Item No.:FJ208
Version No.:FJ208-V01

www.sz-freewing.com

F-5N TIGER II
USER MANUAL



Wingspan: 845mm (33.26 in)
Fuselage length: 1313mm (51.69 in)

EN 1 ~ 13
中 14 ~ 26

MADE IN CHINA

www.modellmarkt24.ch; www.modellmarkt24.de

Introduction

EN

Thank you for purchasing our Freewing F-5N "Tiger II" 80mm EDF jet. In the 1970s, F-5E / F "Tiger" II fighter become American munitions dumping the main part to its third world allies, due to the aircraft experienced a real test and had inherited the previous generation F-5A / B "freedom fighters "fighter easy maintenance, etc., so that in 10 years after the advent of being sold to 21 countries and regions worldwide.

F-5N "Tiger II" EDF jet, use 80mm ducted fan, strong power, it will bring you a surprise speed and flight experience!

New feature:`
- The Design and graphics are scale to the real aircraft.
- The Wings are removable. Very Easy and fast to install and dismantle.
- Reliable landing gear shock absorber design, suitable for the grass take-off/landing.
- Large battery compartment space, suitable for different battery items.
- Strong power & reliable 80mm EDF power system
- Simple and reliable front/rear cabin door control
- Ball head buckle, more precise control

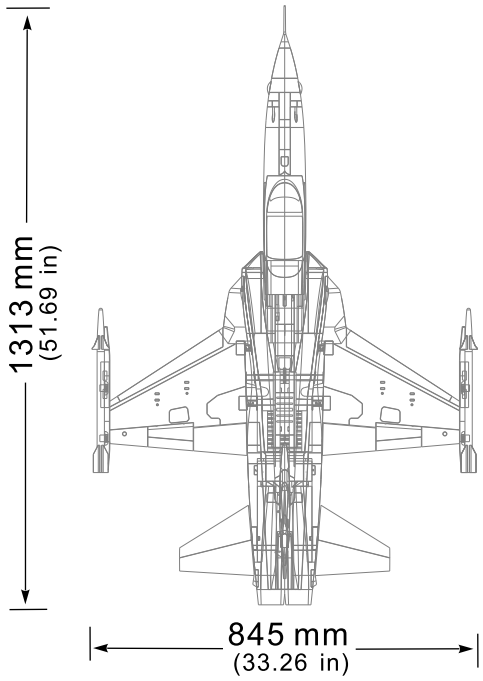
⚠ **NOTE:** This is not a toy. Not for children under 14 years. Young people under the age of 14 should only be permitted to operate this model under the instruction and supervision of an adult. Please keep these instructions for further reference after completing model assembly.

Note:

1. This is not a toy! Operater should have a certain experience, beginners should operate under the guidance of professional players.
2. Before install, please read through the instructions carefully and operate strictly under instructions.
3. Cause of wrong operation,Freewing and its vendors will not be held responsible for any losses.
4. Model planes' players must be on the age of 14 years old.
5. This plane used the EPO material with surface spray paint, don't use chemical to clean, otherwise it will damage.
6. You should be careful to avoid flying in areas such as public places,high-voltage-intensive areas,near the highway, near the airport or any other place where laws and regulation clearly prohibit.
7. You cannot fly in bad weather conditions such as thunderstorms,snows....
8. Model plane's battery, don't allowed to put in everywhere. Storage must ensure that there is no inflammable and explosive materials in the round of 2M range.
9. Damaged or scrap battery should be properly recycled, it can't discard to avoid spontaneous combustion and fire.
10. In flying field, the waste after flying should be properly handled,it can't be abandoned or burned.
11. In any case, you must ensure that the throttle is in the low position and transmitter switch on, then it can connect the lipo-battery in aircraft.
12. Do not try to take planes by hand when flying or slow landing process. You must wait for landing stop, then carry it.

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Product basic information



⚠ Note: The parameters in here are derived from test result using our accessories. If use other accessories, the test result will be different. Any problem since of using other accessories, we are not able to provide technical support.

6S Standard Version

- Motor
  3530-1750KV (out-runner Motor)
- ESC
  80A
- Servo
  9g (8pcs-Digital servo*2pcs)
- Battery
  6S 22.2V 4000mAh 35C
- Ducted fans
  12-Bladed 80mm EDF
- Take-off weight
  2280g (80.42 oz.)
- Thrust
  2600g (91.8 oz.)

6S Upgrade Version

- Motor
  3665-1750KV (In-runner Motor)
- ESC
  100A
- Servo
  9g (8pcs-Digital servo*2pcs)
- Battery
  6S 22.2V 4000mAh 35C
- Ducted fans
  12-Bladed 80mm EDF
- Take-off weight
  2350g (82.9 oz.)
- Thrust
  3100g (109.4 oz.)

Package list



Different equipment include different spareparts. Please refer to the following contents to check your sparepart list.

PNP equipment list

1.Fuselage set (installed, include the electric parts and connection lines)
2.Main wing set (installed, include the electric parts and connection lines)
3.Tail wing set (installed, include the electric parts and connection lines)
4.Missiles and pylons
5.Main wing installing plastic part
6.Carbon tube
7.Screw
8.Glue

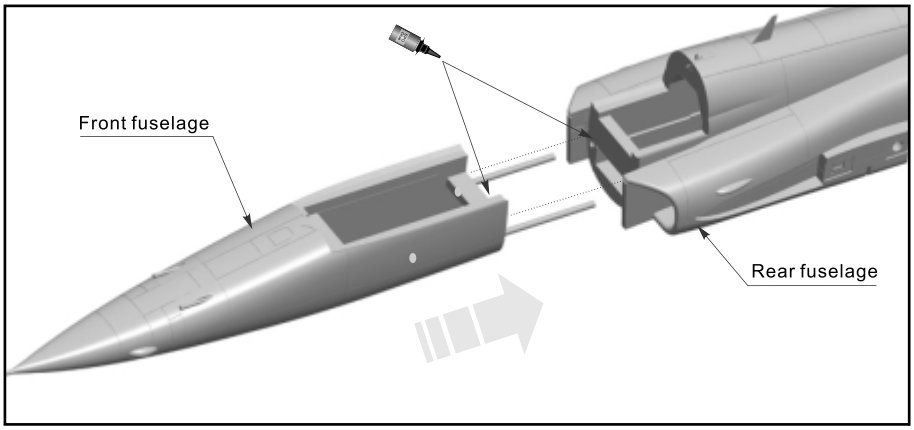
KIT equipment list

1.Fuselage set (installed connection lines)
2.Main wing set
3.Tail wing set
4.Missiles and pylons
5.Main wing installing plastic part
6.Carbon tube
7.Screw
8.Glue

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Installing Fuselage

As the right photo shown, apply glue to attach the front、rear fuselage.

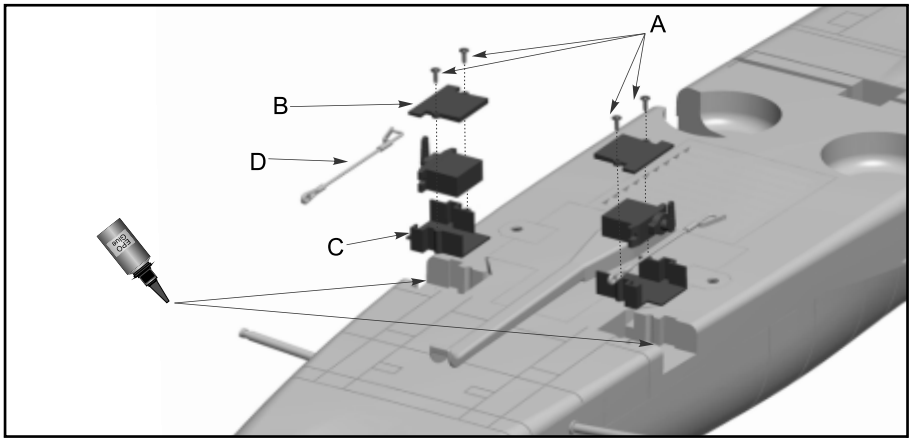


Installing Elevator

Installing elevator servo

A - Screw
B - 9g servo cover
C -9g servo box
D -Elevator pushrod

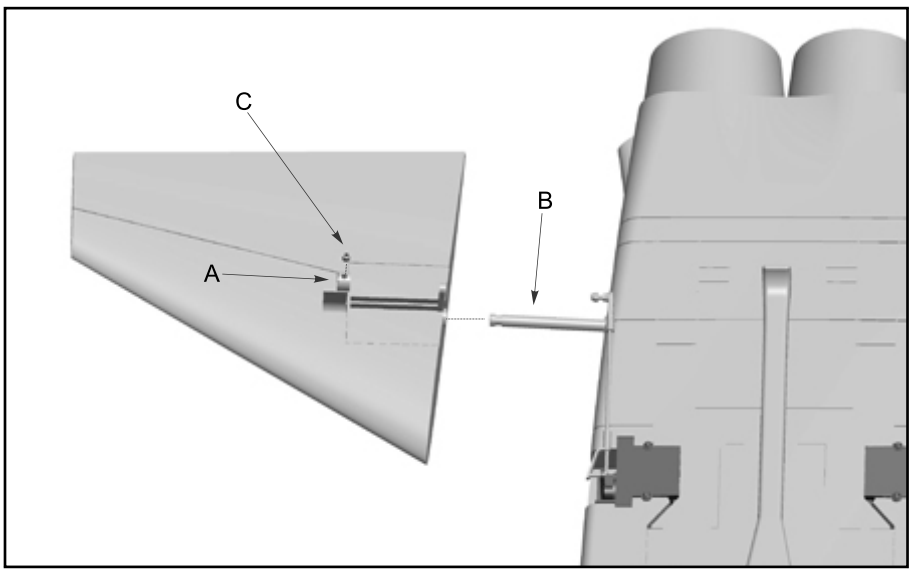
1.Through servo tester or radio to center the servo arm.
2.Apply the glue to attach the “9g servo box C” on the fuselage.
3.Install the servo on the “9g servo box C”, and insert the servo cable to the extension wire in the fuselage, then cover the “9g servo cover B”, and use 2pcs “screw A” to fix.
4.Use “elevator pushrod D” to connect the servo arm and elevator horn.



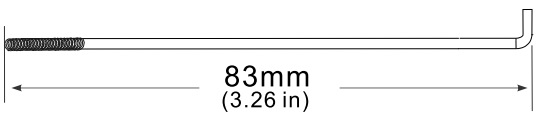
Installing elevator

A -Metal fixed ring
B -Full elevator rotating shaft
C -Screw

1.First, put the “metal fixed ring A” on the groove of elevator, install the elevator on the “full elevator rotating shaft B”, use “screw C” to fix the elevator from “metal fixed ring A”.

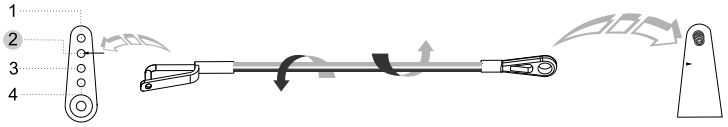


Elevator pushrod size



Pushrod diameter : Ø 1.5mm

Elevator pushrod mounting hole



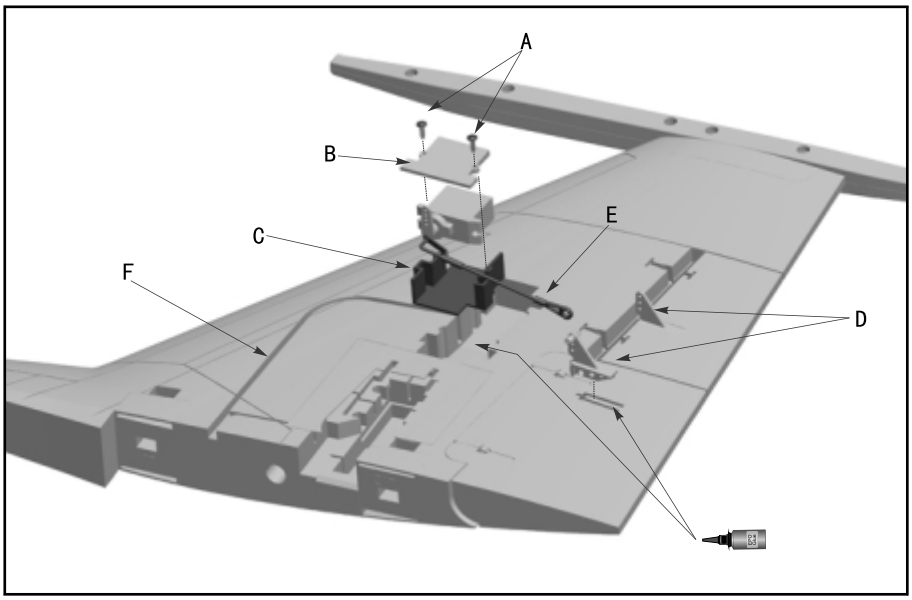
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Installing Main Wing

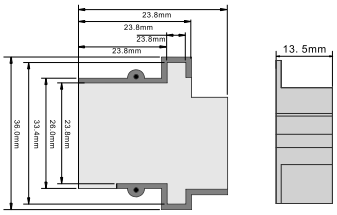
Installing aileron servo

A -Screw （PWA1.7×5mm 8pcs）
B -9g servo cover
C -9g servo box
D -Aileron horn
E -Aileron pushrod
F -Servo cable trough

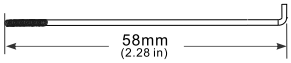
1.Through servo tester or radio to center the servo arm.
2.Apply the glue to attach the “9g servo box C” and “aileron horn D” on the fuselage.
3.Install the servo on the “9g servo box C”, press the servo cable in the “servo cable trough F”, then cover the “9g servo cover B”, and use 2pcs “screw A” to fix.
4.Use “aileron pushrod E” to connect the servo arm and aileron horn.



Note: we have installed all the servo box in aircraft, when players disassemble the servo, it will not damage the foam surface. If need to replace servo, please purchase Freewing servo ,or refer to the following drawing, choose the correct size servo.

