

Direct Airscale

scale model



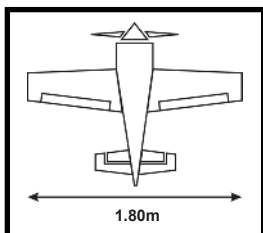
Code : 3642

TECHNICAL INSTRUCTIONS

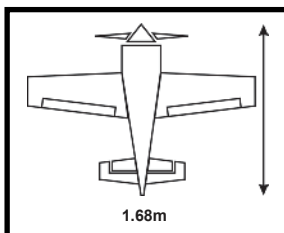
May change without notice



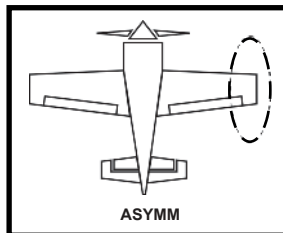
PILATUS PC 9



1.80m



1.68m



ASYMM

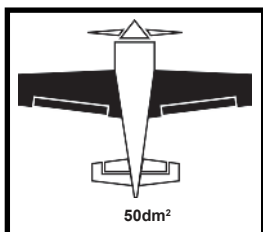
install Kit



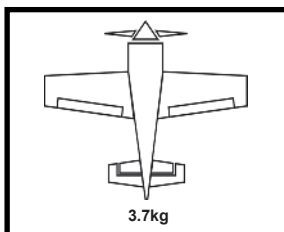
YES

SERVOS

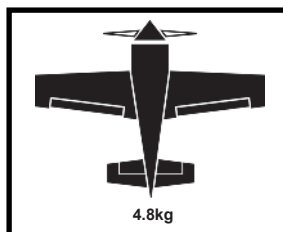
- Ailerons
- Rudder + wheel
- Elevator
- Flaps
- Retract
- Gas or bec



50dm²



3.7kg



4.8kg

install Kit



YES

CONGRATULATIONS.

Thank you for choosing a *Direct Airscale* model. If you have any problems do not hesitate to consult our website. Especially the section **CLUB DA** (*Direct Airscale* club) for each plane where you will find information. You also can consult me directly by phone but try to be a maximum shorter 😊. Thank you. You also can participate in the interaction you'll find at general chapter **CLUB DA**.

Our **PILATUS PC 9** is presented in a black and gold livery military parade, held by the Swiss and Bulgarian armies among others. It is a light aircraft that we have equipped a tricycle mechanical retracts. A kit for the installation of an electric motor is provided. It is naturally stable with wings in the format "hang" rectangular double dihedral tailplane and rejected very rear of the fuselage. Proudly camped on its tricycle landing gear, it is pleasant to look at and fun to drive. Quite presentable in meetings warbird or interclub. In all modesty is a must 1.80m that will feel. To respect the genuine our model PC9 is equipped with flaps that this type of wing allows to train the reactions induced by the output of the landing flaps. The flaps are slot effect which enhances their sweetness and power lifting. All characteristics that should take a lot of votes.

WARNING

If you are inexperienced with basic r/c flight we strongly recommended you contact the nearest model aircraft club. Experienced members will help you to install additional accessories to put your aircraft airworthy. The club will ensure your training and you will avoid flying illegally and destroy your aircraft from the first flight.

ADDITIONAL ITEMS REQUIRED.

- Propulsion set depending your choice : gas or electric.
- Radio set minimum 4 channels.
- 4 servos.
- Propeller.
- Electric lipo pack or Ni-Mh.
- Switch or Bec controller and fuse.

TOOLS AND SUPPLIES.

- Thick cyanoacrylate glue.
- 30 minute epoxy.
- Electric drill.
- Assorted drill bits.
- Modelling knife.
- Straight ruler.
- Miscellaneous sandpaper.
- 90° builder's triangle.
- Wire cutters.
- Tape & T-pin
- A set of small keys 6 section
- A set of screw drivers

KIT CONTENTS.

- Light and rigid balsa and plywood construction
- Fuselage and wings built and Oracover® covered
- Decoration and lettering print on cover
- Painted clear canopy
- 2 Pilots included
- 2 dash boards
- Rigid wire landing gear
- Mechanical retracts included (3 wheels)
- Controlled front wheel
- Spinner
- Fiber cowl
- Methanol engine installation kit (tank, motor mount, ...)
- Electric motor installation kit (part wooden lipo kit ...)
- All mounting hardware , screws , fittings , linkages , ...
- English mounting instructions with photos
- Country translations send beside

TIPS FOR ASSEMBLY

To prevent damage to the coating cover your workbench with a cloth or blanket. Do not pull on the packaging you may be too much pressure and break your plane. Carefully unpack the wings and fuselage using scissors or a craft knife. Open aware of hardware apart and sort all parts in order to understand who goes where. Store in a series of independent small boxes. When you work, do not let screws, miscellaneous hardware, accessories and tools below different parts of your aircraft. Check constantly. Before gluing carefully prepare all the parts, try them and if needed dig slots a bit more. Work slowly and read many time technical instructions to be sure to understand all tricks. Repeat gestures before using glue. If overflows **do not use acetone** on coatings and plastics. Often simply wipe with a paper towel.

HINGING THE FLAPS.

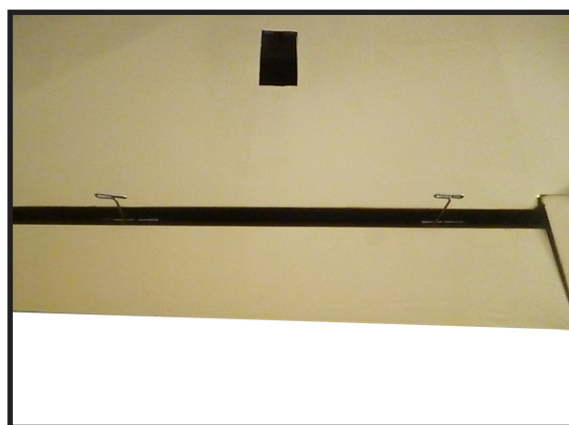
To ensure the mobility of flaps we planned cylindrical hinges. The trick is that these hinges are installed at 90° mean 45° on each side. See photos. That way when you leave the flaps deport these hinges and shutters create a slot effect that brings the lift in addition to limiting the braking effect of turbulence flaps and thus repel the stall speed.



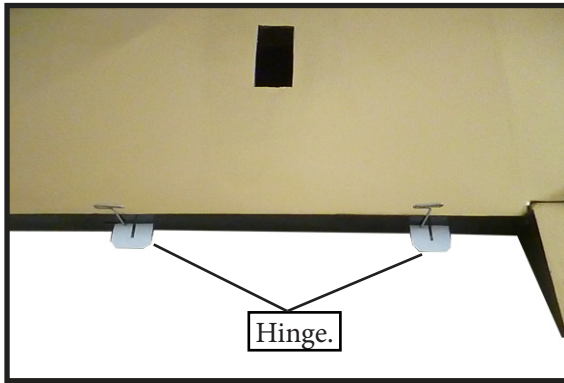
Drill your 45° holes about 2mm before the edge. Be careful not to cross! **Cut hinges** taking into account the thickness of the wing. Introduce all hinges. The hinges must be pressed closer, gently so that the offset is reasonable. To check the alignment of the 3 hinges use simply your eye. If you need to reduce the offset just push a bit more. Flaps are manipulated to test the flexibility of operation. Monitoring the orientation of the hinge pins to be perpendicular to the rotational movement.



INSTALLING HINGES GENERAL.

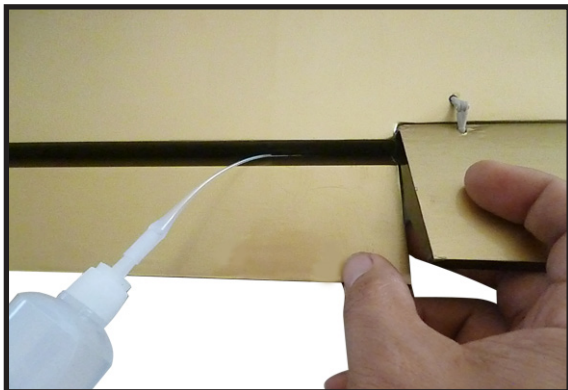


All hinges are pre-installed but not glued. Before removal for sizing carefully locate all positions with a ballpoint pen not to create a gap for the collage. Note the middle hinge so that the same amount is depressed in both parties. Plant may also serves as a needle stop which provides the necessary play and flexibility. If you use the cyano coat once all the hinges with a veil of cyano.



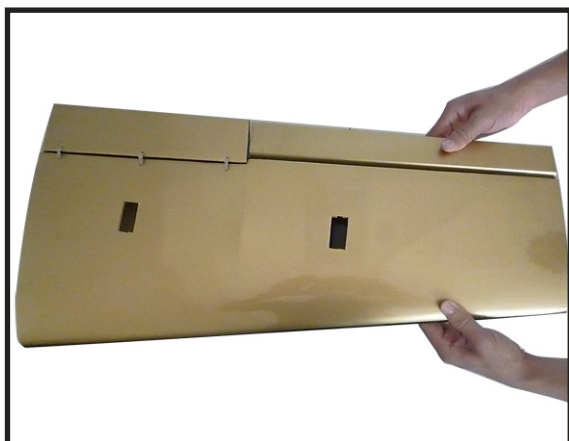
Paste all hinges on the fixed parts (wings, tail).

After a reasonable period of time depending on the glue used permanently installed mobile appendages ensuring that there is a slight clearance for free movement of friction. During drying maneuver the pieces to make sure everything runs smoothly. If epoxy clean the excess glue with paper. Do not use acetone.



HINGING THE AILERONS.

Proceed as described at general, then check the fins are aligned wingtip and move free. See below pictures.



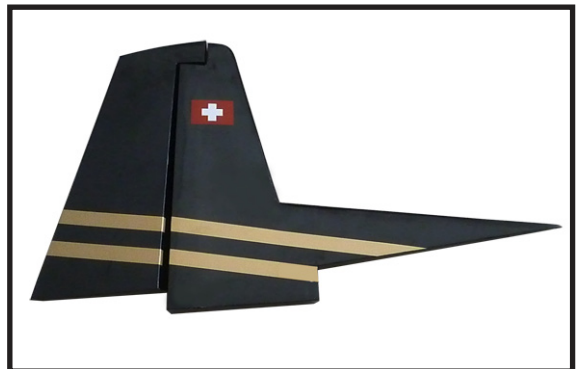
HINGING THE ELEVATORS.

Proceed as described at general, then check the edge fins are aligned and move free. See below pictures.



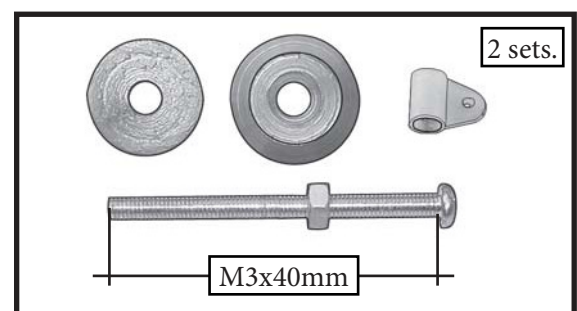
HINGING THE RUDDER.

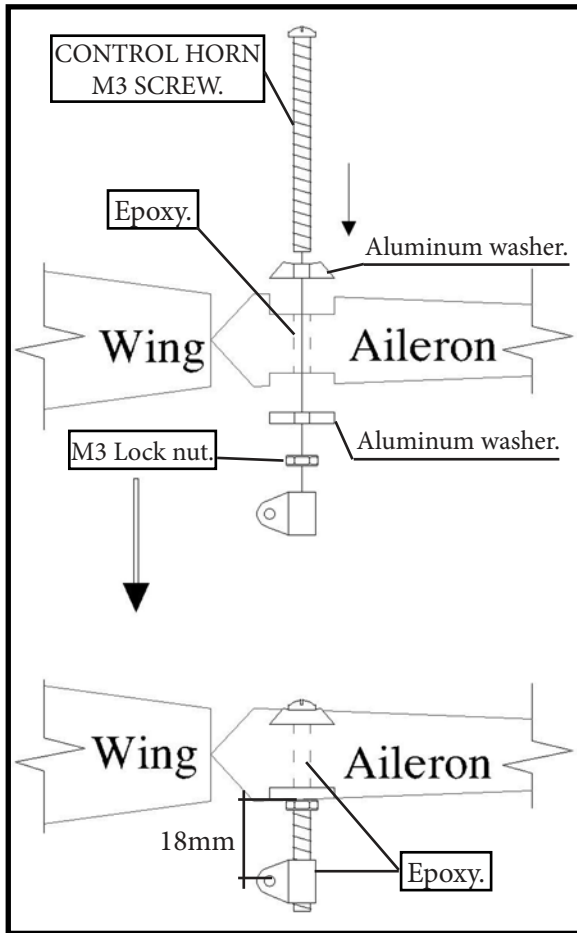
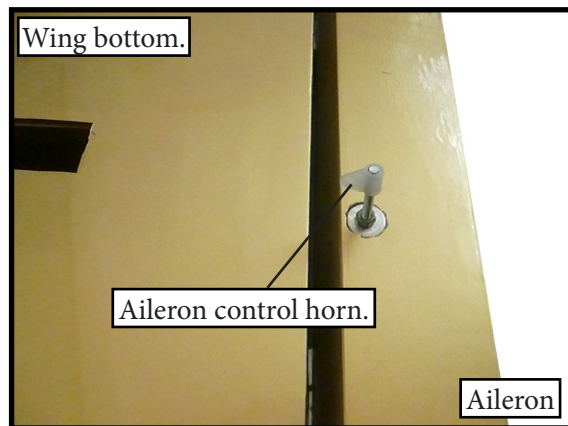
Proceed as described at general, then check the edge fins are aligned and move free. See below pictures.



AILERONS CONTROL HORN.

Aileron control horn : See below pictures.





