

If long, relaxing flights are your thing, you'll like this semi-sailplane. It's the next generation of Bill Evans' Seville low-wing soarer, and with three channels and a .19 engine, it's the best of both worlds. Excellent takeoff and landing characteristics make it a great trainer; low sink and responsiveness make it a plane for two-pipe flights.

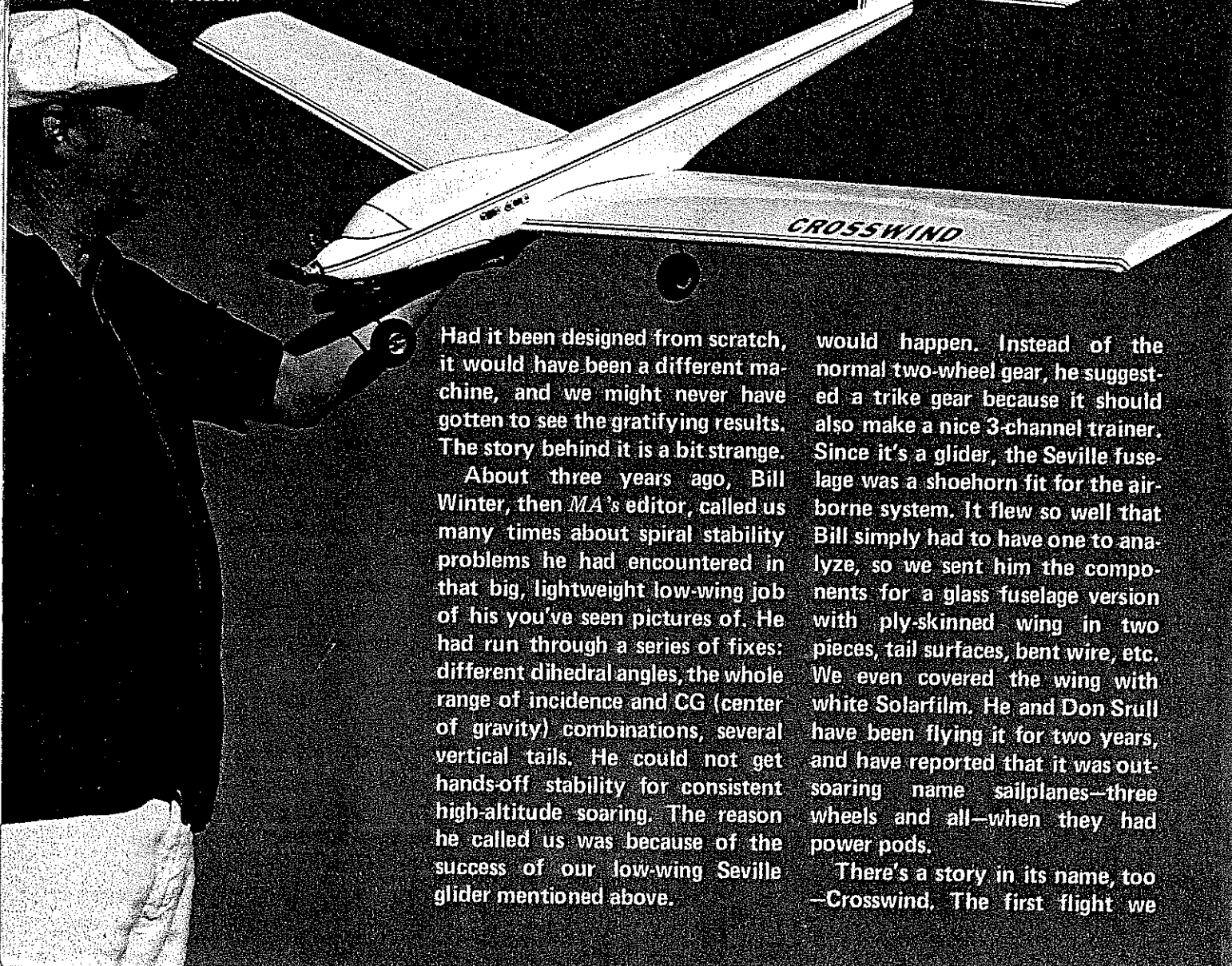
THE CROSSWIND IS truly a Cinderella airplane. It was not engineered from the ground up, but is an adaptation of my low-wing

Sooner than you can blink an eye, the conversation turned to putting a K&B .19—which he was using—into a Seville to see what

Bill Evans CROSSWIND ³⁴²

Seville sailplane published in the May 1977 issue of *Model Aviation*. The wing was reduced to a span of just over 6 ft., and a K&B Veco .19 and trike gear were added.