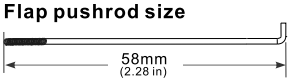


Aileron pushrod size



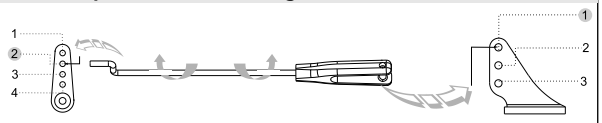
Pushrod diameter : Ø 1.2mm

Flap pushrod size

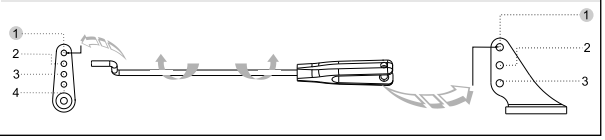


Pushrod diameter : Ø 1.2mm

Aileron pushrod mounting hole



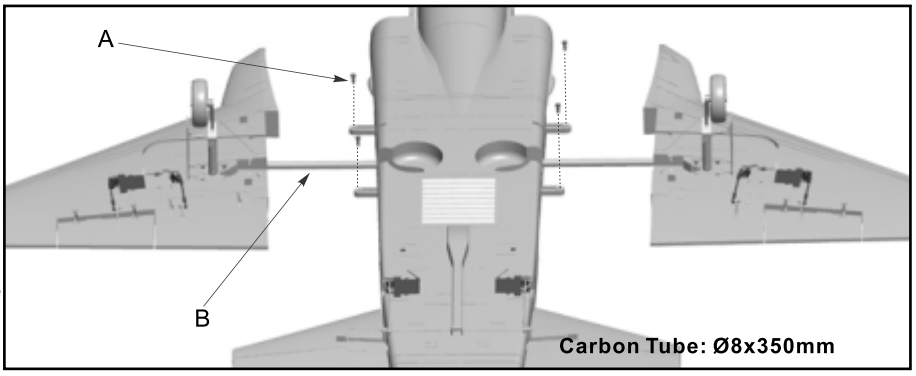
Flap pushrod mounting hole

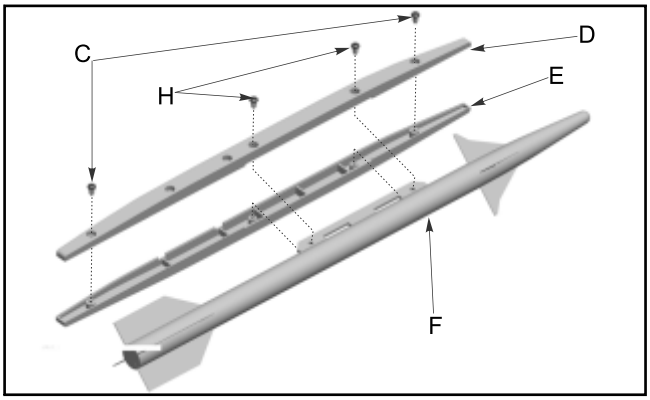


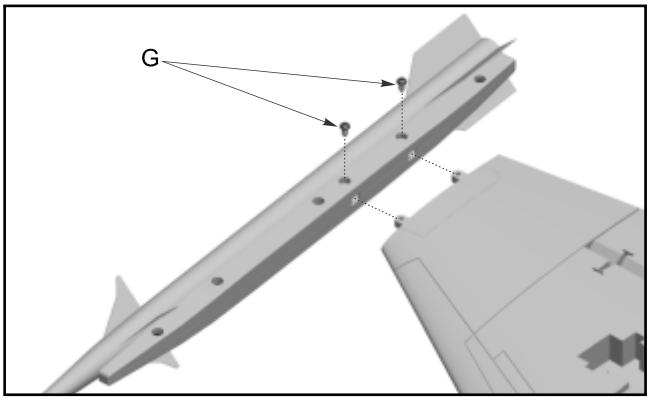
Installing main wing and missiles

A -Screw （PWA3×8mm 4pcs）
B -Carbon tube
C -Screw （PA3×6mm 4pcs）
D -Wingtip pylon 1
E -Wingtip pylon 2
F -Wingtip missiles
G -Screw （PA3×8mm 4pcs）
H -Screw （PA3×10mm 4pcs）

1.Insert the carbon tube into fuselage.
2.Connect the left/right aileron servo cable to the extension wire in fuselage.
3.Insert the main wing to the fuselage and use screw to fix.
4.Refer to the following photo, install and replace the wingtip missiles.







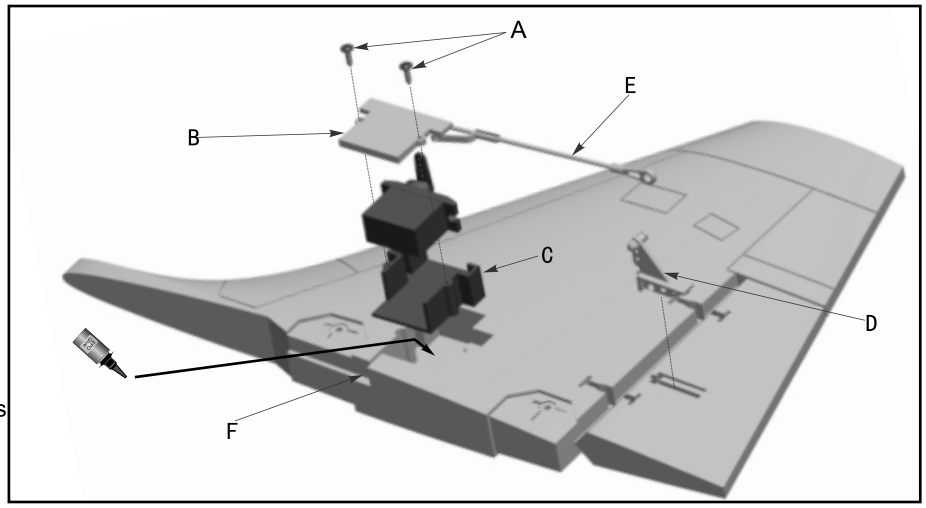
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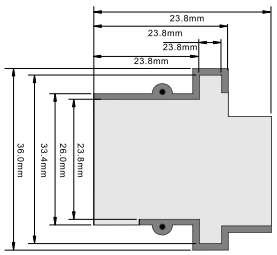
Installing Rudder

Installing rudder servo

A -Screw （PWA1.7×5mm 8pcs）
B -9g servo cover
C -9g servo box
D -Aileron horn
E -Aileron pushrod
F -Servo cable trough

1.Through servo tester or radio to center the servo arm.
2.Apply the glue to attach the “9g servo box C” and “aileron horn D” on the fuselage.
3.Install the servo on the “9g servo box C”, press the servo cable in the “servo cable trough F”, then cover the “9g servo cover B”, and use 2pcs “screw A” to fix.
4.Use “aileron pushrod E” to connect the servo arm and aileron horn.

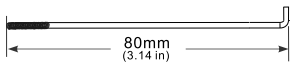




Note: we have installed all the servo box in aircraft, when players disassemble the servo, it will not damage the foam surface. If need to replace servo, please purchase Freewing servo ,or refer to the following drawing, choose the correct size servo.

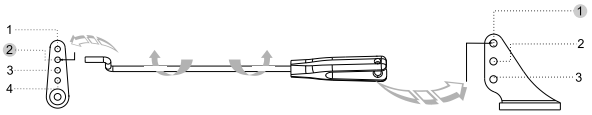


Rudder pushrod size



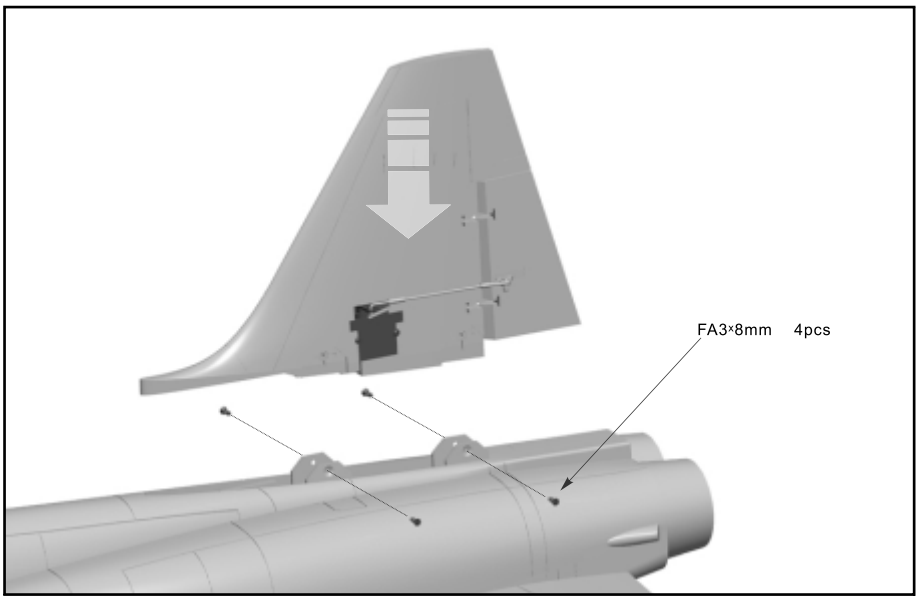
Pushrod diameter : Ø 1.5mm

Rudder pushrod mounting hole



Installing rudder servo

1.Connect the rudder servo cable to the extension wire in fuselage.
2.Install the rudder on the fuselage and use 4pcs screw to fix.



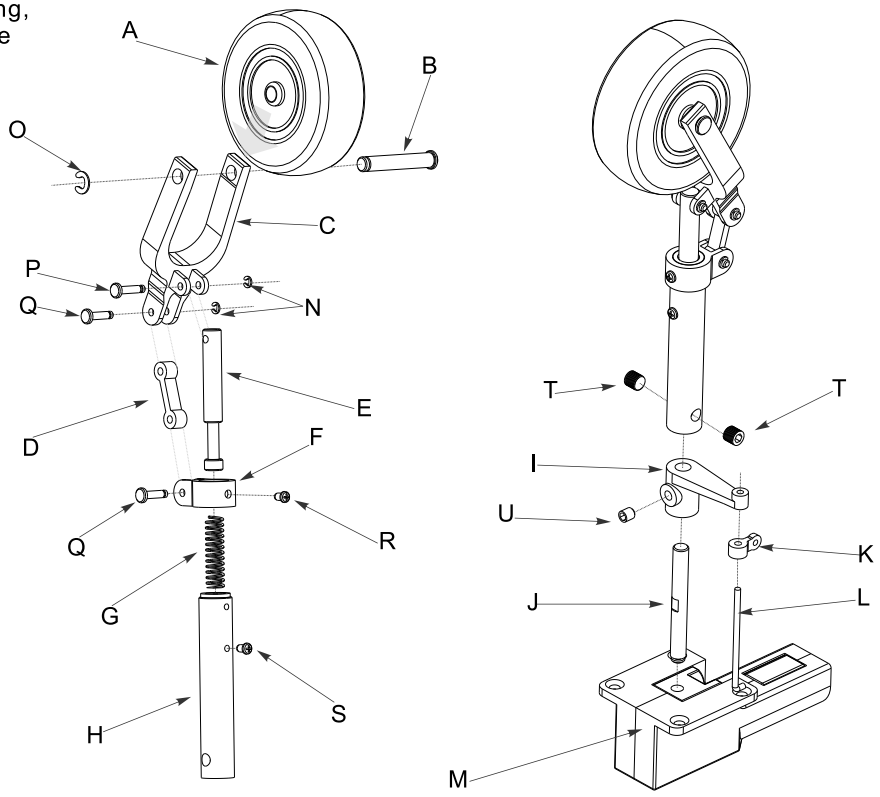
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Installing the nose landing gear

Please refer to the following drawing, assemble/disassemble and replace the nose landing gear.

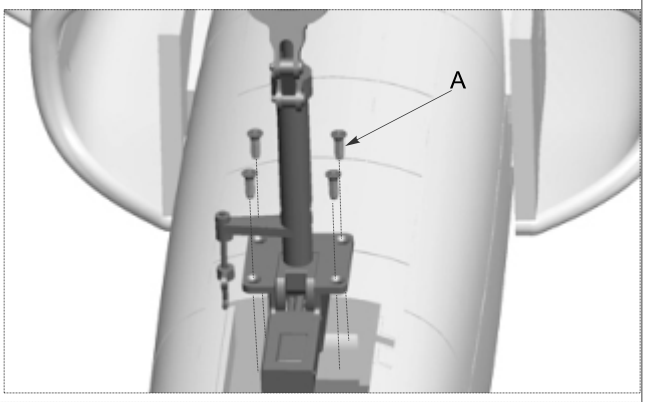
Accessories name and specification

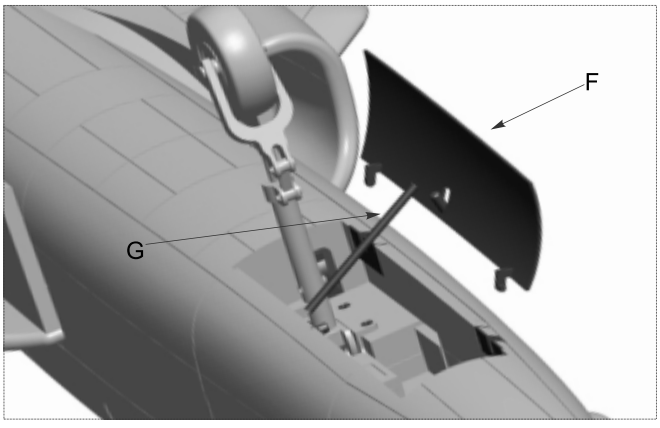
A -Nose wheel (ø40mm W=16mm)
B -Nose wheel axle
C -U-damping arm
D -8- damping arm
E -Nose gear damping rod
F -O-connecting arm
G -Spring
H -Nose gear supporting rod
I -L shape arm
J -Nose gear metal wire
K -O-shape ring
L -Metal wire
M -Retractable controller
N -E-buckle (ø1. 5mm 3pcs)
O -E-buckle (ø2. 0mm 1pcs)
P -Pin 1
Q -Pin 2
R -Screw (PM2×3mm 1pcs)
S -Screw (PM2×4mm 1pcs)
T -Jimi screw (M4×3mm 2pcs)
U -Jimi screw (M3×3mm 1pcs)

