

Taylorcraft

KIT # K-303

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-303-01	.1/16" X 4" X 24" Laser Cut BALSA
1	LC-303-02	.1/16" X 4" X 24" Laser Cut BALSA
1	LC-303-03	.1/16" X 4" X 24" Laser Cut BALSA
1	LC-303-04	.1/16" X 4" X 24" Laser Cut BALSA
1	LC-303-05	.1/16" X 4" X 24" Laser Cut BALSA
2	LC-303-06	.1/16" X 4" X 24" Laser Cut BALSA
1	LC-303-07	.3/32" X 4" X 24" Laser Cut BALSA
1	LC-303-08	.3/32" X 4" X 24" Laser Cut BALSA
1	LC-303-09	.3/32" X 4" X 24" Laser Cut BALSA
1	LC-303-10	.3mm X 4" X 24" Laser Cut POPLAR PLY
1	LC-303-11	.1/16" X 3" X 12" Laser Cut Birch Ply
1	LC-303-12	.1/16" X 3" X 12" Laser Cut Birch Ply
1	K-303 PLAN A	
1	K-303 PLAN B	
4	Main Wing Spars	.3/32" X 1/4" X 18" BALSA
2	Center Wing Spars	.3/32" X 1/4" X 6" BALSA
2	Wing Leading Edges	.1/4" sq. X 18" BALSA
7	Stringer Spars / Fuselage Stringers	.3/32" X 3/32" X 18" BALSA
2	Wing Struts	.3/32" X 1/4" X 12" BALSA (Or 2 pieces 24" long)
2	Wing Center Section Sheet	.1/16" X 3" X 12" BALSA
1	Main Landing Gear	.1/16" X 15" Music Wire
1	K-303 Decal Sheet	
1	K-303 Windshield Plastic	.010" x 3 1/2" x 10"

Hardware Bag

Qty.	Name	Description
4	Blind Nuts	4-40 Blind Nuts
2	Elevator Joiner & Wing Dowels	.1/8" x 3" Birch Dowel
2	Wing Bolts	.8-32 x 1" Nylon Screw
2	Blind Nuts	.8-32 Blind Nuts
2	Wheel Retainer	.1/16" Plastic Wheel Retainer
4	Control Horn	Control Horns
3	Sig EZ Hinge	Hinges
3	Cowl Blocks	.3/8" Hardwood Blocks
3	Cowl Screws	#2 X 1/2" Sheet Metal Screws
1	Tail Wheel & Strut Wire	.1/32" x 6" Music Wire
1	Tail Wheel	.3/8" Plastic Tail Wheel & Retainer
1	Strut Tubes	.1/32" x 3" Aluminum Tube
1	Tailwheel Reinforcement	.1" x 1 1/2" Nylon Tape

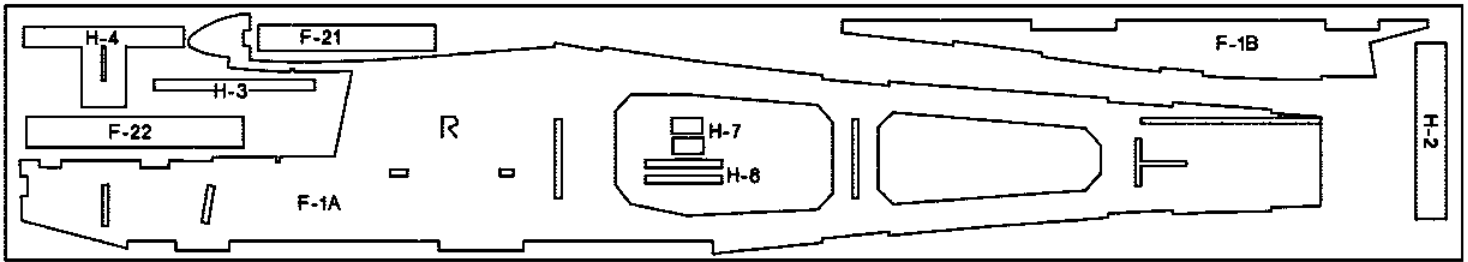
Misc. Loose Parts

Qty.	Name	Description
1	K-303 Plastic Cowl	

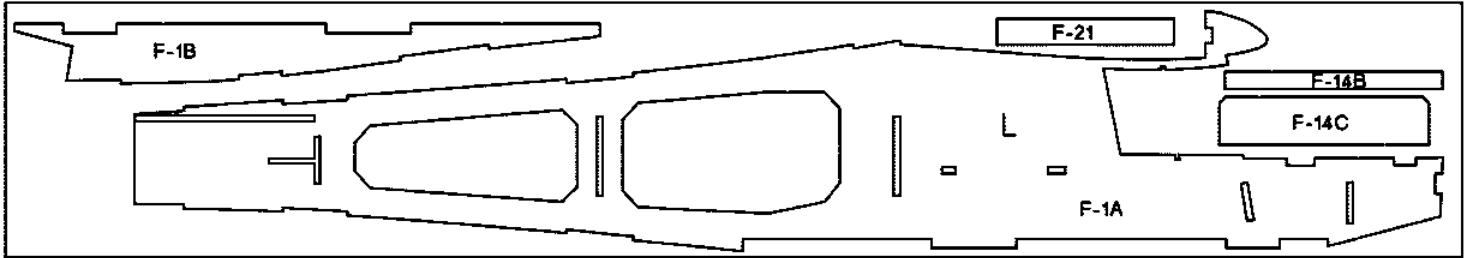
Additional Items Required (Not Included in Kit)

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.

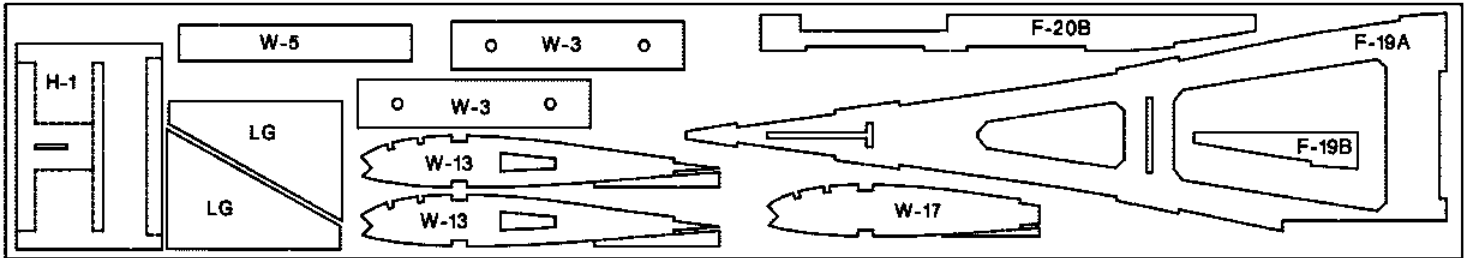
Qty.	Name	Description
1	Motor	..Himax HC2808-1160 Brushless Motor (Alien Aircraft P/N: AE-018)
1	Speed Control	..Castle Creation Thunderbird-18 Electronic Speed Control (Alien Aircraft P/N: AE-019) with connectors matching motor & battery
1	Battery Connector	..Male Deans Ultra connector (Alien Aircraft P/N: AE-027)
1	Heat Shrink Tube	..3/16" Heat Shrink Tube (Alien Aircraft P/N: AE-029)
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	..DuBro 2" Super Lite Wheels (DuBro # 200SL) 1/16" Bushings Req'd.
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 with one "Y" connector



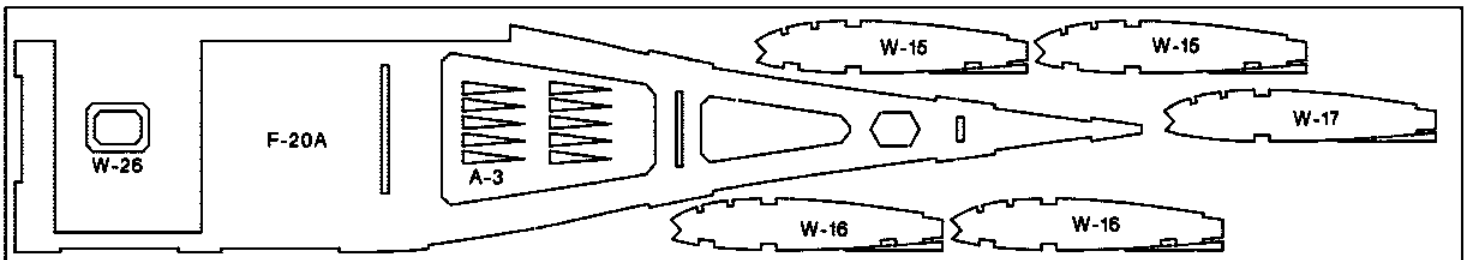
LC-303-01 1/16" X 4" X 24" BALSA 1 REQD.



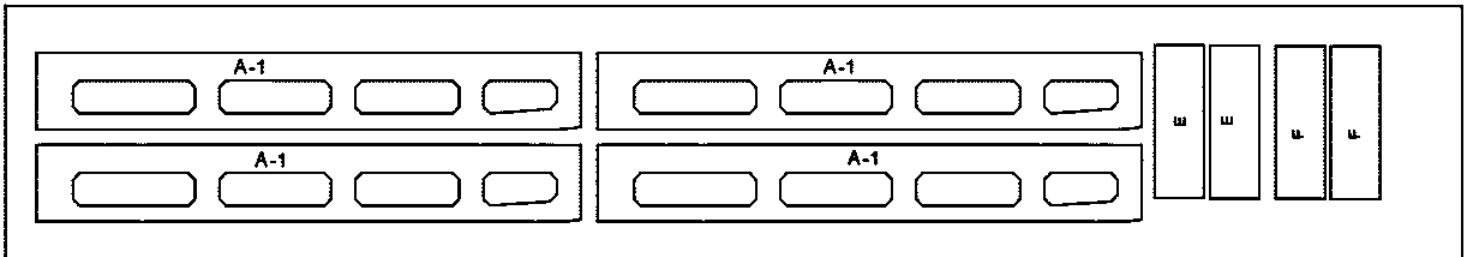
LC-303-02 1/16" X 4" X 24" BALSA 1 REQD.



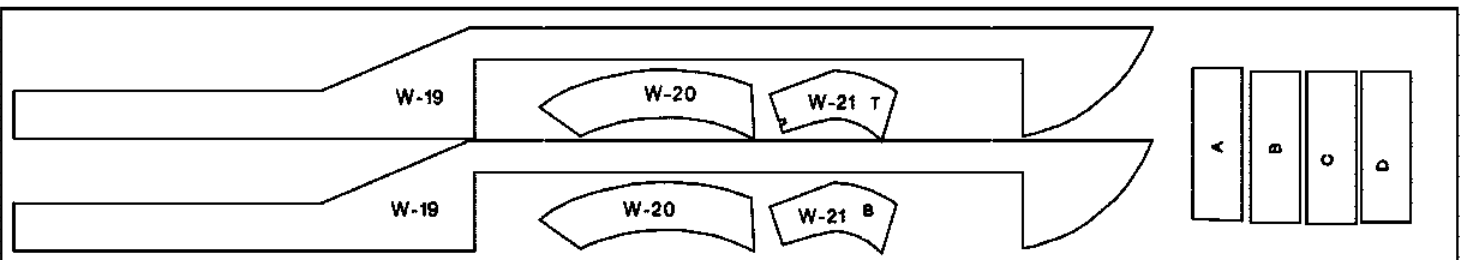
LC-303-03 1/16" X 4" X 24" BALSA 1 REQD.