Bill Evans poses with his design. Don't be surprised if people think you're flying a 747—the sailplane-type canopy and the long wings do give that impression.



Had it been designed from scratch, it would have been a different machine, and we might never have gotten to see the gratifying results. The story behind it is a bit strange.

About three years ago, Bill Winter, then *MA*'s editor, called us many times about spiral stability problems he had encountered in that big, lightweight low-wing job of his you've seen pictures of. He had run through a series of fixes: different dihedral angles, the whole range of incidence and CG (center of gravity) combinations, several vertical tails. He could not get hands-off stability for consistent high-altitude soaring. The reason he called us was because of the success of our low-wing Seville glider mentioned above.

would happen. Instead of the normal two-wheel gear, he suggested a trike gear because it should also make a nice 3-channel trainer. Since it's a glider, the Seville fuselage was a shoehorn fit for the airborne system. It flew so well that Bill simply had to have one to analyze, so we sent him the components for a glass fuselage version with ply-skinned wing in two pieces, tail surfaces, bent wire, etc. We even covered the wing with white Solarfilm. He and Don Srull have been flying it for two years, and have reported that it was out-soaring name sailplanes—three wheels and all—when they had power pods.

There's a story in its name, too—Crosswind. The first flight we

made was at the flying site of the Crosswinds RC Club, in Saugus, CA. Crosswind Field is well named. Much of the time the wind blows across the runway at 90 degrees—as it was during the day we arrived for test flights.

The first flight was made directly across the runway, the ship rolling no more than 10 ft. before becoming airborne. The landing was across the runway with no more than a 10-ft. rollout. We quickly found that Crosswind is rock solid on true crosswind takeoffs, something the two guys in Virginia rave about. Ground handling is excellent, easy in fact. The clean design allows long, long glides, and good slow flight for power approaches. There's plenty of time to line up for the landing. With that K&B .19, fuel consumption is stingy. With a 4-oz. tank and the engine turning at slow speed, the run sometimes lasts 25 minutes. We have had several 60-minute flights after the fuel was exhausted. Bill Winter reports that his big 8-ft. lightweight may outglide his Crosswind for long approaches, but that Crosswind is much the better soarer in lift.

Winter says that the wing on the Crosswind is much more efficient, so we've supplied him with two special panels for a 7-ft. Crosswind wing for his original. It is an efficient wing, that's for sure. The leading edge on his Crosswind is knife-sharp, the bottom of the foil being flat between the extreme edges. The foam-core wing also preserves a true airfoil throughout, with no sag between ribs as on a built-up wing.

What pleases me most is Crosswind's trainer capability. The ship is quite rugged and will take unusual punishment at the hands of the beginning flier. Takeoff is arrow-straight, and the sink rate is so low that the novice can make numerous mistakes on the approach with more time than he needs to make corrections and still get onto the field.

If you don't wish to cut foam or find someone to do it for you, Soaring Research, 20825½ Roscoe Blvd., Canoga Park, CA 91306 can provide foam cores. Epoxy-glass fuselages are also available. Write for current prices.

Construction: Anyone building this plane does not require a now-glue this sermon, so we've listed a sequence of steps that speed up construction. First, you do have to decide the type of wing panel skinning—that is, either 1/16-in. balsa or 1/64-in. ply. My model uses wing sheeting tape, rather than contact cement. Corefilm is recommended.

1) Cement and pin the ½ x ½ balsa to the leading edge of each panel, making sure that the leading edge is straight. Trial-fit it first. Since this is a flat-bottomed wing, an accurate bench top or board ensures that the edge does lie flat; place a long straightedge against the front of the edge, or eyeball it carefully to make sure it does not curve slightly in or out. Accurately-cut foam pieces eliminate that risk. Be sure the glue is compatible with the foam, such as white glue.

2) Cut the fuselage sides, top and bottom, and formers from stock shown on the plans.

3) Pin the fuselage top to a flat surface.

4) Glue and pin the left fuselage side against the fuselage top. Glue and pin the ½-in. triangles against the left fuselage side and fuselage top.

