



Nine Eagles™

SOLO and FREE SPIRIT MICRO

Instruction Manual



Nothing Flies Like Nine Eagles

NE R/C 210A Co-axial Helicopter

CONTENTS

Anyone No Experience can Fly Easy Necessary!

2.4GHz 4CH Fly in Ultra-Small Space!

Latest and Unique Ultra-Micro 0.95Oz(27g) Heli in the world!

Feature:

1. Perfect airframe design and best electronic component offer credible durability.
2. THREE UNIQUE INVENTION PATENT in the world:
 - A. Charge directly on the transmitter
 - B. Easy installation of battery
 - C. Allow Mode 1 to Mode 2 only by antenna

INTRODUCTION

FREE SPIRIT MICRO and SOLO are the latest 4 CH ultra mini-helicopters. Their excellent control function offering first-time pilots the ability to control them easily. FREE SPIRIT MICRO and SOLO adopt coaxial, counter-rotating rotor head design and latest 2.4GHz technology, making the helicopters unsurpassed stability and easy to flight and the dimension of the whole helicopter is only:

8.39¹¹(213mm)x7.40¹¹ (188mm), weight only: 0.95Oz(27g), making these two kind of helicopters can easy fly indoor anywhere. Just as drawing room, bedroom and even office.

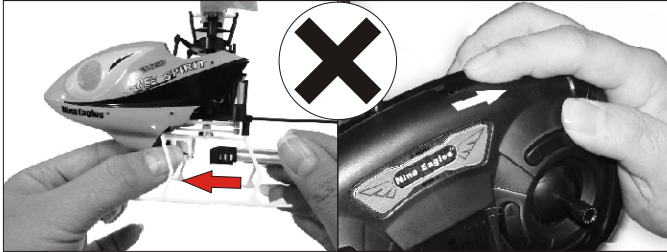
FREE SPIRIT MICRO and SOLO come out 100% factory-made and assembled, flight-tested and ready to fly right out of the box, you can enjoy the flight without assembly or setup required .including in the box is the Free spirit micro /solo airframe, Li-Po Battery, Four (4) AA battery, 2.4GHz transmitter which offers freedom from frequency restrictions and allows the FREE SPIRIT MICRO and SOLO to be flown indoors or a suitable area, anytime.

Though our products: FREE SPIRIT MICRO and SOLO possess stable flight function from the factory, we strongly suggest reading through this manual completely and check the battery and the charger function, then control helicopters.

Warning

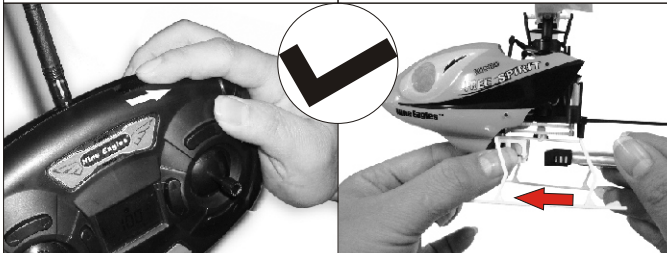
Start process:

- | | |
|---|------------------------------|
| 1. slide the li-po battery into the slot on the helicopter. | 2. turn on the transmitter . |
|---|------------------------------|



Misoperation

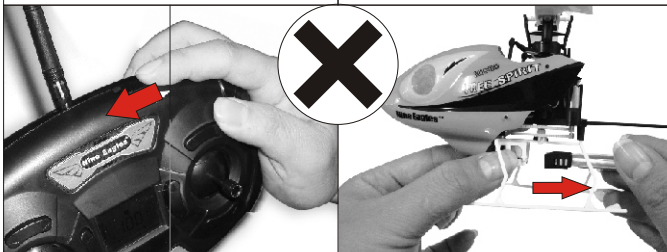
- | | |
|------------------------------|---|
| 1. turn on the transmitter . | 2. slide the li-po battery into the slot on the helicopter. |
|------------------------------|---|



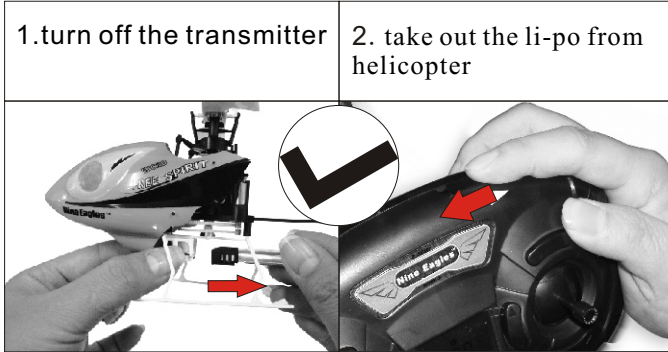
Right operation

Shut down process:

