



# Instruction Manual Book

Item code: BH153.

# MIG-29

SCALE 1:8 ARF EDF 90MM



ALL BALSA - PLY WOOD CONSTRUCTION.  
COVERED WITH PVC PRINTING.

**95% ALMOST READY TO FLY**

## **SPECIFICATION**

- Wingspan: 1,420 mm (55.91 in).
  - Length: 2,030 mm (79.92 in).
  - Weight: 7.8 kg (17.16 lbs).
  - Wing area: 60 dm<sup>2</sup>.
  - Wing loading: 129 g/dm<sup>2</sup>
  - Wing type: Semi-symmetrical airfoils.
  - Gear type: Electric retract gear
- Size(LxWxH): (92.2 x 51 x 30.6) mm  
(not included).
- CNC Suspension Metal Struts (included).

### **Parts listing required (not included):**

- Radio: 9 channels.

- Servo: 9 standard high torque servos,  
size: (29.5 x 13 x 31) mm.  
2 Futaba BLS 352  
size: (39.9 x 20.1 x 37.1) mm elevator.
- Engine: EDF 90mm (2pcs).
- Battery: 2 Packs \* 4S LIPO 29.6V (2pcs).
- ESC: 90-100A (2pcs).

### **Recommended EDF and Battery set up (not included):**

- EDF: 90mm, Minimum thrust 3.7 kg.  
Midi-fan evo/ HET 650-68-1500 WeMoTec.
- Lipo cell: 8 cells/5000mAh 55C.
- ESC: 100A Phoenix Castle.

Made in Vietnam.

This instruction manual is designed to help you build a great flying aeroplane. Please read this manual thoroughly before starting assembly of your **MIG-29**. Use the parts listing below to identify all parts.

## WARNING

**Please be aware that this aeroplane is not a toy and if assembled or used incorrectly it is capable of causing injury to people or property. WHEN YOU FLY THIS AEROPLANE YOU ASSUME ALL RISK & RESPONSIBILITY.**

If you are inexperienced with basic R/C flight we strongly recommend you contact your R/C supplier and join your local R/C Model Flying Club. R/C Model Flying Clubs offer a variety of training procedures designed to help the new pilot on his way to successful R/C flight. They will also be able to advise on any insurance and safety regulations that may apply.

## TOOLS & SUPPLIES NEEDED

- Thick cyanoacrylate glue.
- 30 minute epoxy.
- 5 minute epoxy.
- Hand or electric drill.
- Assorted drill bits.
- Modelling knife.
- Straight edge ruler.
- 2mm ball driver.
- Phillips head screwdriver.
- 220 grit sandpaper.
- 90° square or builder's triangle.
- Wire cutters.
- Masking tape & T-pins.
- Thread-lock.
- Paper towels.

- Some more parts.

- HARDWARE PACK**

- Landing gear.....

## SUGGESTION

To avoid scratching your new airplane, do not unwrap the pieces until they are needed for assembly. Cover your workbench with an old towel or brown paper, both to protect the aircraft and to protect the table. Keep a couple of jars or bowls handy to hold the small parts after you open the bag.

## PARTS LISTING

### FUSELAGE ASSEMBLY

- (1) Fuselage.

### WING ASSEMBLY

- (1) Right wing half with pre-installed aileron.
- (1) Left wing half with pre-installed aileron.

### TAIL SECTION ASSEMBLY

- (1) Vertical stabilizer with pre-installed rudder.
- (1) Horizontal stabilizer with pre-installed elevator halves.

## NOTE

Please trial fit all the parts. Make sure you have the correct parts and that they fit and are aligned properly before gluing! This will assure proper assembly. **MIG-29** ARF is hand made from natural materials, every plane is unique and minor adjustments may have to be made. However, you should find the fit superior and assembly simple.

The painted and plastic parts used in this kit are fuel proof. However, they are not tolerant of many harsh chemicals including the following: paint thinner, C/A glue accelerator, C/A glue debonder and acetone. Do not let these chemicals come in contact with the colors on the covering and the plastic parts.

**Caution:**

This model is not a toy!

If you are a beginner to this type of powered model, please ask an experienced model flyer for help and support. If you attempt to operate the model without knowing what you are doing you could easily injure yourself or somebody else. Please keep your safety and well-being in mind at all times.

**Important: Before you start construction**

Even if you have built a large number of RC models please read right through these instructions and check all the kit components against the parts list. We have taken great trouble to keep construction as simple as possible, without making any compromises in the area of safety.

**Note regarding the film covering**

Minor creases or bubbles may develop in the film covering due to major fluctuations in weather conditions (temperature, humidity etc.); in rare cases you may even find a slight warp in a component. These minor faults are in the nature of film-covered built-up wooden structures, and can easily be corrected using a heat gun, as commonly used for modelling.

Creases: Blow warm air over the area and rub down with a soft cloth.

Wing warp:

Hold the panel twisted gently in the opposite direction to the warp, and apply warm air to remove the creases from the covering.

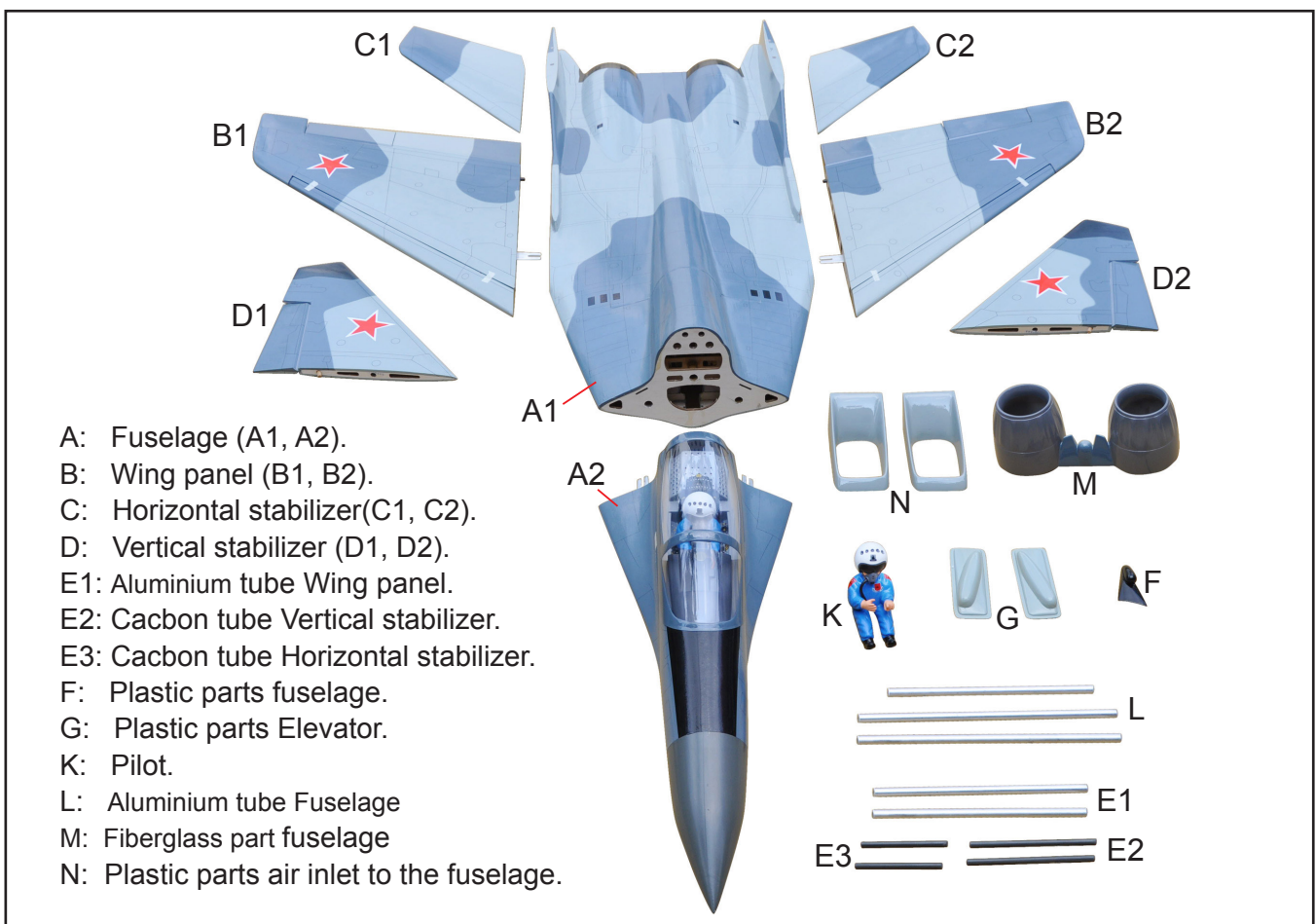
Caution! do not heat the film more than is absolutely necessary. If the air or the iron is too hot, the film may melt and holes may be formed.

This model is highly pre-fabricated and can be built in a very short time. However, the work which you have to carry out is important and must be done carefully. The model will only be strong and fly well if you complete your tasks competently - so please work slowly and accurately.

**When self-tapping screws have to be screwed into wood, apply a little white glue to prevent them shaking loose: just squirt white glue into the hole and fit the screw.**

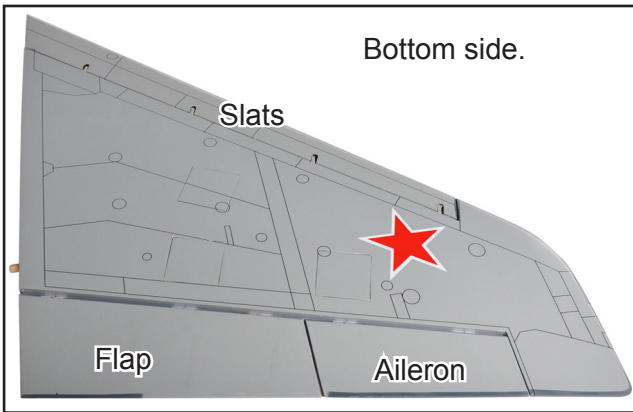
**SAFETY PRECAUTION**

- + This is not a toy
- + Be sure that no other flyers are using your radio frequency.
- + Wear safety glasses.
- + The glow plug clip must be securely attached to the glow plug.
- + Do not start the EDF if people are near.

