



Nine Eagles™

Free Spirit Micro and SOLO

NE R/C 210A Co-axial Helicopter

Instruction Manual



NOTHING FLIES LIKE NINE EAGLES

■ 210A090515

User Handbook

Congratulations on becoming a Nine Eagles™ Helicopter pilot!

To ensure safe use, please read this manual thoroughly before flying the helicopter. If you have never flown an RC Helicopter before, The Free Spirit Micro and Solo are your best choice!

Catalogue

Introduction.....	1
Warning and FCC Information.....	3
Specification.....	6
Product List.....	7
Exploded View.....	7
Maintenance List.....	11
Transmitter Control Identification.....	12
How to fly.....	15
Operate Test.....	20
Choosing a Flying Area.....	23
Flight Training	23
Notify Items.....	25
Miscellaneous.....	25

Introduction

Free spirit micro and solo are the latest 2.4 GHZ 4-channels co-axial helicopters. It has excellent control function and advanced balanced operative system with easy operation and fly stabil it . It is the best choice for the pilot to learn how to fly .

Free spirit Micro and solo are the min- leisure indoor helicopters which research and developed by NineEagles™. It has the min-volume ,light-weight that can fly in small range . The pilot can absolutely enjoy this leisure sport.

THREE UNIQUE INVENTION PATENT in the world

- A. Allow Mode1 to Mode2 only by antenna***
- B. Easy installation of battery and Charge directly on the transmitter***
- C. Display screen show voltage, electricity and data when hovering, it make helicopter fly at will. if you open the transmitter switch, each heli can fly to sky in the straight line, moreover it can hover.***

Warning and FCC Information

■ **Warning**

The Nine Eagles™ NE R/C 210A is not a toy. Children under 14 years old are strictly forbidden from flying this helicopter.

You must fly this helicopter safely.

When flying or preparing the helicopter for flight you should strictly adhere to the instructions. Ensure that yours and other people's hands, and face are kept away from the rotating parts.

Always use the helicopter indoors or in outdoor areas that are free of wind.

Never fly close to or above others.

Always unplug the helicopter battery before turning off the transmitter when the helicopter is stopped.

Helicopter uses a lithium polymer battery. Always adhere to operating instructions for the lithium polymer battery to avoid accidents such as combustion or explosion.

Always use a genuine Nine Eagles™ charger and power adaptor designed for this helicopter.

Always unplug the charger and adapter from the electrical outlet after completion of each charge.

Never overcharge the battery, avoid use in direct sunlight or near fire. Ensure the battery is kept dry.

Never store or transport the battery with metal objects.

Never disassemble the battery.

Never use wet hands when in contact with the charger, battery or power adaptor.

When you fly the helicopter, keep distance from other electrical equipment, magnetic objects, wireless devices, etc, to avoid interference and accidents.

■ **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.

■ **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.

■ **LiPo Battery Safety Guidelines**



Lithium Polymer batteries are significantly more volatile than alkaline or NiCd/NiMH batteries used in RC 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.

If you are unsure of how to charge the battery included with this product, please seek the advice of your local hobby shop.

WARNING

Charging and discharging the batteries has the potential for fire, serious injury to persons and damage to property. The user of this battery agrees to accept responsibility for all such risks. Nine Eagles™, its affiliates, distributors, and retail partners can not control the use, application, charging or installation of this product and shall not be held responsible for any accident, injury to persons, or damage to property resulting from the use of this product. Read all safety guidelines, charging instructions, and battery disposal instructions before using batteries. Store battery packs out of the reach of children and pets. Children under the age of 18 must be supervised by a responsible adult. Children under 14 years of age should not be permitted to use this product under any circumstances. This product contains chemicals known to the State of California to cause Cancer, Birth Defects and other Reproductive Harm.

Li-PO BATTERY WARRANTY

This product is warranted against defects in original material and workmanship only. No term warranty is offered with this product. In no case shall Nine Eagles™ liability be greater than the actual retail purchase price of this product.

SPECIFIC SAFETY GUIDELINES

1. Store in a fire proof container and charge on an open fire proof surface.
2. Charge in a protected area devoid of combustibles. Never leave the charging process unattended.
3. In the event of damage carefully remove the battery to a safe place to observe for at least half an hour. Damaged batteries are likely to explode. Never attempt to charge a damaged battery, no matter how slight the damage. Dispose of damaged batteries as the instructions below.
4. Only use the Nine Eagles balanced charger designed for this battery. Never use

chargers designed for Ni-CD batteries. If the batteries show any sign of swelling, remove them to a safe place outside as they could erupt into flames.

5. MOST IMPORTANT – Never plug in a battery and leave to charge overnight. Serious fires have resulted from this practice.
6. Do not attempt to make your own battery packs from individual cells.

