

BLADE[®]mCX

S300

BNF Instruction Manual



EFLH2380

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US patent number 7, 391, 320
 Multiple patents pending

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 SEE PAGE 36

Specifications

Length	6.0 in (150mm)
Height	4.7 in (120mm)
Main Rotor Diameter	7.5 in (190mm)
Weight with Battery	1.0 oz (28 g)
Main Motor	Micro coreless (2 installed)
Battery	1S 3.7V 110mAh Li-Po (included)
Charger	1S 3.7V DC Li-Po (included)
Transmitter	4+ channel 2.4GHz Spektrum DSM2 Aircraft (required)
On-Board Electronics	5-in-1 receiver/servos/mixer/ESCs/gyro (installed)

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Introduction

Compatible with all Spektrum™ DSM2™ technology equipped transmitters and modules, the Blade® mCX S300 Bind-N-Fly™ is a stylish heli with a realistic trim scheme that offers first-time pilots the ability to learn how to fly with ease and experienced heli pilots the ability to fly anywhere, anytime. The Blade mCX S300 BNF offers unsurpassed stability and incredible control through the coaxial, counter-rotating head design and Spektrum 2.4GHz DSM2 technology. And, thanks to its rotor span of just 7.5 inches and one-ounce flying weight, the Blade mCX S300 BNF can be flown indoors almost anywhere—from an office to a small bedroom or living room.

The Blade mCX S300 BNF comes 100% factory-assembled and is ready to bind to your Spektrum Aircraft transmitter equipped with DSM2. Also included in the box is the Li-Po flight battery and convenient AA battery-powered DC Li-Po charger, along with 4 AA batteries for the charger. The DSM2 technology offers freedom from frequency restrictions and allows the Blade mCX S300 BNF to be flown just about anywhere, anytime indoors with full 4-channel control.

And although the Blade mCX S300 BNF is nearly ready-to-fly right from the box, please take the time to read through this manual for tips on battery safety and charging, binding, control checks and more before making your first flight. We also suggest viewing the Instructional Video located on the product page for the Blade mCX S300 BNF on www.horizonhobby.com.

Warning

An RC helicopter is not a toy! If misused, it can cause serious bodily harm and damage to property. Fly only indoors, in open areas following all instructions and as recommended in this manual. Keep loose items that can get entangled in the rotor blades away from the main and tail blades, including loose clothing, or other objects such as pencils and screwdrivers. Especially keep your hands away from the rotor blades.

Note on Lithium Polymer Batteries



Lithium Polymer batteries are significantly more volatile than alkaline or Ni-Cd/Ni-MH batteries used in RC applications. All manufacturer's instructions and warnings must be followed closely. Mishandling of Li-Po batteries can result in fire. Always follow the manufacturer's instructions when disposing of Lithium Polymer batteries.

Instructions for Disposal of WEEE by Users in the European Union



This product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.



Additional Safety Precautions and Warnings

As the user of this product, you are solely responsible for operating it in a manner that does not endanger yourself and others or result in damage to the product or the property of others. **Age Recommendation: 14 years or over. This is not a toy. This product is not intended for use by children without direct adult supervision.**

This model is controlled by a radio signal that is subject to interference from many sources outside your control. This interference can cause momentary loss of control so it is advisable to always keep a safe distance in all directions around your model, as this margin will help to avoid collisions or injury.

- Never operate your model with low transmitter batteries.
- Always operate your model in an open area away from cars, traffic, or people.
- Avoid operating your model in the street where injury or damage can occur.
- Never operate the model out into the street or populated areas for any reason.
- Carefully follow the directions and warnings for this and any optional support equipment (chargers, rechargeable battery packs, etc.) that you use.
- Keep all chemicals, small parts and anything electrical out of the reach of children.
- Moisture causes damage to electronics. Avoid water exposure to all equipment not specifically designed and protected for this purpose.
- Never lick or place any portion of your model in your mouth as it could cause serious injury or even death.

FCC Information

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This product contains a radio transmitter with wireless technology which has been tested and found to be compliant with the applicable regulations governing a radio transmitter in the 2.400 GHz to 2.4835 GHz frequency range.

Blade mCX S300 BNF Contents

Item	Description
Not Available Separately	Blade mCX S300 BNF Airframe
EFLB1101S	110mAh 1S 3.7V Li-Po
EFLC1003	1S 3.7V Li-Po Charger, 0.3A
EFLH2220W	Lower Main Blade Set, White with Decals (1 pr): BMCX
EFLH2221W	Upper Main Blade Set, White with Decals (1 pr): BMCX
EFLH1209	Screwdriver
Not Available Separately	4 AA Batteries
(Optional) FUG4	4 AA Batteries



Additional Equipment

No additional equipment is required to complete your Blade mCX S300 BNF.

Preparing for the First Flight Checklist

Please note this checklist is not intended to be a replacement for the content included in this instruction manual. Although it can be used as a quick start guide, we strongly suggest reading through this manual completely before proceeding.

- Remove and inspect contents
 - Install four of the included AA batteries in the charger
 - Begin charging the flight battery
 - Install the remaining four AA batteries in the transmitter
 - Install the flight battery in the helicopter (once it has been fully charged)
 - Test the controls
 - Familiarize yourself with the controls
 - Find a suitable area for flying
-

Flying Checklist

Please note this checklist is not intended to be a replacement for the content included in this instruction manual. Although it can be used as a quick start guide, we strongly suggest reading through this manual completely before proceeding.

- Always turn the transmitter on first
 - Plug the flight battery into the lead from the 5-in-1 control unit
 - Allow the 5-in-1 control unit to initialize and arm properly
 - Fly the model
 - Land the model
 - Unplug the flight battery from the 5-in-1 control unit
 - Always turn the transmitter off last
-

Battery Warnings and Guidelines

While the 1S 3.7V DC Lithium Polymer Battery Charger (EFLC1103) included with your Blade mCX S300 BNF has been specifically designed to safely charge the included 1S 3.7V 110mAh Lithium Polymer Battery (EFLB1101S), you MUST read the following safety instructions and warnings before handling, charging or using the Li-Po battery.



Note: Lithium Polymer batteries are significantly more volatile than the alkaline, Ni-Cd or Ni-MH batteries used in RC applications. All instructions and warnings must be followed exactly. Mishandling of Li-Po batteries can result in fire.

By handling, charging or using the included Li-Po battery you assume all risks associated with lithium batteries. If you do not agree with these conditions, return your complete Blade mCX S300 BNF model in new, unused condition to the place of purchase immediately.

- You must charge the included 1S 3.7V 110mAh Li-Po battery in a safe area away from flammable materials.
- Never charge the battery unattended. When charging the battery you should always remain in constant observation to monitor the charging process and react to potential problems that may occur.
- After flight, the battery must be cooled to ambient temperature before charging.
- **You MUST use the included 1S 3.7V DC Li-Po Charger (EFLC1003) ONLY. Failure to do so may result in a fire causing personal injury and/or property damage. DO NOT use an Ni-Cd or Ni-MH charger.**



- **If at any time during the charge or discharge process the battery begins to balloon or swell, discontinue charging or discharging immediately. Quickly and safely disconnect the battery, then place it in a safe, open area away from flammable materials to observe it for at least 15 minutes. Continuing to charge or discharge a battery that has begun to balloon or swell can result in a fire. A battery that has ballooned or swollen even a small amount must be removed from service completely.**

- Store the battery at room temperature in a dry area for best results.
- When transporting or temporarily storing the battery, the temperature range should be from 40–120 degrees Fahrenheit. Do not store the battery or model in a car or direct sunlight whenever possible. If stored in a hot car, the battery can be damaged or even catch fire.
- **Do not over-discharge the Li-Po flight battery. Discharging the battery too far below recommended voltage level can cause damage resulting in reduced power and duration, or failure of the battery entirely.**

Li-Po cells should not be discharged to below 3V each under load. In the case of the 1S Li-Po battery used for the Blade® mCX S300, you will not want to allow the battery to fall to below 3V during flight.

