Instruction Manual book

MOSQUITO MK VI

SPECIFICATION

- Wingspan : 1,600 mm 62.99 in.
- Length : 1,230 mm 48.43 in.
- Weight : 2.5 kg 5.5 Lbs.
- Radio : 06 channels.
- Servo : 07 servos.
- Electric Motor : (02pcs) AXI 2814/12.
- Battery: 3 CELLS-LI-POLY 11.1V-5000 mA.h-20^{C}.
- Propeller : (02pcs)10 x 6
- Speed control : (02pcs) : 40 A.

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 **MOSQUITO MK VI**. 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.

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.

Some more parts.

HARDWARE PACK

COWLING.
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.

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. **MOSQUITO MK VI** 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 already 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.

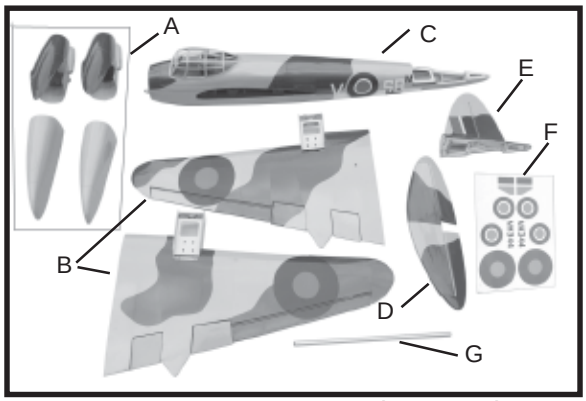
This model is highly pre-fabricated and can be built in a very short time. However, the work which you have to carry out is important and must be done carefully. The model will only be strong and fly well if you complete your tasks competently - so please work slowly and accurately.

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.

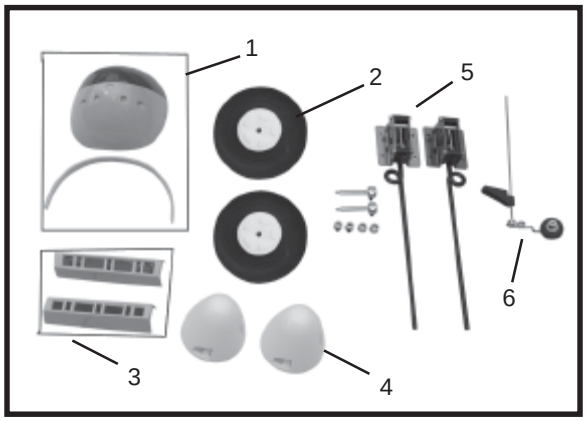
+ This is not a toy
+ Be sure that no other flyers are using your radio frequency.
+ The glow plug clip must be securely attached to the glow plug.
+ Do not flip the propeller with your fingers.
+ Keep loose clothing and wires away from the propeller.
+ Do not start the motor if people are near. Do not stand in line with the side of the propeller.

REPLACEMENT LARGE PARTS



A. Cowlings.
B. Wing panel.
C. Fuselage.
D. Horizon stabilizer.
E. Vertical stabilizer.
F. Decal sheet.
G. Aluminium wing dihedral brace.

REPLACEMENT SMALL PARTS



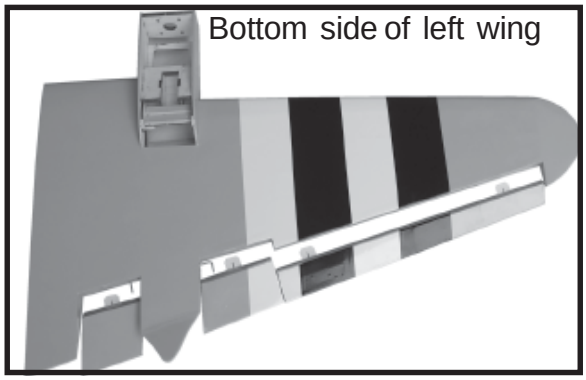
1. Fiberglass cover first fuselage.
2. Wheel (60mm).
3. Fiberglass cover first wing panel.
4. Spinner.
5. Retractable landing gear.
6. Tail gear.

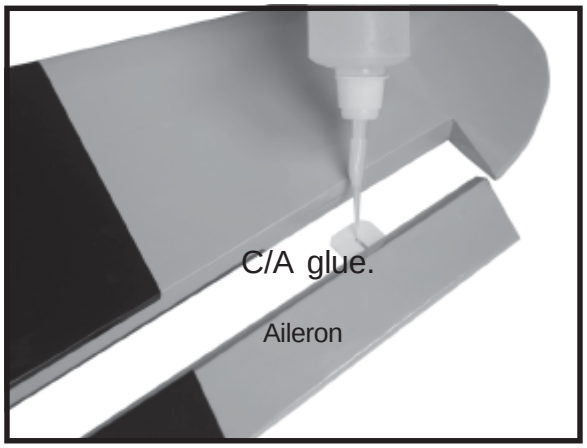
INSTALLING THE AILERON - FLAP SERVO CONTROL HORN.

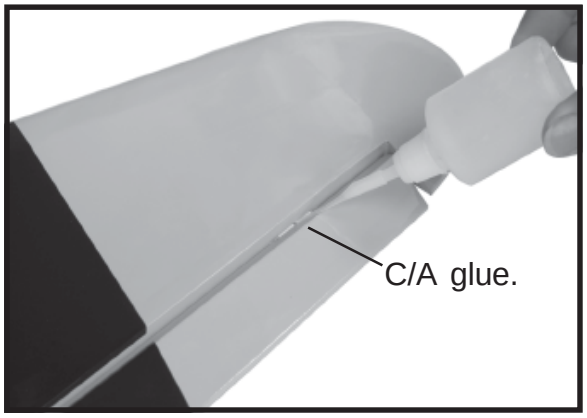
INSTALLING THE AILERON - SERVO CONTROL HORN.

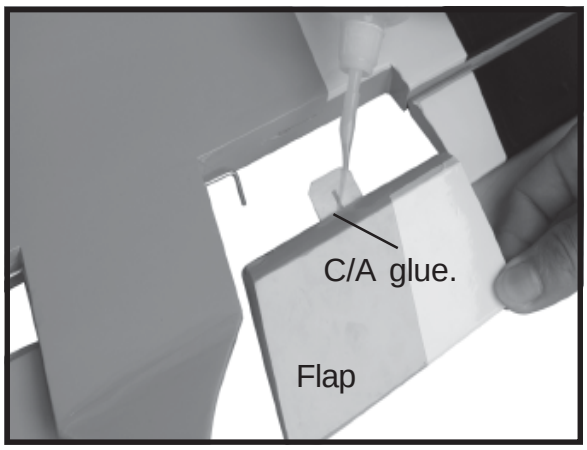
☐ 1) Install the rubber grommets and brass eyelets onto the aileron servo.

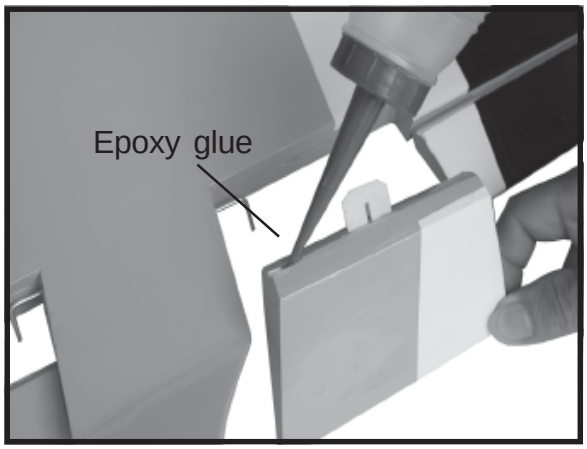
☐ 2) Install the metal connector onto servo arm.

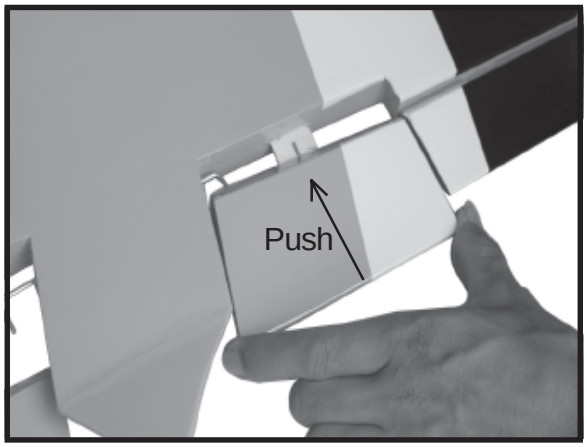


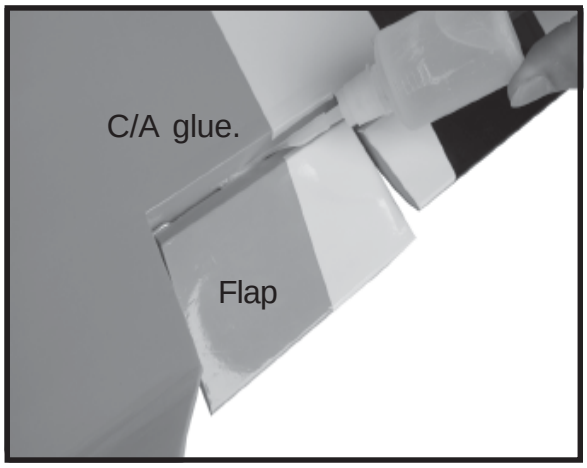


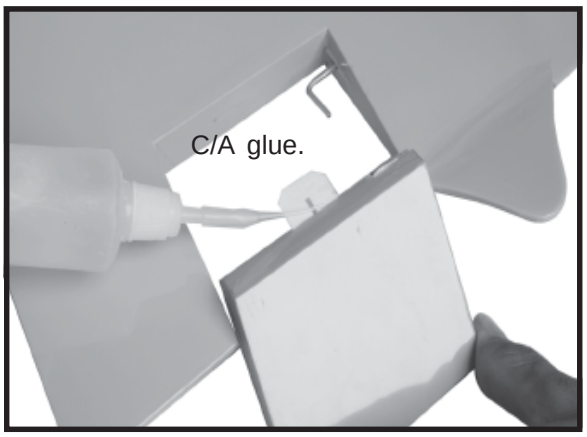


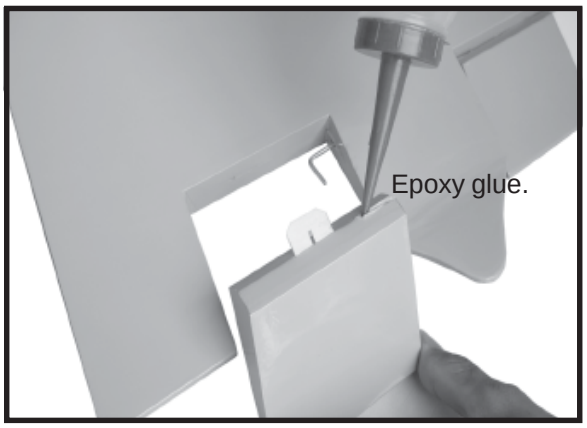


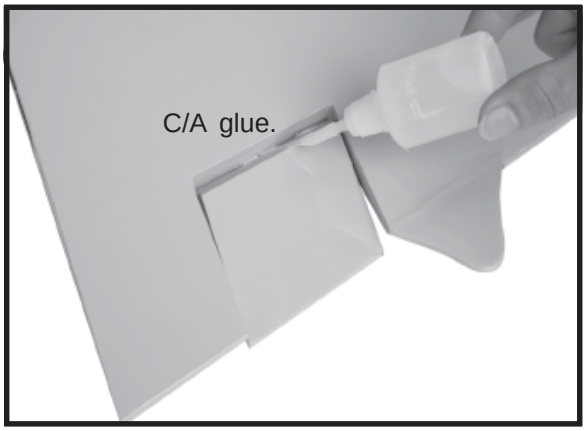


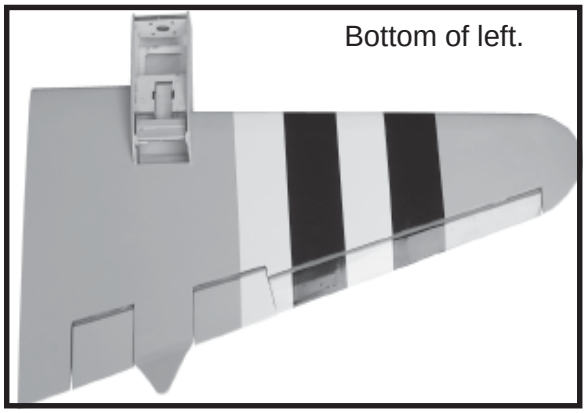






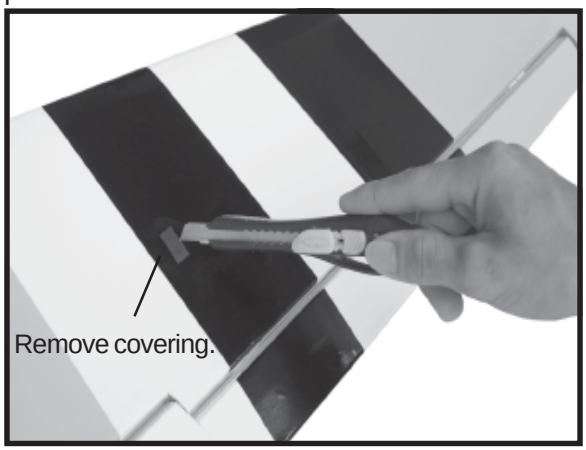


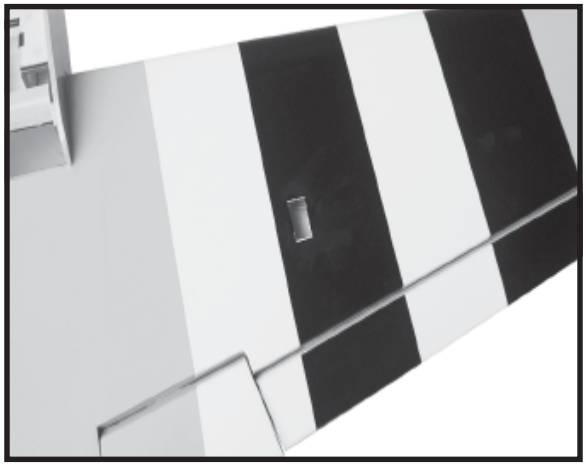


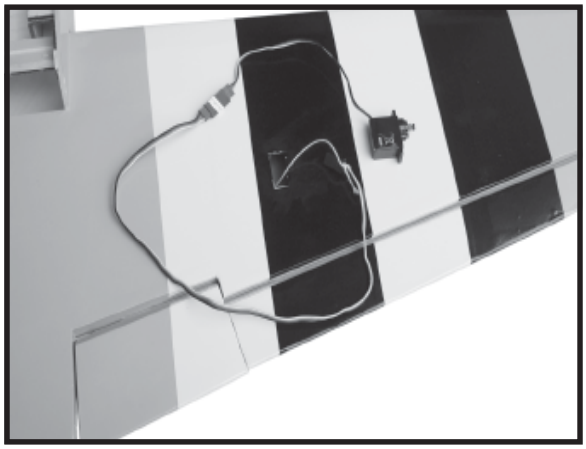


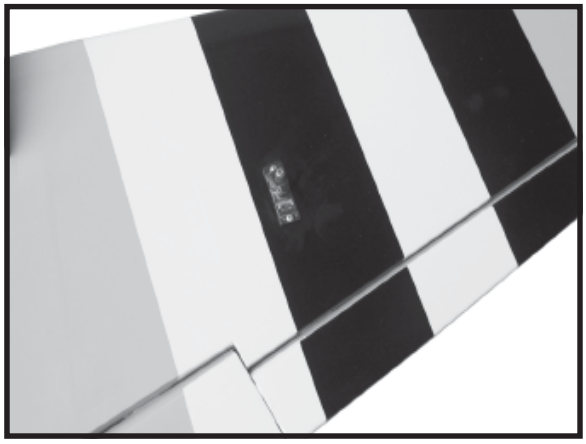
Repeat the procedure for the other wing half.

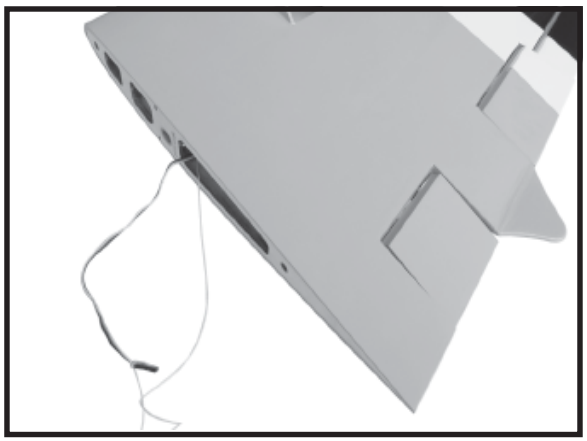
☐ 3) Install the aileron servo as same as picture.

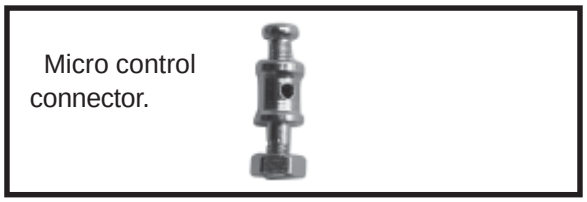




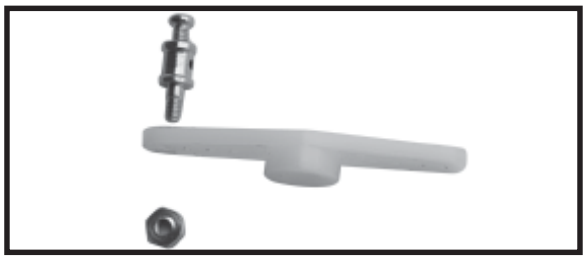


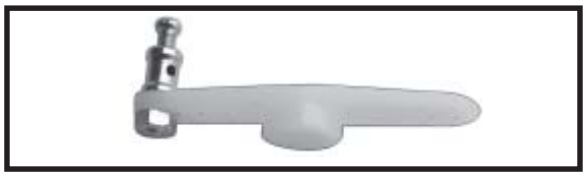


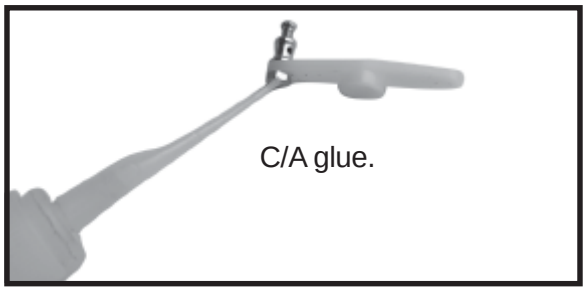


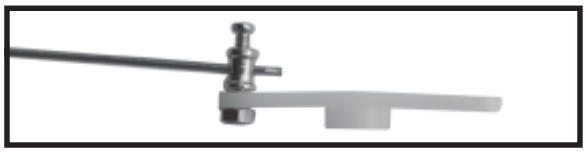


□ 4) Attach the micro control connector to the servo arms. Be sure to use the lock tie but it could free rotation.

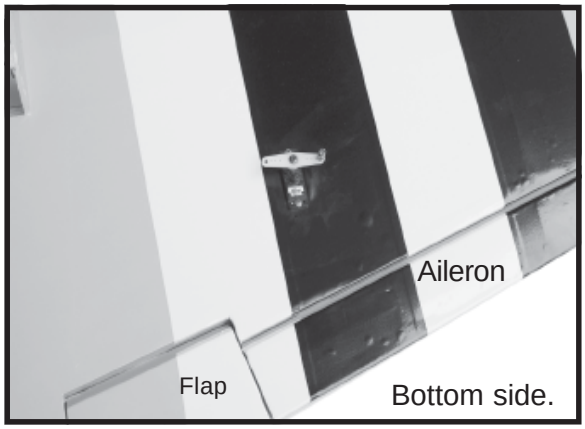




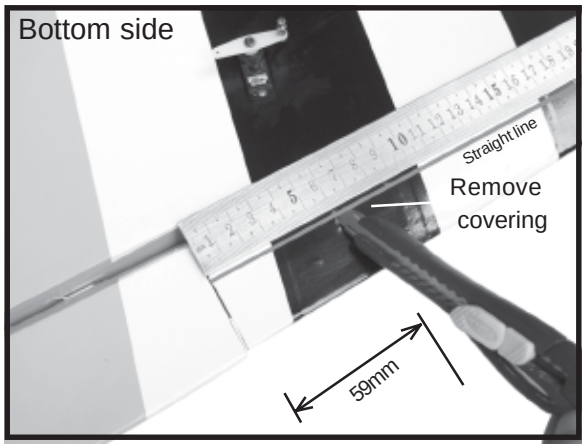




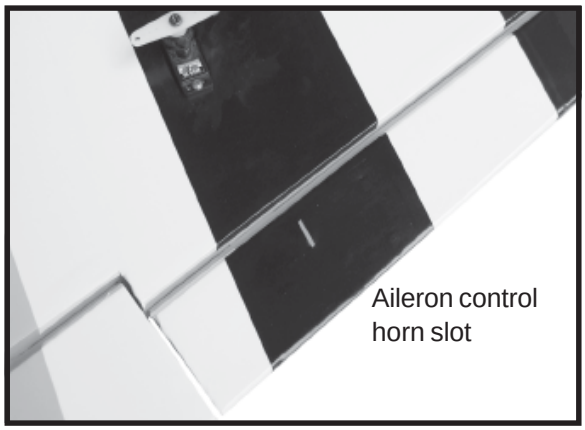
INSTALLINGCONTROL HORN OF THE AILERON



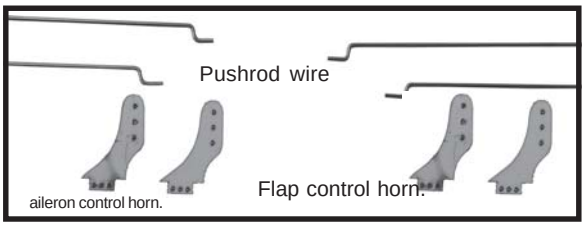
□- Using a ruler & pen to draw a straight line as below picture.

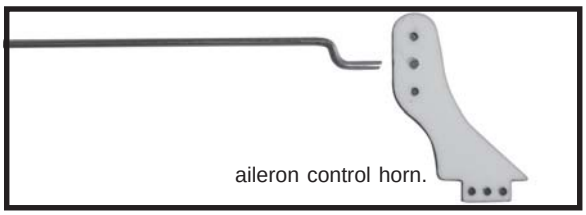


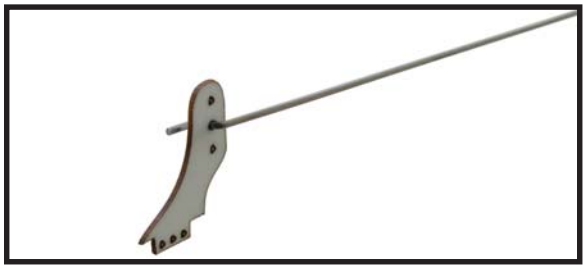
Tracing a line with your finger and using a modeling knife remove a (3mm) wide strip on to the aileron control horn pre-cut slot-mounting.

