



Thank you for purchasing the Edge 540 ARF from Skyshark R/C. For the first time, R/C enthusiasts have a choice in scale aircraft designs. Good looks and flying characteristics, and a uniqueness that is sure to turn heads wherever you take your airplane!

Covering

When you receive the Edge 540, there will normally be some loose or wrinkled covering. This is due to climate changes that take place during shipping. The parts are covered in low temperature covering so they don't require a lot of heat to remove wrinkles. The best way to tighten the covering is with a heat gun set for low heat. Hold the gun about 6" away from the covering and move it in fast circles around the parts. Be careful, too much heat in one place at one time will damage the covering or the decals.

CAD Design

CAD design allows strength to be built into the airplane without sacrificing weight. Because of this, the Skyshark Edge 540 is one of the lightest and best flying airplanes in this size range.

Plastics and Fiberglass

The cowl is accurately reproduced in fiberglass and painted to match the fuselage. Engines can be mounted inverted to best hide them. For reliability reasons, we chose to side mount the engines in our prototypes. The wheel pants are also made from fiberglass and painted to match. The canopy is accurately reproduced in clear plastic, and is molded in one piece.

Engine Options

Engine choices range from .60 - .90 2-strokes, or .90 to 1.20 4-strokes. This plane is not really suited for a gas engine. We used a Saito 1.00 in our final prototype. With the battery in front of the CG our plane balance perfectly with this combination. The Saito 1.00 also provided unlimited vertical performance.

Cockpit Detail

A fully detailed laser cut and engraved instrument panel is included in the kit. It does require some simple assembly but detailed instructions are provided.

Repairs and Replacement Parts

Repairs can be made easily using readily available plywood, balsa and any low temperature covering. The covering used was Oracover. If you would like to purchase replacement parts, please call our customer service line at 1-800-866-6100. We will be happy to assist you with anything that you need.

General Building Information

The Skyshark Edge 540 was designed to be built and flown by anyone who has previously assembled and flown a trainer plane. This instruction manual is written so that even beginning builders will be able to assembly the plane without difficulty.

Occasionally hints will be included at certain building steps. These are not required for completion, rather they are tips intended to ease a particular process.

All hardware needed to complete the Edge 540 is included in the kit. The pushrods and clevises are 2-56 and are USA made. If you need replacements, any 2-56 clevises or pushrods will work.

We have flown this plane on standard 42 oz-in servos with no problems. If you are doing extreme aerobatics, we recommend the use of high torque servos (55 oz-in or greater)

This aircraft is not a toy. It must be flown in a responsible manner according to the rules set forth by the Academy of Model Aeronautics. The builder assumes the responsibility for the proper assembly and operation of this product. Skyshark R/C shall have no liability whatsoever, implied or expressed, arising out of the intentional or unintentional neglect, misuse, abuse, or abnormal usage of this product. Skyshark R/C shall have no liability whatsoever arising from the improper or wrongful assembly of the product nor shall it have any liability due to the improper or wrongful use of the assembled product. Skyshark R/C shall have no liability for any and all additions, alterations, and modifications of this product.

Having said that mouthful, it's time to start building the best airplane on the market!

Before beginning assembly: Check all components for shipping damage. Be sure to look inside the fuselage and wings at the servo bay locations for any hidden damage. If you notice any damage, notify us immediately for replacement parts.

Items needed to complete your Edge 540:

Thin CA glue
Medium CA glue
5 minute epoxy
30 minute epoxy
Epoxy brushes
Red threadlocking compound
RC-56 canopy glue
Masking tape
Fuel tank 16 - 32 oz.
Fuel Tubing
EZ fueler or fueling dots
Rubber Bands
Misc. tools for building including: Screwdrivers, hex wrenches, pliers, scissors, sandpaper, files, etc.
Battery

(5) Standard (42 oz-in or higher) servos
(2) 12" Servo extensions
Y-harness (optional)

Flying:

None of the prototypes weighed over 6.5 lbs., though the weight range specified allows for more individual variations. We do recommend using dual rates on the ailerons, rudder and elevators. The Skyshark Edge 540 is a very easy plane to handle on the ground and in the air. On low rates it flies similar to a low wing trainer. Nothing special to note on takeoff. Just slowly advance the throttle until the plane lifts off. Once you are airborne, you will need very little or no rudder input to negotiate turns. Landings are very gentle with no tip stalls. For a smooth landing, I usually just cut the engine and allow the plane to glide in. Make sure you cut the engine soon enough because the plane has a very long glide rate. The plane will settle once it starts to lose lift. Try not to land the plane unless it is slowed down properly. Landing at excessive speed will only result in control difficulty once the plane has touched the runway.

Be careful of flutter when doing high speed dives. We recommend that you cut the throttle when going into a dive especially if you are only standard servos. If you hear any flutter (characterized by a buzz sound) immediately slow the plane and land as soon as possible. Check all control surfaces, servo connections etc until you have discovered the cause.

The plane flies great in windy conditions. With proper use of rudder and an experienced pilot, it can be flown easily in wind speeds up to 20 mph.

Note: All control surfaces are pre-hinged, however, the hinges are not glued in place. All hinges should be glued in place using high quality thin CA.



1. Carefully remove the tape holding each aileron on the wing pane. Use rubbing alcohol to remove any tape marks.

2. Remove each hinge from the wing panel/aileron and place a t-pin in the center of each hinge. Slide the hinge into the aileron until the t-pin is seated against the aileron. This will help center the hinge in the slot before it is glued.



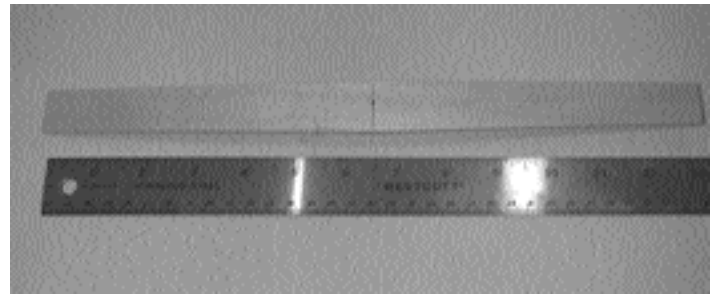
3. Slide the aileron hinges into the slots on the wing trailing edge until it is tight. Insure the end of the aileron is flush with the wingtip and there is less than a 1/32" gap between the ailerons and wing on the hinge line. Remove the t-pins from the hinges.



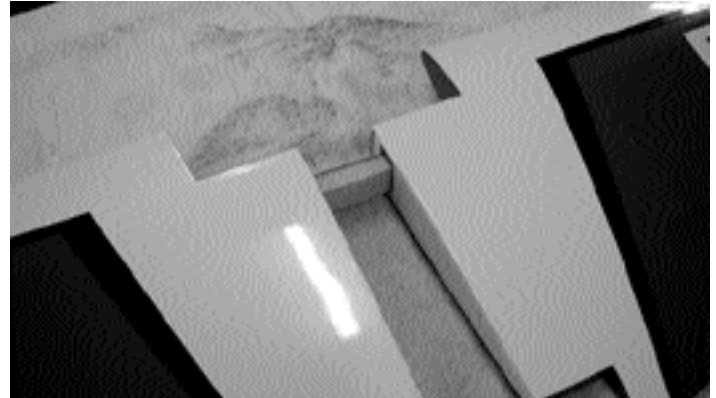
4. Deflect the aileron all the way down and saturate the hinges with thin CA. Make sure that you maintain a gap of 1/32" or less on the hinge line.

5. Turn the wing over, deflect the aileron the opposite direction and saturate the bottom side of the hinges with thin CA. Be careful not to add too much CA or it will run down the wing panel.

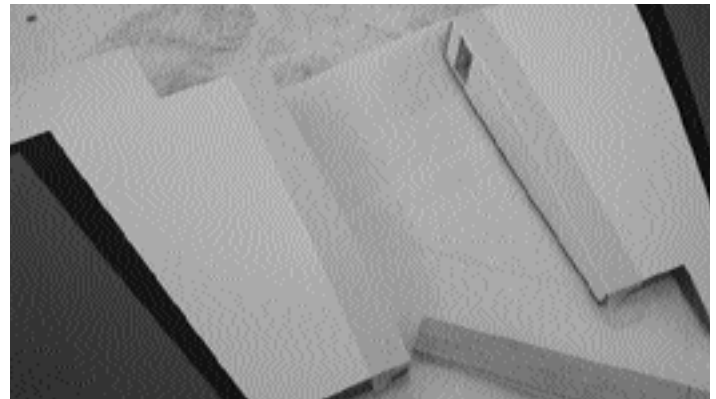
6. Repeat for the remaining wing panel.



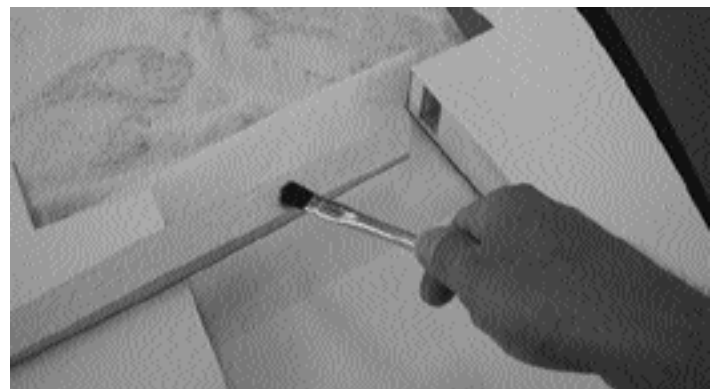
7. Locate the plywood wing joiner and mark a line down the center of the joiner.



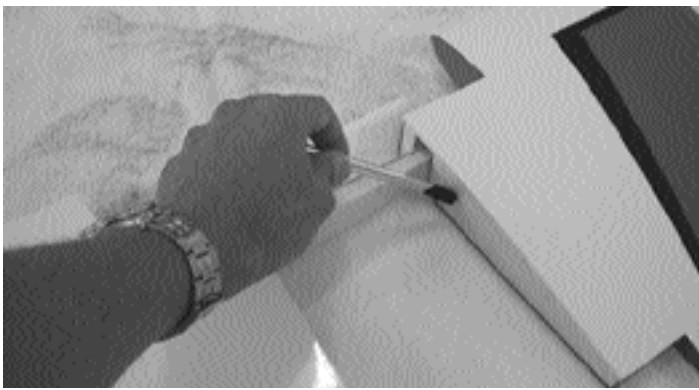
8. Trial fit the wing joiner into both halves of the wing. Place the wing on a flat surface and raise one wingtip 7/8" above the surface. This will give you the proper wing dihedral. At this point, the wing halves should fit tightly together. If the joiner is too tight, it may be necessary to sand it in order to obtain a somewhat loose fit. This will allow room for the epoxy when the wing is glued.



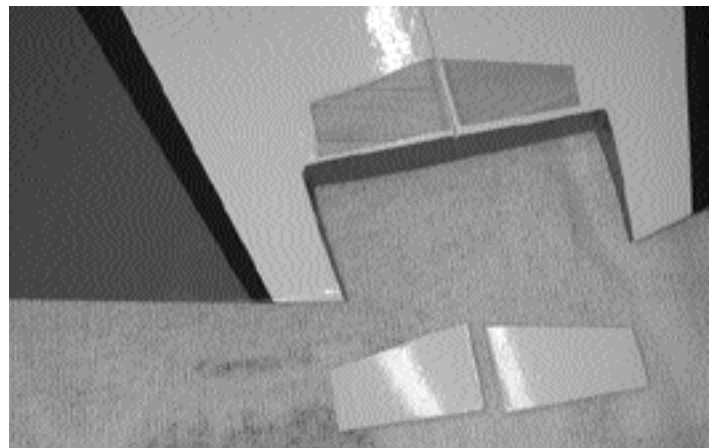
9. Apply low tack masking tape to the center top and bottom of the wing. This will insure that no epoxy gets on the wing once it is glued together.



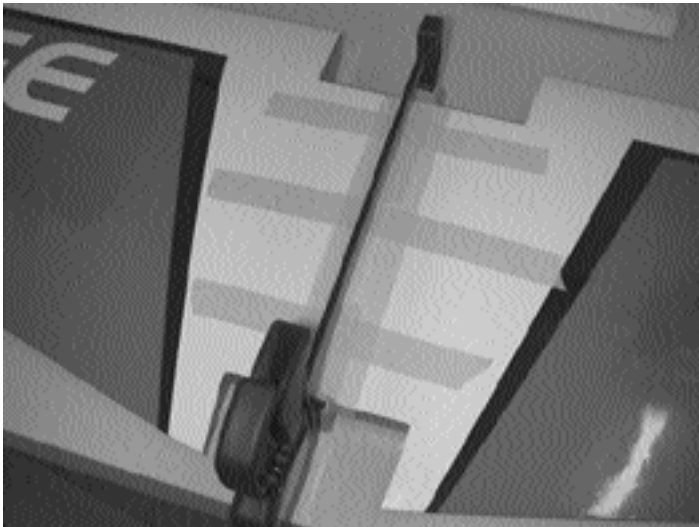
10. Apply 30 min epoxy onto one half of the wing joiner and into the joiner cavity in one wing half. Insert the joiner into the cavity and insure the area is filled with epoxy.



11. Apply 30 min epoxy to both wing root ribs, the other side of the wing joiner and remaining joiner cavity.

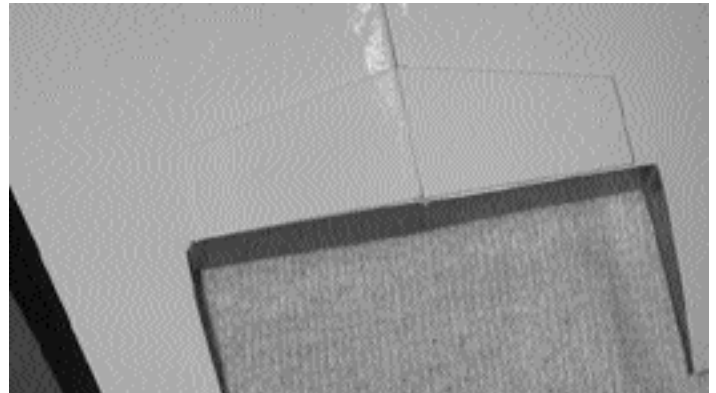


15. Using a hobby knife, remove the covering about 1/8" on the inboard side of the line you marked in the previous step. Be careful not to cut the sheeting.