- | | |
|-----------------------------|---------------------------------------|
| 1. turn off the transmitter | 2. take out the li-po from helicopter |
|-----------------------------|---------------------------------------|

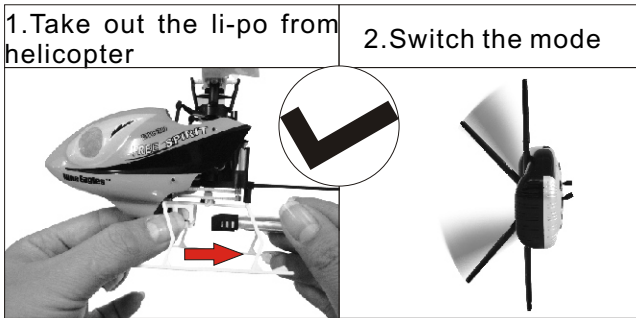


Misoperation

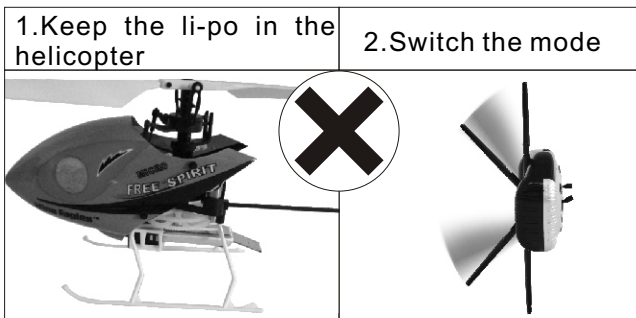


Right operation

Switch the mode process:



Right operation



Misoperation

Warning: Failure to comply with any of the instruction of this manual to mis-operation ,it could lead to unnecessary injury .

An R/C helicopter is not a toy! If misused, it can cause serious bodily harm and damage to property. Fly indoors or a suitable area, 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. Ensure that yours and other people's hands, and face are kept away from the rotating parts.

Note on Lithium Polymer Batteries



Lithium Polymer batteries are significantly more volatile than alkaline or NiCd/NiMH batteries used in R/C applications. All manufacturer's instructions and warnings must be followed closely. Mishandling of LiPo 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 collections 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.

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.) which 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.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

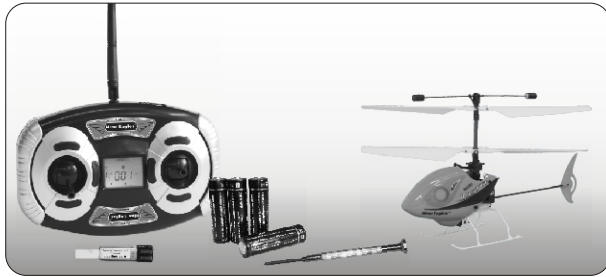
- 1) Reorient or relocate the receiving antenna.
- 2) Increase the separation between the equipment and receiver.
- 3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4) Consult the dealer or an experienced radio/TV technician for help.

The associated regulatory agencies of the following countries recognize the noted certifications for this product as authorized for sale and use:

USA	Canada	Belgium
Denmark	France	Finland
Germany	Italy	Netherlands
Spain	Sweden	UK

PRODUCT LIST

Description	QTY
FREE SPIRIT MICRO/SOLO Air frame	1
2.4GHz TRANSMITTER	1
Li-Po Battery	1
AA Battery	4
Screwdriver	1



Additional Equipment

No additional equipment is required to complete your helicopter.

Flight Preparation

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.

1. Check whether the whole package complete
2. Install four(4) AA batteries into the transmitter
3. Use the transmitter to charge the helicopter
4. Put the Li-Po battery into frame
5. Test the function of transmitter
6. Familiar yourself with the function of transmitter
7. Choosing a suitable area for Flying

Li-Po Battery Warning and Guidelines

If you do not agree with these conditions, return your complete FREE SPIRIT MICRO/SOLO model in new, unused condition to the place of purchase immediately.

