

DTS450 3D



规格参数

全长: 645mm
全高: 225mm
主旋翼直径: Φ 725 mm
尾旋翼直径: Φ 146mm
总重量: 约770g(含电池)

标准配备

- 2213无刷马达
- 35A无刷马达电子调速器
- 锁尾式陀螺仪
- 倾斜盘伺服器*3pcs (1.2kg.cm 0.1s/60°)
- 尾伺服器*1pcs (0.8kg.cm 0.05s/60°)
- 2.4GHz六通道发射机
- 双天线双接收8通道接收机
- 11.1V 2200mAh 30C 锂电池

Specifications

Length: 645mm
Height: 225mm
Main Rotor Diameter: Φ 725mm
Tail Rotor Diameter: Φ 146mm
Weight: approximately 770g(with Battery)

Standard Equipment:

- 2213 Brushless Motor
- 35A Brushless Motor ESC
- Head Lock Gyro
- Swash Servos*3(1.2kg.cm, 0.1s/60°)
- Tail Servos*1(0.8kg.cm, 0.05s/60°)
- 2.4GHz 6-Channel Transmitter
- Dual Antenna / Receiver 8 Channel Receiving Unit
- 11.1V 2200mAh 30C Li-polymer Battery

※本型号机型在尚未进行重大改版之前, 配件可能进行调整, 外观、型号可能稍有不同。DTS保留配件内容更改权, 并不另行通知。

Before this model has being significantly changed to another new version, the parts, appearance and the existing version can be developed and modified that would lead to a slight difference from the original design. DTS reserve ALL the Rights of change of parts and contents WITHOUT specified notification.

Foreword

Thank you for choosing DTS's product. For better understanding and usage of DTS450 3D, please read the manual carefully before installation and operation. For your convenience of adjustment, maintenance and other operation, please keep the manual in a proper manner. For further information, please visit our website: www.zondahobby.com.

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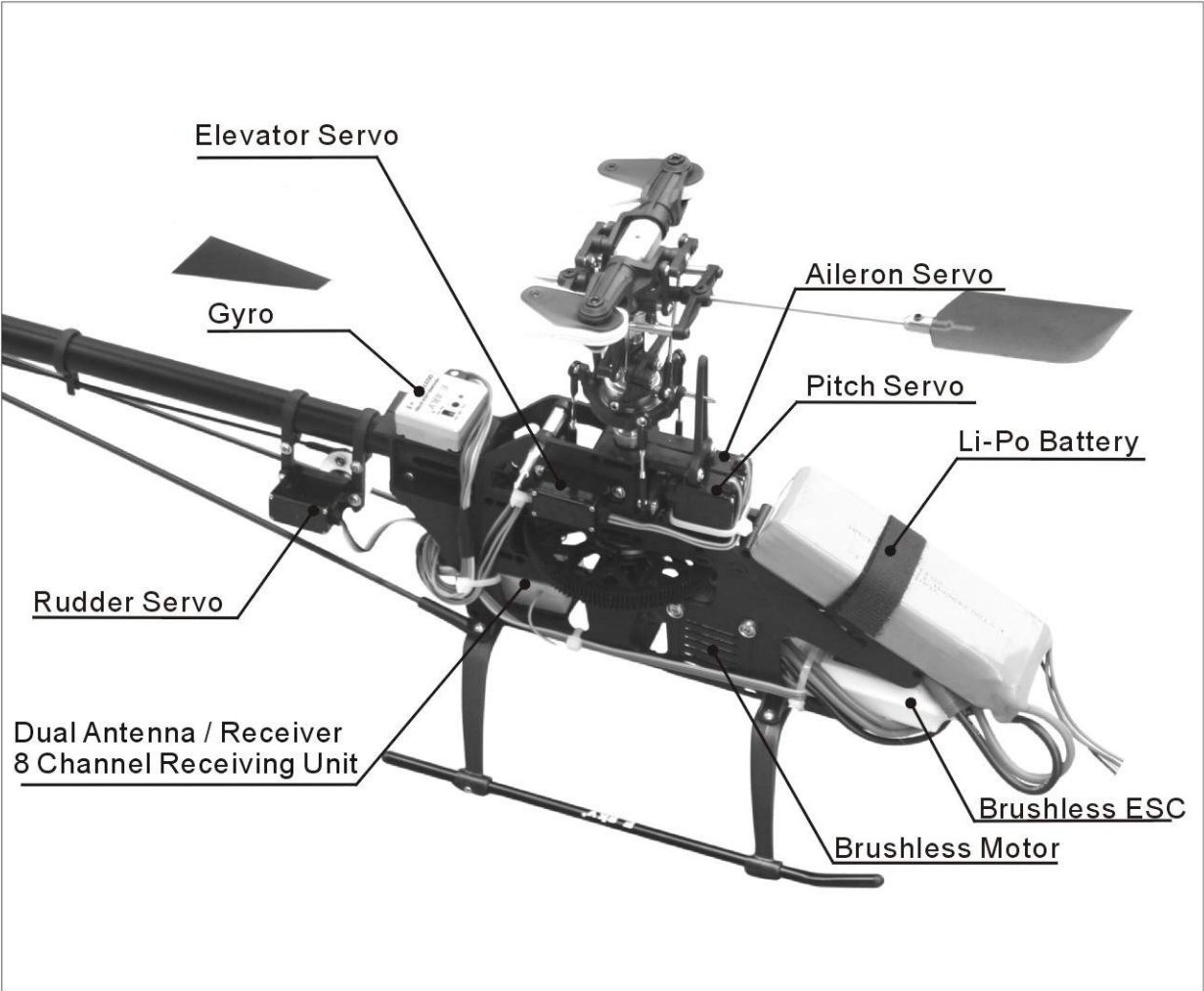
Check of package's parts and accessories

Please check the parts and accessories in the package. In the event of defective or missing parts, please contact the retailer for help.

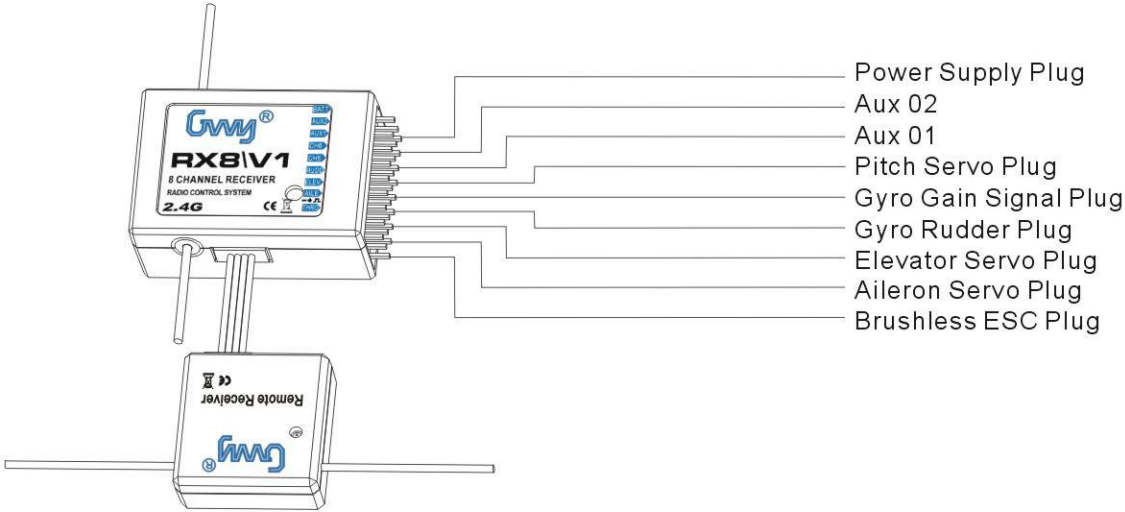


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2.2.4GHz 6-Channel Transmitter.....	1
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8.11.1 V, 2200 mAh Li-Po Battery.....	1
9.SD Card	1
10.Transmitter Stand.....	1
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12.Battery Bandage.....	1

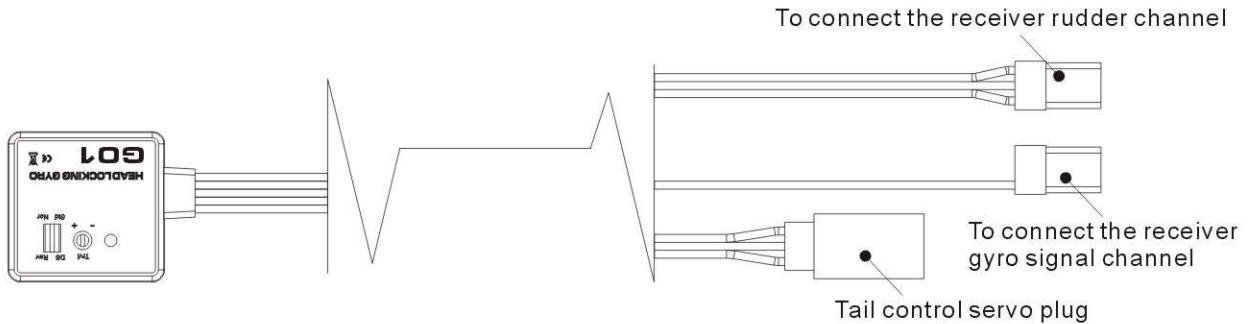
Electronic Parts and Connection Procedure



The Receiver Connection Procedure



Gyro Connection



Gyro operate explanation

LED the status signal light

Trv/Gain the adjustment spin button

DS/Std the digital servo and standard position switching

Rev/Nor the reverse and normal switching

Specification

Direction	:900 μ s~2100 μ s 22ms
Senses	:900 μ s~2100 μ s 22ms
Input voltage	:DC 5V $\pm$ 0.5V
Weight	:19.8g
Size	:25.6*24.6*11.1*mm

Function

- The reverse and normal switching
- The digital servo and standard position switching
- Tail servo operating adjustment
- Gain adjustment
- LED status direction

Trv/Gain

When plug in CH5, The spin button can adjust the tail servo sequence. When not plug in CH5, the button will use for only Gain adjustment.

DS/Std digital servo and standard position switching

When the button switches on the DS, it is digital mode. Otherwise it is standard mode. Caution: Please base on the Tail Servo setting (digital/standard position) to choose the suitable setting status before use.

LED status signal light:

- 1、When connect the power supply, a RED signal light will keep flashing and the gyro start initialization.
- 2、When the gyro is locked, a RED signal light will solid.
- 3、When the gyro is not locked, the RED signal light will not on.

Status display	Gyro status
Fast flashing	It shows that the power supply is on, Gyro is initialised
Flashing steadily	It shows that the gyro locked mode is running.
No signal	It shows that the power supply is off, the gyro is not in locked mode.
Slow flashing	It shows that the gyro can not receive the tail servo control signal from the transmitter. The tail servo can not operate normally.

Rev/Nor reverse and normal switching

Switch the Gyro to control the swing direction by tail servo.

REV: reverse turning NOR: normal turning

If the RC-helicopter is "fly around the circle" on the ground but not fly in the sky, the error will be the gyro has not fine-tuned correctly. Therefore, please exchange the "nor and rev" power button on and off to solve the error.

6T Transmitter Setting Module

SYS.MENU

1/16 MODEL SELECT		2/16 MODEL NAME		3/16 MODEL TYPE		4/16 COPY/RESET	
DTS450 3D		DTS450 3D		HELI			
5/16 TRIM SETP		6/16 SWASH TYPE		7/16 STICK MODE		8/16 TRANSFER DATA	
	STEP	POS	CCPM 120°		MODE 2		
THRO	4	0					
AILE	4	0					
ELEV	4	0					
RUDD	4	0					
9/16 THRO CUT&REV		10/16 FAIL SAFE		11/16 POWER SETTING		12/16 LCD CONTRAST	
SW:	OFF	THRO	-125%	B_US 247		50%	
POSITION:	-30%	AILE	0%			MENU SW MODE: 1	
THRO:	NORM	ELEV	0%				
		RUDD	0%				
		GYRO	0%				
		PIT.	0%				
13/16 3D GYRO TYPE		14/16 AUX TYPE		15/16 FUNC.MENU		16/16 MAIN SCREEN	
XY GYRO OFF		CH 7: RATE					
		CH 8: RATE					

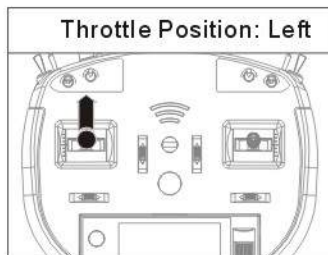
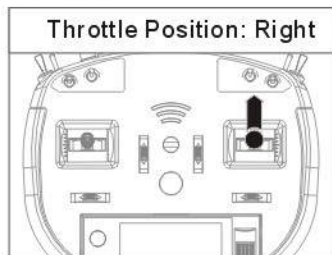
FUNC.MENU

1/16 REV/MONITOR			2/16 D/R&EXPO			3/16 TRAVEL (ATV)			4/16 SUB TRIM		5/16 THRO CUR			
THRO-	N		SW	D/R	EXP	THRO	100%	100%	THRO	0	NORM	L	100%	
AILE-	N		A0	80%	15%	AILE	100%	100%	AILE	0		2	25%	
ELEV-	N		E0	80%	15%	ELEV	100%	100%	ELEV	0		3	50%	
RUDD-	R		R0	90%	15%	RUDD	100%	100%	RUDD	0		4	75%	
GYRO-	N		A1	100%	INH	GYRO	100%	100%	GYRO	0	STUNT	H	80%	
PIT.-	R		E1	100%	INH	PIT.	100%	100%	PIT.	0		L	100%	
			R1	100%	INH							2	90%	
			COMBINE		INH							3	85%	
6/16 PITC CUR			7/16 GYRO			8/16 REVO/SWASH-M			9/16 PROG.MIX 1		HOLD	4	90%	
NORM	L	35%	SW:	F.M.	REVO MIX			SW:	INH	H		100%		
	2	45%	RATE0:	75.0%	NORM	0%	0%			L		0.0%		
	3	55%	RATE1:	73.5%	STUNT	0%	0%			2		0.0%		
	4	75%	POS0:	0	SWASH MIX					3		0.0%		
STUNT	H	100%	POS1:	1	AILE	↑ 70%				4		0.0%		
	L	0%	RUDD TRIM:	ON	ELEV	↑ 70%				H		0.0%		
	2	25%				PIT.	↓ 70%			10/16 PROG.MIX 2				
	3	50%								SW:		INH		
HOLD	4	75%												
	H	100%												
	L	0%												
	2	25%												
11/16 3 AXIS SETUP			12/16 TRAINER			13/16 SERVO SPEED			14/16 AUX SETUP					
INHIBIT			THRO	ON		THRO	NORM		CH7	50%				
			AILE	ON		AILE	NORM		CH8	50%				
			ELEV	ON		ELEV	NORM		15/16 TIMER					
			RUDD	ON		RUDD	NORM		TIMER:	↓ 04:20				
			GYRO	ON		CH5	NORM		SW:	THRO25%				
			PIT.	ON		CH6	NORM		16/16 MAIN SCREEN					
						AUX1	NORM							
						AUX2	NORM							

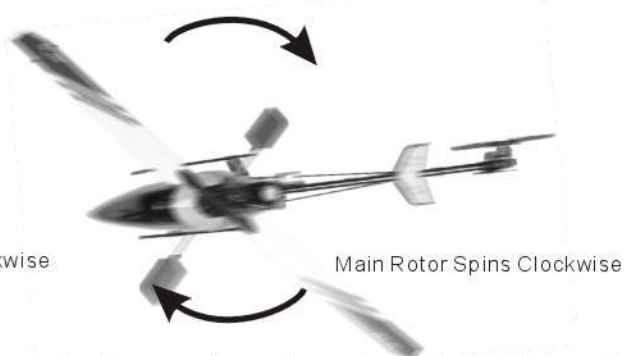
Pre-Flight Controls Test

1. Control Test: Throttle

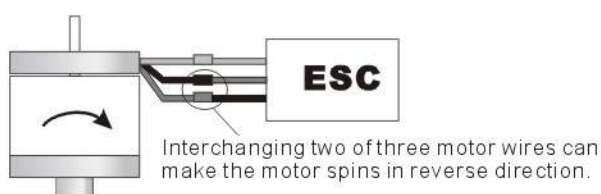
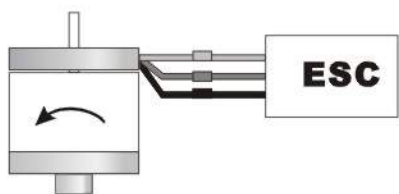
Push the throttle stick upward till the motor start to spin. Ensure the motor spins counter clockwise while the main rotor spins clockwise.



Please don't push the throttle stick upward over 1/5. The motor will spins at high velocity if the throttle stick is over pushed. This may cause damage on the product or self injury.



If the motor is spinning clockwise, the main blade will not spin. Please exchange the motor and the ESC connection wire, plug in each other. If success, the brushless motor will change the spin angle immediately.

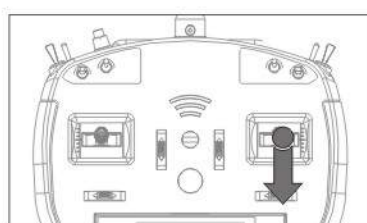
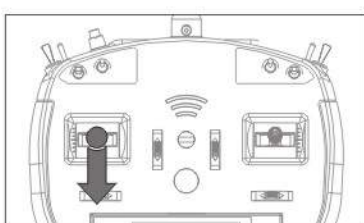
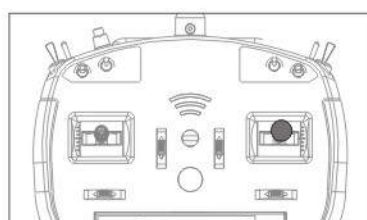
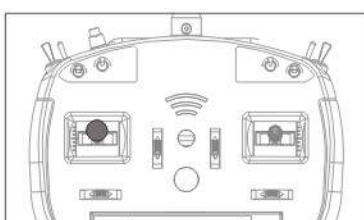
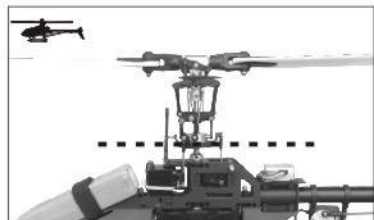
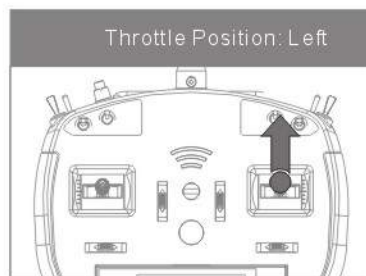
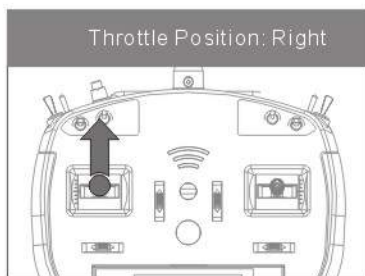


Remove the Motor Wires to avoid accidents!

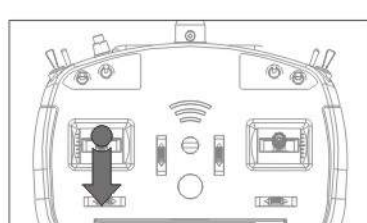
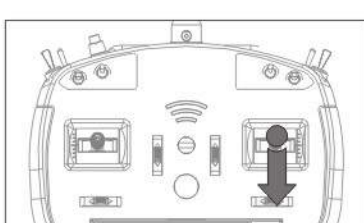
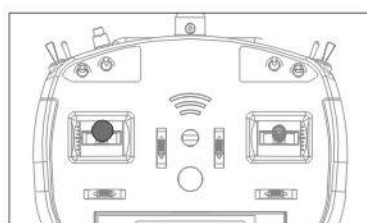
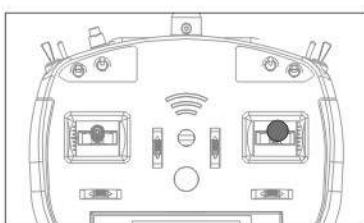
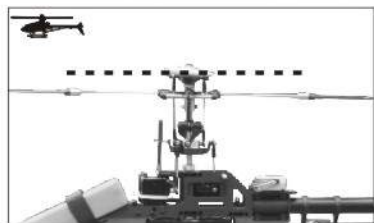
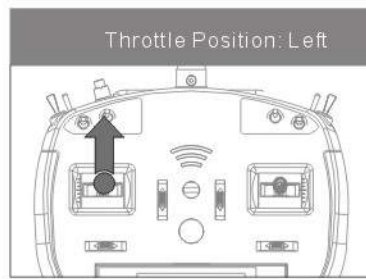
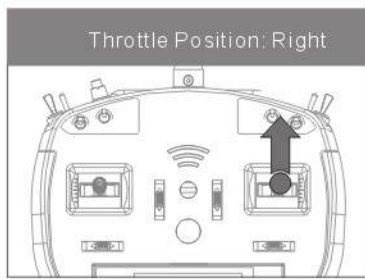
Besides flight operation, when performing maintenance or adjustment and fine-tuning indoor, please remove the connection between the motor and the ESC. This can prevent the motor from unpredictable spinning and cause accidents.



