



# North American P-51D "Charlotte's Chariot II" 71" ARF 35cc

Code : SEA391

## ASSEMBLY MANUAL

"Graphics and specifications may change without notice".



### Specifications:

Wingspan-----	71 in-----	180 cm.
Wing area-----	893.1 sq.ins-----	57.6 sq.dm.
Weight-----	17.2 - 17.6 lbs-----	7.8 - 8.0 kg.
Length-----	57 in-----	144.8 cm.
Engine-----	35cc.	
Motor-----	160/ 2700watt/ ESC 100A-120A/ Lipo 6s -12s electric propeller 18x8 - 20x10.	
Radio-----	9 channels with 10 servos.	



## INTRODUCTION

Thank you for choosing the North American P-51D “Charlotte’s Chariot II’ 71” ARF 35cc ARTF manufactured by SG MODELS. The North American P-51D “Charlotte’s Chariot II’ 71” ARF 35cc was designed with the intermediate/advanced sport flyer in mind. It is a semi scale airplane which is easy to fly and quick to assemble. The airframe is conventionally built using balsa, plywood to make it stronger than the average ARTF, yet the design allows the aeroplane to be kept light for its size. You will find that most of the work has been done for you already. The control surfaces have been pre-fitted with hinges are ready to be final glued into place. Flying the North American P-51D “Charlotte’s Chariot II’ 71” ARF 35cc is simply a joy.

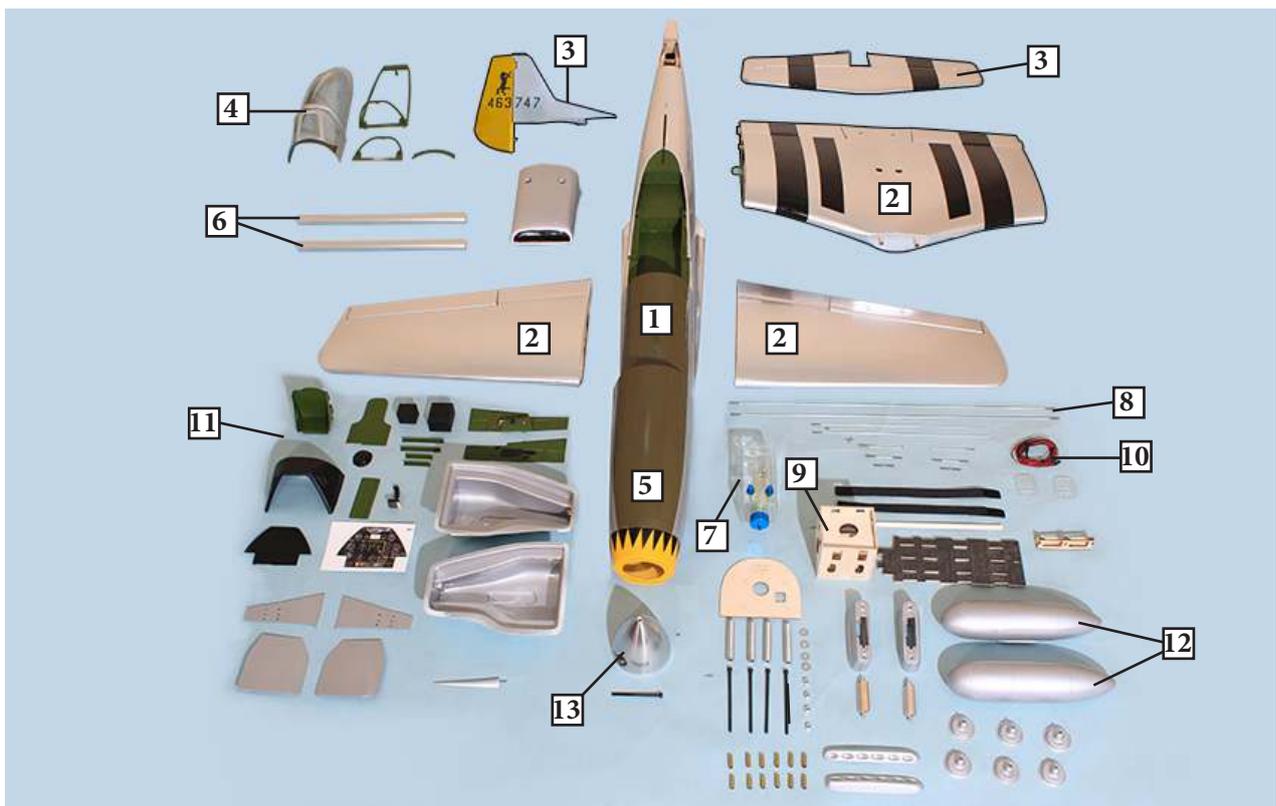
This instruction manual is designed to help you build a great flying aircraft. Please read this manual throughly a few time before starting assembly of your North American P-51D “Charlotte’s Chariot II’ 71” ARF 35cc. Use the parts listing below to indentify all parts.

## WARNING !

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

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 follow a more enjoyable and successful path to R/C flight. They will also be able to advise on any insurance and safety regulations that may apply.

## KIT CONTENTS



## KIT CONTENTS

### SEA391 North American P-51D "Charlotte's Chariot II' 71" ARF 35cc

1. Fuselage
2. Wing set (3 pcs)
3. Tail set (2 pcs)
4. Canopy
5. Cowling
6. Wing tube
7. Fuel tank
8. Pushrod set
9. Ep Motor box
10. Tip Bulbs
11. Cockpit
12. Spinner
13. Drop Tanks/Bomb

## ADDITIONAL ITEMS REQUIRED

- 35cc Engine or Electric Motor and ESC.
- Computer radio 9 channel with 10 servos.
- Spark plug to suit engine.
- Propeller to suit engine.
- Protective foam rubber for radio system.

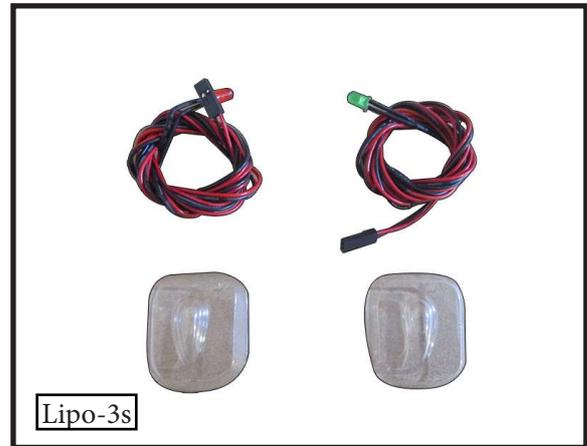
## TOOLS & SUPPLIES NEEDED

- Thin cyanoacrylate glue.
- Medium 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.

## WING TIP BULBS

Please see below pictures.

1.



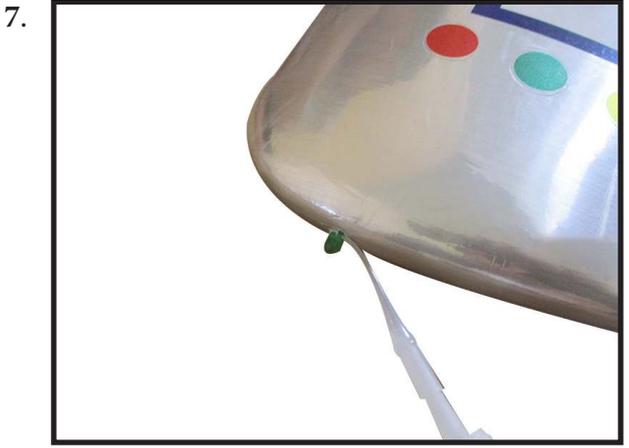
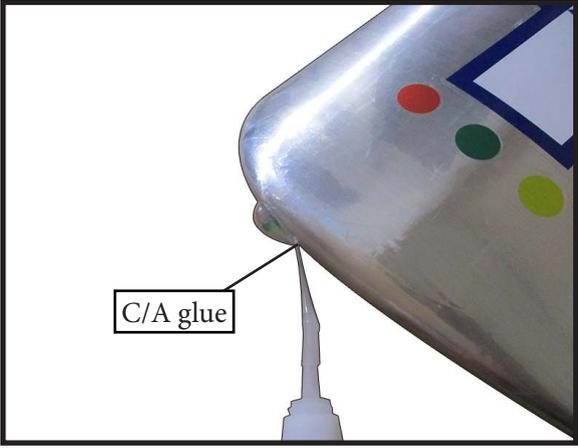
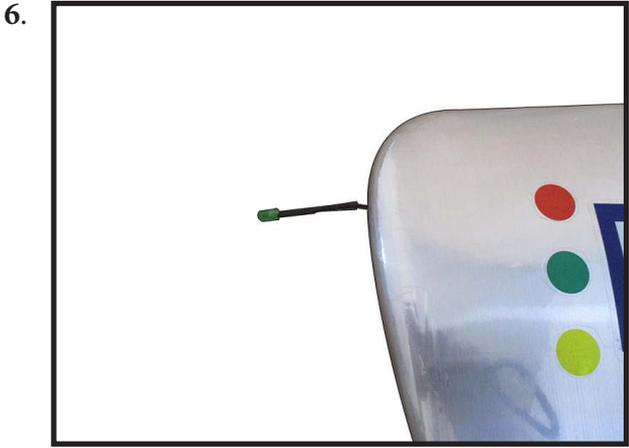
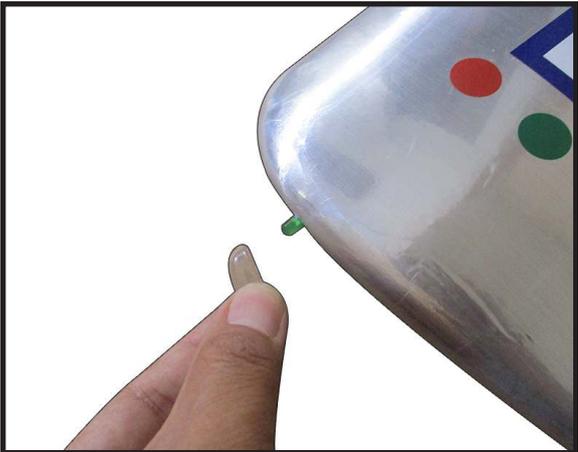
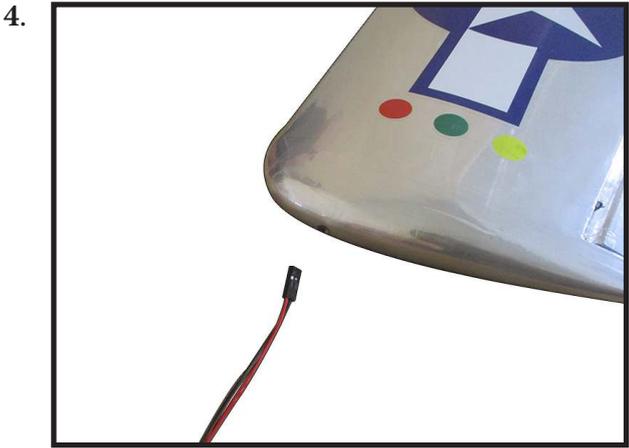
The green light for right wing tip, and the red light for left wing tip. They are designed to operate on voltages 12 volts. Connect four lights into switch circuit so that optional the different flashes mode.

2.



3.

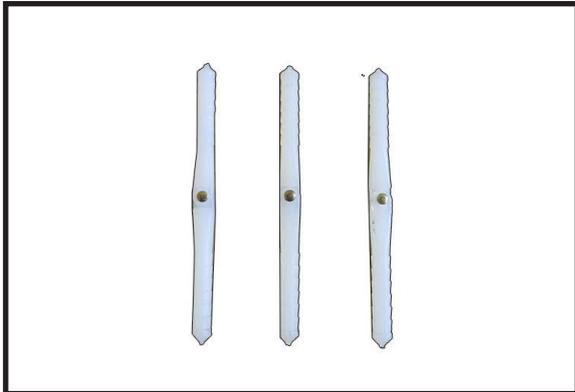




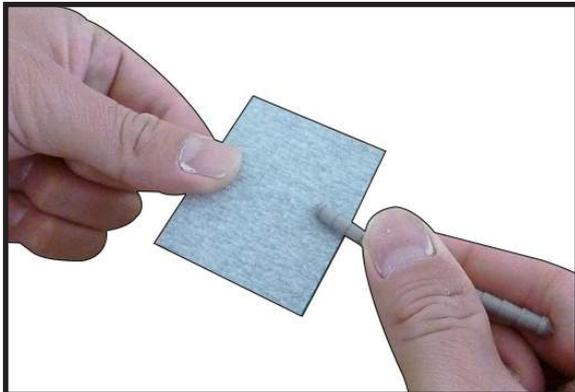
## INSTALL THE AILERONS

Please see pictures below..

1.



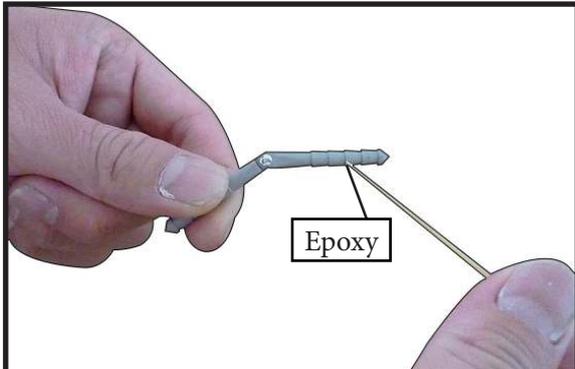
2.



Remove the ailerons from the wing and remove the hinges.

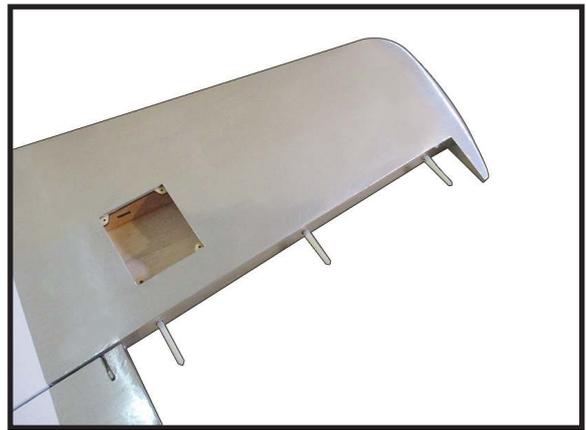
Use a small piece of rough sandpaper to scuff the hinges for better epoxy adhesion. Do this to all aileron hinges.

3.



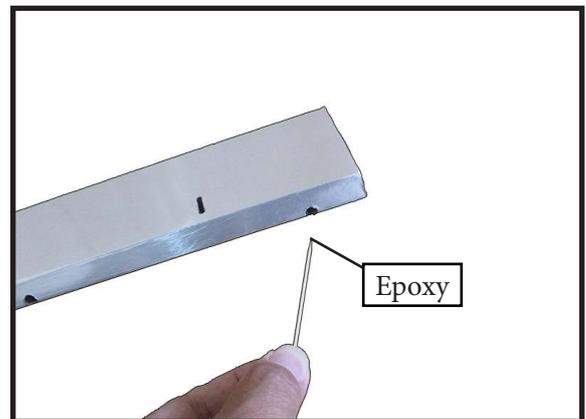
Apply epoxy to each hinge where it will be inserted into the ailerons. Tip: Apply some petroleum jelly to the metal pin hinge area to keep epoxy from interfering with smooth operation of hinge.

4.



Insert all four hinges in the ailerons at this time. Make sure hinges move up and down in right direction and not side to side !

5.

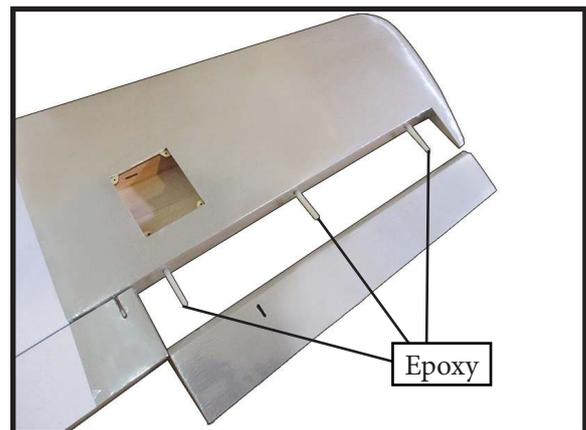


Apply epoxy into each of the holes in the ailerons using a spare piece of pushrod wire or toothpick.

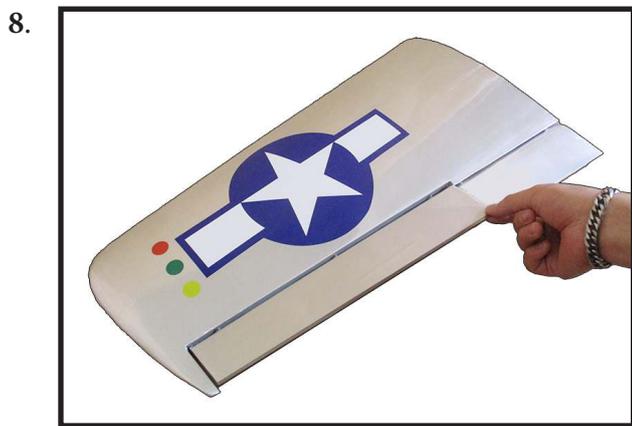
Make sure to use enough epoxy so it securely adheres the hinge to the surfaces.

Do not use an excessive amount of epoxy when gluing the hinges so that it expels from the hinge area.

6.



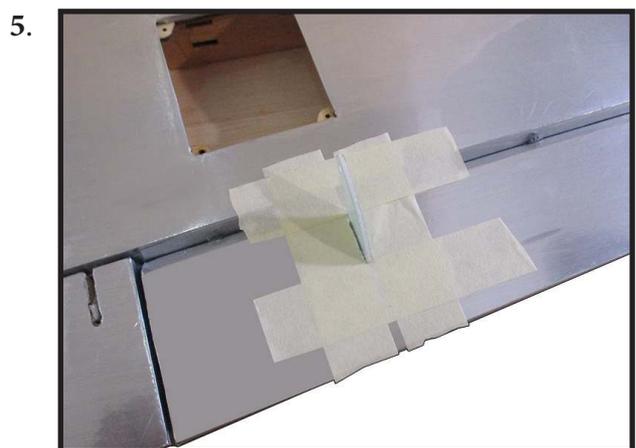
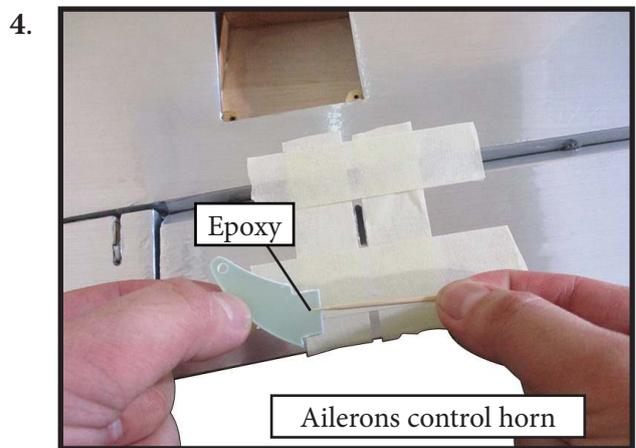
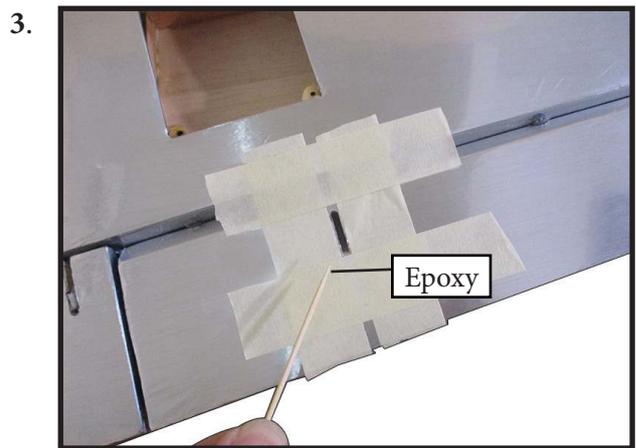
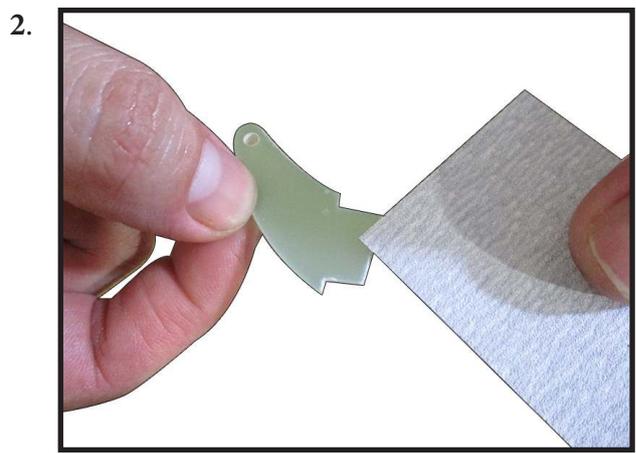
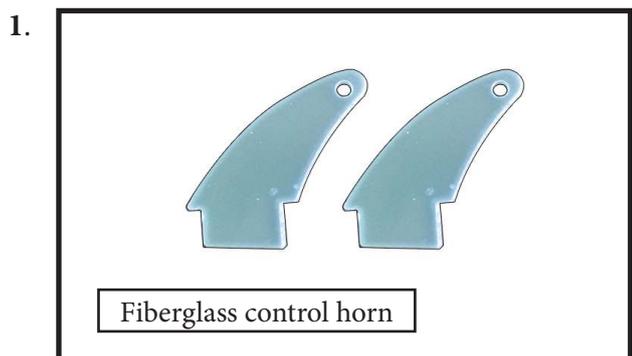
Be sure to test the aileron hinges once you insert them. Ensure that the hinge pockets line up, and that the hinges move freely before the epoxy dries.

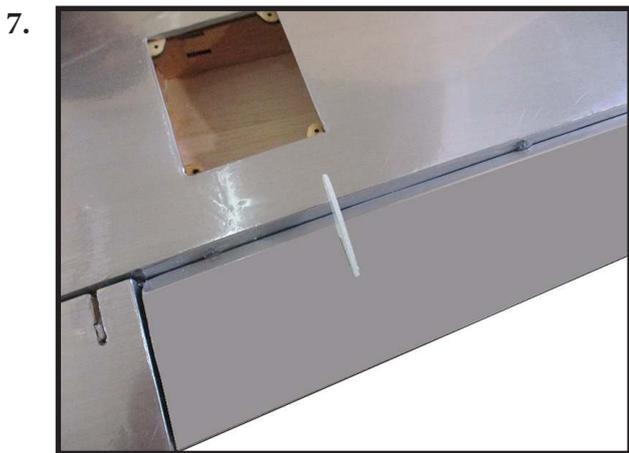
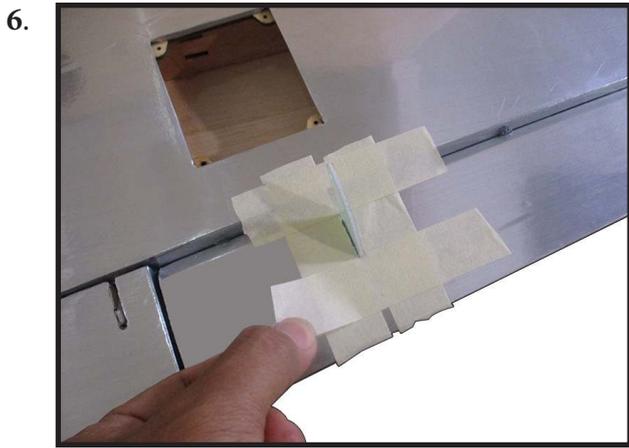


Check the fit of the aileron to the wing. The top of the ailerons will align to the top of the wing. Make sure movement is smooth and bind free.

We prefer 30-minute epoxy to allow enough working time during the hinge installation.

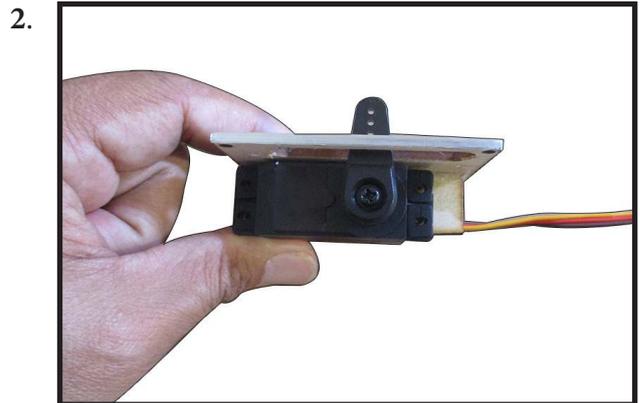
**INSTALL THE AILERONS CONTROL HORN**





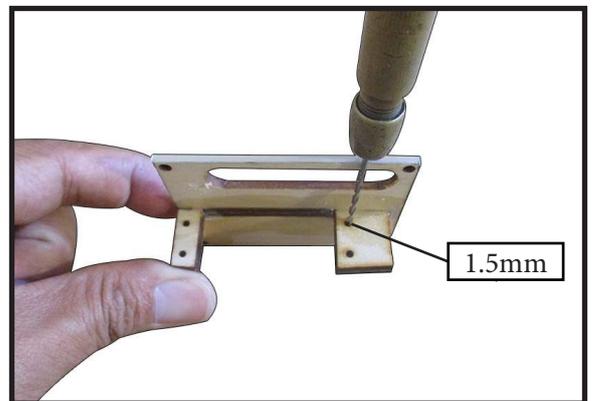
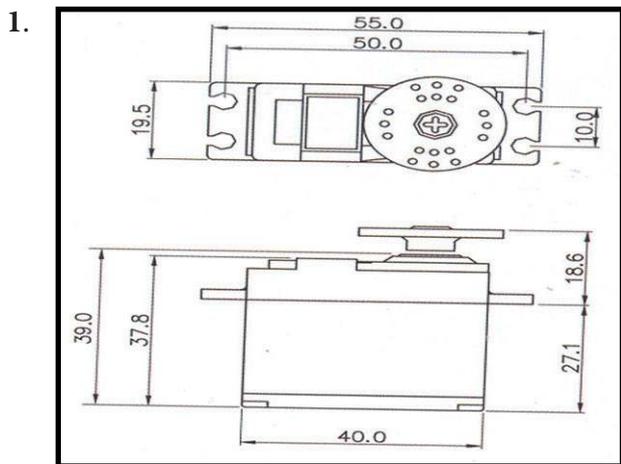
**!** Because the size of servos differ, you may need to adjust the size of the precut opening in the mount. The notch in the sides of the mount allow the servo lead to pass through.

