

2.15M Tiger Moth DH82

Balsawood Scale Airplane

Instruction Manual

SCG29

PRE-FLIGHT CHECKS

- Check/adjust servo centering, in order to adjust the control surface better.
- Double-check the spinning direction of motor at first usage, and sure it's suitable for your model.
- Set the center of gravity (CG) at the position that manual already marked out. If necessary, add weight to the nose or tail to ensure the best flight performance.
- Double-check the inside of the fuselage, make sure all the equipments are correctly connected; Check the heat-shrink covering material's surface, Make certain all screws, bolts, cabin and canopy remain secure.
- Take great care when connecting/disconnecting the battery, pls replace the battery immediately once found low voltage or damage to battery.
- The way the internal devices of the fuselage are connected will be related to your transmitter-receiver device. For those transmitter-receiver devices with more functions, you can simplify the connection of the internal devices of the fuselage. Check your device for details to see if it meets the features you need.
- When the power system and transmitter-receiver device are paired for the first time, you may need to set the maximum stroke of the throttle. Please set it yourself.

SAFETY PRECAUTIONS

- **This product should not be considered a toy, but rather a complicated and sophisticated flying model. Your safety depends on how you use and fly it, If not correctly operated, could cause injury to you or your family members. Children must be accompanied by an adult at all times if operating this product. Not suitable for children under the age of 14. THIS IS NOT A TOY.**
- Do not fly around some restricted location like airports, military bases, residential areas, etc.
- You will need to range check the transmitter to be sure you are not experiencing any interference.
- Always turn on the receiver last after turning on the transmitter and shut off the receiver first before turning off the transmitter.
- If you are only a beginner to the radio control model flying, do not attempt to fly your model without any assistance or advice from advanced expert fliers.
- Keep relevant items out of reach of children.
- This product has been flight tested to meet or exceed our rigid performance and reliability standards in normal use,if you plan to perform any high-stress flying, you are solely responsible for taking any and all necessary steps to control movement range and reinforce the body strength.
- This product may include some fiberglass and carbon-fiber reinforced plastic parts,which may cause eye and skin discomfort,pls wear the goggles or dust-proof clothes when needed.
- Due to air traffic safety control, the products you receive may not have the glue that appears in the list. Please understand and purchase the glue you need at your local stationery store.



Historical Background

The de Havilland DH.82 Tiger Moth is a 1930s British biplane designed by Geoffrey de Havilland and built by the de Havilland Aircraft Company. It was operated by the Royal Air Force (RAF) and many other operators as a primary trainer aircraft. In addition to the type's principal use for ab-initio training, the Second World War saw RAF Tiger Moths operating in other capacities, including maritime surveillance and defensive anti-invasion preparations; some aircraft were even outfitted to function as armed light bombers.

From the outset the Tiger Moth proved to be an ideal trainer, simple and cheap to own and maintain, although control movements required a positive and sure hand as there was a slowness to control inputs. Some instructors preferred these flight characteristics because of the effect of "weeding out" the inept student pilot.

Specification

Wingspan:2150mm (85inch)
Fuselage Length:1920mm (75inch)
Fly weight:~8KG (About 280pound)

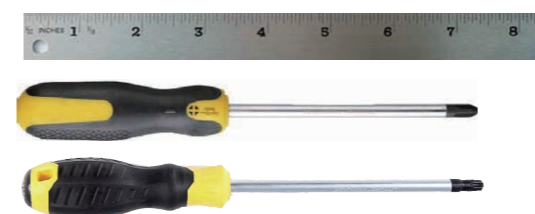
Suggested Equipment

Oil engine: 2-stroke DLE/RCGF 35CC
4-stroke NGH GF38
20*8 inch

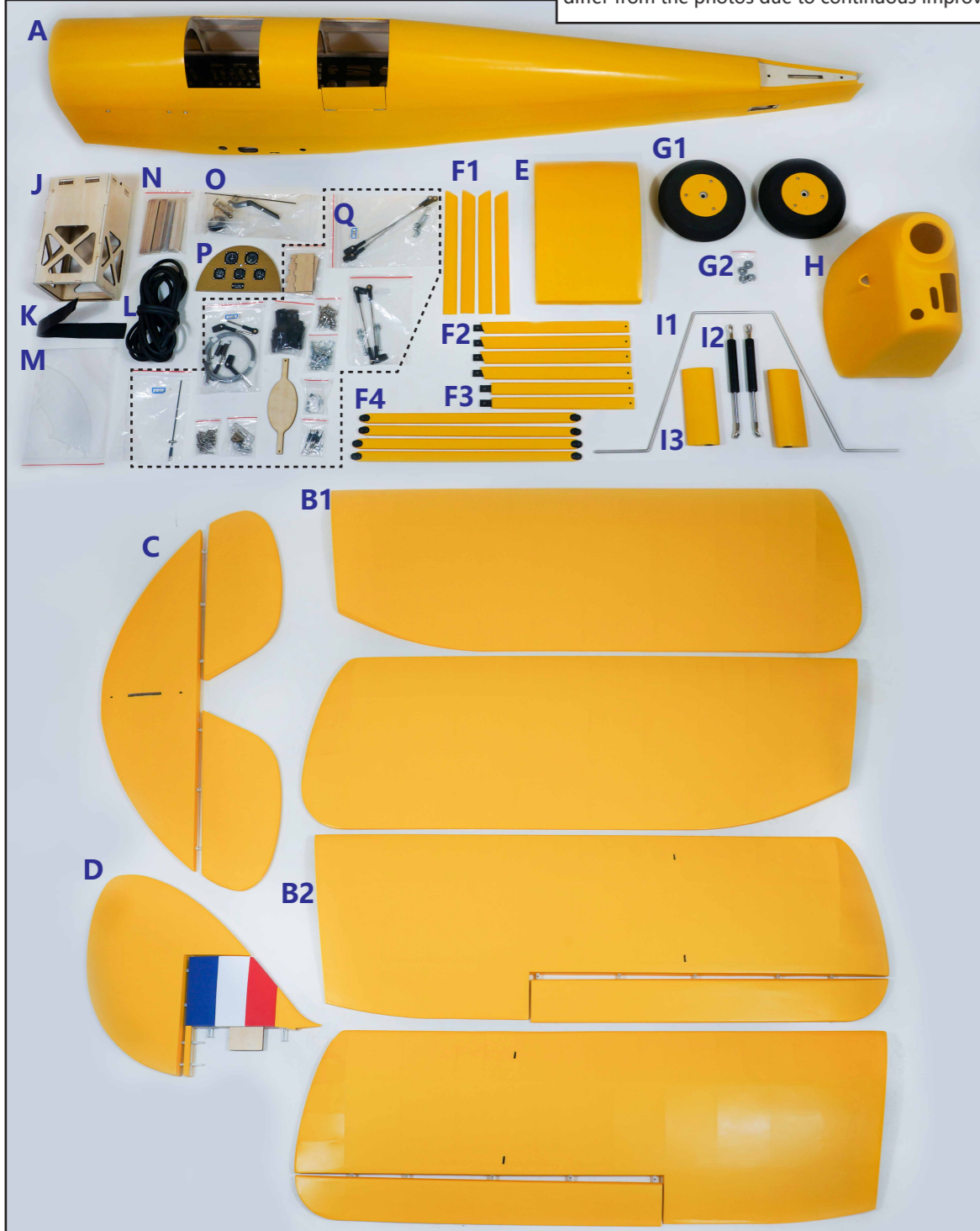
Electric motor: Motor : ECO5330CKV 205KV
BATT : 37V 10S LIPO
ESC : 100A
Prop : 20.5*12WE