2.Control Test: Elevator



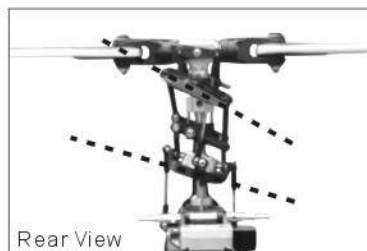
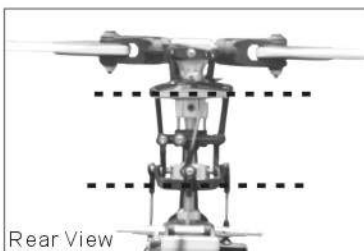
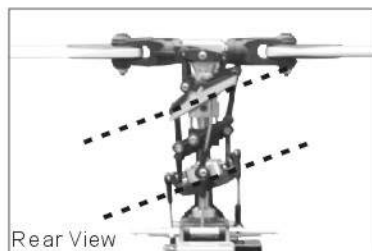
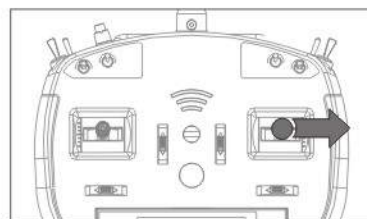
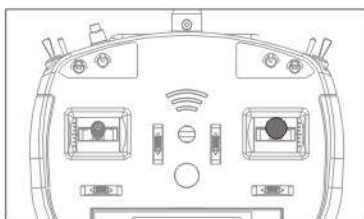
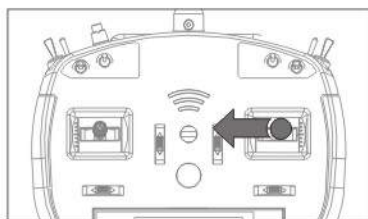
3.Control Test: Pitch (only aerobatics use)



4. Control Test: Aileron

Swashplate's Left and Right declining movement

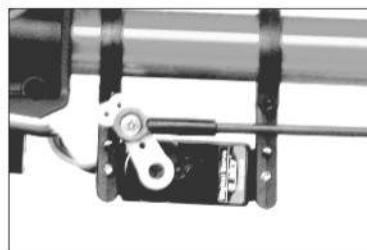
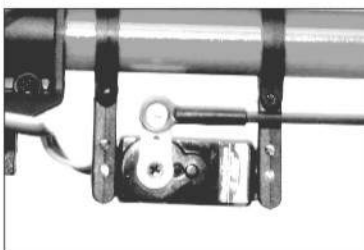
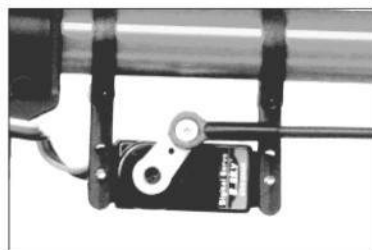
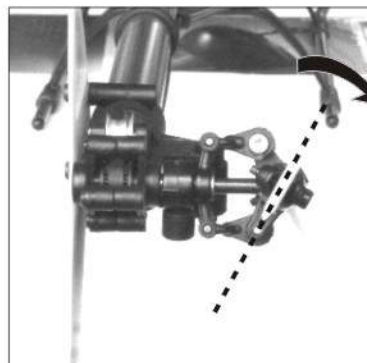
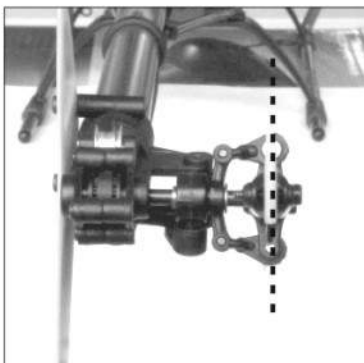
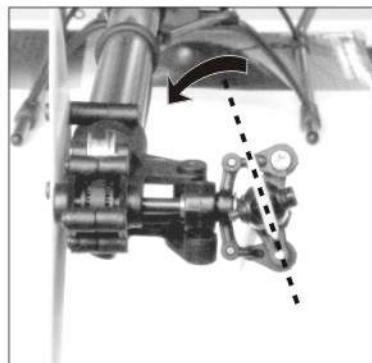
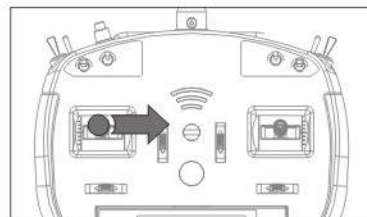
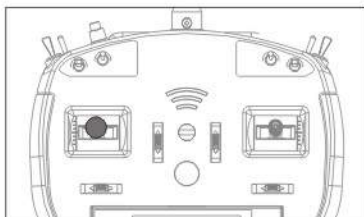
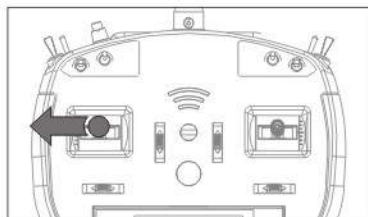
(The rudder's control is the same in both left and right-hand throttle transmitter)



5. Control Test: Rudder

Tail rotor blades pitch change

(The rudder's control is the same in both left and right-hand throttle transmitter)



Flight Operation Procedure

1. Take Off Procedure



Insert the battery to the battery notch



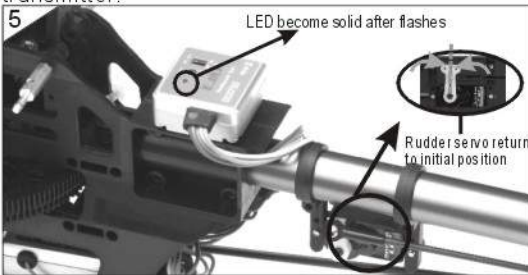
Fix the battery's position with the bandage



Adjust the antenna to the shown position. Ensure the throttle trim is minimized and other trims are in the middle position when during flight. Pull the throttle to the most downward position then switch on the transmitter.



Connect helicopter's electricity



Please perform binding if this is the first flight. (After binding success, you will not necessary to bind the helicopter next time and you can use it directly. However, you should perform binding process when the transmitter mode is changed, otherwise, there will be no signal transmitted.)

Binding procedures:

- 1) Jack the binding plug in the Channel 9 (Power Supply Interface) and connect the electricity, the LED will fast flashing.
- 2) Pressing and holding the transmitter binding button and power on the transmitter within 10 seconds, and then release the binding button.
- 3) The receiver LED will become solid and the binding process is completed, remove the binding plug.

When connected to electricity, the RED LED signal light will keep flashing and detect the rudder servo middle position, please do not move the helicopter. When the gyro is flashing around 5 second later, the LED signal light will solid. The rudder servo will move back to middle position and ready to fly again.

2. End-flight procedure



Disconnect the helicopter's electricity



Switch off the transmitter



Take out the battery

Main Blade Adjustment

Caution: Be sure to maintain a safe distance from the helicopter (3~5meter) when tracking the main rotor blades.



- 1 Blade tracking is an important step to affect the flight performance. Main rotor blades that are out of track may cause vibration and instability. Although the main rotor blades of each DTS450 3D models are tracked at the factory, minor adjustment to blade tracking may be required after blade changes. Thus one of the main blades pasted a coloured tracking tape to identify which blade is running low or high in the blade tracking process.
- 2 After confirming which blade is running low and high, switch off the helicopter power supply before making any necessary adjustments to the linkage. You can increase the pitch of the low blade by shortening the “mixing arm to inner swashplate linkage.” This is achievable by turning one of the Ball Link ends in by one-half to one full turn at a time. Or, you can decrease the pitch of the high blade by lengthening the same linkage.
- 3Remark: The blade you choose to raise or lower when making tracking adjustments will depend on the pitch of each blade. Open the 3D aerobatics (the tail motor power supply wire should be cut off) and the throttle/ collective stick in the middle position, both rotor blades should be close to 0 degrees. You can easily identify which rotor blade to adjust. If one blade is “lower” than 0 degree, raise it to match the other blade. If one blade is “higher” than 0 degree, lower it to match the other blade.
- 4 Generally, there is not much adjustment should be necessary to properly track the main rotor blades. If significant adjustments are required, be sure to double-check the length of both mixing arm to inner swashplate linkages. You should also check the blades for any damaged or twists. In fact, you should be able to get both blades tracking perfectly in the same helicopter. However, the small defects in the ball links and threaded linkage rods/ pushrods may not always be possible to affect the blade tracking. Don't worry, the helicopter should be able to have a good flying performance even the blade tracking is adjusted as close as possible.

Tail Drive Servo Adjustment

As this model is a precise craft, unexpected self-rotation during flight could because of several reasons. Could adjust through following procedure: (disconnect the motor and the ESC can avoid unexpected accidents) First switch on the transmitter. Then connect the helicopter with electricity, and tilt the rudder stick and trim to the middle position (Figure 1); Keep the tail drive servo boom mount and the tail boom perpendicular (Figure 2). Adjust the position of the tail drive servo and keep the distance between the Tail Pitch Control Slider Ring and the tail case (approximately $\frac{1}{3}$ of the spindle) (Figure 3). Keep the servo and the servo arm perpendicular (Figure 4).

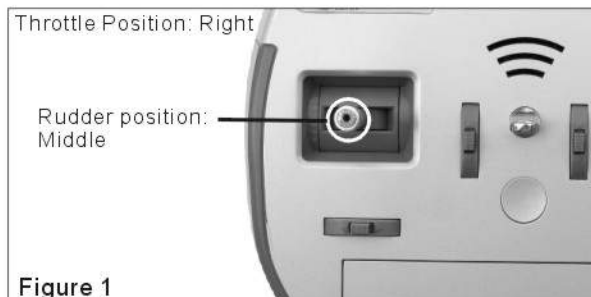


Figure 1

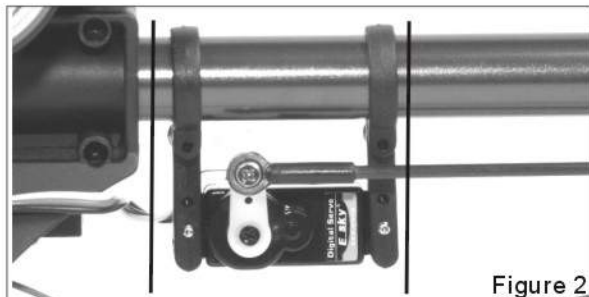


Figure 2

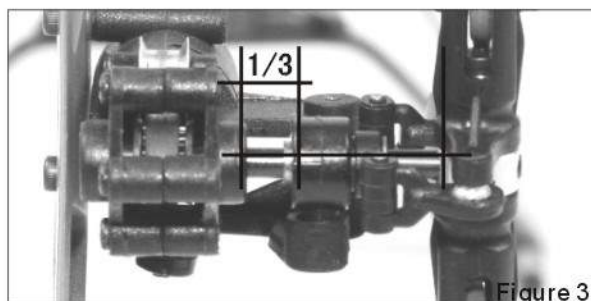


Figure 3

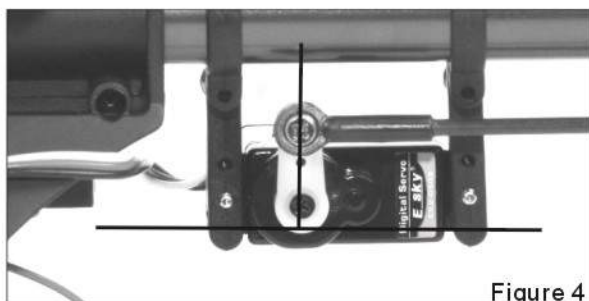
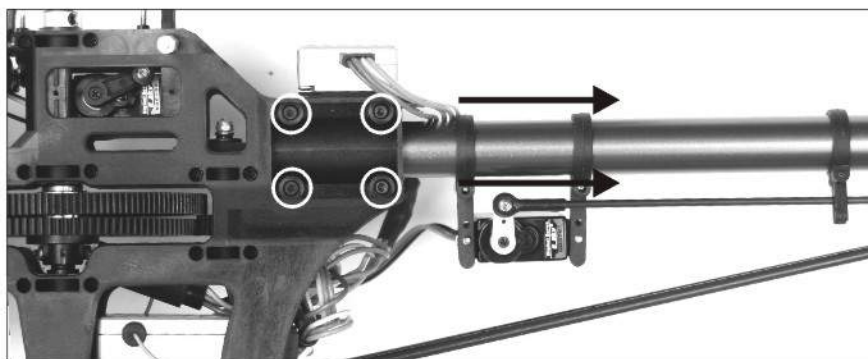


Figure 4

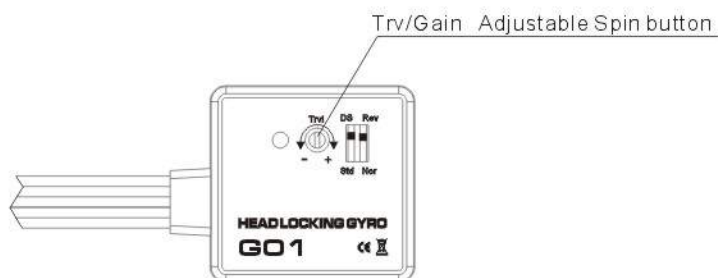
Tail Drive Belt Adjustment



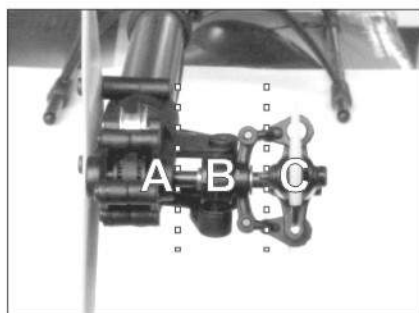
Loosen Belt is one of the reason for tail-lock fail besides gyro setting. Adjust by following the above: Loosen the screws that mounting the tail boom to the main frame, then pull the tail boom backward. Pay attention to the belt's elasticity. Fasten the screws back when the belt is adjusted.

Gyro Initialization and Adjustment

1、Gyro working procedure adjustment



In the helicopter flight progress, the rudder will be used. If the helicopter spinning process is getting slow, it is necessary to turn the "Trvl spin button" clockwise. The purpose is increasing the rotor speed by adjusting the tail rotor blade spin range. On the contrary, turn the "Trvl spin button" counter-clockwise can lower the rotor speed. (Caution: In the adjustment progress, B must have a "GAP" between A and C, the demonstration is showed below.)

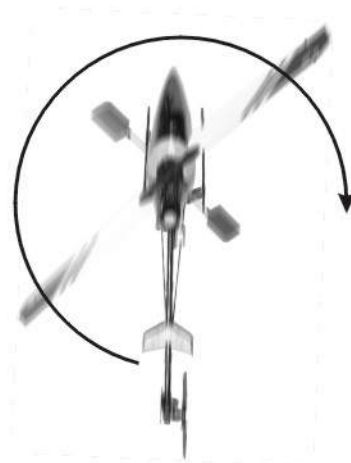


2、Gyro Nor/Rev Switching

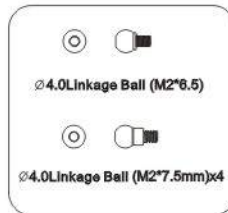
Switch the Gyro to control the swing direction by tail servo.

REV: reverse turning NOR: normal turning

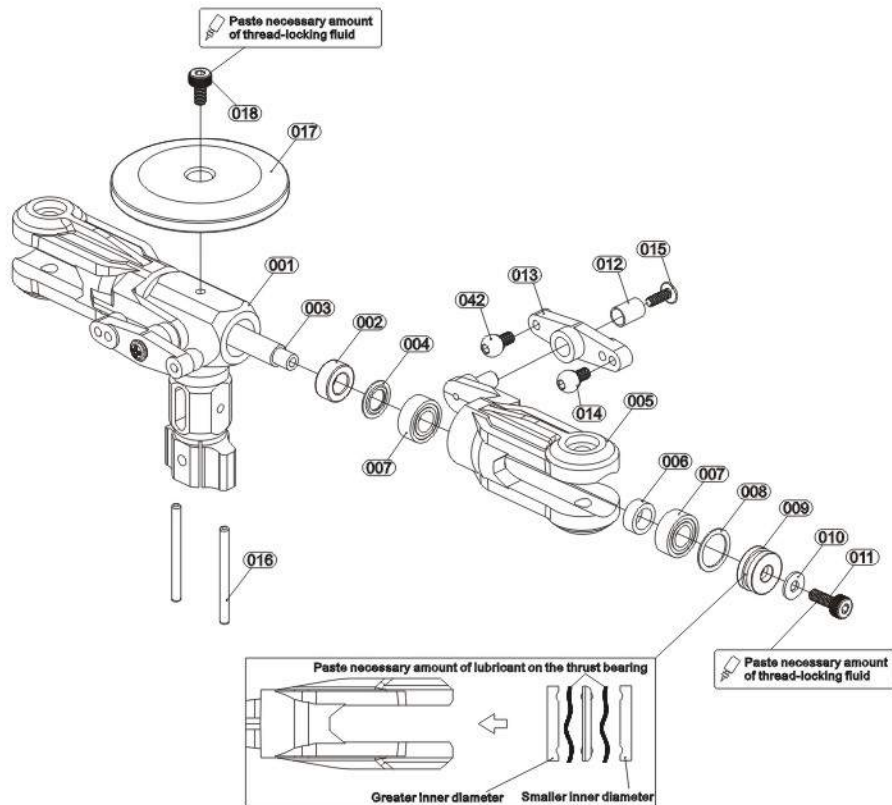
If the RC-helicopter is "fly around the circle" on the ground but not fly in the sky, the error will be the gyro has not fine-tuned correctly. Therefore, please exchange the ☐nor and rev☐ switching to solve the error.



Main Blade Grip Assemble Procedure



No.	Name	Specification	Quantity
001	Main Rotor Head		1
002	O-ring	Ø3.6*Ø7.1*3.6	2
003	Spindle		1
004	Step Washer	Ø4*Ø7.5*0.5	2
005	Blade Grips		2
006	Brass Spacer	Ø4*Ø5.8*2.3	2
007	Bearing	Ø4*Ø8*3	4
008	Washer	Ø6.5*Ø8*0.3	2
009	Thrust Bearing	Ø3*Ø8*3.5	2
010	Spacer	Ø2*Ø5*0.5	2
011	Hexagon Socket Head Screw	M2*6	2
012	Bell Mixer Arm Bushing	Ø3*Ø3.6*5	2
013	Bell Mixer Arm		2
014	Linkage Ball	SØ4*6.5	2
015	Pan Washer Head Phillips Screw	ST1.7*4	2
016	Washout Base Guide Pin	Ø1.6*18.5	2
017	Centre Hub Cap		1
018	Hexagon Socket Head Screw	M2*5	1
042	Linkage Ball	SØ4*7.5	2



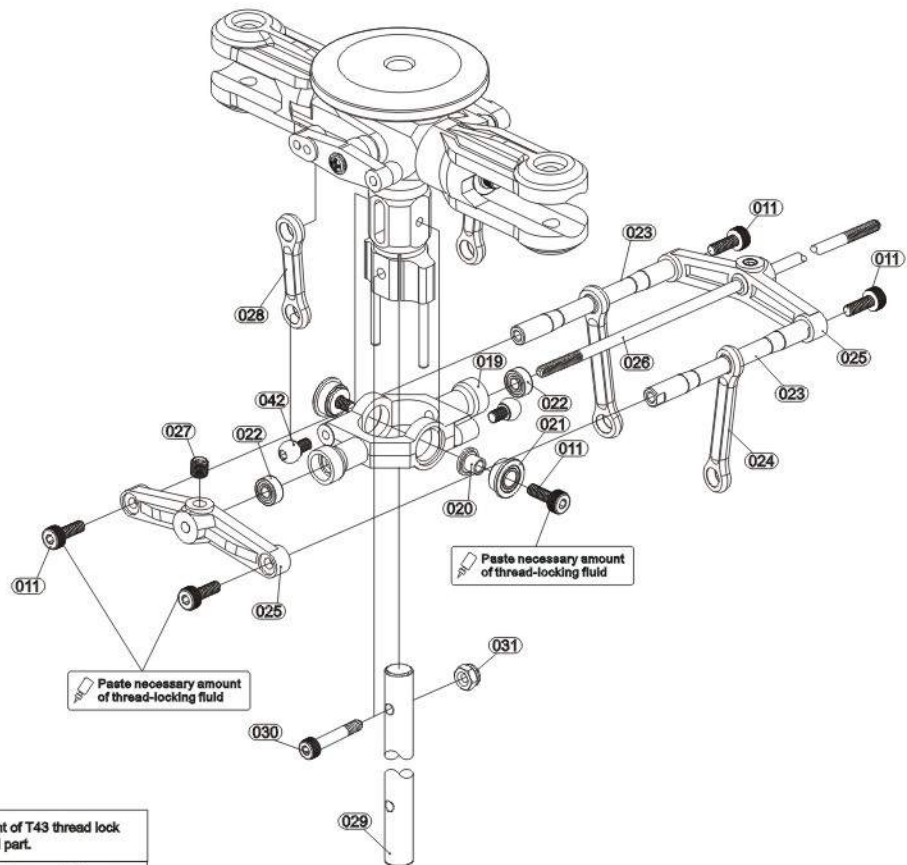
Apply a little amount of T43 thread lock when fixing a metal part.

Before using the product, please verify the screws are fastened and pasted with thread-locking fluid.

Don't apply too much force when fastening the screws or they will be damaged as well as the parts.

Flybar Holder Assemble Procedure

No.	Name	Specification	Quantity
019	Flybar Holder		1
020	Step Washer		2
021	Flange Bearing	$\varnothing 3 \times \varnothing 6 \times 2.5$	2
011	Hexagon Socket Head screw	M2*6	6
042	Linkage Ball	S $\varnothing 4 \times 7.5$	2
022	Bearing	$\varnothing 2 \times \varnothing 5 \times 2$	2
023	Flybar Paddle Control Frame Rod		2
024	Ball Linkage		2
025	Flybar Paddle Control Frame Arm		2
026	Flybar	$\varnothing 2 \times 220$	1
027	Set Screw	M3*3	2
028	Linkage		2
029	Main Shaft	$\varnothing 5 \times 124$	1
030	Hexagon Socket Head Bolt	M2*12	1
031	Nylon Insert Lock Nut	M2.0	1



Apply a little amount of T43 thread lock when fixing a metal part.

Before using the product, please verify the screws are fastened and pasted with thread-locking fluid.

Don't apply too much force when fastening the screws or they will be damaged as well as the parts.

Hiller Control Arms Assemble Procedure

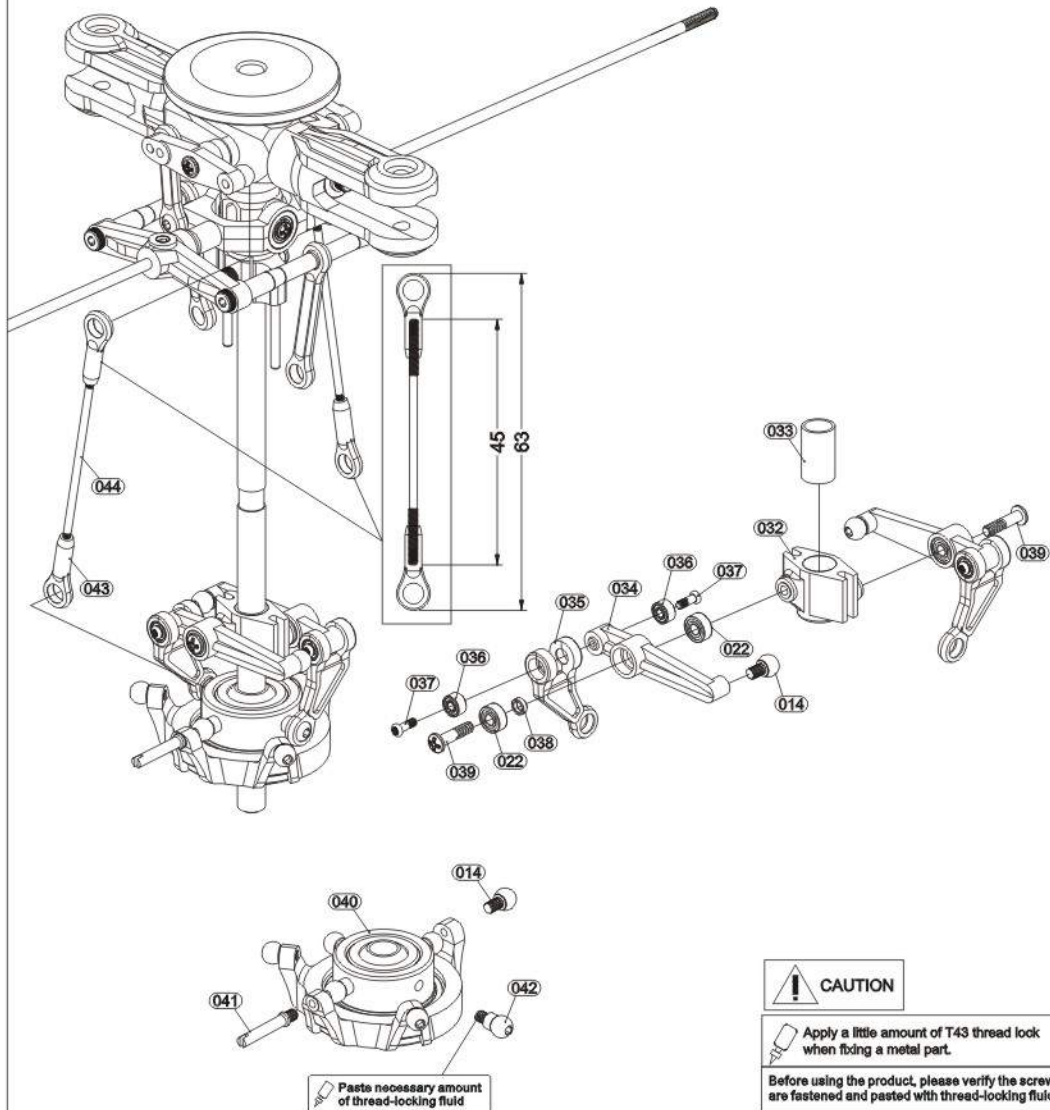
Phillips Pan Head Bolt
(M1.4*4mm)x4

Phillips Pan Head Bolt
(ST2*8.5mm)x2

Ø4.0 Linkage Ball
(M2*6.5)x5

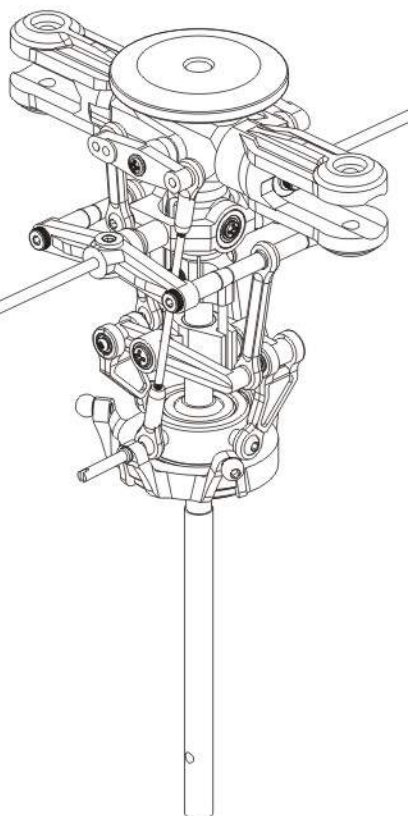
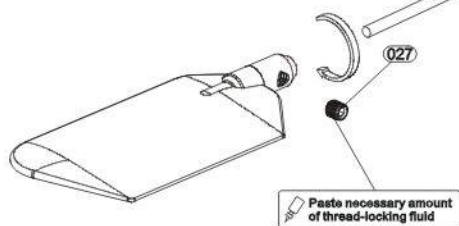
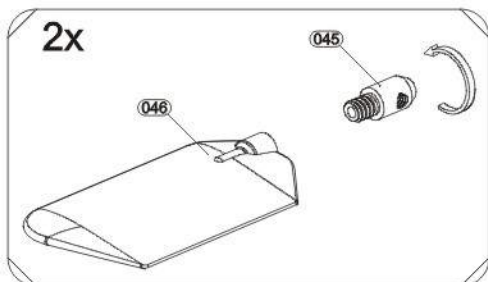
Ø4.0 Linkage Ball
(M2*7.5mm)x4

No.	Name	Specification	Quantity
032	Washout Base		1
033	Washout Space Bushing	Ø5*Ø6*10	1
034	Washout Control Arm		2
014	Linkage Ball	SØ4*6.5	5
035	Washout Control Arm Link		2
036	Bearing	Ø1.5*Ø4*2	4
037	Phillips Pan Head Bolt	M1.4*4	4
038	Brass Spacer	Ø2*Ø3*1	2
022	Bearing	Ø2*Ø5*2	4
039	Phillips Pan Head Bolt	ST2*8.5	2
040	Swashplate		1
041	Anti-Rotation Pin	Ø2.0*14	1
042	Linkage Ball	SØ4*7.5	4
043	Ball Link		4
044	Pushrod	1.4*45	2



Flybar Assemble Procedure

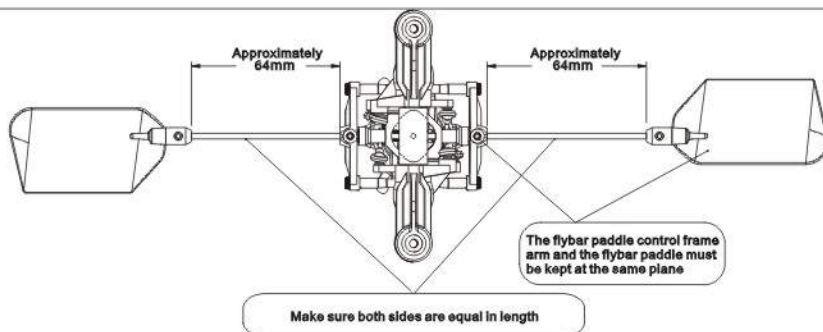
No.	Name	Specification	Quantity
045	Flybar Paddle Mount		2
046	Flybar Paddle		2
027	Set Screw	M3*3	2



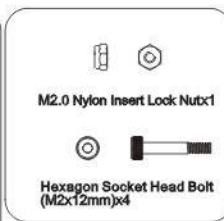
Apply a little amount of T43 thread lock when fixing a metal part.

