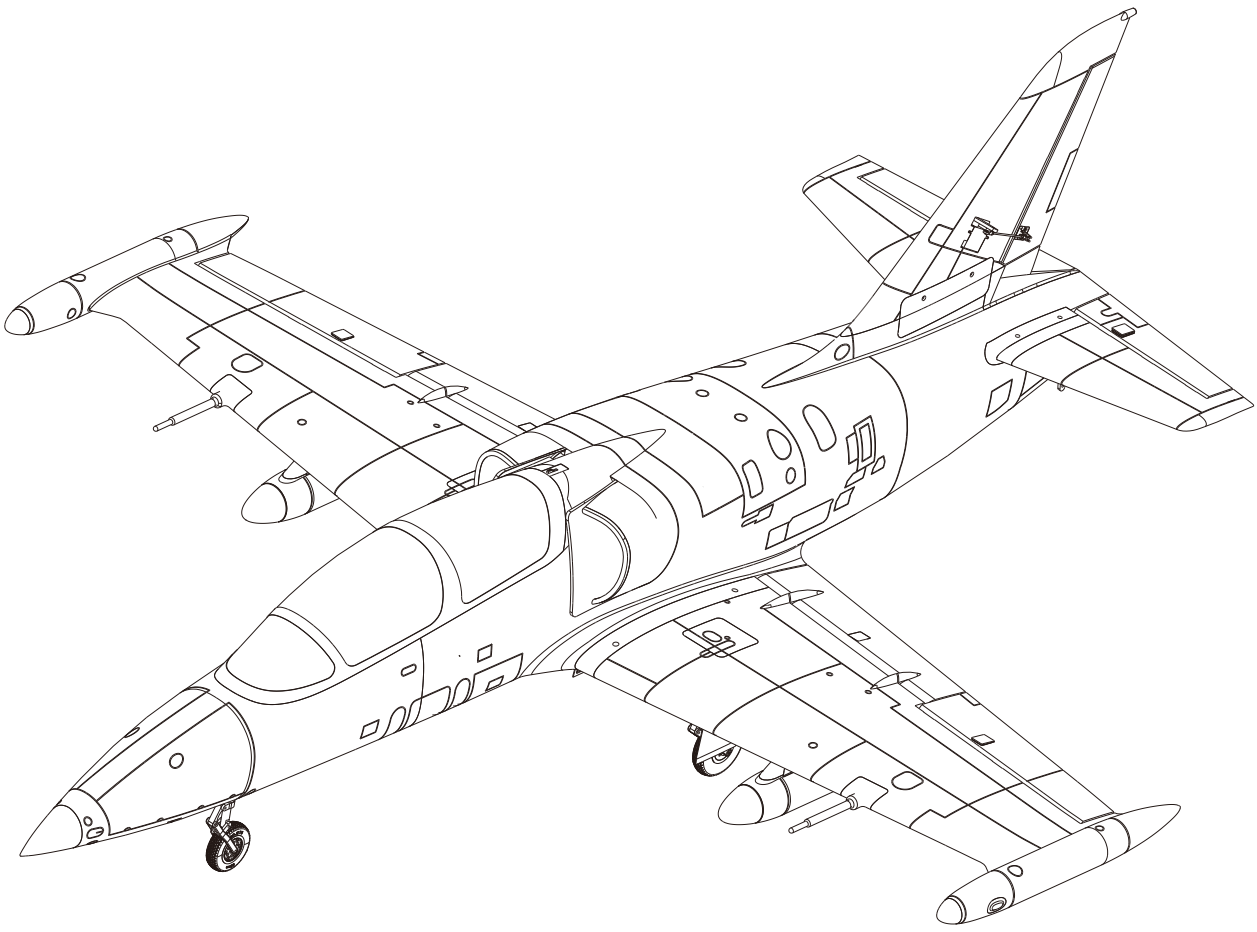
HSDJETS®

S-EDF120mm HL-39

ASSEMBLY AND PRE-FLIGHT INSTRUCTIONS

V1.1



Product S/N:

Want to learn more about the productvideo, pictures, and other matters of attention Please log in: www.hsdrc.com

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Introduction

Thank you so much for purchasing 120 HL-39 Jet plane, What you have now is the latest 120 HL-39 Jet plane product of HSDJETS. This model has the following features:

01.Scale appearance with a classic look and attention to detail with state of the art electronics.

02.Adopting S-EDF 120mm semi metal conduit, it has a higher appearance value, and combined with Hobbywing's specially matched 160A professional electric control, it makes the power stronger, with a thrust of up to 9 kilograms.

03.The Airframe is constructed of ultra high-density and high-strength EPO foam. this makes for a very durable aircraft that resist many not so welcomed occasions!

04.HSDJETS MFC-2085 2024 new version control system integrates landing gear, various channel servos, power supply, lighting and other systems to reduce complex wiring.

05.By changing the angle of the thrust line, the internal airway design has been optimized, improving flight performance.

06.The whole machine adopts 13 7.4V high-voltage high-speed metal gear digital servos, with greater torque and durability.

07.Two reinforcement bar inside the fuselage in order to leading the connection between the wings and the fuselage, meanwhile, level up the overall strength of wings and fuselage.

08.The new wing of V2.0 has added rib design to enhance the structural strength of the wing and adapt to larger load requirements. And it is stronger and more precise in stress design, extending its service life.

09.Configure a simulated and dazzling LED aviation light system. The main wing adopts the internationally recognized left red light and right green light, and has multiple flashing modes such as flash, slow flash, and constant light.

10.The connecting plugs of the wing and the fuselage, the Horizontal tail and the fuselage are made of high-precision one-piece quick plugs, which are quick to assemble and reliable to connect.

11.The connection method of the rear electric retractable and landing gear adopts 11mm diameter landing gear legs directly locked in the electric slot, so that the landing gear legs can withstand the impact of stronger force and are not easy to bend.

12.Add fiberglass reinforcement to the key installation position of the rear landing gear to improve its strength and durability. It can significantly improve the impact resistance and fatigue life of the structure, which is particularly important for aircraft that frequently take off and land.

13.The installation of bearings on the wheels and the use of an electromagnetic braking system result in smoother rotation and more sensitive braking.

14.Upgrade the cabin fixing device to prevent the cabin from falling off. The new upgrade includes stronger materials and more reliable locking mechanisms to provide better support and protection.

15.The inner packaging adopts double-layer EPO 3D three-dimensional foaming to provide the safest protection for each part.

We believe that 120 HL-39 Jet plane will bring you excellent flight.Before starting, please read our manual carefully.

Warning!

This is not a toy. Potentially dangerous for children under 14 years old. Children under 14 should not be permitted to operate the model without the supervision of an adult. Please keep these instructions for reference after model assembly.

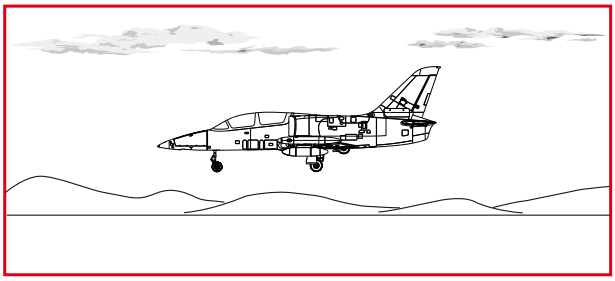
Important Tips

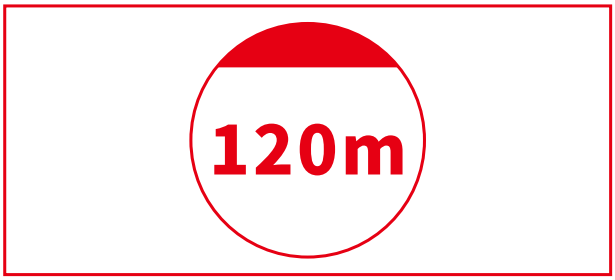
1. Some experience necessary. Beginners should use under supervision;
2. Before install, please read through the instructions carefully and operate strictly under instructions;
3. HSDJETS and its distributors/dealers will not be held responsible or liable for injury due to incorrect assembly or wrongful use;
4. Not for use of 14 years or under;
5. Please do not use commercial cleaning products to clean plane. It will damage the painted EPO foam;
6. Your should be careful to avoid flying in areas such as public places, high-voltage-intensive areas, near the highway, near the airport of any other place where laws and regulation clearly prohibit;
7. You can not fly in bad weather conditions such as thunderstorms, snow, and etc;
8. Do not store batteries within 2 meters of flammable or explosive materials;
9. Dispose of damaged batteries in a designated place;
10. In flying field, the waste after flying should be properly handled, it can`t be abandoned or burned;
11. Before starting the airplane, ensure that the throttle is in low and the transmitter switch is on! Then connect the battery;
12. Do not try to take planes by hand when flying or slow landing process. You must wait for landing stop and when the blades stop turning, first disconnect the power supply and than carry it;
13. Whether flying or debugging on the ground, always ensure that there is no one in front of the aircraft.

Safety Instructions

Strongly suggestion: users while enjoying the flying, please ensure that you are in a safe and reasonable environment.

