DESPERADO

#439

Inset picture shows the author's Desperado on the left and another by Roger Bowman. The head-on view of the big picture emphasizes how truly unique this design is. For good reason, the author suggests go-easy flights in the beginning—so that the pilot will recognize the plane's orientation in various attitudes.

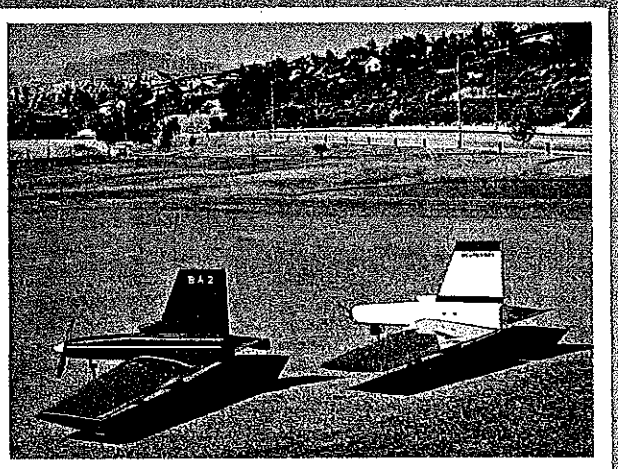
The model will fly well with a good .19 engine on up to a .40. With a hot engine, such as the K&B 6.5 in the model at left, be prepared for thrilling performance. The majority of fliers would probably be happier with a sport .40. Right: Our author/designer, Bill Evans, with his beauty.

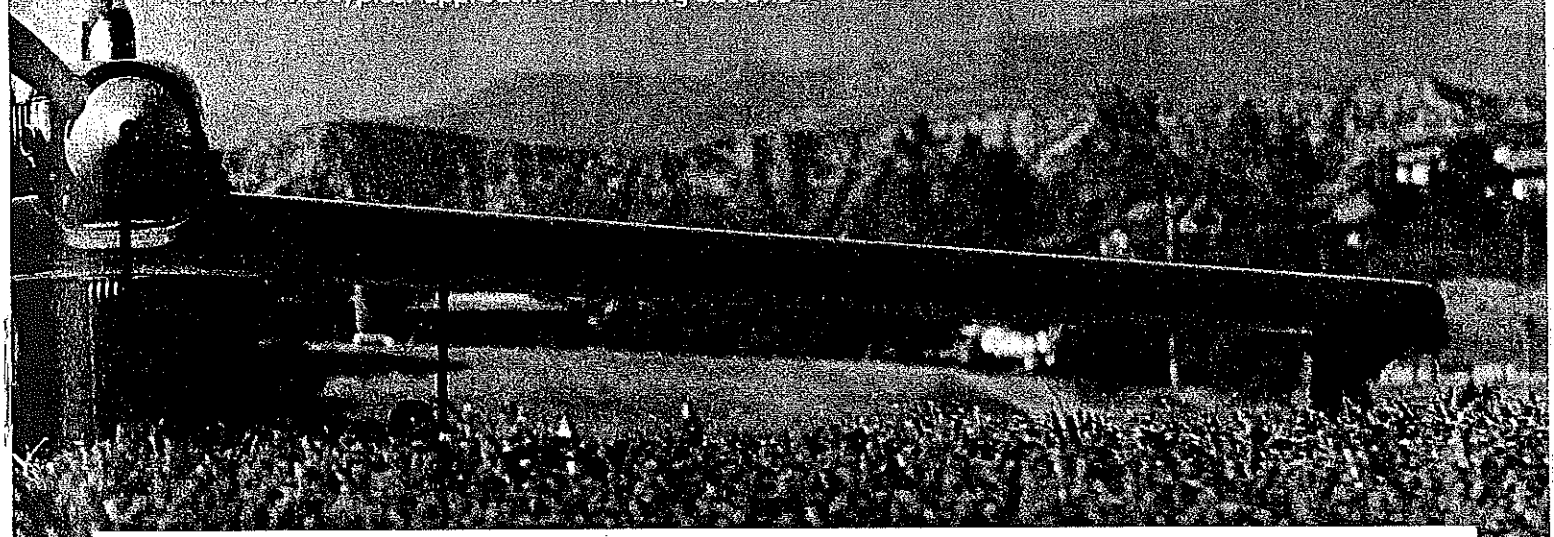
An unusual RC model—no question—but it's an excellent flier as those several who have built and flown it will attest, possessing neutral stability that is sought by experienced pilots. For .19-.40 engines. Bill Evans

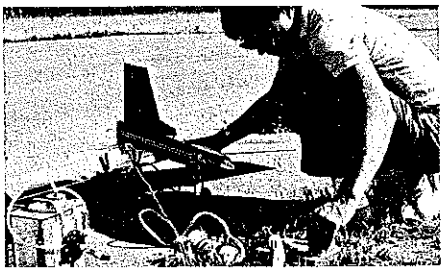
MANY OF YOU KNOW, especially those who have built and flown Similars and Astrons, that it has been my practice to avoid conventional aircraft.