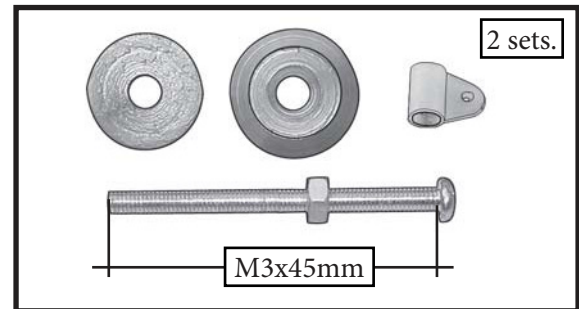
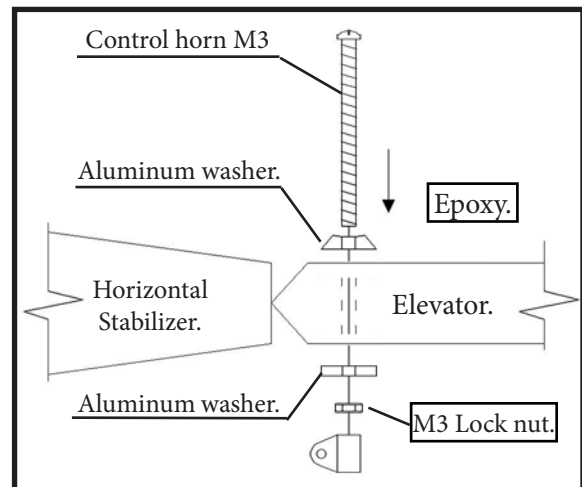
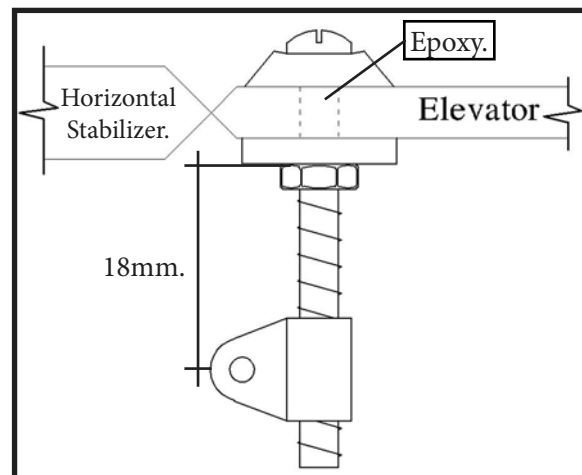
FLAP CONTROL HORN.

Repeat the process for the flap control horn.



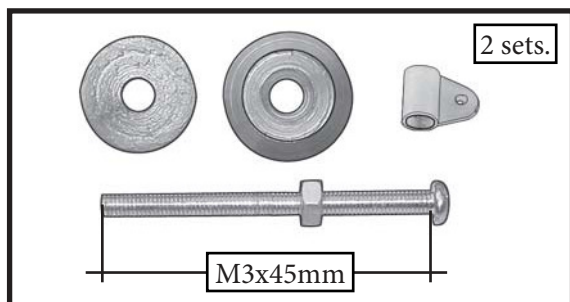
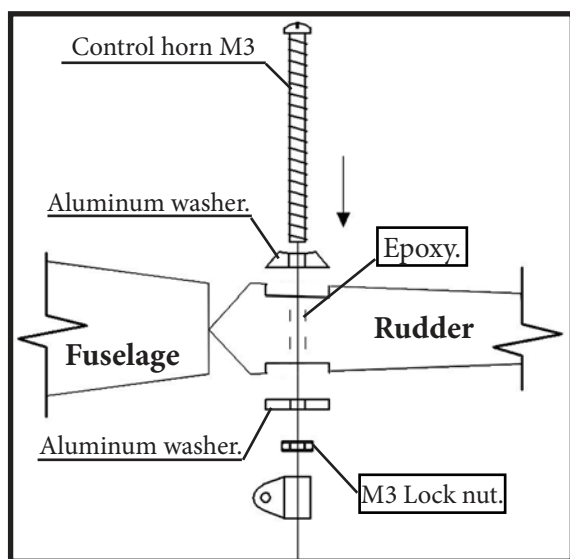
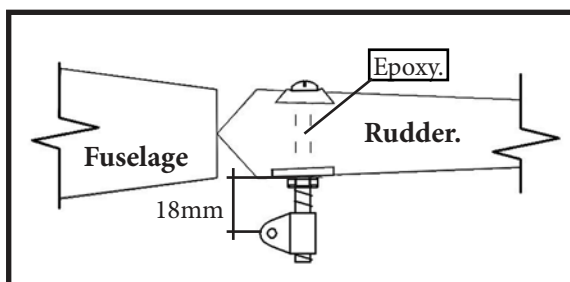
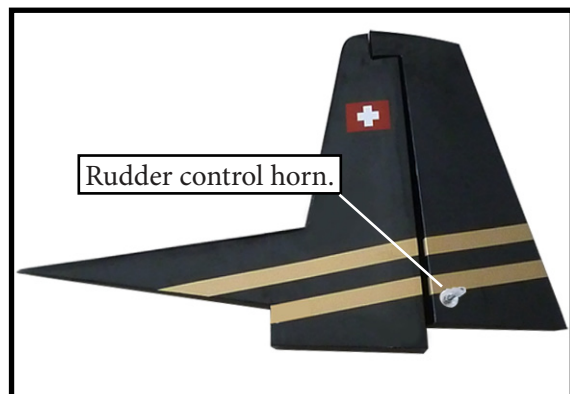
ELEVATOR CONTROL HORN.

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



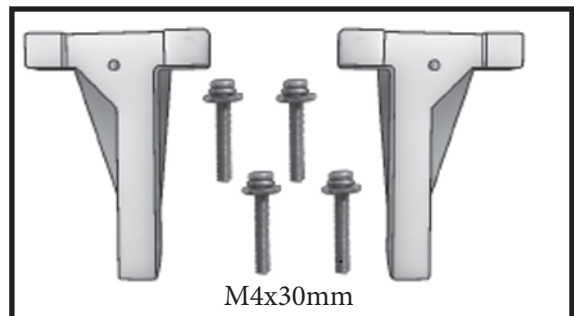
RUDDER CONTROL HORN.

Using the same techniques used aileron control horn. See picture below.

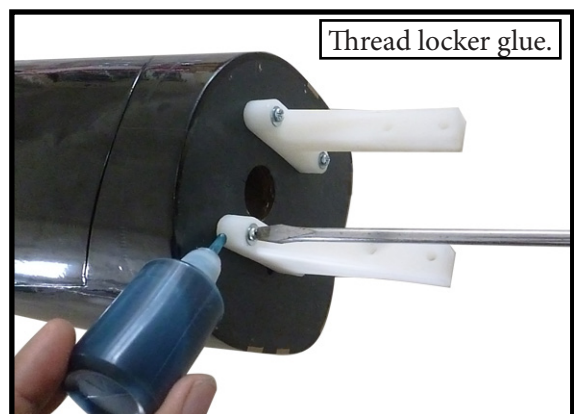


ENGINE MOUNT INSTALLATION.

See below pictures. Make yourself the template of your engine on paper.



Mark and drill 4 holes for engine mount. Insert 4 blind nuts to firewall.

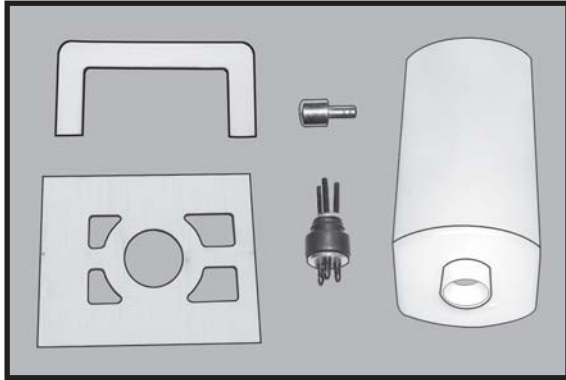
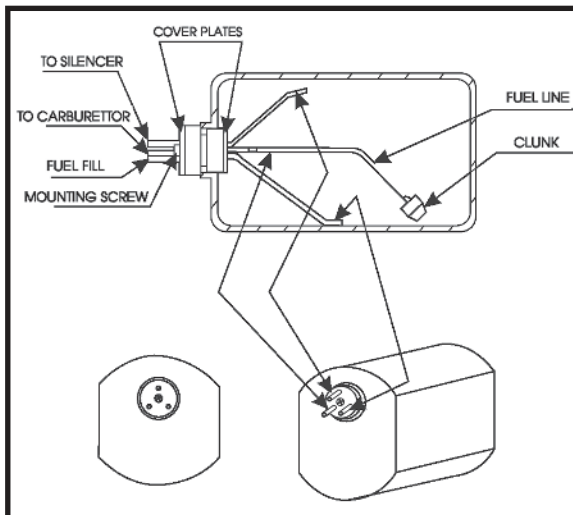
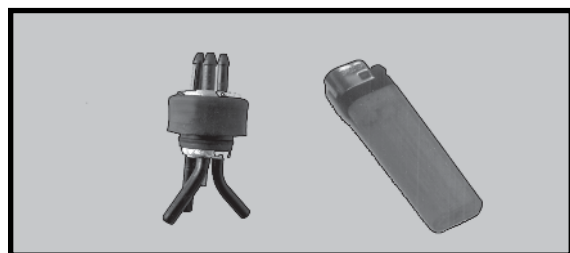
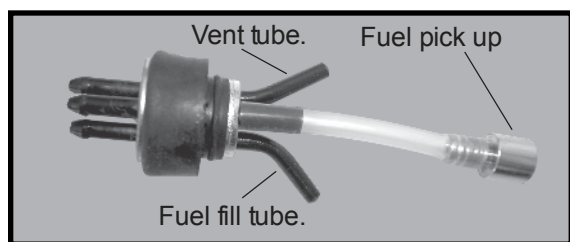


INSTALLING THE STOPPER ASSEMBLY.

1) 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.

2) 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.

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



Carefully use a lighter or heat gun to permanently set the angle of the vent tube.

Important: When the stopper assembly is installed in the tank, the top of the vent tube should rest just below the top surface of the tank. It should not touch the top of the tank.

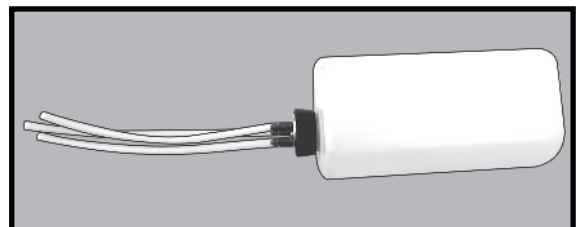
4) Test fit the stopper assembly into the tank. It may be necessary to remove some of the flashing around the tank opening using a modeling knife. If flashing is present, make sure none falls into the tank.

5) 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.

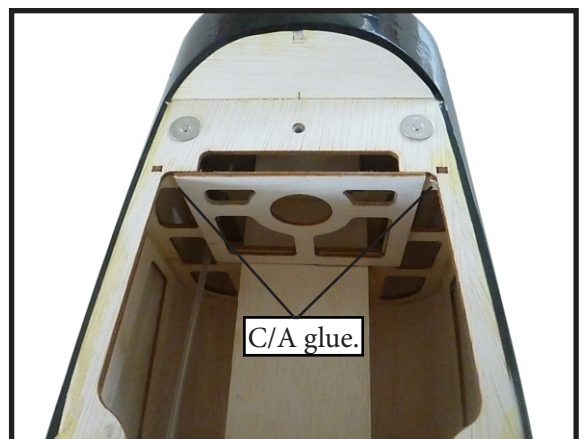
6) When satisfied with the alignment of the stopper assembly tighten the 3 x 20mm machine screw until the rubber stopper expands and seals the tank opening. Do not over-tighten the assembly as this could cause the tank to split.

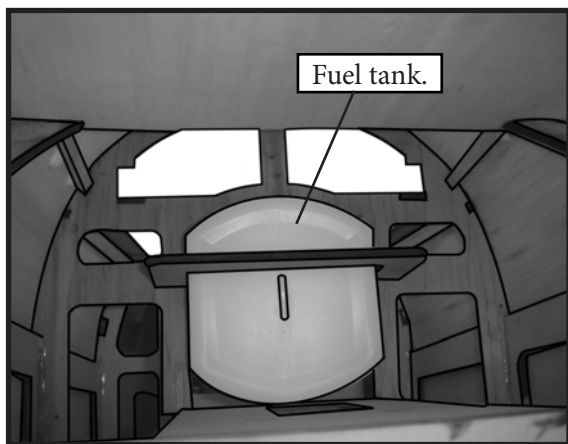
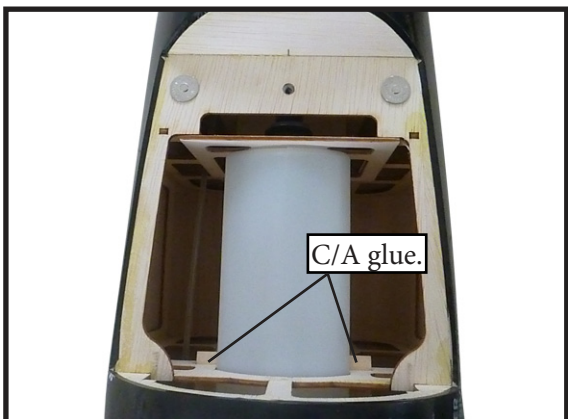
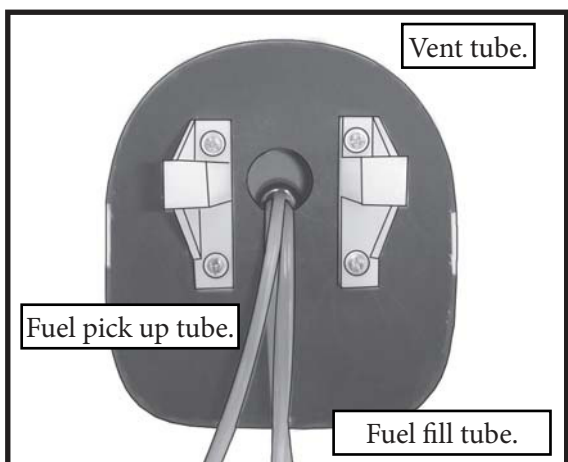
FUEL TANK INSTALLATION.