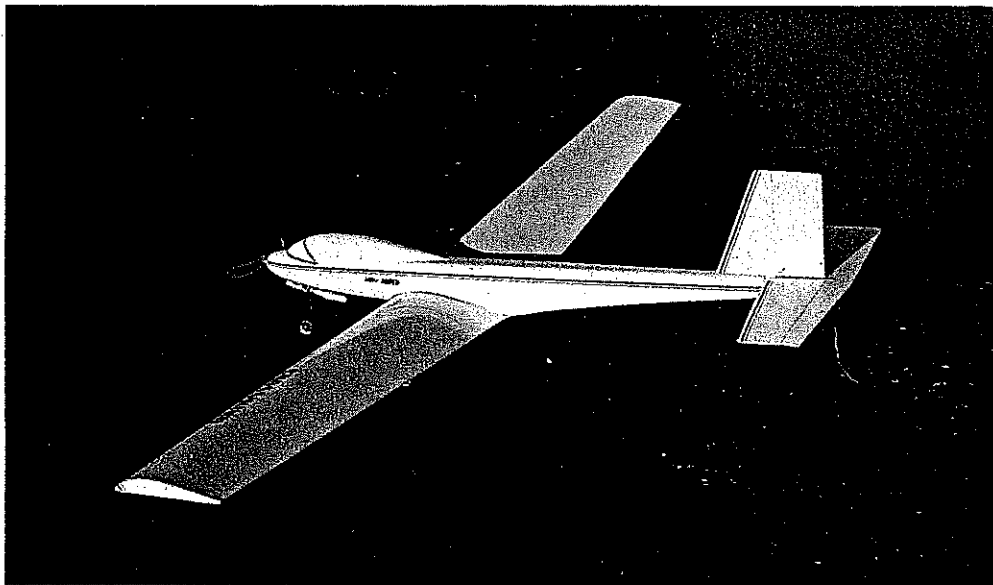
5) Repeat for right side.

6) Glue and pin the fuselage formers in place.

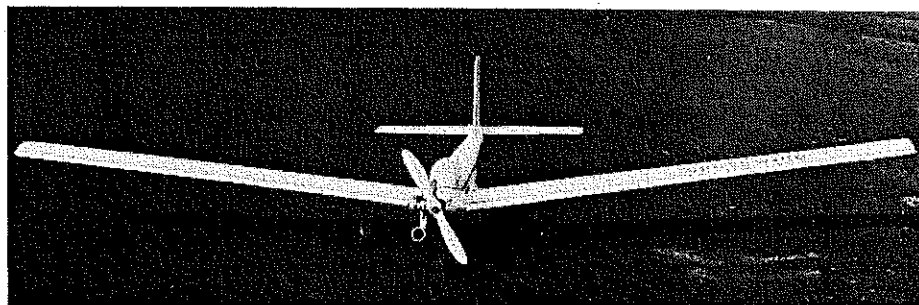
7) Glue and pin the ½-in. triangles to the bottom, inside edges of the fuselage, front and rear.

8) Glue and pin the fuselage bottom sheet, front and rear.

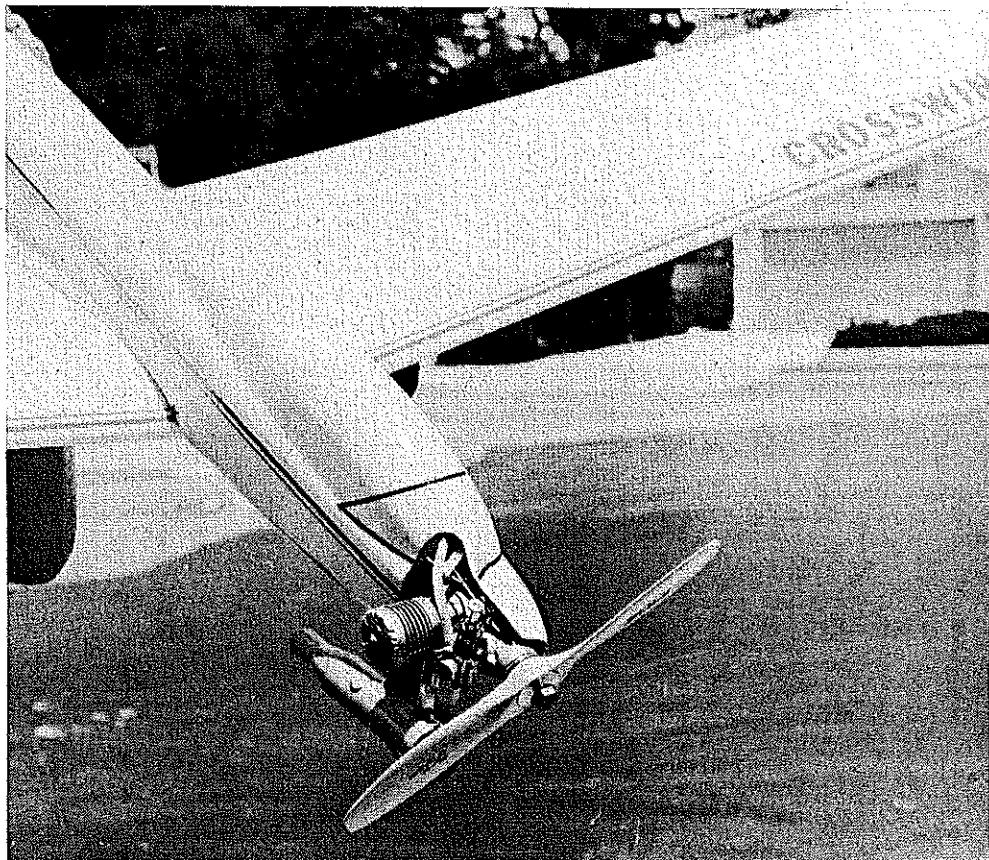
9) Butt-join and splice 1/16 balsa pieces that are each 36 in. long, tapering from 10 in. wide at one end to 7 in. at the other. These are the wing-skinning pieces. If 1/64 ply is used, follow the



