Unofficial Guide for building the Hot Spot

- **BEFORE YOU START!**

If you ask a hundred modelers to design a method for building a kit, you will probably get a hundred different ways of doing it. I developed this set of instructions so a modeler with a few kits behind him would be successful. Although, I am not a "Master Builder", I felt that I would relate well to the requirements of an average builder. When I discussed instructions with my partner, he looks at this very prefabricated kit and says, " what do you need instructions for?'. Well, I would need them, so here it goes!

- **Preparation, adhesives, finishing and miscellaneous materials.**

When gluing ANYTHING to the inside of the fuselage, you must roughen up the area with 80-100 grit sandpaper. The gel coat finish of the fuselage allows you two choices on how to finish it. If you are careful during construction, you may leave it as it is with maybe some decals or stripes. Otherwise, you will need to wash and lightly scuff the gel coat for a paint finish. For sport finishes, I prefer using PPG catalyzed enamel and a final polyurethane clear coat of catalyzed PPG DAU 75. For Military finishes I like plastic model enamels with a final "flattened" polyurethane clear coat of catalyzed PPG DAU 75. These are just personal preferences of a "average" painter. If you want more information, check out Dave Platt's finishing video. The wings and control surfaces can either be covered with film or glassed and painted. The vertical tails must be glassed.

For adhesives, I use West Systems Epoxy, Zap and Smith Industries CA's, 5 minute epoxy and 3M 77 spray. West Systems epoxy can be purchased at most marine retailers. It is convenient because it uses a pump to meter the amount of resin and hardener and it sands beautifully. I always have a can of 105 resin and both the low temp 205 hardener and the slower cure 206 hardener at the end of my bench. This epoxy is perfect for glassing wood surfaces and can be thinned using small amounts of 99% pure isopropyl alcohol. It can also be used as a adhesive by mixing in milled glass or as a filler by mixing in micro-balloons. For tacking in bulkheads, I typically use Thick Zap. When using CA to adhere wood parts to fiberglass in lower stress areas, try using Smith Industries IC2000 rubberized CA.

- **Technical information.**

CG – DRY	Place a strip of masking tape on the leading edge of **each** wing starting about 6 inches from the vertical fin. Place a ruler along the wing leading edge and butted up against the vertical fin. Measure down the leading edge from the vertical fin and make marks at 7 and 7 1/2 inches. Lift the plane by placing your finger at each location and balance. At 7 inches makes a easy flying plane and 7 1/2 livens it up a little. Make sure the plane is also balanced from side to side.
Elevator Throw	+/- 1 1/4 - 1 1/2 inches maximum. At neutral, set both **up** by 3/8 of an inch measured from the wing cord side for wing reflex. No need for dual rate but use expo!
Aileron Throw	+/- 5/8 inches, Low rate +/- 7/16.
Rudder Throw	+/-7/8 inch minimum.
Airbrake Deflection	Approximately 60 degrees.
Wing Servos	> 100 oz in of torque.
Engine	Any turbine capable of 12 or more pounds of thrust.
Aircraft Dry Weight	18 to 22 lbs.

- **Manual flow.**

This manual is organized visually using photos at each step instead of using a list of text instructions. Each step will attempt to use a photo to best illustrate the task. Drawings and templates are also utilized to describe particular steps. Read and understand each step before executing it. This will minimize errors. If you are an experienced builder and prefer using a different technique than what I describe, please take the time to evaluate my method first before doing it differently.

- **Disclaimer.**

This manual is not a substitute for the manufactures instructions. **Do not use this manual for building your plane**. It is for entertainment purposes only!

Updates For This Manual

- ### Wings and Vertical Fins
1. The original kits had the wings and vertical fins covered in Obechi wood but they are now covered in balsa. The new wings have the elevons routed out instead of being cut out and finished as were the first kits. You will need to cap all the edges with balsa and make sure the elevon leading edge and wing trailing edge has medium hard balsa to properly hold the hinges.
2. The vertical fins should be covered in at least 4 oz glass for strength. I would also add vertical strips of carbon. They are too flexible otherwise.
3. The rudders should be cut all the way to the bottom. This makes hinging much easier. The drawing indicates this new method but the photos do not.
4. It is important to get a good fit of the vertical fin to the fuselage and to the wing. Either make a good epoxy fillet on the fuselage and wing or use silicon after the kit is painted.
5. The vertical should also be bolted to the fuselage. To do this, cut a hole in the fuselage wing root area about 3/4" long and 5/8" high forward from the trailing edge by ~ 5 1/4". Put a piece of 1/4 inch plywood, a little larger than the hole within the fuselage wing root, and epoxy/fiber filler in place. Make sure you grind on the inside to square the

5 1/4 "

1/2" up from bottom

1/4x20 Nylon bolt

Clearance wing
for bolt head
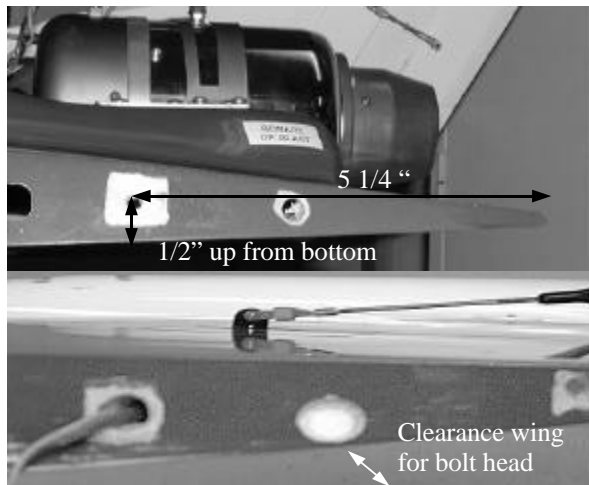
internal fuselage fillet and round the plywood edges so to fit in flush against the wing root glass. Square to the fuselage wing root, drill and tap the plywood for a 1/4x20 nylon bolt. Install a 1 inch square of very hard balsa in the area of the vertical fin where the bolt will be. This will keep the fin from being crushed when you tighten the bolt. Mark where to drill the vertical fin by transferring the bolt location in the fuselage. You can use a nylon bolt with the head cut off and the end sharpened. Partially thread into the hole and place the vertical fin on and press against the sharpened end to mark the hole location. Drill the hole square to the vertical fin. Finally, clearance the wing root rib for the nylon bolt. You only need one bolt here to firmly hold the fin to the fuselage.
6. Hinging the surfaces should be done with either heavy duty Klett flat hinges (preferred) or heavy duty Robart pin hinges. With the flat hinge, use four on each elevon and rudder.

- ### Fuselage
1. The wood structures have been changed since the first kits. I have only seen them but have not worked with them. From my observations, the manual will basically cover what you will need to install these new structures.
2. The speed brake and gear openings now have scribed lines to indicate where to cut them out on the fuselage. You can still use the manuals templates but they may differ slightly. Especially check the speed brake since it may require a different size wood box underneath. Making the bottom floor of the speed brake wood box removable is another good idea. It really helps for access!
3. The speed brake servo recommended in the manual is marginal for strength. It works but you may want to try the new digital version or redesign the mount for a larger servo.
4. I highly recommend using the Robart gear and struts with this plane. If you do, make sure you get the main struts for the Hot Spot. The Kangaroo struts are too short and sets the plane at an unfavorable incline. The main gear should still come to the same position where indicated by the templates when retracting.
5. The tank can be put in 90 degrees from how the manual shows. If you do it this way, make sure the speed brake box will not be too deep within the fuselage preventing the tank from fitting. The tank will rest on the bottom of the fuselage and should have hardwood rails glassed to the bottom fuselage going the full length of the tank on each side.

1. Identify the locations of the gear openings using the scribed lines in the fuselage. Use a light from the inside to help. Use 3M 77 spray to attach the paper templates to the correct positions. Then cut out the openings with a rotary tool using a cutter and sanding drum. Use a sanding block to true the straight lines.

2. Cut out the speed brake 2 inches behind the canopy. Darken the cut lines with a Sharpe and use masking tape over the cut area to help minimize mistakes. Use a straight edge and a fine razor saw to make the cut. Be careful when cutting the hinge area. This requires a sharp knife for cutting out the corners.
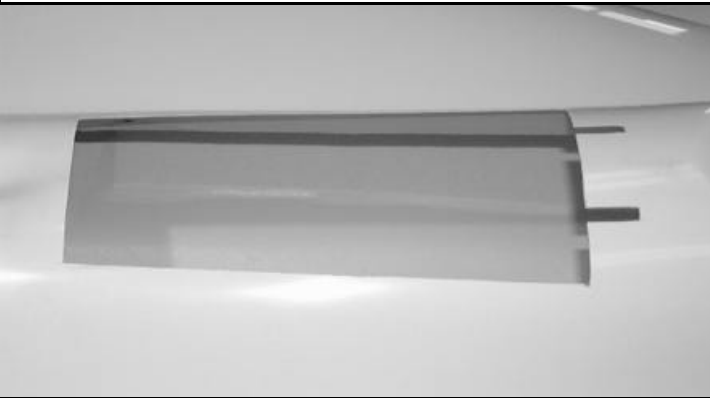
3. Cut out the speed brake box plywood parts using the supplied template. Cut to the outside edge of the template lines. The box is from light plywood but the ribs and horn mounts are from aircraft birch plywood. Cut a large Goldberg control horn down to only one clevis hole. Then mount the horn in the center of the plywood plate with the control horn mounting flush to the edge. Secure wood screws with CA.

4. Drill the hinge holes in the ribs for a tight clearance fit for 0.075" control rod wire. Using a flat surface, square the ribs to each other with a inside to inside distance of 1 9/16". Tack CA a piece of scrap balsa to hold the ribs square.
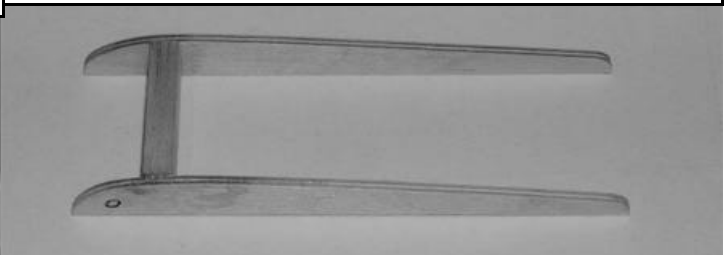
5. With a sanding block slightly radius the ribs for a good contact when mounting to the speed brake. CA the ribs in place centered to the speed brake from side to side. The center of the rib hinge pivot holes should be 3/8" forward from the front edge of the speed brake. CA in the vertical horn mounting plate 1/2" behind the speed brake front edge.
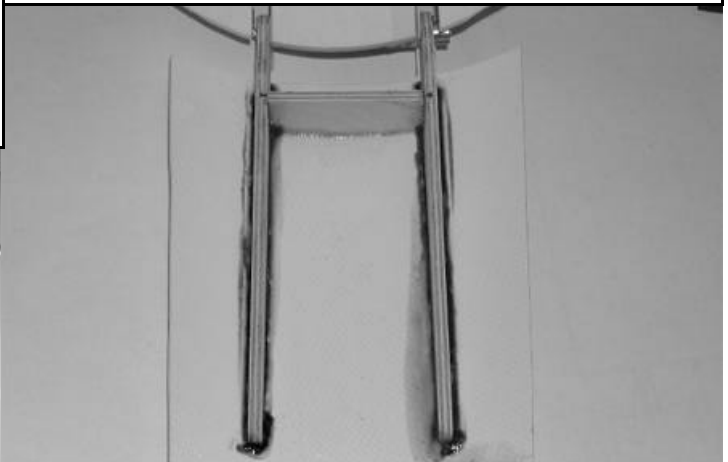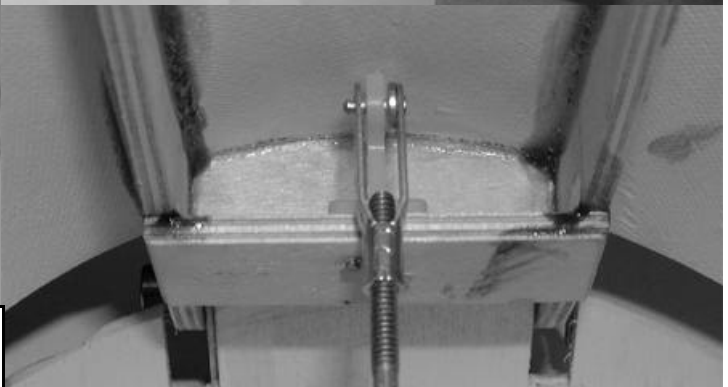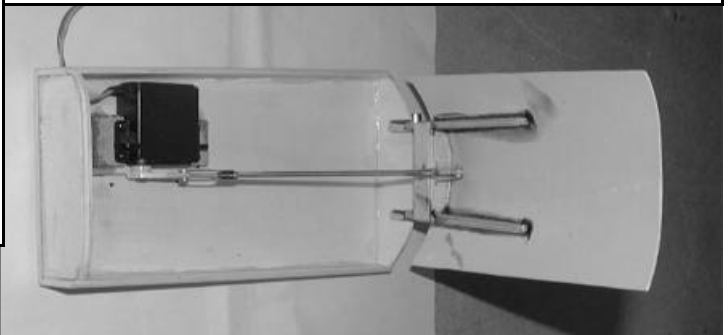
6. Position the control horn support to just cover the vertical support with the control horn facing towards the speed brake and rearwards. CA in place to the rib tops and vertical support.