Glow Engine.



! 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.

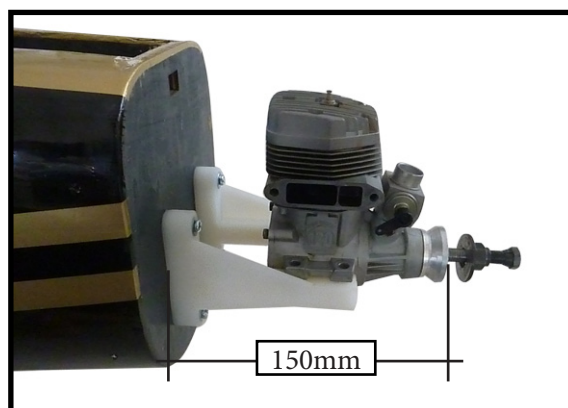
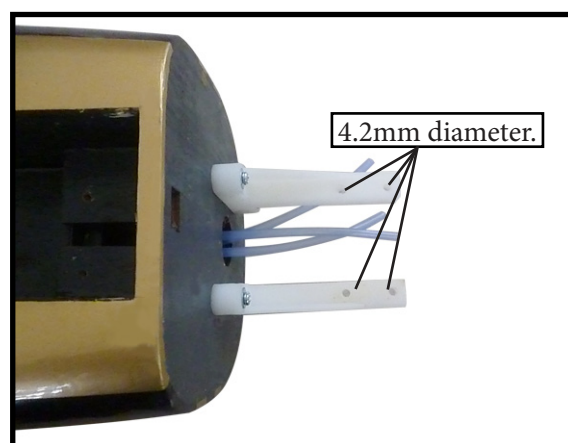




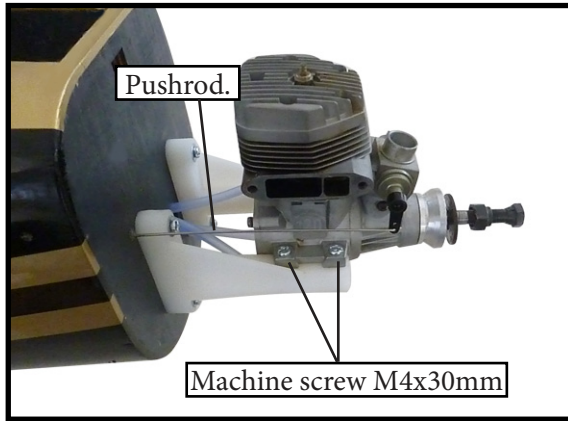
⚠ Blow through one of the lines to ensure the fuel lines have not become kinked inside the fuel tank compartment. Air should flow through easily.

MOUNTING THE ENGINE.

- 1) Install the pushrod housing through the predrilled hole in the firewall and into the servo compartment. The pushrod housing should protrude 1/4" out past the front of the firewall. Make a Z-Bend 1/4" from one end of the plain wire pushrod.
- 2) Place your engine onto the engine mount. Adjust the engine is centered of the adges of the engine case.
- 3) When you are satisfied with the alignment, mark the location of the engine mounting.
- 4) Remove the engine. Using an drill bit, drill the mounting holes through the engine mount at the four location marked.

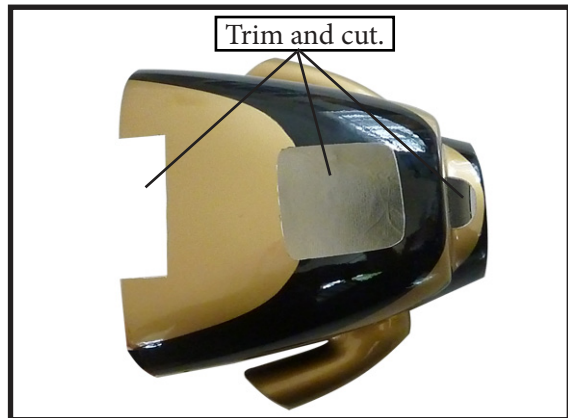
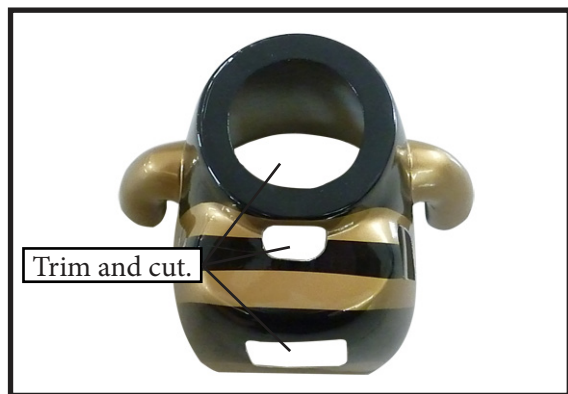


- 5) Bolt the engine to the engine mount using the four machine screws. Double check that all the screws are tight before proceeding.
- 6) Attach the Z-Bend in the pushrod wire to the throttle arm on the carburetor.



COWLING.

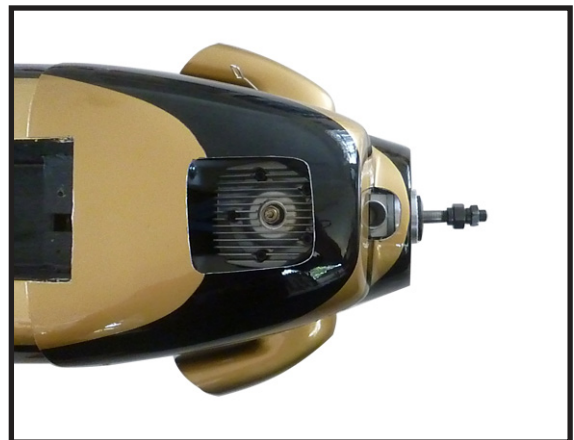
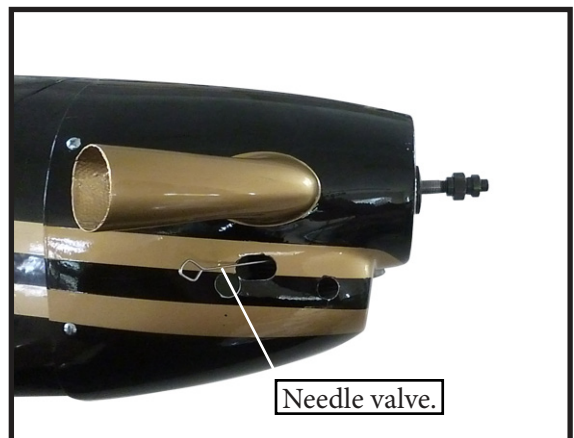
1) Slide the fiberglass cowl over the engine and line up the back edge of the cowl with the marks you made on the fuselage then trim and cut as shown.

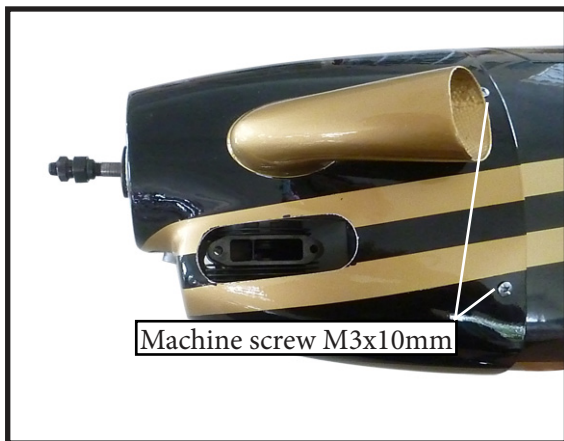
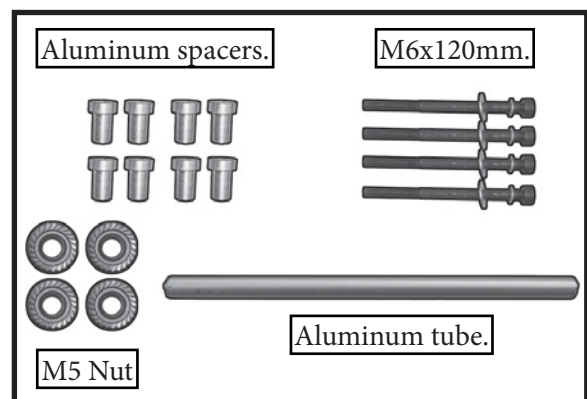


Because of the size of the cowl, it may be necessary to use a needle valve extension for the high speed needle valve. Make this out of sufficient length 1.5mm wire and install it into the end of the needle valve. Secure the wire in place by tightening the set screw in the side of the needle valve.

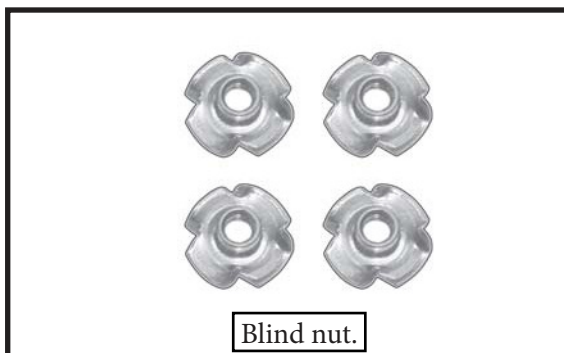
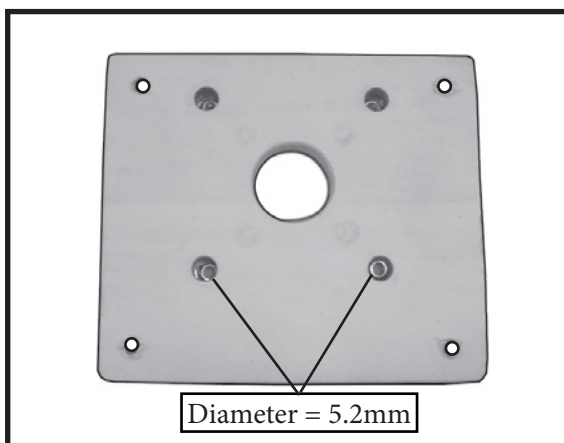
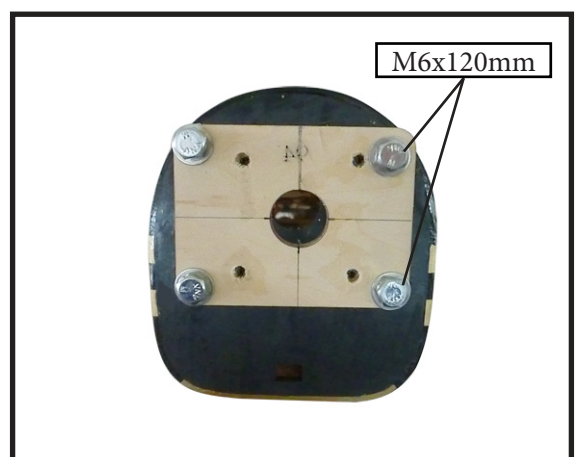
2) While keeping the back edge of the cowl flush with the marks, align the front of the cowl with the crankshaft of the engine. The front of the cowl should be positioned so the crankshaft is in nearly the middle of the cowl opening. Use the spinner backplate as a guide. Hold the cowl firmly in place using pieces of masking tape.