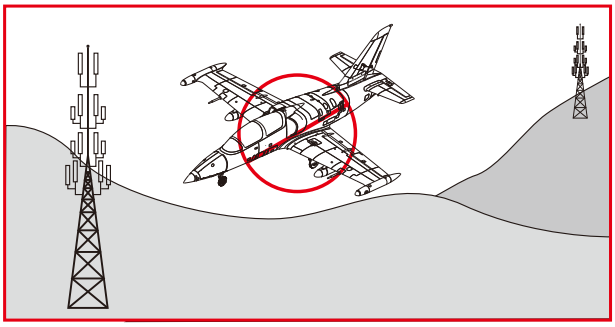
1. It is better to try to choose an empty airspace and no obstacles conditions when you fly.
2. Stay away from people, animals, buildings, trees, water and other obstacles during flying.
3. Please keep the radio transmitter in your hand during the flight to control the model at any time to prevent accidents.
4. Please control the height of the aircraft to 120 meters to ensure the flight safety of the flyer and civil aviation. If you are in the area that have restrictions on flying altitude of 120 meters or less, please comply with its regulations. Make sure the model do not go out of sight and cause unnecessary accidents.

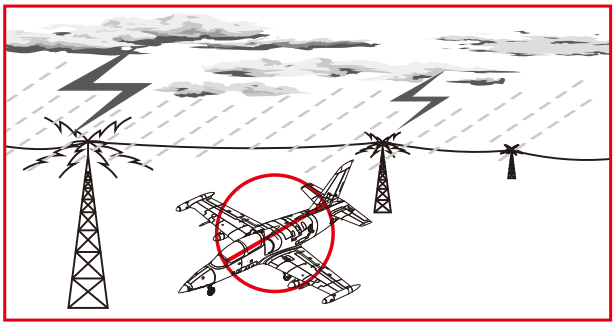


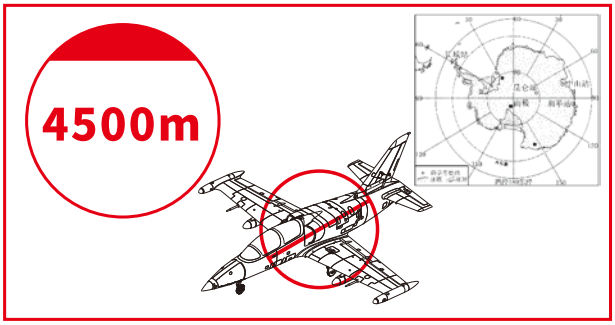


Flight environment requirements

1. Do not fly in areas such as transmission towers, communication base stations, high-voltage lines, or Wi-Fi hotspots to prevent the radio transmitter signal is interferenced.
2. Do not operate in bad weather, such as: strong winds(wind speed 10 m/s and above), raining, lightning, fog, snow, etc..
3. Flying is not recommended at altitudes above 4,500 meters and in the Arctic and Arctic circles.
4. Do not fly in airports or restricted areas under the relevant laws or regulations.

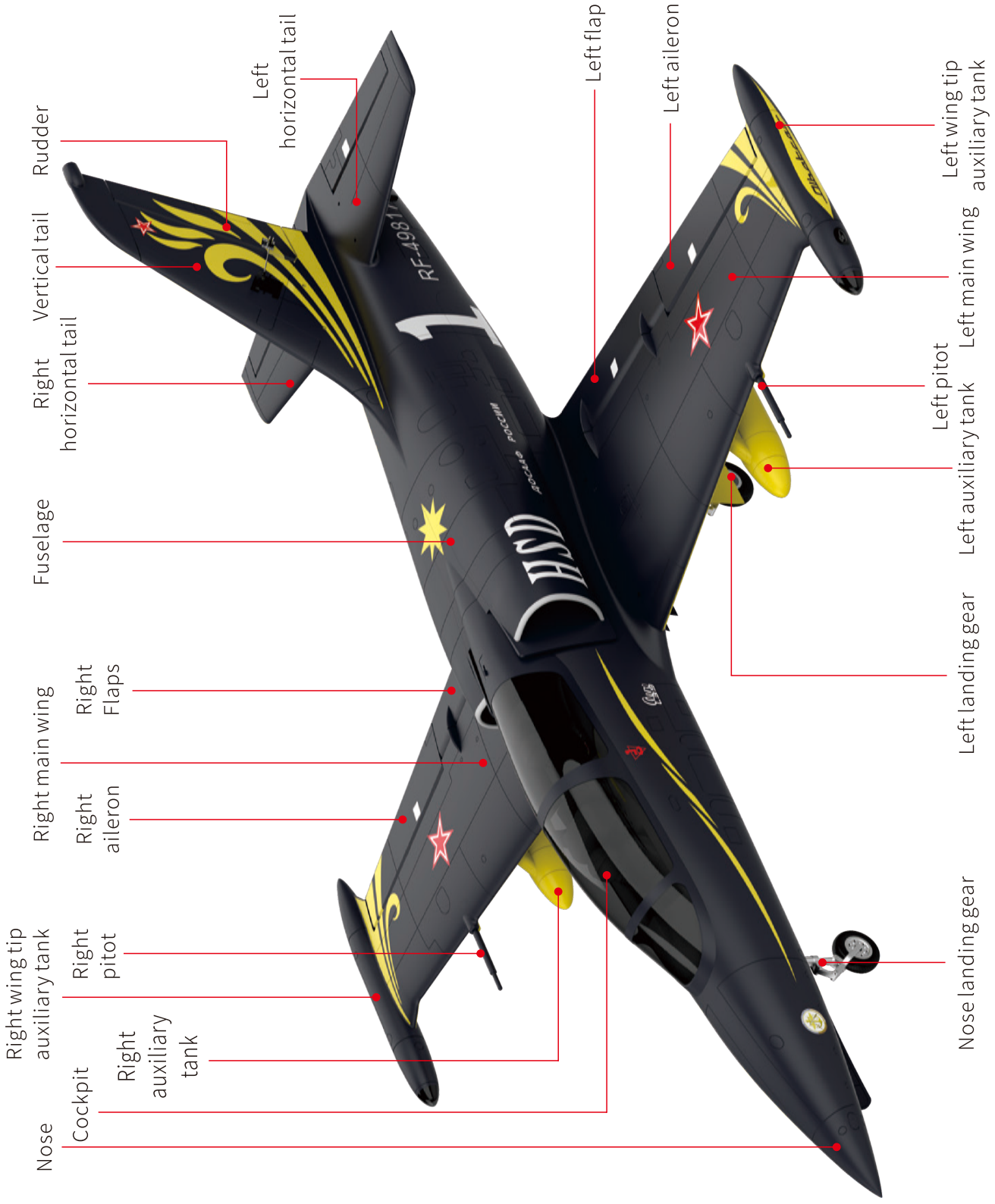








Description of each component



Install instructions

1. Open the box(PNP version): Take out the Fuselage, Left and right main wings, Nose, Cockpit, Vertical tail, left and right Horizontal tail, Left and right auxiliary tanks, Manuals, Main wing and horizontal tail pin rods, Decal, Accessory kits and other items, and check whether the quantity of the packaged items is complete according to the list of packaged items in the manual.



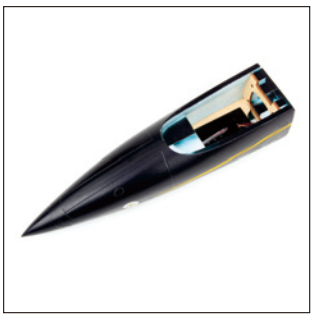
Fuselage×1



Right main wing×1



Left main wing×1



Nose×1



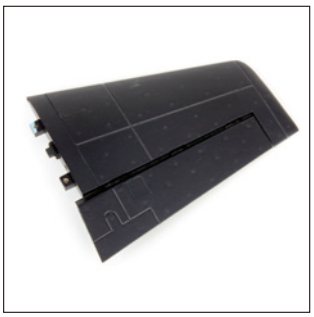
Cockpit×1



Vertical tail ×1



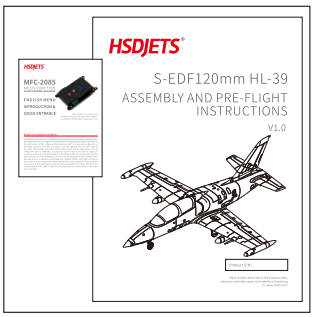
Left horizontal tail×1



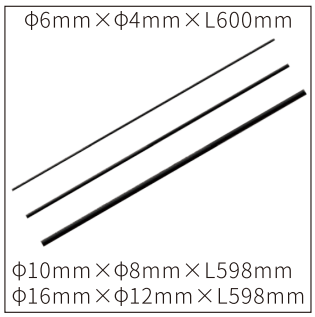
Right horizontal tail×1



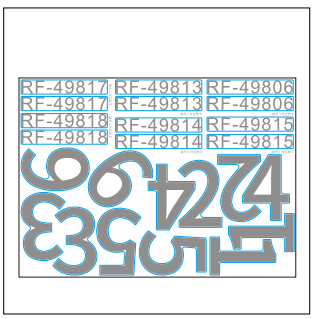
Auxiliary tank ×1



Digital File Manual×1



Pin rod×1



Decal×1



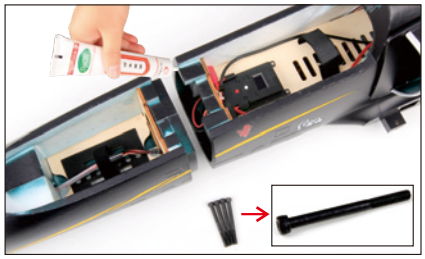
Accessories package×1

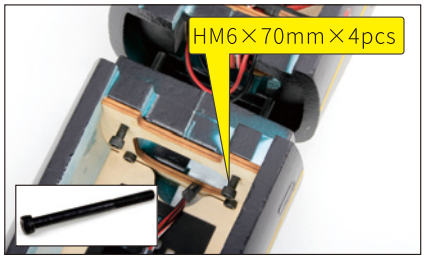
PNP:	KIT:
HM3×10mm×8pcs	HM3×10mm×8pcs
HA3×10mm×8pcs	HA3×10mm×12pcs
HM4×10mm×8pcs	HM4×10mm×8pcs
HM6×70mm×8pcs	HM6×70mm×8pcs

