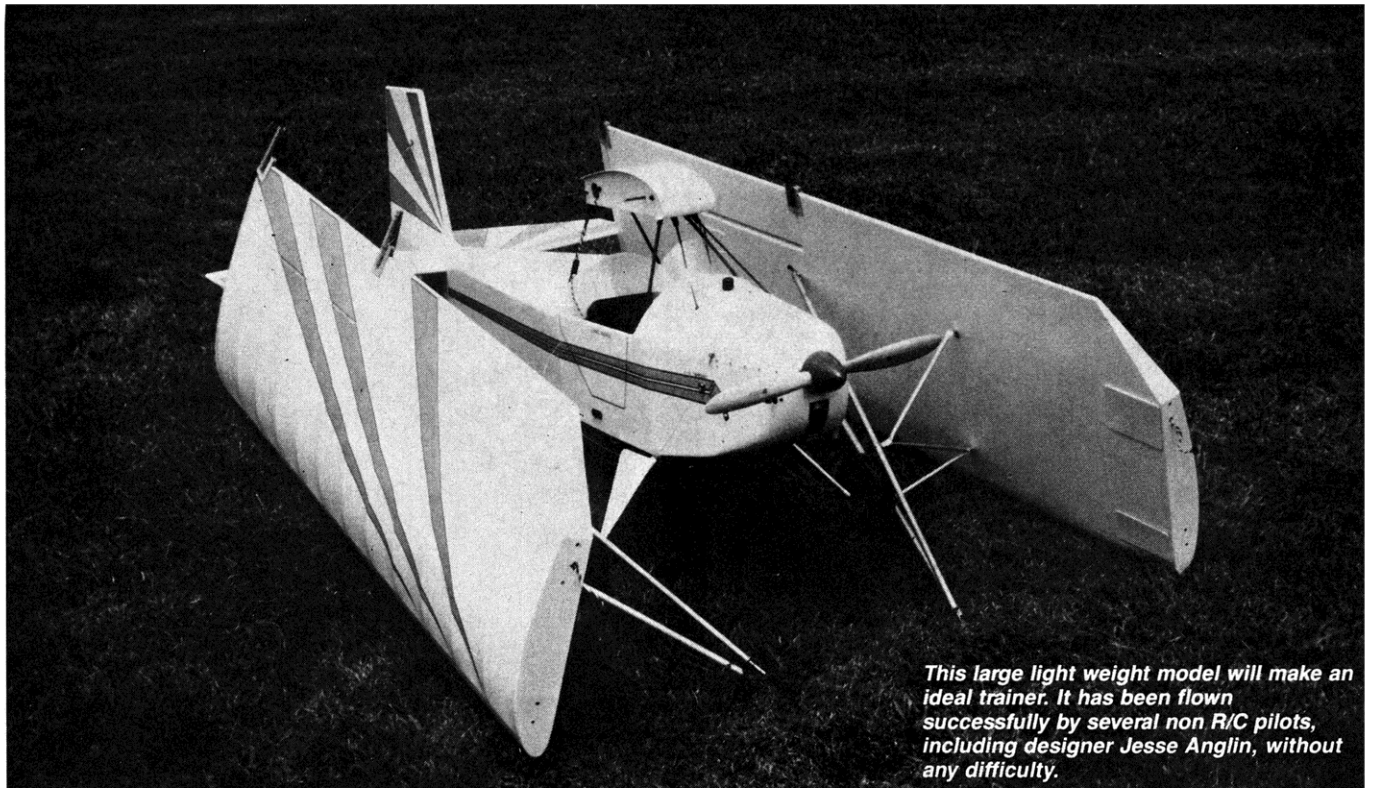


1/3 SCALE J-4 SPORTSTER

Jesse Anglin, Designer Of The J-3 Kitten
And The Spacewalker, Seem To Have Had
Modelers In Mind With All His Designs

BY EMIL AGOSTA

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This large light weight model will make an ideal trainer. It has been flown successfully by several non R/C pilots, including designer Jesse Anglin, without any difficulty.

The J-4 Sportster is a spin-off of the J-3 Kitten Ultralight which won the "Best New Ultralight Design" Award, at the Sun 'N Fun in 1984 at Lakeland, Florida. The Kitten has a cabin, while the J-4 is a parasol-winged craft with an open cockpit. The J-4 was also a winner. It won the "Grand Champion" Award at Oshkosh in 1984. The J-4 uses the same J-3 outer panels, but the overall span is reduced by about 16 inches due to the narrow center section.

I developed an interest in Ultralights back in 1983 when I caught a fleeting moment on our local TV news of the J-3 making a landing. I didn't know it was going to fire me up as much as it did. I'm sure that the plethora of questionable R/C trainers did

play a part. If the J-3 Kitten, or J-4 Sportster, sporting a 28 hp engine can be flown by a novice without licensing restrictions, one can then surmise that the piloting skill is not of that required for faster airplanes. The Kitten cruises at 60-mph and power-on stall is 18 mph. Translating these simple parameters for an R/C model may possibly result in a slow-flying, stable, and docile scale model for a novice R/C scale pilot.

