



SIMPLE FLIER

INSTRUCTIONS BOOK.



ENGINES, PROPELLERS AND MUFFLERS

The recommended engine range for the Simple Flier is .46 to .50 cu. in. 2 stroke engines or .56 to .70 4-stroke engines. There are a tremendous variety of engines available in either type. Each engine type has it's own advantages and disadvantages. The 2-stroke engines are light and powerful but are usually louder and have to turn a smaller diameter prop. The four stroke engines are somewhat heavier than the 2-strokes engines, but they are almost always quieter. They turn a much larger diameter prop that delivers more thrust.

RADIO EQUIPMENT REQUIREMENTS

Your SIMPLE FLIER will require at least a four-channel radio system with five standard size servos to operate the ailerons, elevator, rudder, and throttle to take full advantage of the flight performance of the SIMPLE FLIER a radio system with mixing capabilities is preferred. By mixing a number of channels together you can greatly enhance the maneuverability of your SIMPLE FLIER. Be certain that your radio system's frequency is approved for use in R/C model aircraft. Using a frequency assigned to R/C model cars and boats not only endangers your model to interference from model car and boat drivers (who may not even be in sight), it is also against the law.

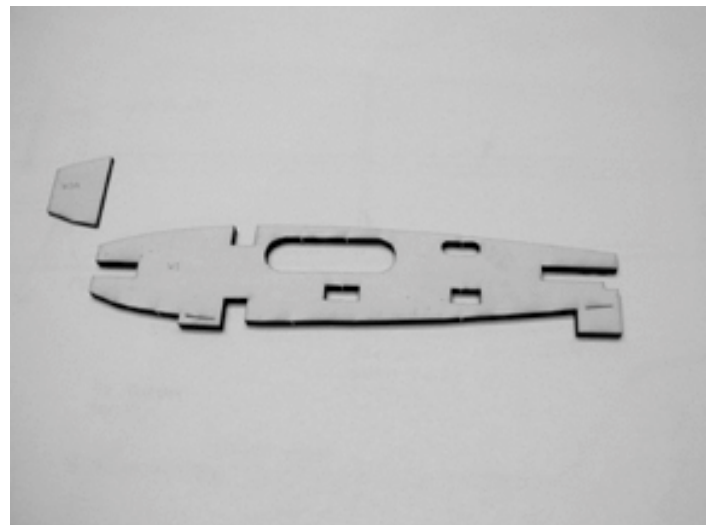
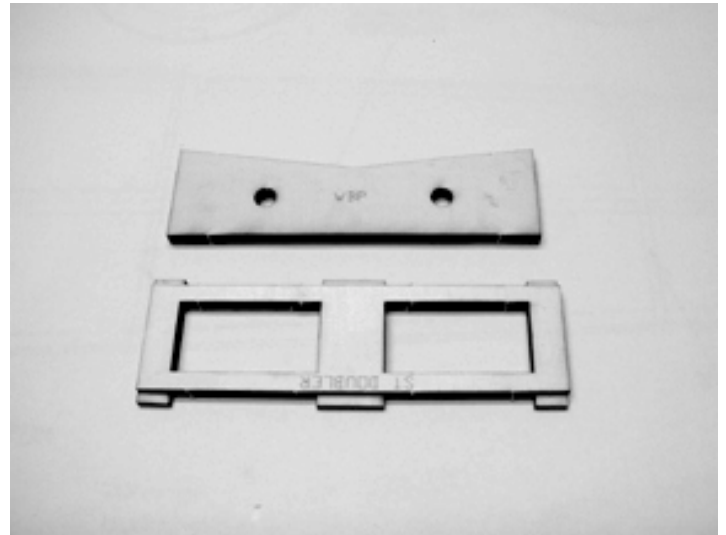
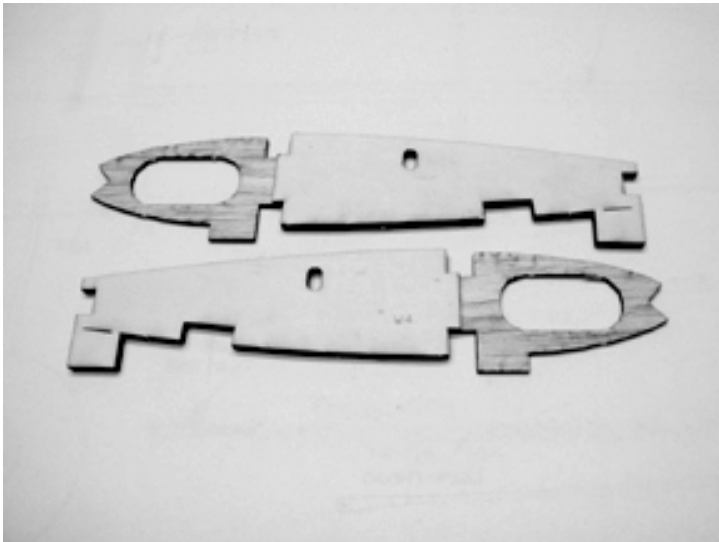
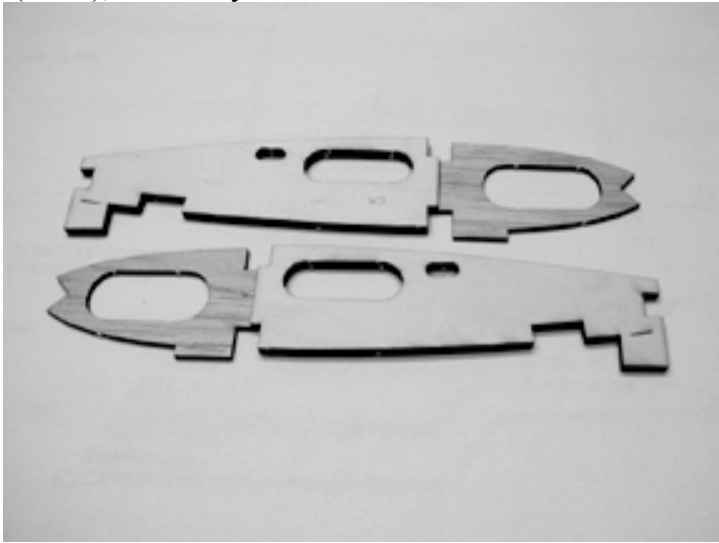
NOTES BEFORE BEGINNING CONSTRUCTION

Any references to right or left refers to your right or left as if you were seated in the cockpit. To build good flying models, you need a good straight building board. Crooked models don't fly well! Cover the top surface of the building board with a piece of celotex-type wallboard or foam board, into which pins can be easily pushed. Don't hesitate to use plenty of pins during assembly to hold drying parts in their correct position. When pinning and gluing parts directly over the full-size plans, cover the plan with wax paper to prevent gluing the parts to the plans. Don't use a ballpoint pen for making marks on the model during construction. If not sanded off, these ink marks will show through the model's final finish. Use pencil instead of a pen. The LASER-cut plywood parts can be identified by using plans and the engraved description of the part. Use "Kit Content" table to identify all of the other parts in the kit. Sort the different sizes of sticks and sheets into separate piles to avoid confusion during construction.

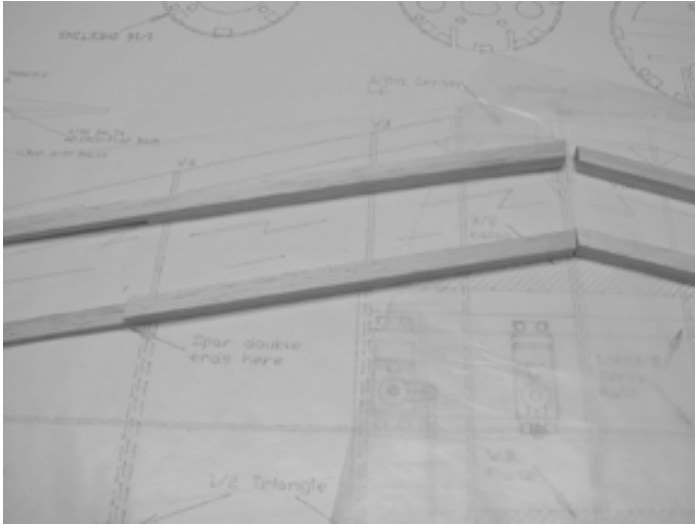
Wing Constructions.

Note: Do not throw away any leftovers! We will be using most of it further in the construction.

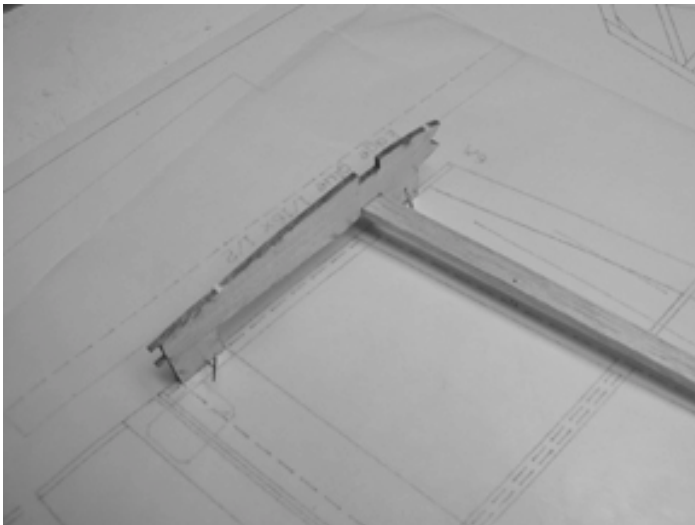
1. Laminate two W1, W3 and W3A, W4 and W4A (align tabs and back of ribs), Wing Bolt Plate (WBP), servo tray and two W1A to sides of W1.



2. From $3/8 \times 3/16 \times 36$ cut two $7-3/16$ " servo rails.
3. Pick four hardest $3/8 \times 3/16 \times 36$ balsa sticks. Over the plans, measure and cut four main spars approximately $1/8$ " longer than needed.
4. From $3/8 \times 3/16 \times 36$ measure and cut 4 spar-doublers. Laminate them to main spars. Making sure you make top right and left, bottom right and left spars.



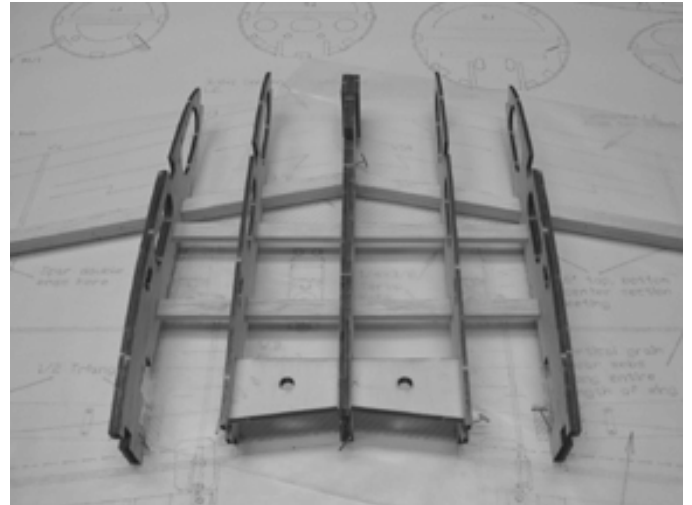
5. Place wing spar at its location on the plan. Pin W1 and W9 over it, aligning rear tabs with a rear spar on the plans. Install spar and glue bottom main spars to W1 and two W9.



6. Place two W2 and slide servo rail thru W1 and W2. DO NOT GLUE AT THIS TIME.

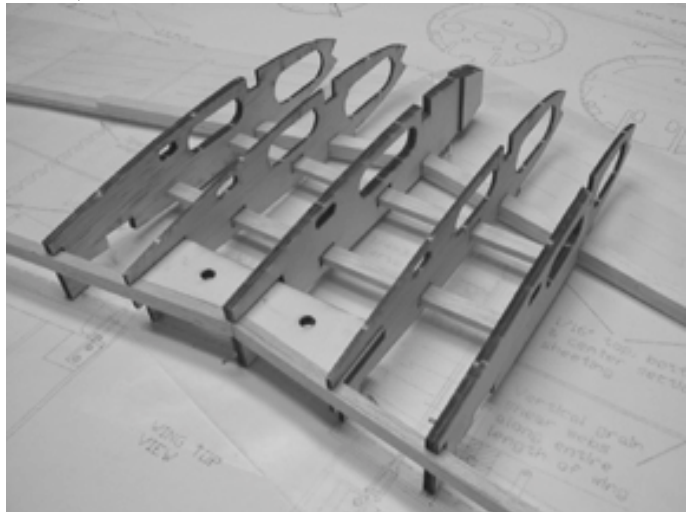
7. Place two W3 over the plans tight to servo rails.

