



Nine Eagles®

SOLOPRO 328

NE R/C 328A-F Helicopter

Instruction Manual



This model is compatible with
FUTABA 6J 2.4GHz S-FHSS

INDOOR AND OUTDOOR FLYING



To ensure safe use, please read this manual thoroughly before flying the helicopter.

Safty Protection Advantage:

SOLOPRO 328 can bind with transmitter before the helicopter keep 3 seconds quiet state.

NOTHING FLIES LIKE NINE EAGLES

Catalogue

Introduction	1
Warning and FCC Information	2
Specification	5
Battery Charging	6
Product List	7
Spare Parts	8
Exploded View	9
Transmitter Control Identification	1 1
How to Fly	1 5
Operate Test	1 6
Transmitter Mode Legend	1 9
FUTABA Transmitter Binding Setup	2 0
Choosing a Flying Area	2 1
Flight Training	2 1
Notify Items	2 3

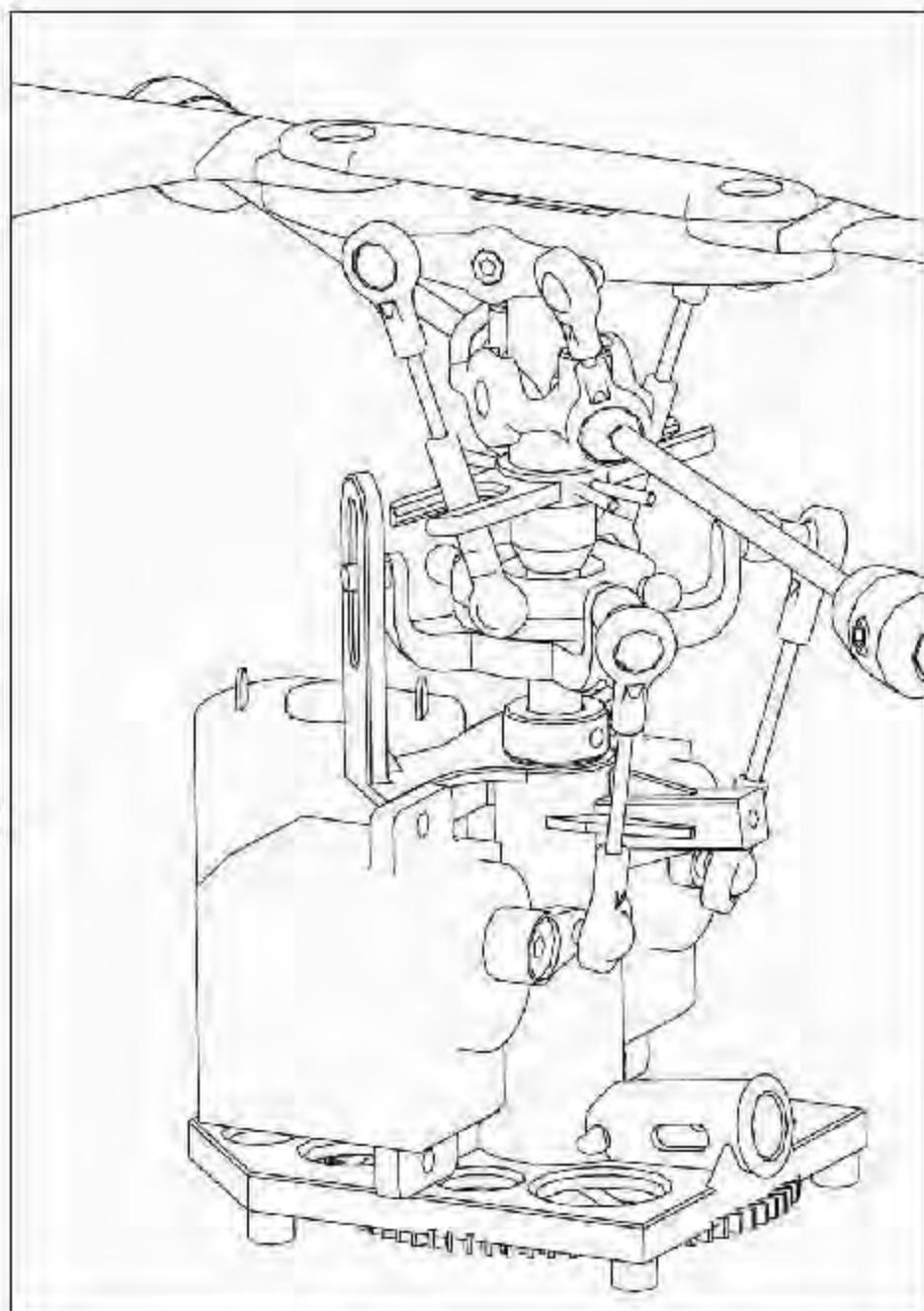
Introduction

SOLOPRO 328 is Nine Eagles latest 2.4GHz 4-channel micro single blade helicopter developed by ourselves. It is small, light weight and can be flying indoor and outdoor. It has excellent control functions and advanced balance operation system. Easy operation, stable flight. It is the best choice for single blade beginners to get into!

Patent Introduction

BALANCE SYSTEM FOR REMOTE CONTROL HELICOPTER

1. Invention patent No: 200710170488.2
2. Utility Model Patent No: 200720076261.7



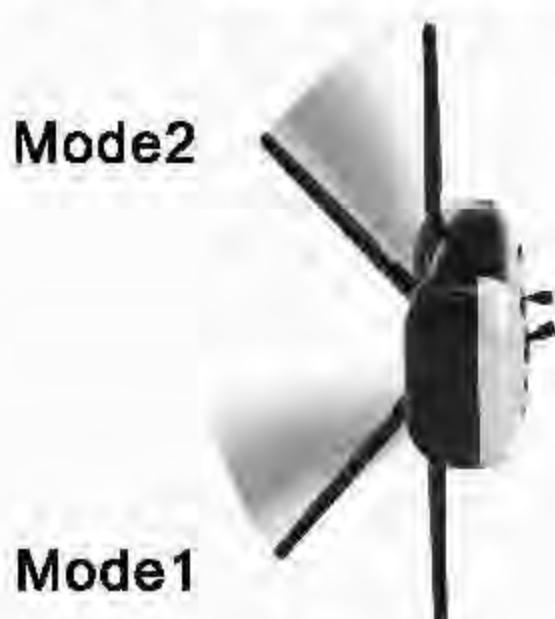
CONTROL SYSTEM FOR SINGLE BLADE REMOTE CONTROL HELICOPTER

1. Invention patent No: 200810036355.0
2. Utility Model Patent No: 200820057528.2

PCT patent of "SINGLE ROTOR MODEL HELICOPTER WITH IMPROVED STABILITY BEHAVIOR".
PCT No is: WO/2009/062407

AEROMODELLING TRANSMITTER: ALLOW MODE 1 AND MODE 2 CONVERTIBLE ONLY BY ANTENNA

1. Invention patent No: 200810202731.9
2. Utility Model Patent No: 200820155365.1
3. USA Patent 12/554,309



Warning and FCC Information

■ Warning and FCC Information

The Nine Eagles® NE R/C 328A-F (SOLOPRO 328) 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 outdoors.

