

747  
1992 Moffett Winner

# FF Bandit

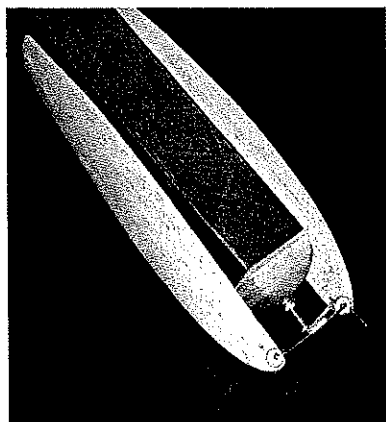
■ Bob Bienenstein

What stories and memories came back to me when I heard and read about the movement to bring back the Moffett event! The history of the event, and some of the modelers who flew it, would make a fascinating story. I am sure the modelers who flew in the 1992 event were as enthusiastic about being part of the continuing history of this event (last flown in 1941) as I was. Thanks to Jim Bennett for all his efforts in bringing it off.

When I started the first Bandit sketches, I considered using gears; however, the complexity of winding and the extra weight looked like it wouldn't pay off, so I decided to go the single-motor route.

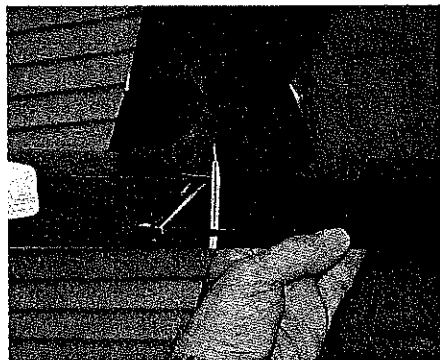
Building the model to the minimum weight of 2.7 oz. requires careful wood selection. The structure has been used by a number of top designers; it yields a light, strong, warp-free model, which is especially helpful when flying in damp conditions. The structure has enough integrity that the flying characteristics will not be affected too much.

A word of caution on plan usage: to keep from going over the allowed area, don't let the wing chord go over 4.2 inches, and the stab should be no bigger than 3 x 16 inches. Plans will vary slightly because of the blueprint



Above: Prop assembly with blades folded. Rubber band added to low blade holds it snugly against the fuselage.

Right: Pylon attaches to fuselage with rubber band.



process. Remember, you only have about 1/2 square inches to play with.

## CONSTRUCTION

Wing rib templates are made from 1/16 plywood with straight pin tips protruding through 1/32 inch. Glue the pin tips with cyanoacrylate (CyA) glue. Note that the diagonal rib is slightly oversize in height. The diagonals will be sanded to size after assembly. The tip-bending template is made from 3/16 plywood and the rudder template is made from 1/8 plywood.

**Wings:** The best way I have found to build a wing using this structure is to make four separate panels, using rib angle templates (shown on the plan) to set the ribs at the proper dihedral angle. Don't forget to place strips of wax paper at all rib intersections.

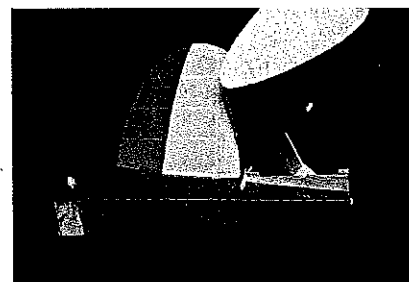
With the leading and trailing edges in place, position a long shim to support the lower spar. Be careful—there is a slight

angle. Check by fitting a rib in place. When all straight ribs are in place (including the dihedral ribs) add the 1/32 shear web and glue in the upper spar.

Fit and glue the diagonal ribs in place. Use a short straightedge for a guide to notch the diagonal ribs for the hard 1/16-square top spar, then glue this in place. Sand the ribs to size with a one-inch-wide sanding block that is at least as long as a wing panel.

Note that the tips have .10 washout built in. Shim the trailing edge to achieve this. The tip leading edge is made up of six strips 1/32 x 1/4 x 13, cut from light, straight-grained wood.

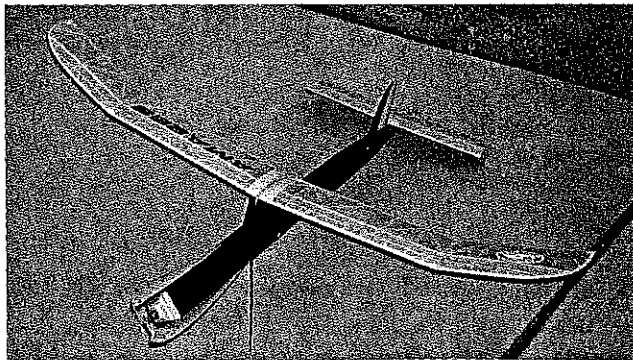
Soak the strips in hot water for about 10 minutes, then strip the water off by running the strip through your fingers. Bend the strips around the form, and secure the ends with tape. I use thinned out Titebond aliphatic-resin glue between the strips. When dry, sand to the tips 3/16 thickness, using the form as a thickness gauge. After the tip is

