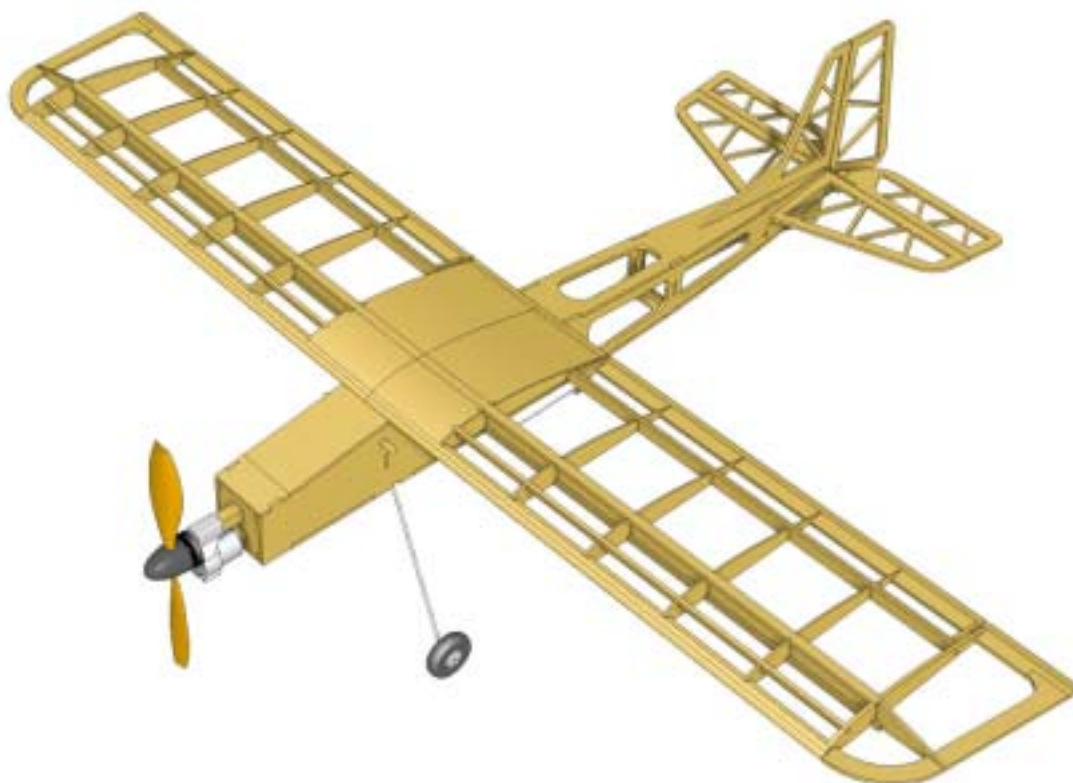


TRAVELLER



Specifications

Wing Span:	39-3/8" in.
Wing Area:	258 sq. in.
Length:	30-3/4" in.
Motor:	GWS 300C/350C, AF 010 (801H), Razor 400 – Gearbox: 5.33:1, 9070-1080 prop, AXI 2208/2212, CDROM 8047 prop.
Propeller:	9 x 7 - 10 x 8
Batteries:	3s - 1200 Lipoly or similar
Channels:	4
Weight:	12 - 16 oz.
Wing Loading:	6.7 - 8.9 oz/ft. sq.

TRAVELLER ASSEMBLY INSTRUCTIONS

Version 1.1

(Check web page for updates)

www.cl-i-max.com

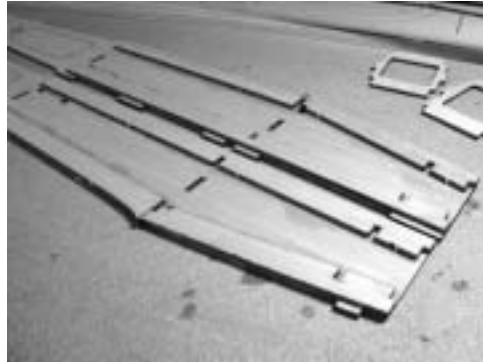
<p>Kit Contents:</p> <ul style="list-style-type: none"> 1 - 1/16" Laser Cut Balsa Parts Sheet #1 1 - 1/16" Laser Cut Balsa Parts Sheet #2 1 - 3/32" Laser Cut Balsa Parts Sheet #3 1 - 3/32" Laser Cut Balsa Parts Sheet #4 1 - 3/32" Laser Cut Balsa Parts Sheet #5 1 - 3/32" Laser Cut Balsa Parts Sheet #6 1 - 3/32" Laser Cut Balsa Parts Sheet #7 1 - 1/8" Laser Cut Lite-Ply Parts Sheet #9 1 - 1/16" Laser Cut Plywood Parts Sheet #8 1 - 6" x 3/16" Hardwood Dowel 1 - 2-1/4" x 1/8" Hardwood Dowel 1 - 3" x 10mm x 10mm Basswood Stick 1 - 24" x .060 or .080 Piano Wire 1 - 24" x .035 Piano Wire 2 - #4 Screw 2 - #4 Washer 1 - Instruction Manual <p>Suggested Radio Gear:</p> <ul style="list-style-type: none"> 4 Channel Transmitter 4 - Sub Micro Servos 1 - Micro Receiver 1 - ESC (Electronic Speed Controller) Rated for your motor 	<p>Other Items Required to Complete this Kit:</p> <ul style="list-style-type: none"> Motor: GWS 300C/350C, AF 010 (801H), Razor 400 – Gearbox: 5.33:1, 9070-1080 prop, AXI 2208/2212, CDROM 8047 prop. Propeller: 9 x 7, 10 x 8 Batteries: 3s-1200 Lipoly or Similar 2 - 1-3/4" Lite Wheels 1 - Roll of Solar Film or So-lite Covering Material 2 - Dubro Mini E/Z Connectors #845 (optional) 2 - Dubro Mini E/Z Links #855 (optional) <p>Items Required for Building:</p> <ul style="list-style-type: none"> Thin Cyanoacrylate Adhesive White Glue or ProBond Adhesive Straight Pins Building Board Straight Edge Wax Paper Razor Blade or X-Acto Knife Fine and Medium Grit Sand Paper Small Flat File
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Before you begin

