



## MISS BIKINI

*One of the new  
breed of  
smaller  
pattern aircraft,  
Miss Bikini  
combines eye  
appeal with  
high performance.*

By CHUCK CUNNINGHAM

Miss Bikini is an obvious name for a ship such as this. She is small, cute, and hides a lot of surprises! Or, going to the beach just may replace flying R/C as a summer pastime!

But back to the model. This type of ship is catching on all over the country. More and more modelers are discovering just how much flying ability this size of ship possesses. This is especially true when considered in the light of the new miniature radios. Miss Bikini was designed around the Logictrol III radio, but the fuselage has been designed to accommodate many of the older, larger radio rigs, as well. With a .19 in the nose, this little ship will perform the entire FAI pattern. It can be flown with a .15 for sport and Sunday flying, and if you must have the fastest ship at the field, she will handle a .35. But, stick with a .19 or .23 and you will enjoy it.

Miss Bikini has been designed with conventional landing gear since she just doesn't look right with a trike gear. Now that all of the taxi maneuvers have been eliminated from the pattern, you don't need the ground precision afforded by a tricycle gear. Miss Bikini, at rest on the end of the runway or taxi strip, suggests a home-built sport aircraft or a racing monoplane of the early thirties.

I think that you will enjoy your Bikini; with a sporty paint job, a pilot with a trailing scarf looking through the oil on the windshield, and with the flyability of this ship, you have a definite crowd pleaser.

### CONSTRUCTION

#### Wing:

The original Bikini utilized foam wings, although built-up wings are shown on the plans for those of you who have not yet tried your hand at foam cutting. The airfoil is a symmetric 15% shape, and is the same airfoil as used on the Mai Tai .60 powered ship. This airfoil has proven to be a very good one. If you are building foam wings, you may use any of the standard types of skin; balsa, 1/64" plywood, or, as many of you know, my favorite, cardboard. Use a 1/8" plywood brace at the centersection and then wrap a 4" wide band of fiberglass around the center for strength. If you elect to build the conventional wing, you might want to use the RCM wing jig featured some months back. If you build without the help of a wing jig the following method will give you a strong, warp-free wing.

The spars are full depth units, with

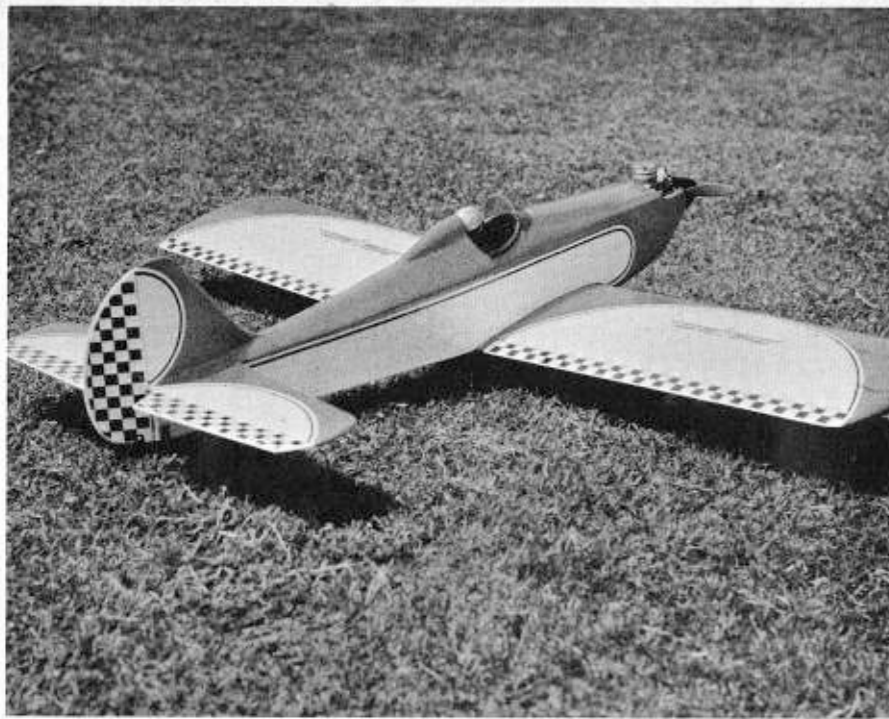
notches cut in them as indicated on the plans. Cut out all of the ribs from 1/16" balsa, and the spars from very hard 1/8" balsa. Use a razor saw to cut the slots in the spars and in the ribs. The leading edge is made from 3/8" x 1" strip but do not sand to shape until the wing has been sheeted. The trailing edge is made from 1/4" x 1/2" balsa, and you must take the time to bevel sand it to shape before it is glued into place on the wing. Draw a line lengthwise down the center of both the leading and trailing edges. Use this line as a point of reference. Slip all of the ribs onto the spars and pin in place. (Do not glue as yet.) Put the main spar in place over the plans. Prop up the rear spar with balsa shims to bring the ribs to the correct height. Pin the leading and trailing edges in place. Check overall alignment and, when it is perfect, glue everything with Titebond. When this is dry, add the top sheeting. When dry, remove from the building board, install the landing gear blocks and the 1/16" plywood ribs and cut a notch for the dihedral brace. Glue on the bottom sheeting and the wing tips. When this is dry, sand the leading edge to shape, keeping the centerline as a reference point for the leading edge curve radius. When both wing halves are complete, glue them together. Be certain they are lined up perfectly. Glue on the hardwood trailing edge block, and then wrap a piece of Celastic or fiberglass, around the center section. Set the wing aside to cure while you build the fuselage and the tail sections.

