JMGLASCRAFT • 30820 MAYFLOWER • ROSEVILLE, MICHIGAN 48066 •

# MICRO SHARK/ ESTRELLITA

This kit can be built as either a Shark or Estrellita with the major difference being the tail shapes.

It can be flown either Indoor (Golf Dome size min.) at about half throttle or Out door in below 10 mph. winds at full throttle. Expect speeds of about 30 mph. for Indoors and 45 mph. Outdoors.

You can fly it with or without landing gear. When flying with landing gear just try to slow it down for the landing on grass.

The battery pack shown is a Sanyo 110 ma nicad 9V style from Hobby Lobby. Expect about two min. plus flights. You cannot use NiMH due to the high amp drain of the 4.8 v motor. However some of the new Lithium polymer will take the $3\frac{1}{2}$ amp draw that the 4.8 v motor draws with the modified prop shown. Flight times will go up along with a reduction in total flying weight.

## FINISH

Fuselage and other fiberglass parts can be sanded smooth with 320 to 400 grit sand paper. Almost any paint may be used with or without primer. I prefer auto laq. in a spray can without primer.

The wing can be covered with Jap tissue and dope or some of the new light weight coverings. Monokote may shrink too much for the wing. If you decide to go with dope and tissue, put the tissue on dry then spray on a half and half solution of water and Isoproyl Alcohol. When dry brush on two coats of dope to seal.

## IMPORTANT

Be sure to get the center of gravity and controlthrows to specs. shown on plans. It takes very little elevator throw and a lot of aileron throw. Shift battery for proper C.G.

Wing

By glueing together (3) sheets of 1/32" x 3"x 12" or (2) sheets of 1/32"x 4"x 12" balsa sheets, which ever is in your kit, you can get the required (4) wing skins.

Trim the edges of the sheets with a #11 Exacto and a straight edge.

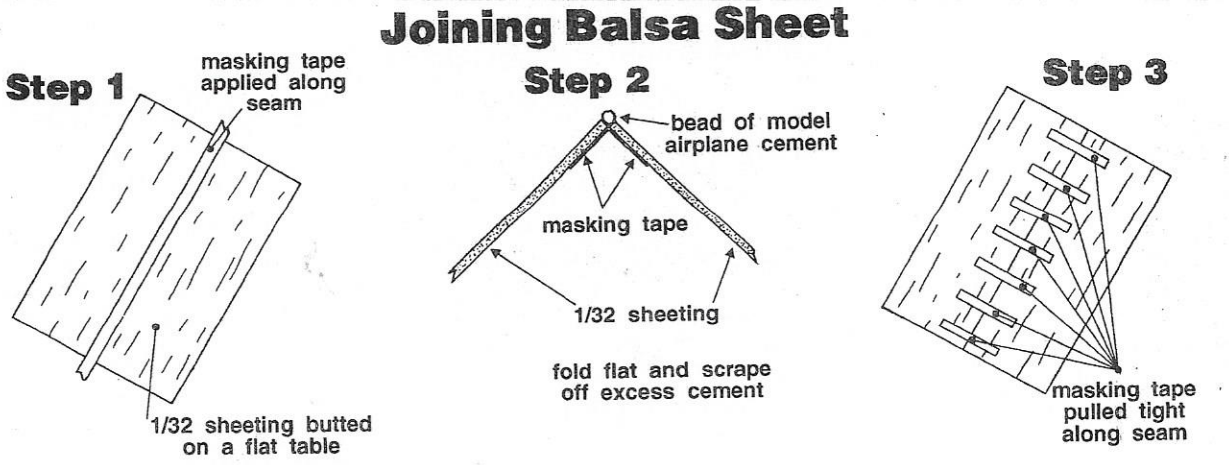
Lay two sheets of balsa together on a clean,flat surface and have a helper press them together firmly. Now run masking tape down the joint lengthwise . Firmly press the tape against the wood to insure good adhesion. See step (1).

Now invert the joined wood and "hinge" the edges apart. This should yield a groove in which you can run a bead of model cement. I prefer Pica Gluit sandable aliphatic glue for all wing construction. See step 2

Once the glue is in the joint, lay the joined sheet, glue seam up, on a flat surface. Some glue will ooze out of the seam. Scrape this excess off with a piece of scrap balsa.

Now pull short (1-2") pieces of masking tape across the glue seam. Pull these pieces of tape fairly tight before placing them on the balsa. The tape will stretch a little and when it's in place across the seam it will tend to pull the glue joint tight. See step (3).