8. Slide laminated WBP in its slot on W1 and two W2.



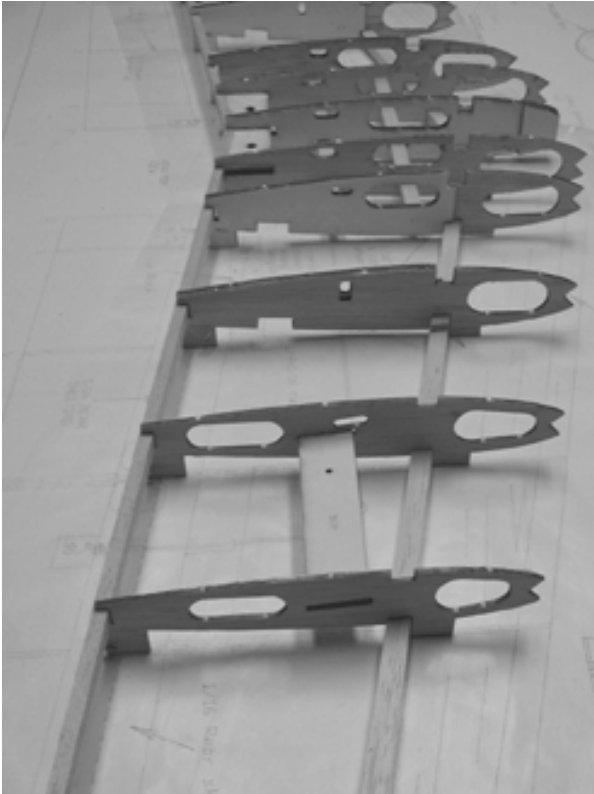
9. Bevel ends of two $\frac{1}{4} \times \frac{3}{8} \times 36$, making two rear spars. Place them at W1, W2 and W9. Check for good fit and alignment.

10. Glue rear $\frac{1}{4} \times \frac{3}{8}$ spar to W1, W2, W9 and WBP (use slow CA for WBP installation). Glue Servo rails to W1, W2 and W3.

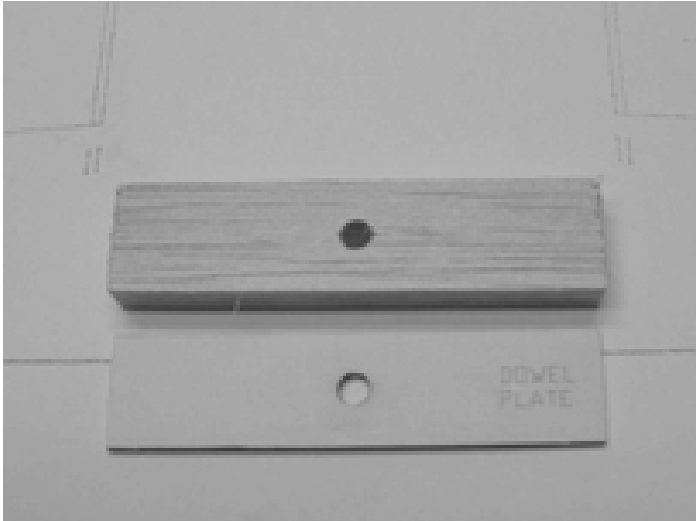


11. Place W4 thru W8 in place over the plans. Slide bell crank plate in to W5 and W6.

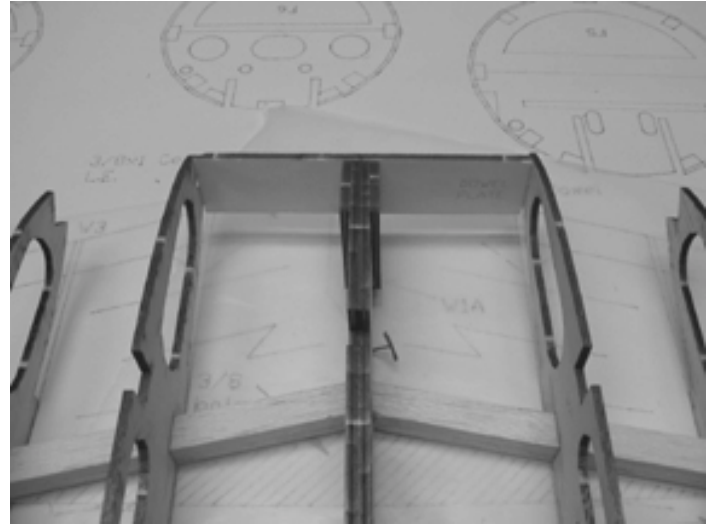
12. Check alignment of all ribs (90 degrees to building board-BB and in position) and glue all ribs to bottom main spar and rear spar.



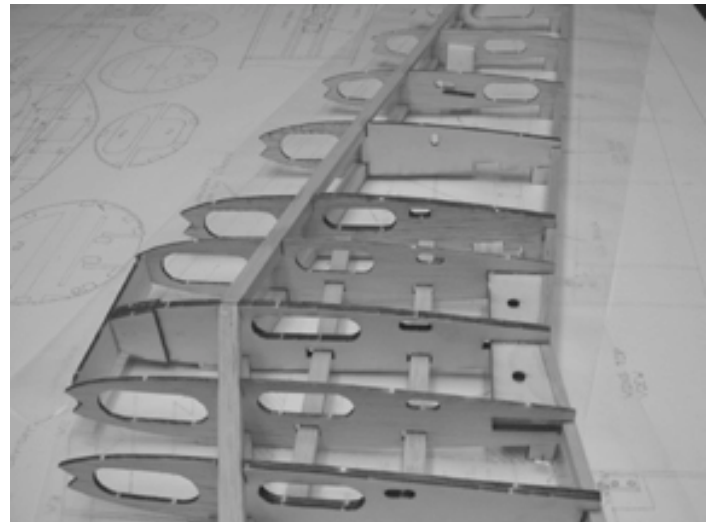
13. Use dowel plate as a guide to cut and drill 1/2x1x6 balsa Center leading edge.



14. Center plywood Dowel plate on front of W1 and align it on W2 (see plans for positioning). Glue in place.

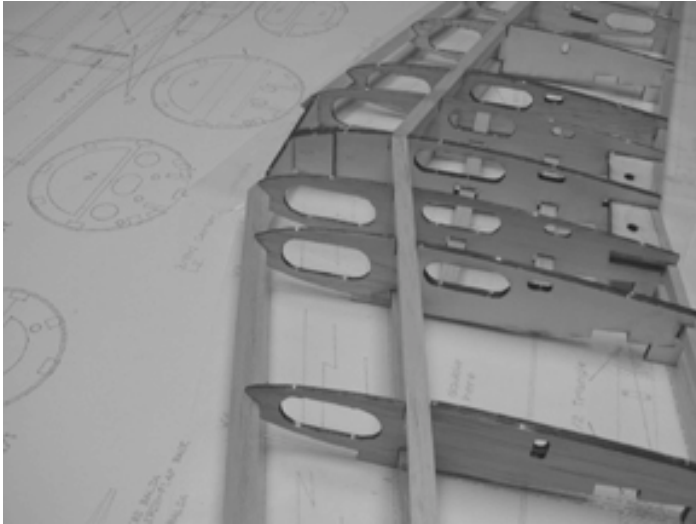


15. Install and glue top main spar to all ribs.

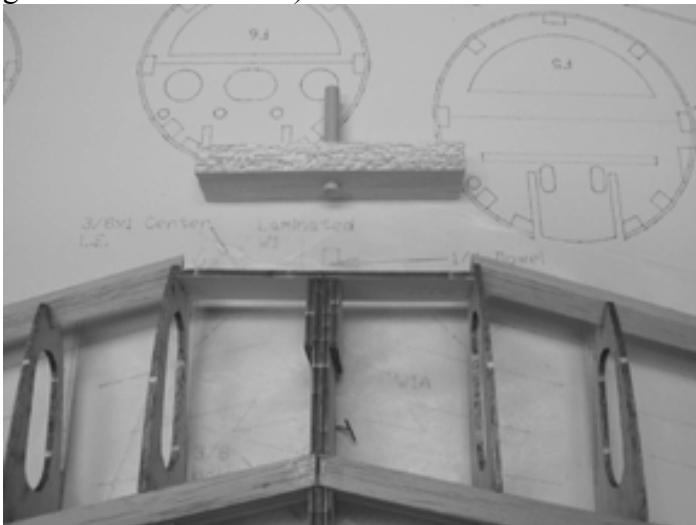


16. From four 3/8x3/16x36 make leading edges, measure and cut 8 1/2 off at the ends. Laminate two sets of two.

17. Glue L.E. to all ribs, keeping it tight in all slots. Trim L.E. flush at W2 rib.



18. Temporary install $\frac{1}{4}$ dowel in to previously made center leading edge. Use dowel to align balsa L.E. with plywood dowel plate and glue in place (do not glue dowel at this time).



19. From $\frac{1}{4} \times \frac{3}{8}$ leftovers, Fit and glue two pieces over T.E., W.B. plate, W1 and W2.

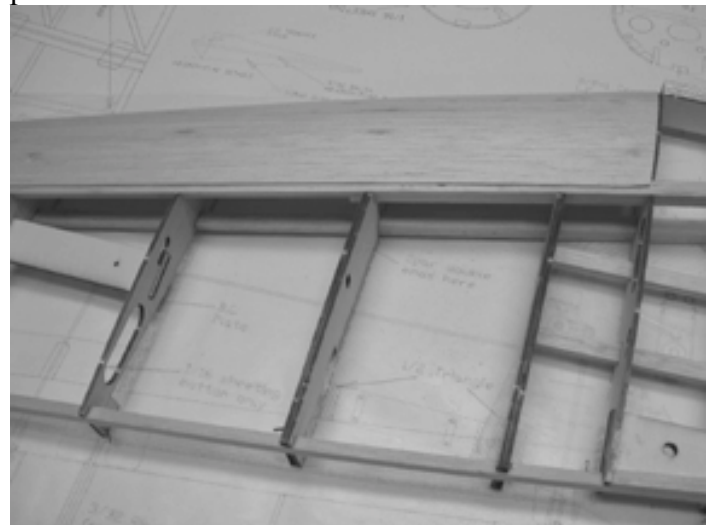


20. Make Wings front sheeting. Take two $\frac{1}{16} \times 3 \times 36$ sheets. Measure 30" and cut off. On one end measure 2" and run across to another corner. Cut as marked. Edge glue two pieces making 4" on one end and 2" on the other. Make two sheets.

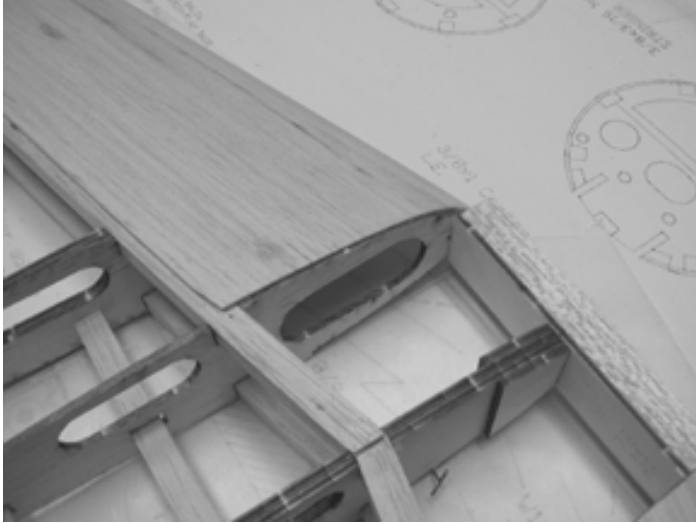


21. Place one of the made sheets over the sheeting area. Mark middle position of Rib W2 keeping sheet half way on the main spar, cut as marked.

22. Glue front sheeting in place. Keeping wings pinned to the B.B.



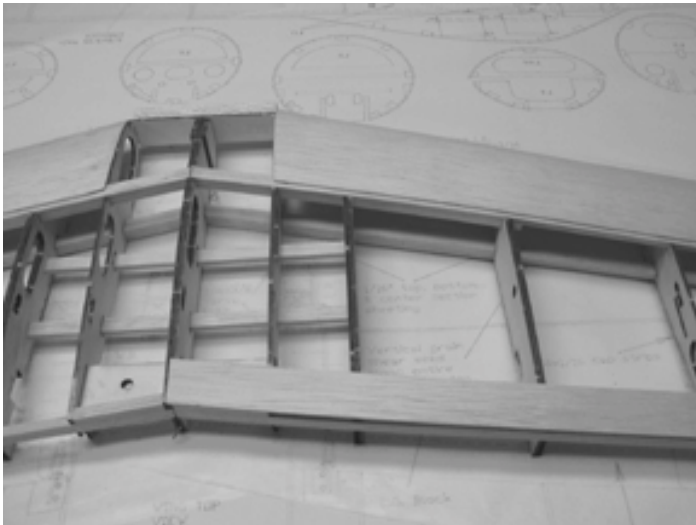
23. Trim excess $\frac{1}{16}$ sheeting, trim top spar, and rear spar at W9.



24. Make rear sheeting. Cut 1/16x3x36 sheet to 29" long. Then make three 1/16x1x29 pieces.

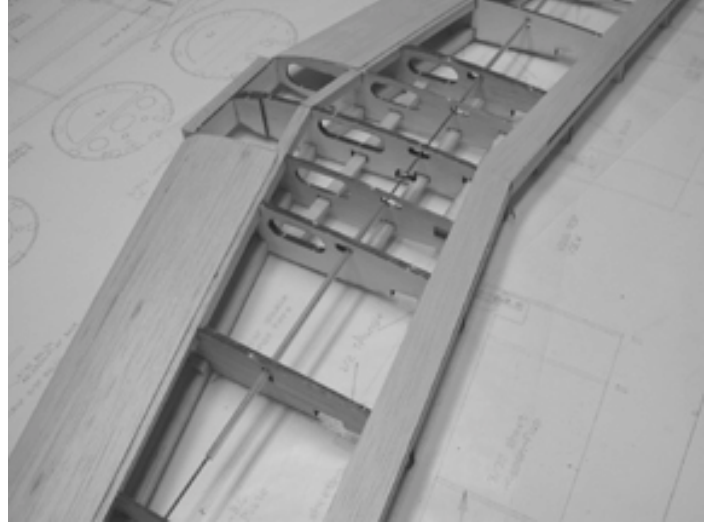
25. Place one piece on top of ribs starting at W1 this time and over W9. Mark center of W1, cut as marked. Repeat for other side.