Servo: 37g*6pcs
Y wire 1pcs
30cm extended wire 4pcs

Tools Needed

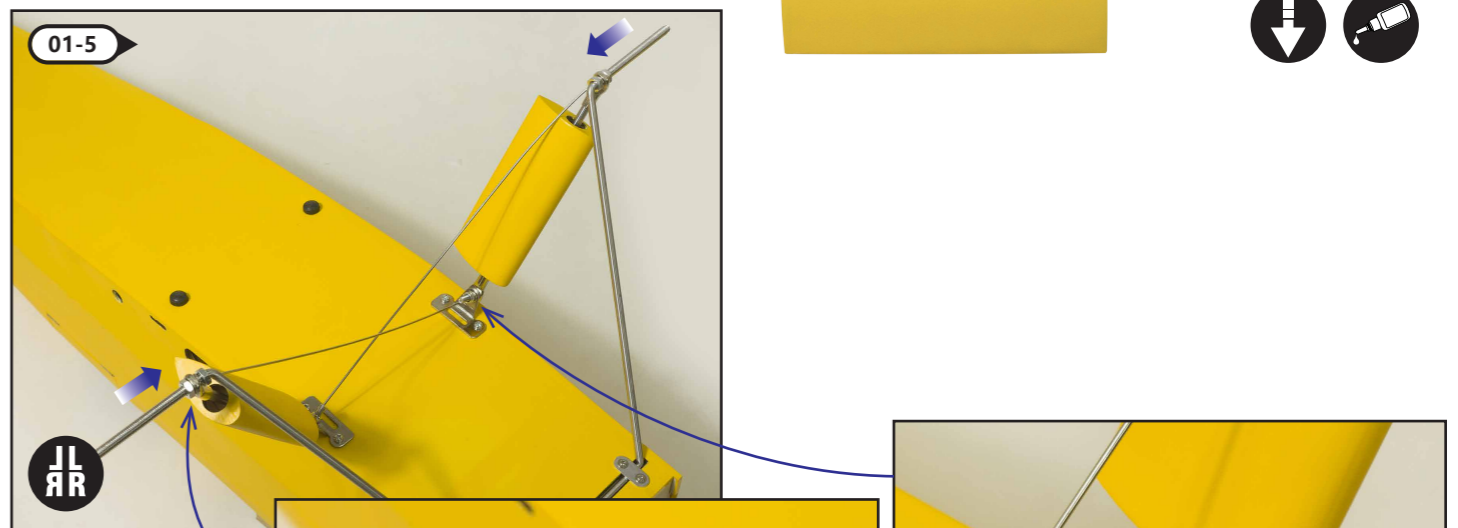
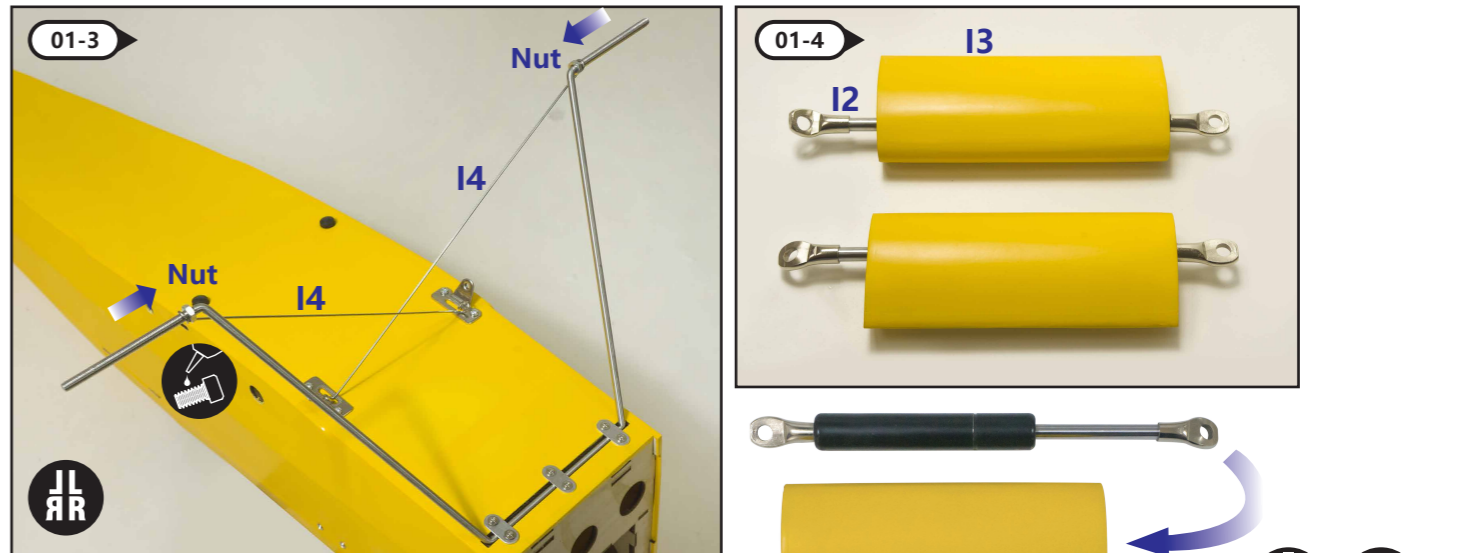
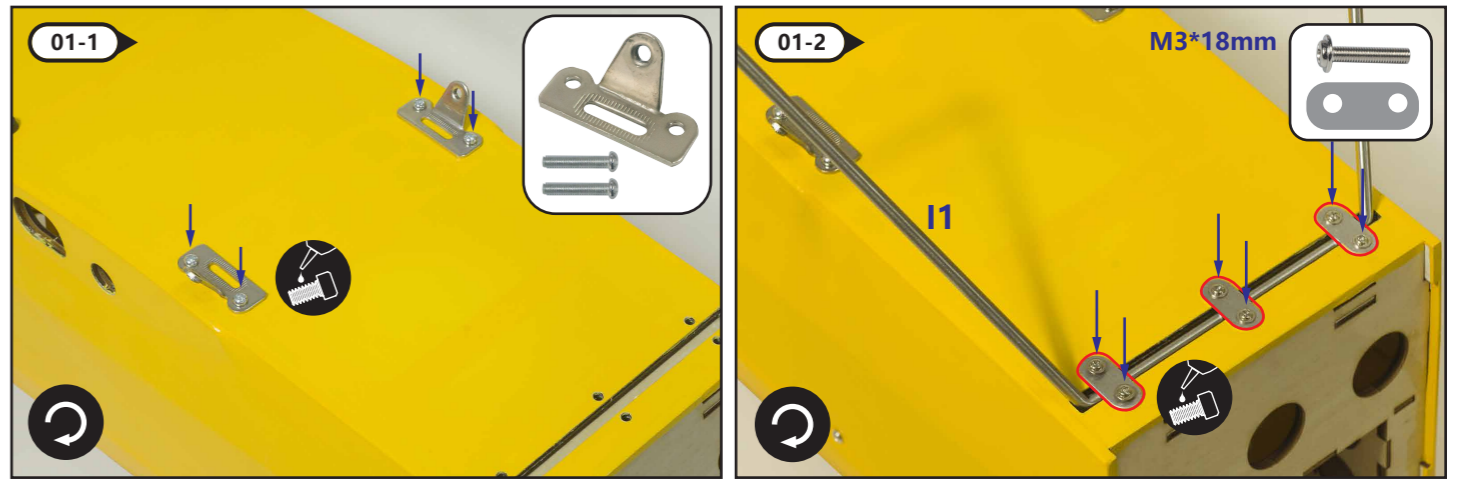


Photos shown here just for reference, the product you received maybe slightly differ from the photos due to continuous improvement on products.