If the battery pack involved in a crash or is otherwise damaged

1. Remove the pack from the model.
2. Inspect the pack for damage to the wiring or connections
3. If necessary, disassemble the pack and dispose of any damaged cells

Disposal of Li-PO batteries

1. Put the pack in a safe open area and connect a moderate resistance across the cell terminals until the cell is completely discharged.
CAUTION: The pack may get extremely hot during the discharge
2. Puncture the plastic envelope and immerse in salt water for several hours.
3. Place in your regular rubbish bin.

Specification

Model No:	NE R/C 210A
Rotor Diameter:	7.40"(188mm)
Overall Length:	8.39"(213mm)
Weight:	0.95oz(27g)
Power System:	Φ6mm Motor X 2pcs
Battery:	1-cell 3.7V 110mAh Li-PO

Product List

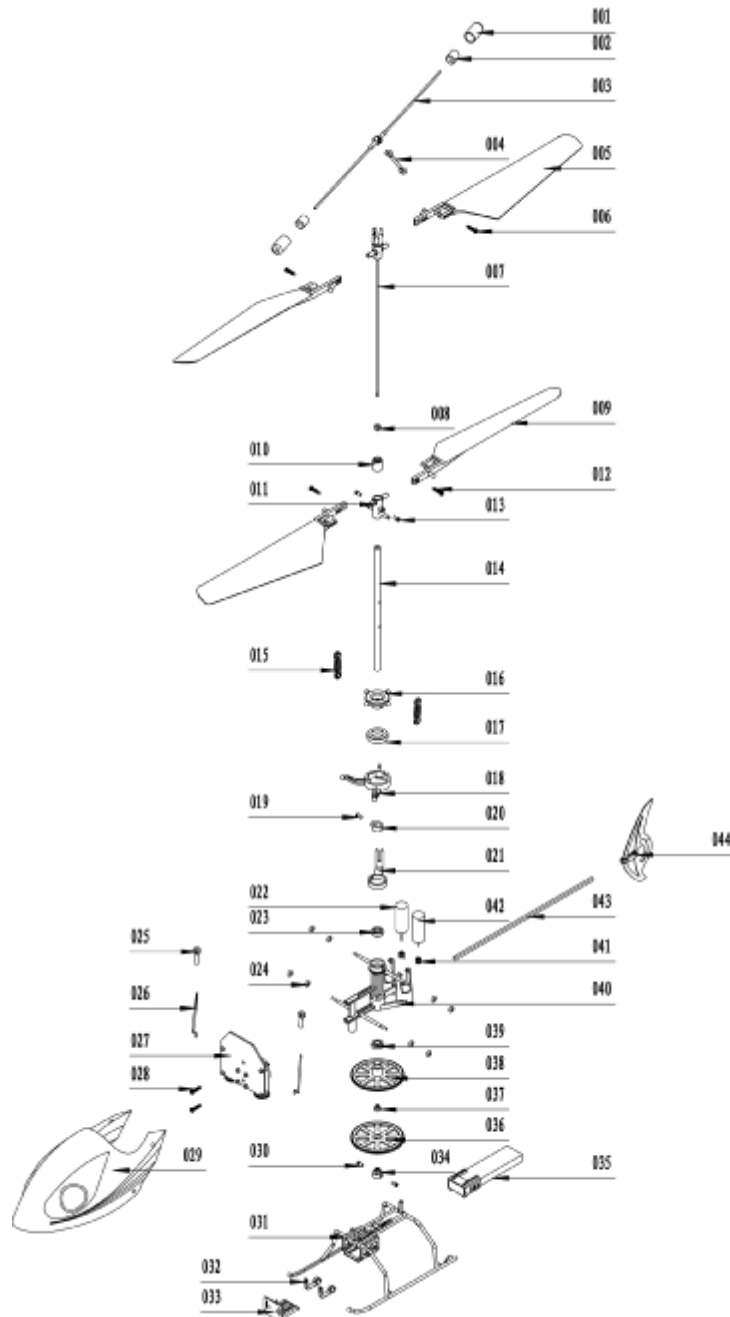
Description	QTY
FREE SPIRIT MICRO/SOLO Air frame	1
2.4GHZ TRANSMITTER	1
Li-Po Battery	1
AA Battery	4
Screwdriver	1