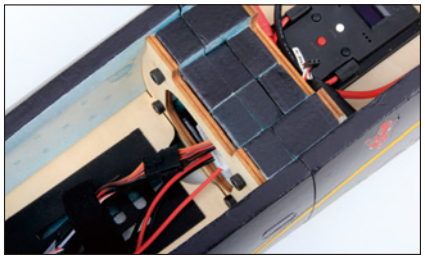
Screw information

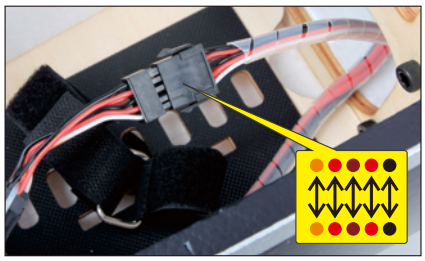
Install instructions

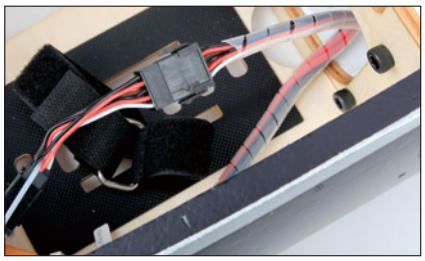
2.Install the Nose and the Fuselage: Take out the Nose and Fuselage from the PE bag, place them on a flat and clean table, align the four screw holes of the head with the corresponding four screw holes of the Fuselage, and fix them with screws (HM6 × 70mm × 4pcs). Then connect the signal cables at the head end and the fuselage end respectively. The color of the wire is opposite to the color and cannot be reversed. Note: if you want to be more firm, you can apply EPO glue to the contact section between the head and the fuselage before fixing the screws. (Note: the color of the wire must be right for the color of the signal cable, and it cannot be reversed.)

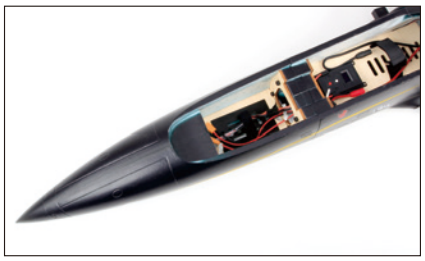






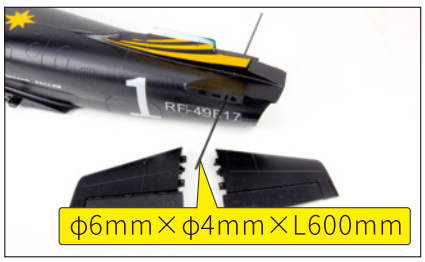






3.Install the left and right Horizontal tail: Take out the left and right flat tail and flat tail reinforcing rods from the PE bag and place them on the flat and clean table. First, pass the flat tail reinforcing rod (ϕ 6mm × ϕ 4mm × L600mm) through the designated hole position of the fuselage to ensure that the extension length of the flat tail reinforcing rods at the left and right ends of the fuselage is equal. Then, align the hole positions of the left and right flat tail with the reinforcing rods respectively, insert the reinforcing rods, install the left and right flat tail in place, and then use the screws (HM3 × 10mm × 4pcs).

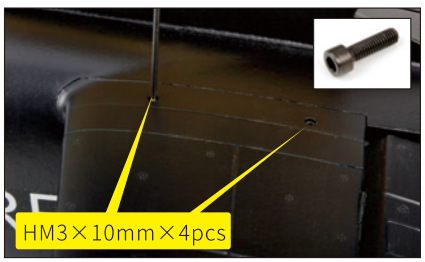






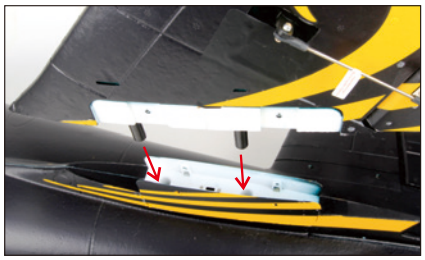
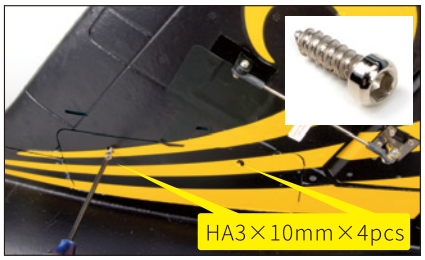




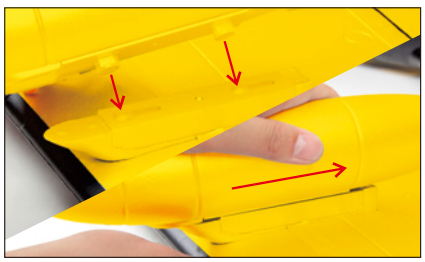


Install instructions

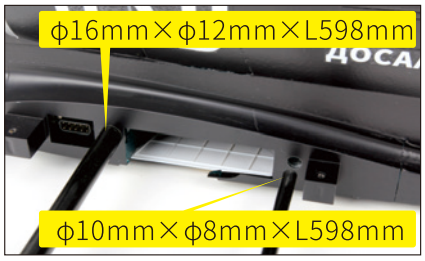
4.Install the vertical tail: Take out the vertical tail from the PE bag, install the vertical tail in the designated position of the fuselage, and make sure to connect the vertical tail end and the fuselage end signal cable; fix both sides with screws (HA3 × 10 mm × 4pcs) after installation.

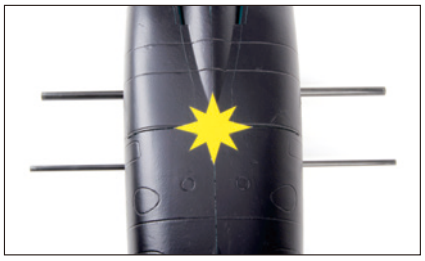




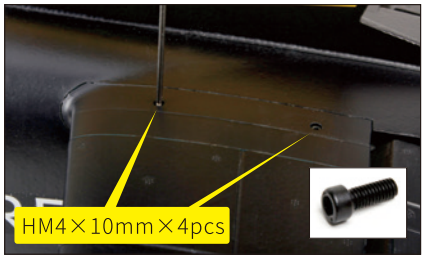
5.Install the auxiliary fuel tank: Take out the auxiliary oil tank from the PE bag, install the auxiliary oil tank at the designated position of the wing, push back at the leading edge of the wing, hear a sound, indicating that it is installed in place.


6.Install the main wing: Pass the main wing stiffener (ϕ16mm × ϕ12mm × L598mm) (ϕ 10mm × ϕ 8mm × L598mm) through the designated hole position of the fuselage, make sure that the extension length of the main wing stiffener at the left and right ends of the fuselage is equal, then align the hole position of the left and right main wings with the main wing stiffener, and insert the stiffener. Before fully inserting, make sure that the signal line between the main wing end and the fuselage end is connected, and then fix it with screws (HM4 × 1 0mm × 4pcs), L39 body assembly is completed.



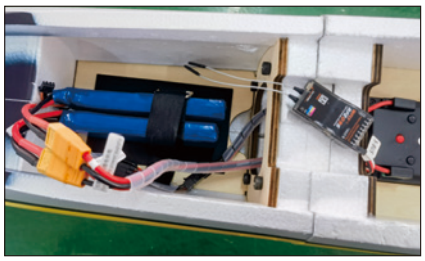




First test and adjustment after assembly



1. To find the S-BUS line at the location of the Super Integrated Control Box and connected to the receiver S-BUS port. (Note: If the receiver does not support S-BUS, the integrated control box needs to be connected to the PWM signal line connection;)



2. Connect the Super integrated control box with 2 sets of 2S lipo batteries;



3. Open the radio transmitter.



4. Super integrated control box start up. (For details on start up operations, kindly see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance)

5. Check the Super Integrated Control Box S-BUS mode channel settings. The factory default channel is: S-BUS Setting

(Note: You can change the default gear switch position according to your own custom channel.)