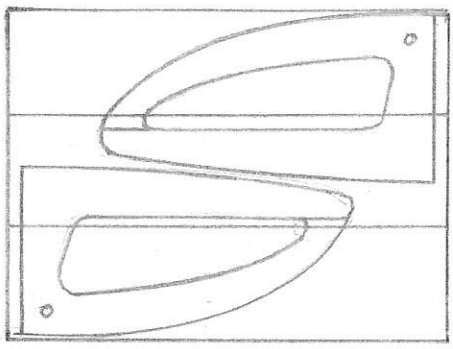
Let the glue dry thoughly and remove the tape carefully.

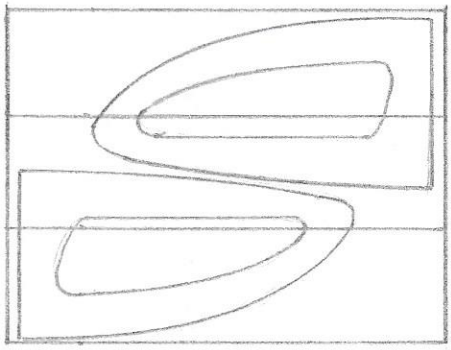



(Special thanks to Bob Hunt and Flying Models Mag. for above text & diagrams)

Cut out the wing top and bottom wing skins using the full size patterns in the kit. Notice that the top and bottom wing skins are a different size. See fig (4) on page 3.

Fig. 4





Cut out the complete rib and aileron doubler squares from the large plans. Using a glue stick or contact cement glue them to the balsa sheets provided in kit.

Cut out all parts. You can leave the paper on it won't add much weight will be stronger.

Lay the bottom wing skins over the left and right wing drawings on the large plan sheet. Hold in place with a few pieces of tape between the ribs. The trailing edge of the sheeting should line up with the trailing edge of the wing on the plans.

Using a felt tip pen (thin) and a straight edge, mark lines A-B and C-D on the wing skins. Also mark all the wing rib lines.

Remove any tape from the leading edge of the wing skins and slide under the 1"x$\frac{1}{4}$x7$\frac{1}{4}$" (T.E. stock). pin in place <u>do not glue</u>, This is just a jig. to help construct the wing.

Glue the 1/16" sq. balsa spar along line A-B, pinning in between the rib locations.

Glue all ribs in place, note that rib 1 is angled slightly inward for dihedral.

Glue in the 1/16" sq balsa in the notches on top of the ribs.

Glue in the W-4 $\frac{1}{4}$"sq.x 7/8" balsa filler blocks near the front center of wing. They support the front hold down screws.

Add the 1/32" balsa sh. sheer webing on either side of the 1/16" sq. balsa wing spars. Note that the wood grain is vertical.

CUT OUT PLAN VIEW OF WING TO SHOW YOU WHERE TO CUT OUT AIL.- BEING CAREFULL WHEN CUTTING THRU NEAR TORQUE RODS

Notch out the rear of ribs 5 and 6 and glue in the 1/8" balsa sh. aileron doubler (W-2).

Notch out the rear of ribs 2, 3, and 4 for the aileron torque rods. Glue the bearings only and the 1/8"balsa supports (W-3s). Take care not to get any glue in bearings.

After everything is dry you can un-pin the wings. and down W-4 and W-2 and the rear W-3 to the tops of the ribs. Take care not to sand into the ribs.

Note that the top wing skins have a hole for the aileron torque rod. Also the cut near the wing tip will help conform the sheeting to the airfoil.

Using a glue gun apply a thin bead of glue to the tops of the ribs (not where cap stripping) , also on main spar, W-2, and along entire trailing edge of sheeting. Do not get any glue in aileron torque rod bearings.

Position the top wing sheeting on wing after returning the wings over the plans. Either pin down the top wing skins or use a combination of pins and weights. This must be done on a flat surface to avoid wing warps.

When dry remove from plans and glue on the laminated leading edge consisting of two 1/16"x$\frac{1}{4}$x10" balsa strips. Tape to wing .

When dry you can carve the leading edge and sand the entire wing halfs to airfoil shape. Do not get too heavy with the sanding you can sand thru the 1/32" sheeting real easily. Also keep a large radius on the leading edge.

