly, move the rudder control left and right. The nose of the helicopter should respond by moving the same direction as the left stick. Reduce the throttle after you have verified that all the controls are working properly. Move to a safe distance away from the model when you are ready to take off.

FLYING YOUR AXE 100 CX

TAKEOFF

During your first flights it is important to have light winds if you are flying outside. Also, if you are flying from grass or thick carpet, please use a rubber mat or pad to provide a level area for take-off and landing.

HOVERING

Once the helicopter is in the air simply try to keep the helicopter in one spot. If you are flying outside, remember that the wind has a big effect on the stability of the helicopter.

LANDING

Level the helicopter into a steady hover and slowly decrease power until the helicopter settles onto the ground. You might notice as the helicopter is ready to touch down it moves around a little. This is normal as the helicopter enters ground effect.

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 left or right rudder to rotate the helicopter slightly sideways and practice holding it in that position. If you become uncomfortable bring the tail back towards you. Next, rotate the helicopter so one side is facing you. Practice holding it in this position while flying in all four directions. When you are comfortable with these exercises, bring the model to hover and practice 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 on to 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.

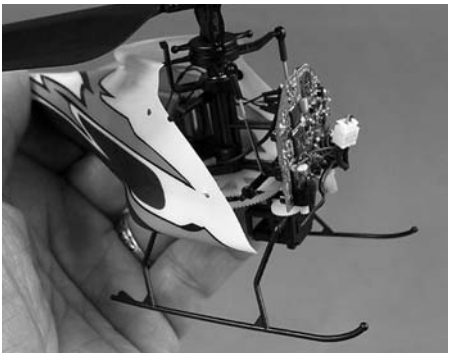
The ESC on the AXE 100 CX has a soft cut function that will reduce the power output to protect the flight battery from damage. Toward the end of a flight, if you notice a power reduction, land the model immediately and re-charge the battery. Your flight time should be at least 6 minutes but this will vary depending on your flying style.

POST FLIGHT PROCEDURES

- Remove the battery from the helicopter. While the battery is cooling, turn off the transmitter and check the model again for any loose or damaged parts.
- Charge the batteries before the model is to be put away. If the model is being stored for a long time period, stop the charging process at half the normal charge time. The batteries should be charged again after 4 months and before the model is to be used again.

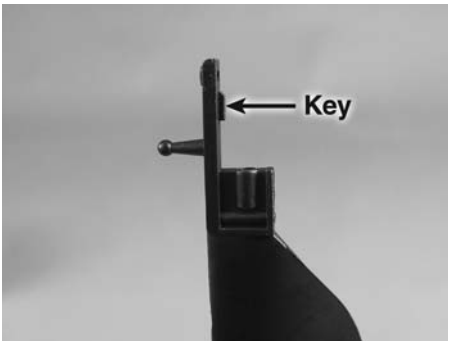
We will describe a few simple repairs that you can do to your helicopter. We will list the steps needed to remove the part with the understanding that to reassemble, one just follows the steps in the reverse order. **NOTE:** It's a good idea to use a small tray with a magnet below it to help secure the small screws. You can also use a magnet to "magnetize" your screwdriver; just rub the end of the screwdriver on the magnet for a few seconds. This will be help to keep the screws in place on the tip of the screwdriver.

REMOVING THE FUSELAGE



There are two pegs on each side of the fuselage that hold the two sections of the fuselage to the frame. Carefully push the back edges of the canopy outward and slide the rubber grommets off the pegs. Then slide the canopy forward to remove it from the frame. Follow the same procedure to loosen the rear fuselage and pull the frame forward to remove it.

REMOVING THE MAIN BLADES

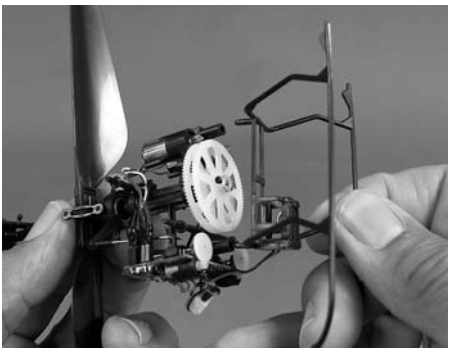


Using the provided screwdriver remove the screw on each side of the blade assembly. There is a small key that is molded on the hub of the blade. Twist the two blades to get the keys out of the slots in the base of the other blade. Then

pull the blades apart. When installing the rotor blades, please keep in mind that the lower set rotates clockwise and the upper set rotates counter-clockwise.

REMOVING THE LANDING GEAR

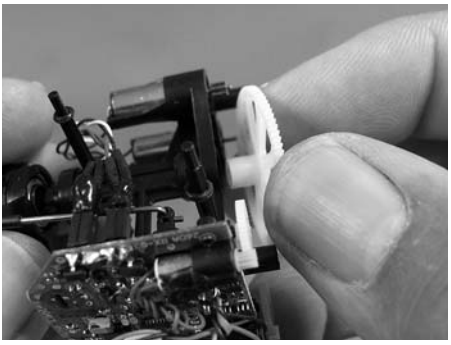
The landing gear has two pegs that hold it onto the helicopter frame. Gently pull down to remove the landing gear. There is a plug on the wire to the board that needs to be disconnected if the landing gear is to be removed from the control board.