SBUS Channel Default Settings

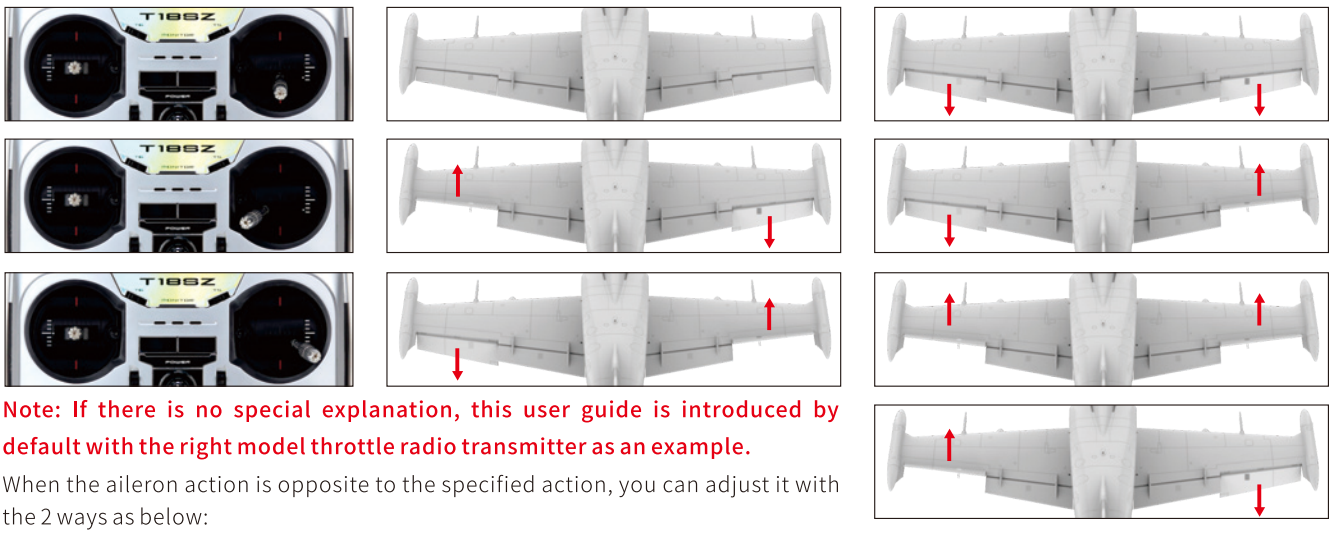
Aileron	Ch1	Wheel brake	Ch8
Elevator	Ch2	Speed brake	Ch9
Throttle	Ch3	Aeronautical light	Ch10
Rudder	Ch4	Gyroscope sensitivity	Ch11
Landing gear	Ch5	Front wheel correction	Ch12
Flap	Ch6		

6. Aileron test: Check whether the aileron action is correct

Right model throttle radio transmitter

Aileron standard action

Possible ailerons reverse action



Note: If there is no special explanation, this user guide is introduced by default with the right model throttle radio transmitter as an example.

When the aileron action is opposite to the specified action, you can adjust it with the 2 ways as below:

(1). to find the reverse setting menu of servo in the radio transmitter menu, and switch in the aileron item to the forward direction.
(2). Adjust directions of the aileron servo through the Super integrated control box (for details, pls see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance);

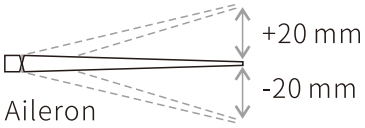
First test and adjustment after assembly

7. Aileron adjustment: After the setting, the standard position of the rudder surface will be adjusted. The aileron rudder surface should be in the same plane as the wing. If there is an upward or downward adjustment, it can be adjusted by physical adjustment or system adjustment;

(1). Physical adjustment: by adjusting the length of the pull rod to change the rudder surface angle to keep it in the same plane as the wing;



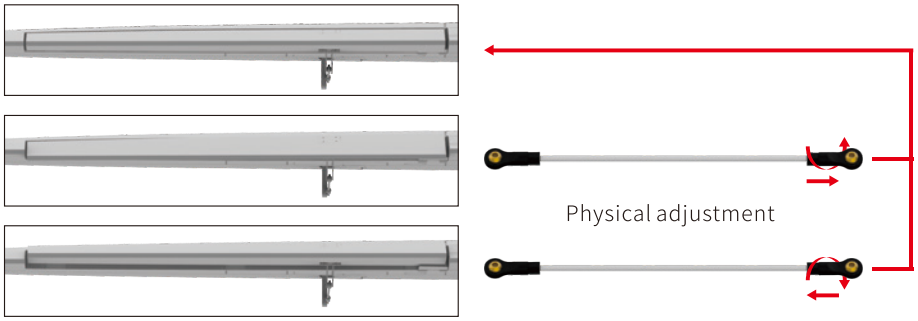
Suggest the amount of servo:



EXP Recommend：-30%

(2). System Adjustment: Adjust the neutral point of the servo through the Super integrated control box (for details, pls see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance);

It is recommended to adjust the radio transmitter travel to 80% , adjusting the EXP curve under the same amount of servo, it recommends to adjust to -30 % EXP value in the first time; Can adjust according to the personal operating habits.

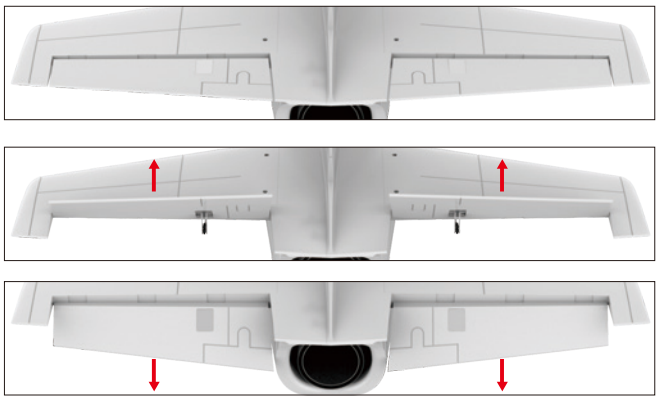


8. Elevation test: Check whether the elevate action is correct

Right model throttle radio transmitter

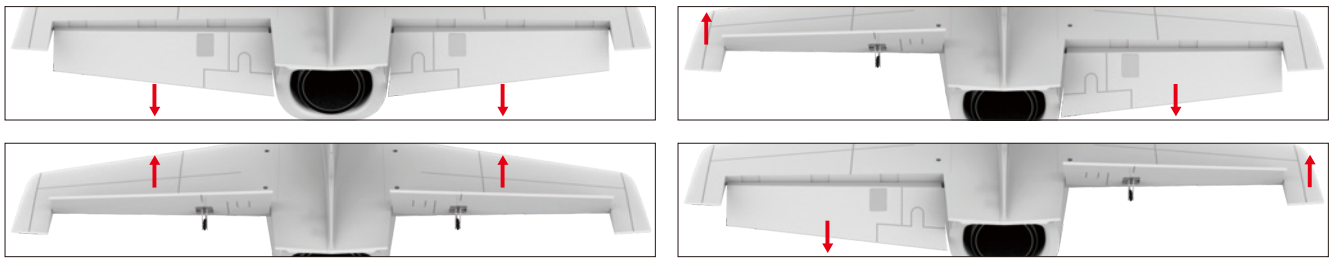


Elevation standard action



Note: If there is no special explanation, this user guide is introduced by default with the right model throttle radio transmitter as an example.

Possible elevation reverse action



When the elevate action is opposite to the specified action, you can adjust it with the 2 ways as below:
(1). to find the reverse setting menu of servo in the radio transmitter menu, and switch in the elevate item to the forward direction.
(2). Adjust directions of the elevate servo through the Super integrated control box (for details, pls see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance);

First test and adjustment after assembly

9. Elevation adjustment: After the setting, the standard position of the rudder surface will be adjusted. The rear edge of elevator should be flush with the upper edge of the fuselage as the benchmark . If there is an upward or downward adjustment, it can be adjusted by physical adjustment or system adjustment;

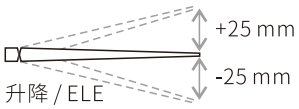
(1). Change the angle of the rudder surface by adjusting the length of the pull rod, so that the rear edge of the elevator is in a plane with the upper edge of the fuselage ;

(2). System Adjustment: Adjust the neutral point of the servo through the Super integrated control box (for details, pls see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance);

It is recommended to adjust the radio transmitter travel to 80%, adjusting the EXP curve under the same amount of servo, it recommends to adjust to -30 % EXP value in the first time; Can adjust according to the personal operating habits.