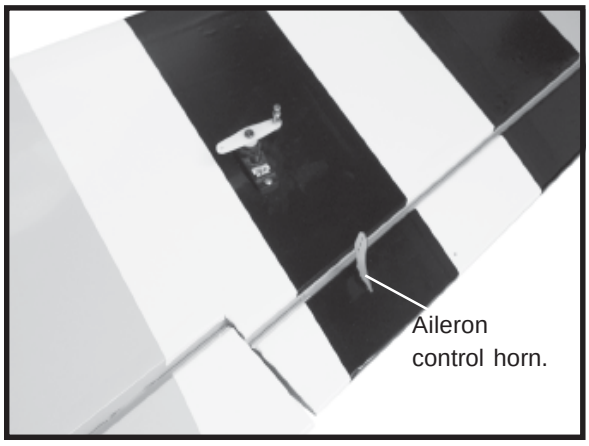


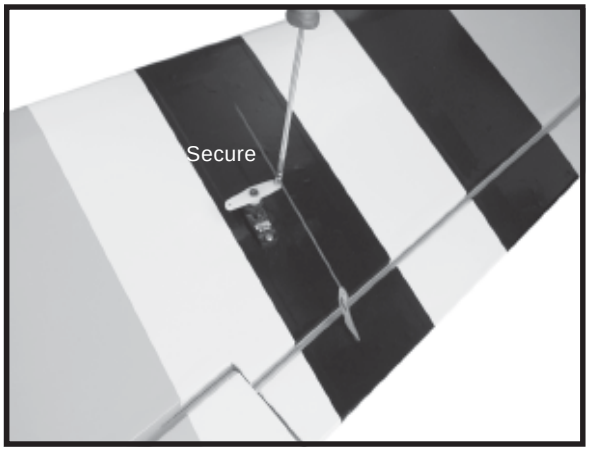
Insert aileron control horn to the aileron.

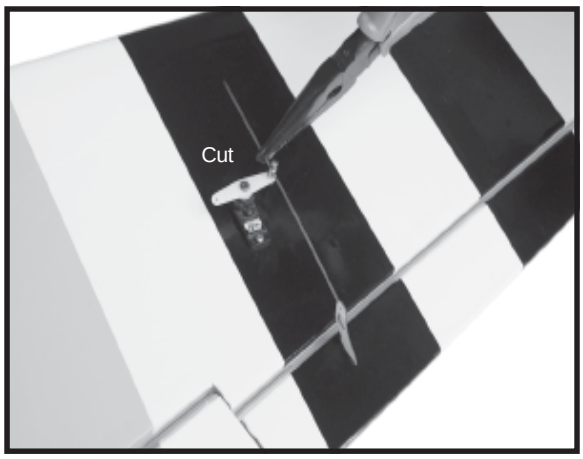


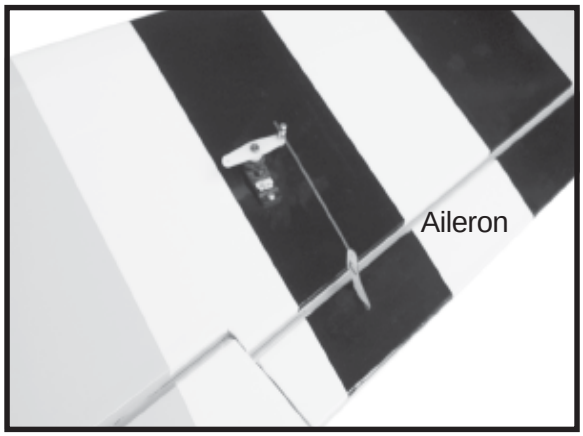




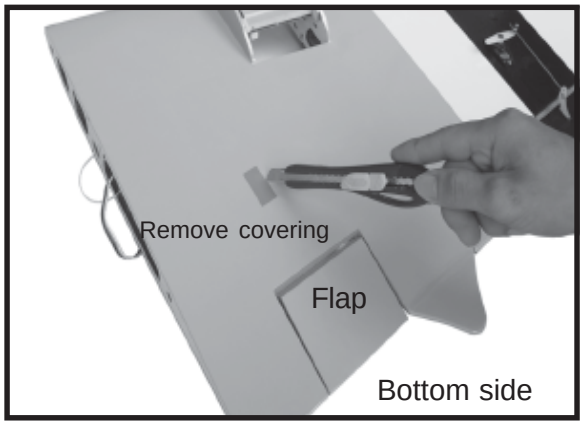


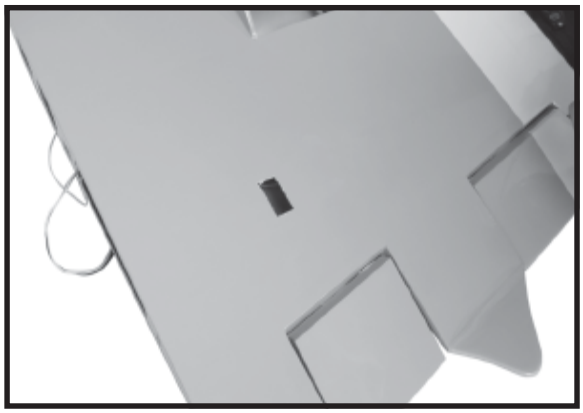


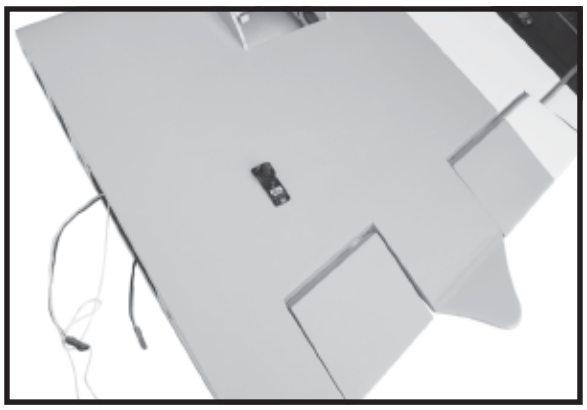


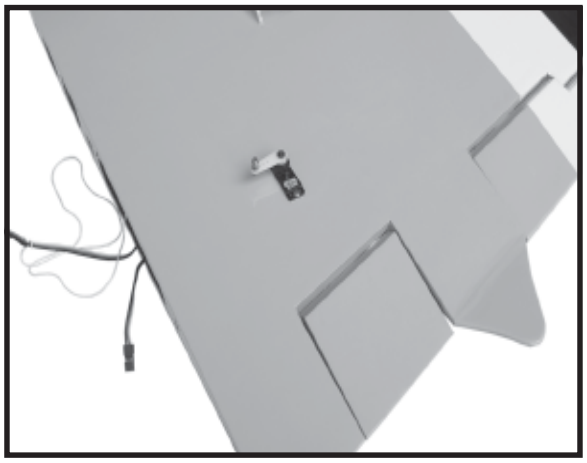


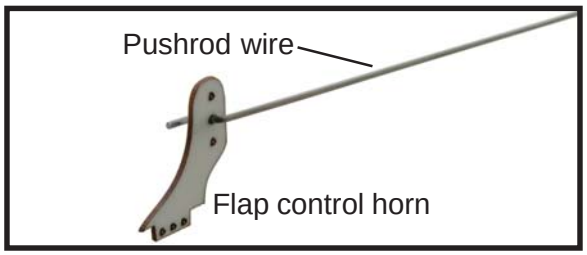
INSTALLING FLAP SERVO-CONTROL HORN.

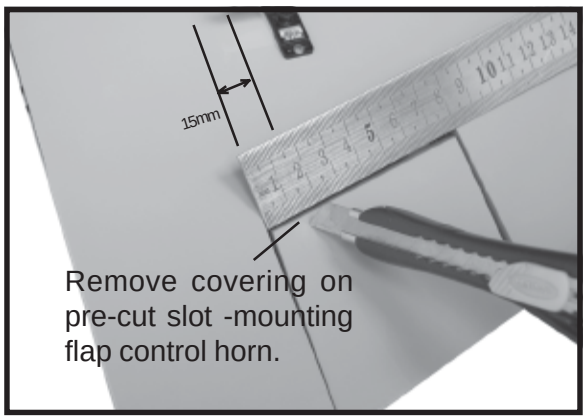


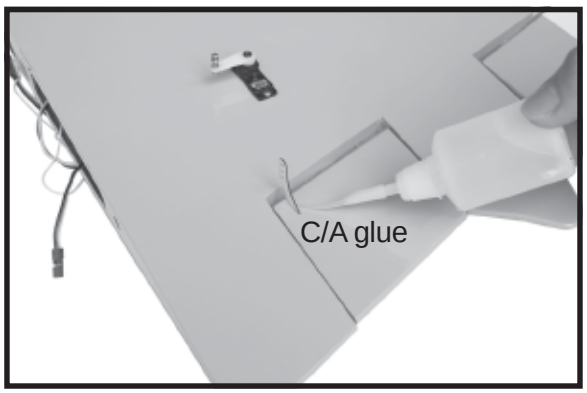




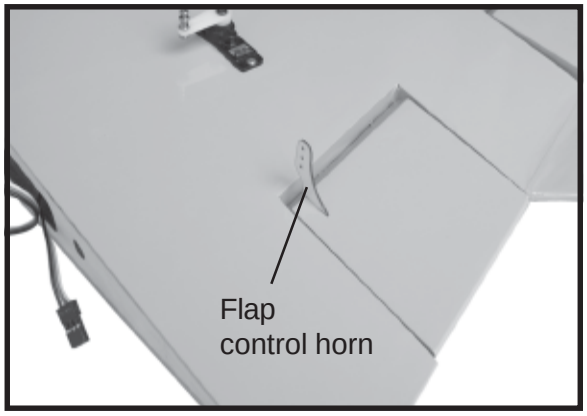


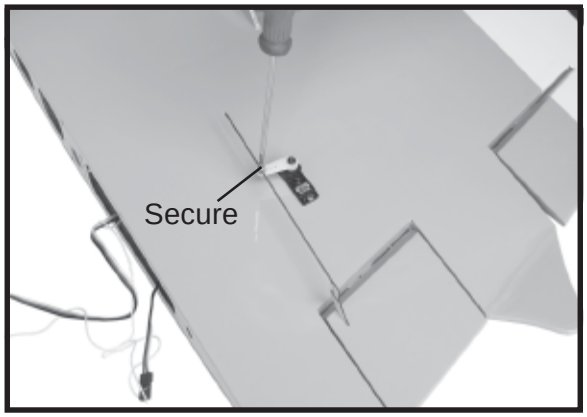


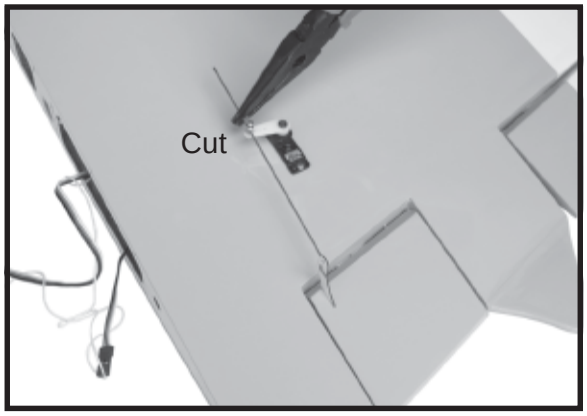


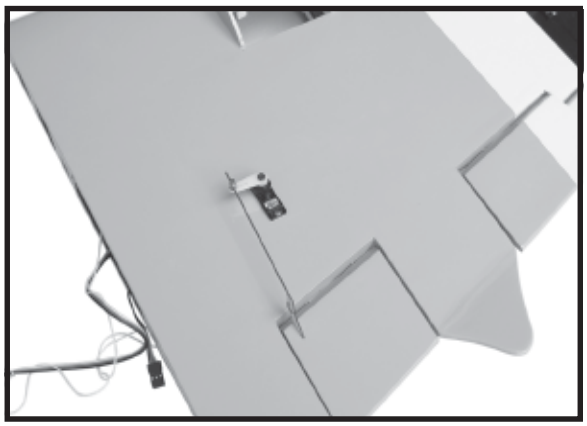


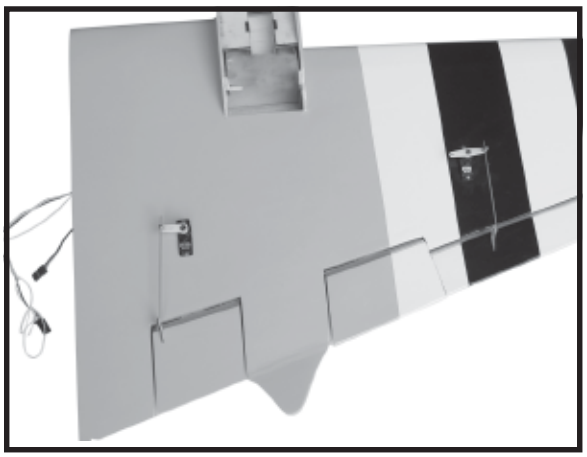
Insert flap control horn as picture above.

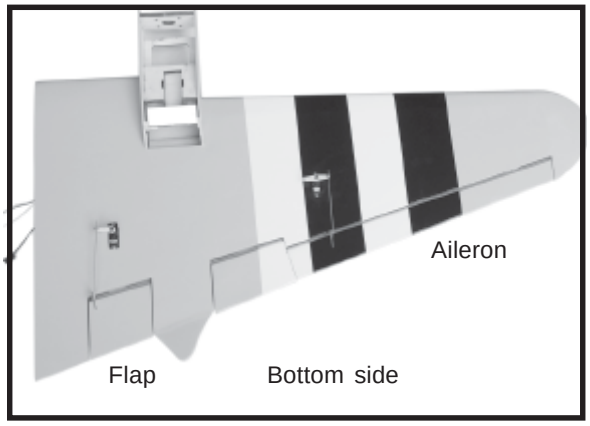








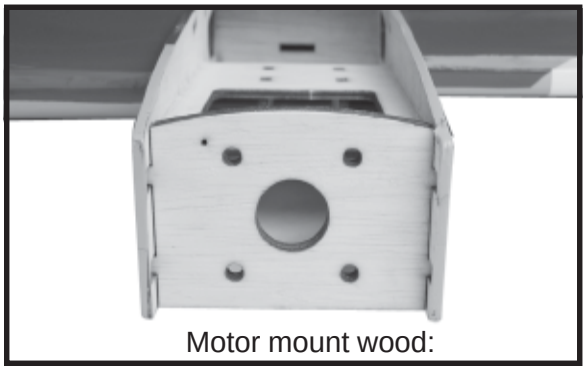


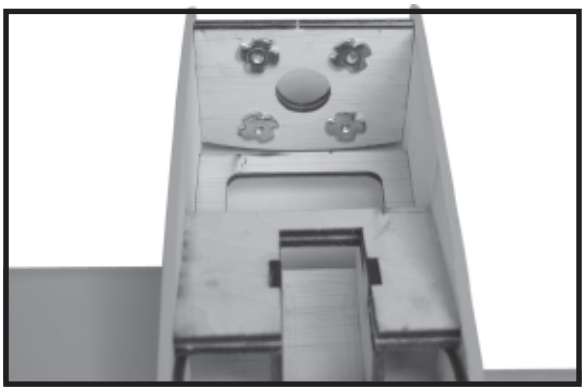


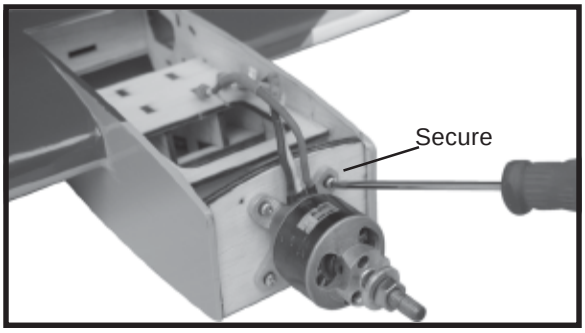
Repeat the procedure for the other wing half.

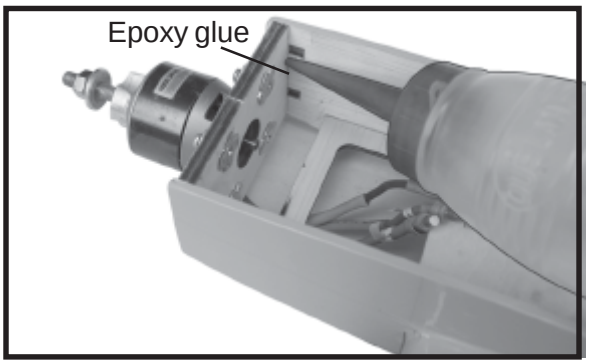
INSTALLING ELECTRIC MOTOR.

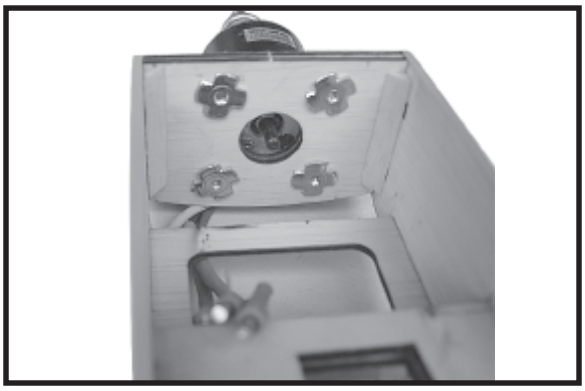
See pictures below:



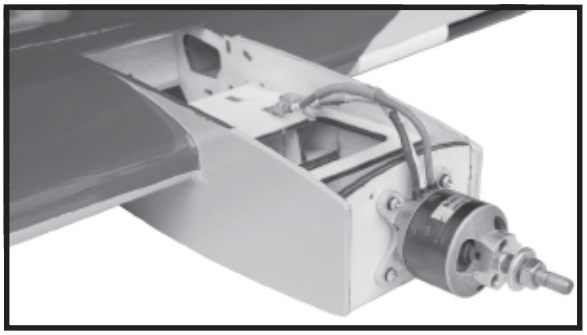


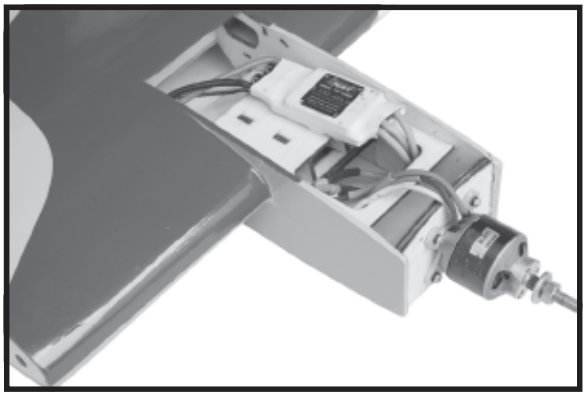


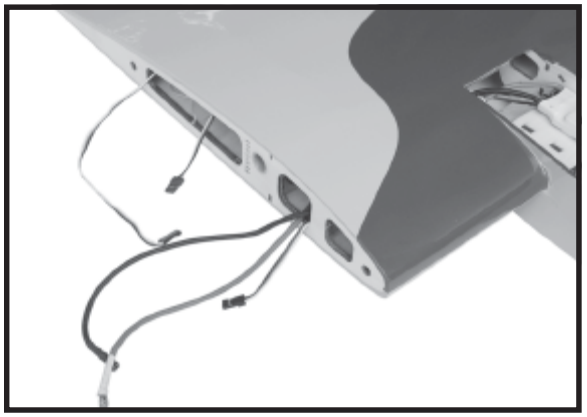


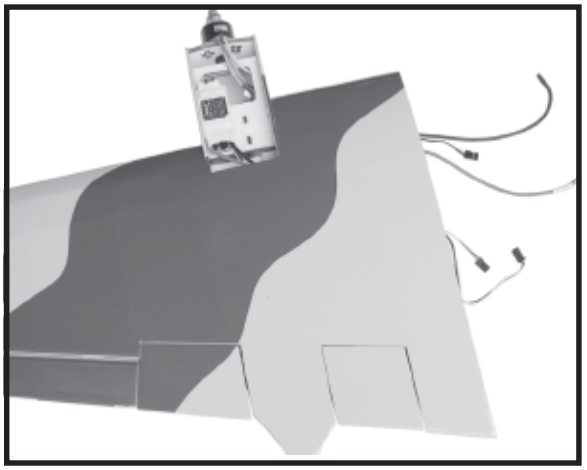


Motor
E.S.C
Receiver
Battery
Take the red line out
Suggestion : Use a sharp secewdriver to take the red cable out from (only one ESC) the BEC connector, and then insulate it with a bit of electrical tape for futher use.

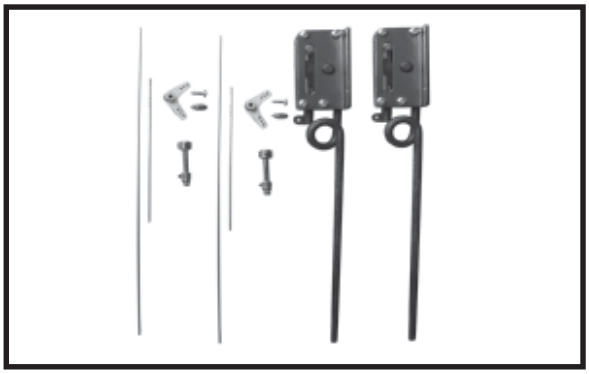


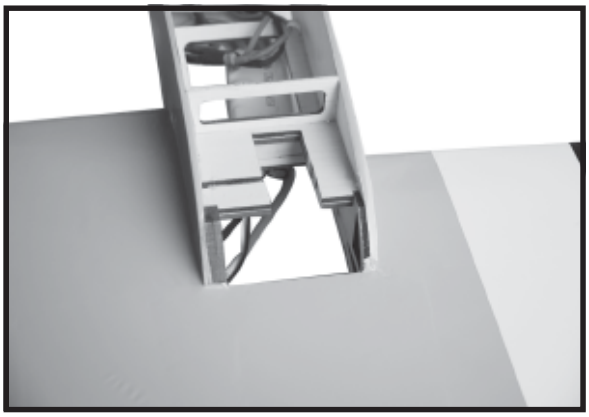


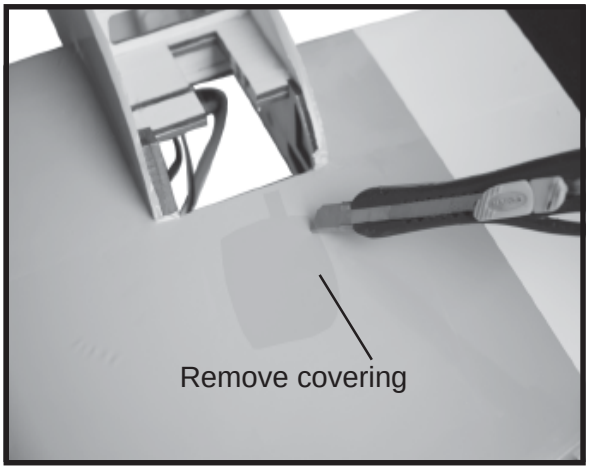


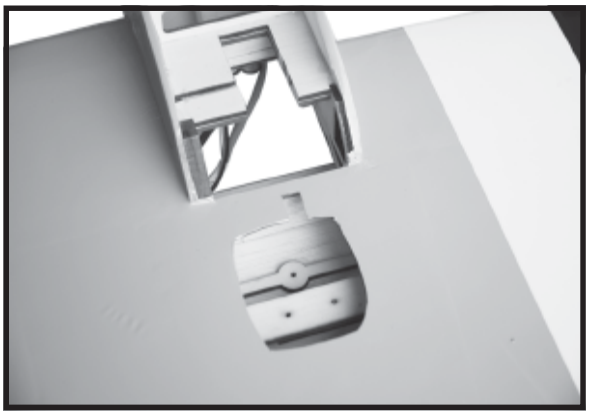


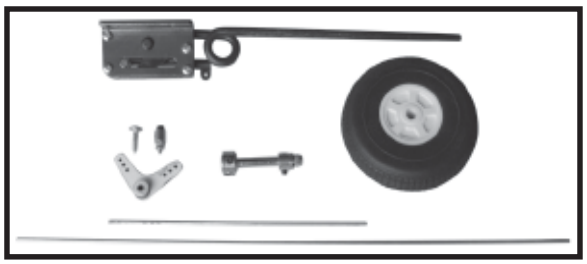
INSTALLING RETRACTABLE LANDING GEAR.