**REPLACEMENT LARGE PARTS**

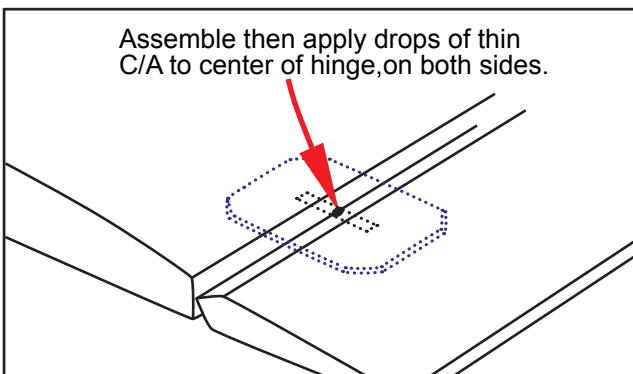
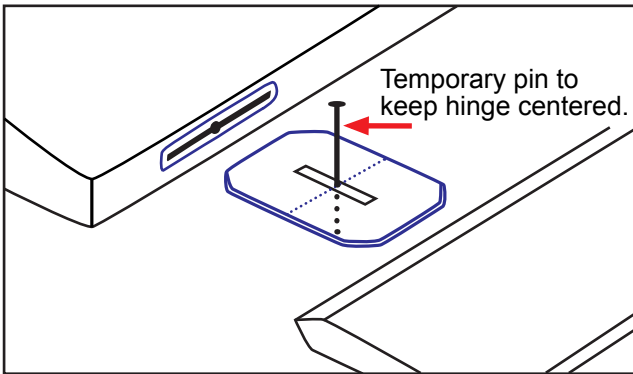
# I. AILERON

See picture below:



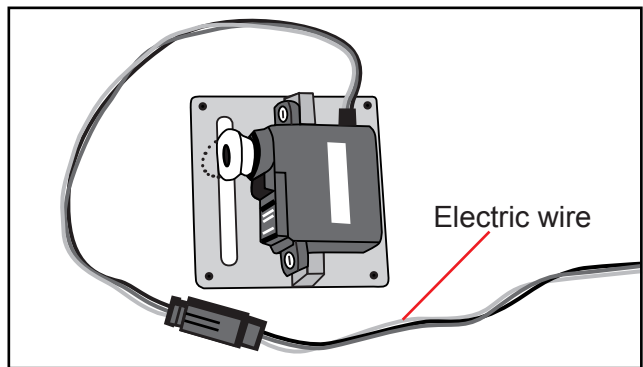
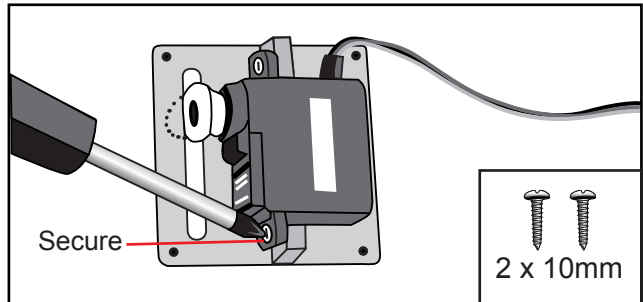
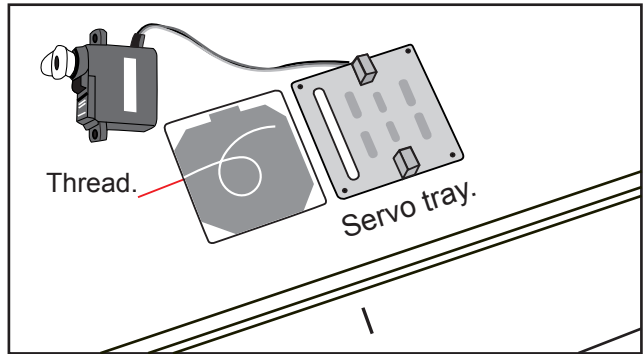
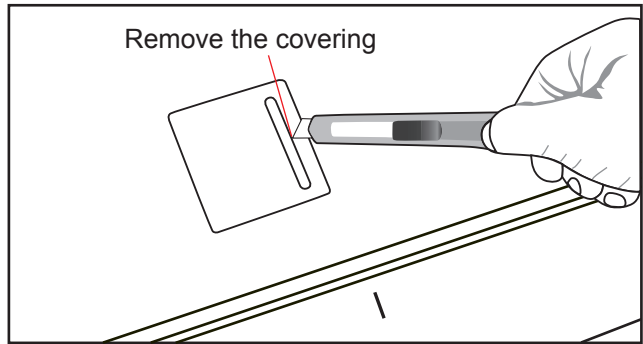
## 1. INSTALLING THE AILERONS

Test fit the ailerons to the wing with the hinges. If the hinges don't remain centered, stick a pin through the middle of the hinge to hold it in position.

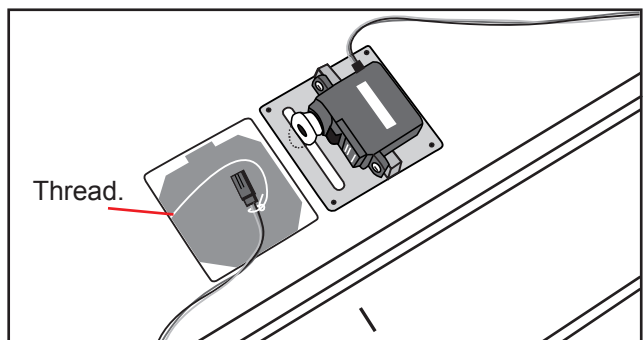


## 2. INSTALLING THE AILERON SERVOS

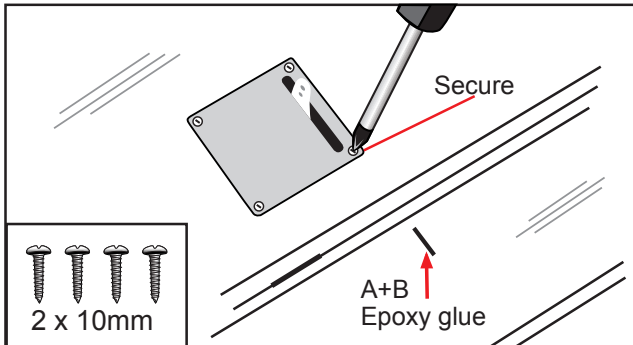
- 1) Install the rubber grommets and brass eyelets on to the aileron servos.
- 2) Using a modeling knife, remove the covering from over the pre-cut servo arm exit hole on the aileron servo tray / hatch. This hole will allow the servo arm to pass through when installing the aileron pushrods.



- 3) Using the thread as a guide and using masking tape, tape the servo lead to the end of the thread: carefully pull the thread out. When you have pulled the servo lead out, remove the masking tape and the servo lead from the thread.



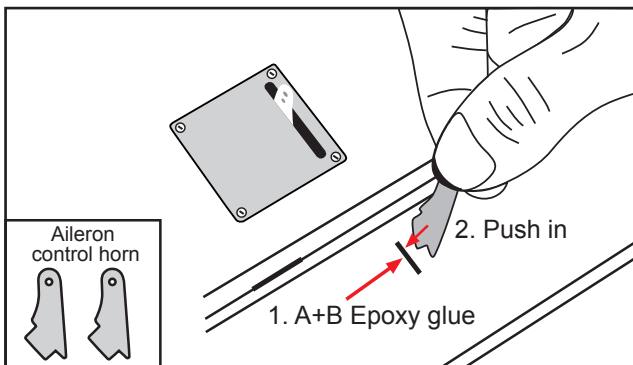
- 4) Place the servo into the servo tray. Center the servo within the tray and drill 1.5mm pilot holes through the block of wood for each of the four mounting screws provided with the servo.



- 5) Repeat the procedure to install the aileron servos in the opposite wing half.

**3. INSTALLING THE AILERON CONTROL HORN**

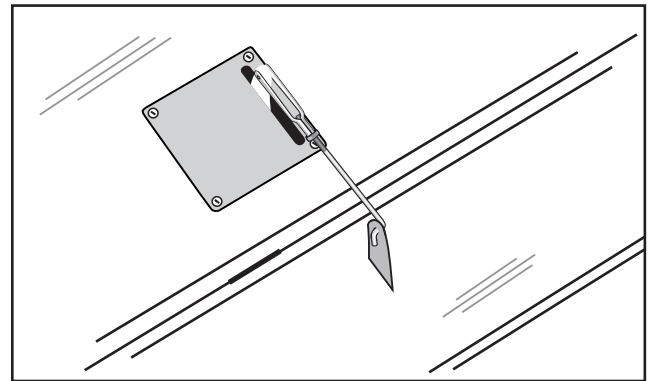
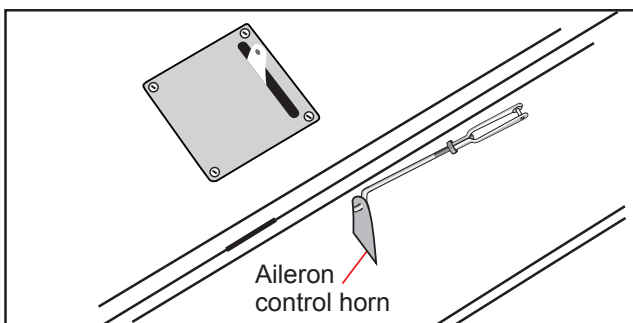
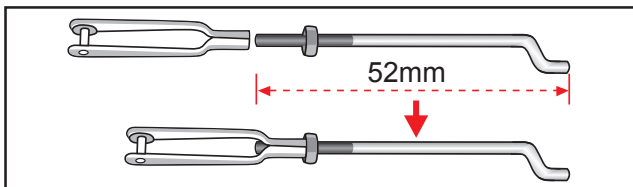
- 1) Remove the covering from the slot on the bottom of the aileron.
- 2) Insert the control horn into the slot and secure it by A+B Epoxy glue.



- 3) Repeat the procedure to install the control horn on the opposite aileron.

**4. INSTALLING THE AILERON LINKAGES**

Installing the aileron linkages as pictures below.