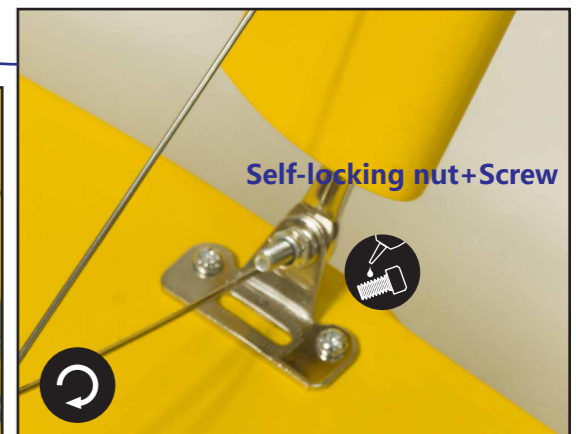
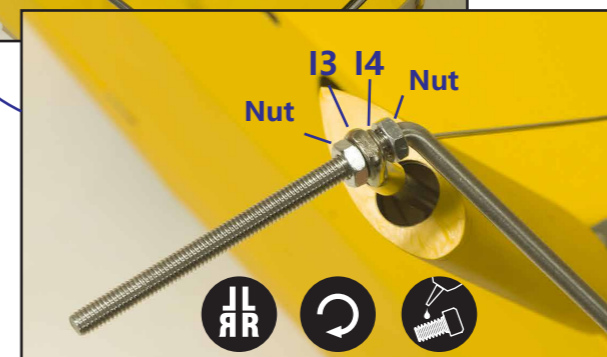


- A: Fuselage
- B1-2: Upper Wing and Lower Wing
- C: Horizontal Tail
- D: Vertical Tail
- E: Wing Connectors
- F1-4: Holder
- G1-2: Wheels and Bearing
- H: Cowling
- I1-3: Landing Gear Set
- J: Engine Seat
- K: Magic Tape
- L: Rubber Strip
- M: Windshield
- N: Fortified Wooden piece, Aluminum Sheet
- O: Tail Wheel Set
- P: Instruments Panel
- Q: Screw, Link Rod, Pulling Wire, Connectors

01 Assemble the Landing Gear

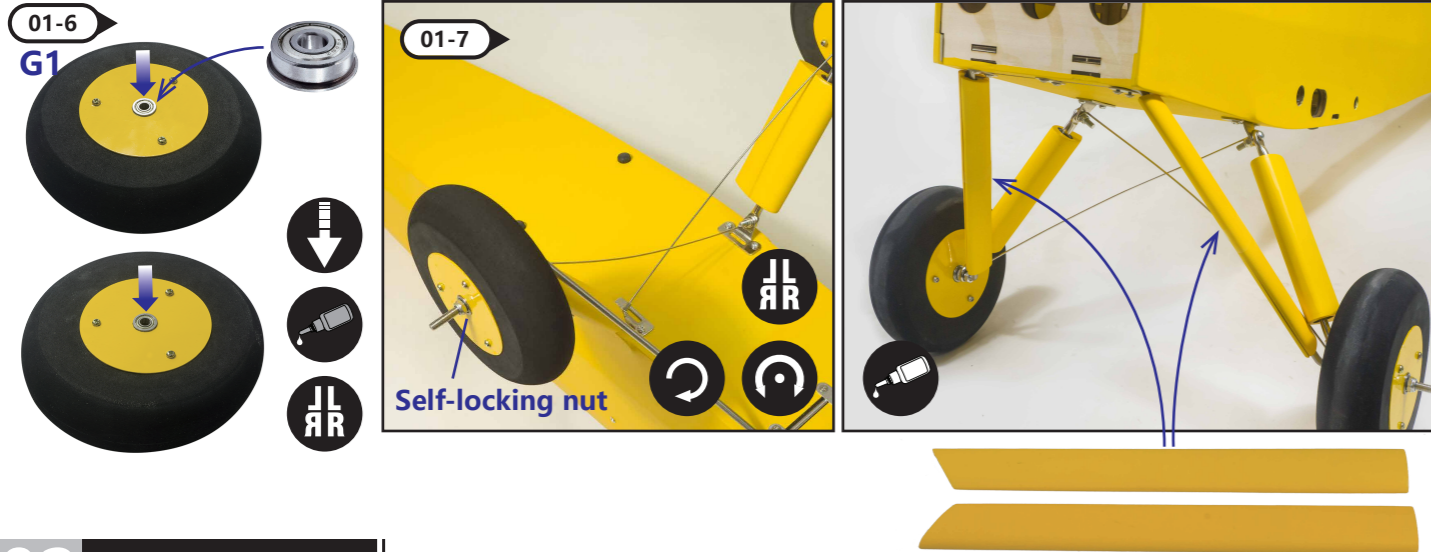


Here please use same installation way for left and right.

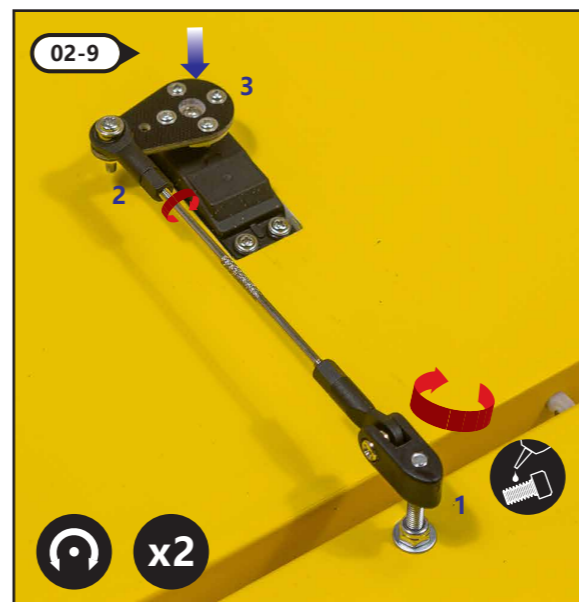
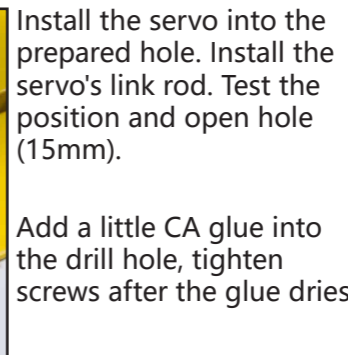
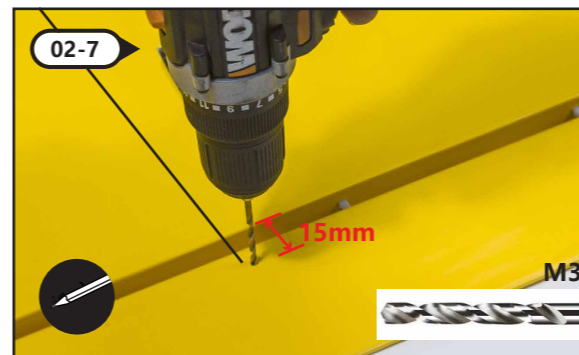
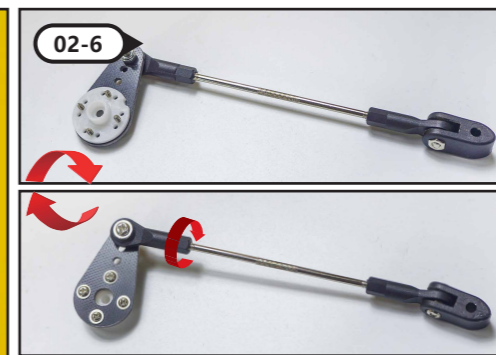
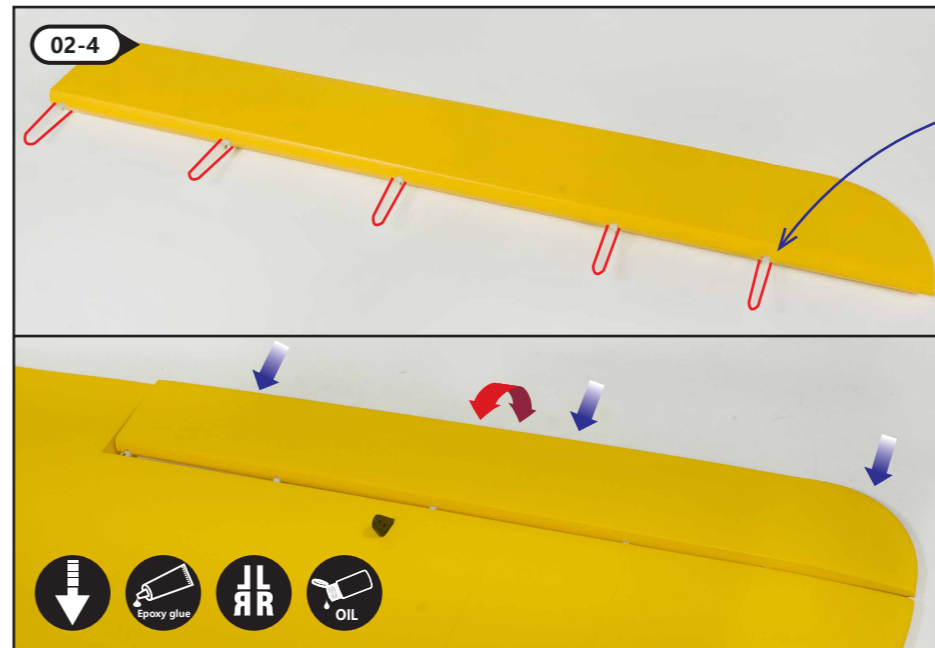
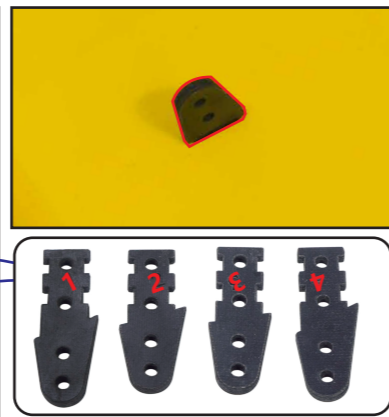