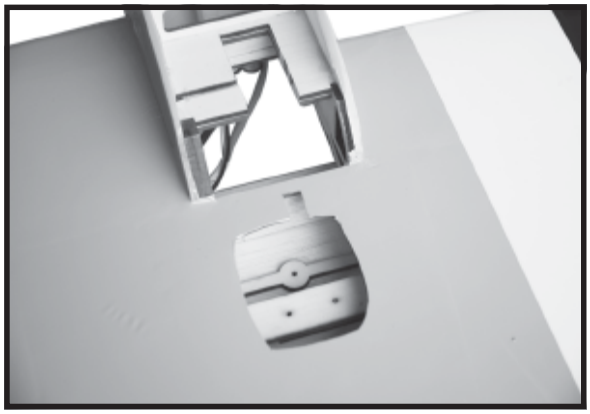


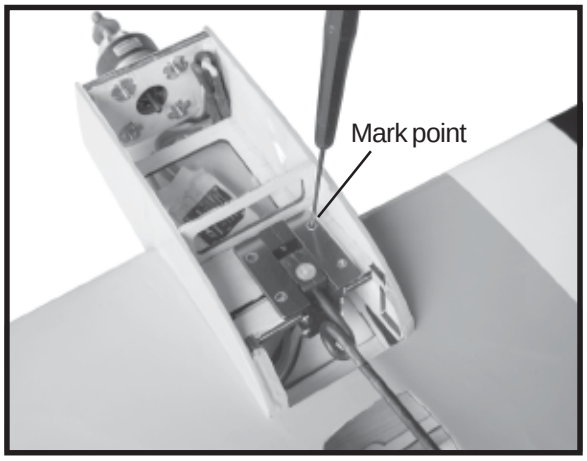




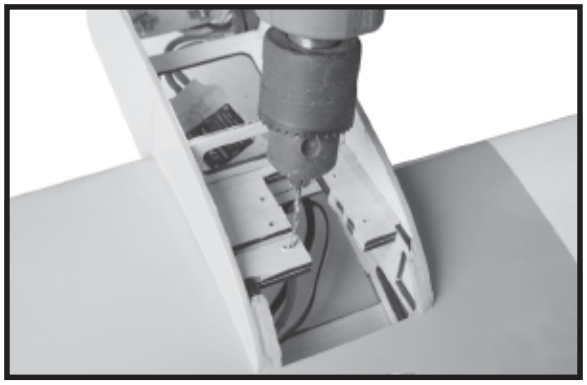




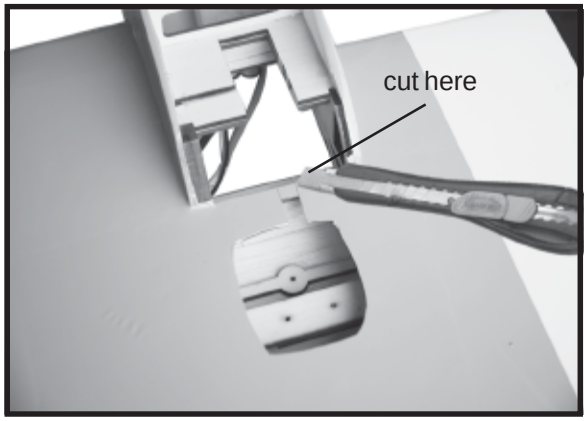


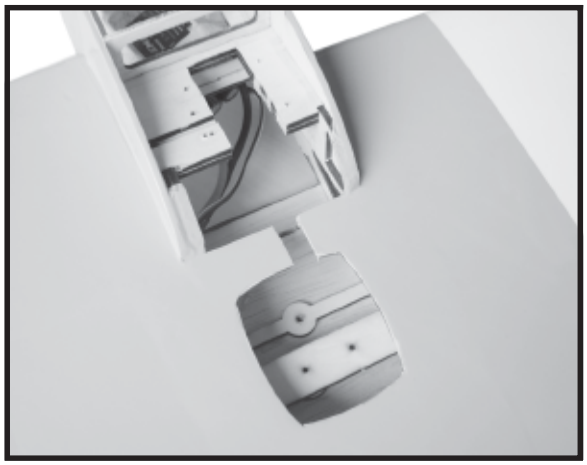


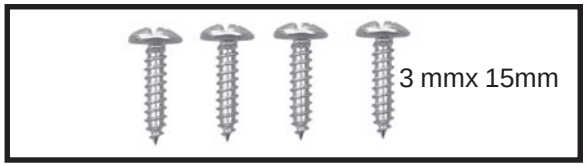
Drill a hole 1.5 mm (diameter)

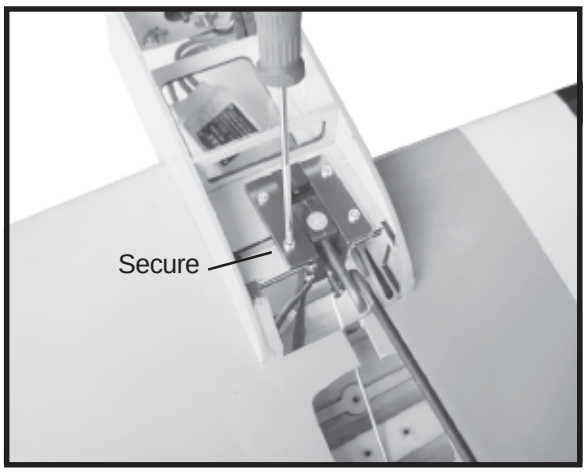


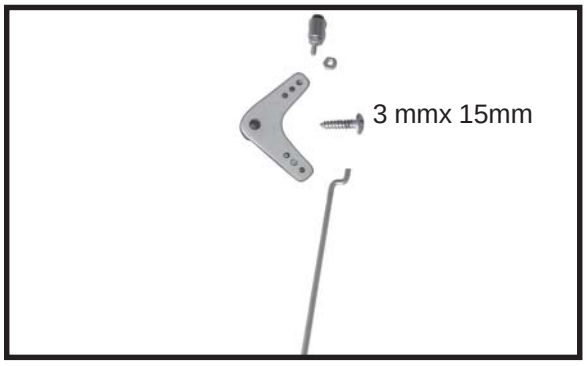
Cut out and reomver the balsa plywood as picture to place for the retract landing gear mounts.

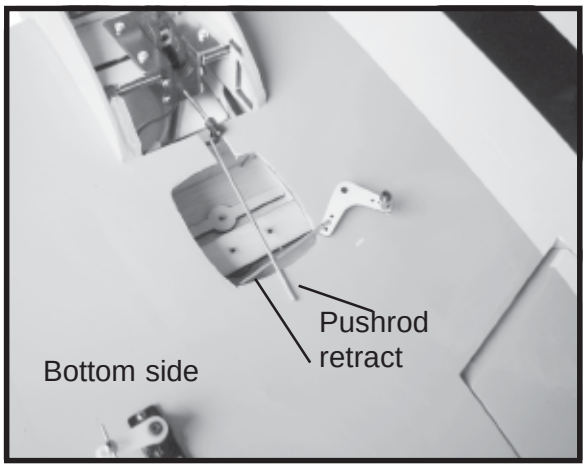


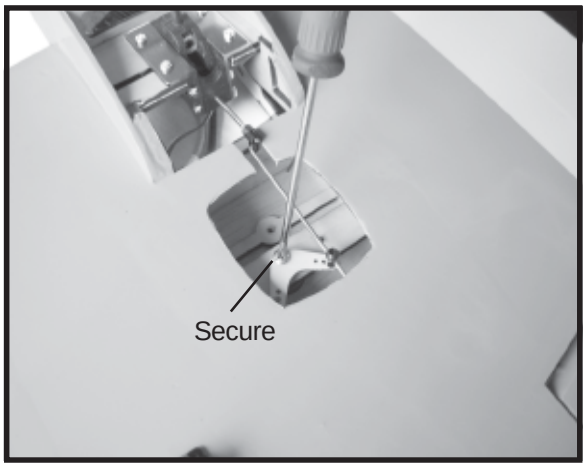


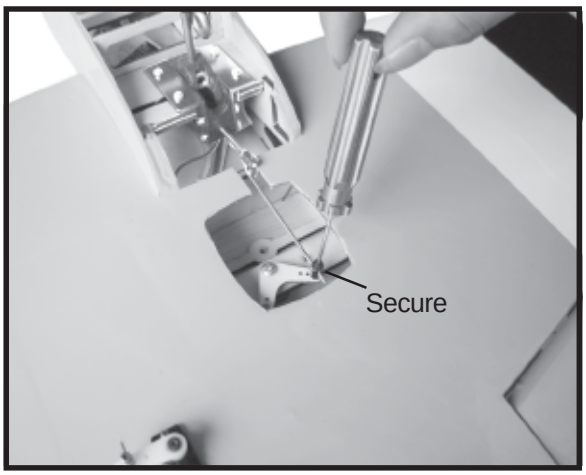


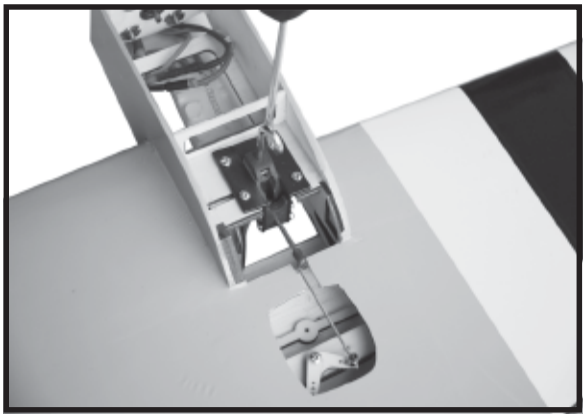








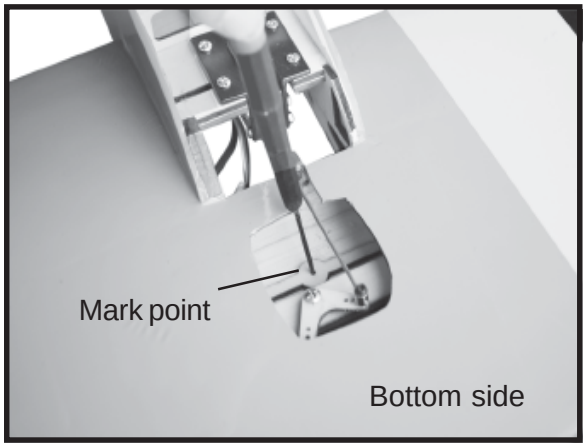


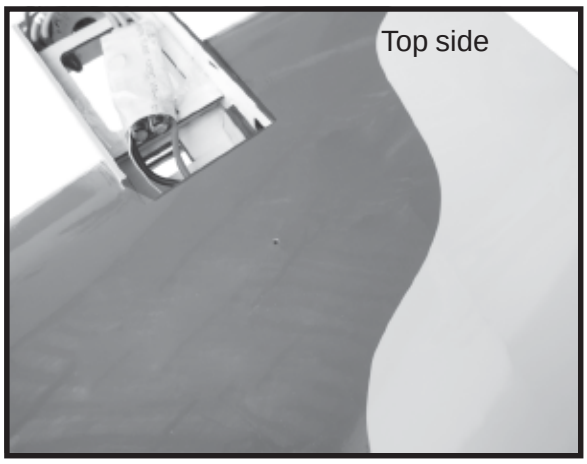


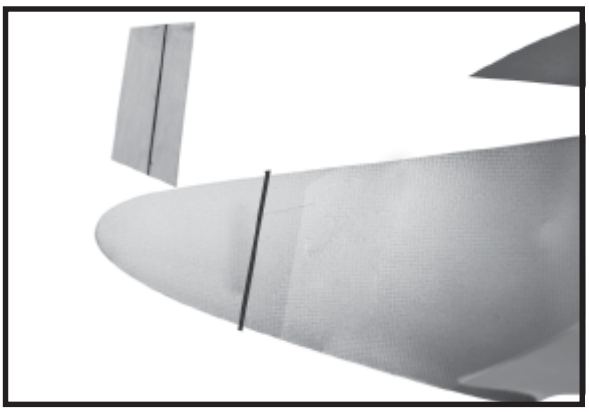
ENGINE NACELLE-COWLING INTALLATION.

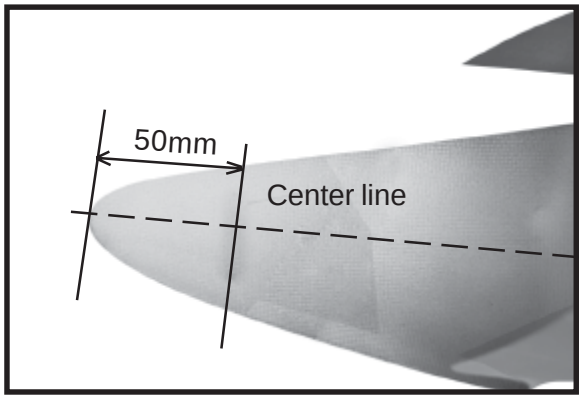
Install the engine cowling as same as picture below.

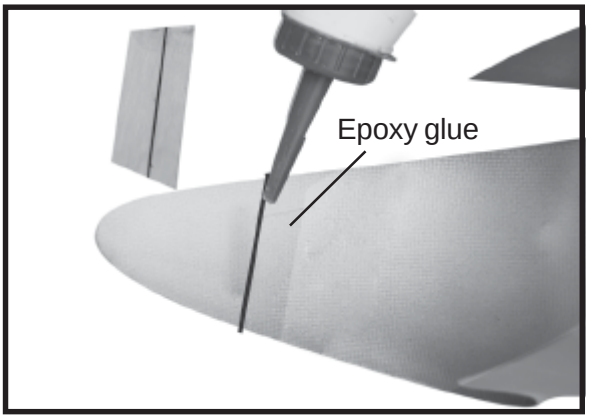
Remove covering through balsa wood on to pre-cut slot of bottom wing as picture below.

