

Gee Bee Sportster

KIT # K-301

Assembly Instructions



WARRANTY

Alien Aircraft Corp. guarantees this kit to be free from defects in both material and workmanship at the date of purchase. This warranty does not cover any component parts damaged by use or modification. In no case shall Alien Aircraft Corp.'s liability exceed the original cost of the purchased kit. Further, Alien Aircraft Corp. reserves the right to change or modify this warranty without notice. The quality and flyability of your finished model depends on how you build it; therefore, we cannot in any way guarantee the performance of your completed model, and no representations are expressed or implied as to the performance or safety of your completed model.

In that Alien Aircraft Corp. has no control over the final assembly or material used for final assembly, no liability shall be assumed nor accepted for any damage resulting from the use by the user of the final user-assembled product. By the act of using the user-assembled product, the user accepts all resulting liability. If the buyer is not prepared to accept the liability associated with the use of this product, the buyer is advised to return this kit immediately in new and unused condition to the place of purchase.

WARNING!!!

Failure to follow these safety precautions may result in severe injury to yourself and others.

Use safety glasses when running the motor. Do not run the motor in an area of loose gravel or sand; the propeller may throw such material in your face or eyes. Keep your face and body as well as all spectators away from the plane of rotation of the propeller as you run the motor. Keep these items away from the prop: loose clothing, shirt sleeves, ties, scarfs, long hair or loose objects such as pencils or screwdrivers that may fall out of shirt or jacket pockets into the prop. Always remove the LiPo battery from the plane before charging. Always use a charger designed to charge LiPo batteries for charging the LiPo flight battery. Never leave the LiPo battery unattended while charging. If the battery becomes more than just warm, discontinue charging.



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Notes about the laser cut parts

- 1...The first thing that you need to do is to identify and mark the part numbers on the laser cut parts using the drawings on the following pages as a guide.
- 2...It is possible that several of the laser cut parts may not be completely cut through. If this is the case you can free the part from the sheet quickly using an X-acto knife.
- 3...The slight discoloration on the edges of the laser cut parts may be removed by lightly sanding the edges with 400 grit sandpaper.

Kit Contents:

Your kit contains the following parts. Please check your kit for any missing or damaged parts before starting construction.

Wood Bag:

Qty.	Name	Description
1	.LC-301-01	.1/16" X 4" X 24" Laser Cut Balsa
1	.LC-301-02	.1/16" X 4" X 24" Laser Cut Balsa
1	.LC-301-03	.1/16" X 4" X 24" Laser Cut Balsa
1	.LC-301-04	.1/16" X 4" X 24" Laser Cut Balsa
1	.LC-301-05	.1/16" X 4" X 24" Laser Cut Balsa
2	.LC-301-06	.1/16" X 4" X 24" Laser Cut Balsa
1	.LC-301-07	.1/16" X 4" X 24" Laser Cut Balsa
1	.LC-301-08	.3/32" X 4" X 24" Laser Cut Balsa
1	.LC-301-09	.3/32" X 4" X 24" Laser Cut Balsa
1	.LC-301-10	.3/32" X 4" X 24" Laser Cut Balsa
1	.LC-301-11	.3/32" X 4" X 24" Laser Cut Balsa
1	.LC-301-12	.3mm X 3" X 12" Laser Cut POPLAR PLY
1	.LC-301-13	.1/16" X 3" X 12" Laser Cut Birch Ply
1	.LC-301-14	.1/16" X 3" X 12" Laser Cut Birch Ply
4	.Main Wing Spars	.3/32" X 1/4" X 18" Balsa
2	.Wing Leading Edges	.1/4" sq. X 18" Balsa
22	.Stringers	.3/32" X 3/32" X 18" Balsa
1	.Wing Center Section Sheet	.1/16" X 3" X 12" Balsa

Hardware Bag

Qty.	Name	Description
4	.Blind Nuts	.4-40 Blind Nuts
1	.Landing Gear Axles	.1/16" X 2" MUSIC WIRE
1	.Elevator Joiner	.1/8" x 3" Birch Dowel
2	.Wing Dowels	.1/8" x 3 1/2" Birch Dowel
2	.Former Brace	.3/32" sq. x 2" Balsa
4	.Control Horn	.Control Horns
3	.Sig EZ Hinge	.Hinges
4	.Cowl Blocks	.3/8" Hardwood Blocks
4	.Cowl Screws	.#2 X 1/2" Sheet Metal Screws
1	.Tail Wheel & Rigging Clip Wire	.1/32" x 6" Music Wire
1	.Tail Wheel	.3/8" Plastic Tail Wheel & Retainer
12'	.Rigging Thread	.12' Black "E" Thread

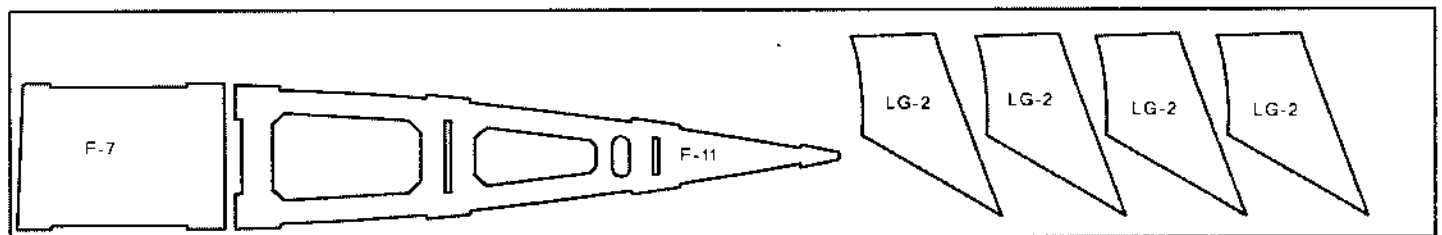
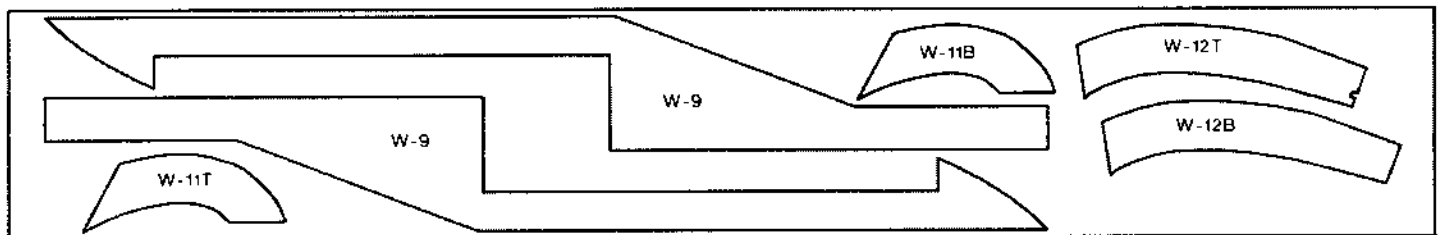
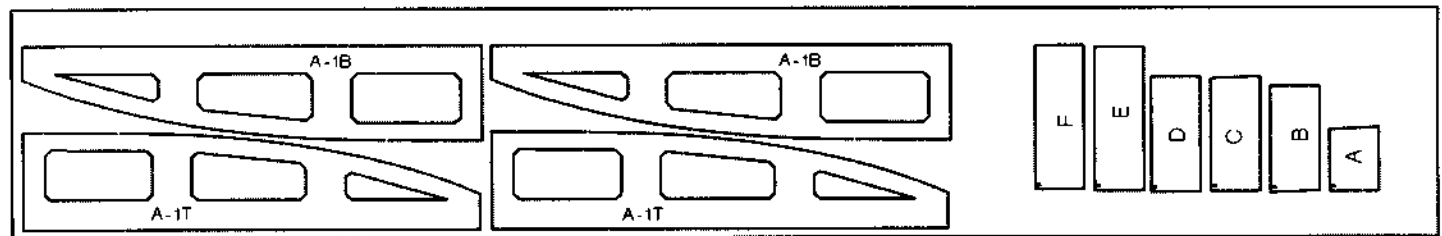
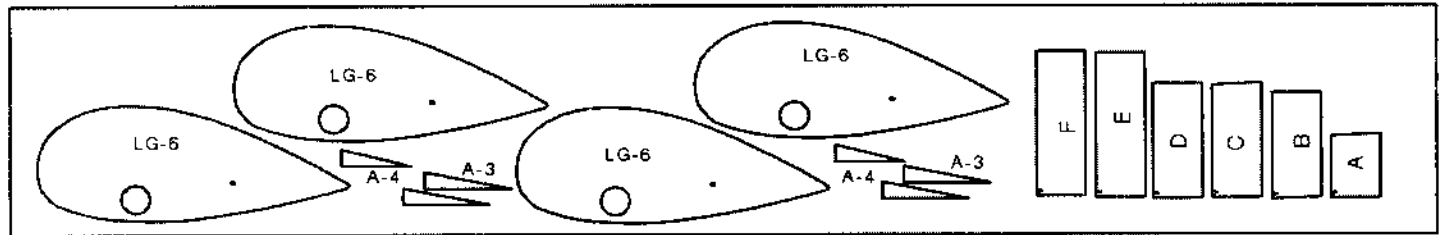
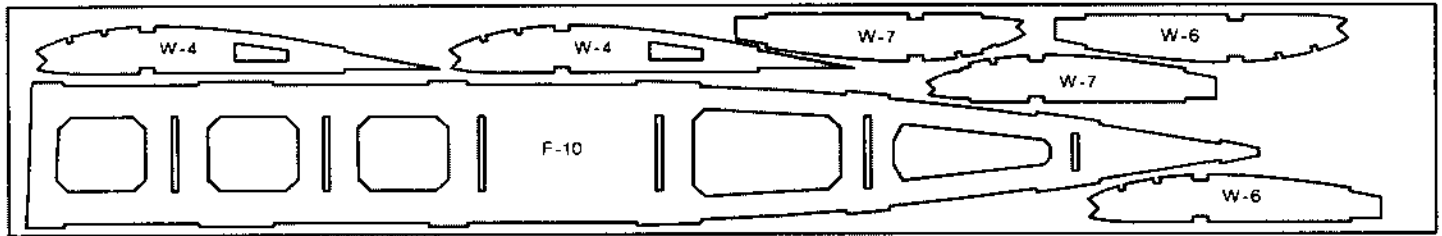
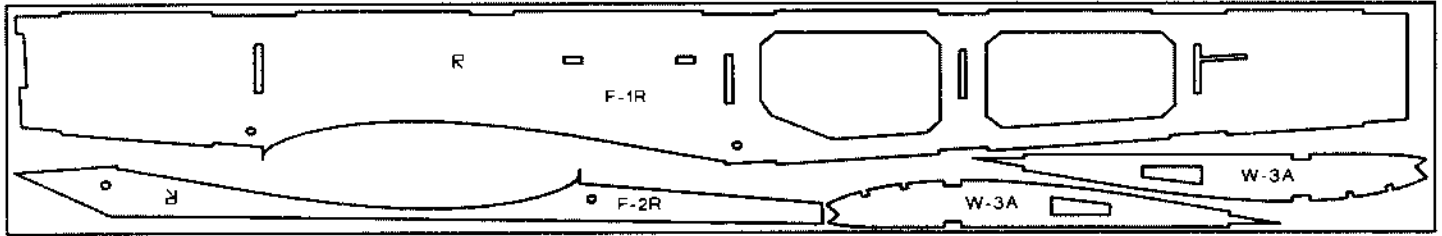
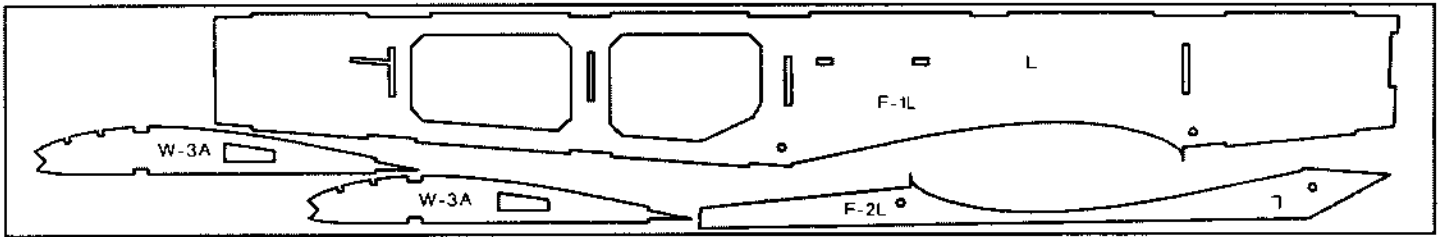
Misc. Loose Parts