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 statement

1. 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.

(2) This device must accept any interference received, including interference that may cause undesired operation.

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

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 radiofrequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. 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:

Reorient or relocate the receiving antenna.

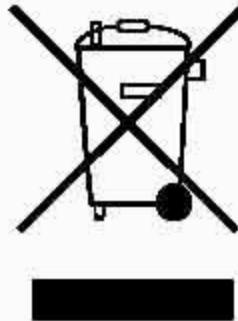
Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

CE 2200

■ 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

■ **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 328A-F
Rotor Diameter :	12.91"(328mm)
Overall Length :	14.17"(360mm)
Weight :	3.8oz.(108g)
Power System :	180 Motor(Main Motor)
Tail Motor :	Ø8 coreless Motor
Battery :	1-cell 3.7V 500mAh Li-PO
Charger :	3.7V variable Rate DC Li-Po charger

Battery Charging

A. Connect the charger and adapter.

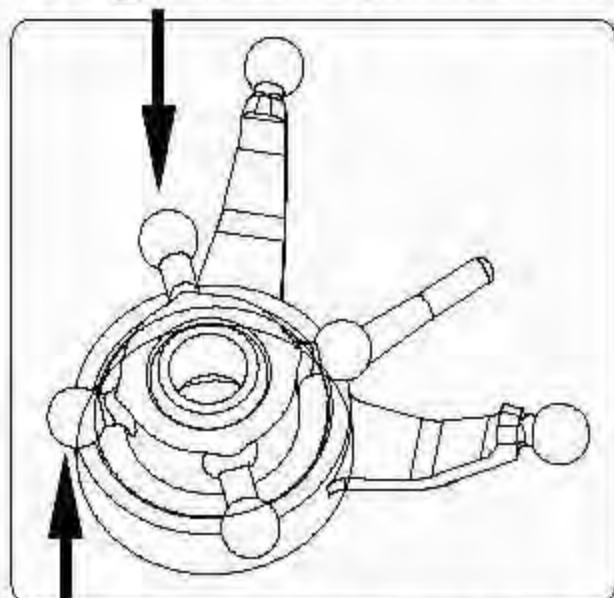
B. Install the Li-Po battery into the charger.

C. Press "+" or "-" button to adjust charge current and then press "START" button to start charging

D. LED light functional description.

- Single LED flashing—Charging.
- All LED flashing and buzzer with drop sound.

Long Swashplate Control Balls



Short Swashplate Control Balls



Product List



Description	QTY
SOLOPRO 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.*

Spare Parts



NE480069 Transmitter **Mode2**
NE480070 Transmitter **Mode1**



NE400046 Cabin Set(red/white)



NE400047 Cabin Set(red/yellow)