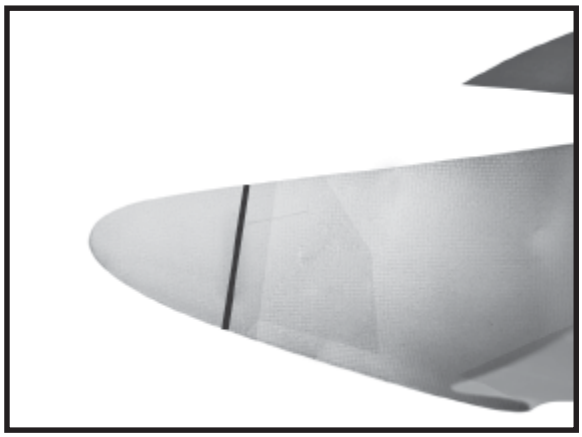


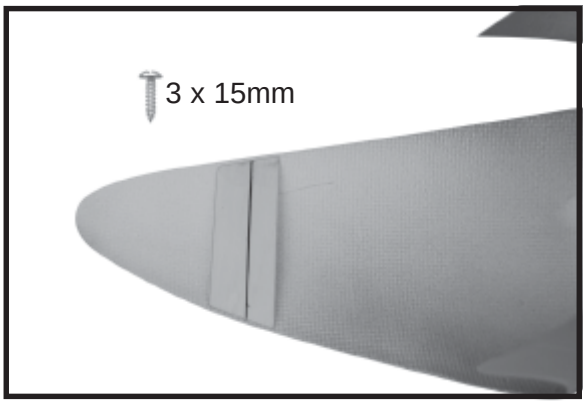

Top side

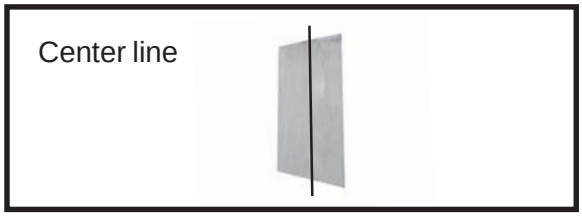


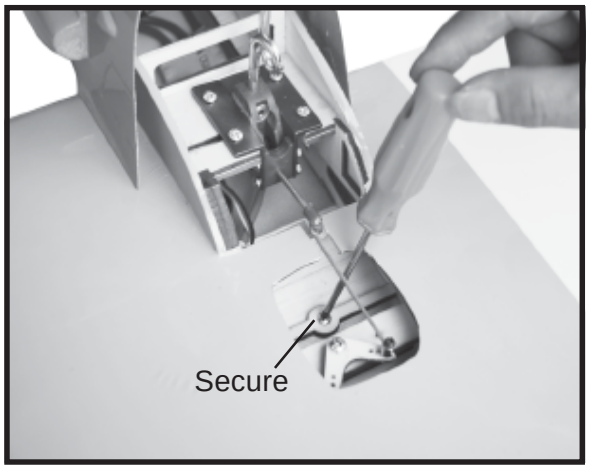

50mm
Center line

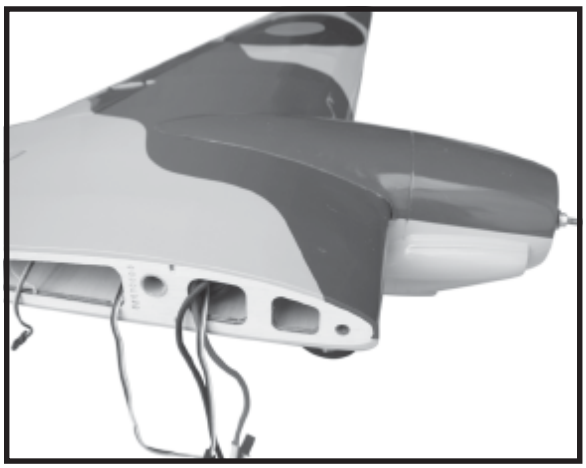

Epoxy glue

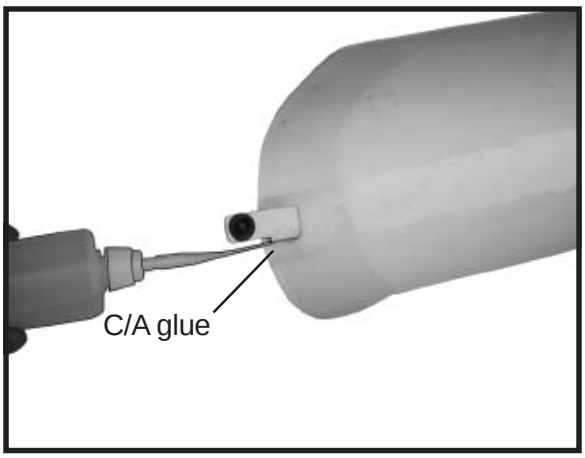



3 x 15mm

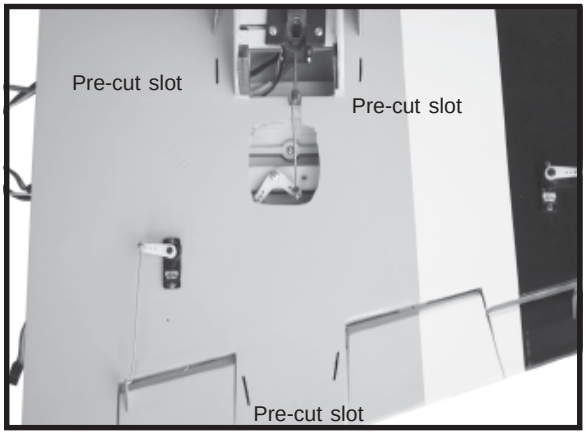

Center line

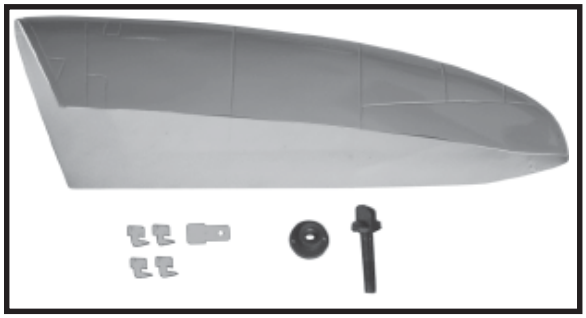

Secure

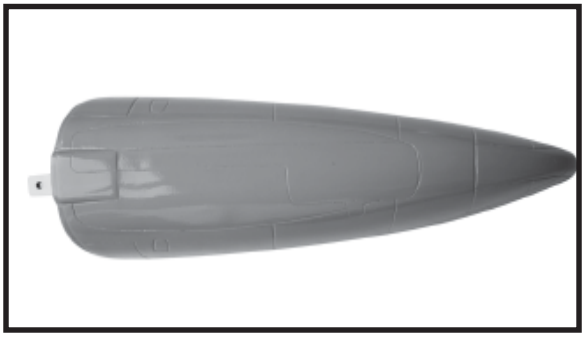


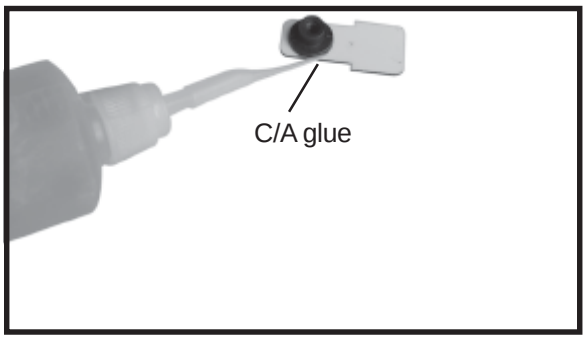


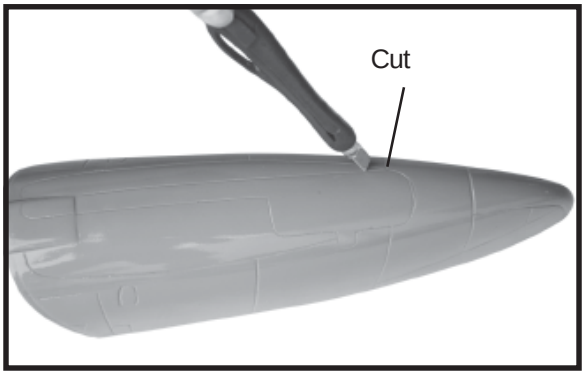
INSTALLING THE BOTTOM NACELLE

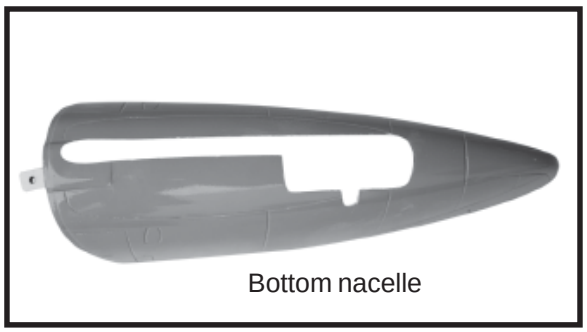


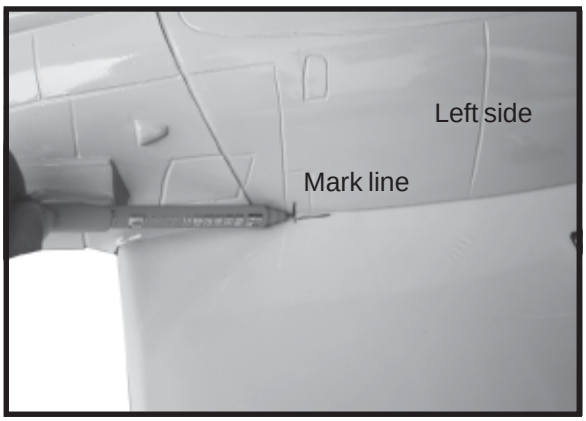


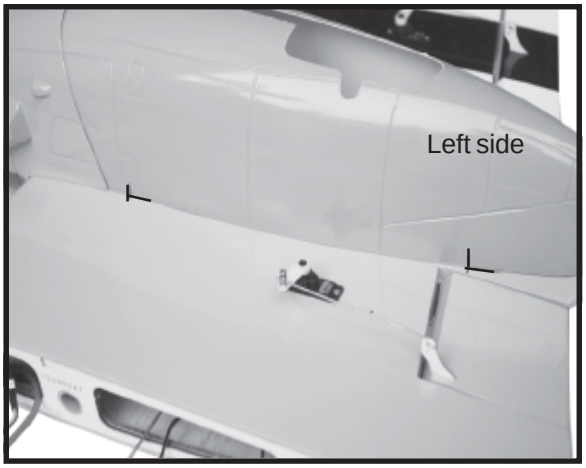


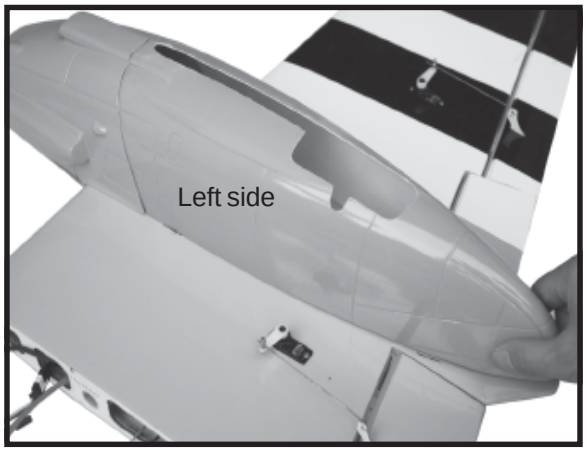


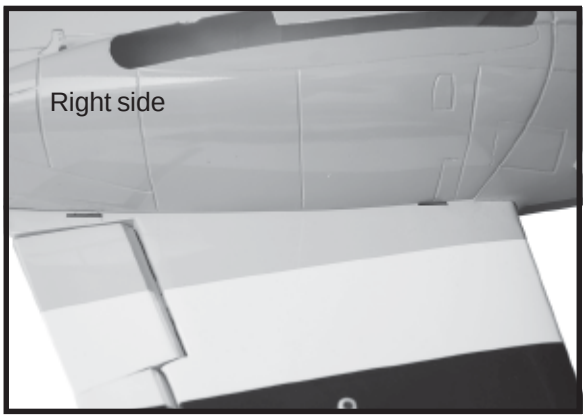


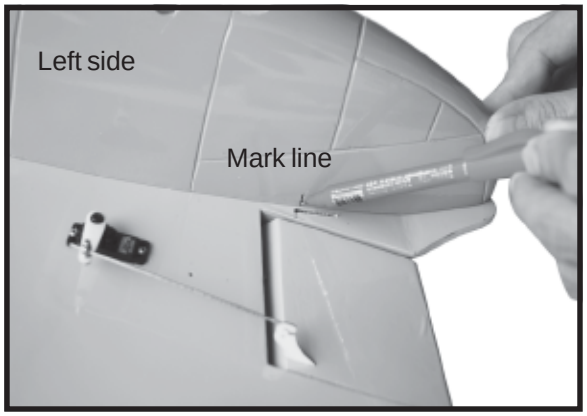

Bottom nacelle

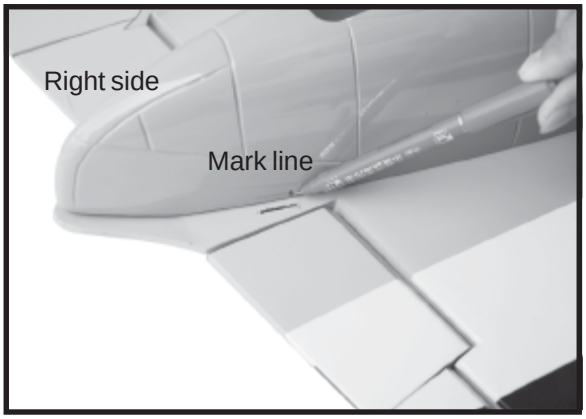


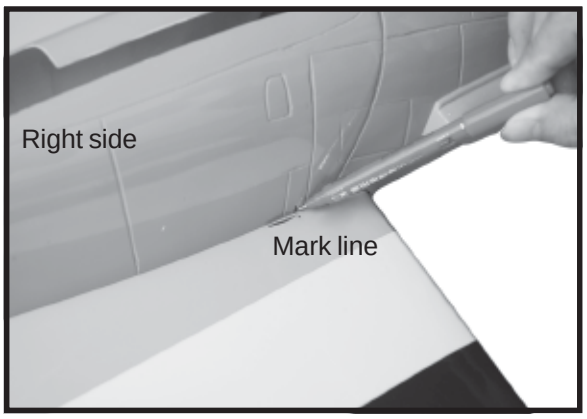


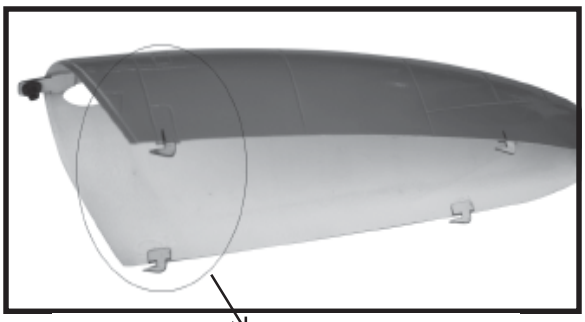


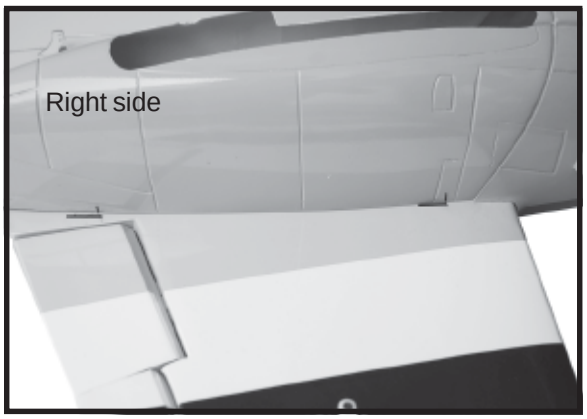


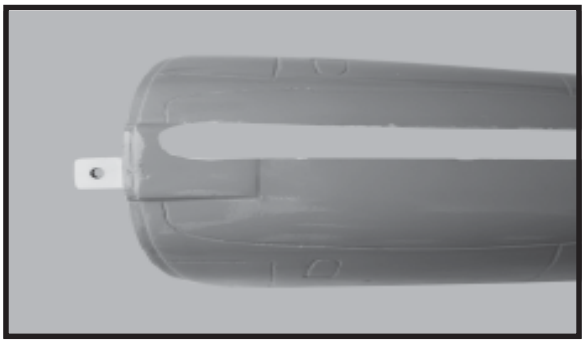


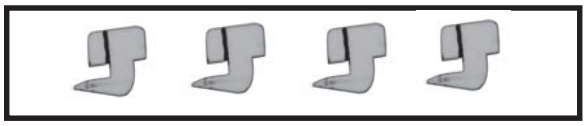


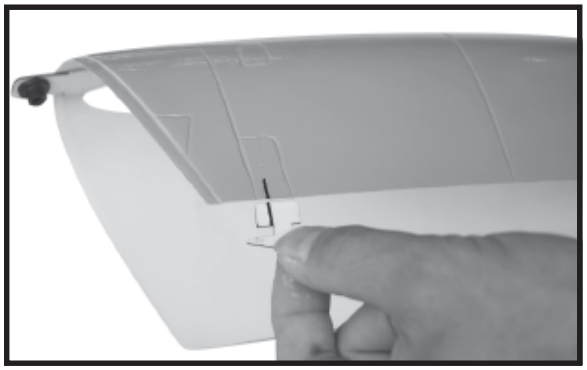

Right side
Mark line

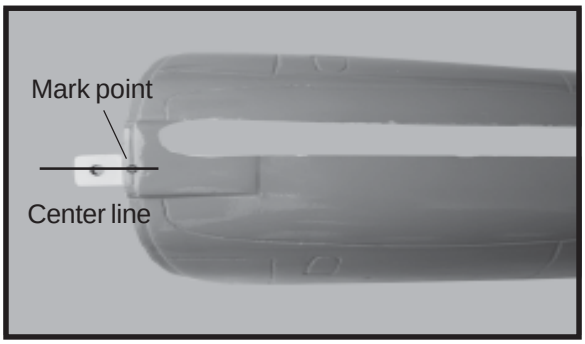


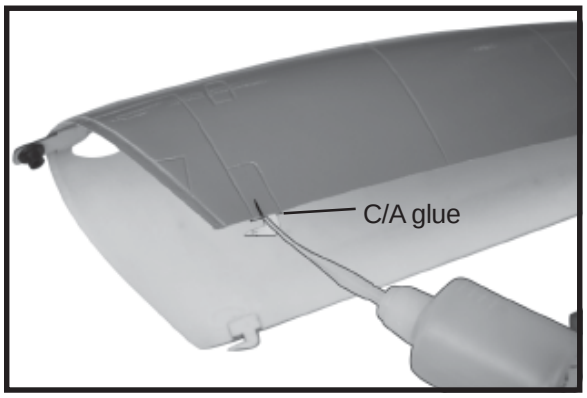

Right side

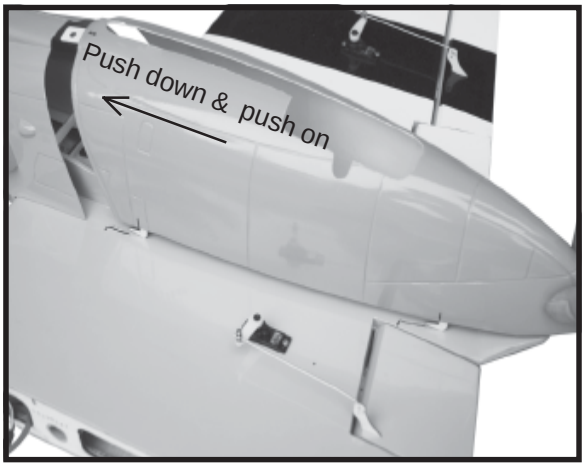


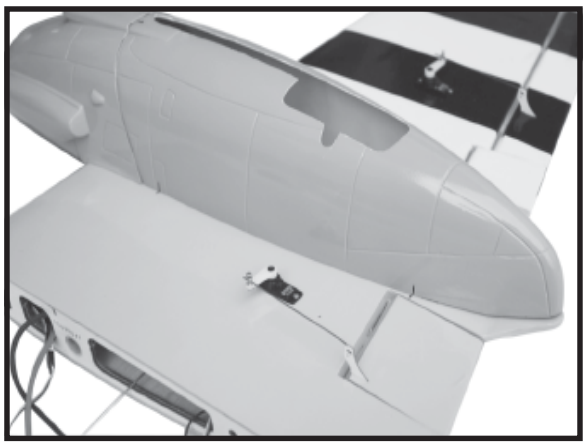




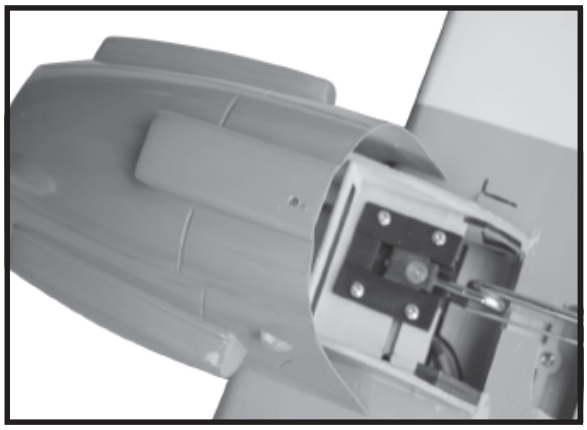

Mark point
Center line

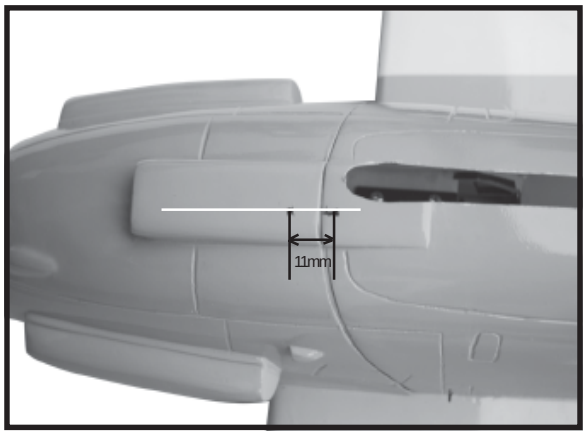

C/A glue

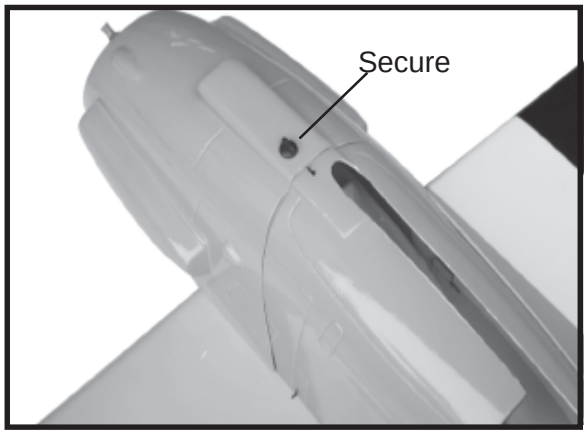

Push down & push on

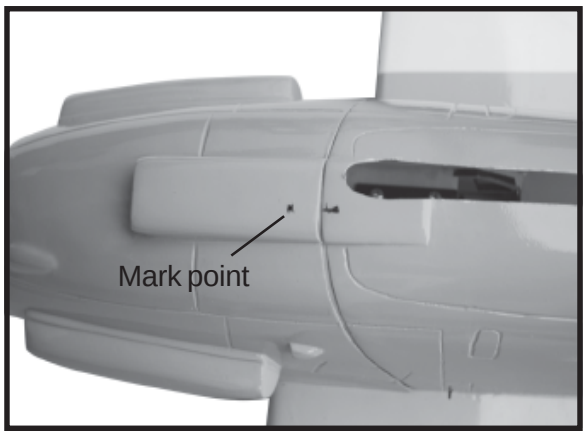


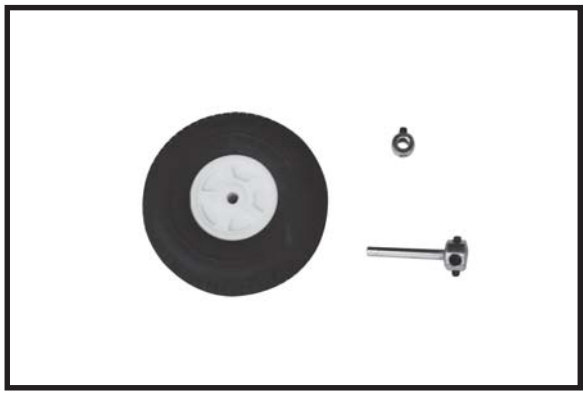
Drill a hole with 4mm diameter.

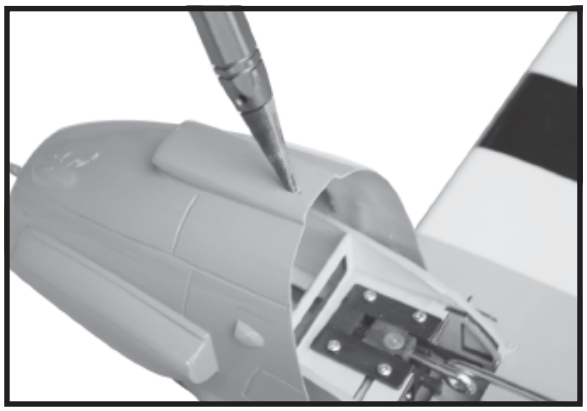


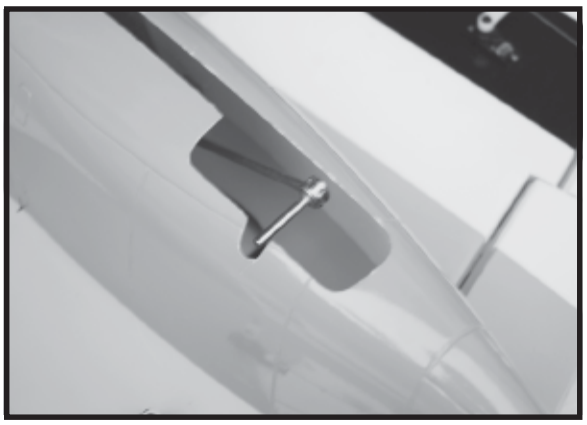


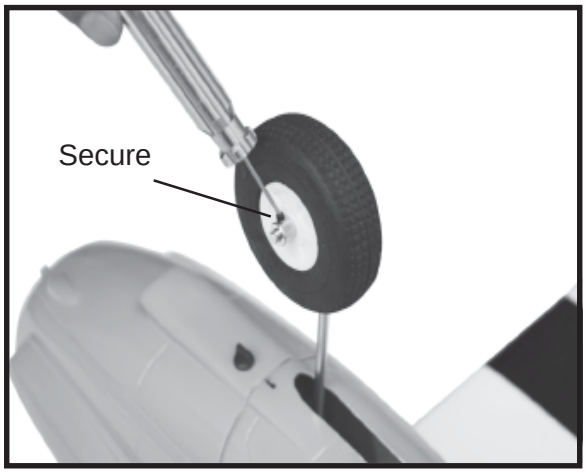


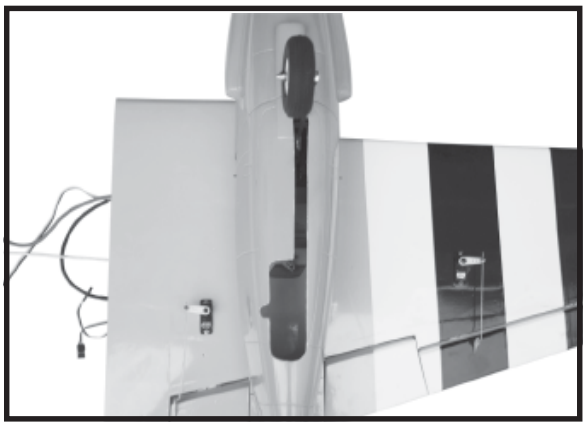


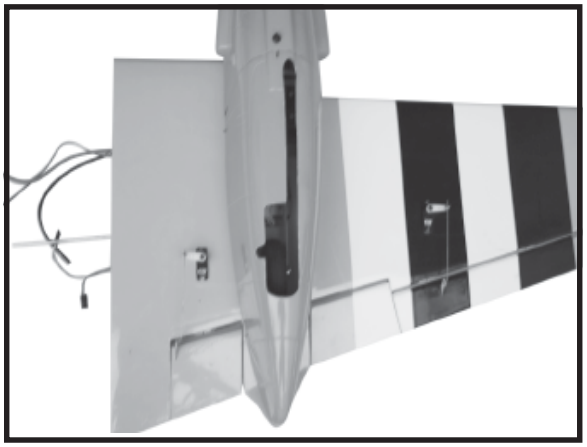










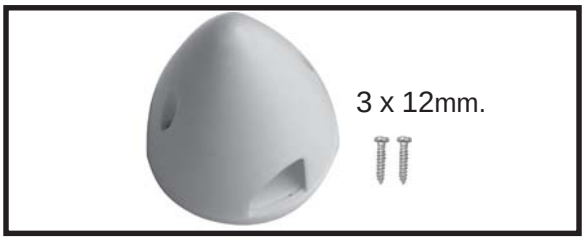


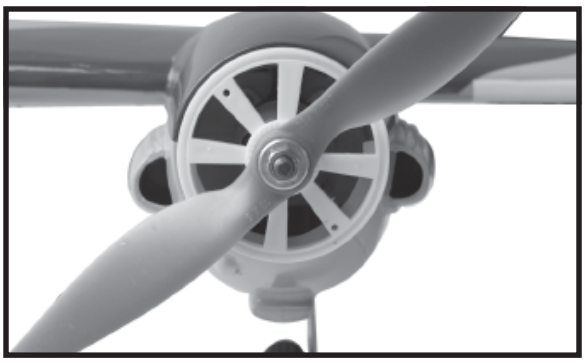
Repeat the procedure for the other engine cowl.

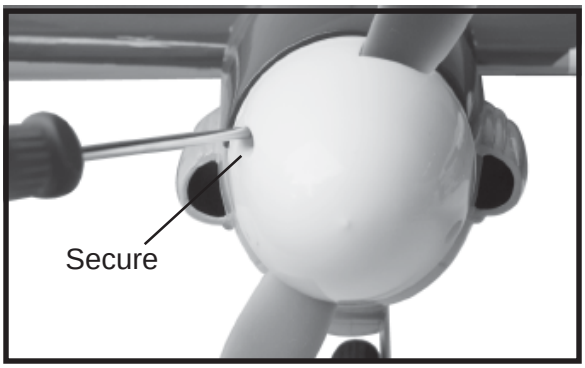
Another wing halft as same as process.