Before using the product, please verify the screws are fastened and pasted with thread-locking fluid.

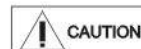
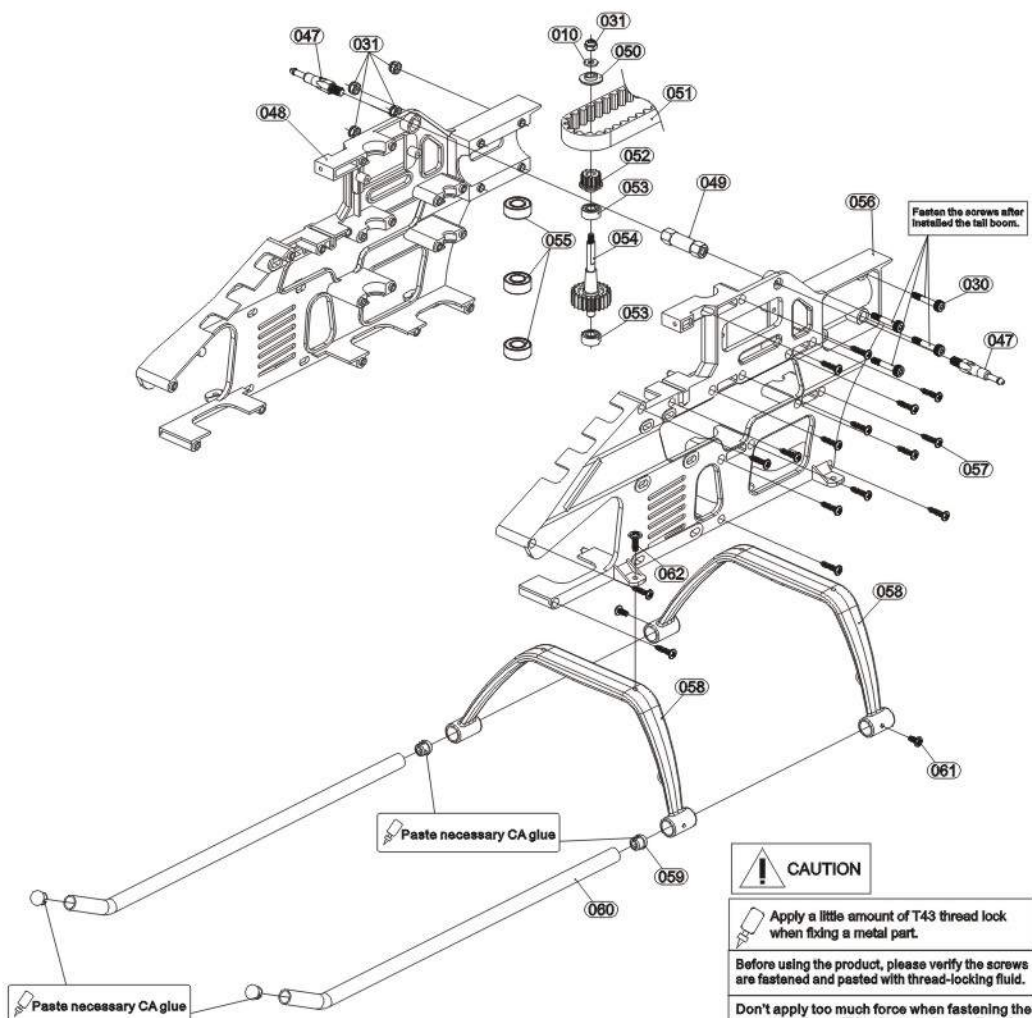
Don't apply too much force when fastening the screws or they will be damaged as well as the parts.



Main Frame Assemble Procedure



No.	Name	Specification	Quantity
047	Canopy Mount Rod		2
048	Main Frame, Right		1
049	Canopy Mount Rod Connector		1
031	Nylon Insert Lock Nut	M2.0	5
010	Spacer	∅2*∅5*0.5	1
050	Tail Drive Pulley Cap		1
051	Tail Drive Belt		1
052	Tail Drive Pulley		1
053	Bearing	∅3*∅7*3	2
054	Secondary Tail Drive Gear		1
055	Bearing	∅5*∅10*3	3
056	Main Frame, Left		1
030	Hexagon Socket Head Bolt	M2*12	4
057	Pan Head Phillips Screw	ST1.7*9	16
058	Landing Gear Strut		2
059	Landing Skid End Cap		4
060	Landing Skid		2
061	Pan Head Phillips Screw	ST1.7*4	2
062	Pan Washer Head Phillips Screw	ST2*6	2



Apply a little amount of T43 thread lock when fixing a metal part.

Before using the product, please verify the screws are fastened and pasted with thread-locking fluid.

Don't apply too much force when fastening the screws or they will be damaged as well as the parts.

Main Gear Assemble Procedure

No.	Name	Specification	Quantity
063	One way bearing sleeve		1
064	One Way Bearing	$\varnothing 6 \times \varnothing 10 \times 12$	1
065	Hexagon Flat Head Screw	ST2*6	4
066	Main Gear	140T	1
067	Spacer	$\varnothing 6 \times \varnothing 10 \times 1$	1
068	Main Tail Drive Gear	110T	1
069	One Way Bearing Shaft	$\varnothing 5 \times \varnothing 6 \times 22.2$	1
070	Main Shaft Retaining Collar		1
027	Set Screw	M3x3	1
030	Hexagon Socket Head Bolt	M2*12	1
031	Nylon Insert Lock Nut	M2.0	1



CAUTION

Apply a little amount of T43 thread lock when fixing a metal part.

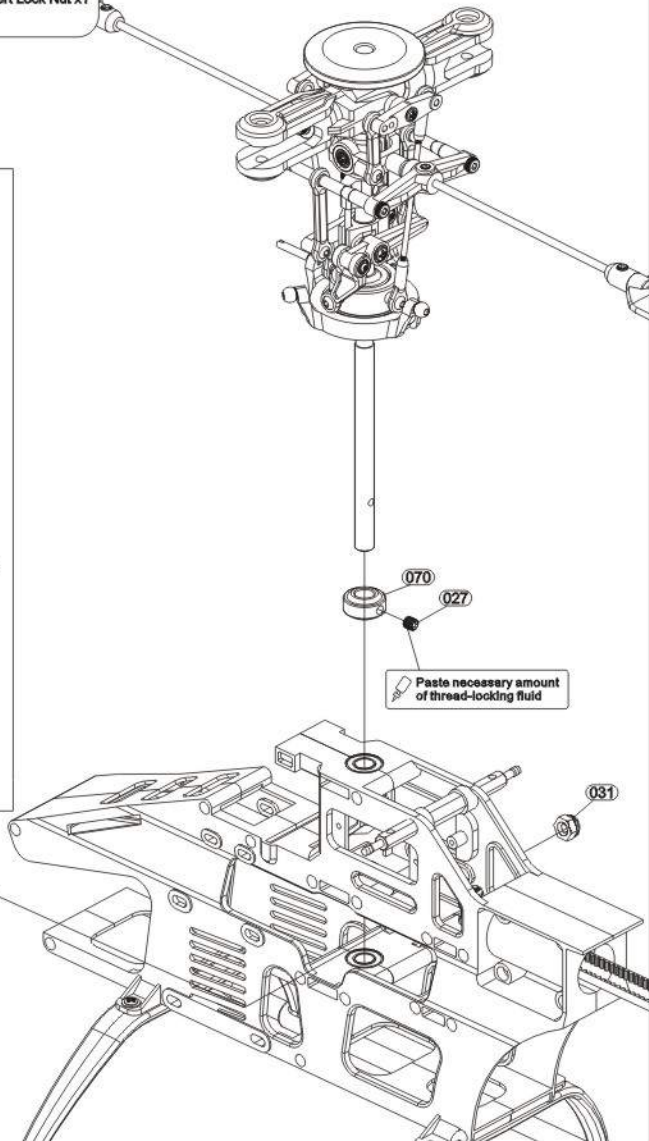
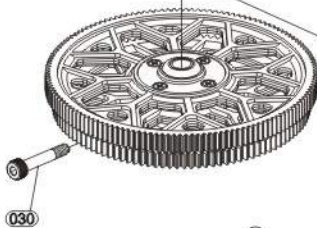
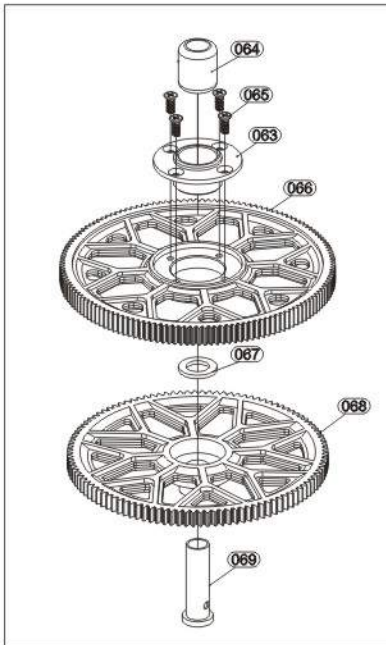
Before using the product, please verify the screws are fastened and pasted with thread-locking fluid.

Don't apply too much force when fastening the screws or they will be damaged as well as the parts.

M3 Set Screw (M3x3mm)x1

Hexagon Socket Head Bolt (M2x12mm)x1

M2.0 Nylon Insert Lock Nut x1



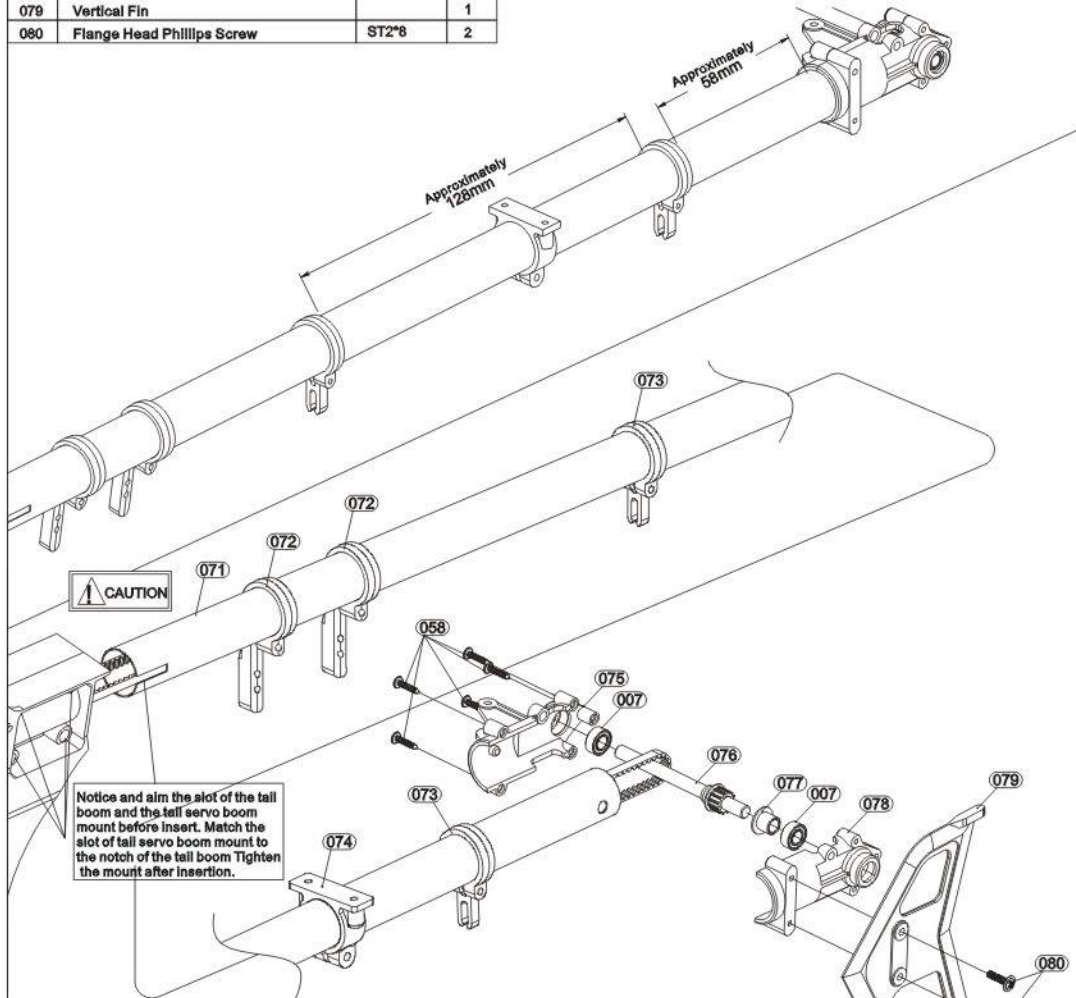
Tail Boom Assemble Procedure

No.	Name	Specification	Quantity
071	Tail Boom		1
072	Tail Servo Boom Mount		2
073	Tail Pushrod Guide		2
074	Horizontal Fin Mount		1
075	Tail Case, Right		1
007	Bearing	$\varnothing 4 \times \varnothing 8 \times 3$	2
076	Tail Rotor Shaft Drive Pulley		1
077	Tail Rotor Shaft Drive Pulley Cap		1
078	Tail Case, Left		1
067	Pan Head Phillips Screw	ST1.7*9	5
079	Vertical Fin		1
080	Flange Head Phillips Screw	ST2*8	2



Drive belt illustration

1. Check to rotate the belt 90 degrees when assembling.
2. Belt tension: Recommend to lightly tighten the drive belt after assembling tail boom to avoid vibration, belt friction and rotation slip.



Apply a little amount of T43 thread lock when fixing a metal part.

Before using the product, please verify the screws are fastened and pasted with thread-locking fluid.

Don't apply too much force when fastening the screws or they will be damaged as well as the parts.

Pan Head Phillips Screw
(ST1.7*9mm)x5



Flange Head Phillips Screw
(ST2*8mm)x2



Tail Rotor Blade Assemble Procedure

No.	Name	Specification	Quantity
081	Tail Rotor Blade Grip		2
042	Linkage Ball	S $\varnothing$ 4*7.5	2
083	Brass Spacer	$\varnothing$ 3* $\varnothing$ 4.5*1.6	2
084	Bearing	$\varnothing$ 3* $\varnothing$ 6*2.5	4
085	Washer	$\varnothing$ 5.1* $\varnothing$ 6*0.1	4
086	Thrust Bearing	$\varnothing$ 2.5* $\varnothing$ 6*3	2
087	Cap Washer		2
088	Hexagon Socket Head Screw	M2*10	2
089	Metal Tail Rotor Hub		1
090	Tail Rotor Blade		2
091	Linkage Ball Bolt		2
092	Linkage Ball		2
093	Tail Rotor Pitch Control Slide Bushing		1
094	Bearing	$\varnothing$ 5* $\varnothing$ 8*2.5	2
095	Tail Rotor Pitch Control Slider Ring		1
096	Tail Rotor Pitch Control Fork		1
097	Tail Rotor Pitch Control Ball Link		2
098	Pin	$\varnothing$ 1.5*5	2
027	Set Screw	M3x3	1
099	Tail Rotor Pitch Lever		1
014	Linkage Ball	S $\varnothing$ 4*6.5	1
100	Spacer	$\varnothing$ 2.1* $\varnothing$ 3.6*2	1
101	Step Washer		2
102	Hexagon Socket Head Bolt	M2*14	1
103	Pan Head Phillips Bolt	ST2*4	2

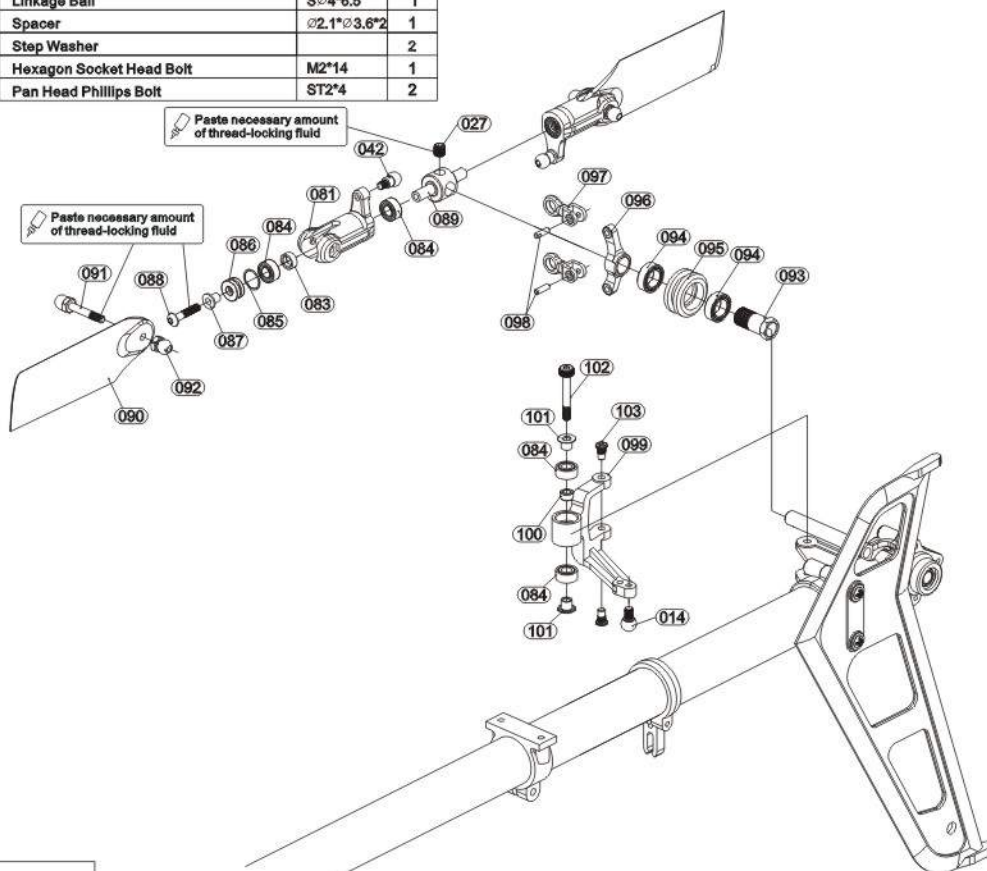

 $\varnothing$ 4.0 Linkage Ball
 (M2*7.5mm)x2


 $\varnothing$ 4.0 Linkage Ball
 (M2*6.5)x1


 M3 Set Screw
 (M3x3mm)x1


 Hexagon Socket Head Bolt
 (M2*14mm)x1


 Hexagon Socket Head Screw
 (M2*10mm)x2



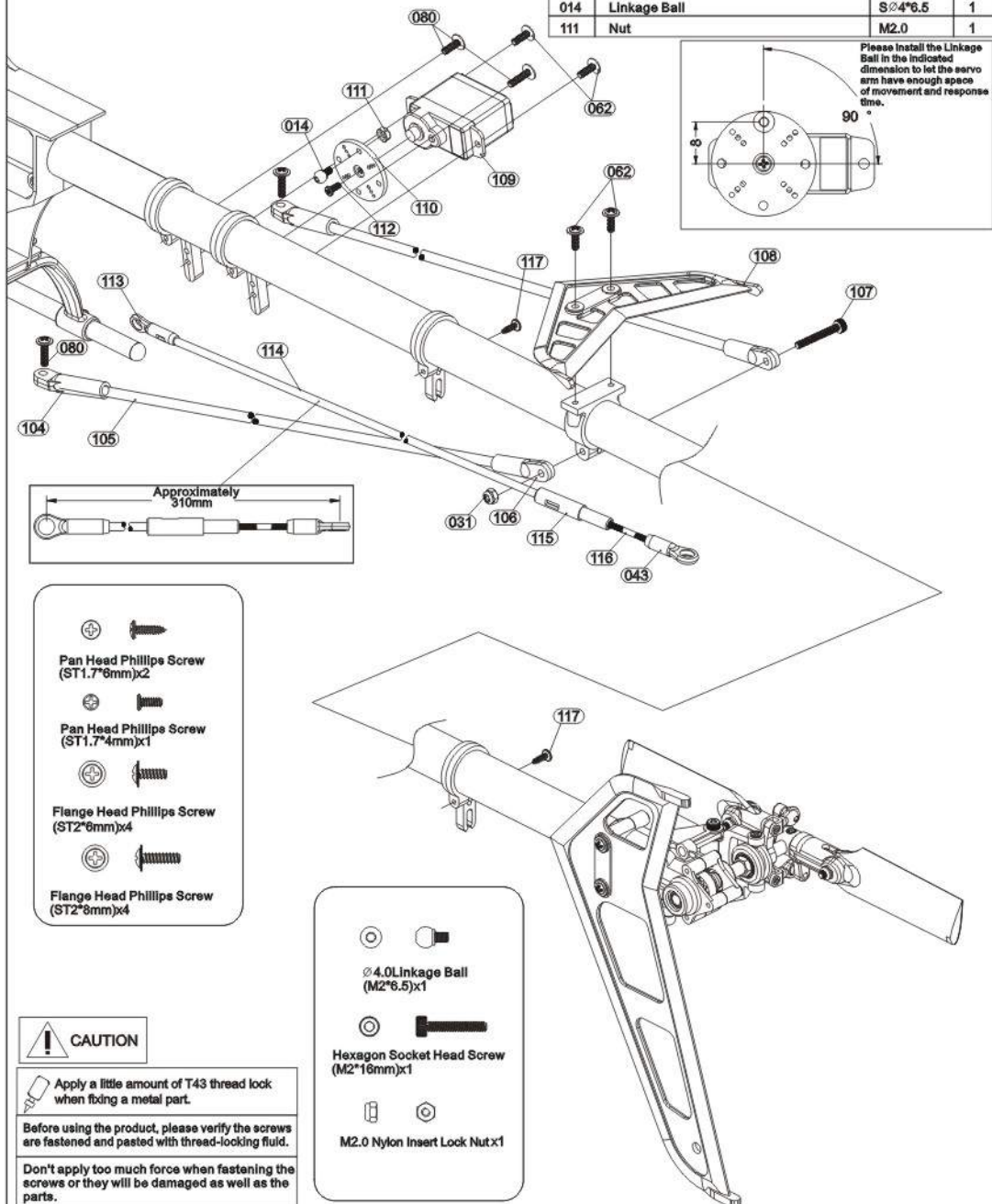
Apply a little amount of T43 thread lock when fixing a metal part.

