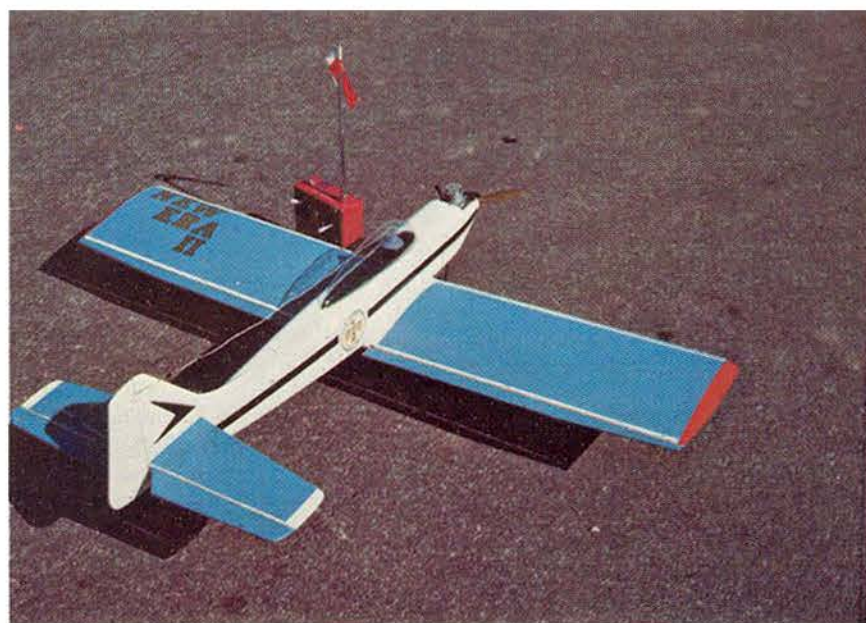
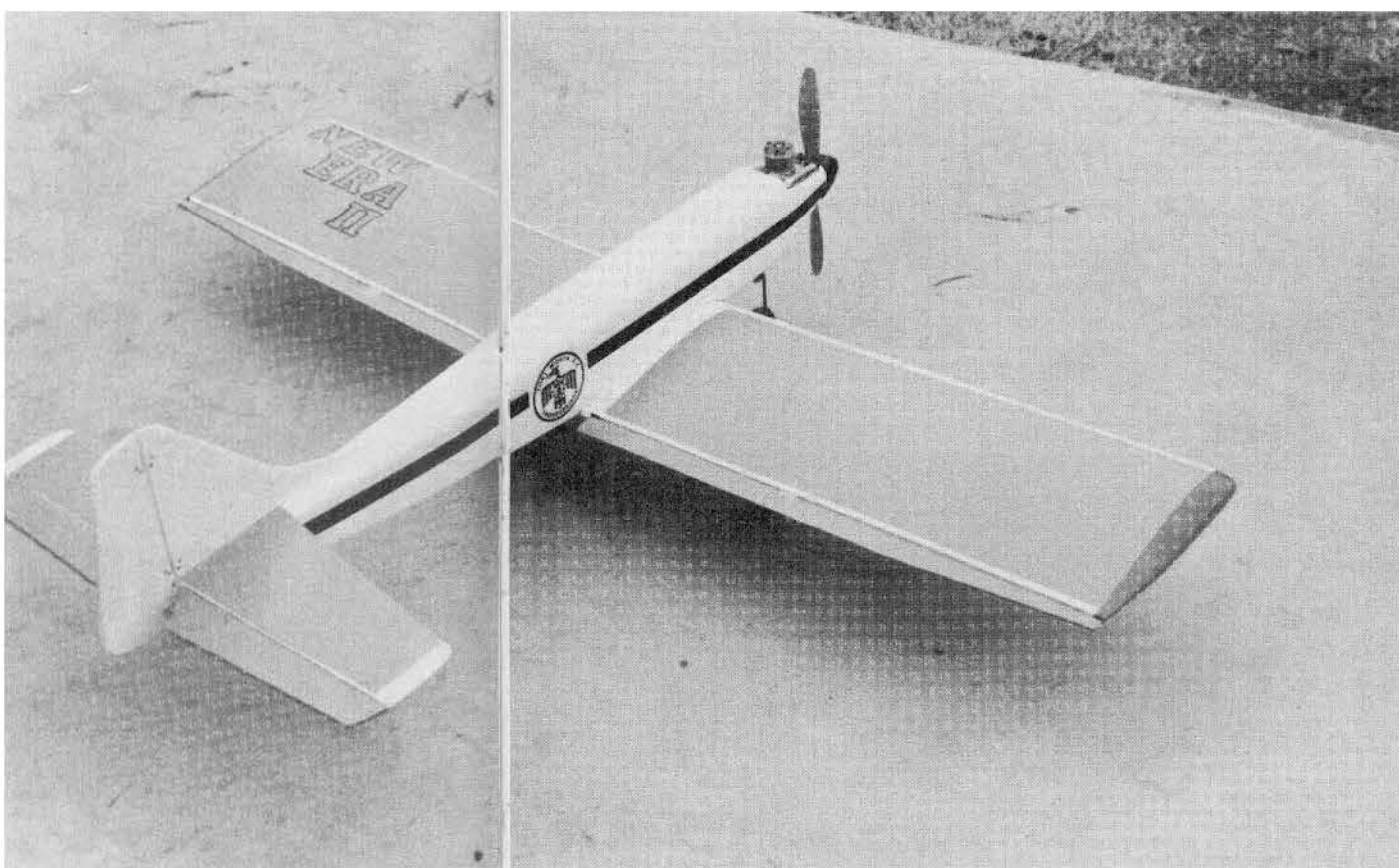
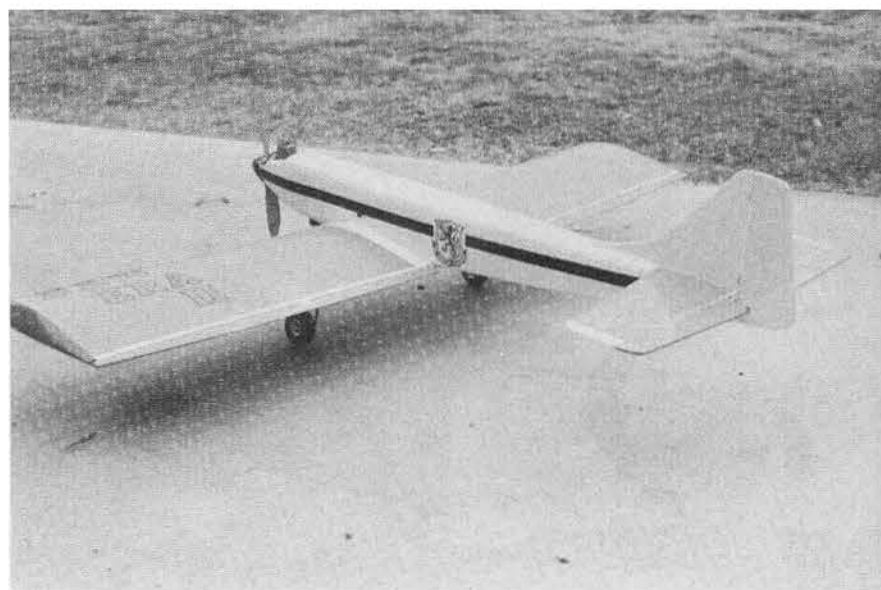


