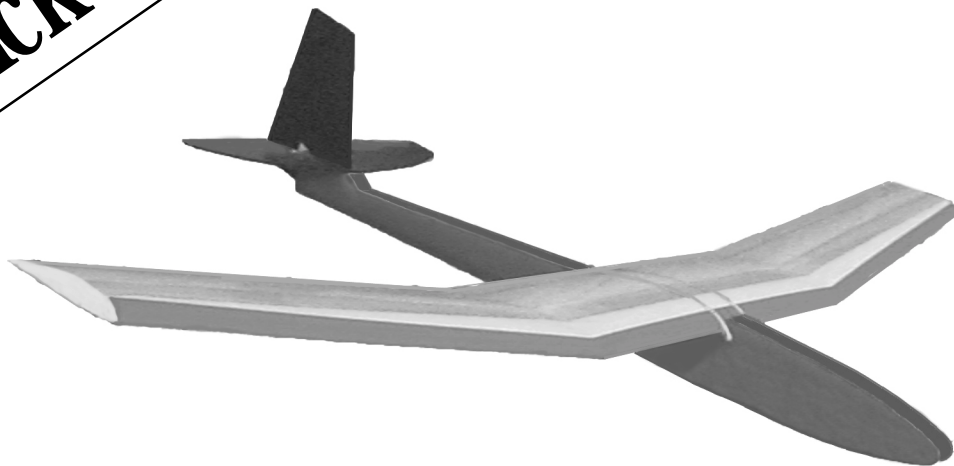


**NEW From
Trick R/C**



The FLOATER

An All EPP Slope and Thermal Trainer

THE EPP FLOATER is a rugged new glider kit from Trick R/C designed for beginner builders and flyers. The design concept is Keep it simple and strong. The Floater kit is made of combat proven EPP foam. The pre-cut parts are assembled with spray adhesive. A unique die-cut radio compartment provides a clean and easy radio instalation with easy access. The one-piece 72 inch wing attaches with rubber bands. 5-8 hours building time.

Wing span	72 inches
Weight	31 ounces
Radio	2 channel
Servos	2 standard servos

TRICK R/C 938 Victoria Ave (310) 301-1614 voice/fax

Visit <http://www.Zagi.com> Email: Zod@Zagi.com

Recommendations

These instructions are updated with each new production run. Any mods or changes to the kit are included with each run.

The recommended adhesives for the assembly of the Floater is 3M type 77 spray adhesive and five minute epoxy. If any other spray adhesive is substituted, test it on a piece of scrap foam.

Do not use Shoe Goo, Goop, or any of the other Goo or goop adhesives on any of the Corroplast (corrugated plastic) parts.

The Fuselage is die cut for standard servos and a square AA size square battery pack . Notice that the battery bay is deep enough to accommodate the battery and some nose weight.

The receiver bay will accommodate almost any receiver size plus enough room to stow the extra servo wire and a switch.

If different size servos are preferred the die-cut servo bay can be glued back in place and recut. Remove the servo cutouts out. Spray the edges with the adhesive and push them back in place.

Tools and materials needed:

- Sanding block
- 80 and 150 to 320 grit sandpaper
- X-Acto knife or Dremmel
- 5 Minute Epoxy
- 3M #77 Spray adhesive
- Waxed paper
- Paint thinner

The floater contains

- 1 Two piece fuselage
- 2 Corroplast fuselage side
- 1 Corroplast rudder
- 1 Corroplast elevator
- 1 Three piece EPP wing panels
- 6 Corroplast spars
- 1 Three piece balsa trailing edge
- 1 60 yard roll of fiber tape
- 1 60 yard of color poly-tape

The Floater hardware kit contains

- 1 Tow hook with T nut
- 2 Plywood tow hook plates
- 2 ¼" wing hold down dowels
- 4 Threaded studs
- 4 DuBro threaded clevises
- 1 Acid brush
- 2 Glue cups
- 2 Stir sticks

FUSELAGE ASSEMBLY

The fuselage is made of two die-cut pieces of EPP foam that are joined with a puzzle lock. Hold the adhesive spray nozzle 2 inches from the puzzle lock parts. Spray the contact surfaces of both sides. Spread the glue with a popsicle stick. Slide the puzzle lock together. Use a rubber band to hold the surfaces together until dry. (See **Figure 1**)

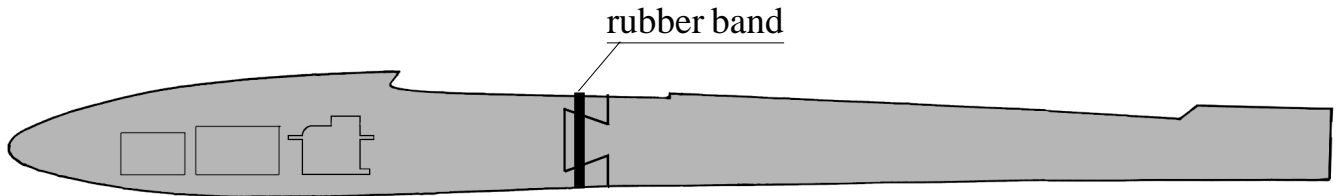


Figure 1

Assemble the tow hook. Glue the two 1½" x 2" plywood blocks together with a quick close-up burst of spray adhesive. Make sure that both ¼" holes are aligned. Press the T nut through the plywood blocks so that the claws on the T nut anchor securely in the wood. Screw the hex nut on the tow hook. Put the washer on the threaded end of the tow hook and screw it into the T nut in the plywood block. Screw the jam nut tight enough to hold the tow hook in the proper alignment. (See **Figure 2**)

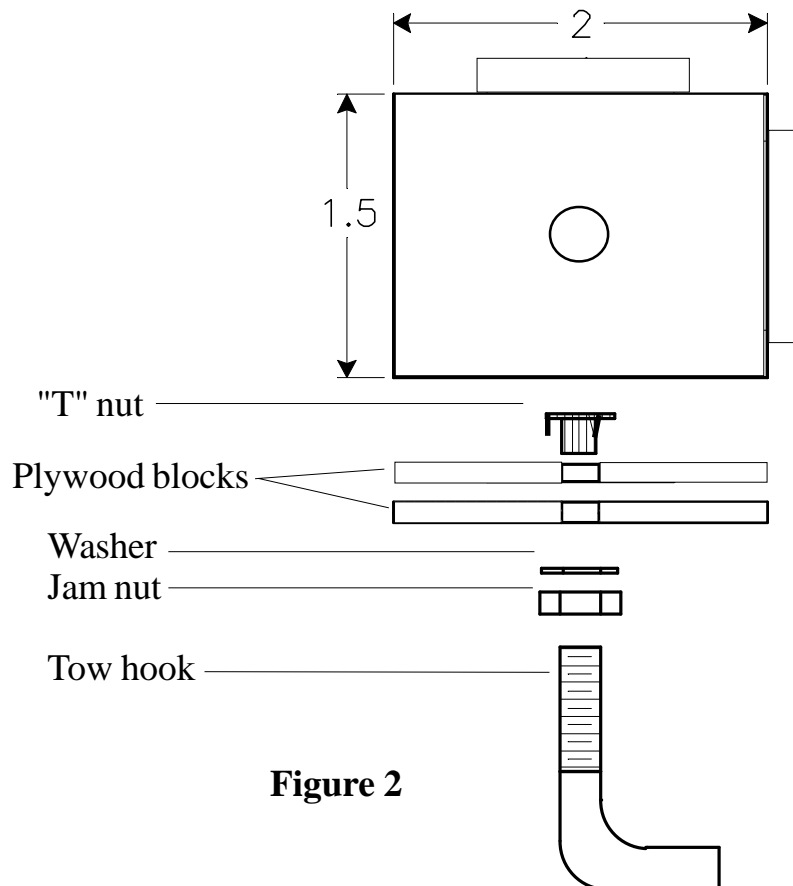


Figure 2

Measure 14 ½" back from the nose and make a mark on the bottom of the fuselage. Align the tow hook shaft on the mark. Cut away enough foam on each side to install the tow hook plate flush with the bottom of the fuselage. (See Figure 3)

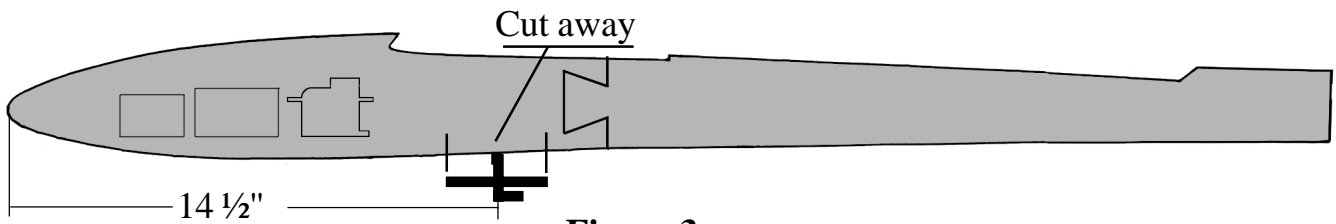


Figure 3

Spray the tow hook plate and the fuselage cut-out with a few close-up bursts of spray adhesive. Spread the glue with a popsicle stick. Spray the area 3" inches on both sides of the tow hook. Continue to spray all the way around the top, bottom and both sides. Let the glue dry to the touch. (See Figure 4)