26. Place and glue to all ribs, keeping 1/16 overlap at rear of all ribs.



27. Temporary installs two Bell Cranks. Take 0.078 wires and make ONE z-bend on the end.

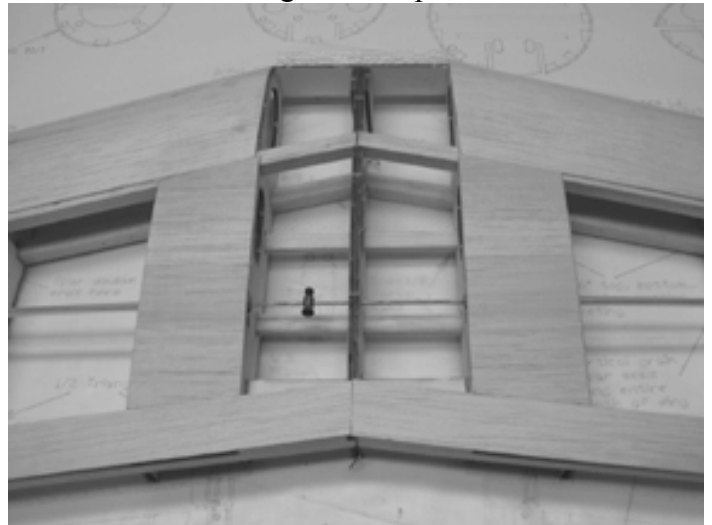
28. Slide push-rod thru push-rod opening of all ribs from W5 to another wing's W5. Position Bell Cranks as indicated on the plans, and mark positioning of the second z-bend. Remove wire and **slide on to it 8" plastic housing, ez-connector and a second plastic housing**. Make a second z-bend so it is facing same way as a first z-bend.



29. Install assembly in the wing, connect to Bell cranks, and check movement.

30. Edge glue 1/16x3" leftovers from Front sheeting, making 6x6 sheet.

31. On made sheet mark two strips 2-1/8 x 6 and cut. Place over W2 and W3 and cut as needed to connect front and rear sheeting. Glue in place.



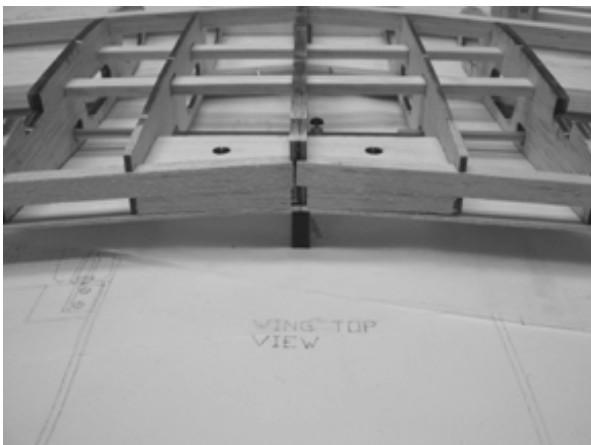
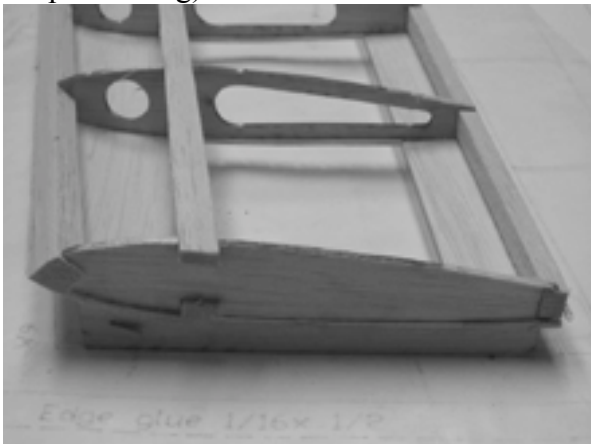
32. Trim center Leading Edge to match W2 ribs contour without sheeting.

33. From 1/16 x 3 x 24, cut piece big enough to finish front sheeting from Center L.E. to the back of main spar and between two W2. Glue in place. Note that grain must be going from W2 to W2. See picture above.

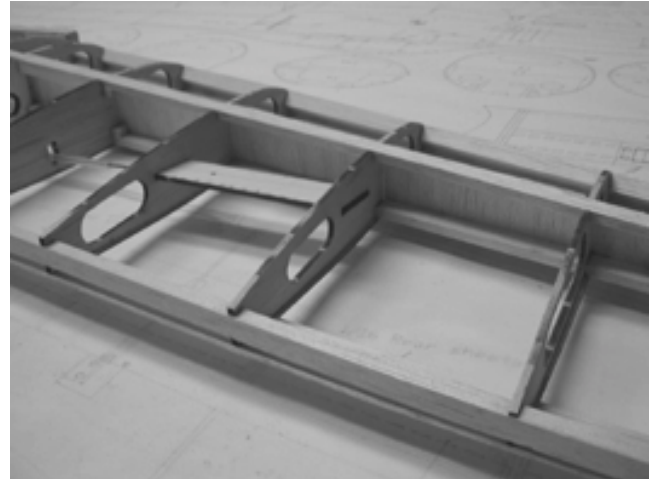


34. From laser-cut 1/16 strips glue caps to all ribs, including W1.

35. Un-pin wing and flip it over. Trim all tabs, front sheeting and rear sheeting. Place wing jigs at W1 and W9 and securely pin wing over the plans (see plans for positioning).



36. From 1/16x3 sheet, fit and glue shear webs between all ribs for both wings.



37. Sand smooth bottom of the wing to prepare it for sheeting.

38. Make Wings front sheeting. Take two 1/16x3x36 sheets. Measure 30" and cut off. On one end measure 2" and run across to another corner. Cut as marked. Edge glue two pieces making 4" on one end and 2" on the other. Make two sheets.



39. Place one of the made sheets over the sheeting area. Mark middle position of Rib W2 keeping sheet half way on the main spar, cut as marked.

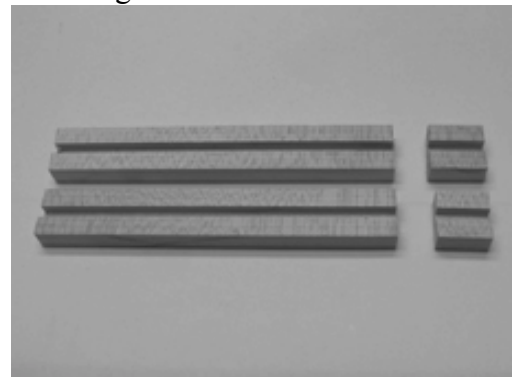
40. Glue front sheeting in place. Keeping wings pinned to the B.B.

41. Make rear sheeting. Cut 1/16x3x36 sheet to 29" long. Then make three 1/16x1x29 pieces.

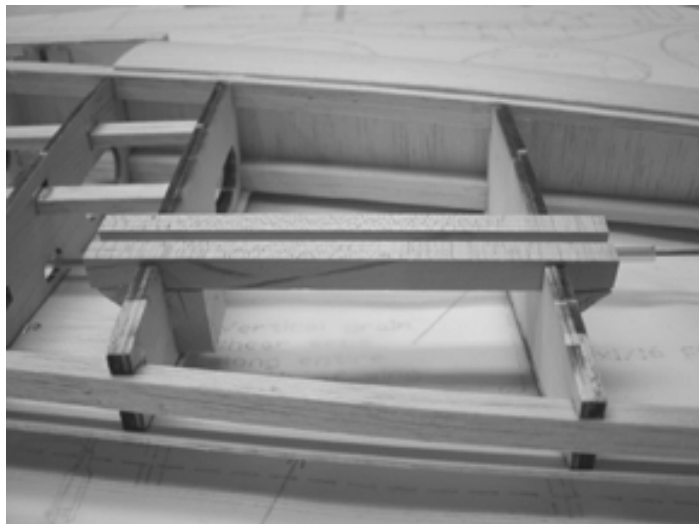
42. Place one piece on top of ribs starting at W1 this time and over W9. Mark center of W1, cut as marked. Repeat for other side.

43. Place and glue to all ribs, keeping 1/16 overlap at rear of all ribs.

44. Cut Landing Gear Blocks to 5-1/8" and 13/16"



45. Epoxy 13/16" long L.G. Blocks in place (see plans and picture), epoxy 5-1/8" L.G. Block and add 1/2 tri-stock to reinforce L.G. block.



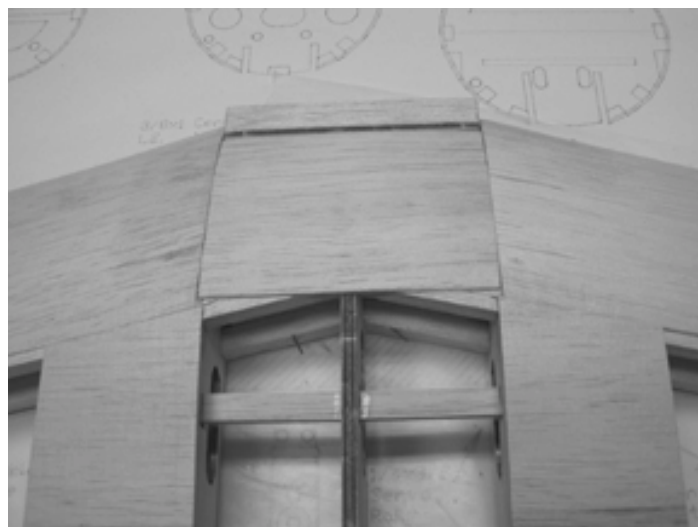
46. Edge glue 1/16x3" leftovers from Front sheeting, making 6x6 sheet.

47. On made sheet mark two strips 2-1/8 x 6 and cut. Place over W2 and W3 and cut as needed to connect front and rear sheeting. Cut as needed to allow for L.G. block. Glue sheeting in place.



48. OPTIONAL: Refer to plans for positioning of flap servos, as they are slightly off-set. Cut out openings for flap servos.

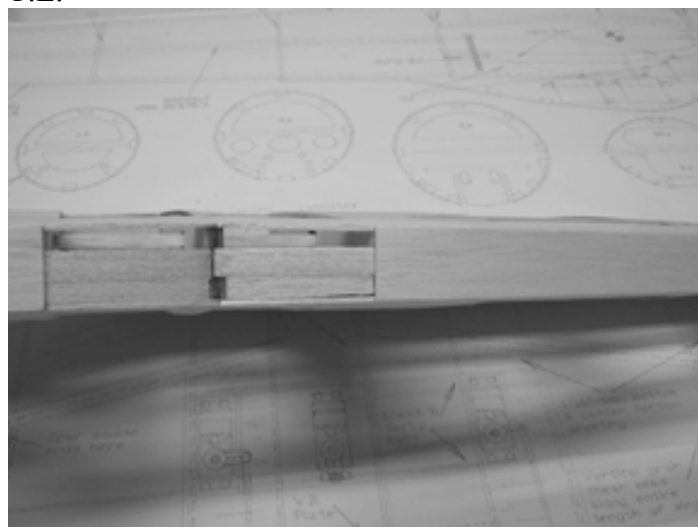
49. DO NOT TRIM CENTER L.E. From 1/16 leftovers, cut piece big enough to finish front sheeting from Center L.E. to the back of main spar and between two W2. Glue in place. Note that grain must be going from W2 to W2.



50. Cap all ribs except W5 and W6.

51. Remove wing from B.B.

52. Glue remaining 1/16 x 1 x 29 strips to rear of T.E.



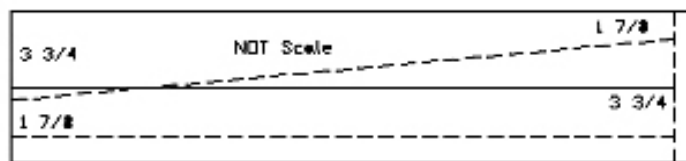
53. Make Aileron push rods as shown on the plans, connect them to Bell cranks.

install and glue Aileron push-rod sheeting.

54. Trim and sand entire wing smooth.

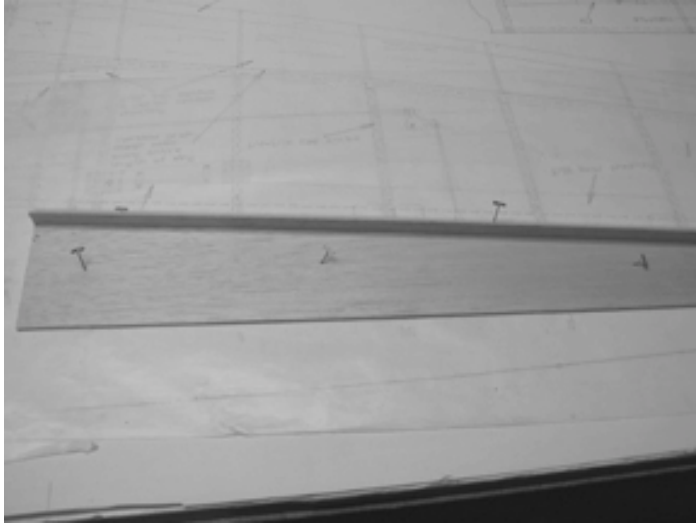
Build Ailerons and Optional Flaps.