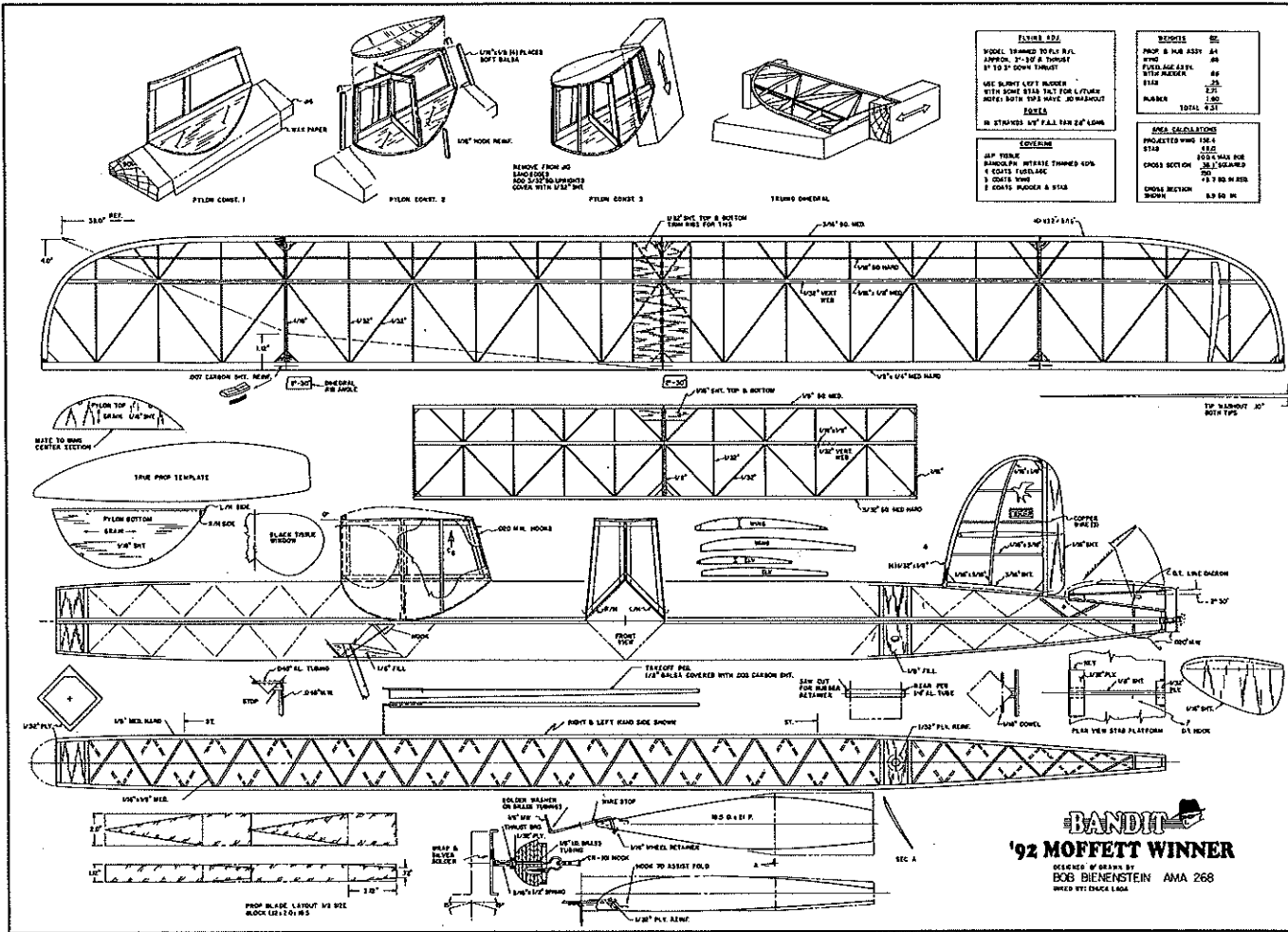


Above: Rear view shows dethermalizer setup, stab end plates, and rear peg/rubber access opening.

Left: The author with Bandit and the Moffett trophy, won at the 1992 US Outdoor Championships, Muncie, IN.

Below: The Bandit at rest. Retractable takeoff peg is clearly visible. Model must stand unassisted on three points.

