

FOR PHENOMENAL PERFORMANCE
YOU WON'T BELIEVE UNTIL
YOU FLY IT, HERE'S YOUR
INTRODUCTION
TO THE

NEW ERA



Don Dewey & Chuck Cunningham

excellent trainer for the pilot who has competent instruction, or who has adequate proportional flying under his belt and wants to become experienced and proficient with a low wing ship. You might ask why the New Era fits the bill for these particular requirements. The answer is simply because it is small, easy and economical to build, flies for 10 minutes on a 4 ounce tank of fuel, is virtually indestructible, requires only a modest investment in the engine and yet is designed just like its larger brothers. It has the full capability and potential to do the complete FAI pattern, including knife edge flight, eight point rolls, Top Hat and so on. It is also an excellent trainer for the New Quarter Midget class, since it has a big wing area and a higher drag wing section. The only requirement that differs from the larger competition aircraft is that it needs one of the new, small radio systems. This design has been thoroughly field tested, and has demonstrated its capability of competing on an equal footing with the larger competition ships.

The first prototype of the New Era



The New Era was designed almost two years ago in anticipation of the miniaturized digital proportional systems. At that time, however, these systems had not yet been introduced by our industry and thus this particular design was shelved for several months. The introduction of the Bonner 4RS system heralded the advent of the light-weight proportional era. We then went back to work on the first prototype of this design. A joint effort between the two authors, the New Era was shuttled back and forth between California and Texas. Modifications were made to the original design concept in order that the aircraft would be capable of performing the entire stunt pattern. More recently, certain changes were incorporated in this design so that the craft would do the entire FAI competition pattern. As design changes became necessary, they were tried and tested, then incorporated into the final design as presented here.

The New Era is an ideal small field aircraft for the sport flier as well. A great deal of the flying with the several prototypes has been done from a large vacant lot in Texas, bordered by power lines, a railroad track and a busy street on one side, a 140 unit apartment on another, a freeway on the third side and at least for the time being, another vacant lot on the fourth. This flying site has since fallen to the carpenter's hammer and additional flight testing was done from somewhat more conventional fields. The California prototypes were flown from the latter type of airstrip, as well as from the rough terrain of The Hill.

This aircraft can make sport flying a lot of fun and is a good change of pace for the experienced multi pilot. We really don't feel that this is in any way a good ship for the beginner with no proportional experience, but it is an was outfitted with E. K. Products new Logictrol III. This rig fits into the limited interior of the aircraft with very little room to spare. You do have to mount the servos and the receiver in the conventional manner and cannot use the new KEK servo mounting tray. The completed aircraft, ready to fly, weighs in at 3¼ pounds. For the sport flyer, a .15 size engine for this little bird. For the competition flyer who

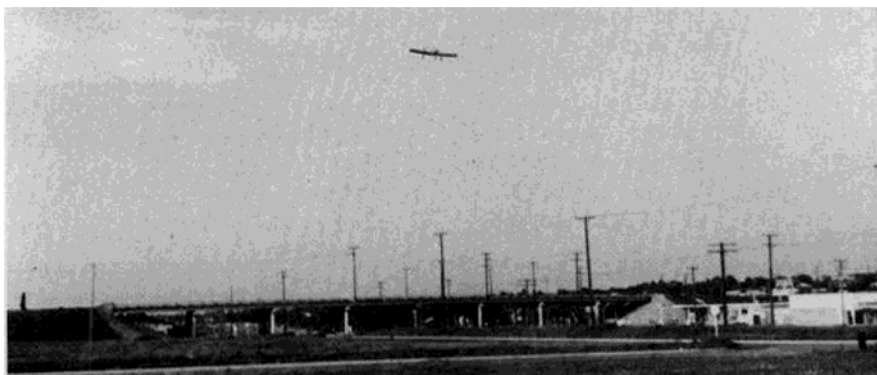
needs a maximum in performance, a .19 engine is definitely recommended. In testing its sport flying capabilities and with an Enya .15 installed in one of the prototypes, it proved its ability to take off easily from a freshly bladed vacant lot. It was also flown from a grass field and although the run was just a bit longer, it still evidenced no hesitation in getting off the ground in a hurry. A good method for insuring that this small size ship will take off from a less than smooth field, is to set it just a bit positive on the landing gear. This places the wing at a positive angle of attack and thus creates lift prior to pulling the nose off of the ground. This same procedure, by the way, holds true for a larger size ship as well.

The construction of the New Era is very simple and is as conventional as that used in the larger models. The wing on the first prototype is foam with balsa covering. The plans show a built-up wing which was used on other prototypes, so you may take your choice.

The fuselage utilizes 1/32" plywood doublers, which gives a body of tremendous strength. The tail surfaces are constructed of sheet balsa. Since this is a simple ship to build, we will not go deeply into the construction details, but rather, just touch upon the high spots. If you elect to use a foam wing, then cover it with either balsa, or cardboard. Install the landing gear blocks with epoxy glue, glue on the tip blocks with epoxy, join the wings at the center section of the wing with a 4" wide band of fiberglass cloth applied to the wing with epoxy resin. If you prefer, you can substitute a 4" wide band of Celastic for the fiberglass. We realize that the thinner soaked Celastic will dissolve the foam if it should contact it, but since you are working outside of the covering, don't worry about it.