Operation Method

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
-
- You must charge the included 3.7V 110mAh LiPo 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 3.7V DC LiPo Charger ONLY. Failure to do so may result in a fire causing personal injury and/or property damage. DO NOT use a NiCd or NiMH 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 30-45 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 0-7° 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 LiPo flight battery. Discharging the battery too low can cause damage to the battery resulting in**

LiPo cells should not be discharged to below 3V each under load. In the case of the 1S LiPo battery used for the FREE SPIRIT MICRO/SOLO, you will not want to allow the battery to fall to below 3V during flight.

The FREE SPIRIT MICRO/SOLO'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 LiPo battery that results 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 motors are running as the voltage of the battery may drop below the minimum operating voltage of the receiver and other electronics.

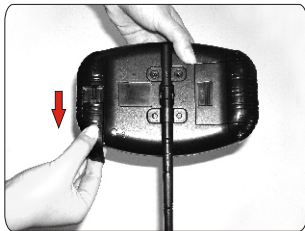
Also, it is not recommended that you fly to the soft LVC every time you fly. Instead, you should be aware of the power level of the battery/helicopter throughout the flight, and if at any time the helicopter begins to require more throttle than typical to maintain hover or flight, you should land the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

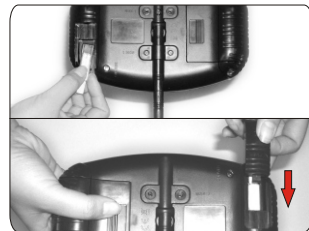
If you have any further questions or concerns regarding the handling, charging and/or use of the included Li-Po battery pack, please contact TEL:0086-21-52919366, EMAIL: SALES@NINEEAGLE.COM

Battery Charging

- A. Ensure the transmitter contain batteries with enough power



- B. Take off the battery cover of the transmitter.



- C. Slide the li-po battery into the slot on the transmitter until you make the connection successfully .the indicative led light on the charger will solid red.

- D. when the battery is fully charged the Led light will go out entirely
- E. You must take out the li-po when it finishes the charge process.

Installing the Transmitter Battery

1. Take off the transmitter cover
2. Install four(4) AA batteries in the transmitter
3. Turn on the power , check if there is any content on LCD

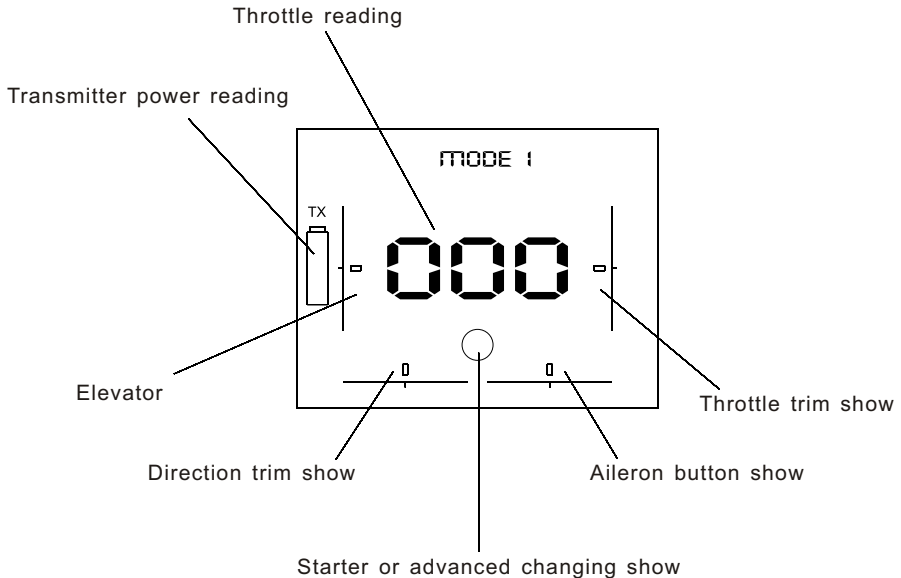
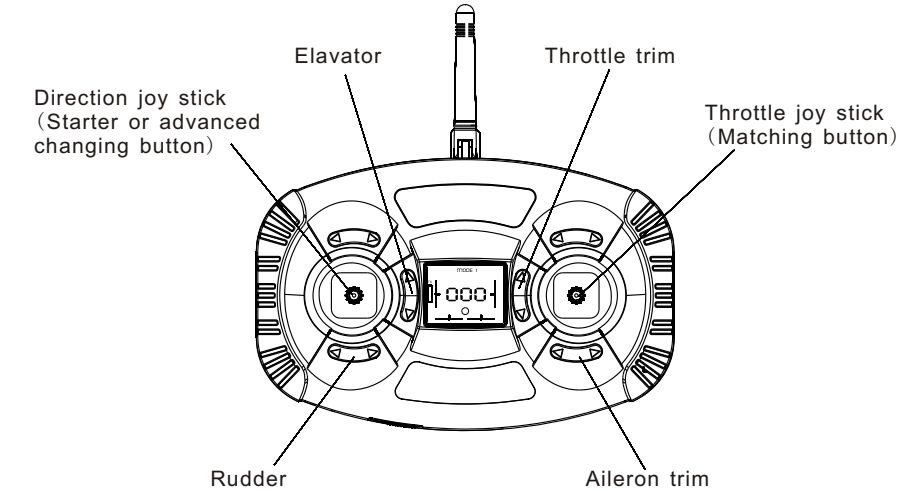
Installing Li-Po Battery to the Helicopter