Crosswind started out life as a Sailplane, Bill Evans' Seville. It just seemed natural to put trike gear on it and stick a .19 in the nose. Evans says that if he'd started out to build a trainer plane, he probably wouldn't have come up with something this flyable—or interesting.



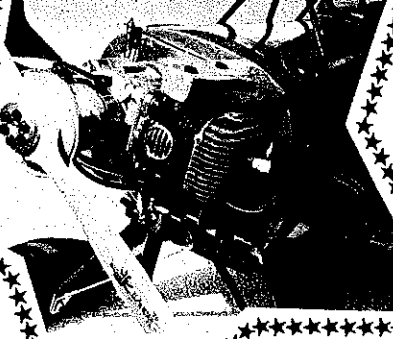
She's an unusual-looking bird. All that dihedral gentles out the flying characteristics; three-channel operation and trike gear make Crosswind an excellent sport flier or trainer. Wing is sheeted foam, covered with Solarfilm. An easy plane to build.



The engine installation. These pictures show a Crosswind with a glass fuselage; note that it's cut away to allow clearance for the nosewheel linkage, visible just underneath the fuel line. Engine is easy to get at and adjust. Plenty of ground clearance—no landing on the muffler.

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subjects and winner of the Mulvihill Trophy in 1926 and 1928; **Joe Ott**, author, kit manufacturer and designer, and still cranking out imaginative designs for models and man-carrying light aircraft.

The 10 model awards include: Nordic Towline Glider, Jim Wilson's Simple Toy; Wakefield Rubber-Power, Ron Pollard's Vitar; FAI Power, Mario Rocca's Modello No. 2 bis; Large Gas-Power, Joe Foster's Buck, Small Gas-Power, Jim Clem's Witch Hawk; Outdoor Rubber-Power, Bob White's Beau Coupe, Indoor Rubber-Power, Irv Rodemsky's World Champs-winning Gram Prix. And Special awards: Ralph Prey for his article on trimming Free Flight Gas-Power models; Gyorgy Benedek for his development of airfoils; and to Dr. Will Nakashima for his incisive cartoons.

It isn't at all too early to start thinking about awards for 1982. For ideas about Hall of Fame awards write to A. J. Italiano, 1655 Revere Drive, Brookfield, WI 53005. For Model of the Year Awards, the man to talk to is Steve Geraghty, 194 Vista Del Monte, Los Gatos, CA 95030.

Variable-configuration aircraft, continued: One of the most novel VCA ever seen, the Nikitin-Sevchenko IS-1 was an attempt to combine the takeoff and landing characteristics and the extreme maneuverability of the biplane with the high speed of a monoplane, in a single aircraft. The pilot could convert from one to the other at will! Despite the relative success of flight trials, it was decided that the marginal improvement in performance it offered over conventional biplanes did not justify the complexity, and the project was scrubbed. Potential applications to competition Free Flight: none that my nimble mind can conjure. But a working, rubber-power model would certainly evoke the respect and admiration of one's peers, and perhaps a few hee-

haws to boot. (For more information, see *War Planes of the Second World War*, W. Green.)