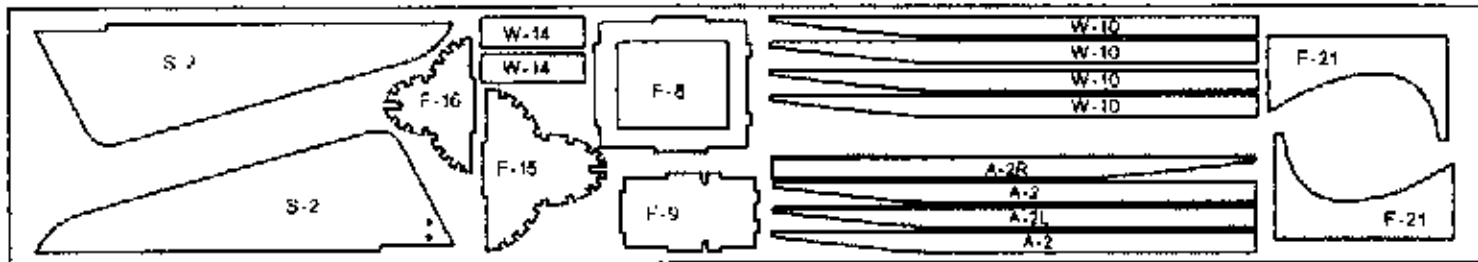
Qty.	Name	Description
1	.K-301 PLAN A	
1	.K-301 PLAN B	
1	.K-301 Decal Sheet	
1	.K-301 Plastic Cowl	
1	.K-301 Windshield Plastic	.010" x 2 1/2" x 5" PETG / Acetate

Additional Items Required (Not Included in Kit)

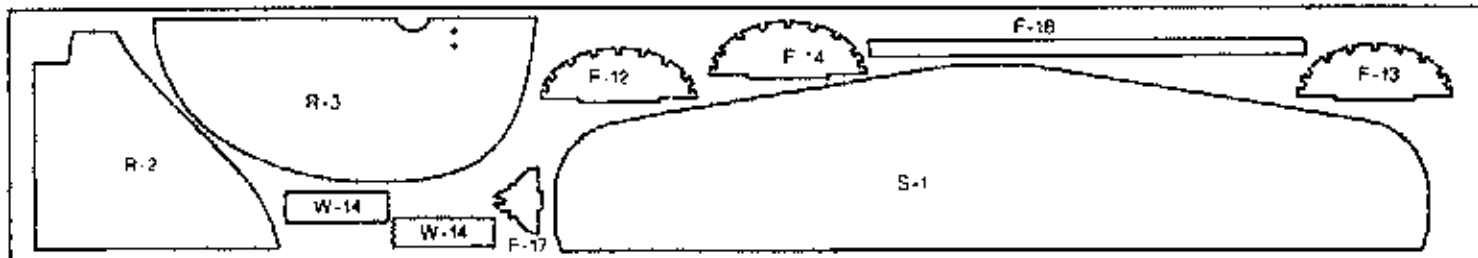
Note: These are parts that we have used and are familiar with. There are many other brands available and you may substitute other items that you are more comfortable with or have on hand.

Qty.	Name	Description
1	.Motor	.Himax HC2808-1160 Brushless Motor (Alien Aircraft P/N: AE-018)
1	.Speed Control	.Castle Creation Thunderbird-18 Electronic Speed Control (Alien Aircraft P/N: AE-019) with connectors matching motor & battery
2	.Tail Pushrods	.Dubro Micro Pushrod Set (Alien Aircraft P/N: AH-001)
2	.Aileron Pushrods	.Alien Aircraft "2" x 10" Pushrod Set (Alien Aircraft P/N: AH-003)
1	.Propeller	.APC 7X4 SF Propeller (Alien Aircraft P/N: AE-023)
2	.Wheels	.1.85" Aluminum Bushing Wheels (Alien Aircraft P/N: AH-009)
1	.Velcro	.6" Velcro (Alien Aircraft P/N: AE-012)
1	.Motor Mount Hardware	.2808 Motor Mount Hardware (Alien Aircraft P/N: AE-022)
1	.Battery	.3 Cell 1250Mah Lipo Battery
1	.Covering Material	.1 Roll Light Weight Covering Material Plus Trim Colors
1	.Radio	.4 Channel Radio with 4 micro servos & Receiver & "Y" Harness

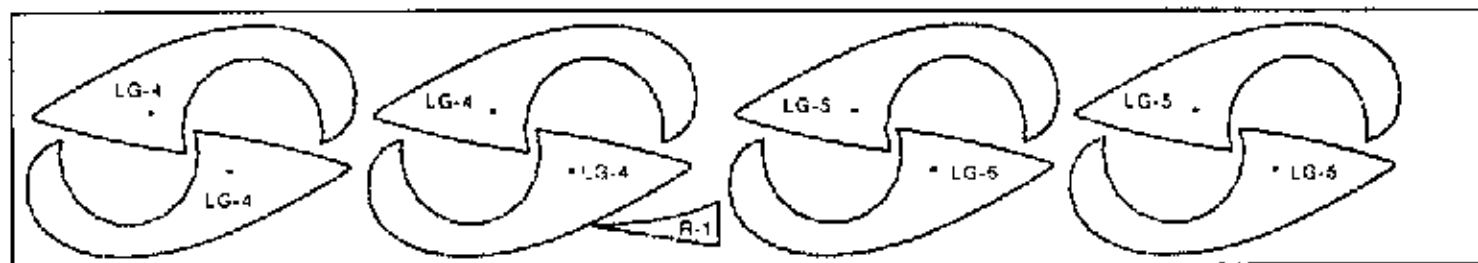




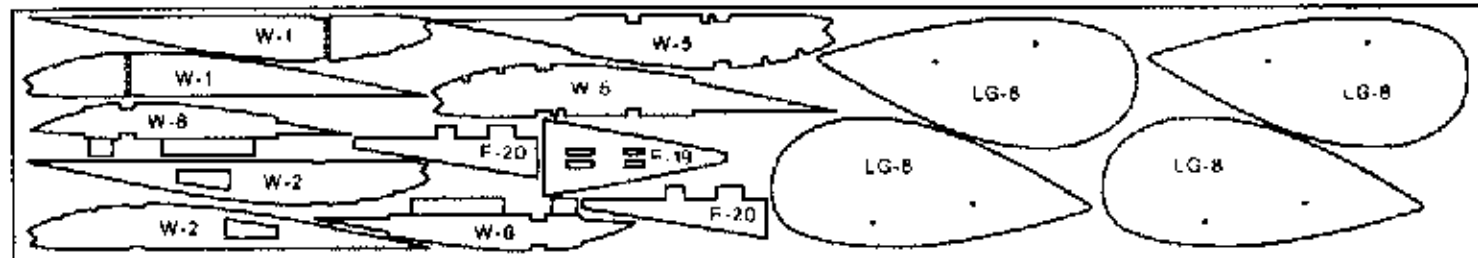
LC-301-08 3/32" X 4" X 24" BALSA 1 REQD



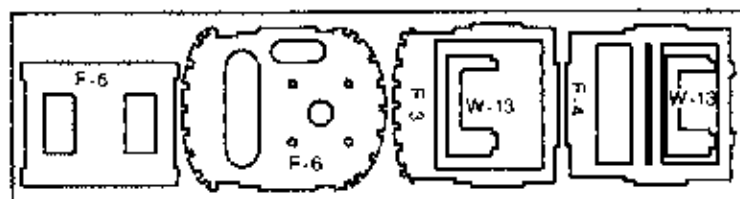
LC-301-09 3/32" X 4" X 24" BALSA 1 REQD



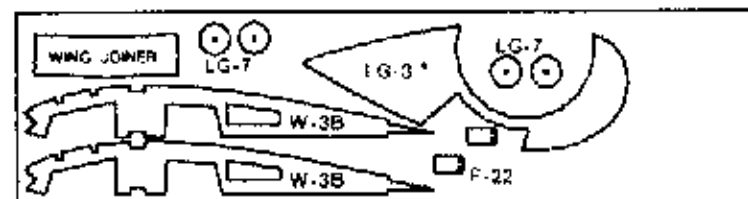
LC-301-10 3/32" X 4" X 24" BALSA 1 REQD



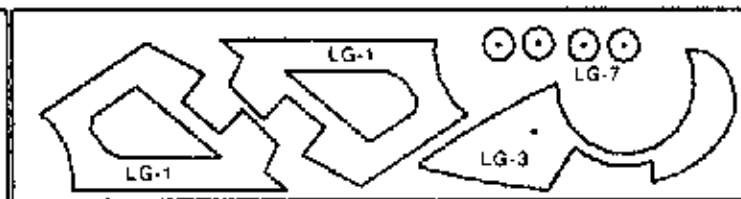
LC-301-11 3/32" X 4" X 24" BALSA 1 REQD



LC-301-12 3mm x 3" X 12" POPLAR PLY 1 REQD



LC-301-13 1/16" X 3" X 12" BIRCH PLY 1 REQD



LC-301-14 1/16" X 3" X 12" BIRCH PLY 1 REQD

Building Instructions:

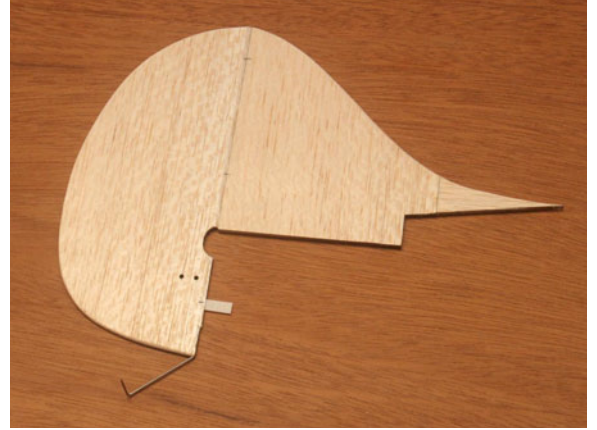
General Note: Cover the plans with wax paper before assembling your model to prevent the parts from sticking to the plan.

Building the Tail Surfaces:

1...Glue R-1 and R-2 together. Sand the outside edges round. Leave the fuselage edges square.

Bevel the front edge of R-3 as shown on the plan, and sand the other edges round. Bend and test fit the tail wheel wire.

Mark the hinge locations and cut the hinge slots. Temporarily install the hinges without glue.

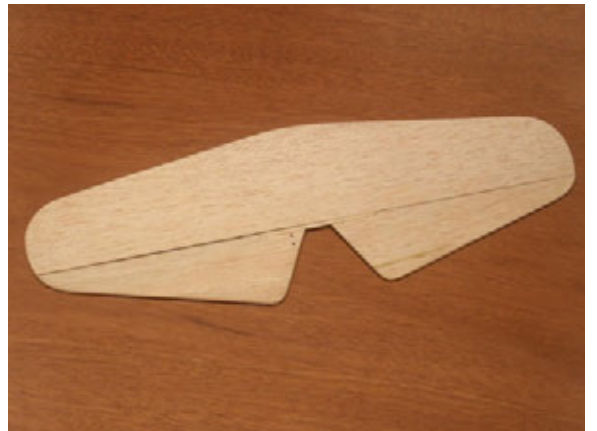


2...Sand the 1/8" x 3" dowel to 3/32" diameter. Join the elevators (S-2) using this dowel. Use the stabilizer as a guide. Trim the dowel if required to achieve the proper length.

Bevel the front edge of the S-2's as shown on the plan, and sand the other edges round.