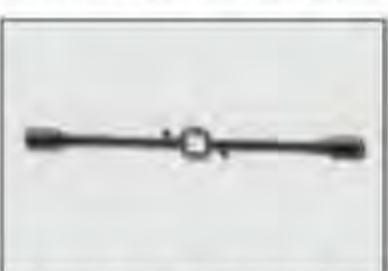
NE402328015A Tail Set



NE402328027A Tail Set



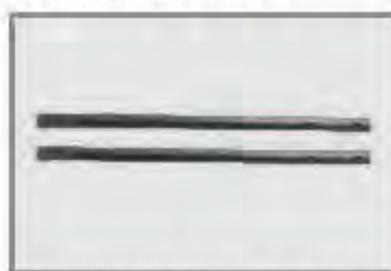
NE402328003A Rotor Blade Set



NE402328004A Flybar Set



NE402328005A Fixd Pin Set



NE402328006A Main Shafts Set



NE402328007A Swashplate Set



NE402328008A Rotor Blade Head Set



NE402328009A Main Frame Set



NE402328023A Frame Of Battery Set



NE402328010A Gear Set



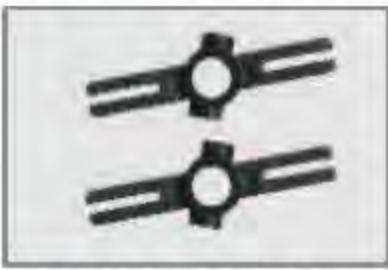
NE402328011A Main Rotor Blades Grips



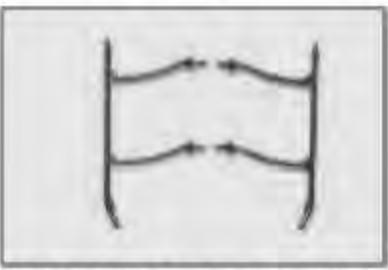
NE402328012A Ball Linkage Rod Set



NE402328013A Rubber Ring



NE402328024A Fix Slot Set



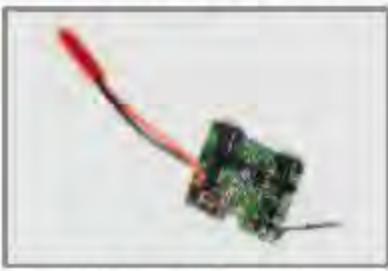
NE402328014A Landing Skids Set



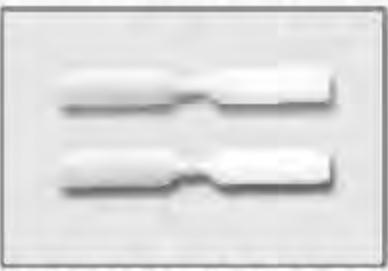
NE402328025A Servo Frame Set



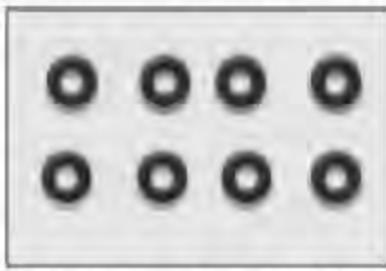