Place the servo between the mounting blocks and space it from the hatch. Use a pencil to mark the mounting hole locations on the blocks.



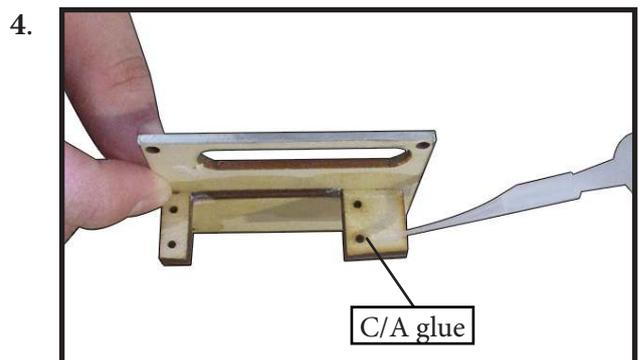
Use drill bit in a pin vise to drill the mounting holes in the blocks.

**INSTALLING THE AILERON SERVOS**

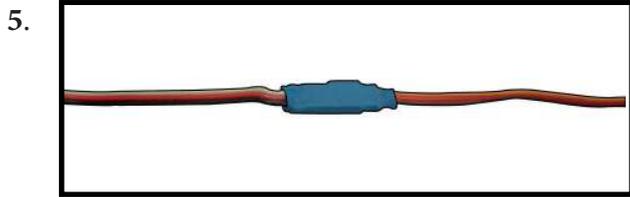


Apply 2-3 drops of thin C/A to each of the mounting holes. Allow the C/A to cure without using accelerator.

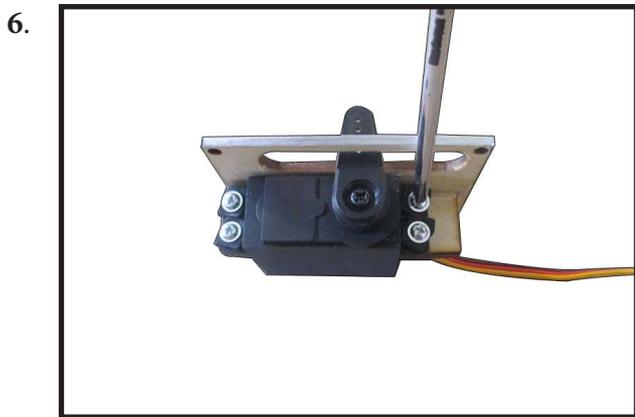
**Recommended Servo Spec Torque.**  
 106.93 oz-in (7.7 kg-cm) @ 4.8V  
 133.31 oz-in (9.6 kg-cm) @ 6.0V



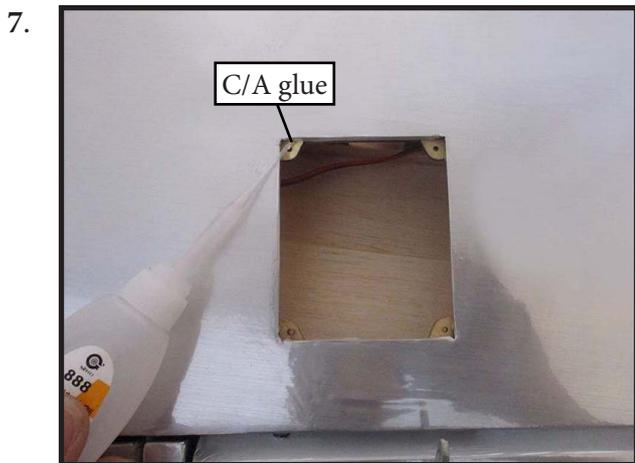
Use dental floss or heat shrink tubing to secure the connection between the servo and extension wire so they cannot become unplugged accidentally.



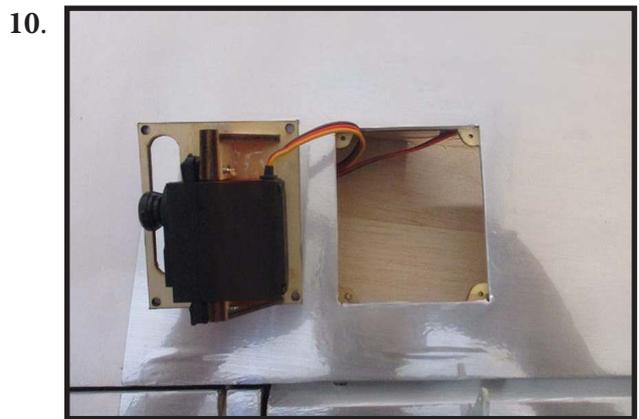
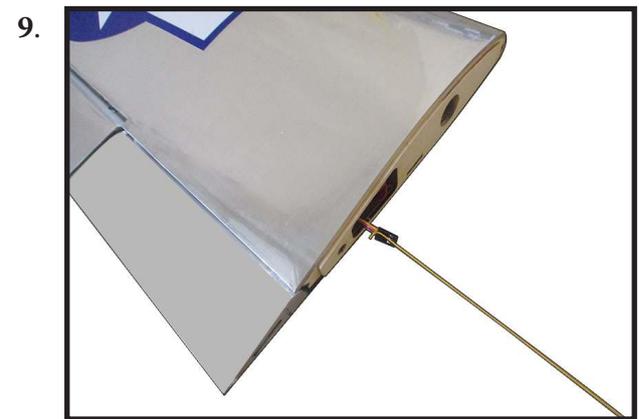
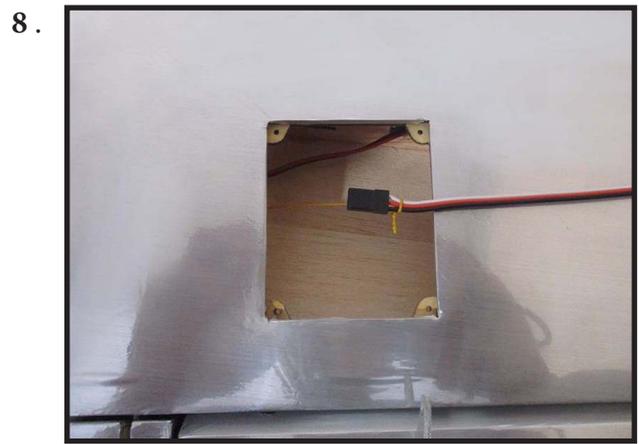
Secure the servo to the aileron hatch using a proper driver and the screws provided with the servo.



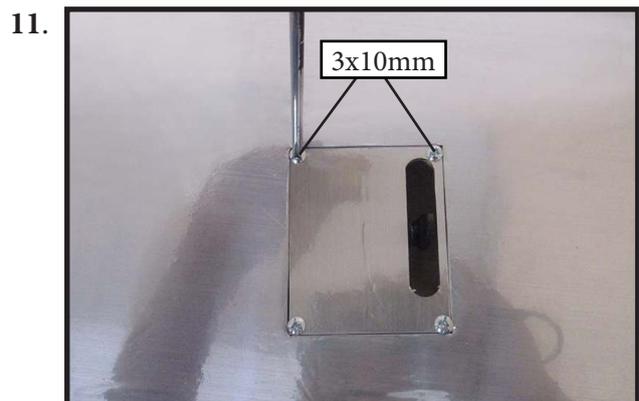
Apply 2-3 drops of thin C/A to each of the mounting aileron hatch mounting tabs in the wing. \*\*\*Allow the C/A to cure without using accelerator.\*\*\*



Remove the string from the wing at the servo location and use the tape to attach it to the servo extension lead. Pull the lead through the wing and remove the string.



Set the aileron hatch in place and use a Phillips screw driver to install it with four wood screws.

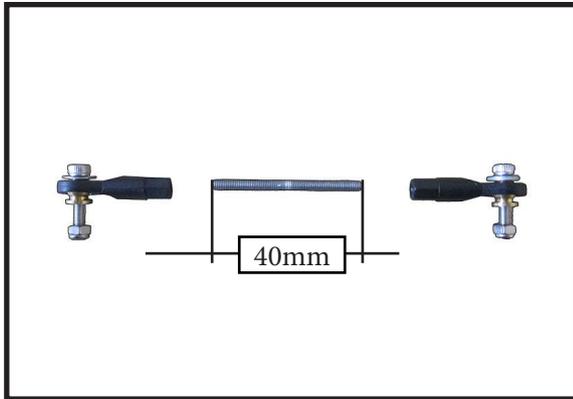


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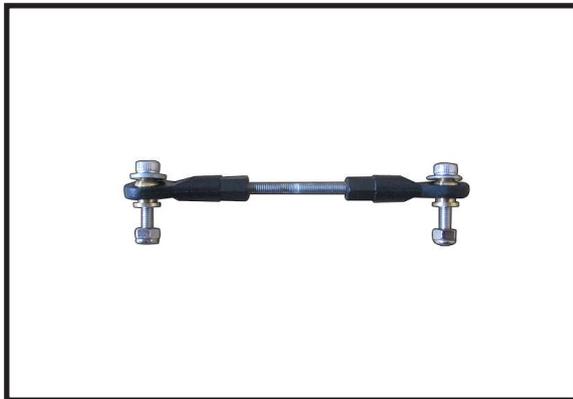


### AILERON PUSHROD INSTALLATION

1.



2.

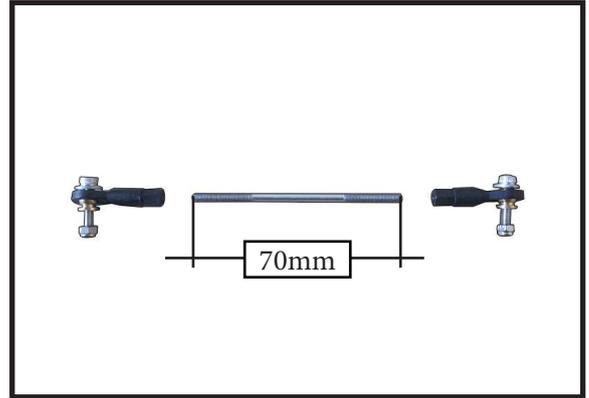


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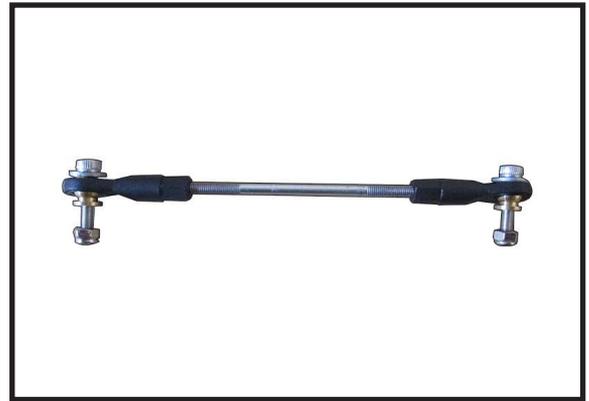


### INSTALLING THE FLAP PUSHROD

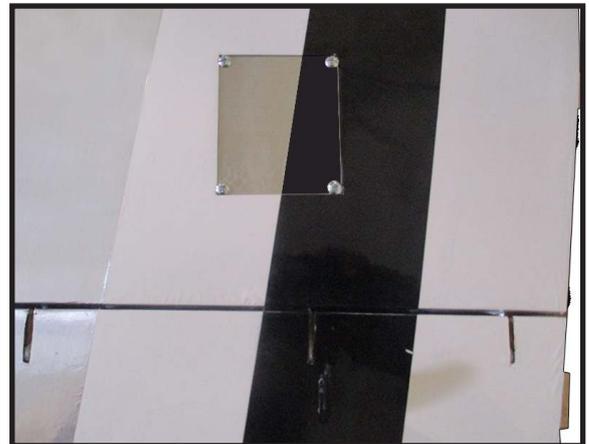
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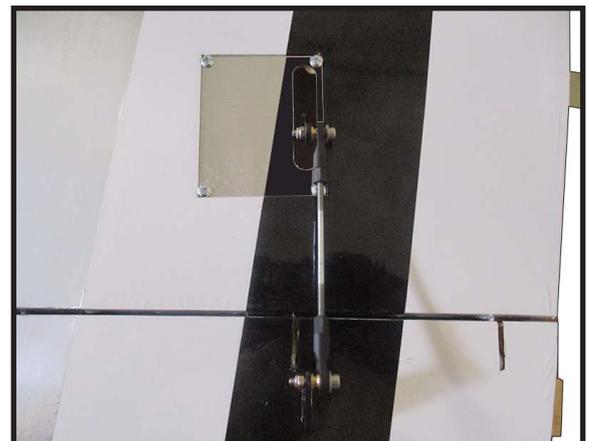
2.



3.

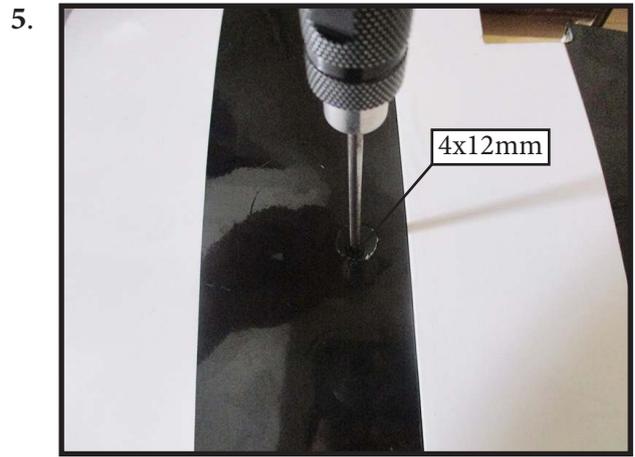
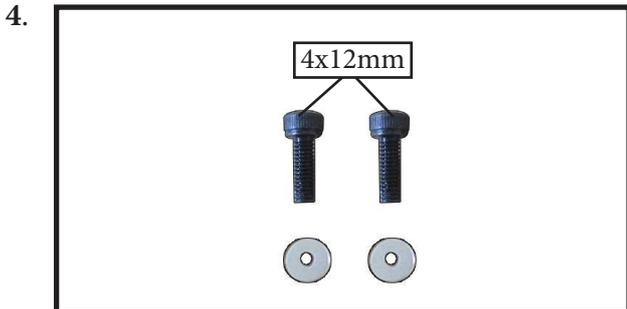
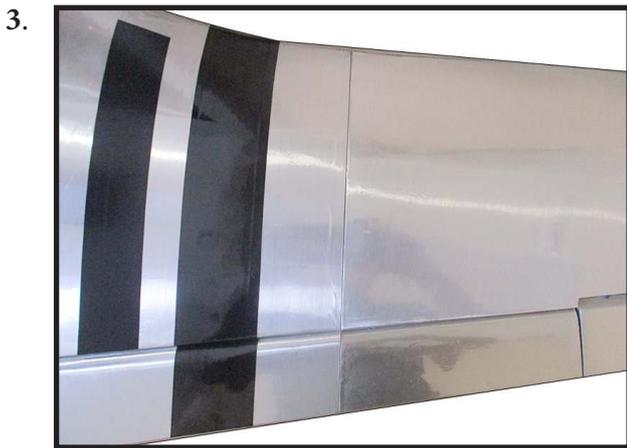
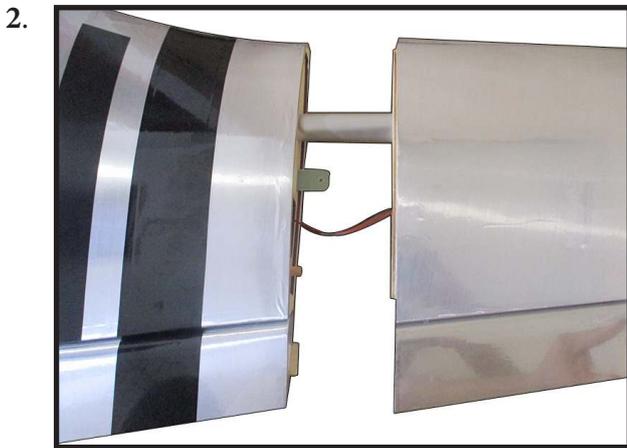
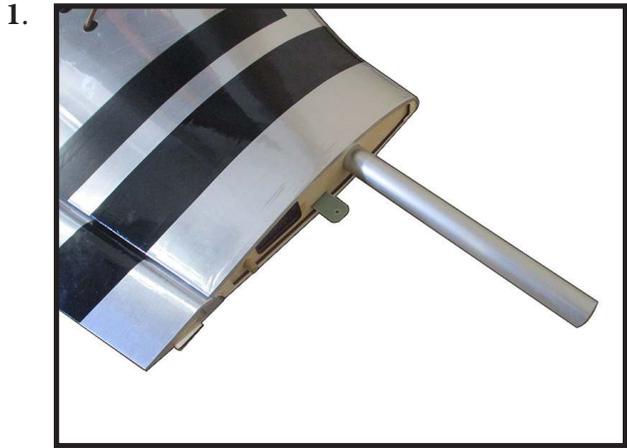


4.



**WING ASSEMBLY**

Please study images below.

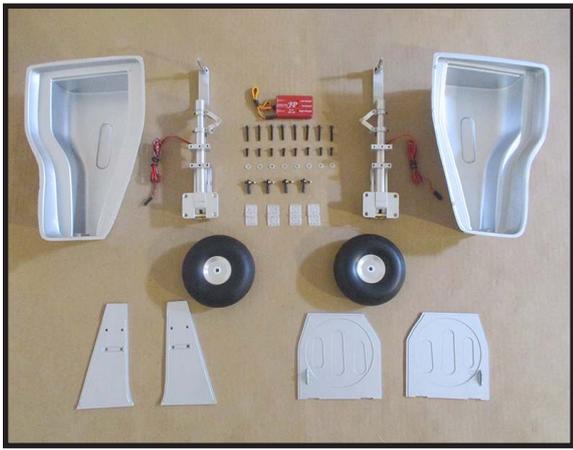


**INSTALLING RETRACTABLE LANDING GEAR**

PLocate items necessary to install Sprin Landing Gear.

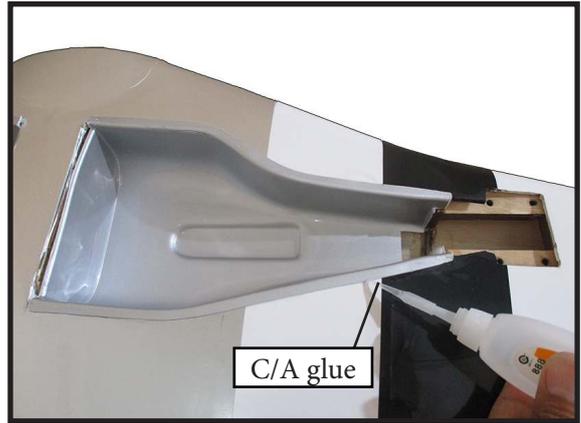
You use this fork set JP ER-120-90degree.

1.



When injecting C/A glue, bring the forks inwards so they don't move.

5.



2.



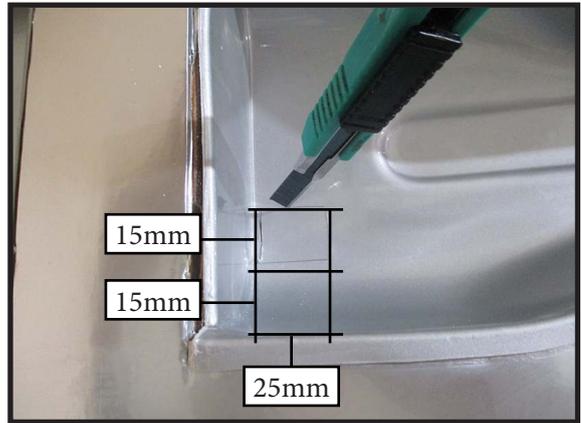
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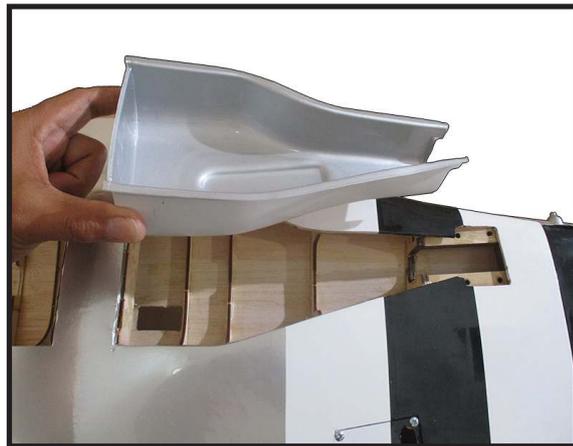
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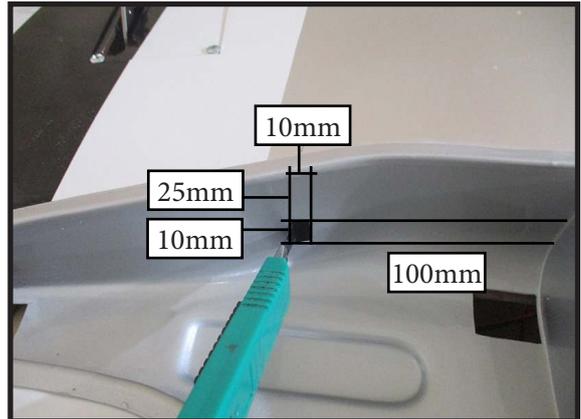
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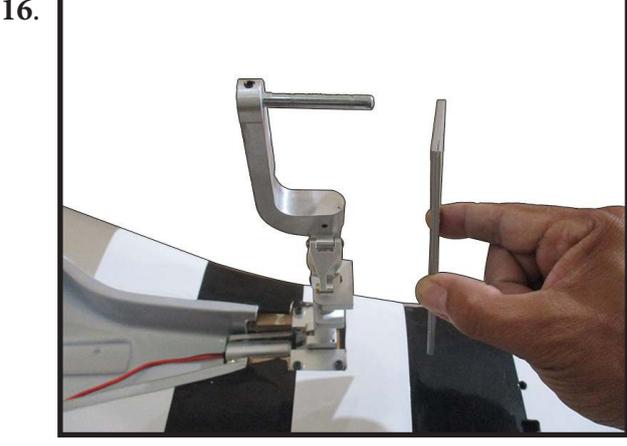
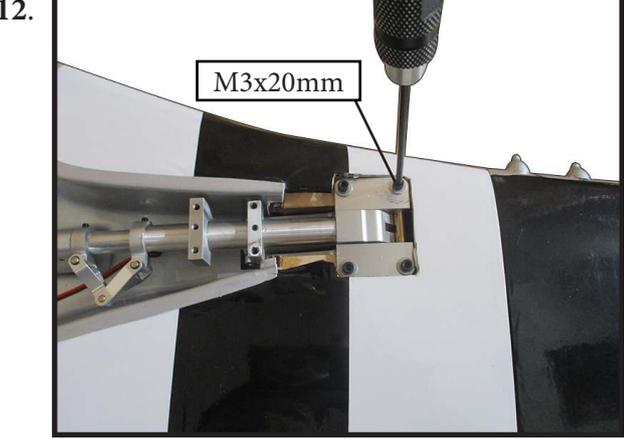
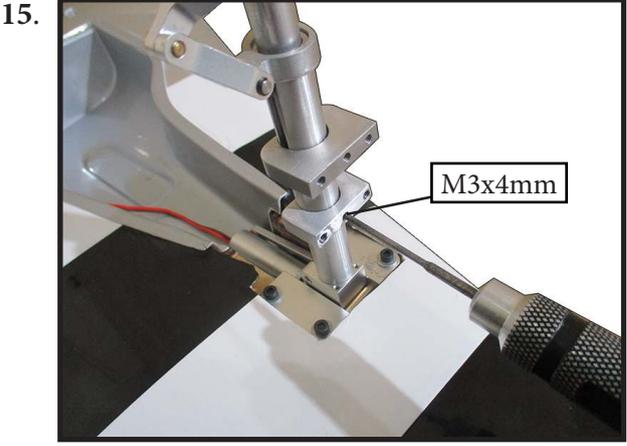
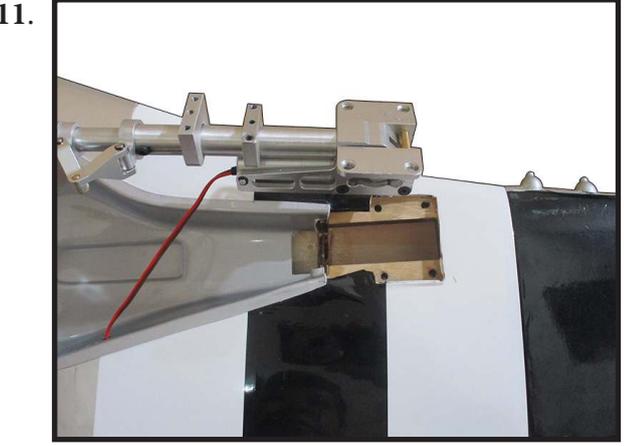
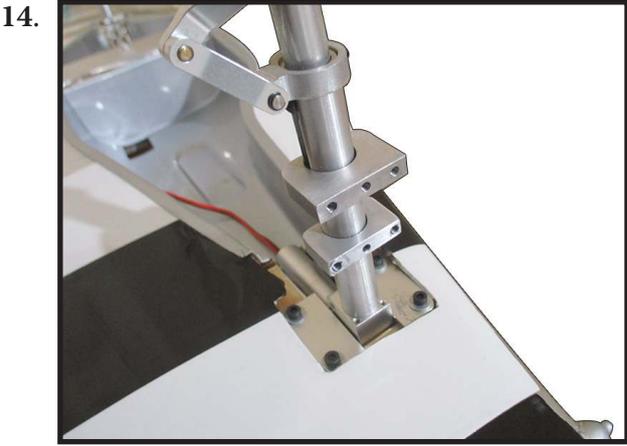
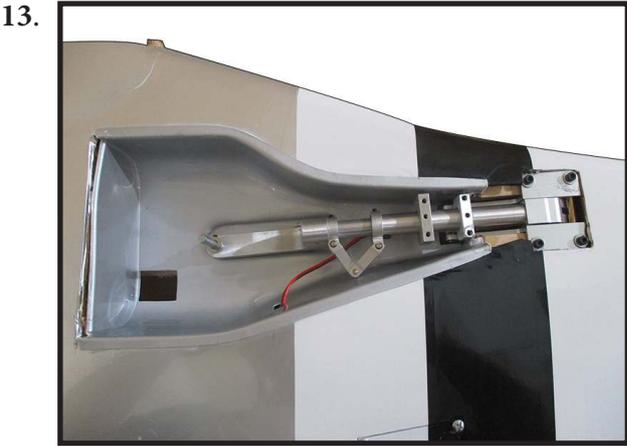