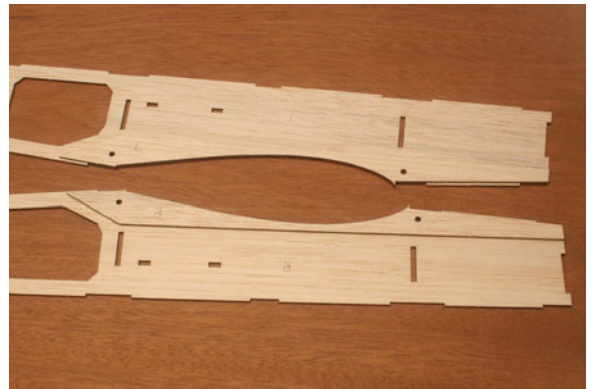
Sand the front and ends of the stabilizer round. Leave the back edge square.

Mark the hinge locations and cut the hinge slots. Temporarily install the hinges without glue.



Building the Fuselage:

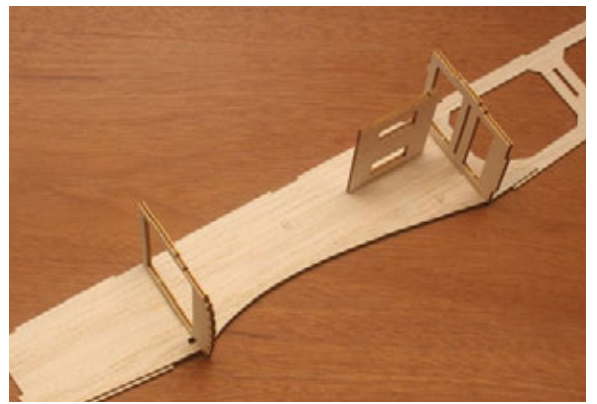
3...Glue the F-2 doublers to the inside of the F-1R & F-1L fuselage sides. Be sure to make a right hand and a left hand side.



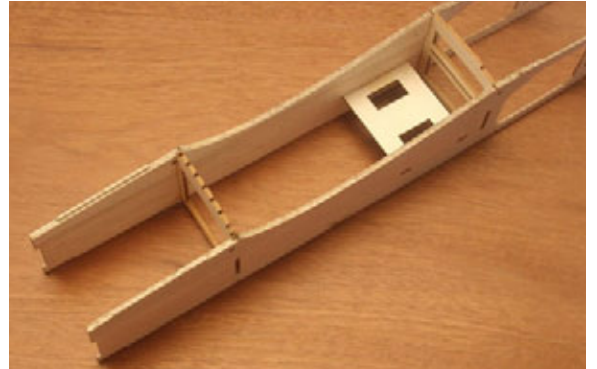
4...Press the four 4-40 blind nuts into the back of the firewall (F-6). Use a small drop of thin C/A to secure them in place.



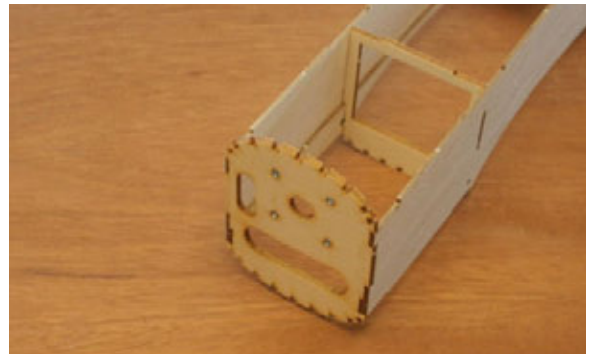
5...Lightly tack glue formers F-3 , F-4 and servo tray F-5 into position on the right fuselage side. Use a small square to position these parts 90 degrees to the fuselage side.



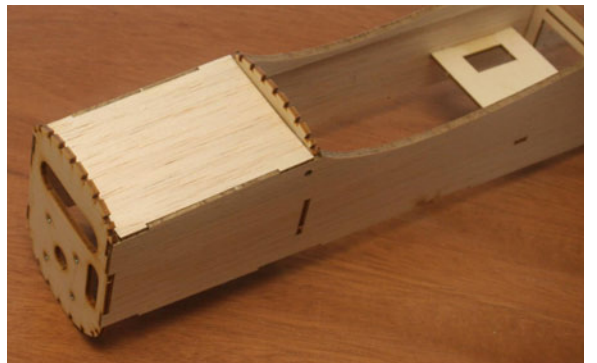
6...Place the left fuselage side into position and square up the fuselage. Glue the left fuselage to the formers. Make sure that the fuselage is square and completely glue the formers to the fuselage sides.



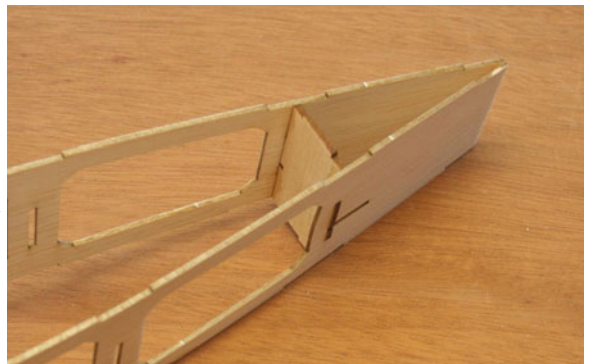
7...Glue the firewall (F-6) into position making sure the front of the fuselage is not twisted.



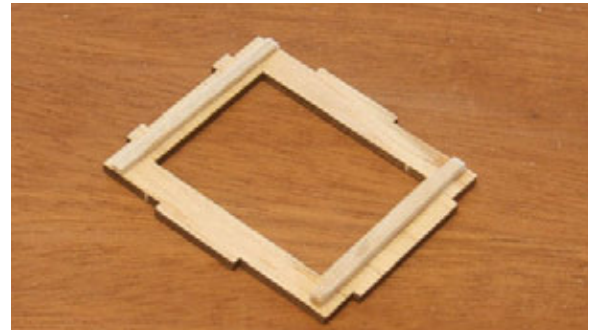
8...Glue F-7 into position on the bottom front of the fuselage.



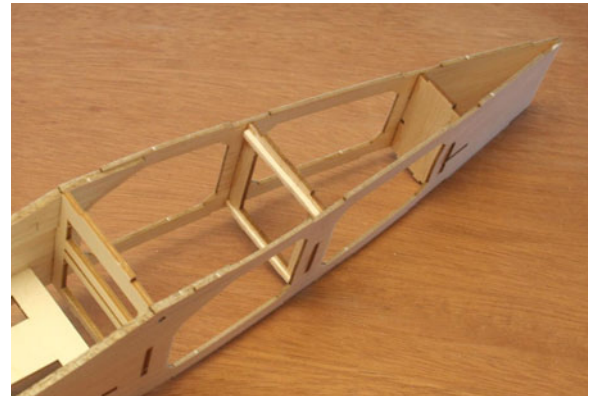
9...Pull and glue the rear of the fuselage sides together. Slide former F-9 into position. Adjust the back end until the fuselage is straight and square. Glue the former in place.



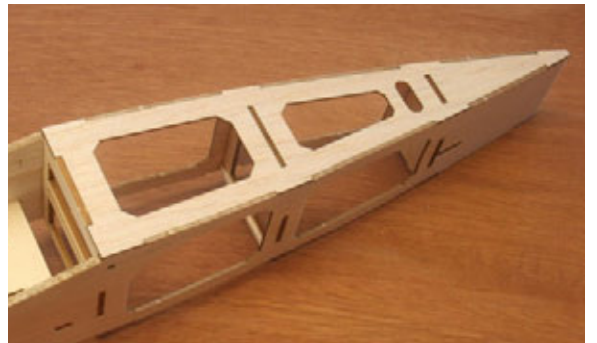
10...Glue the 3/32" sq. reinforcements to the top and bottom of F-8 as shown on the plan.



11...Place former F-8 into position and glue in place.



12...Glue F-11 into position on the bottom rear of the fuselage.

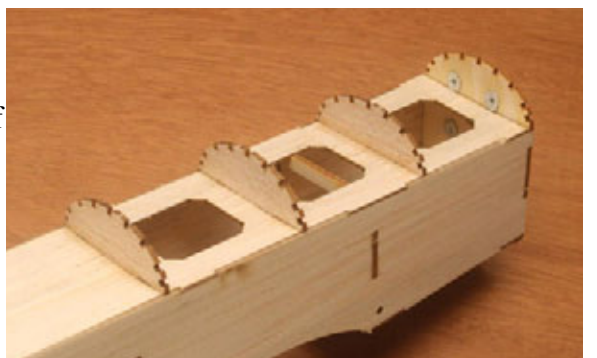


13...Glue F-10 into position on the top of the fuselage.

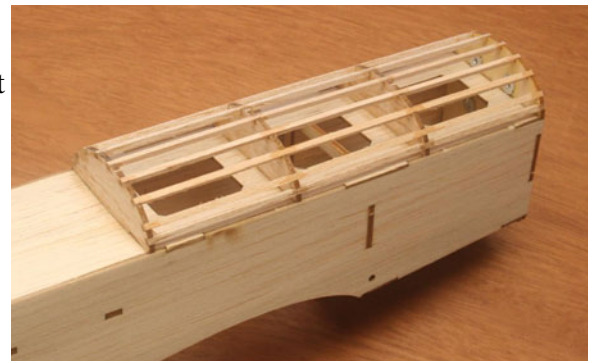
Now completely glue the formers to the fuselage sides.



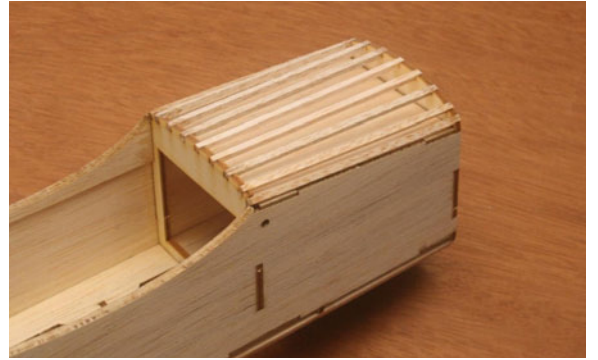
14...Glue formers F-12, F-13 and F-14 into position on the top front of the fuselage. They should be centered left and right and 90 degrees to the top of the fuselage.



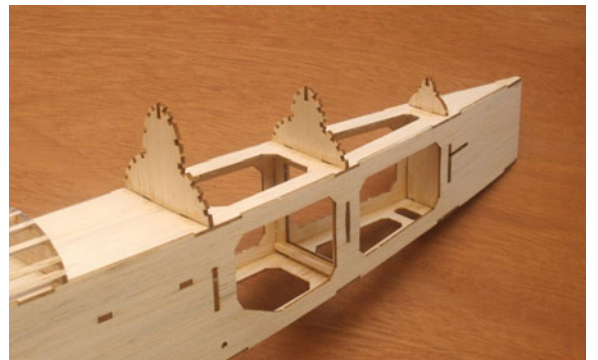
15...Using the 3/32" sq. X 18" strips, glue the stringers to the top front fuselage between F-6 and F-14. Trim the stringers flush with the formers.



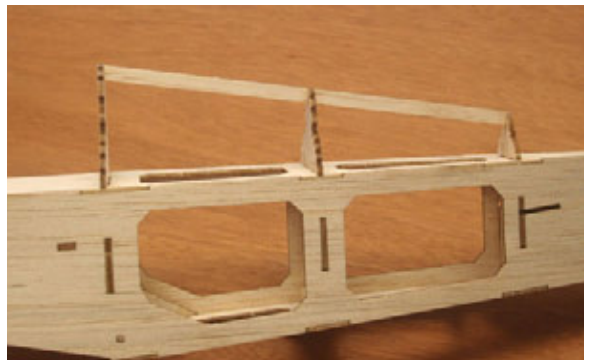
16...Using the 3/32" sq. X 18" strips, glue the stringers to the bottom front fuselage between F-6 and F-3. Trim the stringers flush with the formers.



17...Glue formers F-15, F-16 and F-17 into position on the top rear of the fuselage. They should be centered left and right and 90 degrees to the top of the fuselage.



18...Glue F-18 into position between former F-15 and F-17. Trim flush with the formers.