NE411930001A Li-PO Battery Set



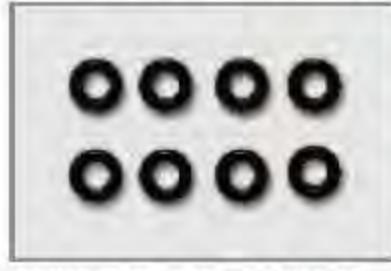
NE480074 Receiver Set



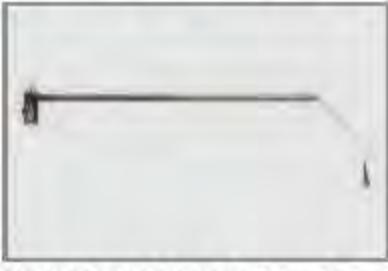
NE402328016A Tail Blade Set



NE402328017A Rubbin Set Of Flybar



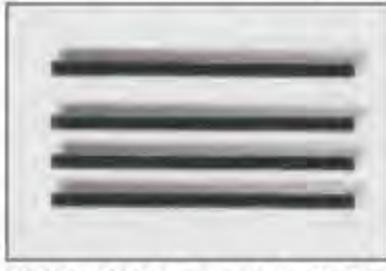
NE402328018A Rubber Set Of Cabin



NE402328019A Tail Motor Set



NE418328001A Motor Set



NE402328020A Fix Pin Cabin Set



NE402328021A Screw Set



NE402328022A Bearing Set



NE412328000A Charger/Adapter Set



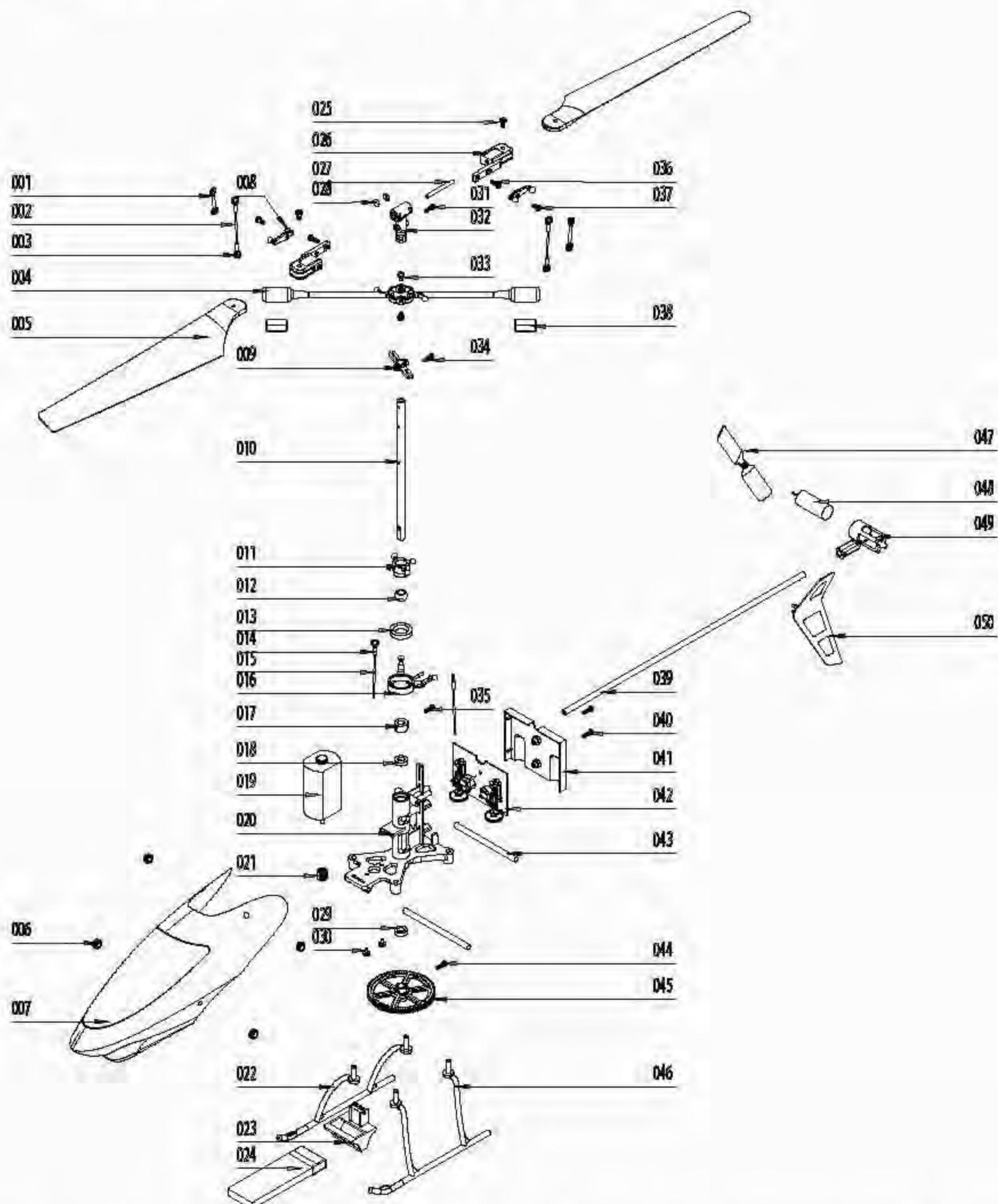
NE402328026A Alum Case



NE4926001 AA Battery Set

Exploded View

■ Exploded View of SOLO PRO 328



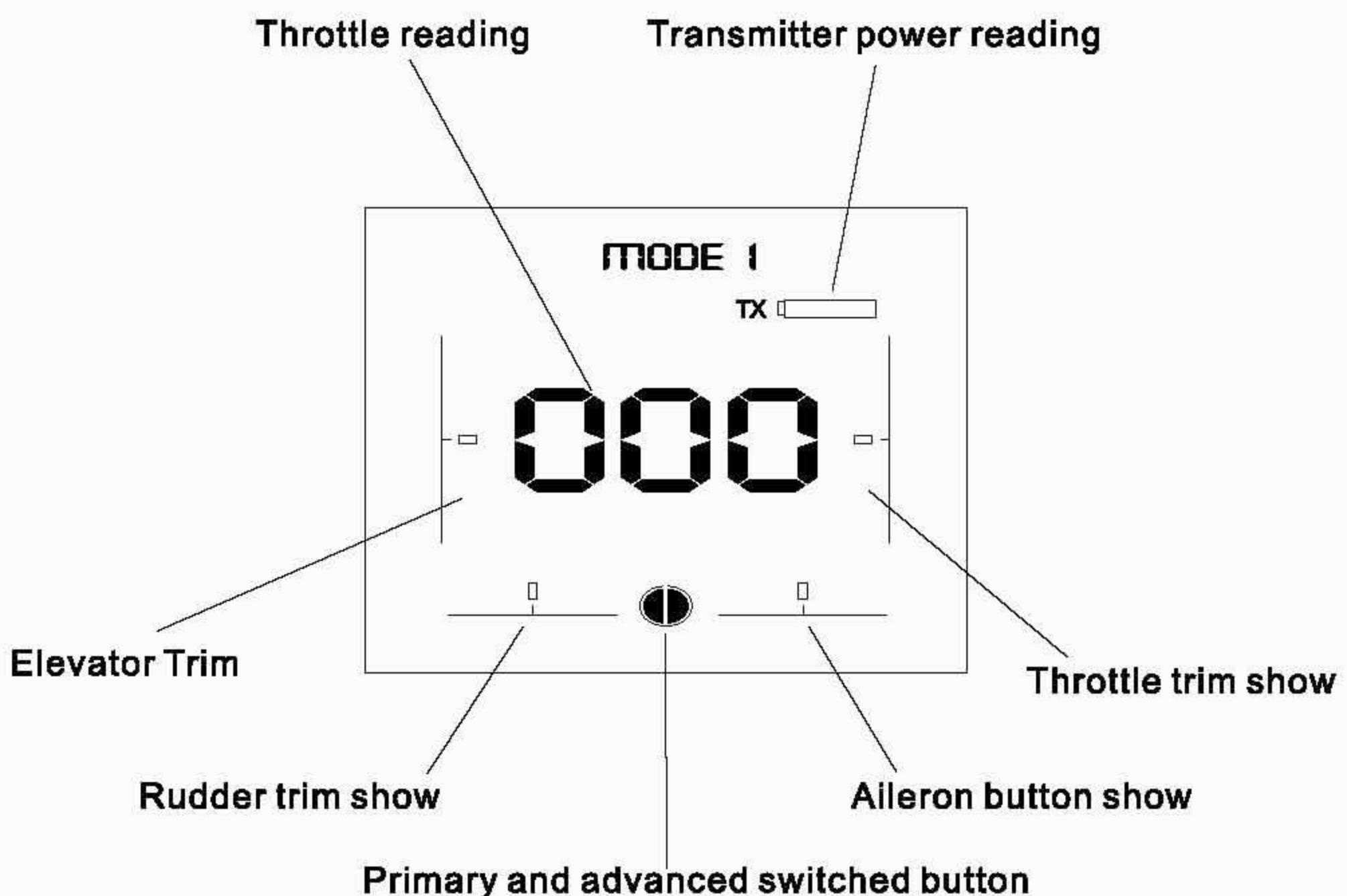
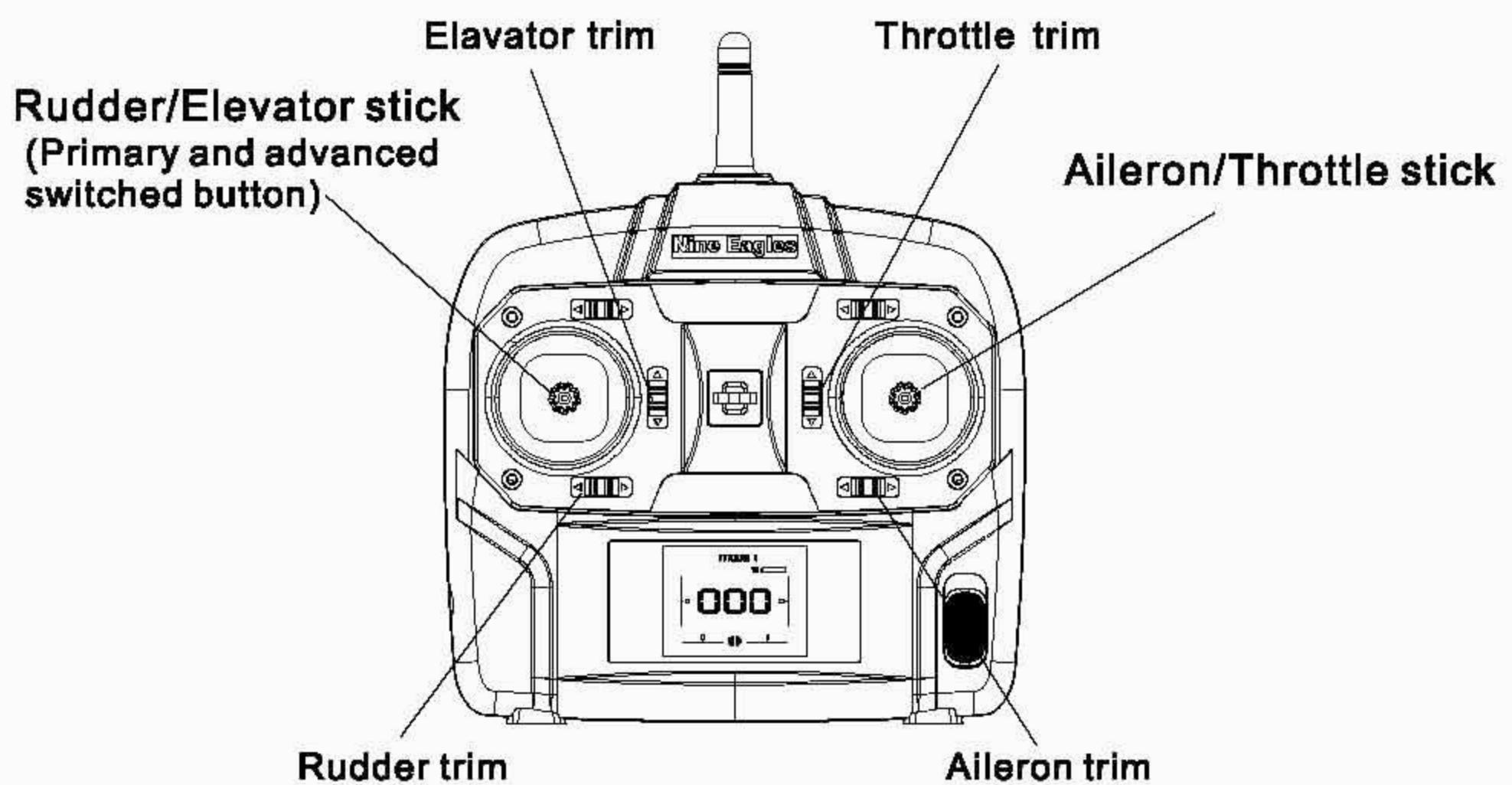
NOTICE: If you need buy some spare parts replaced during flying, please order according to the color page.