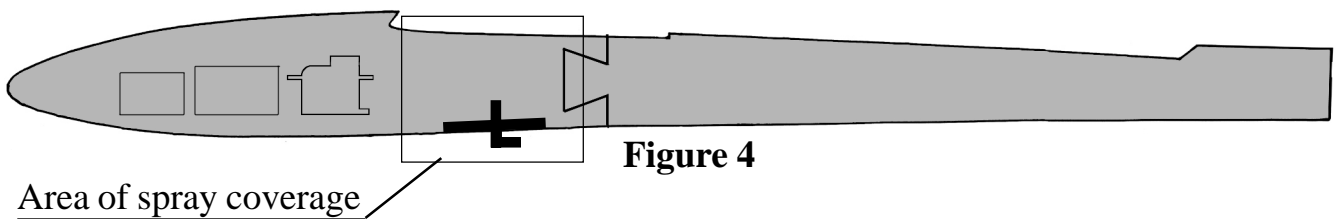


Figure 4

Apply a wrap of fiber tape around the fuselage. Cover the front and rear of the tow hook plate. Overlap the tape to complete two wraps. Be careful not to pull the tape too tight to deform the corners of the foam. (See Figure 5)

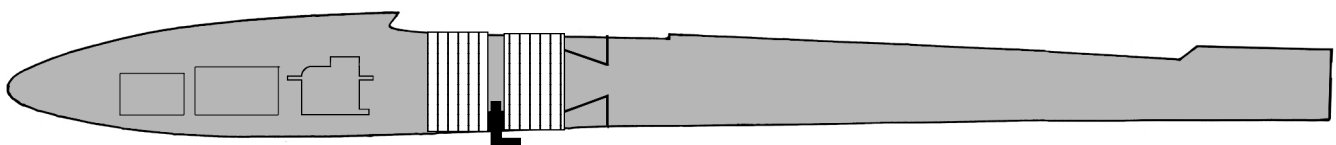


Figure 5

Spray the entire fuselage with adhesive; top and bottom and both sides. Let it dry to the touch. Starting at the tow hook, apply color tape to the top and bottom of the fuselage with one continuous piece all the way from the tow hook around the nose to the top. Center the tape so that it extends ¼" inch over on each side. Make sure that the tape is fitted to all of the contours. Overlap the tape at the tow hook. Fold the ¼" inch extra width of the color tape around to the sides. Cut slots to make inside turns. (See Figure 6)

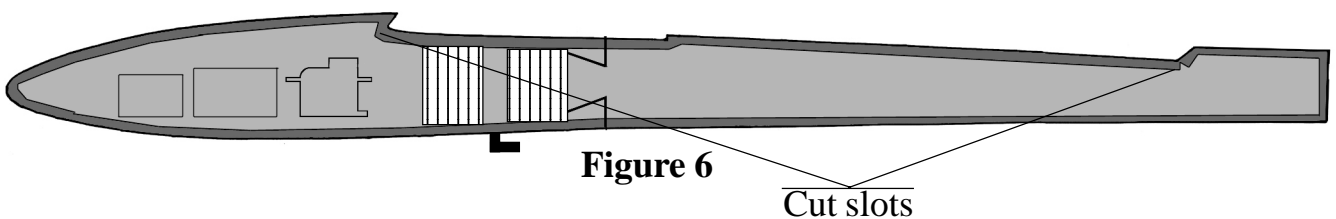


Figure 6

Cut slots

Identify the Corroplast fuselage panels. The left panel is the one with three radio bay doors. The right panel has only one door. Lay the Corroplast panels as shown below. Notice that the doors open easily from that position. (See Figure 7)

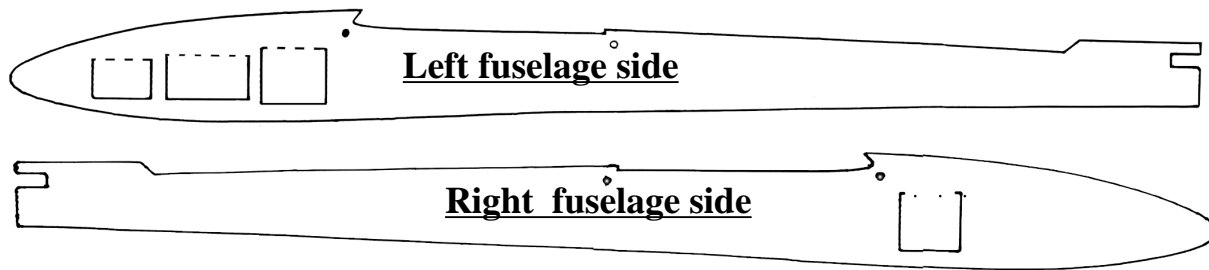


Figure 7

Open the doors and mask off the inside. A piece of paper can be used for a mask. Open the doors and slide a piece of paper under the doors. Spray the inside surface of the left Corroplast fuselage panel. Spray a light coat of adhesive on the left side of the fuselage. Let the glue set on both parts until it will not stick to your finger when lightly touched. Remove the paper mask. (See Figure 8)

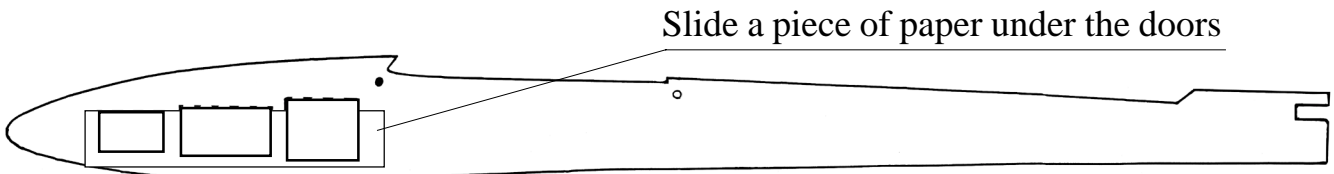


Figure 8

Lay the foam fuselage on a flat surface with the nose aimed to the left. Align the Corroplast panel with the nose and wing saddle. Push the foam to fit the Corroplast panel if necessary. Move the tail section to align with the Corroplast panel. Make sure that the alignment of the wing saddle and the elevator platform are flush with the foam. Press the Corroplast panel in place when alignment is achieved. Lay the foam fuselage on a flat surface with the nose aimed to the right. Mask off the single door on the right side of the Corroplast panel. Spray the opposite surface of the right Corroplast panel.

Before joining the right Corroplast panel to the fuselage, open the three doors on the left Corroplast panel and push the foam plugs out of the fuselage through the right side. Lay the fuselage on a flat surface left side down. Align the Corroplast panel. Make sure that the right fuselage side is aligned exactly opposite the left side before pressing it in place. (See Figure 9)

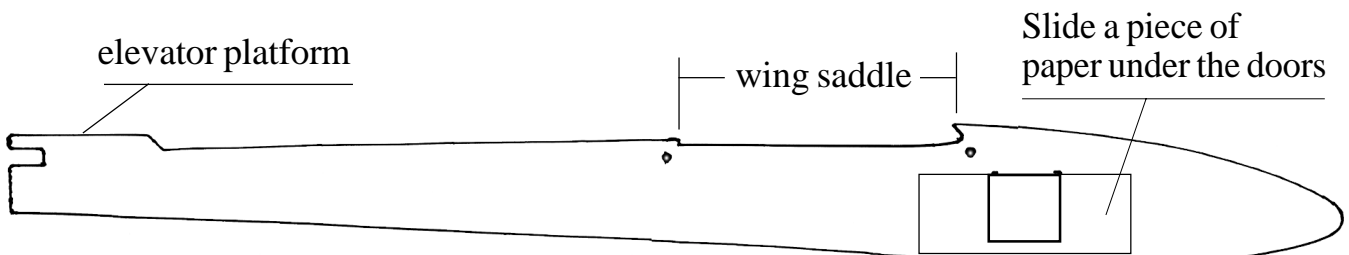


Figure 9

Use a knife to free the horizontal and vertical stabilizers from the die cut sheet. A rudder hinge can be made by removing one side of one of the grooves in the Corroplast. (See **Figure 10**) Locate the groove in the vertical stabilizer in front of the elevator cutout. Notice the rudder hinge is made of two pieces. The piece that extends below the elevator is a tab to glue into the end of the fuse. Follow the cut to the top of the rudder with a blade on the left side of the vertical stabilizer. (See **Figure 11**)

remove one side



Figure 10: *Section view of Corroplast hinge*

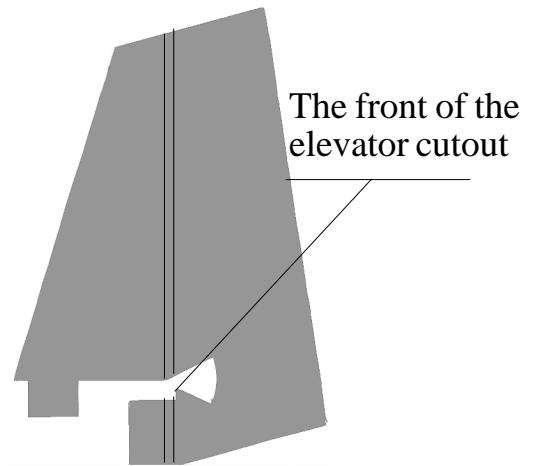


Figure 11: *Rudder, left side*

Assemble the tail group. Locate the elevator hinge position directly under the rudder hinge line. Remove the bottom side of the channel in the corrugated material. (See **Figure 12**)

rudder hinge line

Remove the bottom
side of the channel

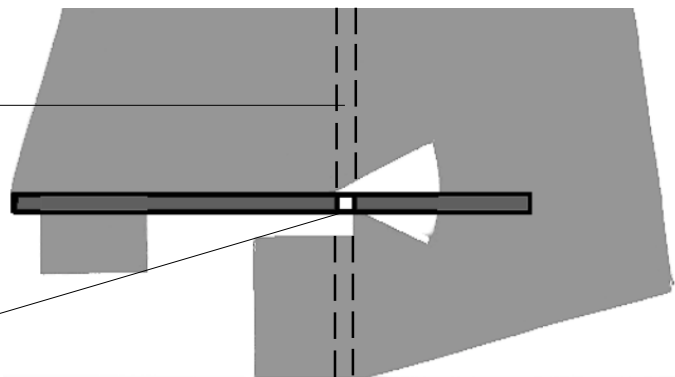


Figure 12: *elevator hinge*

Some of the color tape must be removed from the elevator mounting pad to provide a good bonding surface for the elevator. Measure a 1/4" perimeter around the elevator mounting pad. Use an x-acto knife to make a shallow cut through the color tape. Remove the color tape from the center of the elevator mounting pad. (See Figure 13)