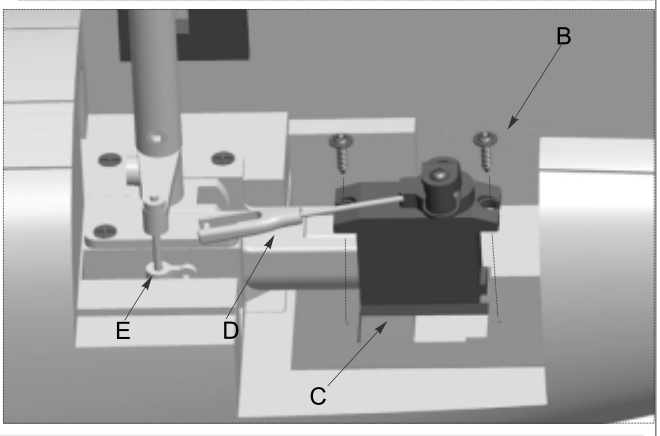


Accessories name and specification

A -Screw (KA3×12mm 4pcs)
B -Screw (PWA2×8mm 2pcs)
C -Servo (9g)
D -Nose gear steering pushrod
E -O-shape ring
F -Nose cabin door
G -Spring









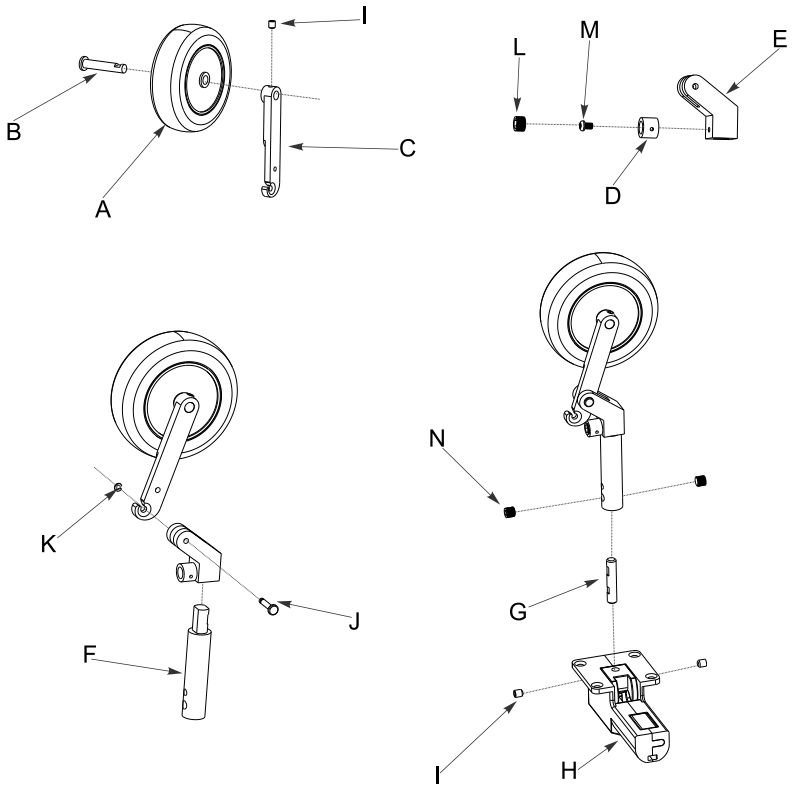
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Rear landing gear installation

Please refer to the following drawing, assemble/disassemble and replace the nose landing gear.

Accessories name and specification

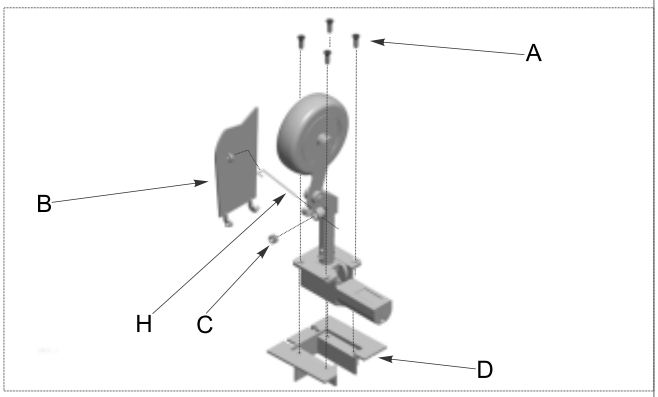
A - Rear wheel (ø45mm W=16mm)
B - Rear wheel axle
C - Rear gear damping arm
D - Pushrod fixed bolt
E - Rear gear connecting arm
F - Rear gear supporting rod
G - Rear gear metal wire
H - Retractable controller
I - Jimi screw (M3×3mm 3pcs)
J - Pin
K - E-buckle (ø1. 5mm 1pcs)
L - Jimi screw (M5×3mm 1pcs)
M - Screw (PM2×4mm 1pcs)
N - Jimi screw (M4×3mm 2pcs)

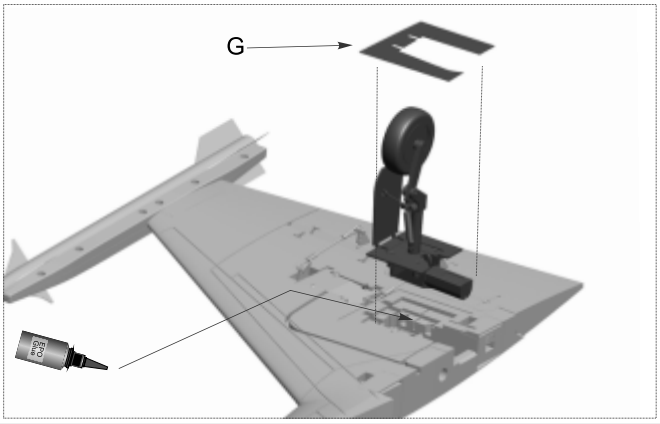


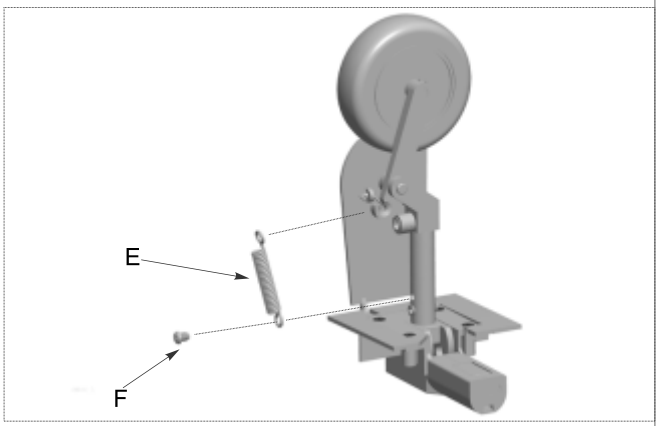
Accessories name and specification

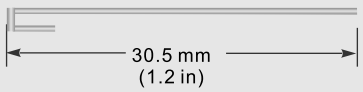
A - Screw (KA3×12mm 4pcs)
B - Rear cabin door
C - Jimi screw (M5×3mm 1pcs)
D - Rear gear mount
E - Spring
F - Screw (PM3×4mm 1pcs)
G - Rear gear blister cover
H - Rear cabin door pushrod

Note: When attach the " rear gear mount" in the adhesive area, glue need even painted installed area. Cause this place bear large force.

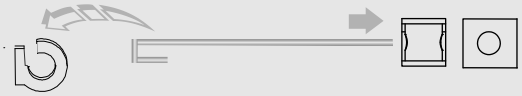






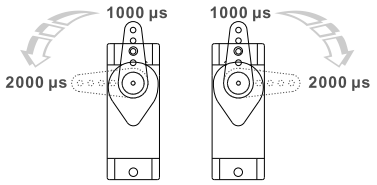


Pushrod diameter : Ø 1.0mm



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Servo introduction



The servo positive or reverse rotation is defined as follows:
When servo input signal change from 1000μs to 2000μs,
The servo arm is **rotated clockwise**, its **positive servo.**
The servo arm is **rotated counterclockwise**, its **reverse servo.**

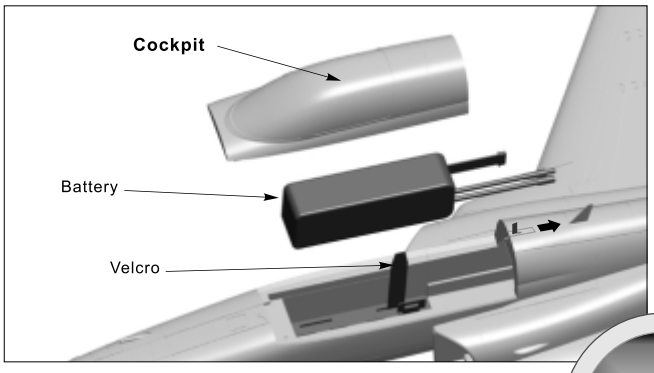
If you need to purchase other brand servo, please refer to the following list to choose correct size servo.

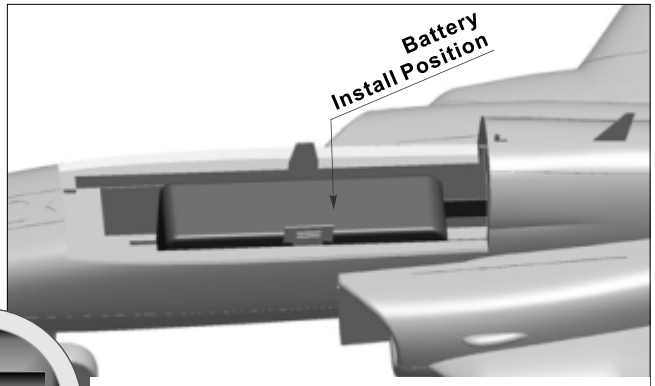
Servo installing position	Servo No.	Pos./Rev.	Servo Cable Length
Nose gear steering servo	1	Positive	360mm
Aileron servo (Left)	2	Positive	300mm
Aileron servo (Right)	3	Positive	300mm
Flap servo (Left)	4	Positive	300mm
Flap servo (Right)	5	**Reverse**	300mm
Elevator servo (Right)	6	**Reverse**	100mm
Elevator servo (Left)	7	Positive	100mm
Rudder servo	8	Positive	150mm

Servo connection instruction

1.Use Y-wire to connect the No.**1** and No.**8** the two servos.
2.Use Y-wire to connect the No.**2** and No.**3** the two servos.
3.Use Y-wire to connect the No.**4** and No.**5** the two servos.
4.Use Y-wire to connect the No.**6** and No.**7** the two servos.

Install on battery





Lift up tape,it removable canopy, then bundled battery with Velcro.
Before connect battery and ESC , please switch on the transmitter and check that the throttle is in the low position.

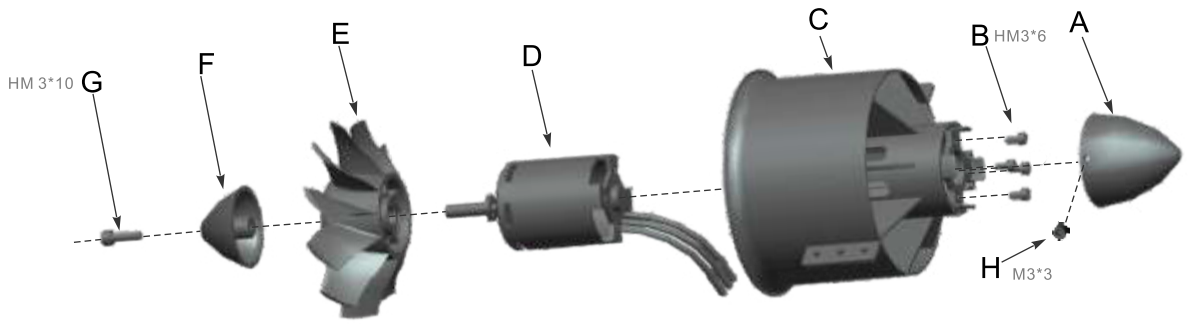
Battery cabin size: 340×60×65mm

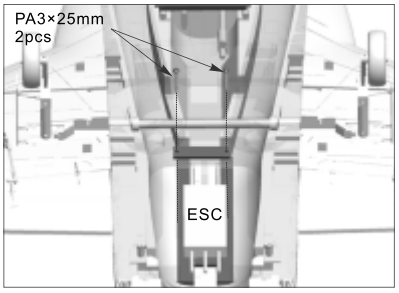
Our standard battery is:
6S 22.2V 4000mAh 35C
The battery capacity and discharge rate we advise is in the following:
6S 22.2V 3700mAh ~ 6S 22.2V 5000mAh
Discharge rate of C ⩾ 30C
Different weight battery may affect its CG, please the correct range of CG indication.

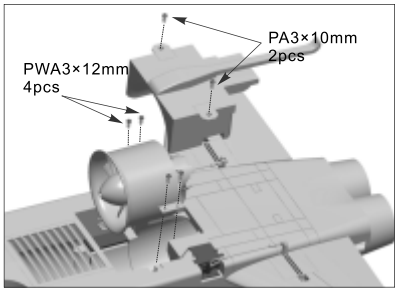
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Install power system

1.Install the “motor (D)” in the “ducted fan housing (C)”.
2.Fix the motor by 4pcs “cup head screws (B)”.
3.Put the “rotor (E)” in the motor shaft.
(During this process, please note the hardware platform of rotor should be alignment with the motor shaft platform)
4.Use “spinner (F)” to cover the rotor, and fix the “spinner (F)” by “cup-head-screw (G)”.
5.Install the “tail air-deflector (A)” on the “bottom of ducted fan housing (C)”, and use 2pcs “jimi screws (H)” to fix.