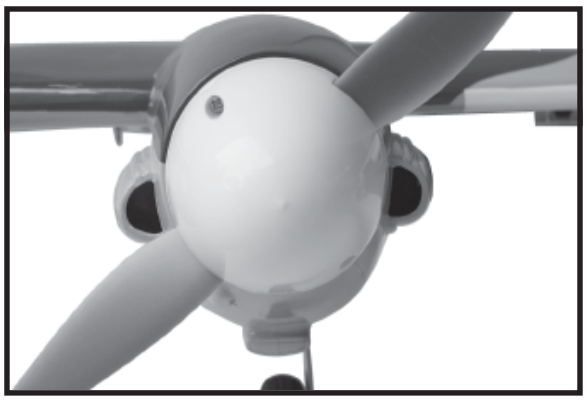
INSTALLING THE SPINNER

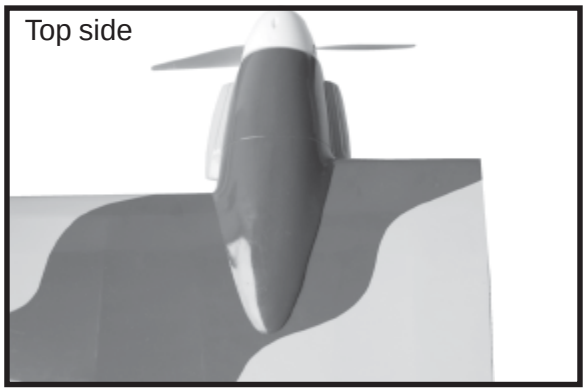
Install the spinner as same as picture below.

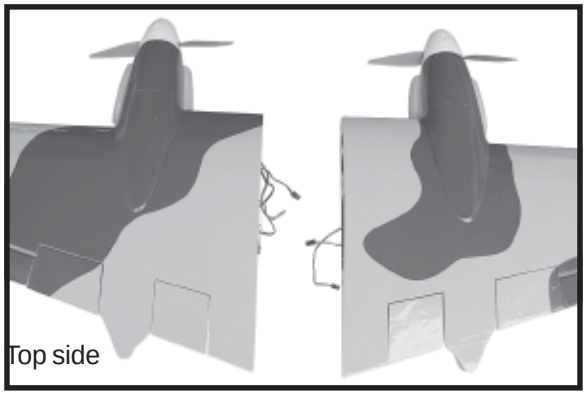


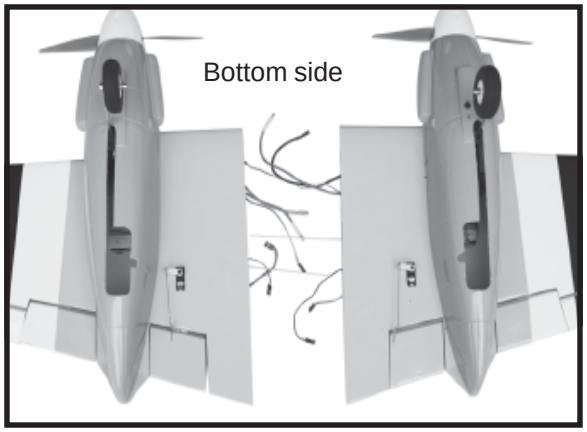








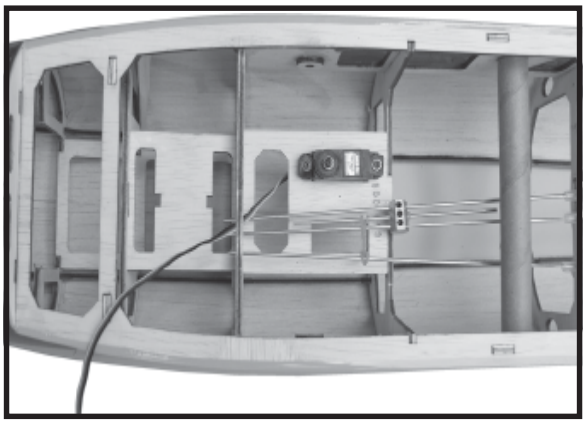




SERVO INSTALLATION.

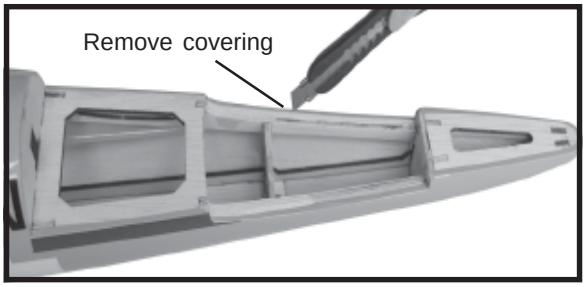
☐ 1) Install the rubber grommets and brass eyelets onto the elevator servo and nose gear servo.

☐ 2) Install the metal connector onto servo arm.

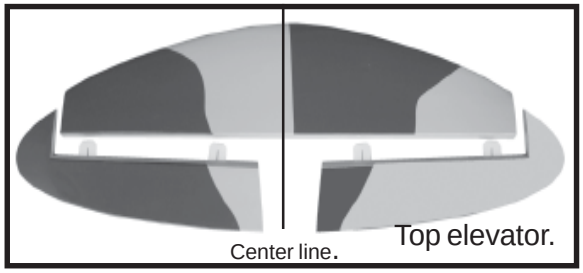


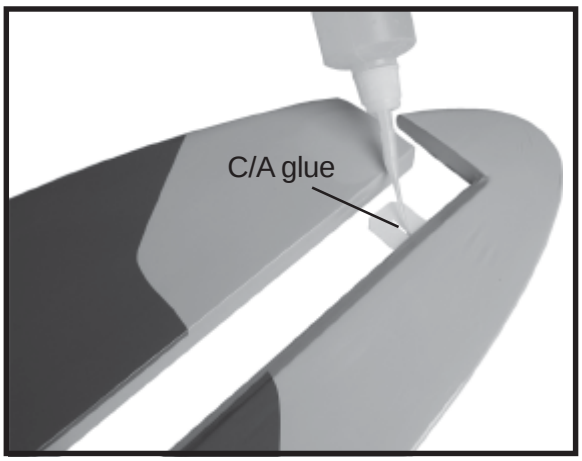
HORIZONTAL STABILIZER INSTALLATION.

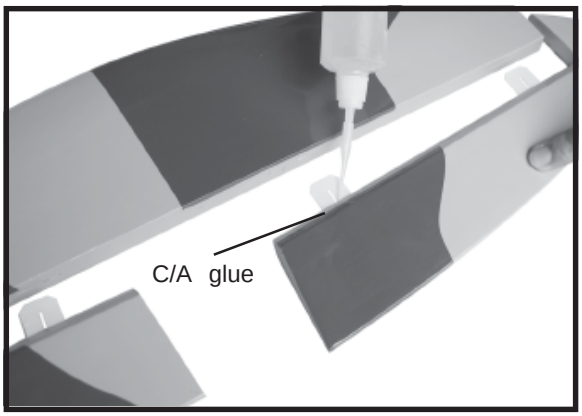
☐ 1) Using a modeling knife, cut away the covering from the fuselage for the stabilizer and remove it.

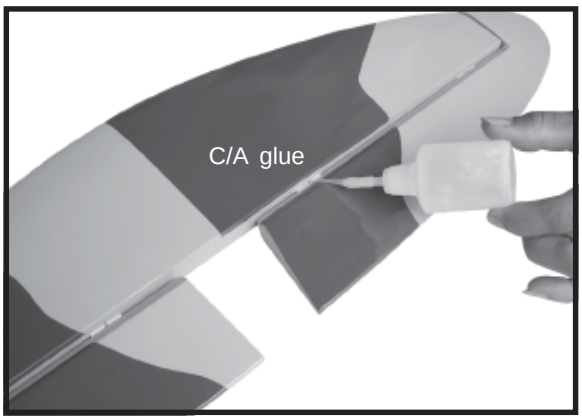


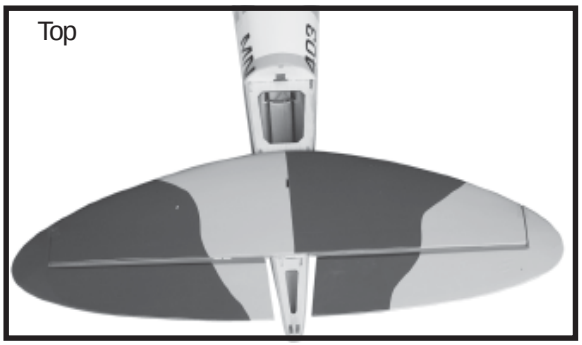
☐ 2) Draw a center line onto the horizontal stabilizer. Then put the horizontal into the fuselage.



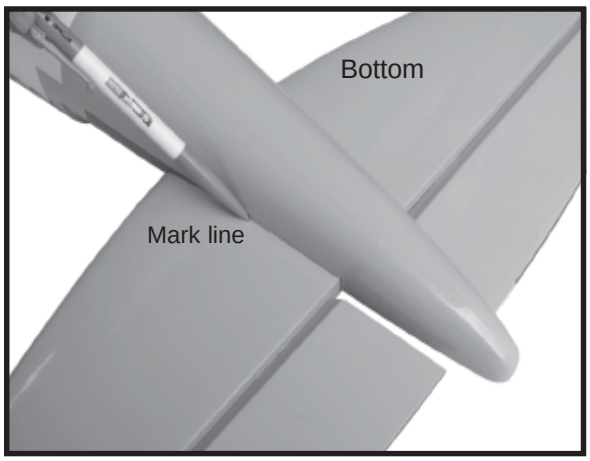






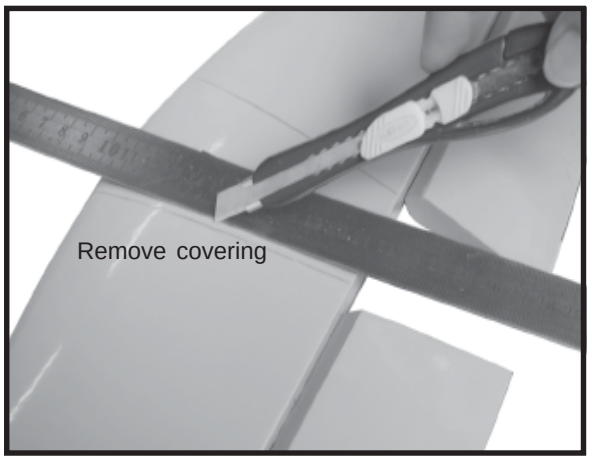


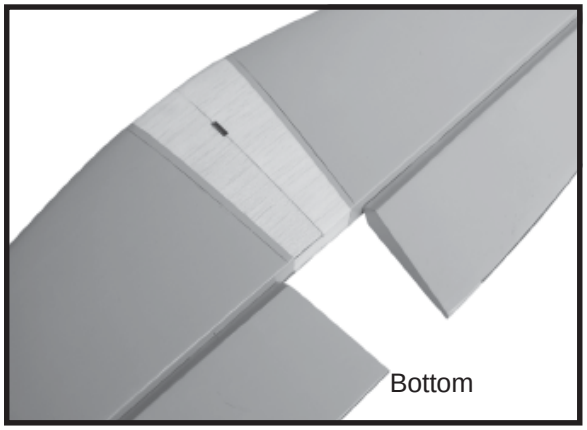
☐ 3) Mark the shape of the vertical on the left and right sides onto the horizontal stabilizer using a left-tip pen.

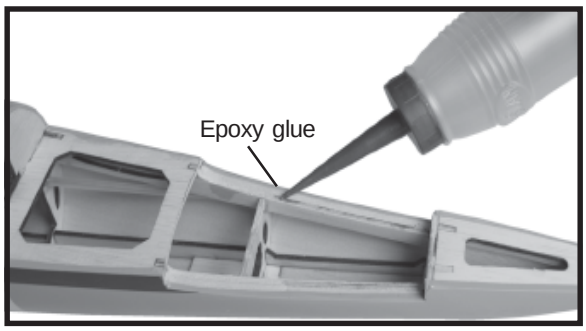


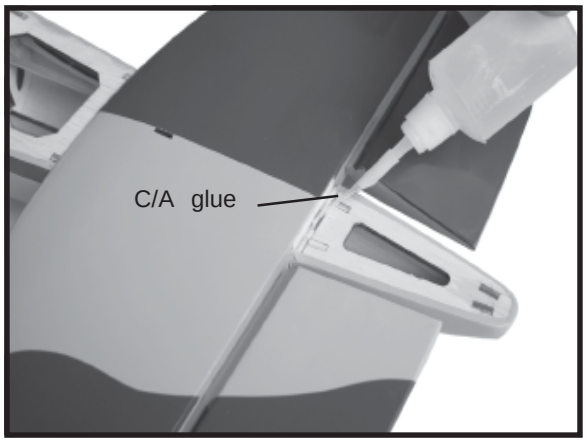
☐ 4) Remove the stabilizer. Using the lines you just drew as a guide, carefully remove the covering from between them using a modeling knife.

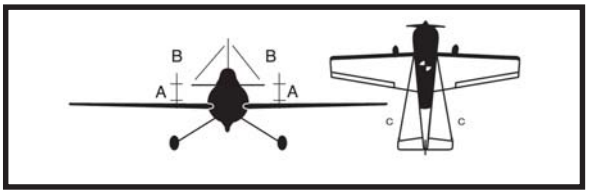
When cutting through the covering to remove it, cut with only enough pressure to only cut through the covering it's self. Cutting into the balsa structure may weaken it. This could lead to possible failure during flight.



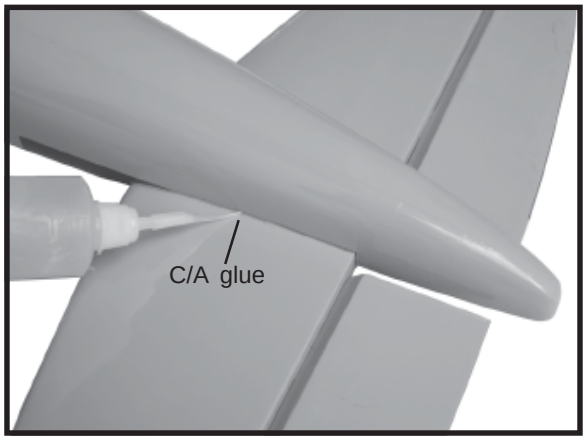




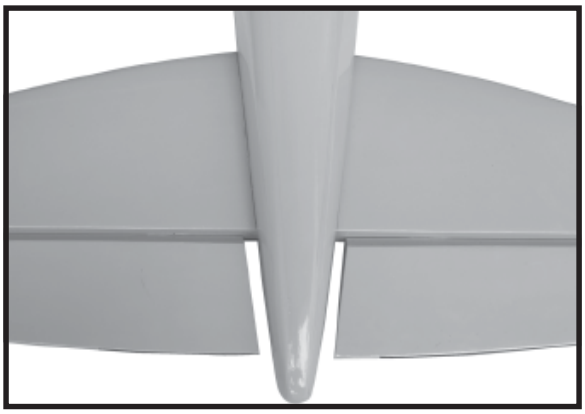




☐ 5) When you are sure that everything is aligned correctly, mix up a generous amount of 30 minute epoxy. Apply a thin layer to the top and bottom of the stabilizer mounting area and to the stabilizer mounting platform sides in the fuselage. Slide the stabilizer in place and re-align. Double check all of your measurements one more time before the epoxy cures. Remove any excess epoxy using a paper towel and rubbing alcohol and hold the stabilizer in place with T-pins or masking tape.

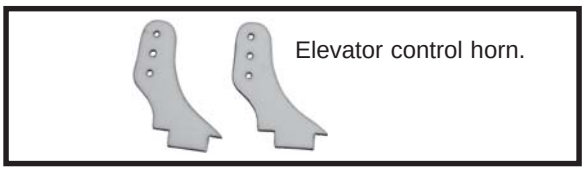


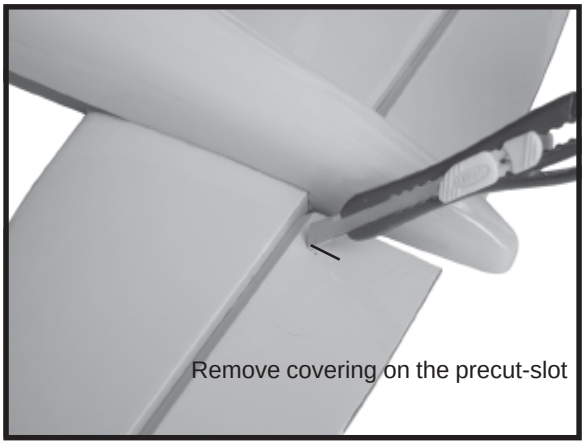
☐ 6. After the epoxy has fully cured, remove the masking tape or T-pins used to hold the stabilizer in place and carefully inspect the glue joints. Use more epoxy to fill in any gaps that may exits that were not filled previously and clean up the excess using a paper towel and rubbing alcohol.

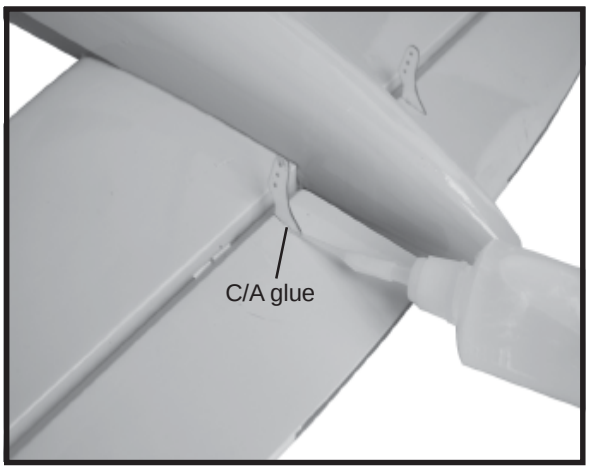


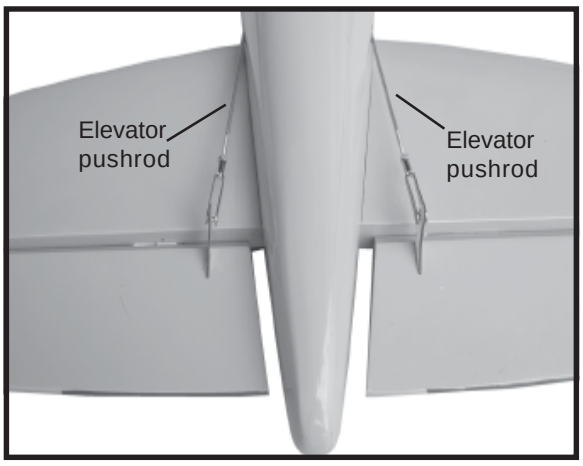
ELEVATOR CONTROL HORN INSTALLATION.

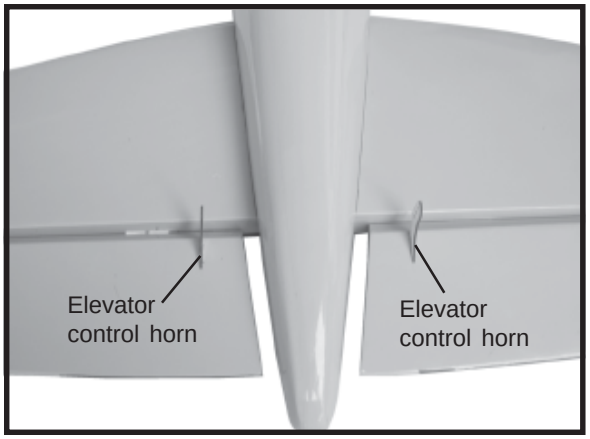
Installing elevator control horn as same as picture below.

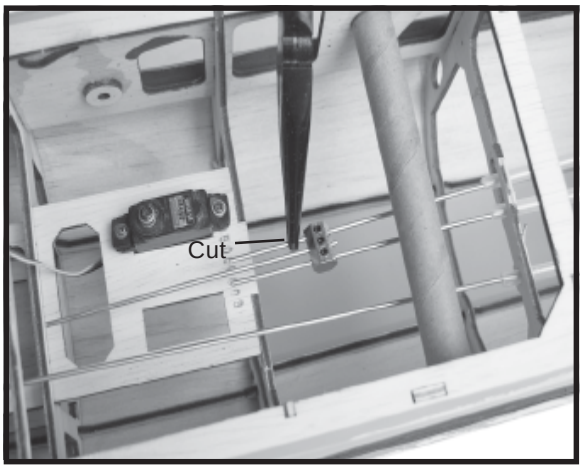






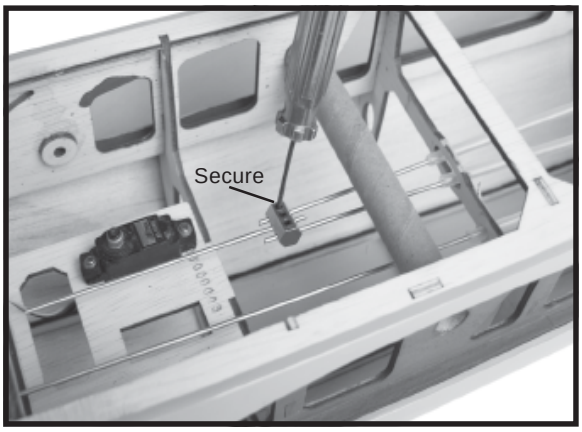


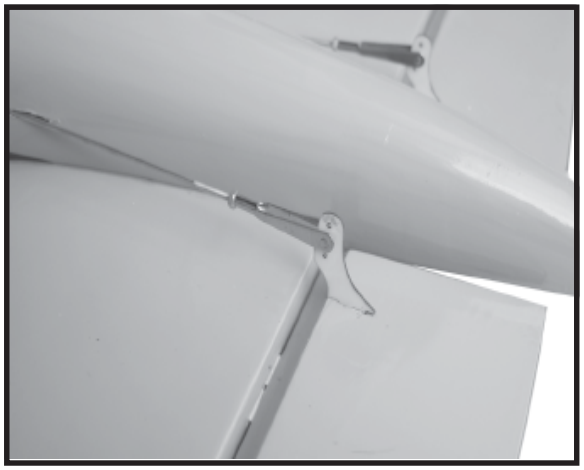


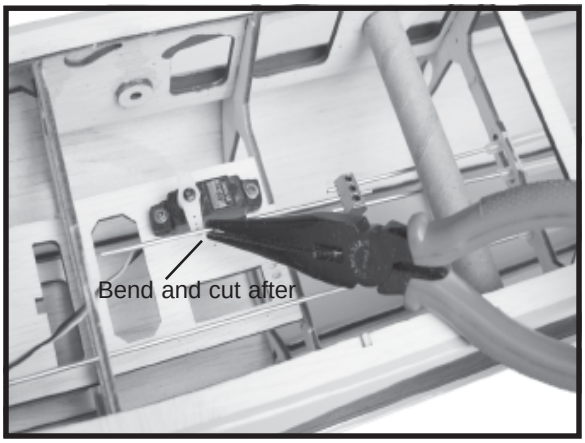


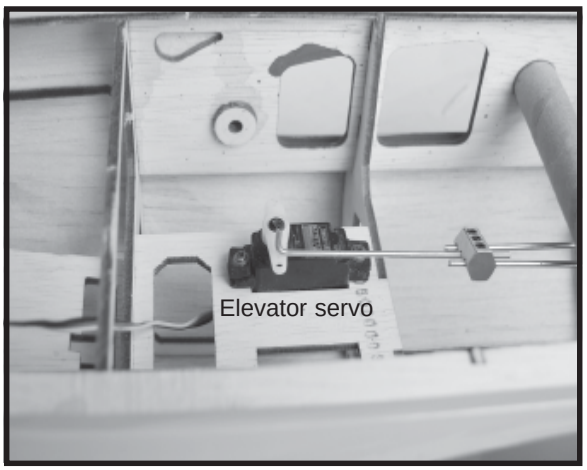
ELEVATOR PUSHROD INSTALLATION.