While looking for an R/C exhibit at the Blue Ridge Shopping Mall in Hendersonville, N.C., I was directed to the Hendersonville Airport. I had the wrong date for the exhibit, but I really lucked out when I arrived at the airport. The place was teeming with people, and things were quite festive. The occasion turned out to be the official unveiling

of the J-3 Kitten Ultralight! This cleverly engineered jewel was sitting like a pretty homecoming queen in front of a modest hangar. A cursory inspection revealed that engineer Jesse Anglin's aircraft construction and materials were what old reliable Cubs and Champs were made of. And his design conformed to the 250-pound maximum requirement of the FAA. I was impressed with this achievement since so many Ultralights resemble aluminum lawn chairs. A band was playing in the hangar while the public was admiring the subject celebre. I dove for a brochure, but no 3-views were shown. It took me months to get anything.

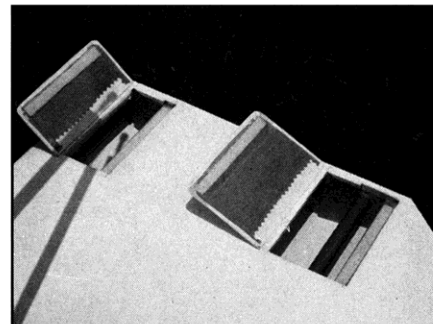
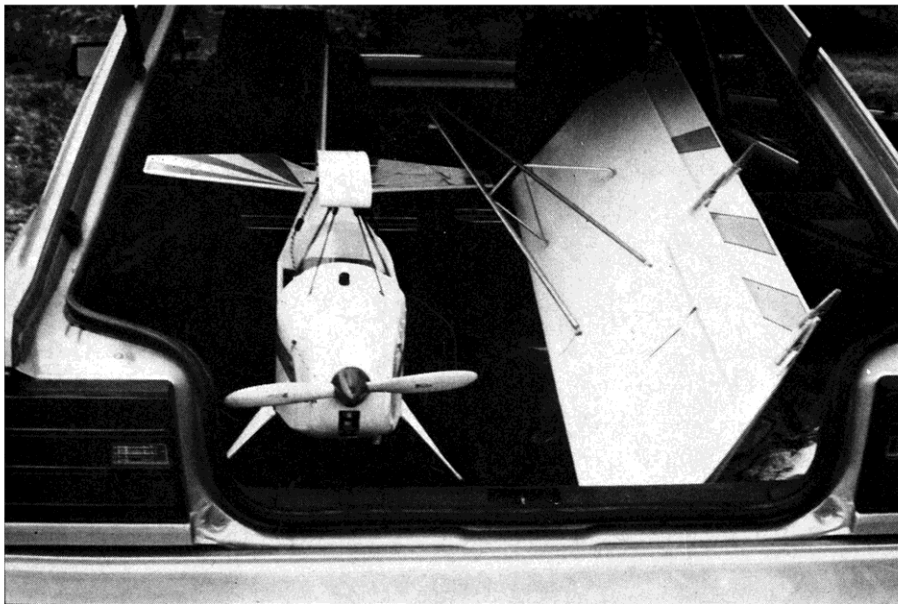
Demonstration flights were three-wheels-off-the-ground takeoffs. None of that getting the tail off the ground

Susan Dickerson poses with the author's J-4 sportster to show relative size.



The J-4 Sportster is a spinoff of the Sun 'N Fun Best New Ultralight Award of 1984 in Lakeland, Florida.





Wing can be removed easily via hidden hatches.

The aircraft when broken down will fit in a compact hatchback with room for your gas can.

stuff. It made me think of my earlier youth. I kept seeing a blown-up version of a 25-cent rubber-powered kit advertised in *Open Road For Boys*. Like most modelers, the ideas were surging through my head in many directions. One thought did finally gel — a 1/3 scale airplane and trainer in one swoop.

The availability of factory drawings were light years away. The draftsman was still struggling with the rough sketches. A 3-view finally evolved, but the side view was out of scale! I worked with photos, blow ups, the finagle factor, and measurements at the factory. After test flying the 1/3 scale Kitten, I received a set of factory drawings. This got me going on a 1/4 scale version of the Kitten.

The J-4 came as a complete surprise to me during a casual visit to the hangar. I knew I wanted to model this sporty-looking Ultralight, but my drawing board was loaded, and I didn't want to cast aside the 1/4 scale Kitten, as I did with my Quadra-powered Kinner Bird. The smaller J-3 flew flawlessly with a Saito 45 and I was now ready to tackle the J-4. The 1/3 version would span 114.625", chord 16", with a wing area of 1,834 sq. in. — 86 sq. in. less than the Kitten. Shooting for a weight of 192 ounces would produce a wing loading of 15 ounces. That would be nice, I thought. Structural integrity had to be considered, but it was those heavy Du-Bro wheels and the upholstered pilot's seat that brought everything to within an ounce of 13 lbs. Why get greedy? 12.74 sq. ft. of wing area came in with 16.33 oz. loading. It proved to be more than satisfactory.