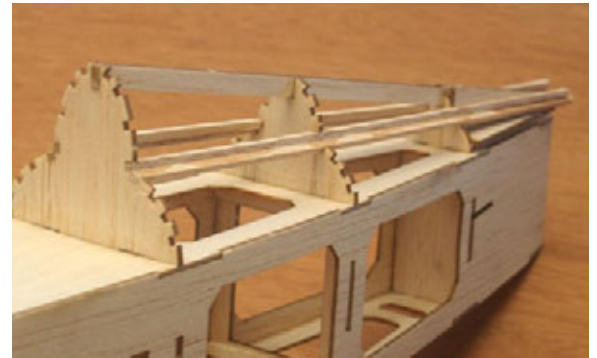
19...Glue the two F-20's to F-19. Place a small strip of 3/32" balsa between the tops of the F-20's to maintain the proper spacing until the glue dries.



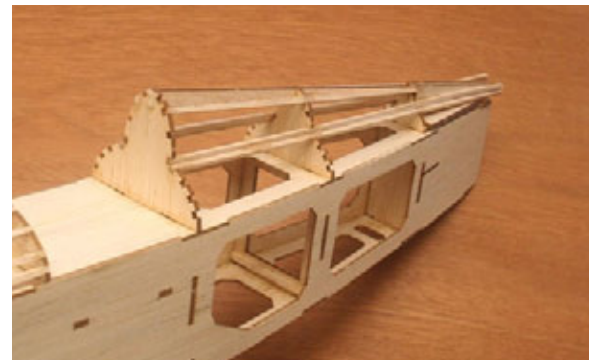
20...Place the F-19 / F-20 assembly on the back of the fuselage. It should be centered left and right at both the front and back. Glue securely to F-17. Put one small drop of glue on the bottom tabs to glue them to F-10.



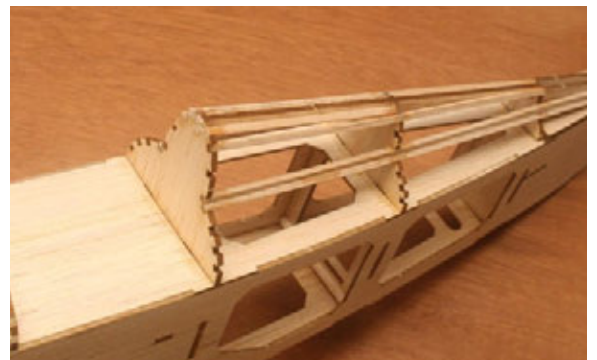
21...Using the 3/32" sq. X 18" strips, glue the two middle full length stringers into position between F-15 , F-17 and extending back to the back end of F-20. The top stringer should bend at F-17 and be glued in full contact on the side of F-20. The lower stringer will bend at F-17 and should be glued to the top stringer and F-19.



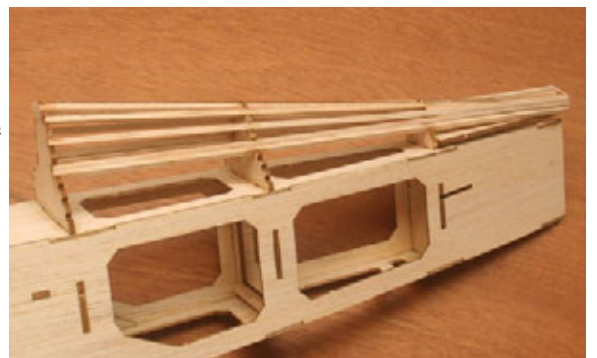
22... Glue the top full length stringer in place. The front end goes in the second notch down in F-15 and the back end ends on top of F-17 and against F-20.



23...Glue the top short stringer into position between F-15 and F-16. The front end goes in the top notch in F-15 and the back end ends against the front of F-16 and is flush with the outside edge of the former.

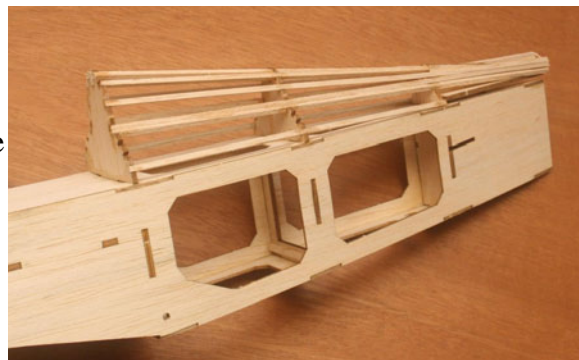


24...Glue the next stringer down into position. This is a full length stringer and extends to the back of F-20. From F-17 back it should be in contact with F-20 and sit on top of the next lower stringer.

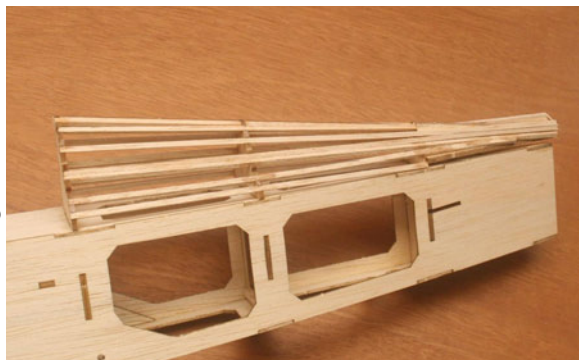


Note...The photo on step 33 shows a close up of the stringers at the back end before sanding.

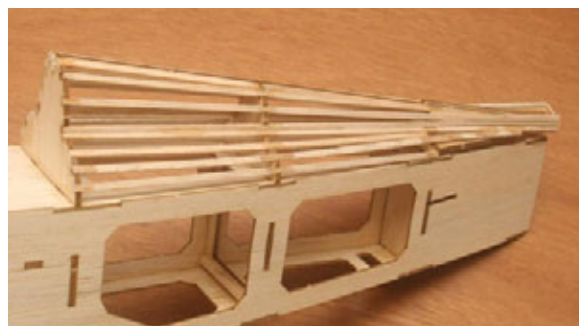
25...Glue the bottom stringer into position. It extends from F-15 in the front and the back end top corner is against the front of F-19 and the bottom should rest on F-10.



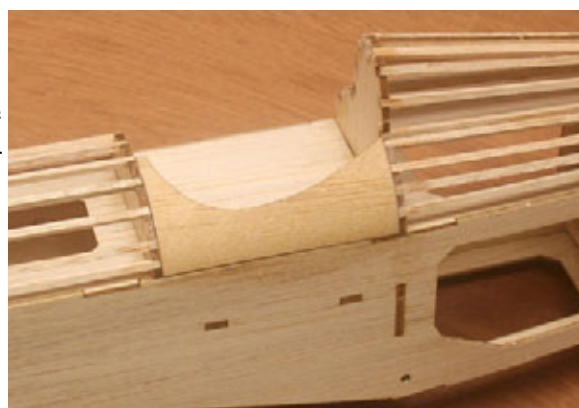
26...Glue the second stringer from the bottom into position. It is almost full length and should be cut so it ends about 1" from the back of the fuselage. It will form a bend behind F-17 when you push it into contact with F-17.



27...Glue the last stringer into position. The back end will stop just short of F-17 and should be glued to and flush with the adjacent stringers.



28...Put one of the F-21 cockpit sides into position. Place it vertically on top of F-10 with the outside face flush with the fuselage side. Glue F-21 to F-10 with a small amount of glue. Do not glue it to F-14 or F-15 at this time.

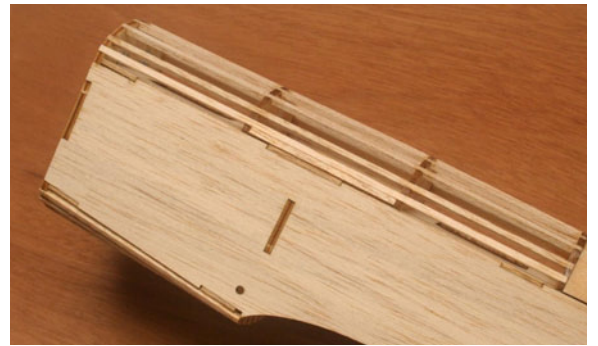


29...Moisten the outside of F-21 with water. After allowing it to soak for a short period, bend the front and back into contact with the formers. Glue into position with the outside flush with the outside of the formers.

30...Now glue the other F-21 into position. Trim the front ends so that they meet flush on the fuselage centerline.



31...Use a piece of 3/32" sq. strip to fill in the space between formers F-12 and F-13, from the top of the fuselage (F-10) and the first stringer.



32...Cut a 1/16" x 1/4" notch in the bottom rear of this filler for part F-22. Test fit F-22 in this slot. It should sit flush on the top of F-10. Do not glue the F-22's into place at this time.



33...Sand the stringers at the rear of the fuselage smooth using the following steps.



First sand the stringers flush with the top of the F-20's.



34...Now sand the rear stringers flush with the fuselage sides.



35...Wrap some sandpaper around a 3/8" dowel or a round ball point pen and sand a concave curve / fillet into the stringers from F-17 to the tail.



36...Finish sanding / blending the rear stringers, F-19 and F-20.



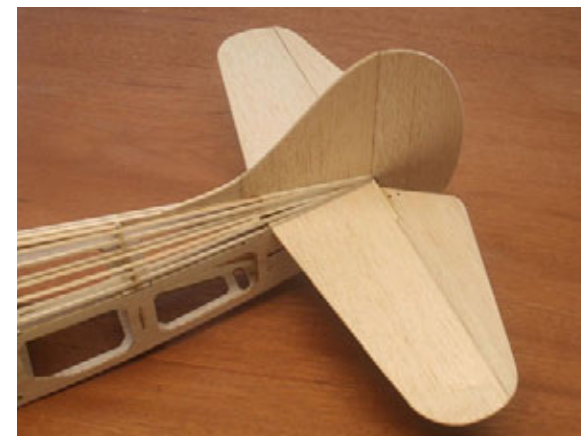
37...Use a sanding block to sand all of the fuselage surfaces smooth all over. Now lightly sand the bottom corners of the fuselage round from the wing opening to the tail.



38...Cut away the tabs from the F-20's in the stabilizer slot between F-10 and F-19.



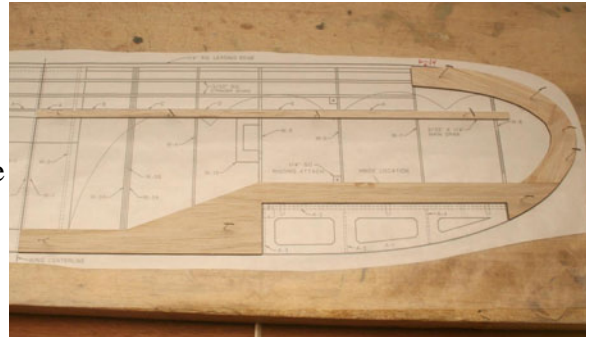
39...Test fit the tail surfaces on the fuselage. Trim and sand the fuselage to achieve the proper fit. Cut the bottom rudder hinge slot in the end of the fuselage.



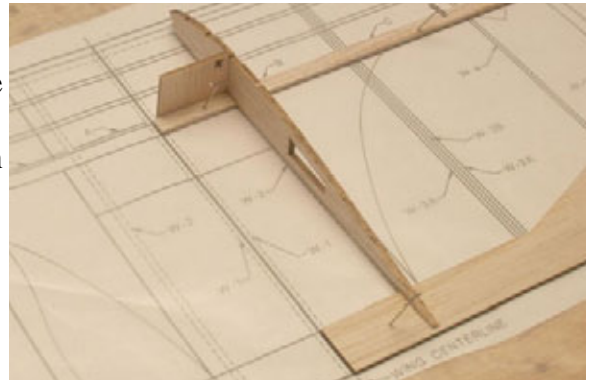
Building the Wing:

40...Cover the right wing plan with wax paper to prevent the parts from sticking to the plan.

41...Pin the lower $\frac{3}{32}$ " x $\frac{1}{4}$ " lower main spar to the plan. Align the inboard end with the wing center line. Trim the outboard end so it extends $\frac{1}{2}$ " past the W-8 rib. Pin W-9, W-11 and W-12B into position and glue together.