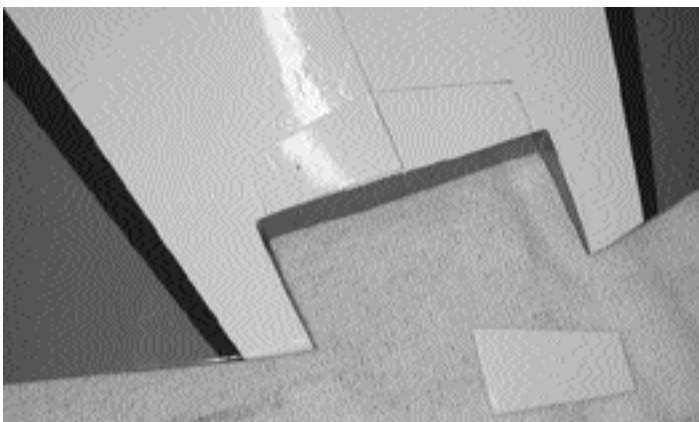


12. Slide the two wing halves together and use masking tape or clamps to hold them firmly together. Make sure that the leading and trailing edges are aligned. Wipe off any excess epoxy using denatured alcohol. Allow the epoxy to dry completely.

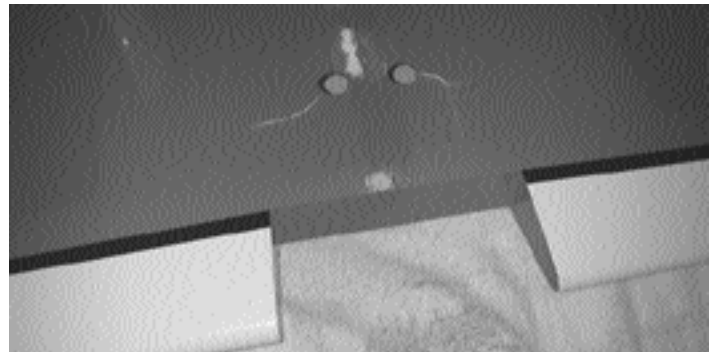
13. Once the epoxy has cured, remove the masking tape and/or clamps.



16. Use 5 min epoxy to glue the wing hold down plates into place.

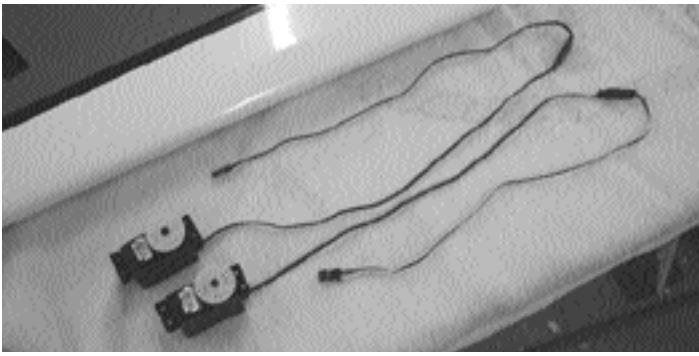


14. Position the plywood wing holddown plate on the trailing edge of the top of the wing as shown and mark a line around the plates.

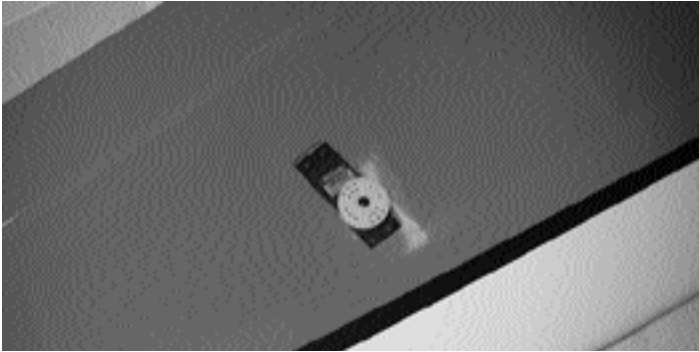


17. Locate the strips of red and white covering. Remove the backing on the white strip and align it to the center of the top of the wing. Set your covering iron at 200 degrees and iron the covering strip in place. This will cover the wing joint line.

18. Turn the wing over and repeat for the red covering strip.

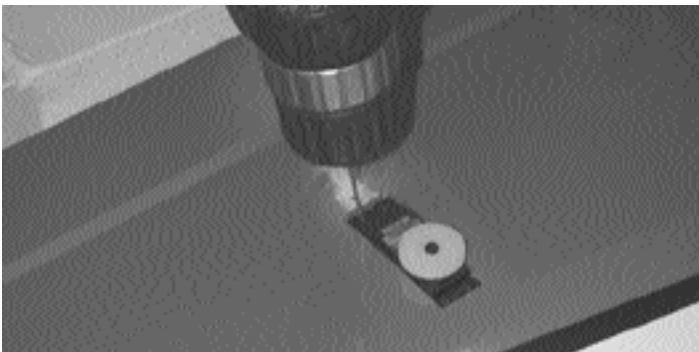


19. Locate 2 servos and connect a 12" extension to each one. You can use electrical tape to secure the connection.



20. Locate the rectangular servo opening in one half of the bottom of the wing and use a hobby knife to carefully remove the covering from the hole.

21. Install the servo hardware to the servo and trial fit the servo in the hole. Some trimming of the servo hole may be required for a good fit.

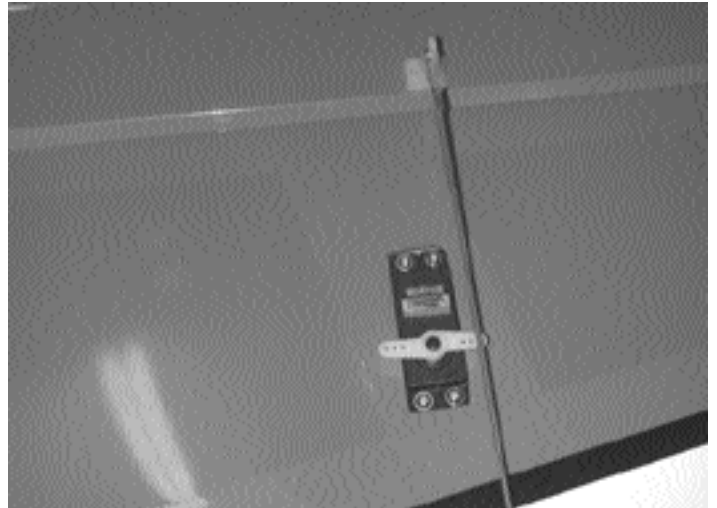


22. Locate the string inside the servo hole and tie it to the servo lead. Pull the other end of the string located at the wing center until the servo lead is run through the wing and out the hole in the center.

23. With the servo in place, drill four 1/16" holes in the servo tray and mount the servo per the manufacturers instructions. The servo arm should be closest to the wing leading edge as show in photo.

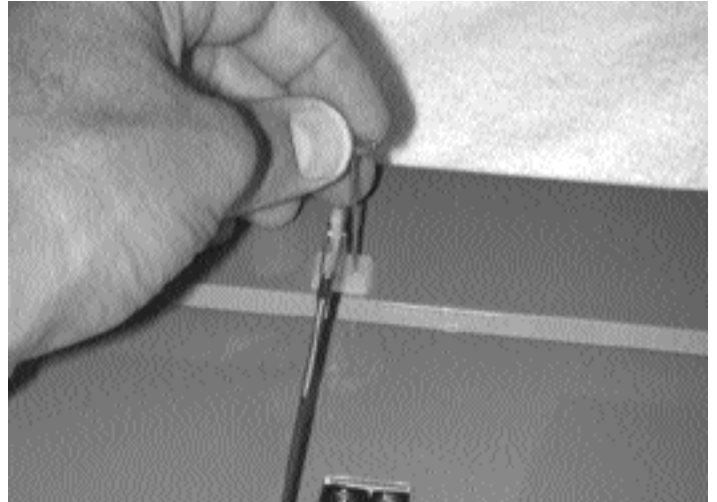
24. Repeat for the other wing servo.

Before connecting servos and linkages, it's a good idea to make sure the servos are properly centered.

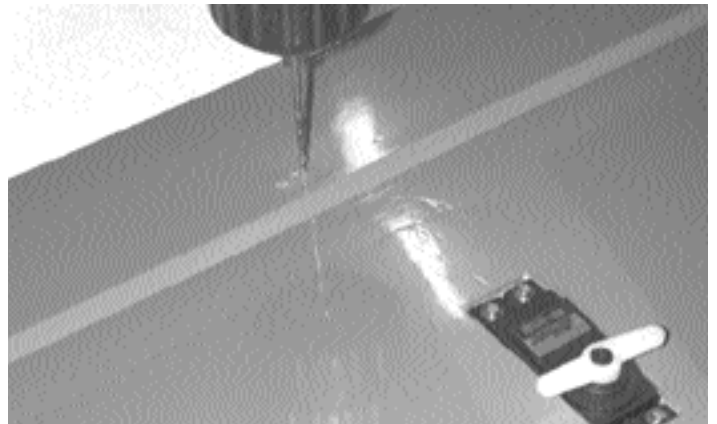


25. Locate a 2-56 pushrod and cut it in half. Connect a clevis and control horn on one end of one pushrod. The other half will be used for the other servo.

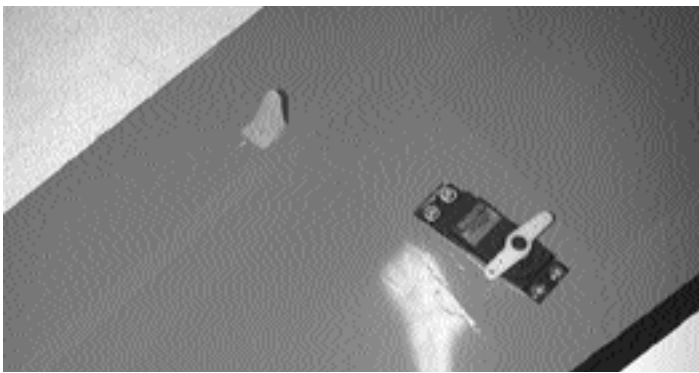
26. Align the control horn/pushrod assembly with the servo arm. The pushrod will sit on the outboard side of the servo (closer to the wingtip)



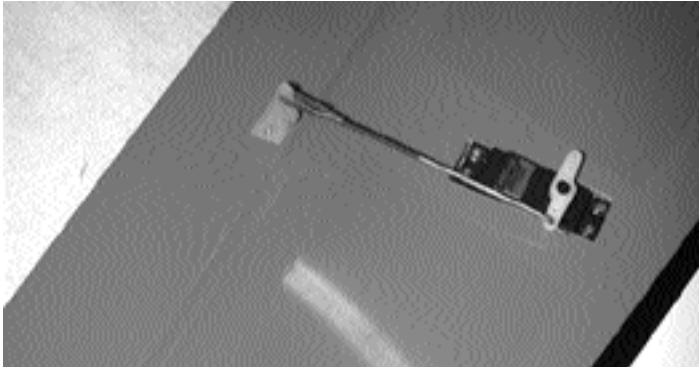
27. Use a pin to mark the location of the servo horn on the aileron. The control horn should sit approx. 1/16" back from the beveled edge of the aileron. There are hard points installed in the aileron for the control horns.



28. Drill a 5/64" hole on each mark made in the previous step. Insure that the drill is straight when drilling otherwise the control horn back-plate will not fit properly.



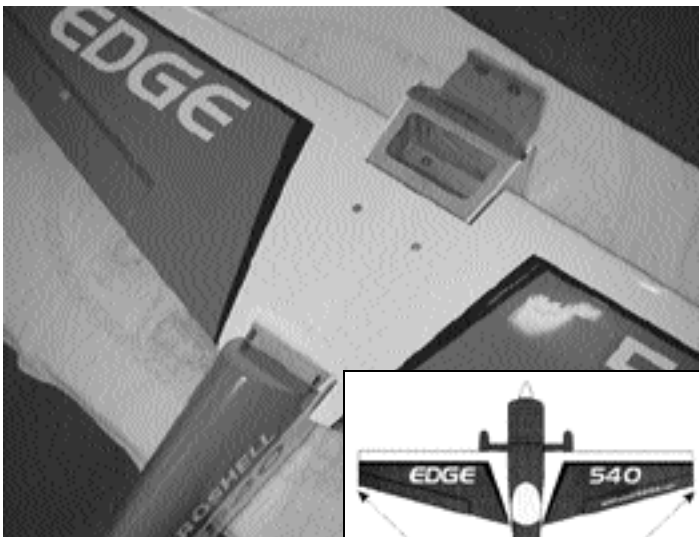
29. Install the control horn with the include screws and plastic back-plate. Tighten until the control horn is snug on the aileron without crushing the wood.



30. Connect the pushrod/clevis assembly to the control horn with the aileron centered. Mark the location where it will attach to the servo arm and make a Z bend on that mark. Cut off any excess pushrod. Attach the pushrod to the servo arm.

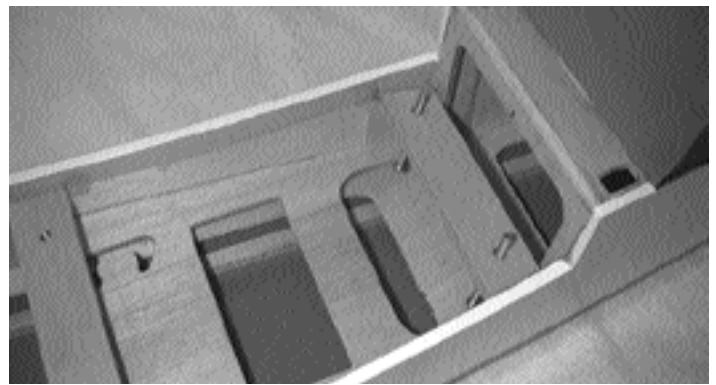
31. Attach the retaining clip to the clevis.

32. Repeat the process for the other wing half.



33. Locate and remove the covering from the front wing bolt mounting holes and trial fit the wing on the fuselage.

34. Center the wing on the fuselage by measuring from a point on the aft fuselage to the wingtips. Once the wing is centered, mark the location on the fuselage and the wing.



34. Remove the wing from the fuselage. Thread two wing mounting bolts into the blind nuts in the wing rear mounting plate from the bottom. The wing bolts should stick up past the wing saddle about 1/8" as shown in photo.