- Before you begin construction please read instructions fully.
- Remove only those parts from their carrier sheet that are required at any one-time.
- Remove all remnants of tabs used to secure parts to their carrier sheets from surfaces that are to be glued.
- Always test fit parts before gluing.

Fuselage Assembly

- Glue the 1/8" doublers to both sides of the fuselage. Bulkheads 2, 3 and 4 can be used to aid in the aligning the doublers.



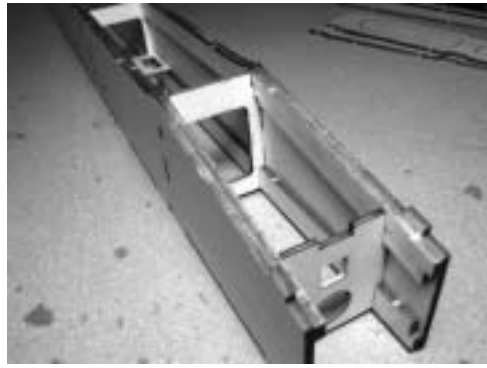
- Assemble the two fuselage sides with bulkheads 2, 3, 4 and servo tray in position.



- Add the rear section of the fuselage bottom. This will help keep everything square when gluing the bulkheads and servo tray to the fuselage sides.



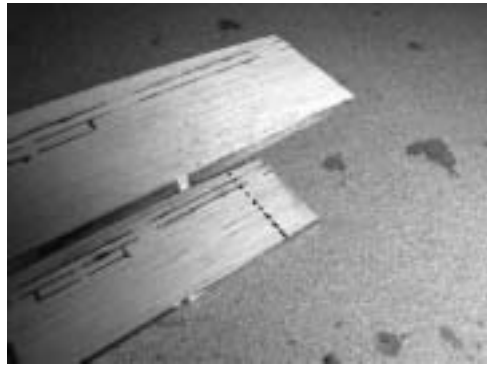
-
- Glue together using thin Cyanoacrylate.



-
- Glue the bottom front fuselage section in place.



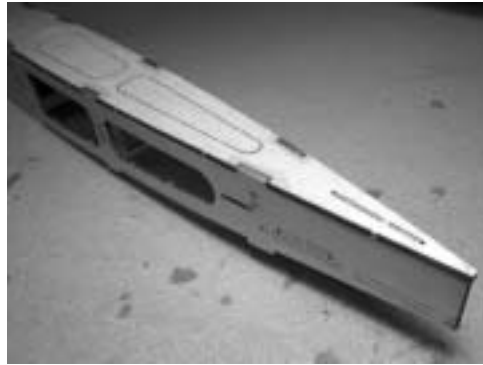
-
- Mark a distance of 1/2" from the end of the tail on the inside surface of the fuselage sides.



-
- Sand chamfers from the marked line to the end of the tail, such that the thickness at the end is 1/16 inch.



-
- Install the remaining bulkheads 4 and 5 as well as the bottom piece of the fuselage tail.



-
- Hold the ends of the fuselage sides firmly together and glue. Glue bulkheads 4 and 5 as well as the tail bottom piece.



-
- Add the support piece for the tail bottom in the bottom corner behind bulkhead 4.



-
- The tabs covering the slots for the horizontal stabilizer can now be removed and the stab mounting plate can be installed in the bottom of the slot. Add the top of the fuselage tail.



-
- Install the firewall (bulkhead 1). At this time the front edge of the notch for the hatch tab in bulkhead 2 can be beveled about 20 degrees. This allows the hatch to install easier.



-
- Install the front piece for the fuselage top.



-
- Assemble the hatch. Align the tabbed piece so that the rear edges of the tab are flush with one of the ends of the hatch cover piece. The inside piece is also centered, left to right on the hatch cover piece.

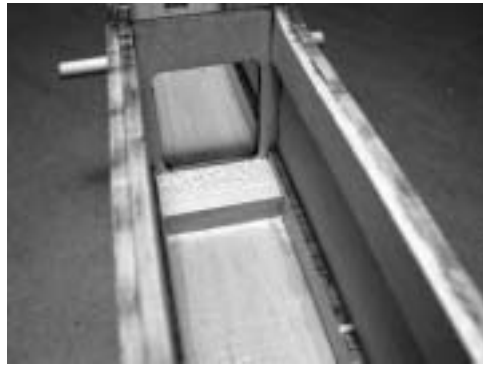


-
- Hatch placed in position. (*Do not glue*)



-
- Install the 3/8" x 3/4" x 1-1/2" hardwood landing gear mount in the bottom of the fuselage behind bulkhead 3. Use Probond or similar wood glue.