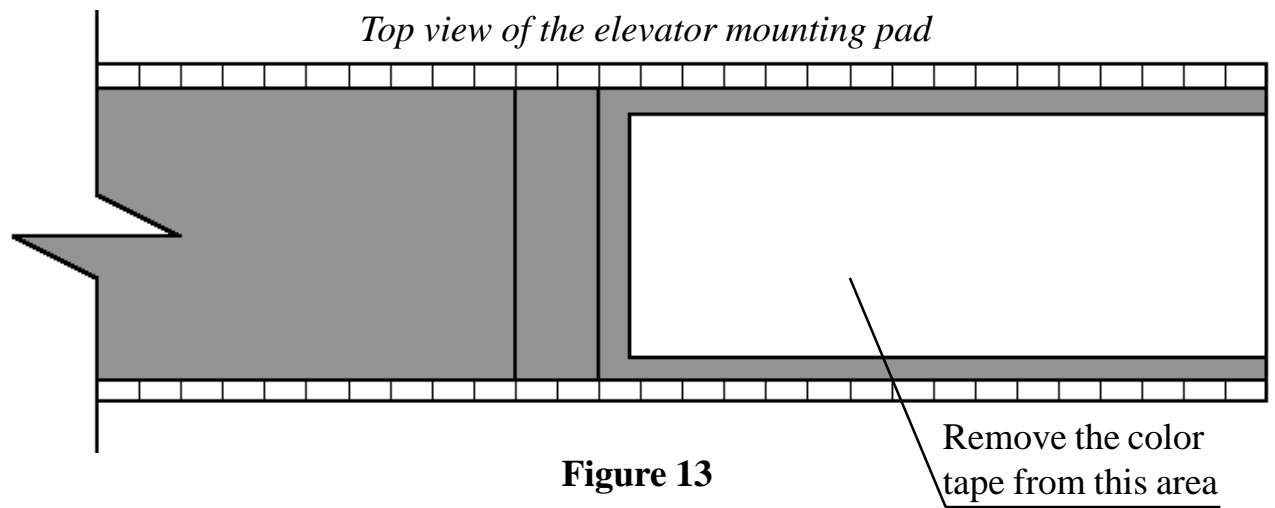


Figure 13

Hold the assembled tail group in position against the side of the fuselage so that the end of the fuse is 1/8" from the rudder hinge line. (See Figure 14) Make a light pencil mark on the side of the fuse to outline the two tabs of the tail group.

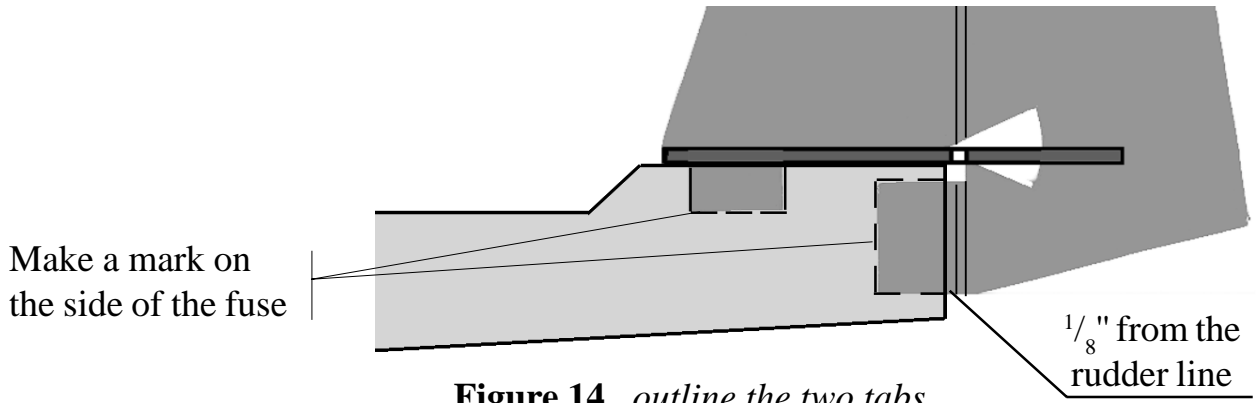


Figure 14 *outline the two tabs*

Transfer the lines from the fuse side to the top of the tail group mounting pad. Measure the center of the fuse. Make a mark at the center line. Cut two slots in the center of the fuse as long and wide as the tabs on the vertical fin. Make sure the cut-outs are deep enough to fit the tabs of the vertical fin. Cut one slot on top of the elevator mounting pad and one on the end. Fit the tail assembly in place to make sure the vertical fin tabs seat completely. (See Figure 15)

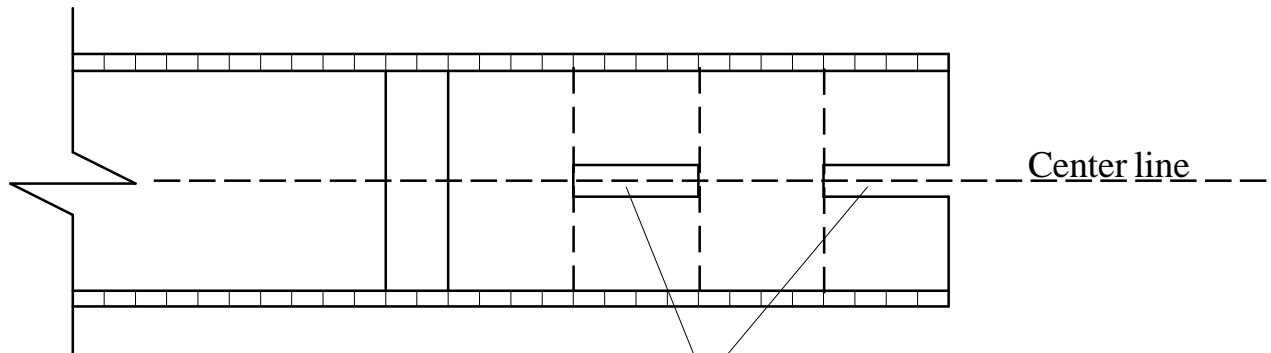


Figure 15

Cut one slot on top
and one in the end

Spray the elevator mounting pad with adhesive. Spray some short bursts of adhesive into both slots. Make sure that the adhesive has soaked down to the bottom of the slots. Anchor the tail assembly to the fuselage. Sight down the fuselage to check the alignment. Push some T pins or straight pins through the top of the elevator to the foam below on both sides of the vertical fin. Remove the pins when the glue has set. (See Figure 16)

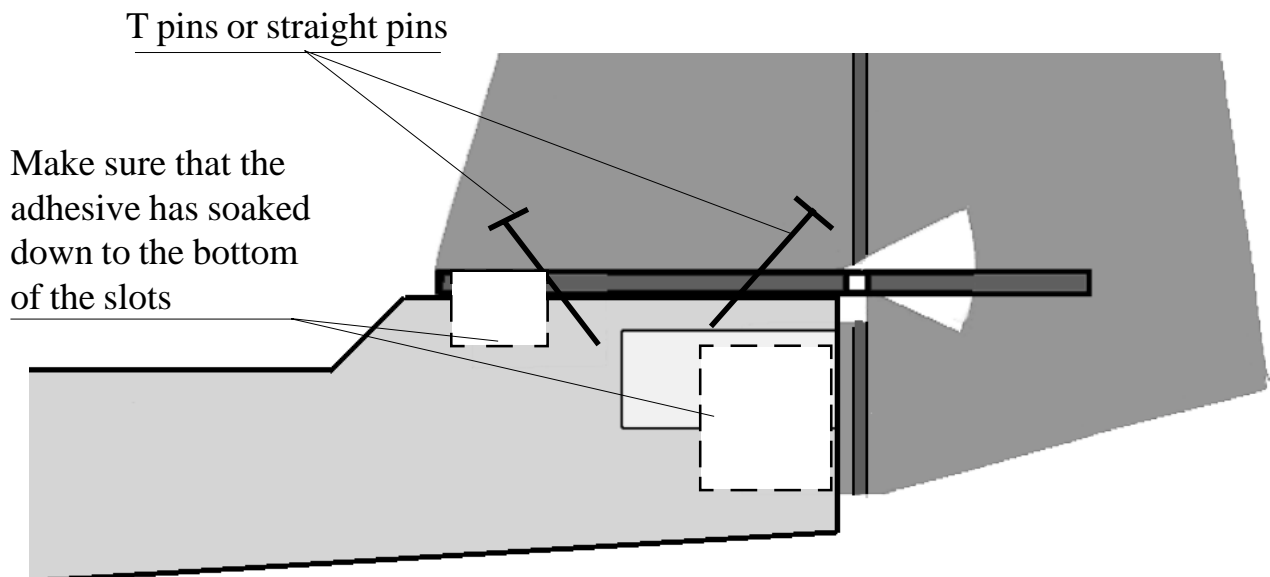


Figure 16

Screw the threaded studs $\frac{1}{4}$ " into both ends of the nylon control rods. Screw the threaded clevises on one end of the threaded studs far enough to see $\frac{1}{8}$ " of threads in the clevis. (See Figure 17)

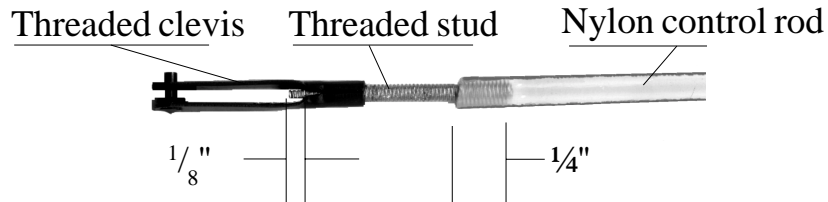


Figure 17: *Control rod assembly*

Insert the nylon control rod into one of the flutes of the Corroplast fuselage side. Try different flutes until the clevis matches the second hole from the base in the control horn. The best alignment may be the highest flute in the fuselage side cut-out. (See Figure 18)