1/2"
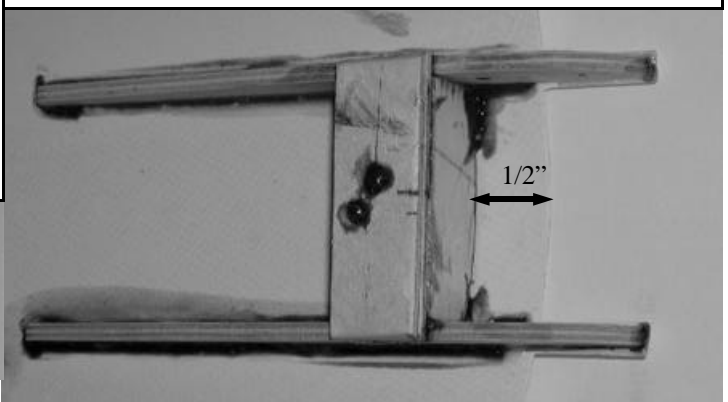
7. Build the speed brake box using CA. All the vertical walls are positioned to the top edge of the floor. Make sure you get them vertically square!. The rear wall is doubled. This provides a support for the brake in the down position. Make and CA in the 1/4" thick plywood hinge pivot blocks to the front protruding edge of the floor. Use the speed brake ribs to ensure proper spacing. With a sanding block, radius the top of the side walls to match the curvature of the front and rear walls. Now put the speed brake into position over the box with the back resting on half of the doubled rear wall. Sight the front edge of the speed brake and position it as if it was just resting on the front vertical wall. Transfer the holes in the ribs to the hinge mounting blocks. Drill a 0.075" hole through the hinge pivot blocks. Using a piece of control rod wire, bend one end 90 degrees about 1/4" in length and then push into place hinging the speed brake. Use a collar to secure the other end. File a flat area on the rod where the collar locking screw contacts and use thread lock.

8. If you are using a servo to actuate the speed brake, use a narrow width servo like the JR 3321 or Airtronics 94141 with a long arm (9/16" from the servo screw to the clevis hole). Mount the servo so the arm screw is in the center width of the box and a 1 1/2" from the inside rear wall. If you want to use a pneumatic actuator you will need one with about 1 1/2" stroke.


9. Make up a 4/40 pushrod and clevises. Set the length so when the servo arm is in the full up position, it is in center to the servo pivot. This will relive the load to the servo when it is in the up position (about 60 degrees). The servo will need maximum throw. Normally, a 2 position switch on the transmitter is used for this function. Cut a hole in the floor to bring the servo wire out.
Test place the speed brake assembly into the fuselage and check the fit. You may need to adjust the walls to get the best fit of the speed brake to the fuselage cutout. Do not glue in at this time!

10. If you are using the 2.5 liter plastic bottle available from Golden West Models, prepare the clunk assembly as follows. Use two pieces of Tygon tubing with a piece of brass tube in-between so the clunk cannot come forward. Secure the tubing to the brass tube with small tie wraps. Use a felt clunk available from Golden West Models. Use a bulkhead tubing fitting for the tank cap. It will seal against the caps liner.
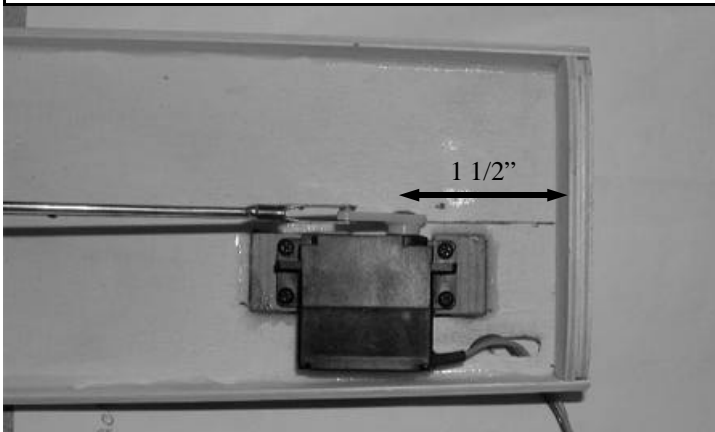
11. Use a bulkhead fuel fitting for the tanks vent line. Use the type that has a tubing nipple on just one side. Cut a 1/16" length piece of Tygon tubing and use it under the vent fitting for a seal.


Use a thin piece of Tygon tube as a seal

12. Screw the cap on the bottle and make sure the clunk is at the back of the tank but able to move freely. Secure the cap with several raps of black electrical tape.


Note position of the vent.
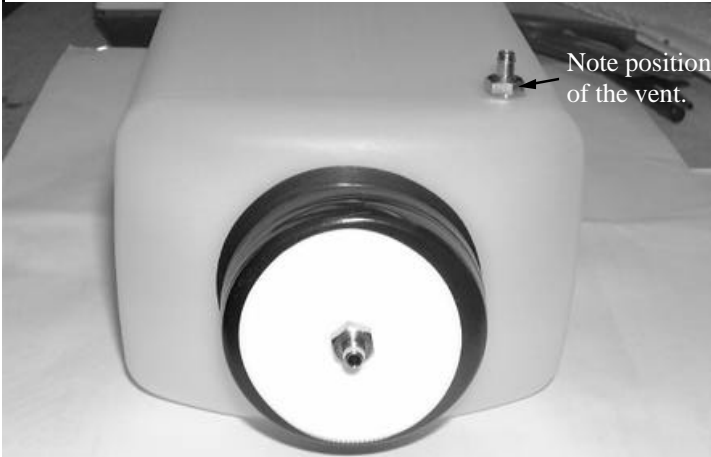
13. Make up two tank straps using 3/4" Velcro. Be sure to make both a "hook" and "loop" side. Secure straps to 1/2" square spruce blocks about 1 1/2" long. Make sure the correct sides of the Velcro will contact when they are used to secure the tank. **Suggestion:** use cut down 90 degree servo mounts (or similar material) to make washer plates between the screws and doubled over Velcro. This will make a secure mounting!
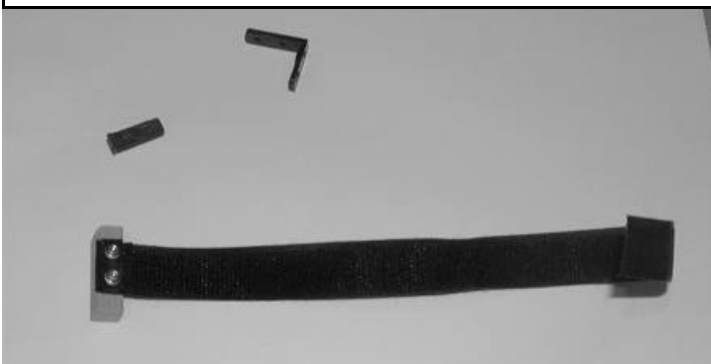
14. Cut out both front and rear tank bulkheads from 3/16" birch plywood. Epoxy the rear tank mount 2 1/4" in front of the main gear bulkhead. Epoxy the front tank bulkhead 5 1/2" in front of the rear tank bulkhead. Epoxy in the tank straps with one edge of their spruce blocks against the back of the front tank bulkhead. Position the straps blocks so they are just on side of the tank. Make sure when they go around the tank, the Velcro is properly positioned to work.
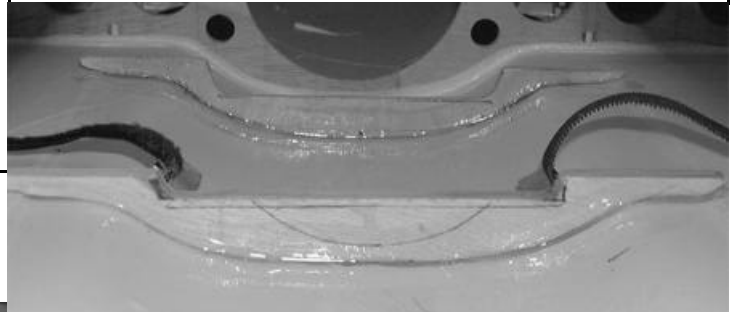

15. Cut out the tank bottom floor from 3/32 birch plywood. Cut lightening holes if desired. Epoxy the floor to the two tank bulkheads and to the main gear bulkhead.
Using a BVM carbon fiber angle, radius the solid edge for restraining the tank just behind the cap. Epoxy the angle to the front of the tank floor so it holds the tank from going forward.
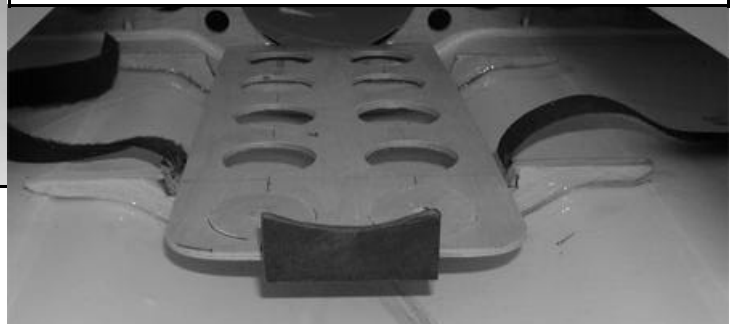

16. CA two scrap carbon pieces to the front restraint to keep the rubber bands around the cap from slipping off. Use two #62 rubber bands around the cap and restraint.
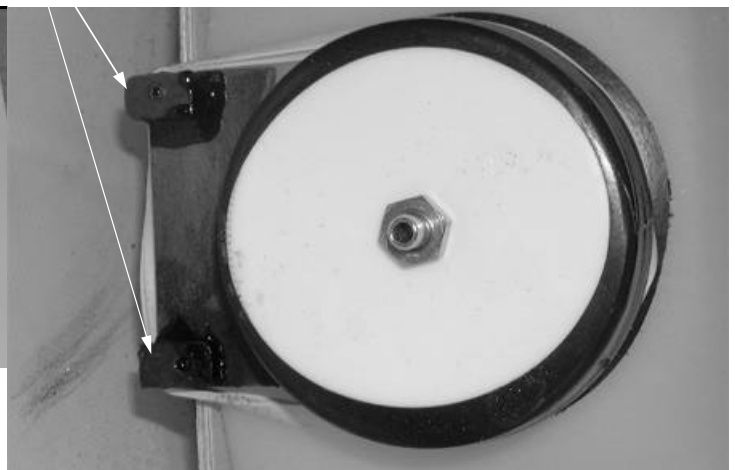
17. Epoxy a 1" x 5" x 3/16" birch plywood plate to the main gear bulkhead for holding down the back of the tank.


