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BY GEORGE VOSS

The Super Skybolt From Great Planes

Long considered one of the most attractive homebuilt biplanes ever designed, the Super Skybolt makes a wonderful sport scale model, one that's every bit as aerobatic as its full-size counterpart.

Tf you've admired flying machines for any length of time, I don't have to remind you of the magic a biplane has. There's something special about those two-winged craft that will stop us in our tracks and cause us to crane our necks

skyward to watch their beauty. One of the prettiest of the homebuilt bipes is the late Lamar Steen's Super Skybolt, offered as an RC model kit for .60-1.20 size engines by Great Planes.

Being from Great Planes, you would

expect this to be an exceptionally nice kit, and it is. Supplied are cleanly die-cut wood, sheeting and sticks, the landing gear, adjustable engine mount, canopy and more nuts, bolts and screws than I cared to count! The instruction book is one of the best I've



seen, with 72 pages and over 300 pictures and diagrams. I'd bet an experienced modeler could build the kit by the book even without the aid of the two sheets of computer-drawn plans. Page 72 of the book contains a two-view drawing to aid the modeler in designing a scale-like color scheme. I really like that feature. I found only one error on the plans and that was the size of the main wheels—the correct size is 2-3/4 inches.

CONSTRUCTION

The tail assembly is first on the list. Nothing unusual here, simply a combination of die-cut pieces and sticks glued together, sanded and sheeted with 1/16 balsa. This yields a set of strong, light tailfeathers.

Most of the construction time is spent on the fuselage. It's not hard to build, but there are lots of pieces. The fuselage sides are made up from eight pieces of die-cut balsa and sanded smooth. Assembly starts with the rear bulkhead and you work your way forward from there. I had some minor difficulty installing the rear wing hold-down block; BP was glued in per the instructions, preventing the hold-down block from snap-



George sure knows how to make points with us!

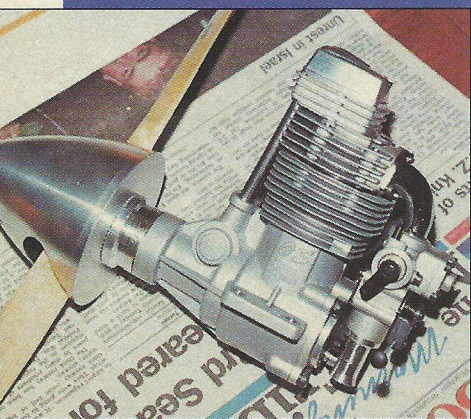


The author's Super Skybolt is definitely no slouch with that powerful pump-equipped O.S. 1.20 Surpass providing the pull. Aerobatic performance is outstanding.





The Skybolt has no nasty surprises in store for you at slow speeds, and all controls are effective right up to the stall. All in all, it's really a joy to fly, says the author.



The O.S. 1.20 Surpass With Pump

OK, so I'm slow to be a convert. I'd seen many others switch to four-strokes and extol their virtues—lots of torque, lower fuel consumption, etc. But I was a two-stroke devotee and planned to stay that way. The O.S. 1.20 changed my mind. I love this motor!

Quality is typical O.S.—excellent. The motor generally starts on the first flip and is a real powerhouse. I think it's a perfect match for the Great Planes Super Skybolt.

If you're still holding off getting a four-stroke, I think a little exposure to the O.S. 1.20 Surpass will change your mind. It's a quality piece of machinery that will give you years of excellent service. **MB**

ping in place. The remaining parts up to the firewall went in without difficulty.

I ran into trouble when I drilled the firewall for the J-Tec 122-SV mount shown on the plans; the upper left-hand bolt hole was right where the cabane holder mounts to the firewall. I had to modify the cabane holder to allow proper installation of both it and the engine mount.

The cabanes are easy to make. You do have to solder the cabanes together; a propane torch made this task easy. With the tank and cabane holders installed, you can close up the forward side of the fuselage and install the turtledeck.

