



www.cl-i-max.com



WASP-maX ASSEMBLY INSTRUCTIONS

Version 1.0

(Check web page for updates)

Kit Contents:

- 1 - Plan sheet
- 1 - Instruction Manual
- 2 - 1/8" Laser Cut Balsa Fuselage Sheet #1
- 1 - 1/8" Laser Cut Lite-Ply Sheet #2
- 1 - 1/8" Laser Cut Balsa Sheet #3
- 1 - 1/8" Laser Cut Balsa Sheet #4
- 1 - 1/8" Laser Cut Balsa Sheet #5
- 1 - 1/8" Laser Cut Balsa Sheet #6
- 3 - 1/8" Laser Cut Balsa Sheet #7
- 1 - 1/8" Laser Cut Balsa Sheet #8
- 1 - 1/8" Laser Cut Balsa Sheet #9
- 1 - 1/16" Laser Cut Ply Sheet #10
- 1 - 1/8" Hardwood/Bamboo Dowel
- 1 - 1/16" x 24" Piano Wire
- 1 - 1/32" x 24" Piano Wire

Suggested Radio Gear:

- 4 Channel Transmitter
- 3 - Sub Micro Servos
- 1 - Micro Receiver
- 1 - Micro ESC, 10 Amp.

Other Items Required to Complete the Kit:

- Motor: EPS 300C-CX
- Propeller: 9 x 7
- Batteries: 8 Cell, 700mah Nicad or NiMH
- 2 - Dubro 150MW 1-1/2" Micro Lite Wheels
- 1 - Roll of Solar Film – So-lite
- CA Hinges (plastic strip hinges)
- Double Sided Tape
- Tissue Paper (Optional)
- Model Dope (Optional)

Items Required for Building:

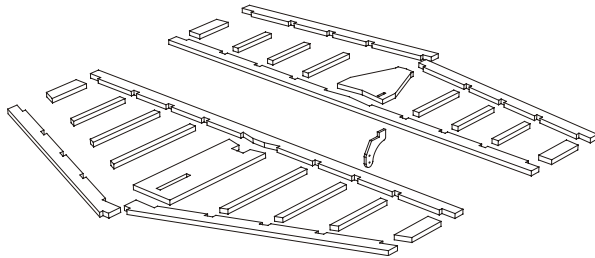
- Thin Cyanoacrylate adhesive
 - White glue
 - Straight Pins
 - Building Board
 - Wax Paper
 - Razor Blade or X-Acto Knife
 - Fine Grit Sand Paper
-

Before Beginning:

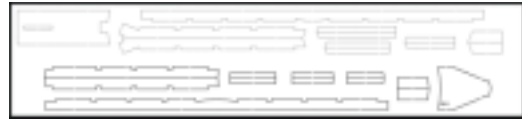
- Before you begin construction please read instructions carefully.
- Always test fit parts before gluing.
- Remove only those parts from carrier sheet that are required for any particular assembly.
- Place plan sheet on building board and cover with wax paper to prevent parts from sticking to it.
- If you plan on building the Wasp-maX without landing gear it is recommended that you use the provided prop saver.
- Build Light.

Tail Surfaces:

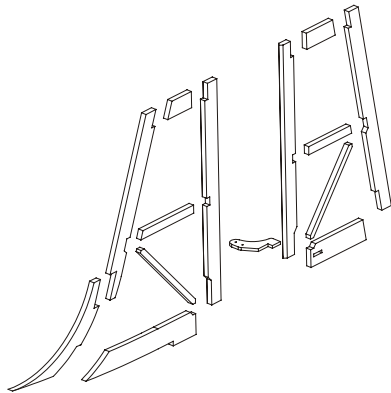
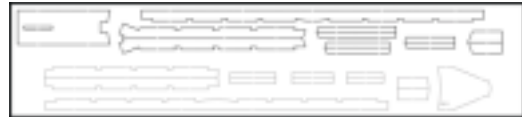
- Build tail surfaces over plans. Remove only those parts needed for each individual assembly at any one time. Check parts for fit before gluing. Do not glue in control horns until after covering.