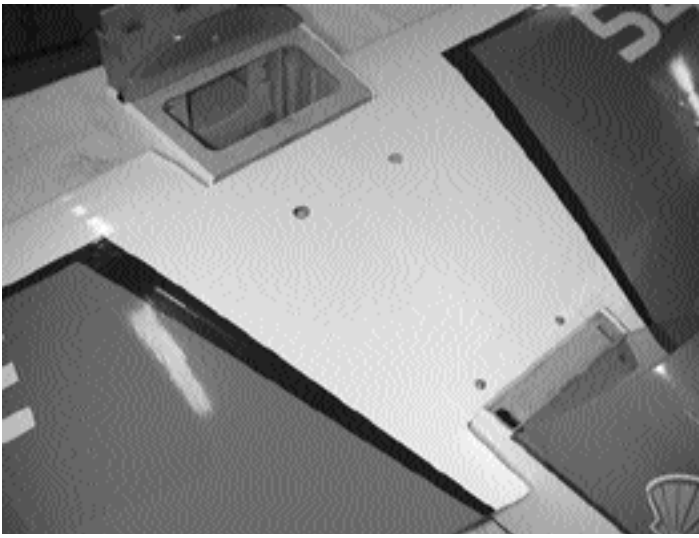
35. Fit the wing on the fuselage and align it with the marks made previously. Insert two bolts into the front wing holes and thread them into the front blind nut until the front of the wing seats in place. Push on the back of the wing hard enough so the rear bolts make a mark in the bottom of the wing. Be careful not to damage the wing.



36. Remove the wing from the fuselage and remove the rear wing bolts from the rear fuselage blind nuts.

37. Locate the holes in the wing hold down plate on the top of the wing and remove the covering. Note the drilling angle required from this hole to the marks that were made with the wing bolts in the bottom of the wing.

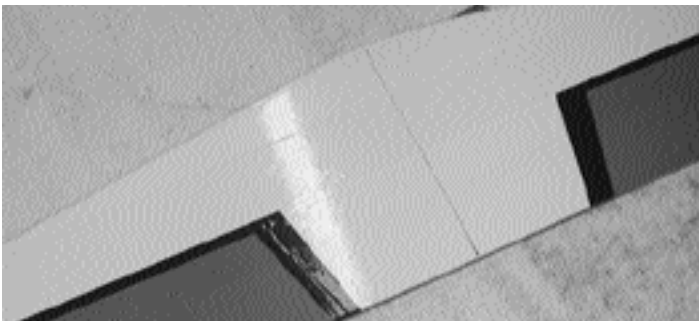
38. Drill a 3/16" hole from the wing bottom through the holes in the wing hold down plates. The holes should be slightly angled.



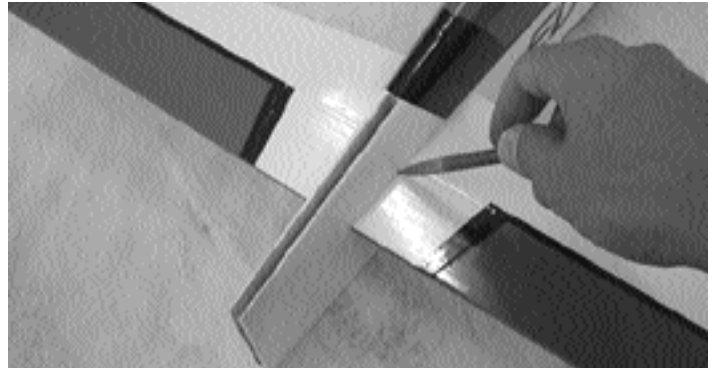
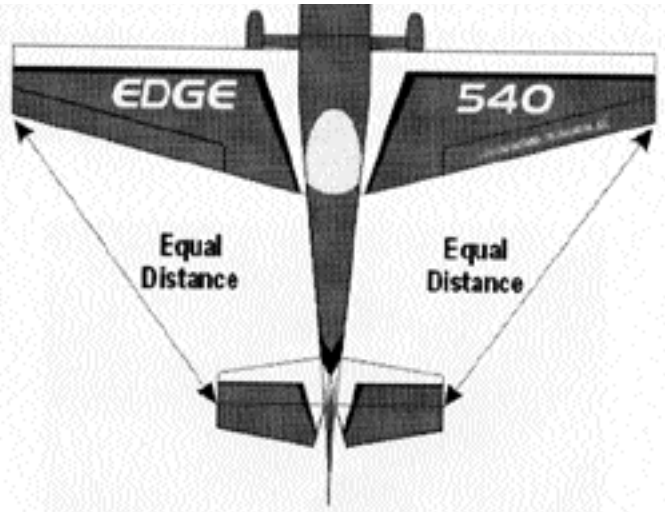
39. Bolt the wing to the fuselage and double check for proper alignment.



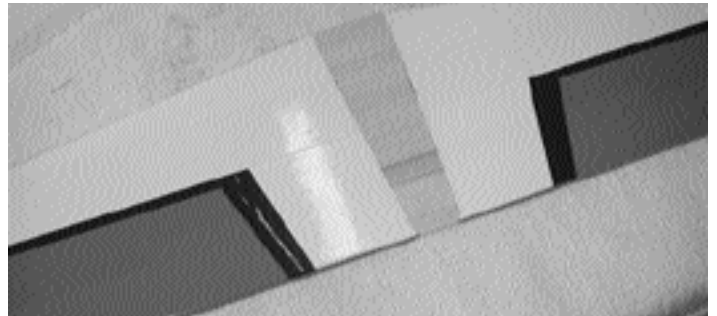
40. Locate and remove the covering from the horizontal and vertical stabilizer slots in the rear of the fuselage.



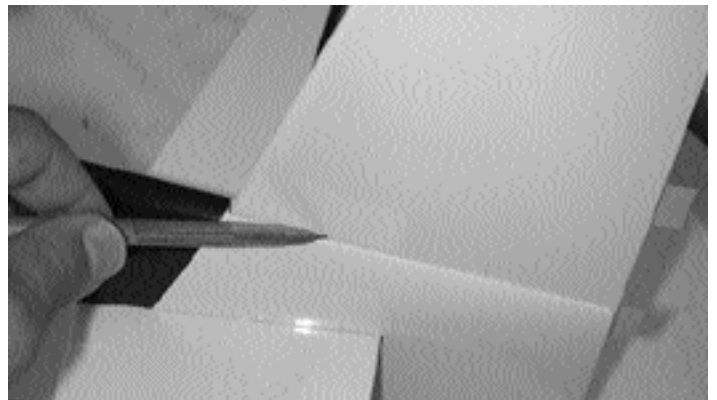
41. Measure and mark a centerline on the horizontal stabilizer.



43. Once the horizontal stab is aligned mark a line on each side of the stab where it meets the fuselage on both top and bottom.

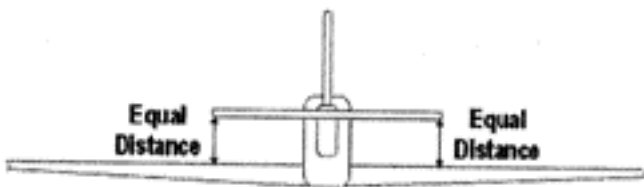


44. Using a hobby knife, carefully cut the covering about 1/8" inside the lines drawn in the previous step. Be careful not to cut into the wood. Remove the covering in this area.

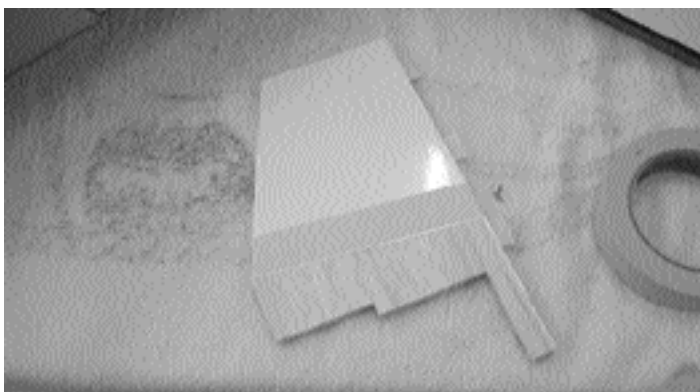


45. Insert the horizontal stab back into the slot and align with the wing/fuselage.

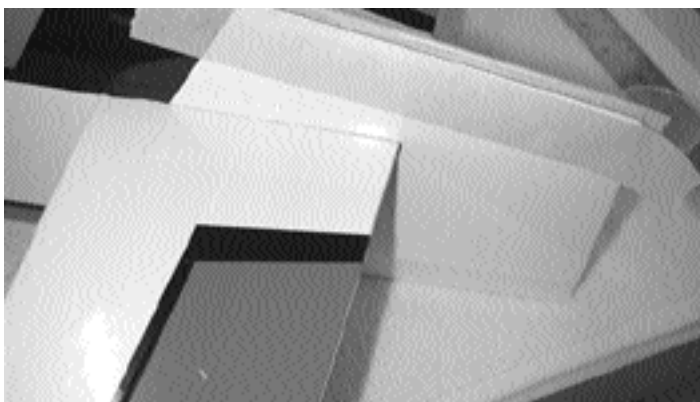
46. Insert the vertical stab into place and mark a line at the location where the vertical stab meets the fuselage on both sides.



42. Slide the horizontal stab in place and align it with the wing/fuselage as shown.



47. Using a hobby knife carefully cut and remove the covering about 1/8" below the line that was drawn in the previous step. Be careful not to cut into the wood on the stab. Leave the covering on the trailing edge of the vertical stab in place.

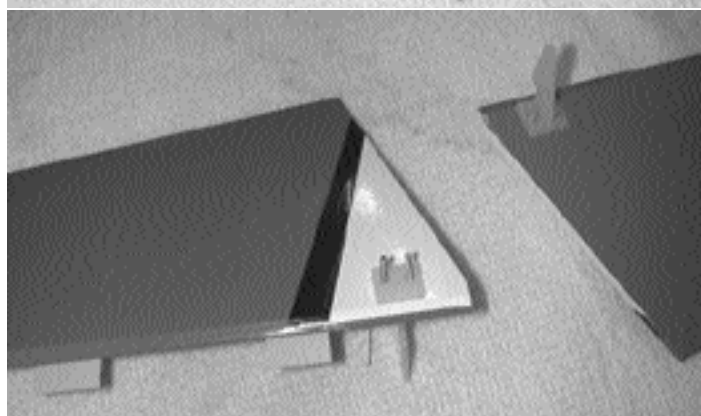
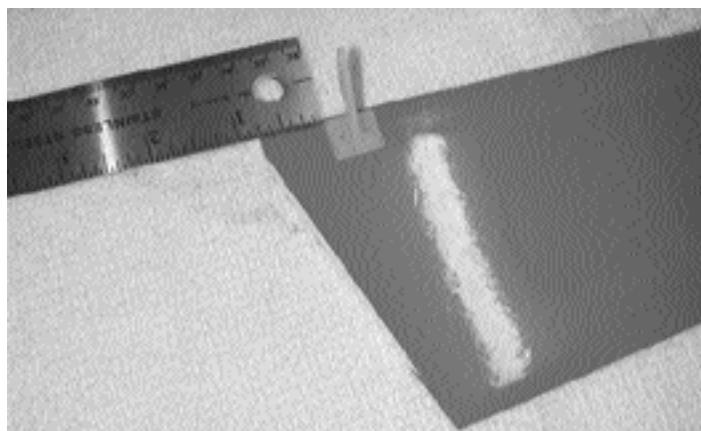


48. Apply masking tape to the fuselage along side the vertical and horizontal stabilizer holes. This will protect the area from excess epoxy.



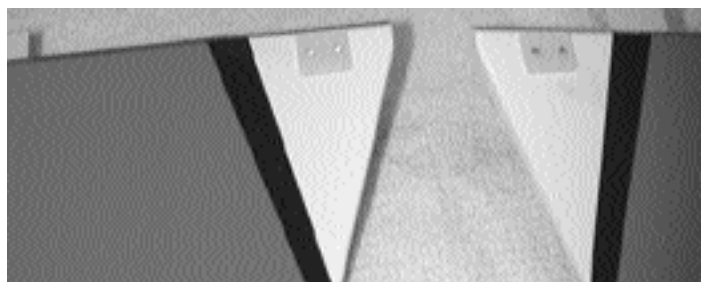
49. Apply 30 min epoxy to both sides of the horizontal stabilizer where the covering was removed and slide into place on the fuselage. Make sure that it is centered and even with the wing. Tape in place.

50. Apply 30 min epoxy to both side of the vertical stablizer and slide into place on the fuselage. Note: the trailing edge of the vertical stab should be flush with the trailing edge of the fuselage. Secure in place and allow to dry. You can remove any excess epoxy with denatured alcohol. You can also remove the masking tape just as the epoxy is starting to cure. This will make for easier removal.

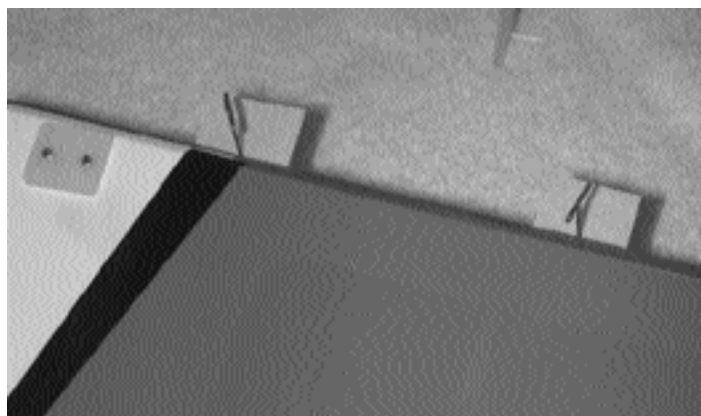


51. Measure 3/4" over from the inboard side of the elevator and set the control horn in place. Mark, drill and mount the control horn as you did for the ailerons. Like the aileron control horns, they should also be 1/16" from the bevel on the leading edge.