Slide the li-po battery into the battery slot on frame of helicopter (usually with the label on the battery facing outward) .however, be sure to check for proper alignment and polarity before proceeding to the next step.

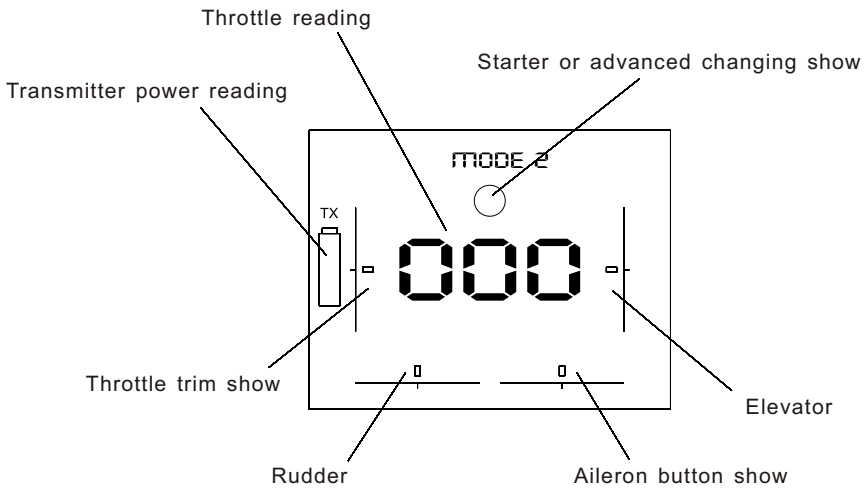
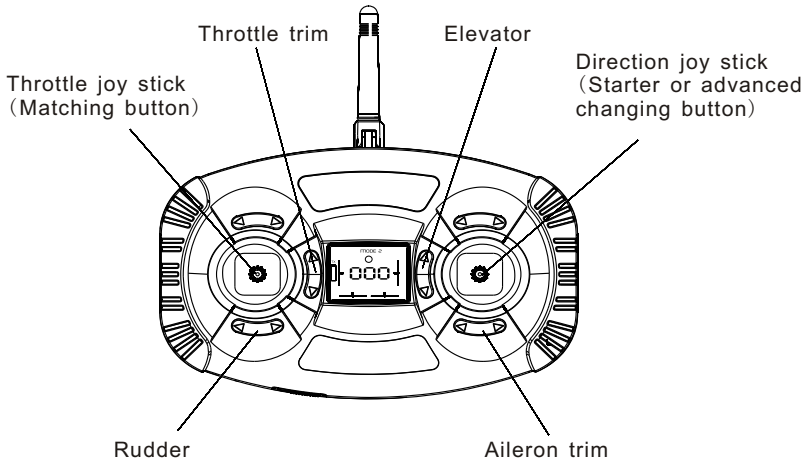


Transmitter Control Identification

When the transmitter is MODE1:



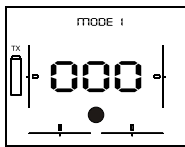
When the transmitter is MODE2:



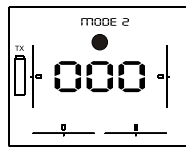
Set up the Primary and Advanced Control Switch

We have set up the primary and advanced control model to meet the different fans requirement.

1. Turn on the transmitter, check the present model of transmitter. if the mode is advanced the illustration as left, if the mode is primary the illustration as right.



Advanced mode



Primary mode

2. Press the button to switch the mode of the primary and advanced.

Note: This throttle curve in the low rate mode is also different than it is in the high rate mode. This makes it much smoother and easier to control the throttle when in the low rate mode.