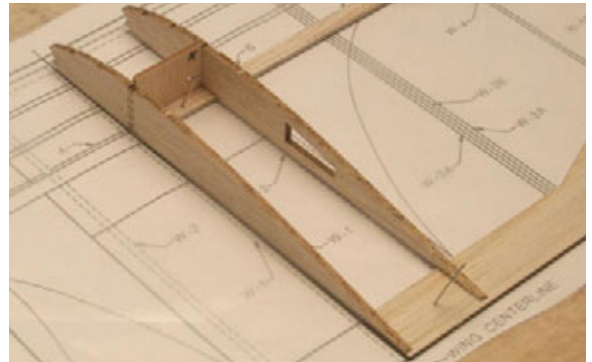


42...Glue rib W-2 into position 90 degrees to the building board. Glue to the trailing edge as well as the spar. Glue shear web "A" into position against the front face of the lower spar and rib W-2 as shown on the plan.



The small "X" on the shear web marks the top outboard corners of the shear webs.

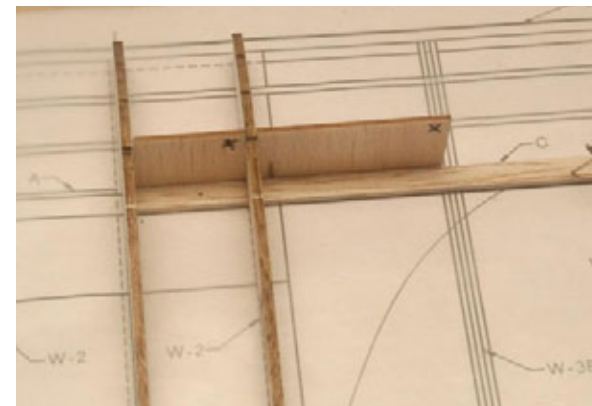
43...Glue rib W-1 into position. The top of the rib should angle slightly toward the wing tip.



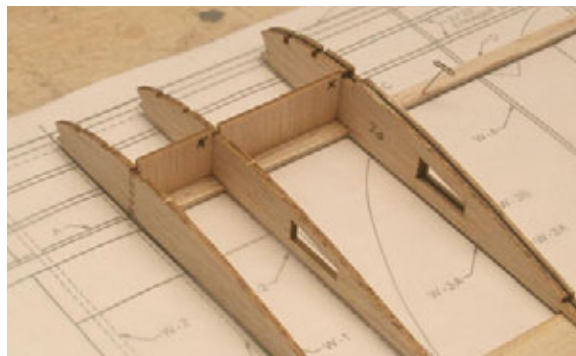
44...Glue one F-3A ribs to each side of the W-3B ribs.



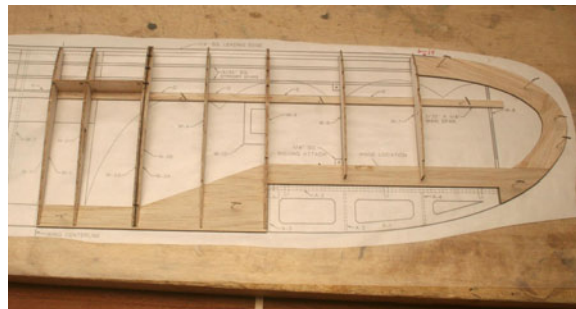
45...Glue shear rib "B" into position against rib W-2 and the front of the lower spar. The small "X" on the shear web marks the top outboard corners of the shear webs.



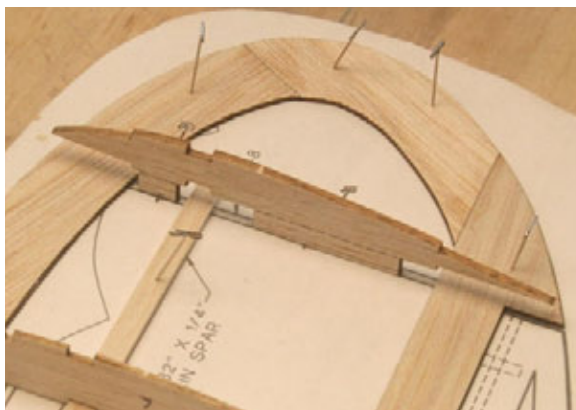
46...Glue the W-3A/B rib into position. It should be tight against shear web "B" and the top should be angled slightly toward the wing tip.



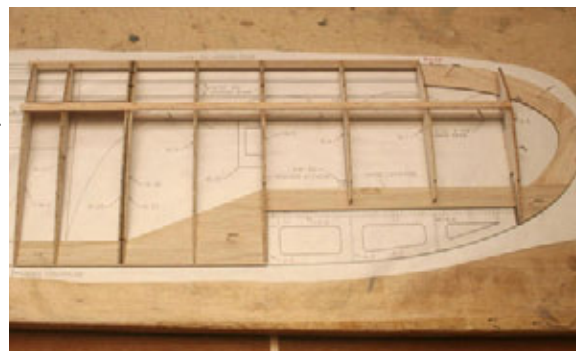
47...Glue ribs W-4, W-5, W-6 and W-7 into position. They should be 90 degrees to the building board. Do not glue W-7 to W-12 at this time.



48...Pin the W-8 rib into position on the plan. The standoffs should be placed on the hatched areas on the plan.



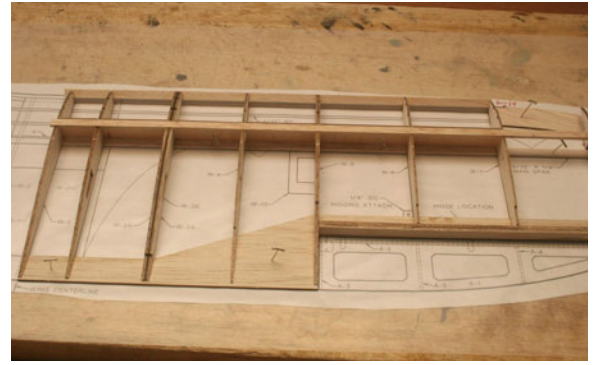
49...Glue the 3/32" x 1/4" top spar into position. The spar stops at the W-8 rib. Glue the 1/4" sq. leading edge into position in the notches in the front of the ribs. The leading edge stops at rib W-7. Be careful to not allow glue to run down onto W-12.



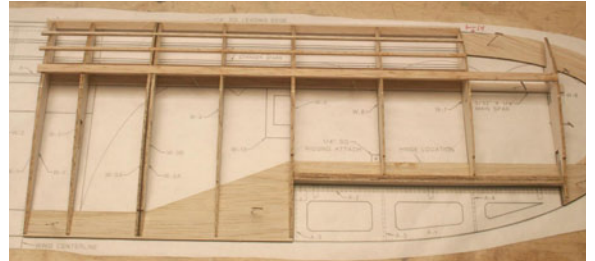
50...Glue two W-10's together. Put into position and glue to ribs W-5, W-6 and W-7. Glue to the trailing edge between W-5 and W-7. Center the end top to bottom on the W-8 rib and glue to the rib.



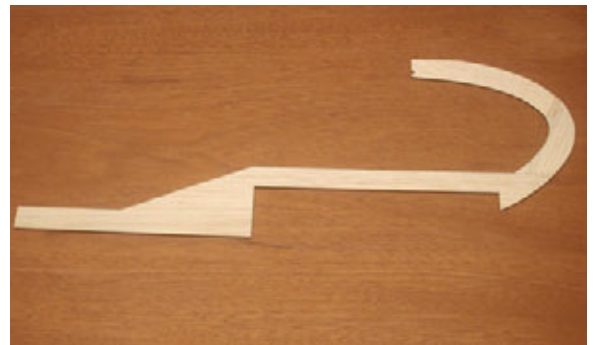
51...Glue the remaining shear webs (C thru F) into position. Trim the ends to get the proper fit.



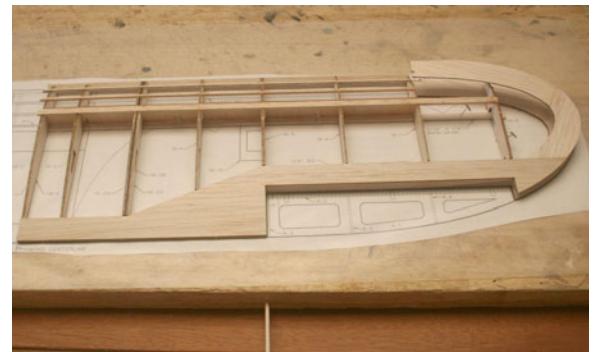
52...Glue the 3/32" sq. stringer spars into position. They should stop at W-7.



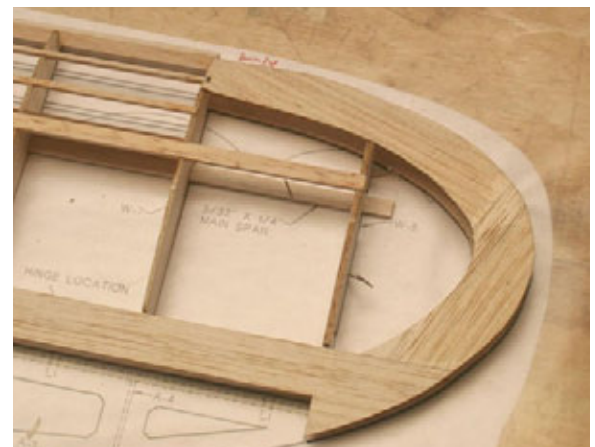
53...Glue the top trailing edge / wing tip parts W-9, W-11 and W-12T together.



54...Glue the top trailing edge / wing tip into position, Glue it to ribs W-1 thru W-8, The bottom trailing edge and W-10.

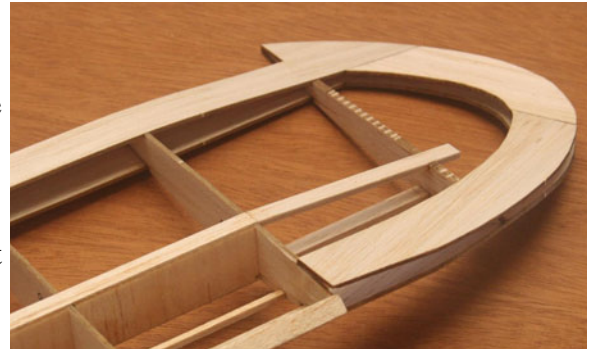


55...Roll the front of the wing tip forward and glue to W-8 and W-7. The very end of the wing tip should be level with (the same height) as the main spar at rib W-8.



56...Remove the wing from the plan. Lay it on your work surface upside down with the trailing edge on the building board. Bend the bottom trailing edge into contact with W-10 and W-8 and glue to these parts.

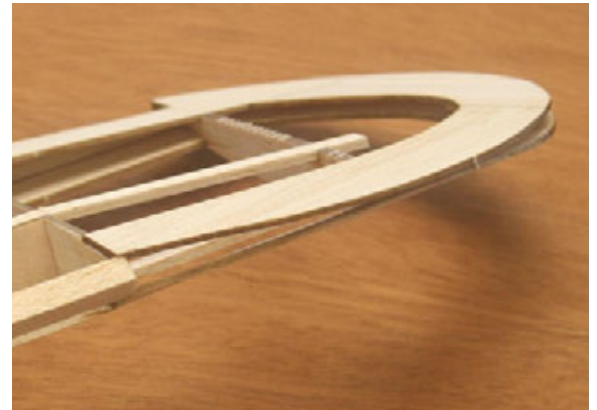
Break the tabs from the bottom of W-8. Cut part way thru the bottom spar at W-7. Crack the spar at W-7 and bend it down into the spar slot in W-8 and glue in place.



57...Glue a 3/8" long piece of 3/32" sq. balsa to the top inside of the wing tip at the location shown on the plan. Glue to the top only.