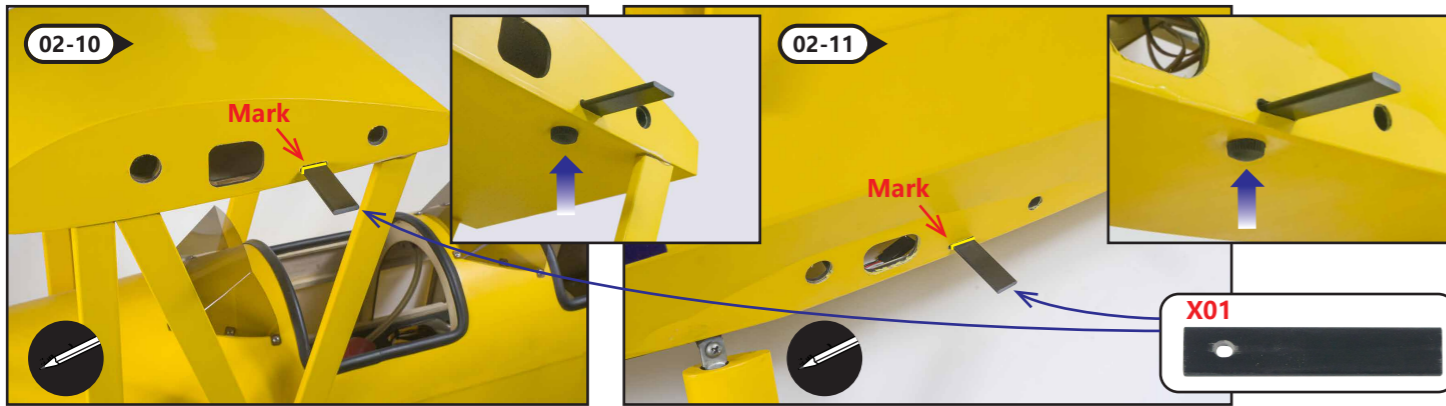
★ Assembly symbol guide

- Ensure free rotation
- Use medium CA
- Use thin CA
- Use a pencil
- Push tightly
- Use hobby knife with
- Fully Tighten
- Apply Oil
- Repeat multiple times
- Apply threadlock
- Assemble right and left
- Glue with epoxy adhesive

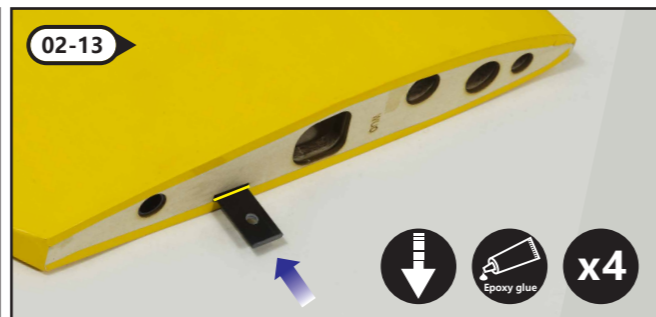
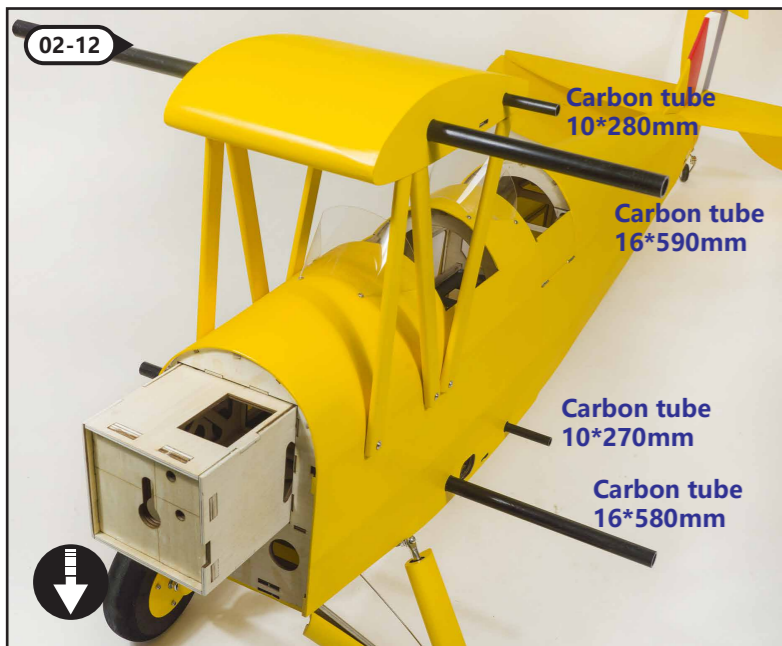


02 Assemble the Wing



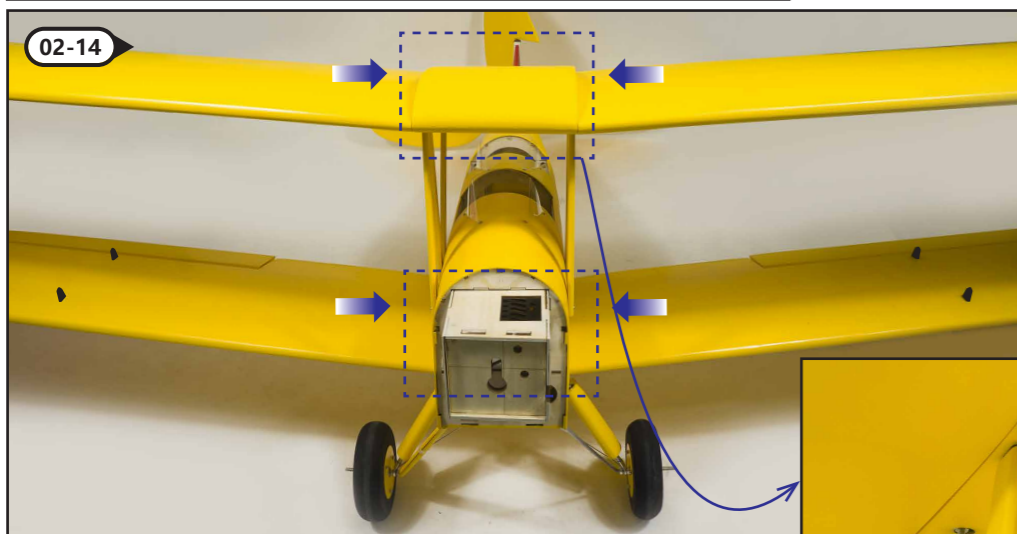


Preassemble "X01" on the fuselage, fasten with screw as picture shown. Then mark along the edge. Take out after mark.