1. Edge glue two 3/32 x 3 x36. Mark and cut 26" long piece. Measure and mark 3 3/4 on one end, and 1 7/8 on the other end.

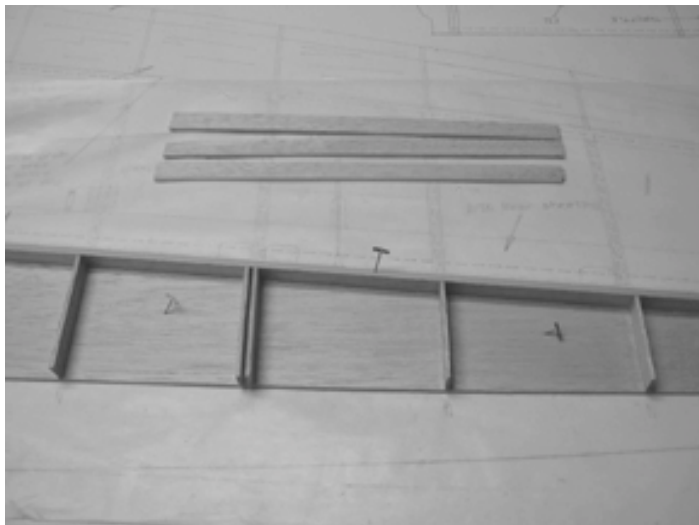


2. Cut as marked and place over the plans. Trace edges of flap-aileron shape to the cut pieces and trim.
NOTE: DO NOT CUT FLAPS FROM AILERONS AT THIS TIME.

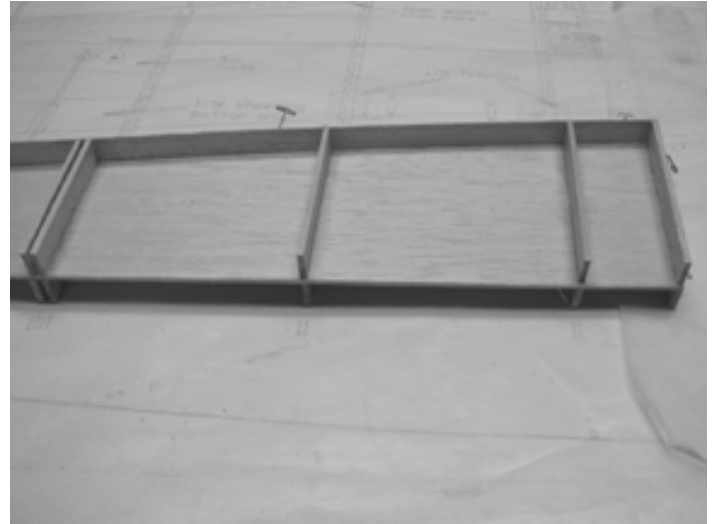
3. From $\frac{1}{2}$ triangle stock make L.E. Glue in place.



4.
5. Use remaining $\frac{3}{32}$ sheets to make $\frac{1}{2}$ strips. Measure and cut all ribs, glue them in place aligning them with wing ribs and plans. Do not trim Ribs at this time.



6. Flip assembly over and place it over opposite aileron plan, repeat steps 3 and 4.



7. Mark hinges locations on the flap-aileron assembly and cut hinges slots.

8. Insert hinges and use it to determine hinge position on the wing. Cut hinge slots on the wing.

9. Install Flap-aileron assembly to wing, and mark trimming lines on the L.E. of flap-aileron assembly as shown. Remove and trim assembly, checking often for proper trimming.



10. Trim and glue in place $\frac{1}{2} \times 1$ balsa control horn blocks to the bottom of flap-aileron assembly as indicated on the plans. Trim to match ribs profile. Use building pin to poke control horn blocks and run thin CA to make blocks harder.

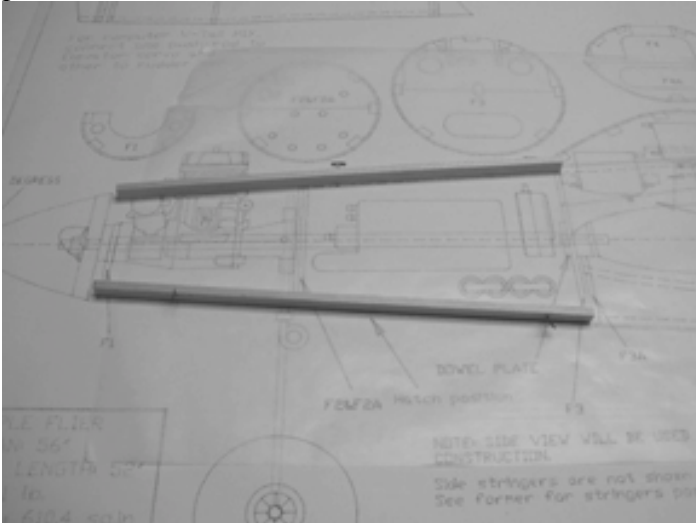
11. OPTIONAL: After entire assembly is trimmed, pin together both flap-aileron and cut apart flaps from ailerons between ribs.

12. Trim flaps and ailerons as needed to make them exact copy of each other.

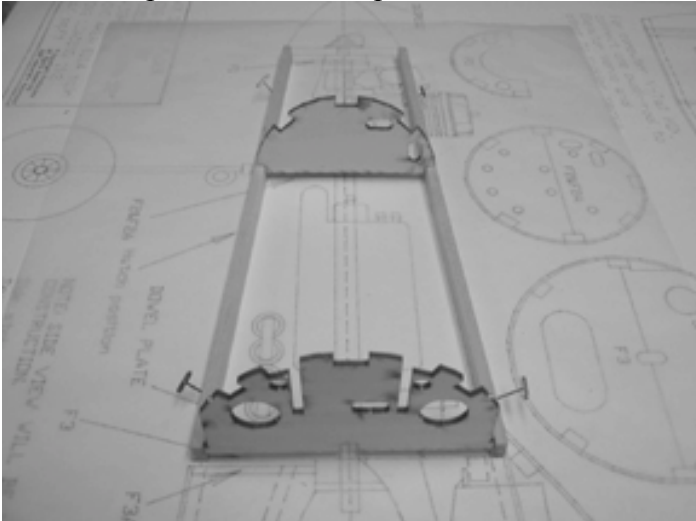
FUSELAGE CONSTRUCTION.

(Fuselage will be built in two stages:
TOP half and BOTTOM half)

1. From 3/16 x 3/8 x 36 cut two front main stringers. Going from F1 to F3. Pin them over the plans.

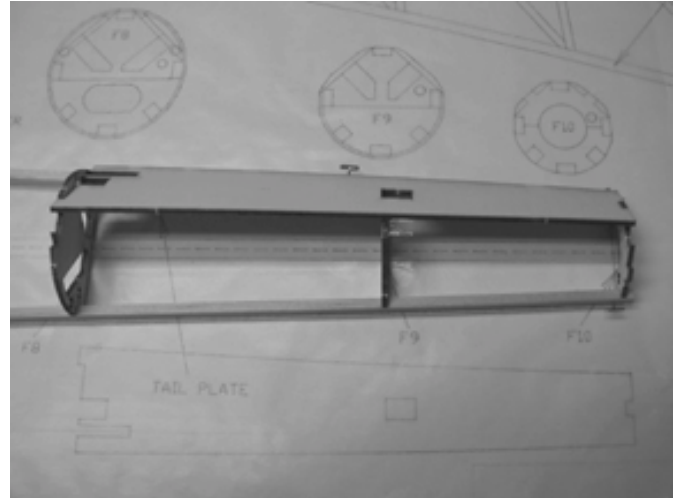


2. Glue top of F2 and F3 in place.



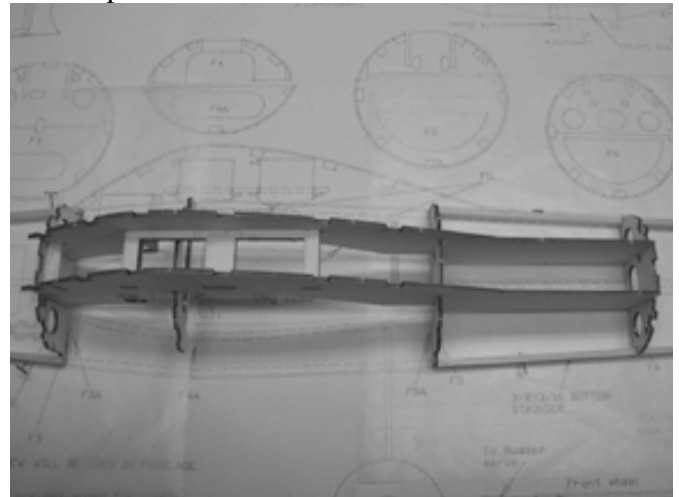
3. From two 3/16 x 3/8 x 36 cut two rear main stringers and pin them to plans.

4. Glue F5 thru F10, using F11 as a guide for proper spacing between F5 and F6. Use tail plate as guide for F8, F9 and F10 installation.

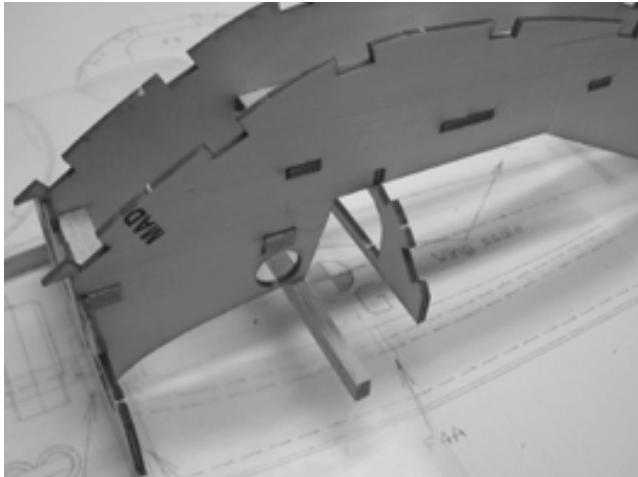


5. Place two F11 in place (DO NOT GLUE YET). Slide servo tray it to position between two F11.

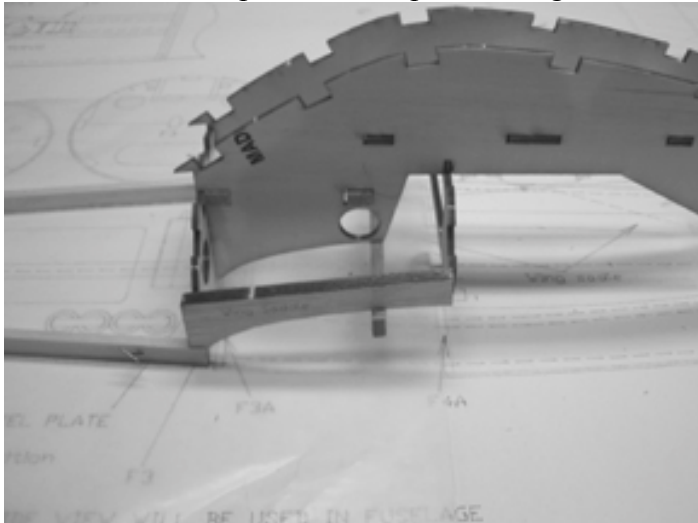
6. From 3/8 x 1/4 leftovers make two throttle servo rails, place them in place. Glue all assembly together. Glue top of F4 to F11



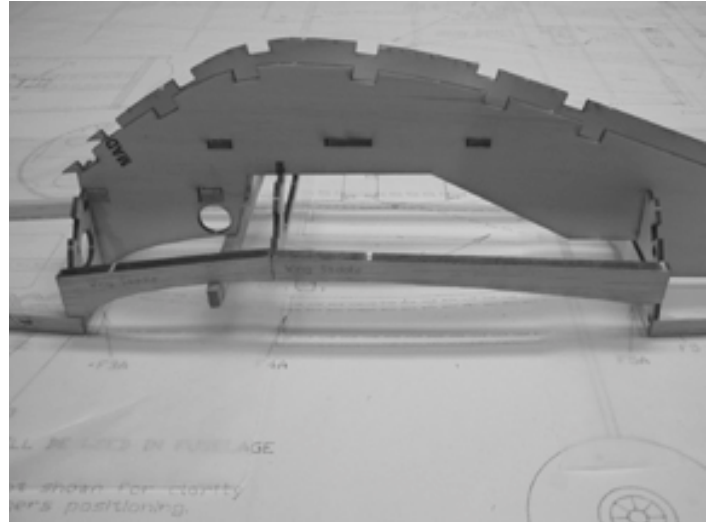
7. Using scrap 3/8x 1/4 or 3/16 x 3/8 cut one piece 5" long and tack glue it to the bottom of (see picture), this will help to align wing saddle.