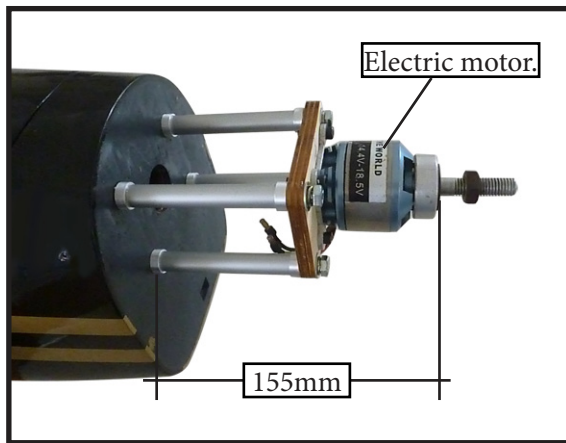
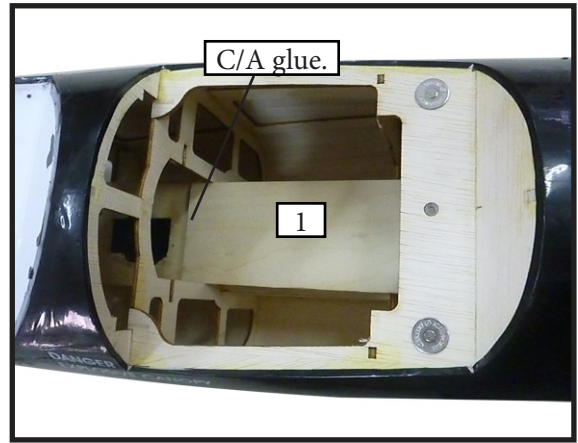
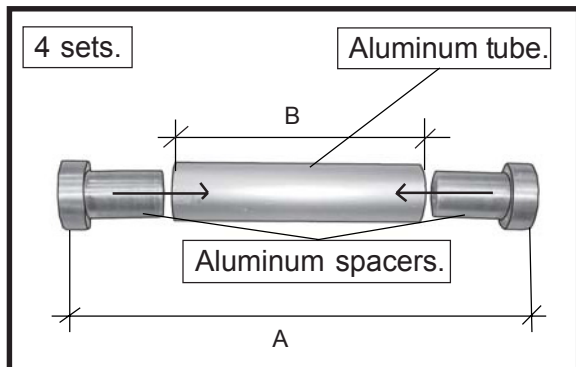
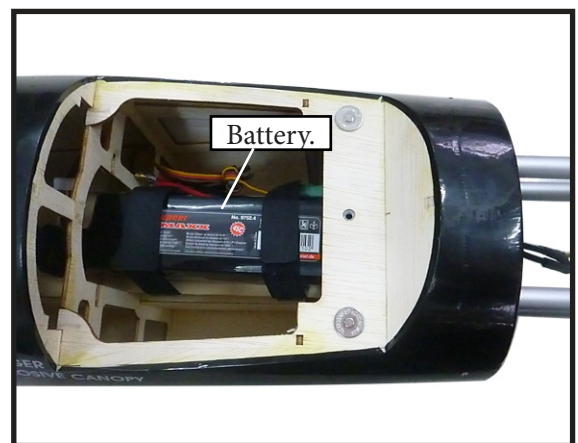
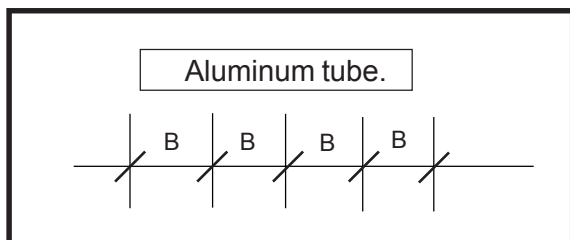
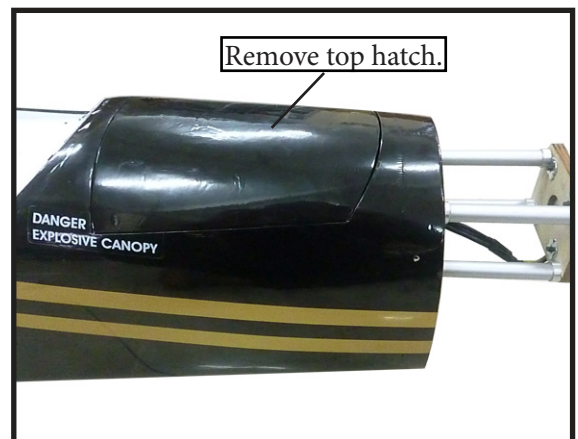
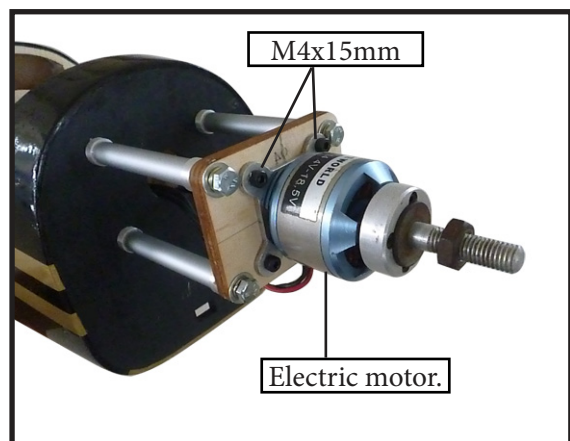
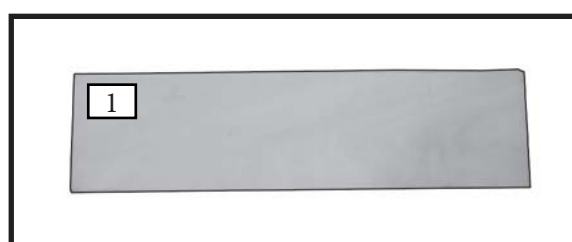
3) Install the muffler and muffler extension onto the engine and make the cut out in the cowl for muffler clearance. Connect the fuel and pressure lines to the carburetor, muffler and fuel filler valve. Secure the cowl to fuselage using the M3x10mm screws (4).





Electric Conversion (Ep Power) (OPTION).

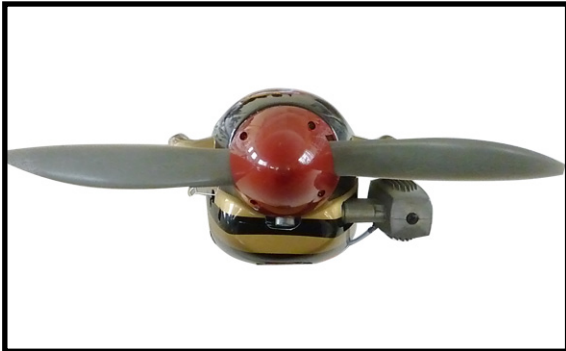




SPINNER INSTALLATION.

Install the spinner backplate, propeller and spinner cone.

 The propeller should not touch any part of the spinner cone. If it does, use a sharp modeling knife and carefully trim away the spinner cone where the propeller comes in contact with it.

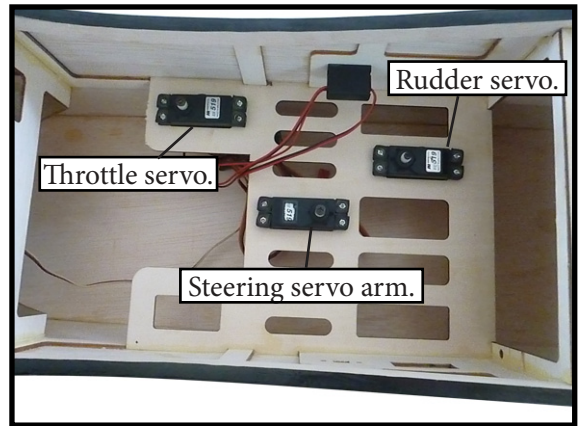
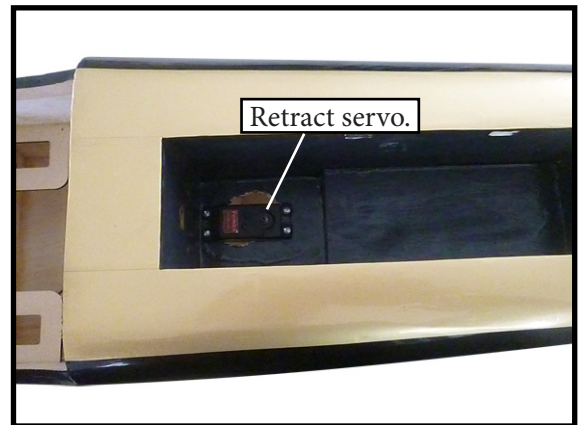
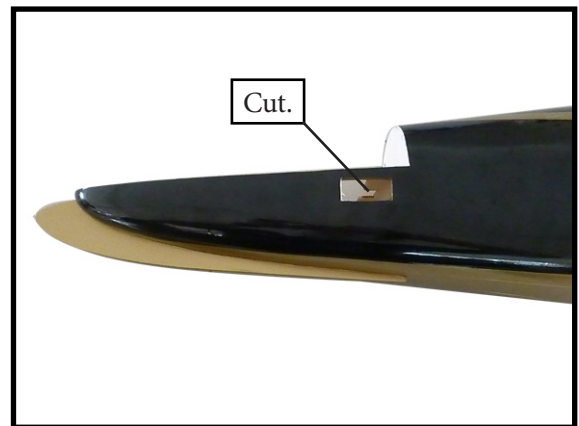
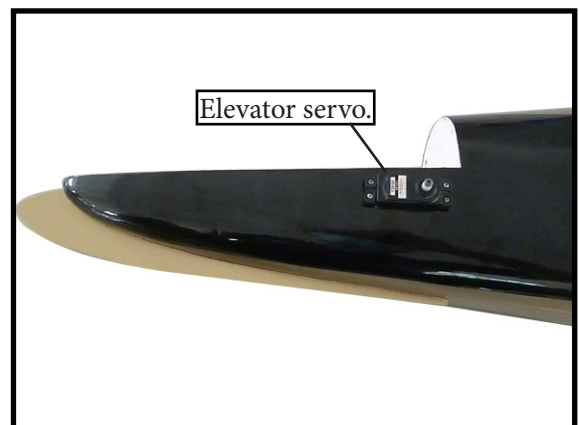


INSTALLING THE FUSELAGE SERVOS.

 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.

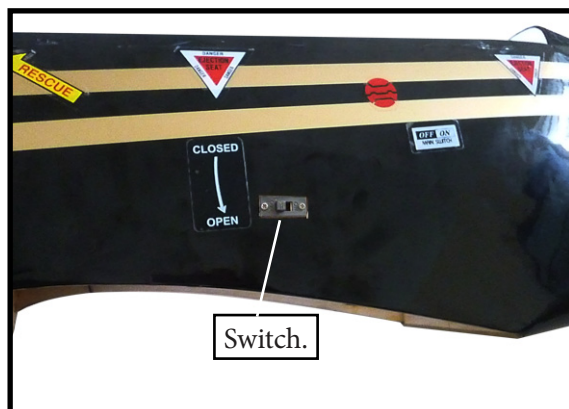
1) Install the rubber grommets and brass collets onto the throttle servo. Test fit the servo into the aileron servo mount.

2) Secure the servos with the screws provided with your radio system.



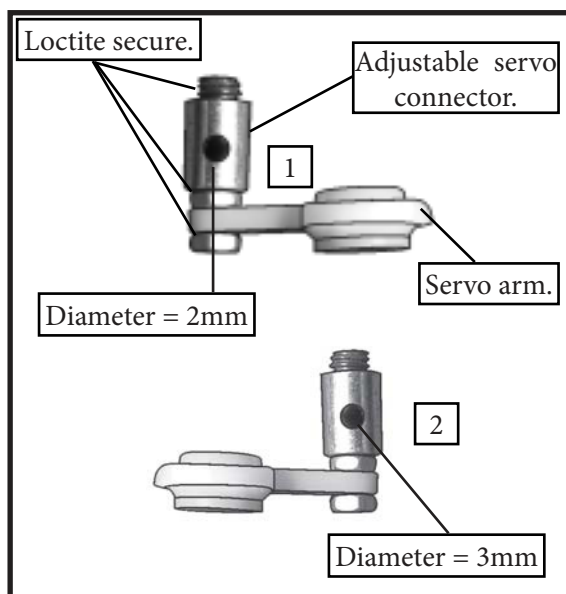
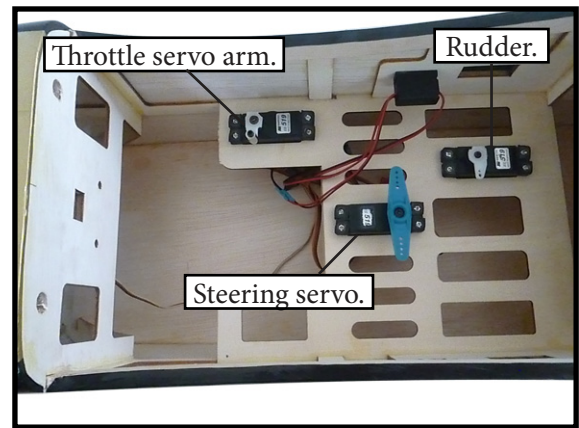
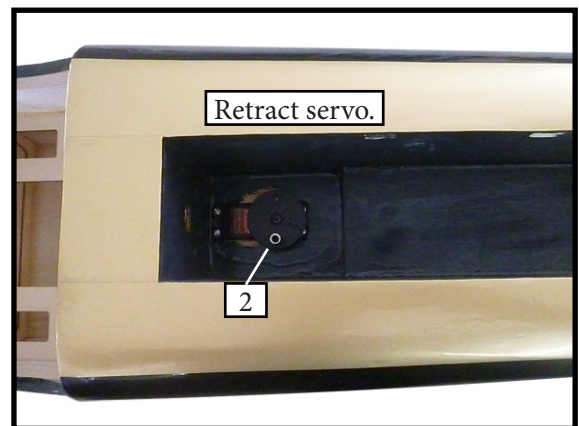
INSTALLING THE SWITCH.

Install the switch into the precut hole in the side of fuselage.

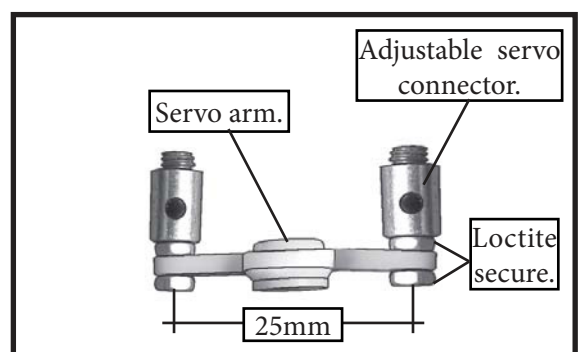


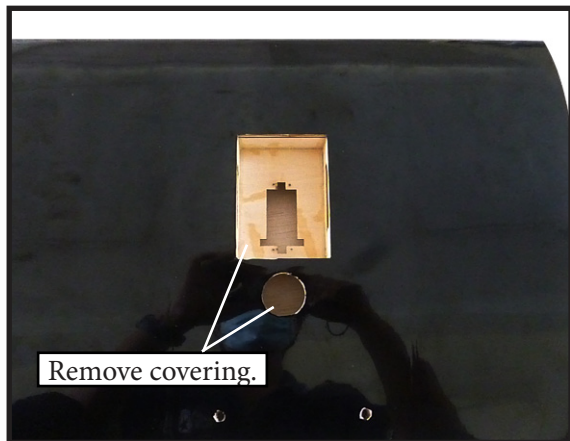
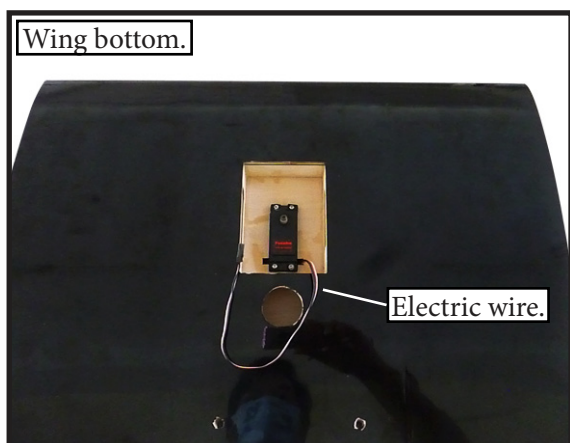
THROTTLE - RETRACT SERVO ARM INSTALLATION.