I deviated from the instructions when installing the fin and stab; I waited until the lower wing was completed and installed so I could align the stab with it. The fin can then be glued in place exactly perpendicular to the stab. Sanding and installing the landing gear finishes off the fuselage. I used a Klett tailwheel assembly instead of the kit supplied one—strictly personal preference.

The Skybolt's wings go together easily. The parts fit is excellent and the construction tabs make it easy to build warp-free wings. The wings are of D-tube construction with balsa spars and shear webs. There is no dihedral in the top wing; the lower wing dihedral is set by the top wing and the I-struts, which are balsa/ply laminates. First you install the top wing and I-struts, then insert the I-struts into the lower wing panel halves, join the two lower panels and glue them together. It's a foolproof system and works fine.

The builder has a choice of aileron actuation methods. I chose to use two servos driving four ailerons. If you use this method, both wings have barn-door ailerons. If you

use one aileron servo, the bottom wing has strip ailerons and the top wing has none.

The cowl and wheel pants are made of ABS plastic. Although I prefer fiberglass, the kit-supplied items worked fine and appear to be holding up well.

I like to install the radio completely before finishing my models; this way I can solve any installation problems without ruining the finish. The kit-supplied servo tray will work fine for three servos, but because I had installed an AMP smoke system, I had to make a new tray to support a fourth servo. The new tray was installed as far aft as possible to overcome the weight of the O.S. 1.20 four-stroke in the nose. If you use the supplied servo tray, add some 1/8x1/4 spruce to the bottom to give the servo screws more material to grab onto.

The Skybolt kit is furnished with 2-56 control rod hardware, however, considering the aerobatic capability of the model, I chose to substitute 4-40 hardware instead. I used Dave Brown pushrods for the elevator and pull-pull cables on the rudder. For guidance, I chose the new Infinity 660 radio from Airtronics. Their systems have given me excellent service for the last 10 years and the 660 performed flawlessly

GP'S SUPER SKYBOLT

WINGSPAN	57 in.
WING AREA	930 sq. in.
FLYING WEIGHT	8.5-9.5 lbs.
WING LOADING	21-23.5 oz./sq. ft.
OVERALL LENGTH	52 in.
POWER .60-.91 two-stroke, .90-1.20 four-stroke.	
RADIO	Four channels required.

Produced by Great Planes Model Manufacturing,
P.O. Box 9021, Champaign, IL 61826-9021.



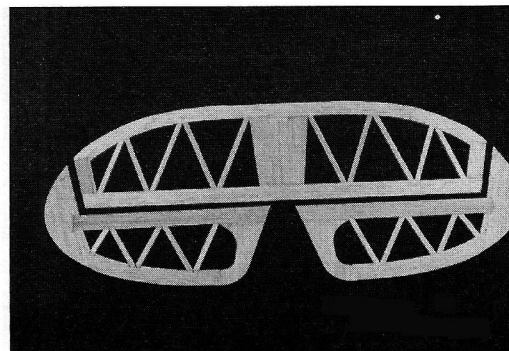
Photo of the Skybolt kit contents reveals a full complement of high-quality materials and hardware.

FINISHING

To simulate a scale-like covering job, I used Super Coverite fabric, followed by Coverite's 21st Century primer and paint. This paint is really neat. I shot it under terrible conditions (95 degrees and 95 percent humidity) and it came out great. After I applied the decals and rub-ons, the entire ship was sprayed with clear K&B Super Poxy. The clear coat really brought out the sparkle in the metallic red and blue paint.

FLYING

After the cursory picture-taking ritual I headed out to the field to meet my test pilot, Bob Pastorello. Bob finished 7th in Masters at the '93 Nats, so I knew the Skybolt was in good hands. After a bout with the engine (our fault, not the engine's) the sun set in the west to end our flying day.



A combination of sticks and die-cut wood parts make up the horizontal stab (the fin and rudder are similar). All are then sheeted both sides with 1/16 balsa to yield a strong, light set of tailfeathers.

during this review. I used standard 102 servos for smoke and throttle and contest grade 732 servos on the rudder, elevator and ailerons.