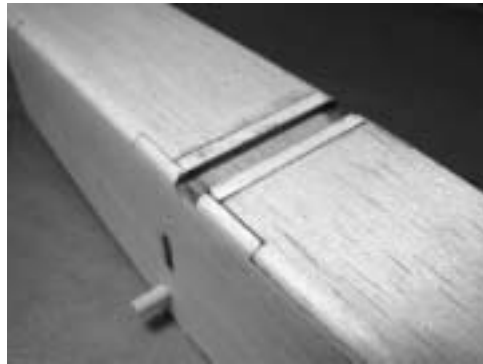
(Note: Some kits contain laser cut plywood pieces that replace the hardwood mount. The holes for mounting the landing gear are pre-cut. Make sure when installing them that the holes are centered in the opening in the fuselage for the landing gear.)



-
- Make sure the outside corners are clean of glue.



-
- Install the two plywood pieces. Use Probond or similar wood glue. Let dry.

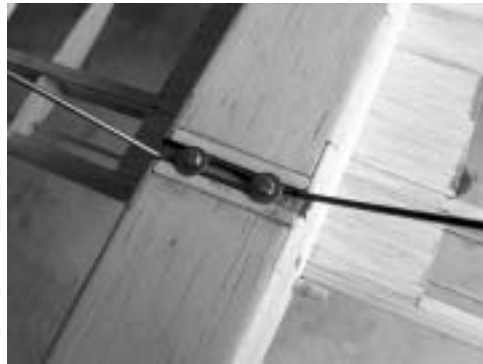


-
- Drill the holes for the landing gear wire in the hardwood mount. The two inner holes are for the mounting screws and the outer holes for the wire landing gear. See plan sheet for hole pattern.

(Note: Holes laser cut in the newer plywood pieces)



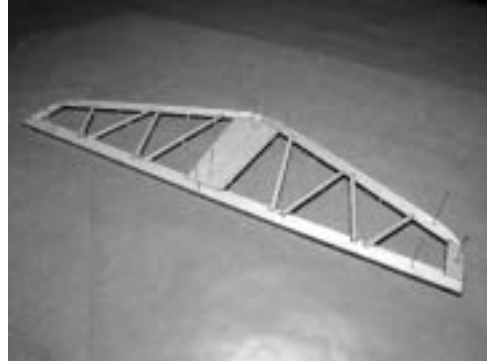
-
- Bend .078" diameter wire into landing gear shapes, see plan sheet. The wire gear are inserted into the holes drilled in the hardwood mount and are fastened with two #4 screws and washers.



NOTE: The motor mount, wing hold down dowels and tailskid are installed after the fuselage has been sanded and covered.

Tail Surface Assembly

- Horizontal stab assembly. Assemble horizontal stab pieces as shown. Cover building board with wax paper to prevent pieces from sticking to board.



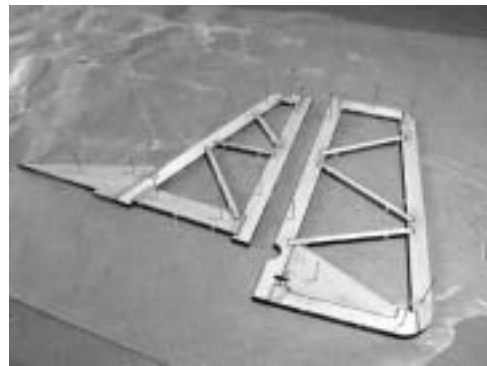
- Assemble elevator pieces as shown.



- Join elevator halves with a 2-1/4" piece of 1/8" diameter hardwood dowel. Bevel the top and bottom corners of the elevator along front surface, or hinge line. Using a X-acto knife make slots in the center of the front surface for the hinges to fit in. Mirror these on the back surface of the horizontal stabilizer.



- Assemble vertical stabilizer and rudder pieces as shown. Bevel the left and right corners of the rudder along front surface, or hinge line. Using a X-acto knife make slots in the center of the front surface for the hinges to fit in. Mirror these on the back surface of the vertical stabilizer and back edge of the fuselage.



- Completed tail assemblies.



NOTE: The horizontal and vertical stabilizers are installed after the fuselage has been sanded and covered. If you prefer you can install them before you cover the fuselage.

Wing Assembly

Build wing on a clean flat surface. The following assembly procedure is designed for the use of thin Cyanoacrylate glue. If you plan to use a different type of glue you may need to alter this procedure.