The Blade mCX S300 BNF's 5-in-1 control unit features a soft Low Voltage Cutoff (LVC) that occurs when the battery reaches 3V under load. When the soft cutoff occurs, the ESCs of the 5-in-1 unit will reduce power to the motors (regardless of the power level you have set with the throttle stick) in order to prevent the voltage of the battery from dropping below 3V. This reduction in power usually requires that you land the model immediately, at which point you should power down the model and unplug the flight battery.

And while it is possible to power the model up and to fly again after the soft LVC occurs, this is NOT recommended as continued discharging to the soft LVC will cause permanent damage to the Li-Po battery resulting in lost power and duration when using the battery for subsequent flights, or failure of the battery entirely. Continued attempts to further discharge the battery may also result in loss of control while the motor is running as the voltage of the battery may drop below the minimum operating voltage of the receiver and other electronics.

Also, it is not recommended that you fly to the soft LVC every time you fly. Instead, you should be aware of the power level of the battery/helicopter throughout the flight, and if at any time the helicopter begins to require more throttle than typical to maintain hover or flight, you should land the helicopter immediately. Routinely discharging the battery to the soft LVC can still cause permanent damage to the battery.

Note: When the battery power/voltage is getting low you will typically find that significant rudder trim and/or rudder stick adjustments are needed to prevent the helicopter from spinning. This usually occurs before soft LVC, and indicates a good time to stop flying.

If you have any further questions or concerns regarding the handling, charging and/or use of the included Li-Po battery pack, please contact the Horizon Support Team at 877-504-0233.

Battery Charging

It is important that you only charge the included 1S 3.7V 110mAh Li-Po Battery (EFLB1101S) with the included 1S 3.7V DC Li-Po Charger (EFLC1003). Attempting to charge the battery using another Li-Po charger or non-Li-Po-compatible charger could result in serious damage. Please familiarize yourself thoroughly with the Battery Warnings and Guidelines section before continuing.

Please follow these steps to charge the Li-Po battery with the included charger.

- Remove the cover on the bottom of the charger and install four of the included AA batteries, noting proper polarity. Replace the cover after the AA batteries are installed.
- Slide the battery into the slot on the charger. The endcap of the battery has been specifically designed to allow the battery to be slid into the slot easily one way (usually with the label on the battery facing outward) to prevent reverse polarity connection. However, please be sure to check for proper alignment and polarity before proceeding to the next step.



- Gently press the battery and its connector into the charge jack/connector located at the bottom of the slot on the charger. Again, be sure to check for and to achieve proper polarity before making the connection.
- After you make the connection successfully, the LED light on the charger will turn solid red, indicating that charging has begun.
- It will take approximately 30–40 minutes to charge a fully discharged (not over-discharged) battery. As the battery nears full charge, the LED light will begin to blink. When the battery is fully charged the LED light will blink approximately every 20 seconds or will go out entirely.

Note: The Li-Po battery included with your Blade mCX S300 BNF will arrive partially charged. For this reason the initial charge may only take 15–20 minutes.

Note: You can expect to charge the Li-Po flight battery approximately 15–20 times before it will be necessary to replace the AA batteries in the charger. Replacing the included batteries with alkaline batteries will extend the AA battery life.

Note: If LED remains on for longer than 40 minutes while charging and or 5 seconds after removing the Li-Po flight battery, please replace the AA batteries in the charger.

Transmitter Preparation

Please make sure you have fresh/charged batteries in your transmitter. If applicable, set your transmitter model to Airplane. JR/Spektrum transmitter servo settings should be set to default (normal) servo direction. Futaba transmitters (equipped with Spektrum modules) may require you to reverse the throttle channel.

If you decide to use an E-flite LP5DSM or HP6DSM transmitter, please position your channel reversal dip switches as follows:



LP5DSM Transmitter

HP6DSM Transmitter

Note: Keep a record of the existing settings in case you want to go back and fly your other aircraft.

Additional Smartbind™ Information

Prior to each flight, you should ensure that you power on your transmitter and wait about five seconds before you plug in the flight battery into the receiver. Doing this allows time for the transmitter to scan and secure two open frequencies. If the flight battery is plugged in too quickly and the link is missed, it may cause the receiver to inadvertently enter bind mode. If this occurs simply leave the transmitter on and then disconnect and reconnect the flight battery. Once the flight battery is plugged in, put the helicopter on a horizontal surface as soon as you can (within two seconds) for gyro calibration. Do not move/sway the helicopter during the calibration process. Failure to do this will cause unstable flight performance.

Installing the Flight Battery

Once the Li-Po battery has been fully charged, it's ready to be installed in the helicopter.

Install the battery in the helicopter by sliding it into the battery mounting supports/slots just below the main gears. Slide the battery into the slots with the label facing downward and the connector oriented toward the back of the helicopter.

Note: Be sure to slide the battery into the slots until the endcap of the battery comes into contact with the rear battery support. This will allow you to achieve the correct center of gravity for the best overall flight performance. However, also be sure that the battery is not pushed far enough forward that it will make contact with the servo gears as this could cause damage to the gears and a potential crash.



Transmitter and Receiver Binding

Binding is the process of programming the receiver of the 5-in-1 control unit to recognize the GUID (Globally Unique Identifier) code of a single specific transmitter. It will be necessary for you to 'bind' your chosen Spektrum DSM2 technology equipped transmitter to the receiver/5-in-1 for proper operation.

The following is a list of some of the Spektrum DSM2 equipped transmitters and modules that will bind to the receiver/5-in-1 of the Blade mCX S300 BNF:

E-flite LP5DSM	Spektrum DX5e
E-flite HP6DSM	Spektrum DX6i
ParkZone Vapor Transmitter	Spektrum DX7
JR X9303 2.4	Spektrum Modules
JR 12X 2.4	

Note: The Spektrum DX6 (SPM2460) is equipped with DSM (not DSM2) technology and is not compatible with the receiver/5-in-1 of the Blade mCX S300 BNF.

The following steps outline the binding process:

- Confirm the process of entering the bind mode for your chosen transmitter by reviewing the instruction manual included with the transmitter.
- Make sure the flight battery is disconnected from the 5-in-1 unit and the transmitter is turned off.
- Plug the flight battery into the 5-in-1 unit. After 5 seconds the LED on the 5-in-1 unit will begin flashing.
- After verifying the LED is flashing on the receiver/5-in-1, follow the steps that allow your chosen transmitter to enter bind mode.
- If you entered bind mode correctly, you will see a solid LED approximately 5–10 seconds later on the receiver/5-in-1. You should now be bound to the transmitter, and have full control and function.

If you encounter any problems, repeat the binding process again or call the Horizon Support Team at 1-877-504-0233.

Transmitter Control Identification

Note: Each time before you fly you should ALWAYS turn the transmitter on before connecting the flight battery to the 5-in-1 unit. After each flight, be sure that you always disconnect the flight battery from the 5-in-1 unit before powering the transmitter off.

Note: The E-flite MLP4DSM transmitter is shown throughout the manual for reference only.