Install adjustable servo connector in the servo arm as same as picture below:

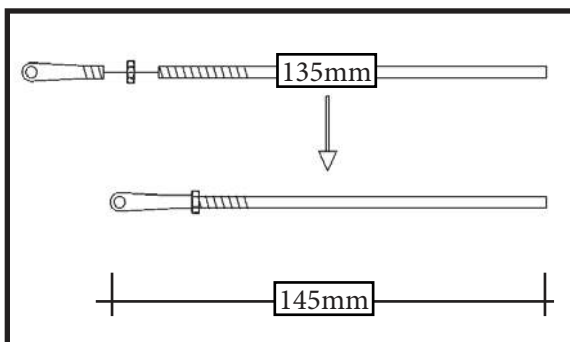


SERVO GEAR INSTALLATION.

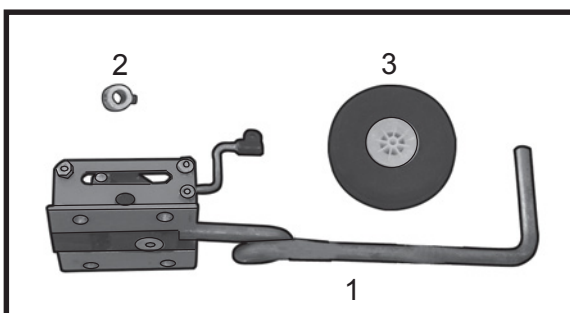
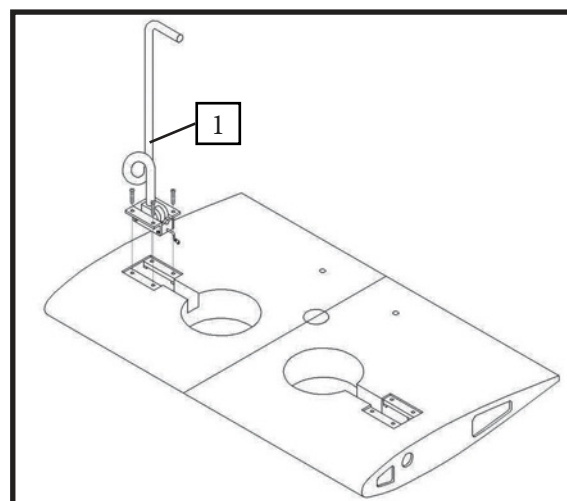
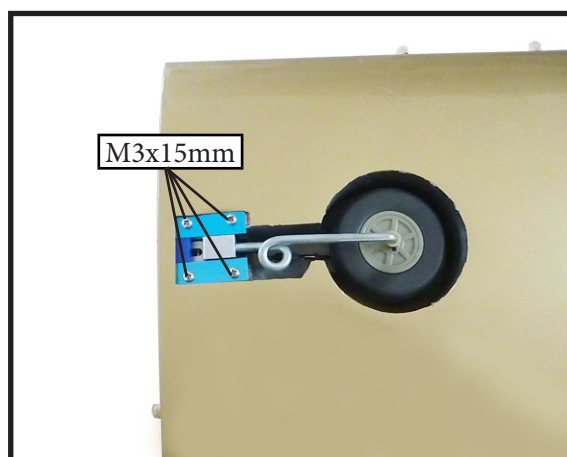
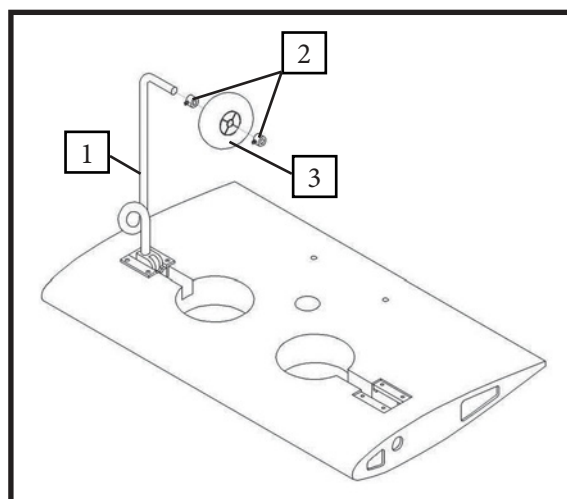
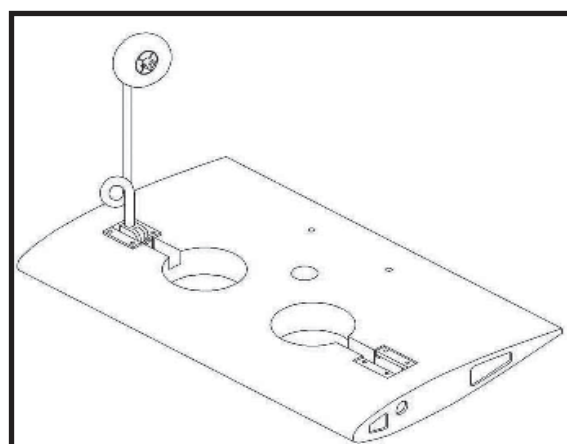




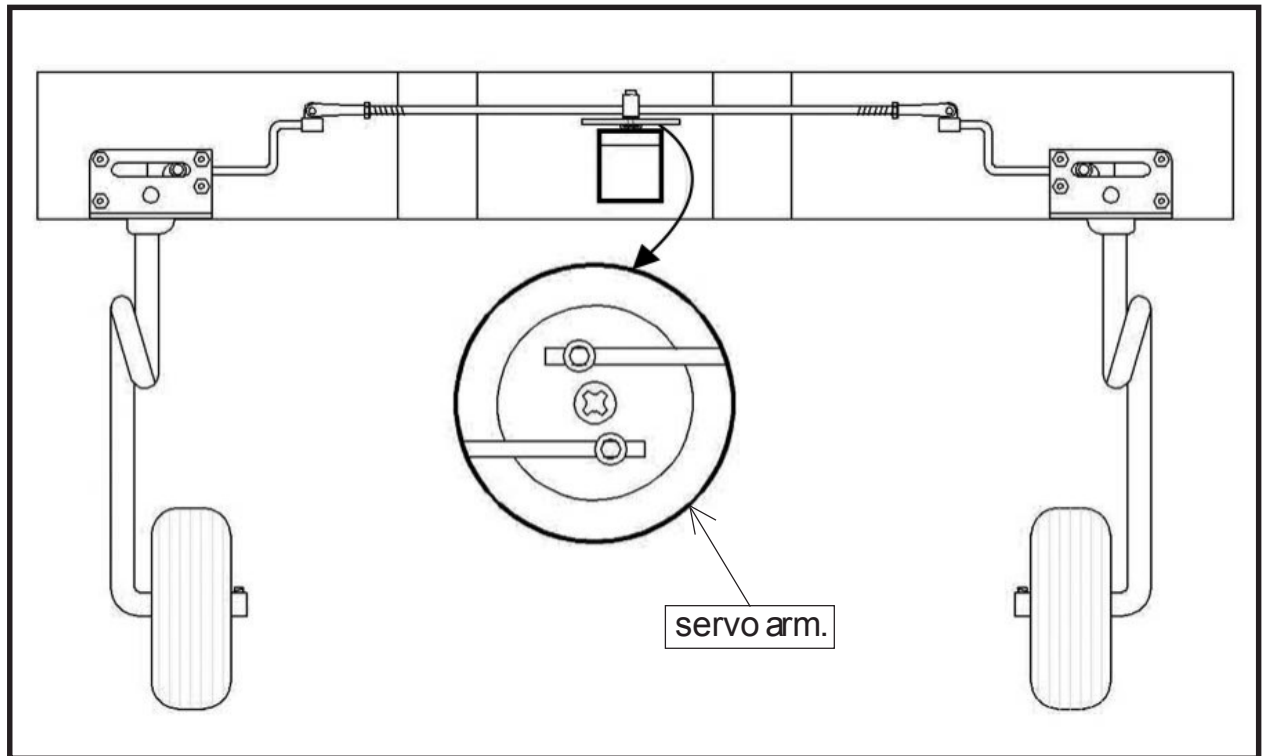
PUSHROD INSTALLATION.



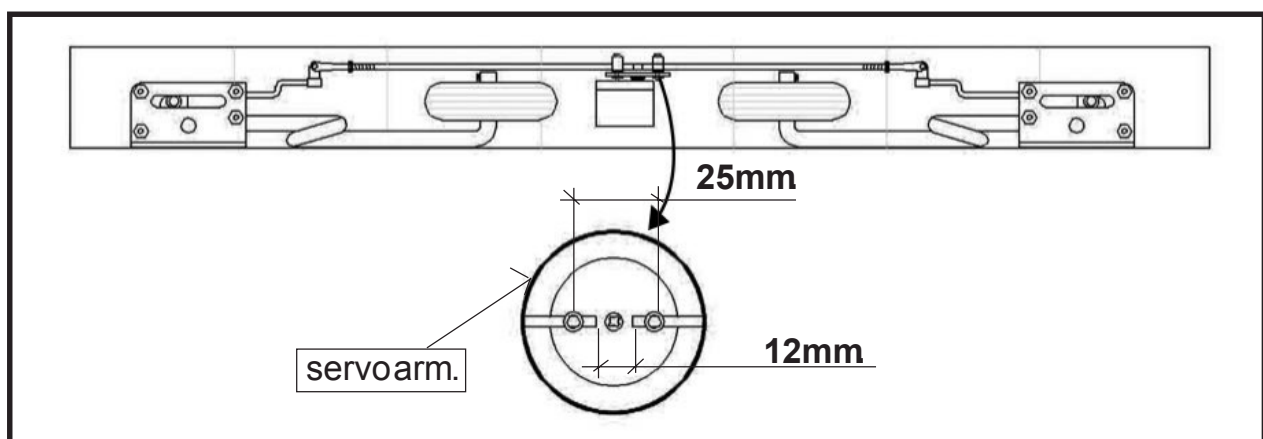
GEAR INSTALLATION.



Open Position

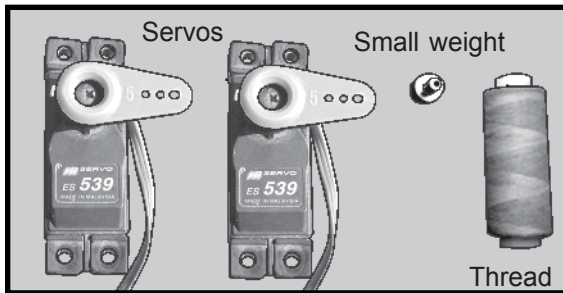
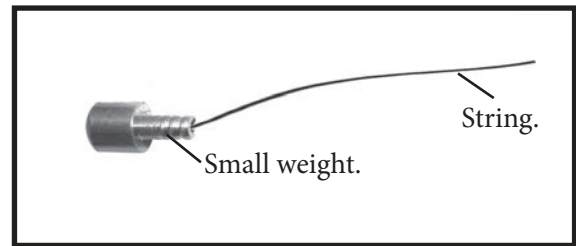
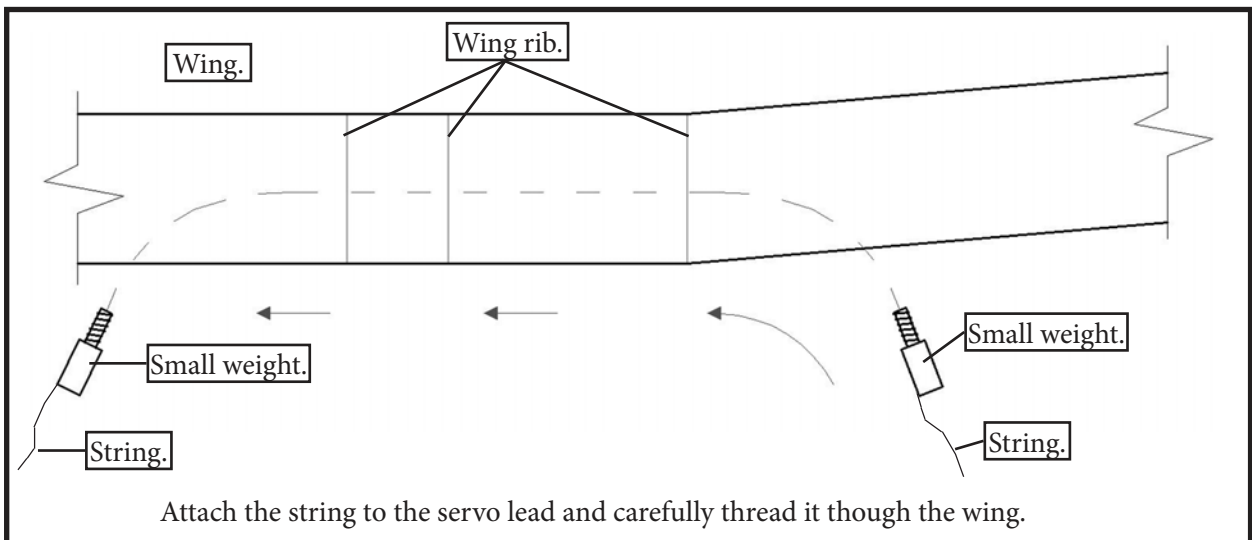