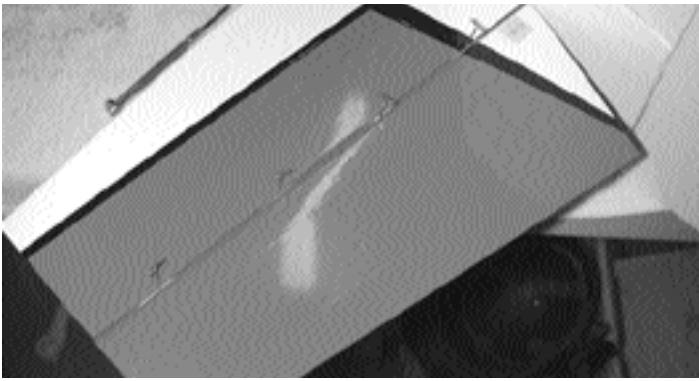
52. Repeat for the other elevator half.



53. Use a dremel or file to cut the control horn bolts flush with the backplate. Insure that you do get the bolts too hot or you will melt the control horn.

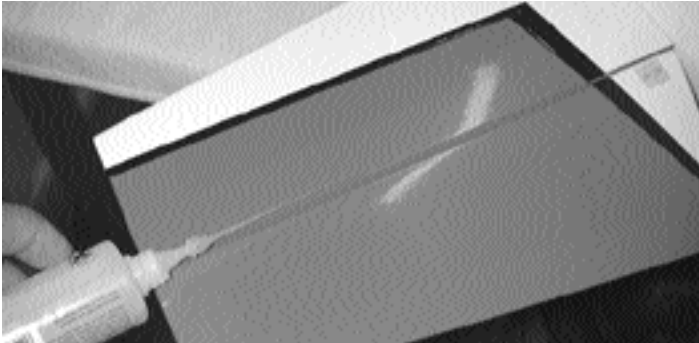


54. Insert t-pins in the center of the elevator hinges and insert the hinges into the elevator half until the t-pin are seated against the elevator.



55. Align the elevator half with the horizontal stab and insert the hinges into place.

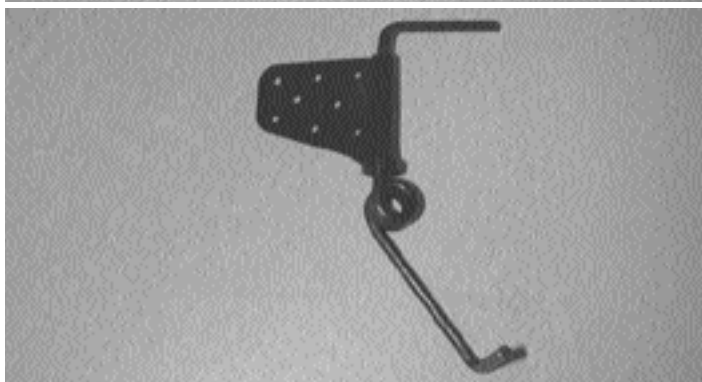
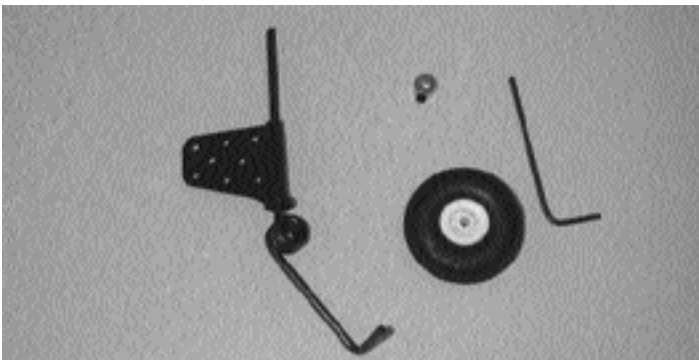
56. Remove the t-pins from the hinges and push the elevator tightly until there is 1/32" or less gap in the hinge line.



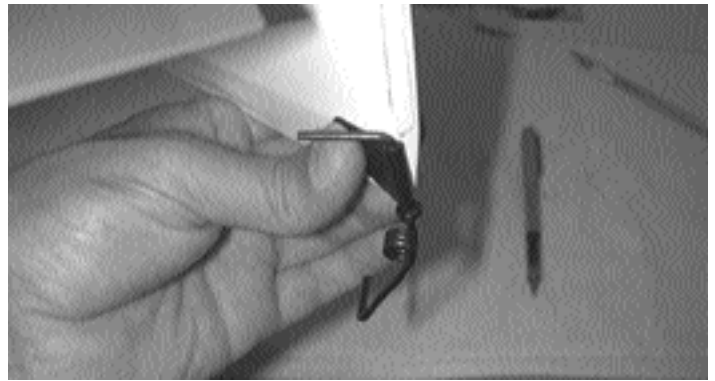
57. Deflect the elevator down at about 45 degrees while insuring the gap in the hinge line is less than 1/32". Apply thin CA to the hinges.

58. Turn the plane over and deflect the elevator the opposite way. Apply thin CA to the bottom of the hinges being careful not to oversaturate the hinge.

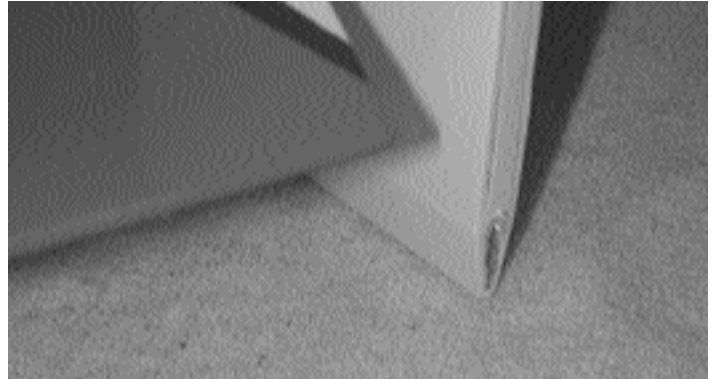
59. Repeat for the remaining elevator.



60. Locate the tailwheel assembly. Place the plastic retaining piece over the tailwheel wire and make a 90 degree bend in the wire as shown.



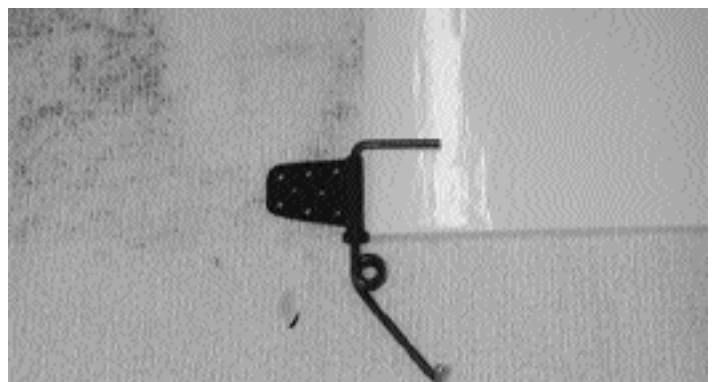
61. Hold the tailwheel assembly up to the aft fuselage and mark the location of the plastic slot. The round "lip" should sit below the fuselage.



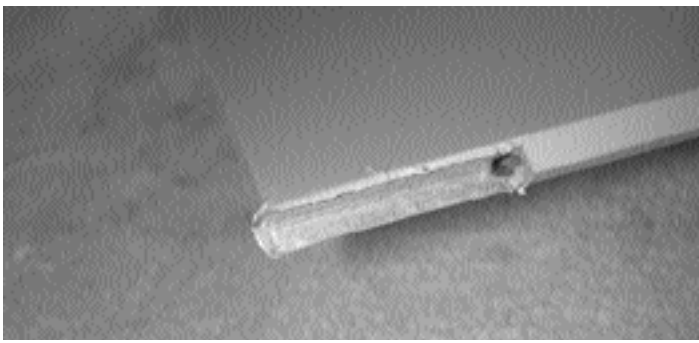
62. Cut a slot at the location previously marked. The slot should be large enough to accommodate the plastic tailwheel retainer. Make sure the slot is centered on the fin post.



63. Test fit the tailwheel assembly in the slot.

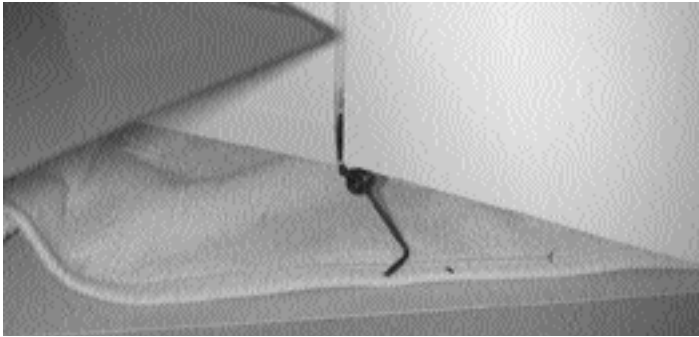


64. Align the tailwheel assembly with the rudder so the plastic "lip" sits below the rudder. Mark the location of the 90 degree bend on the leading edge of the rudder.

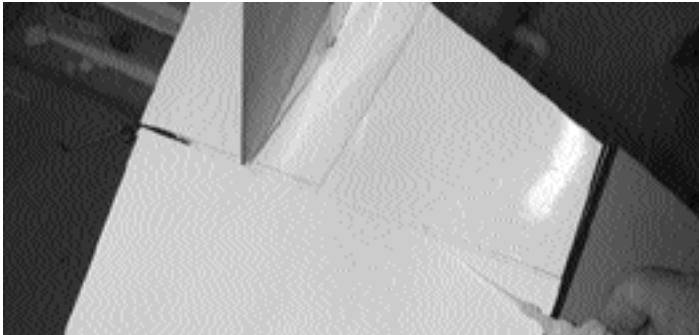


65. Drill a 7/64" hole in the leading edge of the rudder at the location marked in the previous step.

66. File a groove in the leading edge of the rudder, large enough to accommodate the plastic sleeve on the tailwheel. See photo.



67. Slide the tailwheel assembly in place on the fuselage and test fit the rudder. The rudder should be able to move freely. Adjust the tailwheel hole/groove as necessary for a good fit.



68. Once a good fit is achieved, insert t-pins in the center of the rudder hinges. Insert the hinges into the rudder until the t-pins are firmly against the rudder.

69. Apply 30 min epoxy to tailwheel wire where it inserts into the rudder. Insert the tailwheel assembly into the rudder.

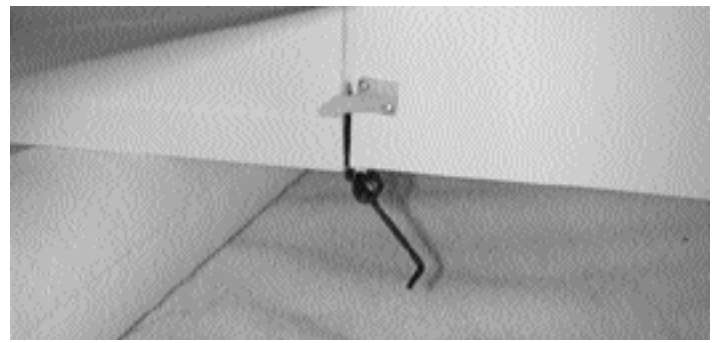
70. Apply 30 min epoxy to the plastic fin on the tailwheel and attach the rudder to the vertical stab. Remove the t-pins and make sure the plastic tailwheel fin is inserted firmly into the slot on the fuselage. There should be 1/32" or less gap in the hinge line.

Note: Be sure not to get epoxy in the sleeve of the tailwheel wire/plastic fin. The tailwheel needs to swivel at this point. You can add a few drops of oil at this location to help keep glue out of the hinge.

71. Deflect the rudder until it hits one side of the elevator and apply thin CA to the hinges. Be sure to maintain a 1/32" or less gap in the hinge line.

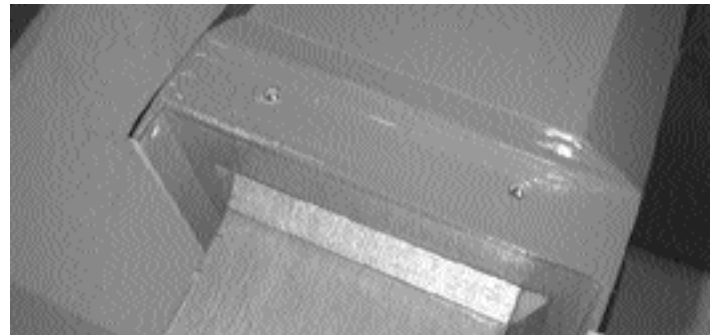
72. Deflect the rudder the opposite direction and apply thin CA to the other side of the hinges.

73. Allow the epoxy to dry.

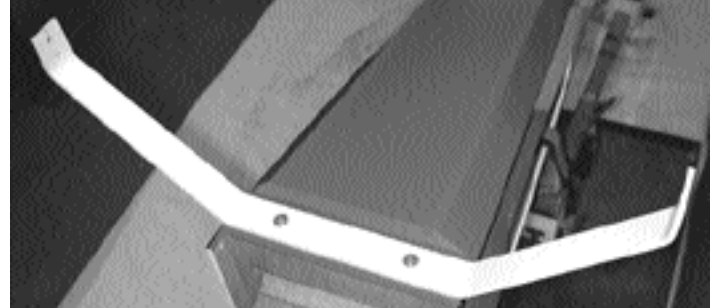


74. Measure 1-1/4" from the bottom of the rudder at the hinge line. Mark this location, it will serve as the center point for the rudder control arm.