Mode 2

Rudder/Throttle Functions

Aileron/Elevator Functions

Rudder Trim Buttons
Throttle Trim Buttons

Aileron Trim Buttons
Elevator Trim Buttons



Mode 1

Rudder/Elevator Functions

Aileron/Throttle Functions

Rudder Trim Buttons
Elevator Trim Buttons

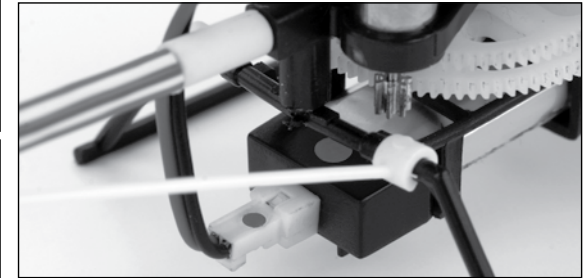
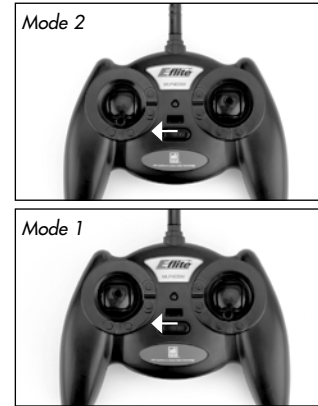
Aileron Trim Buttons
Throttle Trim Buttons



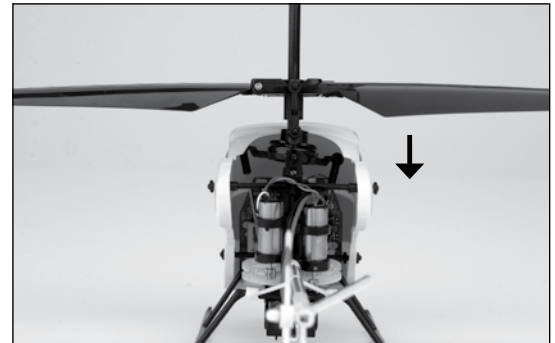
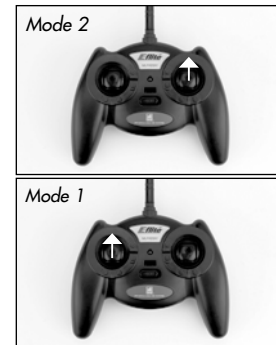
Control Test

Turn the transmitter on first and lower the throttle stick completely. Then, plug the battery into the battery lead of the 5-in-1 unit.

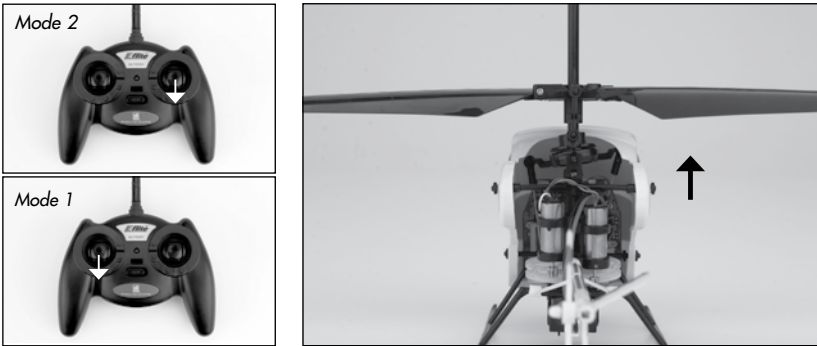
Note: The connectors on the battery and battery lead are keyed to prevent reverse polarity connection. However, if you force them together in the wrong orientation and with the wrong polarity, it is still possible to damage the battery and/or 5-in-1 unit. To help further prevent a reverse polarity connection, one side of the endcap on the battery and the connector on the battery lead of the 5-in-1 unit will have a red dot. The connectors are oriented for a proper polarity connection when the red dots are on the same side (usually toward the top of the helicopter).



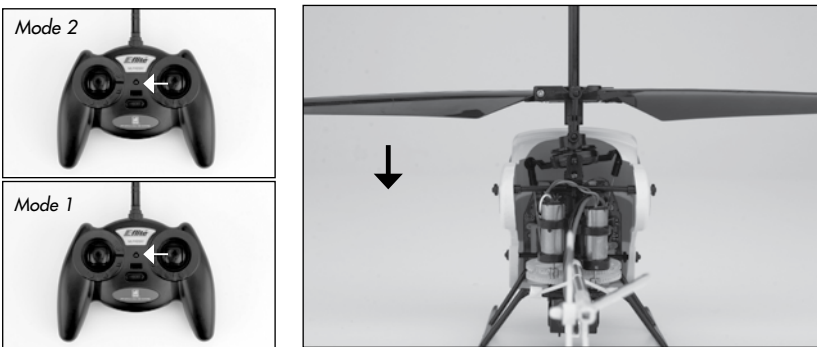
Position the helicopter to view it from the right-hand side. Move the right-hand stick on the transmitter forward and aft to check elevator pitch control. When the stick is pushed forward, the right-hand servo (when viewing the helicopter from behind) should pull the swashplate downward.



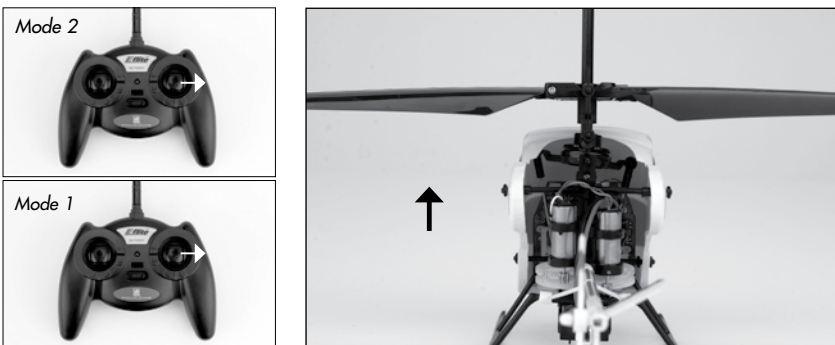
With the stick pulled back, the right-hand servo should push the swashplate upward.



Move the right-hand stick left and right to check aileron roll control. When the stick is pushed to the left, the left-hand servo (when viewing the helicopter from behind) should pull the swashplate downward.



With the stick pushed right, the left-hand servo should push the swashplate upward.



If at any time during the test the controls respond in the opposite direction, it may be necessary to reverse/change the direction of operation of the flight controls. Follow these steps to change the direction of the various flight controls:

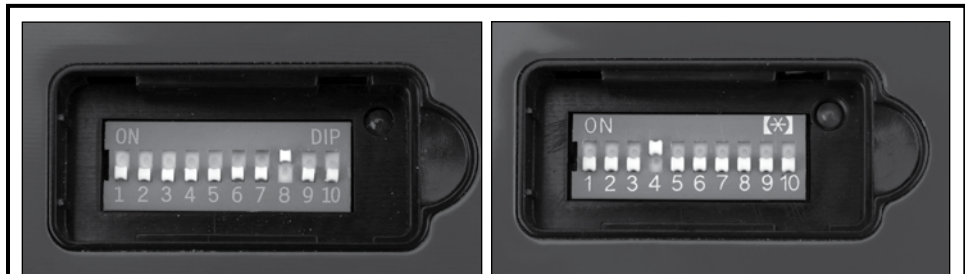
- Be certain that the battery is disconnected from the battery lead of the 5-in-1 control unit and the transmitter is turned off.
- Push down on the appropriate digital trim button on the transmitter for the control you would like to change the direction of. For example:

Top elevator trim button—elevator channel normal
 Bottom elevator trim button—elevator channel reversed
 Left aileron trim button—aileron channel normal
 Right aileron trim button—aileron channel reversed

- Continue to hold the appropriate trim button while turning the transmitter on.
- Hold the digital trim button down for approximately five seconds, until a series of beeps/tones are heard confirming the selection.
- Connect the battery to the 5-in-1 and complete the flight control test, confirming that all controls are operating in the correct directions.