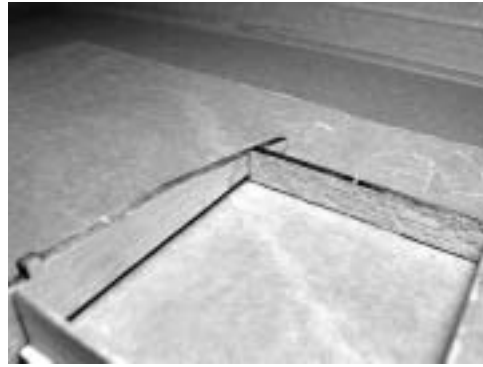
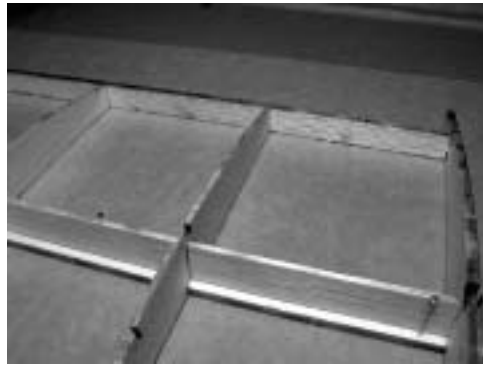
- Note: A large part of the wing is assembled before gluing.
- Pin the 1/8" balsa bottom spar cap to your building board. Make sure it is straight. The bottom spar cap is the longer of the two with a short length that protrudes past the outermost rib (*see next picture*).



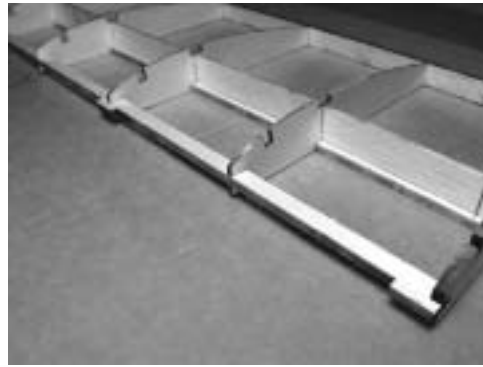
- Place all the wing ribs on the wing spar and then place this assembly on the bottom spar cap.



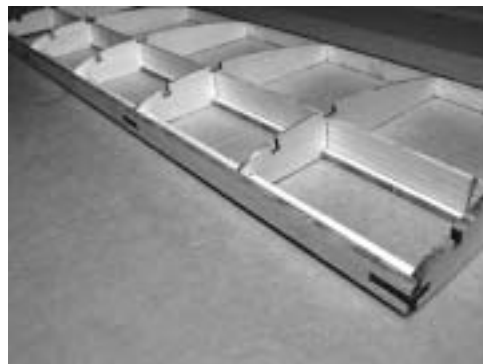
-
- Add the 1/8" balsa trailing edge piece to the tail end of the wing ribs.



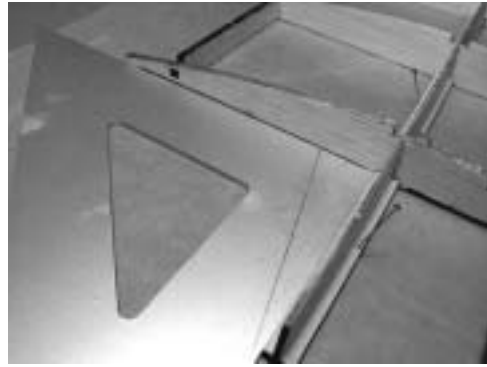
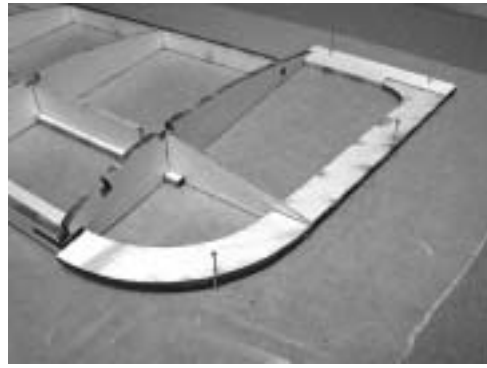
-
- Add the 1/8" balsa leading edge rail.



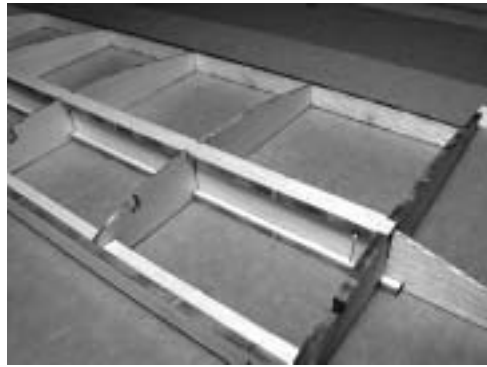
-
- Add the 1/8" balsa back section of the leading edge. One end is angled to allow for the wings dihedral. This end should be located at what will be the center of the wing.



-
- The plywood wing tip and 1/8" balsa trailing edge are now added and pinned in position. Before pinning make sure the ribs are perpendicular to the spar.