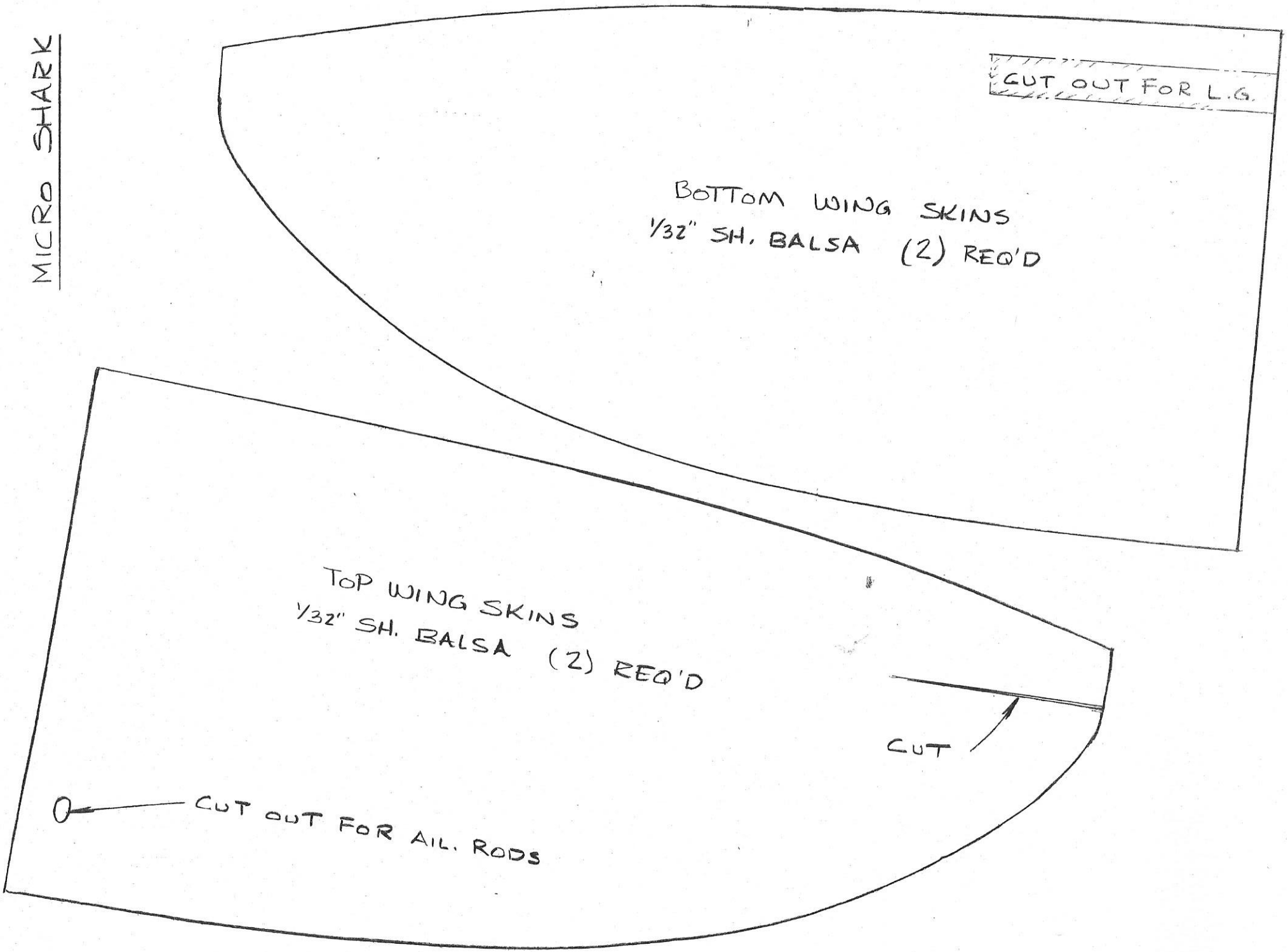
With one wing flat, prop up the other wing to the dihederal dimension shown on plans. You can use the Pica gluit or epoxy along with tape along the bottom of the wing tokeep from gluing the wing to the flat surface. Be sure the wing halfs line up at the center before gluing.

Apply fiberglass cloth with slow dry epoxy to center of wing. Blot off excess epoxy with a sponge.

Glue W-1 in place at rear of wing and drill holes for wing hold down screws. Wing belly pan can be Jet glued in place after wind is covered and finished.

Tape wing on fuselage and drill holes infuselage. Remove wing and epoxy F-3 blocks inside fuselage. when dry drill and tap for 2-56 screws. 4-40 nylon screws may also be used if you can not find 2-56 screws in your area.

MICRO SHARK


CUT OUT FOR L.G.
BOTTOM WING SKINS
1/32" SH. BALSA (2) REQ'D
TOP WING SKINS
1/32" SH. BALSA (2) REQ'D
CUT
CUT OUT FOR AIL. RODS