Once you've reconfirmed the flight control directions, all controls should be functioning properly. However, if you continue to encounter any problems with your Blade mCX S300 BNF responding properly to the transmitter, do not fly. Call the Horizon Support Team at 1-877-504-0233.

If you decide to use an E-flite LP5DSM or HP6DSM transmitter, please position your channel reversal dip switches as follows:



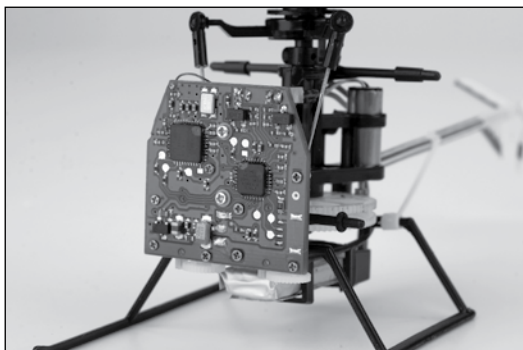
LP5DSM Transmitter

HP6DSM Transmitter

Note: Keep a record of the existing settings in case you want to go back and fly your other aircraft.

5-in-1 Control Unit Description, Arming and Motor Control Test

The unique 5-in-1 Control Unit installed on your Blade mCX S300 BNF is a lightweight combination of main motor electronic speed controls, mixer, gyro, servos and Spektrum DSM2 compatible receiver. The 5-in-1 unit is also equipped with a status indicator LED.



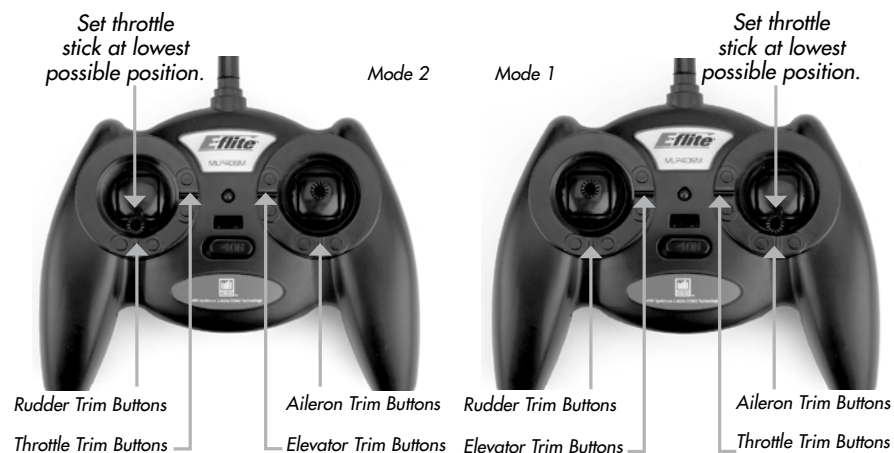
The following checklist contains the steps you must follow to ensure proper arming and operation of the 5-in-1 unit, as well as proper motor response.

- Each time before you fly you should **ALWAYS** turn the transmitter on before connecting the flight battery to the 5-in-1 unit. Never connect the flight battery to the 5-in-1 unit before powering the transmitter on first. After each flight, be sure that you always disconnect the flight battery from the 5-in-1 unit before powering the transmitter off.

Note: The only time you should connect the flight battery to the 5-in-1 unit before powering the transmitter on is when you are binding the receiver of the 5-in-1 unit to the transmitter. Please see the Transmitter and Receiver Binding section of this manual for more information.

- The throttle stick **MUST** be set in the lowest possible position, and the throttle trim must be set to the middle or a lower-than-middle position (the middle position is indicated by a longer-than-usual beep/tone), in order for the 5-in-1 unit to arm.

If this is the first test flight, or a test flight following repairs, you should also center the rudder, aileron and elevator trims.



- After confirming that the transmitter has been turned on and that the LED is glowing solid red, it is now safe to connect the flight battery to the 5-in-1 unit.
- With battery power applied to the 5-in-1 unit, the status indicator LED should glow solid red, then blink, then become solid red again.

Note: It is extremely important that you do not move or sway the helicopter once the LED begins to blink confirming that the initialization process and calibration of the gyro has begun. If you do move the helicopter while the LED is blinking, disconnect the flight battery from the 5-in-1 unit and repeat the initialization process.

- When the status LED becomes solid red, the 5-in-1 unit is initialized and ready for flight. Also, as long as the throttle stick and trim are set to the correct positions during the initialization process, the ESCs/motors will now be armed. Use caution as both rotor blades will now spin with throttle stick input.

Note: If the status LED does not become solid red, please review the following.

- If after blinking red the status LED becomes solid red, but you have no control of the motors, you have a positive Radio Frequency (RF) link between the transmitter and receiver, but the throttle stick and throttle trim may not be set to the correct positions. Check to be sure that the throttle stick is in the lowest possible position and that the throttle trim is set to the middle or a lower-than-middle position. If you now have control of the motors, proceed to the next step of the checklist.
- If after blinking red the status LED turns off completely, you do not have a positive RF link between the transmitter and receiver. Check to be sure that the transmitter

has been powered on and that the LED indicator on the transmitter is glowing solid red. If the transmitter is powered on and functioning properly, disconnect the flight battery from the 5-in-1 unit, then reconnect it. Now the 5-in-1 unit should initialize and arm properly.

If your 5-in-1 unit will not initialize and arm after following the guidelines as listed above, call the Horizon Support Team at 1-877-504-0233.

- **Once you have placed the helicopter in a safe area, free of obstructions, and are clear of the rotor blades, you can safely begin to power up the model to check for proper operation of the motors.**
- Advance the throttle stick upward slowly, just until both rotor blades begin to spin. **DO NOT attempt to fly the helicopter at this time.** Note the direction that each of the rotor blades spins. When viewed from the top, the upper main rotor blades should spin counterclockwise and the lower main rotor blades should spin clockwise. If either set of rotor blades is operating in the wrong direction, disconnect the battery and reverse the polarity of the corresponding motor's input power leads.
- After confirming that the direction of rotation for both rotor blades is correct, it is best to confirm that both rotor blades respond properly to rudder control inputs.

With the rotor blades spinning at a low level of power, move the rudder stick all the way to the right. This should cause the speed of the upper main rotor blade to increase, and the speed of the lower main rotor blade to decrease.

Next, move the rudder stick all the way to the left. This should cause the speed of the lower main rotor blade to increase and the speed of the upper main rotor blade to decrease. If both rotor blades are not responding properly to rudder input, simply reverse the locations of their motor plugs on the 5-in-1 unit.

After confirming that both rotor blades are rotating in the correct directions, and are responding properly to rudder inputs, your Blade mCX S300 BNF is ready for flight. However, please be sure to review the following sections of the manual BEFORE proceeding with the first flight.

Understanding the Primary Flight Controls

If you are not familiar with the controls of your Blade mCX S300 BNF, please take a few minutes to familiarize yourself with them before attempting your first flight.

When the throttle stick is in the lowest possible position and throttle trim is set to the middle or a lower-than-middle position, the main rotor blades will not spin. Advancing the stick upward will increase the speed of the main rotor blades. Increasing the speed of the main rotor blades will cause the model to climb.