The advanced mode is suitable for the experienced pilot .We suggest you choose the primary mode when you first flight the helicopter.

Transmitter Mode Switch Function

In order to meet the different customer requirement, we use the transmitter with the mode switch function .it can switch between the lift and right hand.

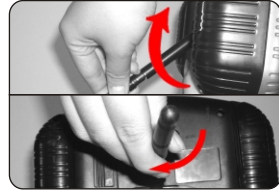
Please go ahead the following process to switch the mode from Mode2 to Mode1 :

1. Turn off the transmitter.

2. Take off the fixed nut on the antenna and clip.



3. Reverse the antenna 90 degree , circumrotate the antenna shaft 180 degree, then make the antenna to cling another side of transmitter .



4. Re-install the nut and the fix clip on the antenna.



5. Turn on the transmitter then be the mode1 operation.

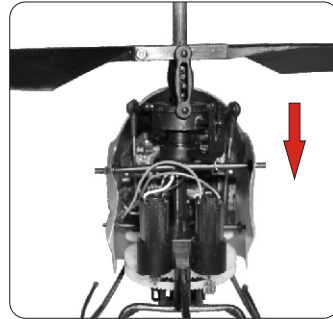
Control Test

Although the FREE SPIRIT MICRO and SOLO are test flown at the factory, we still suggest you inspect the productive quality when you open the box to ensure none of the any parts were damaged during shipping and handling .

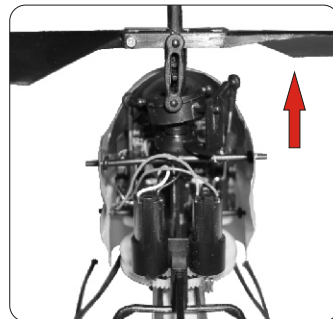
1. Turn on the transmitter.

2. Slide the li-po into the slot of helicopter (usually the copper spring facing inward), to prevent reverse polarity connection .however ,please be sure to check for proper alignment and polarity before proceeding to the next step.

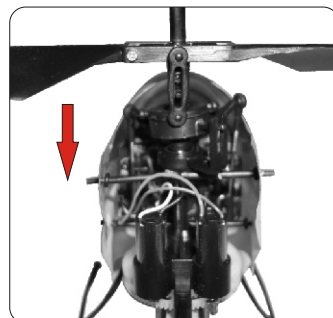
3. Move the elevator stick on the transmitter forward and aft to check elevator pitch control. When the stick is pushed forward, the right-hand servo (when viewing the helicopter from behind) should pull the swashplate downward.



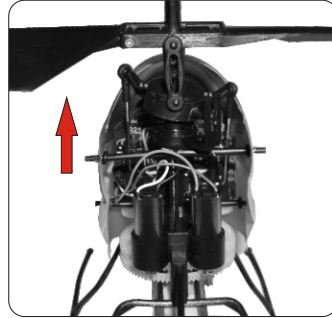
4. With the stick pulled back, the right-hand servo should push the swashplate upward.



5. Move the aileron 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.



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



5-in-1 control unit description, arming and motor control test

The unique 5-in-1 Control Unit installed on your FREE SPIRIT MICRO/SOLO is a lightweight combination of main motor electronic speed controls, mixer, gyro, servos and GFSK compatible receiver. The 5-in-1 unit is also equipped with two status indicator LEDs.



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 powerin 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: We have set the code for you before the helicopters leave factory. It is not necessary to adjust it again in the future, unless the transmitter can not control the helicopter.

- Turn on the transmitter and slide the li-po into the helicopter, If the indicative led light flashes Please set up the throttle to zero graduation ,then the led light become solid red,thenmove the throttle stick slightly on the transmitter forwarder and after to make the blade circumrotate.Push the throttle at any direction and the blade swing against it; push any button of trim and the scale of LCD variety against it .then the helicopter is good.

Note: If you find any abnormal situation when you check your helicopter, Please do as below:

- A. Reinstall the battery of transmitter.
- B. Reinstall the Li-Po battery of the helicopter, and check if the battery installed reverse.
- C. Rebind for the helicopter.

If your helicopter still can not work after do as above said, please call the Nine Eagle Support Team at : 0086-21-52919366 OR EMAIL: SALES@NINEEAGLE.COM

- 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 counter clockwise 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 swap 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 FREE SPIRIT MICRO/SOLO is ready for flight. However, please be sure to review the following sections of the manual BEFORE proceeding with the first flight.