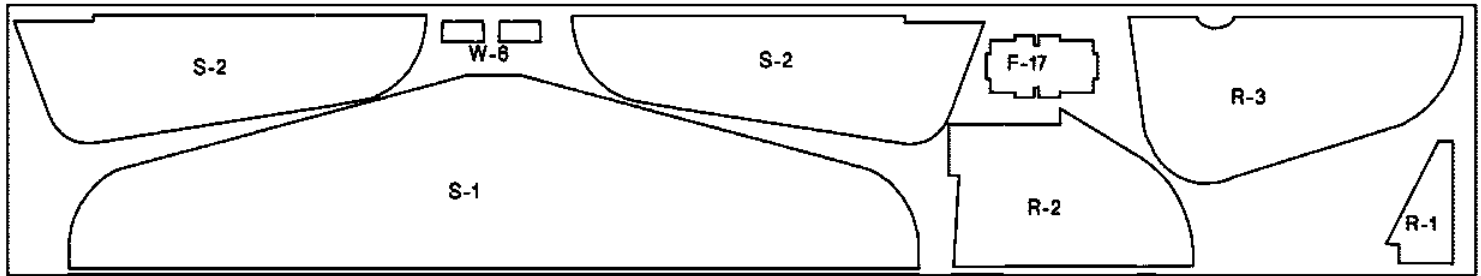
LC-303-04 1/16" X 4" X 24" BALSA 1 REQD.



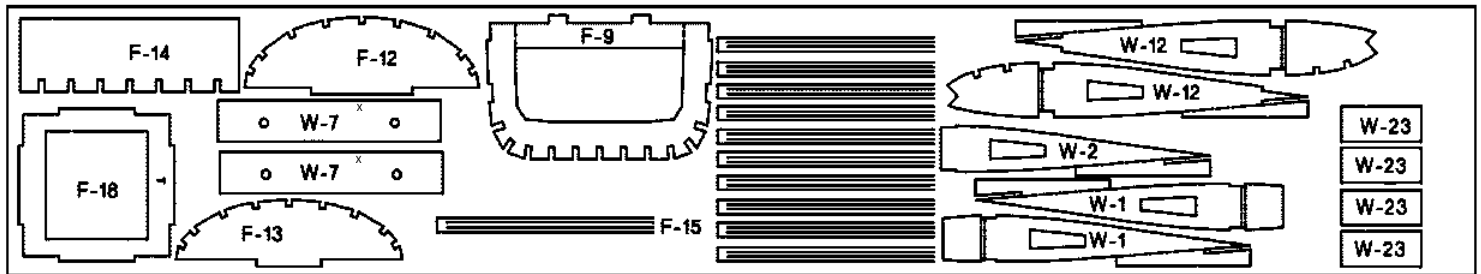
LC-303-05 1/16" X 4" X 24" BALSA 1 REQD.



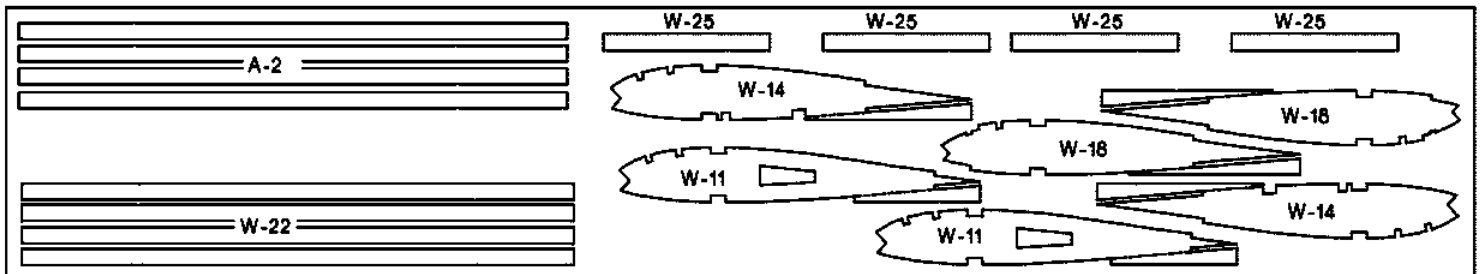
LC-303-06 1/16" X 4" X 24" BALSA 2 REQD.



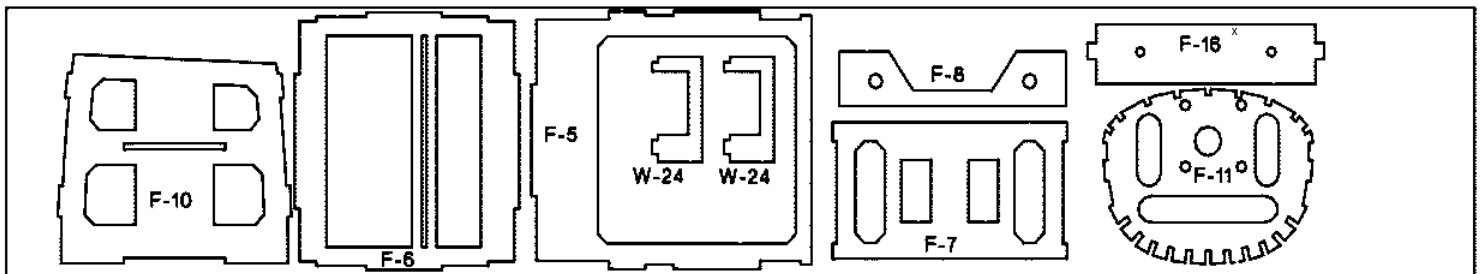
LC-303-07 3/32" X 4" X 24" BALSA 1 REQD.



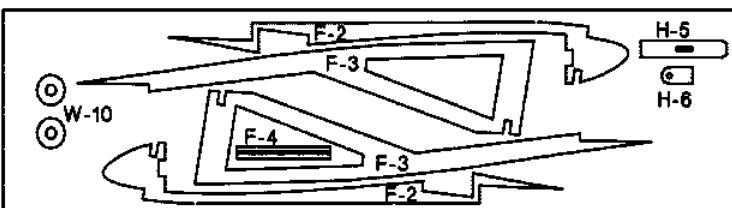
LC-303-08 3/32" X 4" X 24" BALSA 1 REQD.



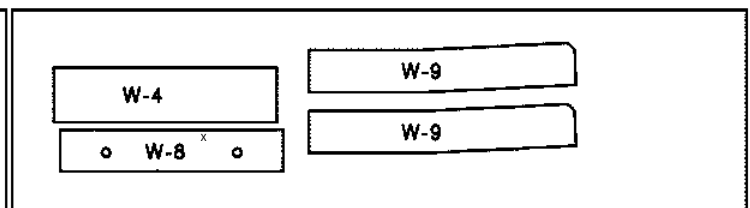
LC-303-09 3/32" X 4" X 24" BALSA 1 REQD.



LC-303-10 3mm" X 4" X 24" POPLAR PLY 1 REQD.



LC-303-11 3mm x 3" X 12" POPLAR PLY 1 REQD.



LC-303-12 3mm X 3" X 12" POPLAR 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. 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. Glue the tail wheel wire and nylon tape to the rudder.

Mark the hinge locations and cut the hinge slots in R-2 and R-3. Temporarily install the hinges without glue. Sand the outside front edge of R-1/ R-2 round. Leave the other edges square.



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 parts F-1A-L and F-1B together. Glue parts F-1A-R and F-1B together.

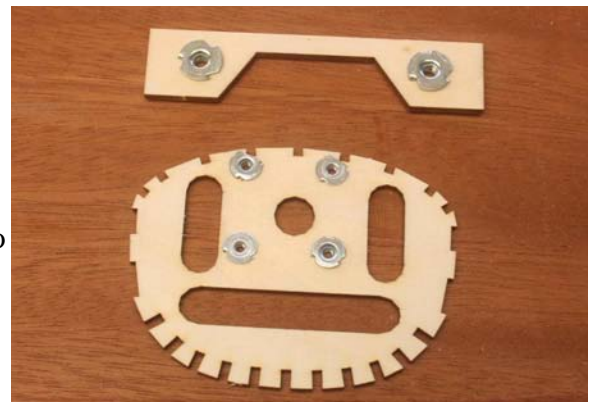
4...Glue the F-2 and F-3 doublers to the inside of the F-1R & F-1L fuselage sides. Be sure to make a right hand and a left hand side. The laser markings "L" and "R" should be on the inside.

Glue parts F-4 into the slots in the fuselage sides.

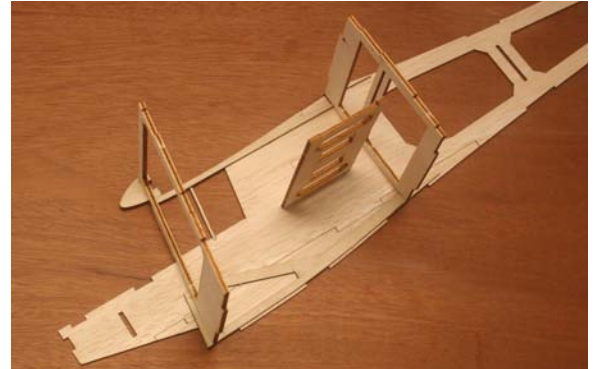


5...Press the four 4-40 blind nuts into the back of the firewall (F-11). Use a small drop of thin C/A to secure them in place.

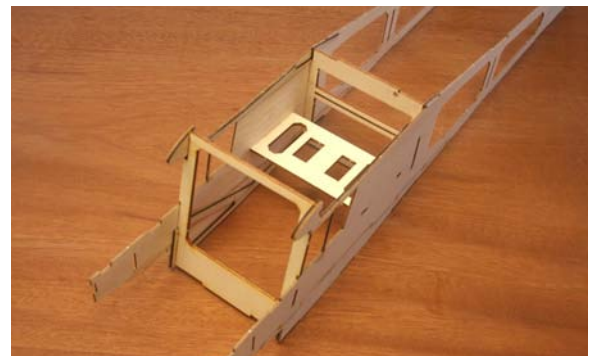
Press the two 8-32 blind nuts into F-8. Use a small drop of thin C/A to secure them in place.



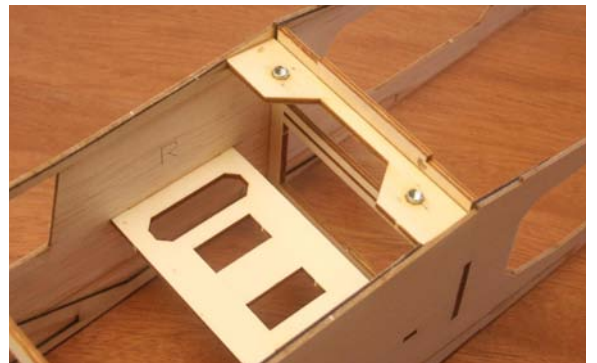
6...Lightly tack glue formers F-5 , F-6 , and servo tray F-7 into position on the right fuselage side. Use a small square to position these parts 90 degrees to the fuselage side.