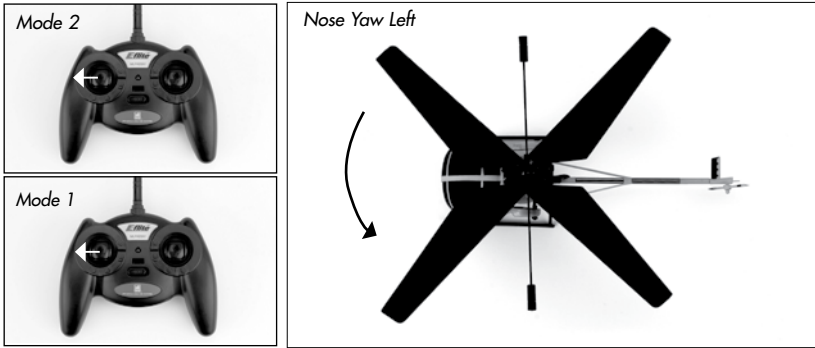


Decreasing the speed of the main rotor blades by lowering the left-hand stick will cause the model to descend.

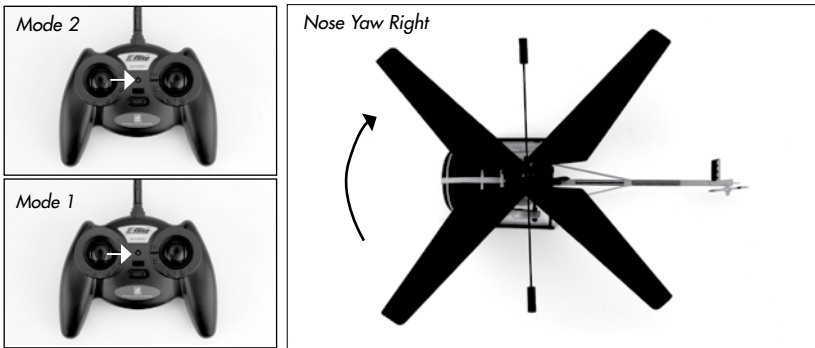


After lifting the model off the ground you can balance the throttle by carefully moving the throttle stick up and down so the model will hold a stationary hover without climbing or descending.

Moving the left-hand stick to the left will turn (yaw) the nose of the helicopter to the left about the axis of the main shaft. This is accomplished by increasing the speed of the lower main rotor blade while decreasing the speed of the upper main rotor blade.

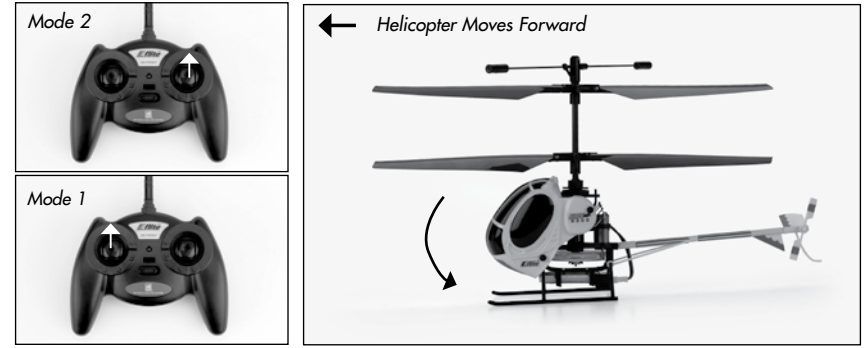


Moving the left-hand stick to the right will turn (yaw) the nose of the helicopter to the right about the axis of the main shaft. This is accomplished by increasing the speed of the upper main rotor blade while decreasing the speed of the lower main rotor blade.

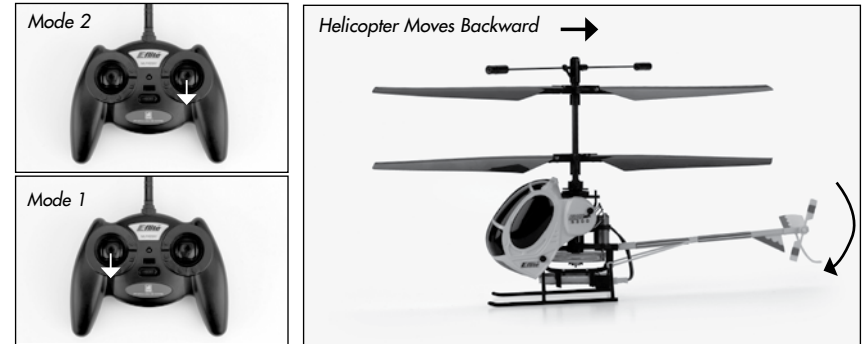


The rudder trim can be used to help keep the nose of the helicopter from rotating to the left or right when in hover with no rudder stick input. For example, if the nose of the helicopter drifts to the right when in hover, add left rudder trim (by pressing the left-hand rudder trim button) until the nose stays as close to straight as possible.

The elevator stick controls both elevator (pitch fore/aft) and aileron (roll). Pushing the stick forward will pitch the nose of the helicopter downward, allowing the helicopter to be flown forward.

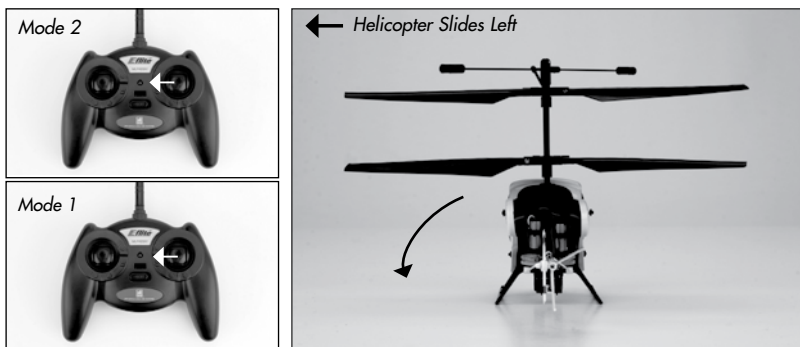


Pulling the elevator stick backward will pitch the tail of the helicopter downward, allowing the helicopter to be flown backward.

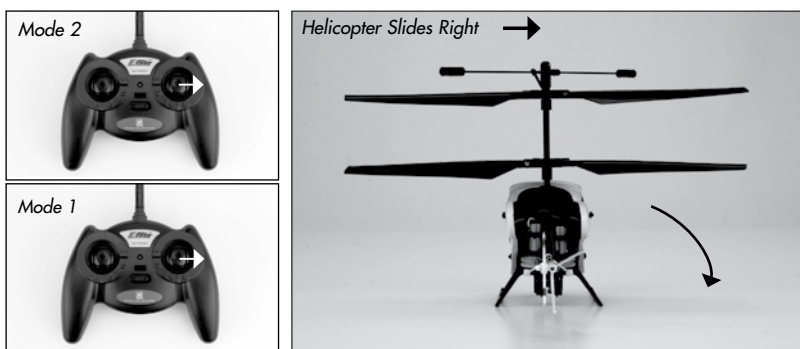


The elevator trim can be used to help keep the helicopter from drifting forward or backward when in hover with no elevator stick input. For example, if the helicopter drifts forward when in hover, add back/up elevator trim until the helicopter hovers as level as possible with no forward drifting.

Moving the aileron stick to the left will roll the helicopter to the left, allowing the helicopter to be flown to the left.



Moving the aileron stick to the right will roll the helicopter to the right, allowing the helicopter to be flown to the right.



The aileron trim can be used to help keep the helicopter from drifting left or right when in hover with no aileron stick input. For example, if the helicopter drifts to the right when in hover, add left aileron trim until the helicopter hovers as level as possible with no drifting to the right.

Once you're familiar with the primary controls of the helicopter, you are almost ready to fly.

Choosing a Flying Area

When you are ready for your first flight, you will want to select a relatively open indoor area that is free of people and obstructions. And while it is possible for experienced pilots to fly the Blade mCX S300 BNF in relatively small indoor areas with great success due to its size and controllability, we strongly recommend an area with at least 10-feet by 10-feet of floor space and no less than 8-foot ceilings when making your first few flights.

