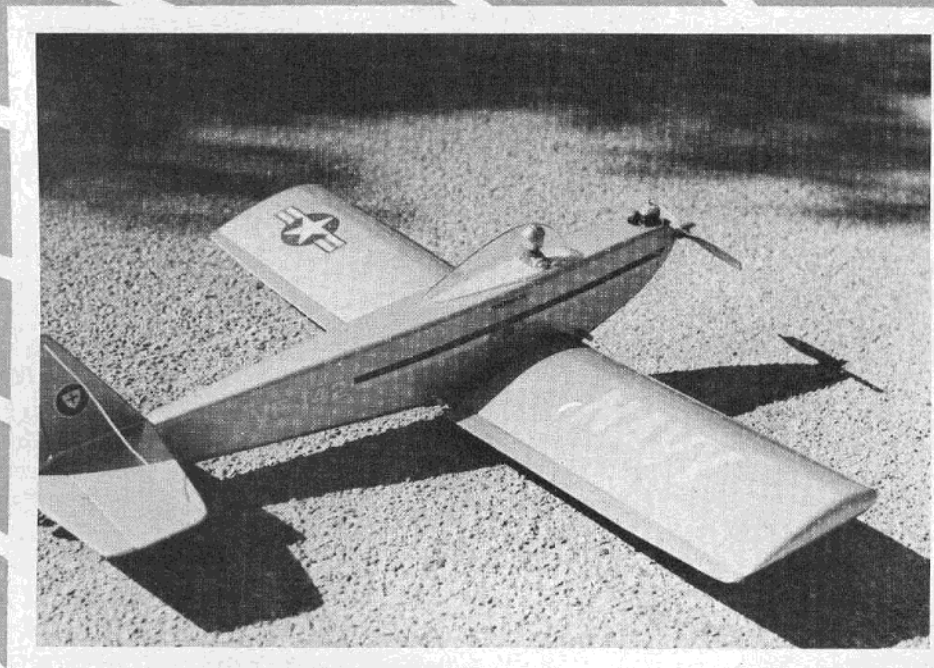
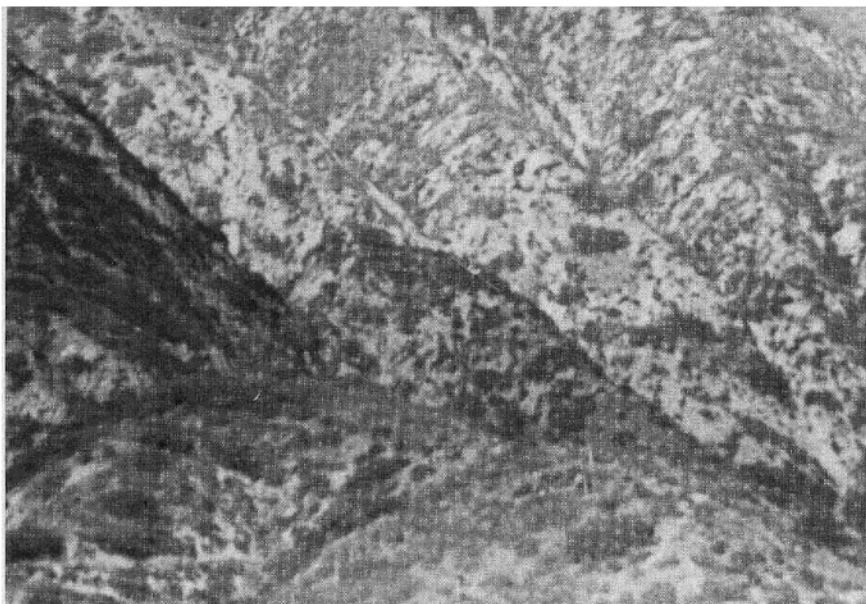


CENTERFIRE

THE WORLD'S SMALLEST
FULL-HOUSE MULTI

BY DON DEWEY





You'll have to look carefully. Almost dead center in the photo, the Centerfire is making a close pass by the Sierra Madre foothills.

Several years ago I became intrigued with the idea of a truly small, full-house low wing multi and began toying with various design ideas. In December of 1968, RCM presented Jan Sakert's "Rimfire," a thirty inch span RC aircraft designed to accommodate the ultra small digital proportional systems that were then currently under research and development by several manufacturers.

With the encouragement of the lightweight digital systems, we experimented with various shoulder and low wing designs attempting to eliminate, insofar as aerodynamically possible, many of the problems associated with the small, lightweight

models. After building and flying the Rimfire, we decided that it would be necessary to eliminate another 6 ounces from the 28 ounce weight of that model, as well as to provide a semi-symmetrical or symmetrical airfoil in place of the flat bottom section used by Jan Sakert. Both of these objectives were accomplished with the Centerfire since its all up weight, ready-to-fly, was 22 ounces, and it employs a semi-symmetrical airfoil section.