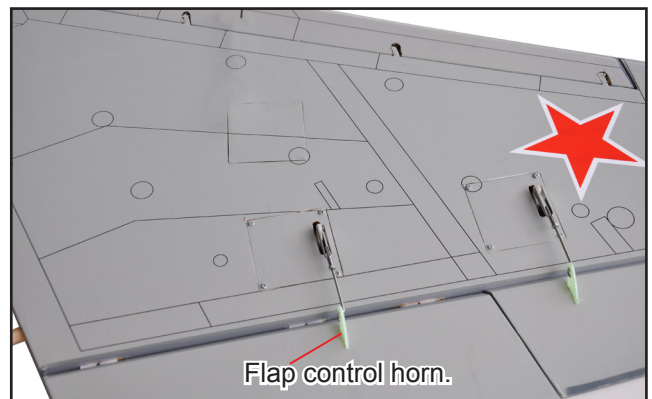
Repeat the procedure to install the second aileron linkages in the opposite wing half.

After both linkages are completed, connect both of the aileron servo loads using a Y-harness you have purchased.

**II. FLAP**

**1. INSTALLING THE FLAP**

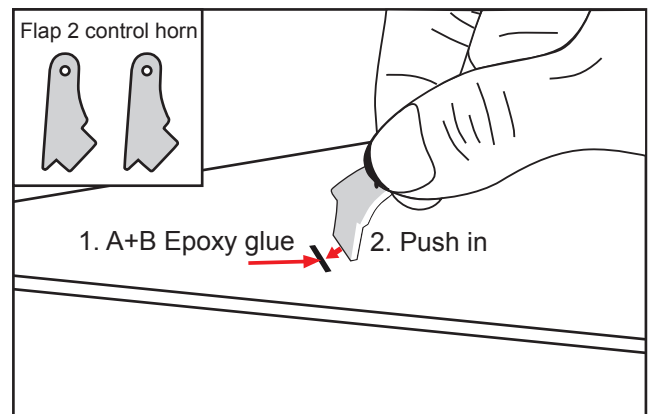
Repeat step # 3 - # 4 on the part I (page 4 - 5) to install the flap.



**III. SLATS**

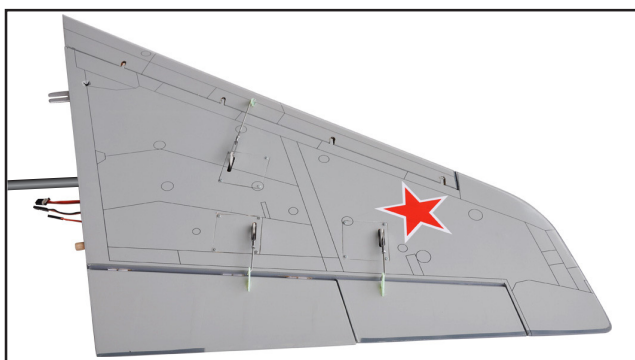
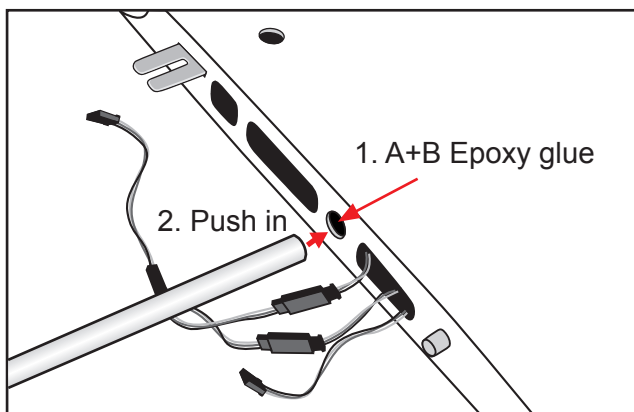
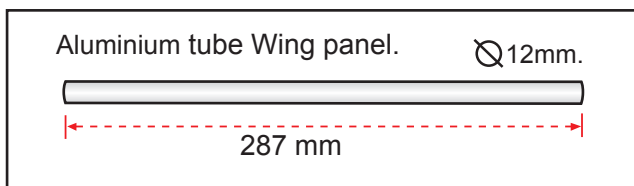
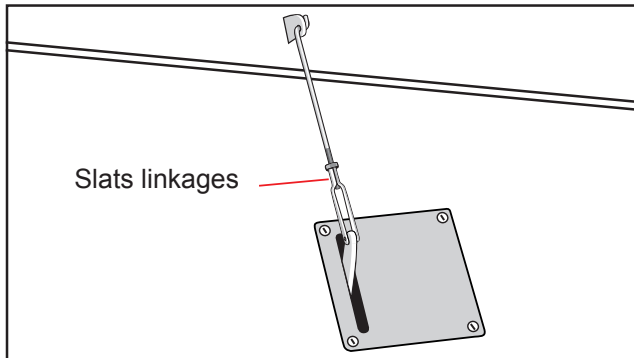
**1. INSTALLING THE SLATS CONTROL HORN**

Install slats control horn as same as picture below.



## 2. INSTALLING THE SLATS LINKAGES

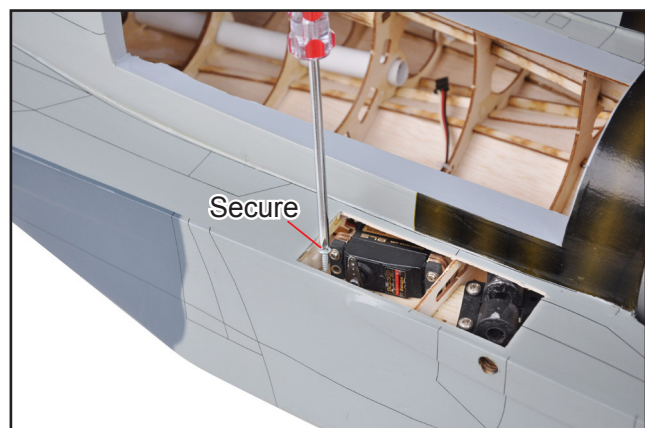
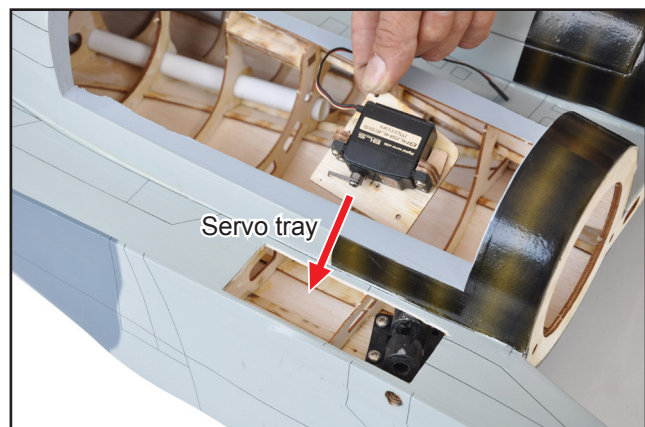
Repeat step # 4 from installing aileron linkage (page 5) to install the slats linkage.



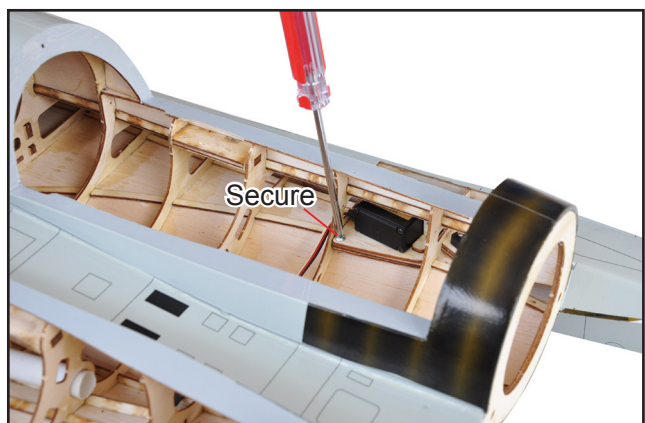
Repeat the procedure for the opposite wing half.

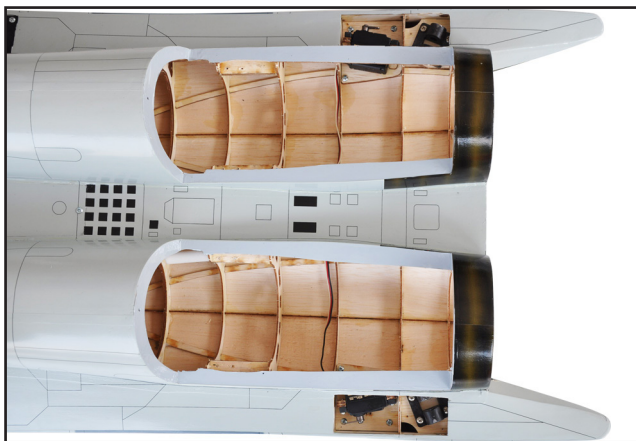
## IV. ELEVATOR SERVO INSTALLATION

- 1) Install the rubber grommets and brass collets into the elevator servo. Test fit the servo into the servo tray.
- 2) Mount the servo to the tray using the mounting screws provided with your radio system.

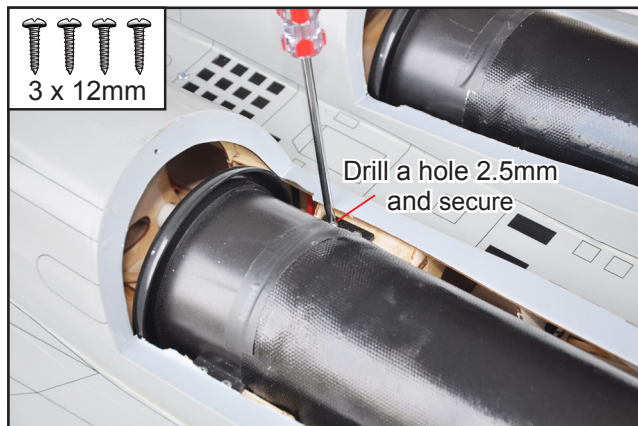


Repeat the procedure to install the second elevator servo in the opposite servo tray.



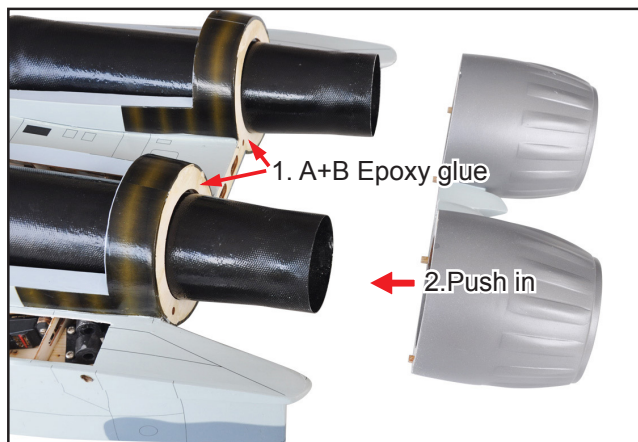
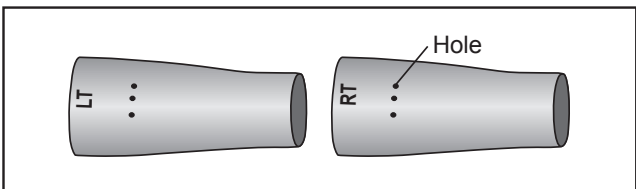


Secure the EDF.