All balsa construction was the way to go with a minimum of plywood and pine. The basic fuselage structure is 3/8 sq. balsa with 3/16 x 3/8 diagonals. The plug-in wings have deep balsa spars and are supported with scale size aluminum tube struts. A fiberglass cowl was laid up like the full scale J-4. Covering was with Solartex and sprayed with Cessna Vestal White Butyrate dope. The paint scheme is close to scale. Other than 1/4 scale-Du-Bro clevises at the wing struts attaching to the fuselage, no special 1/4 scale hardware was purchased. Regular control horns and clevises are adequate. Ditto for servos.

Off to the field we go! What field? We lost it while the J-4 was being preflighted! My friend, Carter Pounders, the local R/C honcho, suggested a high school athletic field. I had some reservations, but perhaps athletic fields in western North Carolina are big enough for 10-foot R/C models. When we arrived at the field, I felt like going home. There were high tension wires to my back, the school was on the left, a utility brick building dead ahead, and a residence to the right. This was no field to test a giant ten-footer, for sure! Carter agreed that taking off toward the wires was not a good idea, even though it would be upwind. I gulped when he said, "I'll take it off downwind!"

Forgetting the ignition battery didn't help my creeping trepidations. The ice water was also left behind. And I'm plain chicken when it comes to removing glow-plug connectors on inverted engines. I always use a remote system. Luckily, Carter had brought his field

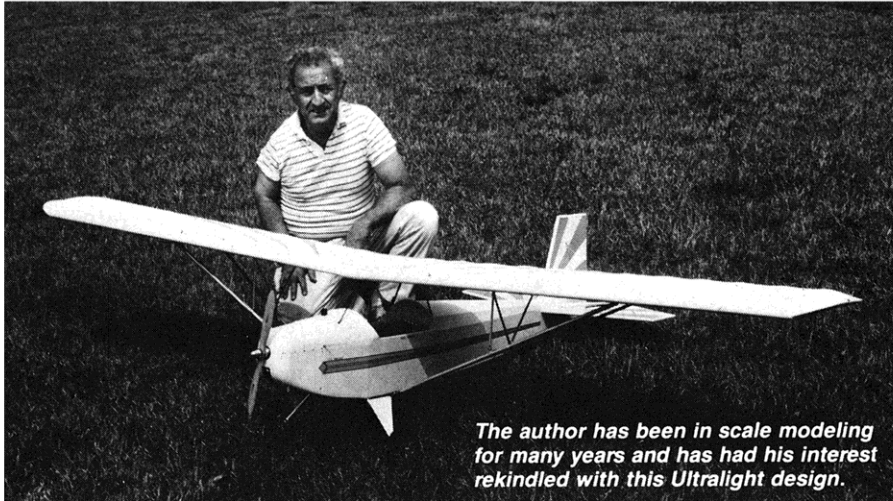
box. Off with the wired collar on the plug, and I'm back with the dang Kwik-Lok on the inverted O.S. Max 61 long-stroke engine doing the very thing I swore I'd never do!

A short burst of the starter brought the engine to life, idled to less than 2,000, and I had Carter pull the dang upside-down KwikLok! The J-4 was taxied to home plate, throttle opened, rolled and lifted off by the pitcher's mound. It was climbing like its big sister over second base. No trims were touched, including preparation for landing. I made several passes with the throttle open, and lazy eights with the engine gurgling at less than half throttle with no loss of altitude.

It was picture taking time again, and I'm sure I saw the J-4 coming out of a loop while I was fetching the camera. Take-offs do not need any urging. If the novice does not flare the landing, the J-4 will set itself down like a free-flight model. Needless to say, it was a very rewarding morning of testing and flying.

All rigging specs are scale. Aileron differential prevents adverse yaw. Dihedral is 2 degrees, and washout is also 2 degrees. The stab is set at minus 2 degrees, and the scale NAS 64 airfoil has a 2 degree negative incidence. The outer wing panels are stayed with cables and are tensioned with Dubro turnbuckles.

Hopefully, new modelers, and some experienced ones as well, will give some thought to power and wing loading. High-powered acrobatic airplanes are acceptable because they do the job they were designed to do. However, a



J-3 Cub with a nominal span of 6 feet, loaded upwards to 30 oz., and powered with a hot 2-cycle 45 or more, is not realistic modeling.

If the Ultralight experience of the past four years has taught me anything, it's that back-to-basics aerodynamics can be challenging, and great fun as well.

AVAILABLE PLANS

1/3 Scale J4, \$24.95 rolled, pp
Glass Cowl, \$15.95 pp 1/4 Scale J-3,
\$17.50 rolled, pp
Glass Cowl, \$9.95 pp
Available soon: 1/4 Scale J-4
1/3 Scale J-3. ●