REPLACING THE FLYBAR

To remove the flybar, push out the pin that secures it to the rotor shaft with a small screwdriver. You will need to use a pair of pliers to pull the pin out of the flybar. Pop the connecting link off and remove the flybar.

REMOVING THE MAIN GEARS



The landing gear will have to be removed to allow access to the main gears. Use the supplied screwdriver to loosen the screws that hold the lower main gear in place and slide it off the inner rotor shaft. The upper main gear can be pulled off the outer rotor shaft without removing any other parts.

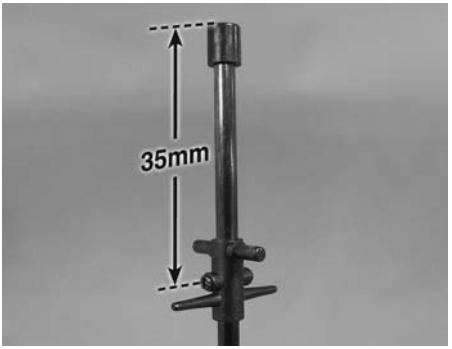
REMOVING THE MAIN SHAFTS

The inner rotor shaft can be removed after the lower main gear is loose. If this part is to be replaced, the upper rotor blade and flybar will have to be removed and transferred to the new rotor shaft.

Before the outer rotor shaft can be removed, the links from the servos need to be removed from the swashplate. The outer rotor shaft can be removed from the frame. If the rotor shaft is being replaced, transfer all the parts to the new shaft.

The screws that hold the rotor hub should be 35mm from the top of the outer rotor shaft.

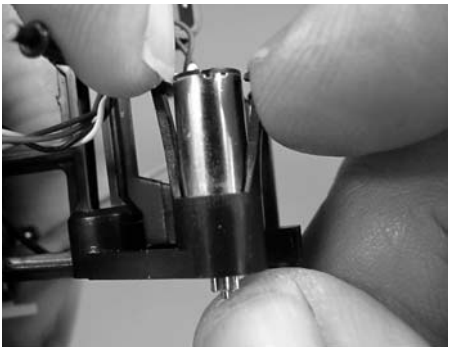
Do not tighten the screw on the collar until both rotor shaft assemblies have been installed on the frame. While pushing up on the main gears and down on the collar to remove any free play, tighten the set screw for the collar.



REPLACING MOTORS

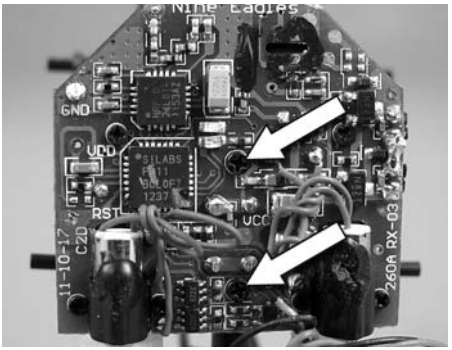
Carefully spread the clips that secure the motor to the frame. When the clips are clear of the back of the motor, push the motor up and out of the frame.

Please note the position of the wires before unplugging the defective motor.