Elevator Parts, 1/8 Balsa



Horizontal Stab Parts, 1/8 Balsa



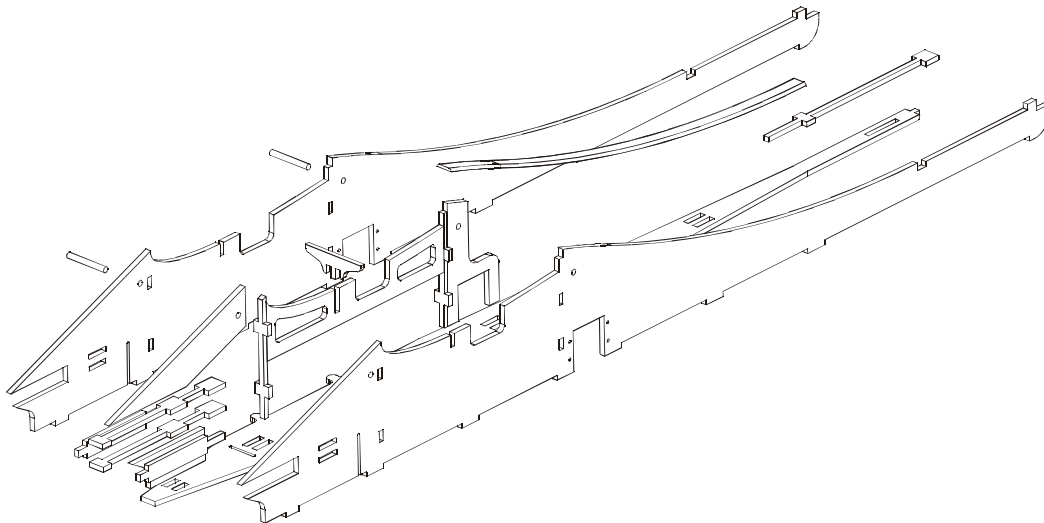
Vertical Stab Parts, 1/8 Balsa



Vertical Stab Parts, 1/8 Balsa



Fuselage:



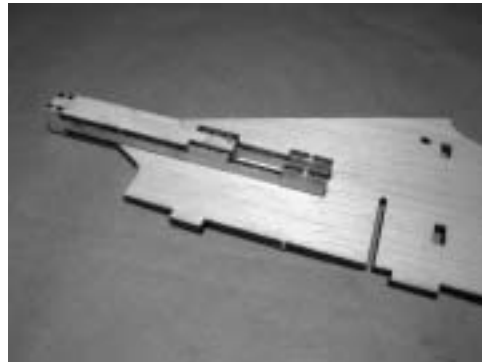
Fuselage Parts, 1/8 Ply



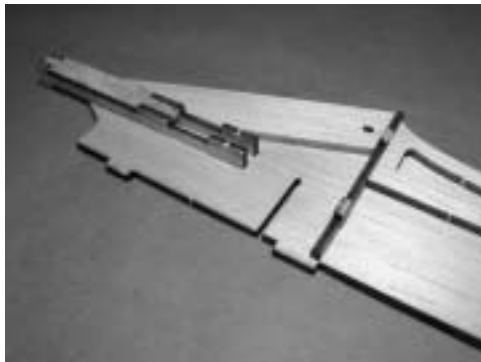
- Start by gluing the 4-piece plywood *Motor Mount* together.



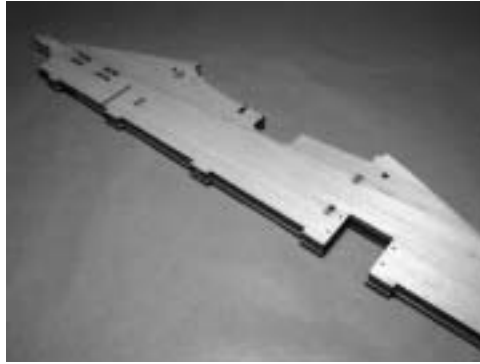
- Lay one of the 1/8" balsa fuselage side pieces on a flat surface and install *Motor Mount*. Glue in place checking that the *Motor Mount* and *Fuselage* side faces are flush.