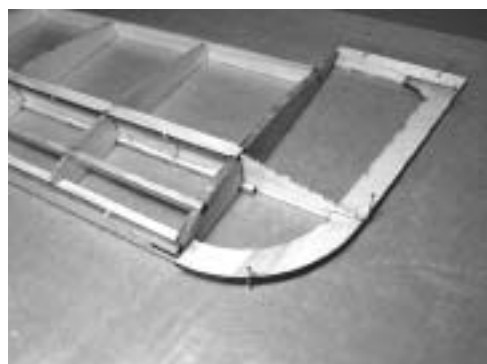
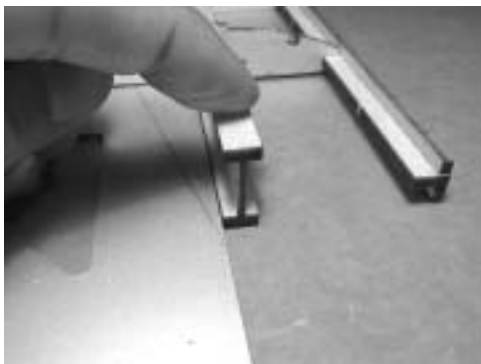
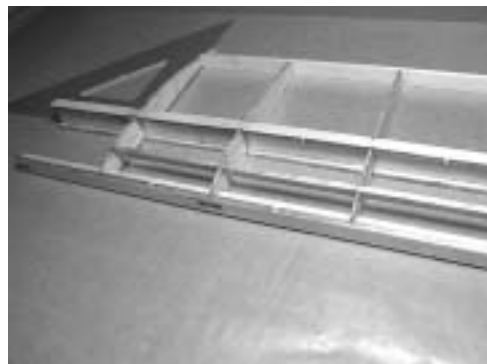


-
- Add the top 1/8" balsa spar cap.

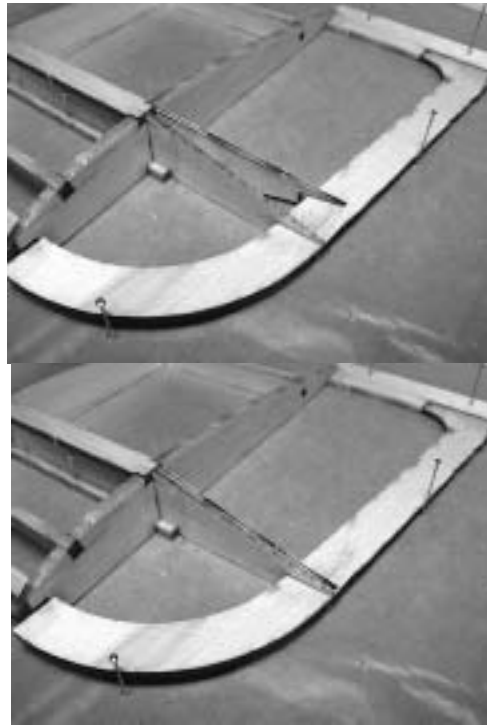


-
- Add the 1/8" balsa stringer.
 - Gluing of the wing panel with thin Cyanoacrylate can now begin. Hold parts firmly together during gluing.

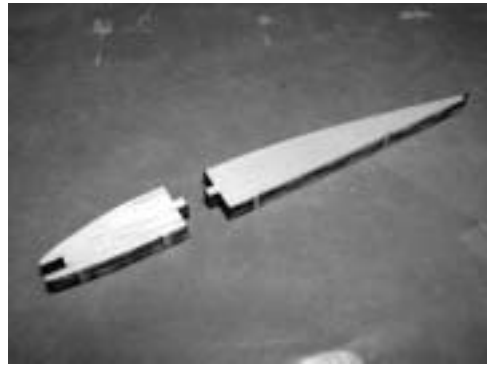
When gluing, make sure the spar is centered with the spar caps at center of the wing end.



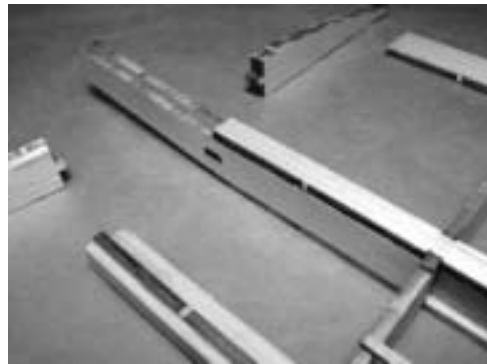
-
- Glue the 1/16" plywood spar doubler at wing tip. Rotate into position along the edge that butts up against the wing rib.



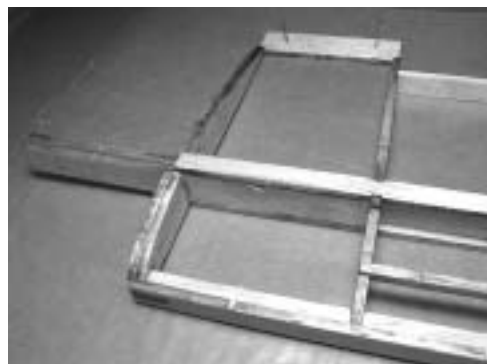
-
- Glue the 2, 1/8" balsa pieces that make up each of the two halves of the center rib.



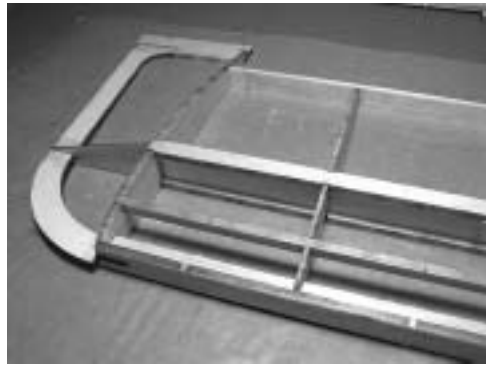
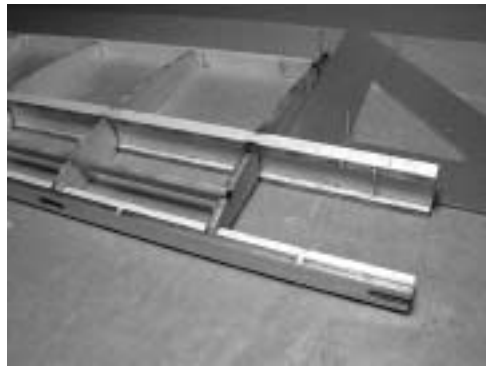
-
- Glue the two 1/8" balsa spar joiners to the wing spar and spar caps.