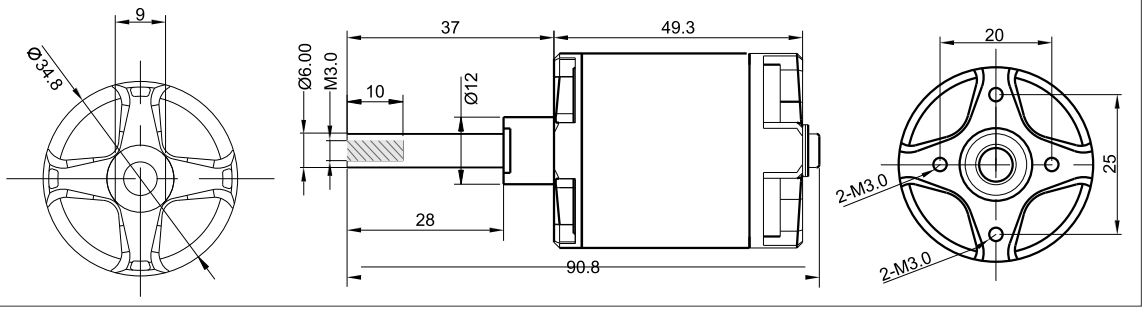


⚠ **Note:** When ESC and battery connected, prohibit to touch them by hand to avoid accidental injury. When test EDF, please use safety test stand for testing, prohibit to touch by hand for testing.

Motor parameters

MOJ35301

3530-1750KV



Item No.	KV Value	Volate (V)	Current (A)	Thrust (g)	Motor Resistance	Weight (g)	No Load Current	Propeller	ESC
MOJ35301	1750RPM/V	22.2	72	2600	0.0146Ω	150	4.6A/23V	12-Bladed 80mm Ducted Fan	⩾80A

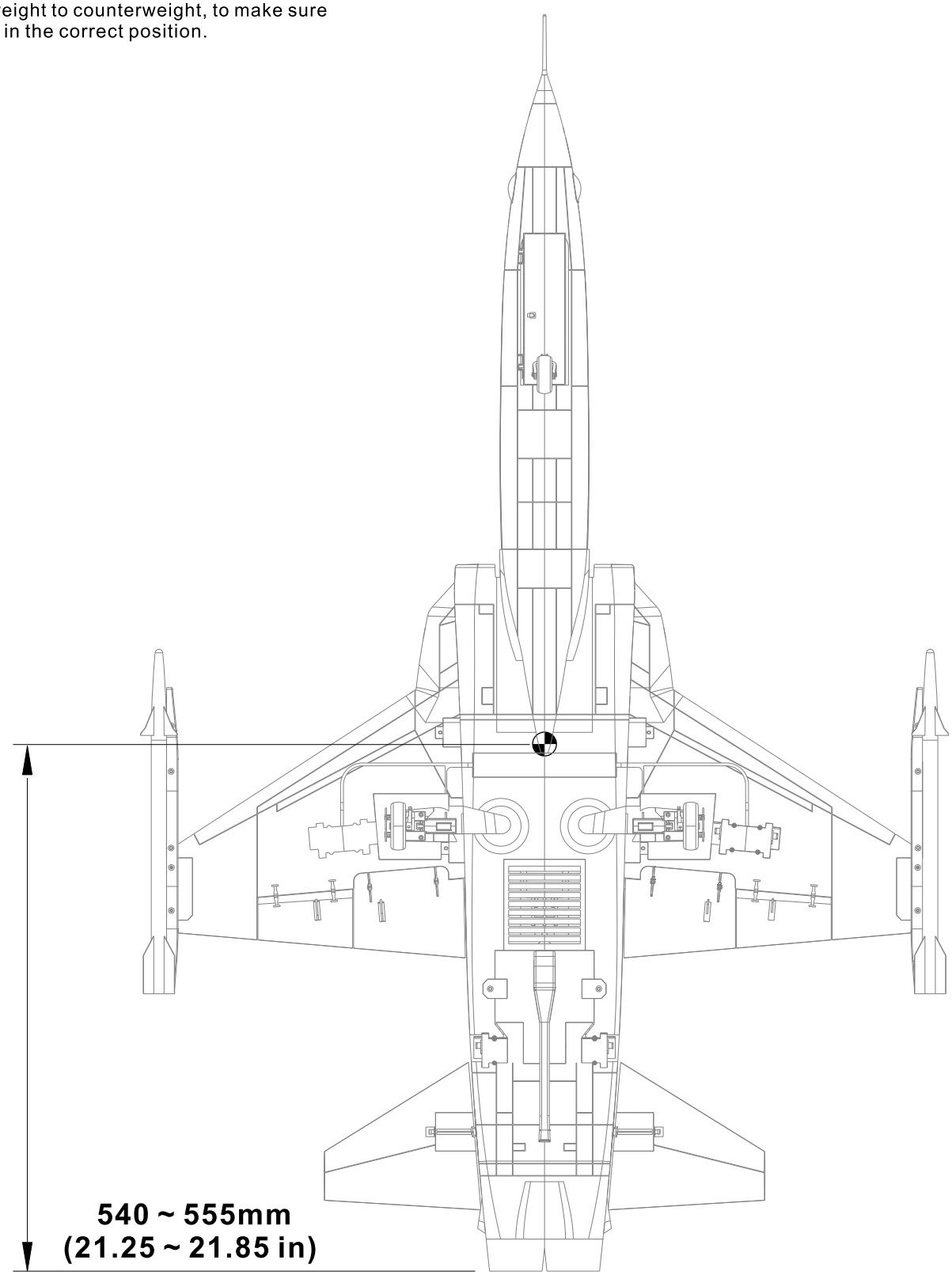
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Center of Gravity

Correct center of gravity is directly related to the success of the flight, please refer to the following CG diagram to adjust your plane's center of gravity.

- You can move the battery forward or backward to adjust the center of gravity.

- If you can not adjust the CG through move the battery, you can also use some other suitable material weight to counterweight, to make sure that CG is in the correct position.



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Control surface direction and set up

After installed the plane, before flying, we need a fully charged battery and connect to the ESC, then use radio to test and check that every control surface work properly.

Aileron

Stick Left



Stick Right



Elevator

Up Elevator



Down Elevator



Rudder

Stick Left



Stick Right



Optional Flaps

Flaps Down

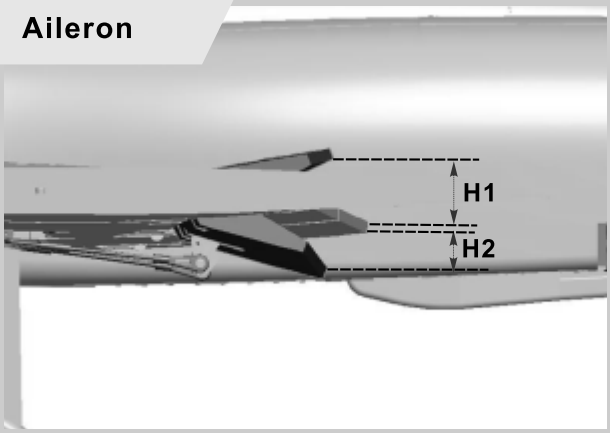


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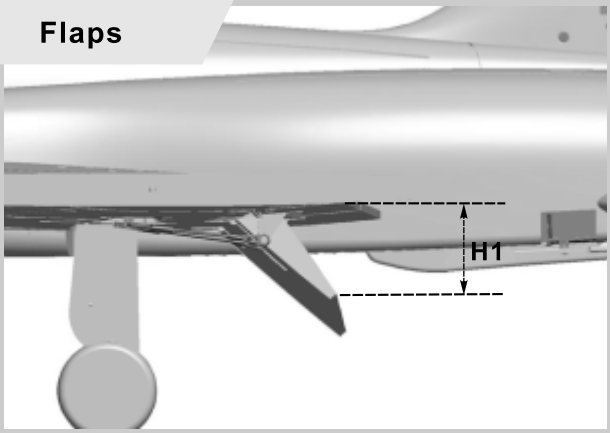
Dual Rates

According to our testing experience, according to the following parameters to set the aileron/elevator rate, it will be useful for flight. In low rate, its good for flight control and its suitable for the initial flight or less skilled players. According to your own circumstance, choose one rate in flight.

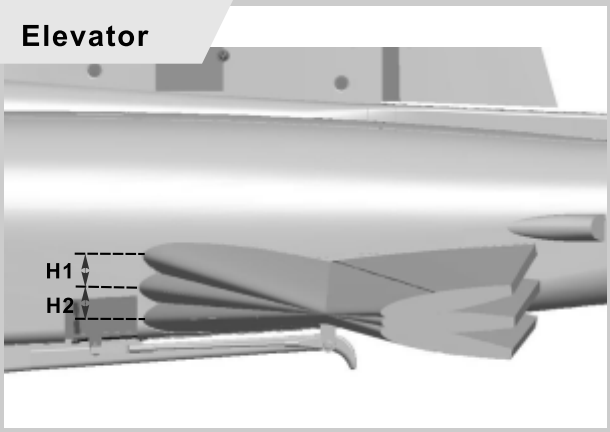
Aileron



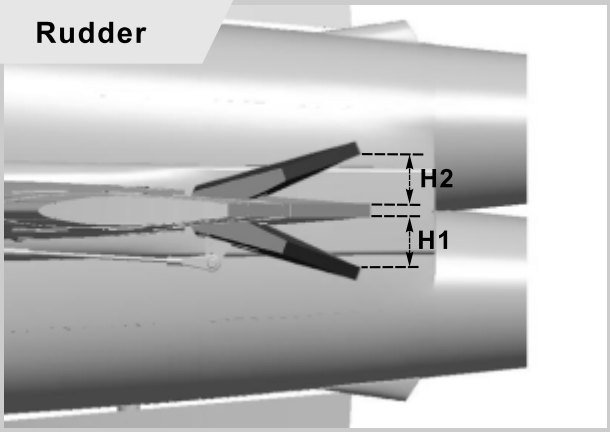
Flaps



Elevator



Rudder



	Aileron	Flaps	Elevator	Rudder
Low Rate	H1/H2 13mm/13mm	H1 45mm	H1/H2 12mm/12mm	H1/H2 17mm/17mm
High Rate	H1/H2 20mm/20mm	H1 65mm	H1/H2 18mm/18mm	H1/H2 25mm/25mm

Landing operate experience:
When landing, we set up two flap travel. First travel is for reducing speed in air. Second travel is for landing. When switch on the flap, nose up a little to rise. So, before flight, we advise to do the mix set up, in order to avoid the interference for landing.
Switch on the first travel, **set up 12%~16%** elevator down to mix and balance.
Switch on the second travel, set up 18%~24% **elevator down to mix and balance**.
After we set like this, when landing, switch on flap, the jet can keep the stable decline state, better landing.

Take-off operating experience:
We recommend to set up a rate for nose steering servo. When the jet run up and take-off, we recommend to set 55% low rate. Thus, when corrected the roll direction, the movement is not large, and jet is not easy to rollover. After take-off, switch to 100% high rate.

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Elevator installing angle



Note:

Correct elevator installing angle is very important for success flight.
Please refer to the left photo to install the elevator installing angle.

Troubleshooting Guide

Motor does not turn on	A) Li-Po battery depleted	A) Recharge Li-Po battery
	B) Transmitter batteries depleted	B) Replace or recharge batteries
	C) Transmitter not turned on	C) Turn on transmitter
	D) Li-Po battery not plugged in	D) Plug in Li-Po battery
	E) Motor not armed	E) Arm motor
	F) A crash has damaged an internal component	F) Replace
	G) ESC or other damaged	G) Check ESC or contact local distributor
Cub is difficult to control	A) You are flying in too much wind	A) Fly when there is no wind
	B) Li-Po battery depleted	B) Recharge Li-Po battery
	C) Transmitter batteries depleted	C) Replace or recharge batteries
	D) Transmitter antenna not extended completely	D) Extend transmitter antenna completely
	E) Surface control rate is too high	E) Use low rate to fly
The nose always move down when fly, always need to up elevator	A) CG is forward	A) Adjust CG backward refer to instruction
Cub constantly climbs or descends, or turns right or left without control input	A) The aircraft is out of trim adjustment	A) Adjust the transmitter trim tabs
	B) You are flying in too much wind	B) Fly when there is no wind
Elevator is too flexible, up and down is not stable	A) CG is backward	A) Adjust CG forward refer to instruction
Plane will be slant when taxi on the runway	A) Nose gear is not center.	A) Center nose gear
	B) Rudder is not center.	B) Center rudder
Take off is difficult	A) Thrust is not on the high position	A) Thrust is on the high position
	B) Taxi distance is not enough	B) Long taxi distance
	C) Elevator rate is not enough high	C) Use high rate of elevator
Cub will not climb	A) Li-Po battery is depleted	A) Recharge Li-Po battery
	B) Ducted fan is damaged	B) Check and replace ducted fan
	C) Motor is damaged	C) Check and replace motor
	D) ESC overheat protection,power reduction.	D) Landing firstly, check and select a more powerful ESC
Li-Po battery is slightly warm after charging	A) This is normal	A) The Li-Po battery may be slightly warm when fully charged. It should not be hot to the touch.
Motor vibrates excessively	A) Ducted fan is damaged	A) Check and replace ducted fan
	B) Motor is damaged	B) Check and replace motor
	C) Ducted fan is not balance	C) Adjust the ducted fan balance
	D) High speed will happen slightly vibrate	D) Its normal to use
Control surface move the wrong direction	A) Servo direction is reversed	A) Adjust servo reversing function

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前　言

非常感谢您购买F-5N“虎II”模型飞机，F-5N“虎II”在20世纪70年代成为美国对其第三世界盟国进行军火倾销的主力机种，由于该机经历过实战考验并承袭有前一代F-5A/B“自由战士”战斗机维护方便等特点，使其在问世后的10年内，被销售至全球21个国家和地区。

F-5N“虎II”电动涵道模型，使用80mm口径涵道,充沛的动力，将带给你带来一个惊喜的速度和飞行体验！

新特性：
-极其逼真的细节外形，完全符合真实飞机的水贴纸；
-可拆装的翼面，实现快速拆装，携带方便；
-可靠的起落架减震设计，适应草地起、降；
-超大电池舱空间，适宜更多型号的电池；
-动力充沛及可靠的80mm涵道动力系统；
-简单可靠的前、后起落架舱门控制；
-球头舵面，舵面控制更加精准；