Fiberglass
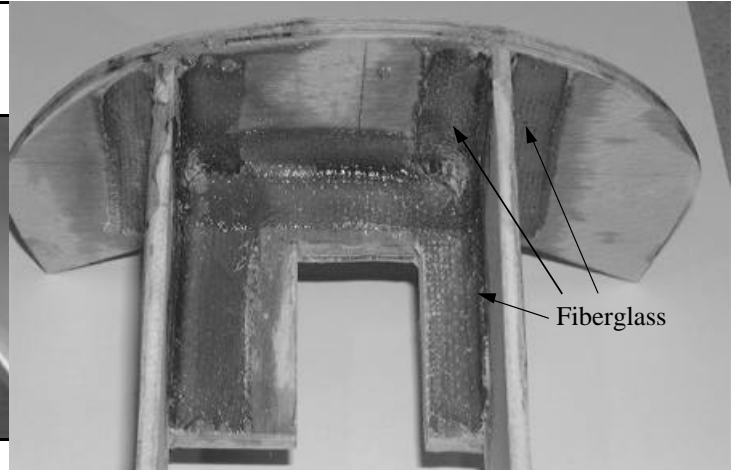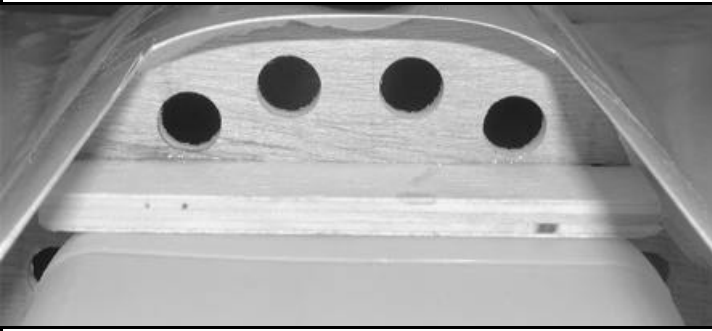
18. So you can remove the tank for servicing, you must widen an area in the canopy opening to allow the tank to be removed. When installing the tank, pull the Velcro straps tight and put two #62 bands around the cap and front restraint.

Clearance canopy opening for tank removal.

Velcro straps
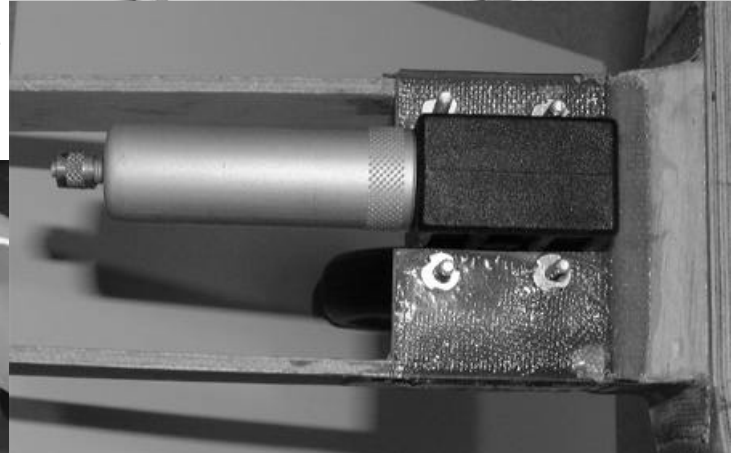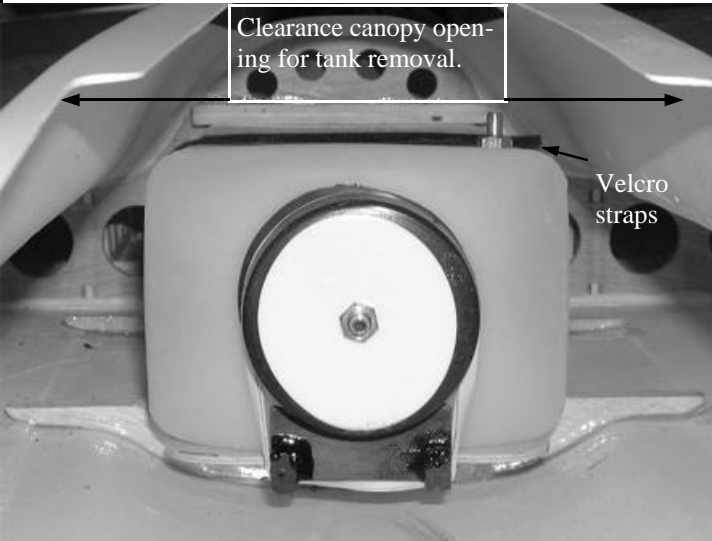
20. Align nose gear mount using the drawing for locating its position. Tack glue in place with CA then use 1" fiberglass tape around the front bulkhead and the outside walls of the mount laminating it with epoxy. Glue in rear nose gear bulkhead with epoxy and milled fiber.

19. Epoxy the nose gear mounting parts together. They are keyed for proper alignment. Refer to the nose gear mount drawing. Using 1" fiberglass tape, laminate the top bottom and sides of the nose gear mounting plate. After curing, position the nose retract, mark and drill the mounting holes with clearance for 6/32 blind nuts.

Fiberglass

Fiberglass

Fiberglass
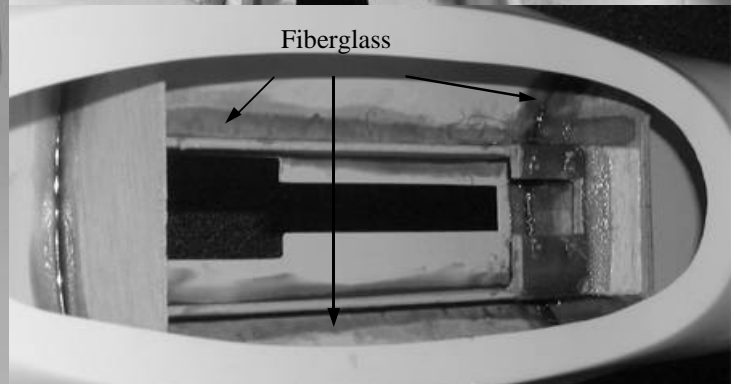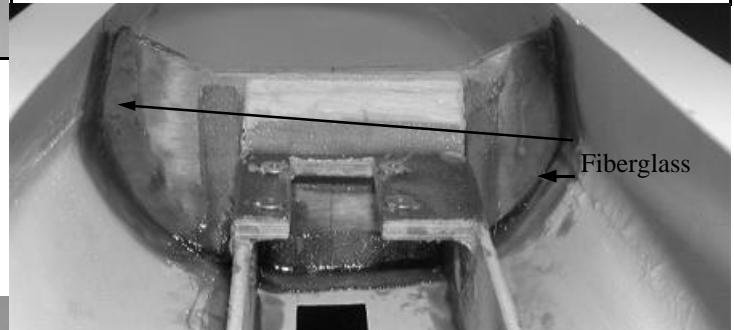
21. Cut out the rudder as per drawing. Use a sharp knife and razor saw. Cut the additional area on the rudder for the thickness of the cap strip and hinge line balsa. Cap the top of the vertical fin and rudder with 1/16" and the hinge line with 1/4" hard balsa. The vertical fin and rudder bottom are already solid balsa. You will need a little clearance top and bottom for proper rudder motion. Put a angle shape on the rudder leading edge. You should have at least +/- 1" of motion on the rudder.


22. Cut out the rudder servo cavity on the inside of the vertical fin. Do not cut all the way through! This will hide the servo plate when viewed from the side of the plane. We use Volz Wing-Maxx servos because they are only 10mm thick. Put in 1/4" dia. dowel sections on each corner for the servo cover screws.

23. Using a long 3/16 inch drill and a length of telescoping brass tube, carefully drill a hole from the bottom of the vertical fin to the servo cavity. The entry must be just below the spar tube hole. Note the angle of the drill on the picture. This hole is for the servo wires.


24. Drill a hole about 4" back from the spar hole to intersect the rudder servo wire hole. This is where the rudder and aileron servo wires will enter the fuselage.
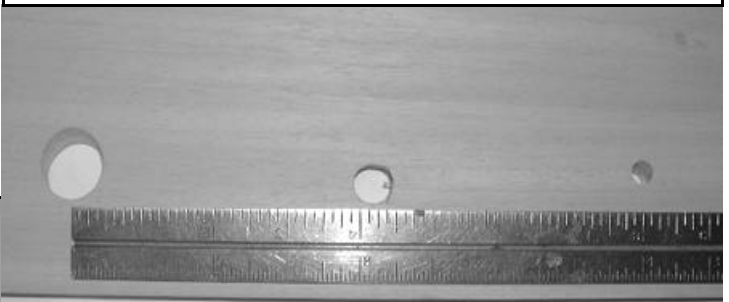

25. Install a 5/16" dia. dowel in the rudder. Drill and tap for a 4/40 control horn screw. Line the horn up with the servo output arm. Use 3 large blade type hinges. Round hinges would be difficult to install because of the rudder shape.
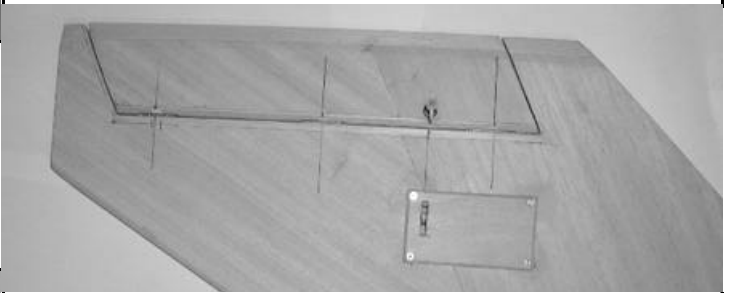

26. Make a servo cover from 1/32" plywood and 1/16" x 1/4" balsa spacers. The spacers are necessary because the servo is slightly wider than the vertical fin. Round the plywood edges. Drill and countersink holes for mounting. Make a 3/4" x 1/8" slot for the servo arm.