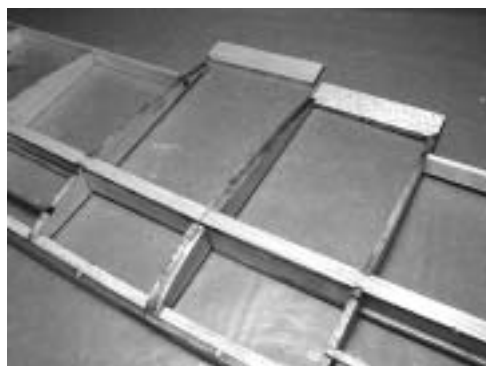
-
- Slide the center rib tabs into the slots on the spar joiners and center the other end with the edge of the wing leading and trailing edges. Glue.



-
- Repeat previous steps for the remaining wing panel.

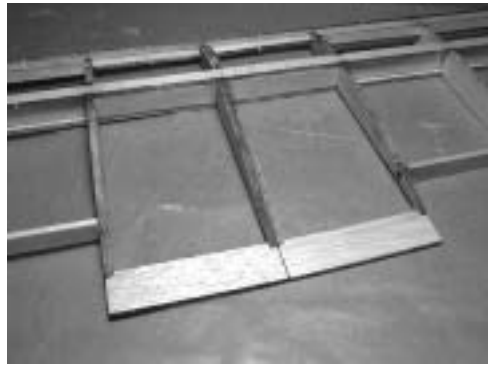


-
- Slide the two wing panels together. Glue the new panel to the spar joiners and leading edges together.

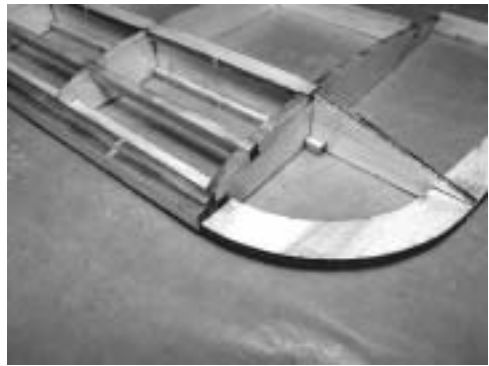
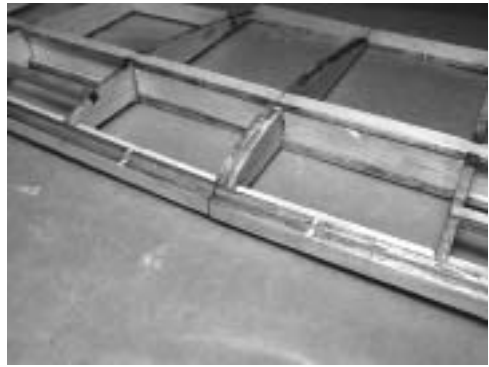


-
- Add the trailing edge piece to the new wing panel. Do this while the panel is held flat on the building board.

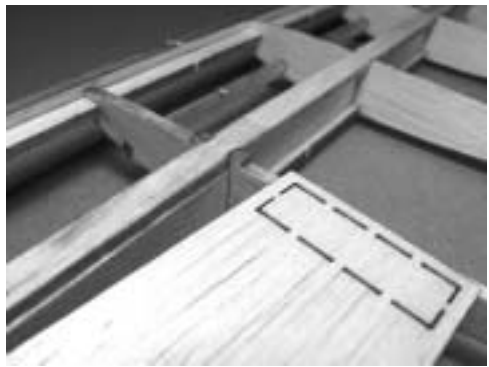


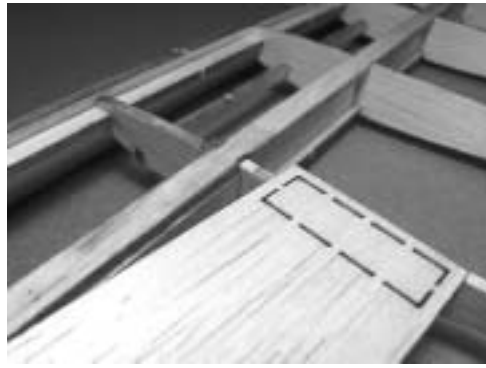


- Using the supplied plywood jig, glue the 1/8" leading edge pieces to both sides of the wing. One end of the leading edge piece is angled slightly to allow for the dihedral at the center joint. Use the jig to position and then tack glue the leading edge every few inches before finish gluing it in position.

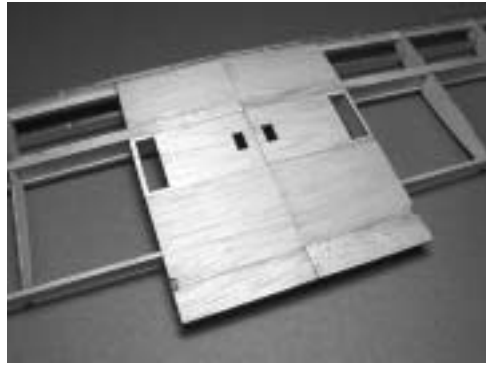


- The assembly tabs on the No. 2 ribs can be partially removed before sheeting is started.