■ Exploded View Parts Listing

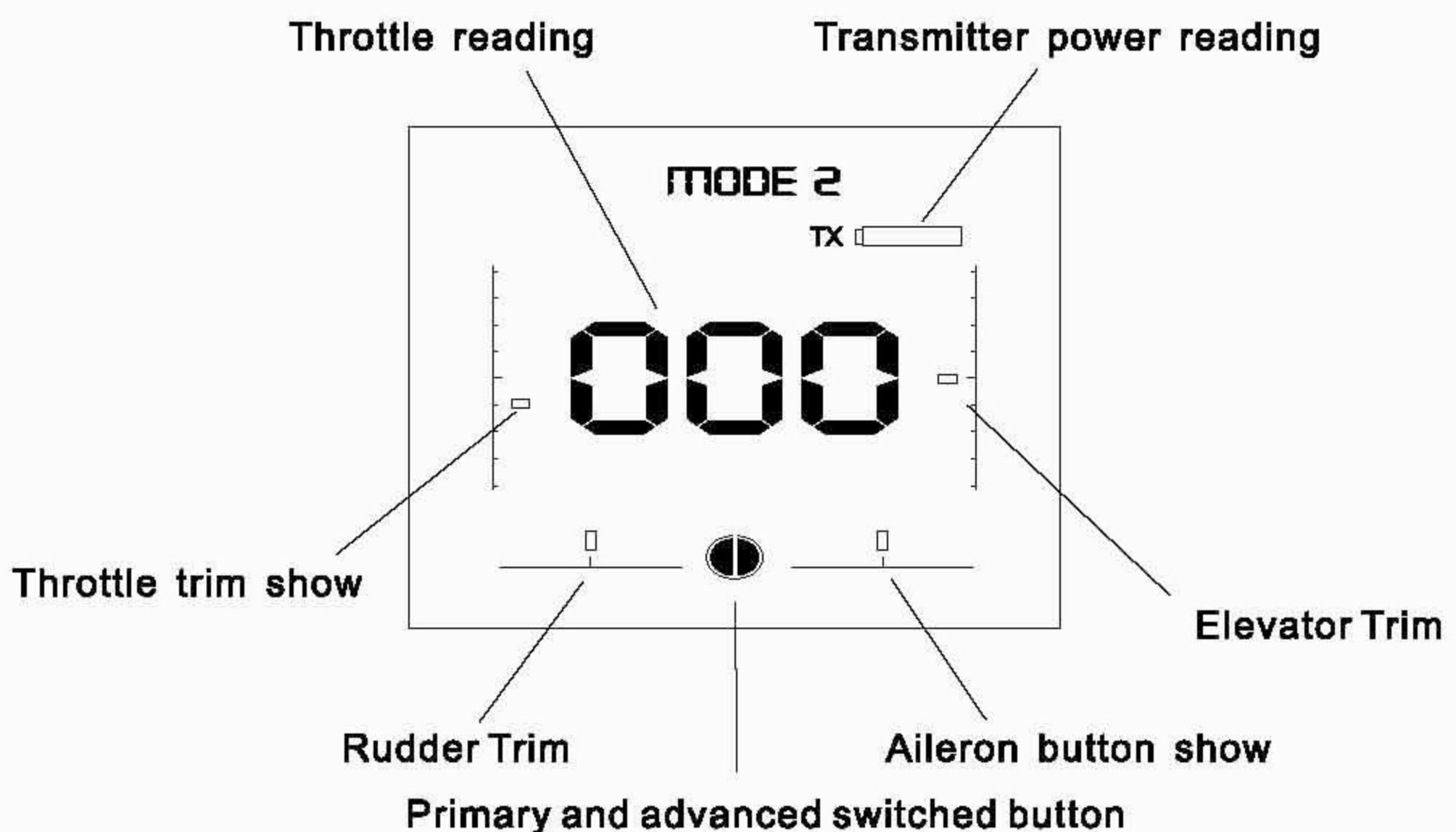
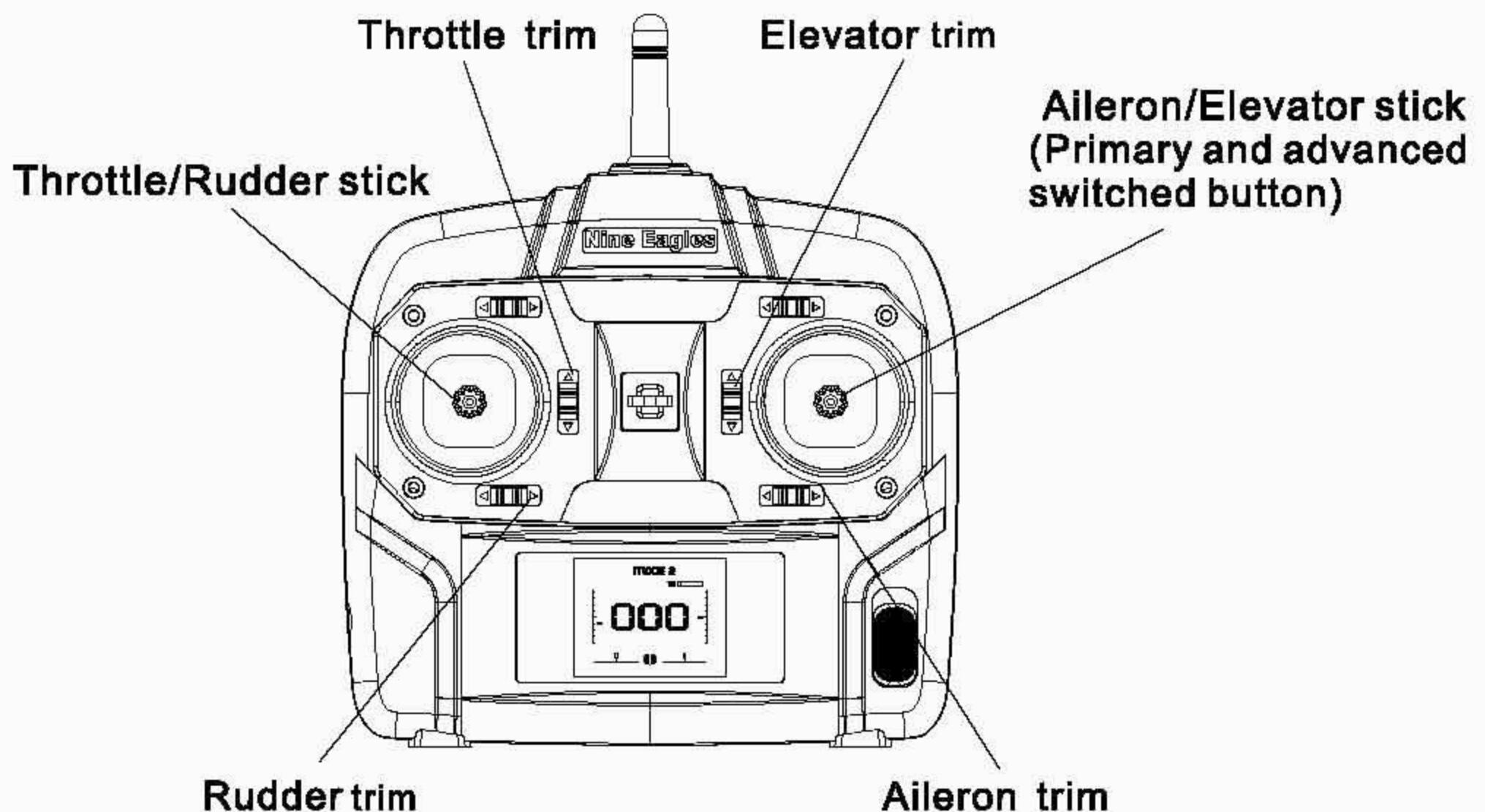
NO	NAME	Specific ations	QTY	NO	NAME	Specific ations	QTY
001	Upper Ball Linkage Rod	Black	2	027	Fix Pin	Carbon Steel	1
002	Upper Push-Pull Wrie	Stainless Steel	2	028	Rubber ring	Natural Rubber	2
003	Ball of linkage	Black	4	029	Bearing	4X7X2	1
004	Fkybar Set	Black	1	030	Screw(whole thread)	PM2X4	2
005	Rotor Blade	White	2	031	Screw	ST1.4X7 PA	1
006	Rubber set of canbin	Black	4	032	Rotor Blade Head	4X7X2	1
007	Cabin Set	Red and White	1	033	Screw(half thread)	PM2X4	2
008	Mixed Rockers Set	Black	2	034	Screw	ST1.4X7 PA	1
009	Fix Slot	Black	1	035	Screw	ST1.4X7 PA	1
010	Main Shaft	Carbon Fiber	1	036	Screw	ST1.7X5 PA	2
011	Upper Swashplate	Black	1	037	Screw(half thread)	PM2X4	2
012	Ball of swashplate	Copper	1	038	Hammer Balance	Carbon Steel	2
013	Bearing	6X10X2.5(MR106)	1	039	Tail Rod	Carbon Fiber	1
014	Ball of linkage	Black	2	040	Screw	ST1.4X7 PA	2
015	Under Push-Pull Wrie	Stainless Steel	2	041	Servo frame	Black	1
016	Under Swashplate	Black	1	042	Receiver		1
017	Outside Shaft Fixed ring	Black	1	043	Fix Pin Canbin	Carbon Fiber	1
018	Bearing	4X7X2	1	044	Screw	ST1.4X7 PA	1
019	Main Motor		1	045	Main Gear	White	1
020	Main Frame	Black	1	046	Landing Skid Mount	Black	1
021	Motor Gear	Black	1	047	Propeller	White	1
022	Landing Skid Mount(left)	Black	1	048	Tail Motor		1
023	Frame of Battery	Black	1	049	Tail Motor Holder	Black	1
024	Battery	3.7V, 500mAh	1	050	Tail	Red and White	1
025	Screw(half thread)	PM2X8	2				
026	Main Rotor Blades Grips	Black	2				