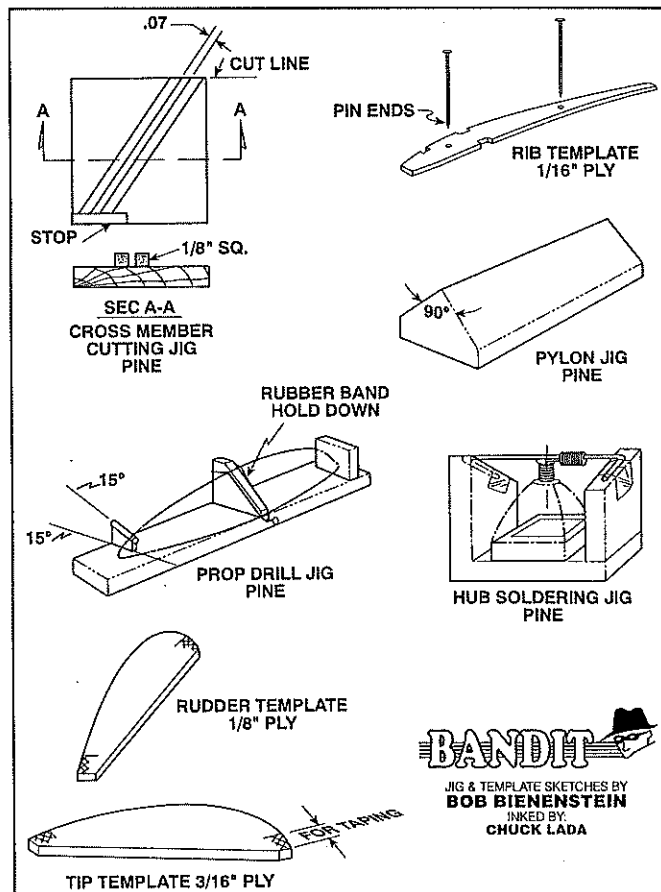




assembled, sand it to shape. Leading edge tapers from 3/16 thickness to 1/8 at the trailing edge. Before gluing the wing sections together, make sure they check to proper height as shown on plan. If not, adjust by block sanding (see sketch on plan).

**Elevator:** The elevator is constructed in a manner similar to that used for the wing.

**Fuselage:** Since the fuselage is symmetrical, you can build two sides on top of each other. I prefer to make a right and left side as shown. Because the sides are straight, it pays to make a



**FF BANDIT**

Type: FF Rubber

Wingspan: 39 1/2 inches

Recommended motor size and type: 18 strands 1/8-inch FAI tan

Expected flying weight: 4.31 ounces

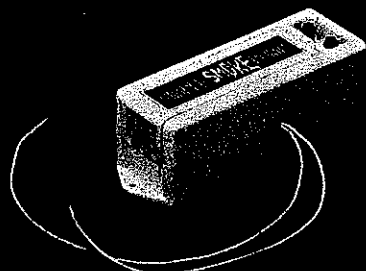
Type of construction: Stick-and-tissue

Type of covering/finish recommended: Japanese tissue and clear nitrate dope

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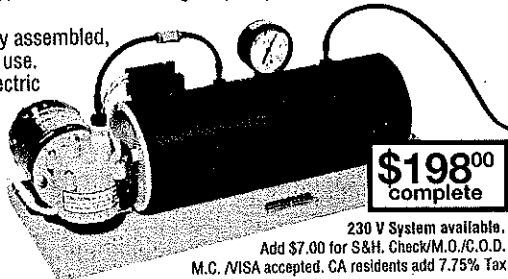
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crossmember-cutting jig.

When both sides are completed, block them up on the plan view, and glue in enough crossbraces so the fuselage stays square. Remove from plan and add the rest of the crossmembers.

**Pylon:** Light wood is recommended here. Otherwise, follow the steps on the plan.

**Prop:** The layout on the plan will give similar grain for both blades. I used a little different technique for this prop: After carving the undercamber, I cut the blade shape and trimmed the prop. I then covered the undercamber with 1/2-ounce glass cloth using Hobby epoxy clear (two-part). Before using the cloth, I gave it a slight misting with clear Krylon to help in handling and cutting of the cloth.

When the blade was dry, I carved the top surface and covered it with 1/2-ounce cloth. The finished blades weighed .10 ounce each.

It's hard to set up this type of prop up without using jigs. I used 1/2 x 2 pine to make my jigs, which can be made in short order with CyA (see jig sketches).

**Covering:** Predope the structure at all areas where the tissue attaches. On the fuselage, I also dope the inside to reduce lube penetration into the structure. With good-quality tissue, the wingtip can be covered in one piece by lightly water-misting the tissue as it is attached to the structure. Have patience!

The wing is finished with two coats of clear nitrate dope; the elevator has two coats; and the fuselage has three coats. I use Randolph dope and thinner.

**Flying:** Check the model for any warps, and remove if necessary. The model should balance from 3/4- to 7/8-inch in front of the trailing edge. Power is 18 strands of 1/8 FAI tan 28 inches long. By the way, make sure the low prop blade is rubberband-loaded to keep it folded against the fuselage.

Start with 3° down and 3° right thrust, slight left rudder tab and stab tilt for left glide. Start with low-power flights and work your way up to full power.

**Remember:** Contests are not really won on the day of the contest—you must practice! Practice! Practice! Good luck! →

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