The Astron .40 project (November 1978 RCM) could be recognized as the X-Wing fighter right out of "Star Wars." It was different, and it was a whole lot of fun. It was natural that the follow-on "Battle Star Galactica" Viper-type craft would be very interesting. The Desperado is the result.

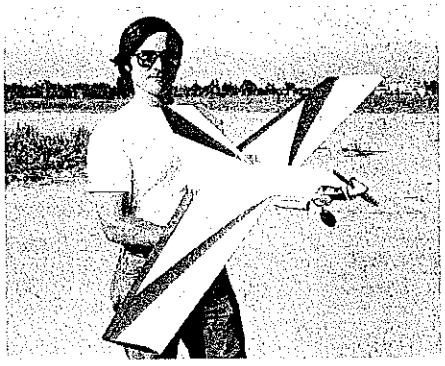
Preparation for this article has been different from normal, beginning many months before submitting the article and plan for publication. Unlike the typical approach of building but one



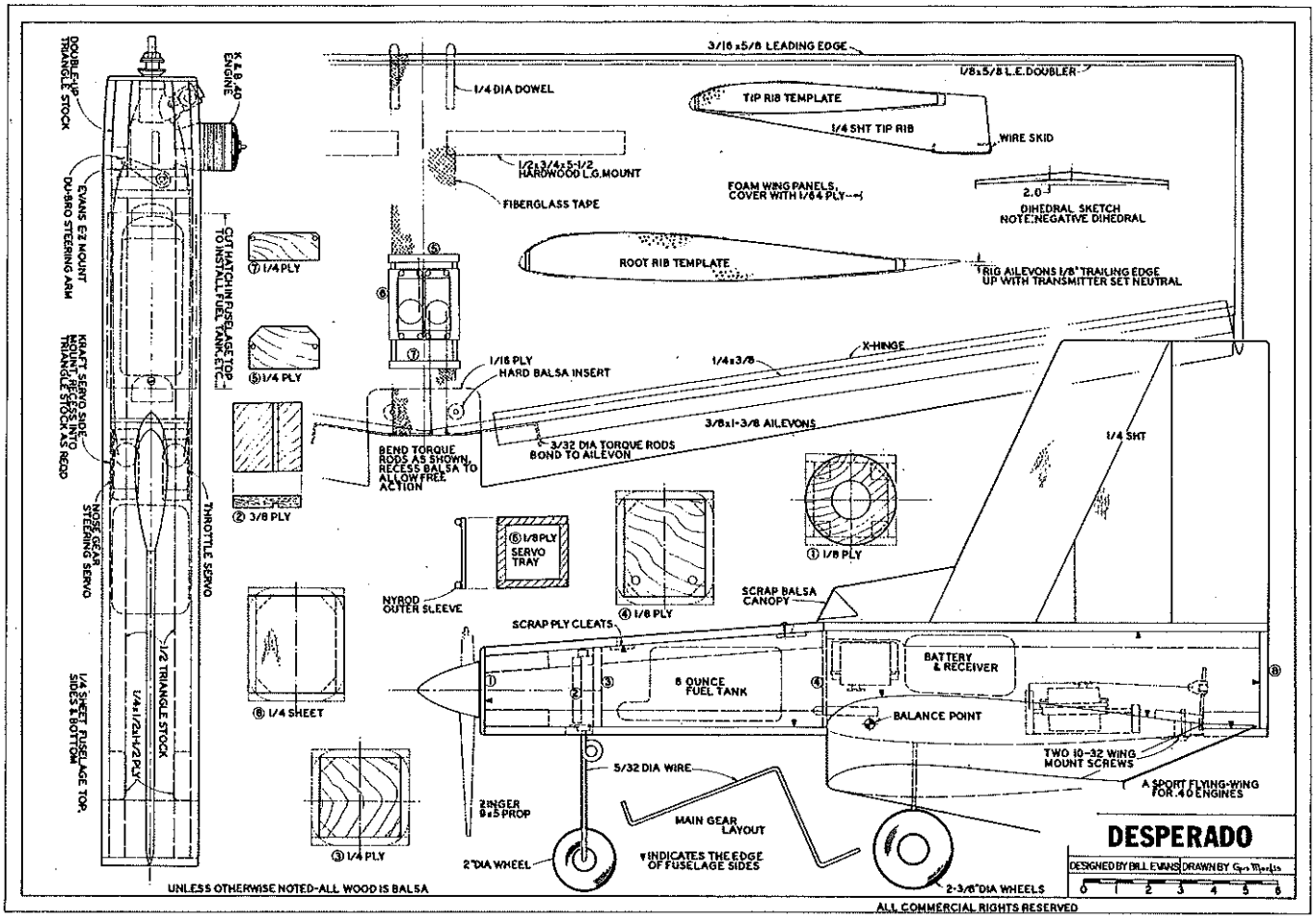




Lots of folks already have built and flown Desperados, in addition to the designer. Above left are Jerry Gerkin, Judy Gerkin, and Nat Lancaster with two Desparados and a Similar 540 (another Evans design). Paul Samaras, above center, did this nice one with a combo of WW I and WW II markings—with a hot K&B 6.5 and tuned pipe. It really moves out. Above right, Bill Hill starts the K&B 3.5 for the first flight of his Desperado. It did just fine. Below Left: Former LCDR Roger Bowman's first RC was the Desperado; he flew TBMs in WW II. John Sessums' Desperado, below right, is now only a fond recollection. After more than 80 flights, John center-punched an 18-in.-dia. oak tree. It jumped in front of him!



FULL-SIZE PLANS AVAILABLE . . . SEE PAGE 180



prototype, a number of Desperados have been built and flown by a variety of people. The pictures show several Desperados and their owners who built and flew the models in preparation for this article. My thanks to them for taking on the challenge of this tailless, anhedral-winged craft.