Transmitter Control Identification

When the transmitter is MODE1:



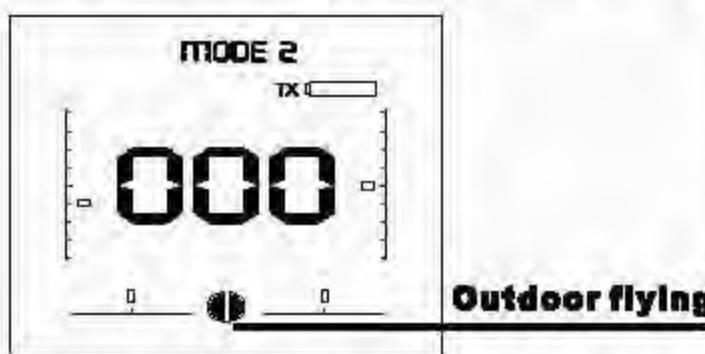
When the transmitter is MODE2:



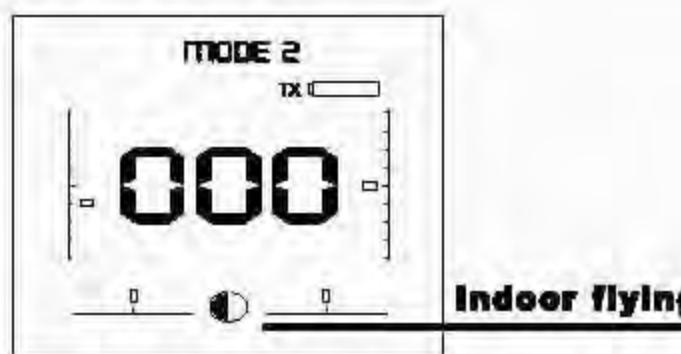
■ Set up the Primary and Advanced Control Switch

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

1. Turn on the transmitter
2. Press the button to change mode between primary and advanced.



Advanced mode



Primary mode

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.

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

1. Turn off the transmitter.
2. Discharge the four screws on the panel of the remote control.(picture1)
3. Extract the handle of the romote control,turn it 180 degrees and then tighten it to the seatbottom channel.(PICTURE 2)
4. Tighten and fix the screws,shift from MODE 1 to MODE 2.(PICTURE 3)



PICTURE 1



PICTURE 2



PICTURE 3

■ **Helicopter and transmitter binding**

1. Turn on the transmitter.
2. Plug the lithium battery into the helicopter, press the binding button on the receiver after the power supply becomes normal, then release the button and wait for the binding. (about 10-15 seconds)
3. During the binding process, the distance between transmitter and receiver should be about 250mm, meanwhile the green LED light is on constantly, after the binding succeeds, the red LED light on the receiver is on constantly, the normal operation begins.