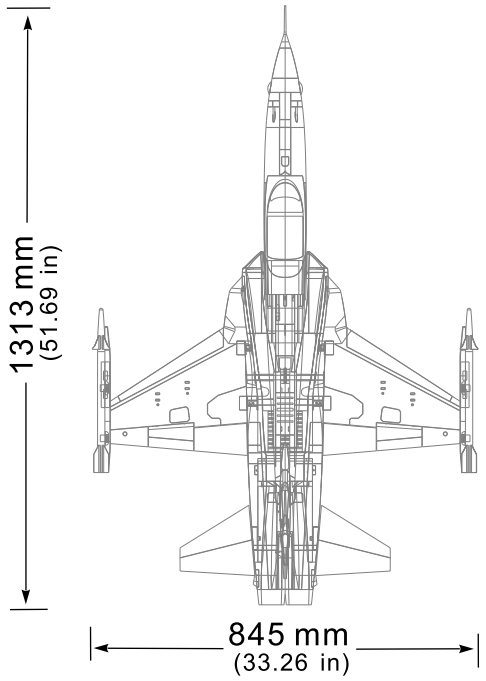
⚠ 注意：模型产品是具一定危险性的产品,请禁止14岁以下的儿童玩耍,14岁以上的儿童,请在有飞行经验的成人指导下使用,无飞行经验的购买者,应当在具有一定电动涵道飞机飞行经验的成人指导下使用！组装模型前,请仔细阅读说明书,按照说明书的要求进行安装.进行调试和飞行时,请根据说明书指示的参数进行调整。

重要提示

1.模型飞机不是玩具,操作者需要具备一定的经验;没有经验的初学者,必须在有丰富经验的专业人士指引下,逐步学习!
2.在组装之前,必须认真阅读产品说明书,严格按照说明书指示操作。
3.飞翼模型及其销售商，对于违反说明书的要求操作而造成的损失、将不负任何法律责任！
4.模型飞机的使用年龄必须是14岁以上的儿童或者成人。
5.此模型产品使用EPO材料制成，表面喷涂油漆，不可随意使用化学制剂擦拭，否则会损坏模型产品。
6.不可以在公共场合、高压线密集区、高速公路附近、机场附近或者其它法律法规明确禁止飞行的场合飞行。
7.不可以在雷雨、大风、大雪或者其它恶劣气象环境下飞行。
8.模型飞机的电池产品，不可以随意乱扔，乱放。存放时,必须保证周边2M范围内,无易燃、易爆物体。
9.损坏或者报废处理的模型飞机电池，应妥善回收处理，不准随意抛弃，避免自燃而引发火灾。
10.在飞场飞行时，应做到妥善处理飞行后所产生的垃圾，不可随意抛弃、焚毁模型及其配件。
11.在任何情况下,都必须保证油门杆处于起始位、发射机处于打开状态时，才能连接模型飞机内部的动力电池.
12.无论是模型飞机是在正常飞行过程中,或者是在缓慢降落过程中,都不要尝试用手去回收模型。必须等模型降落停稳以后，再进行回收！

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产品基本参数



⚠ 注意：此处各项参数，均使用本公司配件测试得出，如果使用副厂配件，会有所差异。使用副厂配件时所产生的问题，我们将无法给予技术支持！

标准版

- 电机
  3530- 1750KV
- 电调
  80A 无刷电调（5A UBEC)
- 舵机
  9g 模拟舵机 (8pcs-Digital servo*2pcs)
- 电池
  6S 22.2V 4000mAh 35C
- 涵道风扇
  12叶 80mm涵道
- 起飞重量
  2280 g (80.42 oz.)
- 推力
  2600g (91.8 oz.)

升级版

- 电机
  3665- 1750KV (Inrunner Motor)
- 电调
  100A 无刷电调（5A UBEC)
- 舵机
  9g 模拟舵机 (8pcs-Digital servo*2pcs)
- 电池
  6S 22.2V 3700mAh 35C
- 涵道风扇
  12叶 80mm涵道
- 起飞重量
  2350 g (82.9 oz.)
- 推力
  3100g (109.4 oz.)

配件清单



不同配置，包装盒内部物品不同，请参考以下内容，核对您的配件：

PNP配置物品清单

1. 机身套件(已组装完成，含电子设备及连接线)
2. 主翼套件(已组装完成，含电子设备及连接线)
3. 尾翼套件(已组装完成，含电子设备及连接线)
4. 导弹及挂架
5. 主翼安装塑料件
6. 碳纤管
7. 螺丝
8. 胶水

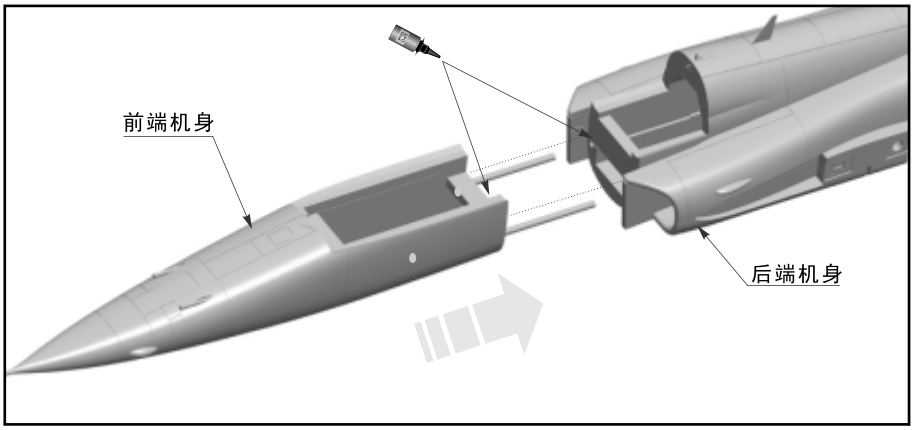
KIT(空机)配置物品清单

1. 机身套件(内置连接线)
2. 主翼套件
3. 尾翼套件
4. 导弹及挂架
5. 主翼安装塑料件
6. 碳纤管
7. 螺丝
8. 胶水

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机身组装

如右图所示，用胶水粘合好前后机身。

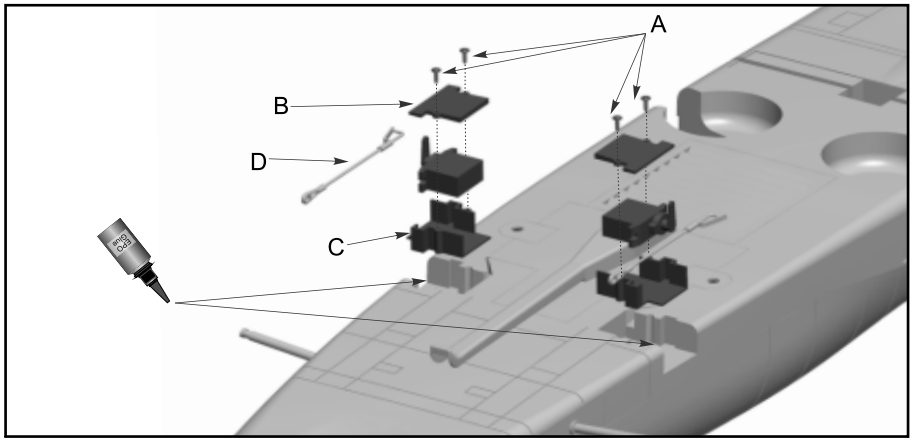


平尾组装

平尾舵机安装

A - 螺丝（PWA1.7×5mm 4pcs）
B - 9g舵机盖
C - 9g舵机盒
D - 平尾舵机控制钢丝

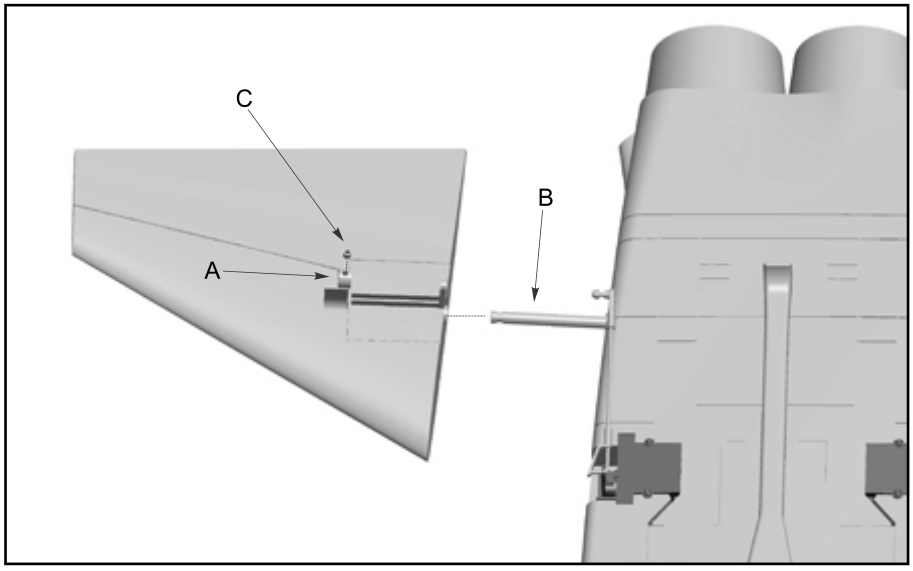
1. 通过舵机测试仪或者遥控器，把舵机摇臂校正到居中位置；
2. 用胶水把“9g舵机盒(C)”粘在机身上；
3. 把舵机安装到“9g舵机盒(C)”内，同时把舵机线插入机身内置的延长线上，然后盖上“9g舵机盖（B）”，最后用2颗“螺丝(A)”锁紧固定；
4. 用“平尾舵机控制钢丝(D)”连接舵机摇臂与舵面摇臂；



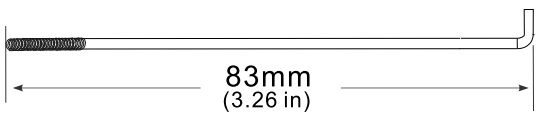
平尾安装

A - 金属固定圈
B - 全动平尾旋转轴
C - 螺丝（PM2×4mm 2pcs）

1. 首先将“金属固定圈（A）”放置到平尾上的凹槽内，接下来，平尾直接套入“全动平尾旋转轴（B）”上，最后用“螺丝（C）”从“金属固定圈（A）”上拧入固定平尾；

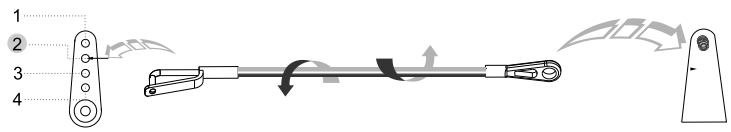


平尾控制钢丝尺寸



钢丝直径 Φ1.5mm

平尾舵机钢丝安装孔位

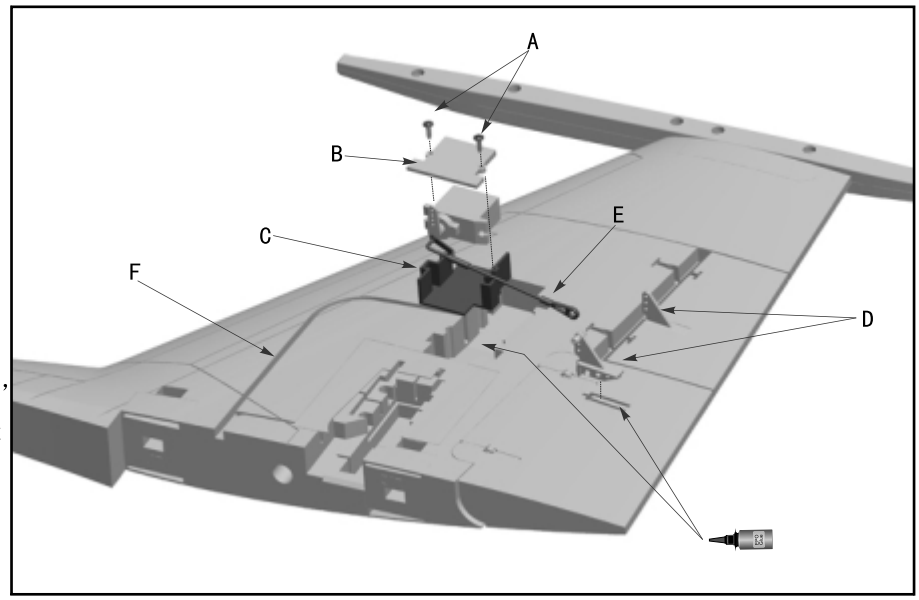


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主翼安装

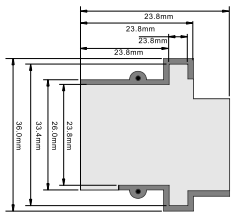
主翼舵机安装

A - 螺丝（PWA1.7×5mm　8pcs）
B - 9g舵机盖
C - 9g舵机盒
D - 舵面摇臂
E - 主翼舵机控制钢丝
F - 舵机线槽



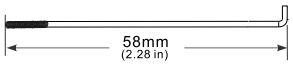
1. 通过舵机测试仪或者遥控器，把舵机摇臂校正到居中位置；
2. 用胶水把“9g舵机盒(C)”和“舵面摇臂（D）”粘在主翼上；
3. 把舵机安装到“9g舵机盒(C)”内，同时把舵机线压入“舵机线槽(F)”，然后盖上“9g舵机盖”，最后用2颗“螺丝(A)”锁紧固定；
4. 用“主翼舵机控制钢丝(E)”连接舵机摇臂与“舵面摇臂(D)”；