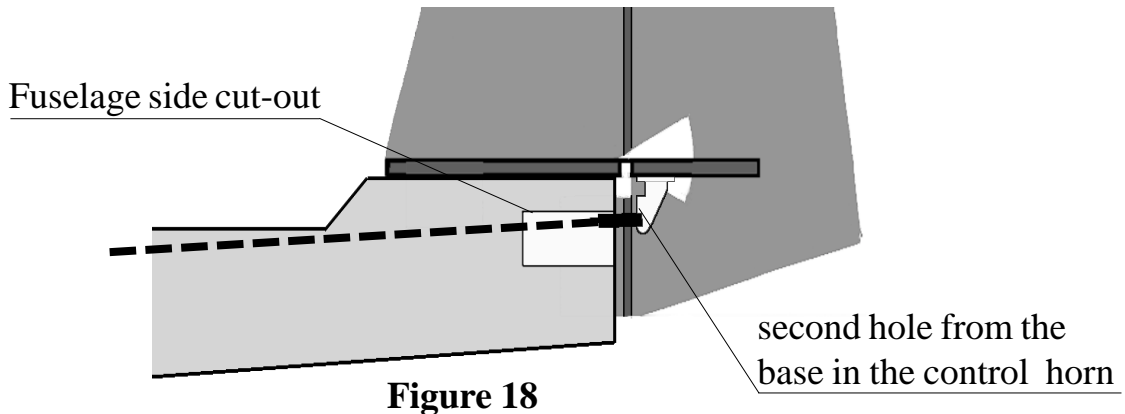


Figure 18

Install the elevator control horn on the bottom of the right side of the elevator. Align the control horn on the edge of the hinge line directly behind the corroplast fuselage side. Use the control horn as a stencil to drill the two holes in the elevator. Install the elevator control horn with the two self-taping $2 \times 56 \times \frac{1}{2}$ " machine screws. Clip the clevis to the second hole from the base of the horn. (See Figure 19)

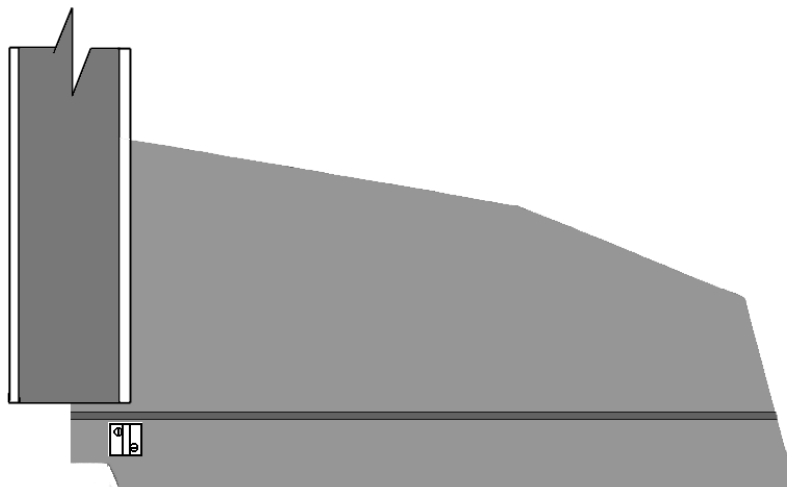


Figure 19: *Bottom view of elevator control installation*

Install the rudder control horn on the right side of the bottom part of the rudder. Align the control horn on the outside edge of the hinge line. Use the control horn as a stencil to drill the two holes in the rudder. Install the rudder control horn with the two self tapping 2 x 56 x 1/2" machine screws. Clip the clevis to the second hole from the base of the horn. (See Figure 20)

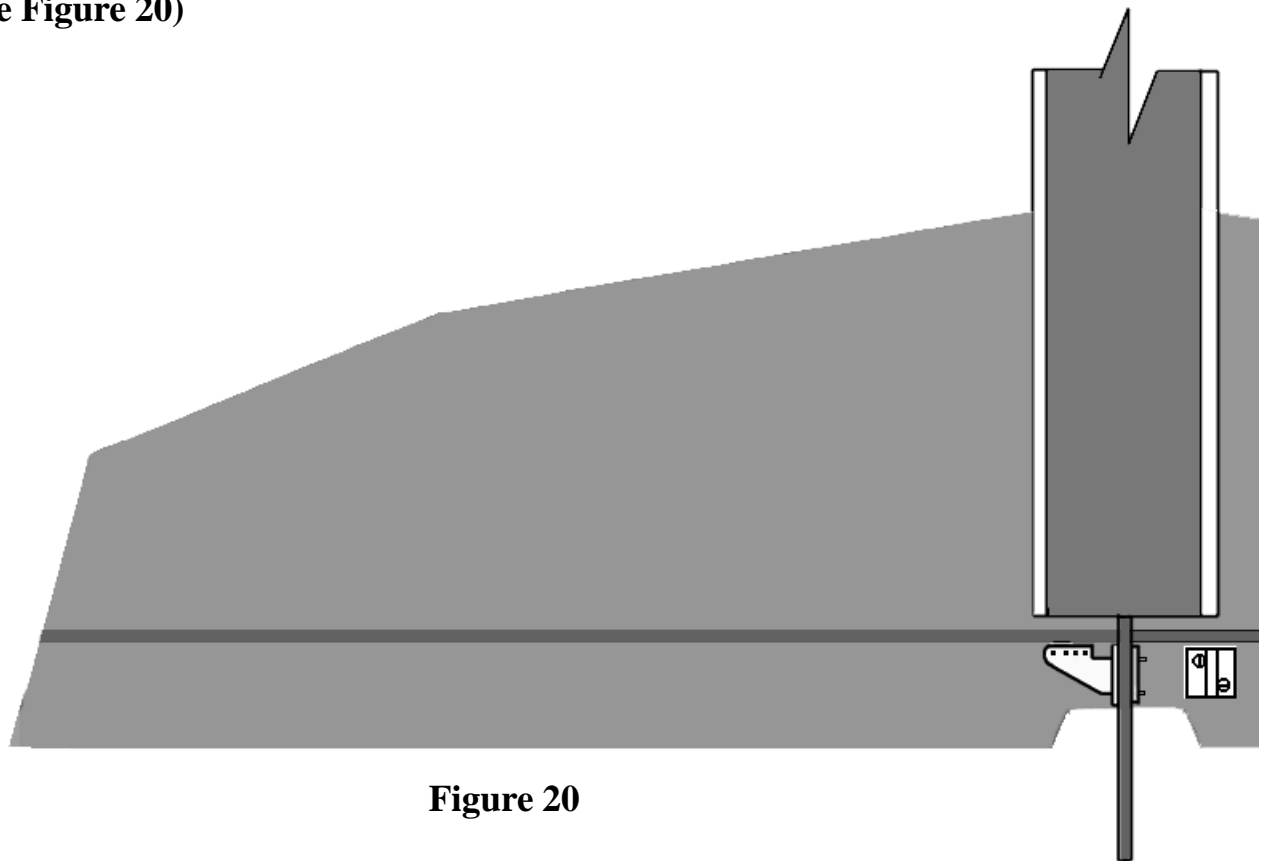


Figure 20

Insert the control rod into one of the flutes of the coroplast fuselage side. Try different flutes until the clevis matches the second hole from the base in the control horn. Cut away any foam that prevents the free movement of the clevis or the control rod. The threaded stud may be bent to achieve proper alignment. (See Figure 21)

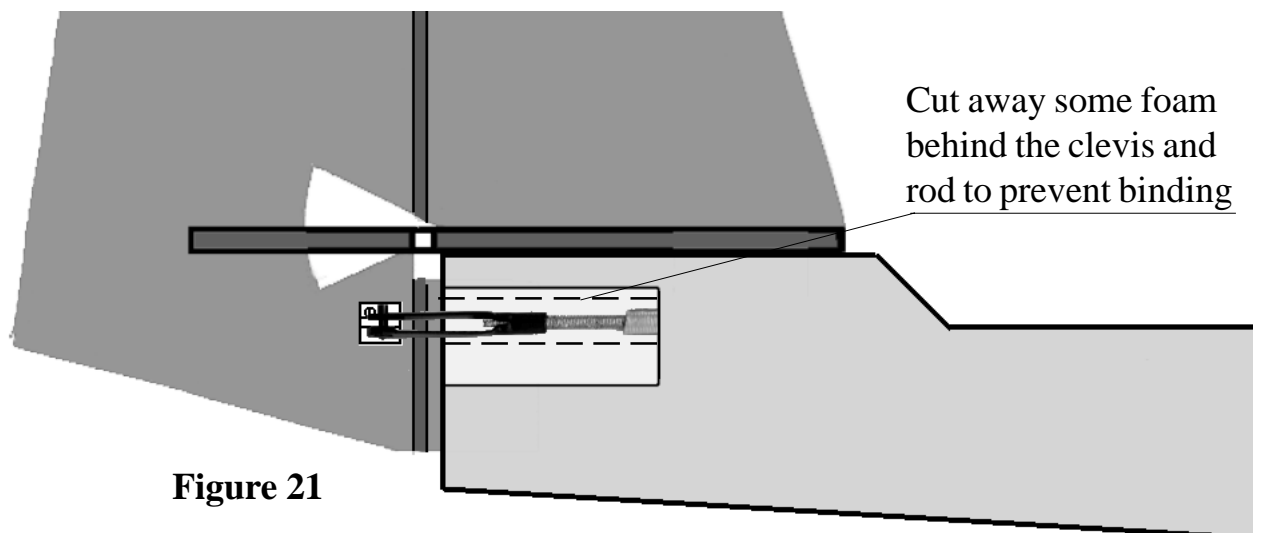


Figure 21

Select two of the round servo control wheels. Cut the wheels to prevent binding. install the wheels facing the back of the fuselage. (*Note: Plug the servos into the reciever and hook-up the battery. Turn the transmitter on and center the servos. Make sure that the servo trim levers on the transmitter are in the center position.*) (See Figure 22)