If you choose to build up the wing from balsa, you can follow the plans and build a very strong wing with the modified egg crate construction and

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using the RCM wing jig. If you prefer, the wing can be built on a flat building surface by pinning the main spar in place over the plan, followed by the rear spar and blocking the latter up to the correct height with scrap balsa. Slip the ribs over the spars, pin in place, glue on the leading edge and the trailing edge, check all alignment and then glue the spars to the ribs. After this has dried, build the other half of the wing, then join the two halves together. When dry, add the top and bottom sheeting, the center section sheeting, cap strips, extra landing gear

plywood braces, trunion blocks, tip blocks and dihedral brace. When all is dry, sand with fine paper, give the framework two coats of clear dope, then set it aside to age while you build the remainder of the model.

The fuselage is commenced by cutting out two sides from 1/8" sheet balsa. Glue in place the 1/32" plywood doublers with contact cement. Make sure that you have a right and left side. Cut out the formers and mark a vertical line on each one. Next, pin these formers perpendicular to the top view of the plan. Pin them so that the center line of the former is exactly over the center line on the plan top view. Be sure and angle the firewall to

give right thrust. Glue the fuselage sides to the formers. Do not glue the tail together at this point. When the sides and formers are dry, bring together the two sides at the tail right over the center line. If you are careful, at this point, you can build a fuselage that has perfect alignment. Remove from the building board when dry and glue on the top block, the bottom sheeting and the nose block. Sand the blocks to give a round cross section.

Cut the tail surfaces from medium hard sheet and sand to shape. Use RK, Rand, or DuBro hinges for the elevator and rudder. You can hinge these surfaces either before or after painting. Just keep the paint out of the hinges!

After the fuselage has been sanded to shape, glue the tail surfaces to the fuselage with epoxy. Use a bit of epoxy on your finger to form fillets between surfaces. Epoxy Bond putty is excellent for this purpose.

Cover the wing with either silkspan or silk. Two layers of silkspan is excellent for this size of aircraft. The fuselage and tail surfaces do not need any covering, although two of our prototypes were covered with silk throughout. The wings do not need

any extra covering, either, if you used foam and balsa construction. You can use the tried and true dope method of painting if you wish, or HobbyPoxy, but if you really want a light finish with a minimum of work, try this: Give all of the sheeted surfaced two coats of dope and when dry, sand with 400 garnet paper. The dope is more to strengthen the wood than it is to fill the pores. Next, apply two coats of sanding sealer, sanding between each coat with 400 garnet paper. When dry, go over all of the ship with a tack rag to remove any loose dust. Now, here comes the clincher. Put on one coat of Sears Acrylic Enamel, interior-exterior kind. This product sells for 79c per half pint and is available in a

wide variety of colors. The red was used on one of the original prototypes. You can either brush or spray this material on your model, but brushing it is good enough. Put it on just as it comes from the can and let it dry overnight. The next day, very lightly sand the surface with 400 garnet paper, wipe it off with a tack rag and finish with a coat of Aero Gloss Fuel Proofer. That's all there is to it. Actually, the enamel is fuel proof and will go on either over or under the butyrate dope with no trouble at all. The only reason for the coat of fuel proofer is to bring out a "cheap" shine after you have gently sanded the one coat of paint. The trim is accomplished with pieces of 3M decorator tape.

This entire paint job can be completed in one evening, plus a small amount of trim work which can be done the following night. The weight gain from this method of painting is virtually nothing.

The landing gears are bent from 1/8" wire. The nose gear may be either a cut down 5/32" nose gear, or a commercial 1/8" nose gear with the right angle bend removed so that it can be used in a Top Flite bracket. If you don't like the sloppy fit of the 1/8" wire in the 5/32" hole in the nylon bracket, simply slip a piece of 5/32" brass tubing over the 1/8" wire and solder in place.

There really isn't much to be said about flying the New Era, except to

make sure that all surfaces are aligned correctly and that the aircraft balances at the point shown on the plans. Fire up the engine, aim the nose in the wind and hang on – you're in for a lot of fun and if you can interest your small boy in a try at the stick, you can't imagine just how much fun you both will have. When you take one small boy, stir in a large helping of a fine flying small sized R/C ship, add a dash of miniaturized proportional radio, sprinkle in a bit of glow fuel, take the mixture to one oversized vacant lot, top off with a great quantity of other admiring small fry and what have you got?

FUN – that's what you've got – and a chance to make your special



small boy a part of our hobby.

One interesting feature of the New Era is its fantastic ability to slow down for a landing – you can almost hover it ala helicopter style. This has been one of the less enchanting features of the smaller competition aircraft – they have a tendency to land like Goodyear racers! Not so the New Era which can be slowed down to a point where you can literally walk alongside of it. Yet, it displays no snap-rolling tendencies at these slow speeds.

As a final addendum, foam wing cores for the New Era are available for \$5.95 from International Models, P.O. Box 16154, Fort Worth, Texas 76133.

Good flying and we hope you like the New Era.