⚠ 注意：模型所有舵机安装位置已经安装好舵机盒，使玩家在拆卸舵机时，不会损伤机身表面。如果需要更换舵机，请购买原厂舵机或者参考下列图纸，选择尺寸相符的舵机！



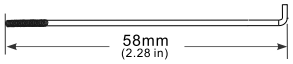


副翼控制钢丝尺寸



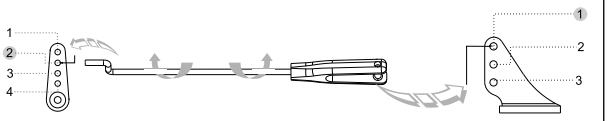
钢丝直径 Ø1.5mm

襟翼控制钢丝尺寸

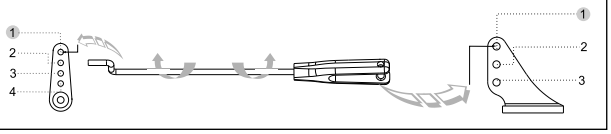


钢丝直径 Ø1.5mm

副翼舵机钢丝安装孔位

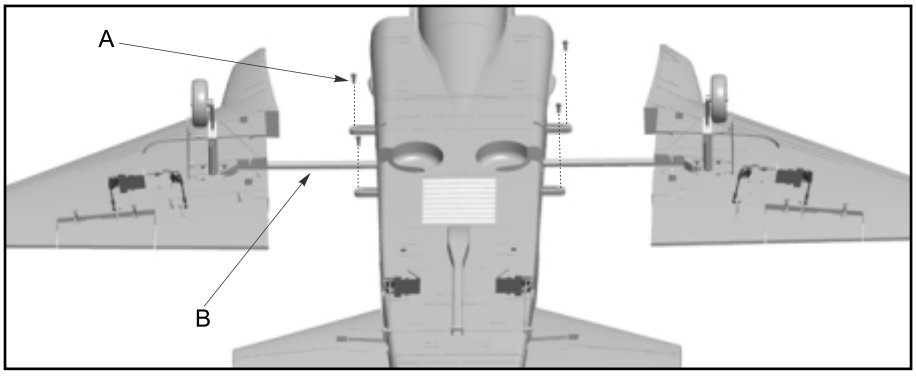


襟翼舵机钢丝安装孔位

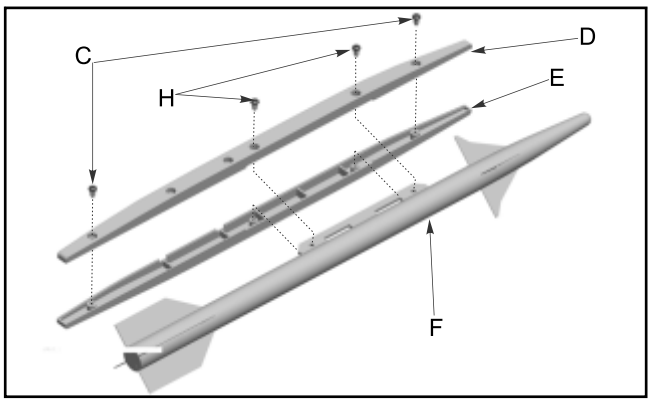


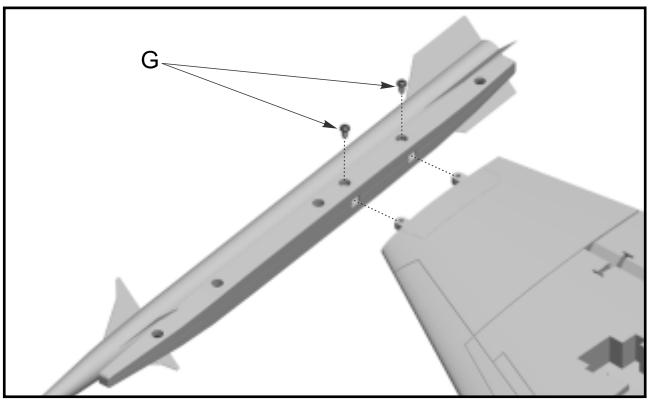
主翼及导弹安装

A - 螺丝（PWA3×8mm　4pcs）
B - 碳纤管
C - 螺丝（PA3×6mm　4pcs）
D - 翼尖挂架1
E - 翼尖挂架2
F - 翼尖导弹
G - 螺丝（PA3×8mm　4pcs）
H - 螺丝（PA3×10mm　4pcs）



1. 将碳纤管插入机身；
2. 左、右主翼舵机线，接入机身内置延长线上；
3. 最后将主翼插入到机身上，用螺丝固定；
4. 参考下图，安装和更换翼尖导弹；





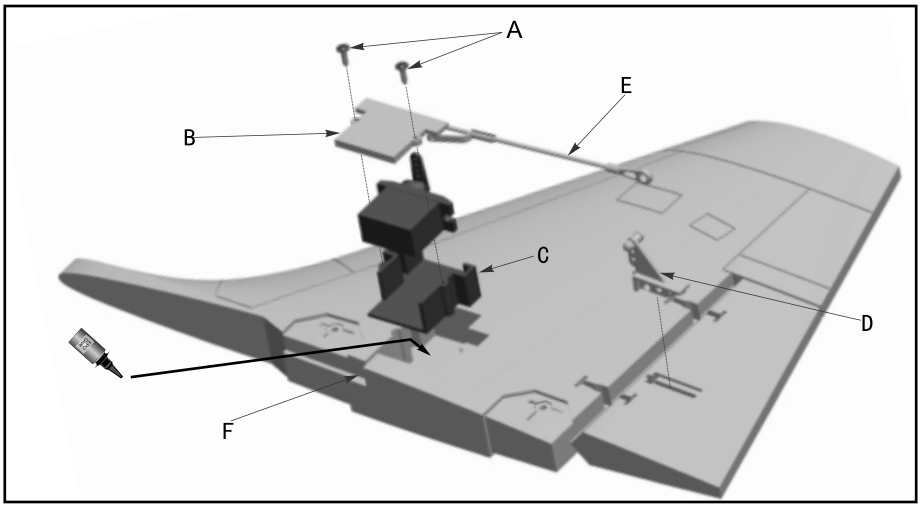
www.modellmarkt24.ch; www.modellmarkt24.de

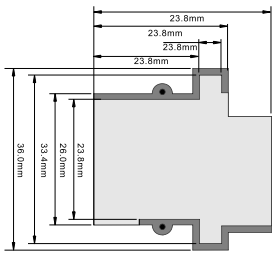
垂尾安装

垂尾舵机安装

A - 螺丝（PWA1.7×5mm　2pcs）
B - 9g舵机盖
C - 9g舵机盒
D - 舵面摇臂
E - 垂尾舵机控制钢丝
F - 舵机线槽

1. 通过舵机测试仪或者遥控器，把舵机摇臂校正到居中位置；
2. 用胶水把“9g舵机盒(C)”和“舵面摇臂（D）”粘在垂尾上；
3. 把舵机安装到“9g舵机盒(C)”内，同时把舵机线压入“舵机线槽(F)”，然后盖上“9g舵机盖”，最后用2颗“螺丝(A)”锁紧固定；
4. 用“垂尾舵机控制钢丝(E)”连接舵机摇臂与“舵面摇臂(D)”；

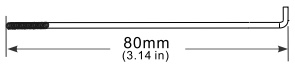




⚠ 注意：模型所有舵机安装位置已经安装好舵机盒，使玩家在拆卸舵机时，不会损伤机身表面。如果需要更换舵机，请购买原厂舵机或者参考下列图纸，选择尺寸相符的舵机！

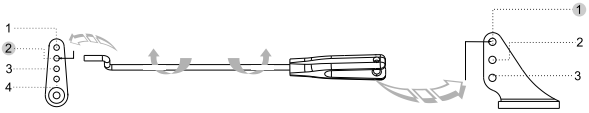


垂尾控制钢丝尺寸



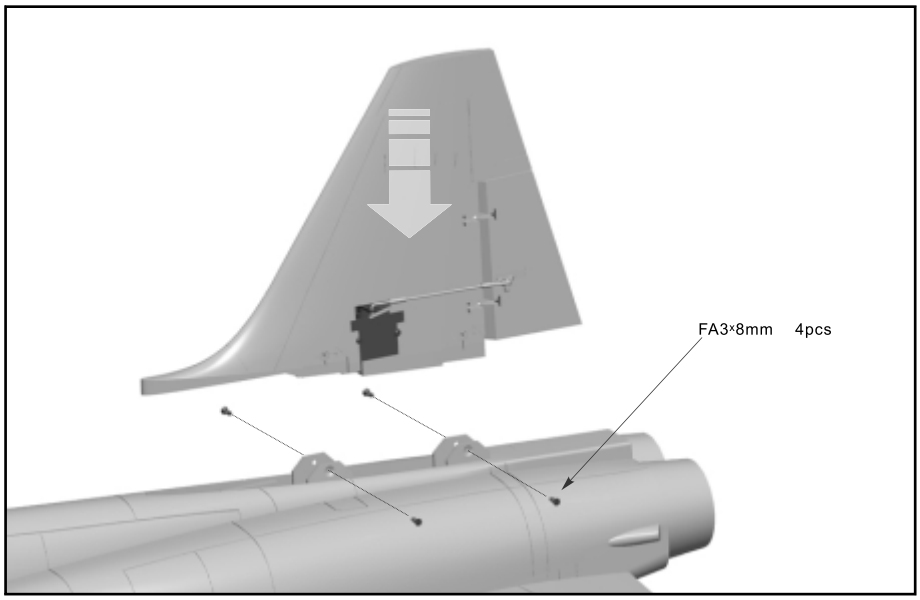
钢丝直径 Ø1.5mm

垂尾舵机钢丝安装孔位



垂尾舵机安装

1. 把垂尾舵机线接入机身内置延长线。
2. 将垂尾安装到机身上，然后用4颗螺丝固定！

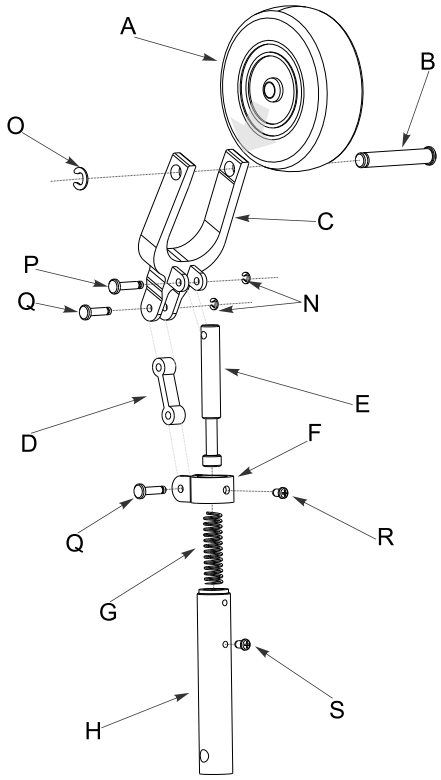


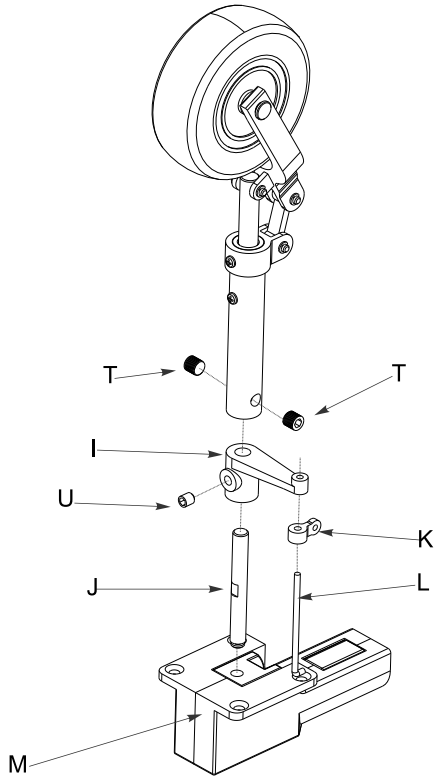
www.modellmarkt24.ch; www.modellmarkt24.de

请根据以下图示，组装，拆解、更换前起落架配件；

配件名称及规格参数

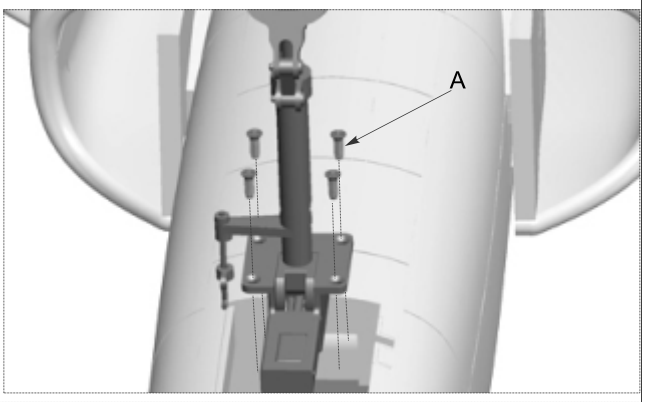
A - 前机轮 (ø40mm W=16mm)
B - 前机轮轮轴
C - U型减震臂
D - 8字形减震臂
E - 前起落架减震杆
F - O型连接臂
G - 弹簧
H - 前起落架主撑杆
I - L型摇臂
J - 前起落架主钢丝
K - O型圈
L - 钢丝
M - 电动起落架收放控制器
N - E型扣 (ø1. 5mm 3pcs)
O - E型扣 (ø2. 0mm 1pcs)
P - 梢钉1
Q - 梢钉2
R - 螺丝 （PM2×3mm 1pcs）
S - 螺丝 （PM2×4mm 1pcs）
T - 机米螺丝（M4×3mm 2pcs）
U - 机米螺丝（M3×3mm 1pcs）