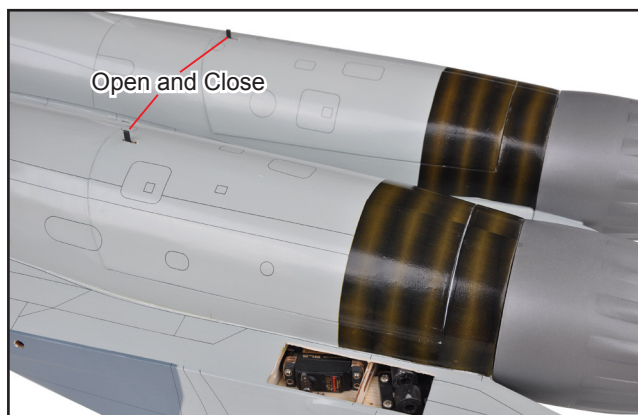
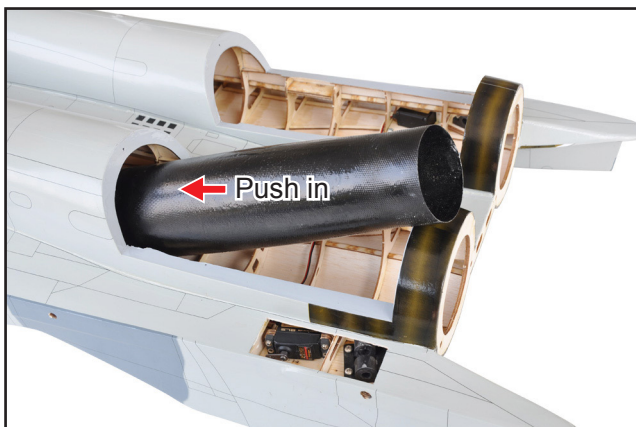


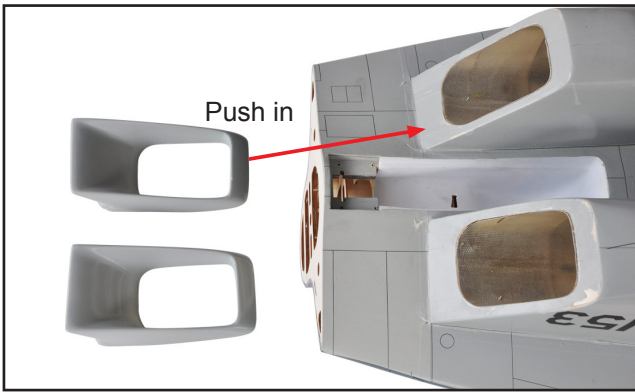
**V. INSTALLING THE EDF  
(ELECTRIC DUCTED FAN SYSTEM)**

Trim 1 hole from the air outlet for the wires of EDF.

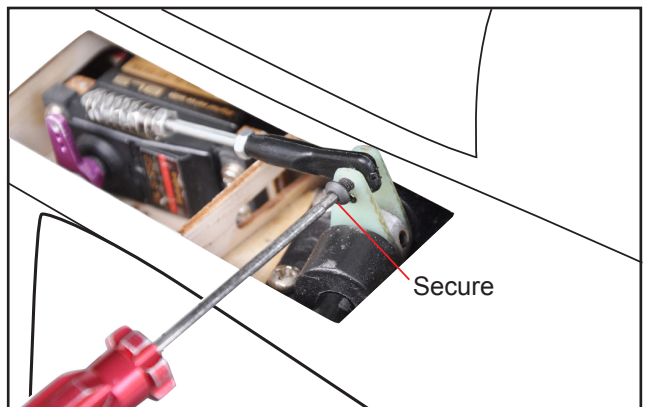
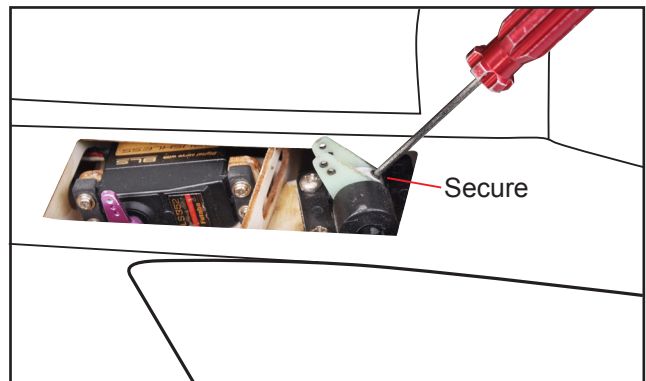
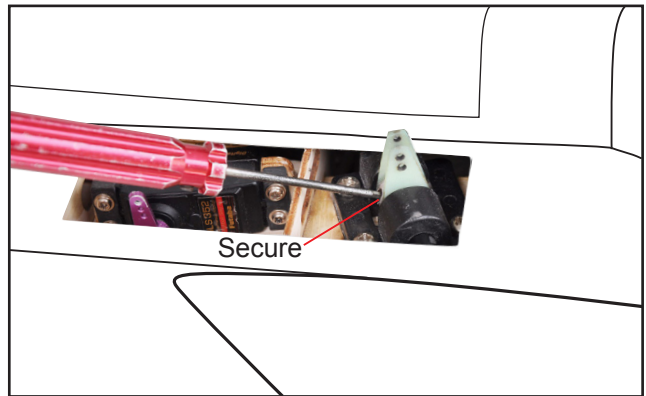
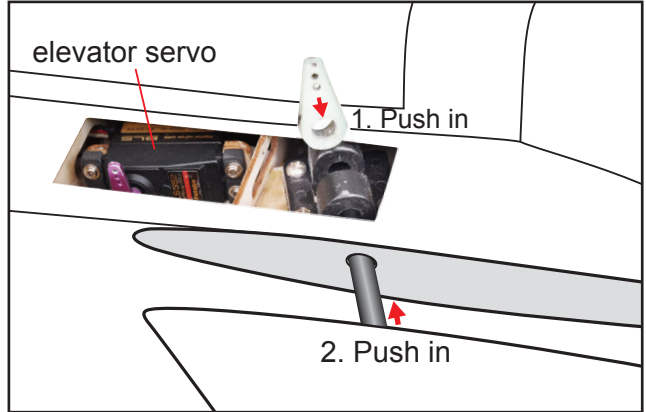
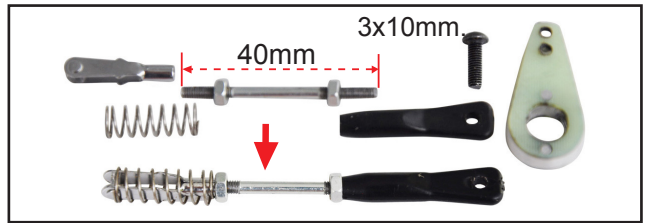
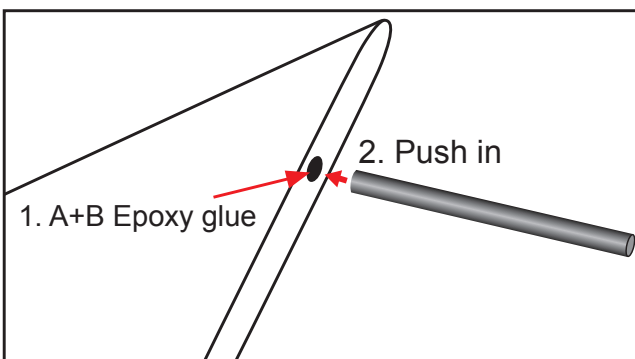
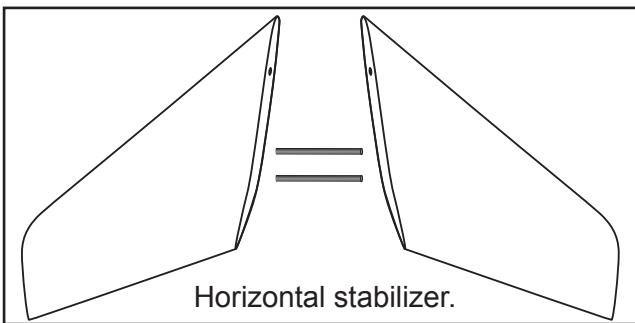
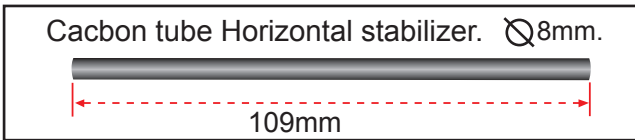


Slide the air outlet to the fuselage.

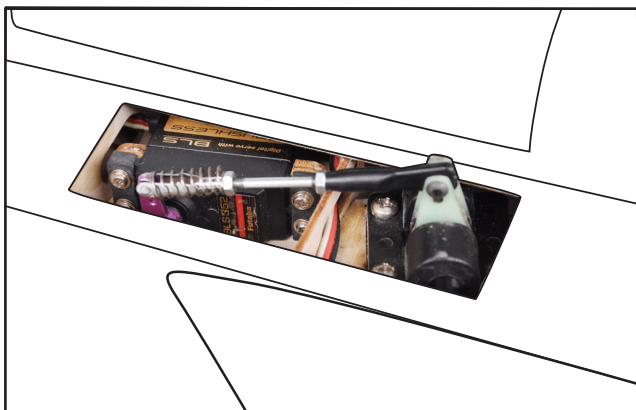




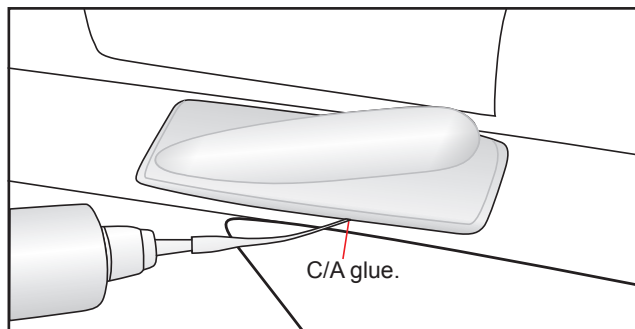
**VII. INSTALLING HORIZONTAL STABILIZER**



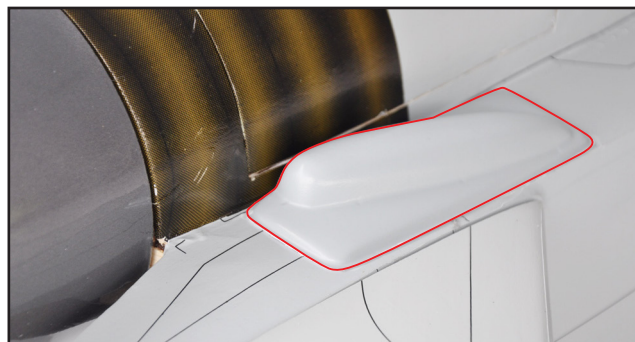




Repeat the procedure for the opposite Horizontal stabilizer half.