Once you have properly trimmed your helicopter and become familiar with its handling and capabilities, you will be able to fly in other smaller, less open areas.

Note: The Blade mCX S300 BNF is designed and intended to be flown INDOORS ONLY.

Flying the Blade mCX S300 BNF

Having followed the proper 5-in-1 control unit initialization and arming procedures, confirmed proper control of the servos and motors, and found a suitable flying area, your Blade mCX S300 BNF is ready for flight.

Note: In addition to reviewing the flight maneuvers outlined below, we recommend that you watch the Instructional Video located on the product page for the Blade mCX S300 BNF on www.horizonhobby.com to see many of these maneuvers and adjustments performed by the helicopter and pilot.

- Slowly raise the throttle stick, increasing the speed of the main rotor blades until the model begins to lift off. **Do not raise the throttle stick too quickly as the model could climb too fast causing you to lose control or make contact with objects above.**
- Lift the model off the ground just a few inches and concentrate on balancing the throttle stick position so that the model holds a steady hover altitude. In some cases it may be best to make a few short "hops" to an altitude of just a few inches until you become familiar with the control inputs and trim settings required to maintain a steady hover and altitude.

As you will find, the Blade mCX S300 BNF requires minor throttle adjustments to maintain its altitude in hover. Remember to keep these throttle adjustments as minimal as possible as large adjustments could result in a loss of control and/or a possible crash.

- While attempting to establish a low-level hover, you can also check to see if any trim adjustments are required to help keep the Blade mCX S300 BNF from constantly drifting in various directions. If you find the helicopter constantly drifts without any directional control input, it will be best to land the model before making any adjustments to the trim settings. Additional details regarding the location and function of the trim buttons can be found in the “Understanding the Primary Flight Controls” section of this manual.

If the nose of the helicopter is drifting to the left or right, you will need to adjust the rudder trim.

If the helicopter is drifting forward or backward, you will need to adjust the elevator trim.

If the helicopter is drifting to the left or right, you will need to adjust the aileron trim.

Continue to make trim adjustments until the helicopter can hover at a low altitude with very little drifting and directional control input. If the Blade mCX S300 BNF is your first helicopter model, it may be best to have the help of an experienced helicopter pilot to trim the model for you before making your first flight.

- Once you have the Blade mCX S300 BNF properly trimmed and maintaining a stable low-level hover, practice using the rudder, elevator and aileron controls to get a feel for how the helicopter responds to control inputs. Remember to keep the control inputs as minimal as possible to prevent over-controlling the helicopter, especially when in hover.

After becoming comfortable with hovering the Blade mCX S300 BNF at low-levels of altitude just a few inches off the ground, you can transition to hovering and flying the helicopter at higher altitudes of approximately three to four feet. At these higher altitudes you will be able to get a feel for the flight characteristics of the Blade mCX S300 BNF when it is flying out of “ground effect.”

- If at any time during flight you feel like the helicopter is drifting out of control, simply release all of the controls except for throttle. You will need to use the throttle to maintain altitude, but due to the inherent stability of the coaxial, counter-rotating blade design, the Blade mCX S300 BNF will simply return to a stable hover on its own if space allows.
- Don't be afraid to set the helicopter down on the ground quickly by lowering the throttle when approaching walls or other obstacles to help prevent main rotor blade strikes.

- **IN THE UNFORTUNATE EVENT OF A CRASH OR ROTOR BLADE STRIKE, NO MATTER HOW MINOR OR MAJOR, YOU MUST LOWER THE THROTTLE STICK TO THE LOWEST POSSIBLE POSITION AS QUICKLY AS POSSIBLE TO PREVENT DAMAGE TO THE ESCS OF THE 5-IN-1 UNIT. YOU MUST ALSO BE SURE THAT THE THROTTLE TRIM IS SET TO THE MIDDLE POSITION OR TO A POSITION THAT IS LOWER THAN THE MIDDLE.**

Failure to lower the throttle stick to the lowest possible position in the event of a crash could result in damage to the ESCs in the 5-in-1 unit, which may require replacement of the 5-in-1 unit.

Note: Crash damage is not covered under the warranty.

- Once you have gained experience and confidence in hovering the Blade mCX S300 BNF, you can attempt more advanced maneuvers including:

Forward Flight	Skidding Takeoffs
Backward Flight	Skidding Landings
Pirouettes	Spot Landings

Troubleshooting Guide

Problem	Possible Cause	Solution
Aircraft will not “throttle up” but all other controls seem to function.	<ul style="list-style-type: none"> User did not lower throttle trim and throttle stick prior to initializing the aircraft. Throttle channel is reversed. Note: Futaba transmitters (equipped with Spektrum modules) may require you to reverse the throttle channel. 	<ul style="list-style-type: none"> Lower throttle stick and throttle trim to their lowest settings. Reverse throttle channel on specific transmitter if applicable.
Upper rotor head/hub is broken.	<ul style="list-style-type: none"> Crash damage 	<ul style="list-style-type: none"> Replace with EFLH2212 by carefully removing the (2) screws in the lower main gear and transferring all unbroken parts to the new upper rotor head/hub. Follow the “Exploded View” section of the manual. Pages 30–31
Aircraft appears to show significant decrease in flight time.	<ul style="list-style-type: none"> Flight battery is not fully charged. AA batteries in charger have inadequate power. EFLB1101S battery has been over-discharged multiple times, causing damage to battery life. 	<ul style="list-style-type: none"> Recharge flight battery completely. Replace AA batteries in the charger and recharge flight battery completely. Replace EFLB1101S battery and read “Battery Warnings and Guidelines” section of manual. Page 7
Charger light stays on after Li-Po battery is disconnected or remains on for longer than 40 minutes when charging.	<ul style="list-style-type: none"> AA batteries in the charger have inadequate power. 	<ul style="list-style-type: none"> Replace AA batteries in the charger.
Aircraft hovers with a “toilet bowl” effect type circle on its own.	<ul style="list-style-type: none"> Binding in the upper rotor head. Damaged rotor blades 	<ul style="list-style-type: none"> Loosen upper rotor hub fly bar retaining screw. Replace rotor blades.