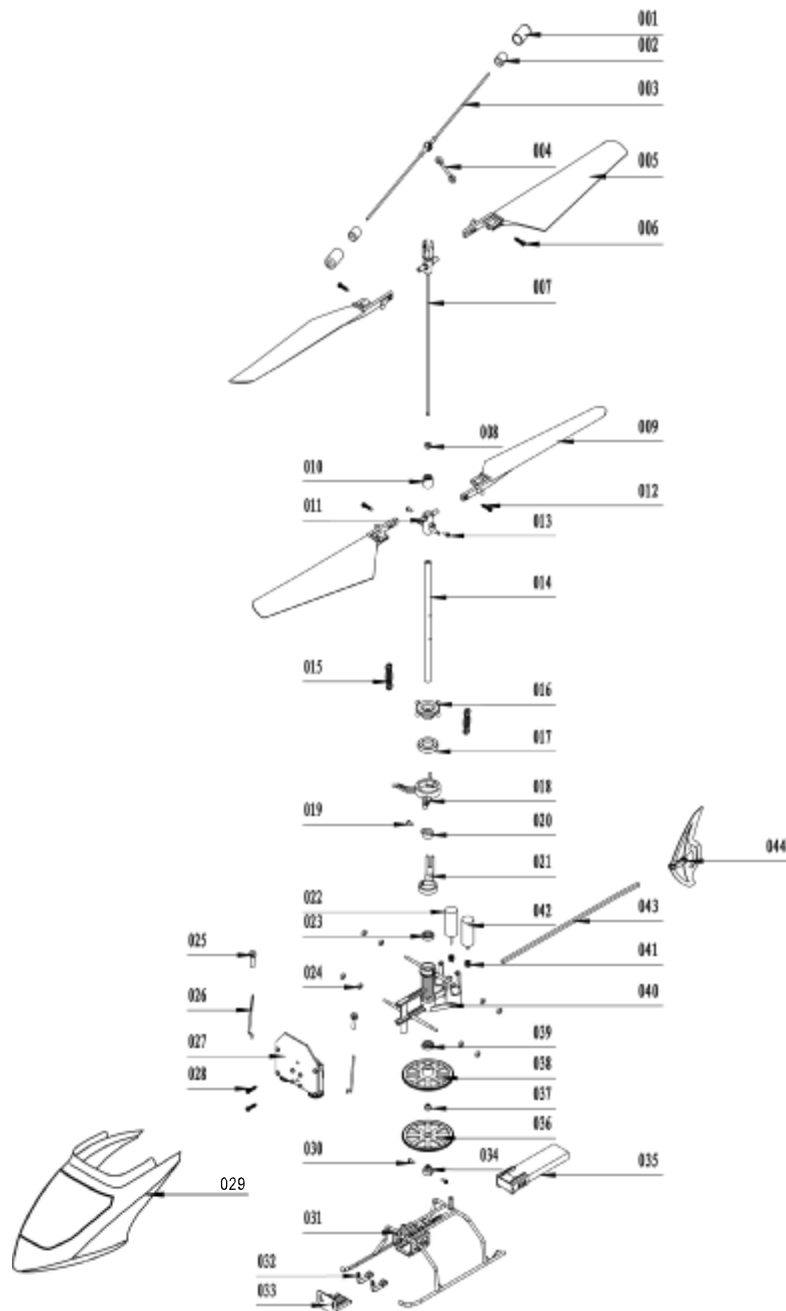
Warrant: *NineEagles guarantees all the helicopters have been strictly inspected, tested before export from factory. Please contact your local distributor to get the technology support to purchase the spare parts and replacement. We have the detail explorer drawing to help you identify the broken spare parts.*

Exploded View

■ Exploded View of Free Spirit Micro



■ Exploded View of SOLO



■ Exploded View Parts Listing

No.	Description	Qty	No.	Description	Qty
001	Hammer balance	2	023	Bearing MR63	1
002	Weight block	2	024	Rubber fixed circle	8
003	Flybar set	1	025	Under ball linkage rod	2
004	Upper ball linkage rod	1	026	removable steel wire	2
005	Upper main rotor blades grip	2	027	Receiver	1
006	Screw ST1.3X6PB	2	028	Screw ST1.3X6PM	2
007	Inner shaft	1	029	Cabin	1
008	Copper cover	1	030	Screw PM1.2X2.5	2
009	Undermain rotor blades grip	2	031	Landing skid mount	1
010	Bearing board	1	032	Male Terminal plug set of battery	2
011	Under T shape holder	1	033	Terminal plug set of battery	1
012	Screw ST1.3X6PB	2	034	Fix of Inner shaft	1
013	Screw PM1.2X2.5	2	035	Li-PO battery	1
014	Outer shaft	1	036	Under gear	1
015	Middle ball linkage rod	2	037	Copper cover	1
016	Upper swashplate	1	038	Upper gear	1
017	Bearing MR106	1	039	Bearing MR63	1
018	Under swashplate	1	040	Main frame	1
019	Screw PM1.2X2.5	1	041	Motor gear	2
020	Outer shaft fixed circle	1	042	Motor1	1
021	Sawshplate guide frame	1	043	Tail pole	1
022	Motor2	1	044	Tail wing	1