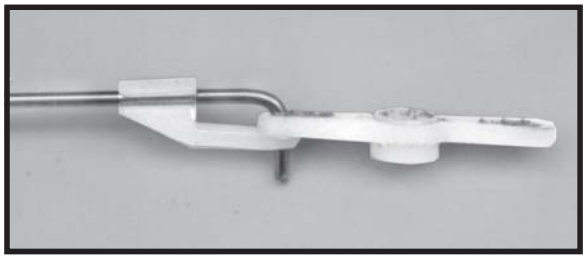
Elevator pushrod install as same as picture below.

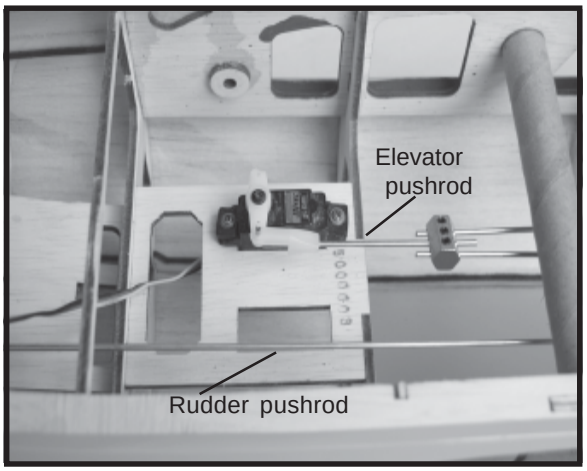




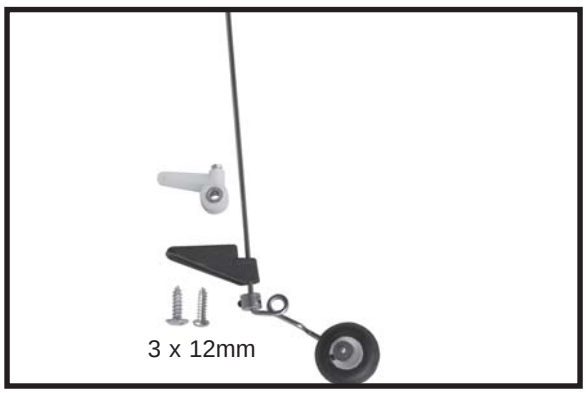


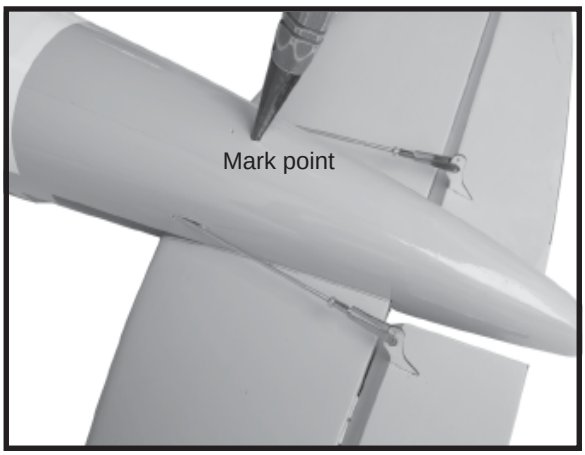


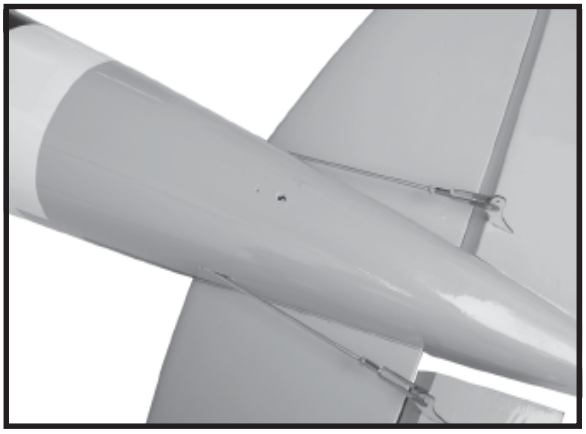




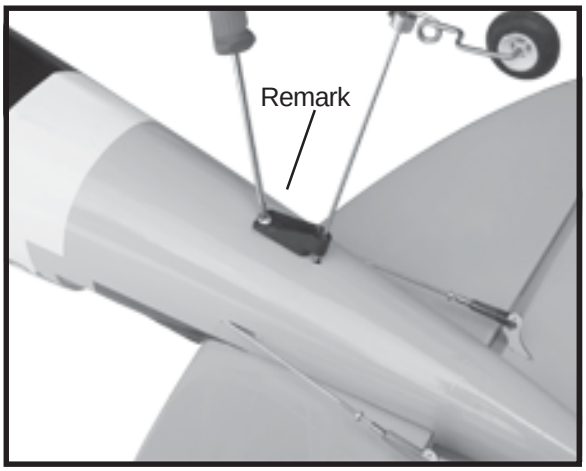
MOUNTING THE TAIL WHEEL BRACKET.



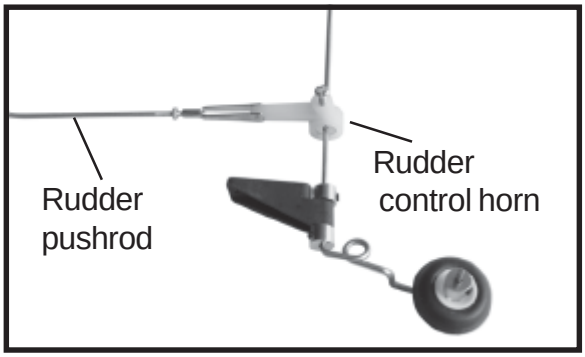


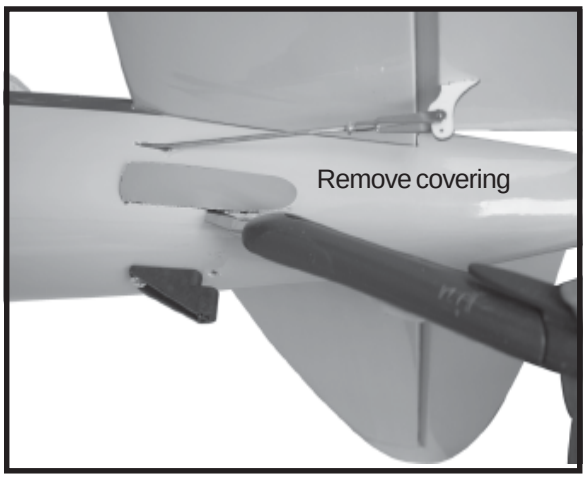


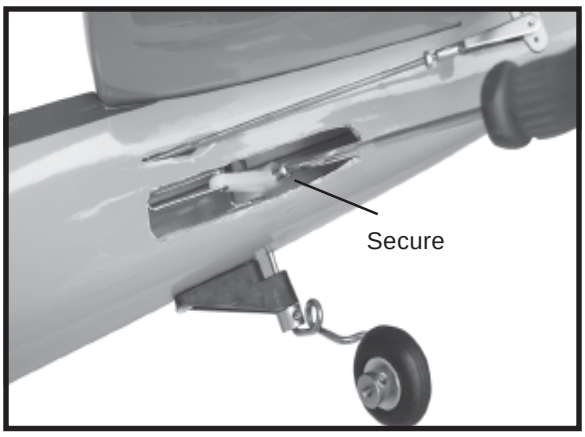
☐ Secure the tail wheel bracket in place using three 3mm x 12mm wood screws. Be careful not to overtighten the screws.

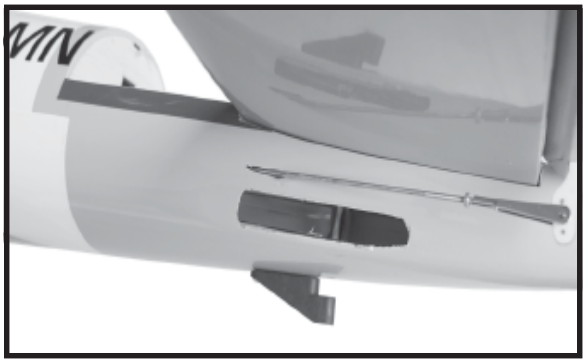


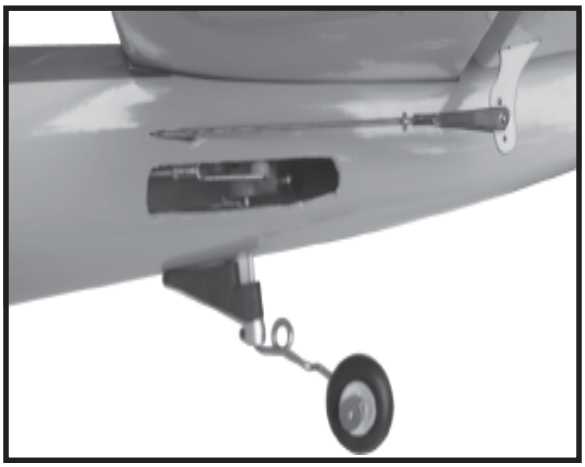
RUDDER CONTROL HORN INSTALLATION.

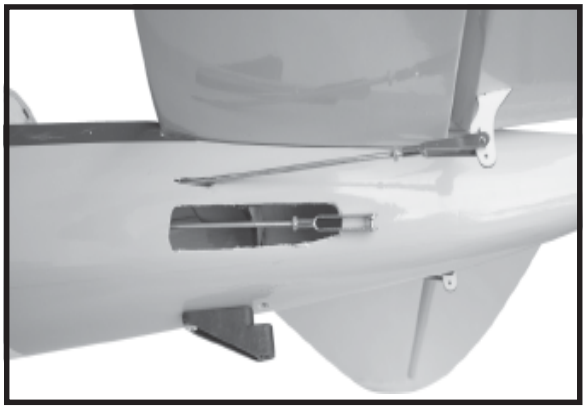




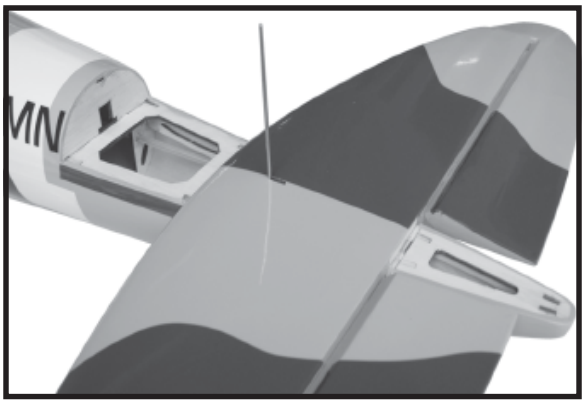


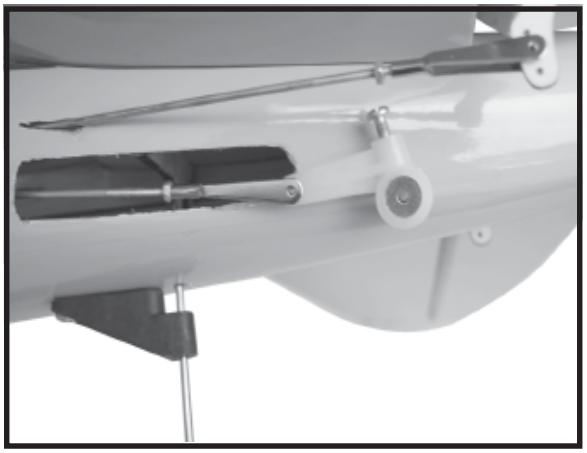


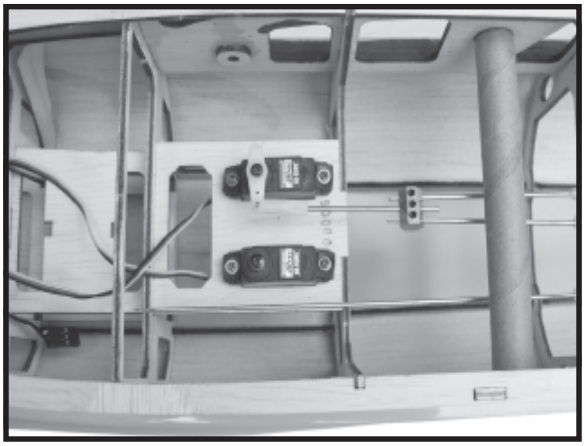


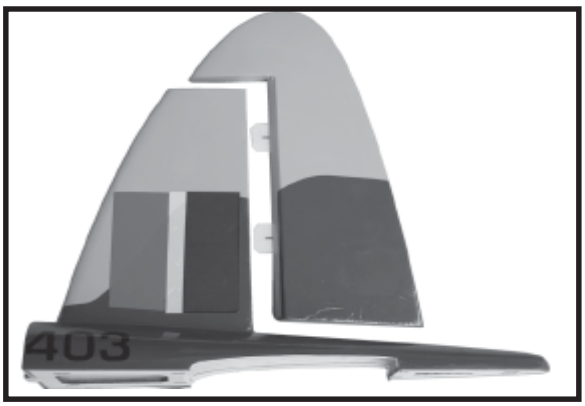


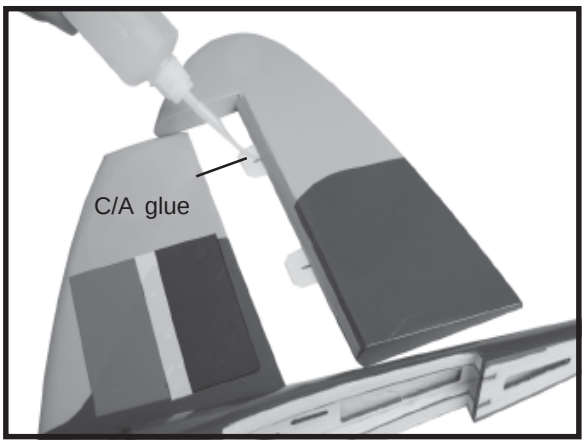
VERTICAL INSTALLATION.

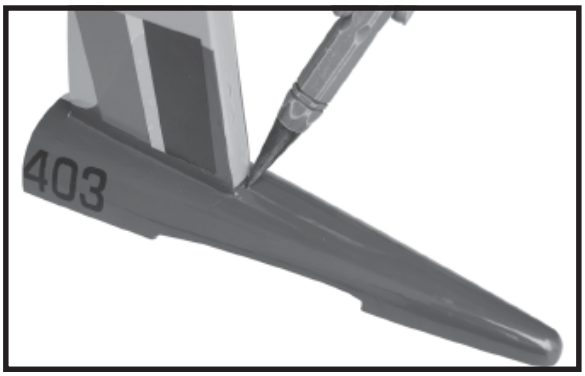




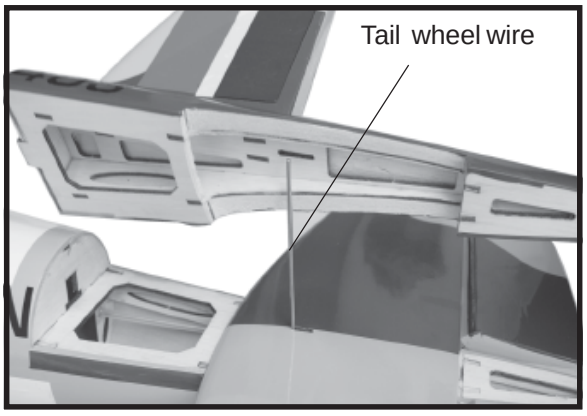




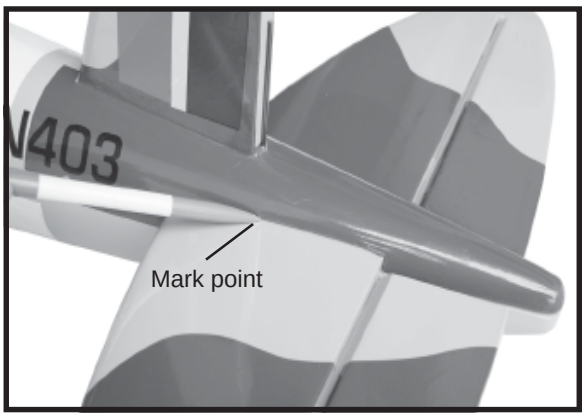




□ 1. Put the rudder in the fuse lage as same as picture below.

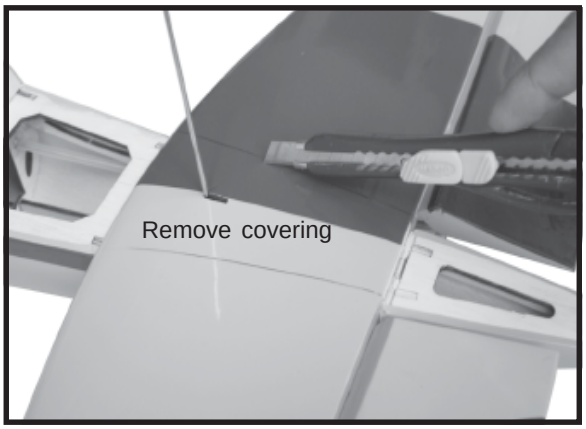


□ 2. Mark the shape of the vertical on the left and right side of the rudder on to the horizontal stabilizer using a felt-tip pen.

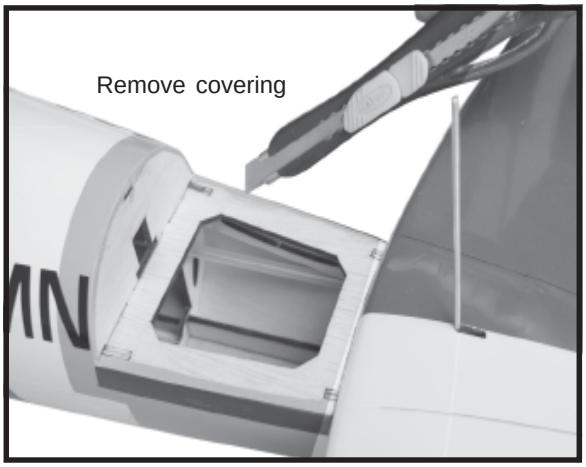


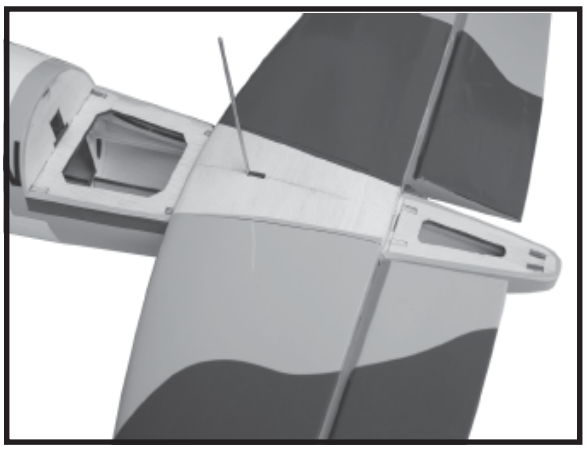
□ 3. Now, remove the rudder and using a modeling knife, carefully cut just inside the marked lines and remove the film of the rudder. Just as you did with the horizontal stabilizer, make sure you only press hard enough to cut the film, not the balsa rudder.

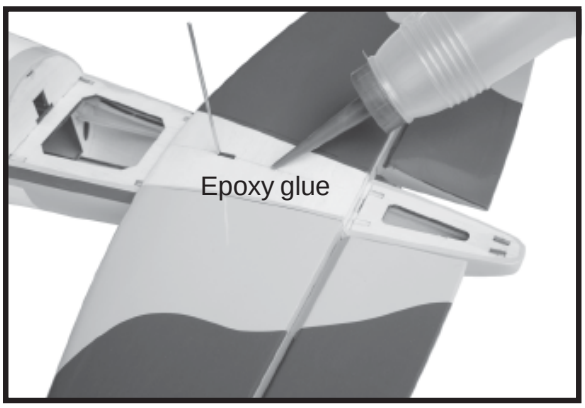
□ Also carefully remove the covering from the horizontal fin as below the lines which you drew as same picture below.

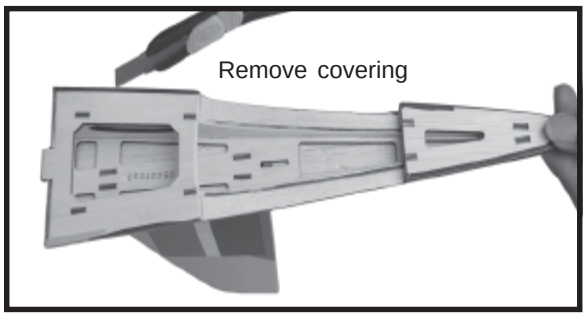


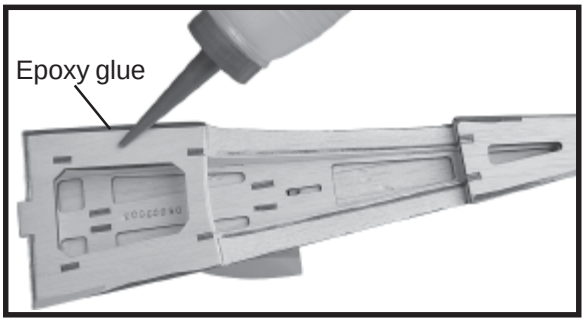
When cutting through the covering to remove it, cut with only enough pressure to only cut through the covering itself. Cutting into the balsa structure may weaken it.

