# KING KONG KRIER KRAFT

**By RAY NUGEN . . . We've known about, and waited for this model for over ten years. It fits our Mammoth Classic Scale concept to a "T"; it's large, it's light for its size, and it flies in a realistic manner.**

• The Krier Kraft was originally designed (or compiled) and constructed by Harold Krier, one of our late and great aerobatic champions. According to Krier, the aircraft was a combination of an old Great Lakes fuselage and Bucker Jungmeister 131 wings and tail surfaces. The modified radial cowling was enlarged to accommodate a heftier engine.

Being a bipe man, I fell in love with the airplane after seeing it at the 1963 Armed Forces May Day Program at Patterson Field, near Dayton, Ohio. Our club, the W.O.R.K.S., was flying in the program's opening spot.

We immediately collared Harold Krier after our show and asked him about a set of plans. At this point, we learned from Harold that no plans had ever existed . . . Bang! So where do you go from here?

Since Harold seemed reluctant to let me get near his airplane, I took the direct approach, inviting him over to the model flight line and letting him fly my Sperry Messenger. That did it . . . permission granted! Still going strong, I attacked his plane with camera, tape, and gusto.

After many photographs, miles of measurements, one year of drawing; sawing, painting, and workshop sessions with Don Lowe, we arrived at Wright Field Runway 21 for the moment all modelers await . . . the moment of truth . . . flight number one!

What a flight it was. Starting with an Enya 60, and swinging a 12 x 6 nylon prop, I fired her off and started a taxi run. After about 80 feet, she lifted gently off the runway, and with Don Lowe standing behind me, talking ("Don't stall her!"), she flew beautifully. Don then took over, putting her through the basic maneuvers, and brought her in for the first landing.

No trim was used on that first flight. However, back in the workshop, we decided that 3 degrees of positive incidence in the top wing was too much. I reduced it to 2 degrees. This was just right, smoothing out the glide and making the landing flare less abrupt.

The airplane came off the board weighing 10 lbs., 4 ozs., carrying 12 oz. of fuel, four controls and .60 power. While in the shop, we changed to an O.S. 80, swinging a.14 x 6 wood prop, added a smoke machine (with its own 12 oz. fuel tank), and increased the engine's fuel capacity to 20 oz., which gave us approximately a 22 minute flight range.

A little more about the smoke machine . . . it is run off of crankcase pressure, and requires a back check valve between the engine and the smoke fuel tank (I use Casite for smoke liquid). The metering needle valve is mounted in the exhaust stack, as close as possible to the exhaust port. To complete the circuit, run a feed line from the smoke tank to the needle valve, with a servo-operated cut-off somewhere between. Flattening the end of the metering needle will help produce a fine spray into the hot exhaust, which improves the smoke volume.

The smoke fuel tank is mounted beside the engine under the cowling. The exhaust stack extension was made by shaping a piece of aluminum tubing to fit the side-mounted engine exhaust, porting straight down. The cowling was made from a 10 inch aluminum sauce pan. The handles were ground off, the rim cut off, and the bottom cut out.

The original model was covered with parachute nylon, and copies exactly Harold Krier's color scheme.

The aircraft is basic white, with a dark blue stripe behind orange leading edges. All orange stripes, and the orange and white checkerboard on the underside of the bottom wing are trimmed in dark blue. The center fuselage stripe is dark blue, and 1/8 masking was used to separate orange pin stripes.

Although a beginning R/C modeler could probably fly it, the model is not for a beginner to build. As it was completed about 13 years ago, there have been quite a few changes in structural materials and adhesives, but the basic construction design still provides the best means of keeping the overall weight, and thus the wing loading, down to a reasonable level.

The fuselage is built around a 3/32 sheet box backbone, with bulkheads and stringers giving the final shape. If 1/16 bulkheads seem too weak, try 1/32 ply or 3/32 balsa. For ease of covering and finishing, the cabane struts can be cut in half in the middle, and inserted into brass tubing joiners within the fuselage after finish is completed.

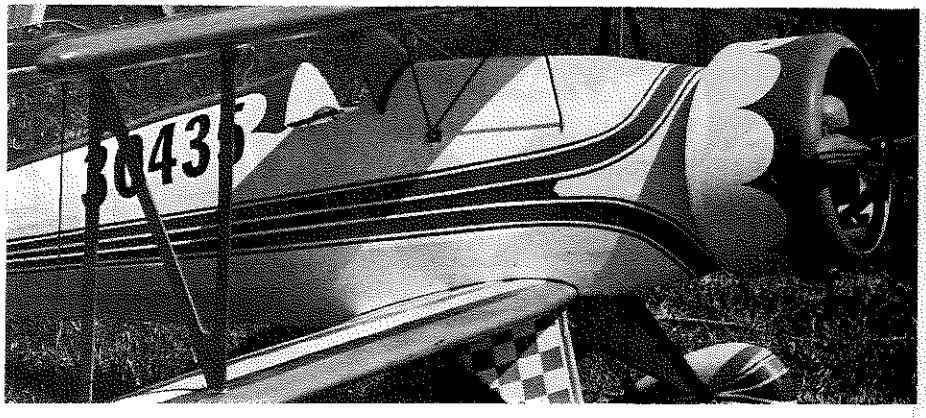
Top and bottom wings are the same, except for the center section construction. As there is no dihedral, the spars are joined at the sweepback points with 1/16 ply doublers. Spar joints are scarfed for additional strength. Webbing is recommended (1/16 balsa or 1/32 ply) between top and bottom spars, as far out as the outer strut ribs.

A little extra gap is needed between the ends of the ailerons and the fixed wing, because of the 11 degree sweep. Movement to the upper ailerons should be provided by adjustable-length struts.

The model is very easy to fly, however, maneuvers other than ordinary traffic pattern procedure require something more than is done with a run-of-the-mill pattern type model. The aircraft must be flown through the maneuvers, diving to gain speed for loops and rolls, and correcting with all controls as the maneuvers progress.

The original model is now in her 13th year, and although she has gained some weight with age (who doesn't?), she still affords many hours of soft, easy flight.

Even modeler's wives love to watch her, and that's a switch. •





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