Back

Front
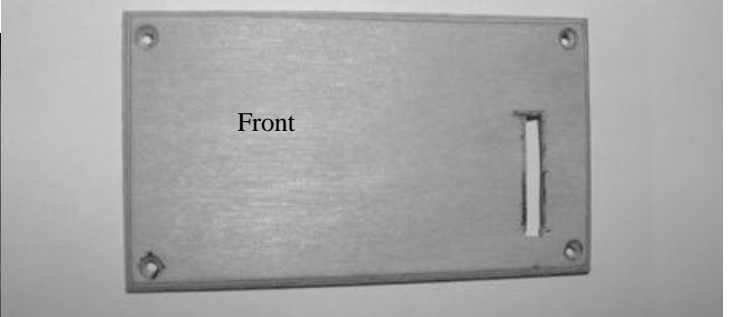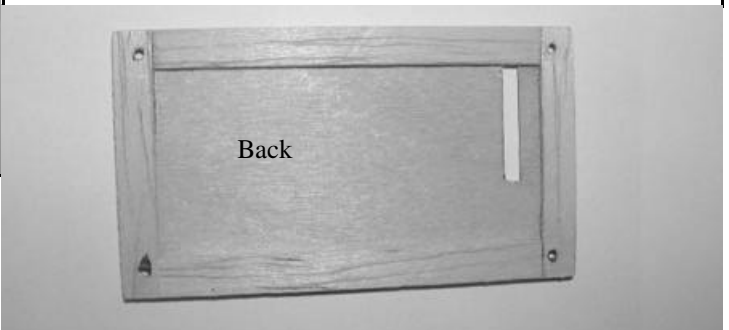
27. Cut open the mounting tongue hole marked on the vertical fin. Cut it at the same angle as the mounting tube and dowel holes. Cut the small dowel into 4 equal pieces. Slightly bevel each end of the dowel.
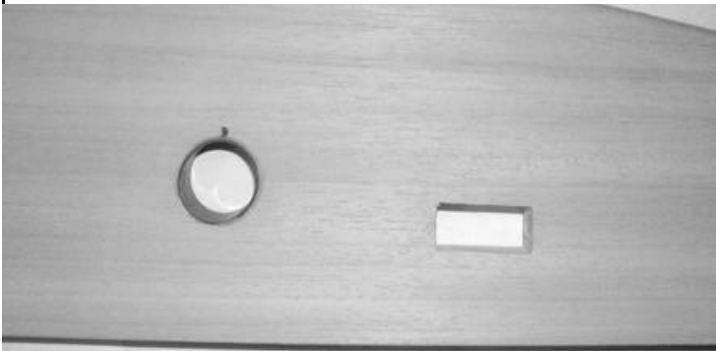

29. Prepare the wing bushings by capping the non-angled cut end to prevent glue from entering when affixing into the wing. A piece of 1/64 inch thick plywood or similar material will work. Ruff up the outside of the bushing with 100 grit sandpaper.


Cap end
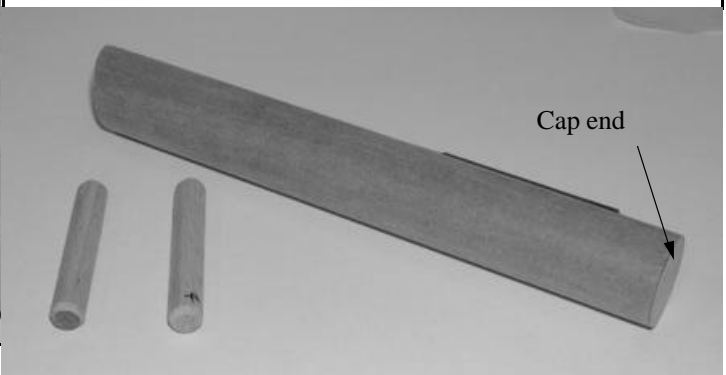
28. Locate the mounting tube bushings for the vertical fins. These bushings are glued in with the vertical fin located on the fuselage for proper alignment. Before gluing the bushings into the vertical fins, protect the fuselage area around the wing mounting tube with masking tape. Apply a small amount of Vaseline on the tape and the tube. Now slide the vertical fin over the mounting tube and place the two dowel pins into the fin and fuselage to locate it. Then glue the bushing into the fin with 5 minute epoxy. Make sure you have proper alignment since the bushing is cut at an angle. After the glue is set, remove the fin and masking tape from the fuselage. Clean off any remaining Vaseline with alcohol. Sand off any excess glue from the fin.

30. Place the vertical fin back on the fuselage and hold it in place with the two dowels. Press the dowels in so that they are flush to the vertical fin. Protect the vertical fin area around the wing mounting tube with masking tape. Apply a small amount of Vaseline on the tape and the tube. Prepare a mixture of 5 minute epoxy and milled fiber. Coat the inside wall of the wing mounting tube hole with glue and insert the bushing with about 1 inch remaining outside. With the angle cut of the bushing in the proper location, slide the wing on the tube holding the bushing so that it does not go further into the wing. Before pushing the wing flush to the vertical fin, align the trailing edges of the fuselage and wing, then firmly press the wing against the vertical fin and hold until the glue sets. After the glue is set, remove the wing and masking tape from the vertical fin. Clean off any remaining Vaseline with alcohol. Sand off any excess glue from the wing. Repeat this step for the other wing.
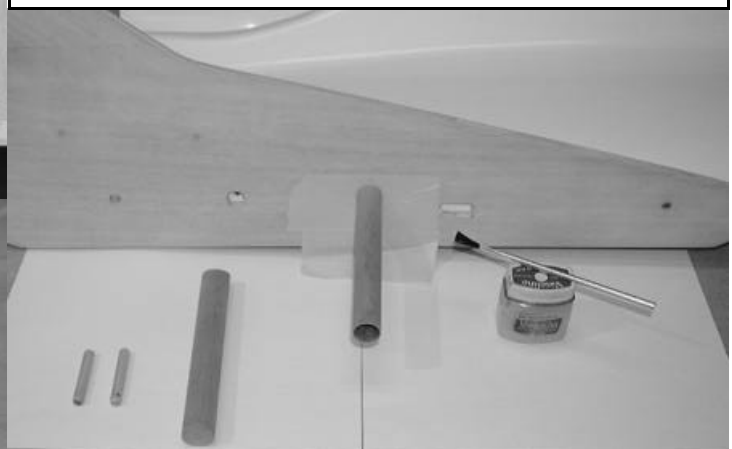
31. Place one vertical fin back on the fuselage and hold it in place with two dowels set flush to the vertical fin. Slide the wing panel back on and align the top of the trailing edge of the wing panel to the top trailing edge of the fuselage. Hold this position and mark the outline of the wing root with a pencil on the vertical fin. Remove the wing panel, vertical fin and mounting tube from the fuselage. Now place the vertical fin and wing panel back on the mounting tube and align the wing root to the pencil outline. Using a 19/64" drill and the vertical fin dowel holes as a guide, carefully drill one of the two holes into the wing. Place a dowel in this hole then drill the other. **Hint:** spread thin CA around the approximate area where the holes are to be drilled into the wing root to make a harder surface for the drill bit.
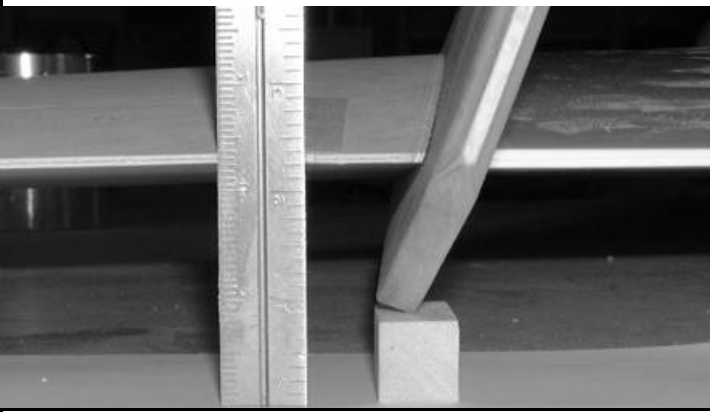
32. Place the mounting tube back into the fuselage and slide on the vertical fin. Place the two dowels into the vertical fin where that half are in the fuselage and the other half are for locating the wing panel. Using a small amount of medium CA, glue the dowels to the vertical fin. Be careful not to stick the fin to the fuselage. Remove the vertical fin and glue around both sides of the dowels.

33. Place the mounting tube, vertical fin and wing panel back on the fuselage. Place the opposite vertical fin on the fuselage and hold it in place with two dowels set flush to the vertical fin. Slide on the second wing panel. With the fuselage on a flat table and 3/4 inch balsa blocks under the vertical fins, position the second wing panel so that it is level to the fuselage and the first wing panel (about 2 3/8 inches above the table surface measured to the top of the trailing edge at the elevon). Again, with a pencil, mark the outline of the wing on the vertical fin. Repeat steps 31 and 32 to complete the second wing panel and vertical fin.


34. Trace the wing mounting tongue hole from the vertical fin to the fuselage. Open up the fuselage area for the mounting tongue. Drill a 5/32" hole in the fuselage where a molded mark is located on the bottom for the tongue mounting screw (about 1/2 inch in from the side of the fuselage). Clearance for the head of the screw. Screw the tongue to the fuselage.


35. Slide the wing panel on and trace the tongue on the wing root. Cut open the hole for the mounting tongue. Test fit the wing to make sure the tongue fits properly.