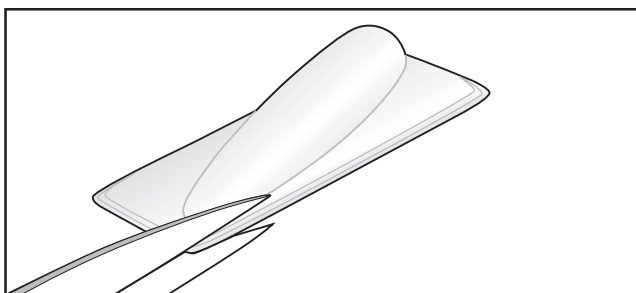
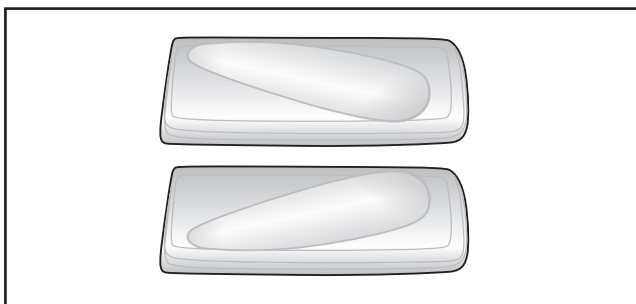


Repeat the procedure for the opposite plastic parts elevator.

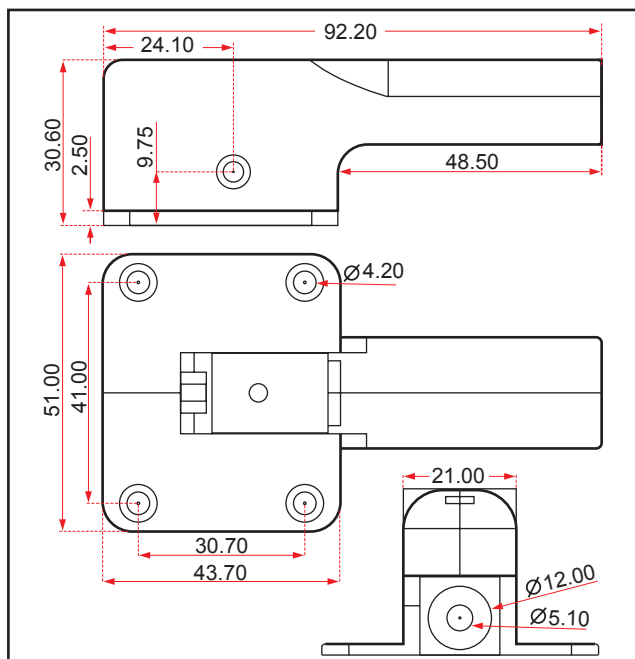


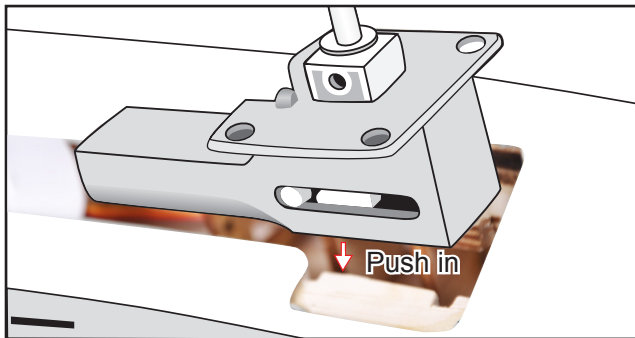
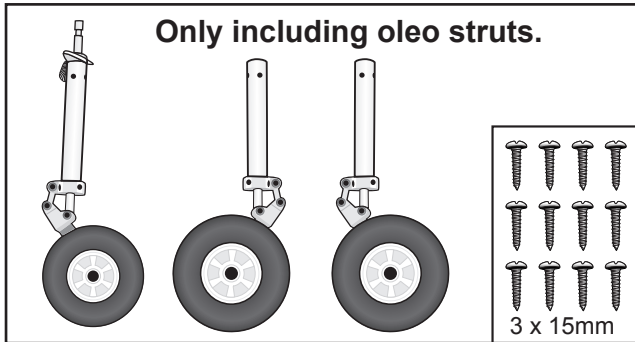
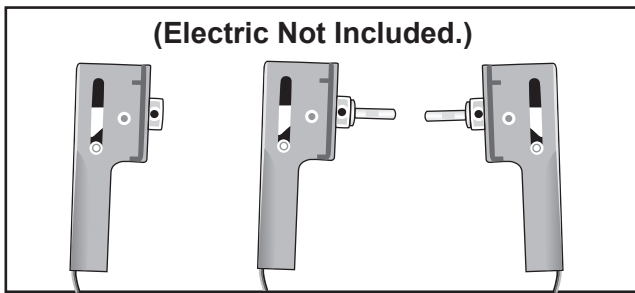
**VIII. INSTALLING PLASTIC PARTS ELEVATOR**

See pictures below:

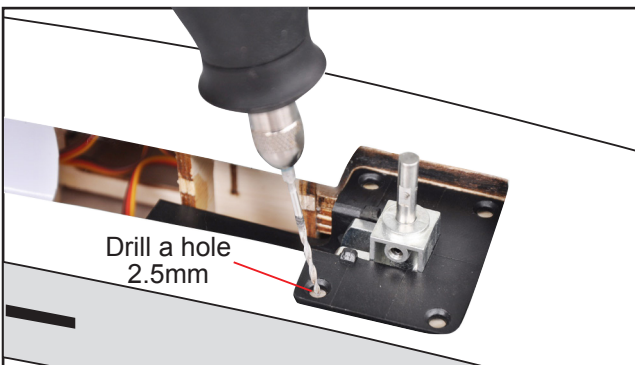


**IX. INSTALLING ELECTRIC GEAR RETRACTS**

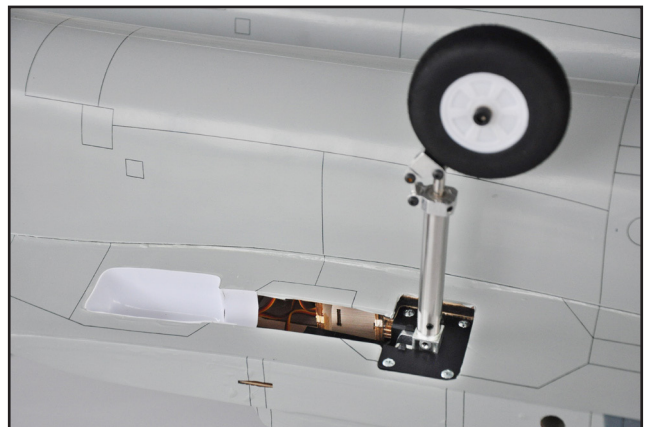
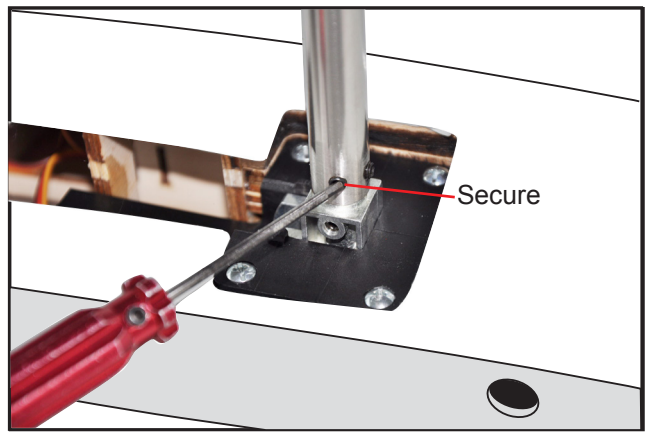
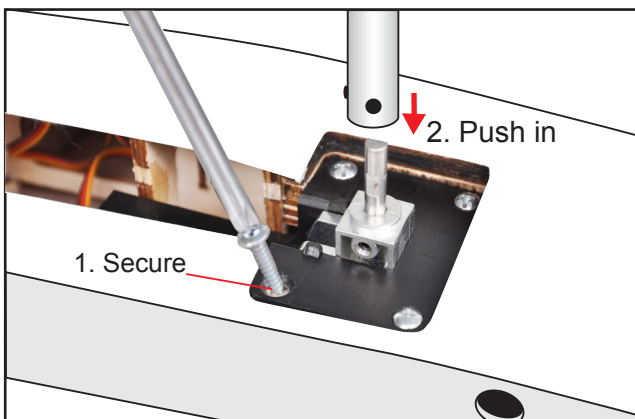




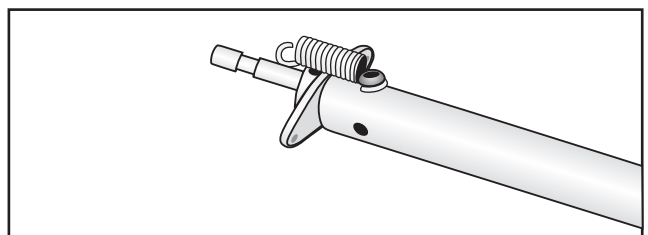
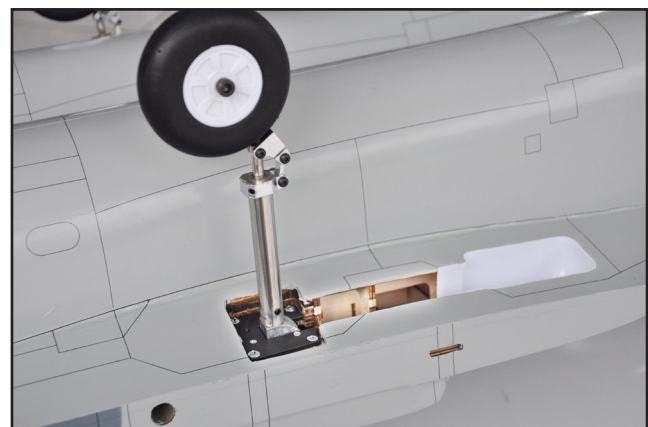
Pilot drill the mounting holes.