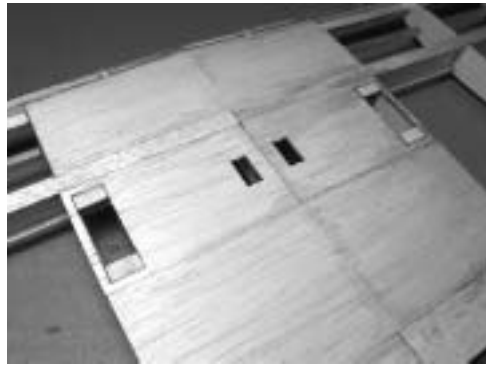




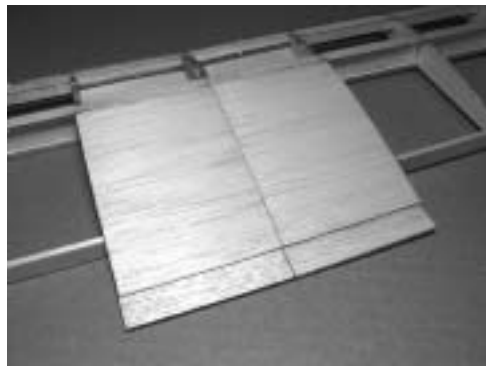
-
- Sheet the bottom surface of the wings center section using 1/16" balsa.



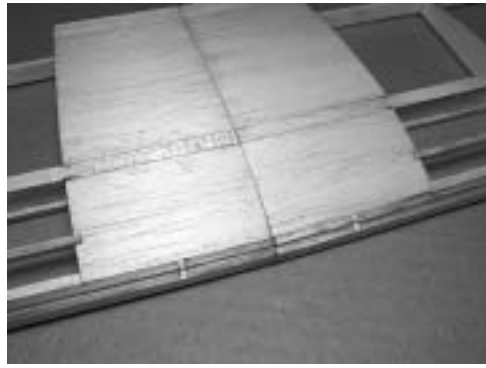
-
- Add the 1/8" plywood mounting tabs to each end of the hole cut for mounting the aileron servos. They should be installed flush with the outside surface of the sheeting. The two smaller holes near the center of the wing are for routing the servo cables to the receiver.



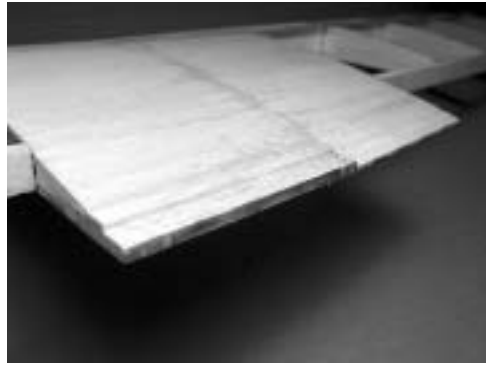
-
- Sheet the top surface of the wings center section using 1/16" balsa. A section of 4" wide balsa sheet will cover most of each half of this rear section nicely. A final strip 9/32" wide glued to the top of the trailing edge will finish this area and allow enough material to properly taper the trailing edge.



-
- Sheet the top surfaces of the wings center section using 1/16" balsa. Notch sheeting for wing stringers.



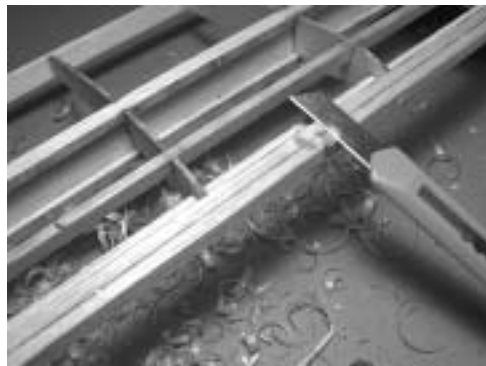
-
- Taper the trail edge to a height of 1/16" along the back edge. Picture shows a finished and unfinished section.



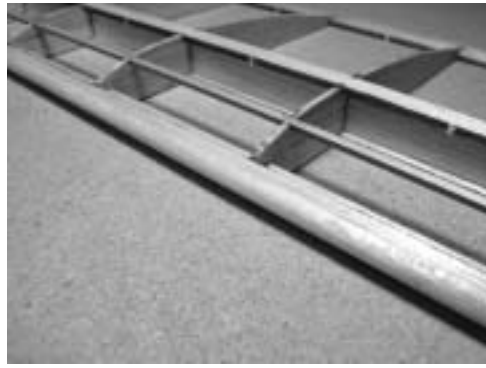
-
- Taper the trailing edge at the wing tip.