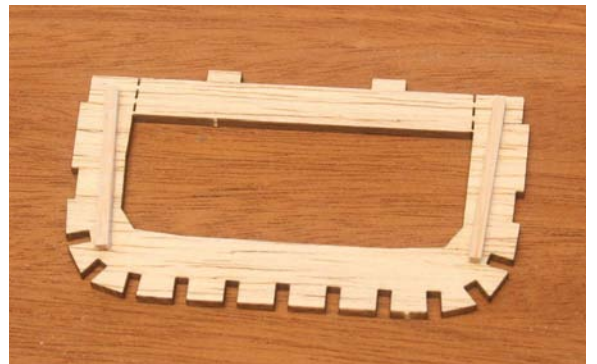
7...Place the left fuselage side into position and square up the fuselage. Glue the left fuselage to the formers. Make sure that the fuselage is square and completely glue the formers to the fuselage sides.



8...Place F-8 into place. Glue securely into position.



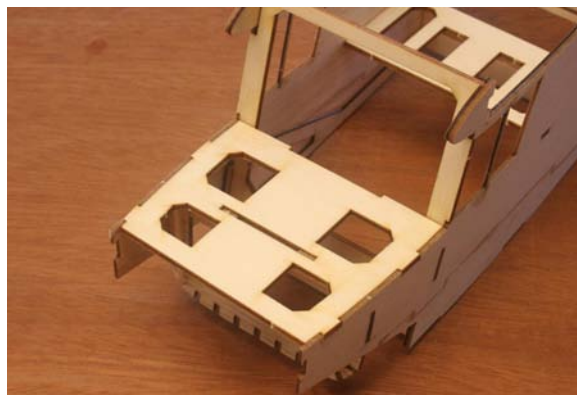
9...Glue 3/32" sq. braces to the front of F-9.



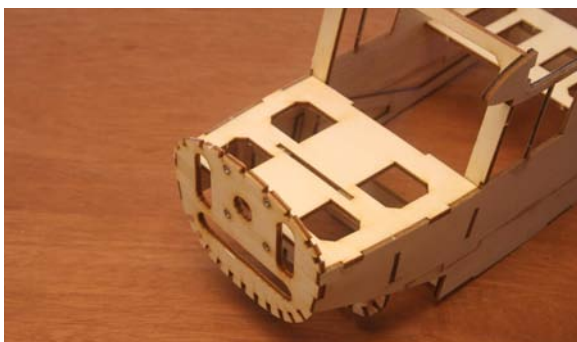
10...Gently squeeze the front of the fuselage sides together and glue F-9 into position.



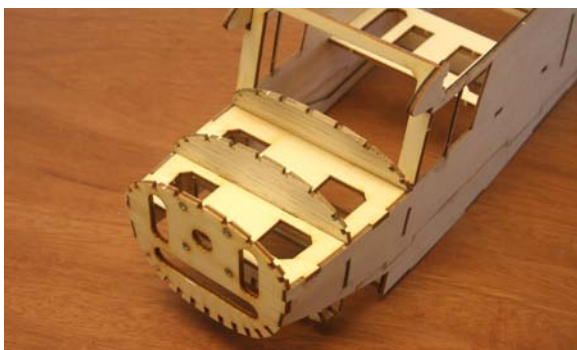
11...Place F-10 into position. Be sure that the front edge angles to the right. Glue it into position.



12...Place the firewall (F-11) into position. Squeeze the fuselage sides into contact with F-11 and glue in place.



13...Glue former F-12 into position on the top of the fuselage. Angle the top forward to match the angle shown on the plan.



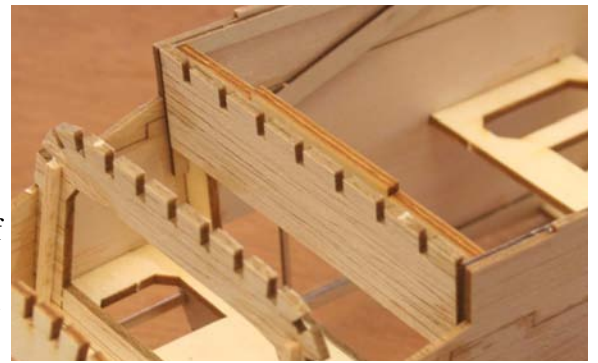
Glue F-13 into position 90 degrees to F-10.

14...Glue F-14B to the front of F-14.

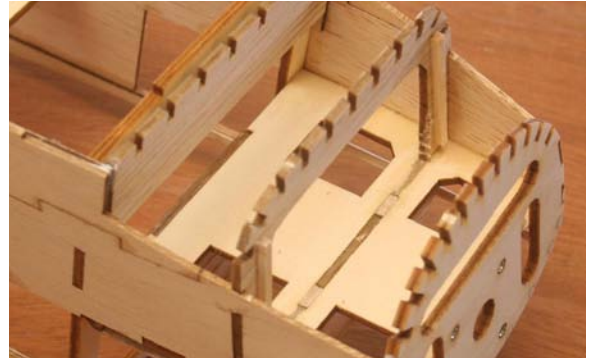


15...Slide the F-14 assembly into position on the front of F-5. Use a scrap piece of 1/16" sheet between F-14 and F-5 to maintain the spacing for the landing gear wire.

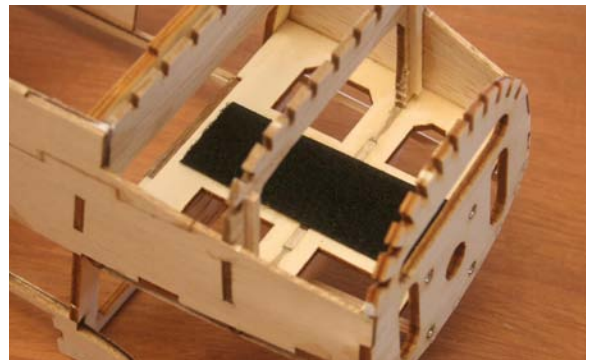
The top of F-14 should be flush with the cutout in F-5. The bottom of F-14 should match the height of the tab on the bottom of F-5. When properly positioned, glue F-14 in place. When the glue is dry, remove the 1/16" spacer..



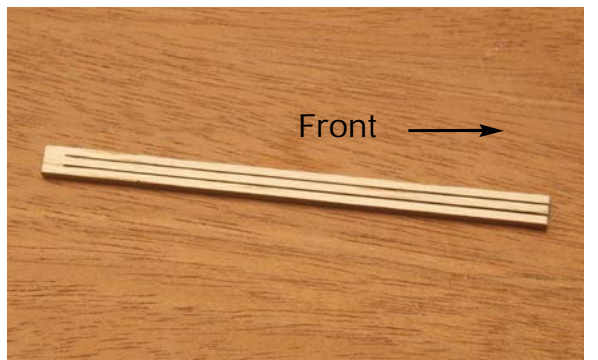
16...Cut the center top of F-9 away to the dashed lines at each end.



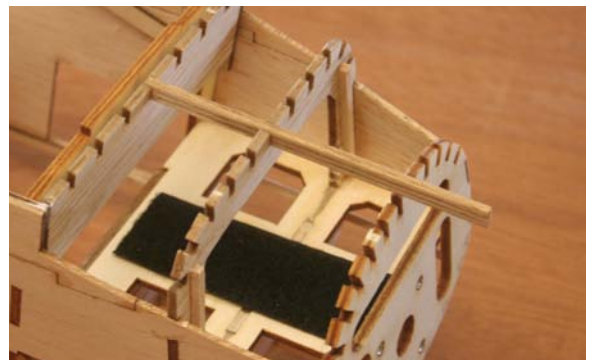
17...Glue a piece of velcro to the center of the bottom of F-10.



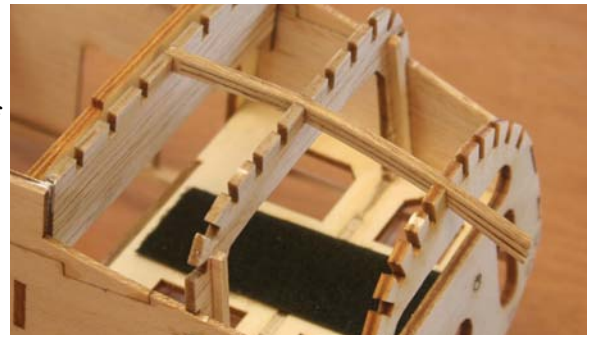
18...Cut an F-15 from the laser cut sheet. Moisten the front half with an ammonia based window cleaner such as Windex.



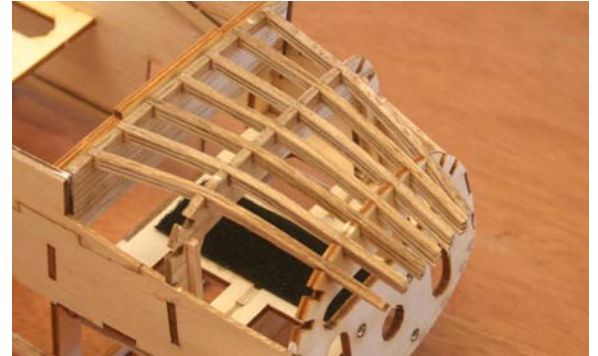
19...Place the closed end of F-15 into the center slot in F-14. It should be flush with the rear face of F-14 and not extend into the 1/16" landing gear slot between F-5 and F-14. Glue F-15 to F-14.



20...Gently press the front end of F-15 down until it is seated in the notches in F-9 and F-11, and glue into the slots. Place a small drop of thin C/A glue on the side of F-15 to glue the laminations together.



21...Repeat the previous steps to install F-15's in the remaining slots in F-14.



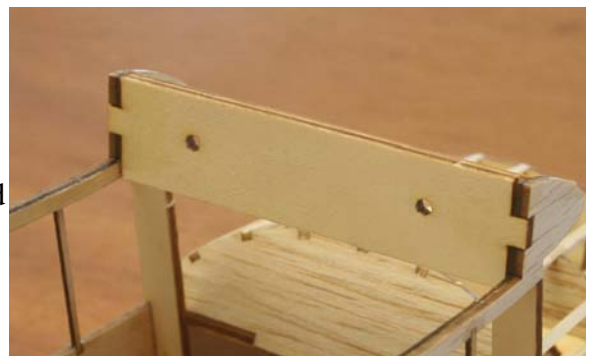
22...Glue the two corner F-15's into position. The back end should be flush with the outside of the fuselage side and the bottom edge of F-14 as shown.