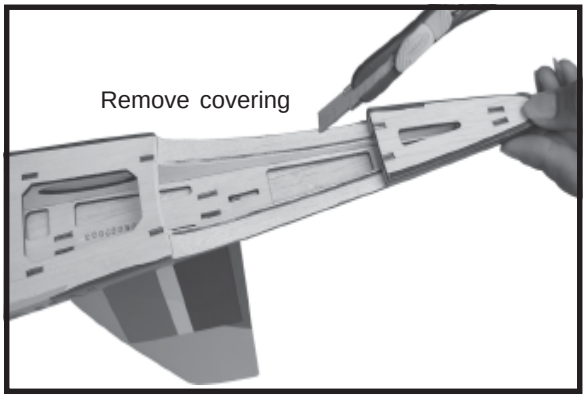


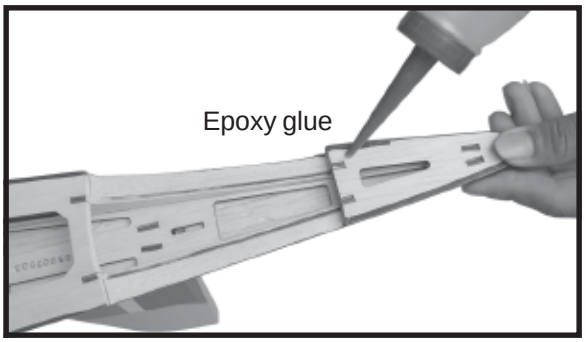




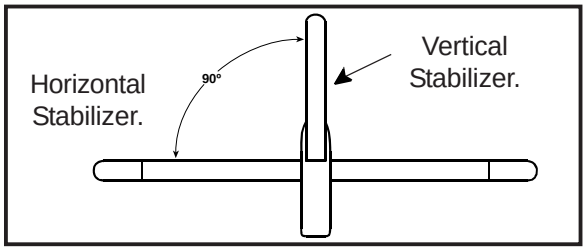




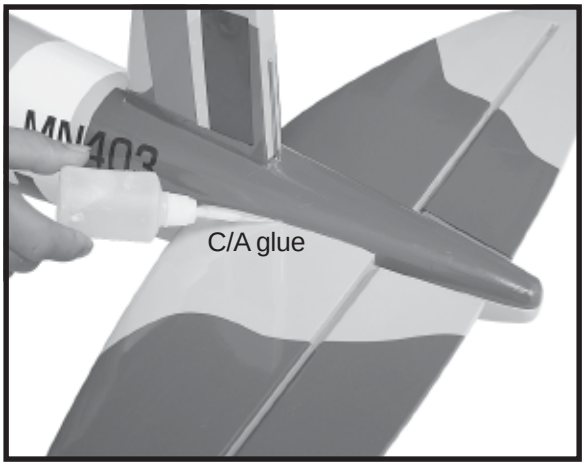


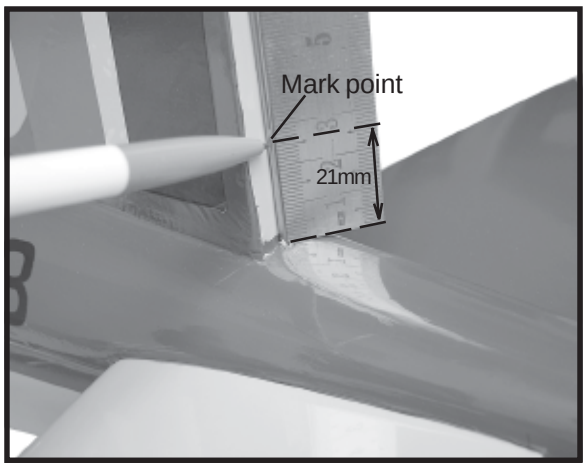


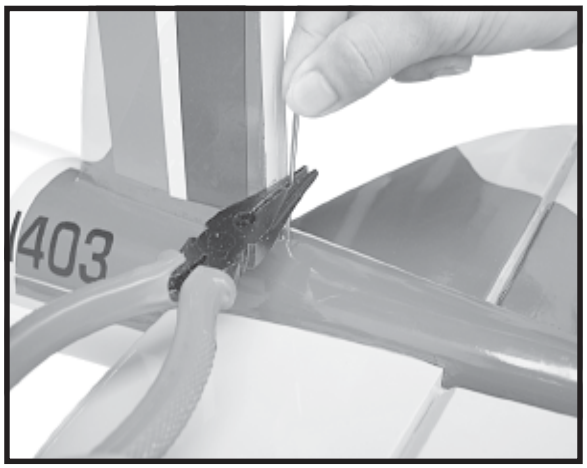
☐ 4. Put the vertical stabilizer back in place. Using a triangle, check to ensure that the vertical stabilizer is aligned 90 degree to the horizontal stabilizer.



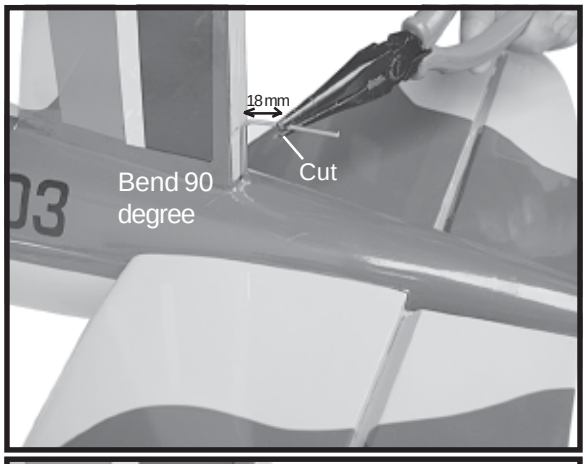
☐ 5. When you are sure that everything is a aligned correctly, mix up a generous amount of 30 minute epoxy. Apply a thin layer to the slot in the mounting platform and to the vertical stabilizer mounting area. Set the stabilizer in place and re-align. Double check all of your measurements once more before the epoxy cures. Remove any excess epoxy using a paper towel and rubbing alcohol and hold the stabilizer in place with T-pins or masking tape. Allow the epoxy to fully cure before proceeding.

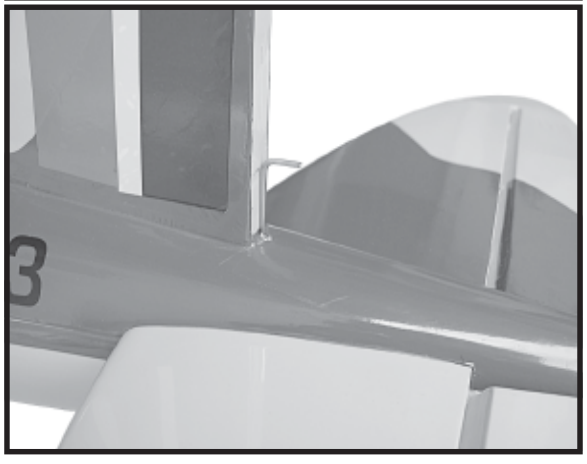


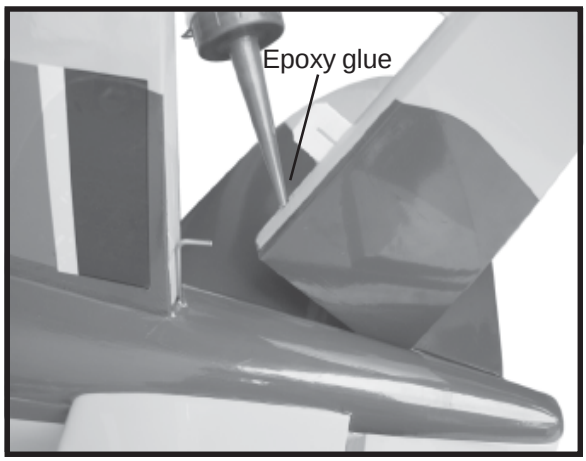


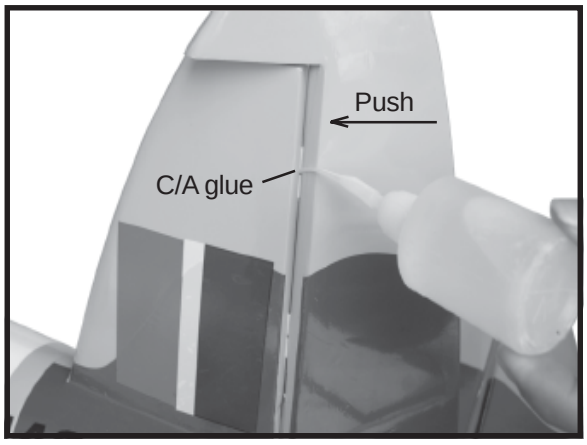


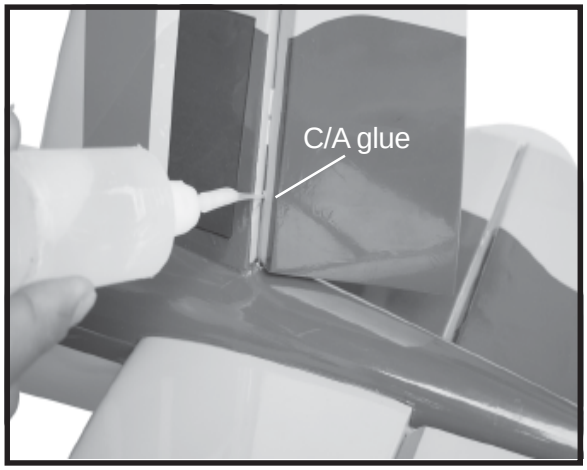
. Carefully make a 90 degree bend down at the mark point which was made. Cut off the excess wire, leaving about 18mm beyond the bend.

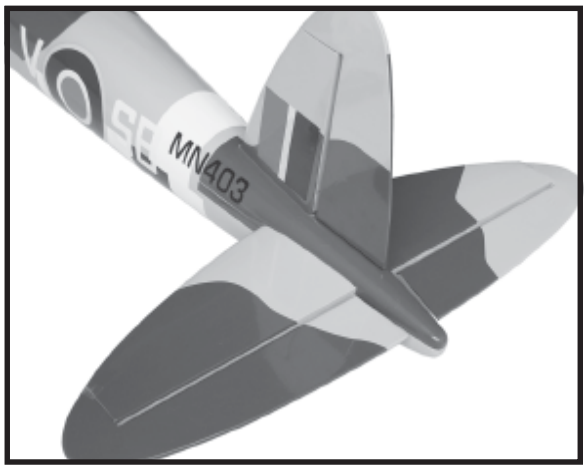


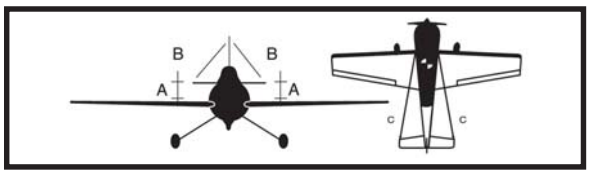




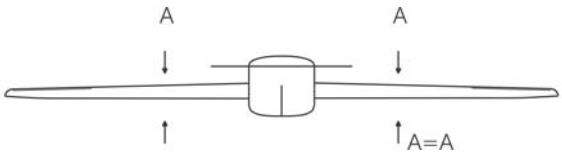


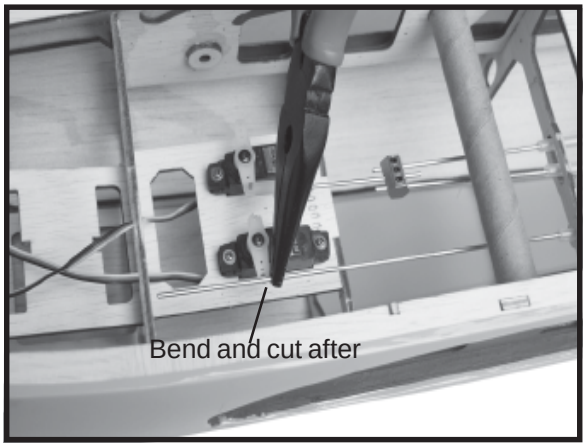


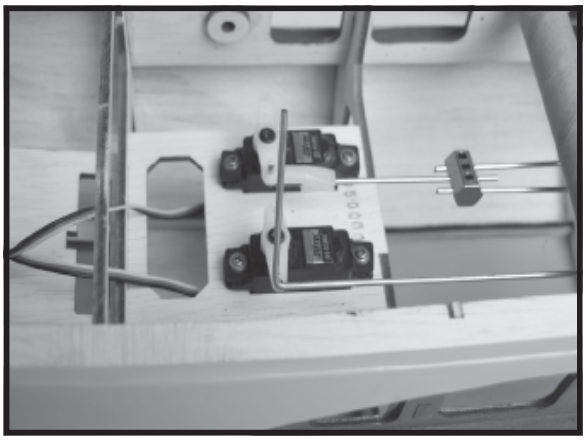


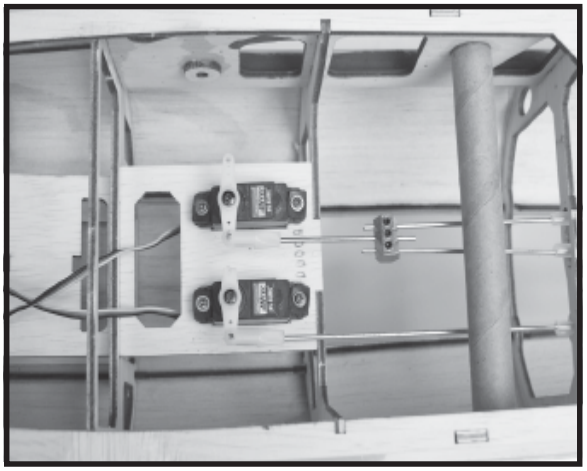


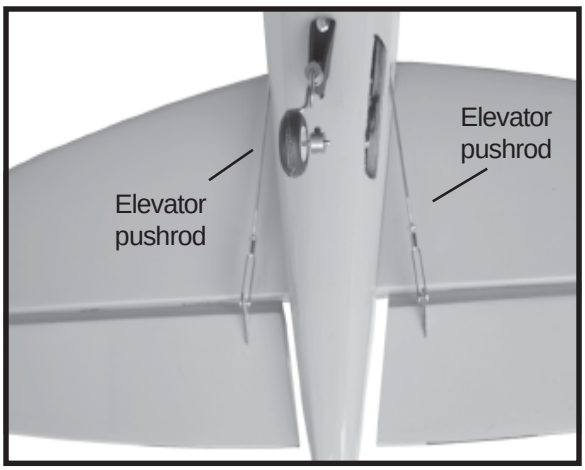
Check to mark sure the wing and stabilizer are paralell. If they are not, lightly sand the opening in the fuselage for the stabilizer until the stabilizer is paralell to the wing.

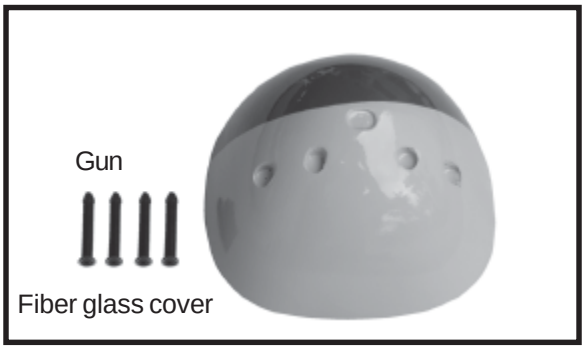


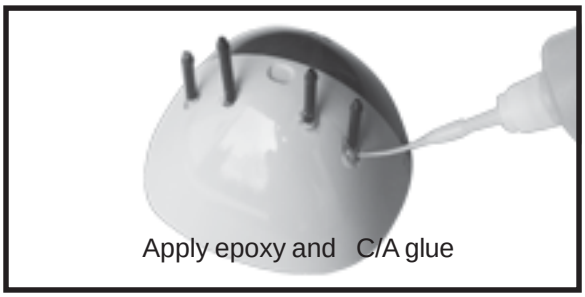


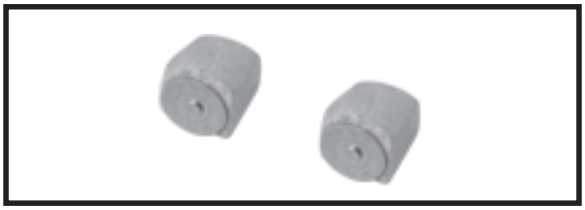


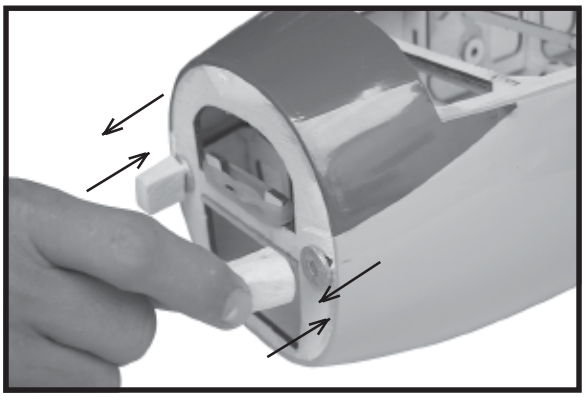


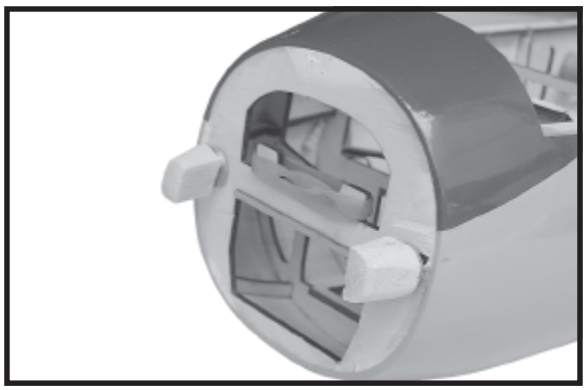


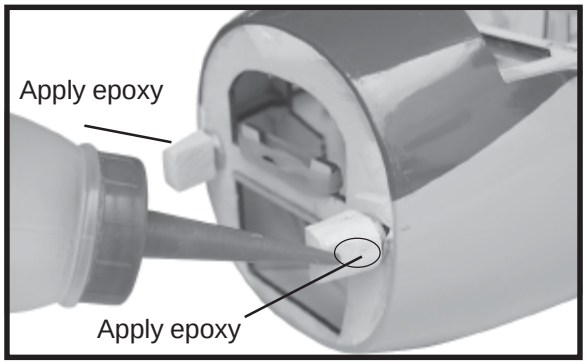


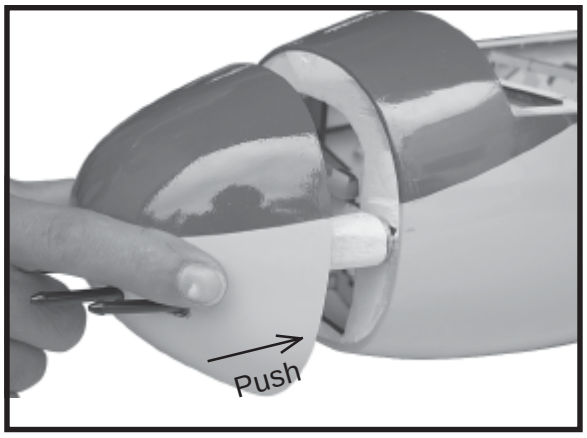


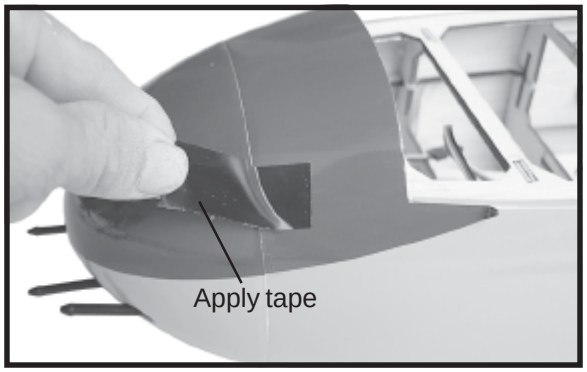








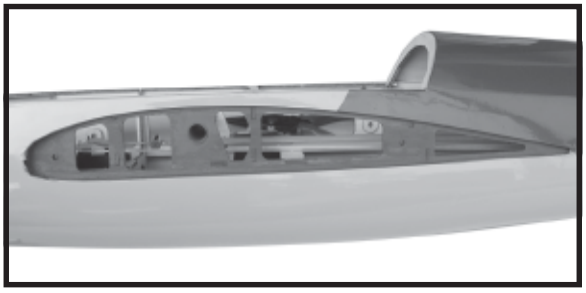


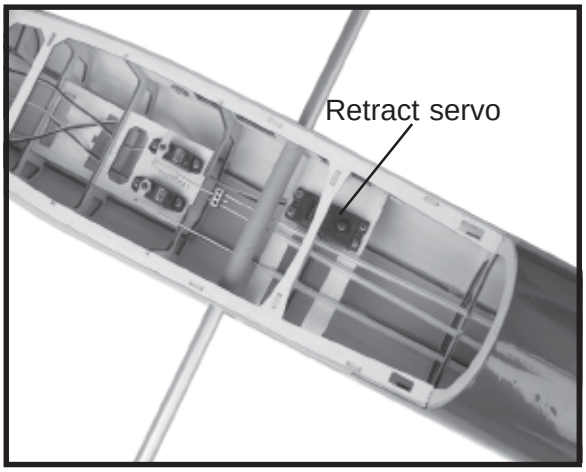


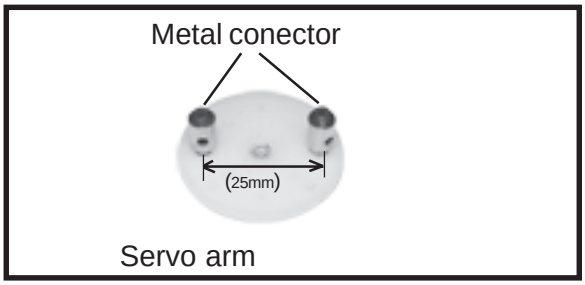
ATTACHMENT WING-FUSELAGE.