Before using the product, please verify the screws are fastened and pasted with thread-locking fluid.

Don't apply too much force when fastening the screws or they will be damaged as well as the parts.

Push-rod Assemble Procedure

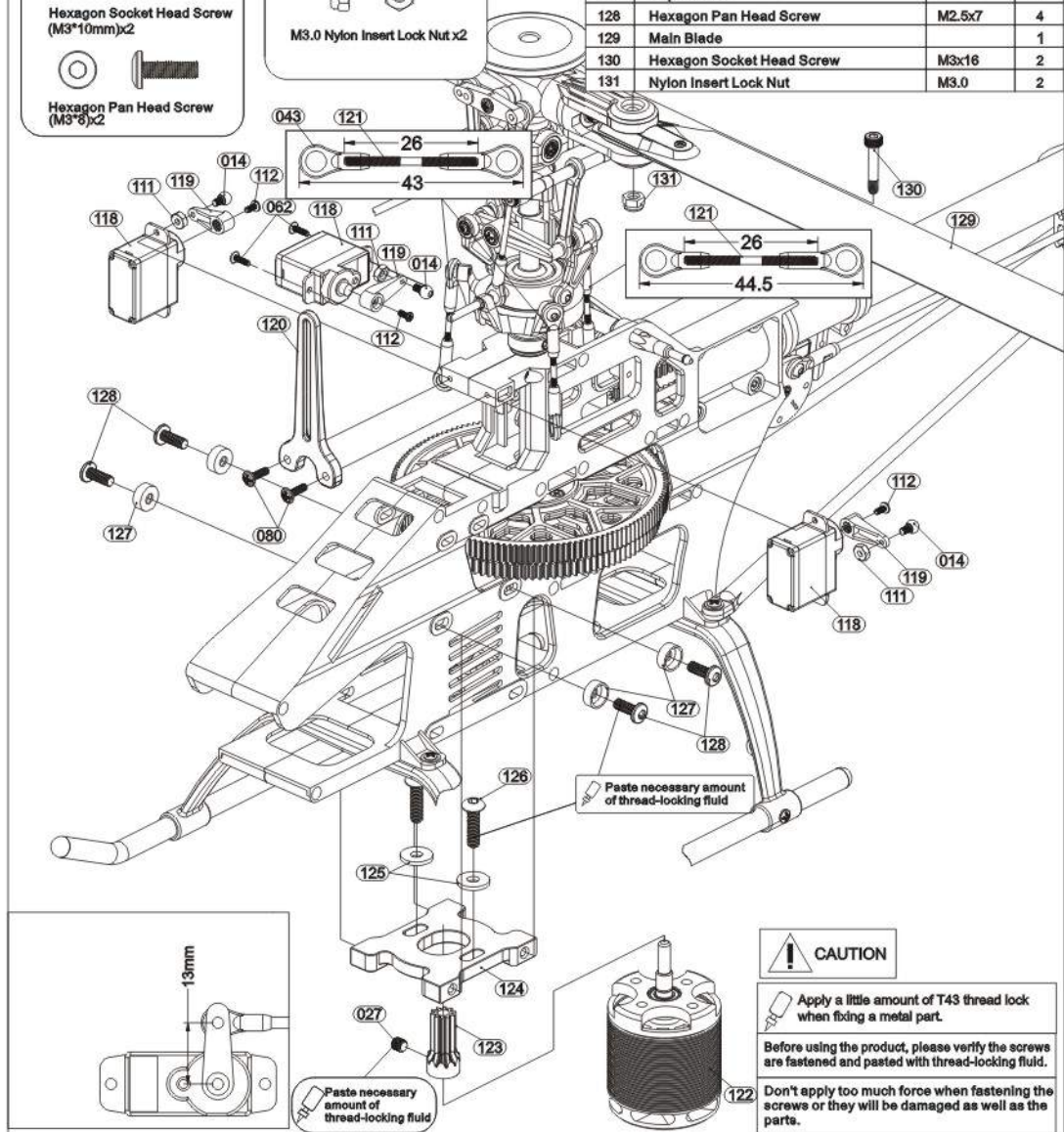
No.	Name	Specification	Quantity	No.	Name	Specification	Quantity
112	Pan Head Phillips Screw	ST1.7*4	1	104	Tail Boom Support End, Angled		2
113	Tail Linkage		1	105	Tail Boom Support Rod	∅3*250	2
114	Tail Pushrod	∅2*270	1	106	Tail Boom Support End, Straight		2
115	Tail Pushrod Joiner		1	080	Flange Head Phillips Screw	ST2*8	4
116	Tail Pushrod Joiner Rod	∅1.4*24	1	107	Hexagon Socket Head Screw	M2*16	1
043	Tail Linkage		1	031	Nylon Insert Lock Nut	M2.0	1
117	Pan Head Phillips Screw	ST1.7*6	2	108	Horizontal Fin		1
				062	Flange Head Phillips Screw	ST2*6	4
				109	Servo		1
				110	Servo Arm		1
				014	Linkage Ball	S∅4*6.5	1
				111	Nut	M2.0	1



Power System Assemble Procedure

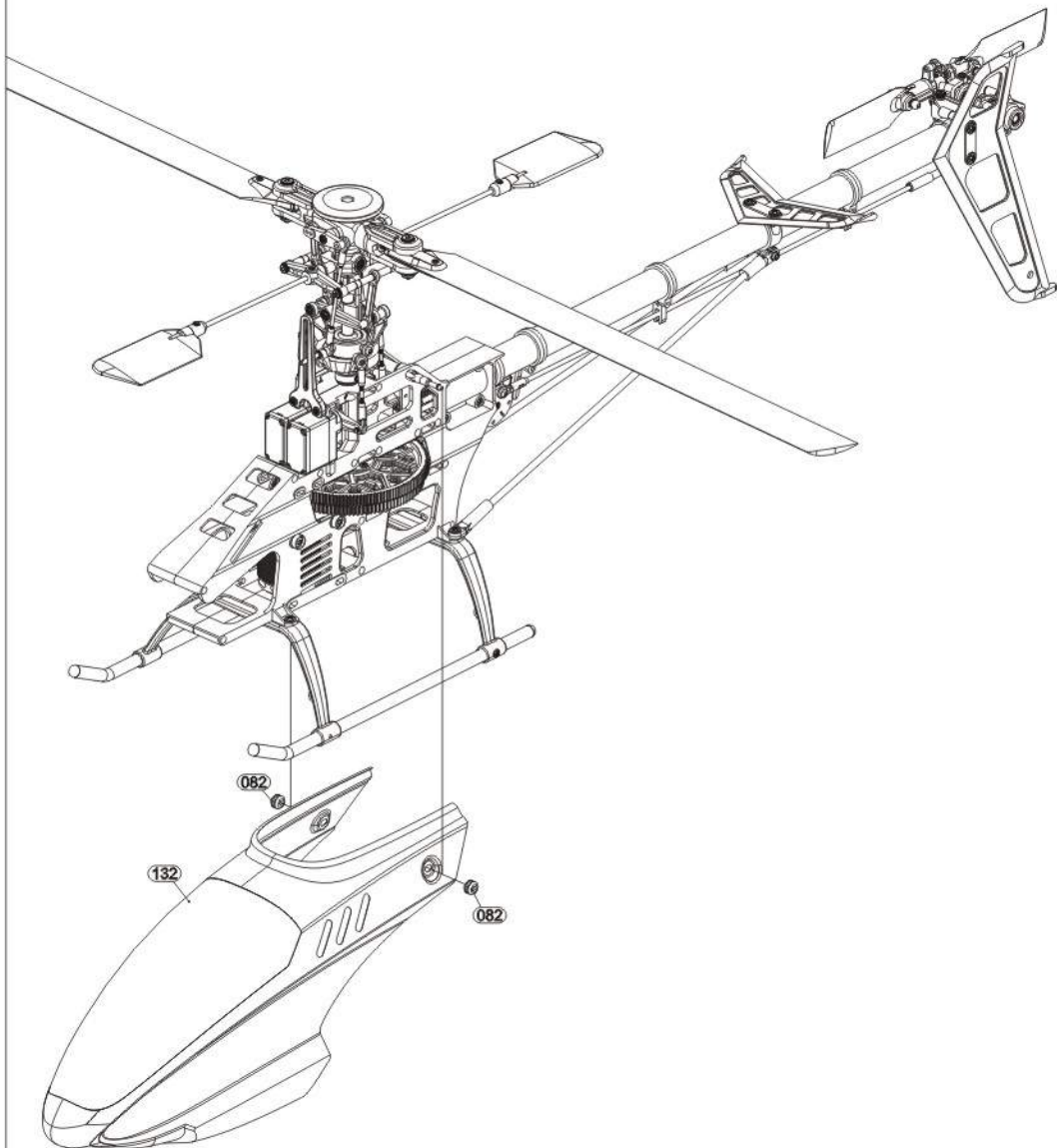


No.	Name	Specification	Quantity
118	Servo		3
119	Servo Arm		3
014	Linkage Ball	S $\varnothing$ 4*6.5	3
111	Nut	M2.0	3
112	Pan Head Phillips Screw	ST1.7*4	3
062	Flange Head Phillips Screw	ST2*6	2
120	Anti Rotation Bracket		1
080	Flange Head Phillips Screw	ST2*8	2
043	Ball Link		6
121	Pushrod	$\varnothing$ 1.4*26	3
122	Brushless Motor		1
123	Pinion Gear		1
027	Set Screw	M3x3	1
124	Motor Mount		1
125	Spacer	$\varnothing$ 3.1* $\varnothing$ 8*1	2
126	Hexagon Socket Head Screw	M3x10	2
127	Cap Washer		4
128	Hexagon Pan Head Screw	M2.5x7	4
129	Main Blade		1
130	Hexagon Socket Head Screw	M3x16	2
131	Nylon Insert Lock Nut	M3.0	2

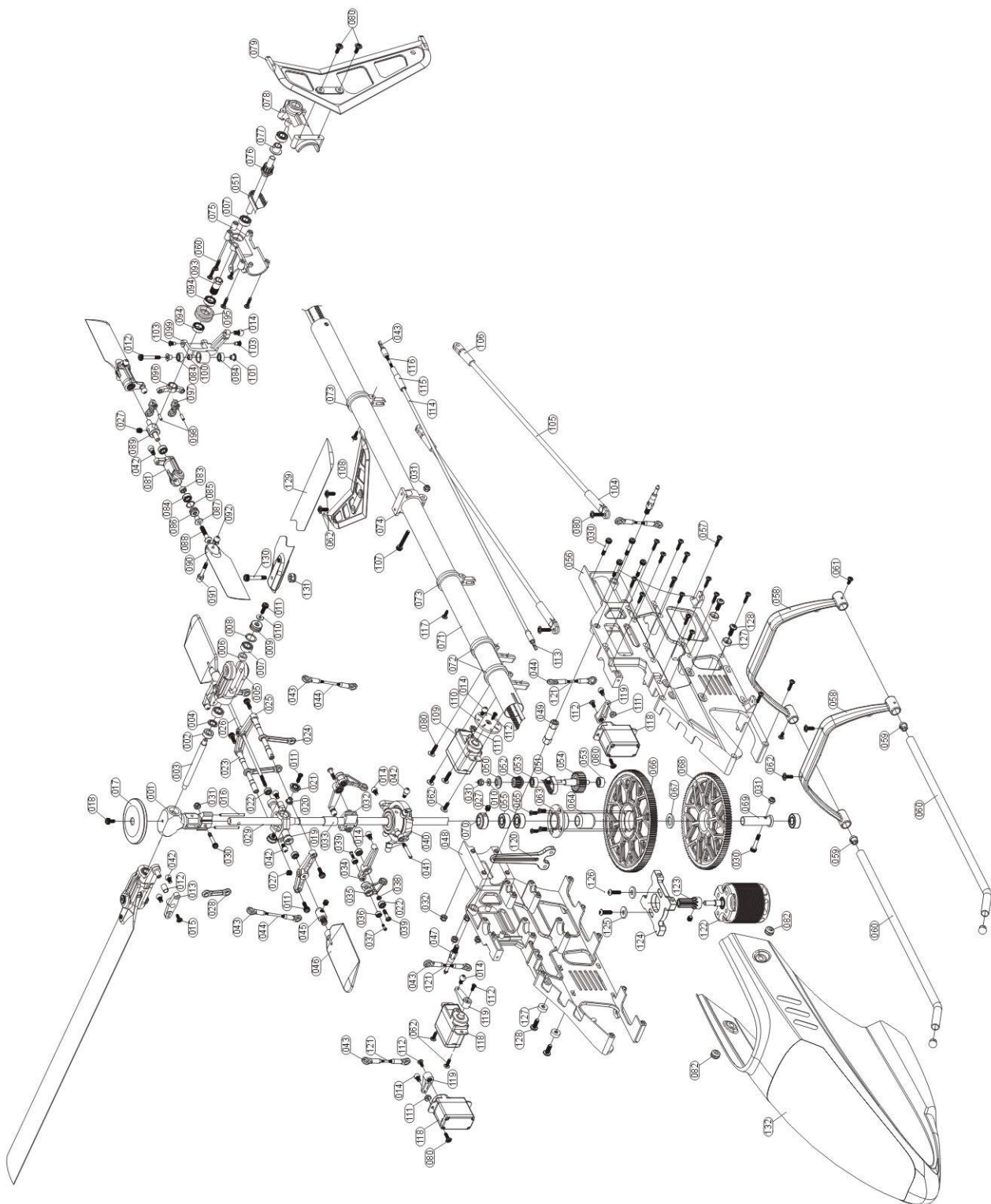


Canopy Assemble Procedure

No.	Name	Specification	Quantity
132	Canopy		1
082	Canopy Mount Grommet		2



Exploded View

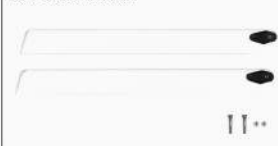


Parts List

No.	Name	Specification	Quantity	No.	Name	Specification	Quantity
001	Main Rotor Head		1	072	Tail Servo Boom Mount		2
002	O-ring	ø3.6*ø7.1*3.6	2	073	Tail Pushrod Guide		2
003	Spindle		1	074	Horizontal Fin Mount		1
004	Spindle	ø4*ø7.5*0.5	2	075	Tail Case, Right		1
005	Blade Grips		2	076	Tail Rotor Shaft Drive Pulley		1
006	Brass Spacer	ø4*ø5.8*2.3	2	077	Tail Rotor Shaft Drive Pulley Cap		1
007	Bearing	ø4*ø8*3	6	078	Tail Case, Left		1
008	Washer	ø6.5*ø8*0.3	2	079	Vertical Fin		1
009	Thrust Bearing	ø3*ø8*3.5	2	080	Flange Head Phillips Screw	ST2*8	8
010	Spacer	ø2*ø5*0.5	3	081	Tail Rotor Blade Grip		2
011	Hexagon Socket Head Screw	M2*6	8	082	Canopy Mount Grommet		2
012	Bell Mixer Arm Bushing	ø3*ø3.6*5	2	083	Brass Spacer	ø3*ø4.5*1.6	2
013	Bell Mixer Arm		2	084	Bearing	ø3*ø6*2.5	6
014	Linkage Ball	Sø4*6.5	10	085	Washer	ø5.1*ø6*0.1	4
015	Pan Washer Head Phillips Screw	ST1.7*4	2	086	Thrust Bearing	ø2.5*ø6*3	2
016	Washout Base Guide Pin	ø1.6*18.5	2	087	Cap Washer		2
017	Centre Hub Cap		1	088	Hexagon Pan Head Screw	M2*10	2
018	Hexagon Socket Head Screw	M2*5	1	089	Metal Tail Rotor Hub		1
019	Flybar Holder		1	090	Tail Rotor Blade		2
020	Step Washer		2	091	Linkage Ball Bolt		2
021	Flange Bearing	ø3*ø6*2.5	2	092	Linkage Ball		2
022	Bearing	ø2*ø5*2	6	093	Tail Rotor Pitch Control Slide Bushing		1
023	Flybar Paddle Control Frame Rod		2	094	Bearing	ø5*ø8*2.5	2
024	Ball Linkage		2	095	Tail Rotor Pitch Control Slider Ring		1
025	Flybar Paddle Control Frame Arm		2	096	Tail Rotor Pitch Control Fork		1
026	Flybar	ø2*220	1	097	Tail Rotor Pitch Control Ball Link		2
027	Set Screw	M3*3	7	098	Pin	ø1.5*5	2
028	Linkage		2	099	Tail Rotor Pitch Lever		1
029	Main Shaft	ø5*124	1	100	Spacer	ø2.1*ø3.6*2	1
030	Hexagon Socket Head Bolt	M2*12	6	101	Step Washer		2
031	Nylon Insert Lock Nut	M2.0	8	102	Hexagon Socket Head Bolt	M2*14	1
032	Washout Base		1	103	Pan Head Phillips Bolt	ST2*4	2
033	Washout Space Bushing	ø5*ø6*10	1	104	Tail Boom Support End, Angled		2
034	Washout Control Arm		2	105	Tail Boom Support Rod	ø3*250	2
035	Washout Control Arm Link		2	106	Tail Boom Support End, Straight		2
036	Bearing	ø1.5*ø4*2	4	107	Hexagon Socket Head Screw	M2*16	1
037	Phillips Pan Head Bolt	M1.4*4	4	108	Horizontal Fin		1
038	Brass Spacer	ø2*ø3*1	2	109	Servo		1
039	Phillips Pan Head Bolt	ST2*8.5	2	110	Servo Arm		1
040	Swashplate		1	111	Nut	M2.0	4
041	Anti-Rotation Pin	ø2.0*14	1	112	Pan Head Phillips Screw	ST1.7*4	4
042	Linkage Ball	Sø4*7.5	6	113	Tail Linkage		1
043	Ball Link		11	114	Tail Pushrod	ø2*270	1
044	Pushrod	1.4*45	2	115	Tail Pushrod Joiner		1
045	Flybar Paddle Mount		2	116	Tail Pushrod Joiner Rod	ø1.4*24	1
046	Flybar Paddle		2	117	Pan Head Phillips Screw	ST1.7*6	2
047	Canopy Mount Rod		2	118	Servo		3
048	Main Frame, Right		1	119	Servo Arm		3
049	Canopy Mount Rod Connector		1	120	Anti Rotation Bracket		1
050	Tail Drive Pulley Cap		1	121	Pushrod	ø1.4*26	3
051	Tail Drive Belt		1	122	Brushless Motor		1
052	Tail Drive Pulley		1	123	Pinion Gear		1
053	Bearing	ø3*ø7*3	2	124	Motor Mount		1
054	Secondary Tail Drive Gear		1	125	Spacer	ø3.1*ø8*1	2
055	Bearing	ø5*ø10*3	3	126	Hexagon Socket Head Bolt	M3x10	2
056	Main Frame, Left		1	127	Cap Washer		4
057	Pan Head Phillips Screw	ST1.7*9	21	128	Hexagon Pan Head Screw	M2.5x7	4
058	Landing Gear Strut		2	129	Main Blade		1
059	Landing Skid End Cap		4	130	Hexagon Socket Head Bolt	M3x18	2
060	Landing Skid		2	131	Nylon Insert Lock Nut	M3.0	2
061	Pan Head Phillips Screw	ST1.7*4	2	132	Canopy		1
062	Pan Washer Head Phillips Screw	ST2*6	8				
063	One way bearing sleeve		1				
064	One Way Bearing	ø6*ø10*12	1				
065	Hexagon Flat Head Screw	ST2*6	4				
066	Main Gear	140T	1				
067	Spacer	ø6*ø10*1	1				
068	Main Tail Drive Gear	110T	1				
069	One Way Bearing Shaft	ø5*ø6*22.2	1				
070	Main Shaft Retaining Collar		1				
071	Tail Boom		1				

Replaceable Parts List

DTS003952



Main Blade

DTS003953



Canopy

DTS003954



Flybar Paddle Set

DTS003955



Flybar

DTS003956



Flybar Control Arm Set

DTS003957



Main Blade Grip Set

DTS003958



Flybar Holder

DTS003959



Bell Mixer Arm Set

DTS003960



Spindle

DTS003961



Ball Linkage

DTS003963



Washout Control Arm Set

DTS003964



Washout Control Arm Set

DTS003965



Servo Linkage Rod

DTS003966



Linkage Rod Set

DTS003967



Swashplate Set

DTS003968



O Ring

DTS003969



Main Gear

DTS003970



Secondary Gear

DTS003971



Main Shaft Set

DTS003972



Main Frame Set

DTS003973



Tail Driven Gear Set

DTS003974



Motor Mount Set

DTS003975



Anti-rotation Bracket

DTS003976



Canopy Mount Rod

DTS003977



Tail Rotor Head

DTS003978



Tail Blade Grip Set

DTS003979



Tail Control L Arm Set

DTS003980



Tail Case Set

DTS003981



Tail Boom

DTS003982



Tail Servo Boom Mount Set

DTS003983



Tail Pushrod Guide

DTS003984



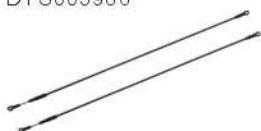
Horizontal Fin Mount Set

DTS003985



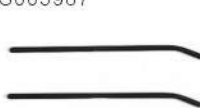
Horizontal and Vertical Fin

DTS003986



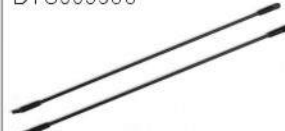
Tail Pushrod Set

DTS003987



Landing Skid Set

DTS003988



Tail Boom Support Set

DTS003989



Tail Control Arm Set

DTS003990



Tail Shaft Set

DTS004093



Brushless Motor

DTS003992



Gear

11T

DTS003993



Gear

10T

DTS003941



Thrust Bearing

3*6*2.5

DTS003995



Bearing

5*10*4

DTS004127



Bearing

4*8*3

DTS004122



Bearing

3*7*3

DTS003998



One way bearing sleeve set

DTS003999



Main Gear Parts

DTS004000



Thrust Bearing

3*8*3.5

DTS004001



Main Rotor Head Set

DTS004002



Landing Gear Strut Set

DTS004003



Tail Rotor Blade

DTS004005



Linkage Ball

DTS004006



Control Arm Set

DTS003962



Washout Base Set

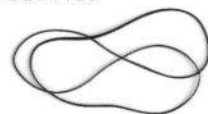
DTS004126



3*6*2.5

Ball Bearing

DTS004186



3*810

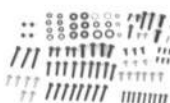
Belt

DTS004066



Spare Part Pack

DTS004004



Screw

GWY003914



Swash Servo

GWY003721



Tail Servo

GWY003751

CG1C Li-Polymer
Battery Charger Wire

GWY003770



Connection Wire

GWY003747



35A Brushless Motor ESC

GWY003750



Tail Locked Gyro

DTS003949



11.1V 2200mAh

Li-Polymer Battery

GWY003752



2&3Cell

5ALi-Polymer Battery Charger

GWY004064



Transmitter Stand

DTS004011



3.7V 1100mAh

Transmitter Li-Polymer Battery

GWY004303



Remote Receiver

GWY003768

Transmitter LCD
Setting Module

GWY004307



2.4G 6CH Transmitter

GWY004304

Dual Antenna / Receiver
8 Channel Receiving Unit

GWY004309

2.4G 6CH Transmitter &
Dual Antenna / Receiver
8 Channel Receiving Unit

GWY004313

Dual Antenna / Receiver8
Channel Receiving Unit & High
Frequency Transmission Module