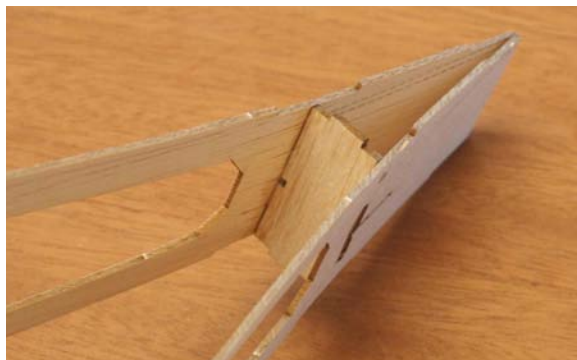
23...Glue the last two F-15's into position. The back end should be positioned 1/2 way between the corner F-15 and the bottom edge of the fuselage side as shown.



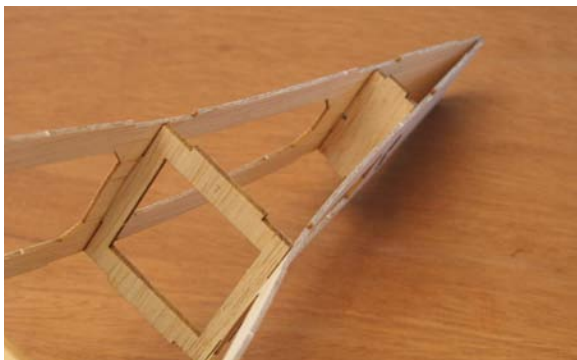
24...Put part F-16 into position. The holes are not centered and should be slightly closer to the top when positioned properly. The small "x" marked on the part is the top. Glue F-16 securely in place.



25...Place former F-17 into position and pull the rear of the fuselage sides together. Adjust the back end until the fuselage is straight and square. Glue the fuselage sides together and glue the former in place.



26...Glue the 3/32" sq. reinforcements to the top and bottom of F-18 as shown on the plan. Place former F-18 into position and glue in place.



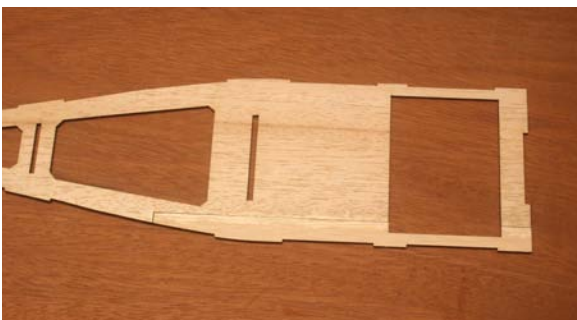
27...Glue F-19A to F-19B.



28...Glue F-19 into position on the top rear of the fuselage. Because of the curves and taper, you will need to spread and squeeze the sides to get F-19 to fit in the proper position.



29...Glue F-20A to F-20B.



30...Glue F-20 into position on the bottom of the fuselage.



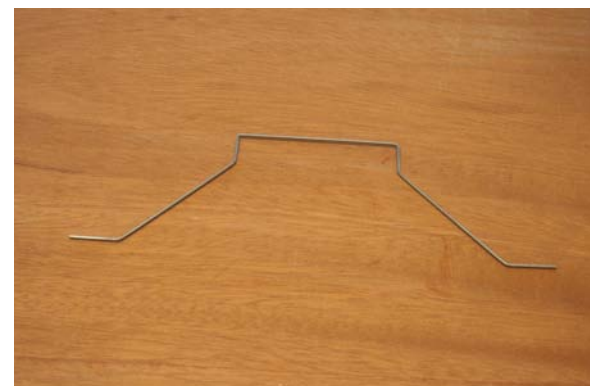
31...Glue the bottom reinforcements (F-21's) into position at the sides of the hatch opening on the inside of F-20.



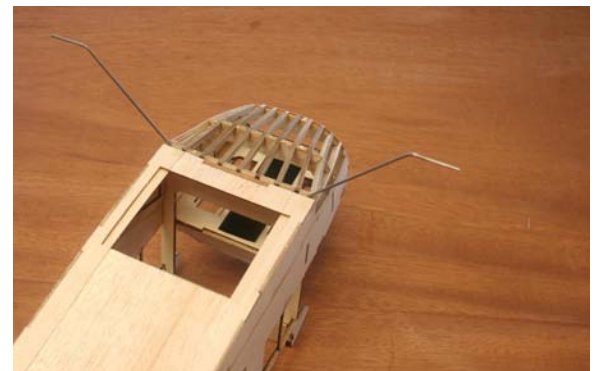
32...Glue the bottom reinforcement (F-22) into position at the back of the hatch opening on the inside of F-20.



33...Bend the main landing gear wire to shape using the pattern on the plan. Leave the axles long until you mount the wheels.

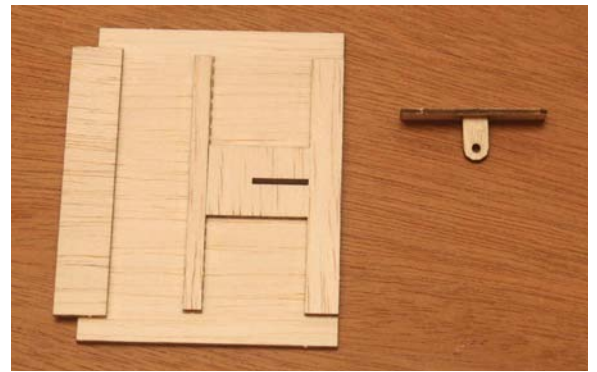


Test fit the landing gear into the slot in the bottom of the fuselage. Do not glue in place at this time. NOTE...The landing gear should be positioned so the angle at the top allows the landing gear legs to angle back and be 90 degrees to the bottom of the fuselage.

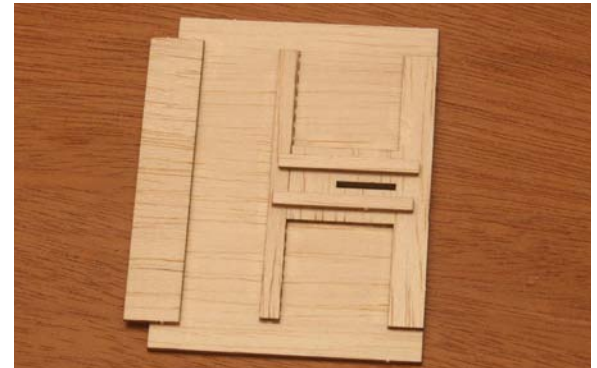


Building the Hatch:

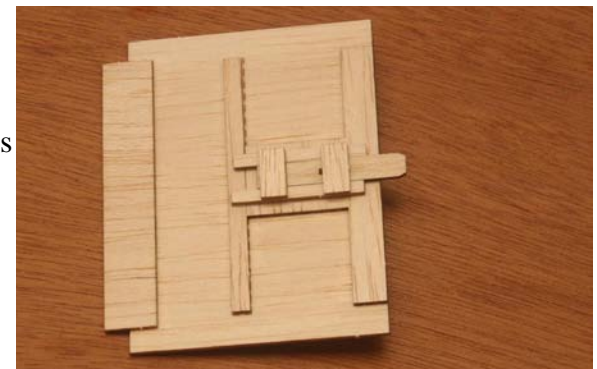
34...Glue parts H-2, H-3 and H-4 into position on the hatch (H-1) using the laser marking as a guide. Glue parts H-5 and H-6 together. Make sure that they are 90 degrees to each other.



35...Place parts H-7 into position on the hatch. Insert H-5/6 into position to establish the proper spacing for the H-7's. Use the tip of a straight pin to apply a tiny amount of glue to the outside edges of the H-7's. Use extreme care to make sure that you DO NOT glue the H-5/6 slider into position!!!



36...With the H-5/6 slider in position, carefully glue the two H-8 pieces into position. Use the tip of a straight pin to apply a tiny amount of glue to the outside edges of the H-8's. Use extreme care to make sure that you DO NOT glue the H-5/6 slider into position!!!



37...Test fit the hatch to the bottom of the fuselage. The front tab (H-2) slides under part F-20. Slide the hatch slider forward and press the back end of the hatch down on the fuselage. Move the slider back to secure the hatch.



38...Use a sanding block to sand the fuselage surfaces smooth all over. Now lightly sand the corners of the fuselage round. Leave the wing opening square.



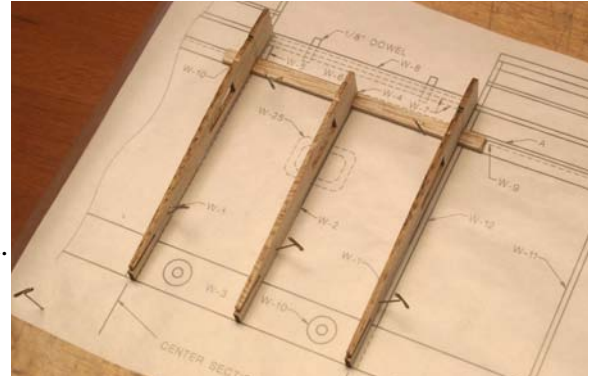
Building the Wing:

39...Cover the center section wing plan with wax paper to prevent the parts from sticking to the plan.

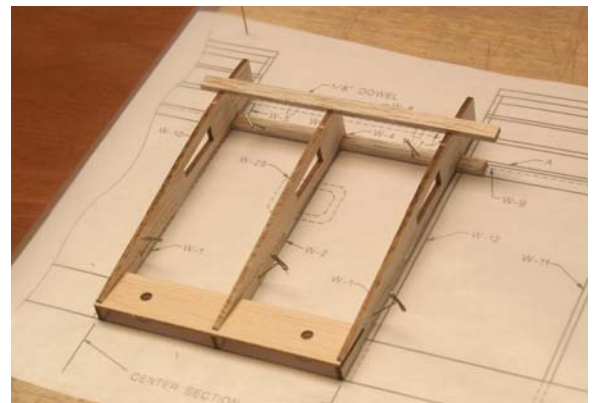
Building the Center Section:

40...Pin the lower $3/32'' \times 1/4''$ lower main spar to the plan. Cut it from one of the 6'' long strips. Cut the spar a little long so the ends extend past the W-1 ribs.

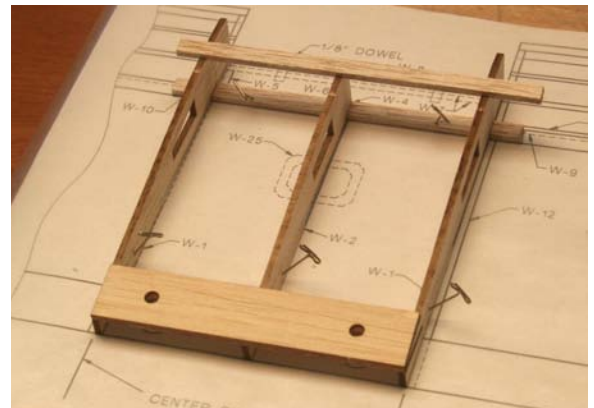
Glue ribs W-1 and W-2 into position 90 degrees to the building board.