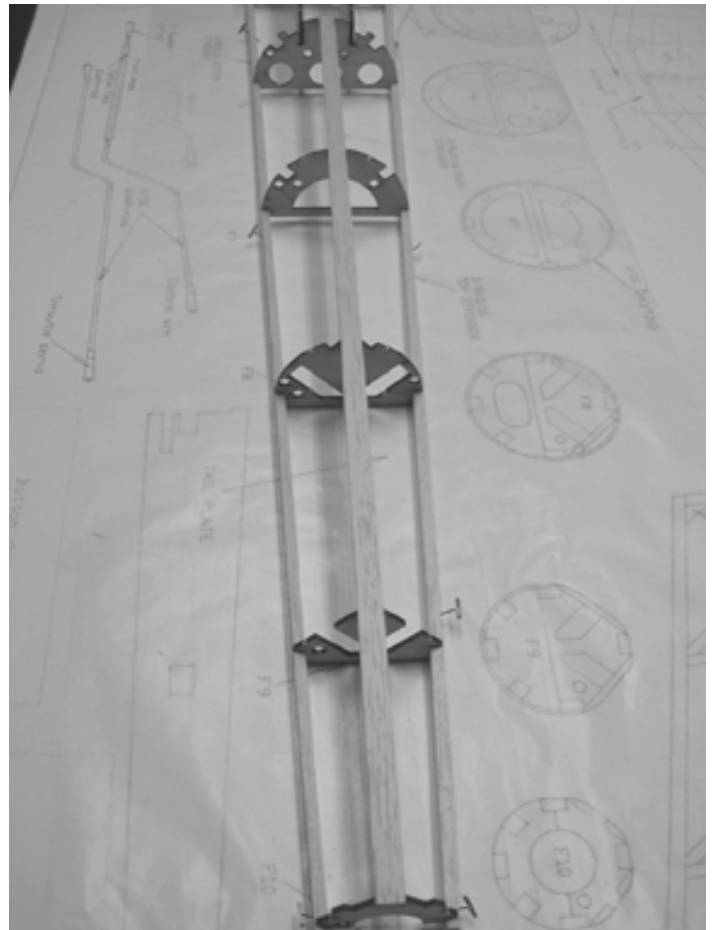
8. Place and glue front part of wing saddle top of front main stringer and align bottoms of F4 and wing saddle. Note: front wing saddle should be half way on to F4 to leave space for rear part of wing saddle.



9. Place and glue rear part of wing saddle after good fit has been achieved.

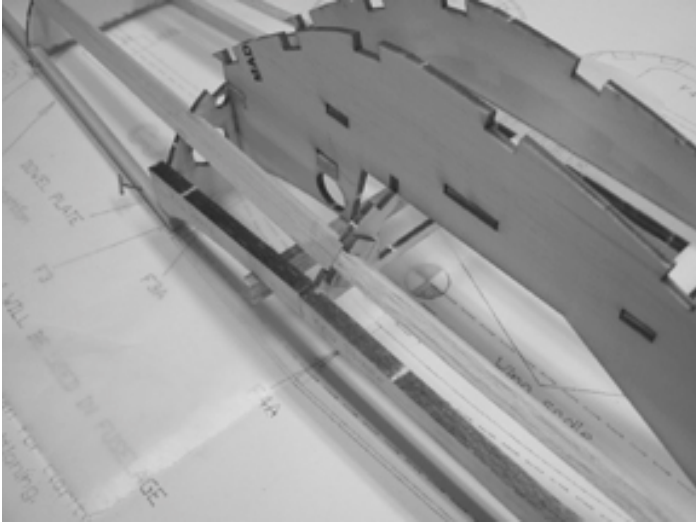


10. Place and glue $\frac{3}{8} \times \frac{3}{16} \times 36$ in to top slots of F6 thru F10.

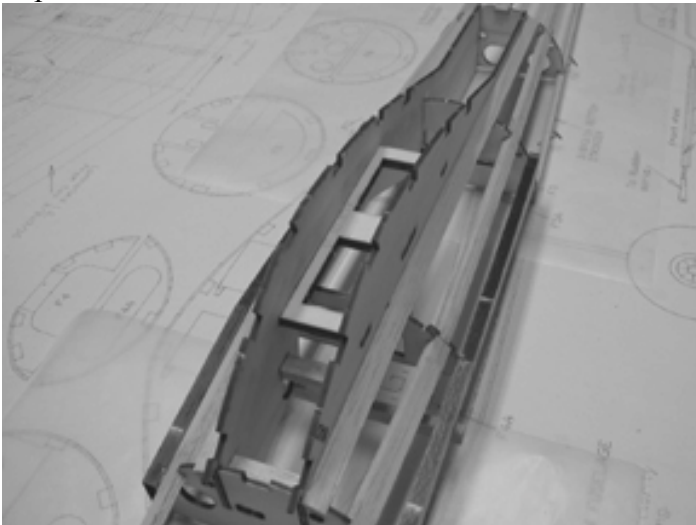


11. Cut two $\frac{3}{8} \times \frac{3}{16}$ stringers to fit in to top-side of F2, F3 and F4. Stringers must extend $\frac{1}{8}$ passed F2 for installation of F2A.

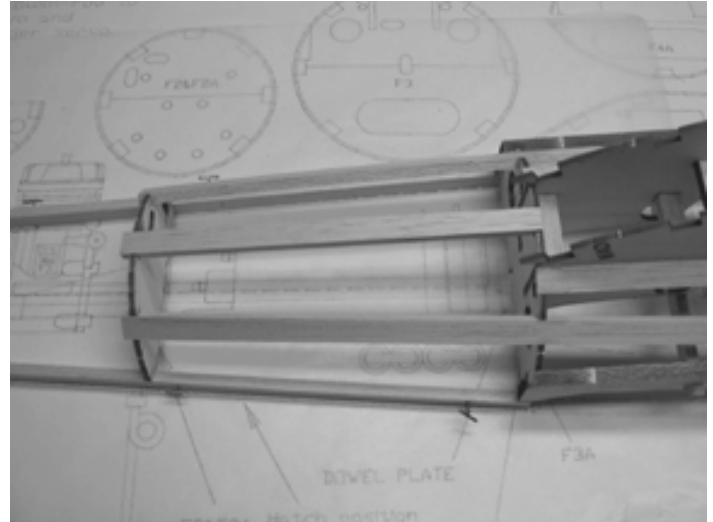
12. Install and glue $\frac{1}{4} \times \frac{1}{4}$ stringers to the top-side of F4, F5, F6, and F7 and next to F8. Use F4 doublers to reinforce $\frac{1}{4} \times \frac{1}{4}$ and $\frac{3}{8} \times \frac{3}{16}$ stringer connections.



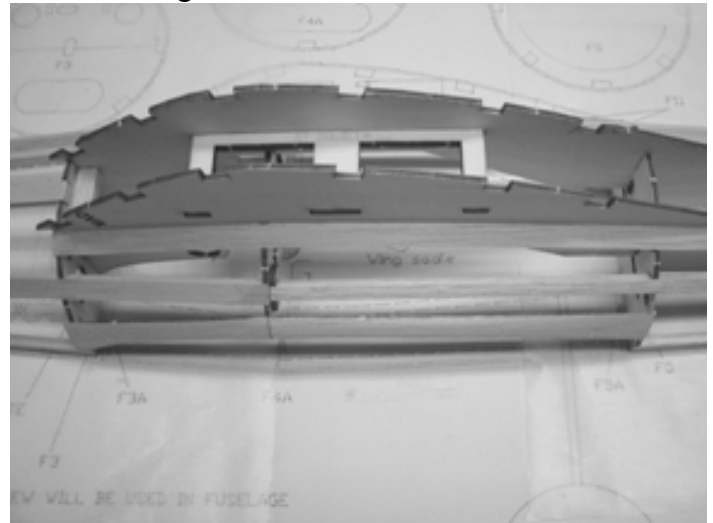
13. From $\frac{3}{8} \times \frac{3}{16} \times 36$ cut two $15 \frac{7}{8}$ long. Bevel them to allow good fit at F3, F4, F5 and F6, Glue it in place and to F11.



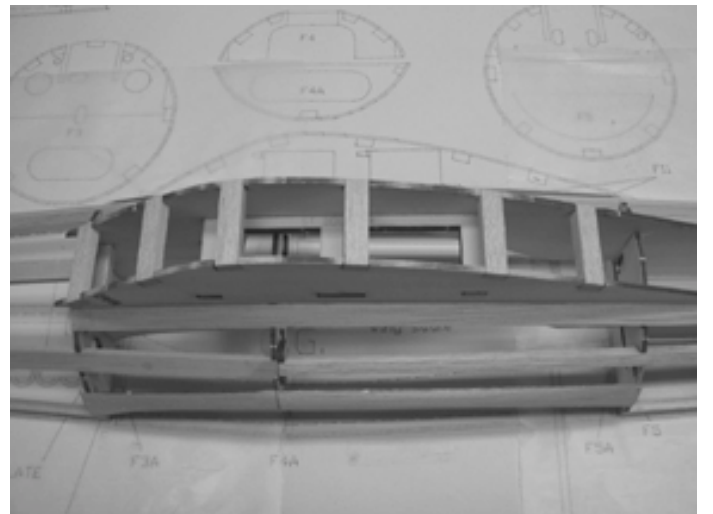
14. Glue front-top stringer to F2 and F3, leaving $\frac{1}{8}$ passed of F2.



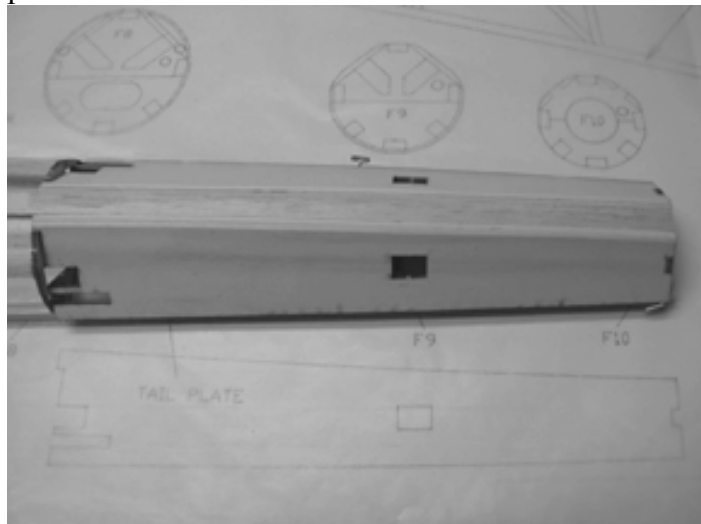
15. Trim wing saddles to match fuse contours.



16. From $\frac{3}{8} \times \frac{1}{4}$ cut six $1 \frac{1}{2}$ pieces and glue them to canopy slots. Sand top of canopy smooth on top and sides.



17. Position and glue tail plate on to F8, F9 and F10. Sand top of tail plate to match shape indicated on the plans.

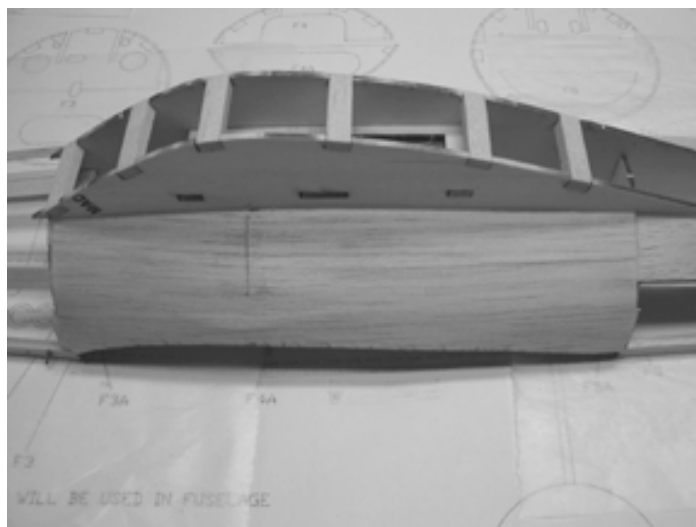


Fuselage sheeting.

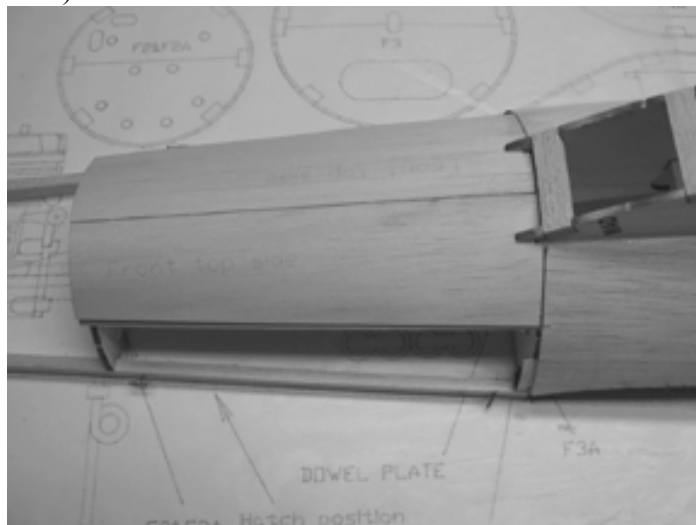
1. Keep fuse pinned down during top sheeting.
2. Align and glue to center of top stringer as well as to side and main stringers.