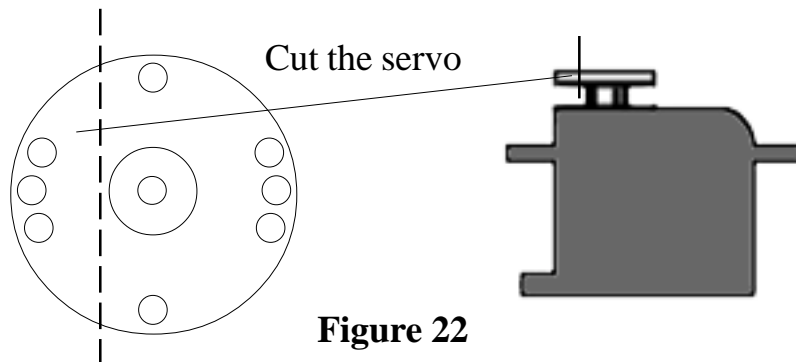


Figure 22

Cut a hole in the lower part of the foam wall between the servo bay and the receiver (Rx) bay. Make the hole big enough for the servo plugs to fit through. Do not cut the coroplast. Cut a hole in the lower part of the foam wall between the Rx bay and the battery bay. (See Figure 23)

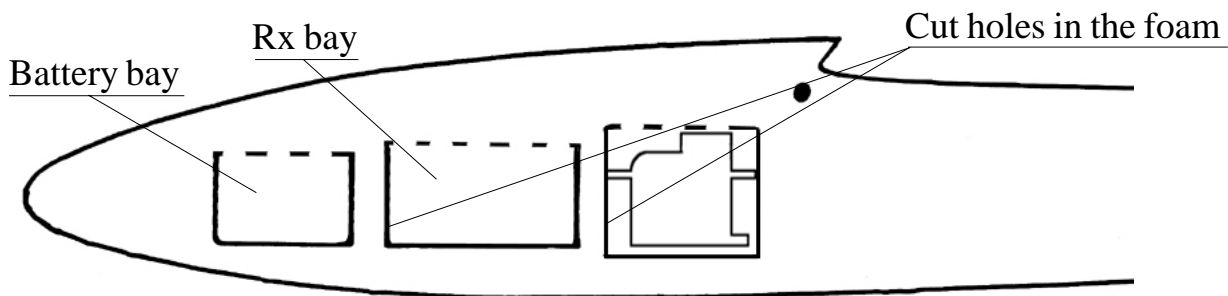


Figure 23

Push the servo wires through the hole into the Rx bay. Hold the servos together and push them both into the servo bay from the left side. Push the servo wires under the servos with a flat blade screw driver. Push the battery wire through the wall from the battery bay to the reciever bay. Push the battery into the battery bay. Instal the wing hold down pins in the fuselage. Drill a hole to remove the foam between the holes in the Corroplast panels. Spray some adhesive on the pins and some in the hole. Slide the pins in the hole until they are even on both sides. (See Figure 24)

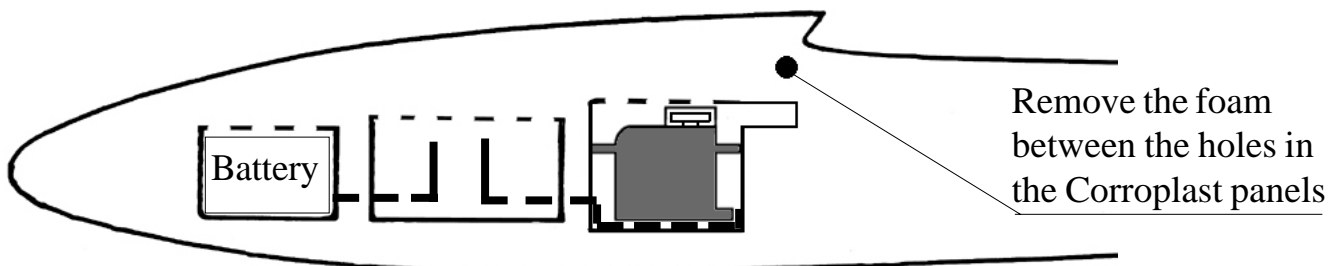


Figure 24

Move the wires aside and push the receiver into the receiver bay. The switch may be taped to the Rx or mounted in the door depending on the receiver and switch sizes. Plug the servo on the left side into the Rx elevator output. Plug the servo on the right side into the Rx rudder output. Plug the battery into the switch. Plug the switch into the receiver. Turn the transmitter (Tx) and the receiver Rx on. Check the direction of the servo output wheels. The elevator servo (left) should rotate counter clockwise when the Tx stick is pulled back. The rudder servo should rotate counter clockwise when the Tx stick is moved to the right. (See Figure 25)

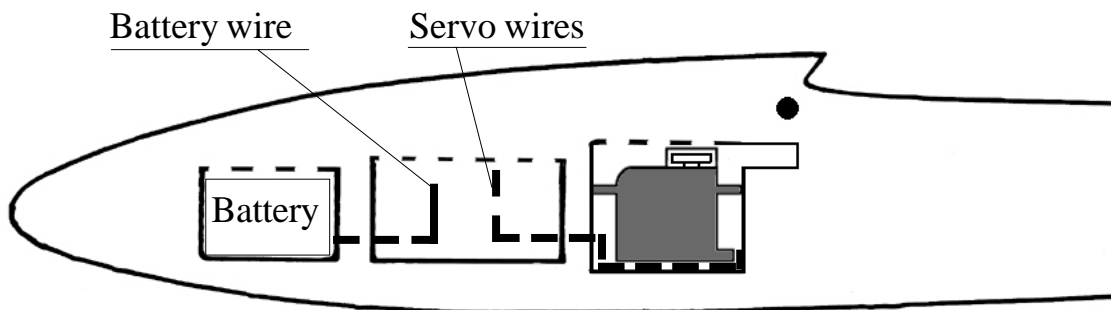


Figure 25

Cut a $\frac{1}{4}$ " x $\frac{1}{2}$ " slot in the coroplast behind the servo output arm. The slot will allow free movement of the push rod and clevis. Remove the clevis from the elevator control horn. Move the push rod as far forward as possible. Screw the thread clevis on to the threaded stud at the servo end of the push rod. Pull the servo half way out of the fuselage and clip the clevis on to the servo output arm. Push the servo back in place. Remove any foam that prevents free movement of the servo or the push rod. It may be necessary to make a bend in the threaded stud to achieve alignment. Turn the Tx and Rx on to check the control surface centering. Turn the threaded clevis at either end to adjust the neutral settings. (See Figure 26)

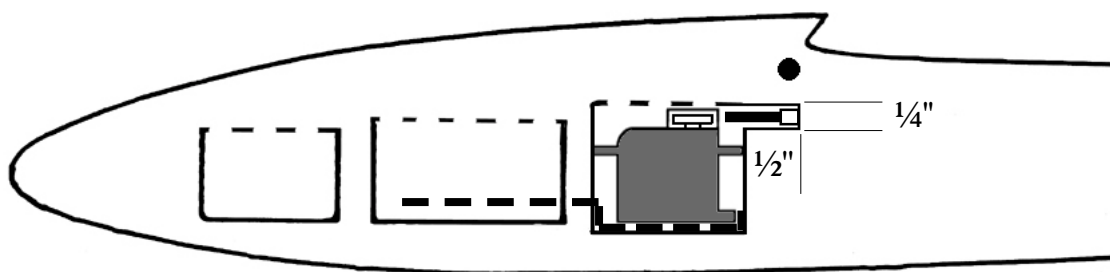


Figure 26

Rub the zig zags and hair off of the wing cores with a piece of scrap EPP foam. Lightly sand the wing panels (cores) sanding block with #320 paper. Lightly blocksand the leading edge (LE) to round off any sharp edges. (See Figure 27)

round off any sharp edges

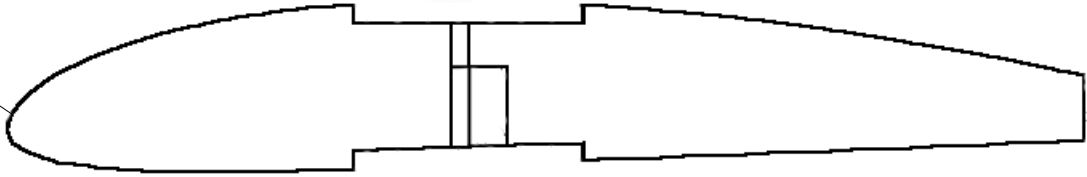


Figure 27

Fit the $\frac{3}{8}$ " x $\frac{1}{4}$ " x 24" hardwood spar into the groove in the bottom of the center wing panel. Let the spar stick out each side of the wing panel. Make a mark on the spar to match the angel on the end of the panel. Cut the spar on the line. (See Figure 28)