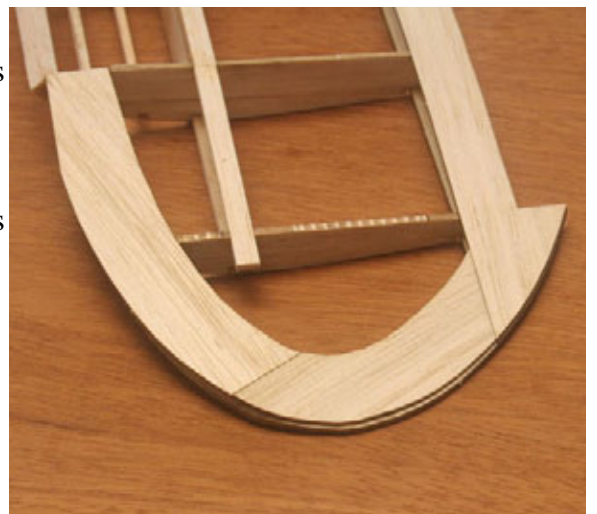
58...Glue the bottom front of the wing tip to W-8 and W-7.



59...Lay the wing upside down on your building board. Hold it so it is level front to back and the top spar is in contact with the building board.

Press the lower wing tip sheet into contact with the top sheet and press both into contact with the building board. The bottom will be a little short but that is OK.

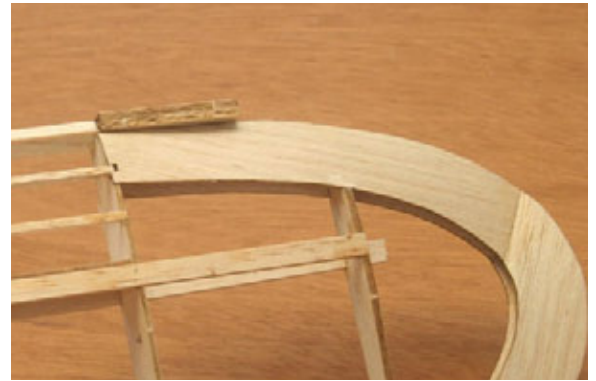
Put a drop of glue at the very end of the wing tip to glue the bottom to the top. Then, working from the center to the rear, glue the bottom wing tip to the top.



60...Working from the center to the front, glue the bottom wing tip to the top. Stop about 1 3/8" from the 1/4" sq. leading edge leaving a triangular opening in the front.



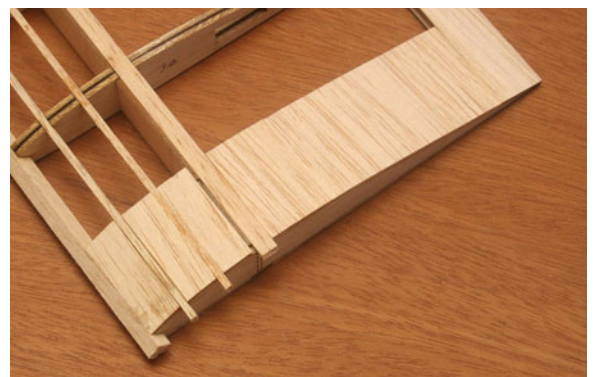
61...Glue two W-14's into position against the top and bottom sheet and the 1/4" sq. leading edge.



62...Glue the aileron servo tray (W-13) into position on rib W-5. Glue to the rib as well as the main spar. The front edge should be flush with the spar.



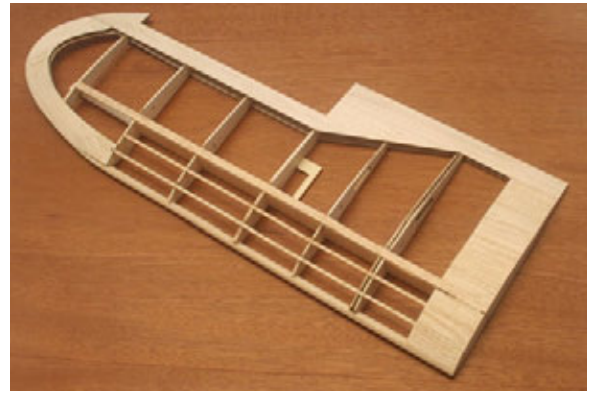
63...Cut four pieces 1 1/2" wide from the 1/16" x 3" x 12" balsa sheet. Use them to sheet the top and bottom center of the wing. The sheet should be cut to fit between the spars as shown on the plan.



64...Trim the spars, leading edge and trailing edge flush with the end of the wing.



65...Sand the leading edge of the wing round to match the profile shown on the plan. Sand the trailing edge and wing tip round. Leave the edges of the aileron cutout square. Now sand the wing smooth all over.



Repeat steps 40 thru 65 to build the left wing.



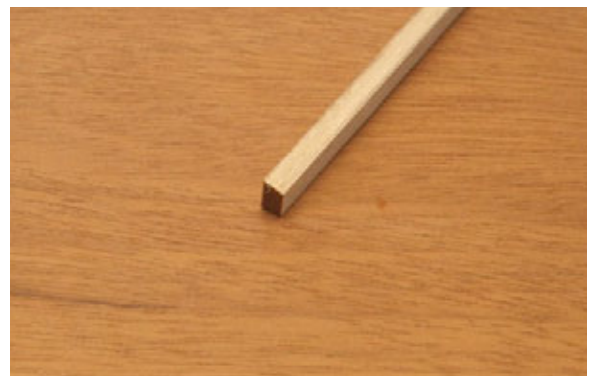
Building the ailerons:

Build the right aileron.

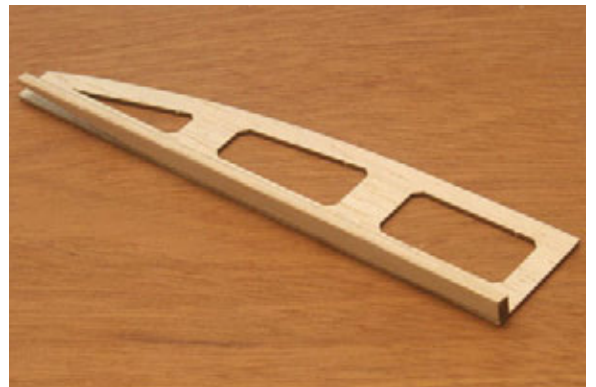
66...Glue A-2R on top of A-2. The line on the A-2R should be on top as shown on the photo.



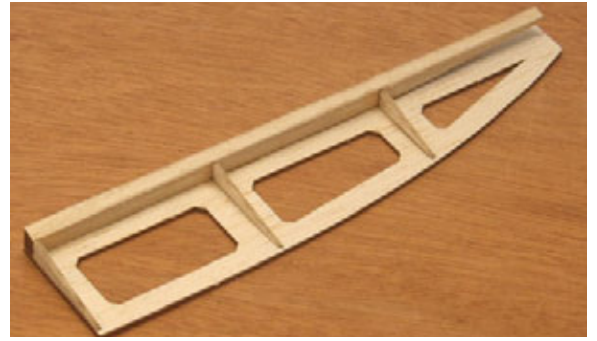
67...Trim an angle on the top of the A-2's from the top front corner to the line marked on A-2R.



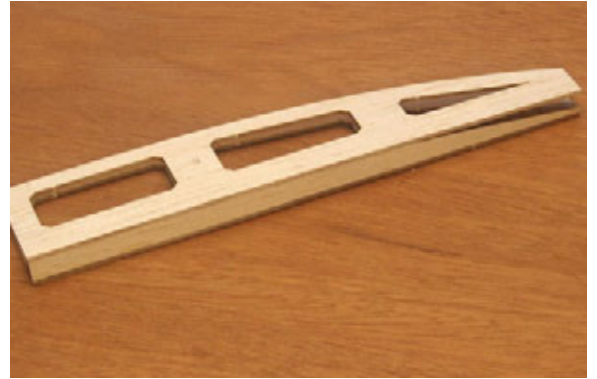
68...Glue the A-2 onto and flush with the front of A-1B. Only glue the flat section. Do not bend A-1B up at this time.



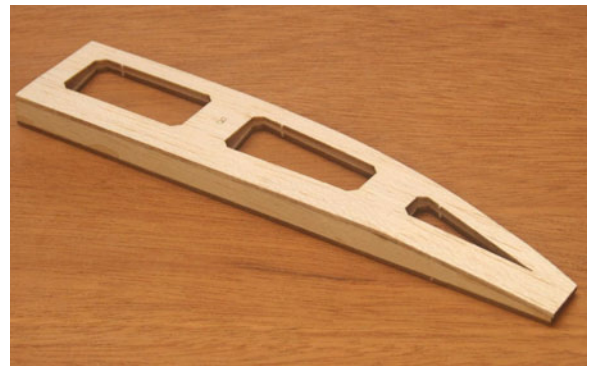
69...Glue the A-3's and A-4 into position.



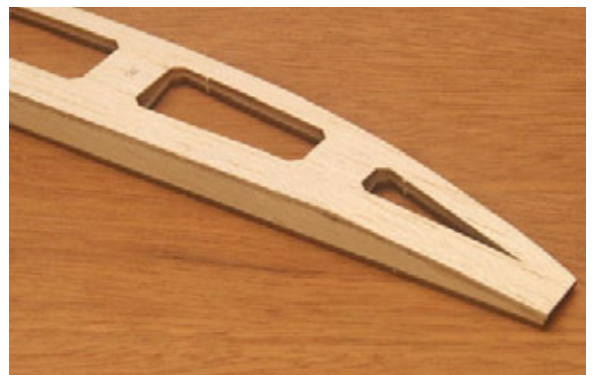
70...Place A-1T onto the top of the aileron. Glue to A-2 and the A-3's.



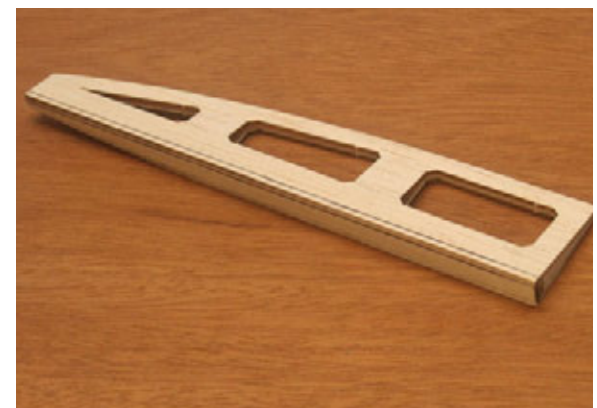
71...Hold the aileron upside down and flat on the building board. Bend and glue A-1B to A-2. Now finish gluing the trailing edges together.



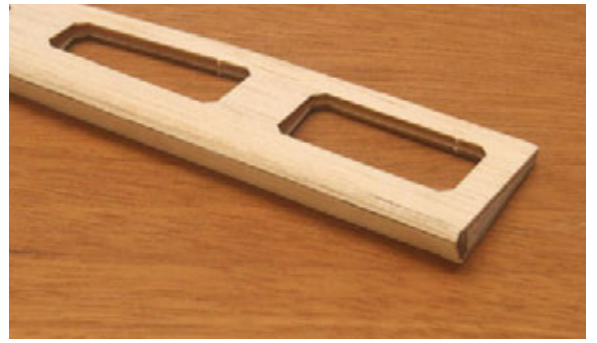
72...Sand the ends, front, top and rear of the aileron flush.



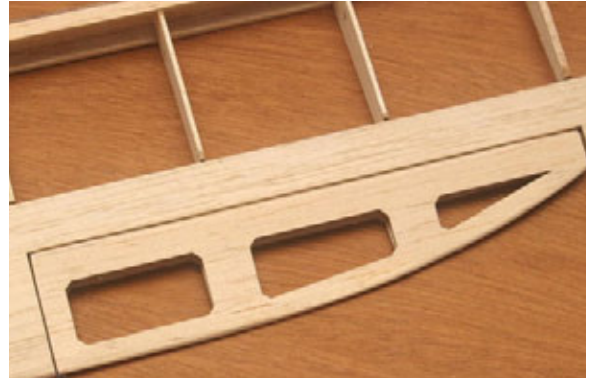
73...Draw a line on the front of the aileron 1/8" down from the top. Draw a line 1/8" back from the leading edge on the top and bottom of the aileron.



74...Use these lines as a guide to trim or sand the proper angles on the front of the aileron as shown on the plan.