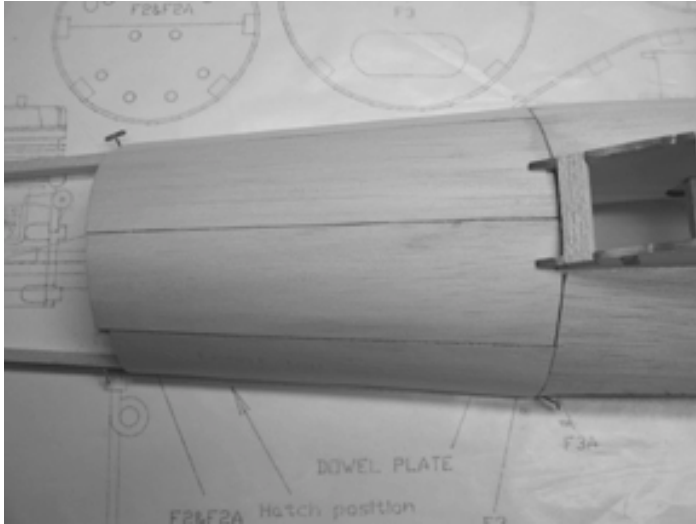
3. See plans for positioning. Making necessary adjustments install and glue Laser-cut “over the wing” sheeting. Note: it will overhang wing saddle, do not trim it at this time.



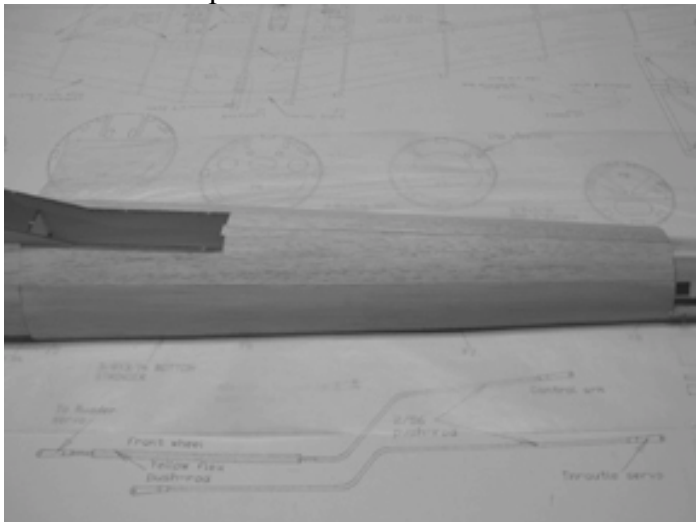
4. Making necessary adjustments install and glue front-top sheeting (it should overhang F2 about 1/8”).



5. Making necessary adjustments install and glue top-side (it should overhang F2 about 1/8”).

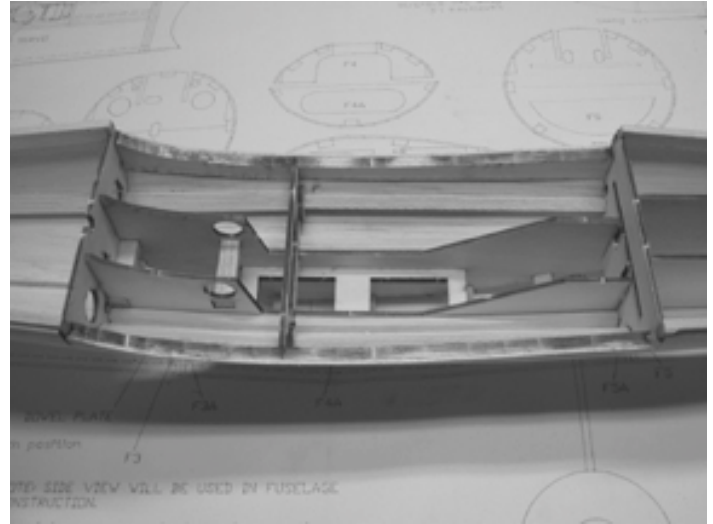


6. Making necessary adjustments install and glue laser-cut rear-top side.

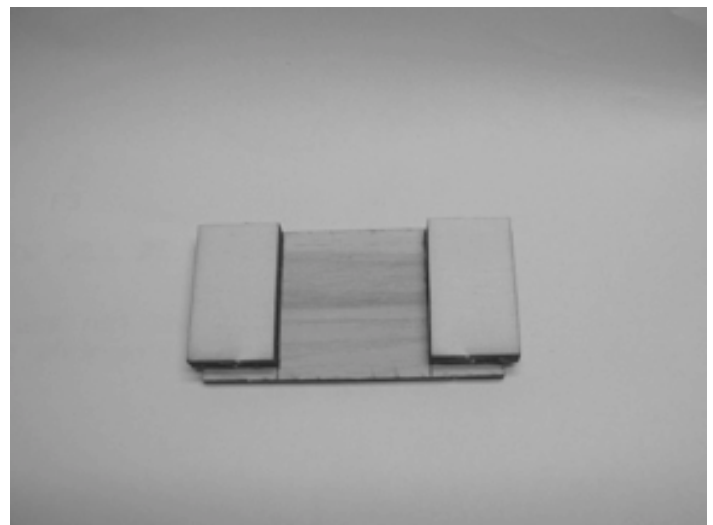
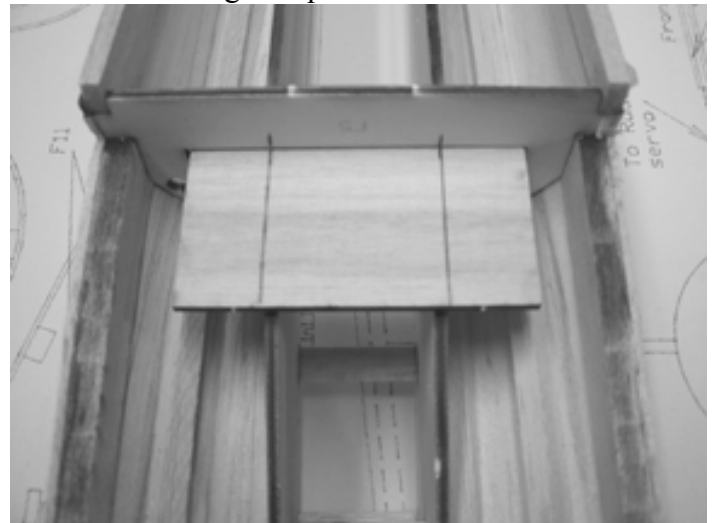


7. Sand joints smooth and use thin CA to reinforce all joints, sand smooth once more. Leave 1/8 overhang at F2 former.

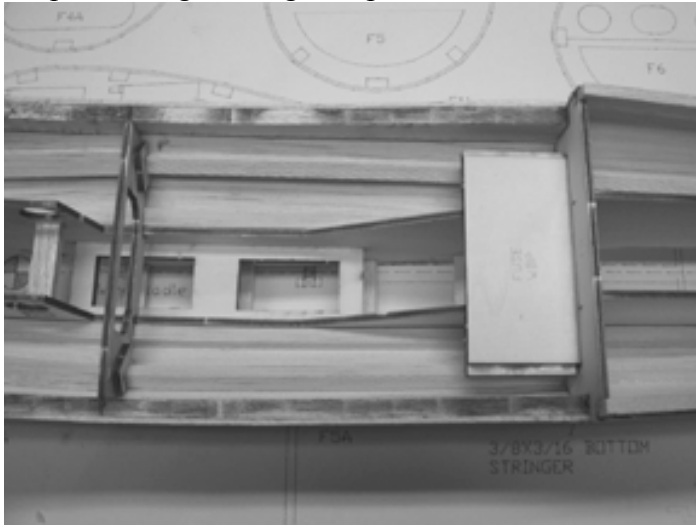
8. Unpin fuse and flip over. Trim sheeting at wing saddle as needed.



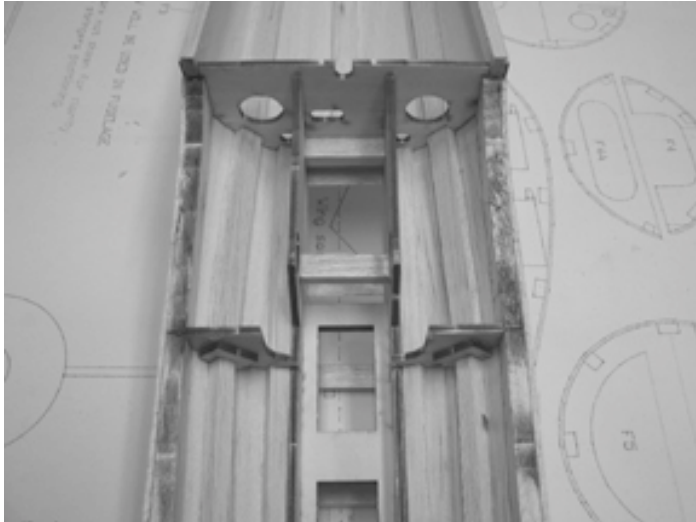
9. Place wing bolt plate in its slot on F5. Mark position of two F11. Remove and use this mark to laminate 1/8 wing bolt plate doublers on to it.



10. Epoxy assembly to F11 and F5. Note: see plans for positioning of wing bolt plate doublers.



11. Cut off part of F4 as shown on plans and picture.



12. Place and glue fuse dowel plate in front of F3. Make sure it seats tight on the main stringers of the fuse.



13. Insert $\frac{1}{4}$ dowel in to center L.E. and Test-fit wing to fuse and make necessary adjustment for a good fit at the wing saddle. Trim F11 as necessary in-case wing is not touching forward part of the wing saddle.

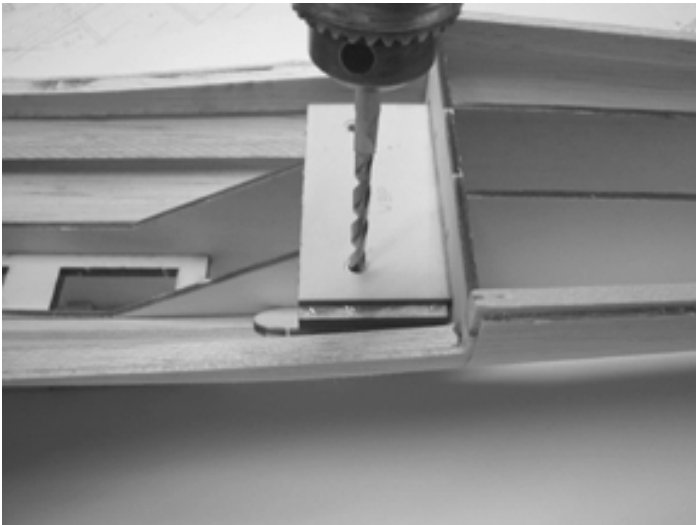


14. Test-fit $\frac{1}{4}$ wing dowel and epoxy it in place while keeping wing tight on wing saddle.

15. Check wing alinent. Tack glue piece of $\frac{3}{8} \times \frac{3}{4}$ across F10. Place a pin with string attached to it in the middle of F10. Achieve equal distance from the pin to tip corner of the wing by using the string.



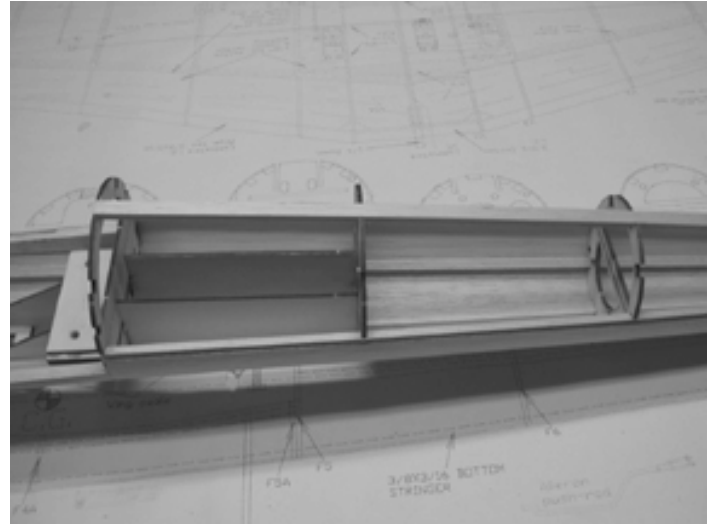
16. Pin wing firmly in centered position to the fuselage. Mark centers of wing bolt hole on the wing bolt plate (you can use $\frac{1}{4}$ drill bit to leave impression on wing bolt plate). Remove wing and drill $\frac{3}{16}$ holes thru wing bolt plate and laminates. **TIP: Use scrap plywood from laser cut parts. Place it under wing bolt plate to protect fuselage from coming thru drill bit.**



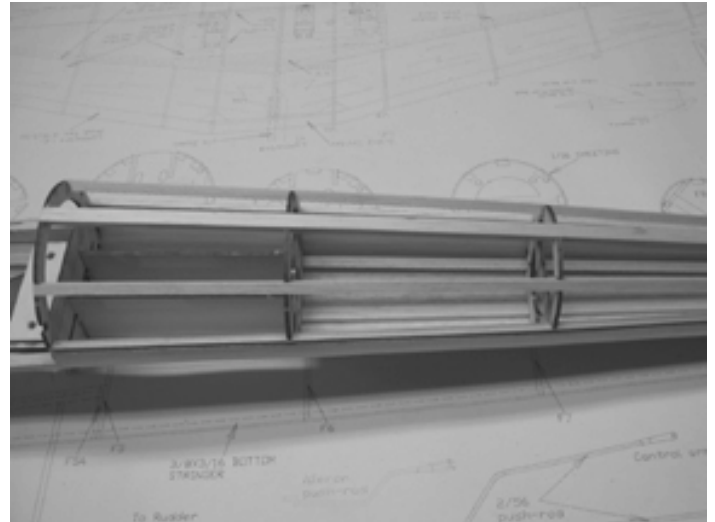
17. Tap holes with $\frac{1}{4}$ x 20 size tap. Apply thin CA and tap wing bolt plate several times.