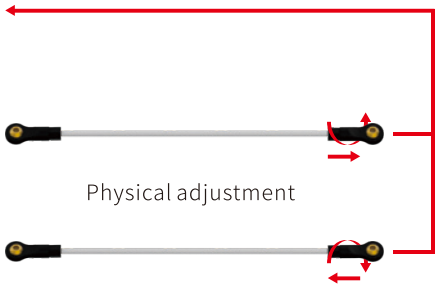


Suggest the amount of servo:



EXP Recommend: -30%

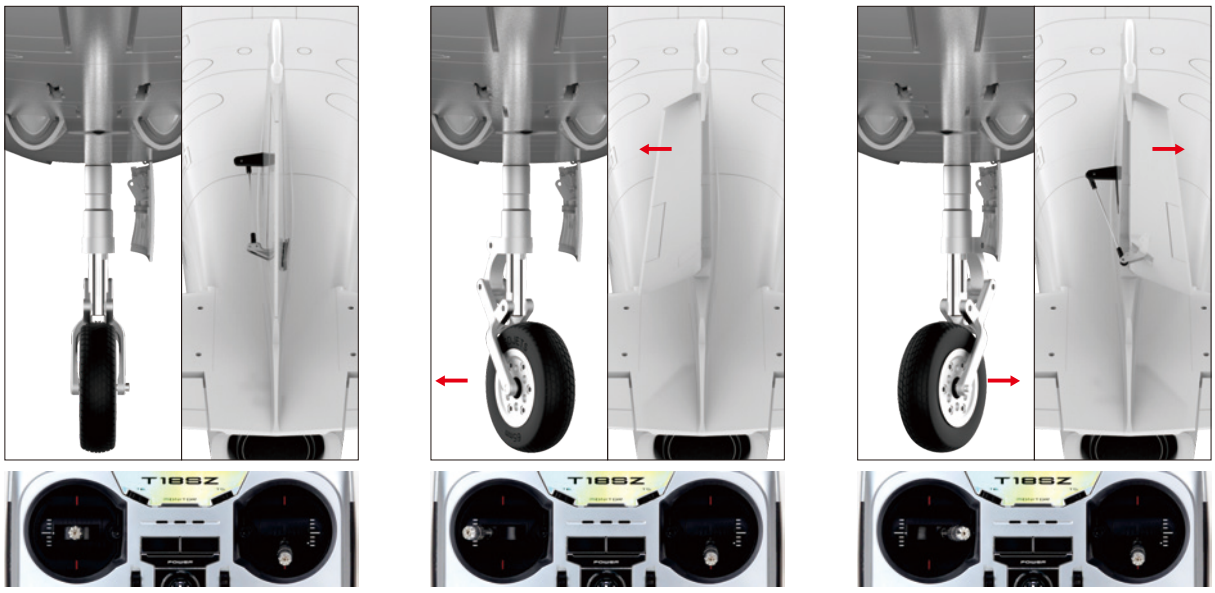




10. Direction test: Check whether the direction action is correct

Direction standard action

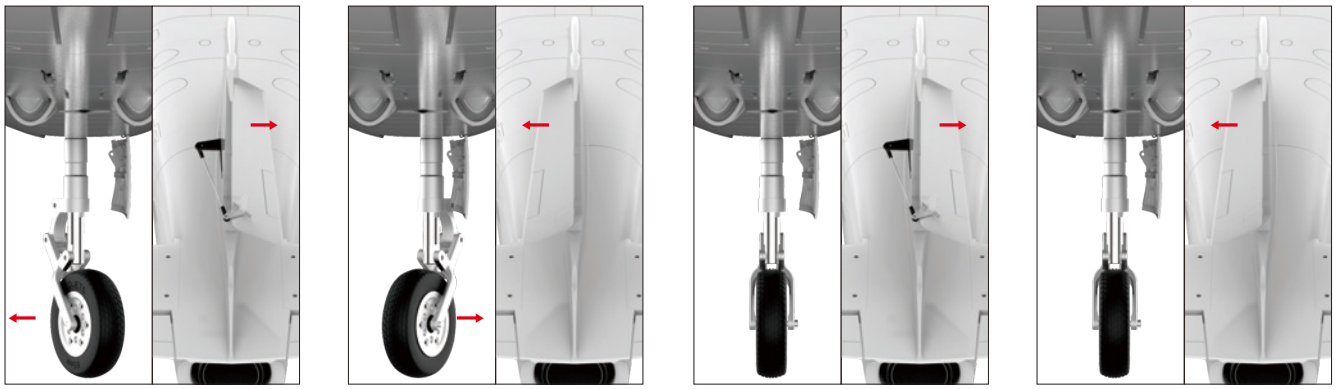
Right model throttle radio transmitter



Note: If there is no special explanation, this user guide is introduced by default with the right model throttle radio transmitter as an example.

First test and adjustment after assembly

Possible direction reverse action



When the direction action is opposite to the specified action, you can adjust it with the 2 ways as below:
(1). To find the reverse setting menu of direction in the radio transmitter menu, and switch in the direction item to the forward direction.
(2). Adjust directions of the direction servo through the Super integrated control box (for details, pls see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance);

11. Direction adjustment: After the setting, the standard position of the rudder surface will be adjusted. The direction rudder surface should be in the same plane as the vertical tail. If there is a left or right deviation need to be adjusted to vertical center, it can be adjusted by physical adjustment or system adjustment;

(1). Physical adjustment: by adjusting the length of the pull rod to change the rudder surface angle to keep it in the same plane as the wing;

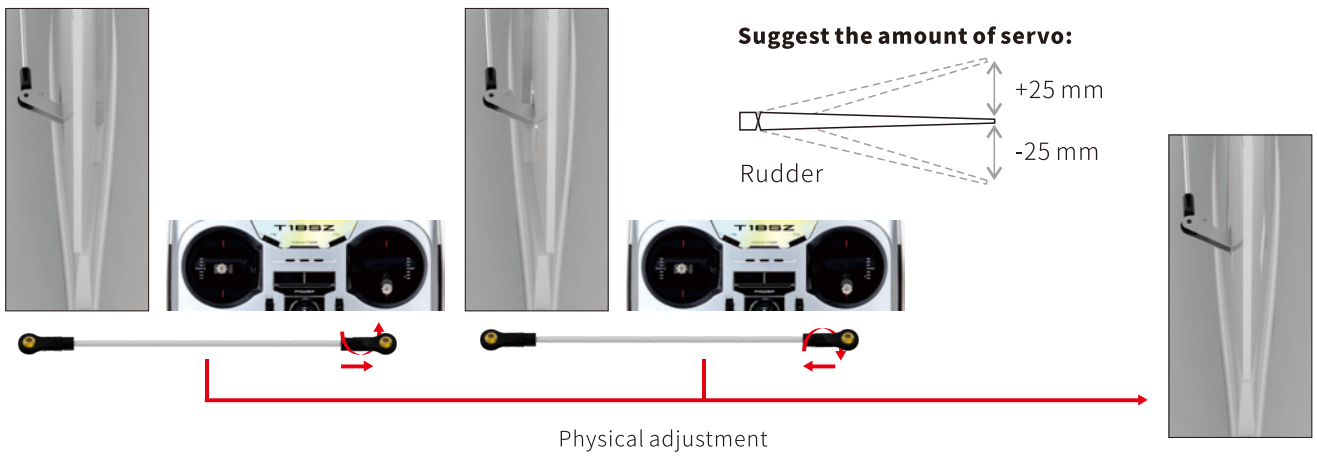
(2). System Adjustment: Adjust the neutral point of the servo through the Super integrated control box (for details, pls see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance);

It is recommended to adjust the radio transmitter travel to 100%, adjusting the EXP curve under the same amount of servo, it recommends to adjust to -30 % EXP value in the first time; Can adjust according to the personal operating habits.

The front landing gear steering is adjusted with the direction of the rudder surface. If you need to adjust one of them alone, it can be completed by adjusting the neutral point of the servo through the Super integrated control box. (for details, pls see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance);

EXP Recommend: -30%

Suggest the amount of servo:



First test and adjustment after assembly

12. Flap test: Check whether the flap action is correct

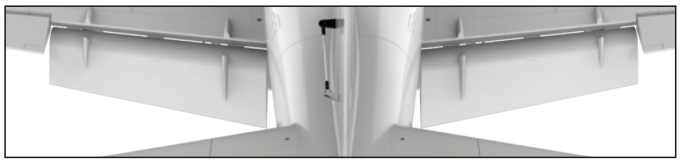
Flap standard action

Right model throttle radio transmitter









Note: If there is no special explanation, this user guide is introduced by default with the right model throttle radio transmitter as an example.