- Position and glue the top and bottom (bottom support not shown in pictures) *Motor Mount* supports, front and back plywood *Bulkheads*, and *Wing Saddle* support. Make sure the outside edges and *Wing Dowel* holes are lined up.



- Install the remaining Fuselage side. Apply glue to all areas it will come in contact with.



- Install the *Horizontal Stabilizer* mounting plate.

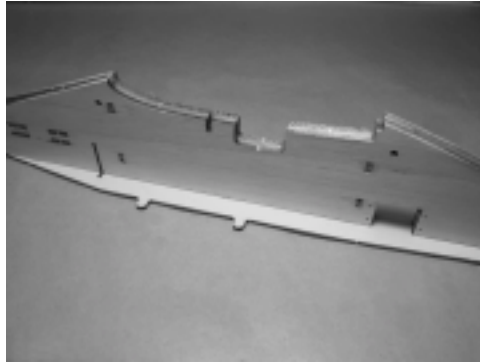


- Sheet the back of the *Fuselage* along the top with 1/16" balsa.



- Depending on how you plan to cover your *Fuselage* you may or may not want to install the *Fuselage Base* and *Wing Dowels* at this time. If you plan on using iron-on plastic covering it would be better to

wait until after covering to install these pieces. If you plan on painting the Fuselage than they can be installed at this time.



- DO NOT GLUE** the *Wing Support Bracket* at this time. For it to be most effective it should be tight against the bottom of the wing when the wing is in position. When the wing is assembled slide the bracket into position and then mount the wing. Slide the bracket, if necessary, up to make contact with the wing and then bond in place.
- Install the plywood *Tail Skid*.

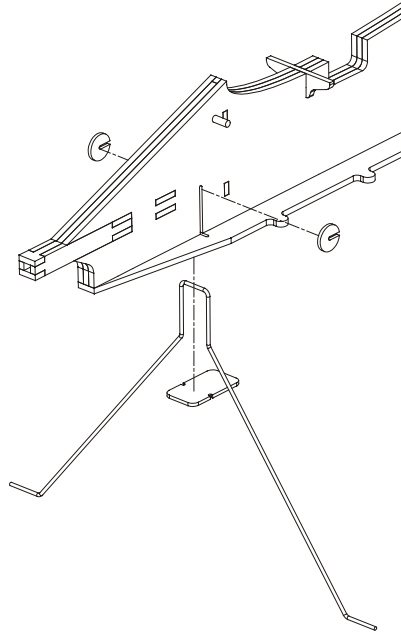


- Sand the front edges and the edges of the sheeted back surface of the Fuselage, giving them an even radius of 1/16 or 1/8 inches.

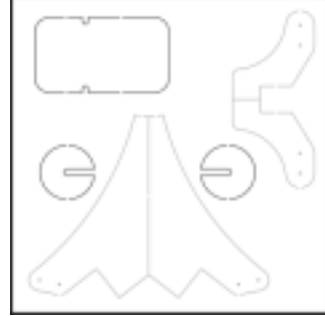


Landing Gear (Optional):

- Insert *Landing Gear Wire* into the slot in the *Fuselage Bottom Plate*. Push it all the way to the top of the vertical slot in the Fuselage. Glue the two *Circular Retainers*, one on either side of the *Fuselage*, capturing the wire. Align the retainers so that the slot is pointing towards the back.