36. Protect the vertical fin area around the wing mounting tongue with masking tape. Apply a small amount of Vaseline on the tape. Mix up some 5 minute epoxy and milled fiber and spread on the walls of the mounting tongue hole in the wing panel. Slide the wing on and hold it firmly against the vertical fin until the glue sets. Remove mounting tongue screw and slide off wing. Clean up any excess glue. Repeat steps 34, 35 and 36 for the other wing panel.
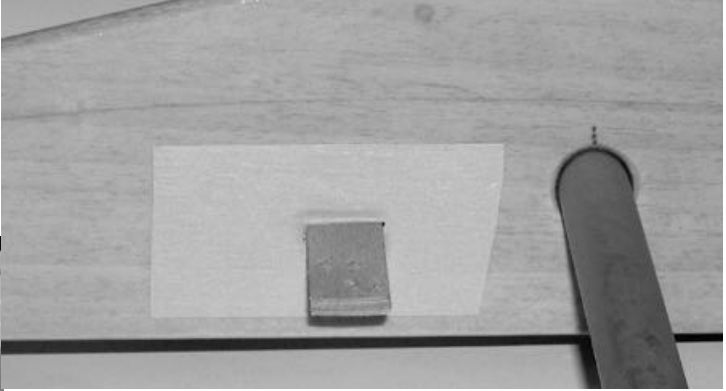
37. Mark a line the length of the elevon on the leading edge. The line is proportioned by 1/3 to the top and 2/3 to the bottom. Using a 24" sanding block carefully shape the leading edge per photo below. Mark and cut slots for 4 heavy duty blade hinges. See drawings for dimensions.
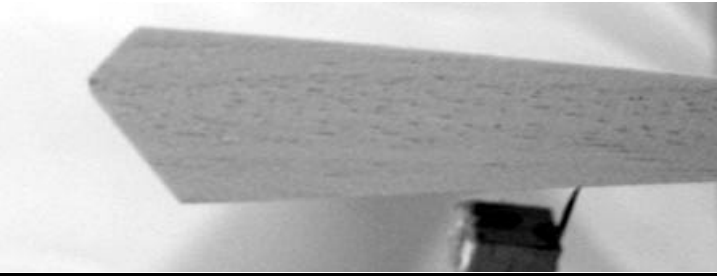
38. As per the drawings, mark out the servo location on the wing. Using a knife, cut through and remove the wing skin. Route out the foam to a depth of about 1". Make a floor out of 3/32" plywood. Mount the servo with carbon fiber right angle servo mounts. Use 4/40 blind nuts in the floor and cut the servo mounting screws flush. Glue floor in with epoxy mixed with a small amount of glass fiber. Protect blind nut holes with masking tape. Cut 4, 5/16" diameter dowels the height of the opening minus the thickness of the servo cover plate. Glue dowels to floor. Cut and glue a 3/8" dowel in the elevon for the control horn. Line the horn up with the servo output arm. Drill and tap a hole for a 4/40 hardened screw. **NOTE: It is best to drill the hole in the dowel before gluing it in place. Make sure the hole is centered in the dowel and the control horn screw is square to the surface.** Make a servo cover plate from 1/16" plywood. Drill and counter sink the holes for flathead screws. Cut a slot for the pushrod exit opening.
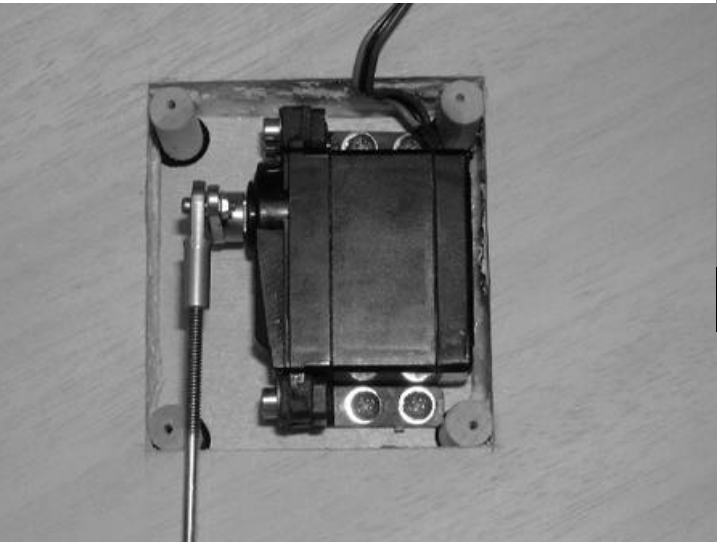
39. For the elevons, use a 4/40 push rod with a 8/32 Rocket City horn and threaded clevis. Make sure it is the clevis with the metal insert, not the all nylon one. On the other end, solder on a metal clevis. The elevon should be reinforced with a hardwood block for the horn bolt . You will need to drill and counter sink a hole in the elevon square to the bottom surface. Then countersink the hole at the top for the screw head at an angle so the flat head screw seats properly. For the rudder, use 2/56 push rod and a 4/40 flat head screw in the rudder. The rudder must also have a hard wood block for the screw horn.
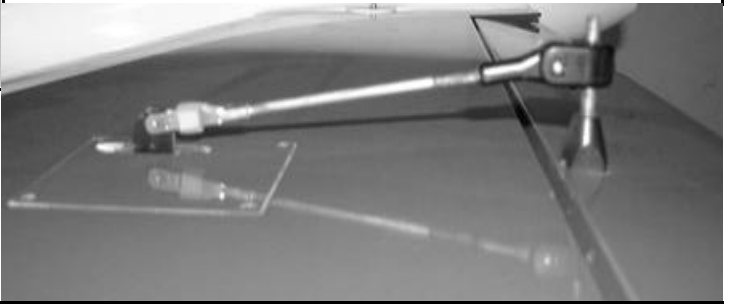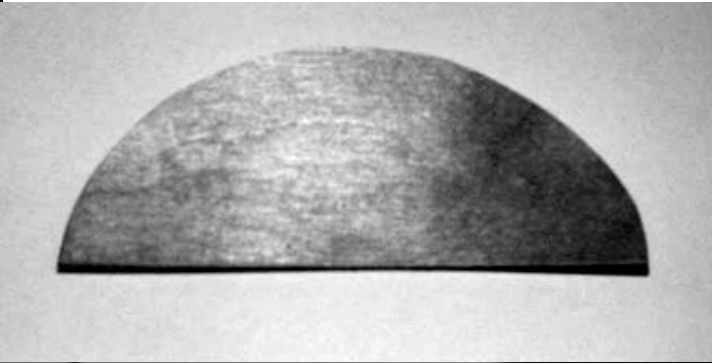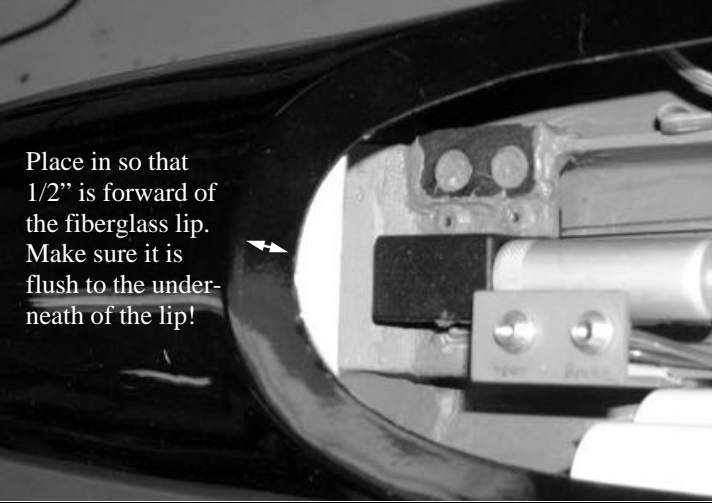

WING CONTROL ROD

RUDDER CONTROL ROD

40. Cut a piece of 3/32" birch plywood to fit under the front lip of the fuselage where the canopy front locates. There should be about 1/2" of the plywood sticking out to hold the canopy frame. Attach with epoxy and fiber filler.

Place in so that 1/2" is forward of the fiberglass lip. Make sure it is flush to the underneath of the lip!

41. Cut a slot in the front of the canopy frame under the lip. Take care in not cutting too much. The canopy frame should fit tight when slid on. Reinforce the remaining canopy frame under the slot with some peel-ply fiberglass from BVM. Epoxy in place.

Peel-Ply reinforcement
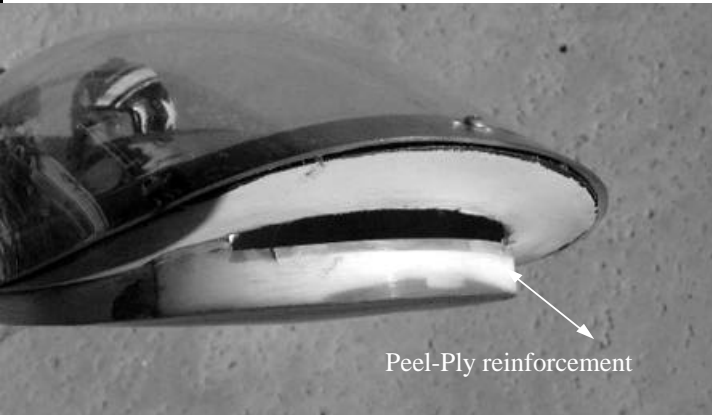
42. Attach a plastic tube to a scrap piece of hardwood and epoxy it to the center between the canopy and speed brake. Drill a hole through the speed brake frame so a 1/16" wire can be inserted for holding the canopy. With the wire in the tube and the canopy pushed down in place, press the wire against the canopy frame to mark it. Drill a hole just large enough for the wire to fit.

43. The canopy is held to the frame with small sheet metal screws. Use a cut down MGA pilot and a AT-6 instrument panel.

#2 Allen head sheet metal screws
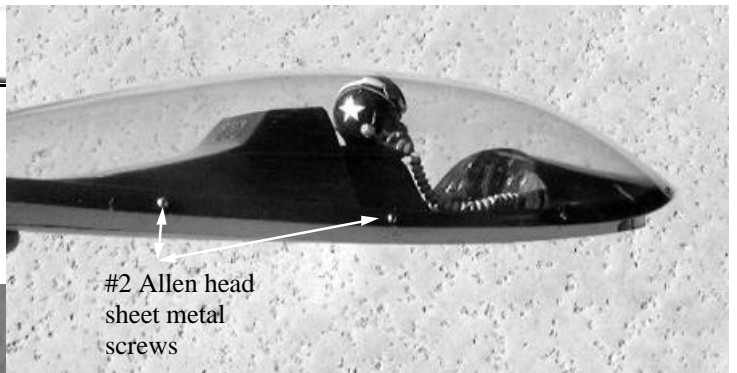
44. Equipment installation. In my Hot Spot the retract tanks and receiver are mounted in between the nose gear bulkheads. The ECU, pump, header tank, propane tank, engine valves, retract and brake valves are mounted between the rear nose gear bulkhead and the front of the main tank. The receiver and pump battery packs are mounted on each side of the main tank towards the front. This worked out perfectly for the CG but yours may differ.

Suggestion for a removable equipment plate that fits in front of the main tank.