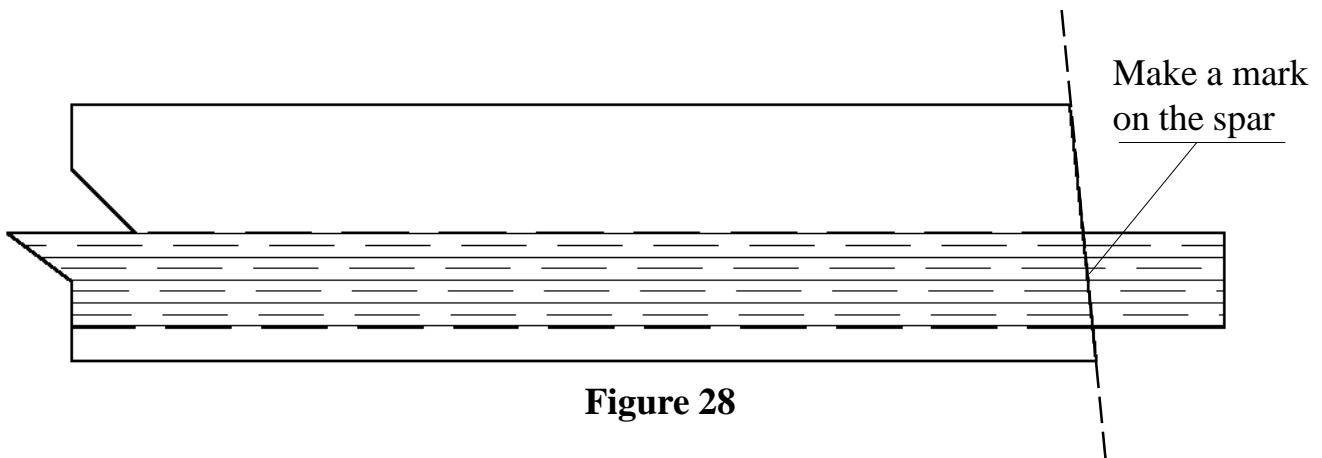


Figure 28

Lay the wing center section on a flat surface. Push the $\frac{3}{8}$ " x $1\frac{1}{2}$ " x 24" trailing edge stock against the center wing panel. Make a mark on the trailing edge stock to match the angle on the ends. Cut the trailing edge stock on the line. Repeat this procedure on the right and left wing panels. (See Figure 29)

Cut the trailing edge on the line

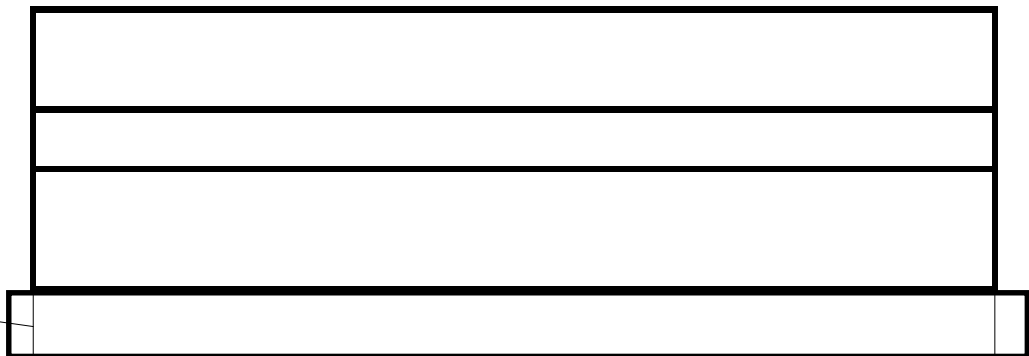
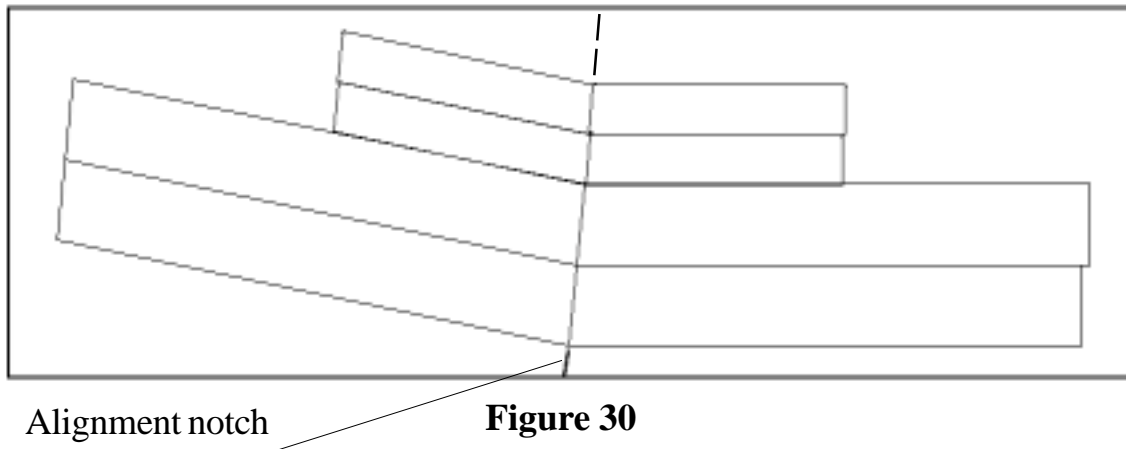
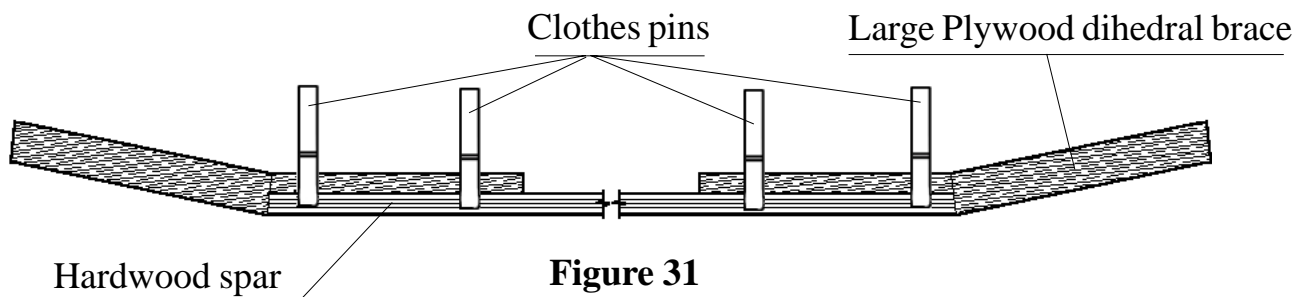


Figure 29

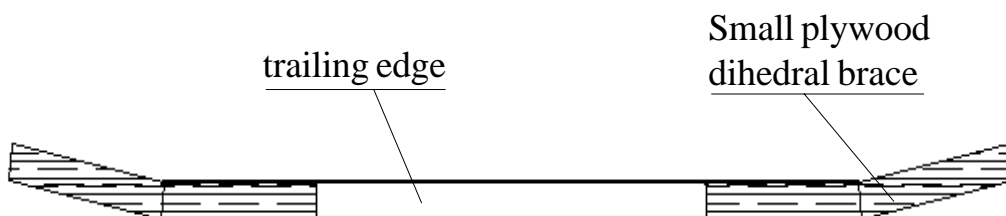
Locate the alignment notch at the bottom of the die-cut plywood dihedral braces. Make a line from the alignment mark to the center of the top brace. (See **Figure 30**)



Assemble the spar and braces. Match the center line on the large plywood dihedral brace with the hardwood spar. Place the parts on a flat surface covered with waxed paper. Spread 5 minute epoxy on the assembly. Clamp them together with clothes pins. (See **Figure 31**)



Assemble the trailing edge and braces. Match the center line on the small plywood dihedral brace with the trailing edge. Place the parts on a flat surface covered with waxed paper. Spread 5 minute epoxy on the assembly. Clamp them together with a piece of tape. Let the epoxy set on both of the above pieces. (See **Figure 32**)



Check the fit of the hardwood spar assembly in the slots provided in the wing center section. Remove the assembly. Spray the spar slot and the wood spar assembly. Push the assembly into the slot. (See **Figure 33**)

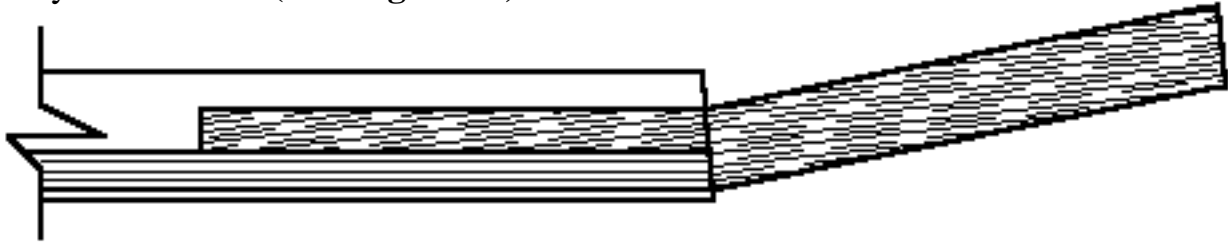


Figure 33 Section view of the hardwood and plywood assembly in the wing center section

Press the trailing edge against the foam panel. Make sure that the plywood braces match the notches in the center panel. Spray some adhesive into a mixing cup. Hold the spray head an inch away from the cup and press slowly until the spray fills the cup half way. Use the acid brush to paint the front edge of the trailing edge stock. Paint the trailing edge of the center panel. Let the glue dry to the touch. Put some weights on the rear part of the panel. Align the balsa trailing edge with the center panel. Slide the balsa trailing edge against the foam panel. (See **Figure 34**)