PICTURE 1



PICTURE 2



PICTURE 3

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.

Safety Protection Advantage:

SOLOPRO 328 can bind with transmitter before the helicopter keep 3 seconds quiet state.

How to Fly

1. Take off the transmitter cover
2. Install four AA batteries in the transmitter
3. Turn on the power , check whether there is any content on LCD.
4. Slide the li-po battery into the battery slot on frame of helicopter. Please slide the battery according to the arrow direction

Start process:

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

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

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.

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

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 1)

Throttle Trim Adjustment

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.



Yaw(Rudder) Trim Adjustment

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.



Pitch(Elevator) Trim Adjustment

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.



Roll(Aileron) Trim Adjustment

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.



(In Mode 2)

Throttle Trim Adjustment

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.



Yaw(Rudder) Trim Adjustment

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.



Pitch(Elevator) Trim Adjustment

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.



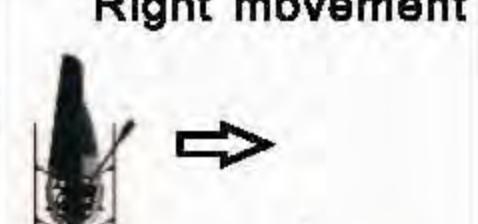
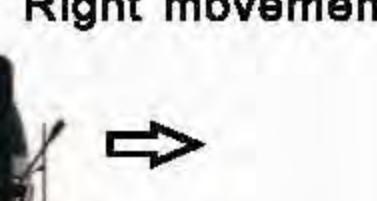
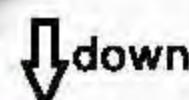
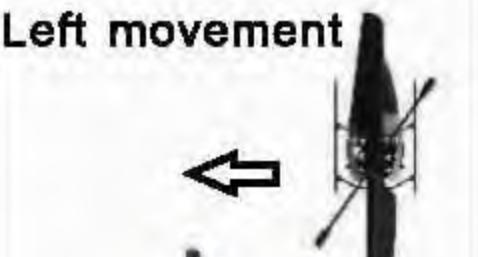
Roll(Aileron) Trim Adjustment

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.

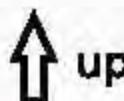
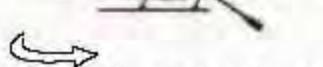
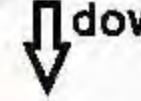


■ Operation skills

Mode 1

Throttle	Rudder	Elevator	Aileron
 	 	 	 
 	 	 	 

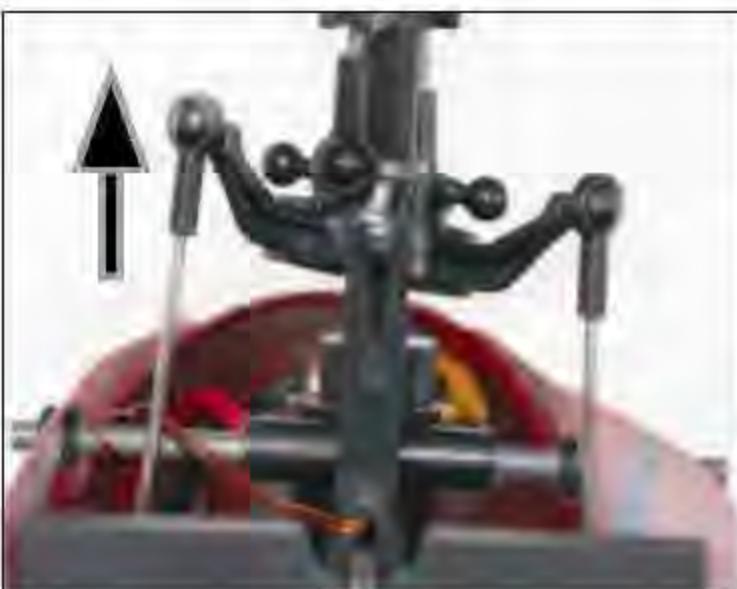
Mode 2

	Rudder	Elevator	Aileron
 	 	 	 
 	 	 	 