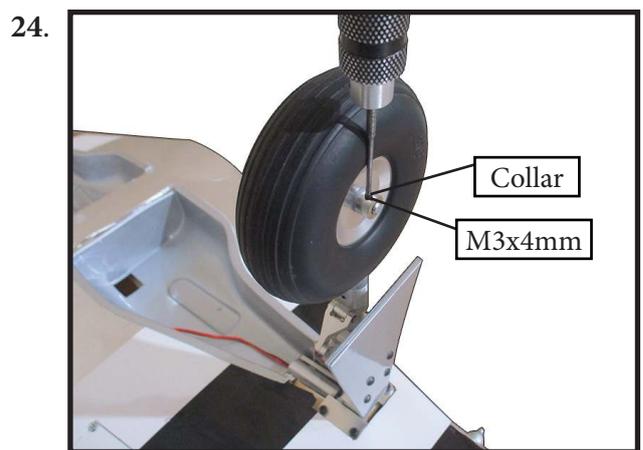
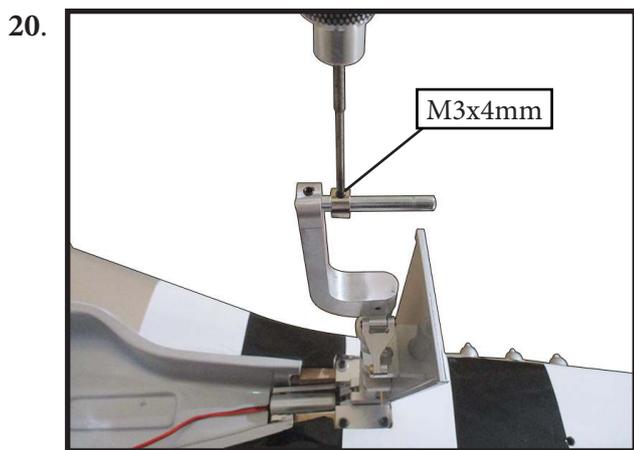
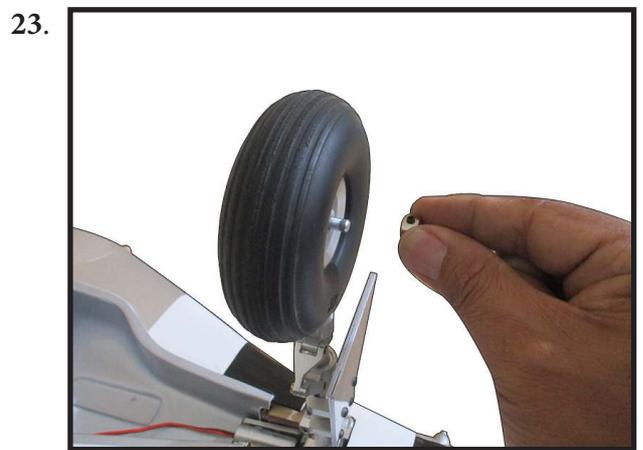
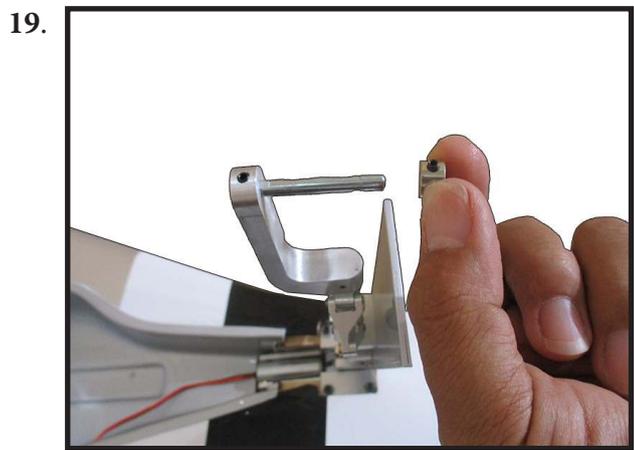
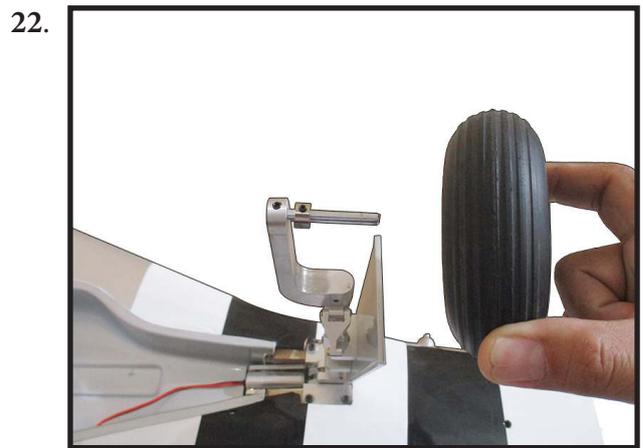
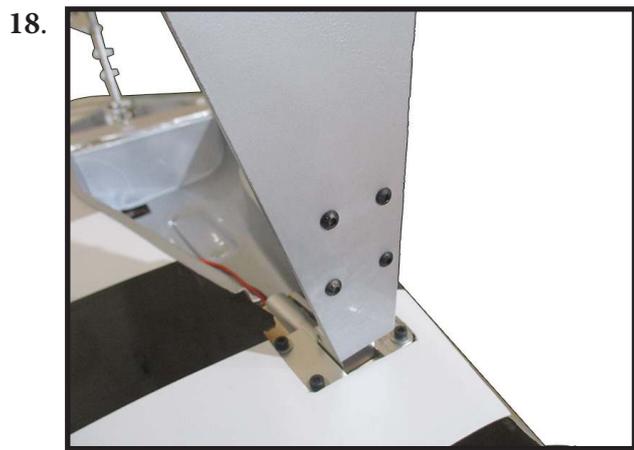
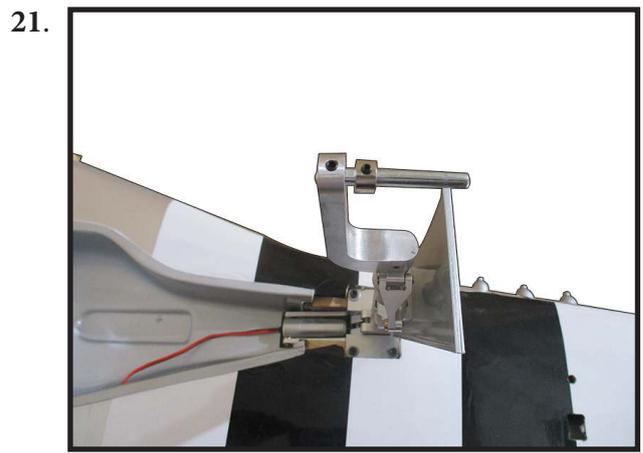
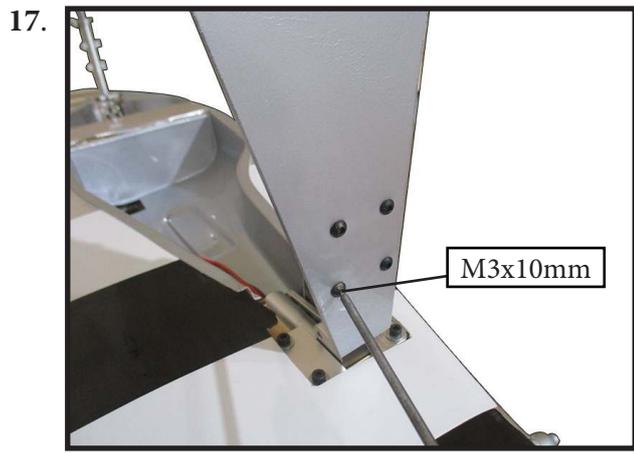
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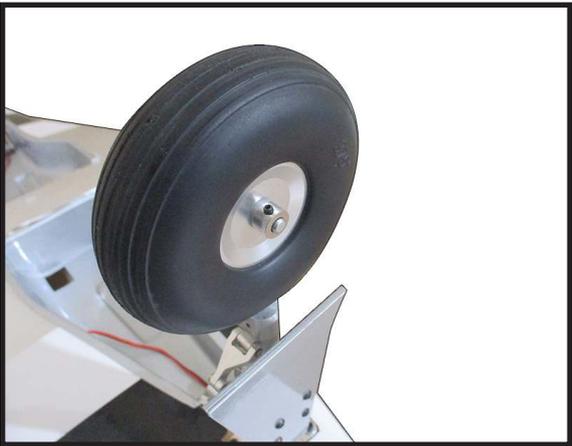
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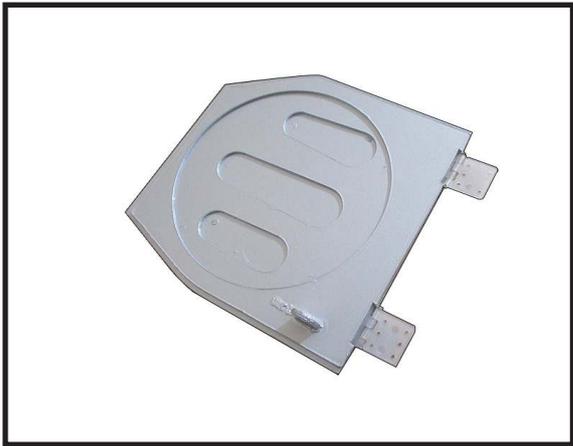




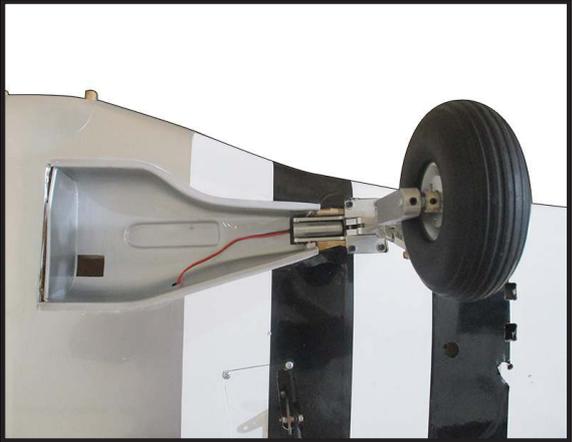
25.



29.



26.



30.



27.



31.



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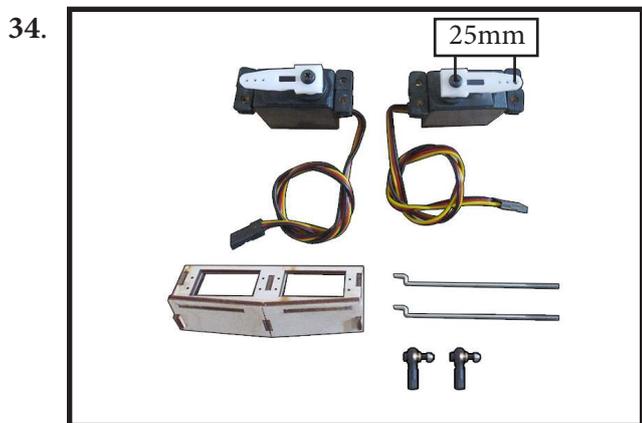


32.



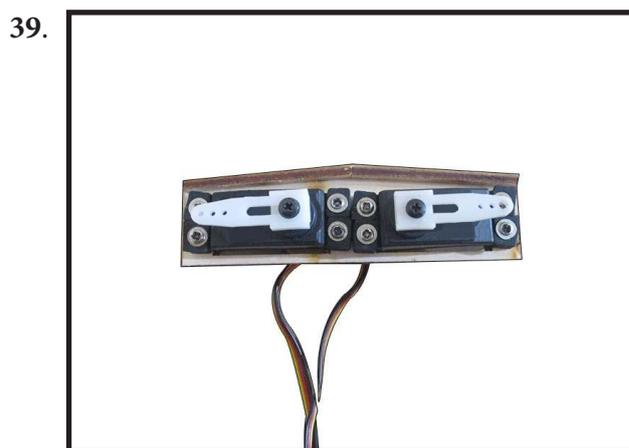
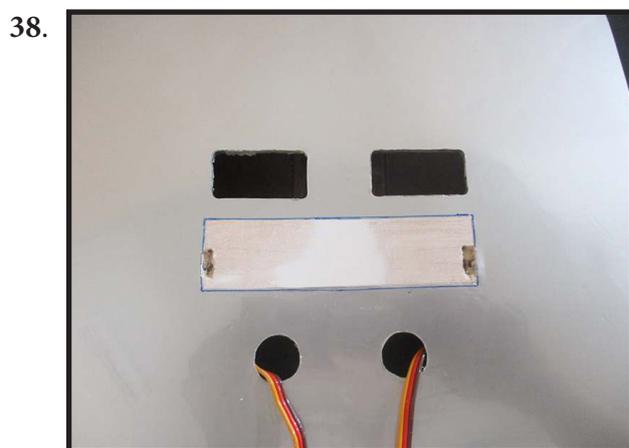
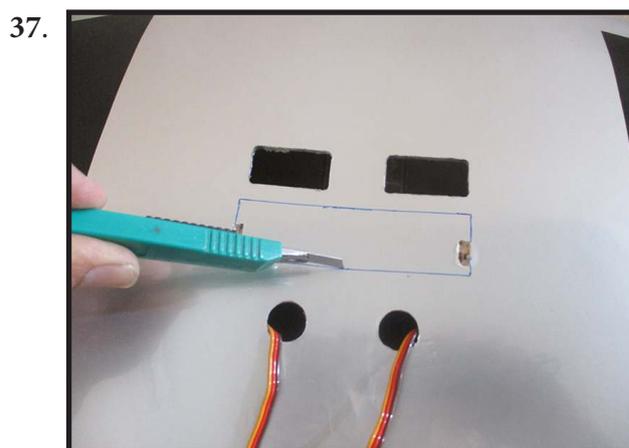
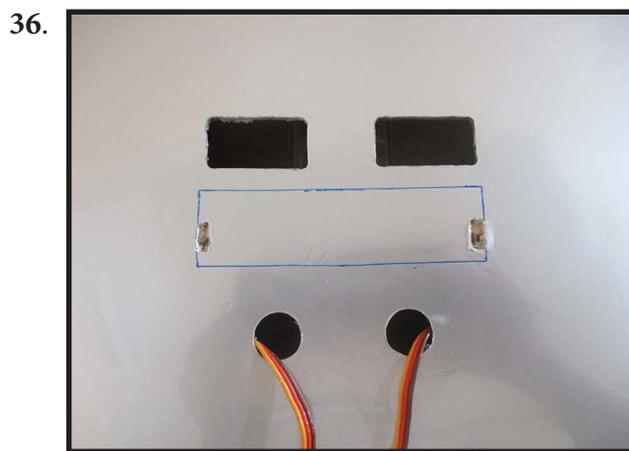
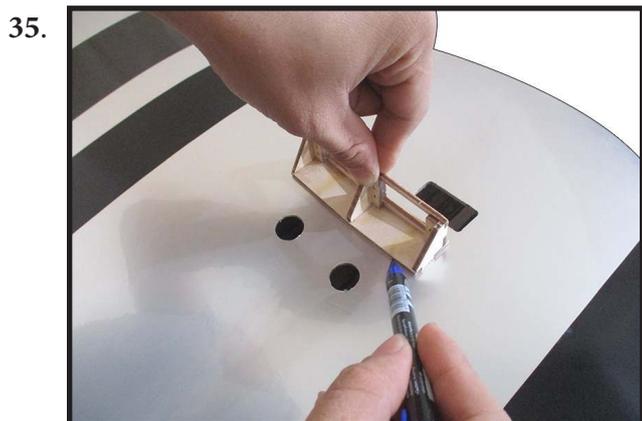


The servo motor should be at least 25mm in size.

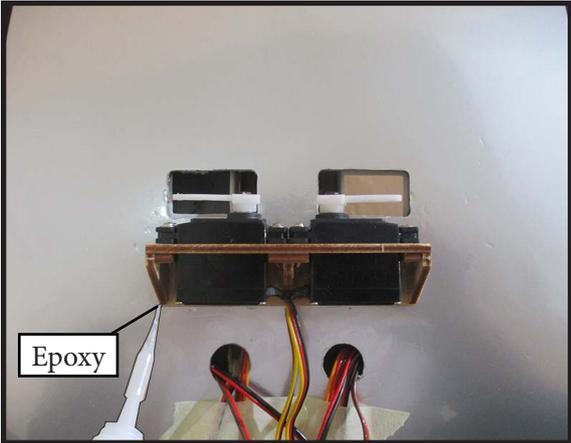


**Minimum servo.**  
**Torque :** 8.7 oz-in (6.3 kg-cm) @ 6V;  
 118 oz-in (8.5 kg-cm) @ 8.4V  
**Encourage the use of servos such as Spektrum.a5060.**

Note: The speed of this servo you to be in the slowest mode then you gradually increase to suit the speed ranked.



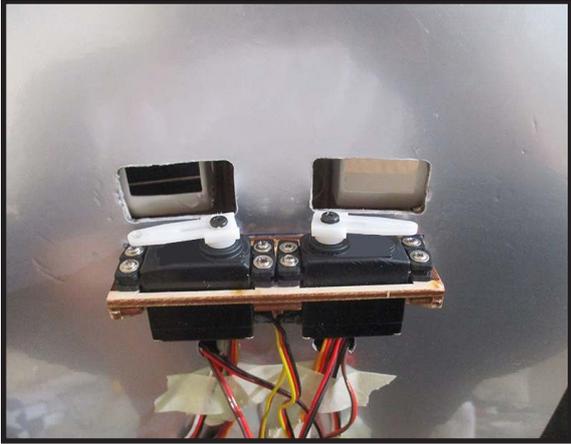
40.



44.



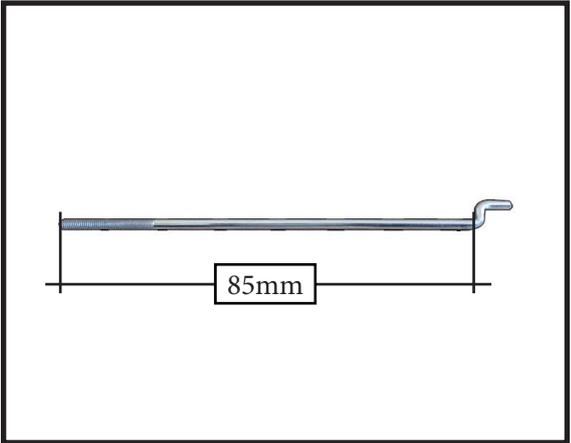
41.



45.



42.



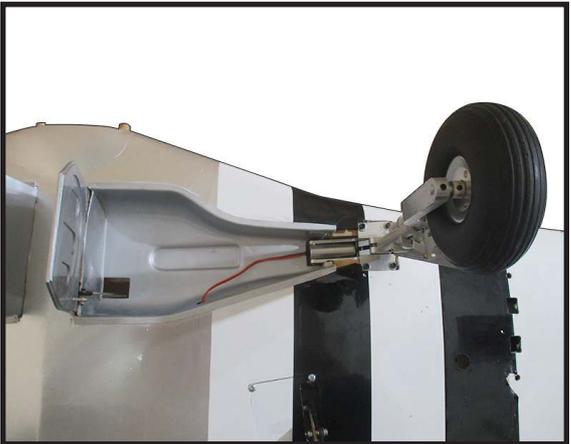
46.



43.



47.



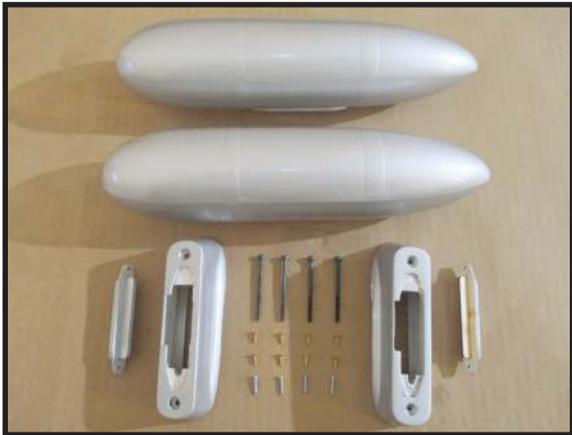
48.



### DROP TANK/BOMB INSTALLATION

Please study images below.

1.



Install drop tank/bomb releases as shown.

2.



3.



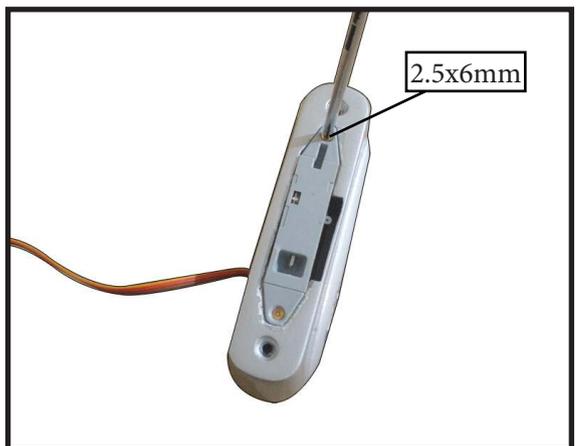
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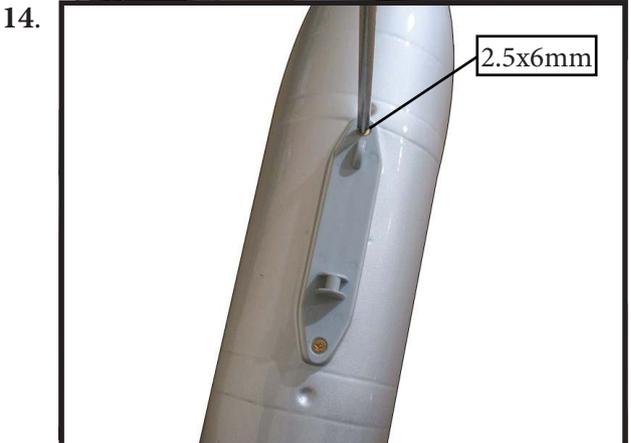
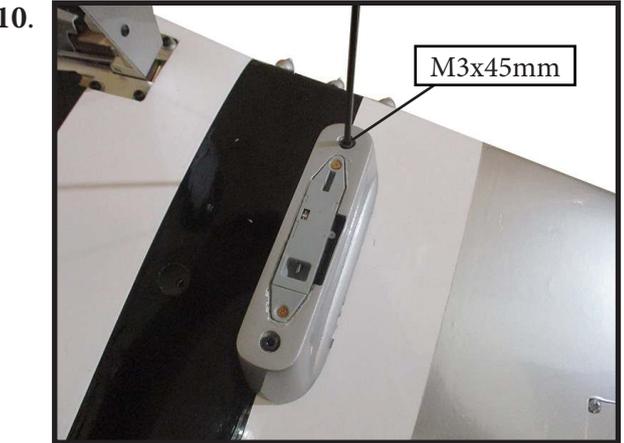
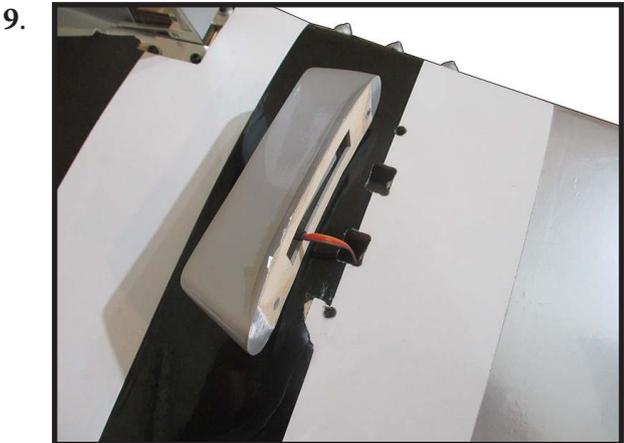
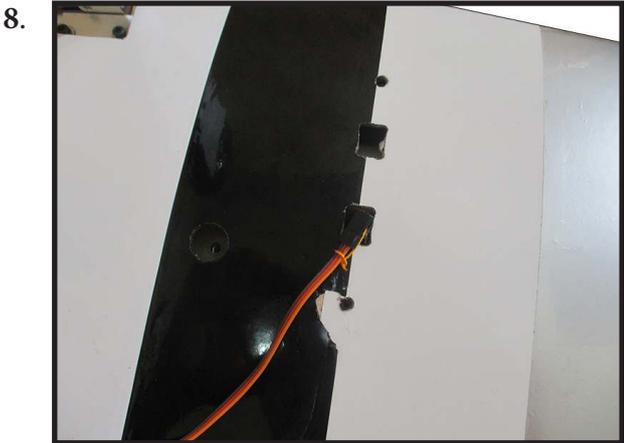


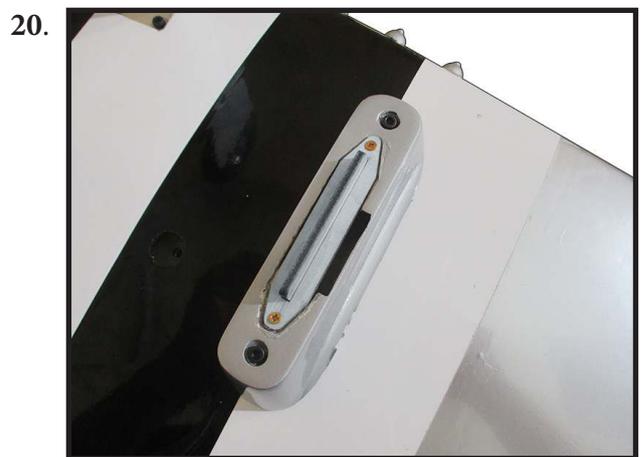
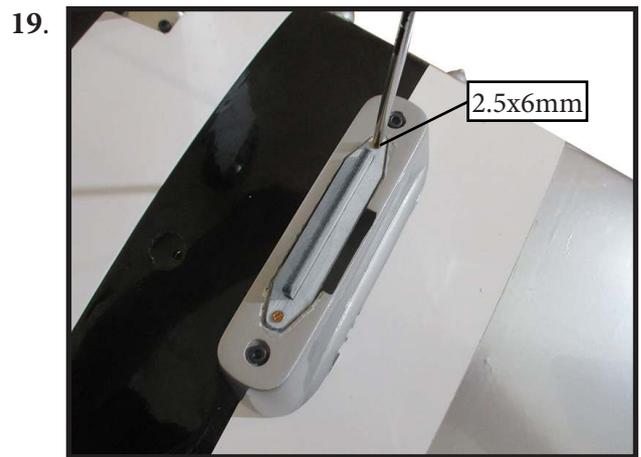
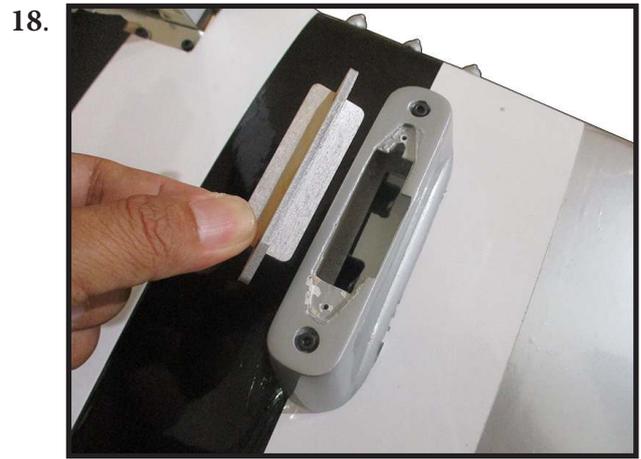
5.