Possible flap reverse action

The flap compensation: Factory default compensation 3 %, customers according to their own needs can be increased or reduced;



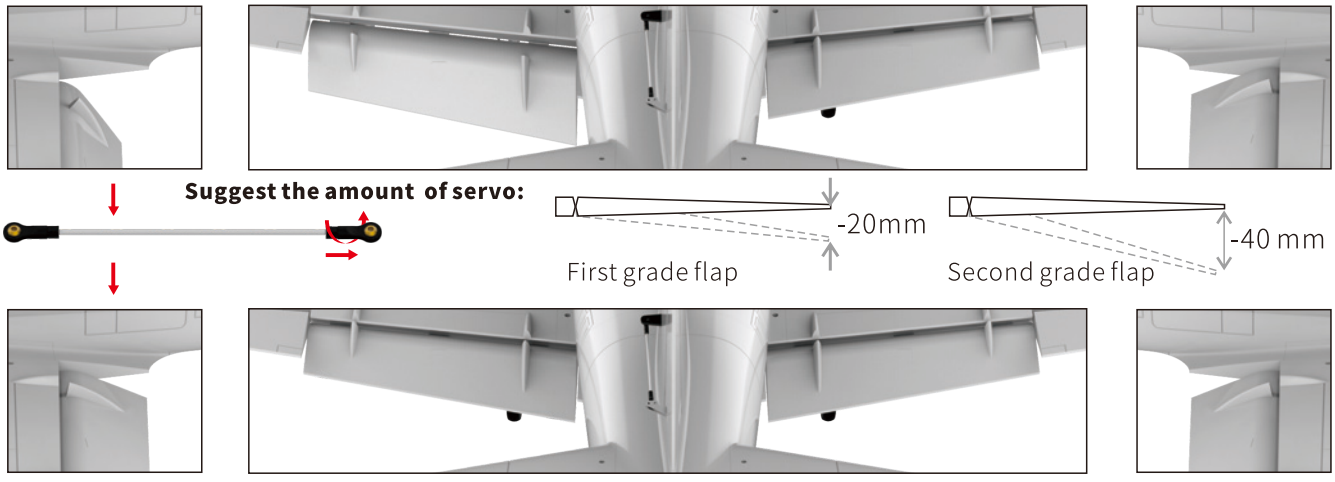


When the two flaps don't move in the same direction: adjust directions of the flap servo through the Super integrated control box (for details, pls see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance);

13. Flaps adjustment: After the setting, start checking the flaps rudder surface, if the angles of the flaps rudder surface are consistent in first grade, and whether the angles of the flaps rudder surface are consistent in second grade. If the angles of the rudder surfaces on both sides are inconsistent, it can be adjusted by physical adjustment or system adjustment;

(1). Physical adjustment: by adjusting the length of the pull rod to change the angle of the rudder surface to keep it at the same angle as the two rudder surfaces;

(2). Through the Super integrated control box to adjust the wing steering gear stroke to solve (for details, pls see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance); The radio transmitter is recommended to use the 100 % amount of servo, can adjust according to the personal operating habits.



First test and adjustment after assembly

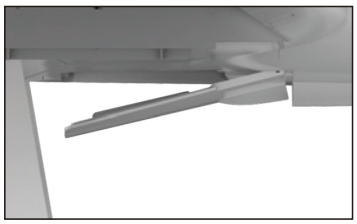
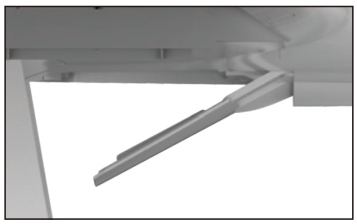
14. Reduction plate test: Check whether the Reduction plate acts correctly

Right model throttle radio transmitter



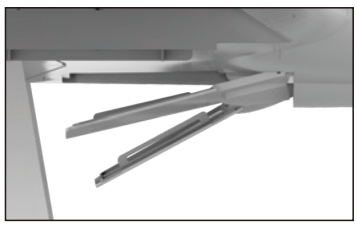
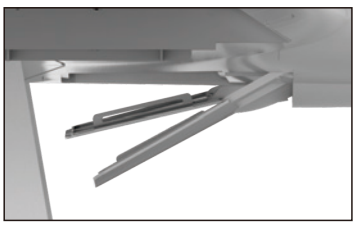


Standard action

Note: If there is no special explanation, this user guide is introduced by default with the right model throttle radio transmitter as an example.

Possible reverse action

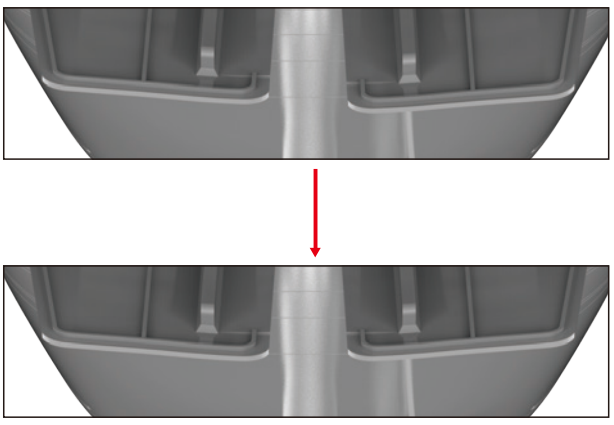



When the two Reduction plate don't move in the same direction: adjust directions of the flap servo through the Super integrated control box (for details, pls see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance);

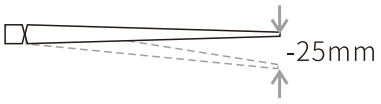
15. Reduction plate adjustment: After the setting, start checking the Reduction plate rudder surface, if the angles of the Reduction plate rudder surface are consistent in first grade, and whether the angles of the Reduction plate rudder surface are consistent in second grade. If the angles of the rudder surfaces on both sides are inconsistent, it can be adjusted by system adjustment;

(1). System adjustment: Through the Super integrated control box to adjust the wing steering gear stroke to solve (for details, pls see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance);

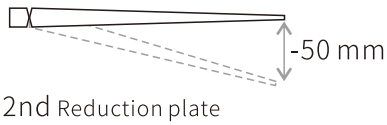
The radio transmitter is recommended to use the 100 % amount of servo, can adjust according to the personal operating habits.



Suggest the amount of servo:



1st Reduction plate

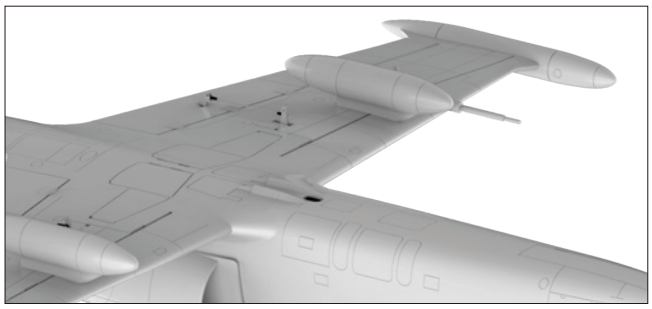
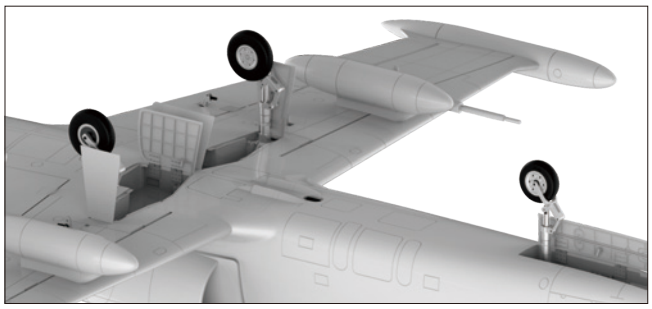


2nd Reduction plate

First test and adjustment after assembly

16. Landing gear test and adjustment:

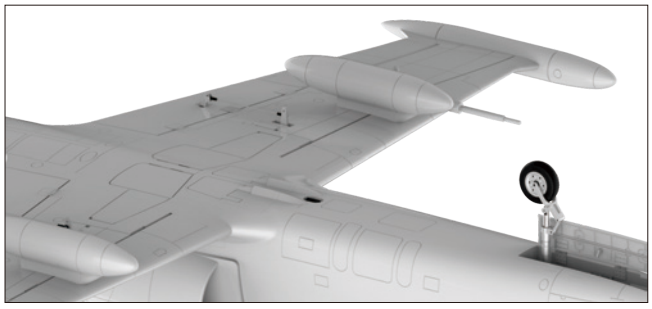
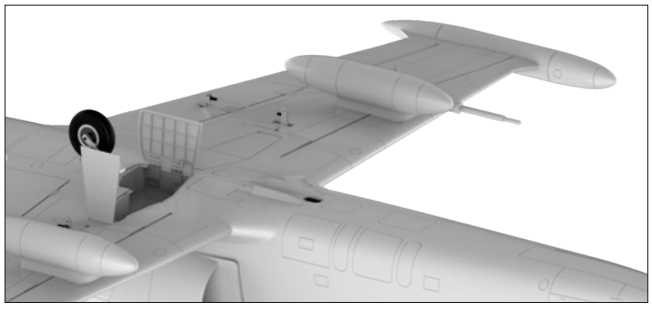
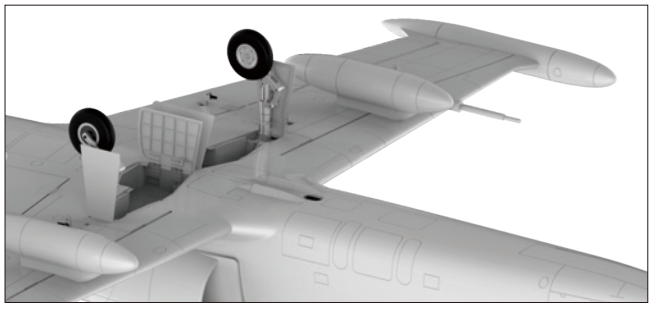
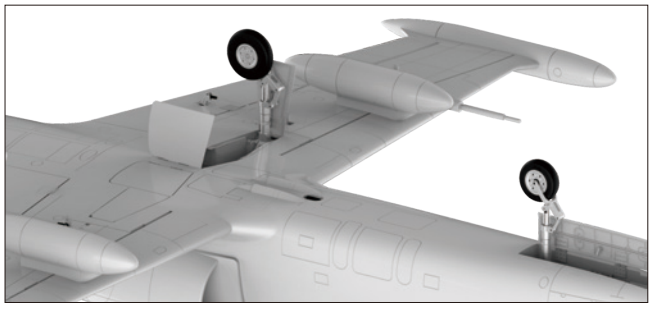
Standard landing gear action