#### Rudder and Elevator:

These are both made from 3/16" sheet balsa. Select good warp-free pieces. Both are cut out and sanded to shape. When building the elevator, make it all in one piece, install the 3/32" wire yoke and glue in place. Glue a piece of linen over this yoke and the wood to give it extra strength. After all the glue is dry, then cut out the center wedge to achieve the divided elevators. By doing it in this manner, you will not have a twisted flight due to mis-aligned elevators.

#### Fuselage:

This fuselage is very light and strong, and easy to build. Lay out the sides on 3/32" balsa and cut to shape. Glue on the 1/32" ply doublers and all of the rear braces and stringers. Glue in the 1/8" extra wing saddle piece. Be sure that you have made one right and one left side. Mark a centerline on all of the formers. This is a vertical centerline. Mark the location of the



Tatone mount on the firewall, drill all of the holes and install the blind nuts. Mark the location of the formers on the inside of each side piece. Place one side of the fuselage down on the plans and glue the formers to it. Make sure that they are perpendicular to the side, except for the firewall. This should be canted off for side thrust.

When dry, remove from the plan and place upright over the top view. Glue the other side to the formers, making sure that the centerlines, as

marked on the formers, fall over the centerline on the top view. When this has dried, bring the tail together and, again, be sure that the two side pieces meet just over the centerline. Now add in the other formers and crosspieces. When dry, remove from the plans, add the top 1/8" balsa skin, and the rear balsa turtle deck. Sand to shape. Add the extra nose blocks and fair into your spinner. Sand all of this to shape. Glue on the horizontal and vertical stabilizers with epoxy and be sure that



you have installed them with proper alignment. Take the time to double check.

#### Covering and Painting:

The easiest way to finish this model is to paint on the bare wood. If you want to go a bit farther, then cover it with either silkspan, or silk and dope to suit. If you want a durable, but simple finish, paint on two coats of Ditzler Acrylic Enamel primer, thinned with acrylic thinner. Sand between coats. Now spray on the color using Ditzler Acrylic Enamel. Be sure that all of your color coats are sprayed on within 24 hours from the first coat or the "sensitivity" of this paint will give you untold grief after that period of time has elapsed.

#### Flying:

Flying this little bird is a dream. I thought in the beginning that she would not be the type of aircraft on which to learn, but after just a few flights, it suddenly dawned upon me that this ship can fill either bill. She can compete with the best of them, or she is forgiving enough to serve as an intermediate trainer. Miss Bikini was designed to use either a trike landing gear or a conventional two wheel gear. I chose to make the original the two wheel model and I'm glad I did. She taxi's out like a little lady. When you point the nose into the wind and pour on the coal, hold just a slight bit of right rudder, just a little, no more. She will track right down the runway, straight and true. After about fifteen feet her tail will lift off the ground, and in another thirty to fifty feet, you can ease her into the prettiest takeoff that you have seen. Her reaction on landings is just as pretty. You can slow her down and drag her in, tail low, for a three point landing, or come in fast for a touch-and-go, hit high throttle and take off again. She has no tendency to snap roll if the throttle is cracked open for a go-around on an aborted landing. On a touch-and-go landing she will track straight ahead with no ground looping tendencies.

Miss Bikini will execute the AMA/FAI pattern with ease, even the power consuming Top Hat is no problem. She will knife edge very cleanly, with just a touch of top rudder needed to hold the nose up. Reverse spins are also executed with ease. All in all, as you can tell, I'm really pretty high on this little ship. She is the best small aircraft that I have flown, and will make a worthy addition to anyone's hangar.