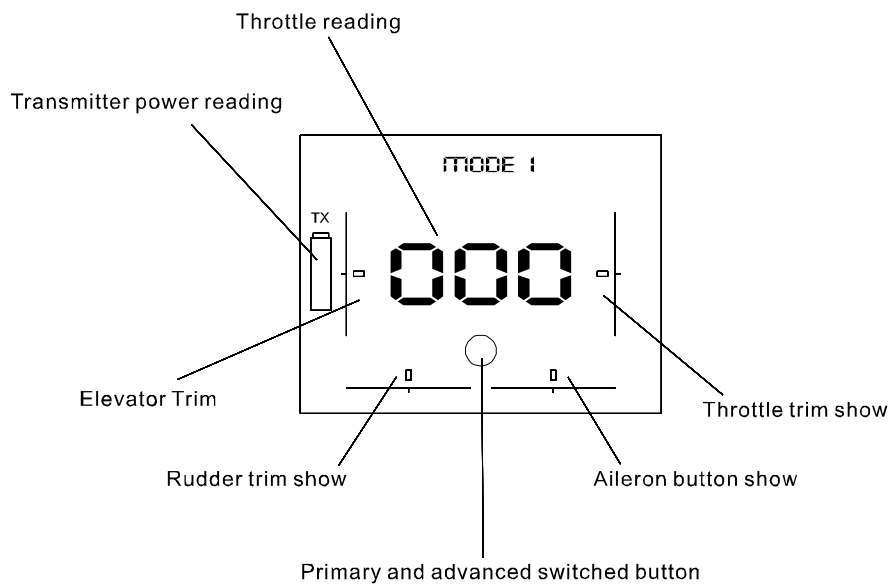
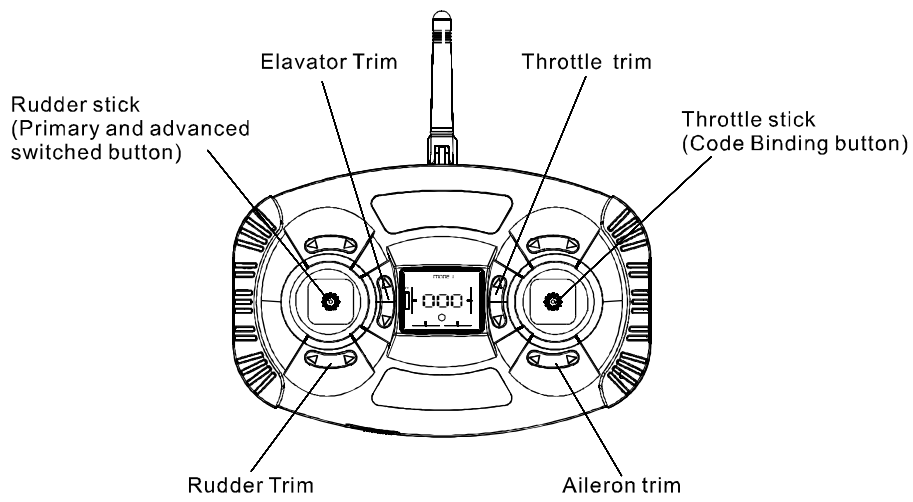
Maintenance List

In order to facilitate customers to replace some easily damaged parts, we can give you a nicer price to replace the following spare parts.

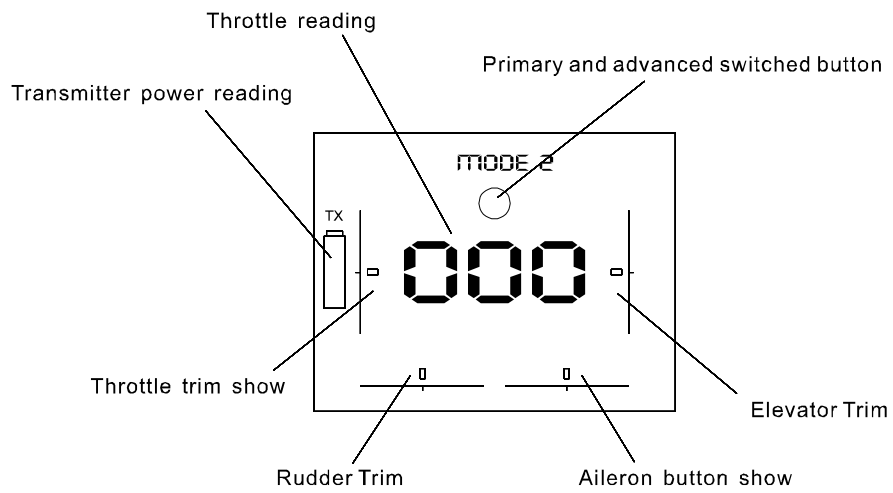
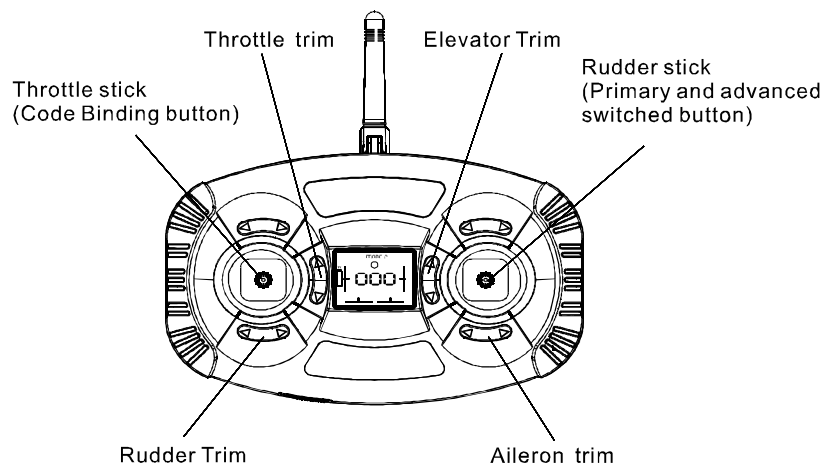
No.	Item No.	Description
1	NE4210001	Cabin Set (Green)
2	NE4210002	Cabin Set (Red)
3	NE4210003	Cabin Set (Red)
4	NE4210004	Rotor Blades Set (Black)
5	NE4210005	Rotor Blades Set (White)
6	NE4210006	Flybar set
7	NE10121001021	Inner shaft set
8	NE10121001014	Under T shape holder
9	NE4210007	Swashplate
10	NE4210008	Outter shaft set
11	NE4210009	Main frame set
12	NE4210010	Gear Set
13	NE4210011	Ball linkage rod set
14	NE4210012	Tail set (Green)
15	NE4210013	Tail set (Red)
16	NE4210014	Landing skid mount set (Black)
17	NE4210015	Landing skid mount set (White)
18	NE4210016	Bearing set
19	NE4210017	Fixed circle set
20	NE4210018	Screw set
21	NE4210019	Rubber fixed circle
22	NE4902001	Motor Set
23	NE4901001	Battery Set
24	NE4603001	Receiver Set