75. Mount the rudder control arm using the same method as the elevator and ailerons.

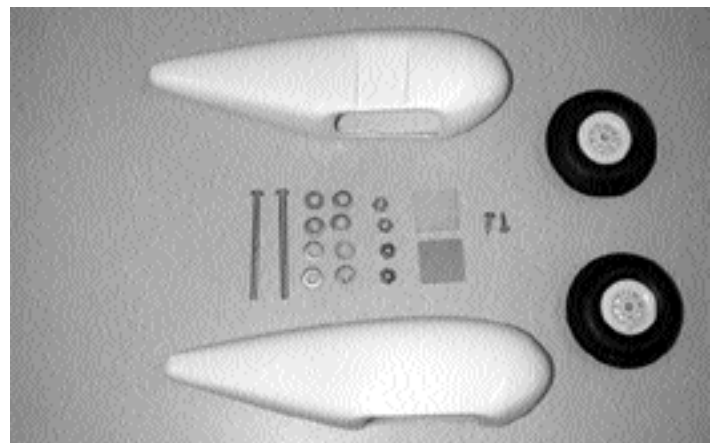


76. Locate the two landing gear mounting holes on the bottom of the fuselage and remove the covering from the holes.

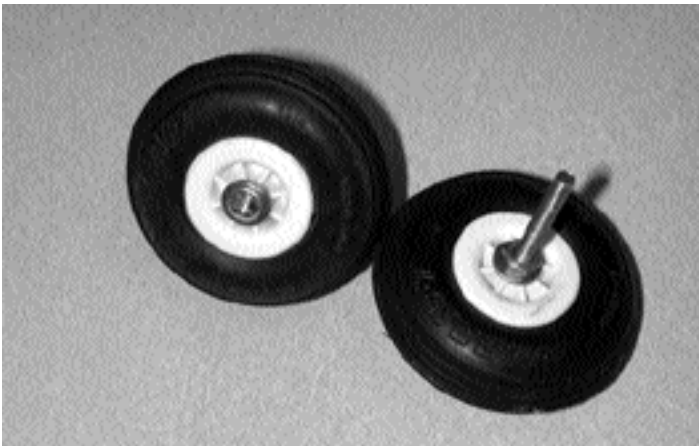


77. Trial fit the aluminum main landing gear over the holes in the fuselage.

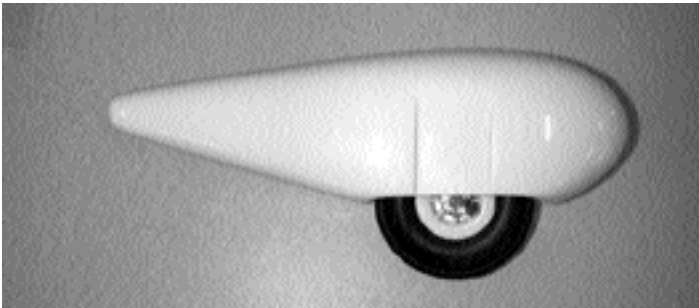
78. Using two 1-1/4" bolts and washers, mount the main landing gear to the fuselage. You can apply thread lock to the bolts to help secure them.



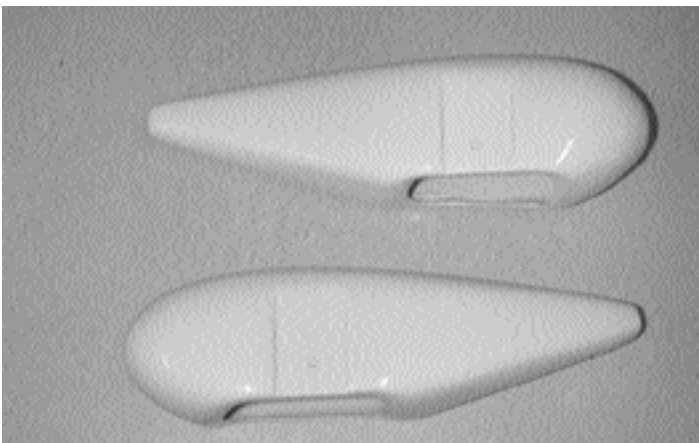
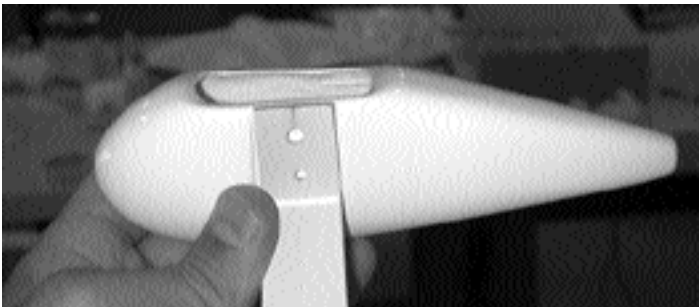
79. Locate the wheel mounting hardware, wheels and fiberglass wheel pants.



80. Install a washer on the threaded bolt and insert the bolt in a wheel. Install another washer and nut onto the bolt as shown.



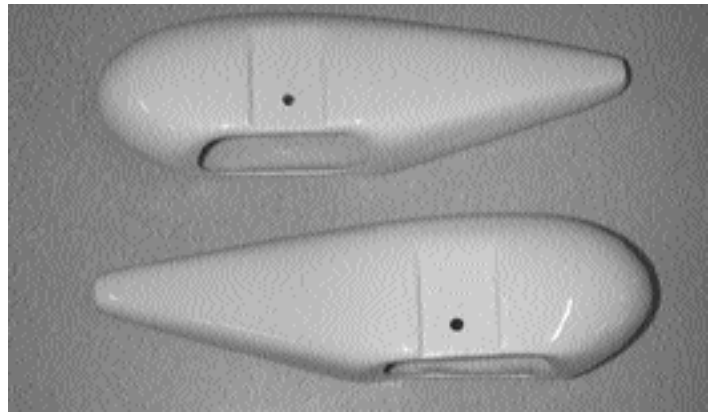
81. Trial fit the wheel assembly into the wheel pant. Cut the opening as required for proper wheel clearance.



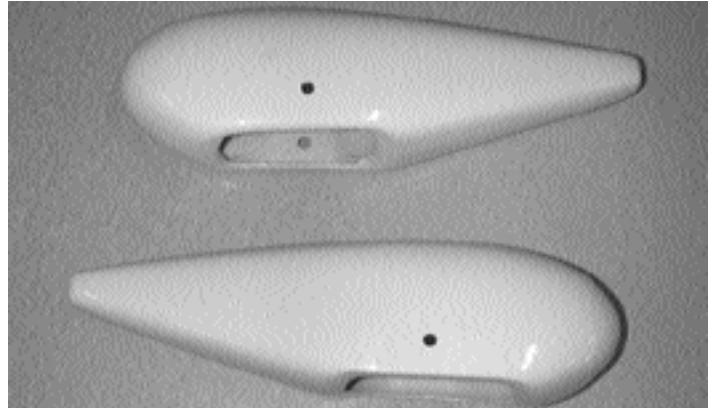
82. Align the wheel pant so the landing gear sits in the groove in the wheel pant. Make sure the bottom edge of the landing gear is flush with the bottom edge of the wheel pant.

83. Mark the location of the large (bottom) hole on the wheel pant.

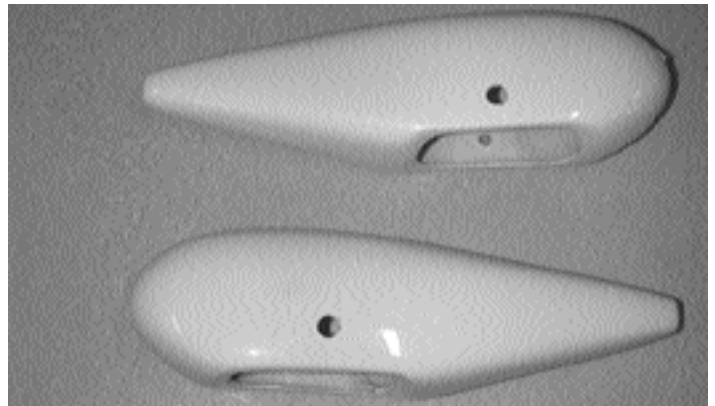
84. Repeat the above steps for the other wheel pant and insure the holes are in the same location .



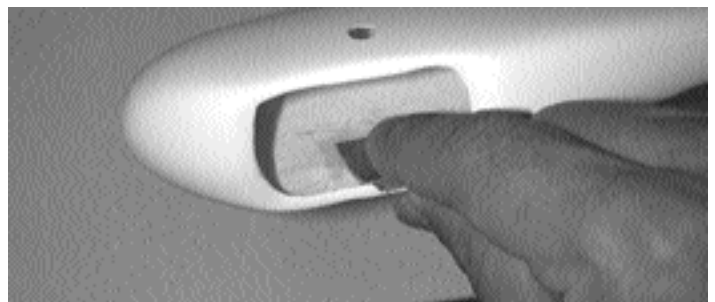
85. Drill a 5/32" hole in each of the wheel pants at the marked location.



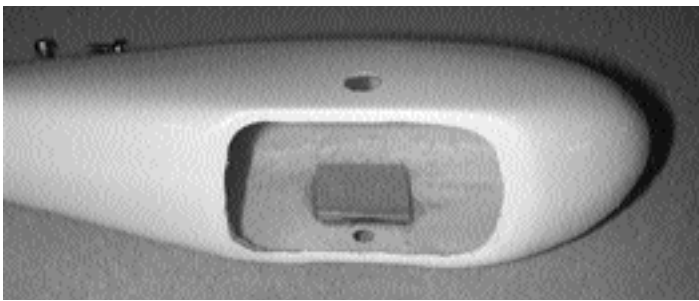
86. Drill a 5/32" hole on the other side of the wheel pant directly across from the first hole.



87. Enlarge the hole you just drilled to 9/32". This will allow you to fit and adjust the wheel bolt/axle and also adds to the scale appearance. A Dremel tool and sanding bit works well for enlarging holes in fiberglass parts.



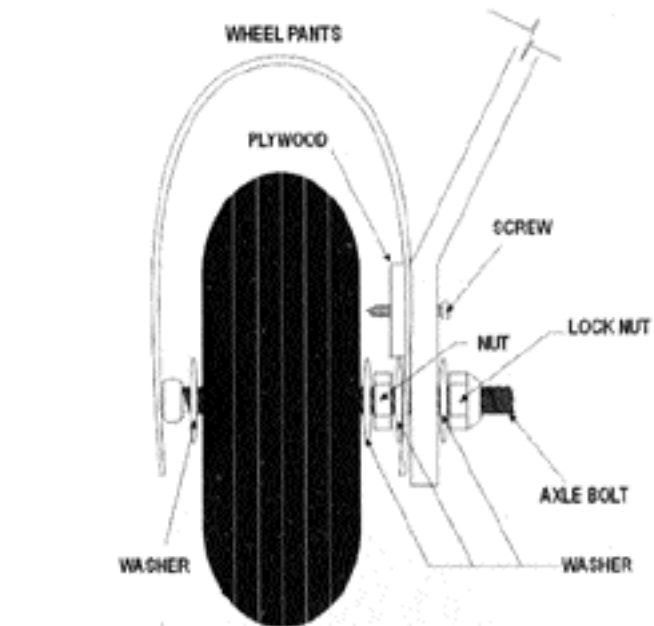
88. Use a small piece of 120 grit sandpaper to lightly sand the inside of the wheel pant where the groove is located. Your goal is to remove any paint that is on the inside of the wheel pant.



89. Locate the square ply piece and use 5 min epoxy to glue it to the inside of the wheel pant about 1/4" above the hole on the grooved side of the wheel pant. This piece will be the reinforcing plate for the wood screw that fits into the upper hole in the landing gear. Make sure the plate is in alignment with that hole.



90. Fit the wheel assembly into the wheel pant. You may need to loosen or remove the nut on the axle in order for it to fit in the wheel pant.

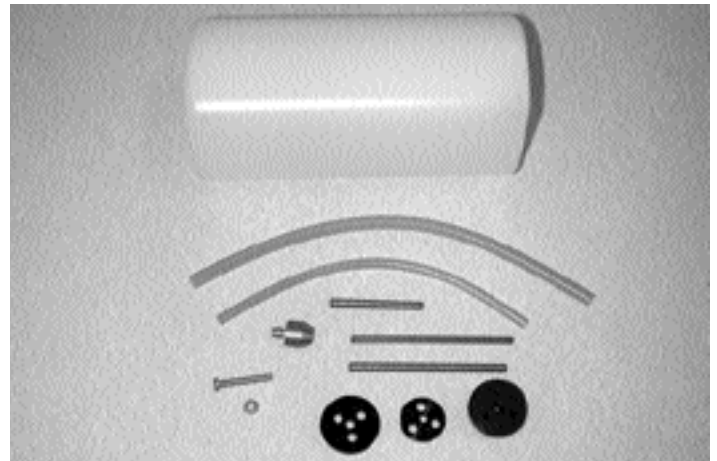


91. Install the wheel and attach the wheel pant/axle assembly to the landing gear as shown in the diagram.



92. Drill a 1/16" hole into the wheel pant so it is centered on the top hole of the landing gear. Be careful not to drill into the wheel.

93. Install the small wood screw to secure the wheel pant in place.



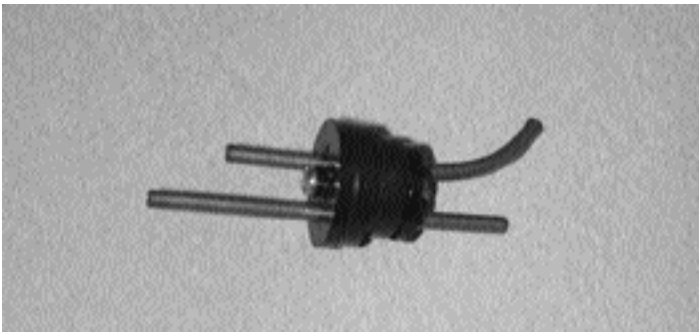
94. Locate the fuel tank and hardware.



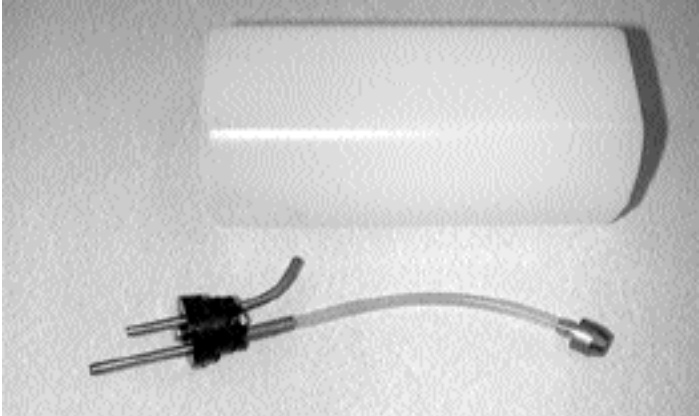
95. Locate the rubber stopper. Insert one of the brass tubes into an open hole in the stopper so an equal amount of tubing extends from each end of the stopper. Insert the other brass tube into the other open hole in the same fashion.

96. Slide the smaller plastic cap onto the small end of the stopper. Slide the larger cap over the tubes on the other end of the stopper.

97. Insert the threaded bolt into the cap on the large end of the stopper. Insert the nut in the tabs on the other end and thread the bolt into the nut. Do not tighten at this time.