Directory update: Curiously absent from my recent FF Product Directory (May, June 1980) is the name of Bob Wilder, bull-of-the-woods down at Wilder's Model Machine Works, manufacturer of the *ne plus ultra* of Indoor and Outdoor rubber-power accessories. Eighteen months ago, Bob said he was temporarily out of business, but would tell me when the situation changed. He didn't, and the grapevine told me he had been peddling off some neat Outdoor winders, so I send him a what-the-heck-is-going-on? letter. He explains: "To answer your question about me going out of business, I can answer that by saying I never intended to go into business. This shop started by me making a few things for myself. Then my friends asked to have one also. I would like to keep it as a hobby. That is why I don't advertise and promote the things I make. However, I do enjoy hearing from those that use my products and I am flattered when someone, such as yourself, writes about something I make in his column. Yes, selling the products does have certain financial advantages, also.

"I will give you a run-down of what is going on in the shop now. As usual, I don't have much in the way of supplies in stock now. I just finished making a few new-design Outdoor winders with 5:1 gear ratio, resettable turns counter, enclosed very smooth gears. Very good quality and high price of \$135.00 plus \$3.00 postage.

"The first batch is all sold, but I do plan to start work on more in about six or eight months. I hope to have some finished in early 1982. Now I have started work on a few Indoor winders. I hope to have them finished in May. Their price is \$30.00, plus \$2.00 postage.

"Later, I plan to make some more torque meters of the Indoor range. The Indoor torque

meter is priced at \$19.00, plus \$1.00 postage.

"The Outdoor torque meter still comes in two ranges: 30 in.-oz. for the Coupe range, and 120 in.-oz. for the Wakefield range. They are priced at \$22.50 each, plus \$1.50 postage.

"Later, I plan to take the Indoor torque meter that is designed to fit on the winder and to make a stooge for it, also. I plan to design it to have a universal flex joint and an unwind device on it. I don't have any price or date yet on the Indoor stooge.

"The only thing that I am taking orders for now is Indoor winders. If you or anyone else are interested in having any of the other supplies, don't send money now. Just let me know what you would like and I will place your name on my list. When I am near finishing those supplies, I will send a letter telling you when to place the order."

Bob's address is: 2010 Boston, Irving, TX 75061.

Anyone for Free Flight Helicopter Gliders? If so, check with Boomerang Man, 311 Park Avenue, Monroe LA 71201 for catalog, information. (Editor's Note: Believe it or not, there's also a United States Boomerang Association, Box 96, Clifton, VA 22024. They print a newsletter and hold a Nationals! Crazy people everywhere... DRP.)

Bob Meuser, 4200 Gregory St., Oakland, CA 94619.

Crosswind/Evans

Continued from page 70

techniques. When you turn onto final, don't be surprised if someone remarks that it looks like a 747. In silhouette, the canopy and the swept-back leading edge, as well as the tail fin and rudder, do give that impression. And don't underestimate that K&B .19 on a ship of this size. Power performance and climb are surprisingly good. For training, for sport, for soaring, Crosswind is an elegant airplane.

FF Old-Timers/Haught

Continued from page 62

Wakefield motor, yet operates so smoothly as to allow a "feel" of the motor being wound. The 17-oz. unit is constructed from high quality materials to precision tolerances.

The basic frame is machined from aluminum bar stock with an anodized finish. The main shaft is stainless steel and rides in oilite bronze bearings. A nine-ball thrust bearing takes the load of the stretched motor. (Hand drills are designed for push load on the output shaft—just opposite to what is needed in a winder). Two idler gears are employed to ensure smooth operation and even gear loading. The winding crank has a large comfortable handle and adjustable length to improve leverage. Gear ratio is 3.73 to 1. The spade grip is reversible, allowing left-handed modelers to fit the winder to their liking. The Sidewinder is supplied with a unique safety winding hook threaded to the output shaft, but it could easily be replaced by a torque meter for those who wind by torque rather than numerical count. An ideal accessory for Old-Time Rubber fliers!

Ready reference: Danny Sheelds, 3 Cinnamon Circle, Apt. 1-C, Randallstown, MD 21133, sponsor of the Twin Pusher event at the annual SAM Champs, has published a new book, *Antique and Old-Timer Model Aircraft*. This 80-page volume is a collection of advertising photos from