Transmitter Control Identification

When the transmitter is **MODE1**:



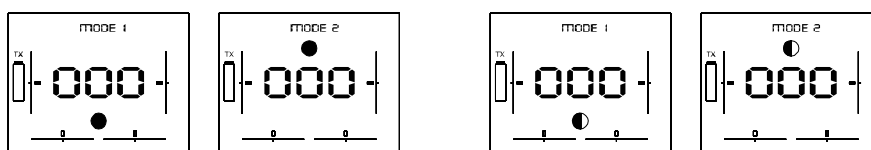
When the transmitter is MODE2:



■ Set up the Primary and Advanced Control Switch

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

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

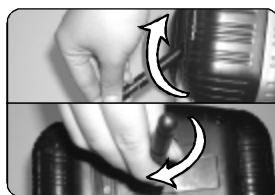
In order to meet the different customer requirement, we use the transmitter with the mode switch function, it can switch between the left and right hand.

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

1. Turn off the transmitter.



PICTURE 1



PICTURE 2



PICTURE 3

2. Turn off the fixed nut on the antenna and clip.(PICTURE 1)
3. Reverse the antenna 90 degree , circumrotate the antenna shaft 180 degree,then make the antenna to cling another side of transmitter.(PICTURE 2)

4. Re-install the nut and the fix clip on the antenna.(PICTURE 3)
5. Turn off the transmitter and to be the mode1 operation check.

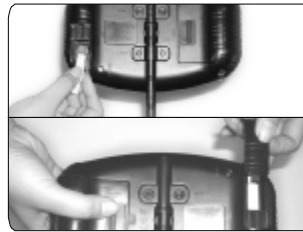
■ **Battery Charging**

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 ,then,open the power of transmitter, the indicative green light on the charger will solid green.

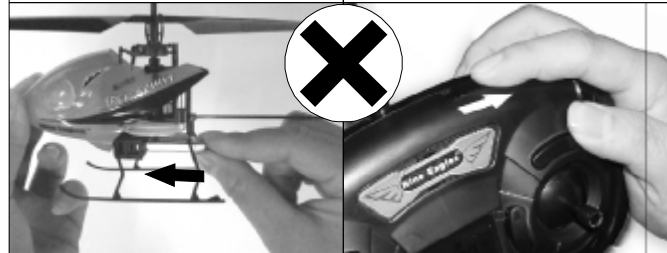


D. When the battery is fully charged the green light will go out entirely.

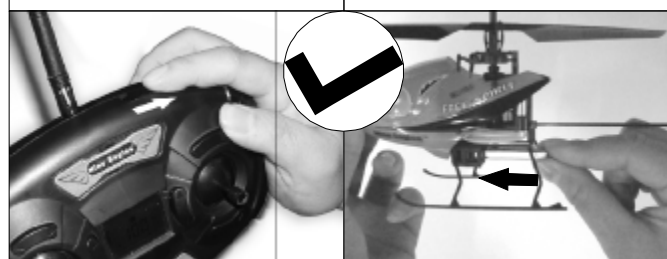
How to Fly

1. Take off the transmitter cover
2. Install four of the included AA batteries in the transmitter
3. Turn on the power , check if there is any content on LCD.
4. 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 fro proper alignment and polarity before proceeding to the next step.