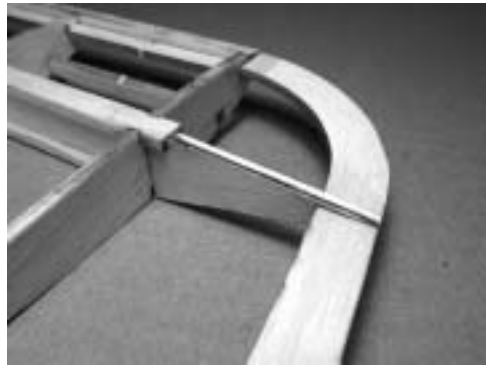
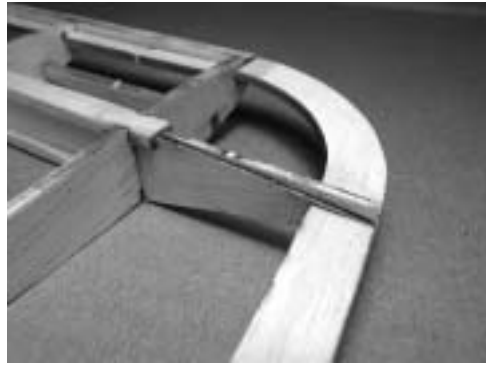
-
- Shape the leading edge. A knife can be used to shape the LE more quickly than sanding alone but care should be taken not to remove too much material.



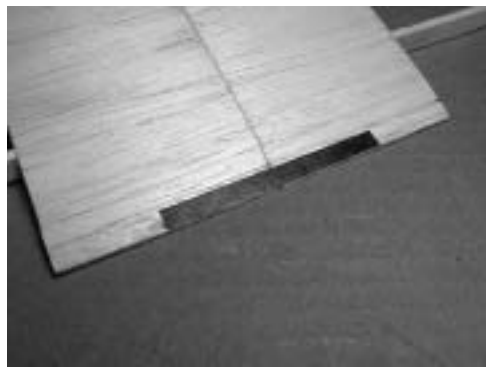
-
- Sand the leading edge to final shape.



-
- Remove the excess balsa used for construction from the bottom of the wing tip.

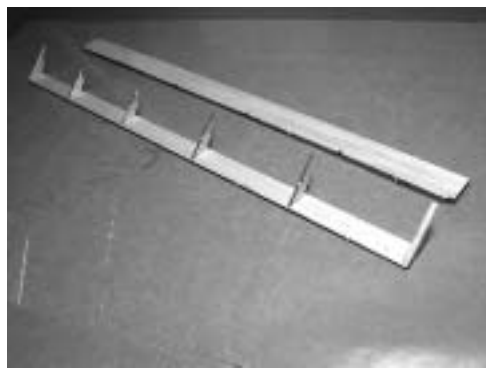


-
- Glue the carbon fiber strip to the **TOP** of the wing centered along the trailing edge.



-
- Aileron Assembly:** Place the aileron leading edge on a flat surface. Position and glue ribs to the leading edge. Make sure the ribs are glued perpendicular to the leading edge. The two 1/8" thick ribs go on either end of the aileron.

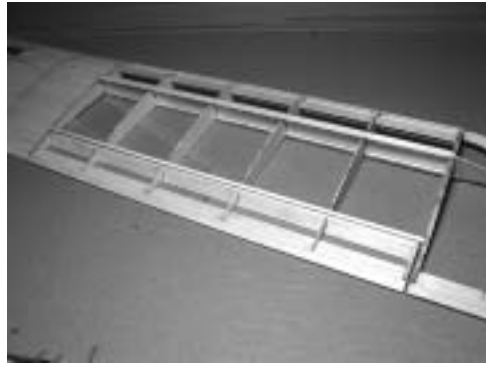
- Glue the trailing edge to the ribs.



-
- Taper the trailing edge of the ailerons to a thickness of 1/16".
 - Sand the top and bottom edges of the aileron leading edge until they follow the contours of the wing profile.



-
- Check aileron fit in wing. Some of the gap at the ends of the aileron is used for mounting the aileron control horns. See final assembly.



Final Assembly

- Sand the entire model in preparation for covering. A smooth balsa surface will yield a smooth finished model. Round the corners of the fuselage with a 1/4" radius.
- Cover fuselage.
- Install the 3/16" wing hold down dowels. Use a 3" length centered on the fuselage.
- Install the tailskid. Remove any covering between the skid and fuselage before gluing. Cover or paint the skid as desired.

-
- Install motor mount. Glue the motor mount to the firewall and bulkhead 2. The rear face of the mount should be flush with the back face of No. 2 bulkhead. The length protruding from the front of the firewall will depend on the motor you will install.



-
- Cover vertical and horizontal stabilizers. On the horizontal stabilizer do not cover the center section that will be covered by the fuselage.
 - Install the two stabilizers on the fuselage. Remove the covering from the fuselage from under the vertical stabilizer.
 - Cover and install the elevator and rudder. Add rudder and elevator control horns.
 - Install elevator and rudder servos and control linkages.
 - Install landing gear.
 - Cover wing and ailerons.
 - Install the aileron control horns.
 - Install ailerons on wing using covering as a hinge. Clear tape or CA hinges may also be used.
 - Install aileron servos and linkages.
 - Install motor.
 - Install remaining radio gear.
 - Wing is attached to the fuselage with 6 rubber bands.
 - Control Throws:** Trim all control surfaces to their neutral position. Set travel to +/-30 degrees on all surfaces.
 - Center of Gravity Location:** The plane should balance between 1-11/16" and 2-1/16" behind the wings leading edge.
 - Happy Flying.



(None aileron wing shown)