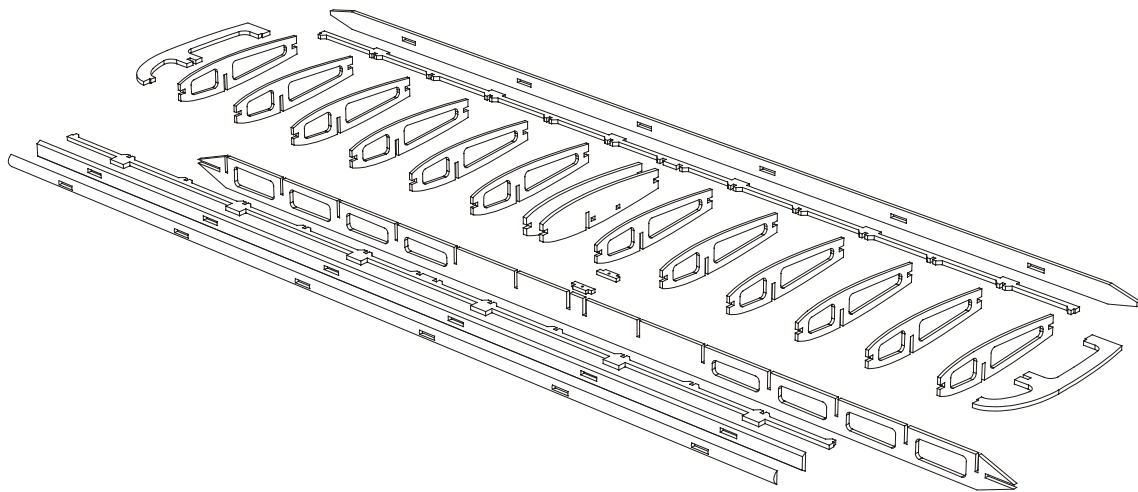


Landing Gear Mounting Parts, 1/16 Ply



- Glue the *Bottom Landing Gear Retainer* to the underside of the *Fuselage Bottom Plate* so that the L.G. wire is in each of the two slots.

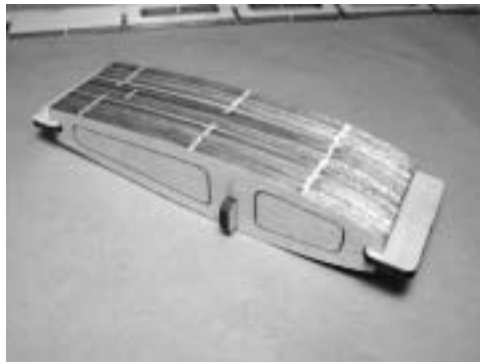
Wing:



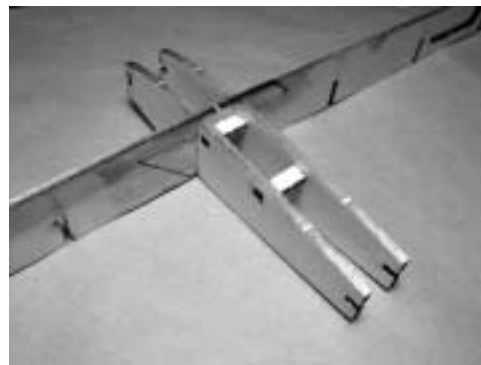
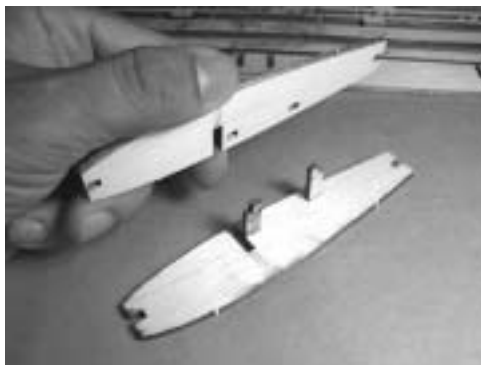
- Start by gluing together the *Main Spar*, *Rear Spar*, *Leading edge Rail*, *Rear Spar Rail* and *front and back Leading Edge Pieces*. Check to make sure that the parts are straight when glued.



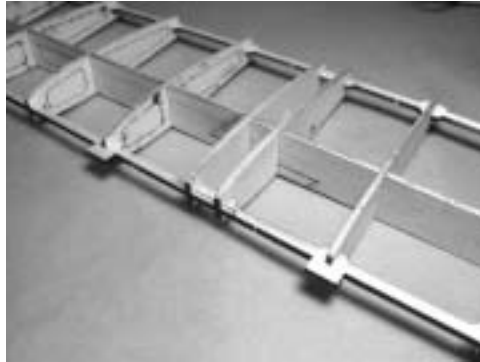
- Prepare *Ribs* for assembly by ganging them together using scrap pieces of 1/8" balsa and sanding them together. This produces a consistent airfoil section along the entire wing.