Start process:

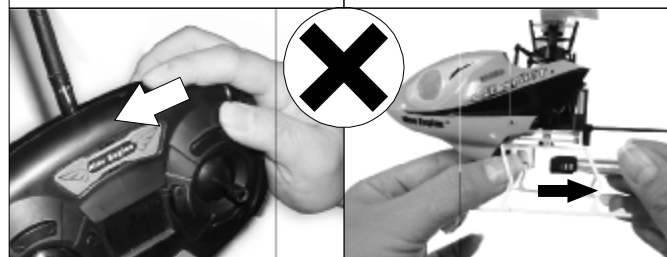
1. Slide the Li-PO battery into the slot on the helicopter.	2. Turn on the transmitter.
	

Misoperation

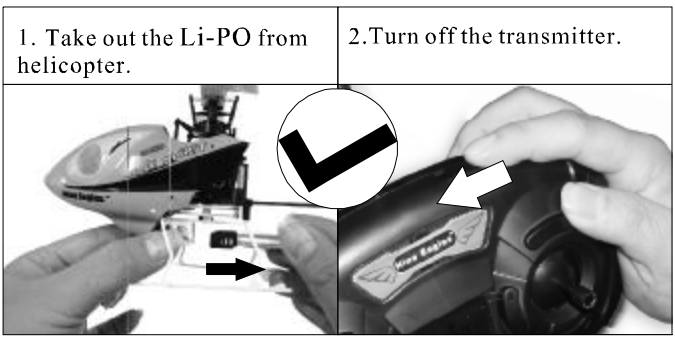
1. Turn on the transmitter.	2. Slide the Li-PO battery into the slot on the helicopter.
	

Right operation

Shut down process:

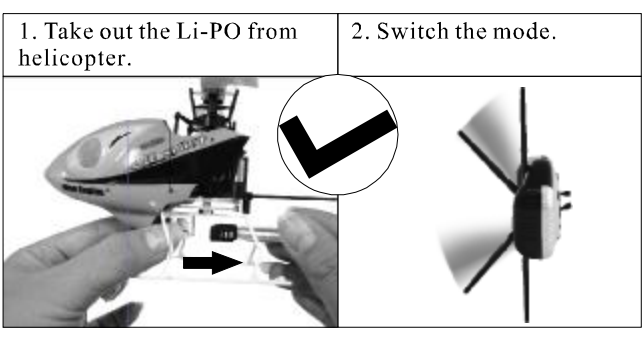
1. Turn off the transmitter	2. Take out the Li-PO from helicopter
	

Misoperation

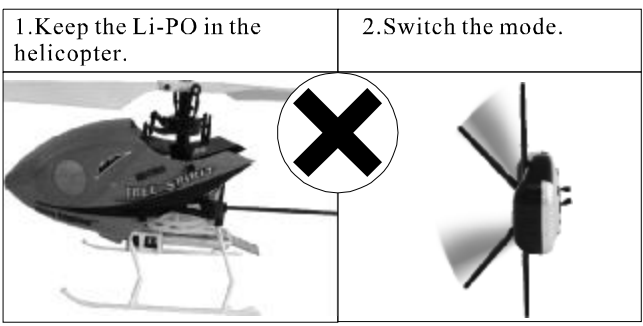


Right operation

Switch the mode process:



Right operation



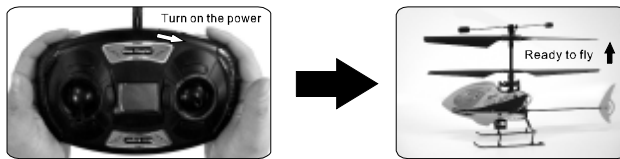
Misoperation

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

Set the throttle stick on the lowest position, No touching the sticks when turn on the power, The transmitter has the automatic calibration function to guarantee the helicopter is on the best status.

I. The Right Operation

1. Set the throttle stick on the lowest position, Use two hands to release the throttle stick and control stick, Meanwhile turn on the power.
2. After the transmitter calibrates automatically and all the dots on the display return to the middle position. You can turn on the helicopter normally.



II. The Wrong Operation



1. Set the control stick on the most right position, Meanwhile turn on the power.
2. After the transmitter calibrates automatically and all the dots on the display return to the middle position. The system will wrongly consider the most right place as suitable place.
3. While you release the control stick, control stick will automatically return to the middle place. System will give the wrong order to instruct helicopter to turn left.
4. While you turn on the helicopter, The helicopter will rollover to left.



1. Set the control stick on the most left position, Meanwhile turn on the power.
2. After the transmitter calibrates automatically and all the dots on the display return to the middle position. The system will wrongly consider the most left place as suitable place.
3. While you release the control stick, control stick will automatically return to the middle place. System will give the wrong order to instruct helicopter to turn right.
4. While you turn on the helicopter, The helicopter will rollover to right.