6.

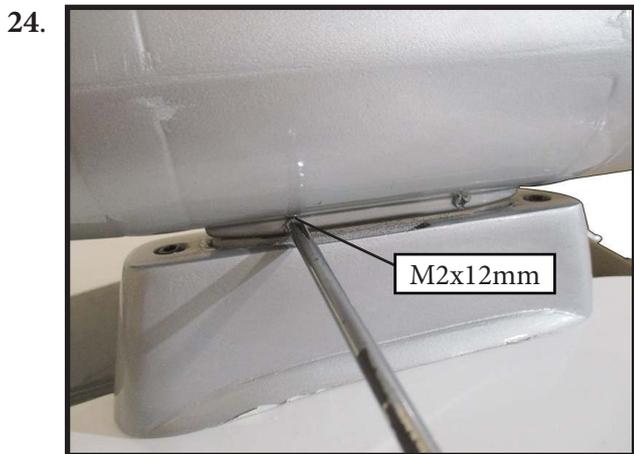
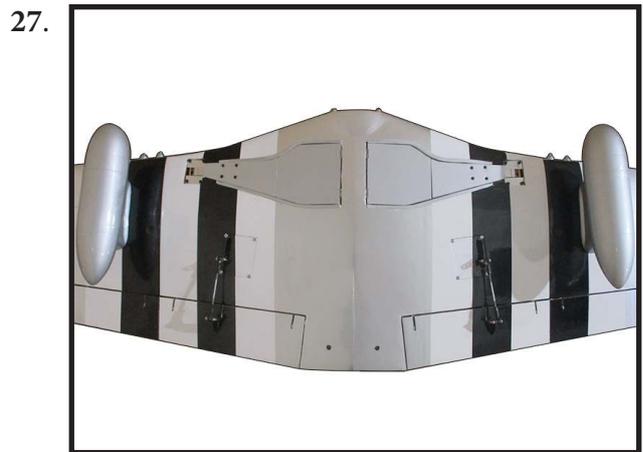
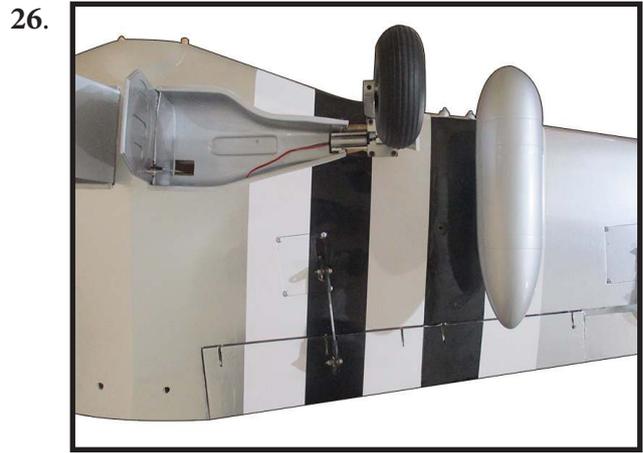






If you do not wish to make the drop tanks/bomb removable you may glue them in place. Please study images below. \*\*\*We do recommend making them removable for maintenance/service.

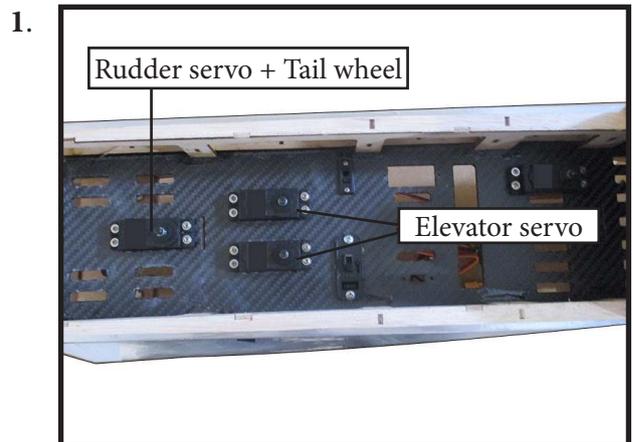




**INSTALLING THE FUSELAGE SERVOS**

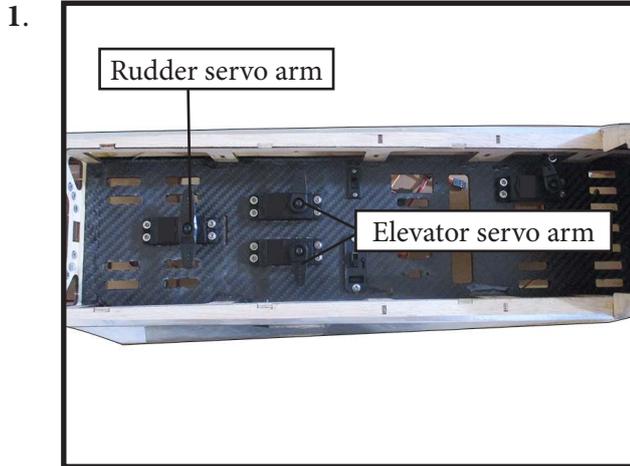
 Because the size of servos differ, you may need to adjust the size of the pre-cut opening in the mount. The notch in the sides of the mount allow the servo lead to pass through.

Secure the servos with the screws provided with your servo.



## THROTTLE SERVO ARM INSTALLATION

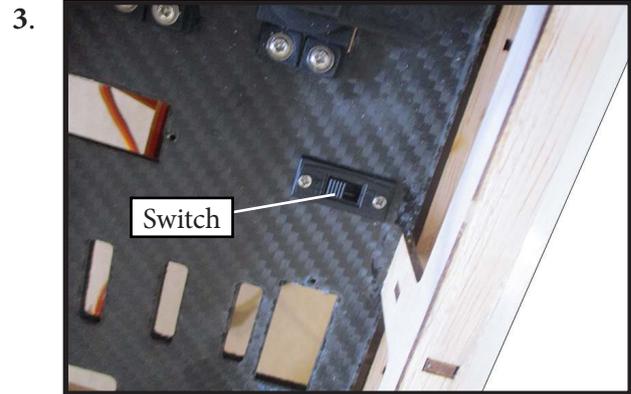
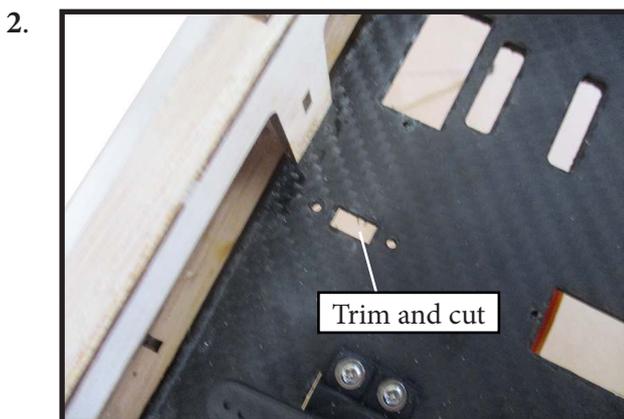
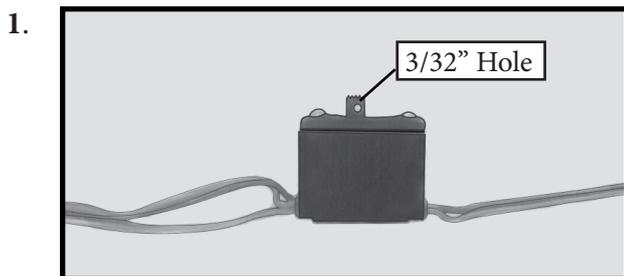
Install adjustable servo connector on the servo arm and set aside for now.



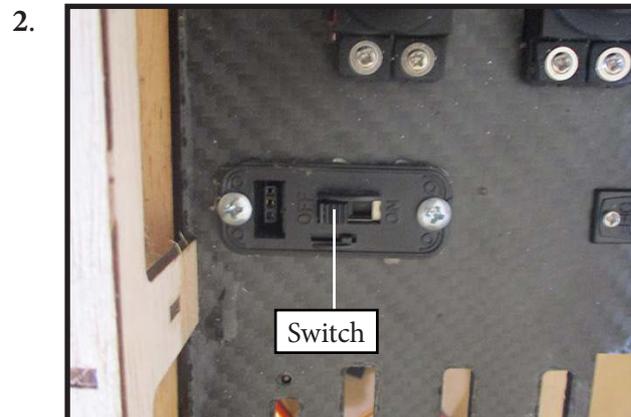
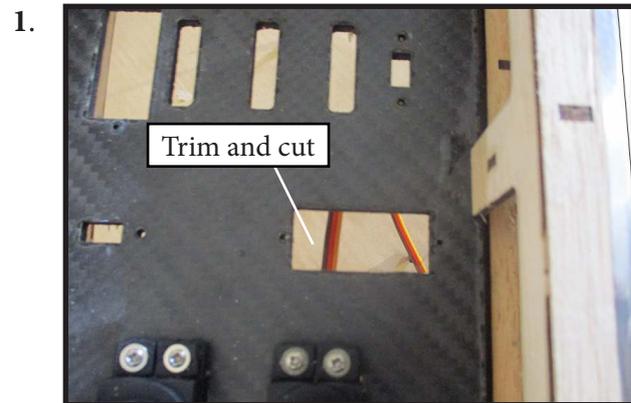
Install the rudder and elevator servo arms as shown above.

## INSTALLING THE RECEIVER SWITCH

Install the switch into the precut hole in the side of fuselage, or you may hide switches under main hatch on a custom home made switch plate as desired.



## INSTALLING THE ENGINE SWITCH



## INSTALLING THE STOPPER ASSEMBLY

Using a modeling knife, carefully cut off the rear portion of one of the 3 nylon tubes leaving 1/2" protruding from the rear of the stopper. This will be the fuel pick up tube.

Using a modeling knife, cut one length of silicon fuel line. Connect one end of the line to the weighted fuel pick up and the other end to the nylon pick up tube.



Carefully bend the second nylon tube up at a 45° angle. This tube is the vent tube.

Test fit the stopper assembly into the tank. It may be necessary to remove some of the flashing around the tank opening using a modeling knife. If flashing is present, make sure none falls into the tank.

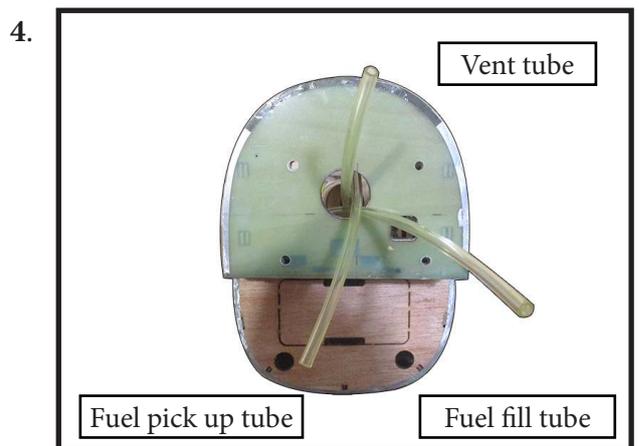
With the stopper assembly in place, the weighted pick-up should rest away from the rear of the tank and move freely inside the tank. The top of the vent tube should rest just below the top of the tank. It should not touch the top of the tank.

When satisfied with the alignment of the stopper assembly tighten the 3 x 20mm machine screw until the rubber stopper expands and seals the tank opening. Do not over-tighten the assembly as this could cause the tank to split.

**FUEL TANK INSTALLATION**



 *You should mark which tube is the vent and which is the fuel pickup when you attach fuel tubing to the tubes in the stopper. Once the tank is installed inside the fuselage, it may be difficult to determine which is which.*

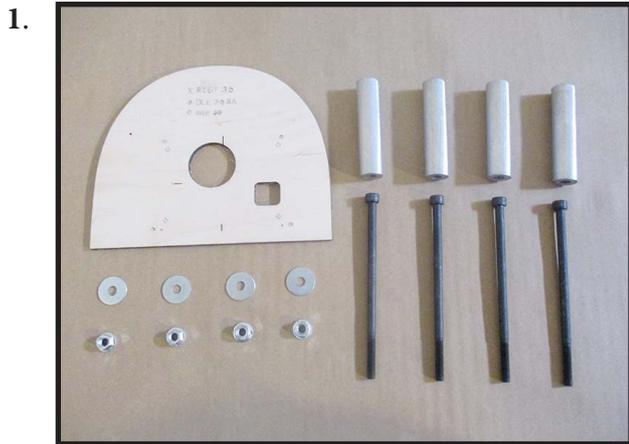


Later you will connect the lines from the tank to the engine and muffler. The vent line will connect to the muffler and the line from the clunk to the carburetor.

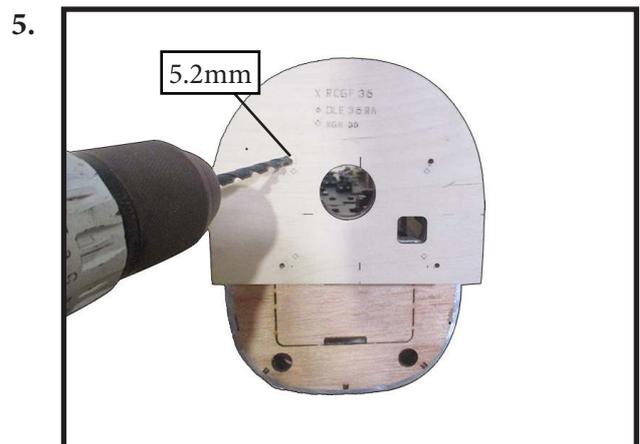
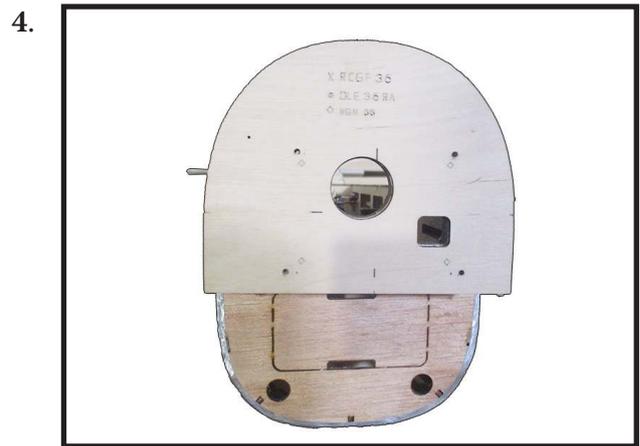
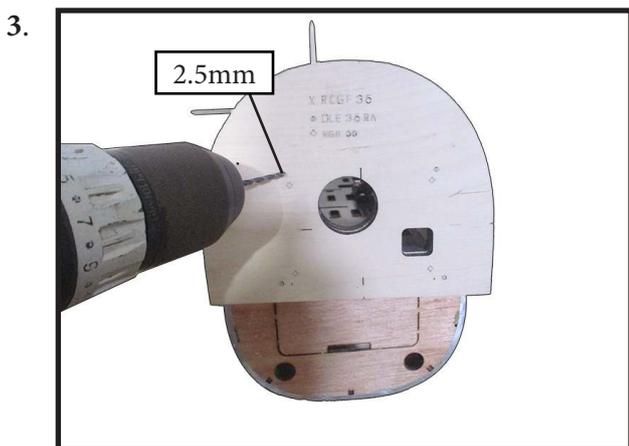
 *Blow through one of the lines to ensure the fuel lines have not become kinked inside the fuel tank compartment. Air should flow through easily.*

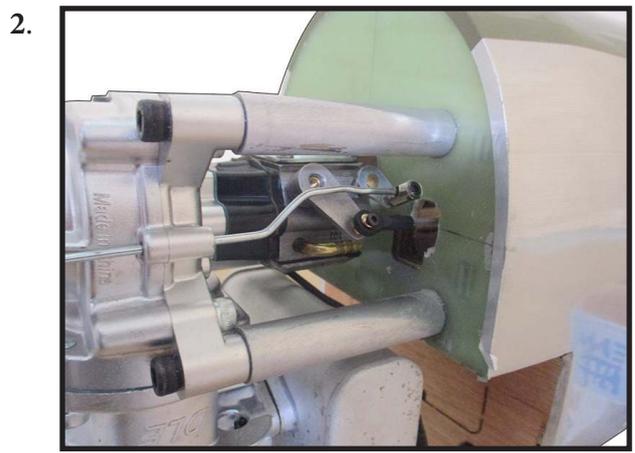
## MOUNTING THE ENGINE

Please study the images below.

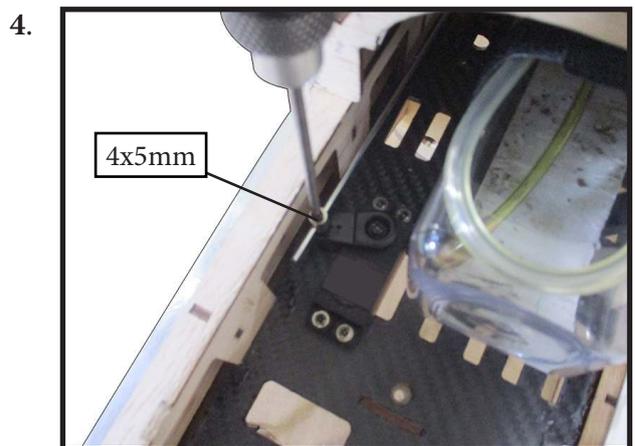
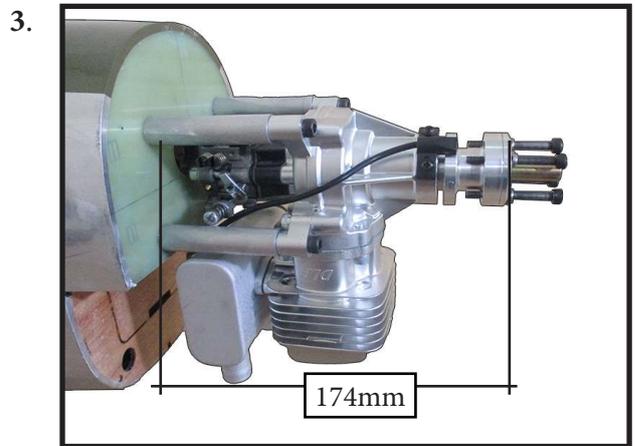
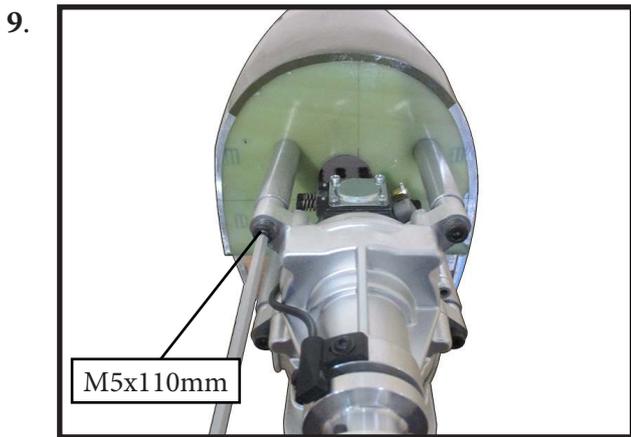


Locate the engine mounting in position on the firewall. Use a 2.5mm drill bit to drill the holes necessary to mount your particular engine choice.

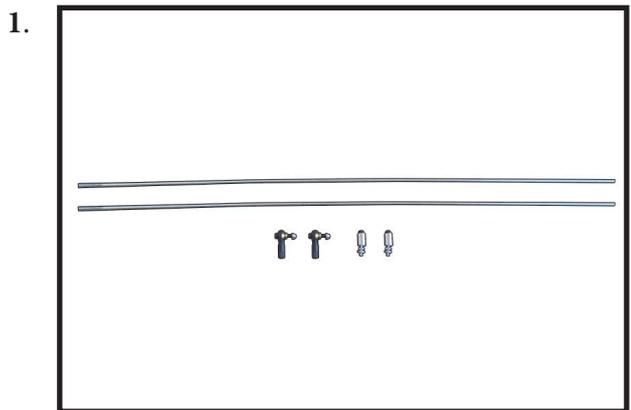




Attach throttle pushrod to the carburetor throttle arm with the ball link.



**THROTTLE SERVO INSTALLATION**



Move the throttle stick to the closed position and move the carburetor to closed. Use a 2.5mm hex wrench to tighten the screw that secures the throttle pushrod wire. Make sure to use threadlock on the screw so it does not vibrate loose.

5.



**IGNITION INSTALLATION**

I Thread nylon tie through mounting holes.

1.



2.



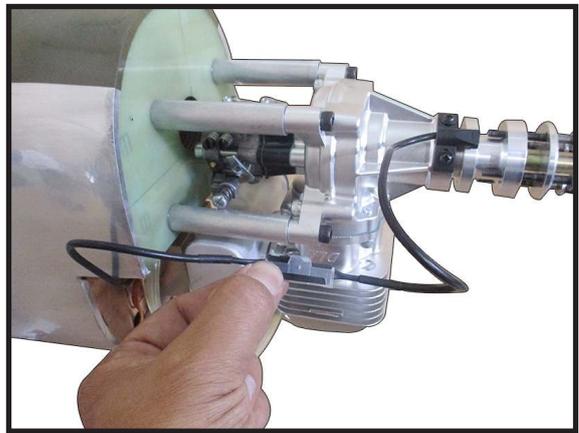
Connect ignition module to pickup line of engine. Secure with Safety Clip, safety wire, tape or other method. Ensure the plugs will not come apart from vibration or light tension.

Secure ignition wire with nylon ties as necessary.

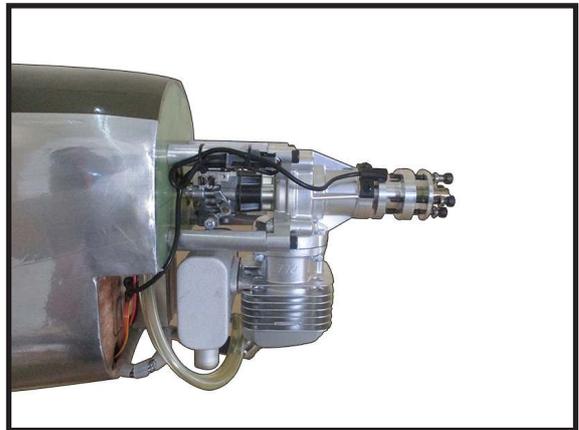
3.



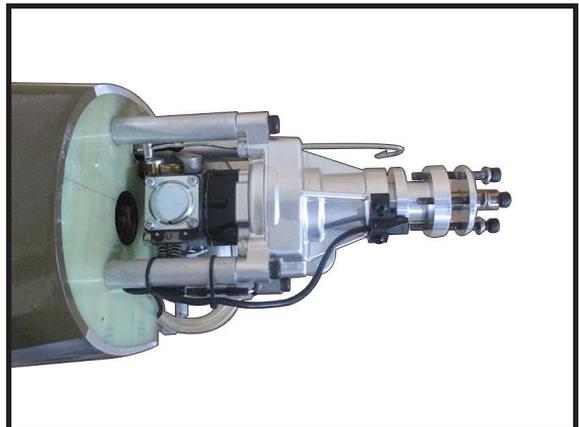
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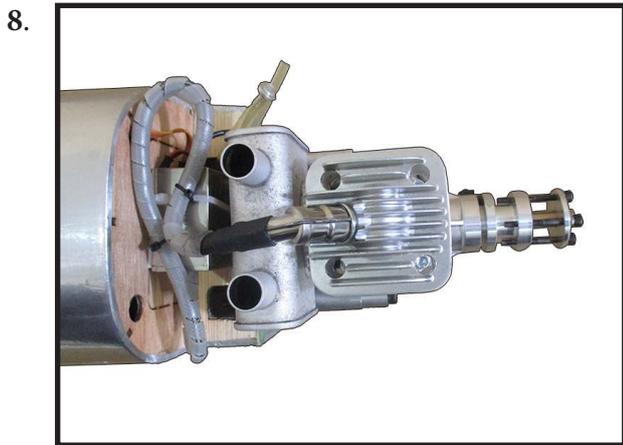
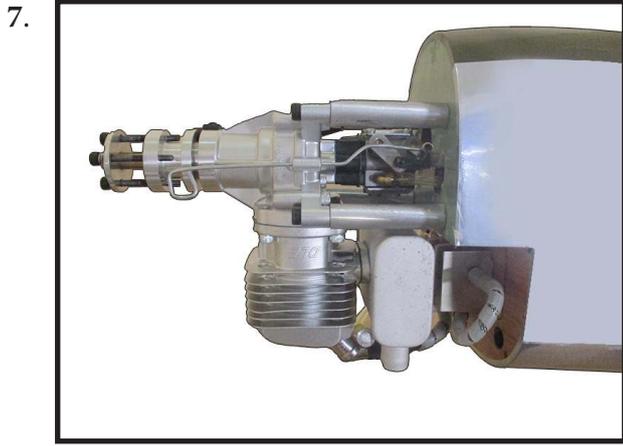


5.