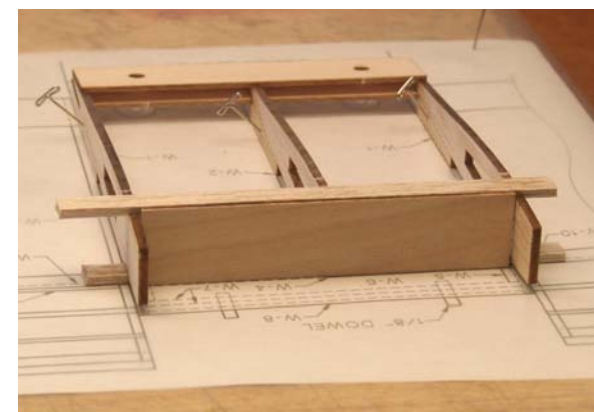
41...Cut and glue the upper $3/32'' \times 1/4''$ main spar into place. Make sure the ribs maintain 90 degrees to the building board. Glue one W-3 into the slot at the trailing edge of the ribs.



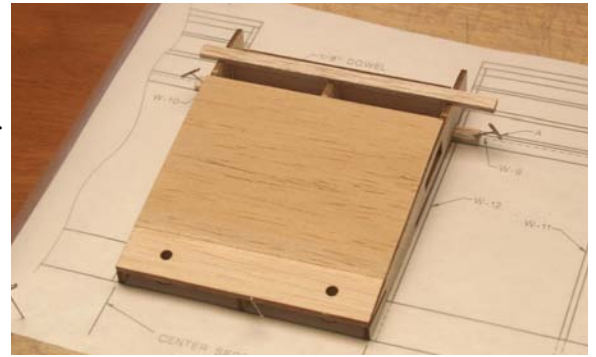
42...Glue the other W-3 on top of the trailing edge of the ribs.



43...Position W-4 on the front of the top and bottom spars and glue into place.



44...Cut a piece of 3" x 1/16" sheet and glue it to the top of the center section as shown. It should be placed to the rear against W-3.



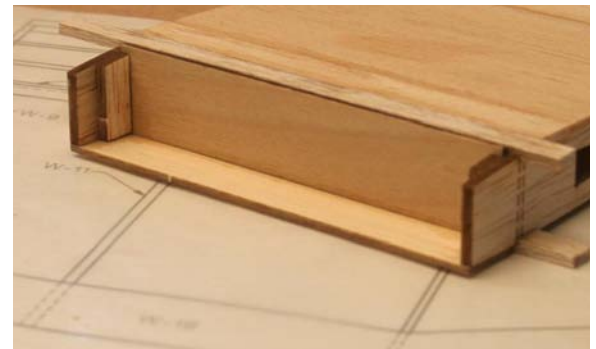
45...Cut a piece of 3" x 1/16" sheet and glue it to the top of the center section between the spar and the previous sheet.



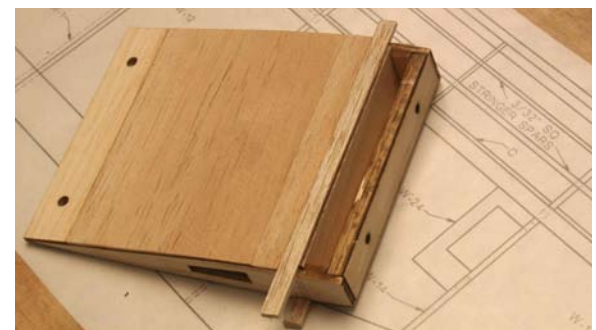
46...Remove the center section from the plan. Glue W-5 to the forward bottom of the center section. It should be centered and tight against W-4.



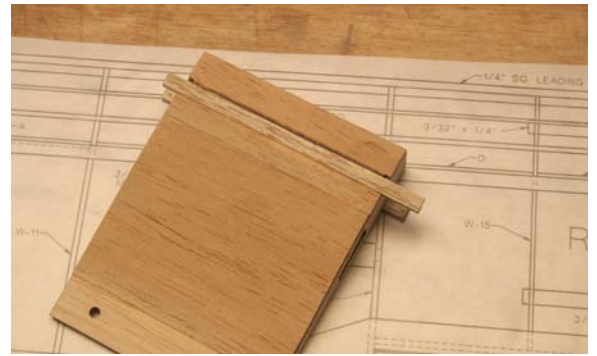
47...Glue parts W-6 into position. The angles should match the top and bottom of the W-1 ribs.



48...Glue the two W-7's and W-8 into position between the front of the W-1 ribs. The holes are not centered and should be closer to the bottom. The "x" marked on the parts is the top.



49...Cut a piece of 3" x 1/16" sheet and glue it to the top of the center section. The sheet should fit against W-4 and extend to the front edge of W-8.



50...Cut two pieces of 1/8" dowel to a length of approximately 3/4". Insert them into the holes in W-8. They should stick out 1/4". Securely glue the dowels into position.



51...Break or cut the support tabs from the bottom trailing edge of the ribs. Use the 1/16" x 3" balsa sheet to sheet the bottom of the center section between the spar and W-3.



52...Trim and sand the spars and sheet flush with the W-1 ribs. Sand the top and bottom sheet smooth.



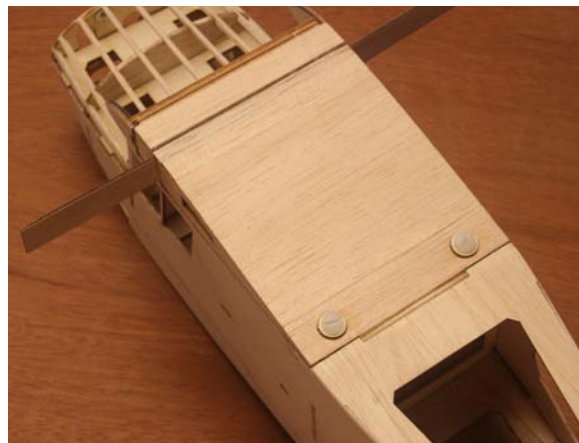
53...Cut open the 1/16" wide slots in the W-1 ribs between the dashed lines.



54...Slide the two joiners (W-9's) into the slots in the W-1 ribs. The outboard ends of the joiners should angle up. The top outboard corner of the W-9's is cut off at a 45 degree angle. Glue the joiners to W-4 and the top and bottom spar.

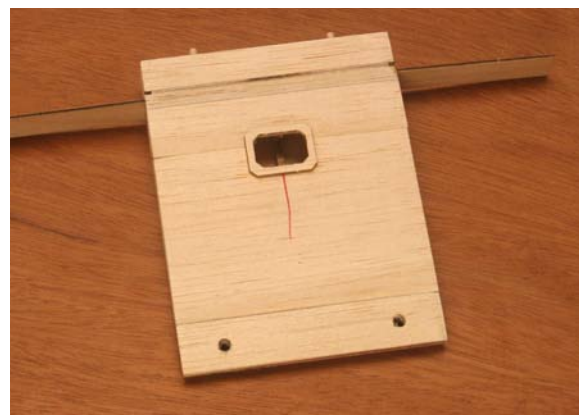


55...Test fit the wing center section onto the fuselage. You can adjust the holes in F-6 if required for a good fit. Sand the back end if required to fit tightly down into the step in the fuselage.



Place the W-10 discs onto the nylon screws and thread them into place. Glue the W-10's to the top of the center section.

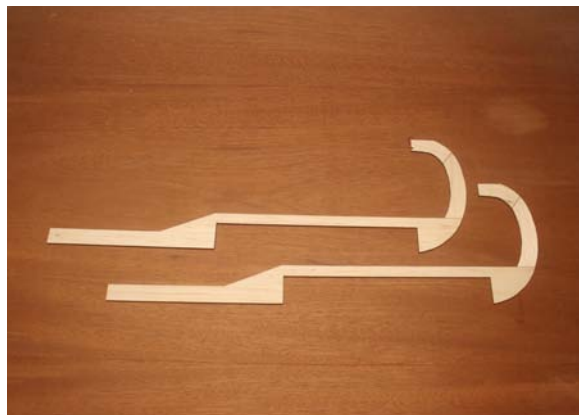
56...Glue W-26 into position on the sheet on the bottom of the center section. Cut away the sheet from the center when the glue dries.



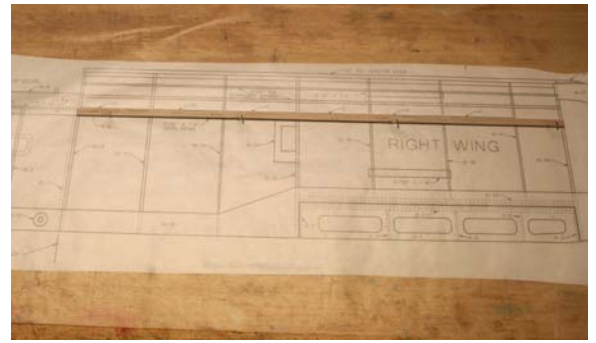
Building the Right Wing:

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

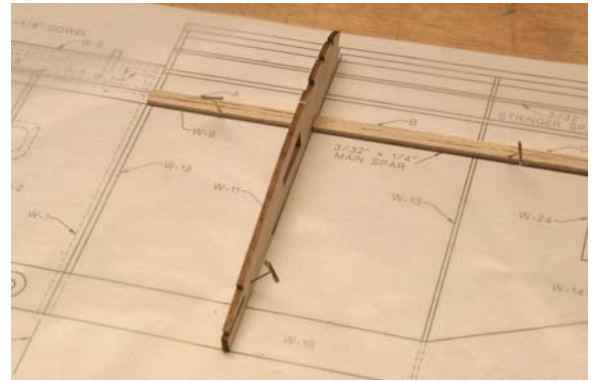
58...Glue W-19, W-20 and W-21 together over the plan. This makes the bottom sheet. Glue W-19, W-20 and W-21T together over the plan. This makes the top sheet.



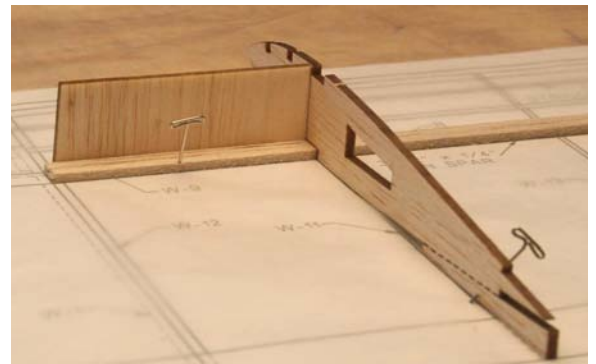
59...Pin the lower 3/32" x 1/4" lower main spar to the plan. Align the inboard end with the wing center line. Trim the outboard end so it ends at the W-18 rib.



60...Pin and glue rib W-11 into position on the bottom spar 90 degrees to the building board.