Close Position

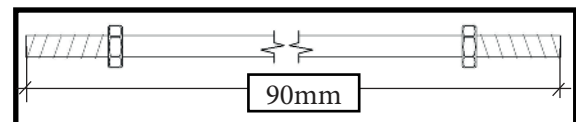
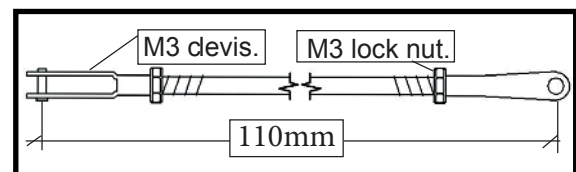
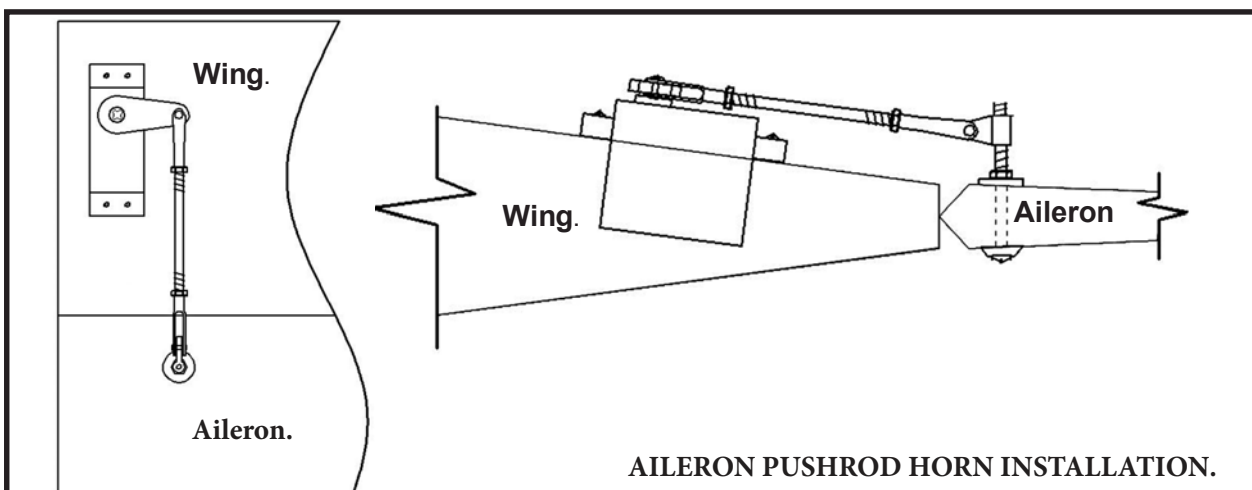


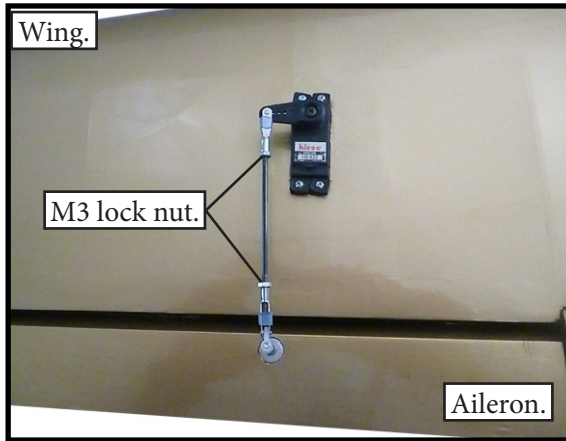
INSTALLING THE AILERON SERVOS.

Installing the aileron servo in place using the same techniques used to flap servo.



AILERON PUSHROD HORN INSTALLATION.





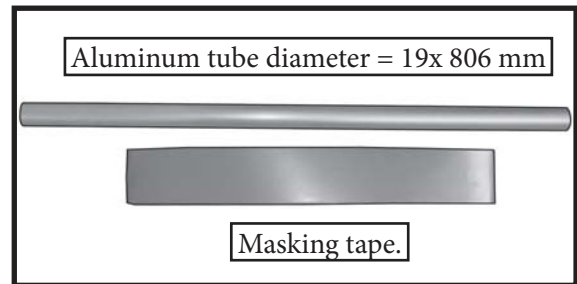
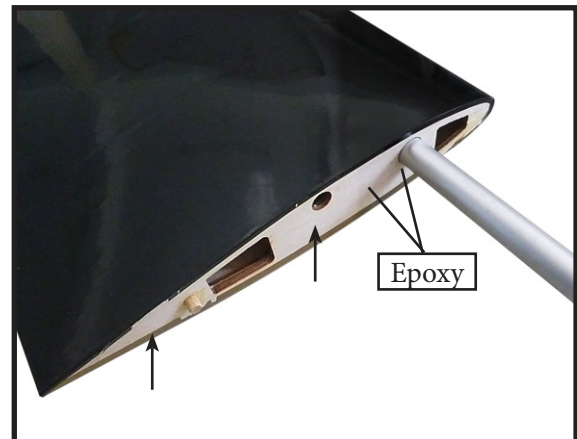
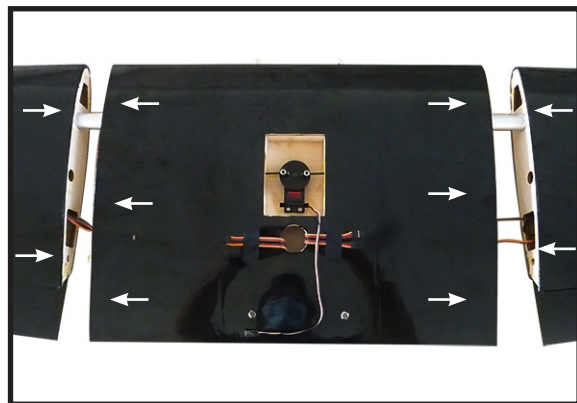
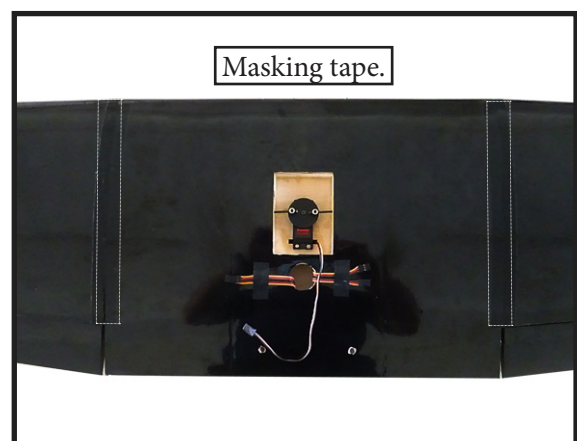
Repeat the procedure for the other wing.

INSTALLING THE FLAP PUSHROD.

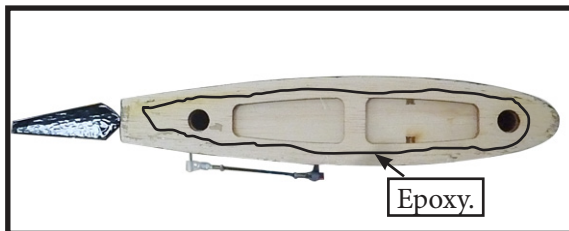
Repeat the procedure for flap pushrod as same as aileron pushrod.



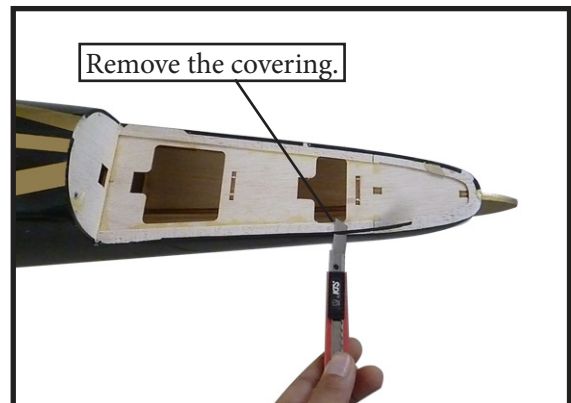
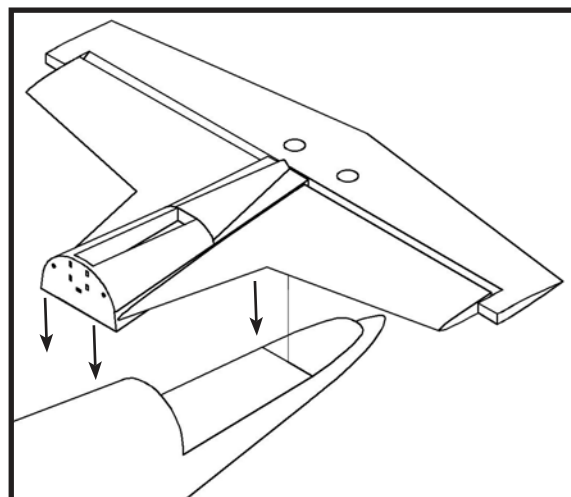
WING ASSEMBLY.



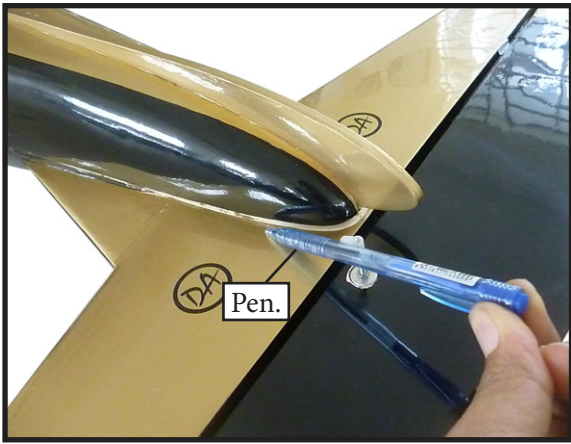
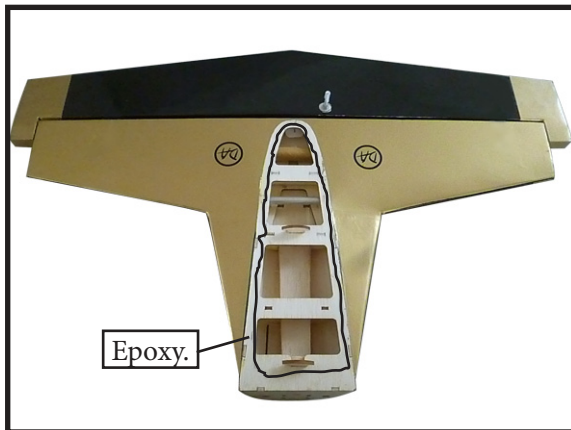
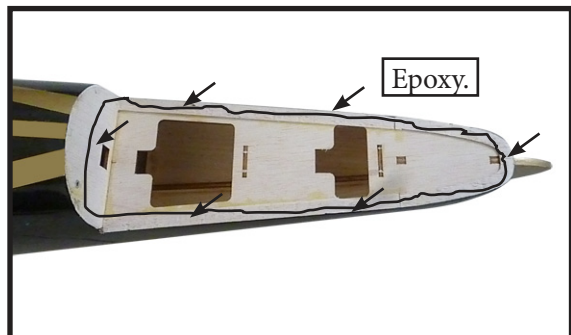
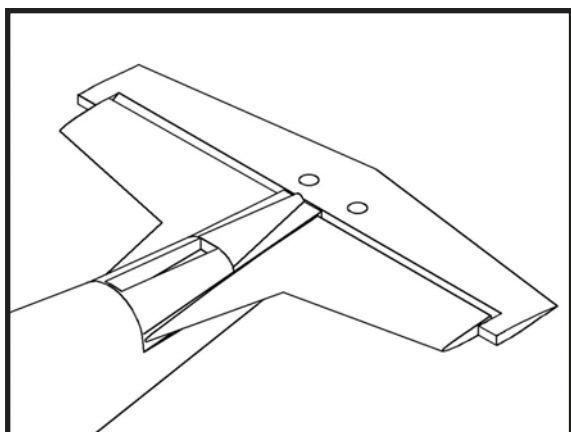
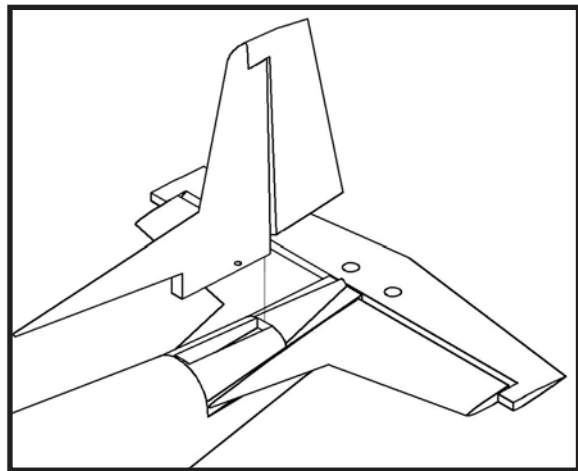
WING TIP INSTALLATION.

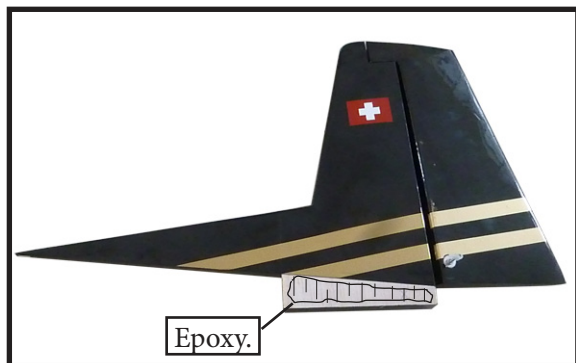


INSTALLING THE HORIZONTAL STABILIZER.



INSTALLING THE VERTICAL STABILIZER.