Gear and Brake air tanks

Suggested placement for the JetCat I/O board

45. Engine installation is very simple. With the JetCat or RAM style engines, align the rear part of the engine's case to the back edge of the fuselage. Use four or six #8 sheet metal screws to fix the engine mount to the fuselage.
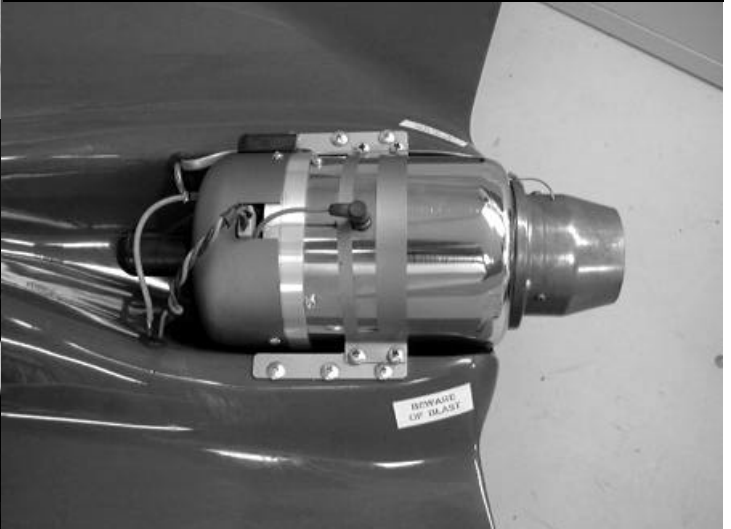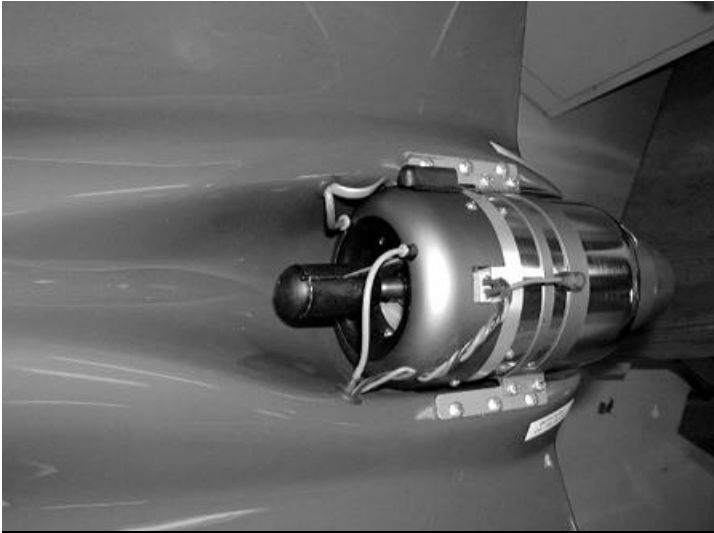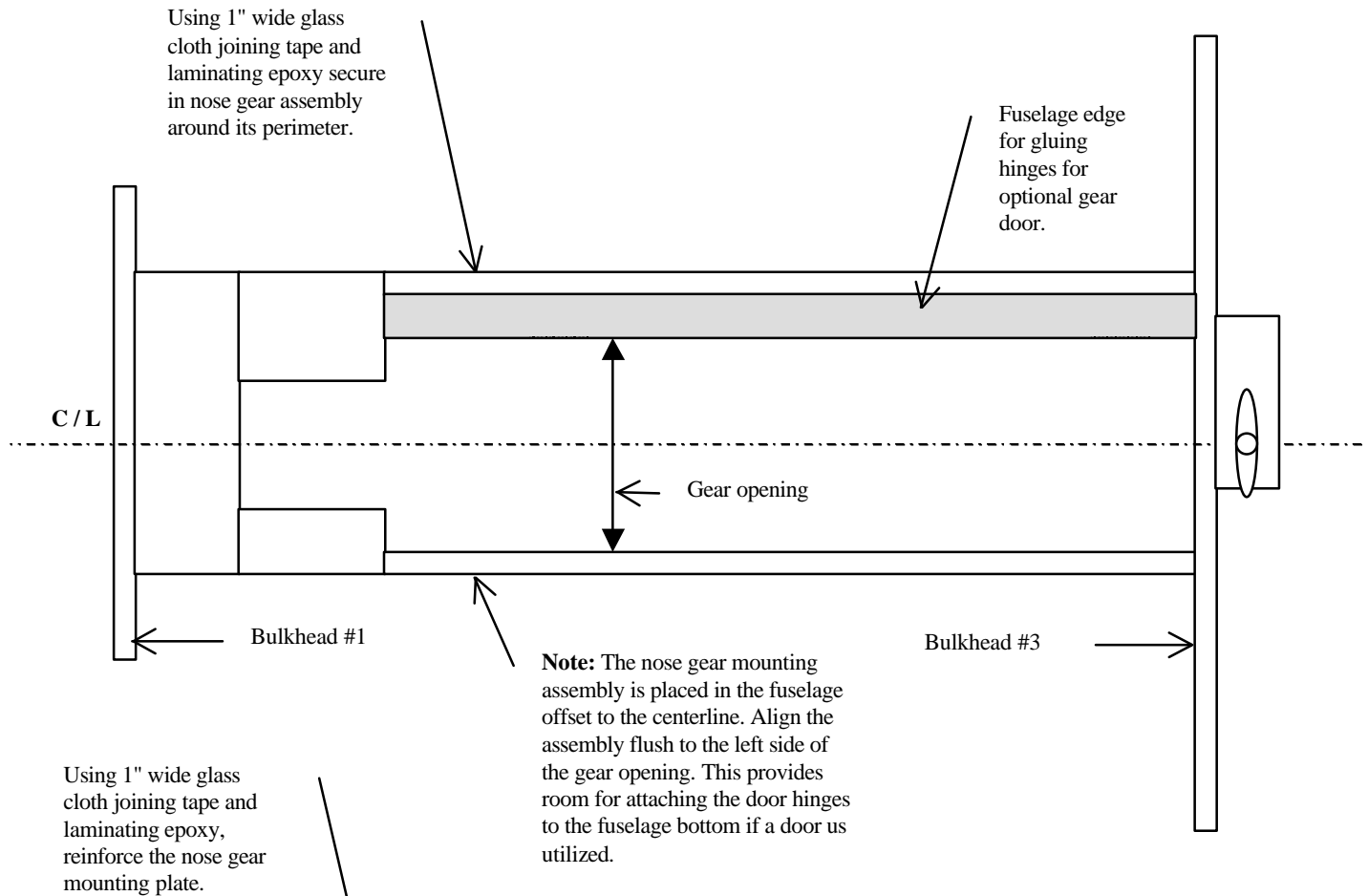
Ready to GO!!!

46. C/G. Measurement. Place a strip of masking tape on the leading edge of **each** wing starting about 6 inches from the vertical fin. Place a ruler along the wing leading edge and butted up against the vertical fin. Measure down the leading edge from the vertical fin and make marks at 7 and 7 1/2 inches. Lift the plane by placing your finger at each location and balance. At 7 inches makes a easy flying plane and 7 1/2 livens it up a little. Make sure the plane is also balanced from side to side.

Masking tape
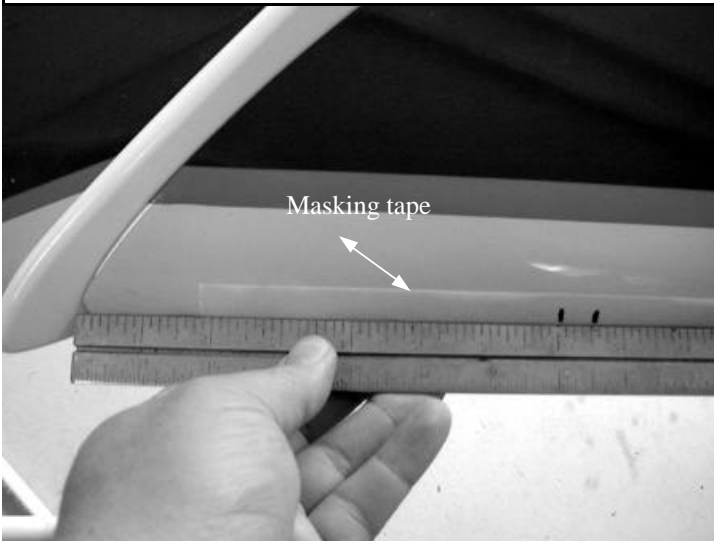
Hot Spot Drawings

Nose Gear Installation
NOT TO SCALE

Top View

Using 1" wide glass cloth joining tape and laminating epoxy secure in nose gear assembly around its perimeter.

Fuselage edge for gluing hinges for optional gear door.

C / L

Gear opening

Bulkhead #1

Bulkhead #3

Note: The nose gear mounting assembly is placed in the fuselage offset to the centerline. Align the assembly flush to the left side of the gear opening. This provides room for attaching the door hinges to the fuselage bottom if a door us utilized.

Using 1" wide glass cloth joining tape and laminating epoxy, reinforce the nose gear mounting plate.

Side View

Align front bulkhead 7/8" forward of the gear opening.

Gear opening starts 17" back from the nose.

ALIGN THIS FRONT EDGE
17" BACK FROM THE NOSE
OF THE FUSELAGE

NOSE GEAR TEMPLATE

NOTE: IF YOU ARE BUILDING THIS
MODEL WITHOUT GEAR DOORS, USE
THIS TEMPLATE FOR THE NOSE
GEAR OPENING.
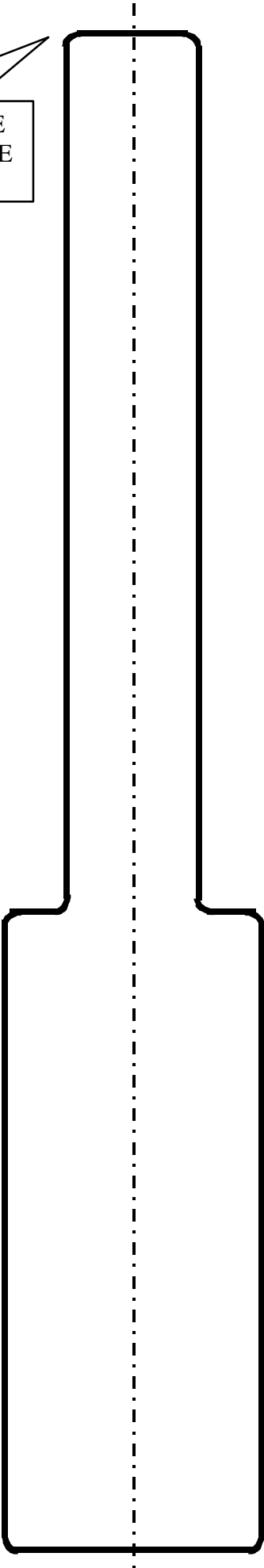
USE A LIGHT INSIDE THE
FUESLAGE TO ALIGN THE
MAIN GEAR TEMPLATE
WITH THE PRE-INSTALLED
GEAR MOUNTS

MAIN GEAR TEMPLATE

NOTE: IF YOU ARE BUILDING THIS
MODEL WITHOUT GEAR DOORS, USE
THIS TEMPLATE FOR THE NOSE
GEAR OPENING.
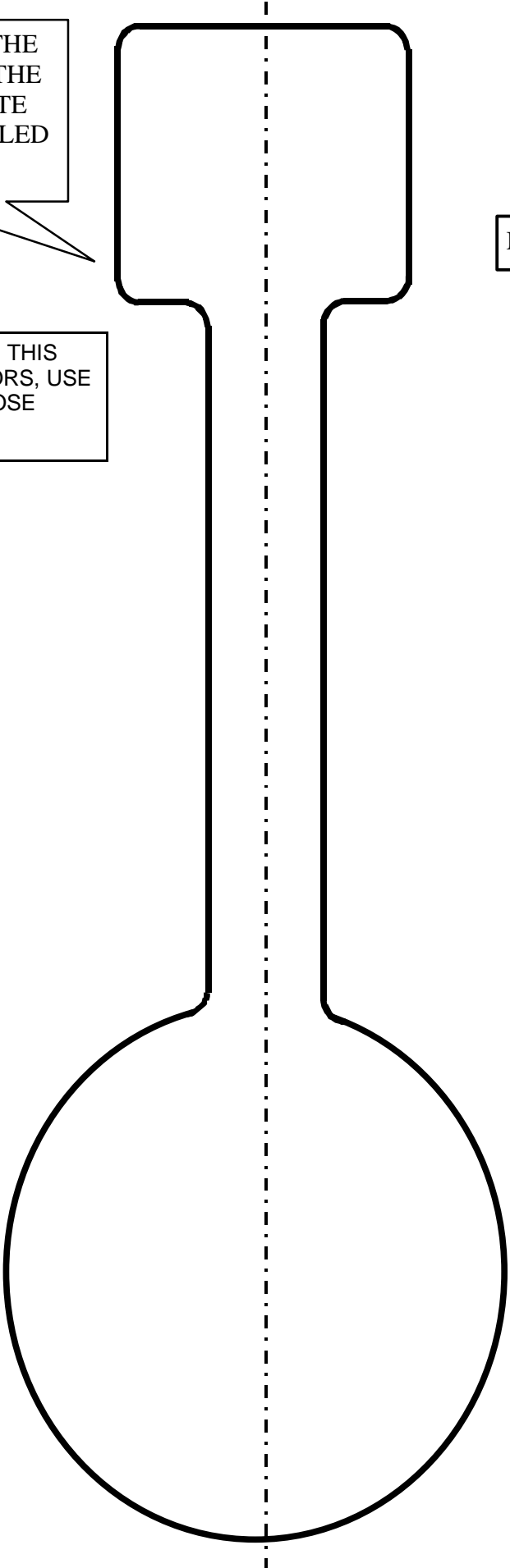
SPEED BRAKE TEMPLATE