75...Mark a line on the back of the aileron spar (W-10) 1/8" down from the top. Mark the hinge locations and cut slots for the hinges. Temporarily install the hinges and check the aileron for proper fit on the wing. Do not glue the hinges at this time.



76...Repeat steps 66 thru 75 to build the left aileron.

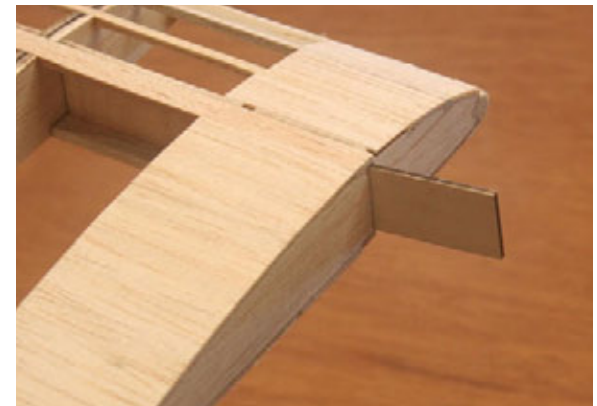
77...Cut two pieces of 1/4" sq. left over from the leading edges to make the rigging wire attach points and glue into position on W-6. Drill a 1/16" hole in them from top to bottom.



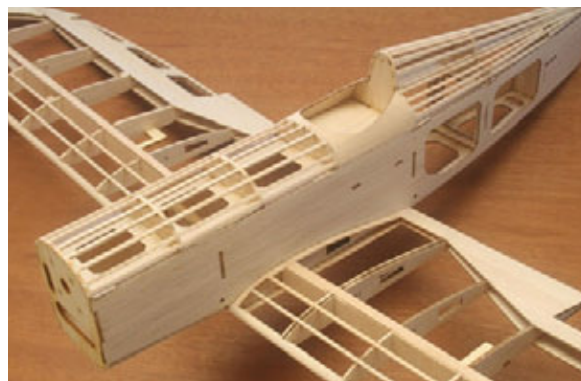
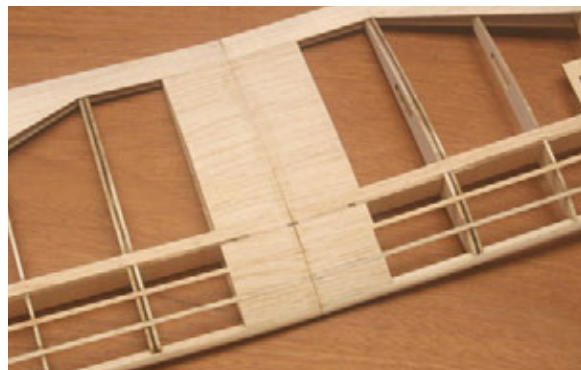
78...Cut slots in both W-1 ribs at the dashed lines to accept the wing joiner as shown on the plan.



79...Slide the wing joiner into position in the right wing. Position it tightly between the spars and forward against the shear web and glue into position.



80...Glue the right wing onto the left. Now test fit the wing onto the fuselage and sand the wing as required to produce a good fit if needed.



Building the Landing Gear:

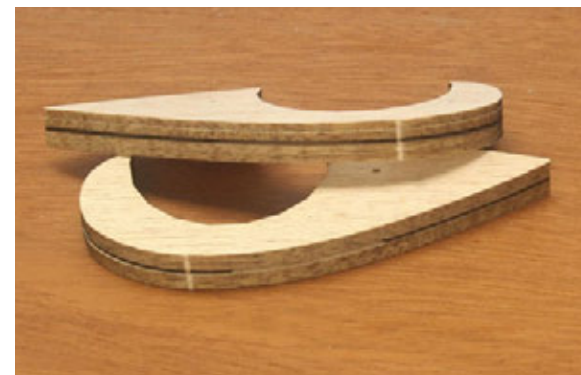
81...Glue LG-2's to each side of the LG-1's. Sand the leading edges and trailing edges round.



82... Glue one LG-7 into each LG-6. Glue a second LG-7 on top of the first ones. Be sure to make two right hand and two left hand.



83...Glue an LG-4 and LG-5 to each side of each of the LG-3's.



84...Glue one LG-6 to each side of the previous assembly. The LG-7's that are sticking up go on the insides.



85...Now glue the LG-8's to the outside of each wheel fairing.



86...Trim the wheel fairings to match the top profile shown on the plan. They don't have to match the plan perfectly. Just a nice teardrop shape. Rounded in the front and tapered in the back.



87...Draw lines approximately 3/16" in from the edges on the top and sides of the wheel fairings to aid in shaping.



88...Trim the corners off at about a 45 degree angle between the lines. Stop about 1" from the back end.



89...Now sand the outside smooth and round.



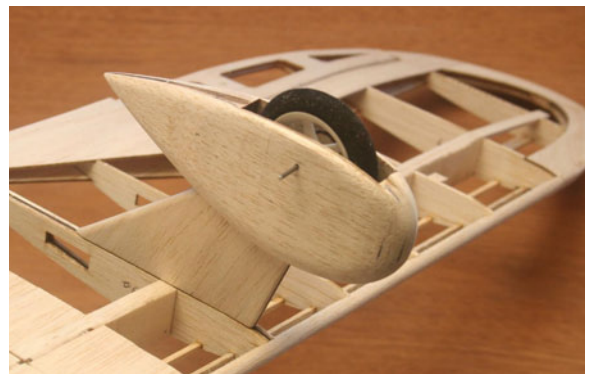
90...Test fit the landing gear legs to the wheel fairings.



91...Cut the axle wire into two equal pieces about 1" long. Test fit the wheels into the wheel fairings. Adjust the axles if required so that the wheel is straight in the opening in the wheel fairing. Do not glue or trim the axles to the final length now.



92...Test fit the landing gear assemblies to the wing. Do not glue at this time.



Feed strings from the aileron servo mounts to the space between ribs W-1 and W-2. You will use these strings to pull the servo wires thru the wing after the model is covered.

Covering:

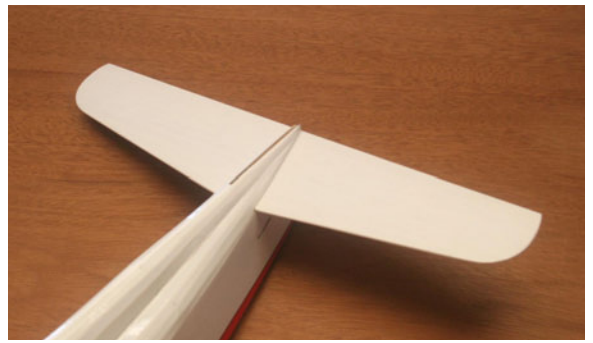
93...Sand all parts smooth with 400 grit sandpaper. Cover the model with a light weight iron on covering material.

Note: After the model is covered you must check the tail surfaces and wings for warps or twists. If there are any they can be removed by twisting the parts straight and heating the covering.

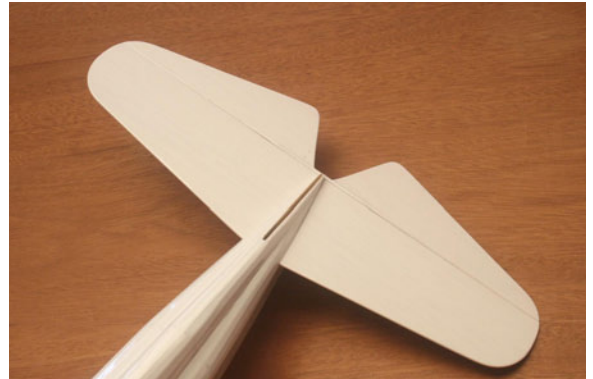
Final Assembly:

94...Cut the covering away from the stabilizer in the area that makes contact with the fuselage. Cut the covering away from the stabilizer slot in the fuselage.

Place the stabilizer into position in the fuselage. Make sure that it is straight and square and then glue it into position.



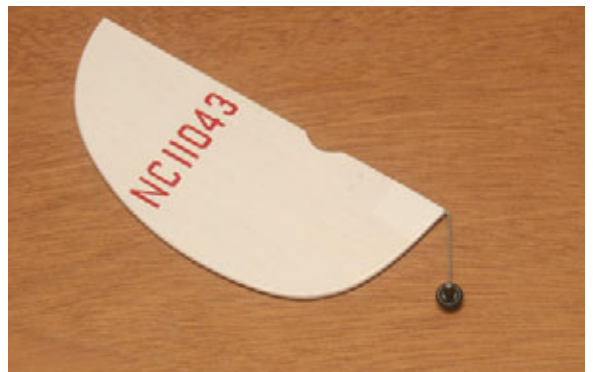
95...Attach the elevators with the hinges and glue in place.



96...Carefully cut the covering away from areas on the fin that will make contact with the fuselage. Place the fin into position and make sure that it is straight and square. Glue the fin into position.



97...Securely glue the tail wheel wire into place on the rudder. Attach the tail wheel with the push on retainer..



98...Attach the rudder with the hinges and glue in place.



99...Glue the rudder and elevator control horns into position. Drill 1/16" holes for the pins to pass thru. When the glue is dry, cut off the excess pins flush.

Insert the pushrod housings into the exit slots in the back of the fuselage. They should extend out about 2 1/4" from the fuselage side.

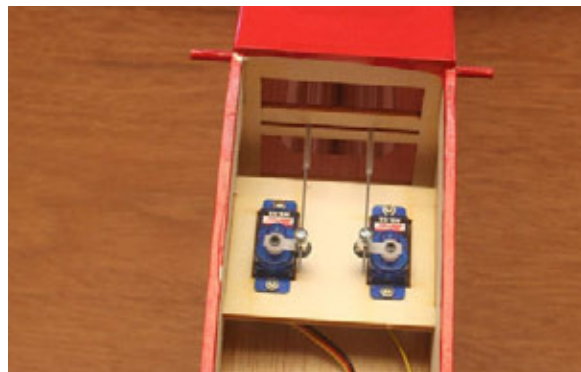
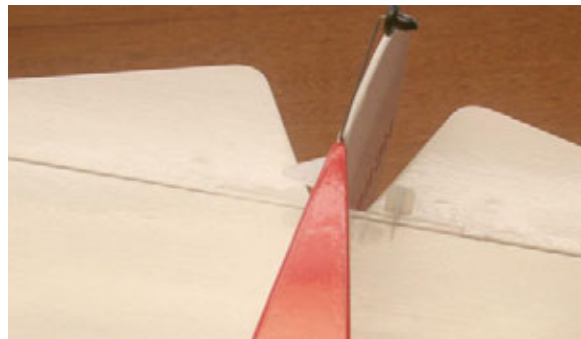
The front ends should pass thru the slot in former F-4. Glue the housings to the rear exits. Do not glue the front ends to the former at this time.

100...Screw the servos to the servo tray. Glue the wing dowels into position.

101...Install the pushrods into the housings. Secure the rear of the pushrods with Mini E/Z Links.

The front ends are attached to the servos with Mini E/Z Connectors. Glue the pushrod housings to the former.

102...Glue the rigging attach parts F-22 into position in the slots in the fuselage.



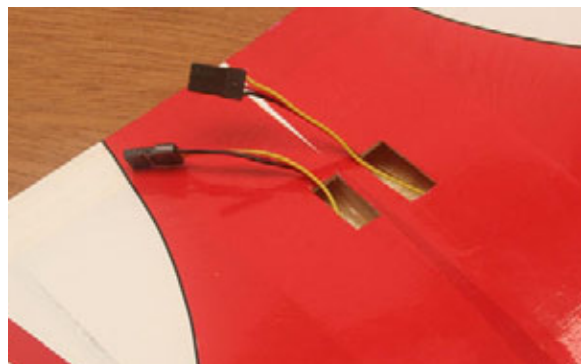
103...Attach the ailerons to the wings with the hinges and glue in place.



104...Screw the servos into position on the bottom of the wing.