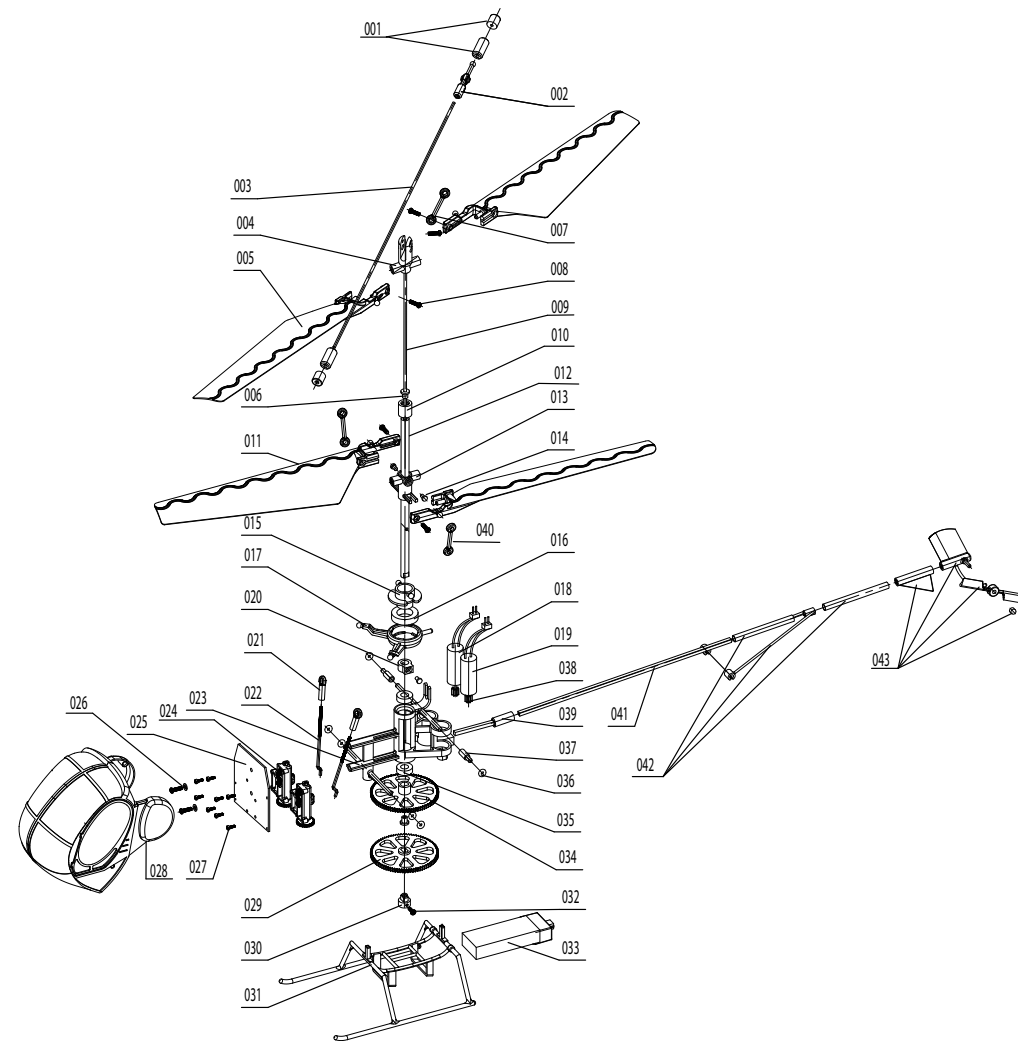
Troubleshooting Guide

Problem	Possible Cause	Solution
LED on Aircraft remains flashing and cannot be controlled by transmitter.	<ul style="list-style-type: none"> User did not wait at least 5 seconds after powering their transmitter prior to connecting the flight battery to the Aircraft. User bound the Aircraft to a different transmitter. Transmitter was too close to Aircraft during the initialization process. 	<ul style="list-style-type: none"> Unplug, then reconnect flight battery. Rebind Aircraft to your desired compatible transmitter. Move transmitter (powered on) a few feet from the Aircraft prior to reconnecting the flight battery.
Aircraft appears to drift towards a certain direction.	<ul style="list-style-type: none"> User did not re-trim the aircraft. 	<ul style="list-style-type: none"> Read “Understanding the Primary Flight Controls” section of this manual. Pages 21–24
Controls appear to be reversed after binding to a different transmitter.	<ul style="list-style-type: none"> User did not initially set up their transmitter prior to binding to the Aircraft. 	<ul style="list-style-type: none"> Read “Control Test” section of this manual. Pages 15–17
Aircraft constantly spins on its own.	<ul style="list-style-type: none"> User did not CENTER the rudder trim on the transmitter prior to initialization of aircraft. User moved or swayed the aircraft during the initialization process. User has not trimmed the aircraft to compensate for battery voltage drop during flight. Upper main gear is binding with lower main gear. 	<ul style="list-style-type: none"> Center the rudder trim on your transmitter and re-initialize the aircraft. Un-plug, then reconnect the flight battery and DO NOT move or sway the helicopter during initialization. Read “Understanding Primary Controls” section of this manual. Pages 21–24 Loosen (2) screws on the lower main gear and ensure there is slight “play” in between the upper and lower main gears. Lube between the upper and lower main gears if applicable.
Aircraft does not function after connecting flight battery and aircraft smells burnt.	<ul style="list-style-type: none"> User may have accidentally plugged the flight battery in the wrong polarity. 	<ul style="list-style-type: none"> Replace 5-in-1 board (EFLH1065) and ensure the RED polarity marks are facing the same direction when connecting the flight battery to the 5-in-1 board.

Exploded View Parts Listing

Reference #	Description (Quantity Requested)	Item #
001	Stabilizer Flybar Paddle (2)	EFLH2219
002	Stabilizer Flybar Seesaw (1)	EFLH2219
003	Stabilizer Flybar (1)	EFLH2219
004	Upper Rotor Head & Stabilizer Flybar Hub/Holder (1)	EFLH2212
005	Upper Rotor Blade (2)	EFLH2221
006	Bushing (2)	EFLH2213
007	Stabilizer Flybar Linkage (1)	EFLH2219
008	Screw T1.2x5mm (7)	EFLH2225
009	Inner Shaft (1)	EFLH2212
010	Bushing Holder (1)	EFLH2213
011	Lower Main Blade (2)	EFLH2220
012	Outer Shaft (1)	EFLH2213
013	Lower Rotor Head (1)	EFLH2217
014	Screw M1.2x2mm (3)	EFLH2225
015	Upper Swashplate (1)	EFLH2216
016	Bearing 6x10x2.5mm (1)	EFLH2216
017	Lower Swashplate (1)	EFLH2216
018	Main Motor, Right (1)	EFLH2210
019	Main Motor, Left (1)	EFLH2209
020	Outer Shaft Retaining Collar (1)	EFLH2214
021	Servo Pushrod Control Link (2)	EFLH2218
022	Servo Pushrod (2)	EFLH2218
023	Main Frame (1)	EFLH2224
024	Replacement Servo Mechanics (2): BMCX	EFLH1066
025	5-in-1 Control Unit (1)	EFLH1065
026	Insulating Washer (2)	EFLH2225
027	Screw M0.8x2.5mm (8)	EFLH2225
028	S300 Body/Canopy, w/ Decals: BMCX	EFLH2327
029	Inner Shaft Main Gear (1)	EFLH2211
030	Inner Shaft Main Gear Retaining Collar (1)	EFLH2211
031	S300 Landing Skid & Battery Mount: BMCX	EFLH2322
032	Screw M1.2x2.5mm (1)	EFLH2225
033	Battery (1)	EFLB1101S
034	Outer Shaft Main Gear (1)	EFLH2213
035	Outer Shaft Bearing 3x6x2mm (2)	EFLH2215
036	O-Ring (8)	EFLH2226
037	S300 Canopy/Body Mount Extension (2)	EFLH2327
038	Pinion Gear (2)	EFLH2209
039	Tail Boom and Angle Adapter (1)	EFLH2210
040	Lower Rotor Head/Swash Linkage (2)	EFLH2217
041	Tail Boom and Angle Adapter (1)	EFLH2323
042	S300 Tail Boom Accent Set	EFLH2324
043	S300 Tail Rotor and Fin Set	EFLH2328