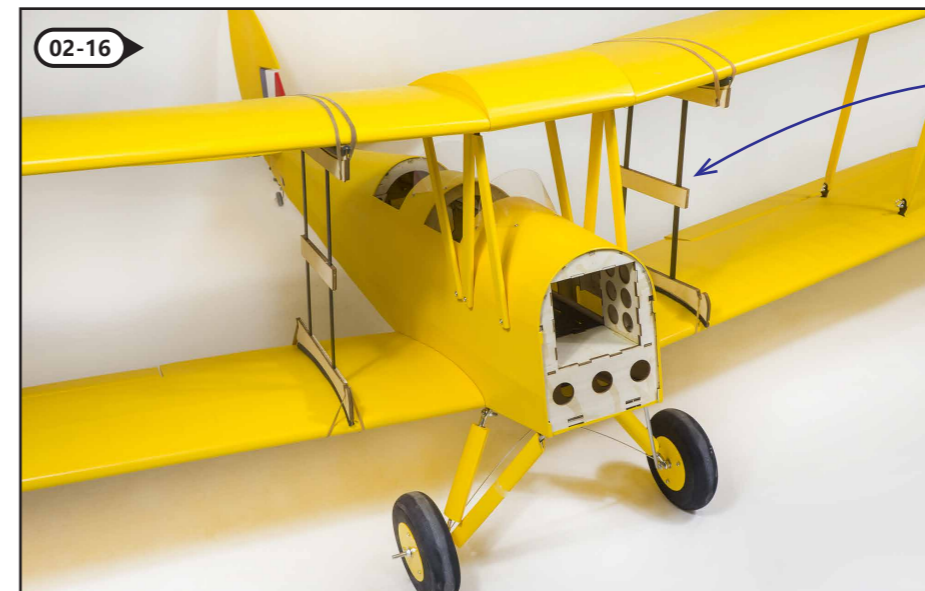
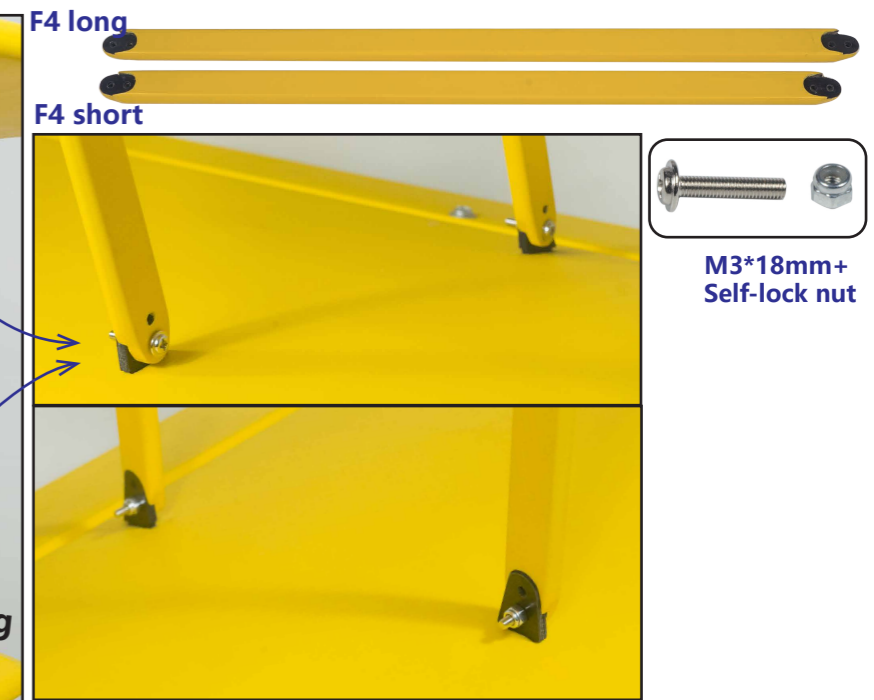
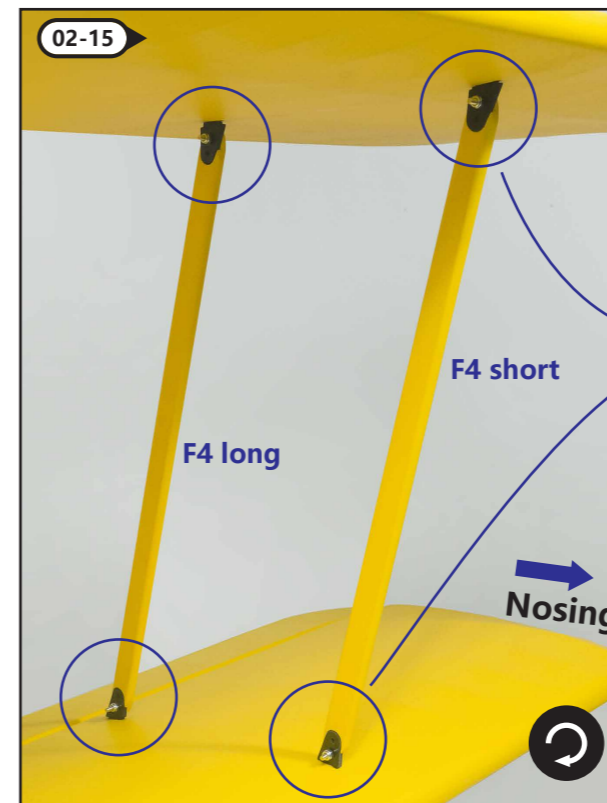
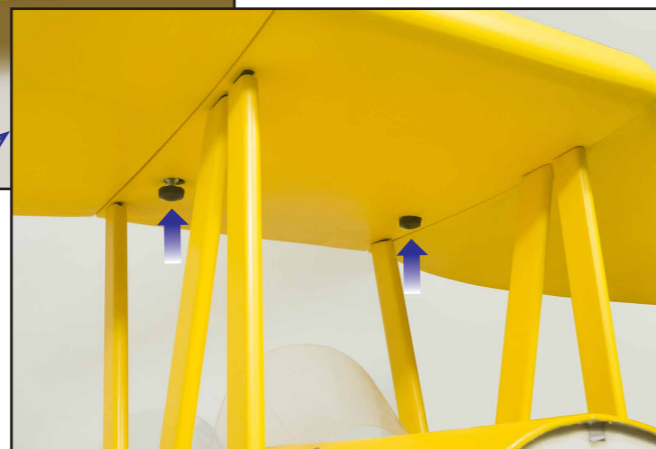


Install "X01" on the wing which marked on step 02-10 and 02-11, according to above picture, the marked position keeps aligned with the leading edge of wing, glue with epoxy adhesive after adjustment.

Assemble X01 correctly, trial assembly upper wing and lower wing firstly, make sure screw position matching.

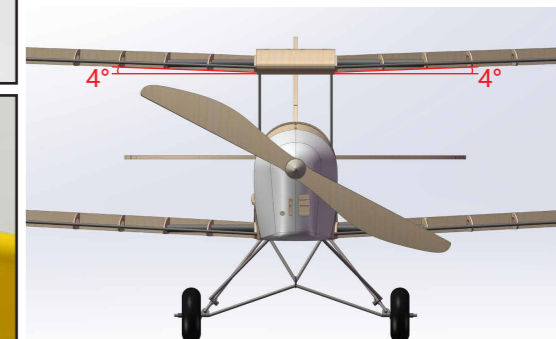


Assemble wing into fuselage, during wing installation, install above picture's screws firstly, tighten screws to fasten the wing after plugging the wing.



Wing adjustment: Fasten wing holder with rubber. Adjust upper wing and lower wing's position and angle by the wing holder.