前 言

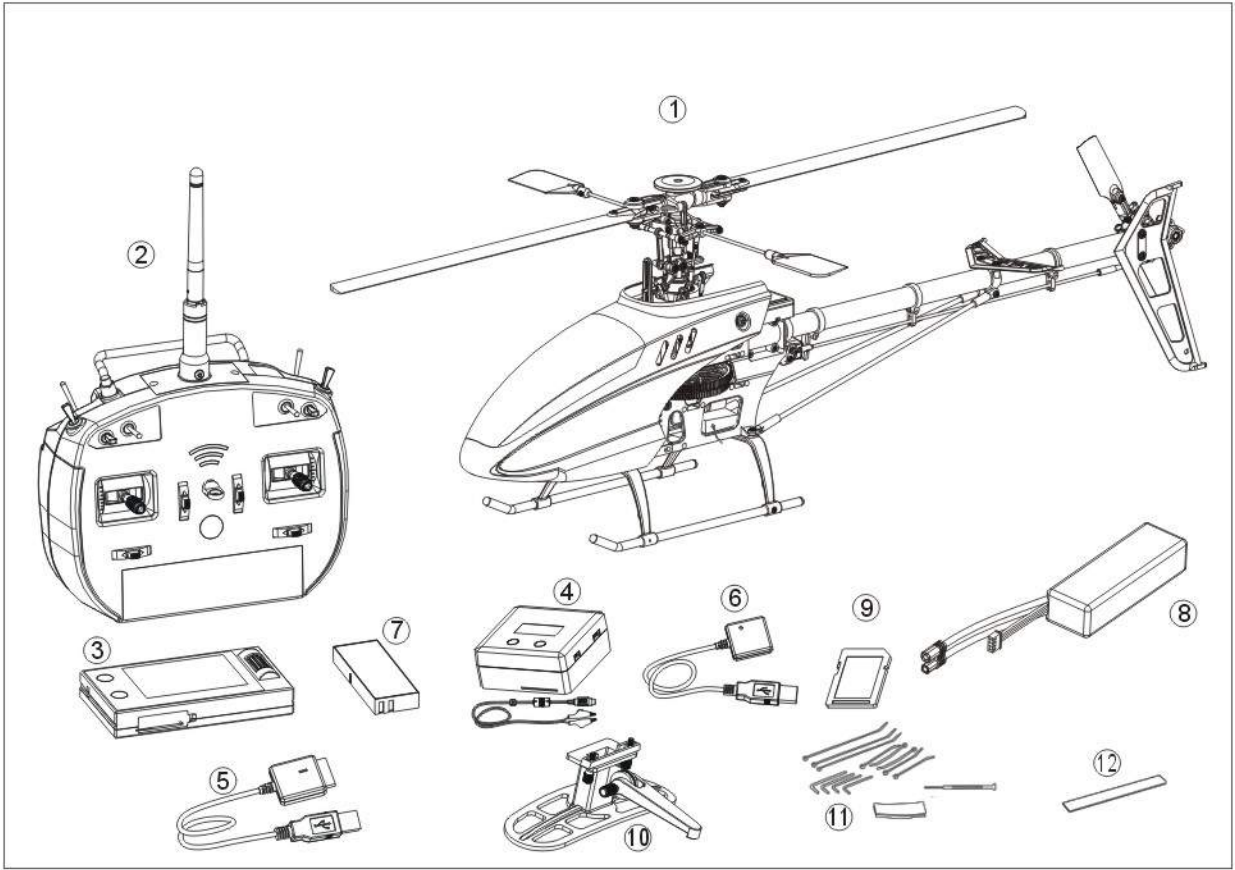
感谢您选择DTS的产品。为了让您能够更好的了解和使用这台DTS450 3D直升机，我们衷心的希望您认真地阅读完这本说明书之后再进行相关操作，并请妥善保管以备后用。如需了解更多资讯，请访问官方网站：www.zondahobby.com。

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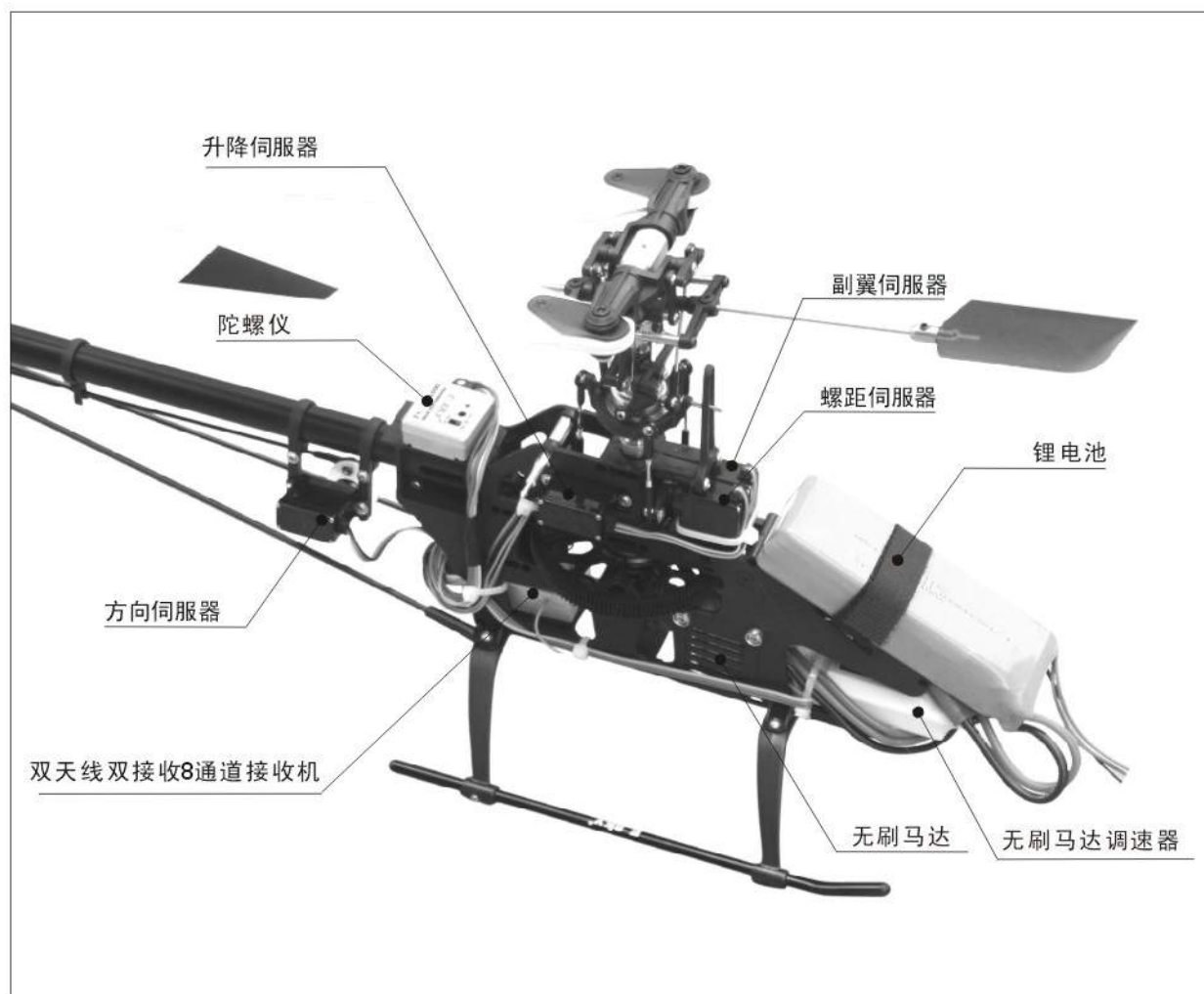
检查包装物及配件

打开包装盒后，请先检查附送配件是否齐全完整。若有遗漏，请向所销售单位反映、索取。

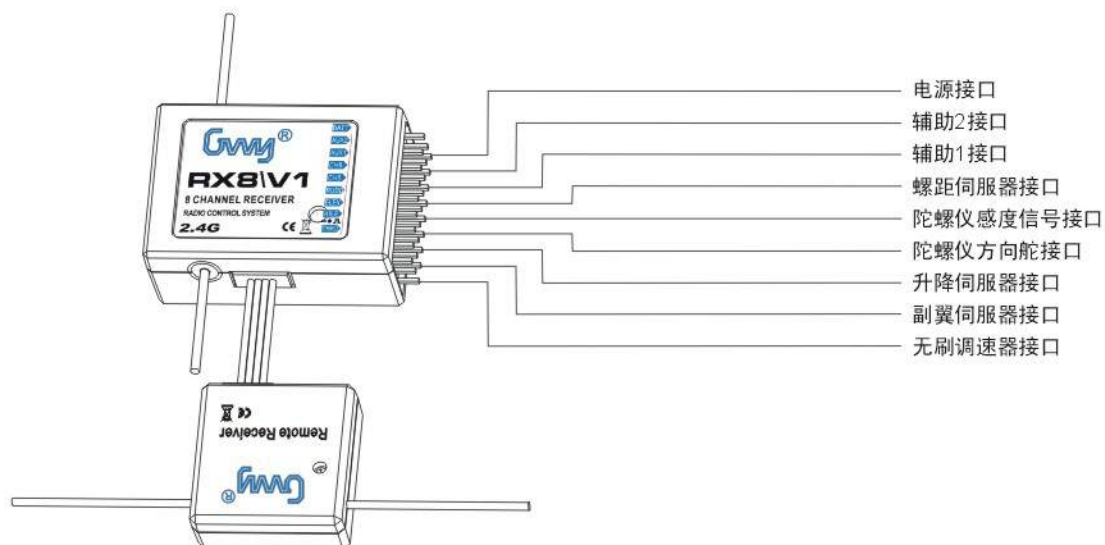


1.直升机	1
2.2.4G六通道发射机	1
3.LCD设置模块	1
4.2-3节充电器	1
5.数据线	1
6.充电线	1
7.发射机锂电池	1
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9.SD卡	1
10.发射机托架	1
11.简易工具包	1
12.电池绑带	1

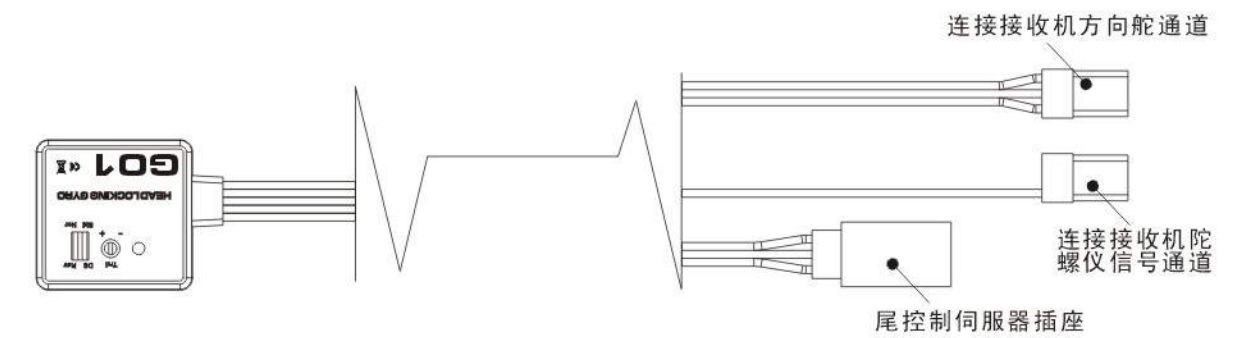
电子部件与连接方式



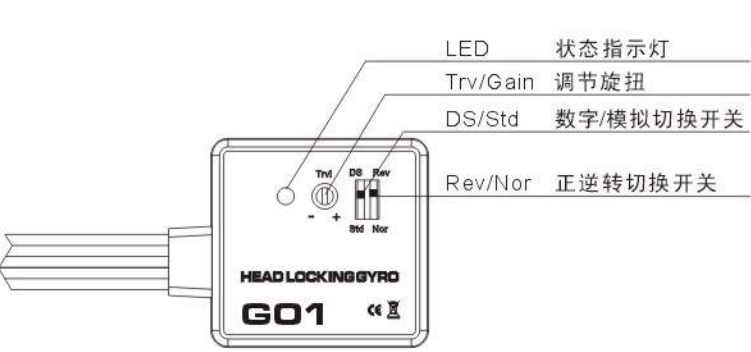
接收机的连接



陀螺仪的连接



陀螺仪操作说明



规格参数	
方向	:900 μs~2100 μs 22ms
感度	:900 μs~2100 μs 22ms
输入电压	:DC 5V±0.5V
重量	:19.8g
尺寸	:25.6*24.6*11.1*mm
功能	
正逆转开关	
数字/模拟切换开关	
尾伺服器行程调整	
感度调整	
LED状态指示	

Trv/Gain

当接入CH5时，此旋钮用于调整尾舵机行程。当未接入CH5时，此旋钮用于Gain调整。

DS/Std 数字/模拟的切换开关

当开关拨到DS时为数字模式，反之则为模拟模式。注意：在使用时，请根据尾伺服器的工作模式(数字/模拟)，选择相应的状态。

LED状态指示灯：

- 1、接通电源时红色指示灯连续闪烁陀螺仪程序进行初始化
- 2、陀螺仪锁定时红色指示灯恒亮
- 3、陀螺仪非锁定时红色指示灯熄灭

状态显示	陀螺仪状态
快速闪烁	表示开启电源后，陀螺仪正在进行资料初始化。
恒亮	表示陀螺仪在锁定模式。
熄灭	表示电源已关闭或陀螺仪在非锁定模式
慢速闪烁	表示陀螺仪没有接收到由遥控器所送出的尾伺服器控制讯号，此时尾伺服器无法操作。

Rev/Nor 正逆转切换开关

切换陀螺仪控制尾伺服器的摆动方向
REV: 逆转 NOR:正转

如果直升机在尚未起飞就出现原地打转的现象，表示陀螺仪修正方向错误，请将NOR/REV开关切换即可。

6T发射机设置模块

SYS.MENU

1/16 MODEL SELECT		2/16 MODEL NAME		3/16 MODEL TYPE		4/16 COPY/RESET	
DTS450 3D		DTS450 3D		HELI			
5/16 TRIM SETP		6/16 SWASH TYPE		7/16 STICK MODE		8/16 TRANSFER DATA	
	STEP	POS	CCPM 120°		MODE 2		
THRO	4	0					
AILE	4	0					
ELEV	4	0					
RUDD	4	0					
9/16 THRO CUT&REV		10/16 FAIL SAFE		11/16 POWER SETTING		12/16 LCD CONTRAST	
SW:	OFF	THRO	-125%	B_US 247		50%	
POSITION:	-30%	AILE	0%			MENU SW MODE: 1	
THRO:	NORM	ELEV	0%				
		RUDD	0%				
		GYRO	0%				
		PIT.	0%				
13/16 3D GYRO TYPE		14/16 AUX TYPE		15/16 FUNC.MENU		16/16 MAIN SCREEN	
XY GYRO OFF		CH 7: RATE					
		CH 8: RATE					

FUNC.MENU

1/16 REV/MONITOR			2/16 D/R&EXPO			3/16 TRAVEL (ATV)			4/16 SUB TRIM		5/16 THRO CUR			
THRO-	N		SW	D/R	EXP	THRO	100%	100%	THRO	0	NORM	L	100%	
AILE-	N		A0	80%	15%	AILE	100%	100%	AILE	0		2	25%	
ELEV-	N		E0	80%	15%	ELEV	100%	100%	ELEV	0		3	50%	
RUDD-	R		R0	90%	15%	RUDD	100%	100%	RUDD	0		4	75%	
GYRO-	N		A1	100%	INH	GYRO	100%	100%	GYRO	0	STUNT	H	80%	
PIT.-	R		E1	100%	INH	PIT.	100%	100%	PIT.	0		L	100%	
			R1	100%	INH							2	90%	
			COMBINE		INH							3	85%	
6/16 PITC CUR			7/16 GYRO			8/16 REVO/SWASH-M			9/16 PROG.MIX 1		HOLD	4	90%	
NORM	L	35%	SW:		F.M.	REVO MIX			SW:	INH		H	100%	
	2	45%	RATE0:		75.0%	NORM	0%	0%				L	0.0%	
	3	55%	RATE1:		73.5%	STUNT	0%	0%				2	0.0%	
	4	75%	POS0:		0	SWASH MIX						3	0.0%	
STUNT	L	0%	POS1:		1	AILE		↑ 70%				4	0.0%	
	2	25%	RUDDTRIM:		ON	ELEV		↑ 70%				H	0.0%	
	3	50%				PIT.		↓ 70%						
	4	75%												
HOLD	H	100%												
	L	0%												
	2	25%												
	3	50%												
11/16 3 AXIS SETUP			12/16 TRAINER			13/16 SERVO SPEED			14/16 AUX SETUP		15/16 TIMER			
INHIBIT						THRO	ON	THRO	NORM	CH7	50%	TIMER:	↓ 04:20	
						AILE	ON	AILE	NORM	CH8	50%	SW:	THRO25%	
						ELEV	ON	ELEV	NORM	16/16 MAIN SCREEN				
						RUDD	ON	RUDD	NORM					
						GYRO	ON	CH5	NORM					
						PIT.	ON	CH6	NORM					
								AUX1	NORM					
								AUX2	NORM					

飞行前舵面的检查(出厂设置)

1.舵面检查：油门

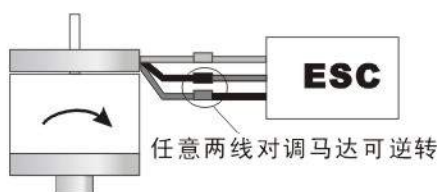
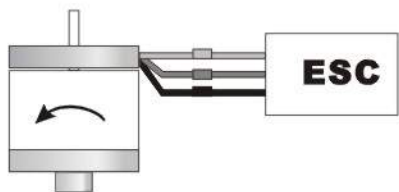
将油门摇杆慢慢的往上推，直到马达转动即可。此时请确认马达为逆时针方向旋转，而主旋翼则为顺时针方向旋转。



测试时，请勿将油门摇杆向上推动到超过1/5，否则油门摇杆推得过多，马达会急速旋转，可能会造成机体或自身的伤害！



若马达旋转方向为顺时针，主旋翼则不会旋转。请将马达与电子调速器之间的连接线其中任意两条线对调，无刷马达将会改变旋转方向。

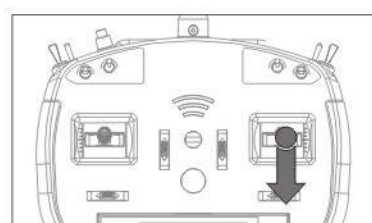
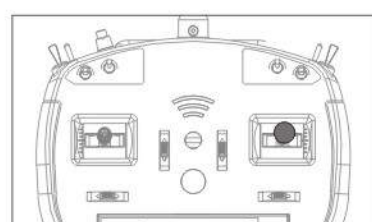
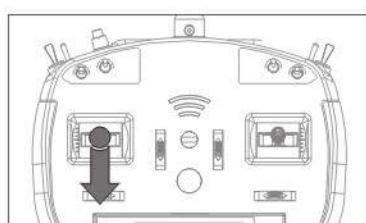
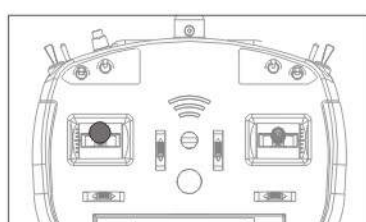
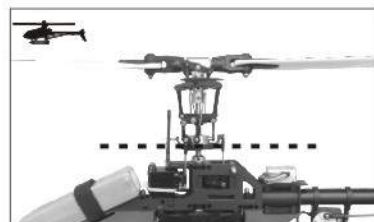


拔除马达线防止意外！

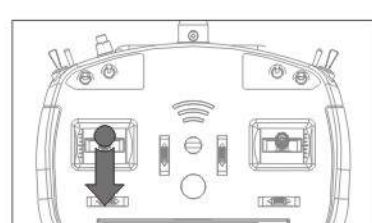
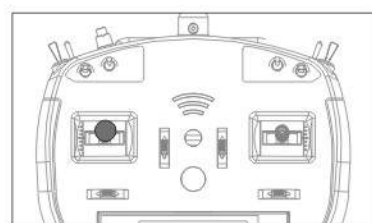
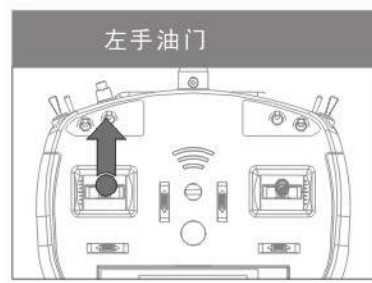
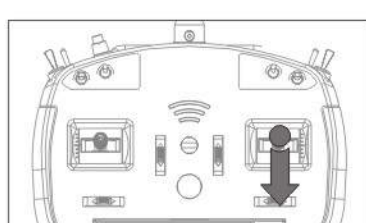
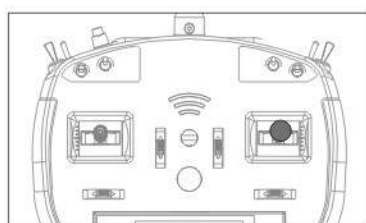
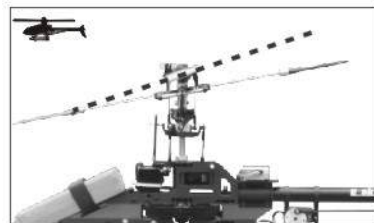
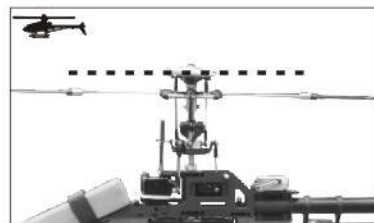
除非是正式飞行，否则在室内进行维修保养或调整工作时，我们十分强烈的建议玩家将无刷马达与电调的连接线断开，可防止马达意外的旋转造成危险！



2. 舵面检查：升降舵



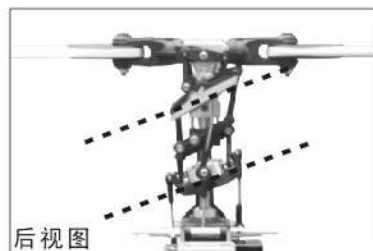
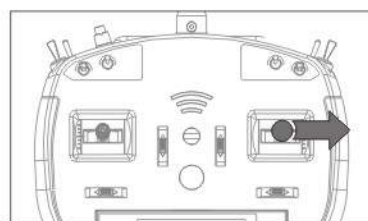
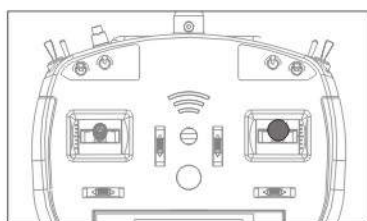
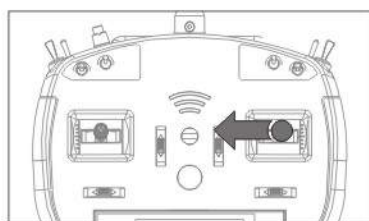
3. 舵面检查：螺距(在特技模式下)