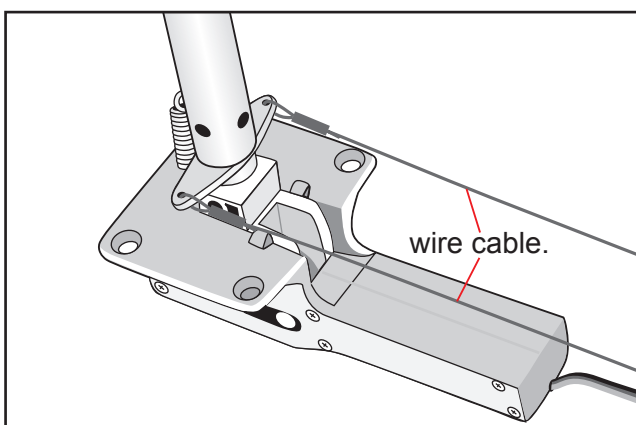
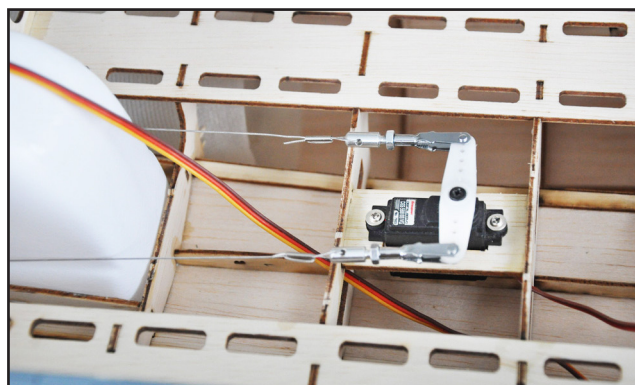
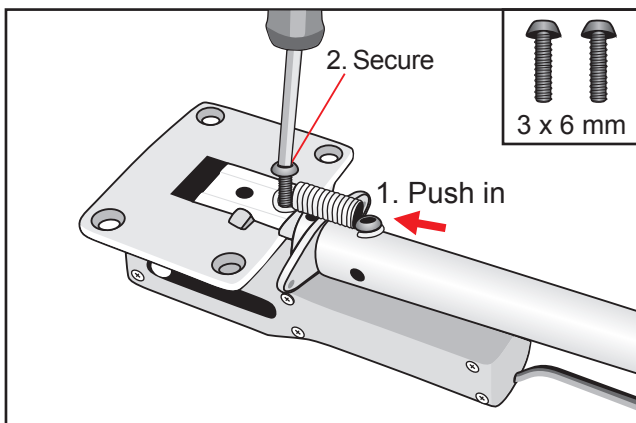


Screw the gear in position.



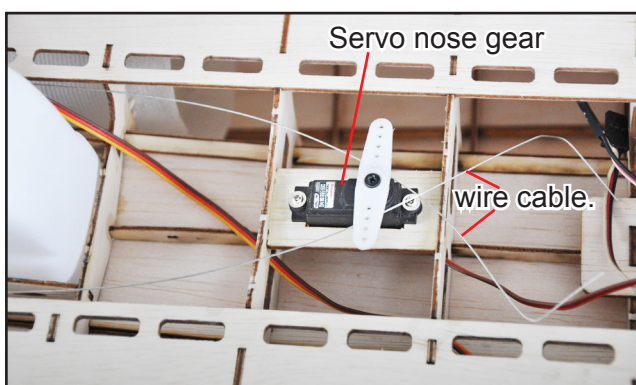
Repeat the procedure for the other Gear.





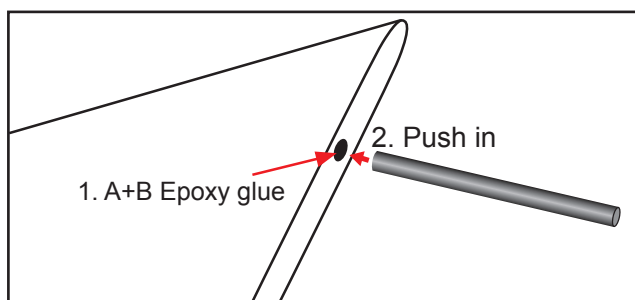
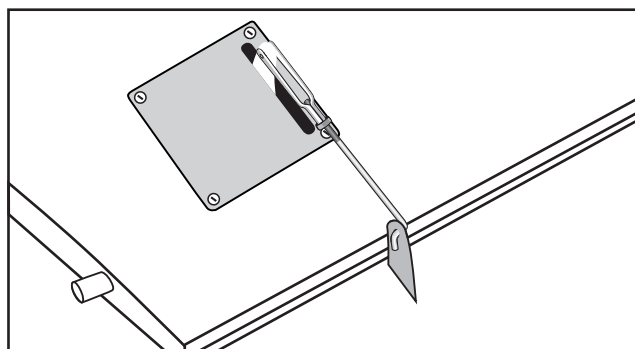
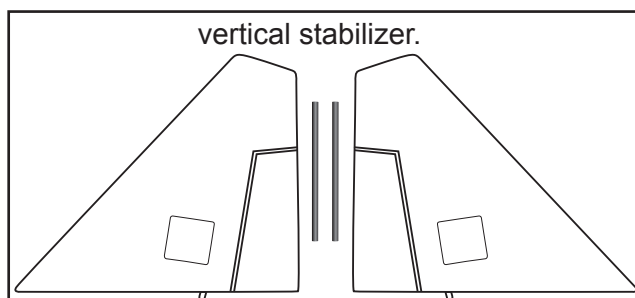
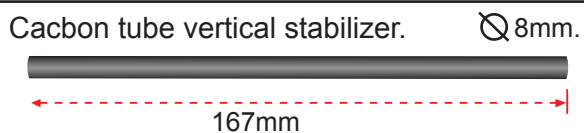
### X. INSTALLING SERVO NOSE GEAR

See picture below:

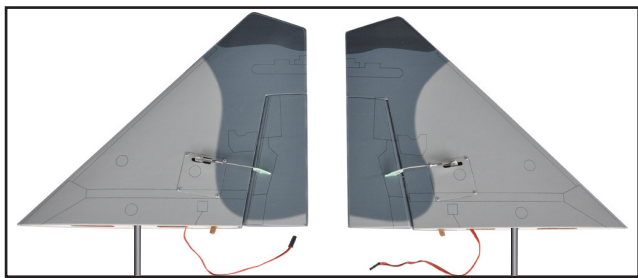


### XI. VERTICAL INSTALLATION

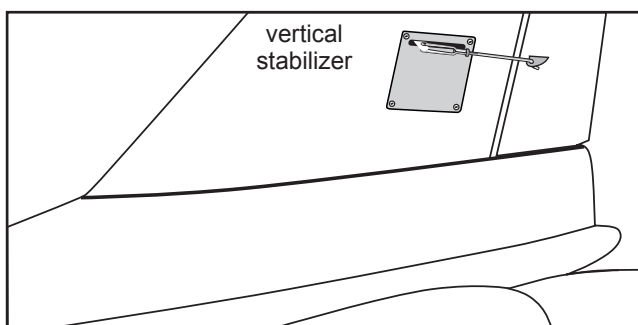
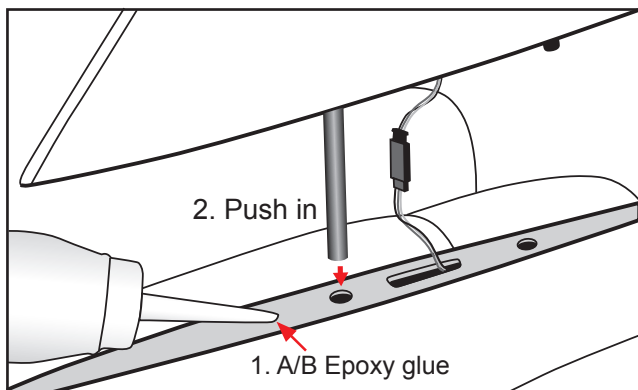
Rudder servo and control horn install as same as method of the aileron (page 4 - 5).



Repeat the procedure for the other vertical stabilizer.



Remove the rear of the covering.



Repeat the procedure for the other vertical stabilizer.