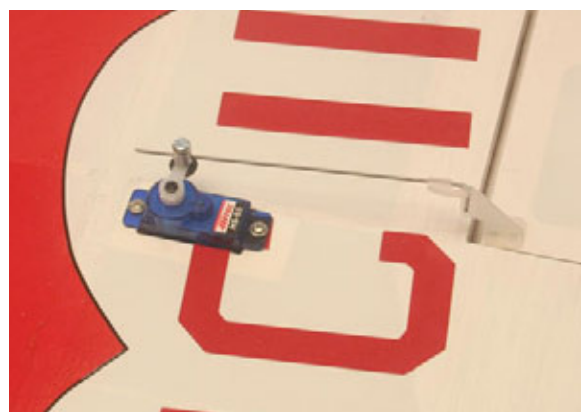
105... Cut two small holes in the top of the wing adjacent to rib W-1. Feed the servo wires through the holes in the ribs and out through the top of the wing.



106...Glue the aileron control horns into position on the bottom of the ailerons. Drill 1/16" holes for the pins to fit into.



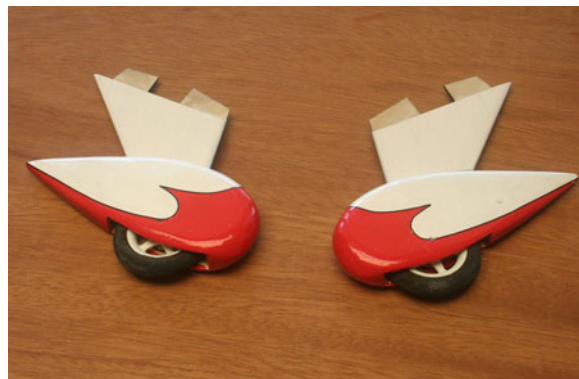
107...Install the pushrods. Attach the rear of the pushrods to the horns with Mini E/Z Links. The front ends are attached to the servos with Mini E/Z Connectors. When the servos are in neutral the servo arm should be 30 degrees forward as shown on the plan.



108...Glue the landing gear legs to the wheel fairings.



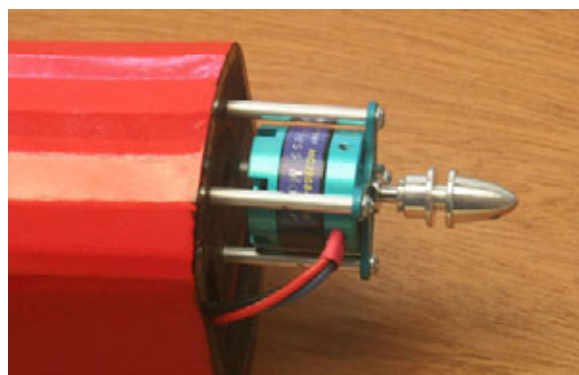
109...Insert the wheels into the wheel fairings. Insert the axles. Cut the axles flush and secure with a small drop of glue.



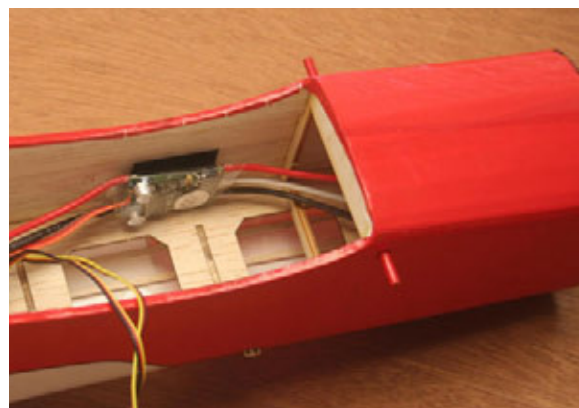
110...Glue the landing gear assemblies to the wing.



111...Secure the motor mount to the front of the motor with the four flat head screws. Now bolt the motor to the firewall with 4-40 screws and aluminum tube spacers. Note: Because the wires on the motor are short, pass the wires from the speed controller thru the firewall and attach to the motor before mounting the motor to the firewall.



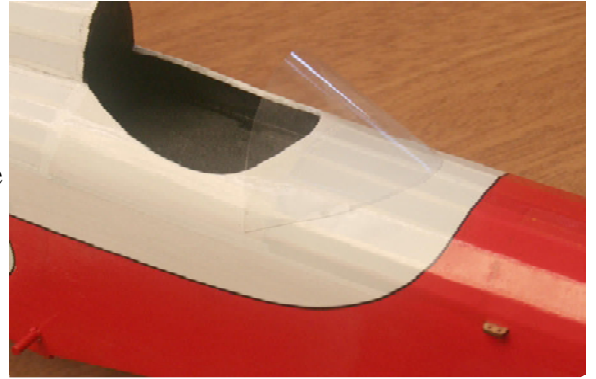
112...Secure the speed controller to the fuselage with velcro.



113...Plug the speed control and servos into the receiver and attach the receiver to the fuselage side with velcro. Pass the receiver antenna back and out through the rear of the fuselage.



114...Cut out the windshield using the drawing on the plan as a guide. Use small strips (1/4") of masking tape to hold the windshield into position. Carefully apply glue between the tape. Then remove the tape and glue the rest of the windshield.



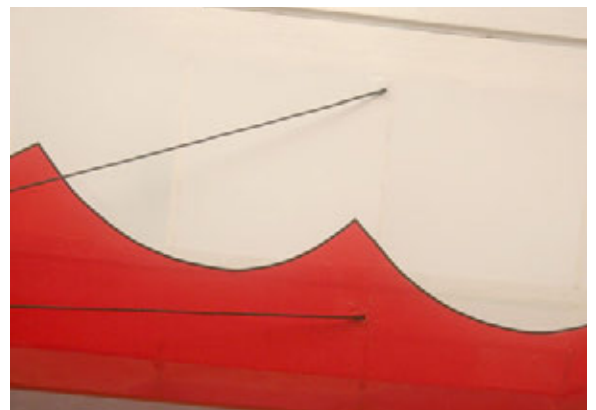
115...Bend the two rigging wire hooks from 1/32" music wire using the drawing on the plan as a guide.



116...Place the rigging hook in the front hole in F-22. Cut a piece of the rigging thread 5' long. Pull the thread through the hook half way so you have two equal lengths with the hook in the middle. Tie a knot against the hook and secure the knot with a small drop of glue. Do not glue the hook to F-22.



117...Pull the rigging thread thru the holes in the mounts in the wing. Pull gently from the bottom of the wing to put slight tension on the threads and secure to the top of the wing with small drops of glue. Note: Sight down the wing to make sure that there are no warps or twists before securing the rigging to the wing.



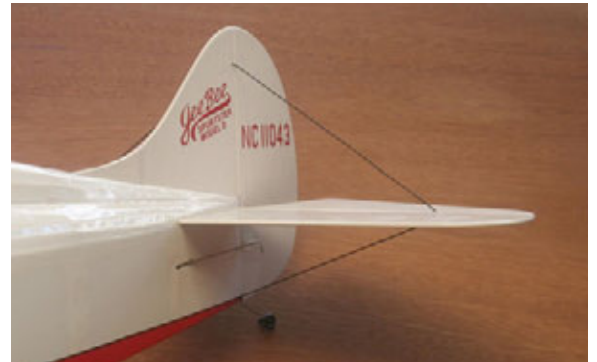
118...Pull the loose ends of the rigging wires together and pass them thru the hole in the wheel fairing. Pull the rigging snug between the wing and the wheel fairing and secure to the fairing with a small drop of glue. Do not pull so tight that you twist the wing.



119...Drill 1/16" holes in the bottom of the wing as shown. Cut the rigging threads so they will stick into the wing about 1/2". Put a small amount of glue on the last 1" of the rigging threads to stiffen them up. When dry, poke the ends of the threads into the holes in the wing and glue in place.

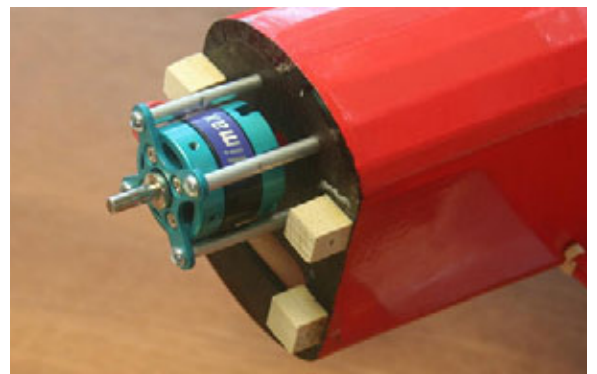


120...Drill 1/16" holes in the fin, stabilizers and across the bottom of the fuselage. Pull the rigging thru the fuselage leaving about 1" hanging out. Pass the thread up thru the stabilizer, thru the fin, down thru the other stabilizer and back thru the hole in the fuselage.



Pull the loose ends extending from the fuselage to tighten the rigging and secure to the tail surfaces and fuselage with glue. Cut off the excess ends flush with the fuselage.

121...Glue the 3/8" blocks to the front of F-6. They should be flush with the outside of the fuselage.



122...Place the cowl in place. Drill 1/16" holes thru the cowl and mounting blocks. Secure the cowl to the model with the #2 X 1/2" sheet metal screws.



123...WITH THE PROPELLER REMOVED...Turn the transmitter on. Place the throttle stick in the low position. Plug the battery into the speed controller. Check the motor for proper operation and direction of rotation. Follow the instructions with the speed controller to make any adjustments.

124...Check the servos for proper operation and direction. Adjust the control throws to the values shown on the plan. Now disconnect the battery and then turn off the transmitter.

125...Place the battery in the nose of the model. Attach the propeller. Attach the wing onto the fuselage.

126...Check the balance of the model. It should balance at the position shown on the plan. Move the battery forward or aft to achieve the proper balance. Use velcro to secure the battery in the model in this position. Note: If moving the battery will not achieve the proper balance, you will have to add weight to the nose or tail. Glue any weight securely to the model.

127...Your model is now ready to fly. Fully charge the transmitter and airborne battery before attempting to fly the model. Always range check and do a thorough pre-flight of the model before every flight. Always follow established safety guidelines while operating the motor, radio and flying your model.

LIPO BATTERY SAFETY ALERT

Lithium Battery Fires

Lithium batteries are becoming very popular for powering the control and power systems in our models. This is true because of their very high energy density (amp-hrs/wt. ratio) compared to NiCd's or other batteries. With high energy comes increased risk in their use. The principal risk is FIRE which can result from improper charging, crash damage, or shorting the batteries. All vendors of these batteries warn their customers of this danger and recommend extreme caution in their use. In spite of this, many fires have occurred as a result of the use of Lithium Polymer batteries resulting in loss of models, automobiles, and other property. Homes and garages and workshops have also burned. A lithium battery fire is very hot (several thousand degrees) and is an excellent initiator for ancillary (resulting) fires. Fire occurs due to contact between Lithium and oxygen in the air. It does not need any other source of ignition, or fuel to start, and burns almost explosively. These batteries must be used in a manner that precludes ancillary fire. The following is recommended:

1. Store, and charge, in a fireproof container; never in your model.
2. Charge in a protected area devoid of combustibles. Always stand watch over the charging process. Never leave the charging process unattended.
3. In the event of damage from crashes, etc, carefully remove to a safe place for at least a half hour to observe. Physically damaged cells could erupt into flame and after sufficient time to ensure safety, should be discarded in accordance with the instructions which came with the batteries. Never attempt to charge a cell with physical damage, regardless of how slight.
4. Always use chargers designed for the specific purpose, preferably having a fixed setting for your particular pack. Many fires occur in using selectable/adjustable chargers improperly set. Never attempt to charge Lithium cells with a charger which is not specifically designed for charging Lithium cells. Never use chargers designed for Nickel Cadmium batteries.
5. Use charging systems that monitor and control the charge state of each cell in the pack. Unbalanced cells can lead to disaster if it permits overcharge of a single cell in the pack. If the batteries show any sign of swelling, discontinue charging and remove them to a safe place outside as they could erupt into flames.
6. Most important: NEVER PLUG IN A BATTERY AND LEAVE IT TO CHARGE UNATTENDED OVERNIGHT. Serious fires have resulted from this practice.
7. Do not attempt to make your own battery packs from individual cells.

These batteries CANNOT be handled and charged casually such as has been the practice for years with other types of batteries. The consequence of this practice can be very serious resulting in major property damage and/or personal harm.