6.

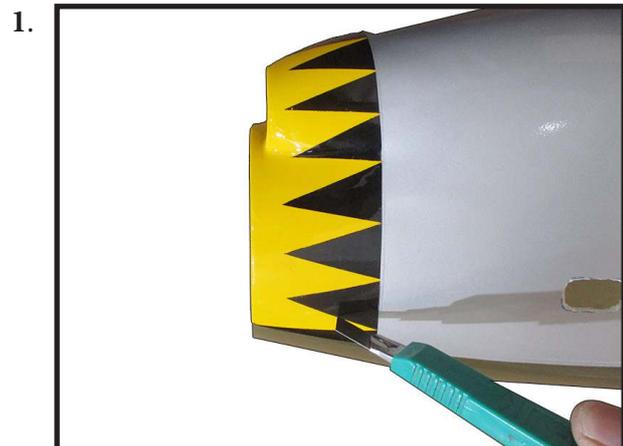




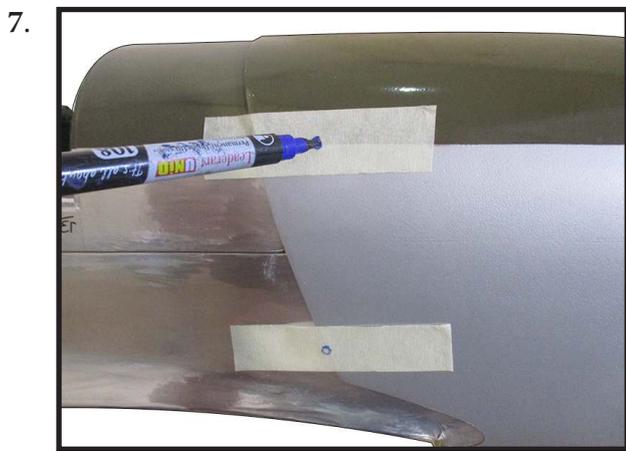
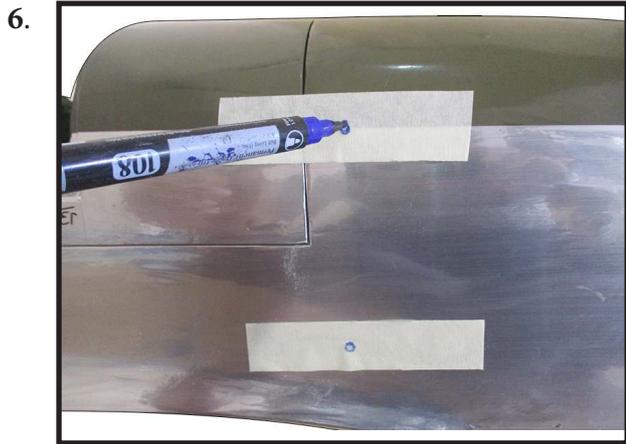
**COWLING**

Please study images below.

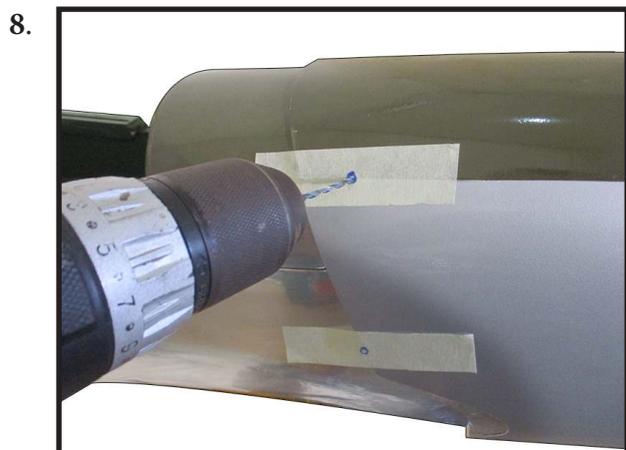
For cooling engine and battery. Please cut to remove plastic part of cowl go to triangle decoration shape available. Note: Skip a next triangle shape. Go on cut to remove a triangle shape. Make 2 triangle holes for each side of cowling.



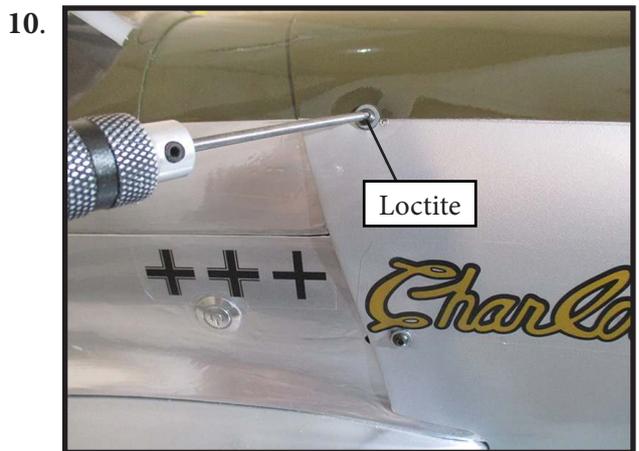
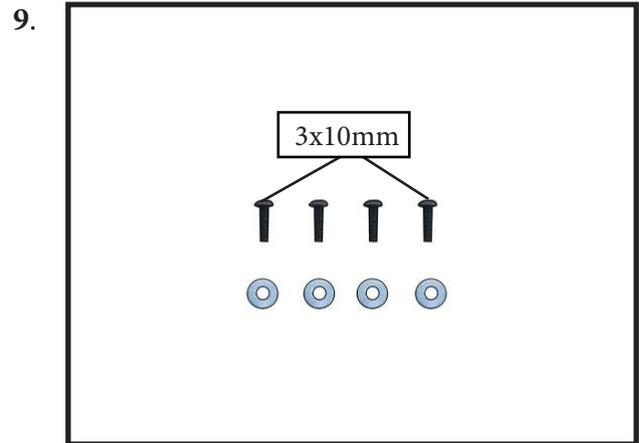
Tape the cowl to the fuselage using low-tack tape.



Use a drill and drill bit to drill the holes for the cowl mounting screws. Make sure the cowl position is correct before drilling each hole.



Install the muffler onto the engine and make the cutout in the cowl for muffler clearance. Connect the fuel and pressure lines to the carburetor, muffler and fuel filler valve. Secure the cowl to fuselage using the M3x10mm socket head screws. Putting a small length of silicone fuel tube under the head of the screw helps with vibration.



12.



13.



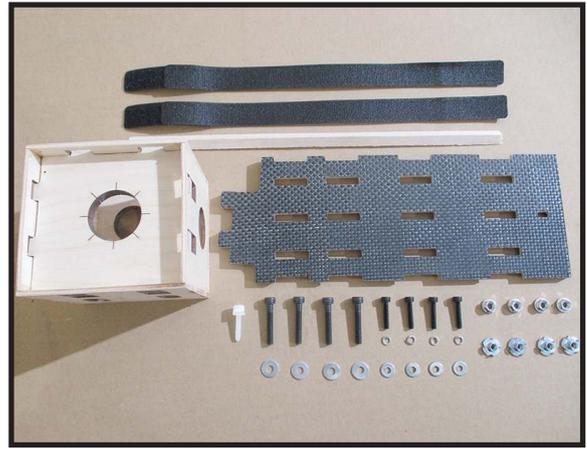
14.



### ELECTRIC POWER CONVERSION

Locate the items necessary to install the electric power conversion included with your model.

1.



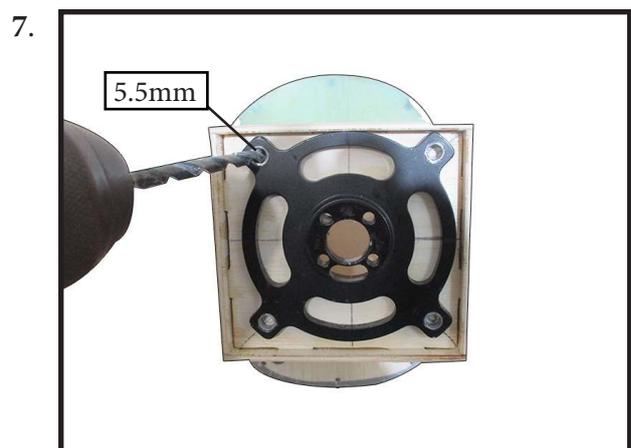
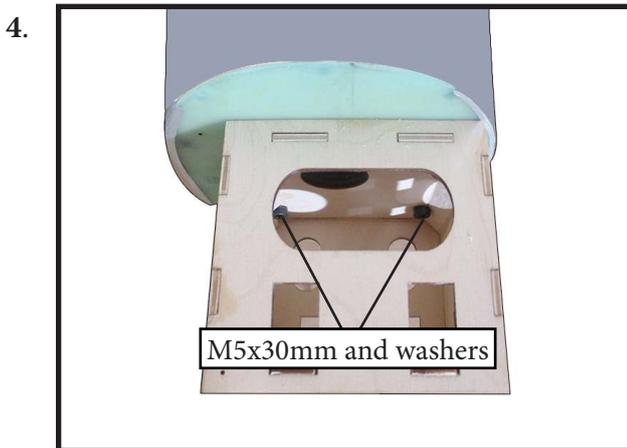
Recommend the items necessary to install the electric power conversion parts included with your model.

- **Motor: 160/ 2700watt**
- **Propeller: 18x8 - 20x10**
- **ESC: 100-120A**
- **6S- 12S Lipo**

2.

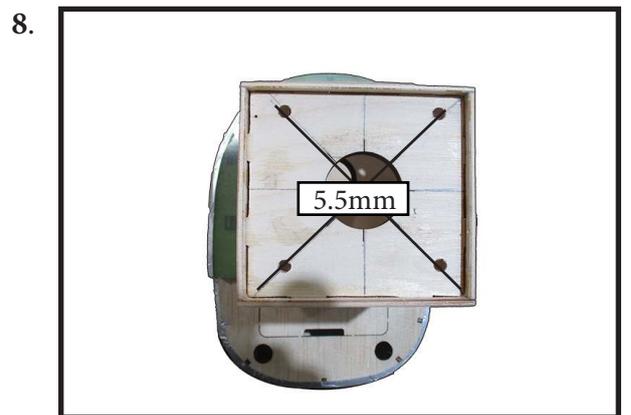


Attach the electric motor box to the firewall centered with the cross lines drawn on the electric motor box and firewall. Using M5x30mm to secure the motor box to the firewall. Please see pictures below.

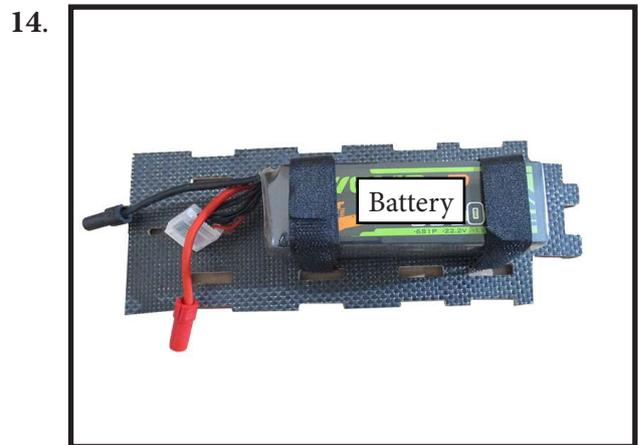
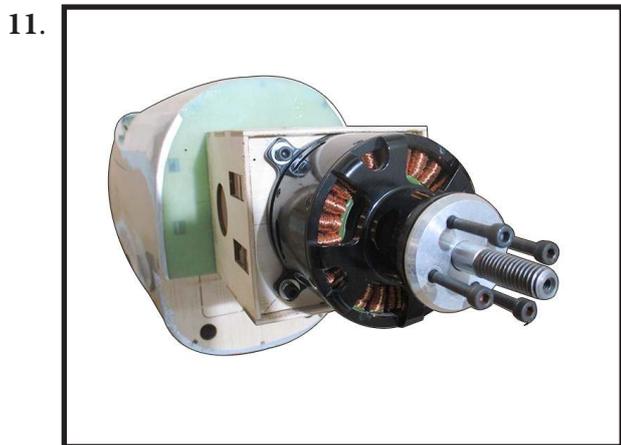
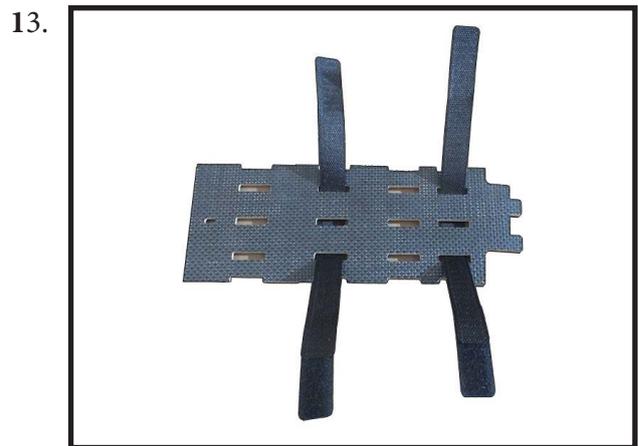
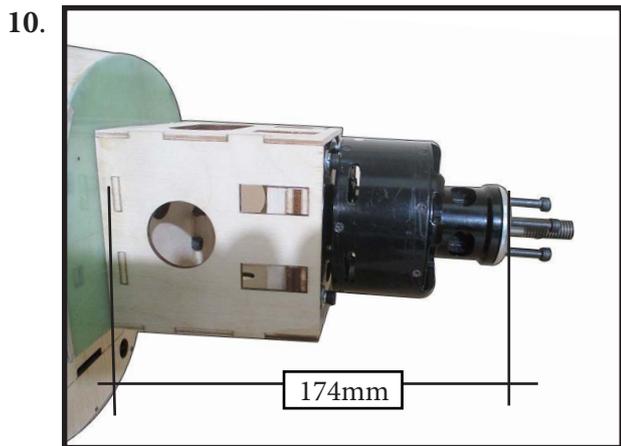


Attach the motor to the front of the electric motor box using four 4mm blind nut, four M5x30mm hex head bolts to secure the motor. Please see picture shown.

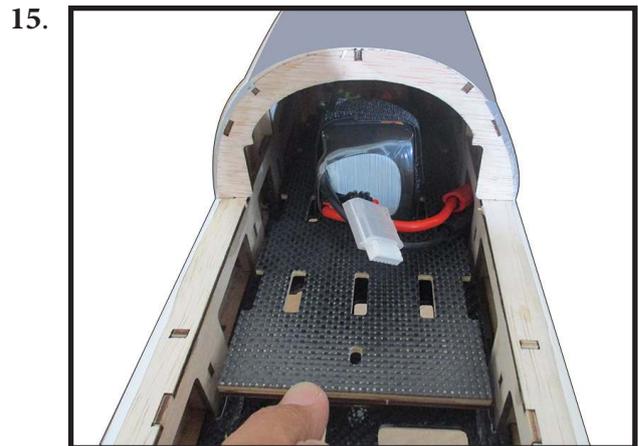
Then, use 5.5mm drill bit to enlarge the holes on the electric motor box.

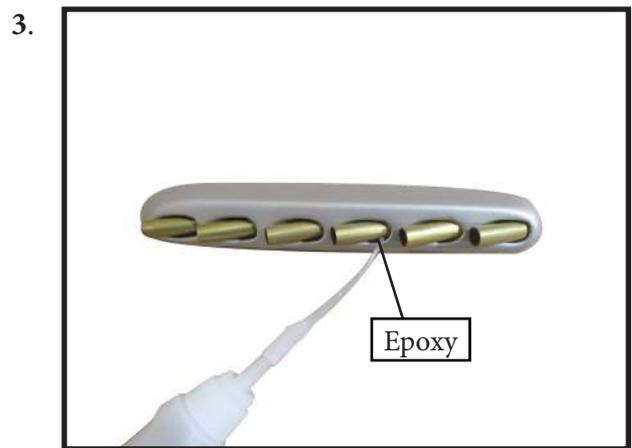


Attach the motor mount to the front of the electric motor box using four 6.5mm blind nut, four M4x20mm hex head bolts to secure the motor. Please see picture shown.



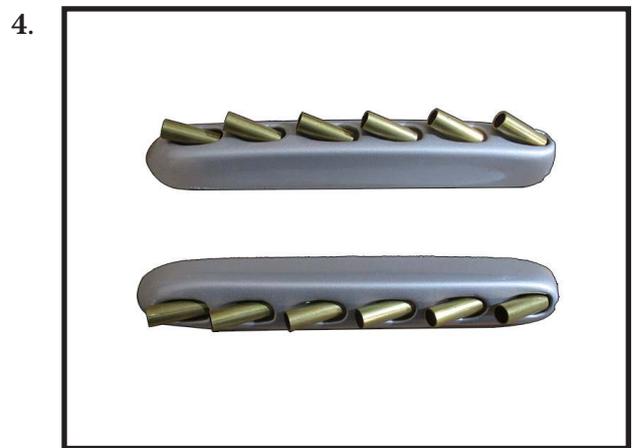
Attach the speed control to the side of the motor box using two-sided tape and tie wraps. Connect the appropriate leads from the speed control to the motor. Make sure the leads will not interfere with the operation of the motor.

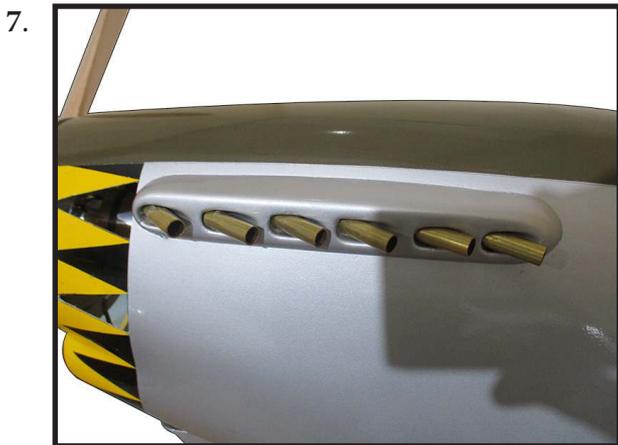
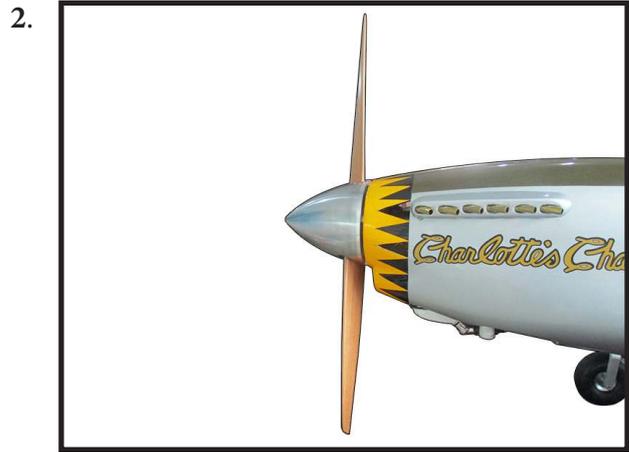
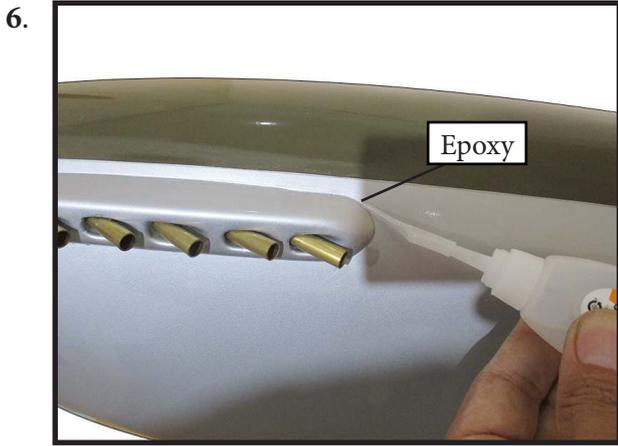




**INSTALL THE CHIMNEY**

Please study images below.



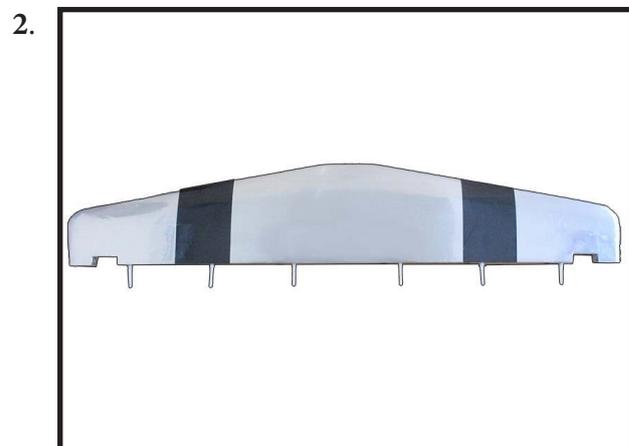
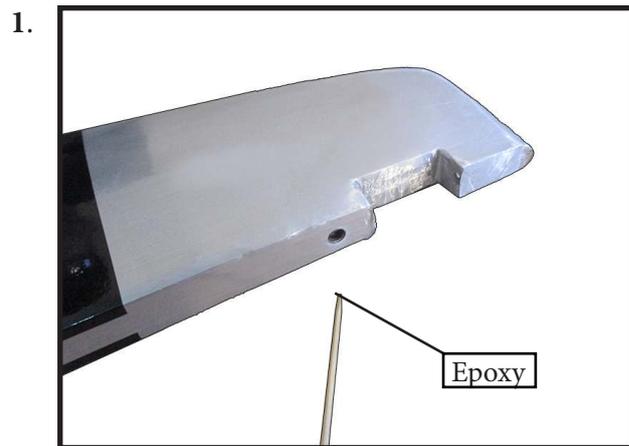


**INSTALL NAIL HINGE ELEVATOR**

Test fit the hinges into the elevator, and then the hinges into the tail. Ensure that the hinge pockets line up, and that the hinges move freely.

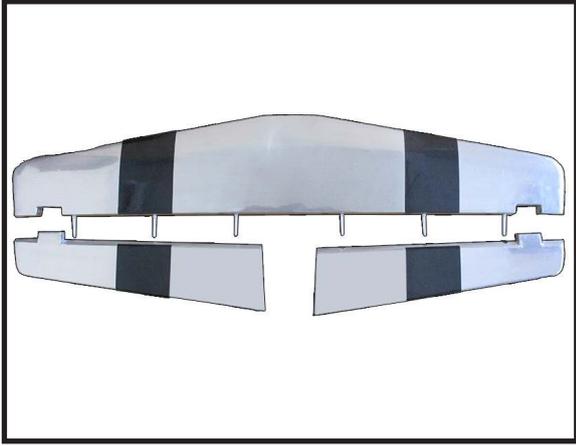
**INSTALLING THE PROP/HUB**

Install the spinner backplate, propeller and proper hub of your choice.

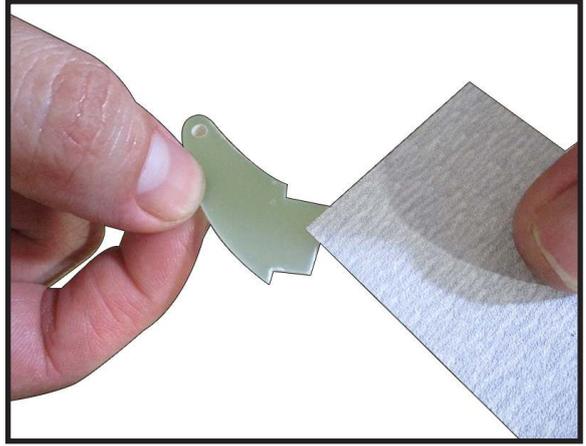


⚠ The propeller should not touch any part of the cowling. If it does, check and adjust engine mounting/cowl spacing as needed to where the propeller will not come in contact with the cowling.

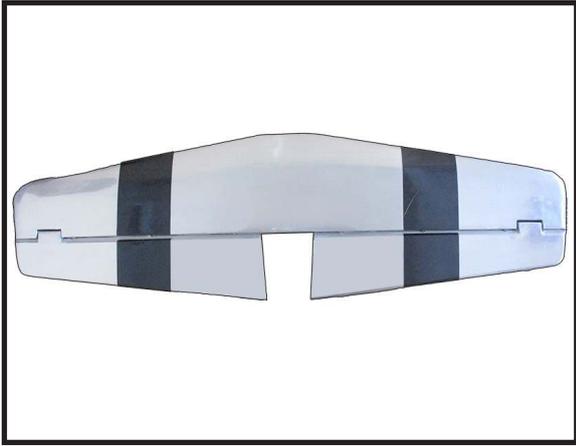
3.



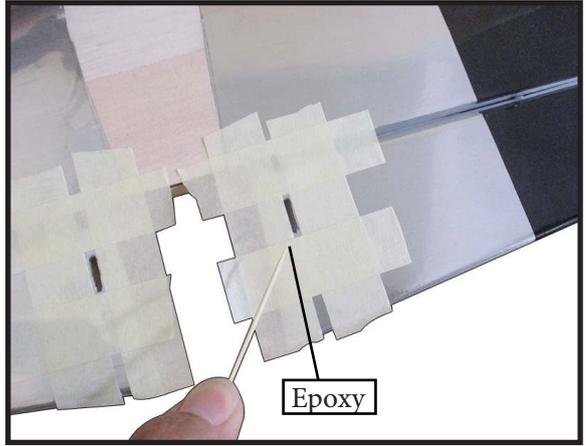
2.



4.