# NEW ERA II

by Chuck Cunningham & Don Dewey



The Dynamic Duo strike again with a .40 sized version of their famous New Era, complete with a five foot, \$2.00 finish.



The New Era I has proven to be a fantastically successful aircraft. A great number of them have been built and flown around the country. In fact, probably more New Eras have been built than almost any other aircraft from a magazine plan. It seemed natural to us, then, that we should pursue the New Era and develop another aircraft that might gain your acceptance as well as the New Era I.

The New Era II is the result. It is an exact replica of the New Era I, but scaled up to a larger size to satisfy the urge for a little larger aircraft. The II can be flown marginally with .19 size engines, but it can also take a .45. The wing area is 546 square inches, and the all-up weight should be between four and five-and-one-half pounds. There is no doubt that some of you builders will want to put a .60 in the nose, and this can be done, as the nose of the New Era II was made large enough to take almost any size engine. If you are going to use a smaller engine, then use a spacer behind the engine mount, as shown on the plans, or move the firewall forward. Keep the prop in the same location as shown on the plans and adjust the location of the firewall to suit your engine size and type of engine mount. The structure of the New Era II is strong enough to take

any size engine, and almost any G-load that you impose upon it. The original prototype was designed around the fabulous OS Max .40 racing engine. This engine really has lots of power. While it may not have quite the top end that the K & B .40 has for all-out racing, it has lots of power and the ability to swing a large or small prop. In addition, it can be idled down to tick over with the best of them. Uncle Don told me about his lugging a 6.5 lb. shoulder wing Vics Custom Trainer around the sky with speed and ease, so we decided to use this engine in the New Era II. The combination is terrific.

The New Era II is very simple to build and the entire structure can be fabricated in one evening. The plans show a foam wing for the New Era II and this was what was used on the original. You can build a built-up wing if you desire by following the same type of construction that was employed in the New Era I wing. Either way, the wing is simple and doesn't take very much wood.

In keeping with the theme of the New Era, several new ideas were tried out on this model. My close friend, Helmer Johnson, and I have kidded each other for years on the way that we finish our aircraft. They will never

win a beauty prize. I believe in finishing fast, light, and economically. Helmer tries to take his time and do a good job. Something always happens to each of us and the finished product comes out looking a little less than the best, (to say the least). Helmer has coined a phrase to describe our aircraft. If it is a really good looking ship, its a "five footer." Meaning, it looks good from five feet away. Once he told Don that I had a "ten-foot Kwik Fli" and Dewey almost choked on his cigarette thinking about a ten foot span Kwik Fli! The Original New Era II has about a five foot finish; it might be a ten-footer in the bright sunlight, but certainly not a fifteen or twenty foot dog. The finish was accomplished in one evening and it cost about two dollars or less. Interested? Well, read through the construction information, and way down at the end, we'll tell you how to get a five foot finish for a couple of bucks.