Exploded View



Replacement Parts List

EFLB1101S	110mAh 1S 3.7V Li-Po: BMCX
EFLC1003	1S 3.7V Li-Po Charger, 0.3A: BMCX
EFLH1064	MLP4DSM 4-Channel Transmitter, 2.4GHz: BMCX
EFLH1065	5-in-1 Control Unit, Rx/Servos/ESCs/Mixer/Gyro: BMCX
EFLH1066	Replacement Servo Mechanics (2): BMCX
EFLH2209	Motor w/Pinion, Left: BMCX
EFLH2210	Motor w/Pinion, Right: BMCX
EFLH2211	Inner Shaft Main Gear: BMCX
EFLH2212	Inner Shaft w/Head/Hub: BMCX
EFLH2213	Outer Shaft, Main Gear and Bushing Holder Set: BMCX
EFLH2214	Outer Shaft Retaining Collar Set: BMCX
EFLH2215	Outer Shaft Bearing, 3x6x2mm (2): BMCX
EFLH2216	Swashplate Set: BMCX
EFLH2217	Lower Rotor Head & Linkage Set: BMCX
EFLH2218	Servo Pushrod Set: BMCX
EFLH2219	Stabilizer Flybar Set: BMCX
EFLH2220	Lower Main Blade Set (1 pair): BMCX
EFLH2221	Upper Main Blade Set (1 pair): BMCX
EFLH2322	S300 Landing Skid and Battery Mount: BMCX
EFLH2323	S300 Tail Boom and Angle Adapter: BMCX
EFLH2224	Main Frame Set: BMCX
EFLH2225	Hardware Set: BMCX
EFLH2226	Body/Canopy Mounting O-Ring (8): BMCX
EFLH2327	S300 Body/Canopy, w/ Decals: BMCX
EFLH2328	S300 Tail Rotor and Fin Set: BMCX
EFLH2324	S300 Tail Boom Accent Set: BMCX

Option Parts List

EFLH2216GL	Swashplate Set, Glow in the Dark: BMCX
EFLH2220GL	Lower Main Blade Set, Glow in the Dark (1 pr): BMCX
EFLH2220W	Lower Main Blade Set, White with Decals (1pr): BMCX
EFLH2221GL	Upper Main Blade Set, Glow in the Dark (1 pr): BMCX
EFLH2221W	Upper Main Blade Set, White with Decals (1pr): BMCX
EFLH2222GL	Landing Skid & Batt Mnt Set, Glow in the Dark: BMCX
EFLH2224GL	Main Frame Set, Glow in the Dark: BMCX
EFLH2227W	Body/Canopy, White without Decals: BMCX
EFLH2228GL	Vertical Fin, Glow in the Dark without Decals: BMCX
EFLH2228W	Vertical Fin, White without Decals: BMCX
EFLH2230	Decal Sheet, Blue/Silver Graphics: BMCX
EFLC1004	4-port Charger
EFLC1005	6V Power Supply (For 4-port Charger)

Warranty Period

Horizon Hobby, Inc., (Horizon) warranties that the Products purchased (the "Product") will be free from defects in materials and workmanship at the date of purchase by the Purchaser.

Limited Warranty

(a) This warranty is limited to the original Purchaser ("Purchaser") and is not transferable. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER. This warranty covers only those Products purchased from an authorized Horizon dealer. Third party transactions are not covered by this warranty. Proof of purchase is required for warranty claims. Further, Horizon reserves the right to change or modify this warranty without notice and disclaims all other warranties, express or implied.

(b) Limitations- HORIZON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCT. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

(c) Purchaser Remedy- Horizon's sole obligation hereunder shall be that Horizon will, at its option, (i) repair or (ii) replace, any Product determined by Horizon to be defective. In the event of a defect, these are the Purchaser's exclusive remedies. Horizon reserves the right to inspect any and all equipment involved in a warranty claim. Repair or replacement decisions are at the sole discretion of Horizon. This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or modification of or to any part of the Product. This warranty does not cover damage due to improper installation, operation, maintenance, or attempted repair by anyone other than Horizon. Return of any goods by Purchaser must be approved by Horizon before shipment.

Damage Limits

HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCT, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY. Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability.

If you as the Purchaser or user are not prepared to accept the liability associated with the use of this Product, you are advised to return this Product immediately in new and unused condition to the place of purchase.

Law: These Terms are governed by Illinois law (without regard to conflict of law principals).

Safety Precautions

This is a sophisticated hobby Product and not a toy. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the Product or other property. This Product is not intended for use by children without direct adult supervision. The Product manual contains instructions for safety, operation and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup or use, in order to operate correctly and avoid damage or injury.

Questions, Assistance and Repairs

Your local hobby store and/or place of purchase cannot provide warranty support or repair. Once assembly, setup or use of the Product has been started, you must contact Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions or assistance, please direct your email to productsupport@horizonhobby.com, or call 877.504.0233 toll free to speak to a service technician.

Inspections or Repairs

If this Product needs to be inspected or repaired, please call for a Return Merchandise Authorization (RMA). Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon is not responsible for merchandise until it arrives and is accepted at our facility. A Service Repair Request is available at www.horizonhobby.com on the "Support" tab. If you do not have internet access, please include a letter with your complete name, street address, email address and phone number where you can be reached during business days, your RMA number, a list of the included items, method of payment for any non-warranty expenses and a brief summary of the problem. Your original sales receipt must also be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.

Warranty Inspection and Repairs

To receive warranty service, you must include your original sales receipt verifying the proof-of-purchase date. Provided warranty conditions have been met, your Product will be repaired or replaced free of charge. Repair or replacement decisions are at the sole discretion of Horizon Hobby.

Non-Warranty Repairs

Should your repair not be covered by warranty the repair will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost. By submitting the item for repair you are agreeing to payment of the repair without notification. Repair estimates are available upon request. You must include this request with your repair. Non-warranty repair estimates will be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Please advise us of your preferred method of payment. Horizon accepts money orders and cashiers checks, as well as Visa, MasterCard, American Express, and Discover cards. If you choose to pay by credit card, please include your credit card number and expiration date. Any repair left unpaid or unclaimed after 90 days will be considered abandoned and will be disposed of accordingly. Please note: non-warranty repair is only available on electronics and model engines.

United States

Electronics and engines requiring inspection or repair should be shipped to the following address:

Horizon Service Center
4105 Fieldstone Road
Champaign, Illinois 61822

All other Products requiring warranty inspection or repair should be shipped to the following address:

Horizon Product Support
4105 Fieldstone Road
Champaign, Illinois 61822

Please call 877-504-0233 or e-mail us at productsupport@horizonhobby.com with any questions or concerns regarding this product or warranty.

European Union

Electronics and engines requiring inspection or repair should be shipped to the following address:

Horizon Hobby UK
Units 1-4 Ployters Rd
Staple Tye
Harlow, Essex
CM18 7NS
United Kingdom

Please call +44 (0) 1279 641 097 or e-mail us at sales@horizonhobby.co.uk with any questions or concerns regarding this product or warranty.

Electronics and engines requiring inspection or repair should be shipped to the following address:

Horizon Technischer Service
Hamburger Strasse 10
25335 Elmshorn
Germany

Please call +49 4121 46199 66 or e-mail us at service@horizonhobby.de with any questions or concerns regarding this product or warranty.

Product Registration

Registering your product will provide you the option to stay up-to-date on product information, new products, customization options and other information for E-flite owners. Register your product today for your chance to win great E-flite products. Visit www.E-fliteRC.com/register/ for terms and conditions of the sweepstakes or to register your product today. Sweepstakes open to residents of the 50 United States, Puerto Rico or Virgin Islands. Must be 18 years of age or older to win.

Declaration of Conformity

(in accordance with ISO/IEC 17050-1)

No. HH2008121801

Product(s): Blade mCX S300 BNF
Item Number(s): EFLH2300, EFLH2380
Equipment class: 1

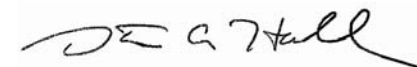
The object of declaration described above is in conformity with the requirements of the specifications listed below, following the provisions of the European R&TTE directive 1999/5/EC:

EN 300-328
EN 301 489-1, 301 489-17

EN 60950

Technical requirements for Radio equipment
General EMC requirements for Radio equipment
Safety

Signed for and on behalf of:
Horizon Hobby, Inc.
Champaign, IL USA
Dec 18, 2008



Steven A. Hall
Vice President
International Operations and Risk
Management
Horizon Hobby, Inc.