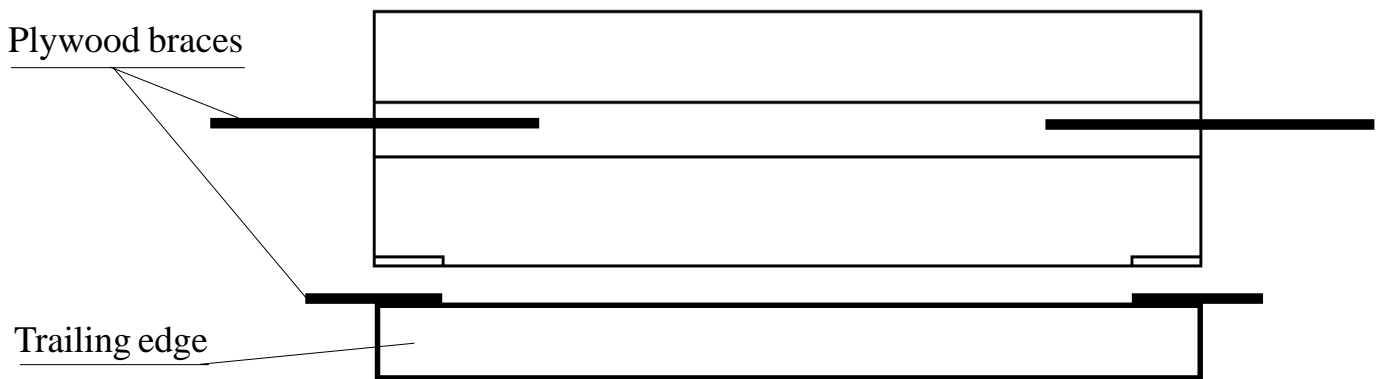


Figure 34 Top view of the wing center section

Glue the trailing edge on the right and left panels. Apply the adhesive with a brush. Let the adhesive dry to the touch. Put some weights on the foam panel. Push the trailing edge in place. Cut the trailing edge to match the wing panel. Block sand the trailing edge to match the angle of the foam. (See **Figure 35**)

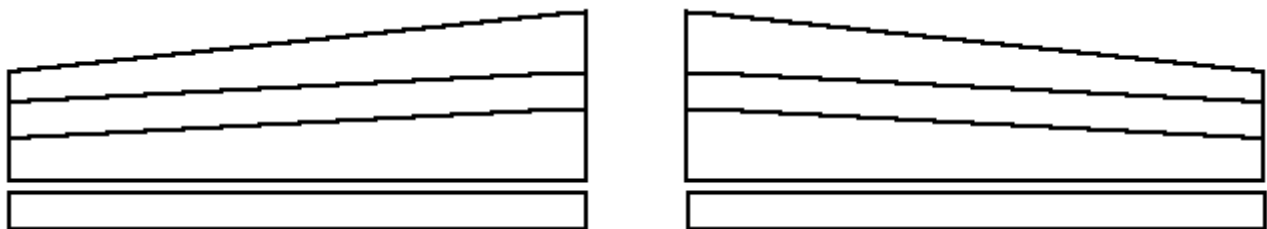


Figure 35

Remove the edges of the Corroplast spars with an x-acto knife or blocksand with #80 grit paper. (See Figure 36)

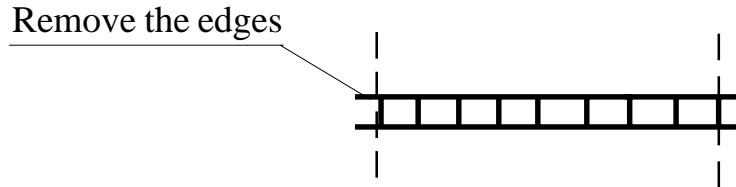


Figure 36 (Section of the Corrugated wing spar)

Use weights to hold the panel in place. The weights are very important to maintain alignment. Fit the spars in the spar slots. Spray one long puddle of 3M #77 Spray Adhesive the length of the spar groove. Hold the spray head 1 inch from the middle of the slot. Use a piece of scrap foam as a spatula to spread the glue evenly. Repeat this until the entire groove is wet with adhesive. Make sure that the side walls of the spar slot are covered. Lay the spars on a piece of paper and spray the spars with the adhesive. Let the adhesive dry until it won't come off on your finger when you touch it. Align the spars to extend beyond the root and tip of the wing panel and push them in place. See (Figure 37)

Lay the panel bottom side up and repeat the process for the bottom spar.

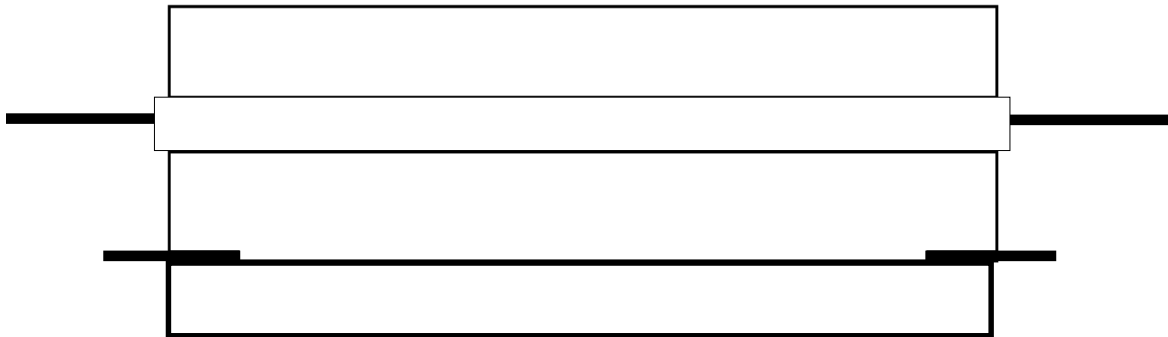


Figure 37 Top view of the wing center section

Use a straight edge to make a line on the spar at both ends. Cut the ends off flush with the ends of the panel. (See Figure 38)

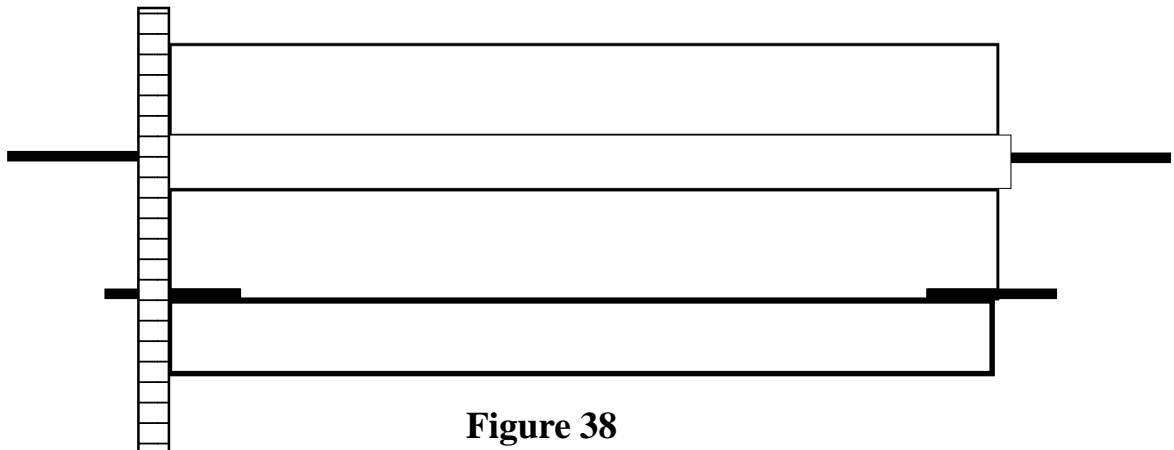


Figure 38

Lay the right and left wing panels on waxed paper top side up. Spray the top and bottom spars with adhesive. Let the spray dry to the touch. Apply a piece of 2" wide fiber tape over the top spar. Make the tape long enough to wrap 6" around to the bottom side. Turn the wing over and repeat the same procedure on the other side. Make a small cut in the fiber tape to clear the dihedral brace slot entrance. (See Figure 39)

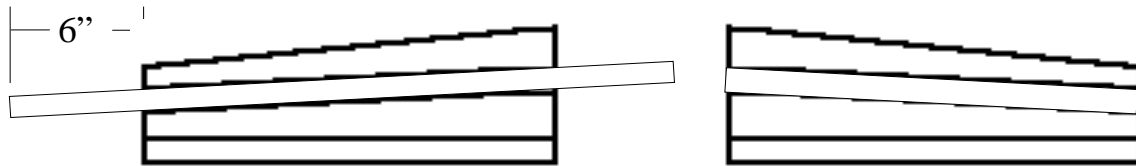


Figure 39

Lay the center wing panel on waxed paper top side up. Spray the top and bottom spar with adhesive. Let the spray dry to the touch. Apply a piece of 2" wide fiber tape over the top spar. Make four pieces of tape 12" long. Wrap the tape pieces around from the top to the bottom on both sides of the plywood dihedral brace. Turn the wing over and repeat the same procedure on the other side. (See Figure 40)

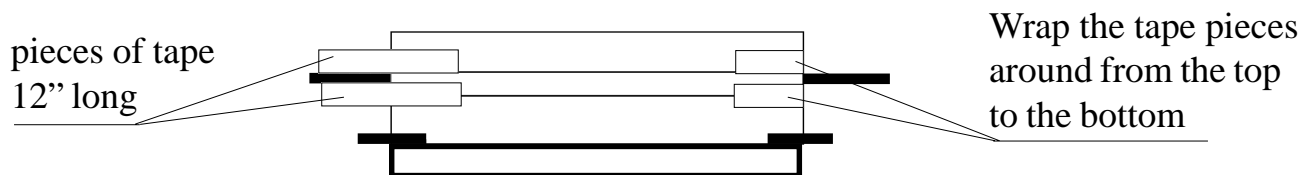


Figure 40

Lay the center section on a flat surface with some weights on it. Assemble the center section with the right and left panels to check the fit. Make sure that the plywood dihedral braces seat properly. Mix some five minute epoxy. Use a stir stick to work the epoxy into both dihedral brace slots in the right and left wing panels. Spread some epoxy on the ends of the panels. Put the wing together. Align the wing panels. Apply some tape strips to the leading and trailing edges. Lay the assembly on a flat surface on a piece of waxed paper. Put some weights on the center section. Put a block under the right and left panel to hold the tip 5 1/4" from the surface (See Figure 41)

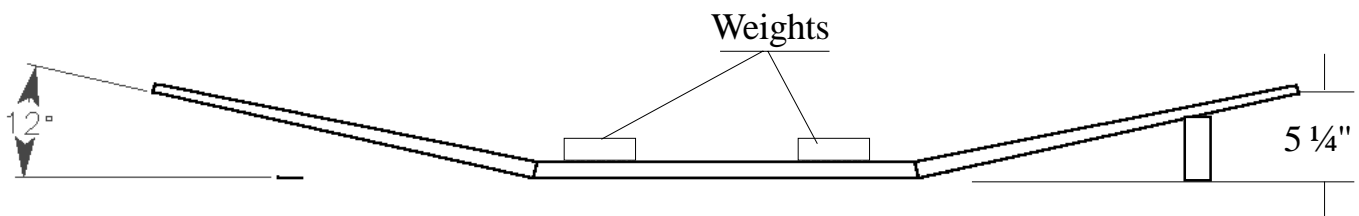


Figure 41

COVERING THE WING

Note: Do not stretch the color tape. Apply the tape by placing it loosely on the wing and pressing it down with a cloth.