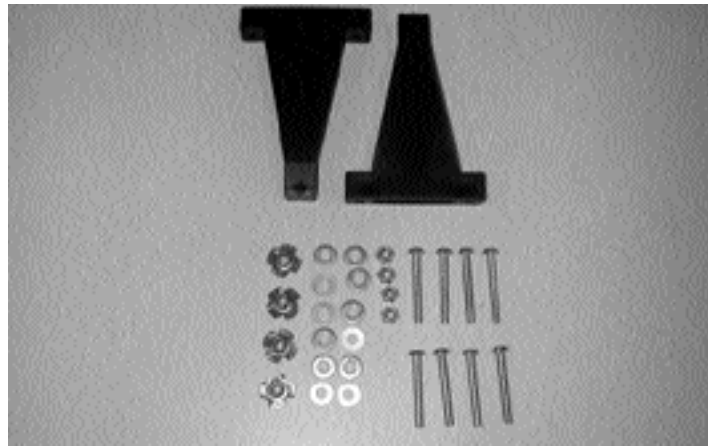
98. Make a 60 - 90 degree bend in one of the brass tubes as shown. Be careful not to kink the tube. You can insert a small pushrod into the brass tube to help bend it without kinking.



99. Install the short piece of fuel line on the unbent brass tube.
100. Measure the length from the stopper to the back of the fuel tank - less the length of the metal clunk.
101. Cut the fuel line to size and install the metal clunk



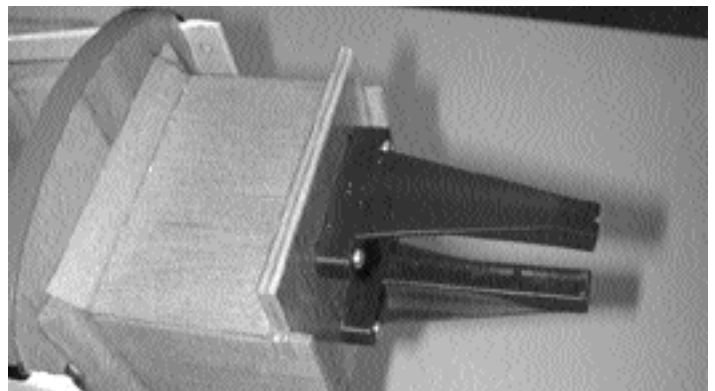
102. Install the stopper assembly into the fuel tank with the angled tube pointing up towards the top of the tank. It may be necessary to lightly sand the opening in the tank so the stopper will fit.
103. Tighten the bolt until the stopper is secured and mark the top of the tank for later referral.



104. Locate the engine mounting hardware.



105. Install the blind nuts in the back side of the firewall. This can be done easily by using a short pushrod and making a 90 degree bend in one end. Slide the blind nut down the pushrod and insert the pushrod in the firewall hole from the back. Pull firmly on the wire to seat the blind nut.



106. Install the motor mounts onto the firewall box using the enclosed threaded bolts. You can leave them somewhat loose until you are ready to mount your engine.

Note: You will need to cut the bolts to size so they do not extend past the inside of the firewall. Otherwise they will hit the fuel tank.

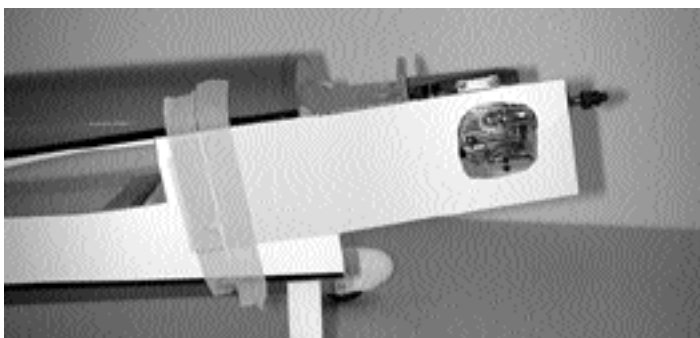


107. Align the engine on the mounts so the drive washer is 5" from the firewall.

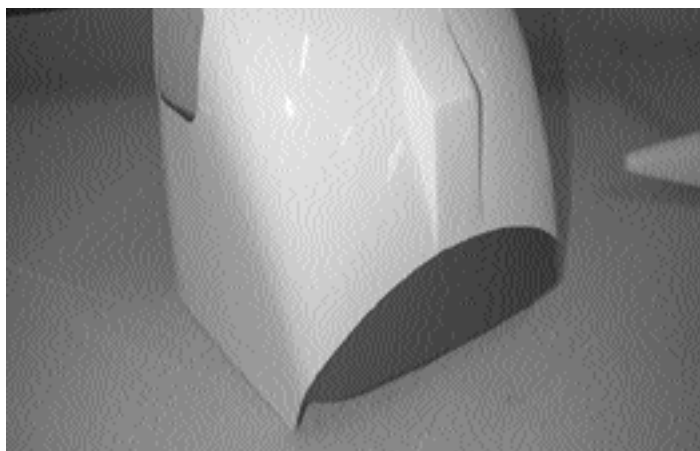
108. Tighten the engine mount bolts so the mount is securely fastened to the firewall.

109. Mark the engine mount holes through the holes in the engine mount flange. Remove the engine and drill four 5/32" holes through the mount.

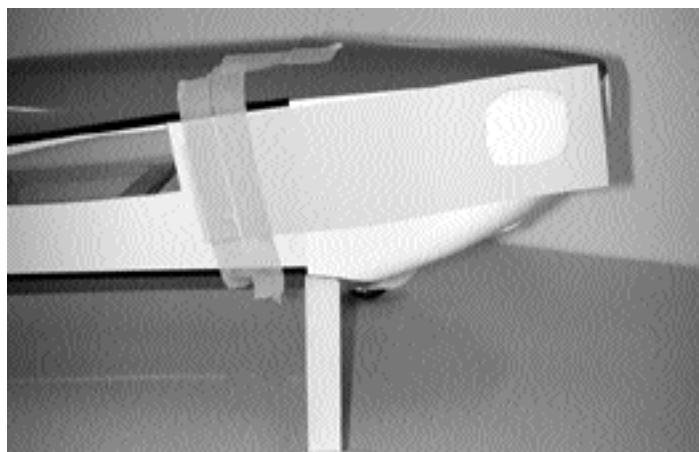
110. Mount the engine using the enclosed threaded bolts, washers and nuts.



111. Make a template for the engine exit location by taping a piece of cardboard to the side of the fuselage and cutting a hole for the engine as shown in the photo.



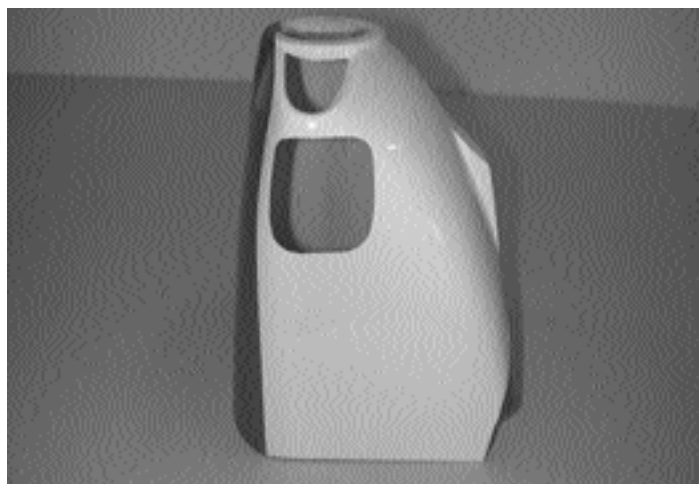
112. Sand or cut the back of the cowl along the bottom so it will fit over the fuselage and clear the landing gear.



113. Remove the engine from the mounts and align the cowl on the fuselage so the front of the cowl sits 4-7/8" from the firewall.

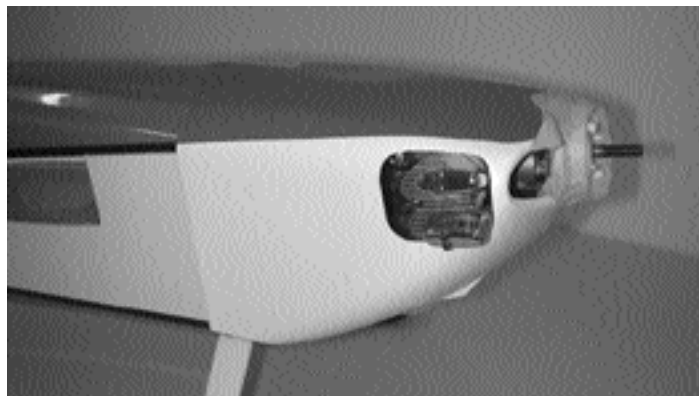
114. Use the template to mark the engine location on the cowl.

Note: you can also use the same method to mark the location of the needle valve, muffler, etc.



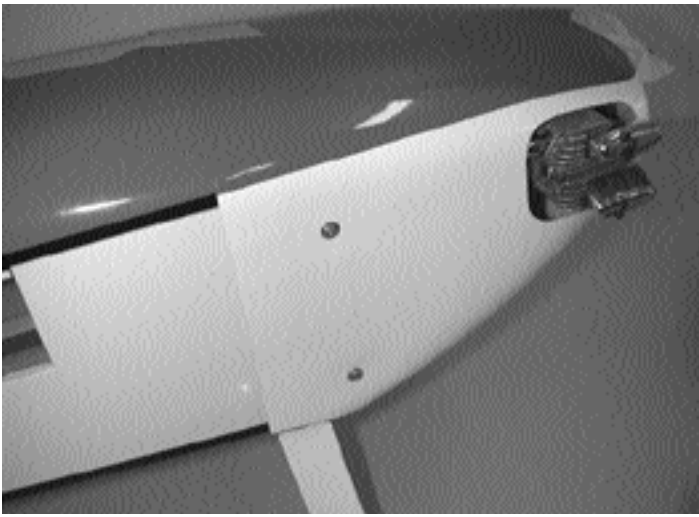
115. Remove the cowl and cut the marked locations.

Note: We use a Dremel with a cutting wheel to roughly cut the hole then finish with a sanding drum.

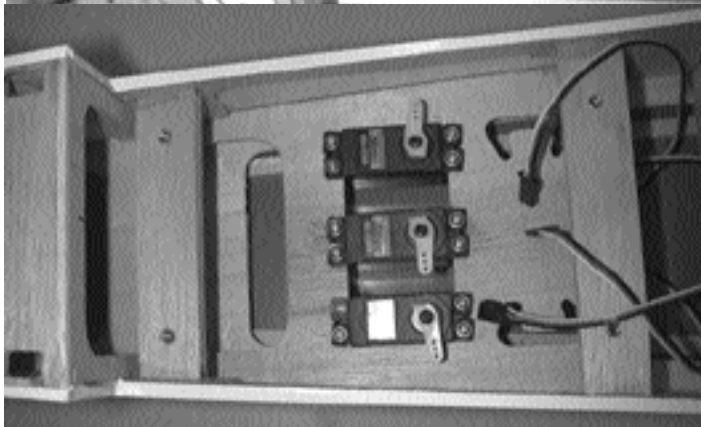
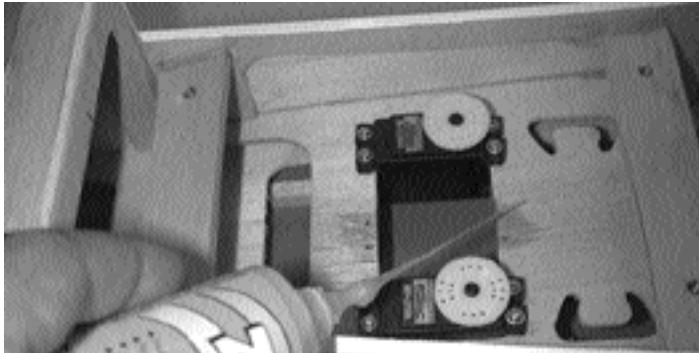


116. Re-mount the engine and fit the cowl to the fuselage. Put the spinner backplate on the engine and secure it with a prop and prop nut.

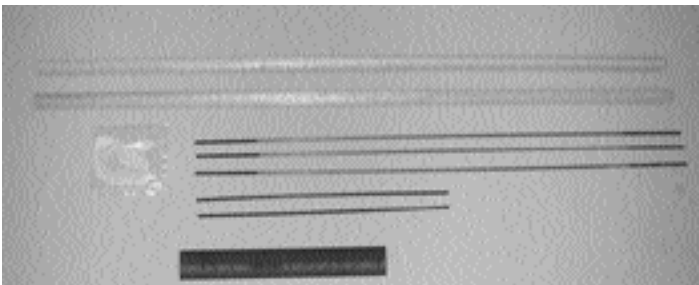
117. Center the front of the cowl on the spinner backplate. Be sure to leave a 1/8" gap between the cowl and the backplate. Tape the cowl in place.



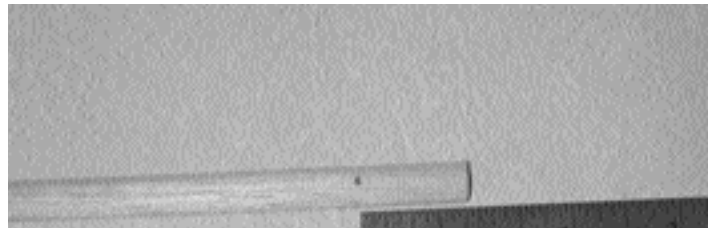
118. The cowl will be secure by 2 button head screws on each side. The screws should anchor into the ply plates that extend on each side of the firewall. You can locate these by marking the fuselage and measuring from the edge of the cowl. Once you have located the screw locations, drill a 1/16" pilot hole through the cowl and into the fuselage and install the screws.



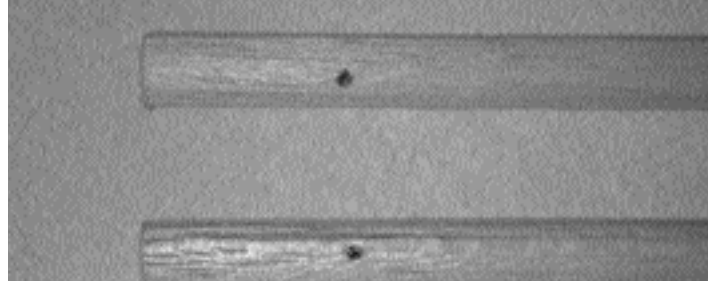
119. Install three servos evenly spaced on the fuselage servo tray. After marking the servo hole locations and drilling the holes, you can reinforce the holes by saturating them with thin CA.