Flight characteristics of the Desperado, it turns out, are much like those of the Similar 540. However, the appearance is all new. On final approach with the nose slightly up, the Desparado takes on the appearance of a bird of prey searching for its quarry.

The plans show a K&B .40 engine, but any similar power plant, including even a good .19 or in between, will fly the model nicely. Install a K&B 6.5 (front rotor, rear exhaust) with a MACS muffler, and you will have breathtaking performance.

Construction. You'll need five sheets of ¼ x 3 x 36 balsa for the fuselage and fin and enough 1/64 ply or 1/16 balsa for the wing skins. If you wish, ¼-in. balsa sheet may be substituted in place of the 3/8 sheet for the elevons.

If you're not ready to do your own cutting of the foam wing cores or if you have a problem locating 1/64 ply sheeting, you may obtain them from Soaring Research, 454 Wildrose Ln., Bishop, CA 93414 (phone 619/873-4932). Desperado wing cores are $12.00 per set, and 1/64 ply sheeting for the wing is $12.00. Add $2.00 for shipping; California residents add 6% sales tax.

My advice is to build the Desperado as per the plan. If you wish to try a modification, it's best that you first fly the plane as it was designed.

Construction of this model is very quick and simple. The ply sheeting of the foam cores gives great strength. It is, in a way, much like case-hardened steel.

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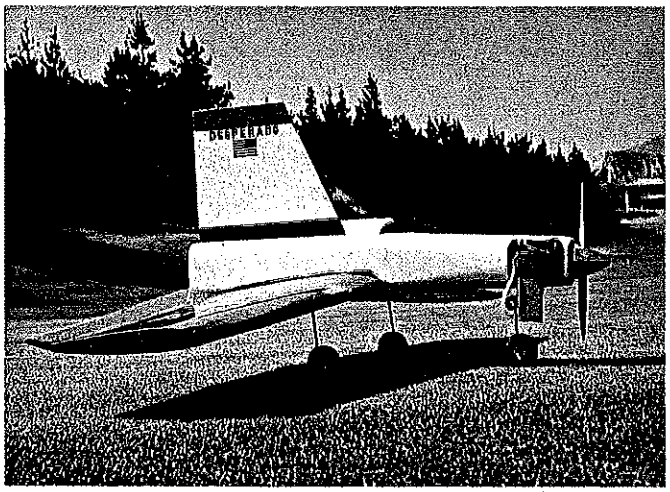

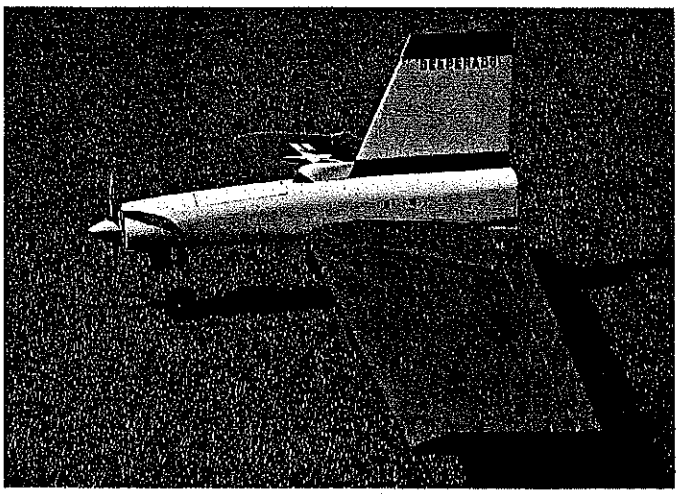

There isn't much to building the Desperado—just a simple sheet balsa fuselage and vertical fin and a foam wing covered with balsa or, preferably, ply. If you haven't started cutting your own foam wings, there's a source for the Desperado wing (and 1/64 ply skins) in the text.