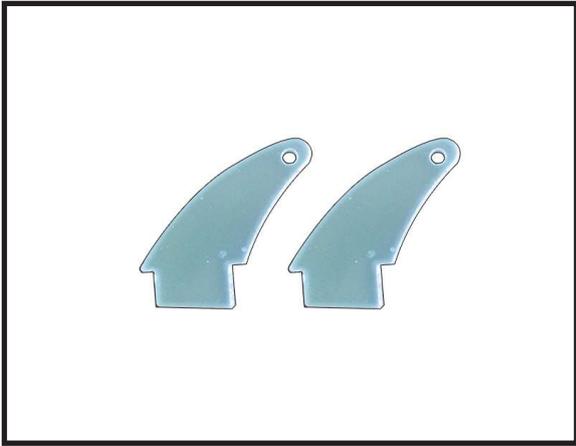
3.



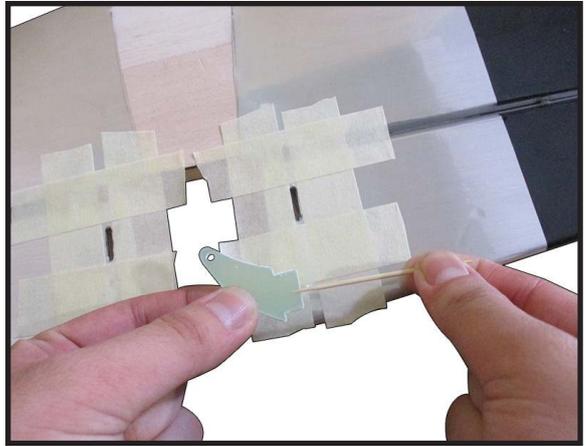
**INSTALL ELEVATOR CONTROL HORN**

Install the elevator control horn using the same method as same as the elevator control horns.

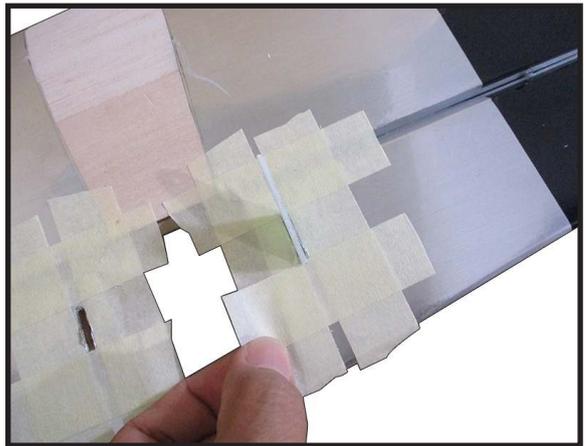
1.

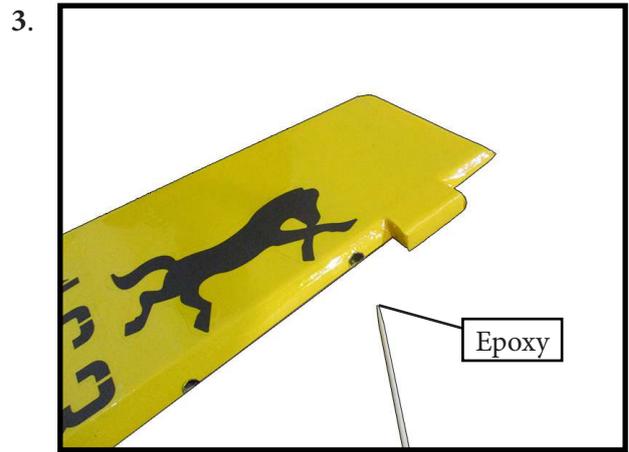
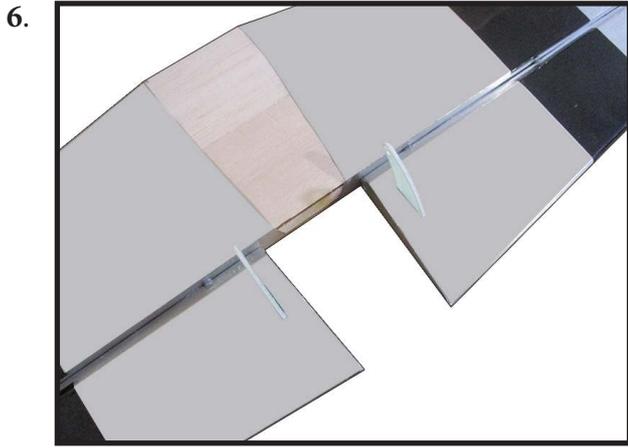


4.



5.

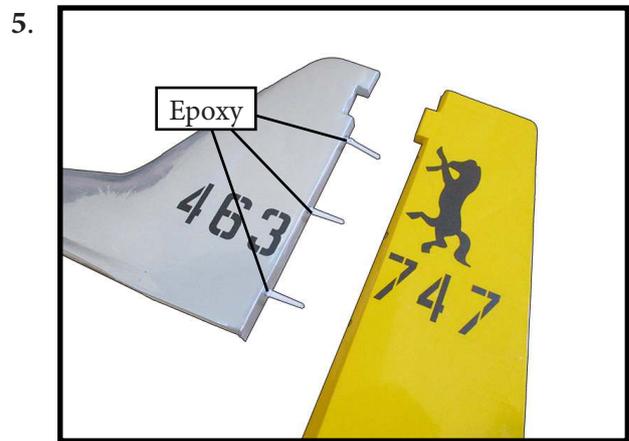
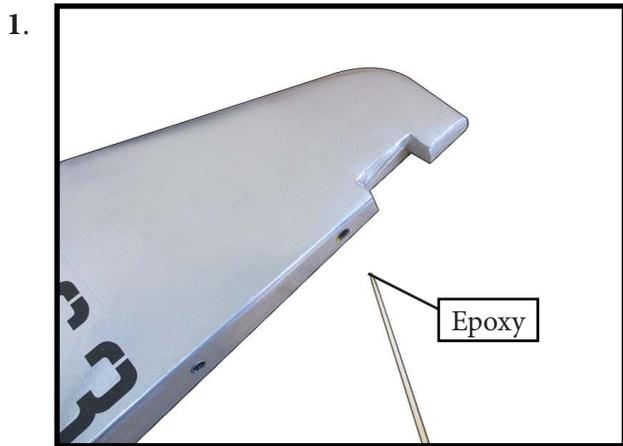
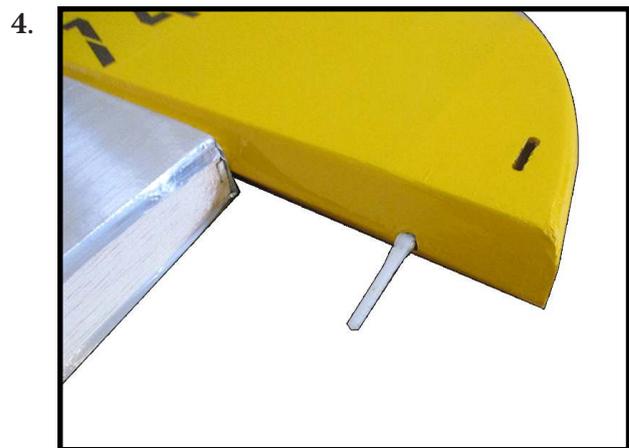




**HINGING THE RUDDER**

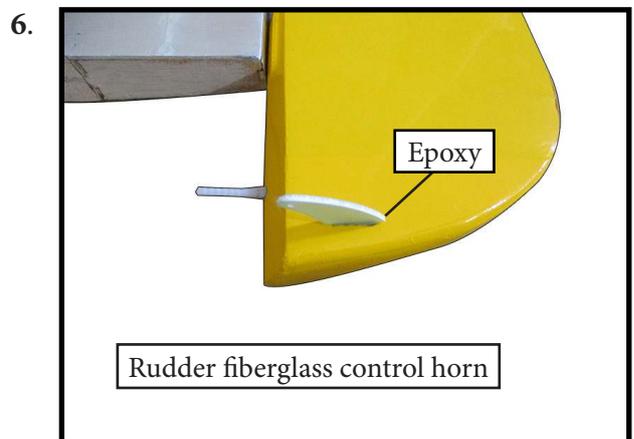
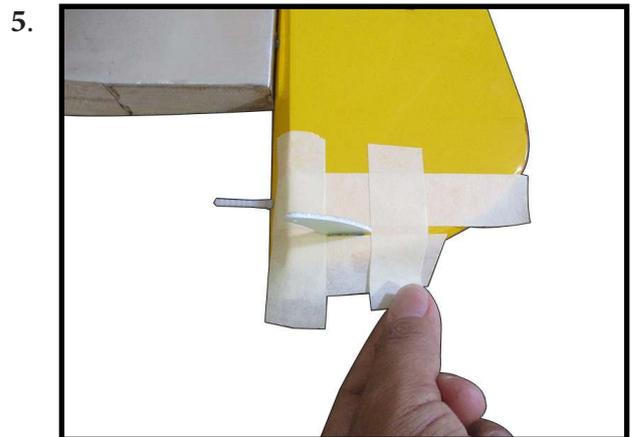
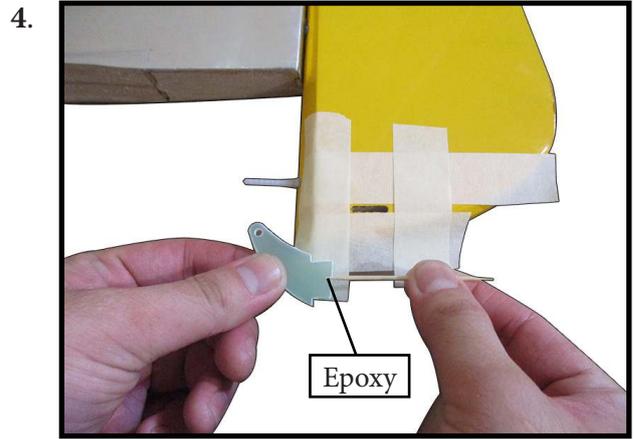
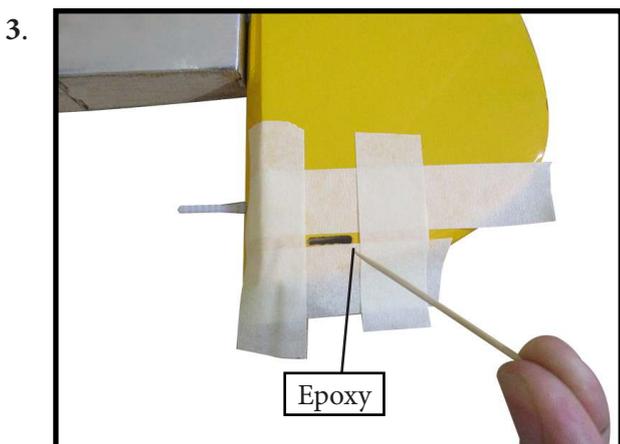
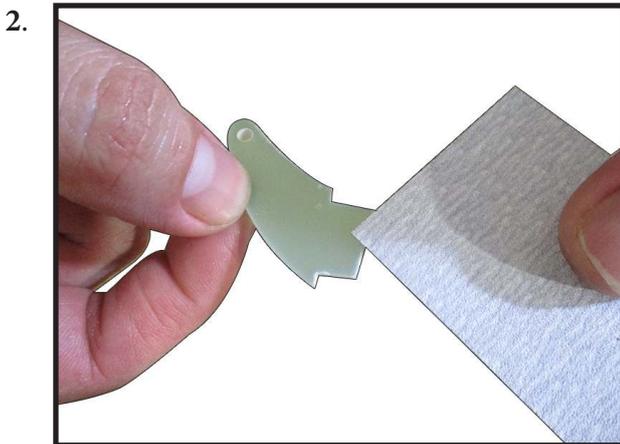
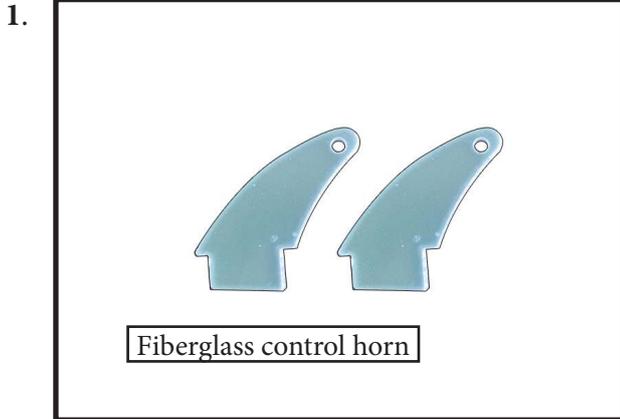
Glue the top three rudder hinges in place using the same techniques used to hinge the elevator.

The lower hinge will be glued when the fin/rudder assembly is attached to the fuselage.



## INSTALL RUDDER CONTROL HORN

Repeat steps to install the rudder control horn as same as steps done for elevator.



## INSTALLING THE HORIZONTAL STABILIZER

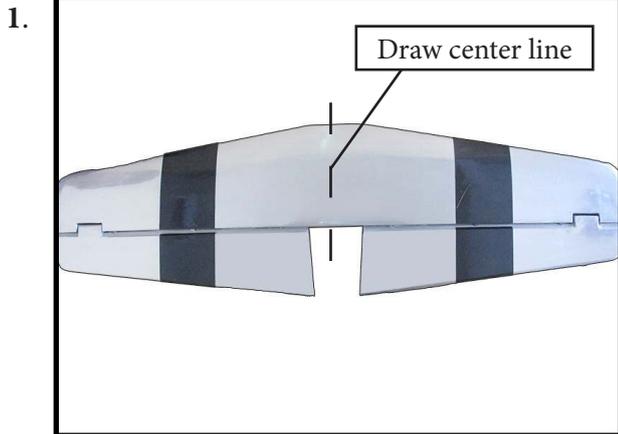
### Required Parts

- Fuselage assembly
- Tail Set(Rudder and Elevator)

### Required Tools and Adhesives

- Ruler, Pen, Knife
- 30-minute epoxy

Using a ruler and a pen, locate the centerline of the horizontal stabilizer, at the trailing edge, and place a mark. Use a triangle and extend this mark, from back to front, across the top of the stabilizer. Also extend this mark down the back of the trailing edge of the stabilizer.



Using a modeling knife, carefully remove the covering at mounting slot of horizontal stabilizer (both side of fuselage).



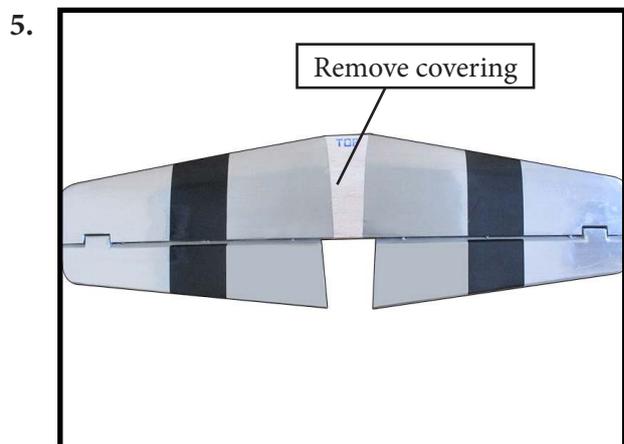
Slide the stabilizer into place in the precut slot in the rear of the fuselage. The stabilizer should be pushed firmly against the front of the slot.

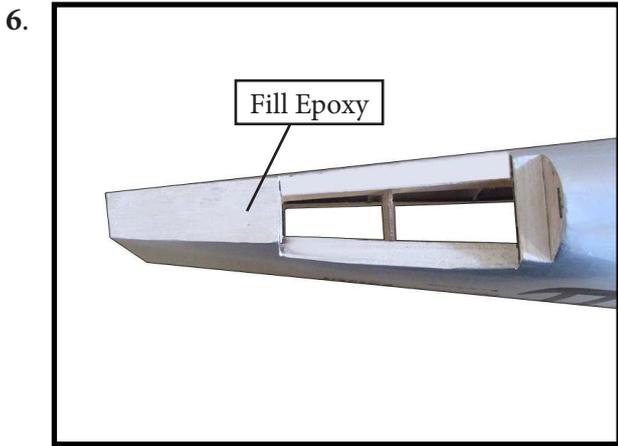


With the stabilizer held firmly in place, use a pen and draw lines onto the stabilizer where it and the fuselage sides meet. Do this on both the right and left sides and top and bottom of the stabilizer.



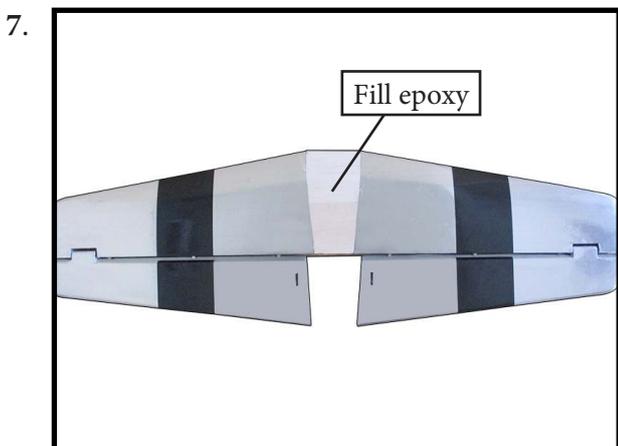
Remove the stabilizer. Using the lines you just drew as a guide, carefully remove the covering from between them using a modeling knife.



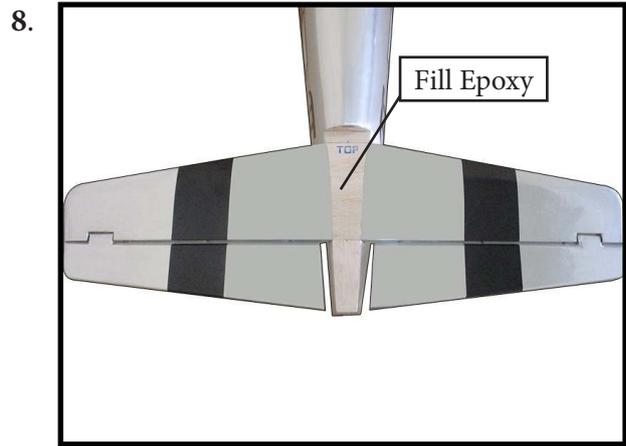


 *When cutting through the covering to remove it, cut with only enough pressure to only cut through the covering itself. Cutting into the balsa structure may weaken it.*

Using a modeling knife, carefully remove the covering that overlaps the stabilizer mounting platform sides in the fuselage. Remove the covering from both the top and the bottom of the platform sides.



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 realign. Double check all of your measurements once more before the epoxy cures. Hold the stabilizer in place with T-pins or masking tape and remove any excess epoxy using a paper towel and rubbing alcohol.



## INSTALLING VERTICAL FIN

### Required Parts

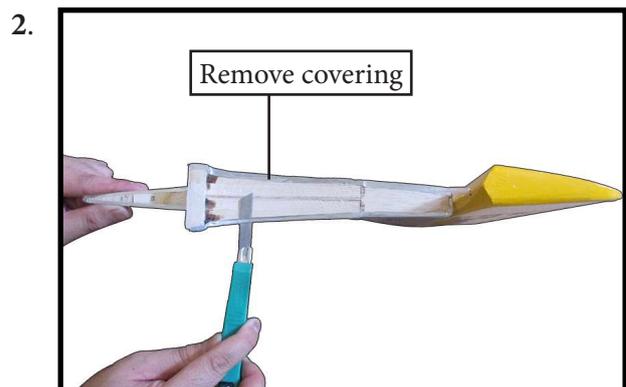
- Fuselage assembly
- Tail Set(Rudder and Elevator)

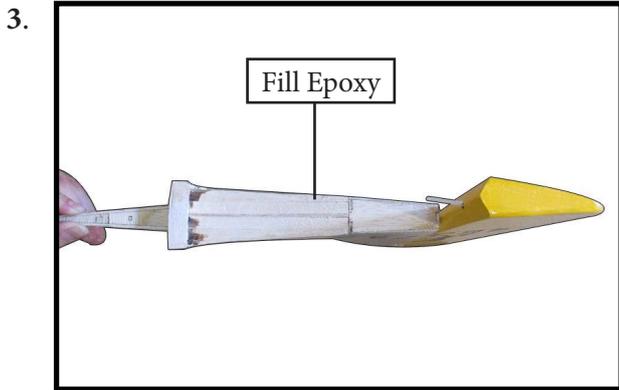
### Required Tools and Adhesives

- Ruler, Pen, Knife
- 30-minute epoxy

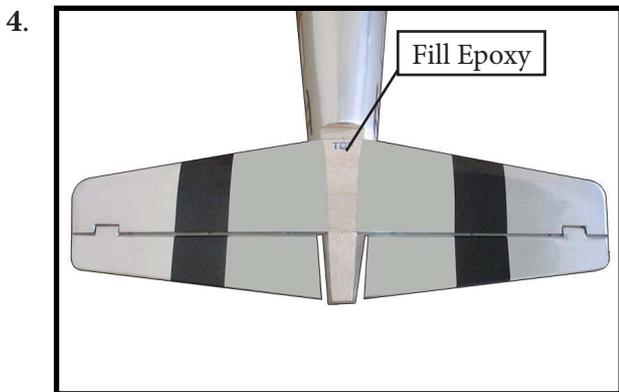


Using a modeling knife, remove the covering from over the pre-cut hinge slot cut into the lower rear portion of the fuselage.

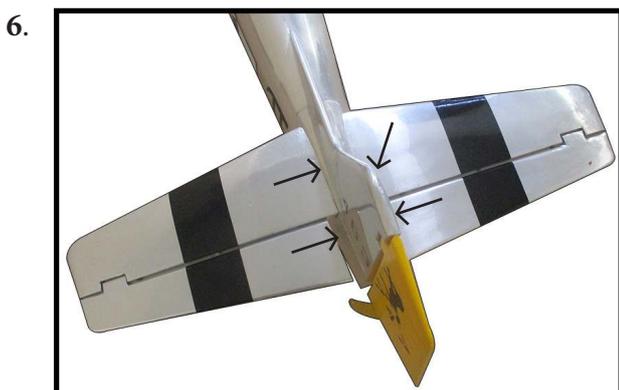
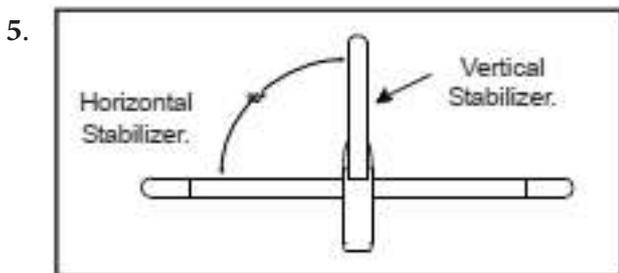




While holding the vertical stabilizer firmly in place, use a pen and draw a line on each side of the vertical stabilizer where it meets the top of the fuselage.



Slide the vertical stabilizer back in place. Using a triangle, check to ensure that the vertical stabilizer is aligned 90° to the horizontal stabilizer.

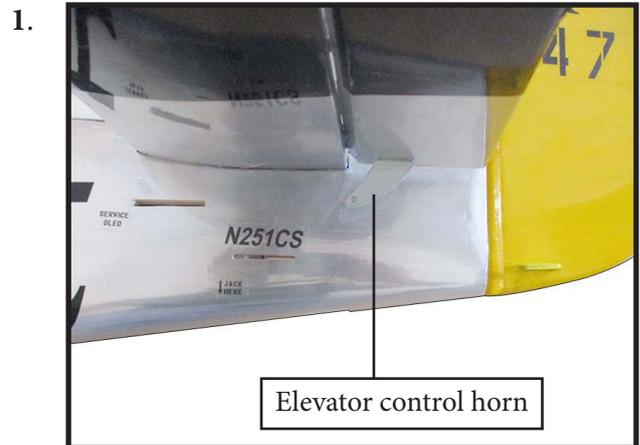


When you are sure that everything is aligned correctly, mix up a generous amount of Flash 30 Minute Epoxy. Apply a thin layer to the mounting slot and to bottom of the vertical stabilizer mounting area. Apply epoxy to the bottom and top edges of the filler block and to the lower hinge also. Set the stabilizer in place and realign. Double check all of your measurements once more before the epoxy cures. Hold the stabilizer in place with T-pins or masking tape and remove any excess epoxy using a paper towel and rubbing alcohol. Allow the epoxy to fully cure before proceeding.

### ELEVATOR PUSHROD HORN INSTALLATION

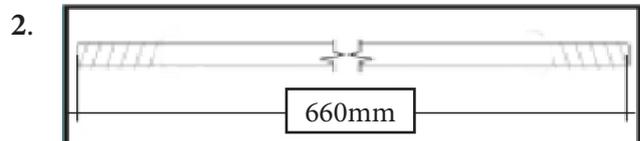
Install the elevator control horn using the same method as with the aileron control horns.

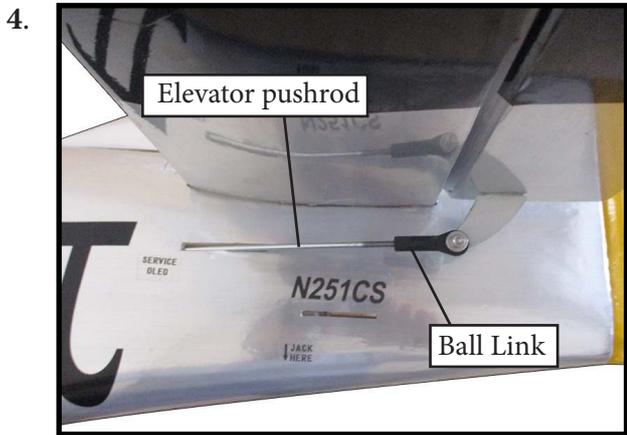
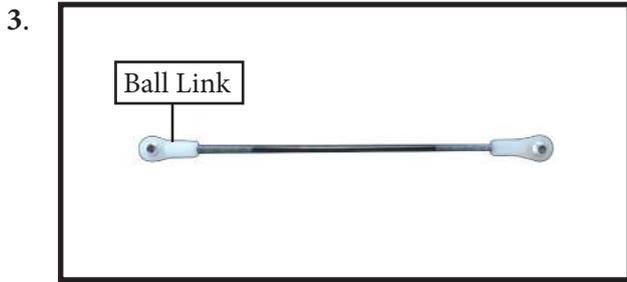
Position the elevator control horns on both side of the elevator.