## XII. INSTALLING THE RECEIVER, ESC AND BATTERY

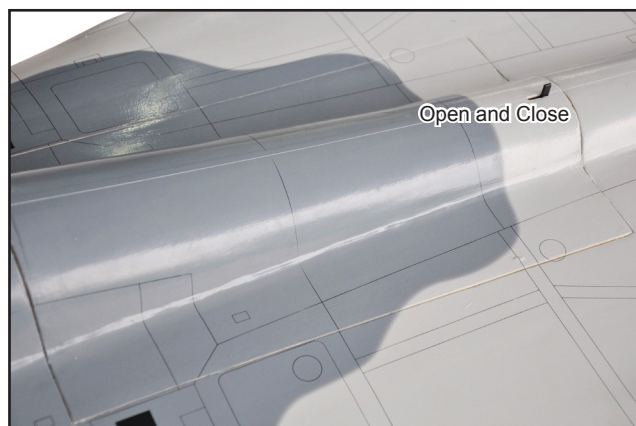
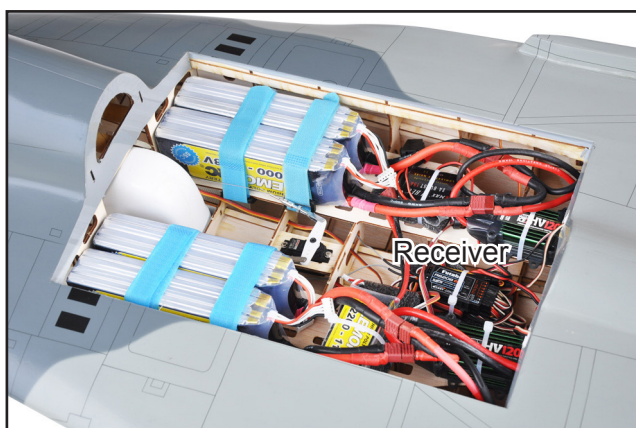
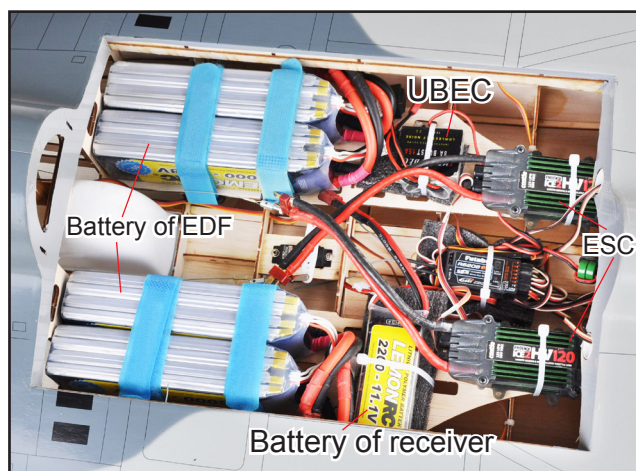
□ 1) Plug the servo leads and the switch lead into the receiver. You may want to plug an aileron extension into the receiver to make plugging in the aileron servo lead easier when you are installing the wing. Plug the battery pack lead into the switch.

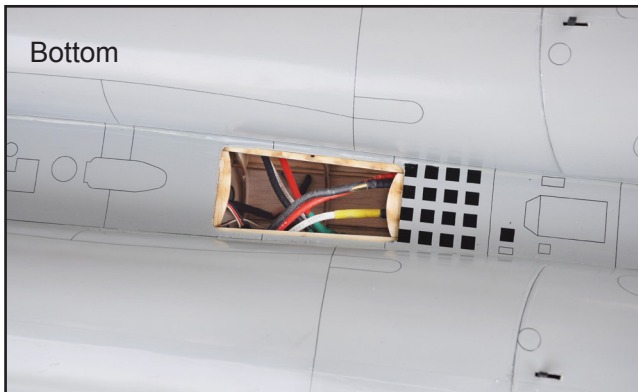
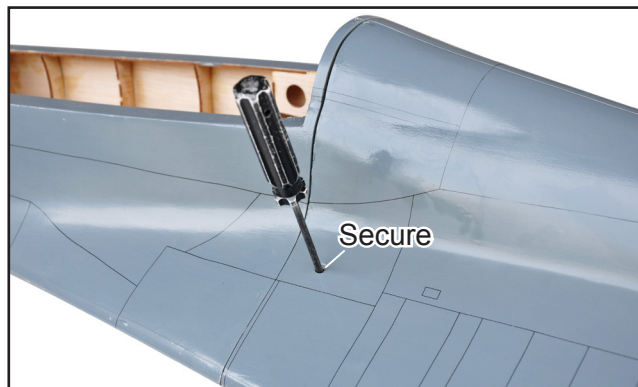
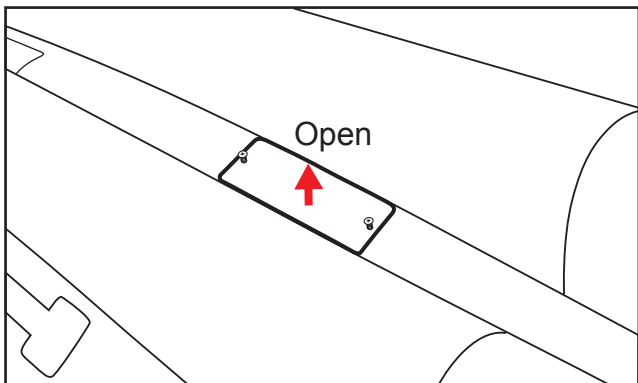
□ 2) Wrap the receiver and battery pack in the protective foam to protect them from vibration. Use a rubber band or masking tape to hold the foam in place.

□ 3) Position the battery pack and receiver is as picture below.

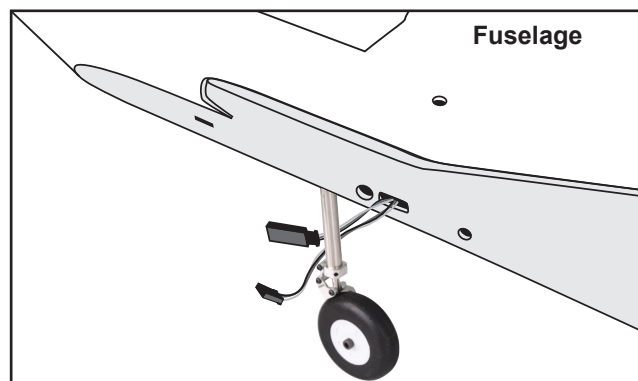
Do not permanently secure the receiver and battery until after balancing the model.

□ 4) Using a 2mm drill bit, drill a hole through the side of the fuselage, near the receiver, for the antenna to exit.



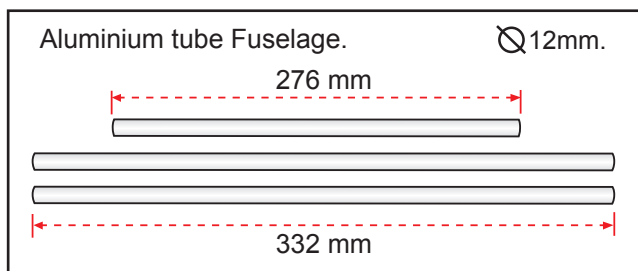


**XIII. WING ATTACHMENT**

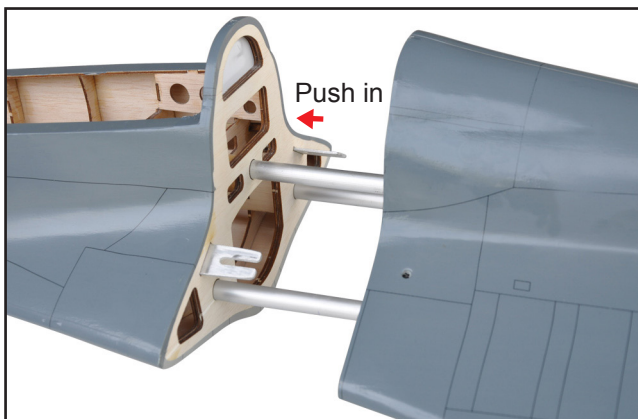


**INSTALLING THE FUSELAGE**

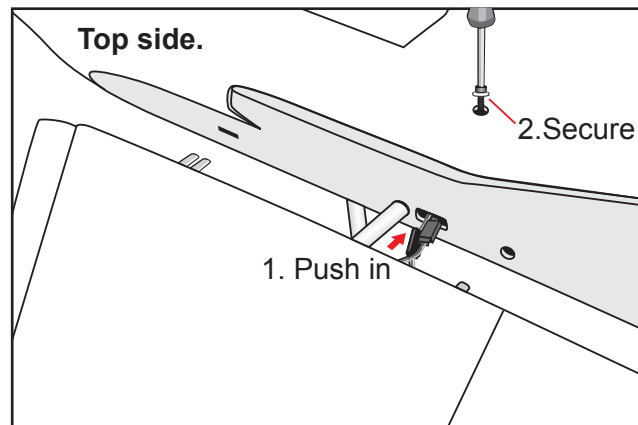
See pictures below:



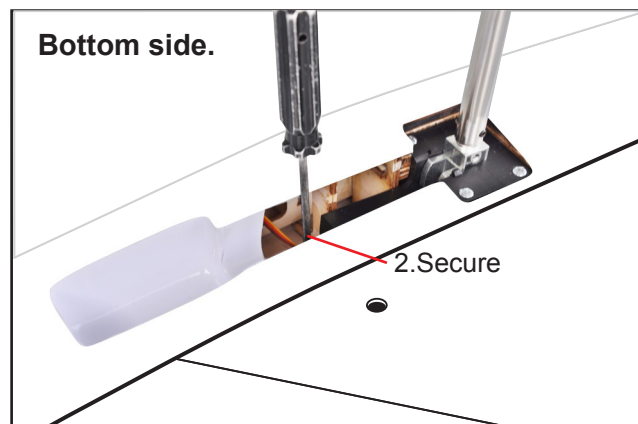
Attach the aluminium tube into the fuselage.

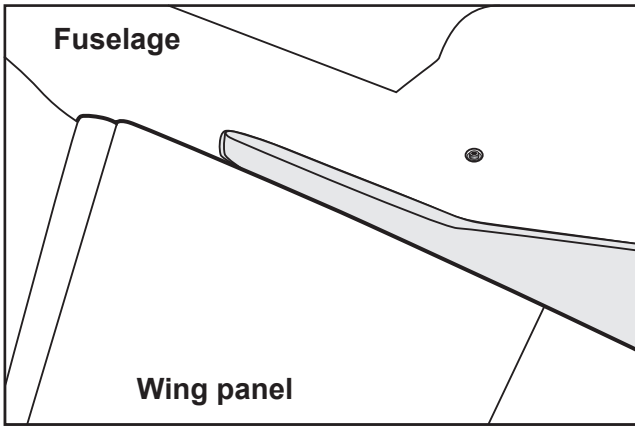


- 1) Attach the aluminium tube into the fuselage.