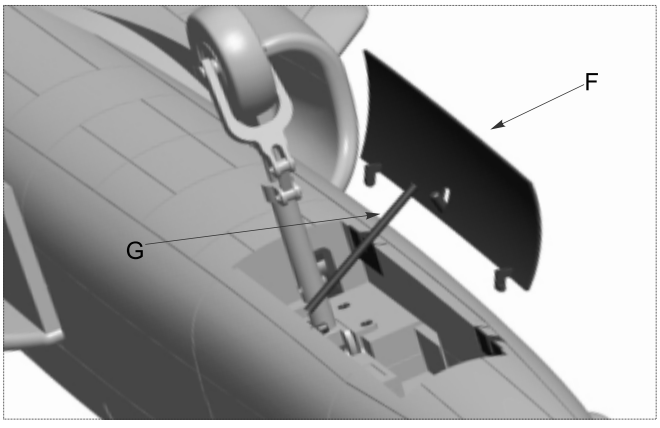


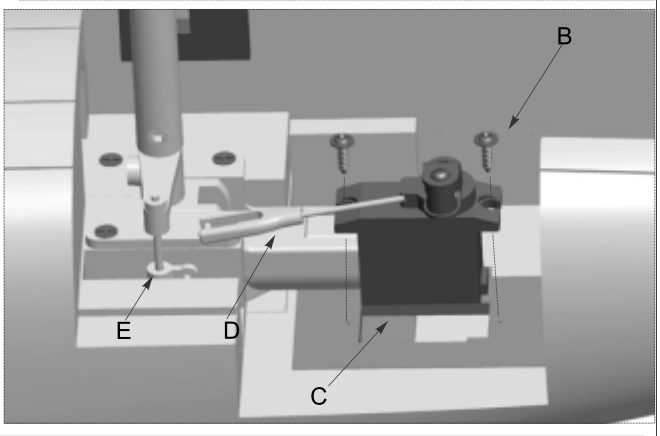


配件名称及规格参数

A - 螺丝（KA3×12mm 4pcs）
B - 螺丝（PWA2×8mm 2pcs）
C - 舵机（9g）
D - 前起落架转向钢丝
E - O型圈
F - 前舱门
G - 弹簧









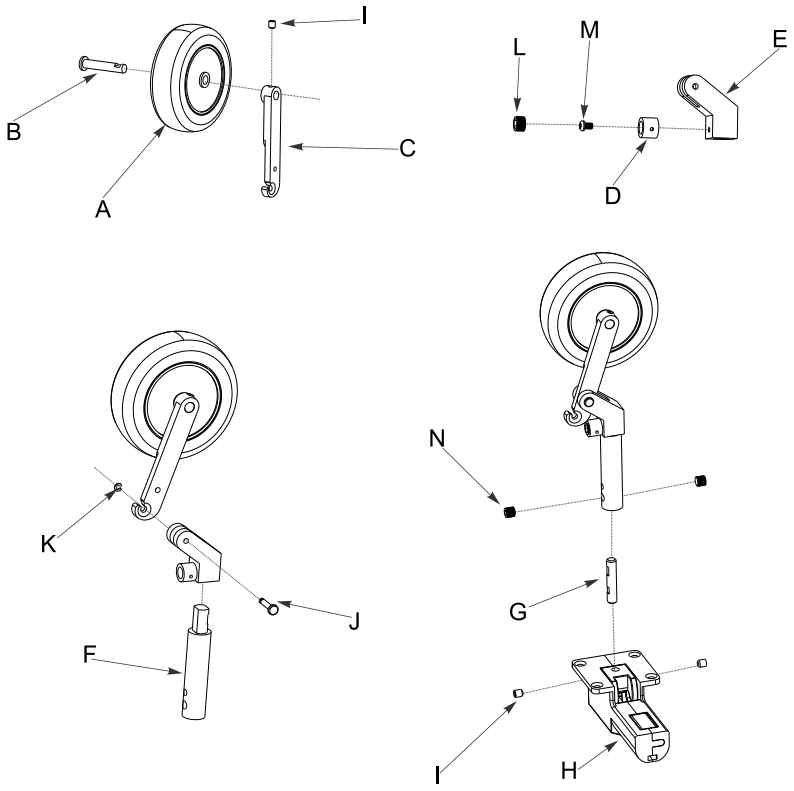
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后起落架组装

请根据以下图示，组装，拆解、更换后起落架配件；

配件名称及规格参数

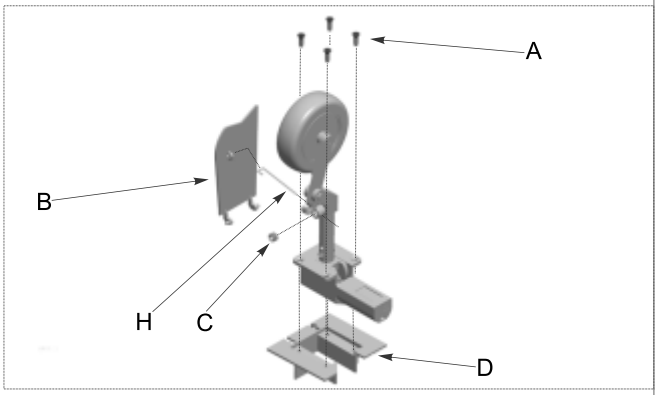
A - 后机轮 (ø45mm W=16mm)
B - 后机轮轮轴
C - 后起落架减震臂
D - 钢丝固定栓
E - 后起落架连接臂
F - 后起落架主撑杆
G - 后起落架主钢丝
H - 起落架电动收放控制器
I - 机米螺丝（M3×3mm 3pcs）
J - 梢钉
K - E型扣 (ø1.5mm 1pcs)
L - 机米螺丝（M5×3mm 1pcs）
M - 螺丝 （PM2×4mm 1pcs）
N - 机米螺丝（M4×3mm 2pcs）

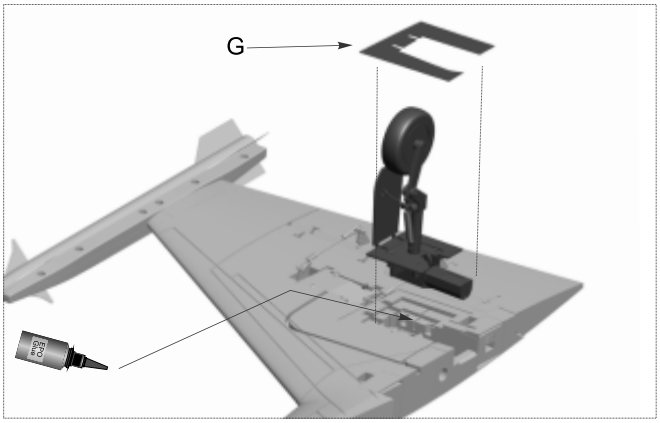


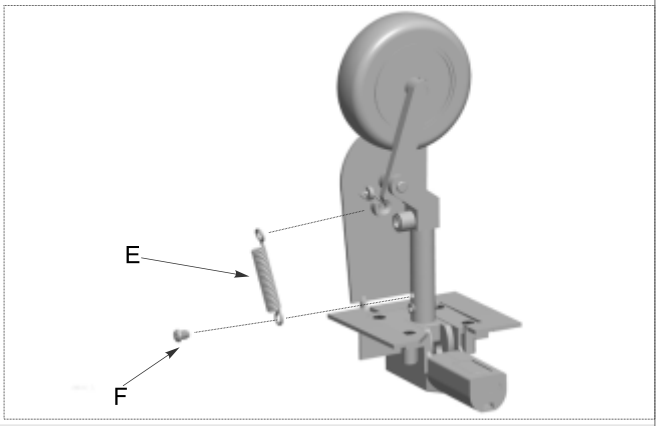
配件名称及规格参数

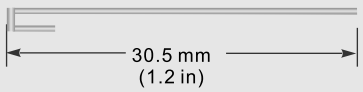
A - 螺丝 (KA3×12mm 4pcs)
B - 后起落架舱门
C - 机米螺丝 (M5×3mm 1pcs)
D - 后起落架固定座
E - 弹簧
F - 螺丝 (PM3×4mm 1pcs)
G - 后起落架吸塑盖
H - 后舱门控制钢丝

注意:在粘合“后起落架固定座”时，在胶粘区域，胶水需要涂满安装区域，并且均匀！因为此处受力较大！涂抹胶水后，等待90秒，然后粘合固定座；用手按压固定5分钟，最后放置3小时以上，才能使用！

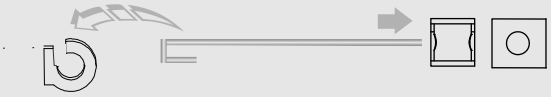






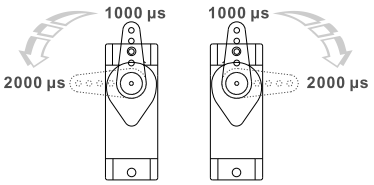


钢丝直径1.0mm



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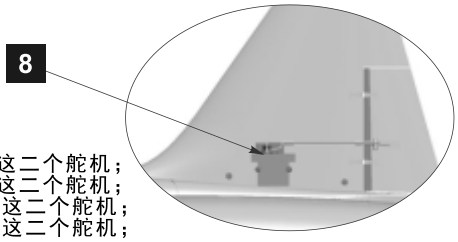
舵机使用介绍



我们的舵机正、反向标准是：
当舵机输入信号从1000 μs到2000 μs时，
如果舵机摇臂，
顺时针旋转---正向舵机
逆时针旋转---反向舵机

如果您需要选购其它品牌的舵机进行安装，请参考下面的表格选择正确的舵机

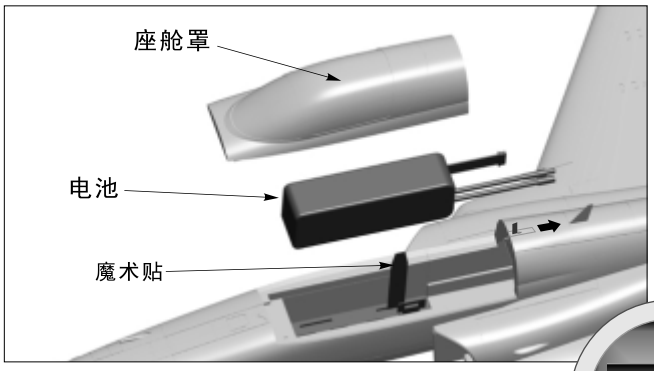
舵机使用位置	舵机序号	正、反向	舵机线长
前轮转向舵机	1	正向	360mm
左副翼舵机	2	正向	300mm
右副翼舵机	3	正向	300mm
左襟翼舵机	4	正向	300mm
右襟翼舵机	5	反向	300mm
右平尾舵机	6	反向	100mm
左平尾舵机	7	正向	100mm
垂尾舵机	8	正向	150mm

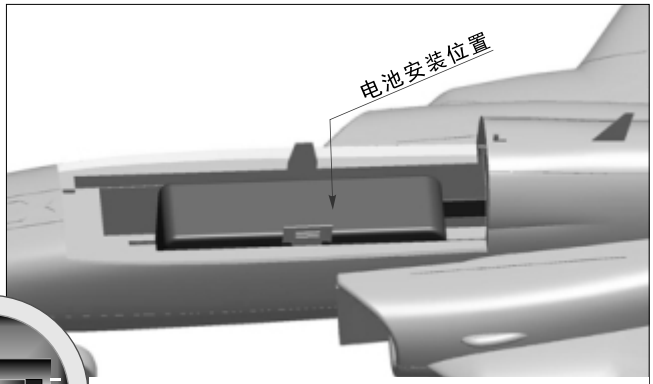


舵机连接说明

1. 用一条Y线连接编号为1. 8的这二个舵机；
2. 用一条Y线连接编号为2. 3的这二个舵机；
3. 用一条Y线连接编号为4、5的这二个舵机；
4. 用一条Y线连接编号为6、7的这二个舵机；

电池安装说明





电池舱尺寸：340×60×65mm

拨杆向后推，取下座舱盖，然后用魔术贴捆绑电池。

将电池与电调连接前，首先请打开发射机电源，确认油门杆处于低位。

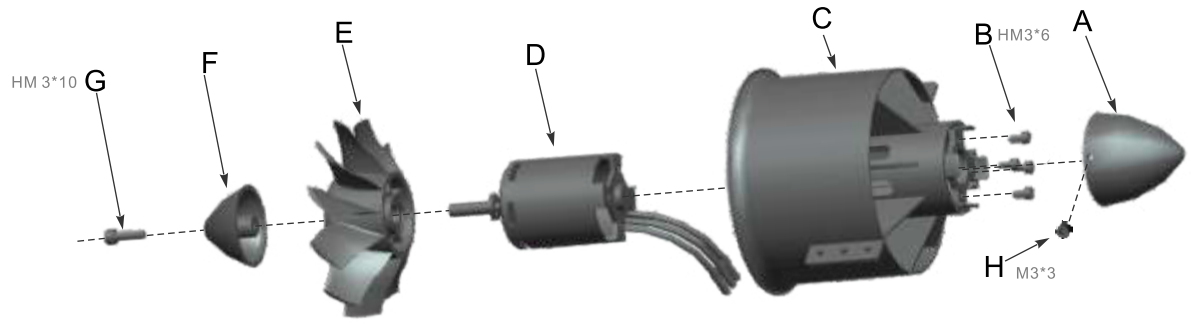
我们出厂时配备的电池为：
6S 22.2V 4000mAh 35C

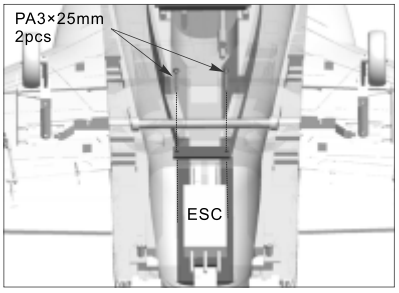
我们建议使用的电池容量和放电倍率如下：
6S 22.2V 4000mAh ~ 6S 22.2V 5000mAh
放电倍率 **≥ 30C**
不同重量的电池,会影响重心！请注意飞机的重心在说明书指示的正确范内！

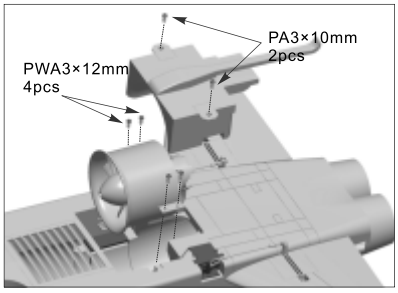
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动力系统的安装

1.将电机“D”装入涵道框“C”内；
2.用4颗杯头螺丝“B”固定马达；
3.把涵道风扇“E”套入到电机轴上；
（在此过程中，请注意风扇叶内嵌五金件的扁口与马达轴的扁口部位对齐装入）
4.用整流罩“F”盖住风扇叶，最后用杯头螺丝“G”固定整流罩“F”。
5.最后把尾部导流罩“A”安装到涵道框“C”底部，并用2颗机米螺丝“H”固定。