Diagram for upper Wing's dihedral angle



Fasten with epoxy resin adhesive after adjustment. Remove the holder after glue dried.



02-18

Screw for the ring
Nut
Self-locking nut

02-19

Screw for the ring

Install stay wire retaining ring on the position as shown.

Add a little CA glue into the reserved hole, tighten screws after the glue dries.

02-20

The stay wire is a piece of thread, thread the wire according to the numerical order. Pay attention to some fixed details as shown. Install stay wire's stabilizer rod in the middle of stay wire.

Details 2

Details 1

Fastener
Aluminum buckle

Details 4

Through

Details 3

Spring
Fastener
Aluminum buckle

Fastener
Spring
Aluminum buckle

About the installation way of stay wire's stabilizer rod, please see picture---"Details 4". All wires through the reserved hole,

Install other half wing with the same steps in above, assemble stay wire symmetrically.

03 Tail wing installation

03-1

Lubricant oil

Add some lubricating oil in the joint of needle type hinge. (Avoid the glue stuck dead.) Before install and fasten needle type hinge with epoxide-resin glue, please confirm the surface can swing freely in advance.

03-2

Epoxy glue

03-3

Here please use epoxide-resin glue to fasten the needle type hinge.

03-4

Here please use epoxide-resin glue to fasten the needle type hinge.

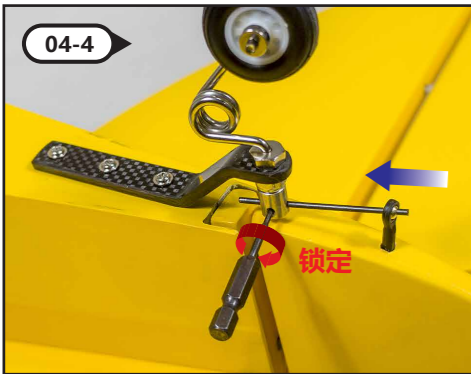
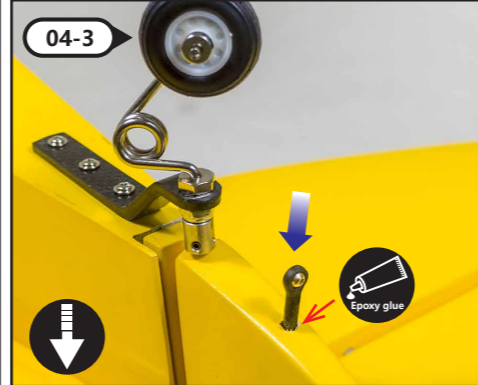
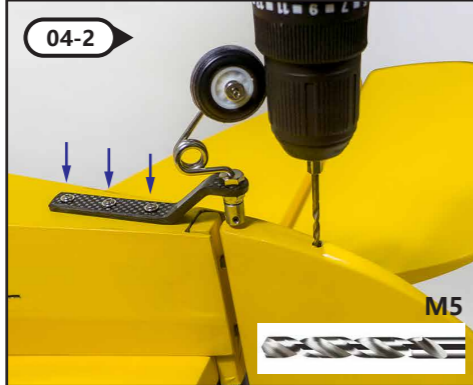
Glue the connecting pole on the horizontal tail, then glue the elevator on the tail wing, fasten with epoxide-resin glue. Please keep the surface can swing freely in glueing. Use a little lubricant oil on the moving part of connecting pole, avoid the glue stuck dead.

03-5

Here please use epoxide-resin glue to fasten the needle type hinge.

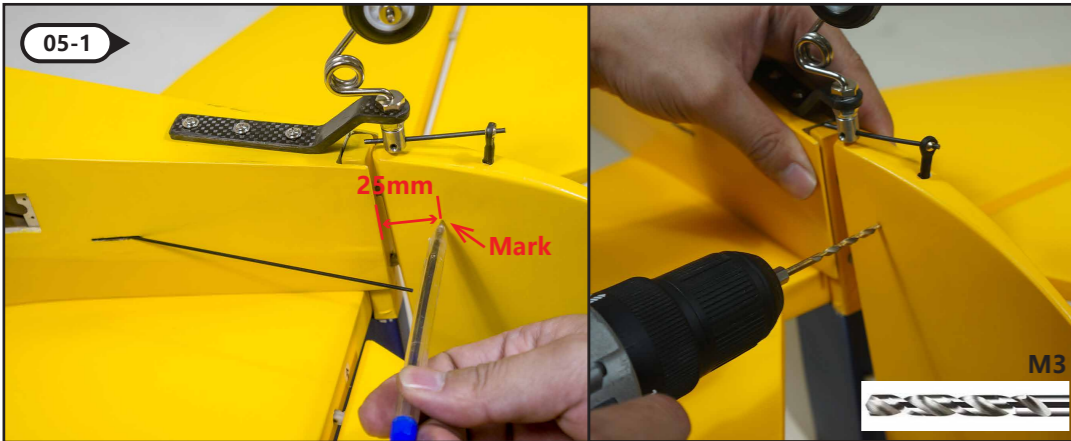
Install horizontal tail and vertical tail on the fuselage as shown, fasten the joint with epoxide-resin glue. Overturn to the underside, tighten the vertical tail with 2pcs screws.

04 Tail wheel installation

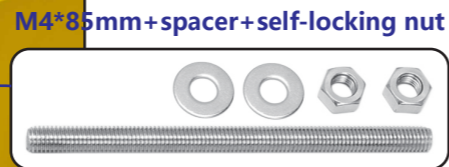
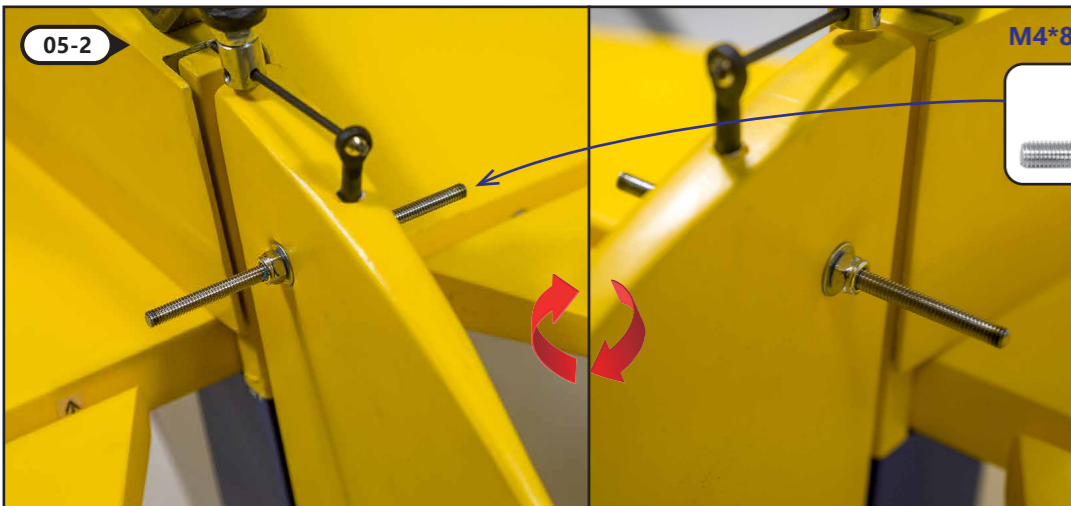


Add a little CA glue into the screw hole, tighten screws after the glue dries.

05 Rudder servo and link rod installation

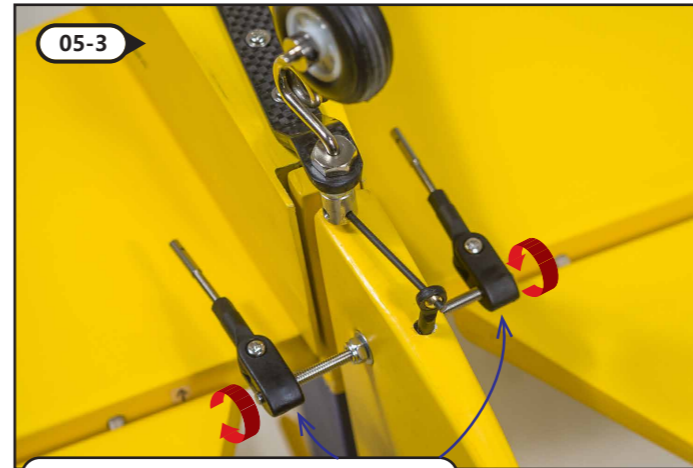


Through one piece of steel wire into the fuselage, then refer to the steel wire's position, make a mark on the surface of vertail rudder, drill hole on the mark position.