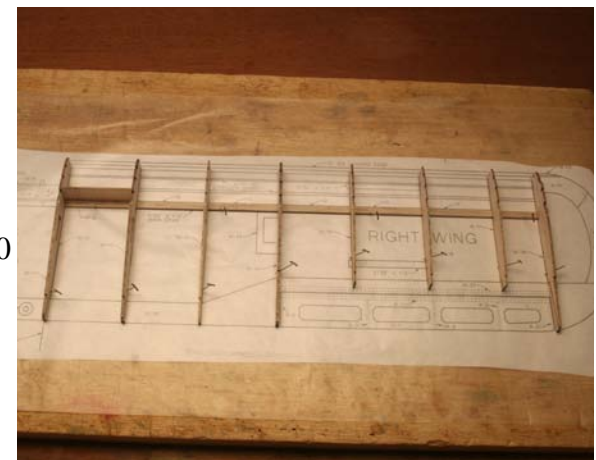
61...Glue shear web "A" into position against the front face of the lower spar and rib W-11 as shown on the plan. The small "X" on the shear web marks the top outboard corners of the shear webs.



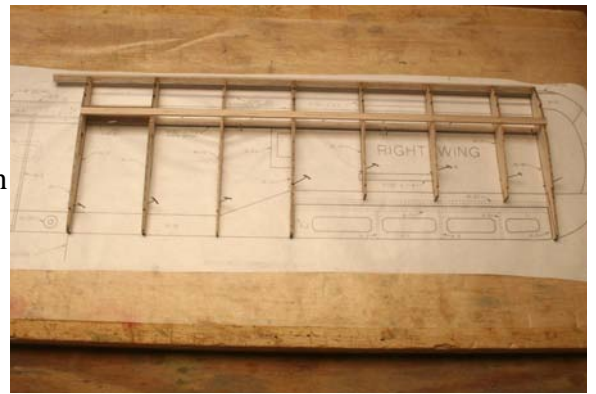
62...Pin and glue rib W-12 into position. The top of the rib should angle slightly toward the wing tip and be in full contact with the shear web.



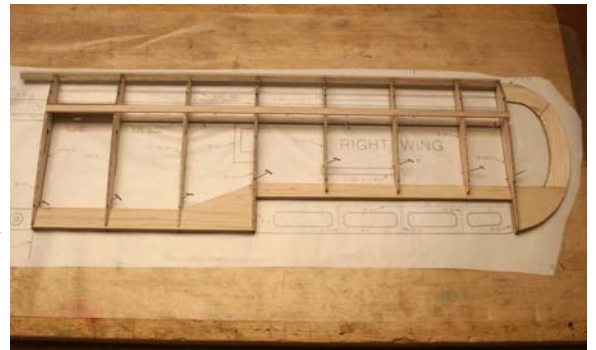
63...Pin and glue ribs W-13 thru W-18 into position. They should be 90 degrees to the building board.



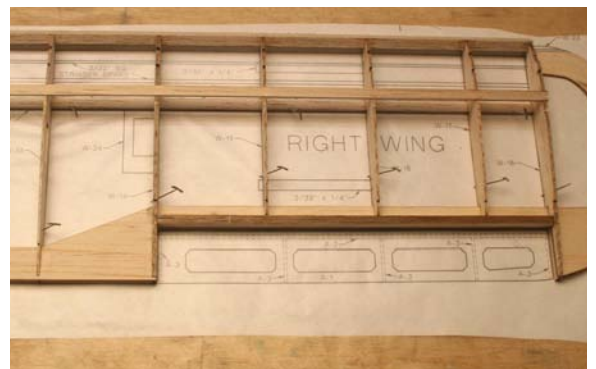
64...Glue the 3/32" x 1/4" top spar into position. The spar stops at the W-18 rib. Glue the 1/4" sq. leading edge into position in the notches in the front of the ribs. The leading edge stops at rib W-18.



65...Slide the lower trailing edge sheet into position in the slots in the back of the ribs. Make sure it is all of the way forward in the slots and positioned properly left and right and glue into place.



66...Glue two W-22.s together. Put into position and glue to the ribs and bottom trailing edge sheet.



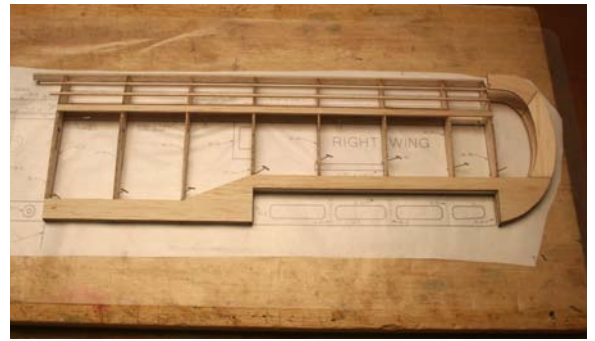
67...Glue the remaining shear webs (B thru F) into position. Trim the ends to get the proper fit if needed.



68...Glue the 3/32" sq. stringer spars into position. They should stop at W-18.



69...Glue the top trailing edge sheet into position, Glue it to ribs W-11 thru W-18 and the top of the W-22's. Do not glue outboard past rib W-18.



70...Roll the front of the wing tip forward and glue to W-18. The very end of the wing tip should be level with (the same height) as the main spar at rib W-18.



71...Remove the wing from the plan. Break the support tabs from the bottom of the wing ribs. 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.



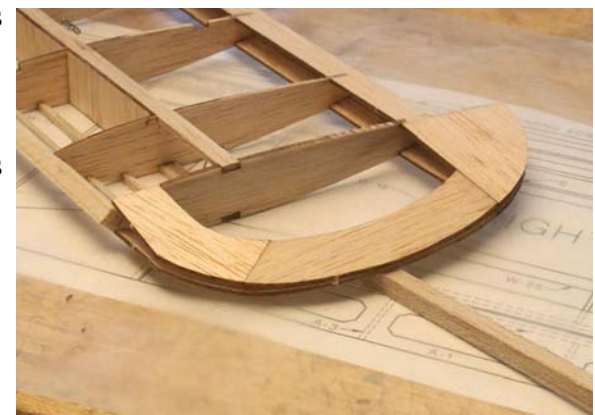
72...Cut part way thru the bottom of the lower trailing edge sheet at the outside edge of W-18.



73...Lay the wing upside down on your building board. Hold it so it is level front to back. Place a piece of 1/4" sq. scrap from the leading edge under the middle of the wing tip as shown.

Press the lower wing tip sheet into contact with the top sheet and press both into contact with the 1/4" sq. scrap. The bottom will be a little short but that is OK.

Put a drop of glue at the very center 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. Pinch the sheets together as required



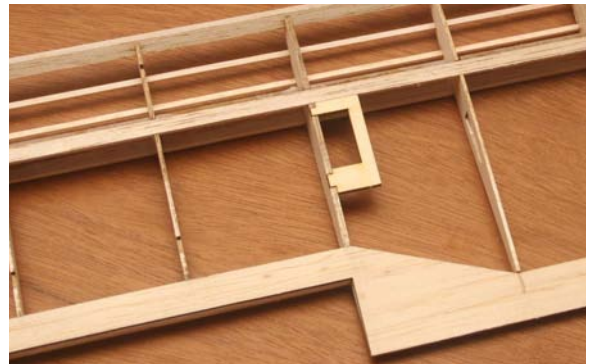
74...Working from the center to the front, glue the bottom wing tip to the top. Stop about 1" from the 1/4" sq. leading edge leaving a triangular opening in the front. Glue the bottom sheet to W-18.



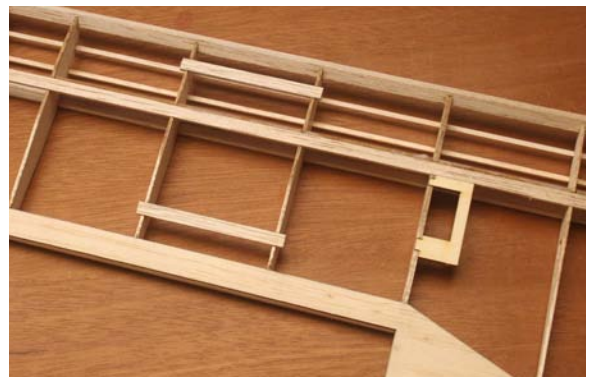
75...Glue two W-23's into position against the top and bottom sheet and the 1/4" sq. leading edge.



76...Glue the aileron servo tray (W-24) into position on rib W-14. Glue to the rib as well as the main spar. The front edge should be flush with the spar.



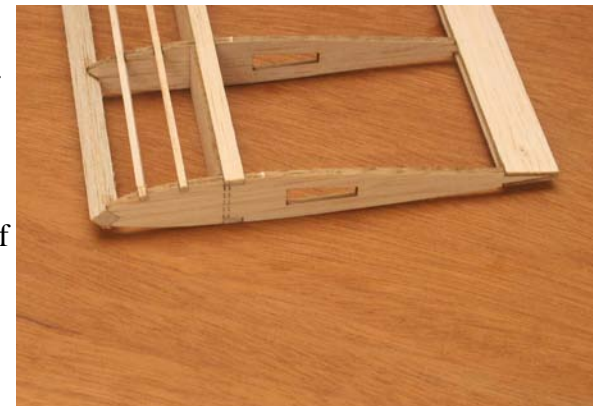
77...Glue the two W-25 pieces into position in the notches in ribs W-15 and W-16. These are the wing strut mounts.



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

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 57 thru 79 to build the left wing.



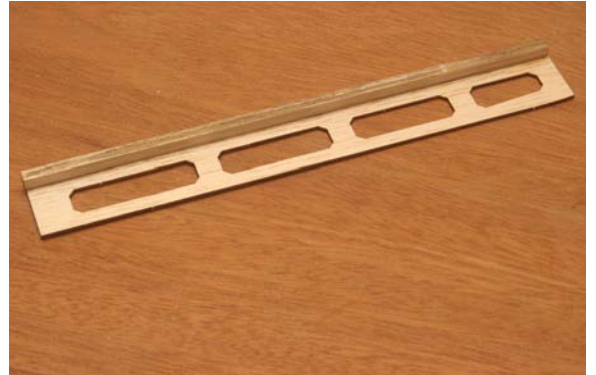
Building the ailerons:

Build the right aileron.

79...Glue two A-2's together.



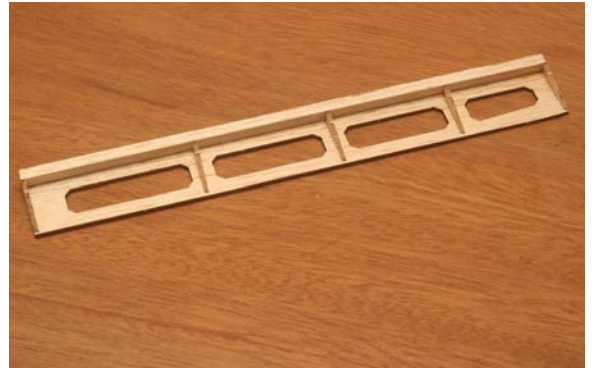
80...Glue the A-2 onto and flush with the front of A-1.