Spray the entire wing with a meadium coat of adhesive. Let the glue dry to the touch. Apply 12" pieces of fiber tape spanwise over the spars at the joint. Wrap some pieces cordwise all the way around the wing on both sides of the joint. (See Figure 42)



Figure 42

Apply the color tape in three sections. Begin with the bottom of the center section. Wrap a strip of color tape around the trailing edge. Work forward overlapping $\frac{1}{4}$ ". Extend the tape 2" beyond the joint. (See Figure 43)

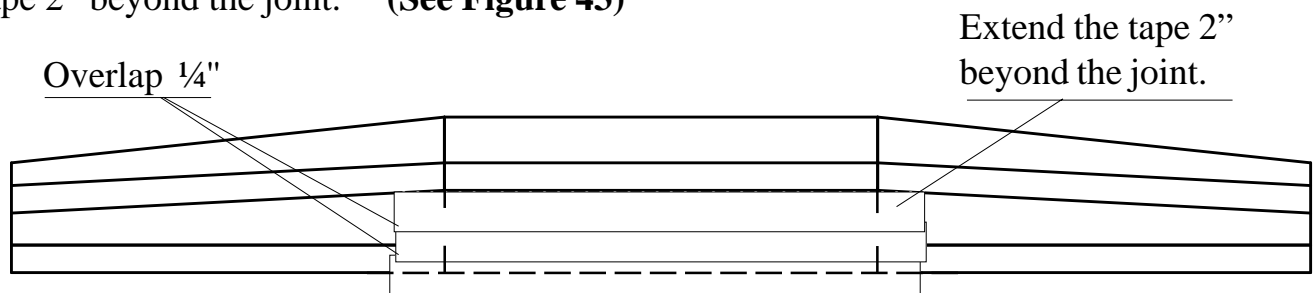


Figure 43

Continue with the bottom of the right panel. Wrap a strip of color tape around the trailing edge of the right panel. Work forward overlapping $\frac{1}{4}$ ". Extend the tape 2" beyond the joint. Wrap 2" around to the opposite side at the tip. Cut the tape at an angle at the leading edge. Repeat the same procedure for the left panel. (See Figure 44)

Turn the wing over and cover the top side the same as the bottom. Finish the covering with a strip of color tape wrapped around the leading edge of all three panels.

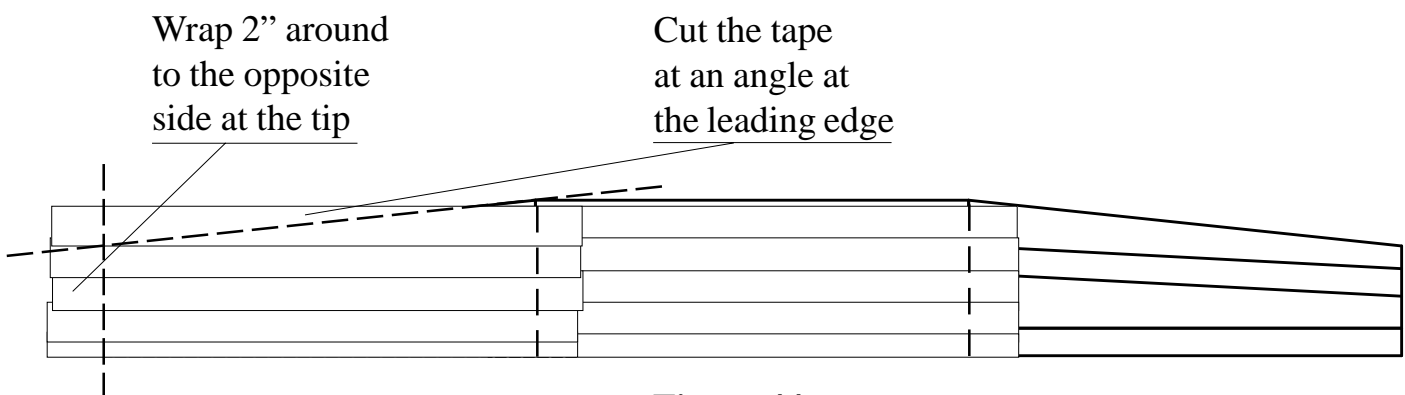


Figure 44

TRIMS AND THROWS

Center of gravity (CG). Balance point

The CG for the Floater should be set at $14 \frac{3}{4}$ " back from the nose.

Elevator throw

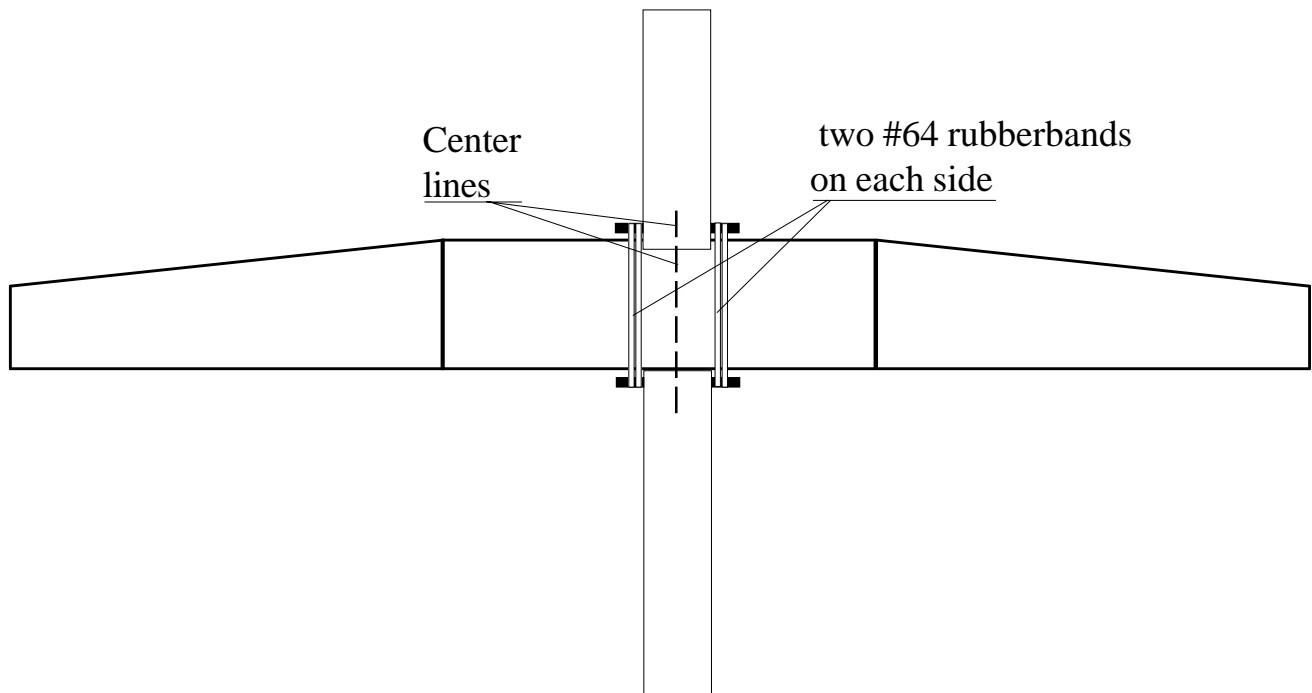
The elevator should have a minimum throw of $\frac{3}{8}$ " in each direction.

Rudder throw

The rudder should have a minimum throw of 1" in each direction.

FIRST ASSEMBLY AND GLIDE TEST

Measure the trailing edge of the center section of the wing and make a mark. Use a square to continue the mark to the leading edge. Measure the center line of the top of the fuselage. Mark the center line. Put the wing in the wing saddle with the center lines matching. Attach the wing to the fuselage with two #64 rubberbands on each side. Make sure that the rubberbands are parallel to the fuselage. Do not cross the rubberbands.



Do a preflight check. Turn the Rx and Tx on and make sure that the controls are working properly. Make sure that the rudder and elevator have zero deflection, they are in a neutral position. Pull the control stick back and observe the elevator move upward. Push the control stick to the right and observe the rudder move to the right. The first glide test should be done on flat land in a light breeze. Hold the Floater over your head with the nose pointed straight ahead. Run slowly into the wind. The floater will feel as if it's lifting out of your hand. Give it a gentle push STRAIGHT AHEAD. Do not point the nose upward. Correct the flight path with the radio control stick. The test is successful when

the Floater flies straight ahead with a slow sink rate to a sliding landing. If the Floater turns in either direction after the launch, compensate by adding 2 or 3 clicks of trim in the opposite direction with the trim lever below the control stick. If the Floater pitches up and immediately dives, add 2 or 3 clicks of down trim. Repeat launching until the Floater flies straight ahead with a slow sink rate to a sliding landing.

Mods and options

Covering: If an iron on film covering material is preferred, the most compatible covering to use is with EPP foam is UltraKote. Not UltraKote+. UltraKote is a low temp film. Make sure that testing is done on scrap foam before covering any airplane parts. The film coverings should be used with 3M # 77 spray adhesive.

Tail group: The Corroplast tail group can be replaced with an optional built-up tail group available from Trick R/C. Or, use the Corroplast parts as a pattern to cut the tail group from $\frac{3}{32}$ balsa sheet stock.