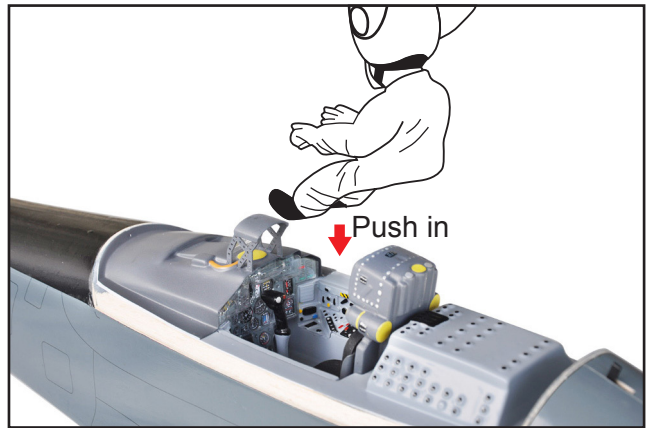
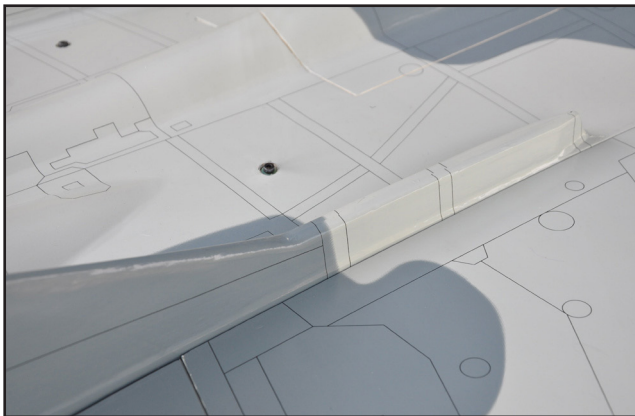


- 2) Insert the wing panel as pictures below.
- 3) Screw the wing panel in position.

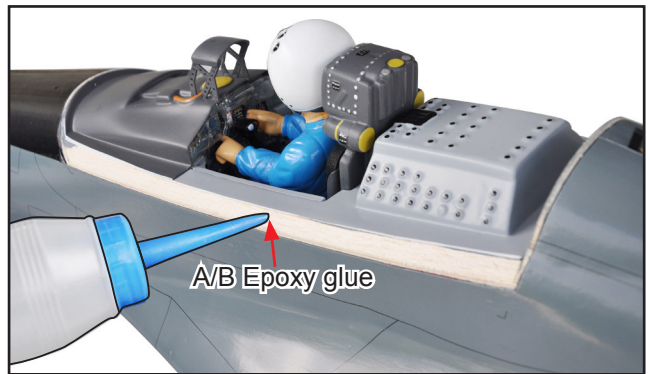




Repeat the procedure for the other wing half.

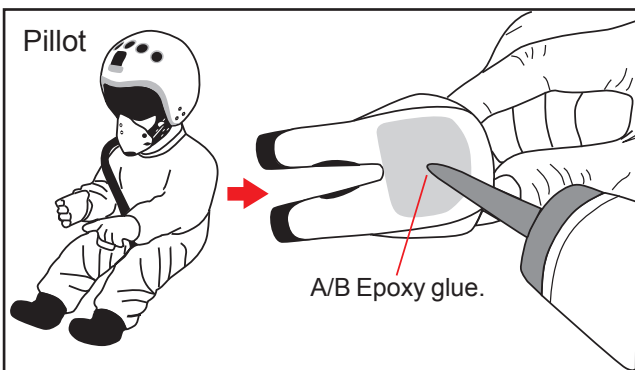


Use glue to secure the canopy to the fuselage. The shape of the canopy, so make sure to install it in the correct direction.

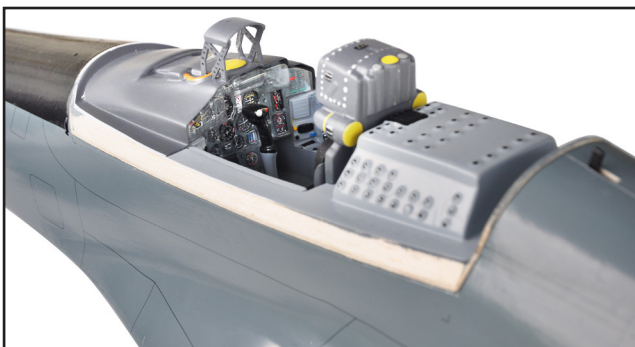


### XIV. INSTALLING COCKPIT FUSELAGE

See picture below:

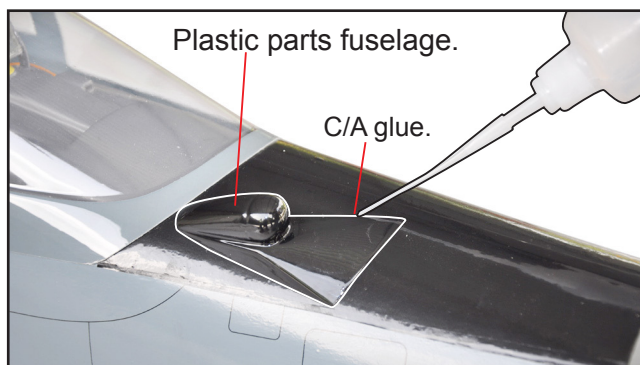


Position the canopy so the rear frame on the canopy is aligned with the rear edge of the cockpit opening. Use canopy glue to secure the canopy to the canopy hatch. Use low-tack tape to hold the canopy in position until the glue fully cures. Wrap the tape completely around the canopy hatch, as the tape does not stick well to the covering. We used balsa sticks to hold the lower edges of the canopy tightly against the canopy hatch.



## XV. PLASTIC PARTS FUSELAGE

See picture below:



## BALANCING

**1)** It is critical that your airplane be balanced correctly. Improper balance will cause your plane to lose control and crash.

THE CENTER OF GRAVITY IS LOCATED **185 MM** BACK FROM THE LEADING EDGE OF THE WING.

**2)** Mount the wing to the fuselage. Using a couple of pieces of masking tape, place them on the top side of the wing **185 mm** back from the leading edge, at the fuselage sides.

**3)** Turn the airplane upside down. Place your fingers on the masking tape and carefully lift the plane.

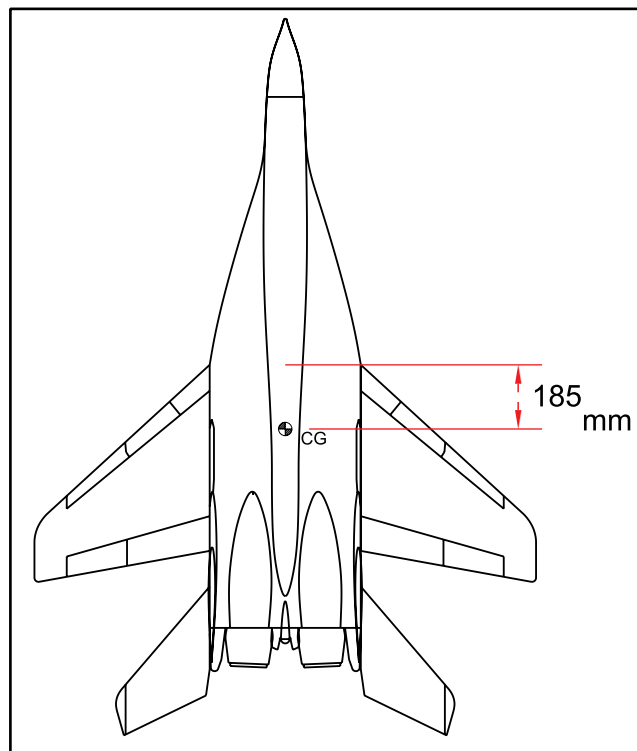
Accurately mark the balance point on the top of the wing on both sides of the fuselage. The balance point is located **185 mm** back from the leading edge. This is the balance point at which your model should balance for your first flights. Later, you may wish to experiment by shifting the balance up to 10mm forward or back to change the flying characteristics. Moving the balance forward may improve the smoothness and arrow-like tracking, but it may then require more speed for take off and make it more difficult to slow down for landing. Moving the balance aft makes the model more agile with a lighter and snappier "feel". In any case, please start at the location we recommend.

With the wing attached to the fuselage, all parts of the model installed ( ready to fly), and empty fuel tanks, hold the model at the marked balance point with the stabilizer level.

Lift the model. If the tail drops when you lift, the

model is "tail heavy" and you must add weight\* to the nose. If the nose drops, it is "nose heavy" and you must add weight\* to the tail to balance.

\*If possible, first attempt to balance the model by changing the position of the receiver battery and receiver. If you are unable to obtain good balance by doing so, then it will be necessary to add weight to the nose or tail to achieve the proper balance point.



## CONTROL THROWS

**1)** We highly recommend setting up a plane using the control throws listed.

**2)** The control throws should be measured at the widest point of each control surface.

**3)** Check to be sure the control surfaces move in the correct directions.

### Control throw Ailerons:

Low: 12mm up / down, 12% expo.  
High: 18mm up / down, 12% expo.

### Control throw Flaps:

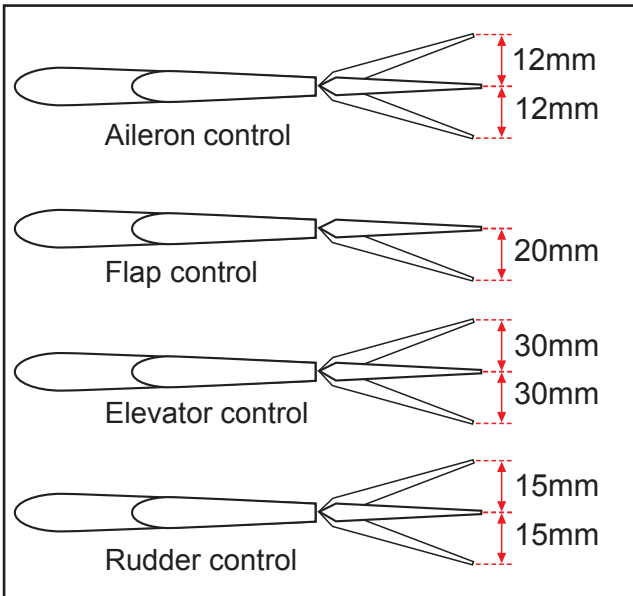
Mid: 20mm up / down, 15% expo.

### Control throw Elevators:

Low: 30mm up / down, 20% expo.  
High: 50mm up / down, 20% expo.

### Control throw Rudder:

Right: 15mm right / left, 15% expo.  
Left: 25mm right / left, 15% expo.



**PRE-FLIGHT CHECK**

- 1) Completely charge your transmitter and receiver batteries before your first day of flying.
- 2) Check every bolt and every glue joint in your plane to ensure that everything is tight and well bonded.
- 3) Double check the balance of the airplane.
- 4) Check the control surface.
- 5) Check the receiver antenna . It should be fully extended and not coiled up inside the fuselage.
- 6) Properly balance the propeller.

**We wish you many safe and enjoyable flights with your MIG-29.**

**I/C FLINGT WARNINGS**