1. Set the control stick on the most front position, Meanwhile turn on the power.
2. After the transmitter calibrate automatically and all the dots on the display return to the middle position. The system will wrongly consider the most front place as suitable place.
3. While you release the control stick, control stick will automatically return to the middle place. System will give the wrong order to instruct helicopter to move back.
4. While you turn on the helicopter, The helicopter will reverse.



1. Set the control stick on the most back position, Meanwhile turn on the power.
2. After the transmitter calibrate automatically and all the dots on the display return to the middle position. The system will wrongly consider the most back place as suitable place.
3. While you release the control stick, control stick will automatically return to the middle place. System will give the wrong order to instruct helicopter to forward.
4. While you turn on the helicopter, The helicopter will forward.



1. Set the control stick on the lower-left corner, Meanwhile turn on the power.
2. After the transmitter calibrate automatically and all the dots on the display return to the middle position. The system will wrongly consider the most left place as suitable place.
3. While you release the control stick, control stick will automatically return to the middle place. System will give the wrong order to instruct helicopter to turn right rotation.
4. While you turn on the helicopter, The helicopter will turn right rotation.

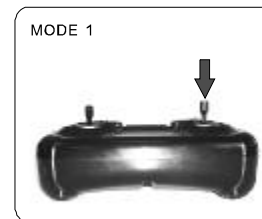
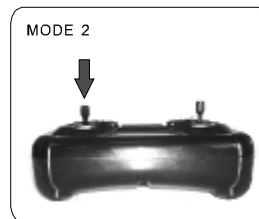


1. Set the control stick on the lower right corner, Meanwhile turn on the power.
2. After the transmitter calibrate automatically and all the dots on the display return to the middle position. The system will wrongly consider the most left place as suitable place.
3. While you release the control stick, control stick will automatically return to the middle place. System will give the wrong order to instruct helicopter to turn left rotation.
4. While you turn on the helicopter, The helicopter will turn left rotation.

■ Helicopter and transmitter binding

We have bind the helicopter and transmitter before export the cargos from factory. If you need re-bind the code ,please take the following step.

1. Press the binding button.



2. Proper operation of the transmitter by switching the power switch on. The LCD glitter while the transmitter beeps.
3. Be sure to slide the lipo battery into helicopter while binding end.
4. After binding, LCD of transmitter stop glitter enter the normal operation.





Note: You can't bind the transmitter and receiver until the throttle set up on the zero graduation and the green light solid green. If the LED light flashes, please set up the throttle to zero graduation then the Helicopter can normally bind.

Operate Test

■ Trim adjustments



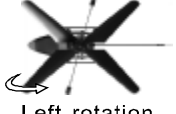



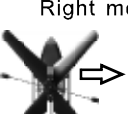



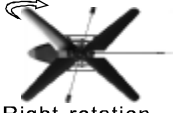



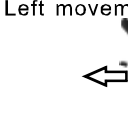

Before your first flight, make sure your trim levers are in the middle position excluding the throttle trim. The throttle trim is required to always be at the lowest or the helicopter blades won't stop spinning when the throttle stick is pulled all the way back.

NOTE: The helicopter has a built in throttle fail safe. The helicopter rotors will not turn ON during initial power up unless the trim tab is below center and the throttle stick is all the way back.



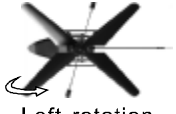

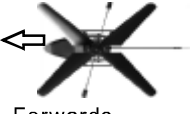

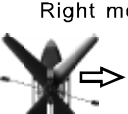

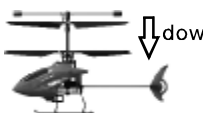

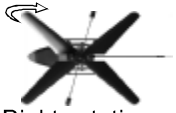

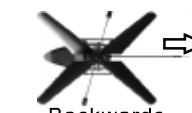

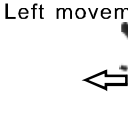

(In Mode 2)	
Throttle Trim Adjustment	
<p>If your rotors start to spin without adding any throttle or if they do not spin when you do add throttle, your throttle trim needs to be adjusted. If the rotor start to spin without any throttle, slide the throttle trim lever down until they stop. If they do not spin, even when you add throttle, push the throttle trim lever until the blades start spinning when the throttle is pushed forward.</p>	
Yaw(Rudder) Trim Adjustment	
<p>If while hovering, your Helicopter's nose begins to rotate when no yaw control input is being added, you will need to adjust the yaw trim. If nose rotates to the left, push the yaw trim lever to the right until it stops. If nose rotates to the right push the yaw trim lever to the left until it stops.</p>	
Pitch(Elevator) Trim Adjustment	
<p>If while hovering, your Helicopter begins to move forward or back when no pitch control input is being added, you will need to adjust the forward/back pitch trim lever. If it moves forward, push the pitch trim lever down until it stops. If it moves backward, push the pitch trim lever up until it stops.</p>	
Roll(Aileron) Trim Adjustment	
<p>If your Helicopter begins to move left or right when no roll control is being added, you will need to adjust the roll trim lever. If it moves left, push the roll trim lever to the right until it stops. If it moves right, push the roll trim lever to the left until it stops.</p>	

■ Operation skills

Mode 1

Throttle	Rudder	Elevator	Aileron
 up 	 Left rotation 	 Forwards 	 Right movement 
 down 	 Right rotation 	 Backwards 	 Left movement 

Mode 2

Throttle	Rudder	Elevator	Aileron
 up 	 Left rotation 	 Forwards 	 Right movement 
 down 	 Right rotation 	 Backwards 	 Left movement 

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 FREE SPIRIT MICRO and SOLO 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: FREE SPIRIT MICRO and SOLO are designed and intended to be flown INDOORS ONLY.