## FUSELAGE

The fuselage is simple with no frills, and by using Devcon 5-Minute Epoxy, can be completed before you finish reading this article. The sides are 3/16" medium hard sheet, 3" x 36" with extra pieces spliced on to give a little deeper fuselage. Cut out each side, and mark the location of the bulkheads. As usual, make sure that you have marked a right and left hand side. Next, glue the top and bottom longerons in place. Cut out the bulkheads and the firewall. Draw a line down the center of each bulkhead with a soft pencil. Take a piece of medium soft 1/4" balsa sheet, 4" x 36" for the top block and mark a center line down it. Then draw lines perpendicular to the center line for the bulkhead locations. Pin the top block down on your building board, and glue the bulkheads in place with Devcon 5-Minute Epoxy. Before you glue the firewall in place drill all of the holes to mount the Tatone engine mount, and the nose gear mounting blocks. Remember, we are building this fuselage upside down, so when you glue the bulkheads to the top block, be sure that they are glued on upside down.

When the bulkheads are dry, and be sure that the centerline on the bulkheads lines up with the centerline on the top block, glue both sides to the top and to the three bulkheads. Do not glue it at the rear of the fuselage. When the front is dry, bring the tail ends of the side pieces together and glue the sides to the top, and the side

pieces to each other with Devcon 5-Minute Epoxy. Be sure, by sighting along the center line thru the tail joint, that the fuselage is true. Next, glue on the bottom sheeting and the front blocks. When dry, remove from the building board, glue on the rest of the nose blocks and the plywood spinner ring. Sand to shape. While the fuselage is drying, cut the empennage from 1/4" sheet balsa and sand to airfoil shape. When the fuselage has been sanded, glue the tail pieces to the fuselage again with Devcon 5-Minute

Epoxy. Check the alignment with a drafting triangle, and make sure that everything is square before gluing. The entire fuselage is then ready for final sanding and finishing.

#### **WING**

As we mentioned earlier, the wing can be made from foam, or by conventional built-up balsa construction. The original New Era wing was covered with cardboard and laminated to the foam with 3M77 spray adhesive. This can be done in less than five minutes. Trim the covering to shape. Prop up each panel to the correct dihedral and sand this angle into the center section. Join the halves together with a 1/8" plywood dihedral brace, then glue the halves to each other with Devcon 5-Minute Epoxy. When this is dry, wrap a band of fiberglass tape around the center section and epoxy in place. I use epoxy purchased from Montgomery Wards, but you can use any type Epoxy resin. Some dry quicker than others, but for best results, let it dry overnight. Carve the tip blocks from soft balsa wood, and glue in place with Devcon 5-Minute Epoxy. When the wing section is dry, sand off the tip blocks, and smooth out the center section. Set this aside for finishing.

Shape the control surfaces from 1/4" sheet for the rudder and elevator and 1/4" x 1" trailing edge stock for the ailerons. Use Rand torque tubes and coat hanger wire for the aileron control horns.

#### **FINISHING**

If you have read this far, then you must be interested in the simple finishing method. For the fuselage and tail sections, brush on three thin coats of automobile primer. Use either DuPont or Ditzler Acrylic enamel primer. This must be thinned out quite a bit. (A brush coat dries in about five minutes.) Sand between each coat. Then use Ditzler Acrylic Enamel automobile paint for the finish coat. This

can be purchased for four bucks a quart, and a quart lasts forever. Brush on three coats, one right after the other, each will dry in ten minutes or less, and then set it aside, its done. The wing is even quicker. Go to the corner hardware store and purchase some Contac shelf paper. (It's really a vinyl material, not paper). You can buy solid colors, wood grains, flower patterns or almost anything. The wing on the original was covered with white on the bottom and blue on the top. It's easy to cover with the paper, just take your time and work out the bubbles. If you botch it up, strip off the covering and try again. A piece 18" wide and 36" long only costs 49 cents. Seal the edges with clear Hobby epoxy, or Glidden polyurethane. Trim the fuselage and the wing with 3M colored plastic tape, hinge the control surfaces with EK hinges, or any type that you prefer. Install your radio equipment, bolt the engine in place, and you're ready to go flying. If you try, you can build this little bird in less than a week, and for a total cost that is substantially less than most multi aircraft. Of course, you can cover it all with silk, and put on your favorite dope finish if you so desire. Remember, no matter what aircraft you build, the lighter you keep it, the better it will fly.

#### **FLYING**

Flying this aircraft is a snap. It is quick, light on its wings, and fun to fly. It will perform with the best of them, and give you many hours of solid enjoyment. If you enjoyed the New Era I, I know that you will like the New Era II. And if you really want to turn on, put a .60 in the nose, and hang onto the transmitter for the thrill of your life!