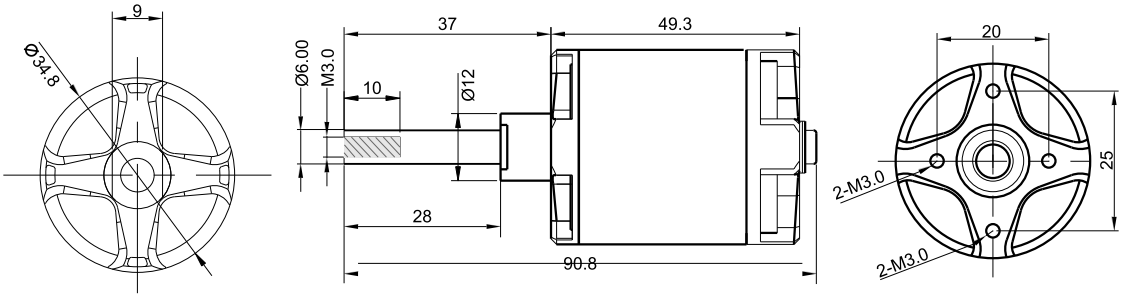


⚠注意：当电调与电池连接后，禁止用手触摸电调和涵道，防止意外伤害！测试涵道时，请使用安全的测试架进行测试，禁止用手抓住涵道的进行行为！

电机参数

MOJ35301

3530-1750KV



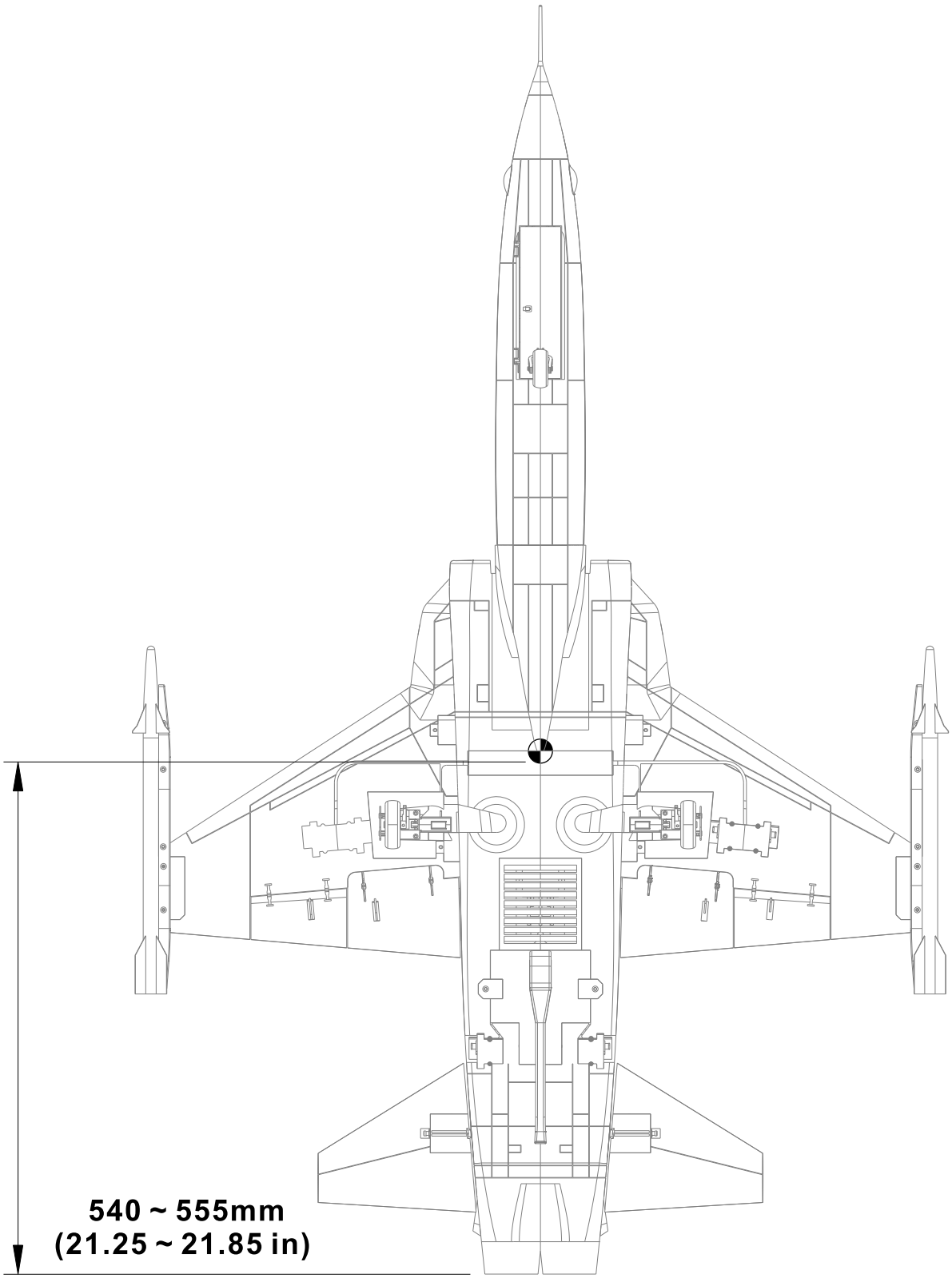
Item No.	KV Value	Volate (V)	Current (A)	Thrust (g)	Motor Resistance	Weight (g)	No Load Current	Propeller	ESC
MOJ35301	1750RPM/V	22.2	72	2600	0.0146Ω	150	4.6A/23V	12-Bladed 80mm Ducted Fan	⩾80A

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重心示意图

正确的重心，直接关系到飞行的成功与否，请参考下面的重心标示图，来调整飞机的重心。

-您可以将电池向前，或者向后移动，来调整飞机的重心;
-如果通过电调的移动无法调整到正确的重心位置，您还可以适当的使用一些其它材料来配重，使飞机的重心处于正确的位置！



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舵面测试

当您按前面的步骤组装好飞机后，在飞行前，我们需要用一块充饱电的电池，连接到电调。用遥控器测试每个舵面的工作情况，检查是否正常！

副　翼

副翼摇杆
向左运动



副翼摇杆
向右运动



升降舵

升降摇杆
向下运动



副翼摇杆
向上运动



方向舵

方向摇杆
向左运动



方向摇杆
向右运动



襟翼

襟翼放下

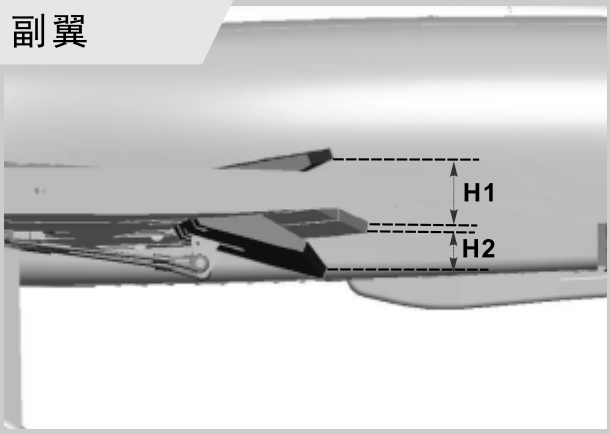


www.modellmarkt24.ch; www.modellmarkt24.de

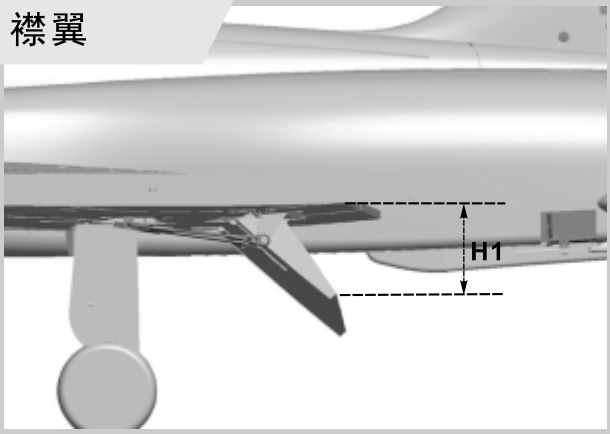
大、小舵参数

根据我们的测试经验，我们认为，按以下参数来设置副翼和升降舵的大、小舵，将有助于飞行。在小舵角的情况下,飞机的可操控性能会好一些,适合初次飞行或者不太熟练的玩家飞行。而大舵角的设置，可以提高动作灵敏度，使用经验丰富的玩家。您可以根据自身的情况，来选择其中一种舵量进行飞行！

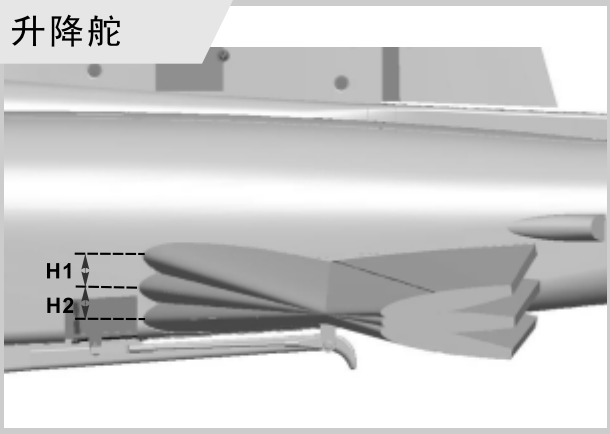
副翼



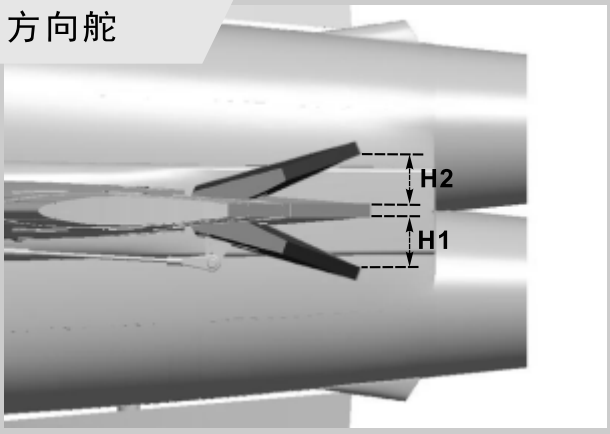
襟翼



升降舵



方向舵



	副　翼	襟　翼	升降舵	方向舵
小舵角	H1/H2　13mm/13mm	H1　45mm	H1/H2　12mm/12mm	H1/H2　17mm/17mm
大舵角	H1/H2　20mm/20mm	H1　65mm	H1/H2　18mm/18mm	H1/H2　25mm/25mm

降落时操作体验：

降落时，我们设定了个二段襟翼行程，第一段襟翼行程用于空中减速；第二段襟翼行程在降落时使用；当我们打开襟翼时，飞机会稍微抬头，向上爬升，所以，在飞行前的遥控设定中，我们建议给飞机进行一些混控设置，来避免这种现象对降落造成的干扰：

第一段襟翼开启时，设定12%~16%的降舵进行混控配平；
第二段襟翼开启时，设定18%~24%的降舵进行混控配平；

这样设置以后,我们的飞机在降落时，打开襟翼以后，飞机会继续保持平稳的下滑状态，可以更好地降落！

滑跑起飞操作体验：

飞行前，我们建议在遥控器上，为前轮转向设定二个舵量：55% / 100%,用一个通道控制,当飞机在地面滑跑时，使用55%的舵量,这样做，可以避免滑跑过程中，修正方向动作幅度不会偏大，造成飞机侧翻或失控。当飞机起飞以后，我们再切换到100%的方向舵量；

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平尾舵面居中设定



注意：

正确的平尾舵面角度对成功的飞行非常重要，F-5N的平尾舵面角度，请参考左图所示：

飞行故障检修指导

电机不工作	A）电池电量耗尽	A）充电
	B）发射机电量耗尽	B）更换或者充电
	C）发射机开关没开	C）打开发射机开关
	D）电池没有连接好	D）检查并连接好电池
	E）电机连接错误	E）检查并正确连接电机
	F）因为摔机等原因损坏	F）更换
	G）其它或者ESC故障	G）检查ESC或者经销商
飞机难以控制	A）飞行中遇到强风或者乱流	A）无风的时候起飞
	B）电池电量耗尽	B）需要充电
	C）发射机电池电量耗尽	C）更换电池或者给电池充电
	D）发射机天线没有完全展开	D）展开发射机天线
	E）舵面的控制过量	E）使用小舵量进行飞行
飞行时机头一直向下，需要补偿升舵	A）重心靠前	A）参考说明书，向后调整重心
在没有控制发射机时，飞机总是向上、向下；或者飞机总是向左、向右倾斜	A）没有对升降舵、副翼进行微调	A）适当调节一些微调
	B）飞行时遇到太大的自然风力	B）先降落,选择无风天气飞行
飞行时升降舵异常灵敏，俯、仰不安定	A）重心靠后	A）参考说明书,向前调整重心
地面滑跑时方向会偏	A）前轮没有居中	A）居中前轮
	B）方向舵没有居中	B）居中方向舵
起飞困难	A）油门没有推到最大	A）油门推到最大
	B）滑跑助飞距离不够	B）尽可能滑跑得更远些
	C）升舵舵量不够	C）使用更大的舵量
飞机爬升困难	A）电池电量不足	A）需要重新充电
	B）涵道风扇损坏	B）确认并重新更换
	C）电机损坏	C）确认并重新更换
	D）电调过热保护，功率降低	D）先降落，确认并选择更大功率的电调
电流充电后发热	A）电池充电时,会产生热量,这是正常的	A）电流充饱电后,会发热，但用手触摸不烫
电机震动	A）涵道风扇损坏	A）确认并更换
	B）马达损坏	B）确认并更换
	C）涵道需要调节动平衡	C）调节动平衡
	D）高速运转时,可能产生轻微震动	D）轻微震动是正常的,可以使用
控制面向错误的方向运动	A）舵机方向装反	A）重新安装舵机

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