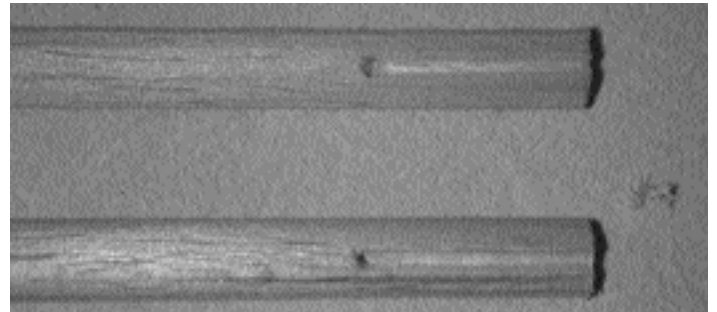
120. Locate the pushrods, dowels, heat shrink tubing and string for the elevator and rudder pushrod assemblies.



121. Make a mark 1" from the end of each side on both wood dowels.

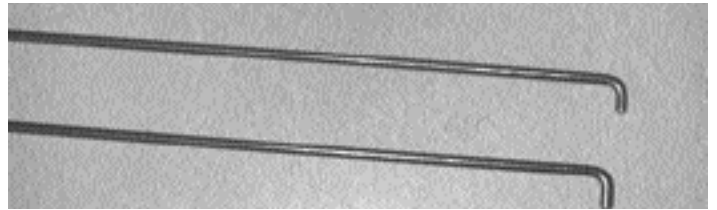


122. Drill a 5/64" hole through the dowels at the four marked locations. Insure the holes are centered on the dowels.



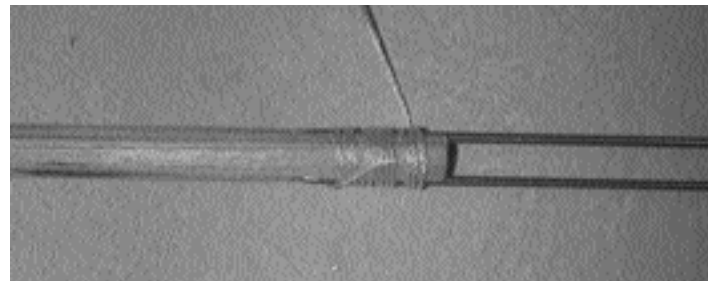
123. Using one of the threaded pushrods, file a groove into one side on both ends of the dowels. The groove should allow the pushrod to sit flush with the outside of the dowel.

124. File a groove in the other side of one dowel. In the end, you will have 1 dowel with one groove at each end and one dowel with one groove on one end and 2 groove opposite each other on the other end.

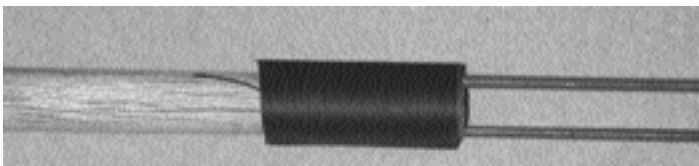


125. Locate two 2-56 pushrods and cut the treaded end off one end.

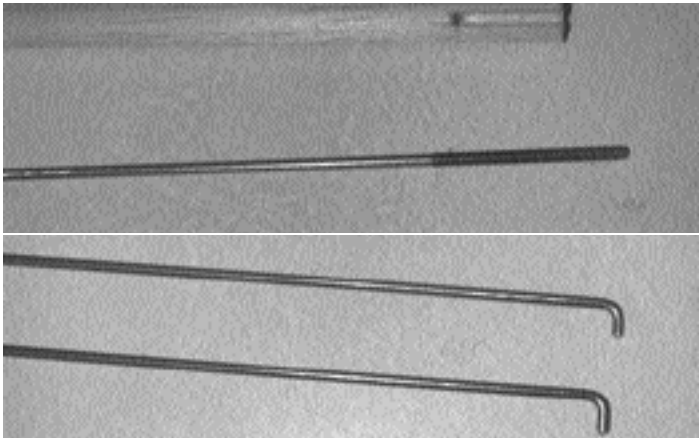
126. Make a short 90 degree bend on the untreaded end of both pushrods.



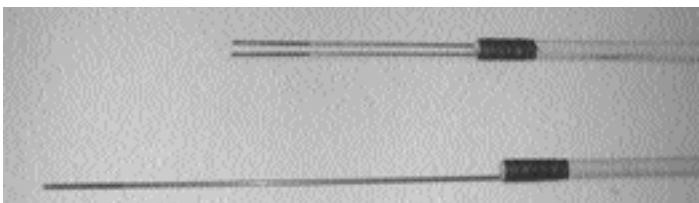
127. Insert the bent ends of the pushrods into the dowel with 2 grooves. Secure the pushrods to the dowel by wrapping them with the enclosed string or sewing thread and applying thin CA to the string or thread.



128. Cut a short piece of heat shrink tubing and slide it over the dowel/pushrod. Use a match or torch to carefully shrink the tubing. This assembly will be your elevator pushrod.

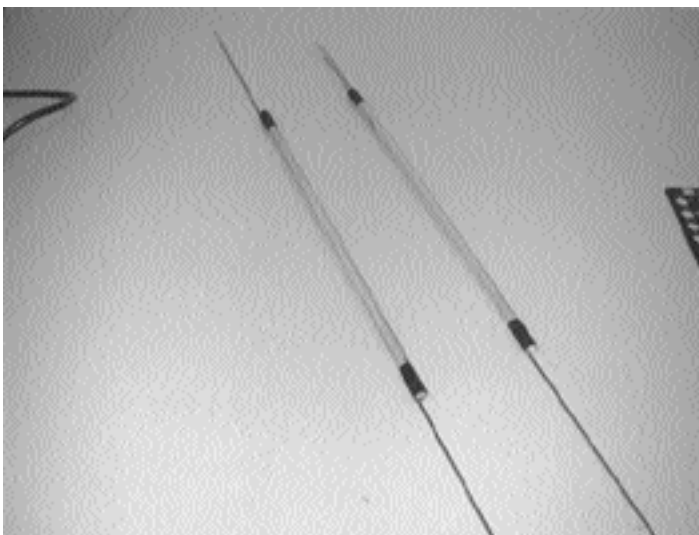


129. Cut one threaded end off three 2-56 rods and make a short 90 degree bend on that end of the rods.

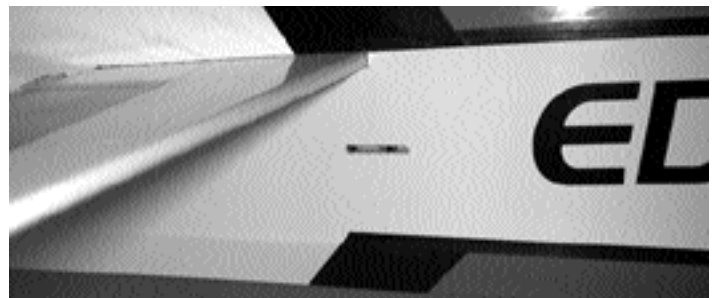


130. Attach one pushrod to the opposite end of the elevator pushrod assembly using the string and heat shrink tubing as described previously.

131. Attach two pushrods to the remaining dowel in the same fashion. One pushrod on each end.



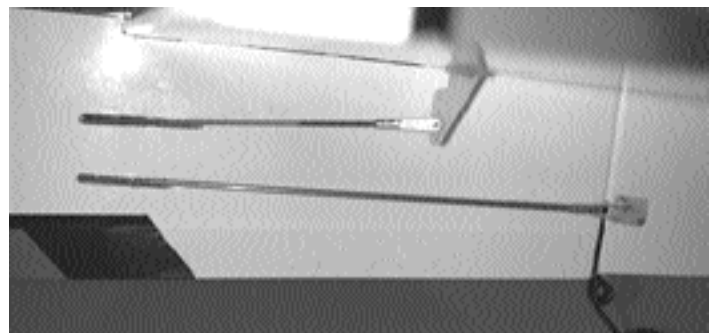
132. Once completed, you should have two wooden dowels. One with a threaded pushrod on both ends, the other with a one pushrod on one end and two pushrods on the other end.



133. Locate the upper elevator pushrod slots in the rear of the fuselage on both sides and remove the covering.

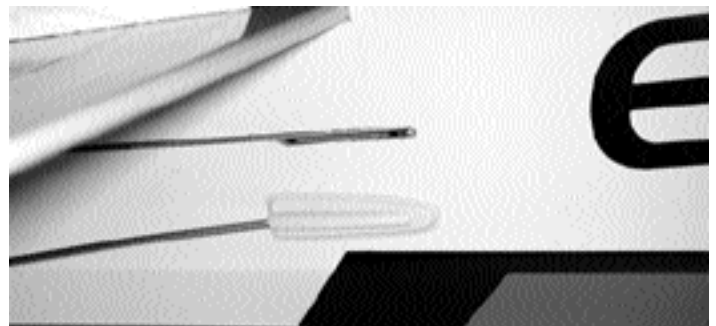


134. Locate the lower rudder pushrod slot on the side with the rudder control horn and remove the covering from the slot.

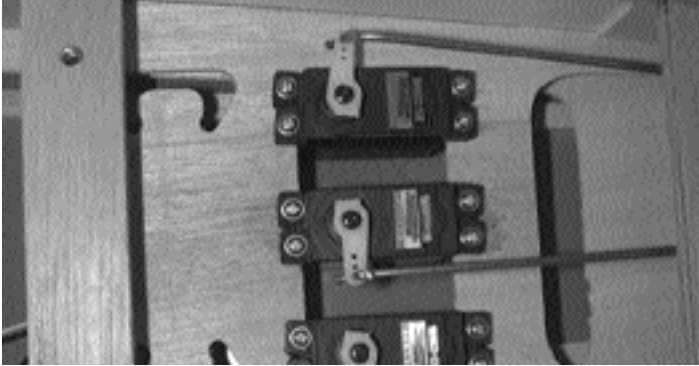


135. Spread the two threaded pushrods (elevator pushrods) approximately 1-1/2" apart. Insert the elevator pushrod into the fuselage so the split pushrods exit on each side of the fuselage through the elevator pushrod slots. Thread a clevis on each pushrod and attach to the elevator control horns. Adjust the pushrods for smooth operation.

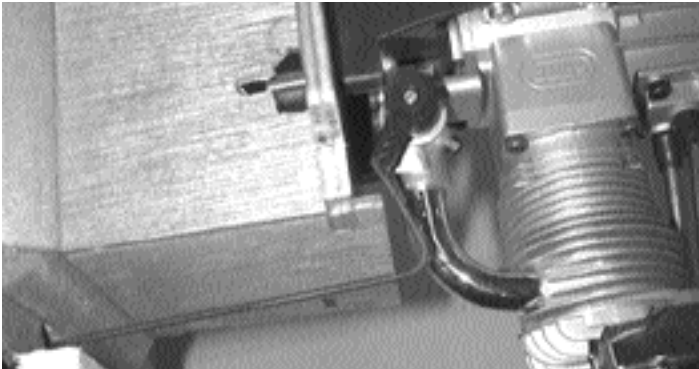
136. Insert the rudder pushrod into the fuselage so that it exits through the rudder pushrod slot in the rear of the fuselage. Thread a clevis to the pushrod and attach it to the rudder. Adjust the pushrod for smooth operation.



- Cut the plastic pushrod covers to size and drill a small hole as a pushrod exit. Remove the clevises from the elevator and rudder pushrods and install the plastic pushrod covers by gluing them to the fuselage with medium CA or 5 min epoxy.

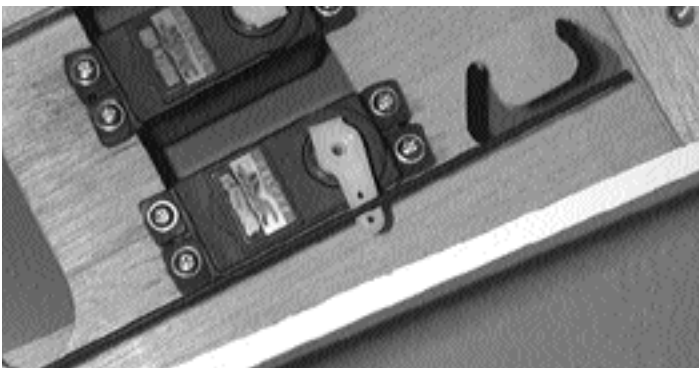


137. Center the elevator and rudder servos and position the servo arms so they are 90 degrees to the pushrod. Make a mark on the pushrods where they intersect the servo arm and make a Z-bend on those marks. Connect the pushrods to the servo arms. Note: The elevator servo should be located in the middle of the tray. The rudder servo should be on either side - depending on the location of the throttle arm and throttle servo.



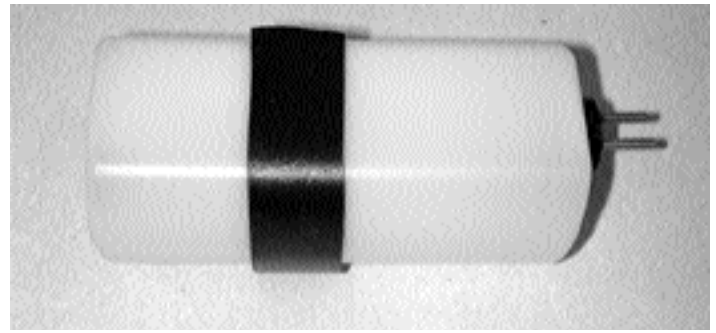
138. To install the throttle pushrod, mount the engine and locate the point where the throttle pushrod must exit the firewall and connect to the throttle arm on the engine.

139. Drill a small hole in the firewall at that point and insert the throttle pushrod through the hole. Attach a clevis to the pushrod and connect the pushrod to the throttle arm.