ALIGN THIS EDGE 2"
FROM REAR OF CANOPY
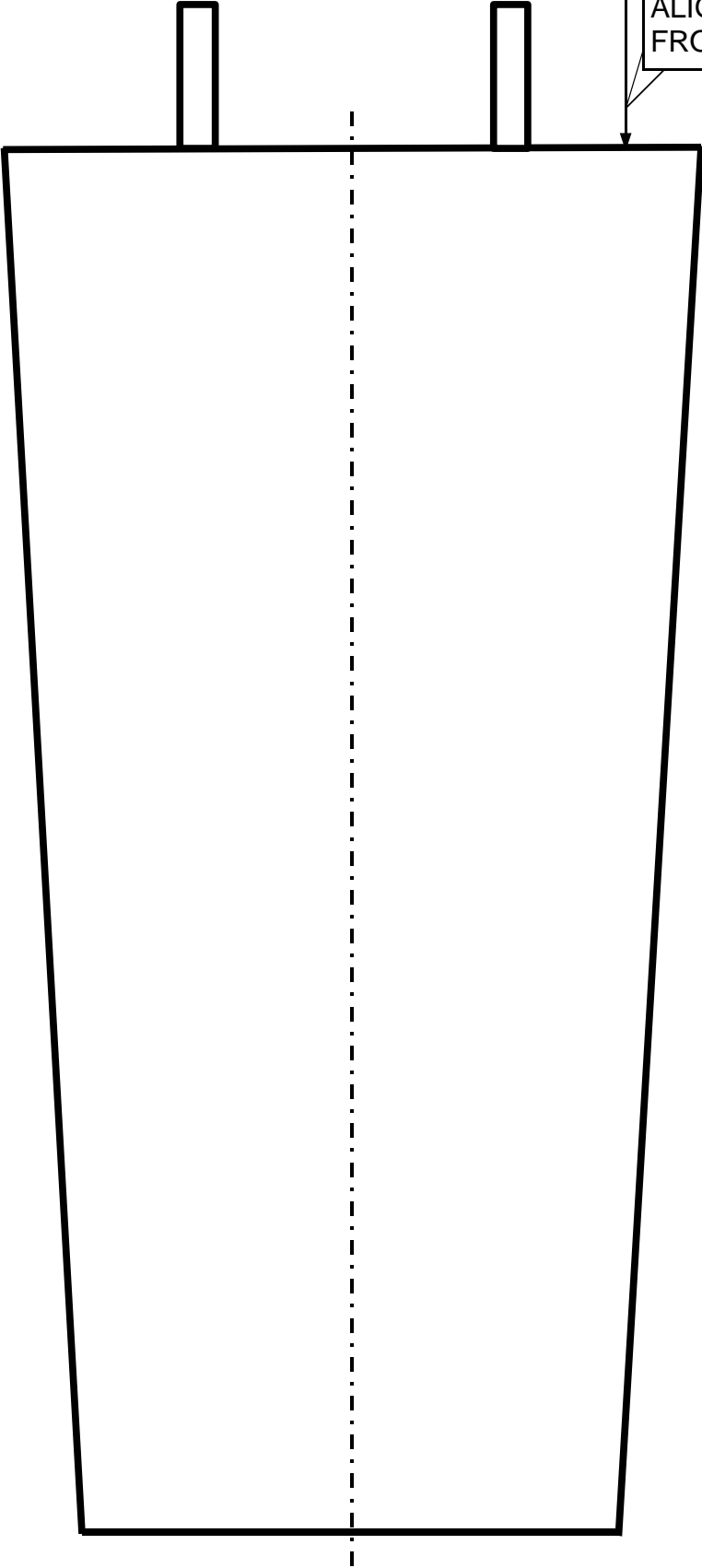
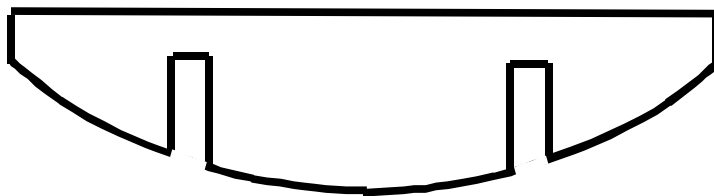SPEED BRAKE
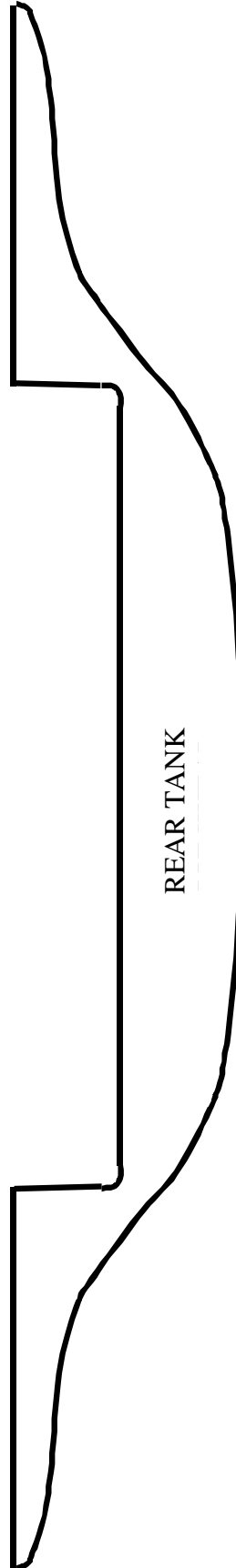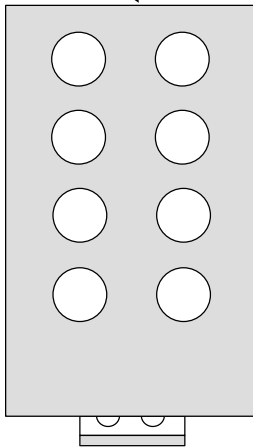INTERIOR
Made from 1/8th inch light
plywood

MAKE 2

BIRCH PLYWOOD
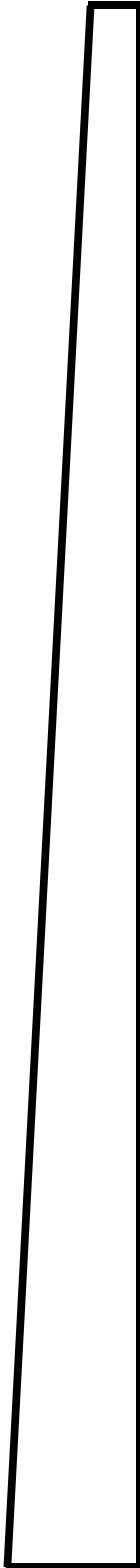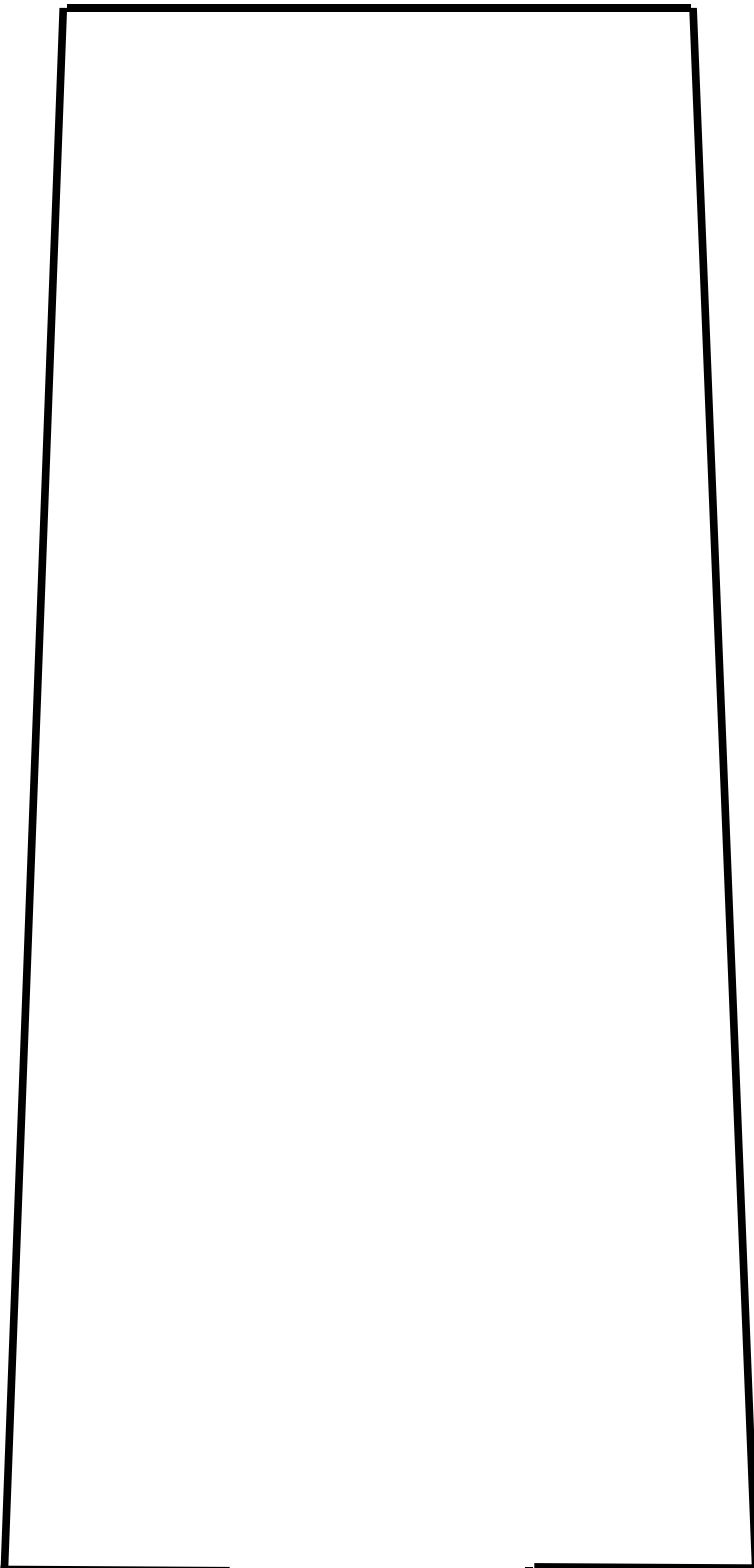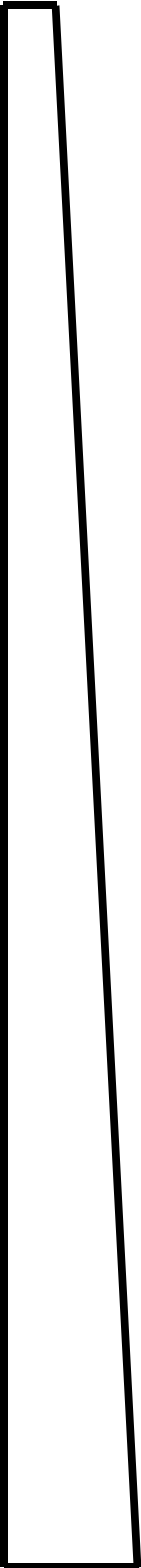
BIRCH PLYWOOD

Birch Plywood
Horn Mounting

Birch Plywood
Vertical Rib

CANOPY

2"

1/2"

5/8"