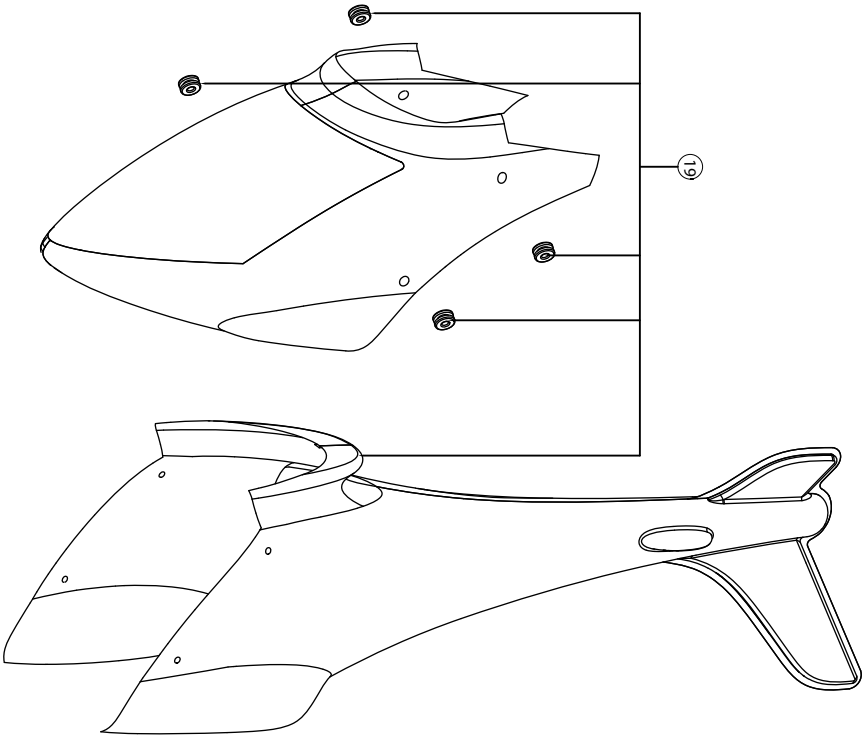


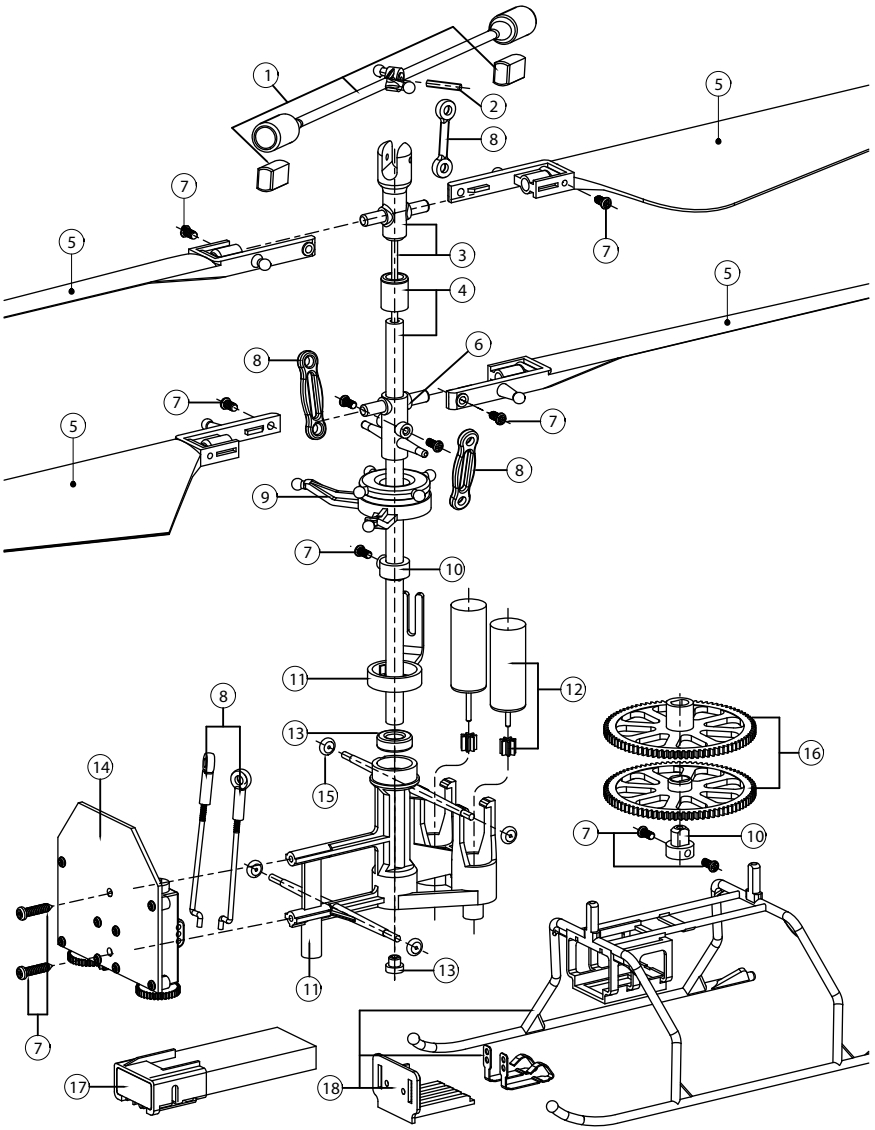
REPLACING CONTROL BOARD

Please record the color of the top wire on both motor connectors before unplugging the motors from the board. Remove the links from the servo assemblies. Finally, there are two small screws on the front of the board that need to be removed so the board can be replaced.



1	HMXE2301	Flybar
2	HMXE2302	Flybar Pin
3	HMXE2303	Inner Shaft
4	HMXE2304	Outer Shaft
5	HMXE2306	Rotor Blade Set
6	HMXE2307	Rotor Hub
7	HMXE2308	Screw Set
8	HMXE2309	Linkage Set
9	HMXE2310	Swashplate
10	HMXE2311	Collar Set
11	HMXE2312	Main Frame
12	HMXE2313	Motor Set
13	HMXE2314	Bearing Set
14	HMXM2055	E-Board
15	HMXE2315	O-Ring Set
16	HMXE2316	Main Gear Set
17	HMXP1007	3.7V 1S LiPo Battery
18	HMXE2317	Landing Skid
19	HMXE2318	Canopy Set
	HMXJ2024	410 SLT Transmitter
	HMXP2021	1S USB Charger

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