- Place the *Aileron Servo Mounting Brackets* between the 1/8" *Center Ribs* before sliding them onto the main *Wing Spar*.



- Install all remaining *Ribs* into the rib slots on the *Main Spar*. Do not glue at this time. Insert the *Trailing Edge* and *Leading Edge Rail* into the slots in the *Ribs*.



- Install the *Rear Spar*, *front and back Leading Edge Pieces* and *Wing Tips*.

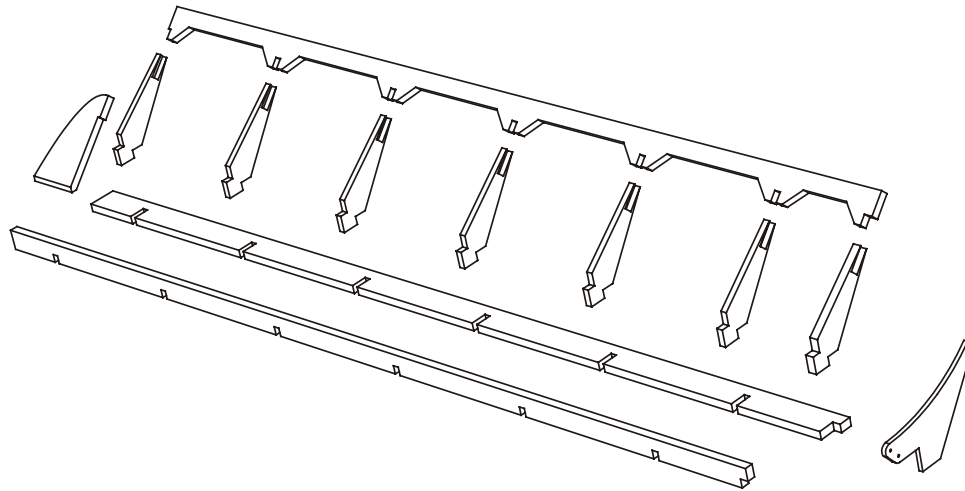


- Making sure everything is square and all joints are well seated. Now glue the wing together with thin Cyanoacrylate. Start with gluing the *Ribs* to the *Main Spar* and work outward from there.
- Sand leading edge. See plan sheet for profile.



- Sand rest of wing in preparation for covering.

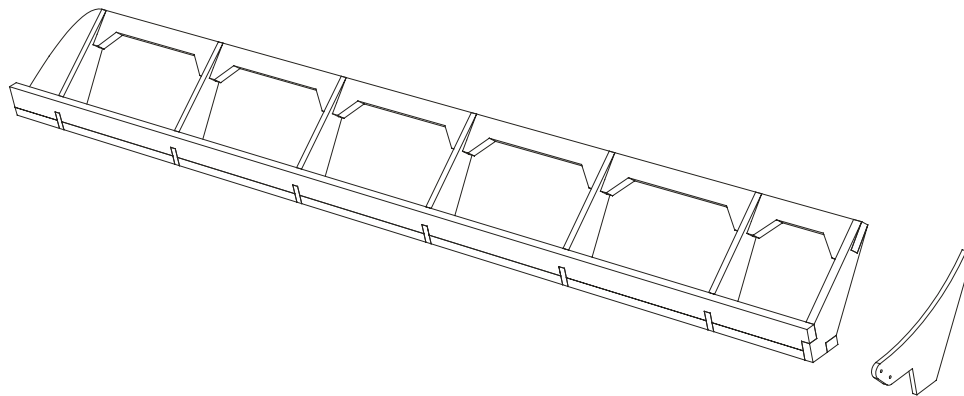
Ailerons:



Aileron Parts, 1/8" Balsa



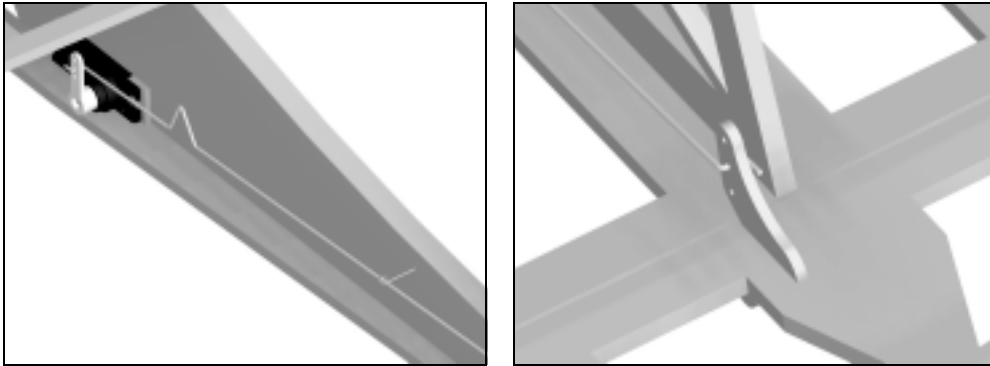
- Assemble the ailerons by first placing the *Ribs* into the *Trailing Edge*. Make sure the 1/8" *Rib* is placed in the correct position on the end of the aileron.
- Place the wider of the two aileron leading edges on a flat surface and insert the *Ribs* into the slots.
- Next slide the other leading edge into position over the tabs of the ribs until it is flush with the first piece of the aileron leading edge.
- While holding each joint firmly together glue with some thin Cyanoacrylate adhesive.
- Install the aileron tip. It will require that both edges of the front face be chamfered until it fits in the corner created by the two leading edge pieces.



- Glue on the plywood control horn after the aileron is covered. Do not cover this end, with the 1/8" rib with covering.
- Sand the protruding edges of the leading edge pieces to follow the shape of the airfoil. Also, sand the leading edge pieces to blend with the tip shape.

Final Assembly:

- Finish any sanding required before covering and painting.
- Cover the *Fuselage (if not painting), Wing, Ailerons, Horizontal Stabilizer, Elevator, Vertical Stabilizer and Rudder*, with preferred covering material. Do not cover the bottom and tab of the *Vertical Stabilizer*, the area on top of the *Horizontal Stabilizer* under the *Vertical Stabilizer* and the area under the *Horizontal Stabilizer* covered by the *Fuselage*. Remove the covering from the bottom of the *Wing* between the 2 middle *Ribs* from the Main spar back to the Rear Spar. Make sure the covering is adhered well to the frame in this area.
- Install *Control Horns*. Remove plastic covering under the *Control horns* for gluing.
- Glue *Vertical Stabilizer* to the *Horizontal Stabilizer*. Remove plastic covering under the *Vertical Stabilizer* for gluing. Make sure the *Vertical Stab* is perpendicular.
- Glue the *Horizontal Stab* and front portion of the *Vertical Stab* to the *Fuselage*.
- Install *Hinges*.
- Seal and paint the fuselage if not covered with plastic film.
- Install *Servos*.
- Bend and install *Elevator pushrod*. Bend a piece of 1/32" wire to form the *Aileron pushrod* brace, see plan sheet. Install by sliding brace onto the pushrod then insert the correct end of the pushrod into the elevator control horn. Insert other end into the elevator servo's control horn while it is removed from the servo. Attach servo control horn to the servo. Position and glue brace. Do the same to the Rudder pushrod.



- Bend and install *aileron pushrods*. Adjust neutral position of the ailerons by expanding or squeezing the "V" shaped bend. The ailerons should be inline with the wing tips.
- Install *Wheels*.
- Install *Motor*.
- Install *Receiver and ESC*. Use double sided tape to mount to the *Fuselage*.
- Install *Batteries*. Position the batteries so that the model balances as shown on the plan sheet. It is recommended that for the first few flights the balance point be on the main wing spar.
- Fly!