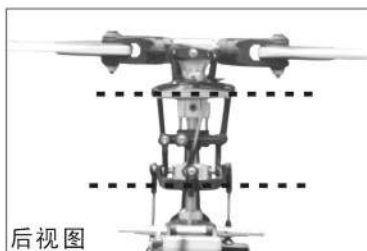
4.舵面检查：副翼

倾斜盘左右倾斜

(右手油门和左手油门发射机的副翼摇杆操作相同)



后视图



后视图

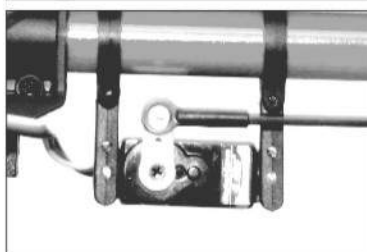
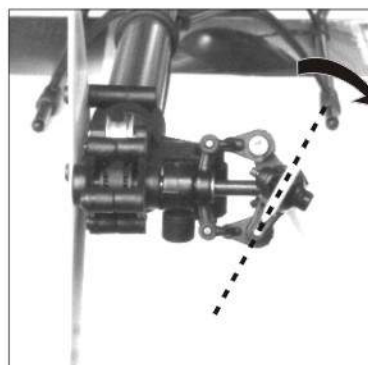
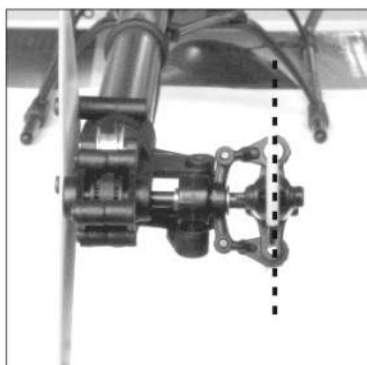
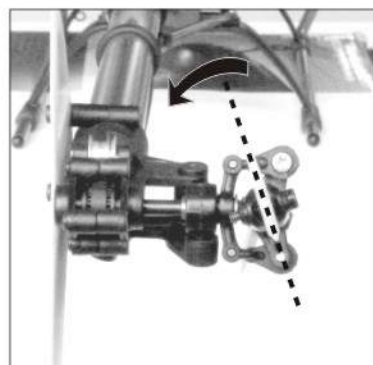
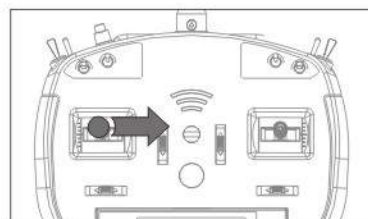
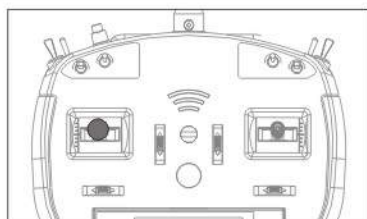
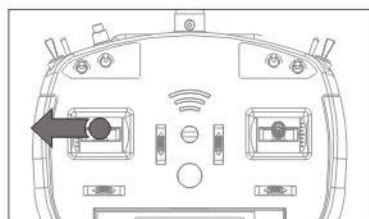


后视图

5.舵面检查：方向舵

尾旋翼角度左右变化

(右手油门和左手油门发射机的方向舵摇杆操作相同)



飞行操作步骤

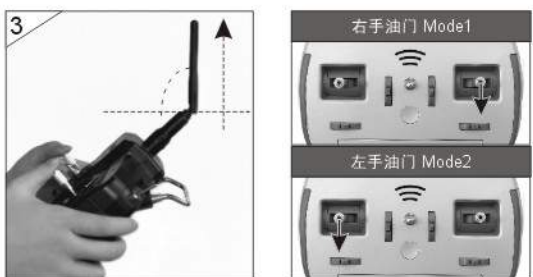
1. 起飞步骤



将电池放入电池槽



用绑带绑好电池



在飞行时要将天线调成如上图所示的状态，油门摇杆与油门微调移至最下方，其它微调置中，开启发射机电源。



连结直升机电源



将电池接上电调后，陀螺仪上的红色指示灯会开始闪烁进行中立点定位，此时请勿移动直升机，闪烁约5秒后指示灯会由闪烁变为恒亮，方向伺服器同时回归中立点之后才可以移动直升机！

首次飞行时，请先对码（对码成功后，下次使用可不用对码，直接使用，但改变发射机模式时需重新对码，否则无信号输出）对码步骤：

- 1)将对码条插入接收机的第9通道（电源接口），连接电源，此时LED灯快速闪烁。
- 2)按下发射机对码键并开机，约10秒钟后松开对码开关。
- 3)接收机LED灯长亮，对码成功，拔下对码条。
- 4)轻推发射机摇杆，检查执行动作是否正确，如不正确，请参照说明进行调节伺服器的动作方向。

2. 结束飞行注意事项



断开直升机电源



关闭发射机电源



取下电池

主旋翼双桨的调整

警告:在观察直升机主旋翼是否有双桨现象时,必须远离直升机3-5米之间,以确保安全.



1 主旋翼旋转状态决定了直升机的飞行性能,主旋翼不在同一轨迹上旋转,会使直升机产生抖动且难于控制。尽管每台直升机已经在工厂调试完成,如果主旋翼发生了变动,还需要进行微小的调试。在其中的一个主旋翼上贴上深色颜色标签,用来区别主旋翼在旋转中的上下位置。

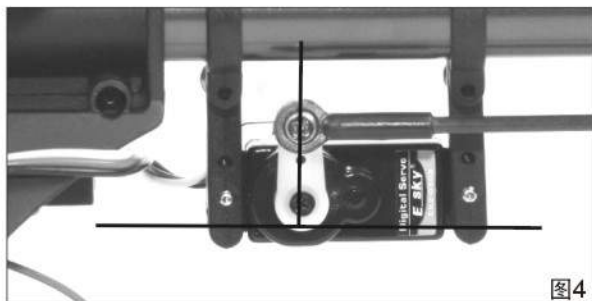
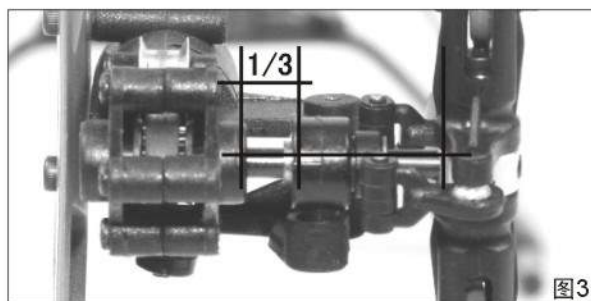
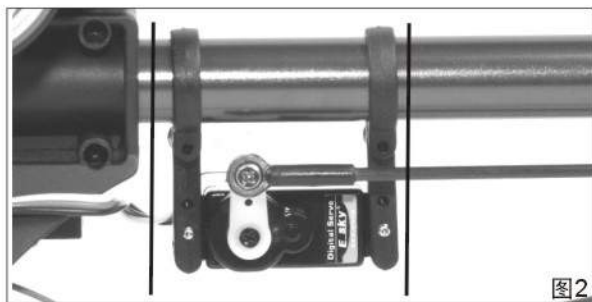
2 确认好主旋翼的旋转轨迹上下位置后,关闭直升机的电源,对主旋翼的连杆进行调整。将主旋翼旋转轨迹在上面的调低,调短主旋翼与倾斜盘的连杆,每次将连杆两端的拉杆头旋转一周即可。或者将旋转轨迹在下面的主旋翼调高,将其与倾斜盘的连杆调长。

3 提示:在调整直升机主旋翼不在同一轨迹旋转时,需要将其中的一个主旋翼调大距螺或者调小螺距。打开3D特技开关(需要将主尾马达电源线拔掉),油门摇杆在中间位置时,两只主旋翼应该处于0度螺距的位置。可以很容易地分辨哪只主旋翼需要调整。如果一只主旋翼螺距低于0度时,需要调整它与另一只水平。如果一只主旋翼螺距高于0度时,需要调低它与另一只水平。

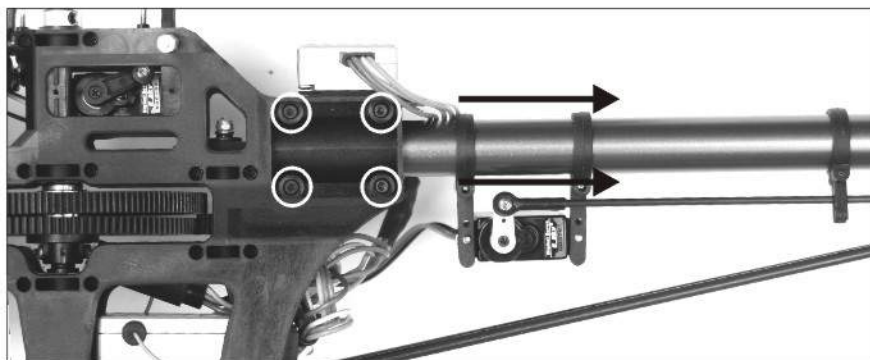
4 不需要太多的调整两只主旋翼就会在同一轨迹上。如果经过了必要的调整,并且主旋翼与倾斜盘上的两支连杆一样长,还是有双桨现象,那么需要检测主旋翼有没有变形或破损。严格的说同一台直升机上两只主旋翼必须是完全一样的。如果经过调整连杆长短后,两只主旋翼还是不能达到重合状态,不要担心,只要两只主旋翼接近于同一轨迹也会飞行的很好。

尾伺服器的调整

由于直升机属于高精密度模型。在直升机运转时，有多种情况可能引起直升机向一边旋转，可以参考以下方法调试，调校过程中为避免意外发生，建议把马达和调速器的接线断开。先打开发射机，再将直升机电源接通，然后将发射机的方向摇杆和微调居中(图1)；保持尾伺服器固定架与尾管尽量垂直(图2)，再左右移动尾伺服器固定座的同时，确保尾旋翼横轴的距离(大约在横轴的1/3处)(图3)，使尾伺服器和摆臂保持垂直(图4)



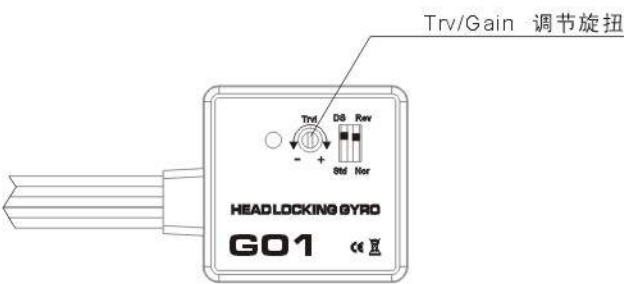
皮带松紧的调整



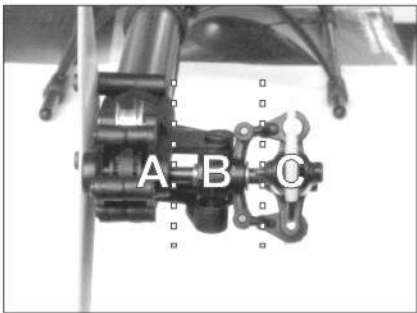
在起飞时飞机锁不住尾部，除了陀螺仪没有调节好外，还有可能是皮带松动造成。调整方法如上图所示：将主机架锁住尾管的螺丝松开，然后将尾部往后拉，此时要注意皮带的松紧度，不能过松或者过紧，适当即可，调整好后锁紧主机架上的四个螺丝。

陀螺仪的调整

1、陀螺仪行程的调整



直升机在飞行过程中，在打方向舵时，如果直升机旋转速度慢，则需顺时针调整Trvl旋钮加大尾旋翼的行程从而加快旋转速度，反之则需逆时针调整Trvl旋钮减小尾旋翼的行程从而减慢旋转速度。(注意：在调整过程中，B处必须与A、C处留有一定的间隙，如下图)

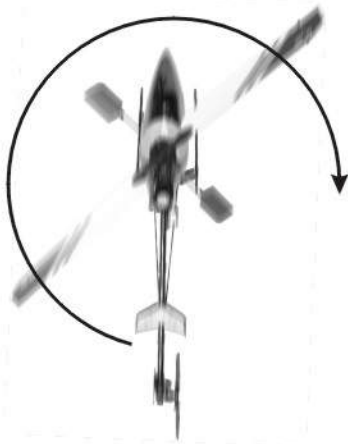


2、陀螺仪正逆转切换

切换陀螺仪控制尾伺服器的摆动方向

REV: 逆转 NOR:正转

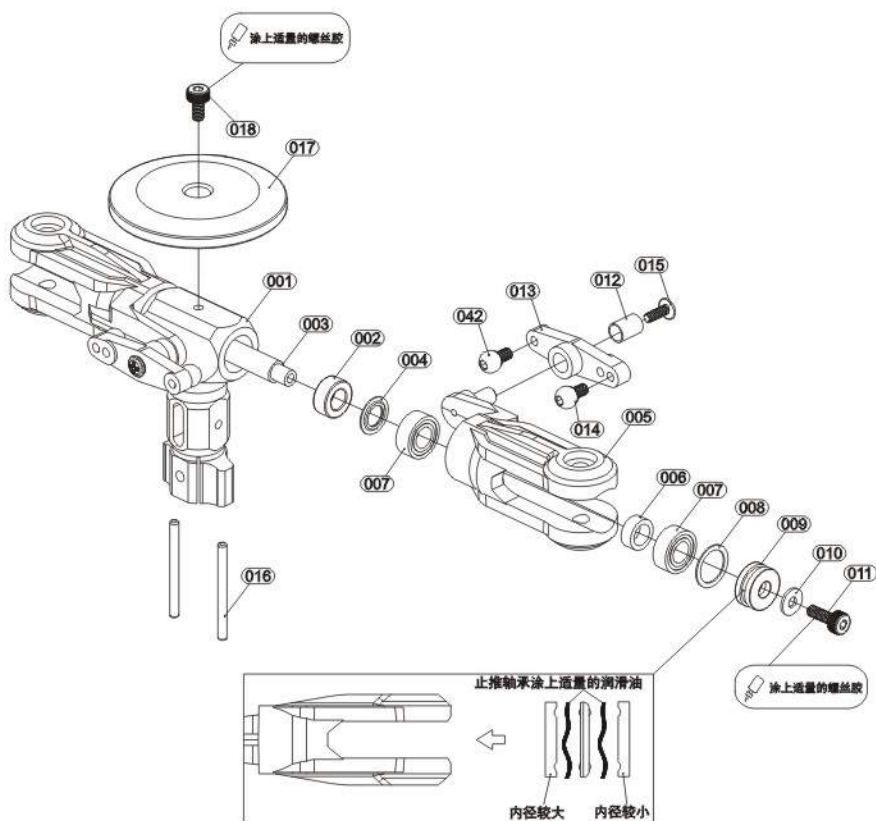
如果直升机在尚未起飞就出现原地打转的现象，表示陀螺仪修正方向错误，请将NOR/REV开关切换即可。



主翼夹头组装步骤



No.	Name	Specification	Quantity
001	主旋转头		1
002	O 形圈	∅3.6*∅7.1*3.6	2
003	横轴		1
004	台阶垫片	∅4*∅7.5*0.5	2
005	主翼夹头		2
006	铜套	∅4*∅5.8*2.3	2
007	轴承	∅4*∅8*3	4
008	垫片	∅6.5*∅8*0.3	2
009	止推轴承	∅3*∅8*3.5	2
010	垫片	∅2*∅5*0.5	2
011	内六角圆柱头螺丝	M2*6	2
012	铜套	∅3*∅3.6*5	2
013	贝尔臂		2
014	球头螺丝	S∅4*6.5	2
015	十字槽伞头自攻牙螺丝	ST1.7*4	2
016	插销	∅1.6*18.5	2
017	刹车碟		1
018	内六角圆柱头螺丝	M2*5	1
042	球头螺丝	S∅4*7.5	2



注意

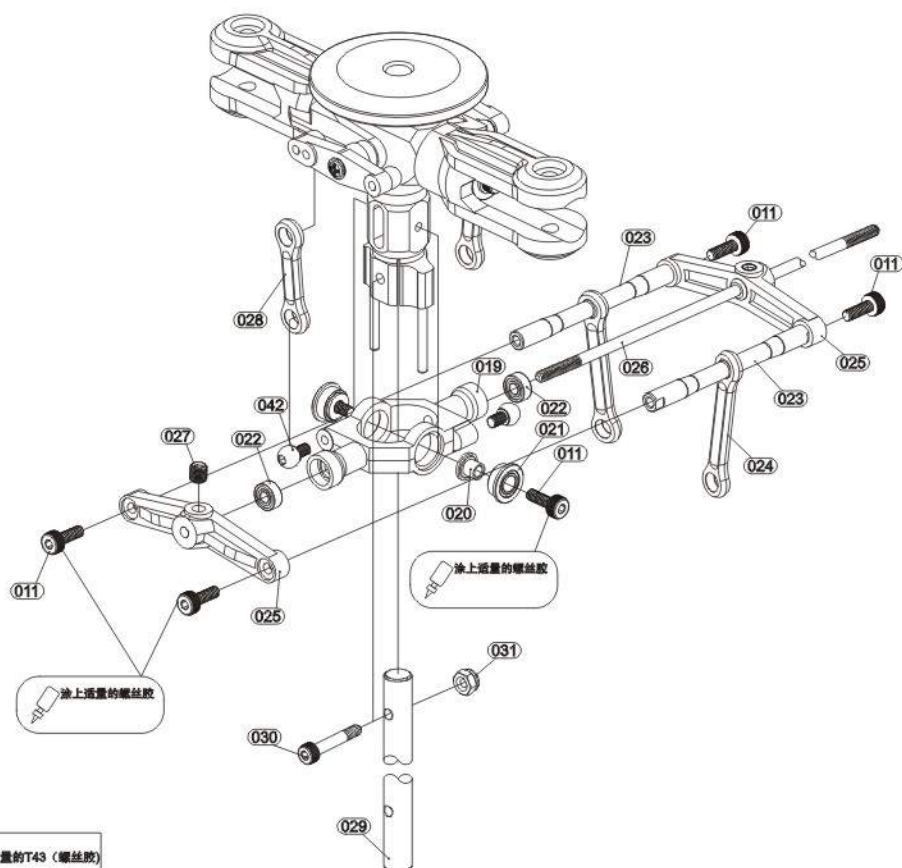
螺丝锁入金属件请使用适量的T43 (螺丝胶)

螺丝锁入塑胶件时请务必注意,适当扭力即可。过大的扭力可能会导致滑牙,断裂。

使用前,请确认螺丝处于锁紧状态。

稳定翼固定座组装步骤

No.	Name	Specification	Quantity
019	平衡杆固定座		1
020	台阶铜套		2
021	凸缘滚珠轴承	$\varnothing 3 \times \varnothing 6 \times 2.5$	2
011	内六角圆柱头螺丝	M2*6	6
042	球头螺丝	S $\varnothing 4 \times 7.5$	2
022	轴承	$\varnothing 2 \times \varnothing 5 \times 2$	2
023	平衡翼球杆		2
024	长双孔连杆		2
025	平衡杆控制臂		2
026	平衡杆	$\varnothing 2 \times 220$	1
027	基米螺丝	M3*3	2
028	短双孔连杆		2
029	主轴	$\varnothing 5 \times 124$	1
030	内六角圆柱头螺丝	M2*12	1
031	防松螺母	M2.0	1



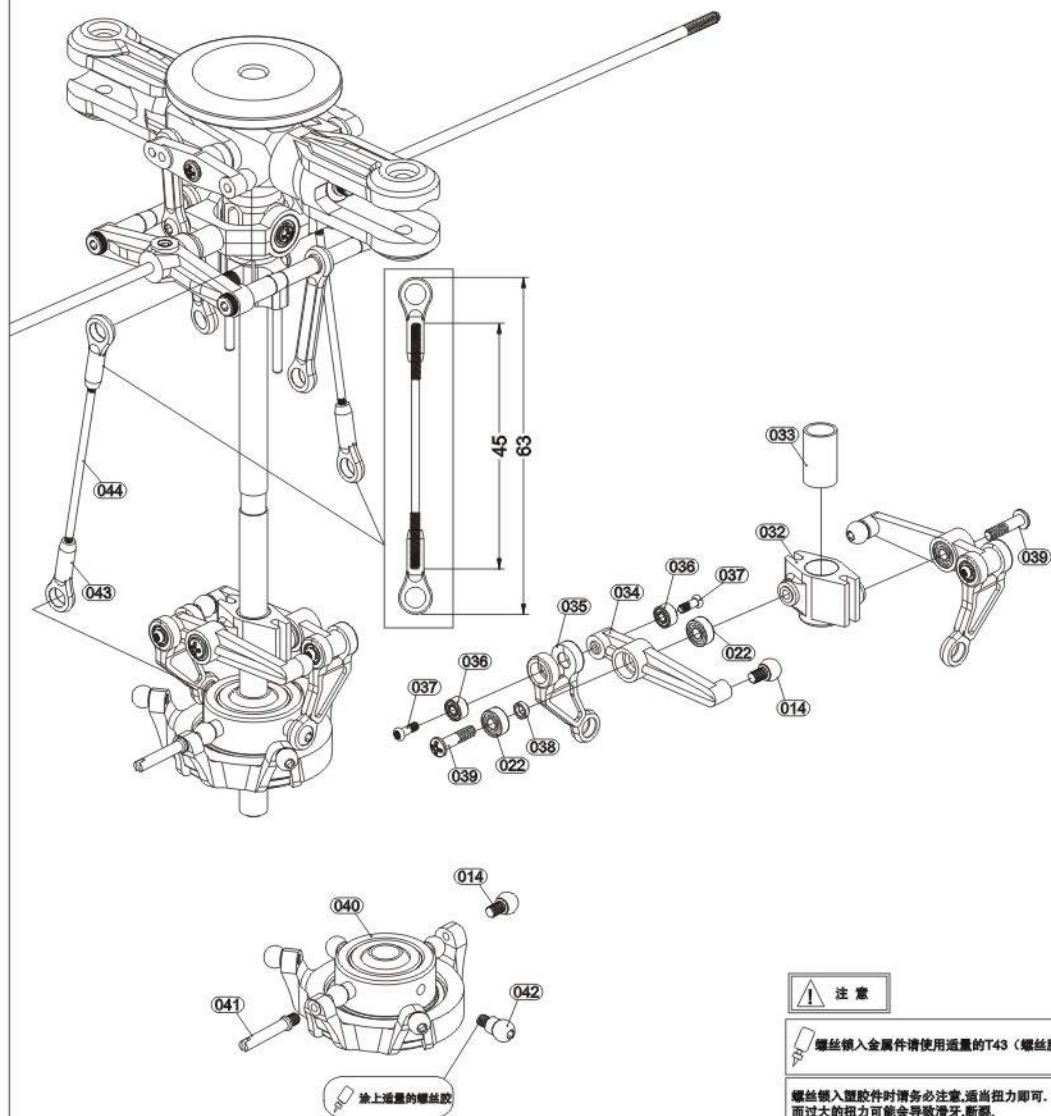
螺丝锁入金属件请使用适量的T43 (螺丝胶)