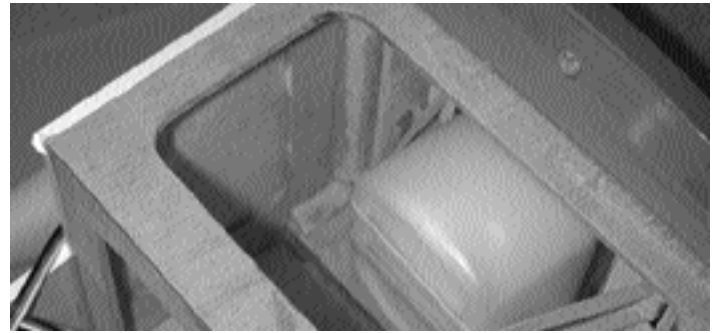


140. Position the servo throttle in a neutral position and set the carburetor arm at 1/2 throttle. Position the servo arm 90 degrees from the throttle pushrod and mark the location where the pushrod intersects with the servo arm.

141. Mark a Z-bend at the marked location and connect the servo arm to the pushrod.

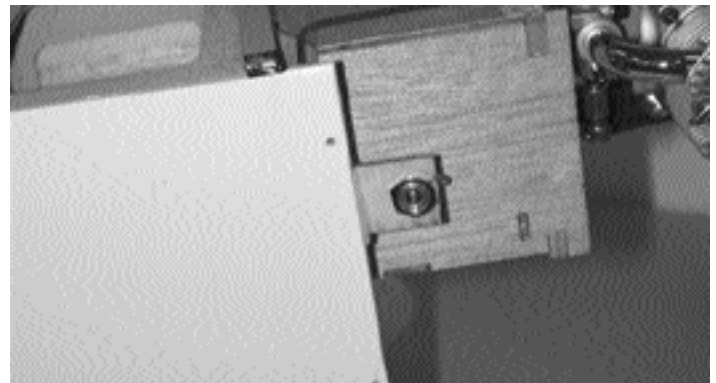


142. Wrap the fuel tank in foam where it will contact the fuselage formers. This will help eliminate fuel foaming.

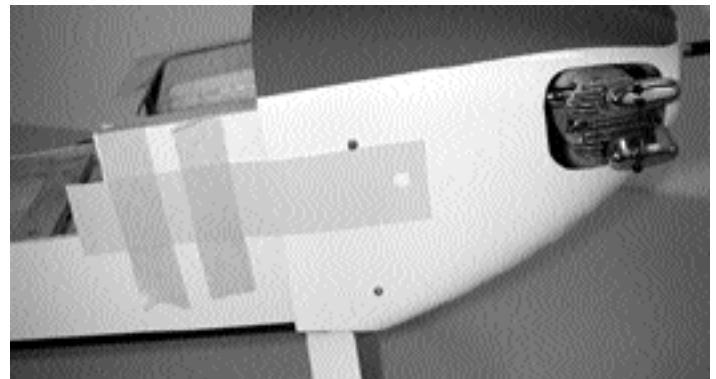


143. Insert the fuel tank into place so the cap extends into the hole in the firewall box. Secure the fuel tank in place using rubber bands on the provided brackets. You can also seal the front of the tank with silicone.

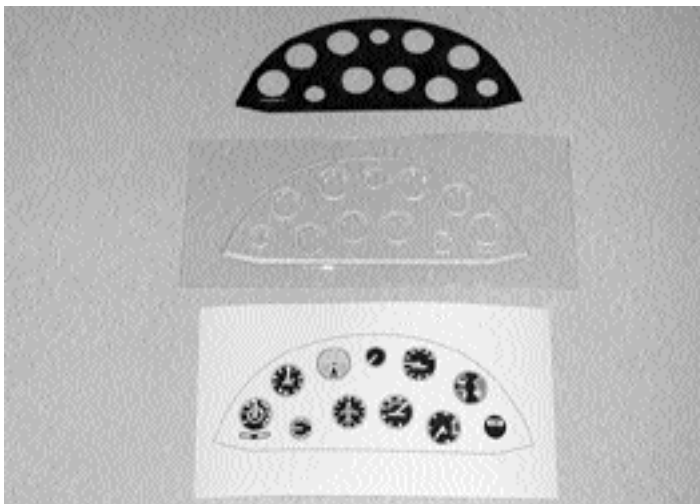
Note: Before inserting the fuel tank into the fuselage, you can connect the fuel and pressure lines. The pressure line going to the muffler will connect to the top brass tubing.



144. At this time you can add a EZ fuel fitting or fuel dots. We used a Du-Bro #334 with a plywood mount.



145. You can mark the cowl using the same method as before.



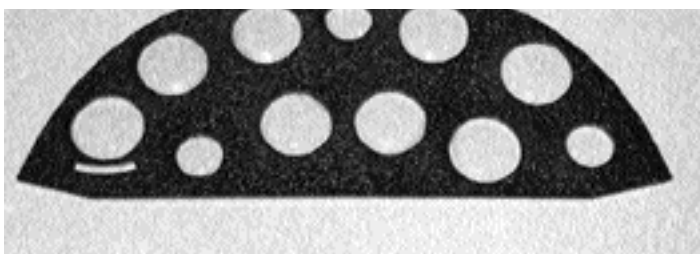
145. Locate the instrument panel assembly pieces.



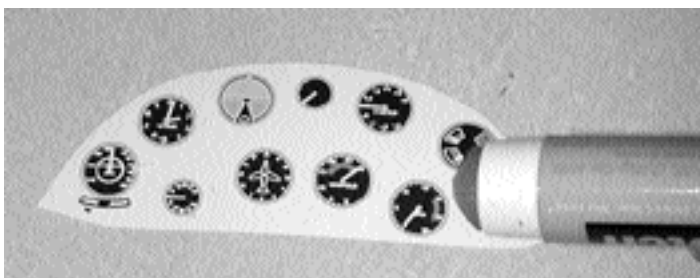
146. Cut the clear plastic lens cover piece around the outside line.



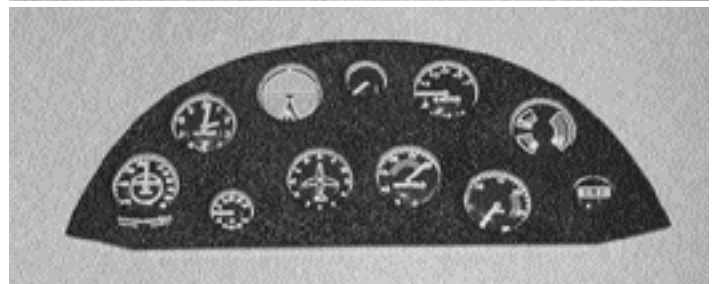
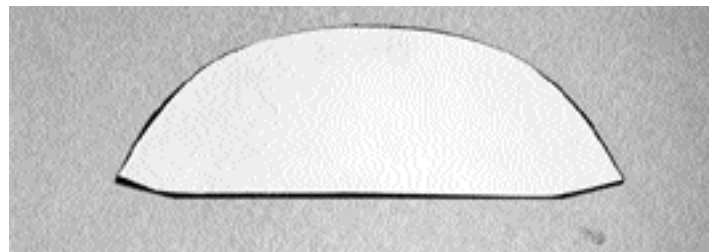
147. Cut the paper gauge backing along the black line.



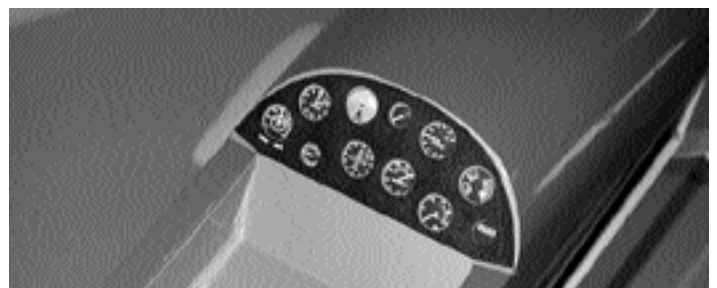
148. Use medium CA or 5 min epoxy to carefully attach the clear gauge lens piece to the back of the ABS dash panel. The rough side is the front.



149. Use 5 min epoxy or stick glue to attach the paper gauge face piece to the back of the instrument panel assembly. Be sure the gauges are aligned to the holes in the panel.



150. Using a hobby knife, make some small cuts in the paper backing where the gauges are not located. This will give you a solid gluing surface when attaching to the model.

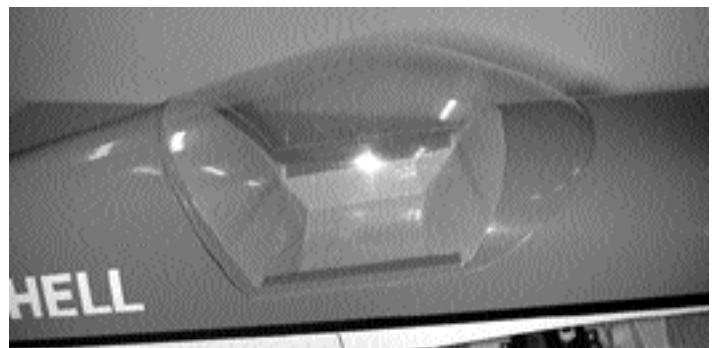


151. Use 5 min epoxy to glue the instrument panel to the cockpit.

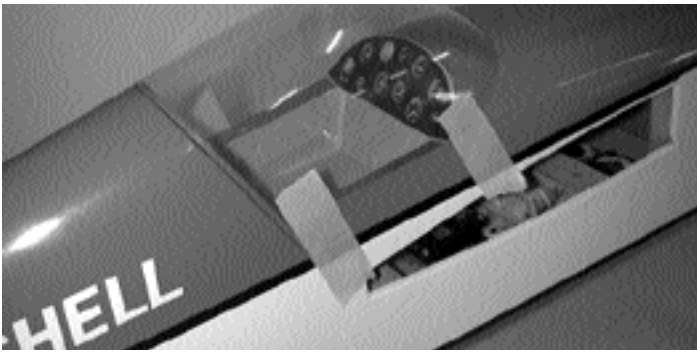
152. You can also add a pilot of choice at this time.



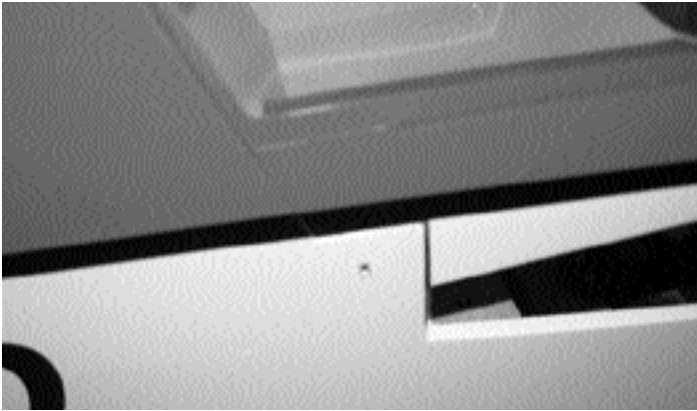
153. Carefully cut the canopy along the formed lines.



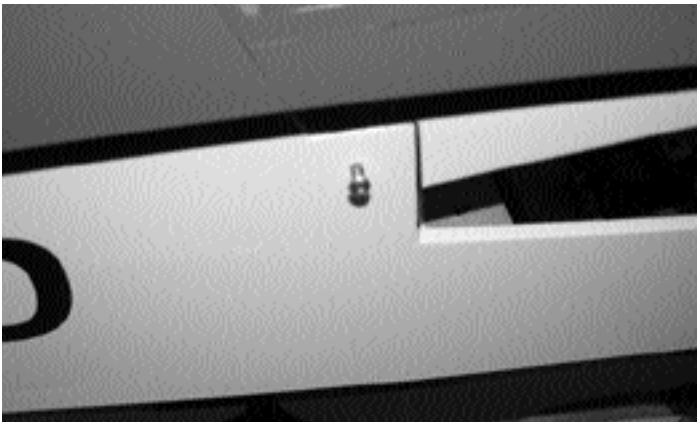
154. Test fit the canopy on the fuselage and trim for a good fit.



155. Glue the canopy in place using RC-56 or Epoxy. You can use masking tape to secure the canopy in place.



156. Locate the hatch screw hole in the fuselage and remove the covering from the hole.



157. Attach the hatch and secure it with the enclosed threaded bolt. Adjust the fuselage hole as necessary for a good fit.

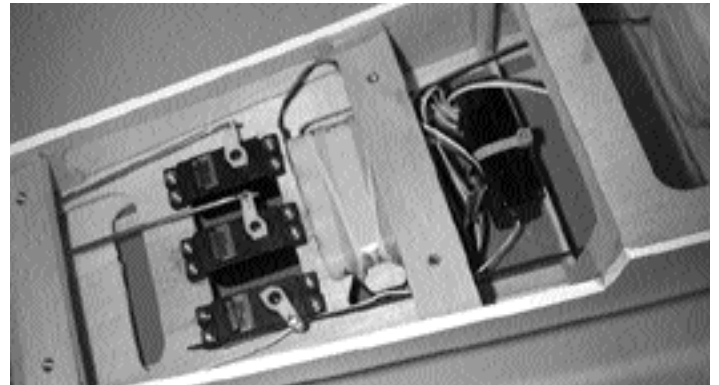


158. Clean the cowl with rubbing alcohol and apply the black trim tape to the cowl so that it matches the black line on the fuselage.



159. Set the center of gravity but turning the plane upside down and using your fingertips or a plane balancer to balance the plane 2-5/8" - 2-7/8" from the leading edge of the wing at the fuselage.

Note: You can move the radio receiver and battery to help with balance, otherwise add weight to the appropriate location to achieve the proper balance.



160. Secure the receiver and battery. Also route the antenna through or outside the fuselage.

161. Connect any needed servo extensions and Install all required switches, charging jacks, etc.

162. Set the control surfaces to the proper throws.

Control Throws

Aileron

Low rates: 7/8" up, 7/8" down
High rates: 1-1/2" up, 1-1/2" down

Elevator

Low rates: 7/8" up, 7/8" down
High rates: 2-1/4" up, 2-1/4" down

Rudder

Low rates: 3-1/4" right, 3-1/4" left
High rates: 4-3/8" right, 4-3/8" left

Preflight checks

- Double check that all control surfaces are properly glued by pulling on them firmly.
- Insure that all control surfaces are operating in the correct direction with the proper control throws.
- Insure that all wheels turn freely and that the plane tracks straight down the runway. Adjust the wheels as necessary.
- Secure all bolts with thread locking compound. This will keep them from vibrating loose in flight.