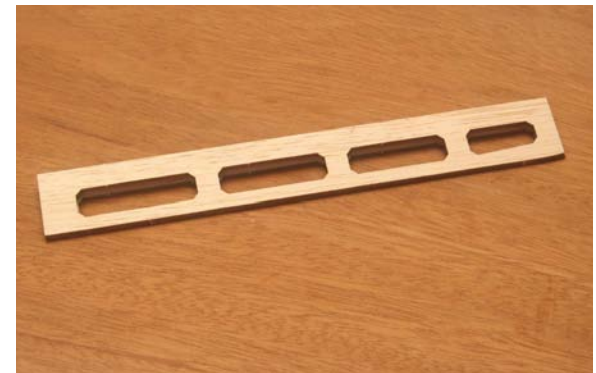
81...Glue the A-3's into position.



82...Trim an angle on the top of the A-2's to match the angle on the top of the A-3's.



83...Glue A-1 onto the top of the aileron. Sand the ends, front, top and rear of the aileron flush.



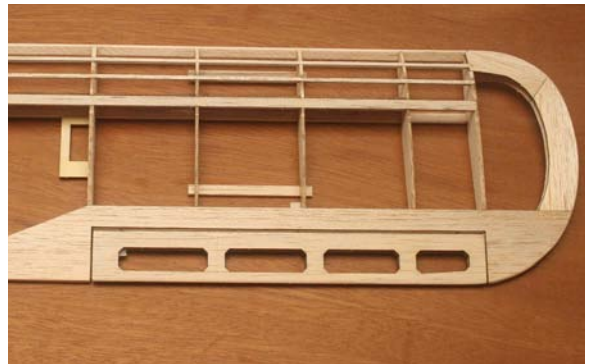
84...Draw a line centered on the front of the aileron. Draw a line 1/8" back from the leading edge on the top and bottom of the aileron.



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

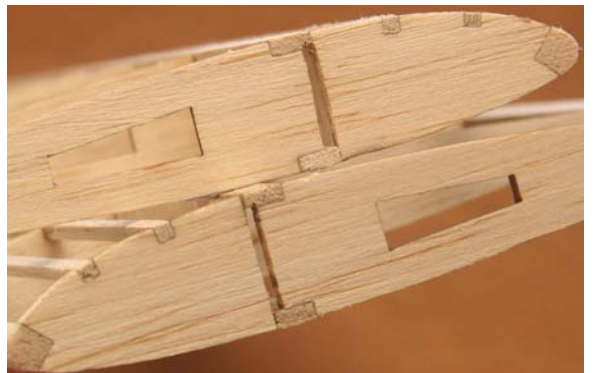


86...Mark a line centered on the back of the aileron spar (W-22). Mark the hinge locations and cut slots for the hinges. Temporarily install the hinges and check the aileron for proper fit on the wing. Do not glue the hinges at this time.

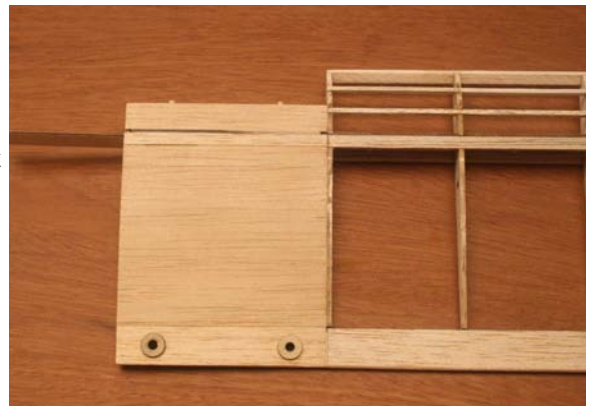


87...Repeat steps 80 thru 87 to build the left aileron.

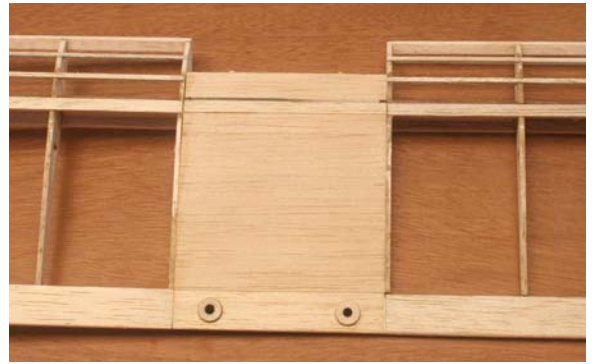
88...Cut slots in both W-12 ribs at the dashed lines to accept the wing joiner as shown on the plan.



89...Slide the wing joiner on the center section into position in the right wing. Position it tightly between the spars and forward against the shear web and glue the right wing to the center section. Glue the joiner to the shear web and the top and bottom spars



90...Slide the wing joiner on the center section into position in the left wing. Position it tightly between the spars and forward against the shear web and glue the left wing to the center section.

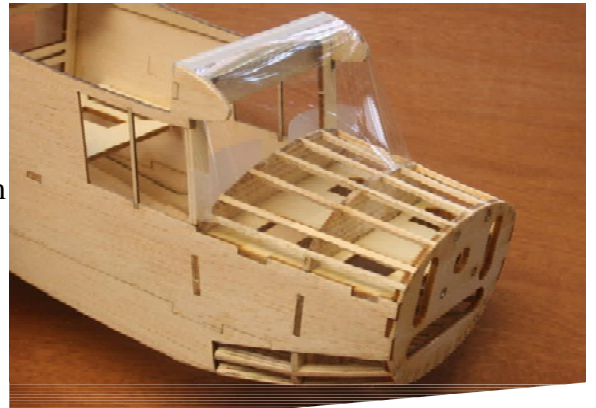


91...Test fit the wing onto the fuselage and sand the wing as required to produce a good fit if needed.



Fitting the Windshield and Cowl:

92...Cut the windshield using the pattern on the plan as a guide. Tape the top of the windshield in place on top of, and flush with the back side of F-16. Put tape on the sides and pull them back until the bottom of the windshield is in complete contact with the top of the fuselage. The back edges of the sides should be at the back edge (or a little longer) of F-5. They will be trimmed to the center of F-5 when the windshield is glued on after covering. Remove the windshield until after covering the fuselage.



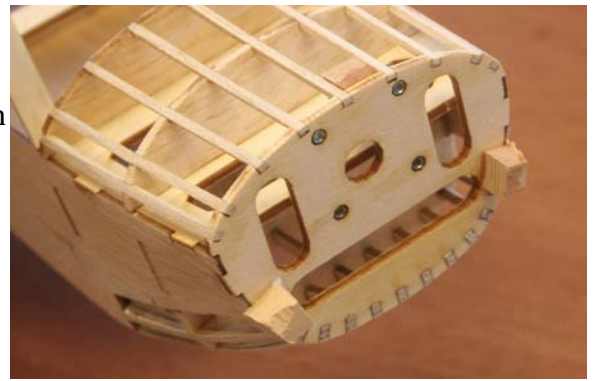
93...Draw a line on the cowl 1/4" up from the base as shown.



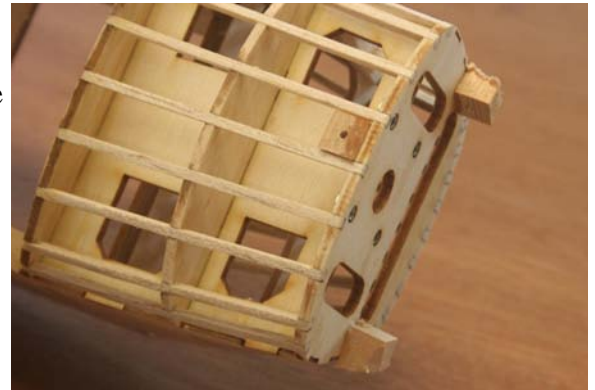
94...Trim the back of the cowl on the line marked in the previous step. Trim the openings in the front of the cowl.



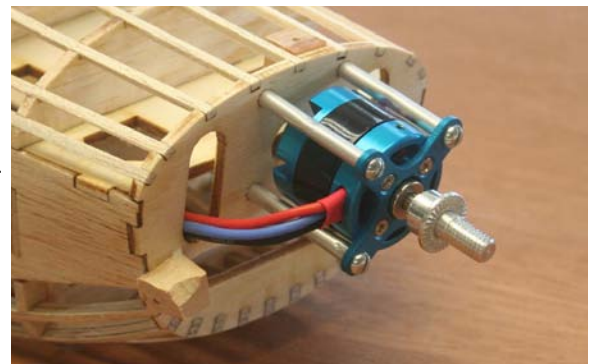
95...Glue the three 3/8" sq. hardwood blocks to the firewall as shown. The top block is on the back side and flush with the stringers. The lower blocks should stick out 1/16" past the edge of the firewall. When the glue is dry, trim or sand the outside surfaces of the lower blocks to match the fuselage contours.



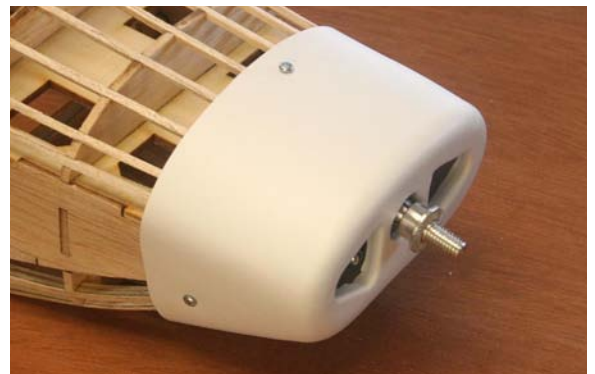
96...Drill a 1/16" pilot hole in the center of the hardwood blocks for the cowl attach screws.



97...Attach the motor mount to the front of the motor with the four flat head screws. Use a thread locker on these screws. Temporarily attach the motor to the firewall with the 4-40 screws and aluminum tube spacers.



98...Slide the cowl into position. Center the prop shaft in the hole in the cowl and slide the cowl back to provide the proper propeller clearance. Locate the top hole in the cowl. Drill a 1/16" hole in the cowl and insert the top screw.



Squeeze the sides of the cowl into contact with the bottom blocks. Be sure to keep the propeller shaft centered in the hole. Locate the holes in the side blocks and drill holes in the cowl. Insert the screws in the sides of the cowl. Now remove the cowl and motor and set aside until after covering.

Covering:

99...Sand all parts smooth with 400 grit sandpaper. Sand the back edge of parts "LG" round. Leave the front and top edges square. Feed strings from the aileron servo mounts to the center section. You will use these strings to pull the servo wires thru the wing after the model is covered. Cover the model with a light weight iron on covering material. Paint the cowl to match. Test paint on a scrap piece of plastic as some paint may melt the plastic.

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:

100...Cut the stabilizer slot in the fuselage on the dashed lines. Cut the covering away from the stabilizer in the area that makes contact with the fuselage.