If the three are not synchronized, one up, two down or two up, one up and one down, it can also be solved by switching and inserting the positive and negative lines.(for details, pls see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance);

MFC-2085 Super Integrated Control Box has a one-click retractable landing gear function (for details, pls see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance);

Possible landing gear reverse action

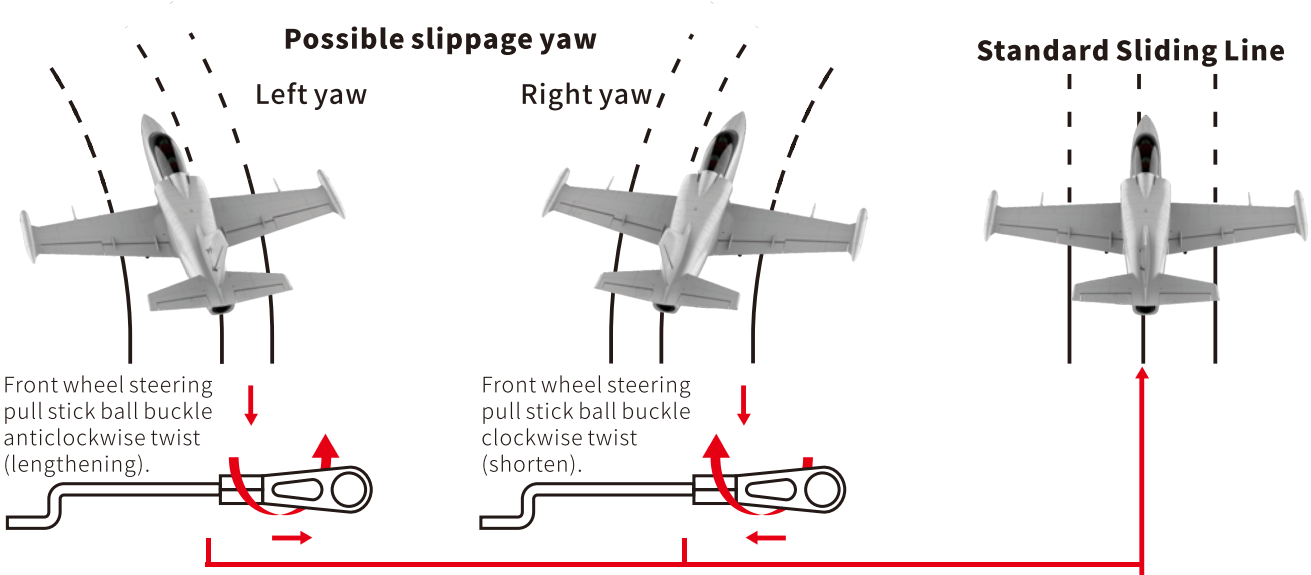





First test and adjustment after assembly

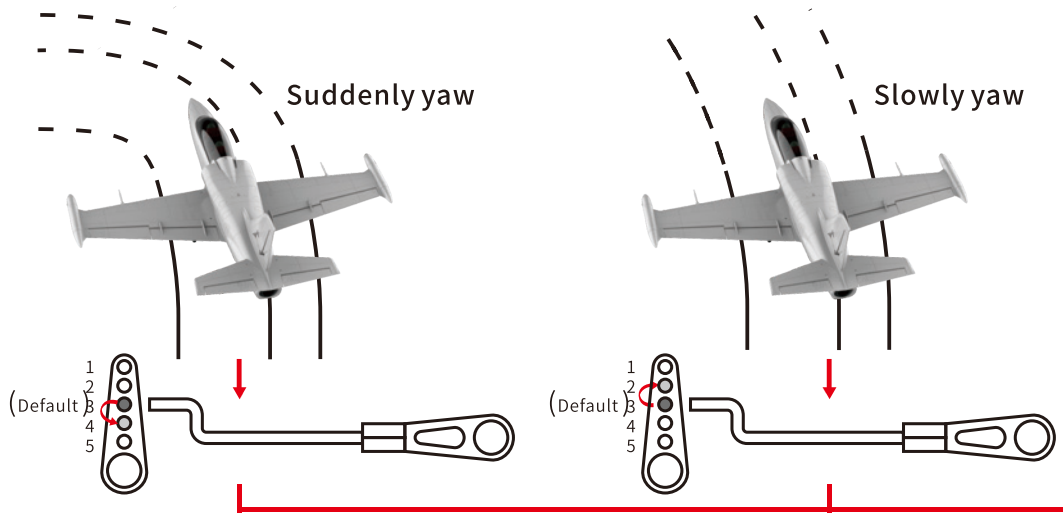
17. Ground test and adjustment: After the above process is gradually completed, power the plane and do straight slide test to check whether the stroke volume of the front steering servo is full. If the steering is yaw or the steering angle is too large, it can be adjusted by physical adjustment or system adjustment:

(1).Steering yaw adjustment:
①. physical adjustment: Complete it by adjusting the length of the front wheel steering rod;
②. System Adjustment: Adjust the servo stroke by the Super Integrated Control Box(for details, pls see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance);

(2).Excessive adjustment of steering angles:
①.Physical adjustment: adjust the install holes of the pull rod in the rocker arm of the steering servo of the front wheel;
②.System Adjustment: Adjust the servo stroke through the Super Integrated Control Box(for details, pls see the MFC-2085 multi-function flight controller system english menu introduction & quick entrance);



The skid yaw angle over or smaller may happened during the operation

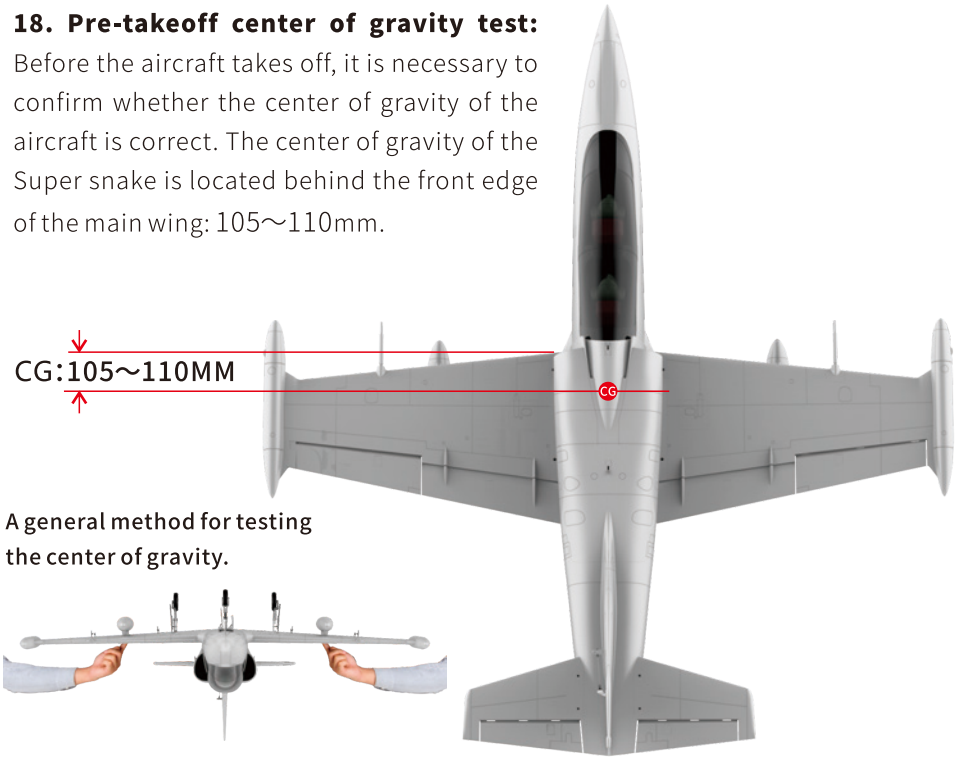


Front wheel steering servo rocker lever mounting hole position is adjusted to hole 4, and the stroke is reduced by system adjustment.