18. Glue bottoms of F5 thru F10, keeping them in-line with their top part.

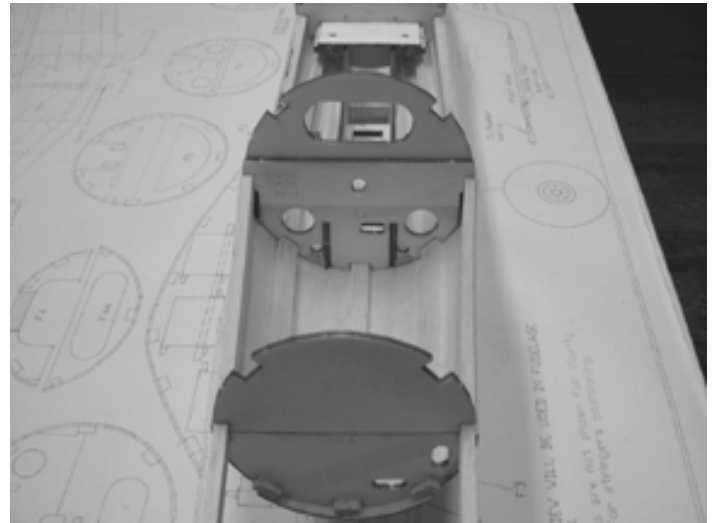
19. Glue bottom $\frac{3}{8}$ x $\frac{3}{16}$ x 36 stringer to F5 thru F10. Trim at F10 and double check that F5 is straight to its top part.



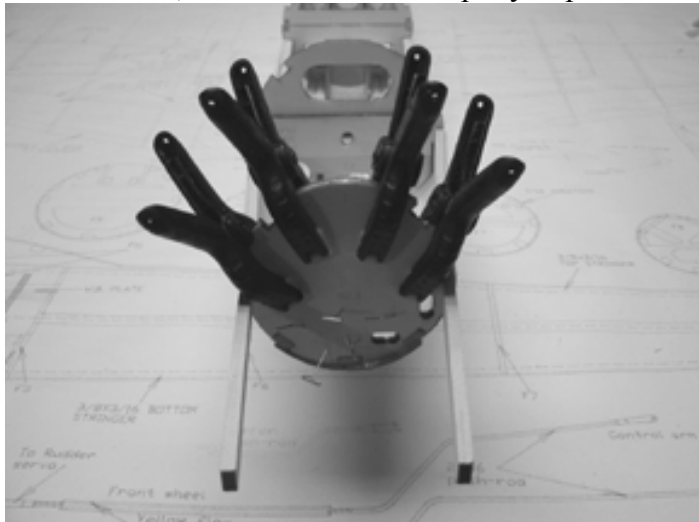
20. Install and glue $\frac{1}{4}$ x $\frac{1}{4}$ rear-side stringer in to F5 thru F10. Trim at F5 and F10.



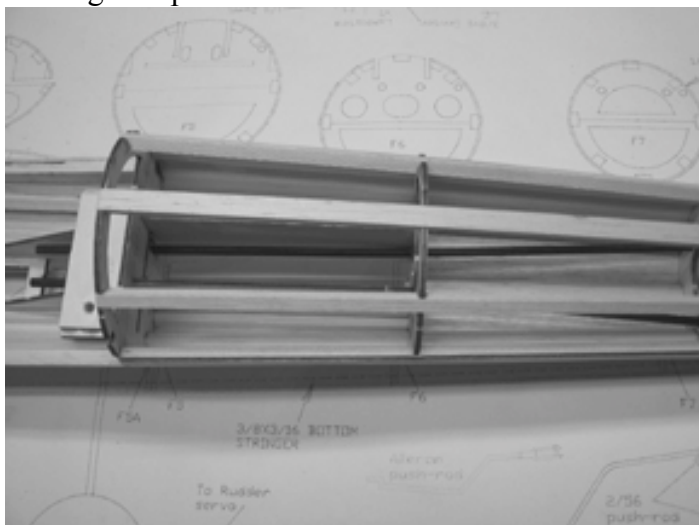
21. Glue bottoms of F2 and F3.



22. NOTE: Center and drill mounting holes for engine mount before permanently installing F2A. Tests-fit F2A, trim as needed and Epoxy in place.



23. Temporary install plastic housing for push-rods and antenna (optional for antenna). NOTE: Push-rods do not cross each other. Mark antenna housing at 1 ½ in front of F5 and flush at back of F10. Mark push-rod housing flush at back of F8 and ¾ in front of wing bolt plate.



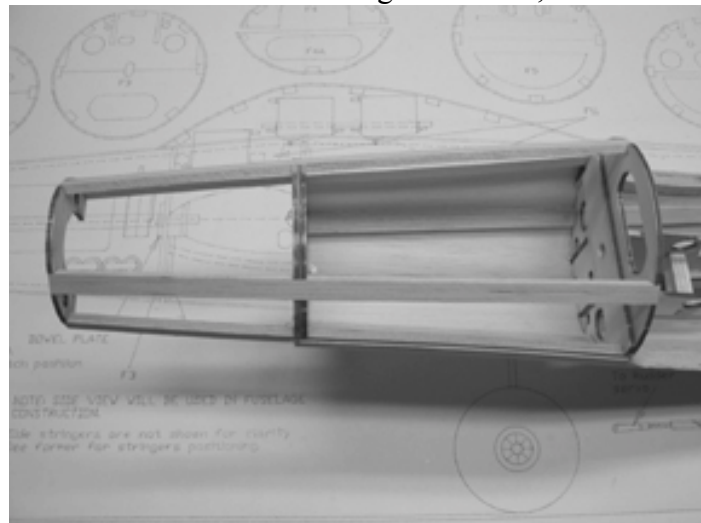
24. Remove push-rods housing and cut as marked. Roughen housing with 100 grid sand paper. Install and glue antenna housing to all fuse formers. Install and glue push-rod housing to F6, F7 and F8. Do not Glue push-rod housing to F5 former.

25. Temporary install engine mount. Position engine so front of prop washer is 1/8 in front of two front main stringers. Mark engine mounting holes, remove engine and drill holes as marked.

26. Install Engine and place spinner on it. Place and align F1 so it is 1/8 back from spinners back plate. Glue F1 in place to the front main stringers.

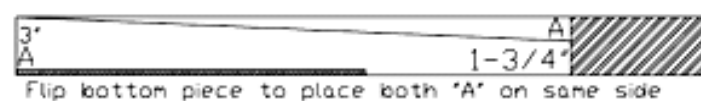


27. Flip fuselage upside down. Cut two 3/8 x 3/16 x 10 ¾. Glue them in remaining slots of F1, F2 and F3.



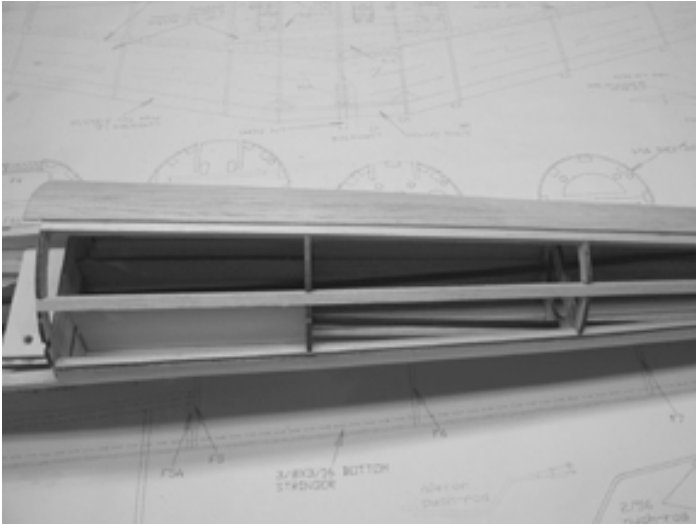
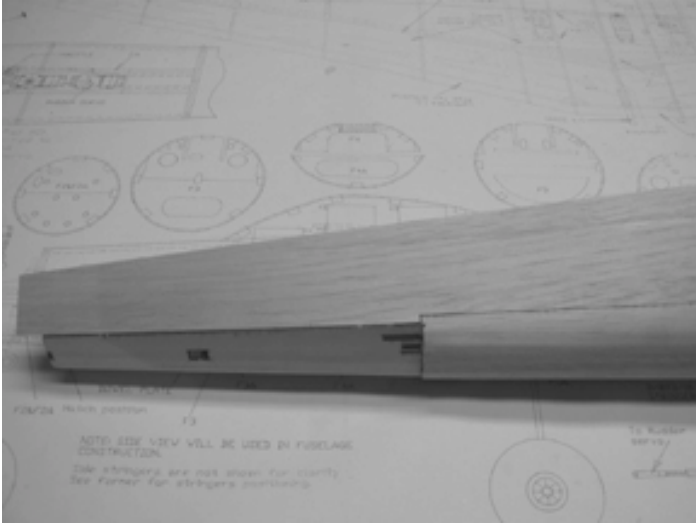
Sheeting the bottom.

1. Make rear bottom sheeting. From 1/16 x 3 x 36 cut 29" long piece. On one end mark 1-3/4 and connect it to corner of the other end. Cut as marked. Edge glue two pieces so you make a 4-1/4 x 1-3/4 x 29. On 4-1/4 end mark ¼ in the 90 deg. corner, go down the sheet and mark 18 ¼ from the 90 deg. Corner. Cut out ¼ x 18 ¼ strip.





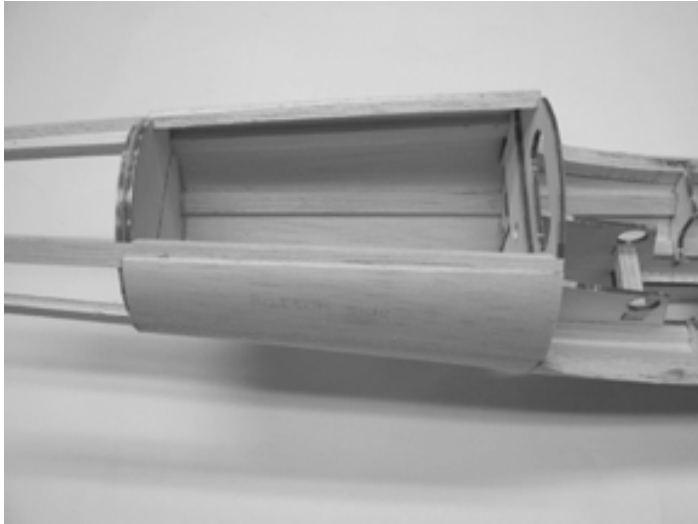
2. Pin made sheet to main spar and bend it toward the rear bottom stringer. Mark center of the bottom stringer on the sheet. Cut as marked and glue sheet in place. Starting at main stringer and going to bottom stringer.



3. Sheet other side in same manner and trim excess sheeting.



4. Using laser-cut 1/16 balsa, sheet front bottom. Sheet from main stringer to hatch rail (leaving half of hatch rail un-sheeted for hatch installation).



5. Finish front engine compartment using remaining 1/16 balsa. Glue two sheets together and position it centered over the engine area. Use pencil to mark sheeting, remove and cut as marked.



6. Trim to fit and glue made sheeting in place. Trim sheeting at F1.



7. Sand all joints smooth and run thin CA to reinforce joints of sheeting.

8. Use 1/16 scrap wood to sheet the cockpit, making sure that grain goes from one F11 to another.

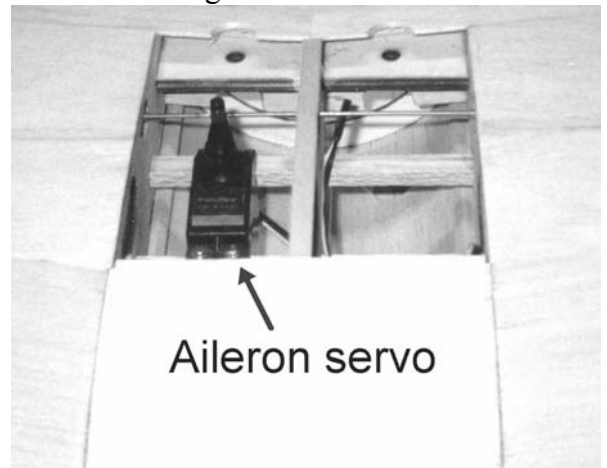
9. Place 1/32 Birch plywood hatch in place. Use 6 crews to secure it to fuselage stringers.

Install hardware.

1. Install all Control Horns at location shown on the plan.

2. Install aileron servos as shown on the plans. Drill holes for servos screw, install servo.

3. Attach ez-connector to aileron servo arm with snap-on retainer. Mark and file flat spot on aileron push-rod at ez-connectors screw position. Use thread lock when installing at ez-connector screw.



4. Epoxy wing push-rod housing to W4 only.

5. Install rudder and elevator servos.

6. Make Tail push-rods .
7. Install throttle servo as per plans. Make a throttle push-rod using the plans.
8. Make a front wheel push-rod as per plans.
9. Check operation of all push-rods and servos correct any problems at this time.
10. Temporary connect radio and check movement of servos and push-rods. Fix any problems you may have encountered.

Mechanical V-Tail Mixer Installation.