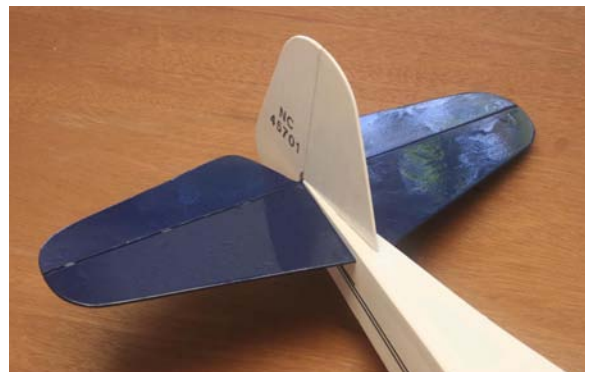
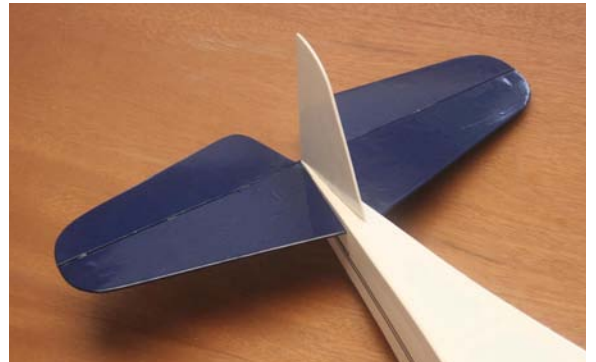
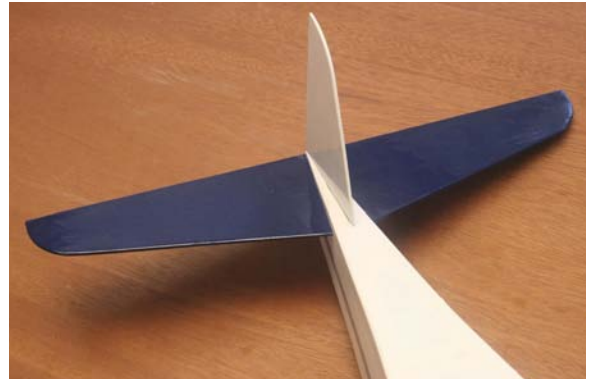
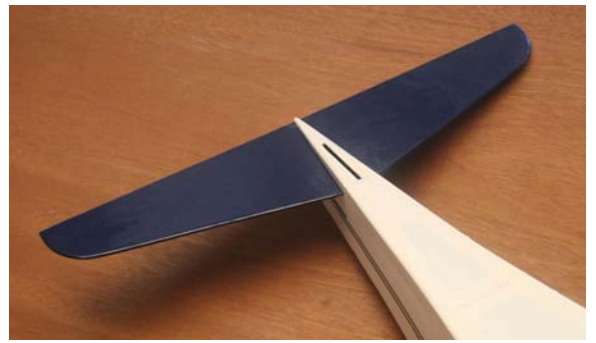
Place the stabilizer into position in the fuselage. Make sure that it is straight and square and then glue it into position.

101...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.

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

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

104...Attach the tail wheel with the press on retainer.



105...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.

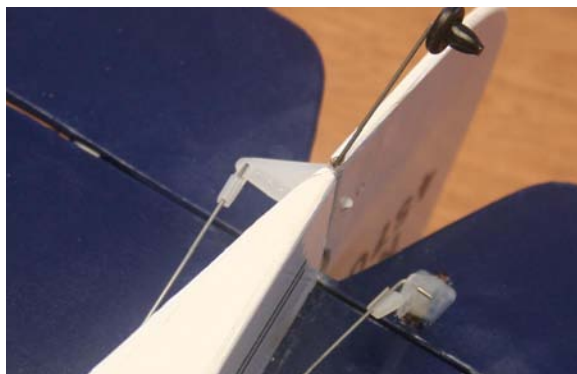
Insert the pushrod housings into the exit slots in the back of the fuselage. They should extend out about 2" from the fuselage sides.

The front ends of the pushrod housings should pass thru the slot in former F-6. Glue the housings to the rear exits. Do not glue the front ends to the former at this time.

106...Screw the servos to the servo tray.

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

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



108...NOTE: By sanding the covering material lightly with 400 grit sandpaper you can use thin C/A glue to attach the windows to the covering material and achieve a good bond. You may also cut the covering material away and glue the windows to the wood.

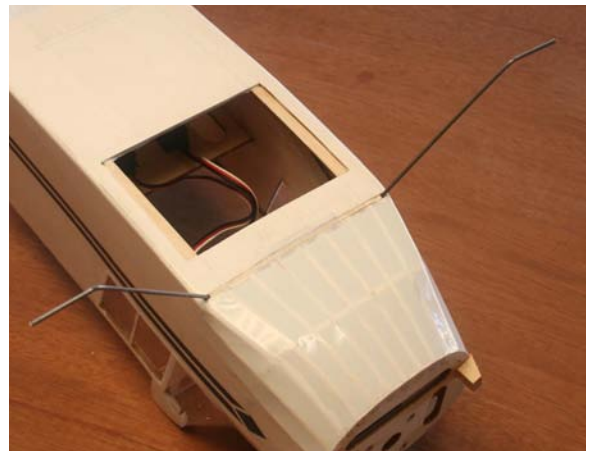
109...Reattach the windshield to the model. Tape it down at the top of F-6. Wrap it around and tape the lower rear corners to the fuselage sides. Now glue the windshield to the model with thin C/A. Start at the top. When this is dry work your way slowly around the rest of the windshield. Before you glue the back edges to F-5, trim them so they end in the middle of F-5.

Cut the side windows from the plastic sheet. They should be about 1/16" oversize. Glue them into position on the outside of the model.

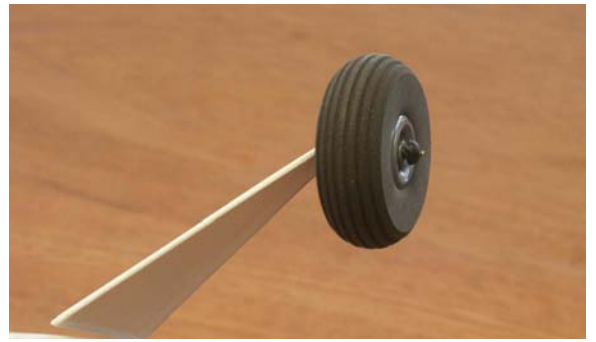
110...Insert the landing gear wire into the slot in the fuselage. Make sure it is completely seated. Be sure that the landing gear angles toward the rear. Squirt two drops of thin C/A into the slot and let dry completely.

111...Insert F-14C into the slot and glue into position. Trim off any excess flush with the bottom of the fuselage. Iron on a 1/4" strip of covering material to cover the bare balsa.

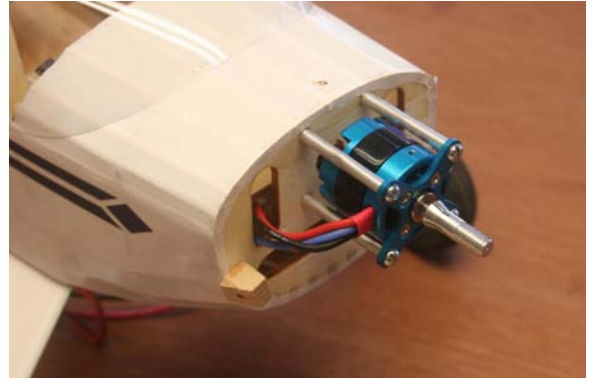
112...Attach parts LG to the back of the landing gear wires with a small amount of C/A. Wrap a 1/2" wide strip of covering material around the front of the landing gear wire and iron into position to secure parts LG to the landing gear wire.



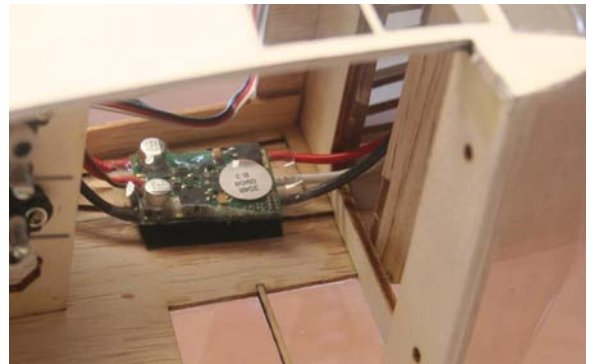
113...Put the wheels on the model and press the wheel retainers into position. With the retainers in place, cut off the excess wire axle flush with the retainer.



114...Bolt the motor to the firewall with 4-40 screws and aluminum tube spacers.



115...Secure the speed controller to the fuselage with velcro. Plug the motor into the speed controller.



116...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.



117...Attach the cowl to the model with the screws.



118...Secure the hatch into position.



119...Attach the ailerons to the wing with the hinges and glue in place.



120...Screw the servos into position on the bottom of the wing. The servo arms should be angled approximately 30 degrees forward when the servo is in neutral as shown on the plan.



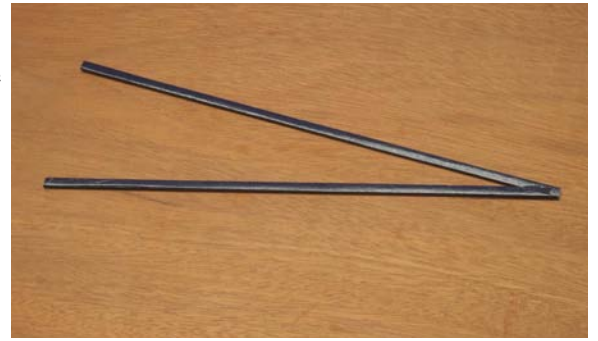
121...Glue the aileron control horns into position on the bottom of the ailerons. Drill 1/16" holes for the pins to fit into.



122...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.



123...Using the plan as a guide, use the 3/32" x 1/4" strips to make the wing struts.



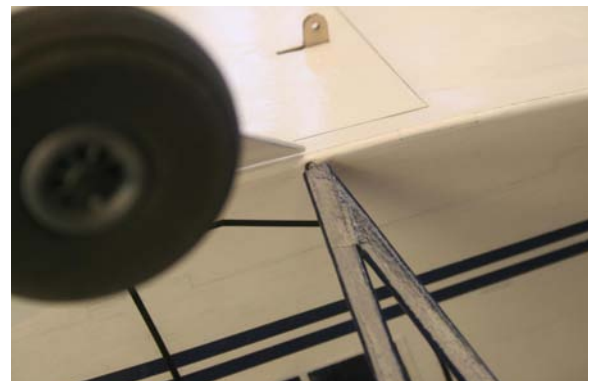
124...Glue the attach wires into the ends of the struts. Roughen up the end of the wire to be inserted in the wood so the glue will adhere better.



125...Drill a 1/16" hole in the fuselage sides and carefully glue a 1/2" piece of the aluminum tube in place, flush with the fuselage side.



126...Insert the bottom end of the strut in the tube in the fuselage side. Adjust the bend in the wire to establish the proper angle.



127...Place 1/2" pieces of aluminum tube over the wires at the out-board ends of the wing struts. Place the ends of the struts on the bottom of the wing over the W-25's. Adjust the bends on each end of the struts so the tubes lay flat on the bottom of the wing. Mark the location of the tubes on the wing. Remove the struts and glue the tubes to the bottom of the wing. Reinstall the struts to check the fit.



128...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.

129...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.

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

131...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.

132...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.