Thread one clevis and M3 lock nut on to each elevator control rod. Thread the horns on until they are flush with the ends of the control rods.

Assemble the elevator and rudder pushrods as shown in images below.





**RUDDER CABLE INSTALLATION**

Study images below to install pull-pull cable set.



6.



10.



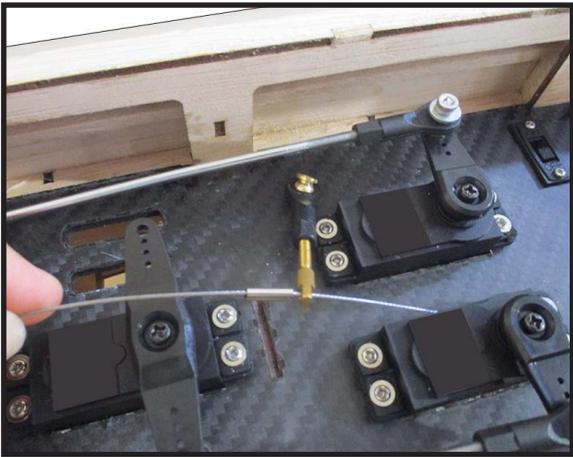
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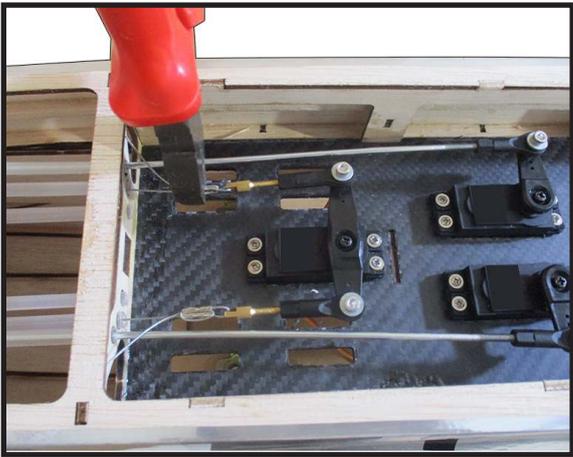
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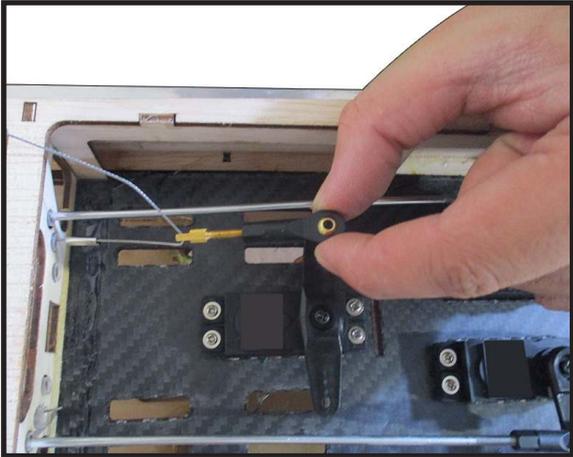
8.



12.



9.

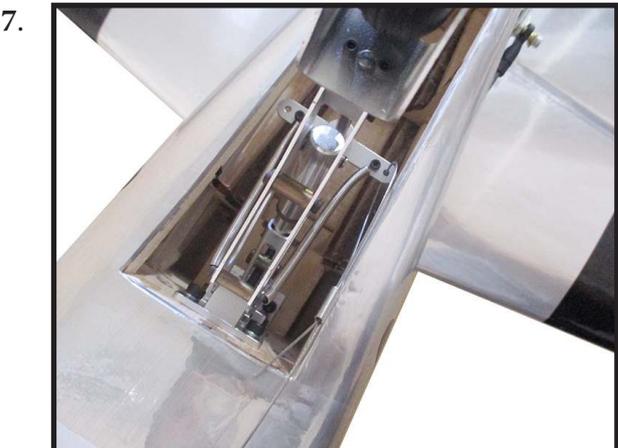
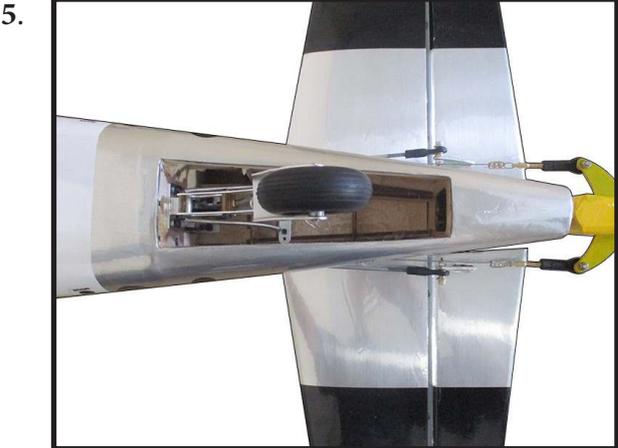
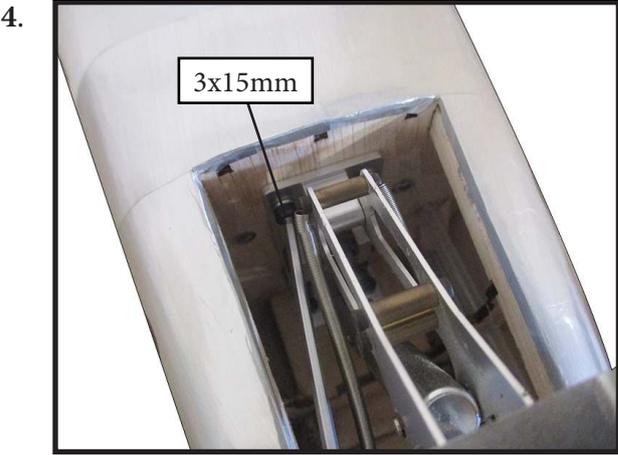
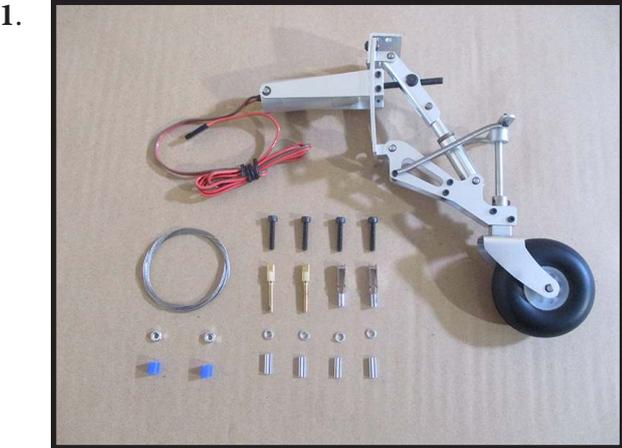


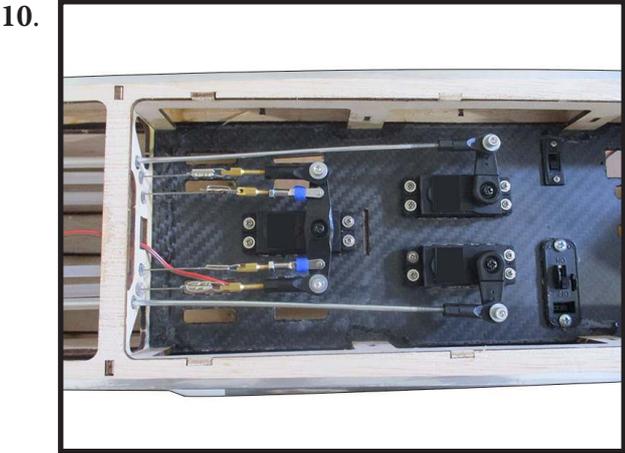
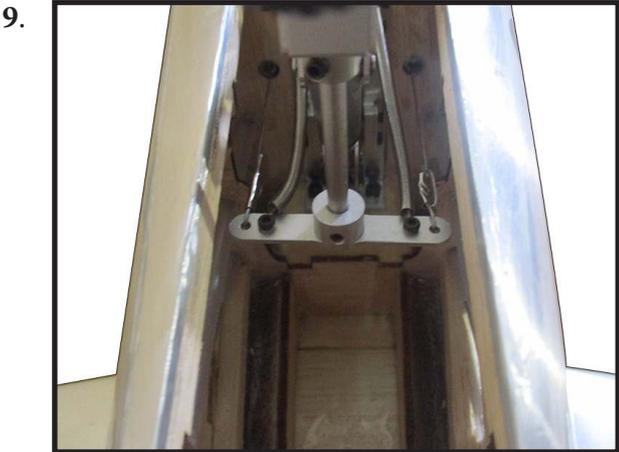
13.



## MOUNTING THE TAIL GEAR

Gather tail gear components as shown below for installation.





**COCKPIT INSTALLATION**

Locate all cockpit components as shown below.

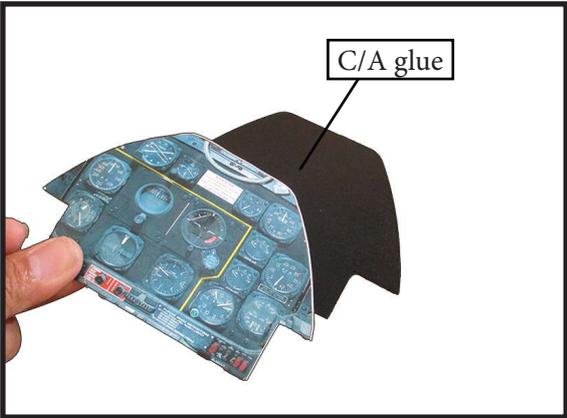


4.



Use C/A glue to inject the underside of the control panel.

5.



6.



7.



8.



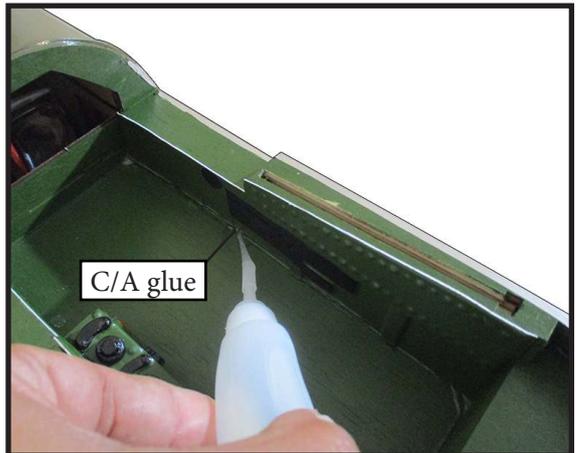
9.



10.



11.



12.



16.



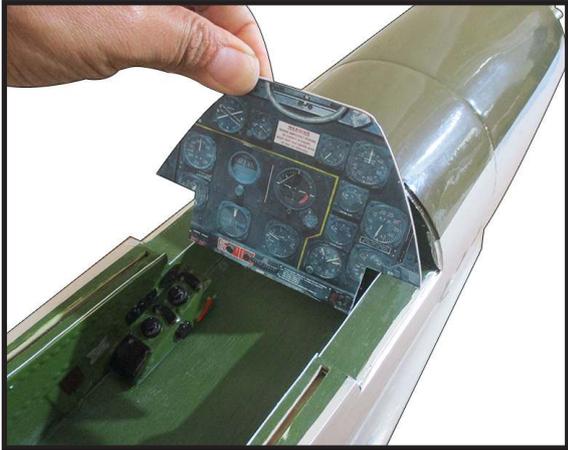
13.



17.



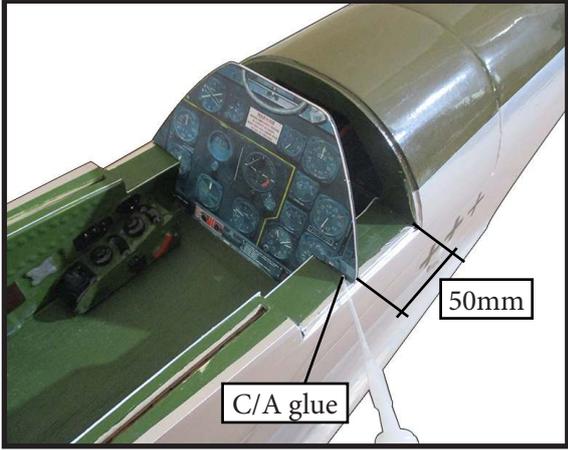
14.



18.

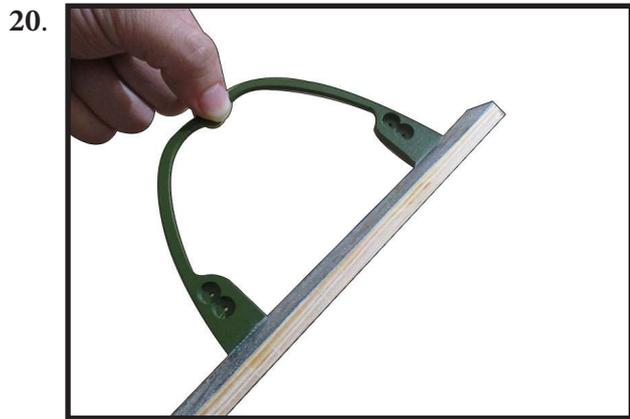


15.

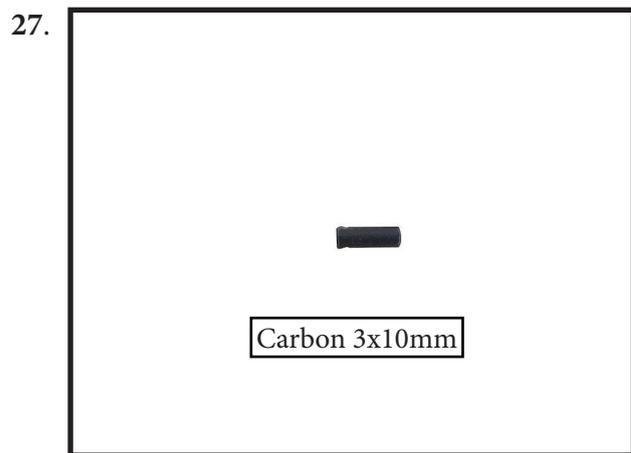
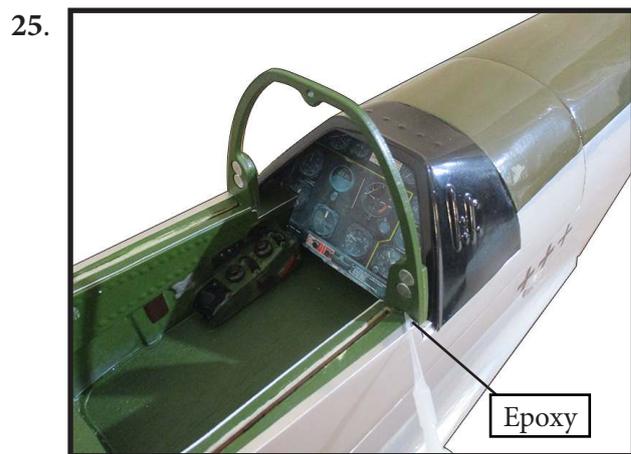
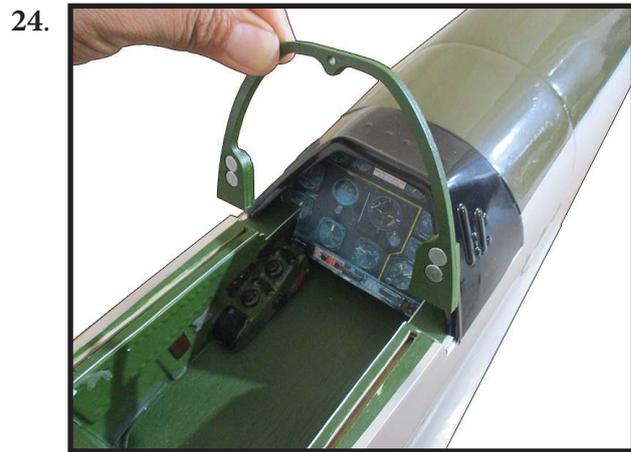
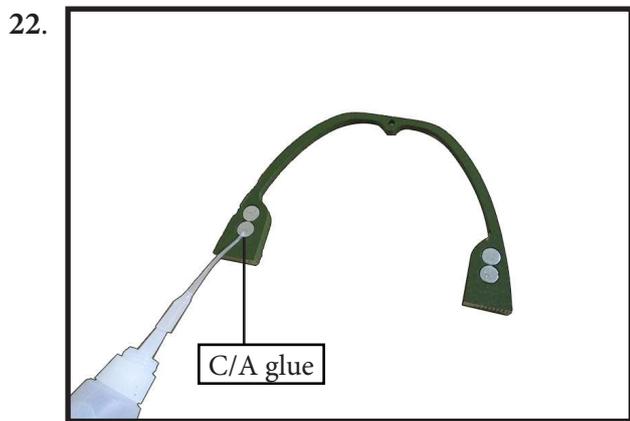


19.





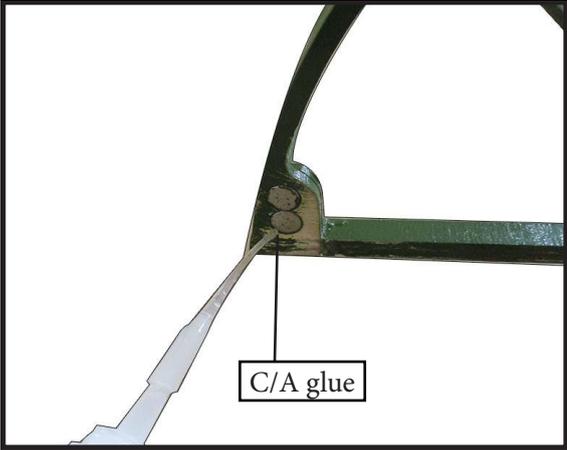
**Note:** Magnets with different poles will attract each other.



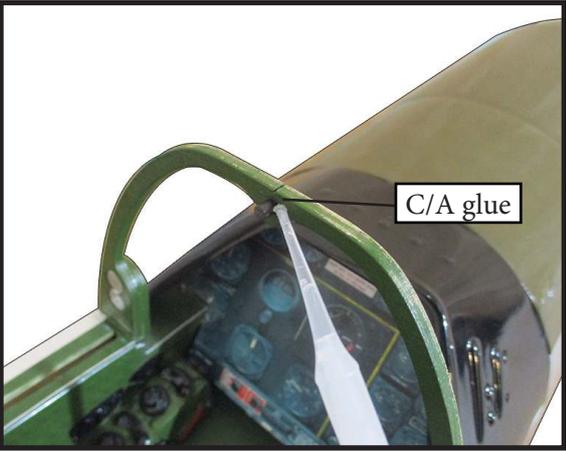
28.



32.



29.



33.



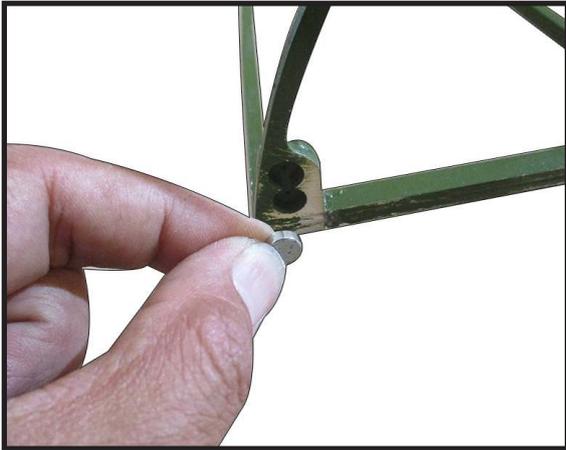
30.



34.



31.



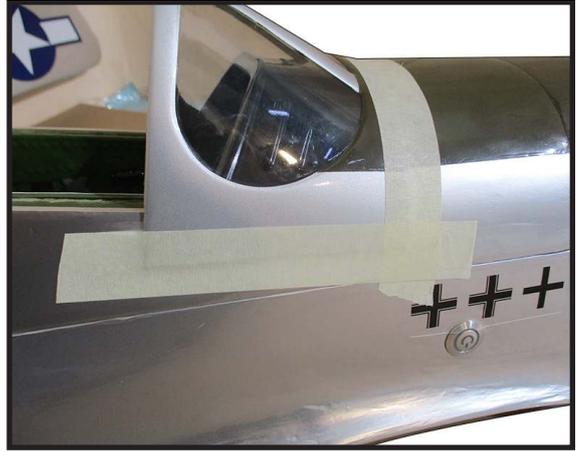
35.



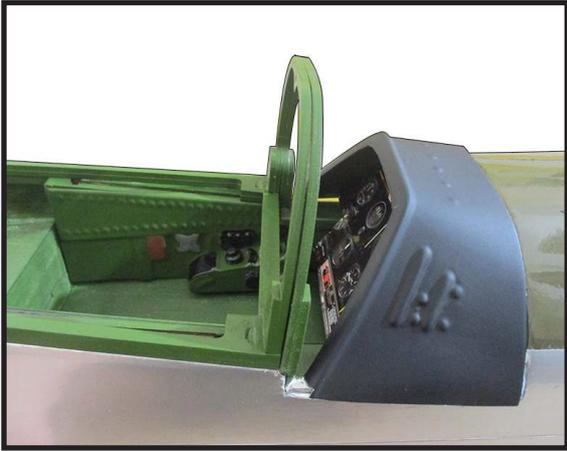
36.



40.



37.



41.



38.



42.



39.



43.



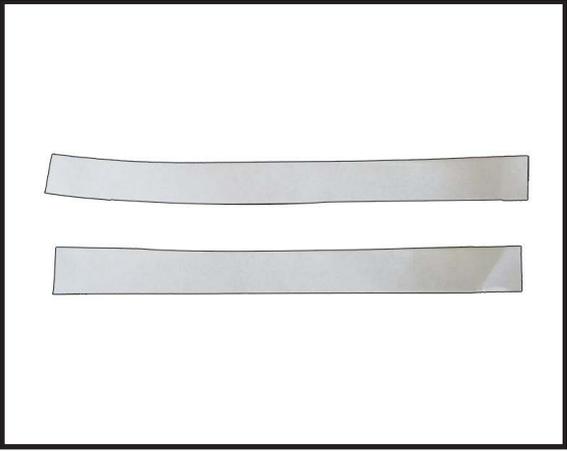
44.



47.



45.



48.

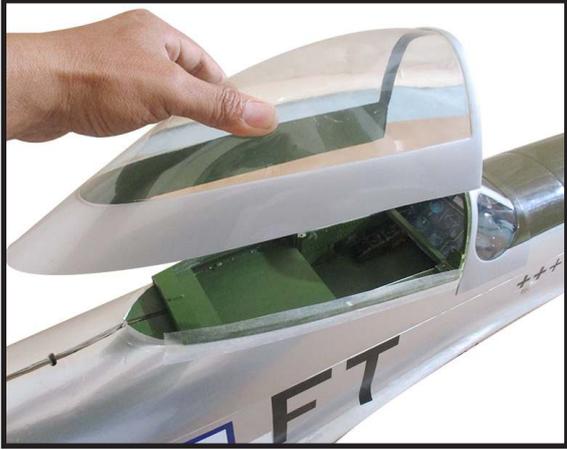


Use double-sided tape to temporarily stick it, then remove it and apply glue.

46.



49.



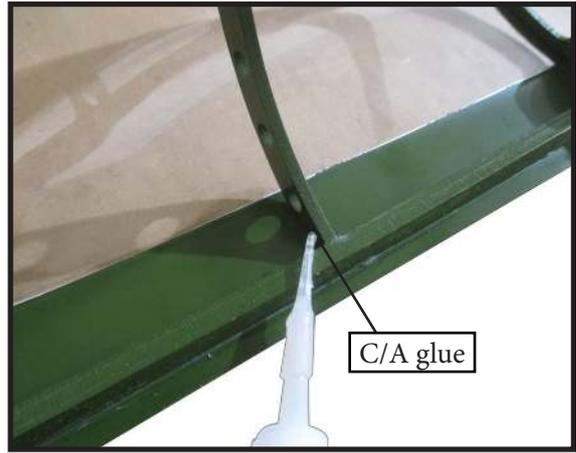
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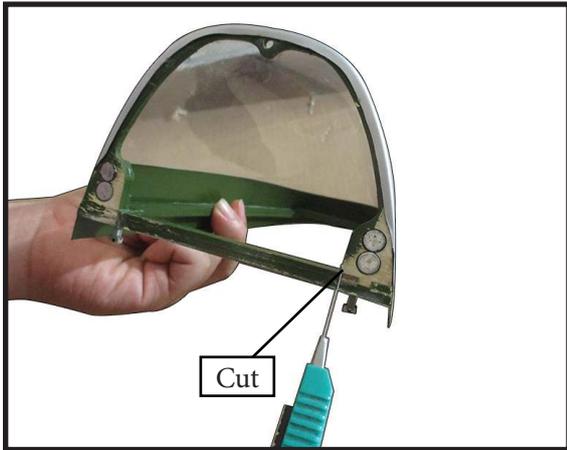
51.



55.



52.



56.



53.



57.



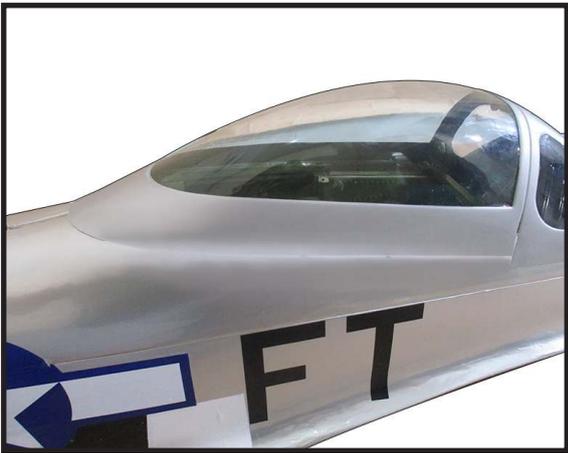
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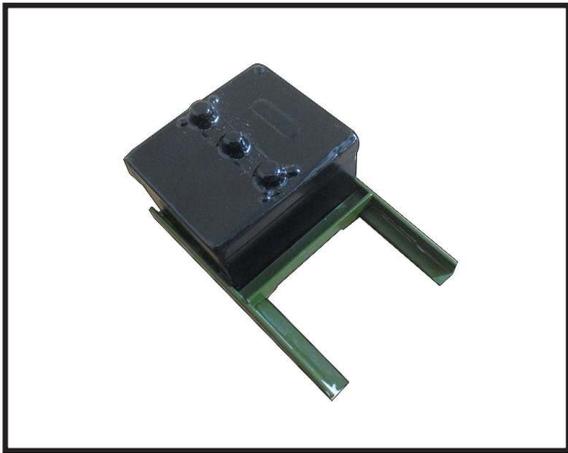
58.