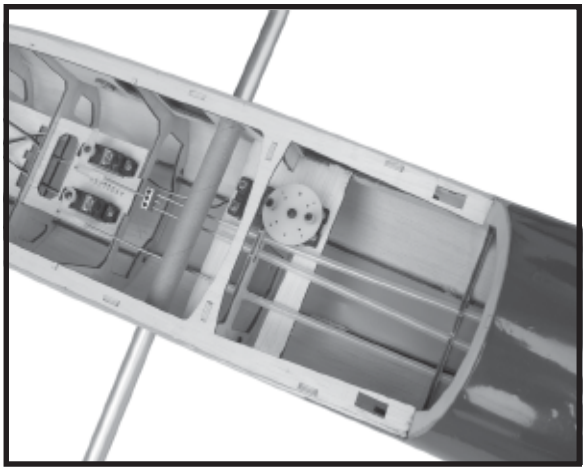
See pictures below:

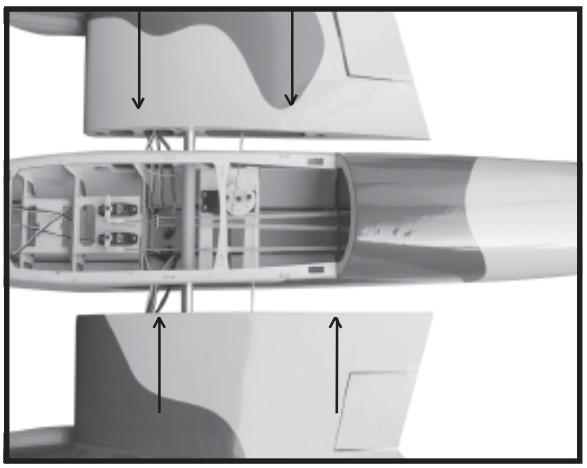
RETRACT PUSHROD INSTALLATION

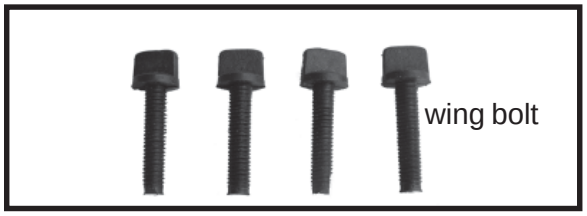


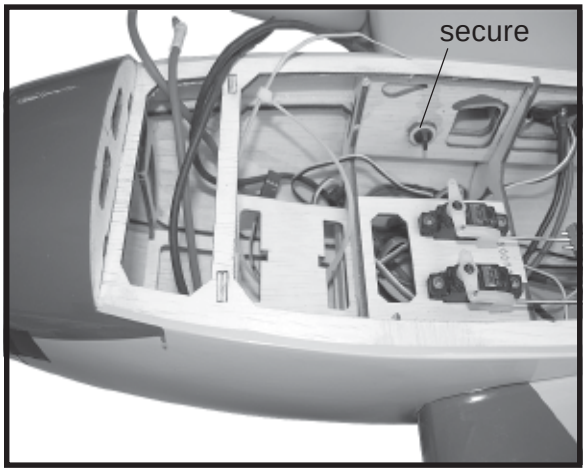


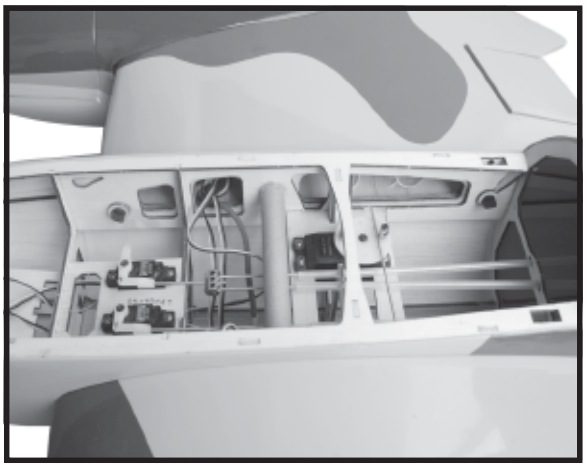


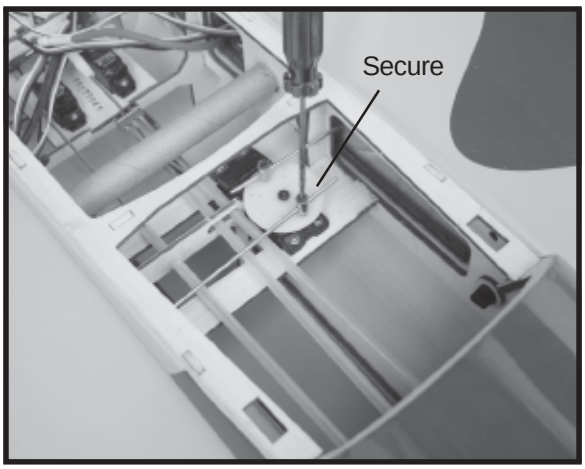





wing bolt


secure

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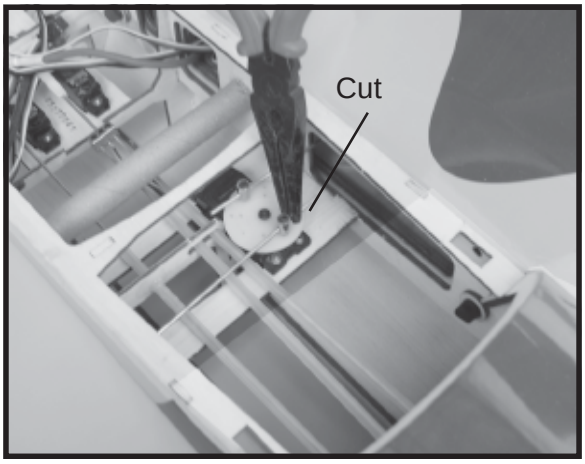
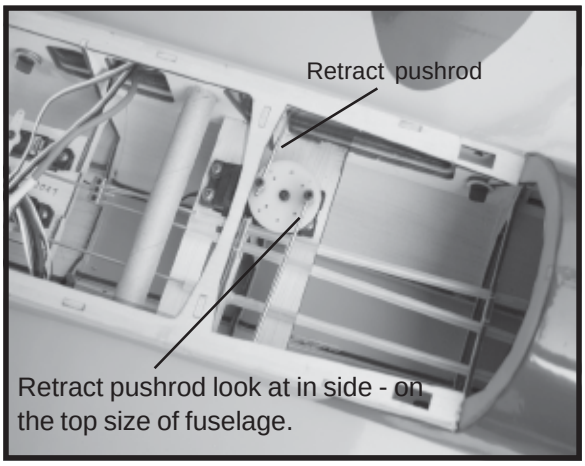
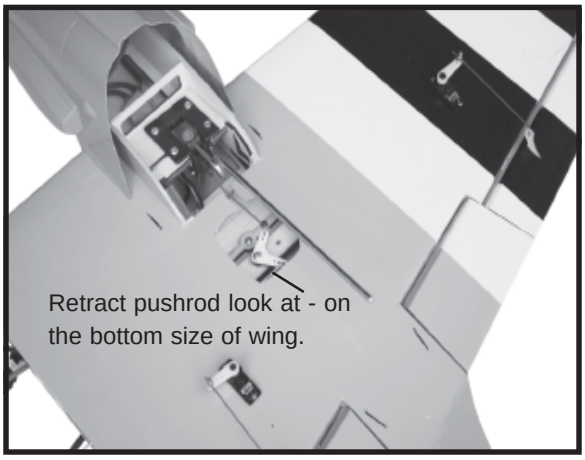
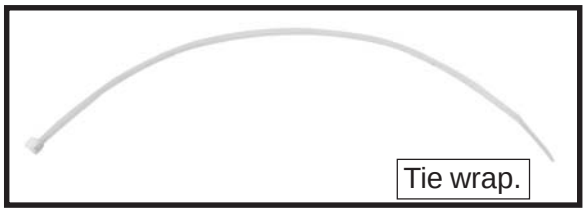

Cut

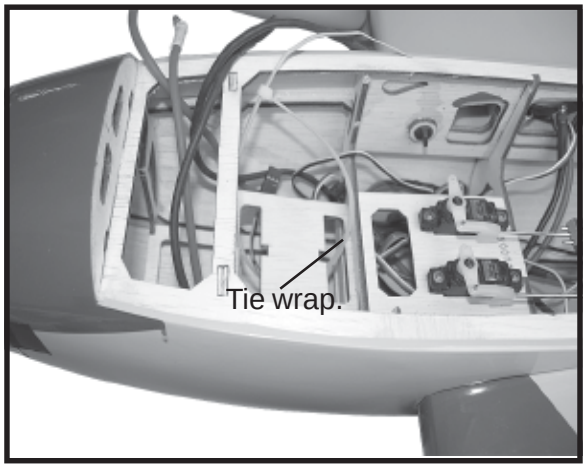

Retract pushrod
Retract pushrod look at in side - on the top size of fuselage.

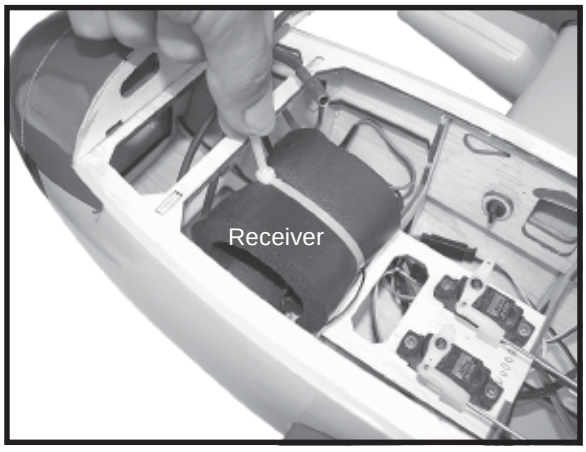

Retract pushrod look at - on the bottom size of wing.

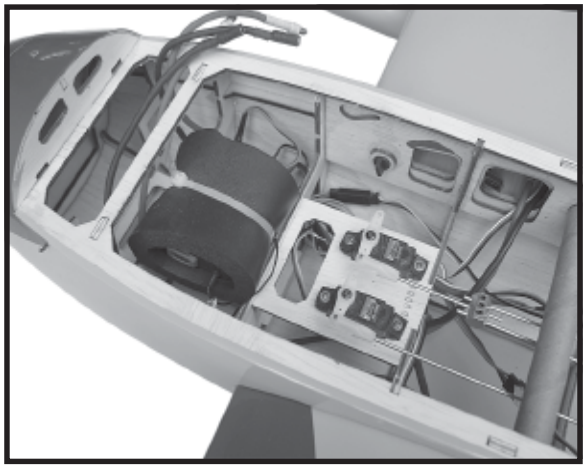
INSTALLING THE RECEIVER AND BATTERY.

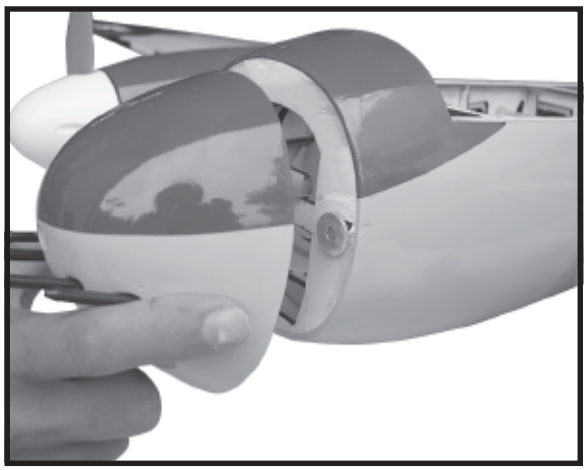
See picture below.

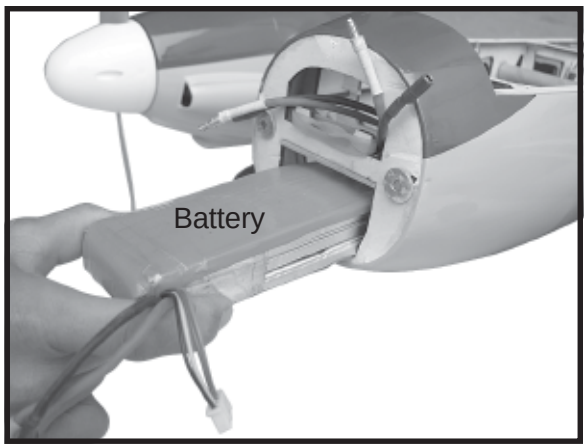


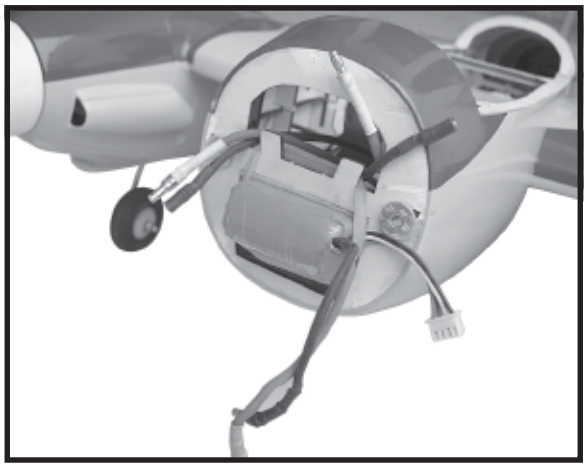


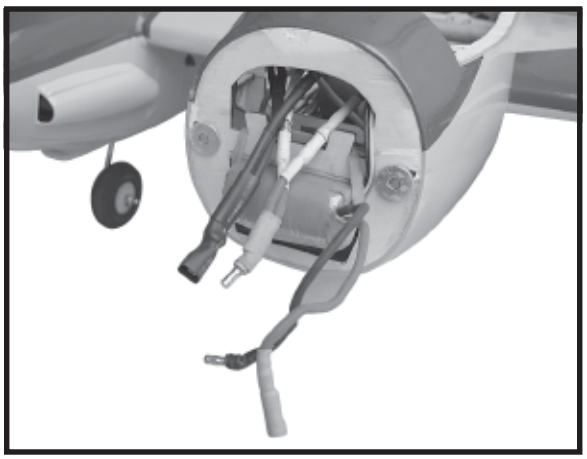


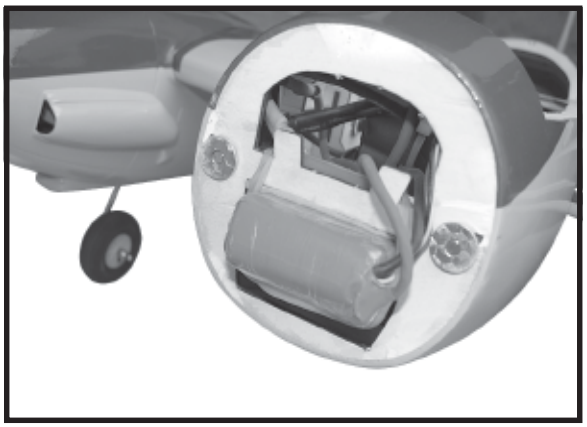


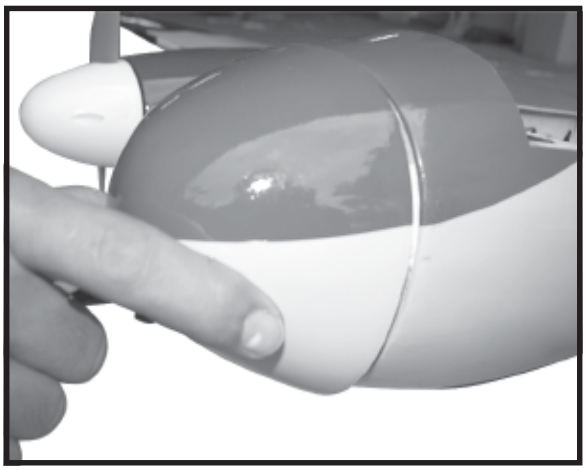




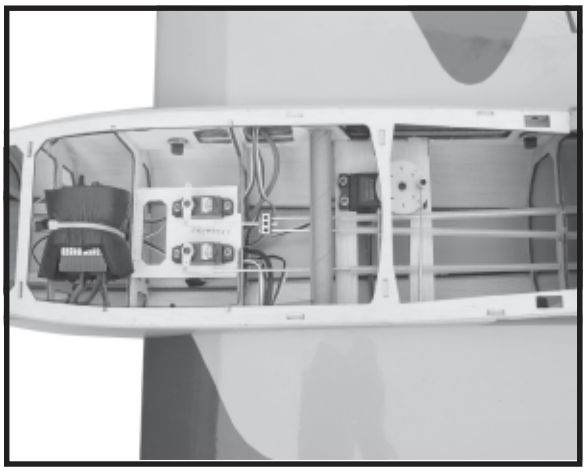


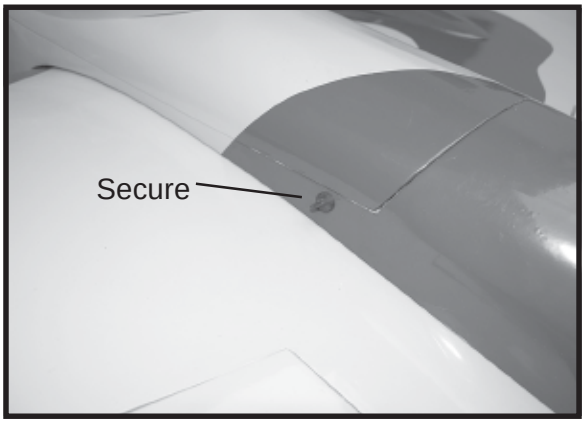




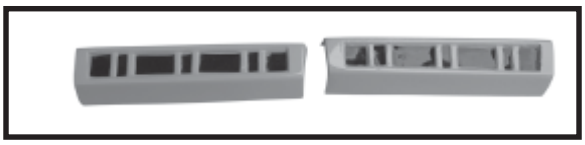


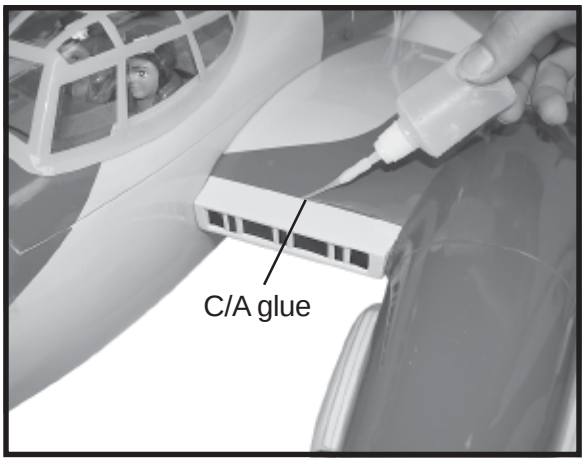
Installing the canopy as some as picture below.

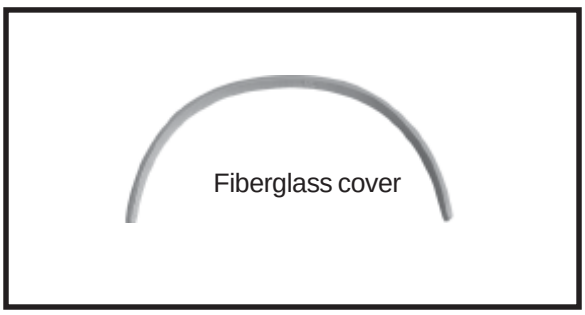


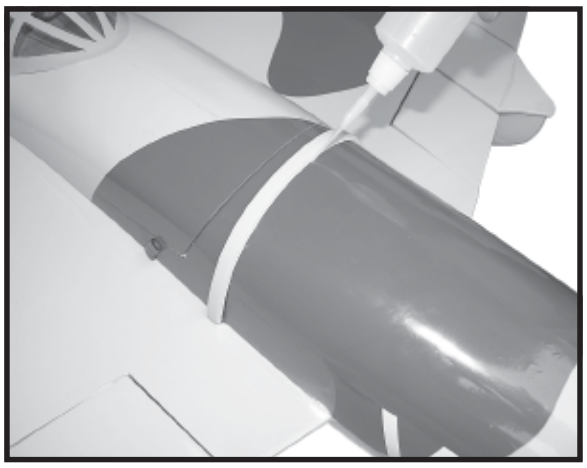


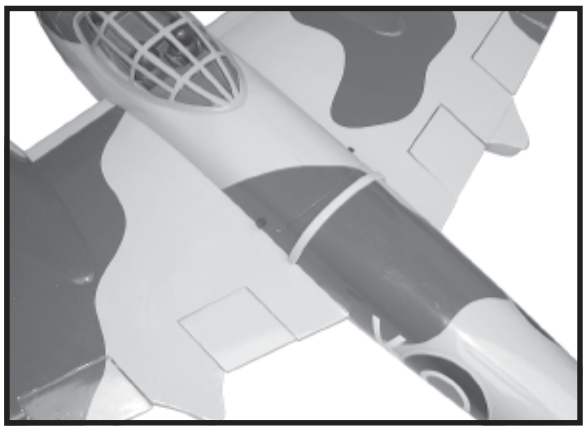
Fiberglass cover first wing panel.

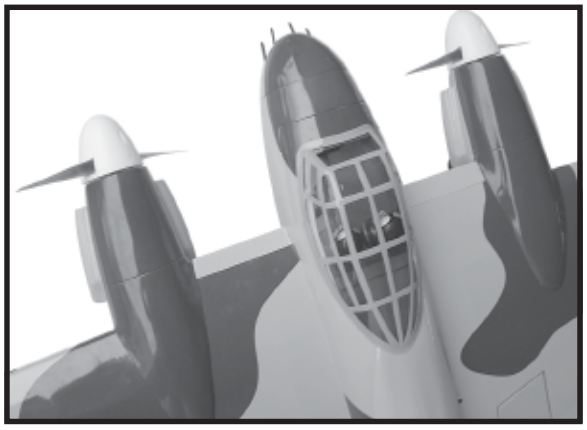


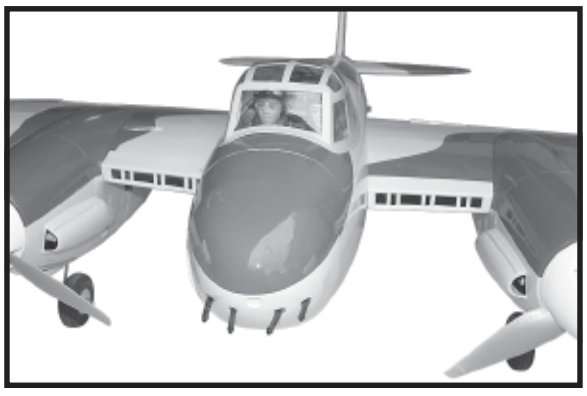












BALANCING.

☐ 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 100MM 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 100 mm back from the leading edge, at the fuselage sides.

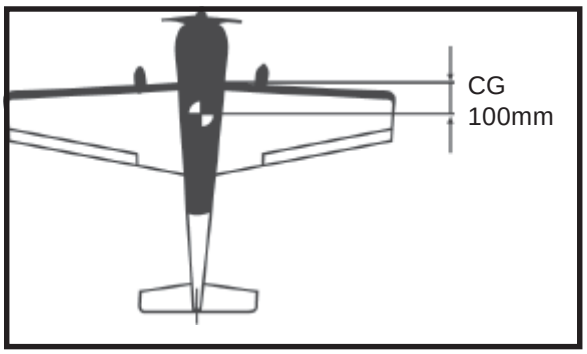
☐ 3. Turn the airplane upside down. Place your fingers on the masking tape and carefully lift the plane .

Accurately mark the balance point on the top of the wing on both sides of the fuselage. The balance point is located 100mm 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 weigh* 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.



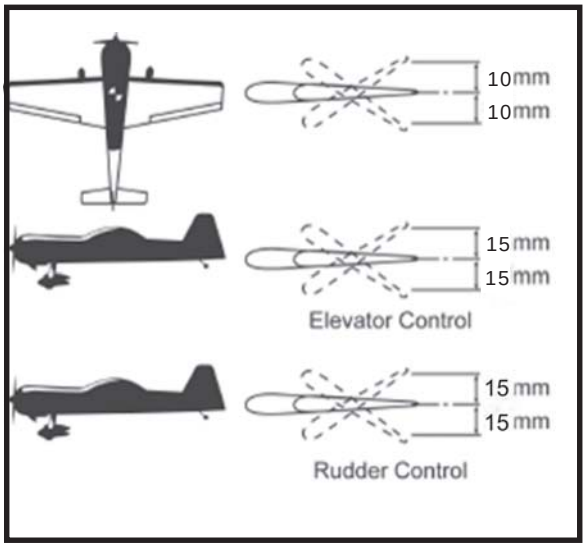
CONTROL THROWS.

- 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.

Ailerons : 10mm up 10mm down.
Elevator : 10mm up 10mm down.
Rudder : 15mm right 15mm left.



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 MOSQUITO MK VI.