螺丝锁入塑胶件时请务必注意,适当扭力即可,而过大的扭力可能会导致滑牙,断裂。

使用前,请确认螺丝处于锁紧状态。

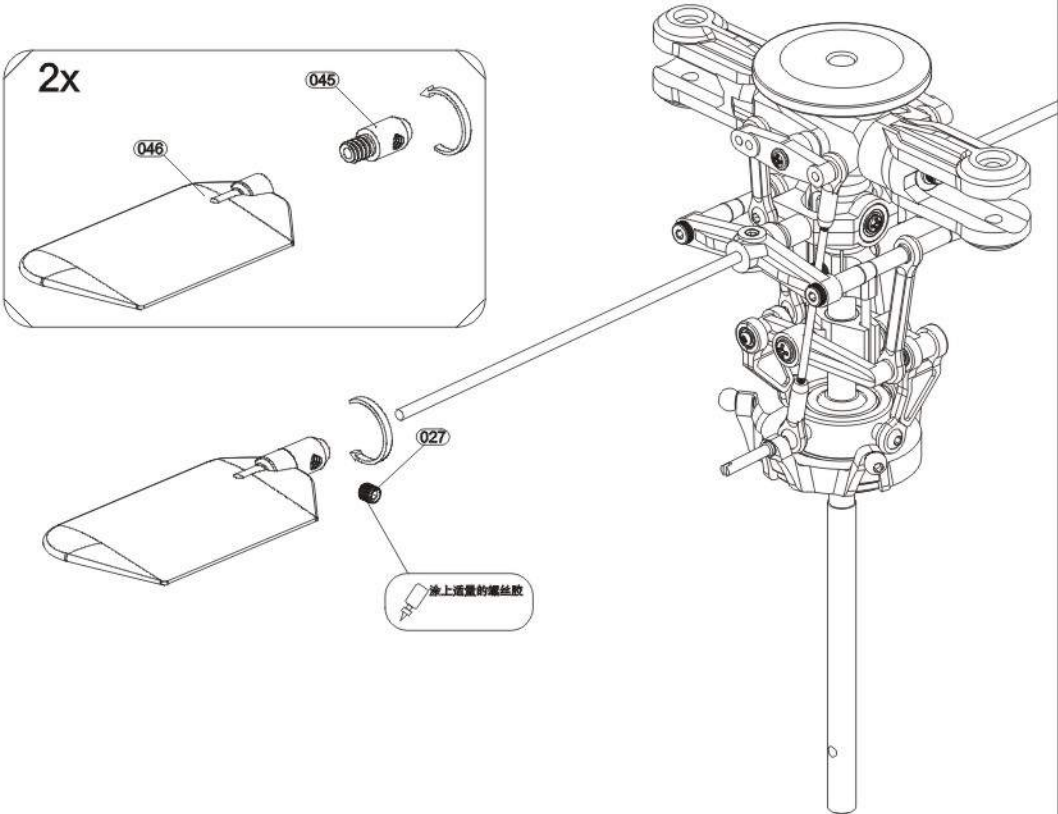
希拉臂组装步骤

No.	Name	Specification	Quantity
032	中心座滑块		1
033	铜套	Φ5*Φ6*10	1
034	希拉控制臂		2
014	球头螺丝	SΦ4*6.5	5
035	剪型臂		2
036	轴承	Φ1.5*Φ4*2	4
037	十字槽平圆头螺丝	M1.4*4	4
038	铜套	Φ2*Φ3*1	2
022	轴承	Φ2*Φ5*2	4
039	十字槽平圆头螺丝	ST2*8.5	2
040	倾斜盘		1
041	倾斜盘固定销	Φ2.0*14	1
042	球头螺丝	SΦ4*7.5	4
043	塑胶连杆头		4
044	拉杆	1.4*45	2



稳定翼组装步骤

No.	Name	Specification	Quantity
045	平衡翼固定轴		2
046	平衡翼		2
027	基米螺丝	M3*3	2



注意



螺丝锁入金属件请使用适量的T43（螺丝胶）

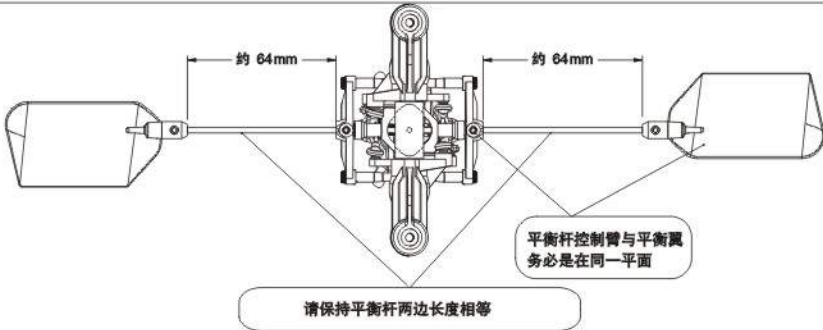
螺丝锁入塑胶件时请务必注意,适当扭力即可. 而过大的扭力可能会导致滑牙,断裂.

使用前, 请确认螺丝处于锁紧状态.



轴

M3基米螺丝 (M3x3mm)x2



机架组装步骤



十字槽伞头螺丝 (ST2*6mm)x2



十字槽平头螺丝 (ST1.7*4mm)x2



十字槽平头螺丝 (ST1.7*9mm)x16

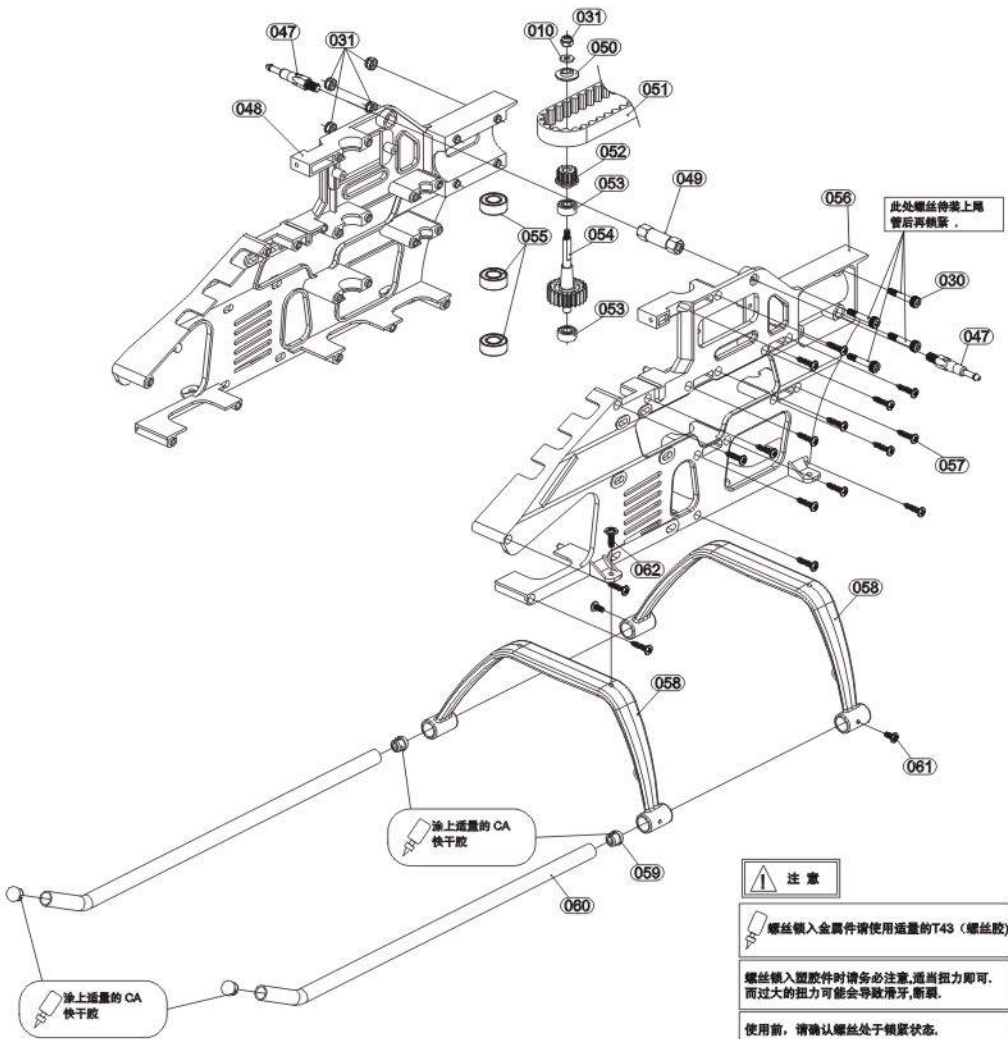


M2.0 防松螺母x1



内六角圆柱头螺丝 (M2x12mm)x4

No.	Name	Specification	Quantity
047	机头罩固定柱		2
048	右侧板		1
049	连接杆		1
031	防松螺母	M2.0	5
010	垫片	∅2*∅5*0.5	1
050	前皮带轮盖		1
051	尾传动皮带		1
052	前同步皮带轮		1
053	轴承	∅3*∅7*3	2
054	尾从动齿轮		1
055	轴承	∅5*∅10*3	3
056	左侧板		1
030	内六角圆柱头螺丝	M2*12	4
057	十字槽平头圆头螺丝	ST1.7*9	16
058	滑撬支架		2
059	滑撬管塞		4
060	滑撬		2
061	十字槽平头圆头螺丝	ST1.7*4	2
062	十字槽伞头自攻牙螺丝	ST2*8	2



主齿轮组装步骤

No.	Name	Specification	Quantity
063	金属固定座		1
064	单向轴承	$\varnothing 6^* \varnothing 10^* 12$	1
065	内六角沉头螺丝	ST2*6	4
066	主齿轮	140T	1
067	平面垫片	$\varnothing 6^* \varnothing 10^* 1$	1
068	副齿轮	110T	1
069	齿轮连接器	$\varnothing 5^* \varnothing 6^* 22.2$	1
070	定位环		1
027	基米螺丝	M3x3	1
030	内六角圆柱头螺丝	M2*12	1
031	防松螺母	M2.0	1



注意



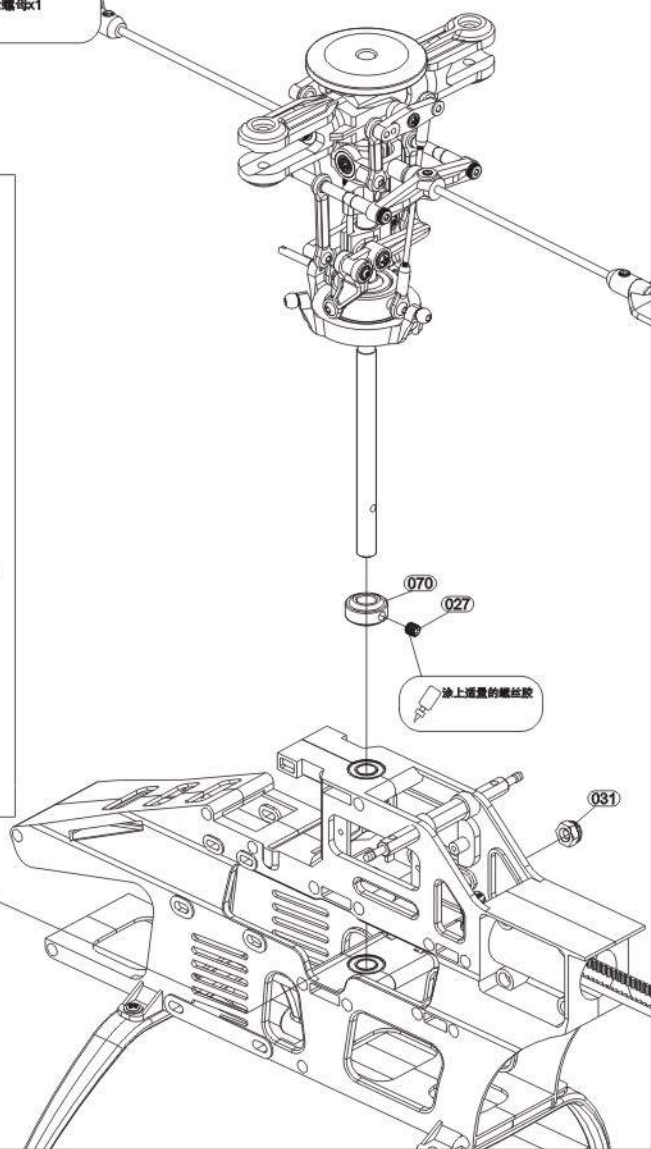
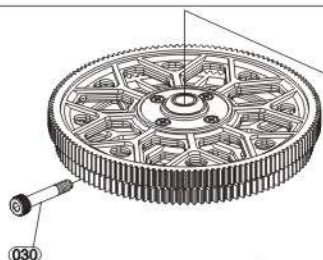
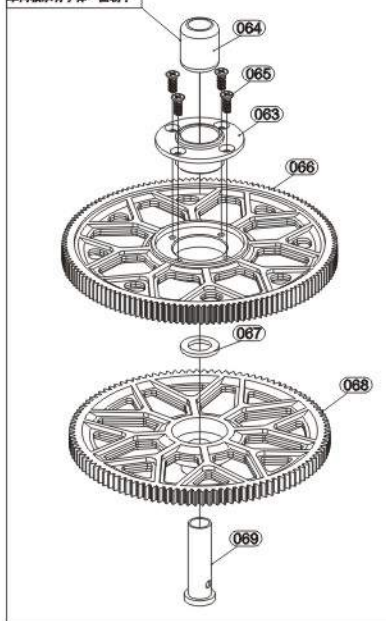
螺丝锁入金属件请使用适量的T43（螺丝胶）

螺丝锁入塑胶件时请务必注意,适当扭力即可,而过大的扭力可能会导致滑牙,断裂。

使用前, 请确认螺丝处于锁紧状态。



单向轴承有字体一面朝下



涂上适量的螺丝胶

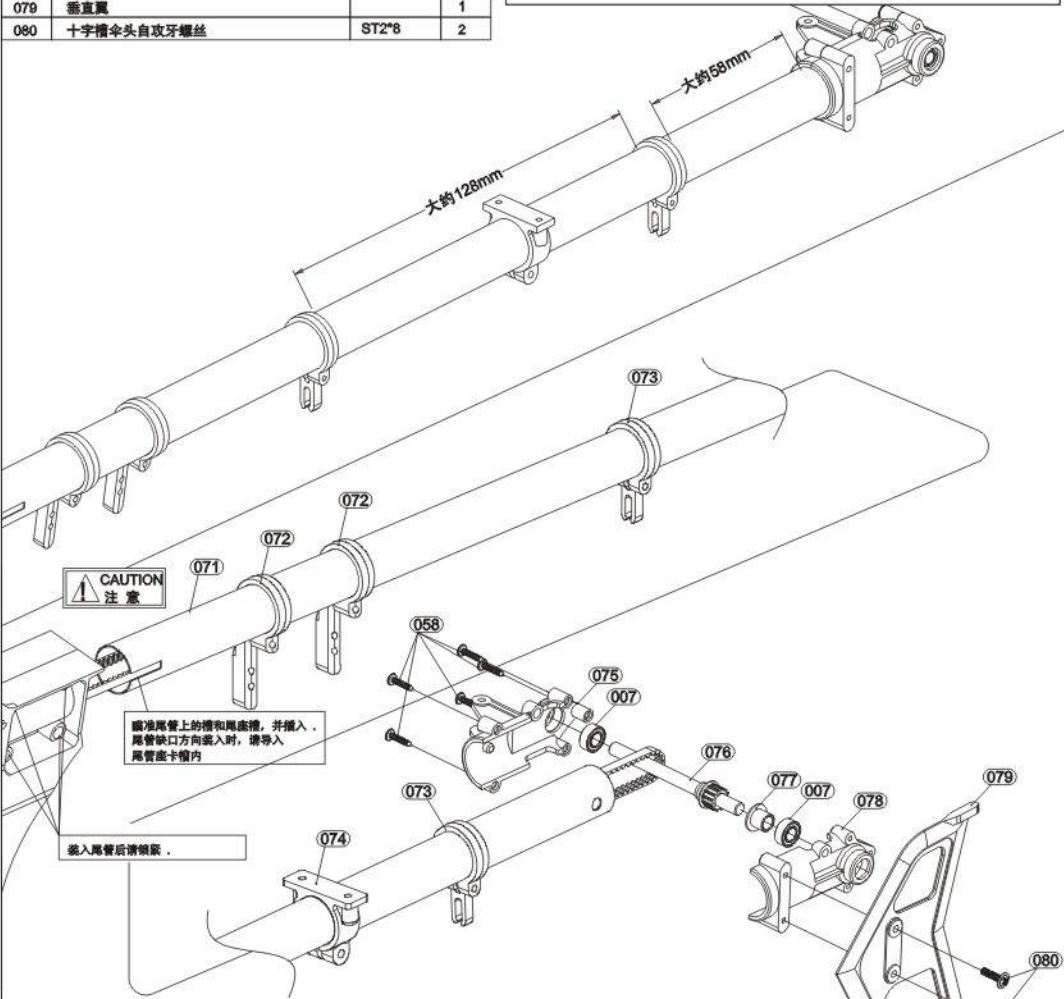
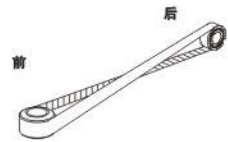
尾管组装步骤

No.	Name	Specification	Quantity
071	尾管		1
072	尾舵机固定座		2
073	尾拉杆固定座		2
074	水平翼固定座		1
075	尾牙箱右		1
007	轴承	$\varnothing 4^* \varnothing 8^* 3$	2
076	尾齿轮		1
077	尾齿轮盖		1
078	尾牙箱左		1
067	十字槽平圆头螺丝	ST1.7*9	5
079	垂直翼		1
080	十字槽伞头自攻螺丝	ST2*8	2

注意

尾传动皮带装配示意图

1. 组装时确认皮带旋转 90 度。
2. 皮带张紧度：建议尾管组装后皮带请稍微拉紧，避免翼动皮带磨损或转动打滑



注意

螺丝锁入金属件请使用适量的T43（螺丝胶）

螺丝锁入塑胶件时请务必注意，适当扭力即可，
而过大的扭力可能会导致滑牙、断裂。

使用前，请确认螺丝处于锁紧状态。



十字槽平圆头螺丝
(ST1.7*9mm)x5



十字槽伞头螺丝 (ST2*8mm)x2

尾旋翼组装步骤

No.	Name	Specification	Quantity
081	尾翼头头		2
042	球头螺丝	S $\varnothing$ 4*7.5	2
083	铜套	$\varnothing$ 3* $\varnothing$ 4.5*1.6	2
084	轴承	$\varnothing$ 3* $\varnothing$ 6*2.5	4
085	垫片	$\varnothing$ 5.1* $\varnothing$ 6*0.1	4
086	止推轴承	$\varnothing$ 2.5* $\varnothing$ 6*3	2
087	金属衬套		2
088	内六角盘头螺丝	M2*10	2
089	金属旋转头		1
090	尾旋翼		2
091	金属球头		2
092	金属球头		2
093	尾滑铜套		1
094	轴承	$\varnothing$ 5* $\varnothing$ 8*2.5	2
095	尾滑座		1
096	尾中心座滑套		1
097	单孔拉杆		2
098	圆柱销	$\varnothing$ 1.5*5	2
027	基米螺丝	M3x3	1
099	尾摇臂		1
014	球头螺丝	S $\varnothing$ 4*6.5	1
100	铜套	$\varnothing$ 2.1* $\varnothing$ 3.6*2	1
101	台阶铜套		2
102	内六角圆柱头螺丝	M2*14	1
103	十字槽平圆头螺丝	ST2*4	2

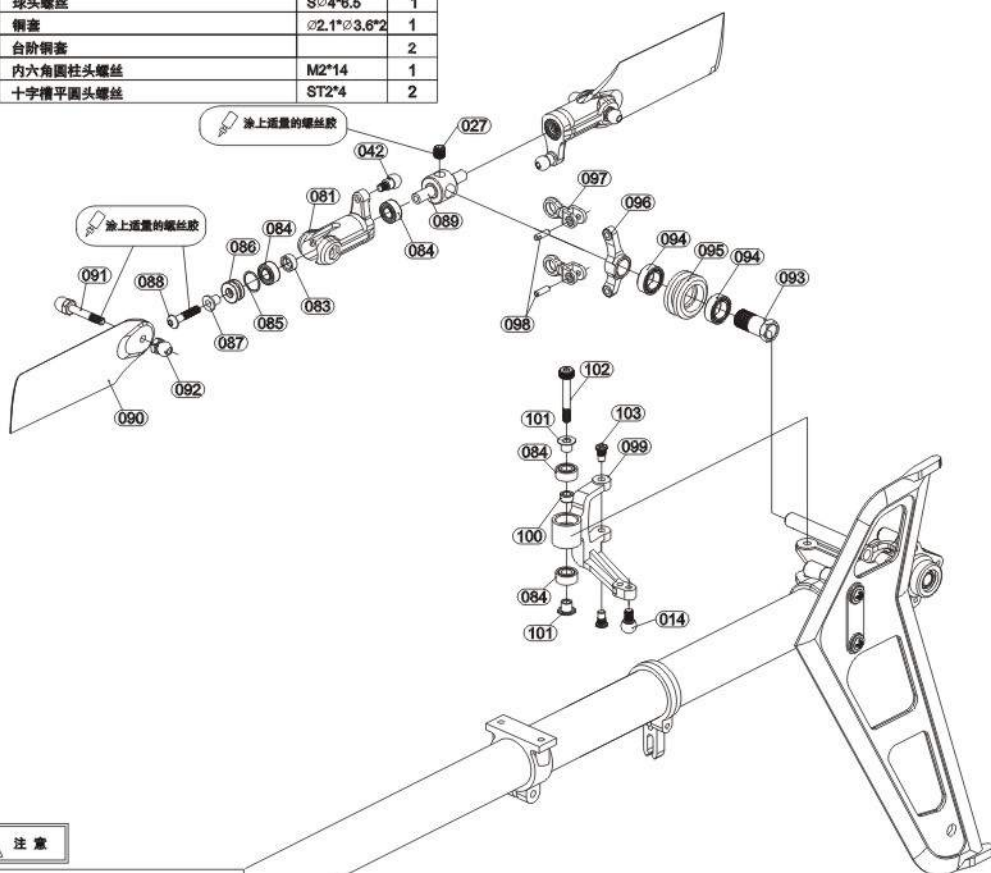
 
 $\varnothing$ 4.0球头 (M2*7.5mm)x2

 
 $\varnothing$ 4.0球头螺丝 (M2*6.5)x1

 
M3基米螺丝 (M3x3mm)x1

 
内六角圆柱头螺丝 (M2*14mm)x1

 
内六角盘头螺丝 (M2*10mm)x2



 注意

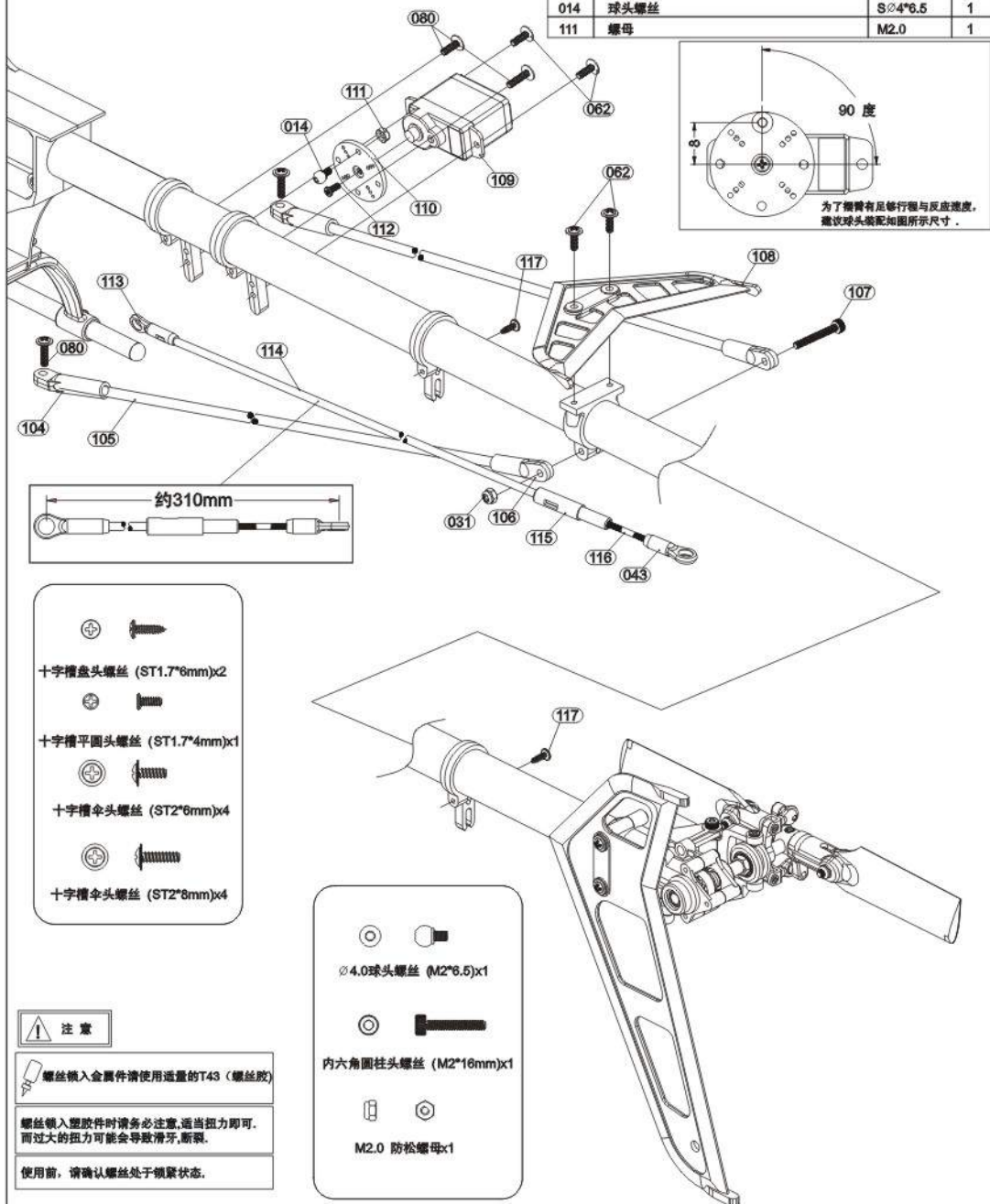
 螺丝锁入金属件请使用适量的T43 (螺丝胶)