usual, it seems—required the addition of 6 oz. of lead in the nose. Later, with some modifications and repositioning of the radio, this was reduced to 3 oz. For a model of this size and weight, that's not too bad. With the engines running sweetly and quietly, she looked very nice, indeed, moving across the short grass, the steerable nose wheel functioning correctly. So far, so good.

The next time out, using the big playing fields at the Navy base at Yeovilton—where the Sea Harriers come from—I had my expert test pilot, David Parker, on the transmitter. Unfortunately the runways were not available for model aircraft. There's no prize for guessing why, but the Harriers were flying seven days per week. However, we managed some fast runs on the playing field, some of them producing a small lift-off; that was good. The final run startled me when I saw the Boston 20 feet above ground, not 20 inches! Remember that Air India advert, "Fly now—pray later?" For me, that's the way it was, too.

Soon after those 'Wright brothers' hops, we were able to use the other Navy field at nearby Merryfield. Present were David Parker with his Handley Page Harrow twin-engine bomber and the U.K. champion, Brian Taylor, with his Mosquito. I was in good company. The weather was suitable, and we were all set for the maiden flight. Was it a good omen that the USAF had used Merryfield in WW II? The Boston was soon made ready, fueled up, checked out, and checked out again. No silly mistakes today! The date was August 7, 1982. The moment of truth had arrived.

After a short flight with the Harrow (David said that it was to get his reflexes working) the Boston was fired up. The engines turned sweetly and responded to the commands. A final check, and all systems were *go*. She moved off impressively and turned into the wind along the runway. Throttles opened, engines at full rpm, the acceleration was brisk—no swing—no hesitation—no problem. After about 250 feet of run, we had a slight rotation, and then daylight showed under three wheels. It was airborne. The Boston climbed to around 150 feet, the engines were throttled back a little, and the gear disappeared. Magic! By then, at about 70% power setting, she was traveling fast downwind while looking and sounding tremendous—so realistic, in fact, it was breathtaking.

The usual test flight procedures were carried out. Checks were made for control response, stability, general handling, slow flying at safe height, and flap operation. The flaps had been set to give a maximum of 35 degrees down; more than that (as with the prototype) only gave unwanted drag, which a model can do without. Lowering the flaps gave a slight nose-up change of trim—as on the big one.

From the test pilot's comments, there were no problems of consequence. The only minor ones were that, with gear up, the center of gravity was just a little too far back; and that the aileron response could be improved—what the pundits call 'authority.'

The general flying on 50-60% power seemed to be so unexpectedly good that David made a couple of passes for visual inspection and picture taking. When I eventually called "15 minutes," he said that he would position it for a landing. With a light breeze blowing, he settled for a flaps-up configuration for the first touchdown, throttling back for a nice approach to the runway. He landed right opposite the three of us. It was fast and positive, just like the prototype. At the end of the landing run, the familiar tall fin and rudder were seen to turn. Nosewheel steering certainly worked well as the Boston taxied back to the parking apron. It had been a memorable and exciting first flight. The pulse rate began to return to normal.

From 1942 to 1982 is 40 years. As far as I was concerned, time had stood still. I was back with 88 Squadron, and climbing out of my fine Boston, soon to get back to Blickling Hall, Norfolk, for delicious bacon and eggs, coffee, and maybe a cigarette.

Thank you, Mr. Donald Douglas! Who makes 'em better?

Desperado/Evans

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The outside skin provides a hard, protective shield for the inner core which serves as a shock absorber.

The fuselage is built on a flat surface, utilizing box construction with triangular stock in the corners—providing enough material for rounding and streamlining.

The following sequence is suggested.

Glue (aliphatic works nicely) and pin 1/8 balsa leading and ¼ balsa trailing edges to the foam cores; keep the cores free of curves or bends. Set these aside to dry.

Cut out the fuselage parts. Pin the fuselage bottom front piece to a flat surface. Glue and pin the left and right sides to the fuselage bottom so that the sides rest on the top, and flush with the edge, of the front bottom. (Pin from the outside of the fuselage.)

Slide the rear fuselage bottom piece in