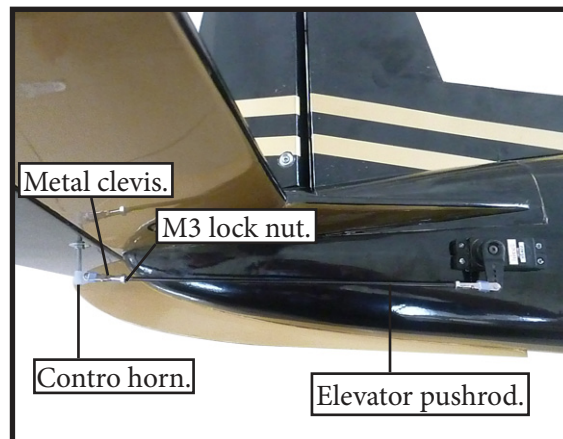
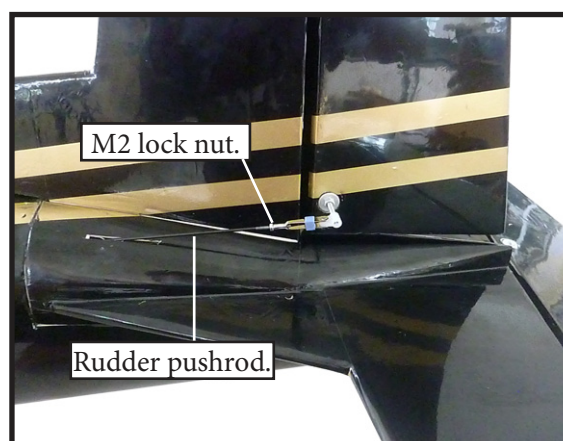
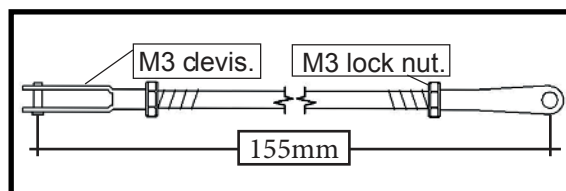
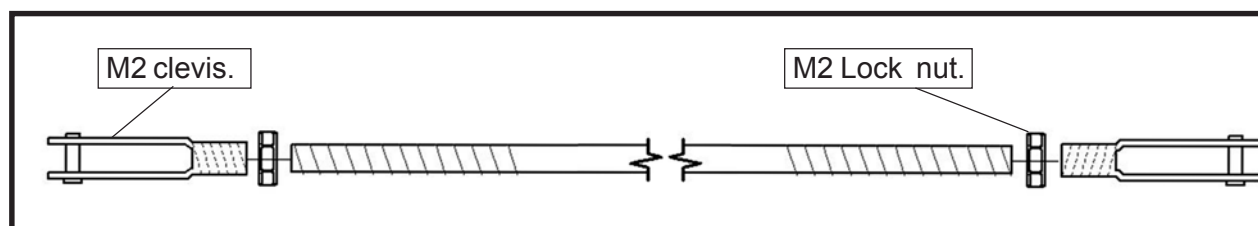
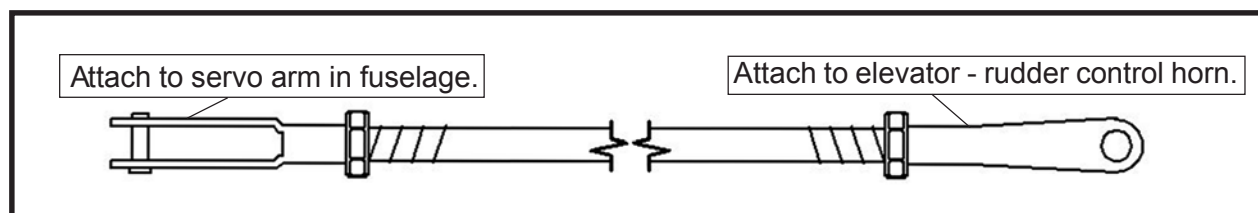


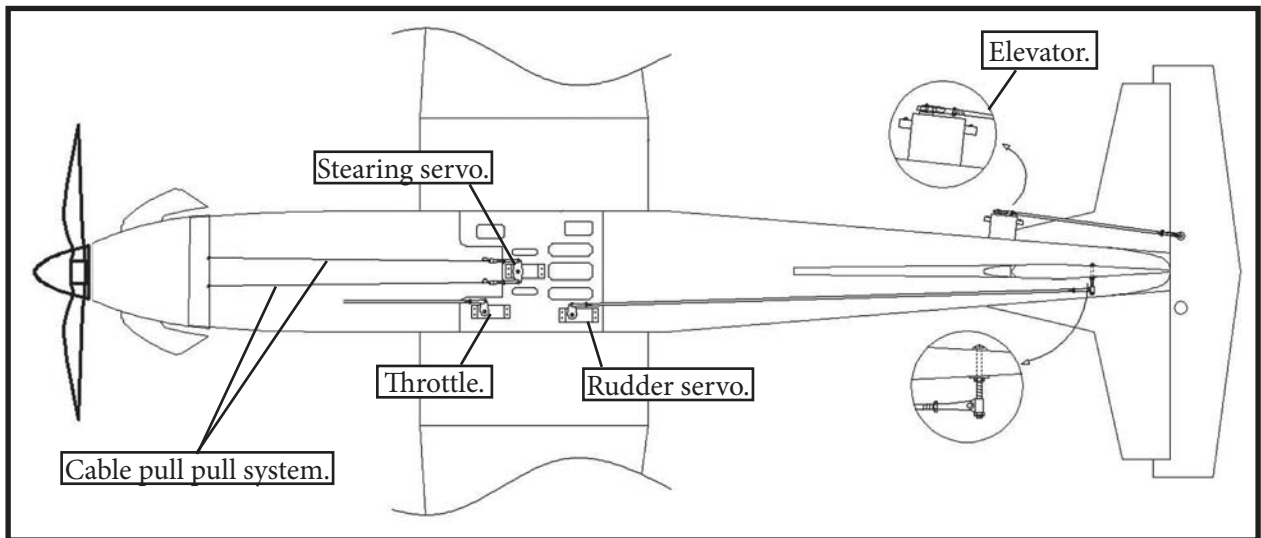


ELEVATOR - RUDDER PUSHROD HORN INSTALLATION.

1) Elevator and rudder pushrod assembly follow pictures below.

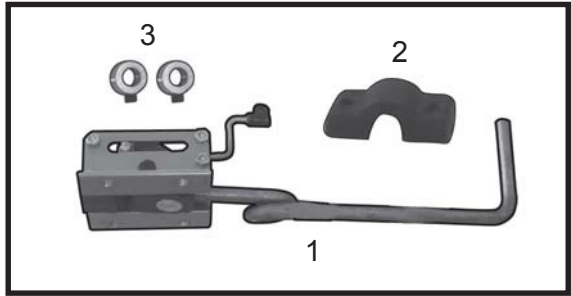
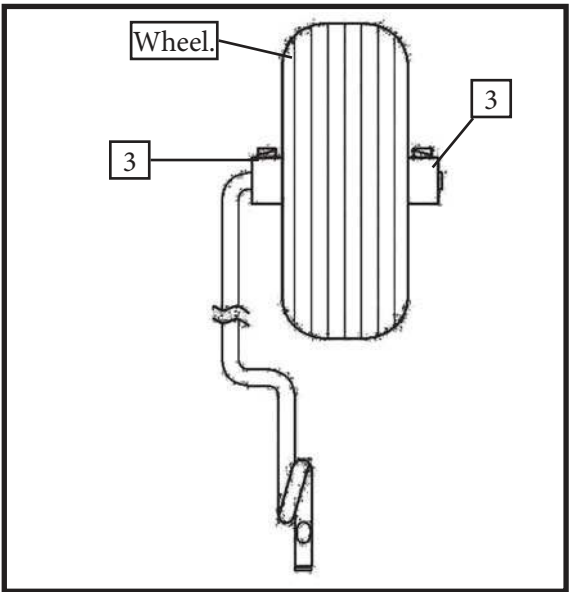
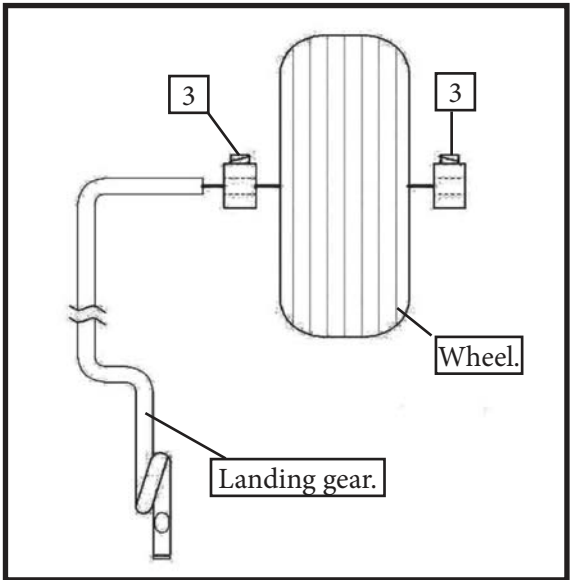
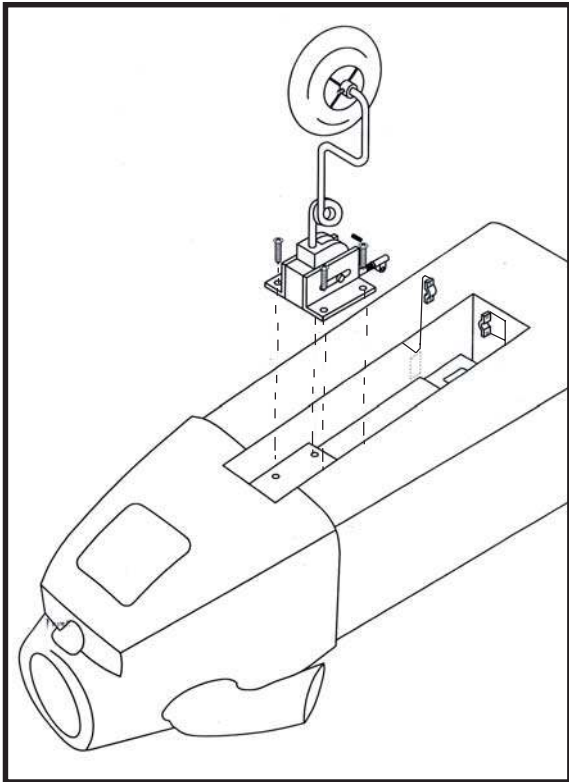
2) Install servos arm to servos. Notice the position of the servo arms on the servos. See picture below.

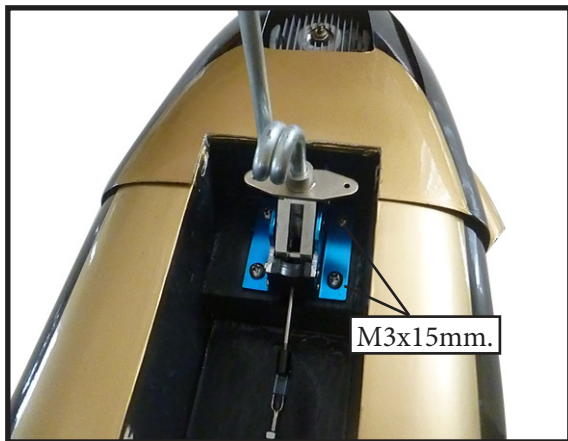
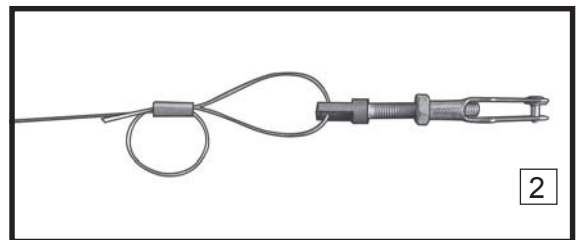
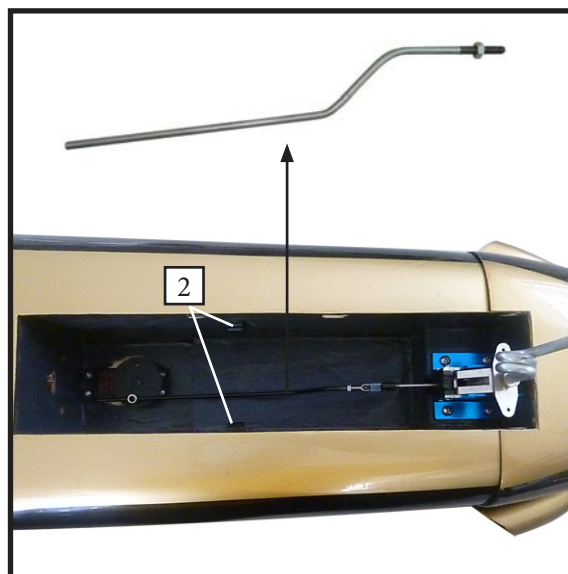
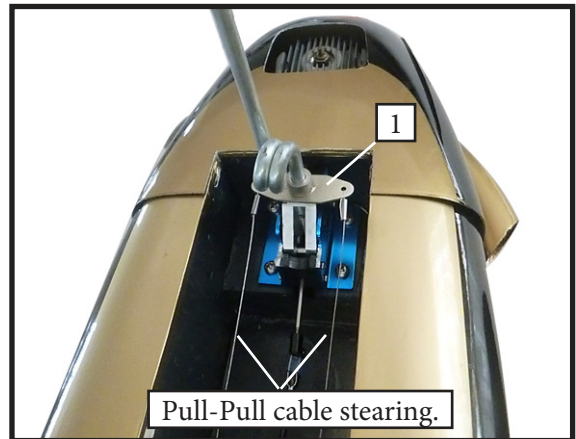
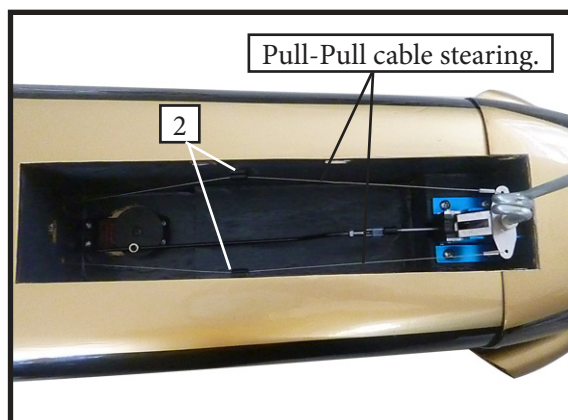
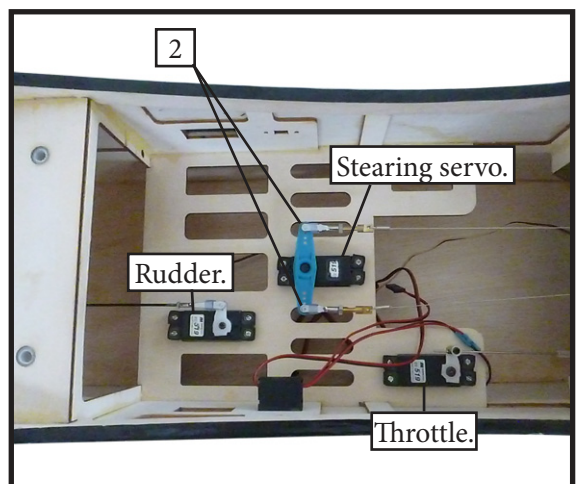