Install screw pole on the drill hole, adjust the screw pole to the middle position, fasten with nut.

Add a little CA glue into the drill hole, tighten screws after the glue dries.



Assemble the connecting parts on the two ends of screw pole.

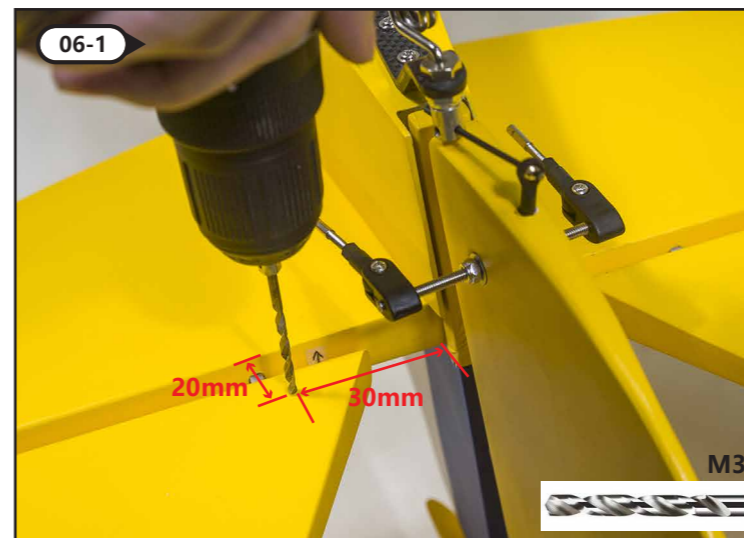


Install the round servo plate on the rudder arm, install rudder arm on the servo of fuselage inside. Assemble locking connecting parts of stay wire on the rudder arm.



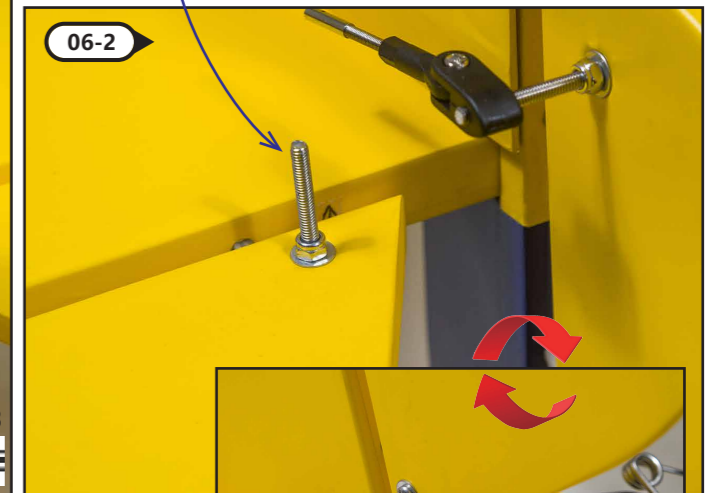
Control the rudder with the fuselage's inside servo by double stay wire way, please see the pictures of 05-4 and 05-5 for the fixing method of stay wire. After threading the wire, please adjust the 2pcs pulling wire tightly.

06 Elevator servo and link rod installation

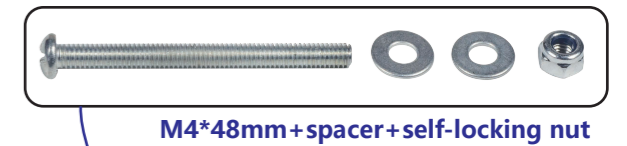


Drill hole as picture shown, drill the holes at the same position on the left and right elevator.

Add a little CA glue into the drill hole, tighten screws after the glue dries.

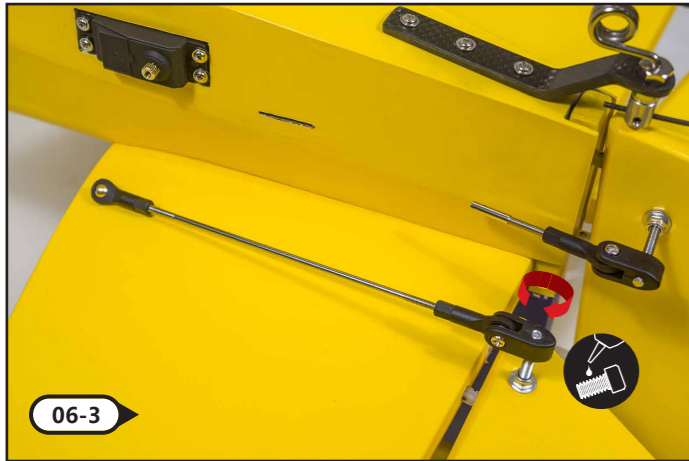


Install the long screw pole on the drill hole position.



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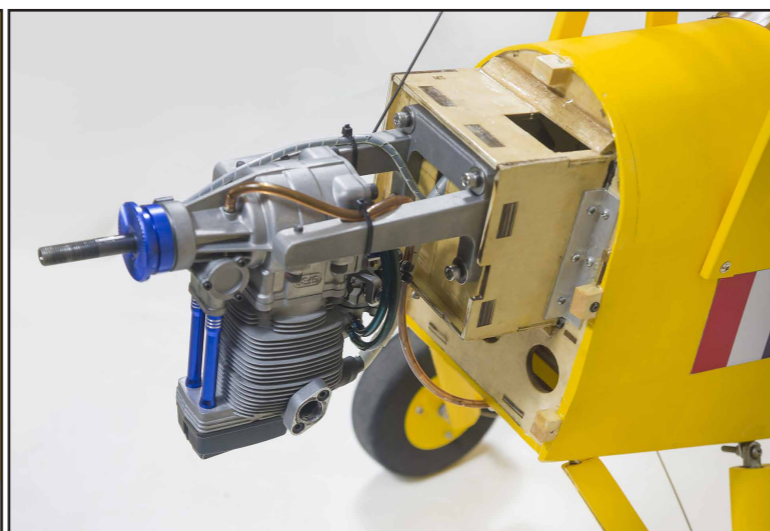
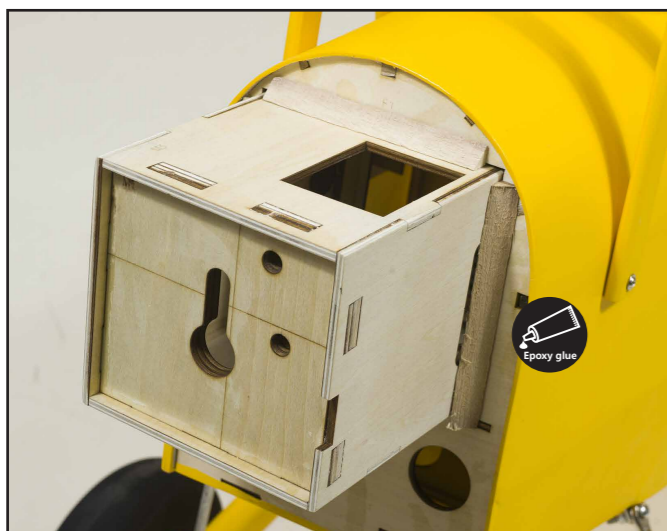
Installation for servo arm and link rod, please refer to steps 02-6.