59.



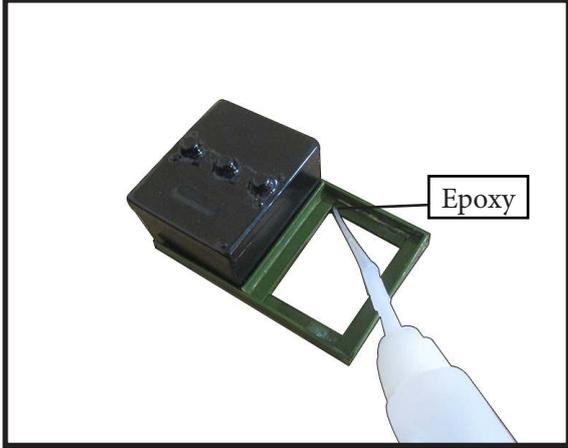
63.



60.



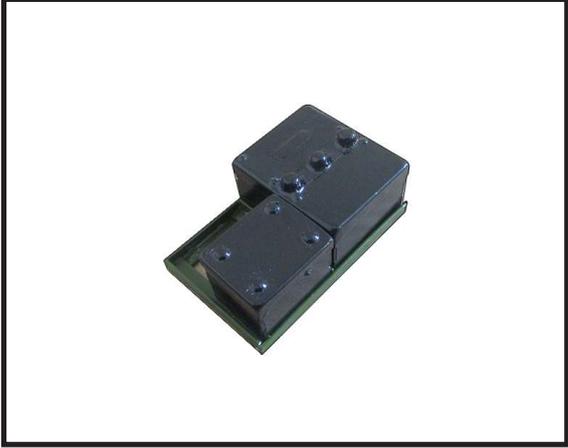
64.



61.



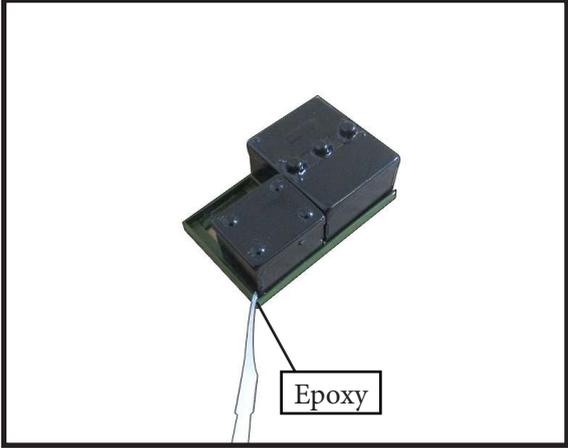
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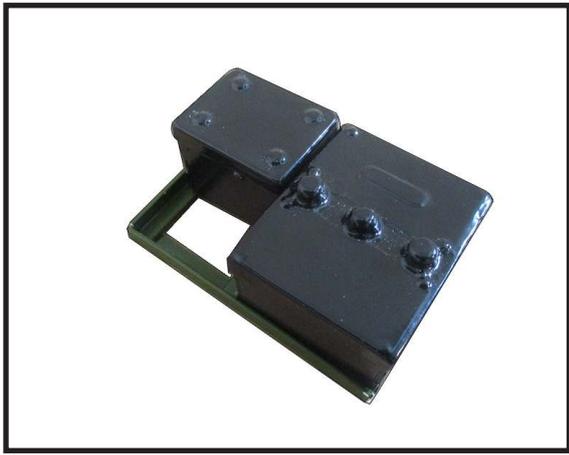
62.



66.



67.



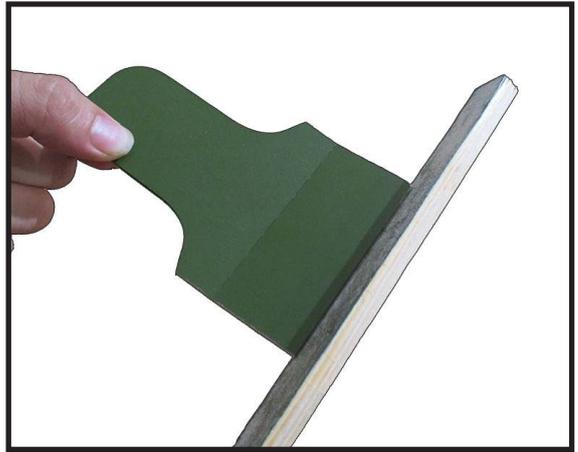
71.



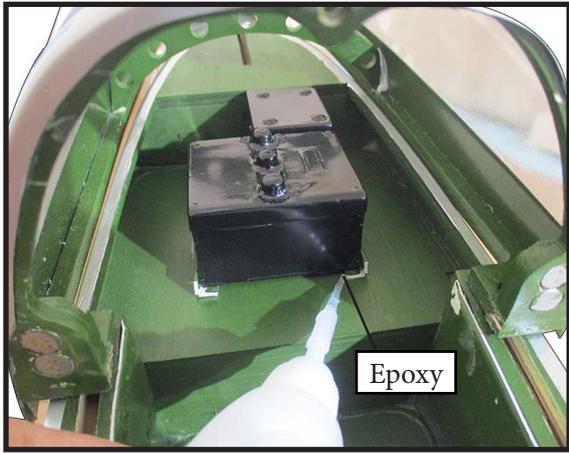
68.



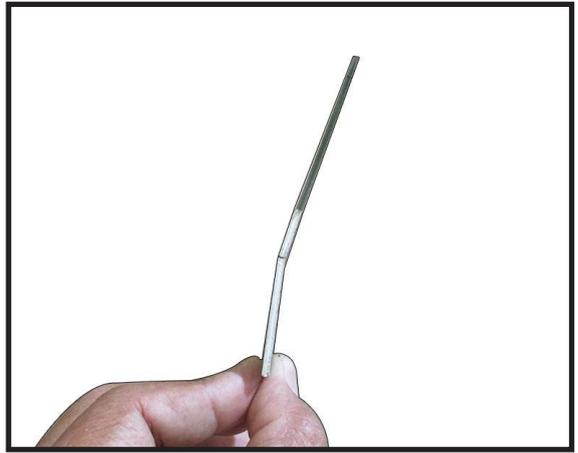
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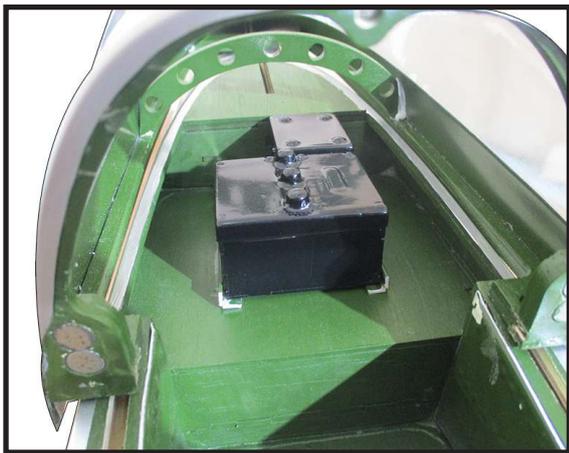
69.



73.



70.



74.



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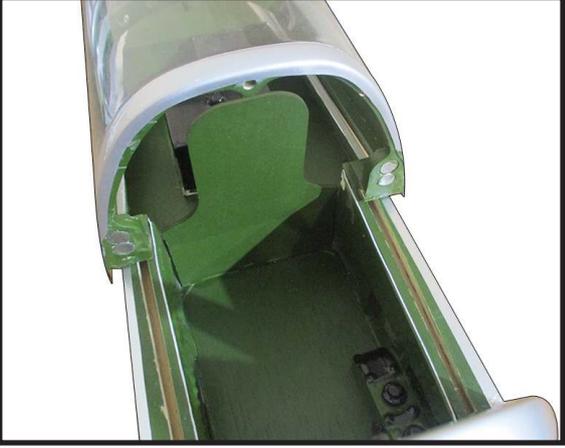
76.



80.



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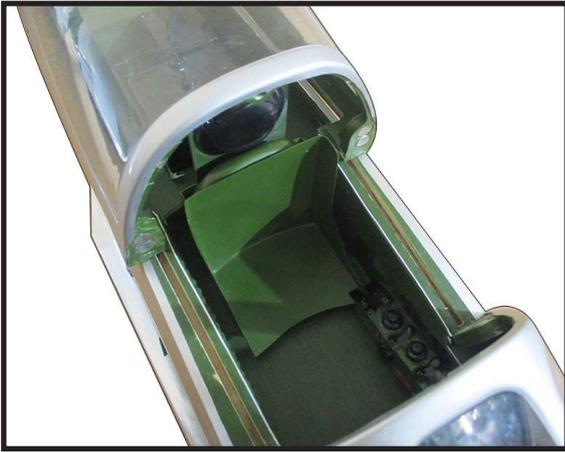
78.



82.



83.



87.



84.



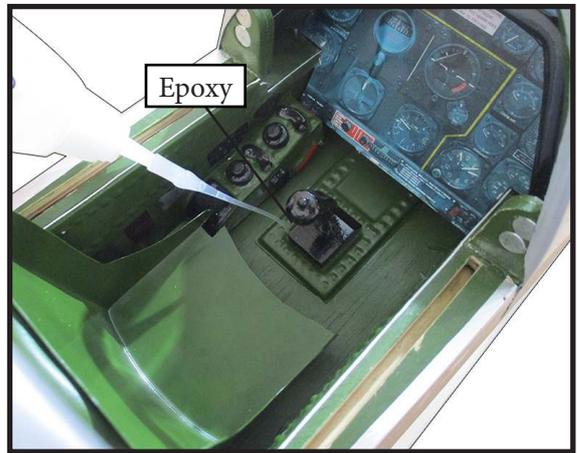
88.



85.



89.



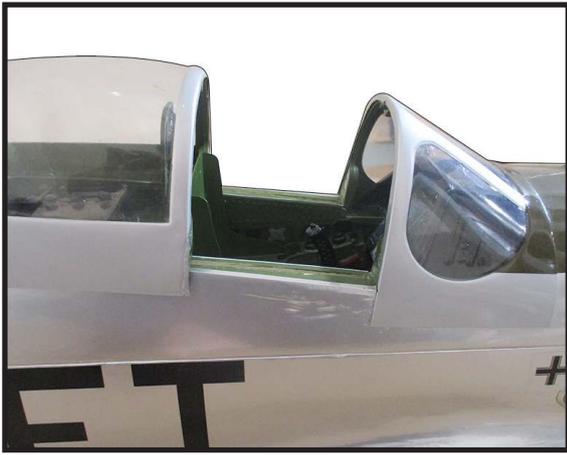
86.



90.



91.



92.

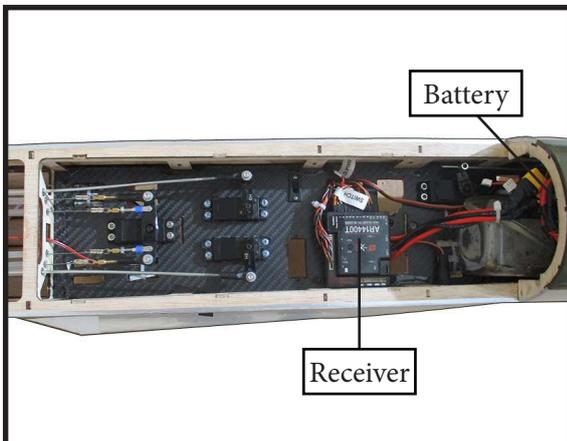


**INSTALLING BATTERY - RECEIVER**

Plug the servo leads and the switch lead into the receiver. Plug the battery pack lead into the switch also.

Wrap the receiver and battery pack in the protective foam rubber to protect them from vibration.

1.



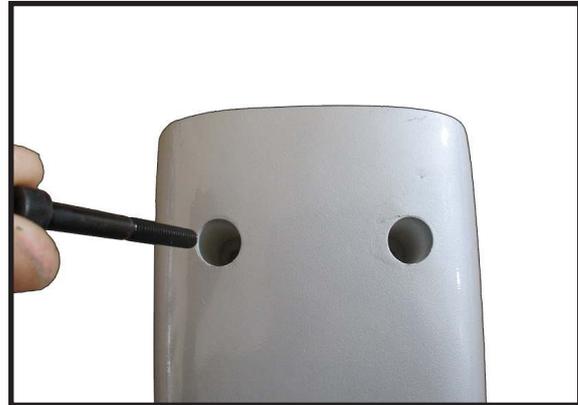
**ATTACH WING TO FUSELAGE**

Locate the (2) 6x50mm bolts and washers.

1.



2.



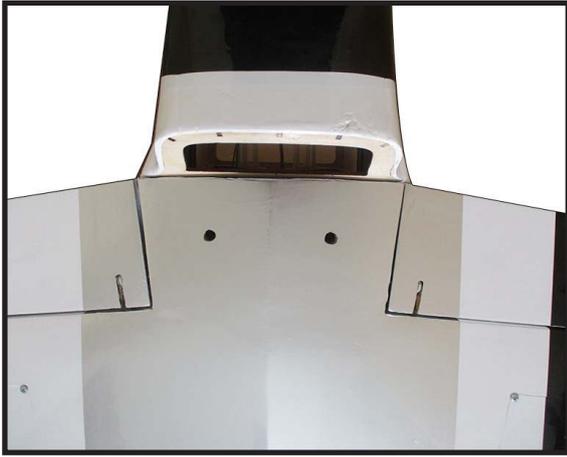
3.



4.



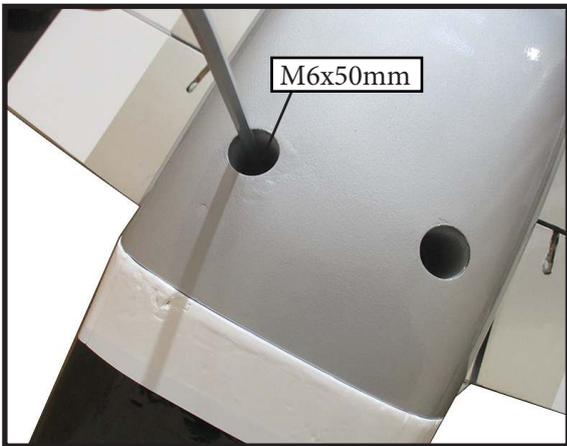
5.



6.



7.



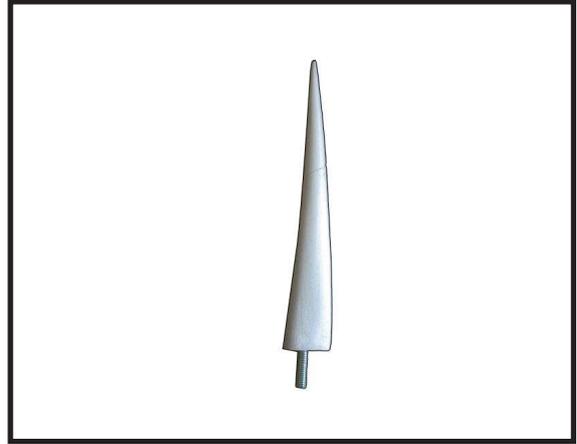
8.



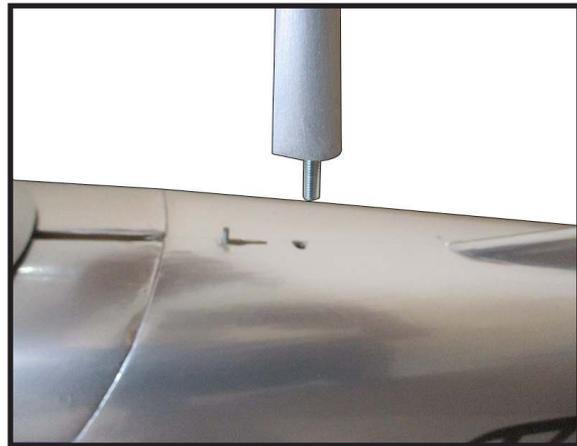
## INSTALLING ANTENNAS

Antennas feature banana plugs for easy installation and removal.

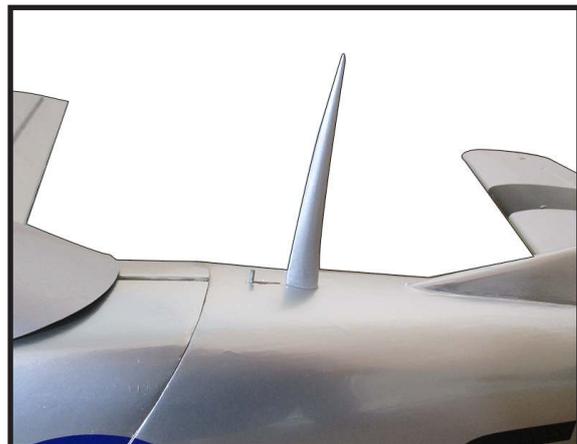
1.



2.

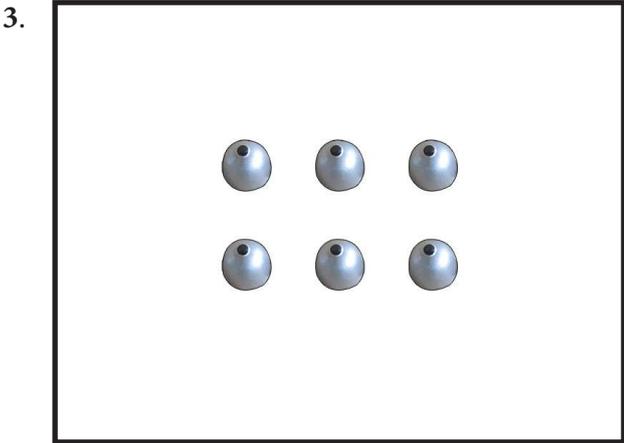


3.



**INSTALL THE WING GUNS**

Locate the 4 Gun as seen in images below.



## APPLYNG DECALS

Please use scissors and/or a hobby knife to cut the decals from the sheet. Please be certain the model is clean and free from oily fingerprints and dust. Position decal on the model where desired. You may use the photos on the box and/or online images to aid in their location and application.

If using custom decals, please follow manufacturers instructions to install those decals. Please be certain the model is clean and free from oily fingerprints and dust. Position decal on the model where desired, using images of appropriate artwork/photos to aid in their location.

## BALANCING - DO NOT SKIP THIS !

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 **150-160MM** BACK FROM THE LEADING EDGE OF THE WING AT THE WING ROOT.

Landing gear should be in the “up” retracted position when balancing.

Mount the wing to the fuselage. Place a piece of masking tape on the top of each wing 150-160mm back from the leading edge at the wing root.

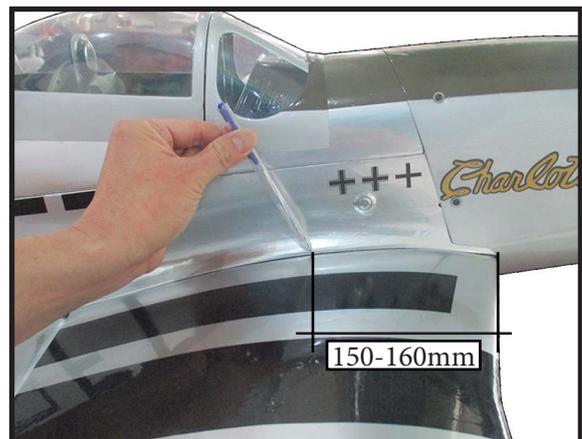
With the model inverted, place your fingers on the masking tape and carefully lift the plane. This is the point at which your model should balance for your first flights. Later, you may wish to experiment by shifting the balance up to 10mm forward or back to change the flying characteristics. Moving 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.

\* 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.

With the wings 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.

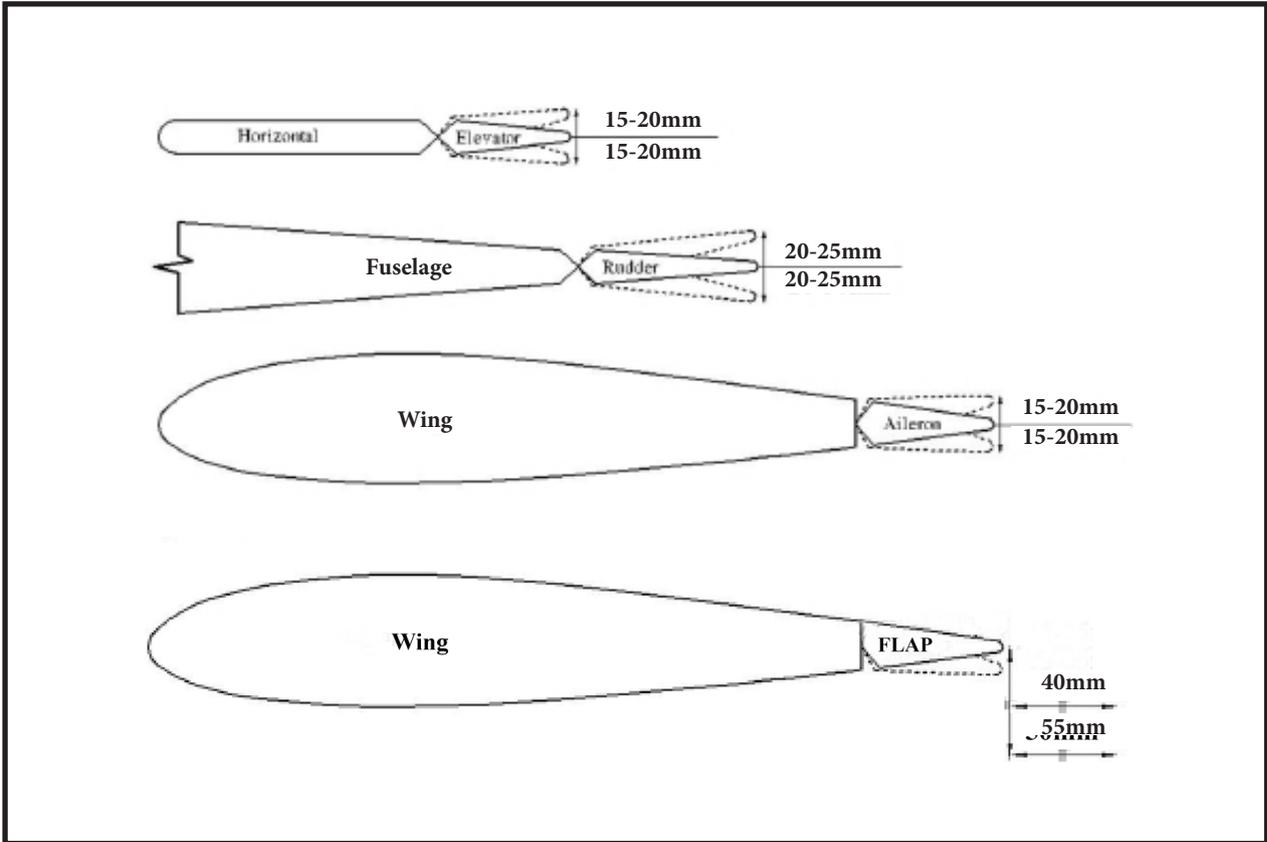
Lift the model. If the tail drops when you lift, the model is “tail heavy” and you must add weight\* to the nose. If the nose drops, it is “nose heavy” and you must add weight\* to the tail to balance.

1.



**CONTROL THROWS**

<b>Ailerons:</b>	<b>Rudder:</b>
High Rate :	High Rate :
Up : 20 mm	Right : 25 mm
Down : 20 mm	Left : 25 mm
Low Rate :	Low Rate :
Up : 15 mm	Right : 20 mm
Down : 15 mm	Left : 20 mm
<b>Elevator:</b>	<b>Flap:</b>
High Rate :	Mid : 40mm
Up : 20 mm	Full : 55mm
Down : 20 mm	
Low Rate :	
Up : 15 mm	
Down : 15 mm	



## FLIGHT PREPARATION

Check the operation and direction of the elevator, rudder, ailerons and throttle.

□ A) Plug in your radio system per the manufacturer's instructions and turn everything on.

□ B) Check the elevator first. Pull back on the elevator stick. The elevator halves should move up. If they do not, flip the servo reversing switch on your transmitter to change the direction.

□ C) Check the rudder. Looking from behind the airplane, move the rudder stick to the right. The rudder should move to the right. If it does not, flip the servo reversing switch on your transmitter to change the direction.

□ D) Check the throttle. Moving the throttle stick forward should open the carburetor barrel. If it does not, flip the servo reversing switch on your transmitter to change the direction.

□ E) From behind the airplane, look at the aileron on the right wing half. Move the aileron stick to the right. The right aileron should move up and the other aileron should move down. If it does not, flip the servo reversing switch on your transmitter to change the direction.

## PREFLIGHT CHECK

□ 1) Completely charge your transmitter and receiver batteries before your first day of flying.

□ 2) Check every bolt and every glue joint in the North American P-51D "Charlotte's Chariot II' 71" ARF 35cc to ensure that everything is tight and well bonded.

□ 3) Double check the balance of the airplane. Do this with the fuel tank empty.

□ 4) Check the control surfaces. All should move in the correct direction and not bind in any way.

□ 5) If your radio transmitter is equipped with dual rate switches double check that they are on the low rate setting for your first few flights.

□ 6) Check to ensure the control surfaces are moving the proper amount for both low and high rate settings.

□ 7) Check the receiver antenna. It should be fully extended and not coiled up inside the fuselage.

□ 8) Properly balance the propeller. An out of balance propeller will cause excessive vibration which could lead to engine and/or airframe failure.

*We wish you many safe and enjoyable flights  
with your North American P-51D "Charlotte's Chariot II' 71" ARF 35cc .*

*If you have any queries, or are interested in our products,  
please feel free to contact us*

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