BOTH HORN PLATE AND VERTICAL RIB SUPPORT ARE BIRCH PLYWOOD

ABOUT 1 9/16" INSIDE TO INSIDE

SCRAP 1/4th INCH BIRCH PLYWOOD FOR 0.075 WIRE HINGE
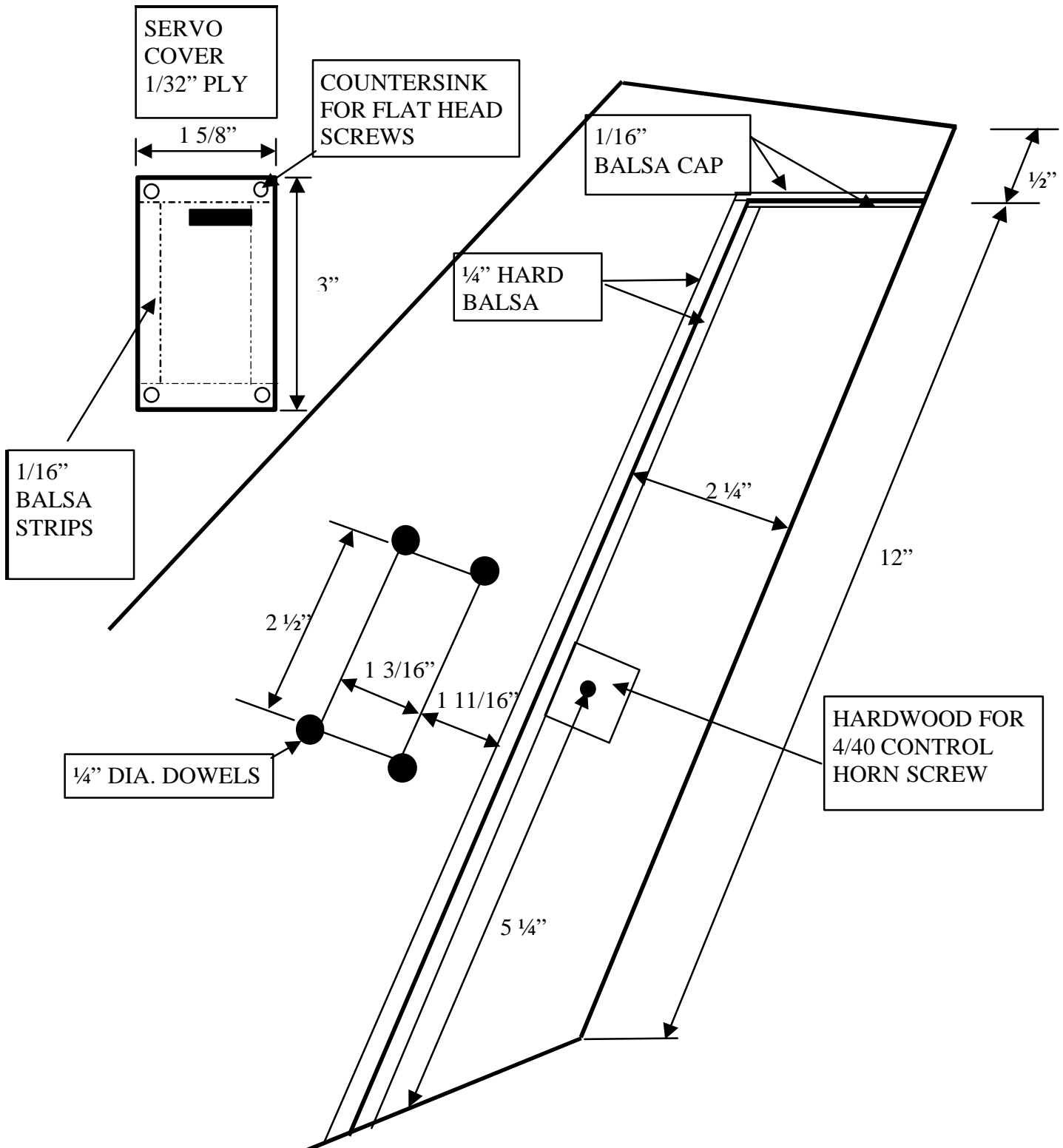
SPEED BRAKE TOP VIEW

DOUBLER FOR SPEED BRAKE STOP

BRAKE

13/16

AIR BRAKE SIDE VIEW
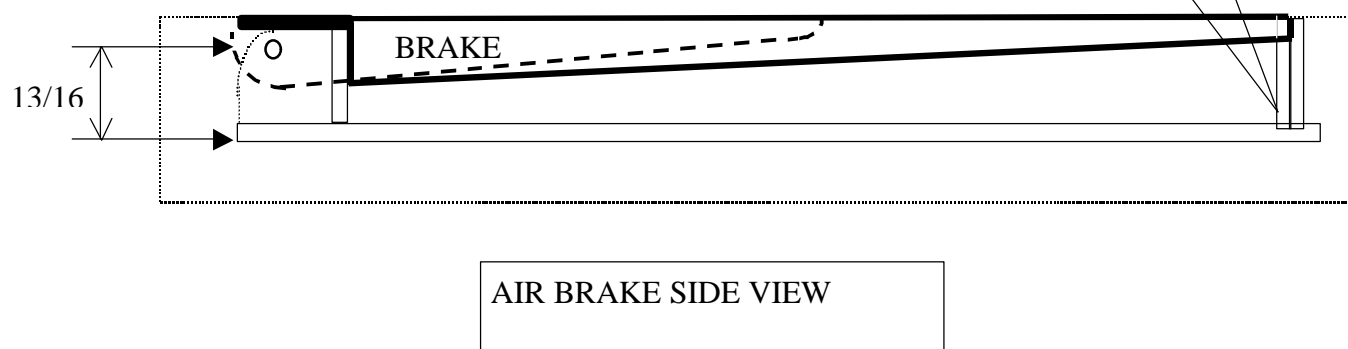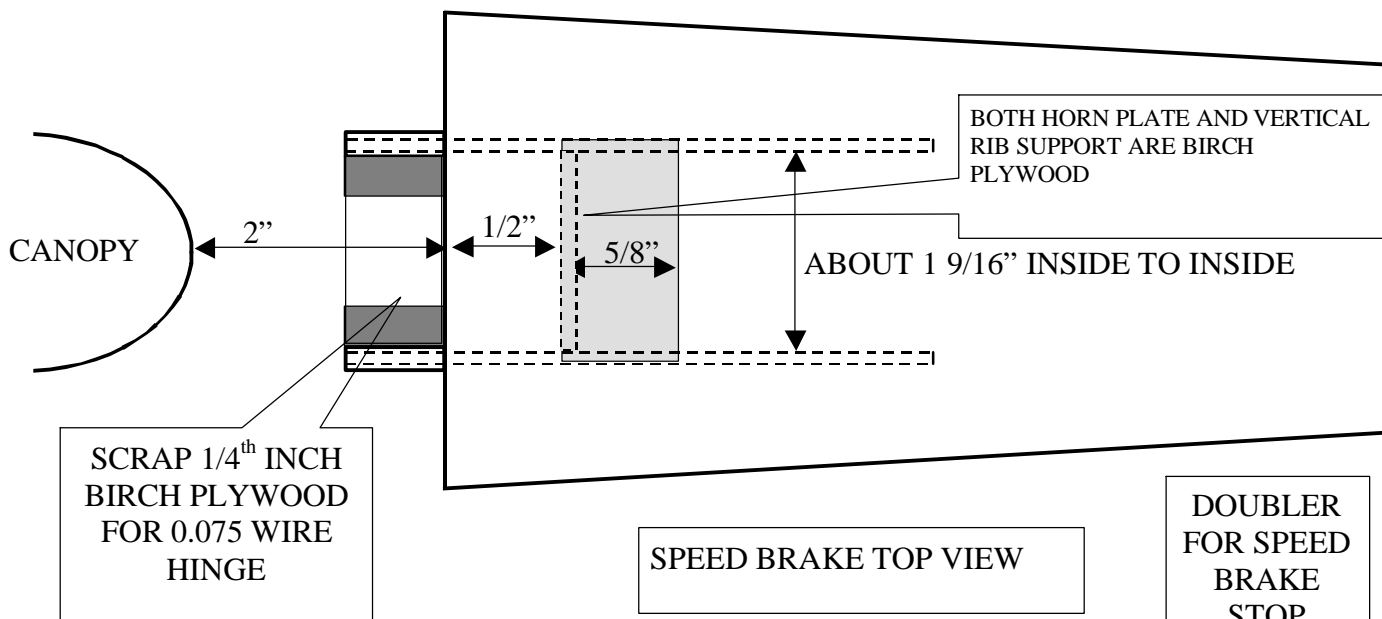
**TANK BULKHEAD
TEMPLATES FOR 2.5-LITER
PLASTIC TANK
3/16" BIRCH PLYWOOD**

TANK FLOOR IS 10 ½ " X 4 ½ " FROM
3/32" BIRCH PLYWOOD. THE TANK
FRONT RESTRAINT IS 2" WIDE
MADE FROM ¾ " BVM CARBON
ANGLE WITH THE HOLE SIDE
GLUED TO THE UNDERSIDE FRONT
OF THE FLOOR.

REAR TANK

FRONT TANK

SERVO
COVER
1/32" PLY

COUNTERSINK
FOR FLAT HEAD
SCREWS

1 5/8"

1/16"
BALSA CAP

3"

¼" HARD
BALSA

½"

1/16"
BALSA
STRIPS

2 ¼"

12"

2 ½"

1 3/16"

1 11/16"

HARDWOOD FOR
4/40 CONTROL
HORN SCREW

¼" DIA. DOWELS

5 ¼"

INSTALLATION FOR VOLZ WING-MAXX SERVO.
RUDDER HORIZONTAL LINES ARE PARALLEL TO
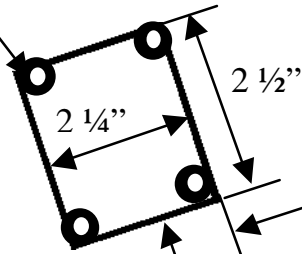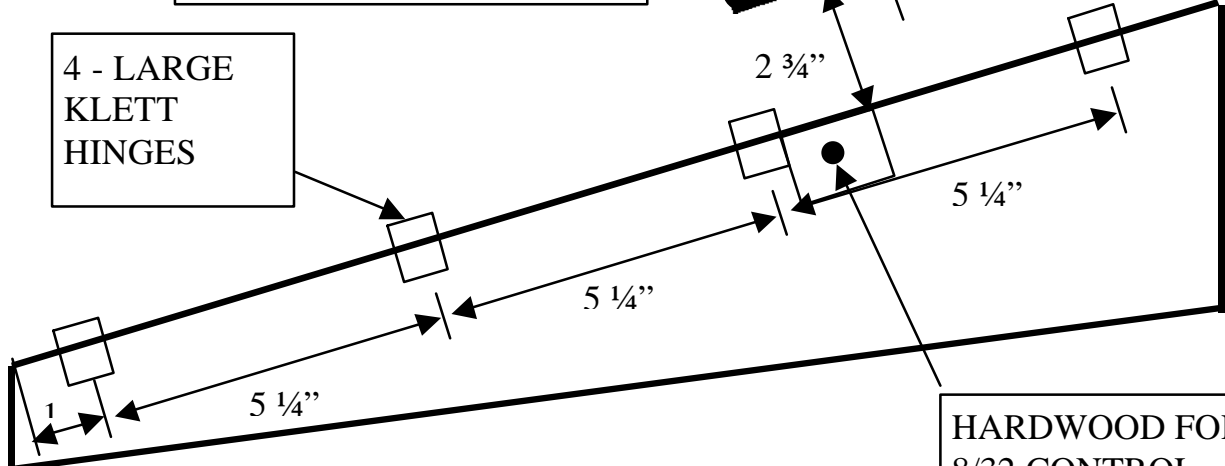THE VERTICAL FIN BOTTOM.

SERVO
COVER
1/16" PLY

COUNTERSINK FOR
FLAT HEAD
SCREWS

2 ½"

2 ¼"
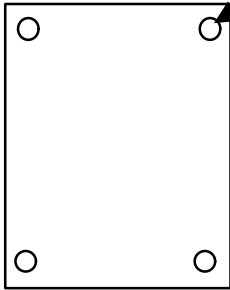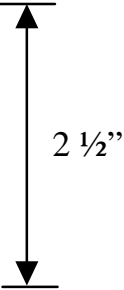
5/16" DOWELS
SET DOWEL HEIGHT SO
COVER PLATE WILL BE
FLUSH TO THE WING
SKIN

2 ½"

2 ¼"

4 ¼"

4 - LARGE
KLETT
HINGES

2 ¾"

5 ¼"

5 ¼"

5 ¼"

1

HARDWOOD FOR
8/32 CONTROL
HORN SCREW