M3*18mm+Self-lock nut



07 Engine installation display



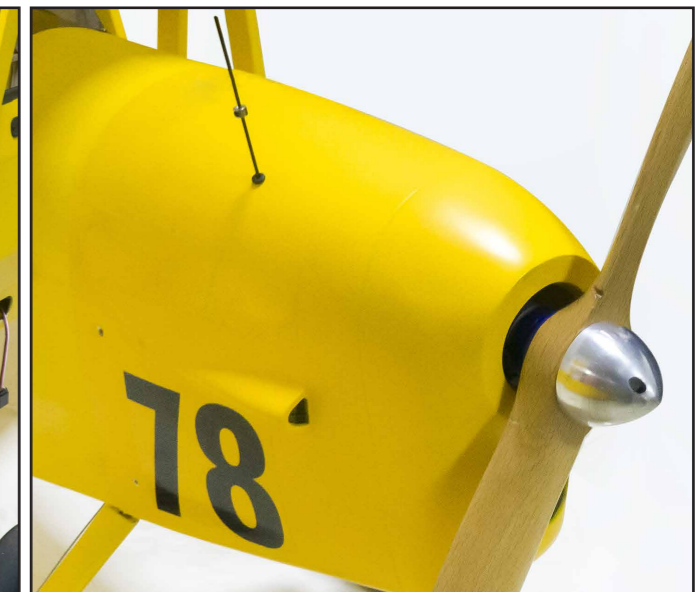
Please adjust the engine mounting board length according to your engine size, use triangled wood strip or aluminum sheet to assist fixing. Fasten with epoxide-resin glue.



Instrument panel installation display

Here engine installation only for reference. You can adjust your installation details according to your engine.

Cowling and propeller installation display

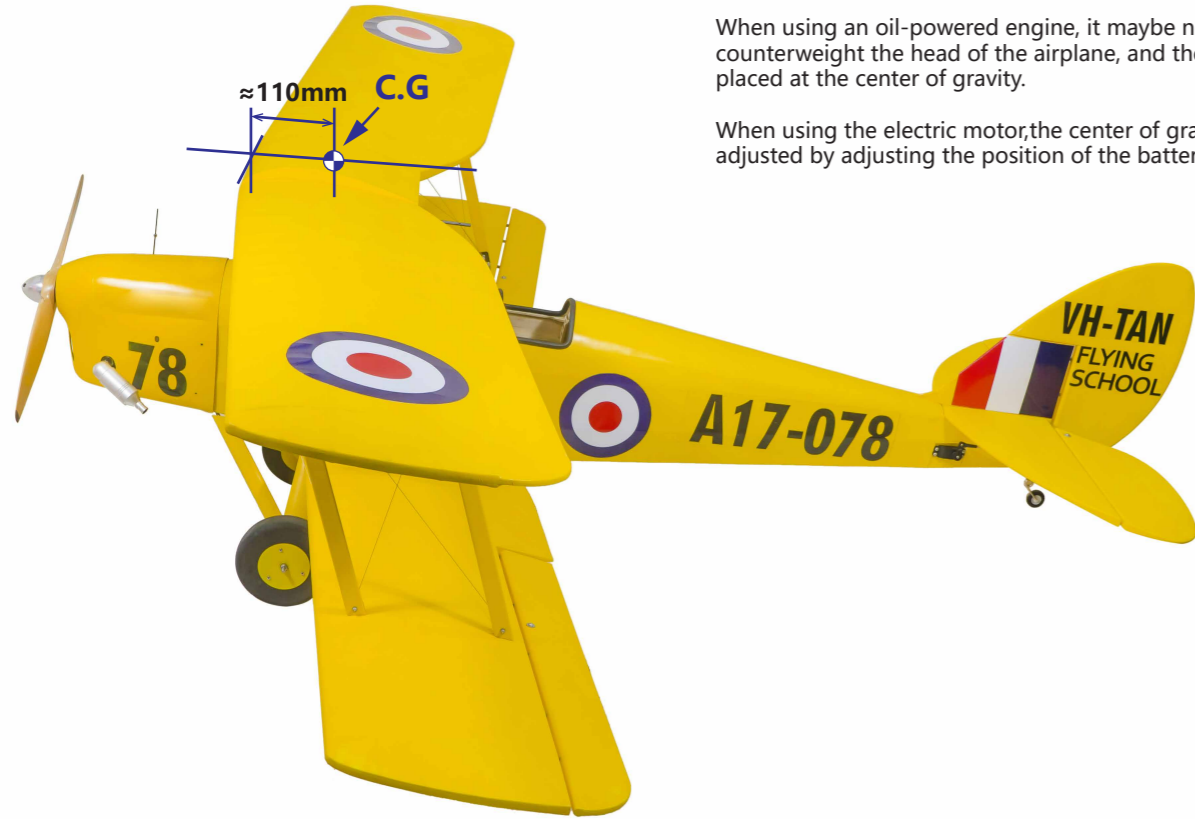


You may need to open hole on the cowling according to your engine size. Please open hole firstly, then stick the decals.

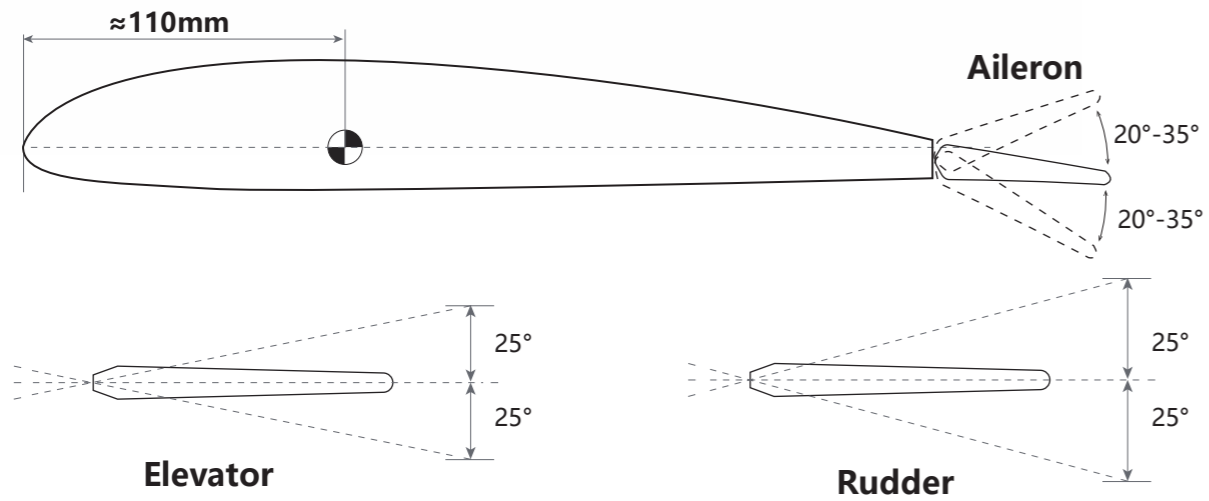
Display the C.G

When using an oil-powered engine, it may be necessary to counterweight the head of the airplane, and the oil tank is placed at the center of gravity.

When using the electric motor, the center of gravity can be adjusted by adjusting the position of the battery.



Usually, the control throws set as below:



	Normal Flying	(3D Flying only support some models)
Aileron	± (15°-30°)	±40° (or larger)
Elevator	±15°	±40° (or larger)
Rudder	±15°	±40° (or larger)
Flap	(take-off) 15°-20°	(Landing) 20°-40°

Some special models will have V-tails, flaps, leading edge wings, etc., which can be used as a reference for conventional flight angles. If you do not confirm and there is no experienced person to guide you, we recommend that you first test at a small angle to confirm that your settings are correct.

Control Directions Tests

	Transmitter Command	Aircraft Reaction
Elevator	Lifting rod down	
	Lifting rod up	
Aileron	Steering rod to the right	
	Steering rod to the left	
Rudder	Direction rod to the right	
	Direction rod to the left	



More details about power system adjustment, please refer to below link: (You can scan QR Code directly.)

<http://www.dwhobby.com/art/connection>