1. From V-tail mix package, attach two plastic ball links cap on to tail push-rods (threaded end). Slide them in place from servo compartment.
2. Take plastic V-tail mixer. Enlarge center hole **from the bottom** to 3/16.
3. Use large servo wheel for V-tail mixer installation. Sand servo wheel flat on top for better contact with V-tail mixer.
4. Place servos wheel on the servo and partly install servos screw. Place mixer on top of servo wheel and sticking out screw. Temporary connect radio and turn it on, to get exact center position of the servo.
5. Drill four hole using mixer as a guide. Install mixer to servo wheel and cut servo wheel as indicated on the plans making an “arm” for the front wheel control.
6. Follow instructions on the V-tail mixer package to assemble it (lube it as you go). Make Tail push-rods .
7. Temporary connect radio and check movement of V-tail mixer and push-rods. Fix any problems you may have encountered.

Finishing the wing.

8. Place waxed paper to cover wing saddle, F3 and F5.
9. Attach wings with nylon bolts.



10. Test fit W5A to wing, cut 3 3/4 long from 3/16x 3/8. If looks good glue W5a to wing and reinforce it with 3/16 x 3/8 piece in front of W5A.



11. Use 3/32 scrap wood as a spacer between F3 and F3A, and glue F3A to center L.E. (some trimming will need to be done to balsa center L.E.)



12. Cut 10" long $\frac{3}{8} \times \frac{3}{16}$ and glue it to top slot of F5A (keeping another end in F3A, NO GLUE).

13. Place bottom of F4 on the wing as indicated on the plans. By placing stringer in to F3A, align F4 and glue it to the wing and the stringer. Glue stringer to F3A.



14. Remove wing from fuse and glue $\frac{3}{16} \times \frac{3}{16}$ stringers to side slots of F3A, F4 and F5A.



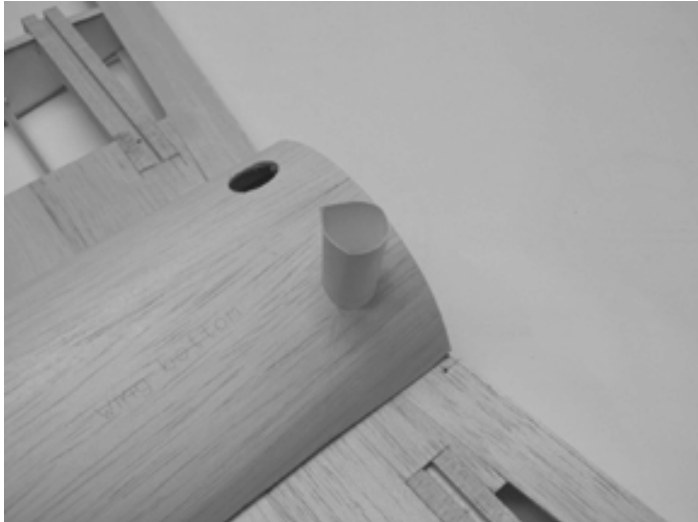
15. Trim as needed and glue in place laser-cut wing bottom sheeting. Be sure to aligning center cut with F4A.



16. Repeat step above for other side. Trim excess sheeting flush with F3A and F5A.



17. Determine position of openings for wing bolts. Use your rotary tool to make $\frac{1}{2}$ " holes in the sheeting.



18. Optional: use some lite cardboard to make wing bolt guide tubes. Make them "coned" down from opening down to wing bolt plate, you would want to have bottom of the cone just big enough to fit screw thru it.



19. Drill $\frac{5}{32}$ holes next to W3 and in to L.G. blocks so drill goes in to vertical groove of reinforcement block.

20. Test fit L.G. wires and install plastic landing gear straps.



21. Attach wheel of your choice (prototypes flew very well with $3\frac{1}{4}$ " wheels of the grass fields).

22. Use plans to determine positioning of front gear wire. Use $\frac{5}{32}$ " E/Z Adjust Axle (Du-Bro #615) to install front wheel. Attach Control arm with ez-connector on it to gear wire.

Tail construction.

1. To make it faster make all part double during next steps.

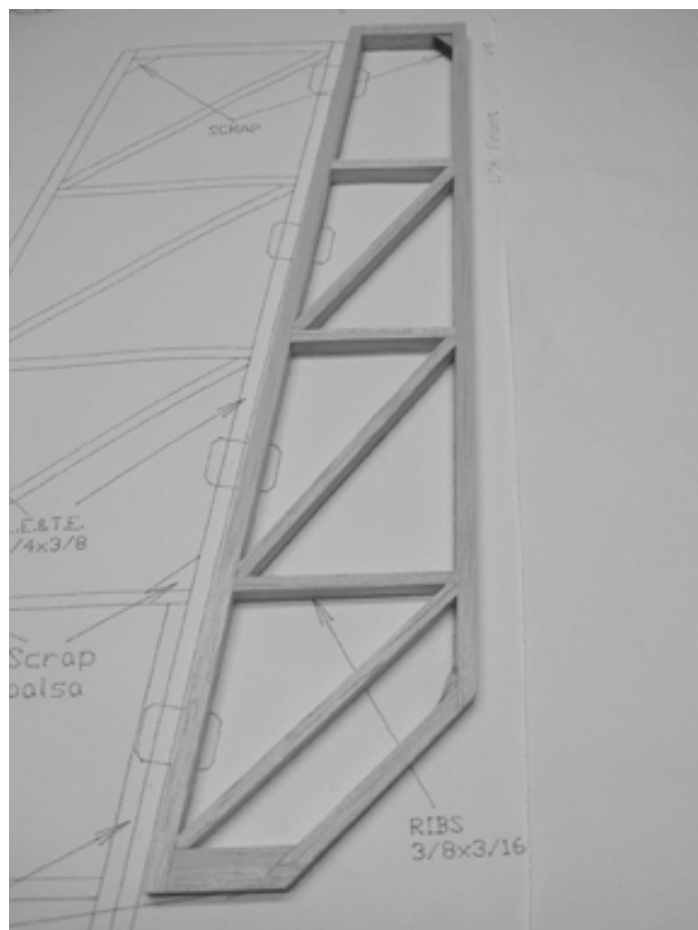
2. Use one hardest $\frac{3}{8} \times \frac{1}{4} \times 36$ to make L.E. Pin L.E. over the plans and put other one on a side.

3. Use one hardest $\frac{3}{8} \times \frac{1}{4} \times 36$ to make T.E. Pin T.E. over the plans and put other one on a side.

4. From one $3/8 \times 1/4$ make doublers for L.E. and T.E. Pin and glue in place.
5. From $3/8 \times 1/4 \times 36$ cut top and bottom of fins, pin and glue in position.
6. Using all of the $3/16 \times 3/8$ scrap first, make all ribs place and glue them in place.
7. Place laser-cut reinforcements as indicated on the plans.



8. Remove fin from plans.
9. Repeat steps to make a second fin.
10. Build elevator-rudder in the same manner as you did during building the fins.



11. Mark and cut hinges slots as per plans on fins and elevator-rudder.
12. Install elevator-rudder to fins, and sand all imperfections.
13. Temporary install control horns and attach fins and elevator-rudder to the fuse, using T-pins.
14. Mark positions of threaded couplers (from V-tail mixer package if used) on the tail push-rods. Remove push-rods and solder coupler on. (You will have to remove plastic ball links to install push-rods back).
15. Attach clevises and check movements of elevator-rudder.

Covering your Simple Flier.

Prototypes were covered with Monokote. Red wings and Blue fuselage and tail. It takes one roll of each dominated color. NOTE: If you choose another brand of covering material, be sure to read the manufacturer's directions that come with the material. Follow their instructions when applying the material as different brand coverings have slightly different handling characteristics and application temperatures.

However, the basic techniques for applying iron-on plastic coverings of any brand are pretty much the same. We also recommend that you use a temperature gauge to set the temperature of your iron to the setting the covering manufacturer recommends. **SURFACE PREPARATION:** A good covering job starts with good surface preparation. Remember, regardless of what kind of covering you choose, it won't hide poor workmanship. Fill any small dents or surface gaps with a lightweight filler or spackling paste. Sand the entire model including the ailerons and tail surfaces, with 220 grit sandpaper, then again with 360 or 400 grit sandpaper.

INSTALL TAIL SURFACES.

Use Tail Guide Template from the plans to cut out a cardboard template. Use it to set tail at 90° to each other. Also be sure to check alignment to wing this can be done visually. Epoxy tail in place using cardboard template to check for 90° set-up.

RADIO SET-UP.

Throttle: full range of throttle lever on carburetor.

V-Tail: 1 ¾ for elevator only

And 1 ¾ for rudder only

Ailerons: 1" – 1 ¼"

BALANCE YOUR SIMPLE FLIER

IMPORTANT: For optimum flight performance, balance your SIMPLE FLIER precisely where indicated on the full-size plan. We do, however, recommend that your SIMPLE FLIER be slightly nose heavy for the first few flights. When you become more familiar with the flight characteristics of the model, then move the balance to the optimum location. Make a balancer from a block of wood and two pencils that are tipped with erasers. Drill two holes in the block of wood about 3" apart and install the pencils with the erasers at the top.

Mark the balance point on the bottom of the wing by placing a piece of tape on each side of the fuselage 3 ½" from the LEADING edge of the wing. Place the model in the balancer with the ends of the erasers on these pieces of tape. If necessary, shift the battery pack or add weight to properly balance the model. Trying to fly with the balance point too far forward or too far aft is much more dangerous than the slight increase in the wing loading caused by adding nose or

tail weight. Always balance the model with an empty fuel tank so that it sits level on the stand.

In addition to the fore and aft balance, it's important that you balance the SIMPLE FLIER span wise. A heavy wing on one side can result in poor loop tracking. The heavy wing should fall towards the floor. Add small amounts of weight to the opposite wing until the model is balanced.

PRE-FLIGHT CHECKOUT

Make sure the servos are securely mounted and that the servo arms have their retaining screws in place. It is also a good idea to re-check all the pushrod connectors, fuel tank mounting, fuel lines, wheels, engine mounting bolts and tighten the prop and spinner. Range check the radio as per the manufacturers instructions and make sure it is fully charged. If there are any problems, sand the radio in for repair. **DOUBLE CHECK EVERYTHING YOU CAN THINK OF!** A model and radio that is not prepared and working properly on the ground before take off will not improve in the air **IT WILL GET WORSE!** There is no point in attempting to fly until everything is 100% correct.

FLYING

The SIMPLE FLIER was designed for R/C pilots who can keep up with aerobatic models. Lower time pilots are encouraged to seek out the help of a more experienced pilot during the first few test flights. Keep the control throws on the low rate settings and stay at least three mistakes high. Once you get the feel for the model try a few simple maneuvers like rolls, loops, stall turns and knife edge flight. Caution. Until you are familiar with the response time and the shape of the SIMPLE FLIER leave yourself plenty of room for recovery. Recovery is never much of a problem, it can be done as fast as you got in trouble, but you do need to leave room and time until you've got it together. One other warning, it is very easy to get in the habit of flying it very close in the deception of "slow speed" and fast response time combined with a minor mistake during recovery can get the SIMPLE FLIER behind you faster than you can read this sentence. You can endanger yourself, other flyers and any spectators very easily. Get a little practice and you won't believe how much fun you'll have while still flying safely.

Kit Content

| PARTS | Description | Used |
|----------------|--------------------|-------------|
| SHEETS | 3/32 x 3 x 36 | 2 |
| SHEETS | 1/16 x 3 x 36 | 7 |
| SHEETS | 1/16 x 4 x 24 | 1 |
| BALSA STICK | 3/16x3/16x36 | 1 |
| BALSA STICK | 3/16 x 3/8 x 36 | 17 |
| BALSA STICK | 1/4 x 3/8 x 36 | 8 |
| BALSA | 1/2 x 1 x 6 | 1 |
| BALSA TRIANGLE | 1/2 x 36 | 4 |
| BALSA STICK | 1/4 x 1/4 x 36 | 4 |
| LG BLOCKS | 3/8 x 5/8 x 6 | 1 |
| BIRCH DOWEL | 1/4 x 2 | 1 |
| MAIN LG | 5/32 wire | 1 |
| INSTRUCTIONS | 1 Booklet | 1 |

LASER CUT WOOD

| | | |
|-------------------------|---------------|---|
| Laser-Cut Ribs | 3/32 x 4 x 24 | 3 |
| Laser-Cut Sheeting | 1/16 x 4 x 24 | 5 |
| Laser-Cut LITE PLYWOOD | 1/8 x 6 x 24 | 4 |
| Laser-Cut Saddle & Jigs | 1/4 x 2 x 24 | 1 |
| Laser-Cut Plywood Hatch | 1/32 x 4 x 7 | 1 |

Hardware Needed to Complete

| | | |
|-----------|--------------------|-------------|
| Dubro 215 | V-tail mixer | 1 |
| Dubro 173 | 30" push-rod metal | 2 |
| Dubro 410 | Fuel Tank | 1 |
| Dubro 167 | Bell Crank | 2 |
| Dubro 107 | HORNS | 4 - 6 flaps |
| Dubro 598 | Collars | 6 |
| Dubro 184 | Push-rods wings | 5 |
| Dubro 538 | Hinges | 18 |
| Dubro 608 | E-Z connector | 2 |
| Dubro 727 | MOTOR MOUNT | 1 |
| 36" .055 | Aileron Wire | 1 |
| | Wing Bolts | 2 |
| Dubro 153 | Front gear wire | 1 |
| Dubro 239 | LG strap | 4 |
| Dubro 700 | PUSHROD TAIL | 3 |