Flight Training

■ Operation Procedures

1. Place the Helicopter in the middle of the room, you should always stand approximately 2m (6ft) from the helicopter and behind the tail. Make sure the helicopter and transmitter have been set up and adjusted in accordance with this handbook. Switch the Transmitter on, connect the battery, and check once more that the servos are operating correctly before proceeding.
2. Now you are ready to start learning to fly. The control diagrams on the front few pages can help you trim and fly the helicopter.
3. Initially you do not need to worry about how to operate your Helicopter skillfully. Through practice, you will become more confident operating the controls and adjusting the throttle. When your fingers respond to the movements of the helicopter spontaneously, you are ready for more advanced flying. Please note the direction described here if you are facing the tail of the helicopter.
4. Push the throttle up gradually until the Helicopter starts to become light and then carefully move the throttle stick further until it lifts off. Observing the helicopter's response, correct any movement if necessary. Don't fly too high, keep its height above the floor at about 0.5m (1.6ft). If there is any instability, shaking, or if the helicopter is out of control, please land at once. The only thing

hat helps at this stage is to practice and then practice some more.

5. Take off from the Ground. The helicopter can take off after trimming. Push the throttle stick up, the rotating speed will increase. Push the throttle stick up firmly before the helicopter takes off the ground. When the helicopter takes off, slow down the speed and keep the helicopter about 0.5 meters high above ground. Observe how the helicopter is moving and trim it until it is at its best.

6. The beginner should concentrate their effects on vertical control and the direction control. First, you should control the throttle stick. After the helicopter takes off, slowly push the stick up or down. And control the sticks to keep the tail facing you.

7. Do not fly the lower 0.3 meters high above the ground, because the airflow under the rotating blades may cause the ground effect and affect normal flying and operation.

8. After you have learned how to take off and hover the helicopter, it is better to learn other movements in safe conditions.

■ Practice

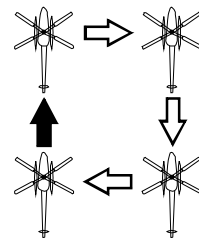
Frog jump(control the power immediately after taking off),



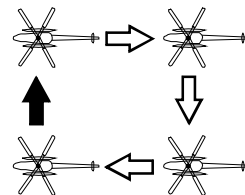
- ▲ Extend the time of the frog jump
- ▲ Hover around the tail
- ▲ Learn the right/left, forward/backward flying
- ▲ 360 degree rotation circle flying
- ▲ Box pattern practice

1) With the tail towards you, fly the Helicopter in a box pattern. Slide the helicopter sideways, forwards and backwards instead of turning the helicopter.

2) Repeat the box pattern facing the side of the helicopter.



Pilot
1) Box Pattern

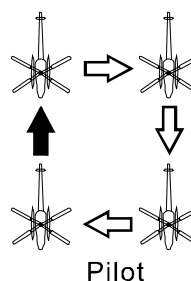


Pilot
2) Box Pattern

3) Repeat the box pattern with the front of the helicopter facing you.

▲ "8" shape flying

▲ Flight route flying



3) Box Pattern

Notify Items

- 1). Please stop flying when you feel the battery is running low. This is indicated by poor response from the Helicopter .
- 2). Always unplug the helicopter battery immediately and then turn off the transmitter when you are finished flying.
- 3). when the helicopter has crash some objection ,please loose the throttle ASAP to avoid some damage (please check the spare parts ASAP when the crash happened. You can purchase the spare parts from the Nine eagles local distributor when you change the broken spare parts).
- 4). If you do not use the helicopter for a long time ,please keep 50% power of the Li-PO Battery ,and take the batteries out of the transmitter.

Miscellaneous

Repairs and Maintenance

A wide range of genuine Nine Eagles™ parts and accessories are available from your local Nine Eagles supplier. Please review the enclosed Parts List Brochure to see what is available.

Clubs and Associations

Nine Eagles™ supports the model flying community around the world. We encourage you to meet new friends and learn to fly through your local club or association. Contact them through your local Hobby Retailer.

Troubleshooting

For the latest troubleshooting advice, please contact your local hobby store

Feedback

If you have any suggestions for modifications or future designs, we would like to hear from you. Please free to contact us at sales@nineeagle.com

NOTHING FLIES LIKE NINE EAGLES



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