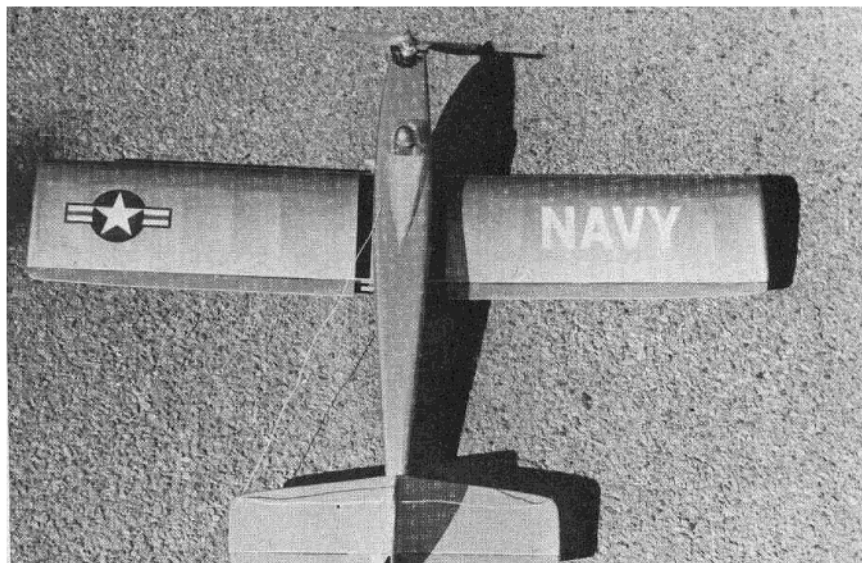
The design is very reminiscent of the Orion with the same type of nose configuration and conventional landing gear. Our design was not intended to be aesthetic, but functional, in order to check out some of our

own particular ideas concerning the smaller model. A semi-symmetrical airfoil section was used with 0-0 settings. The only drawback to our prototype was a slipping throttle ring on the Cox .049. The model, itself, is quite rapid and performs most maneuvers with ease. Its roll rate is extremely fast due to the amount of area used on the strip ailerons and, in fact, handles very much like its larger counterparts. In the air it appears to be much faster than it actually is due to its relatively small size. If you are intrigued by the vest-pocket sized aircraft, this model can be built very quickly and with a minimum of expense, and will be a show stopper at your local field due to its performance capabilities.

Detailed construction notes are simply not necessary in this model and we definitely do not recommend it to the beginner but only to the experienced flyer. We would definitely suggest using a Cox T.D. .051 with, or without, throttle. Although the Cox Medallion will pull the Centerfire through the air at a rather quick pace, vertical maneuvers did suffer from the loss of the slight margin of power the T.D. .049 or .051 can provide. An added advantage to the small lightweight model is its ability to withstand rough treatment—it is very much like throwing a feather against a brick wall—the feather sustains little or no damage due to its own light weight.

The fuselage sides are constructed of 1/16" balsa with 1/16" vertical grain doublers from the nose to the trailing edge of the wing. The firewall is 1/8" ply and the two bulkheads are 1/16" plywood. The top block is a sheet of soft 1/4" balsa while the bottom planking is crossed grained 1/16" balsa sheet. 1/16" plywood is used to sheet the bottom of the fuselage forward of the wing. Tail surfaces are constructed from 1/8" soft sheet. A Tatone short mount for

The Centerfire is covered with silver Super MonoKote and finished off with Finishing Touch Decals to keep weight to a minimum.



the T.D. engines should be used. The fuel tank is a 1 ounce Veco clunk unit.

Wing construction is quite simple since it can be built flat on your work surface due to the semi-symmetrical section. The ribs, top and bottom leading and trailing edge sheeting is 1/16" and the cap strips are 1/16" x 1/4". Spars are 3/16" square balsa with no webbing employed. Although the photographs show an "air scoop" on the bottom of the wing to house the servo for the conventional strip aileron linkage employed on the original prototype, the plans will show the servo laying flat and connecting to the ailerons via bellcranks installed in the wing. This will eliminate the somewhat unsightly air scoop and subsequently, cut down on the amount of drag it produced. The trunion blocks for the landing gear are made up from 1/4" x 3/8" spruce or pine with 3/32" music wire gear legs. Wheels are Perfect 1-1/4" units. A steerable tail wheel is employed which is fastened directly to the rudder.

The entire aircraft was covered with Super Solarfilm (available from Technisales) in order to provide maximum strength and appearance at the lightest possible weight. The prototype was finished in silver with red and white striping and touched off with Finishing Touch decals. Any small canopy can be used to complete the model.

We strongly recommend the use of Cox Racing Fuel and the prop best suited for your particular engine. Start with a Cox grey 6/4 and experiment with the different types of propellers until you find the proper combination for your finished aircraft. Keep all control surface throws to a minimum until you have thoroughly trimmed out the model since the slightest error in initial setup will show up drastically on the first trim flights due to the small size of the

model. Even with minimum aileron throw you will find that you will have a roll rate exceeding 1 per second! We hope you enjoy the Centerfire as much as we did and invite you to pass on photographs and comments of your version to RCM. □

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