螺丝锁入塑胶件时请务必注意,适当扭力即可。
而过大的扭力可能会导致滑牙,断裂。

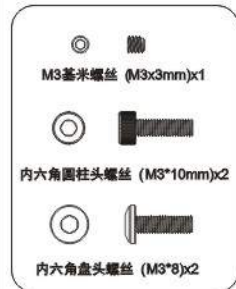
使用前, 请确认螺丝处于锁紧状态。

拉杆支架组装步骤

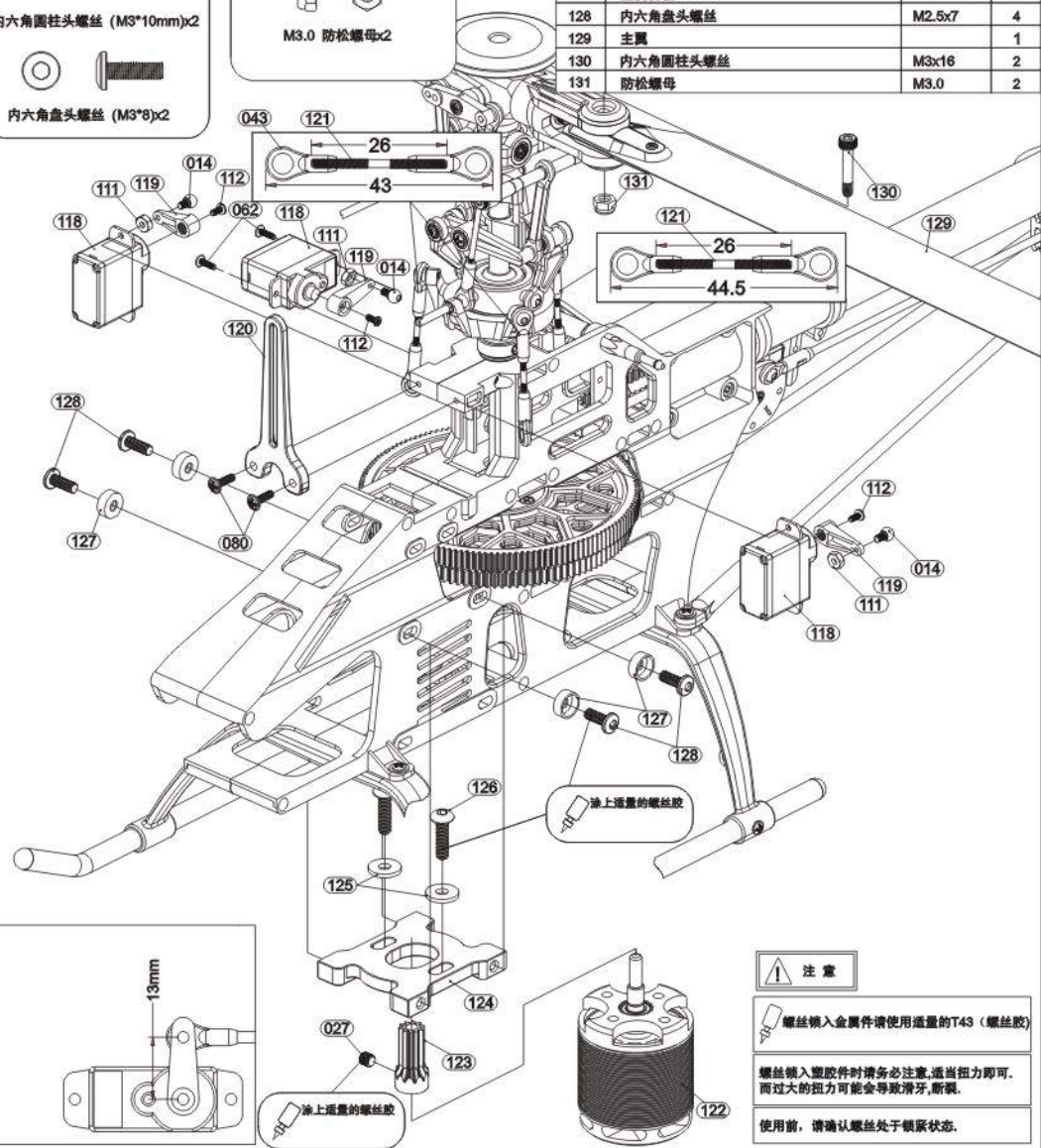
No.	Name	Specification	Quantity	No.	Name	Specification	Quantity
112	十字槽平圆头螺丝	ST1.7*4	1	104	尾支撑杆头 A		2
113	尾拉杆头		1	105	尾支撑杆	∅3*250	2
114	尾拉杆	∅2*270	1	106	尾支撑接头 B		2
115	尾拉杆连接件		1	080	十字槽伞头自攻牙螺丝	ST2*8	4
116	无头螺栓拉杆	∅1.4*24	1	107	内六角圆柱头螺丝	M2*16	1
043	塑胶连杆头		1	031	防松螺母	M2.0	1
117	十字槽盘头螺丝	ST1.7*6	2	108	水平翼		1
				062	十字槽伞头自攻牙螺丝	ST2*6	4
				109	舵机		1
				110	舵机摆臂		1
				014	球头螺丝	S∅4*6.5	1
				111	螺母	M2.0	1



动力系统组装步骤

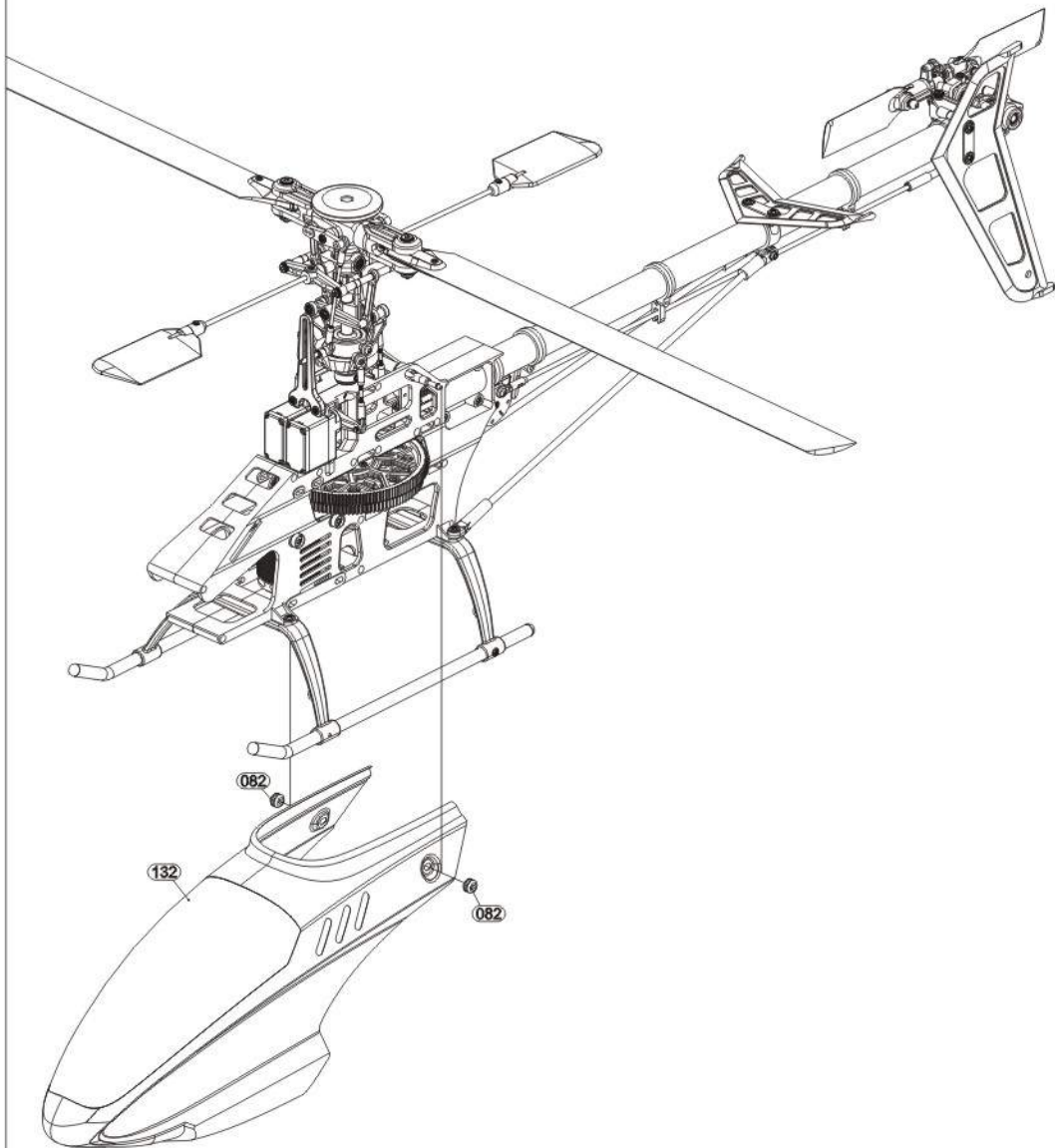


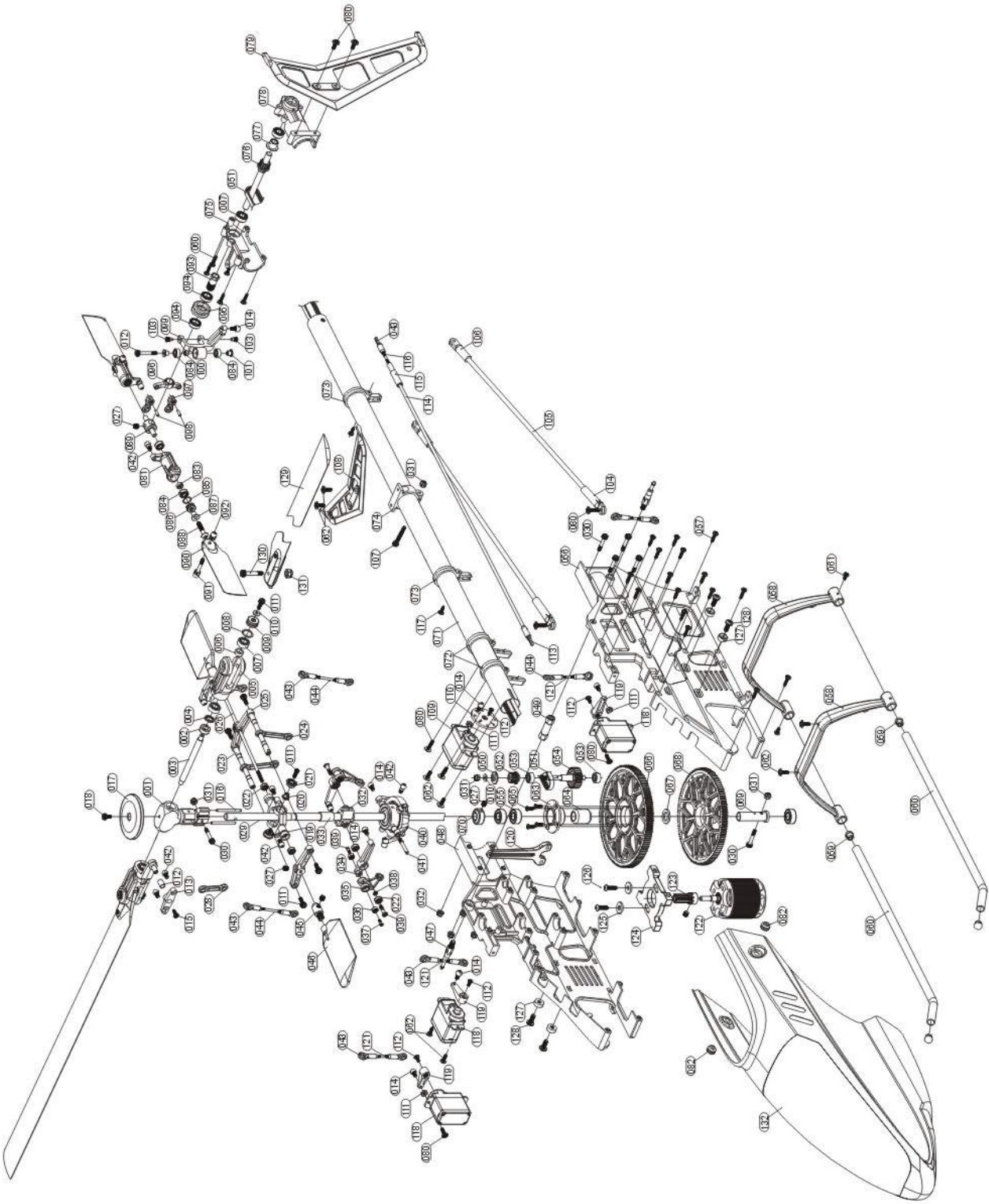
No.	Name	Specification	Quantity
118	舵机		3
119	舵机摆臂		3
014	球头螺丝	SΦ4*6.5	3
111	螺母	M2.0	3
112	十字槽平头螺丝	ST1.7*4	3
062	十字槽伞头自攻牙螺丝	ST2*6	2
120	限位挡块		1
080	十字槽伞头自攻牙螺丝	ST2*8	2
043	塑胶连杆头		6
121	无头螺栓拉杆	Φ1.4*26	3
122	无刷马达		1
123	马达齿		1
027	基米螺丝	M3x3	1
124	马达座		1
125	垫片	Φ3.1*Φ8*1	2
126	内六角圆柱头螺丝	M3x10	2
127	金属衬套		4
128	内六角盘头螺丝	M2.5x7	4
129	主翼		1
130	内六角圆柱头螺丝	M3x16	2
131	防松螺母	M3.0	2



机壳组装步骤

No.	Name	Specification	Quantity
132	机壳		1
082	护垫		2



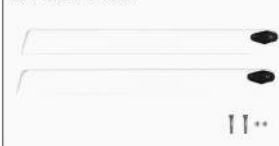


零件清单

编号	名称	规格	用量	编号	名称	规格	用量
001	主旋转头		1	072	尾舵机固定座		2
002	○形圈	∅3.6*∅7.1*3.6	2	073	尾拉杆固定座		2
003	横轴		1	074	水平翼固定座		1
004	台阶垫片	∅4*∅7.5*0.5	2	075	尾牙箱右		1
005	主翼夹头		2	076	尾齿轮		1
006	铜套	∅4*∅5.8*2.3	2	077	尾齿轮盖		1
007	轴承	∅4*∅8*3	6	078	尾牙箱左		1
008	垫片	∅6.5*∅8*0.3	2	079	垂直翼		1
009	止推轴承	∅3*∅8*3.5	2	080	十字槽伞头自攻牙螺丝	ST2*8	8
010	垫片	∅2*∅5*0.5	3	081	尾翼夹头		2
011	内六角圆柱头螺丝	M2*6	8	082	护垫		2
012	铜套	∅3*∅3.6*5	2	083	铜套	∅3*∅4.5*1.6	2
013	贝尔臂		2	084	轴承	∅3*∅6*2.5	6
014	球头螺丝	S∅4*6.5	10	085	垫片	∅5.1*∅6*0.1	4
015	十字槽伞头自攻牙螺丝	ST1.7*4	2	086	止推轴承	∅2.5*∅6*3	2
016	插销	∅1.6*18.5	2	087	金属衬套		2
017	刹车碟		1	088	内六角盘头螺丝	M2*10	2
018	内六角圆柱头螺丝	M2*5	1	089	金属旋转头		1
019	平衡杆固定座		1	090	尾旋翼		2
020	台阶铜套		2	091	金属球头		2
021	凸缘滚珠轴承	∅3*∅6*2.5	2	092	金属球头		2
022	轴承	∅2*∅5*2	6	093	尾滑铜套		1
023	平衡翼球杆		2	094	轴承	∅5*∅8*2.5	2
024	长双孔连杆		2	095	尾滑座		1
025	平衡杆控制臂		2	096	尾中心座滑套		1
026	平衡杆	∅2*220	1	097	单孔拉杆		2
027	基米螺丝	M3*3	7	098	圆柱销	∅1.5*5	2
028	短双孔连杆		2	099	尾摇臂		1
029	主轴	∅5*124	1	100	铜套	∅2.1*∅3.6*2	1
030	内六角圆柱头螺丝	M2*12	6	101	台阶铜套		2
031	防松螺母	M2.0	8	102	内六角圆柱头螺丝	M2*14	1
032	中心座滑块		1	103	十字槽平圆头螺丝	ST2*4	2
033	铜套	∅5*∅6*10	1	104	尾支撑杆头 A		2
034	希拉控制臂		2	105	尾支撑杆	∅3*250	2
035	剪型臂		2	106	尾支撑接头 B		2
036	轴承	∅1.5*∅4*2	4	107	内六角圆柱头螺丝	M2*16	1
037	十字槽平圆头螺丝	M1.4*4	4	108	水平翼		1
038	铜套	∅2*∅3*1	2	109	舵机		1
039	十字槽平圆头螺丝	ST2*8.5	2	110	舵机摆臂		1
040	倾斜盘		1	111	螺母	M2.0	4
041	倾斜盘固定销	∅2.0*14	1	112	十字槽平圆头螺丝	ST1.7*4	4
042	球头螺丝	S∅4*7.5	6	113	尾拉杆头		1
043	塑胶连杆头		11	114	尾拉杆	∅2*270	1
044	拉杆	1.4*45	2	115	尾拉杆连接件		1
045	平衡翼固定轴		2	116	无头螺纹拉杆	∅1.4*24	1
046	平衡翼		2	117	十字槽盘头螺丝	ST1.7*6	2
047	机头罩固定柱		2	118	舵机		3
048	右侧板		1	119	舵机摆臂		3
049	连接杆		1	120	限位挡块		1
050	前皮带轮盖		1	121	无头螺纹拉杆	∅1.4*26	3
051	尾传动皮带		1	122	无刷马达		1
052	前同步皮带轮		1	123	马达齿		1
053	轴承	∅3*∅7*3	2	124	马达座		1
054	尾从动齿轮		1	125	垫片	∅3.1*∅8*1	2
055	轴承	∅5*∅10*3	3	126	内六角圆柱头螺丝	M3x10	2
056	左侧板		1	127	金属衬套		4
057	十字槽平圆头螺丝	ST1.7*9	21	128	内六角盘头螺丝	M2.5x7	4
058	滑撬支架		2	129	主翼		1
059	滑撬管塞		4	130	内六角圆柱头螺丝	M3x18	2
060	滑撬		2	131	防松螺母	M3.0	2
061	十字槽平圆头螺丝	ST1.7*4	2	132	机壳		1
062	十字槽伞头自攻牙螺丝	ST2*6	8				
063	金属固定座		1				
064	单向轴承	∅6*∅10*12	1				
065	内六角沉头螺丝	ST2*6	4				
066	主齿轮	140T	1				
067	平面垫片	∅6*∅10*1	1				
068	副齿轮	110T	1				
069	齿轮连轴器	∅5*∅6*22.2	1				
070	定位环		1				
071	尾管		1				

配件图

DTS003952



主翼

DTS003953



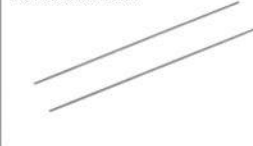
机壳

DTS003954



平衡翼组

DTS003955



平衡翼杆

DTS003956



平衡杆控制臂组

DTS003957



主翼夹头组

DTS003958



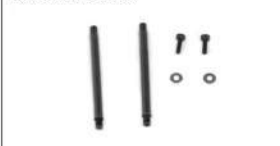
平衡杆固定座组

DTS003959



贝尔控制臂组

DTS003960



横轴组

DTS003961



双孔拉杆模块

DTS003963



希拉控制臂组

DTS003964



希拉控制臂组

DTS003965



伺服器连杆

DTS003966



伺服器连杆头

DTS003967



倾斜盘组

DTS003968



橡胶垫

DTS003969



主齿轮

DTS003970



副齿轮

DTS003971



主轴组

DTS003972



机架组

DTS003973



尾传动齿轮组

DTS003974



马达固定座组

DTS003975



十字盘导板

DTS003976



机壳支架

DTS003977



尾旋转头

DTS003978



尾翼夹头组

DTS003979



尾控制臂组

DTS003980



尾齿轮箱组

DTS003981



尾管

DTS003982



尾舵固定座组

DTS003983



尾拉杆固定座组

DTS003984



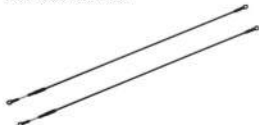
水平翼固定座组

DTS003985



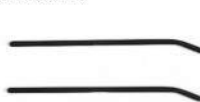
水平翼垂直翼

DTS003986



尾拉杆组

DTS003987



滑撬组

DTS003988



尾管支架组

DTS003989



尾控制臂组

DTS003990



尾轴组

DTS004093



无刷电机

DTS003992



齿轮

11T

DTS003993



齿轮

10T

DTS003941



止推轴承

3*6*2.5

DTS003995



轴承

5*10*4

DTS004127



轴承

4*8*3

DTS004122



轴承

3*7*3

DTS003998



金属固定座组

DTS003999



主齿轮组配件

DTS004000



止推轴承

3*8*3.5

DTS004001



主旋转头组

DTS004002



滑撬支架组

DTS004003



尾旋翼

DTS004005



球头螺丝

DTS004006



摆臂组

DTS003962



相位座组

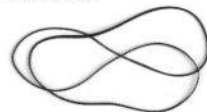
DTS004126



3*6*2.5

滚动轴承

DTS004186



3*810

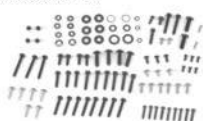
皮带

DTS004066



工具包

DTS004004



螺丝

GWY003914



倾斜盘伺服器

GWY003721



尾伺服器

GWY003751



充电线

GWY003770



数据线

GWY003747



35A 无刷马达调速器

GWY003750



陀螺仪

DTS003949



11.1V 2200mAh

锂电池

GWY003752



2&3节

5A充电器

GWY004064



发射机托架

DTS004011



3.7V 1100mAh

锂电池

GWY004303



卫星接收机

GWY003768



LCD设置模块

GWY004307



2.4GHz 6通道发射机

GWY004304

双天线双接收
8通道接收机

GWY004309

2.4GHz 6通道发射机&
双天线双接收8通道接收机

GWY004313

双天线双接收8通道接收机&
发射机发射模块

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