Front wheel steering servo rocker lever mounting hole position is adjusted to hole 2, and the stroke is increased by system adjustment.

First test and adjustment after assembly

18. Pre-takeoff center of gravity test: Before the aircraft takes off, it is necessary to confirm whether the center of gravity of the aircraft is correct. The center of gravity of the Super snake is located behind the front edge of the main wing: 105～110mm.

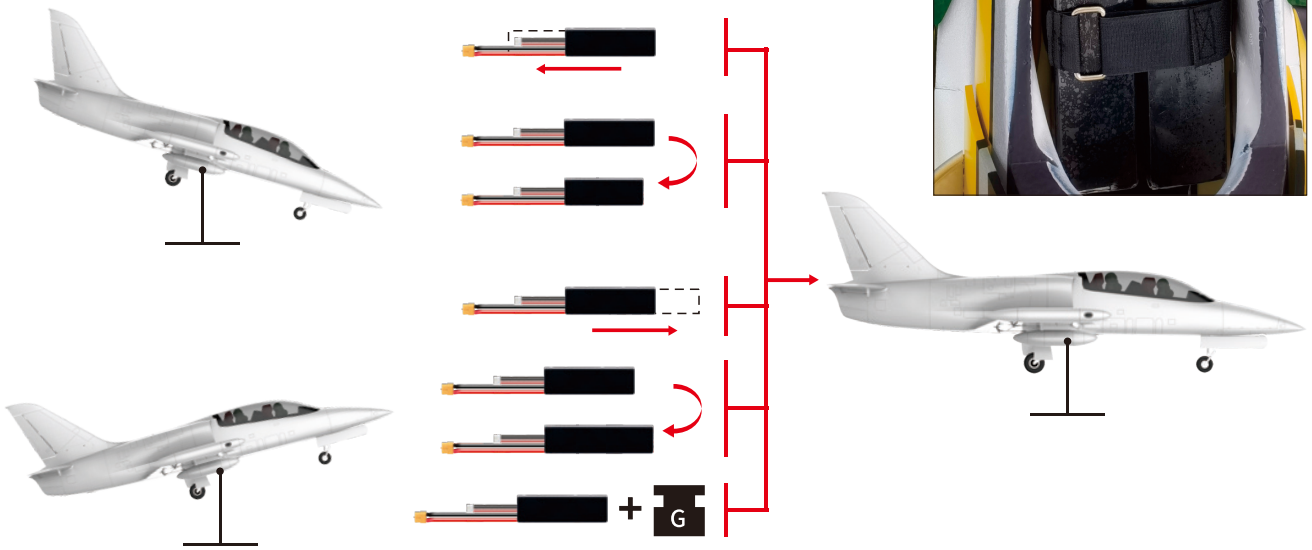


A general method for testing the center of gravity.

19. Center of gravity adjustment: If the center of gravity position is not correct, it must be adjusted. There are generally two situations:

A, the nose is overweight (the nose of the aircraft is drooping during the center of gravity testing on the ground), can move the battery back to the tail or replaced with a smaller capacity battery that within the scope ofthe aircraft's electricity demand;

B, the nose is too light (the nose of the aircraft is upwards during the center of gravity testing on the ground), move the battery forward to the nose or replaces the larger capacity battery that within the scope of the aircraft's electricity demand;

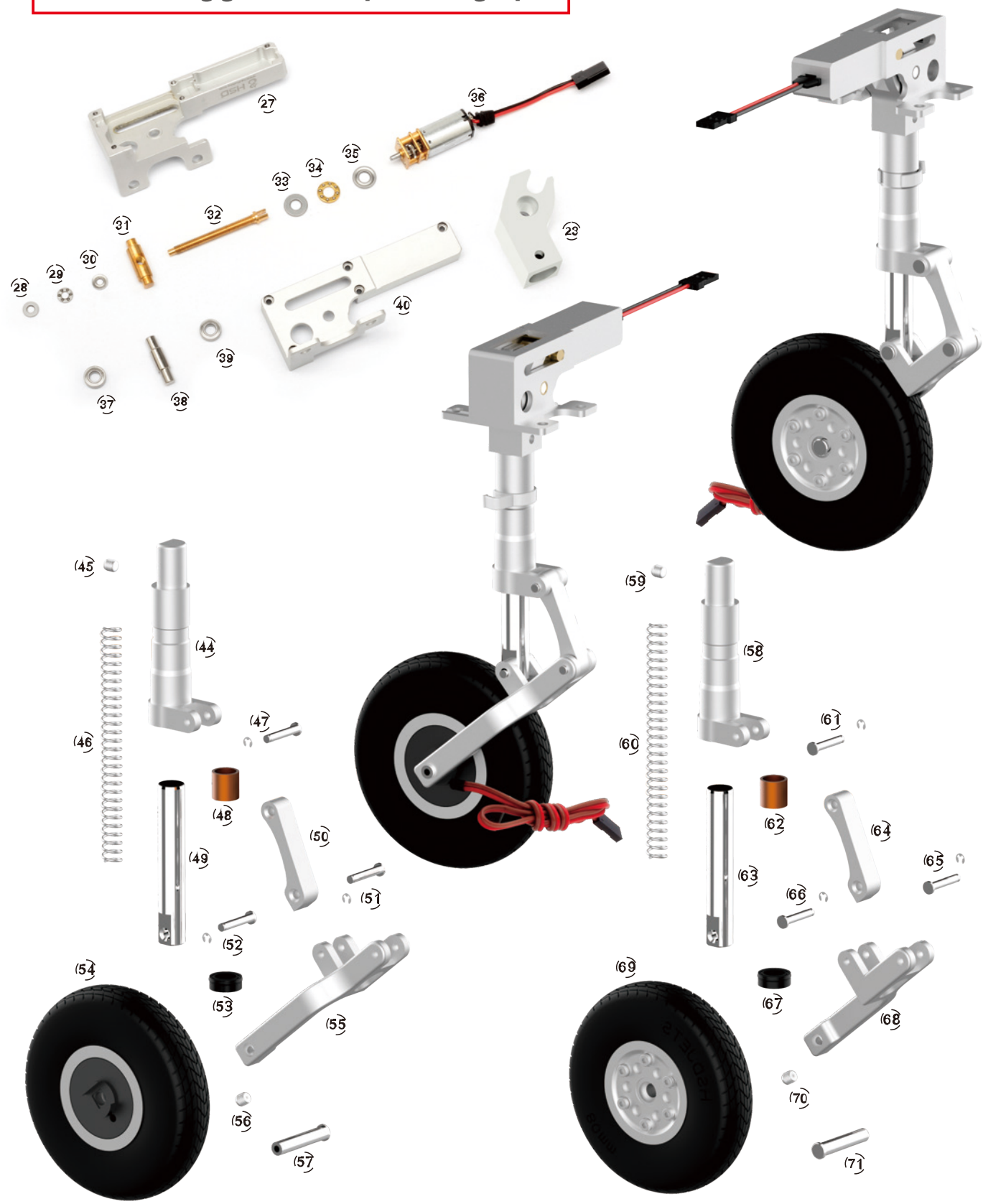


Battery assembly diagram

It is recommended that the weight of the power supply battery be around 660 grams.



Rear landing gear decomposition graph



Nose landing gear decomposition graph



HSDJETS®

Specification and configuration

Specifications:

Wingspan	1665 mm / 65.6 in
Length	1916 mm / 75.4 in
Take off weight	8.3 kg / 18.3 lb(with 6S / 22.2V / 5200mAh / 45C Li-Po×2 PCS)
Cruising speed	100～140 km/h
Flying time	3～5 minutes
Main wing area	53.6 dm^2
Loading of airfoil surface	154.9 g/dm^2
Main material	35 times the import of aeromodelling EPO
Body Surface Treatment	Matte environmental water-borne paint + decal
Suitable experience level	□Zero basis □Beginner ■Intermediate □Advanced
Pnp assembly difficulty	□☆(10mins) □★(20mins) ■★☆(30mins) □★★(60mins) □★★★(120mins)
Operate suitable for age	Above 18 years of age
Working temperature	0°C ～ 40°C

Configuration:

Remote control channel	8CH (Selective configuration)
Control system	MFC-2085
Motor	5268-KV640(Inner rotor)
EDF	S-EDF 120mm-10 blade
ESC	Hobbywing 160A brushless
Power battery	6S / 22.2V / 5200mAh / 45C Li-Po×2 PCS (Selective configuration)
Receiver battery	2S / 7.4V / 2200～5200 mAh Li-Po×2 PCS (Selective configuration)
Servo	7.4V / 12g×6 PCS / 25g×7 PCS (Metal gear digital)
Landing gear	All-metal simulation electronic retractable landing gear
Brake function	Yes
LED Lighting System	Yes
Aileron	Yes
Flaps	Yes
Horizontal tail	Yes
Vertical tail	Yes
Retarder plate	Yes
Reinforced gyro	Selective configuration
Packaging	EPO Inner box + Outer Box (1343×515×450mm)
Center of gravity	105～110 mm leading edge of main wing

扫码关注，谢谢支持！

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