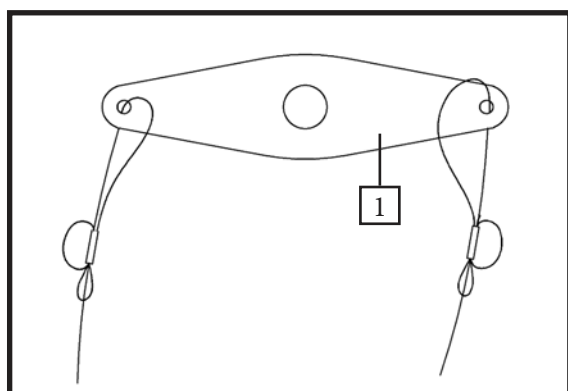
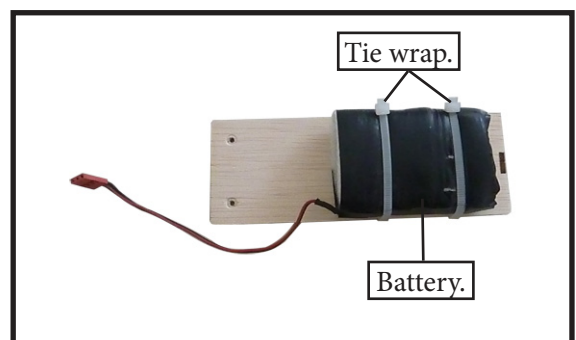
MOUNTING THE NOSE WHEEL.

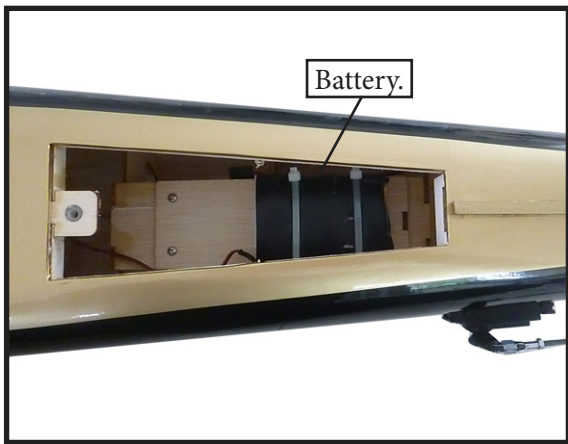
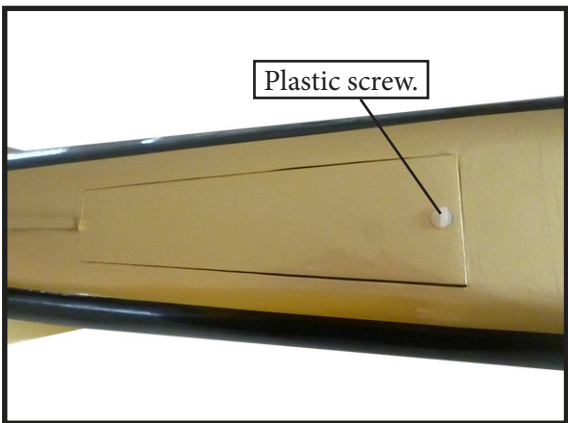
See picture below.



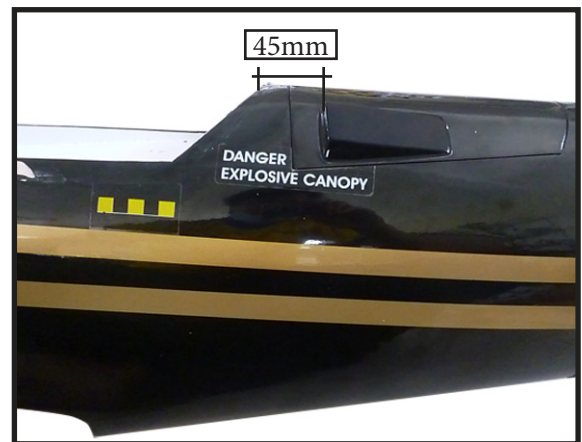


INSTALLING THE BATTERY.



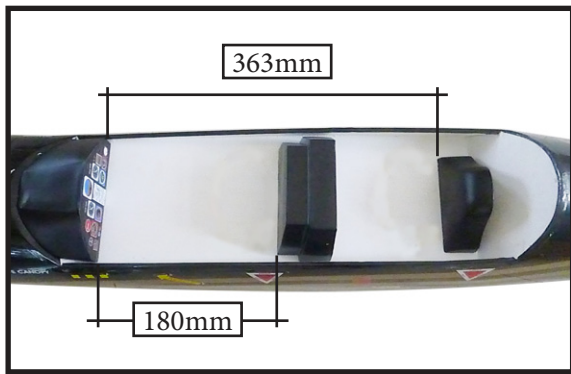
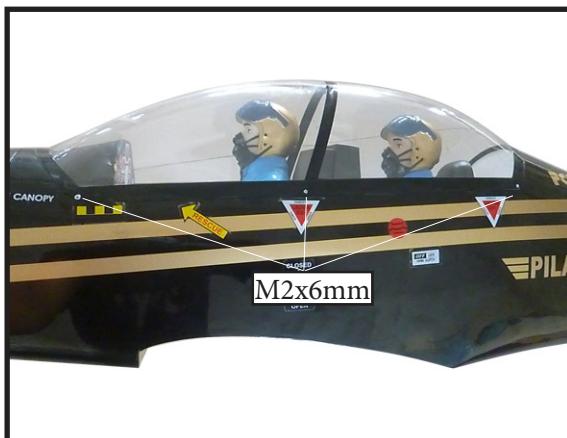


OPTIONAL PARTS INSTALLING.



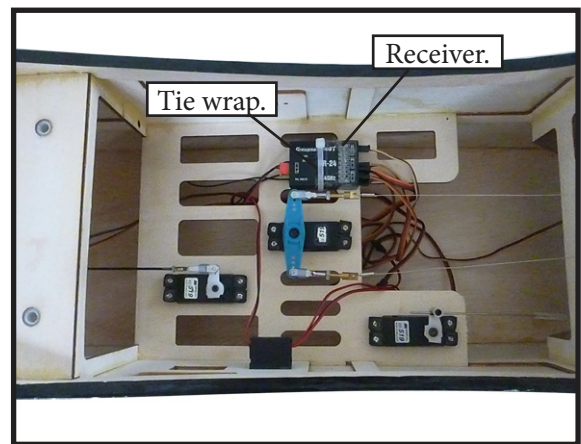
INSTALLATION PILOT.





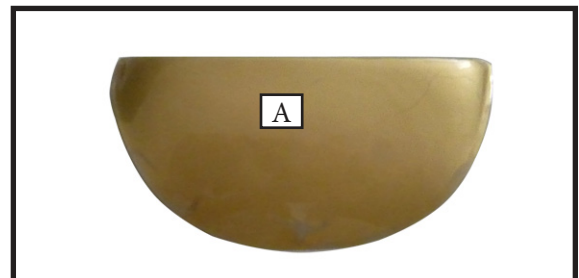
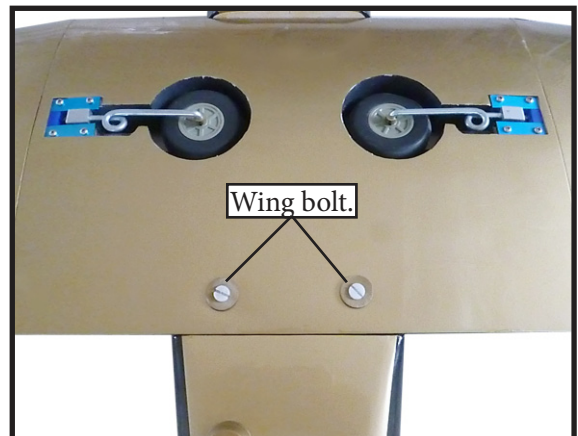
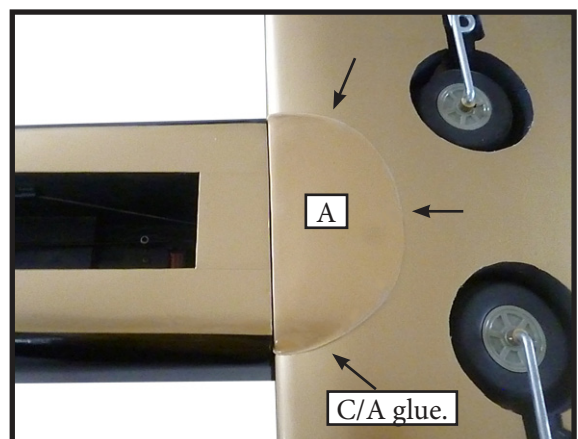
INSTALLING THE RECEIVER.

- 1) Plug the servo leads and the switch lead into the receiver. Plug the battery pack lead into the switch also.
- 2) Wrap the receiver and battery pack in the protective foam rubber to protect them from vibration.



ATTACHMENT WING- FUSELAGE.

Bolt the wing to fuselage.



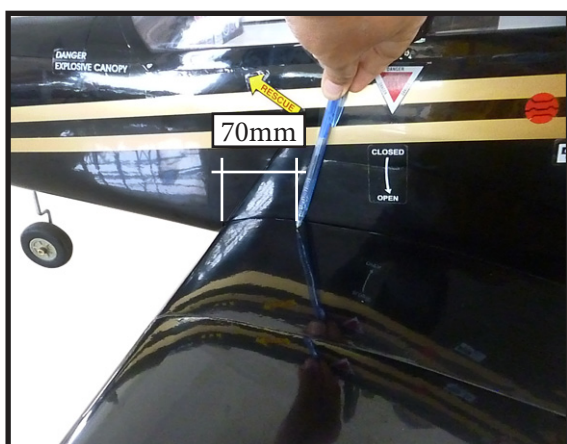
BALANCING.

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 back from the leading edge of the wing, measured at wing ROOT.

The value is **70mm**

2) If the nose of the plane falls, the plane is nose heavy. To correct this first move the battery pack further back in the fuselage. If this is not possible or does not correct it, stick small amounts of lead weight on the fuselage sides under the horizontal stabilizer. If the tail of the plane falls, the plane is tail heavy.

To correct this, move the battery and receiver forward or if this is not possible, stick weight onto the firewall or use a brass heavy hub spinner hub. When balanced correctly, the airplane should sit level or slightly nose down when you lift it up with your fingers.



CONTROL THROWS.

1) We highly recommend setting up the **PILATUS PC 9** using the control throws listed at right. We have listed control throws for both Low Rate (initial test flying/sport flying) (aerobatic flying).

2) Turn on the radio system, and with the trim tabs on the transmitter in neutral, center the control surfaces by making adjustments to the clevises or adjustable servo connectors. The servo arms should be centered also.

3) When the elevator, rudder and aileron control surfaces are centered, use a ruler and check the amount of the control throw in each surface. **The control throws should be measured at the widest point of each surface!**

INITIAL FLYING / SPORT FLYING

Ailerons :	3/16" up	3/16" down
Elevator :	5/16" up	5/16" down
Rudder :	3/4" right	3/4" left

AEROBATIC FLYING

Ailerons :	3/8" up	3/8" down
Elevator :	5/8" up	5/8" down
Rudder :	1-1/4" right	1-1/4" left

Do not use the aerobatic settings for initial test flying or sport flying.

4) By moving the position of the adjustable control horn out from the control surface, you will decrease the amount of throw of that control surface. Moving the adjustable control horn toward the control surface will increase the amount of throw.

MAIDEN FLY.

We will not give you any instructions in this part. This is not the role of a manufacturer and it would be unrealistic and even dangerous to think we can make adjustments prior to first flight just by reading a document. It necessarily requires a minimum of experience and you must get closer to a driver or experienced trainer. This will verify the magnitude and direction of the control and various other settings. Also good battery recharging, fuel quality and other studio and field accessories.

We draw your attention to the danger of handling aircraft with electric motors. Unless it is equipped with sophisticated security, there is a very real risk of starting the engine inadvertently especially when you need to put all the radio equipment energized to start setting the servos. We recommend surrounding the propeller of a large, heavy cloth bath towel for example avoiding such injuries.

Also the recharging of lipos may pose a risk of fire or explosion. This happens when drivers hasty dangerously increase the rate of charge their batteries. The other drawback is to significantly reduce their lifespan.

To start your propulsive you must use specific start table, or any other devices provided in your club or recommended by your tutelage federation.

Never fly alone especially as our lands are often in remote locations where it is difficult to find assistance in the event of an accident.

If you follow these guidelines from the common sense you go in with a lot of fun in the world of model airplanes.

The *Direct Airscale* team wishes you good flights

 *a large Vietnamese experience for flying scale airplanes*