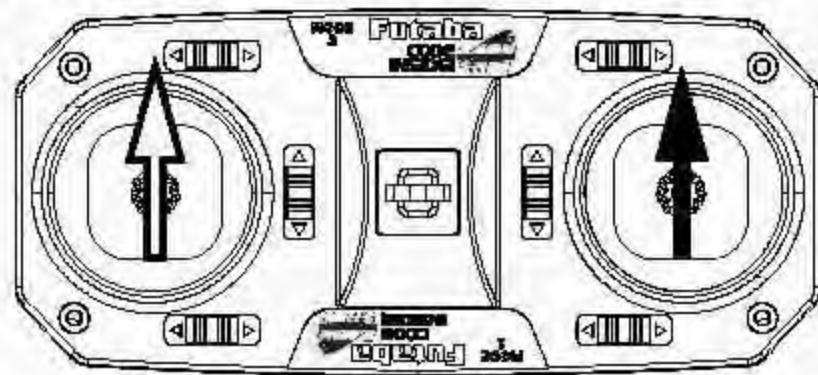
Transmitter Mode Legend

Mode1

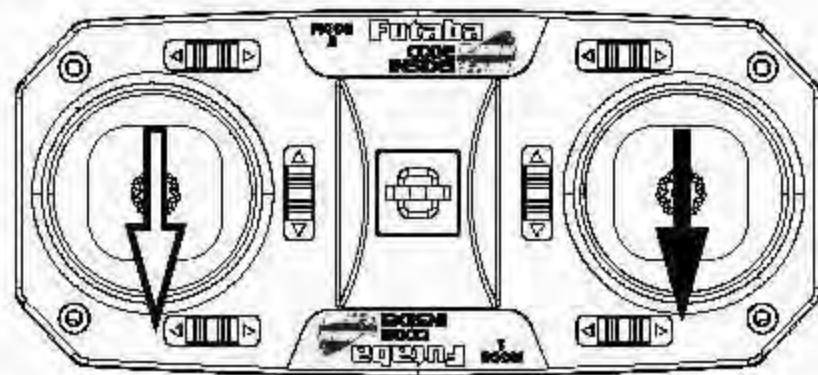
Mode2



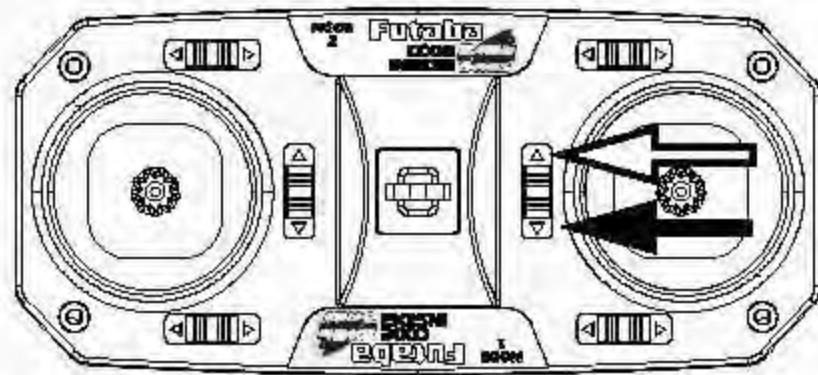
The linkage of left hard servo should push the swashplate upward while the elevator stick is pushed forward.



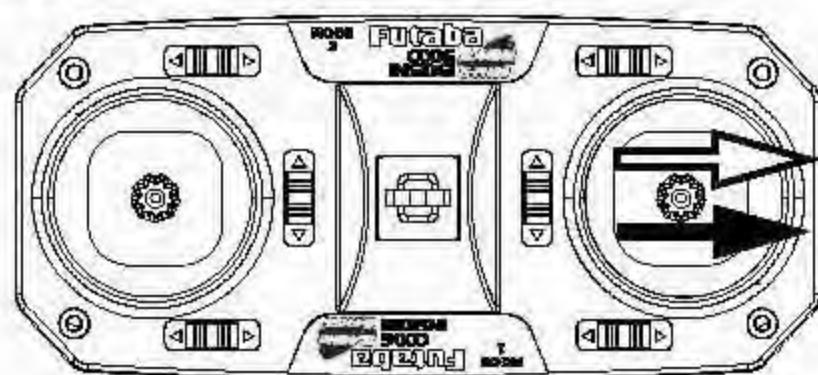
With the elevator stick pulled back, the left-hand servo linkage should pull the swashplate downward.



Move the right-hand stick left and right to check aileron roll control. When the aileron stick is pushed to the left, the right-hand servo linkage should push the swashplate upward.



With the aileron stick pushed right, the right-hand servo linkage should pull the swashplate downward.



FUTABA Transmitter Binding Setup

1. When binding with FUTABA code, pls turn off the power supply of the original receiver.
2. Turn on the power for FUTABA transmitter, then turn on the helicopter aircraft power, press the binding code on the receiver, the red light blinks and the binding begins. When the binding succeeds, the red light is normally on.

(Note: When binding, the transmitter should be close to the receiver to bind quickly.)



the binding code on the receiver

T6J SETUP LIST

FOR 328A-F/328A-F(SOLOPRO 206)

MODEL TYPY	REVR	D/R	EXPO
HELI	CH1 NOR	100%	0
	CH2 NOR	100%	0
SWASH TYPE	CH3 NOR	100%	0
SWSH H-1	CH4 NOR	100%	0
	CH5 NOR	/	/
	CH6 NOR	/	/
Usual throttle curve		1	2
N-TH		0%	25%
		50%	75%
		100%	

T9CAP SETUP LIST

FOR 328A-F/328A-F(SOLOPRO 206)

MODEL TYPY	REVR	D/R	EXPO
ACROBATIC	CH1 NOR	100%	0
	CH2 NOR	100%	0
	CH3 NOR	100%	0
	CH4 NOR	100%	0
	CH5 NOR	/	/
	CH6 NOR	/	/
Usual throttle curve		1	2
N-TH		0%	25%
		50%	75%
		100%	

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 Solo Pro in relatively small indoor areas and outdoor as well with great success due to its size and control ability, we strongly recommend it fly without any object area.

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

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 efforts 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.

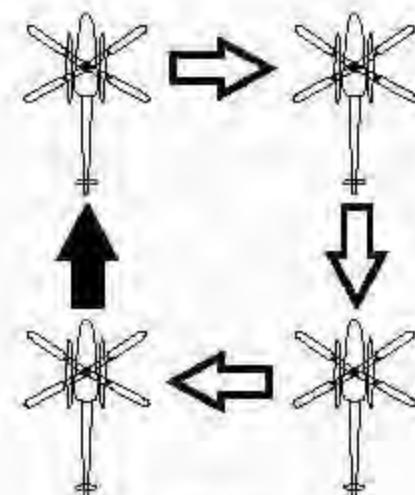
■ Practice

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

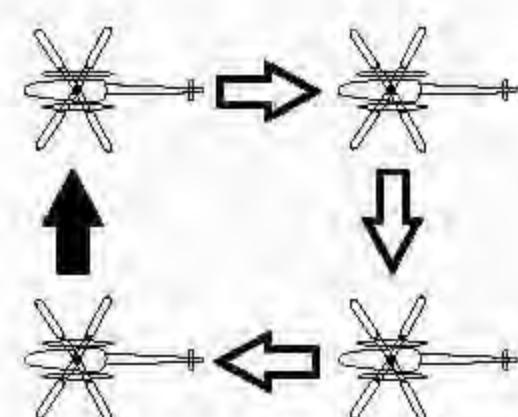


- ▲ Extend the time of the frog jump
- ▲ Hover around the tail
- ▲ Learn the right/left, forward/backward flying
- ▲ 360 degree rotation circle flying
- ▲ Box pattern practice

- 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

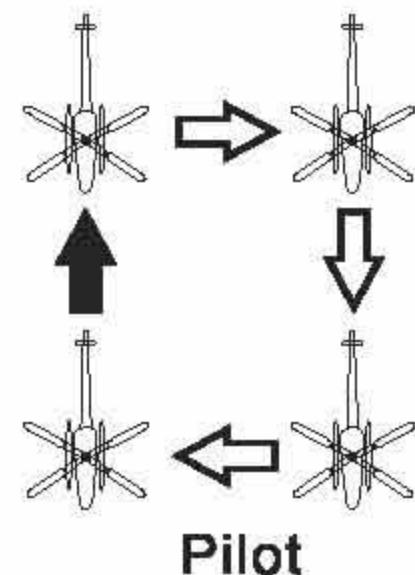


Pilot
2) Box Pattern

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.

NOTHING FLIES LIKE NINE EAGLES



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