Our second trip was what the first should have been. The engine started on cue and everything worked like it was supposed to. The Skybolt's ground handling is good for a taildragger. We had a

Scale How-To: Rib Stitching

BY GEORGE VOSS

I had a feeling my Great Planes Super Skybolt was going to be a "keeper" from the start, so I put in a bit of extra time to make it more scale-like. One feature I wanted to add was simulated rib stitching, which I had never done before. One technique I'd read of used small pieces of

cut fishing line to duplicate the stitching, but this looked like a very time consuming task.

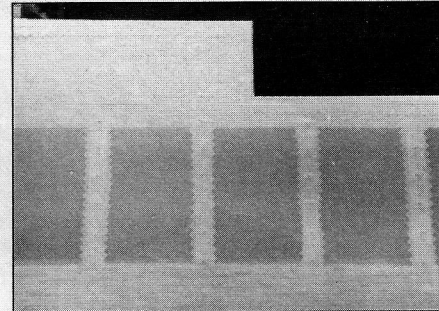
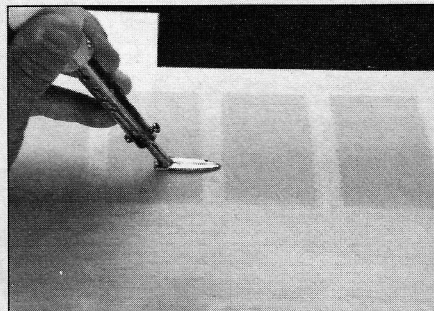
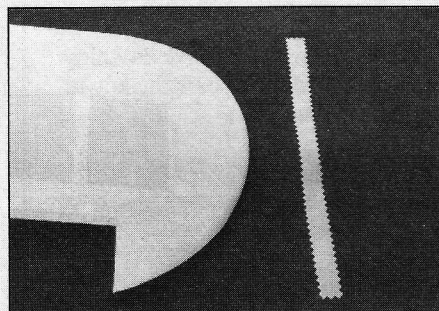
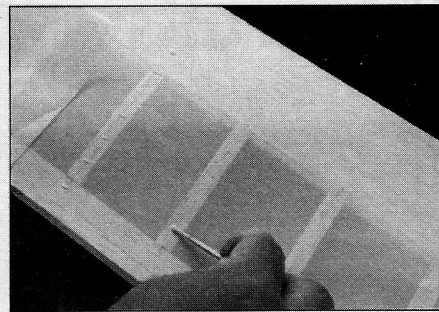
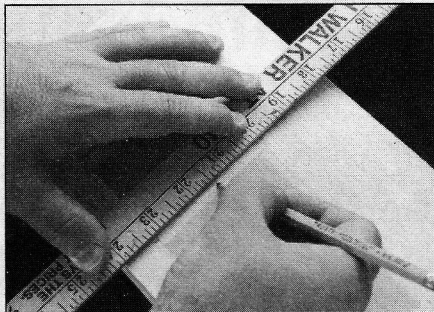
Modeling buddy Jim Bishop told me about another buddy's method of simulating rib stitching. I tried it and it works great. It's also quicker than the fishing line method. The

photos tell the story.

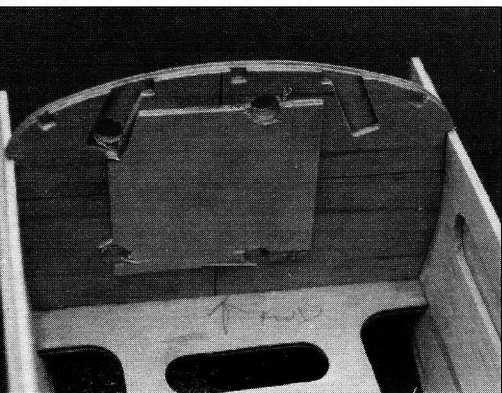
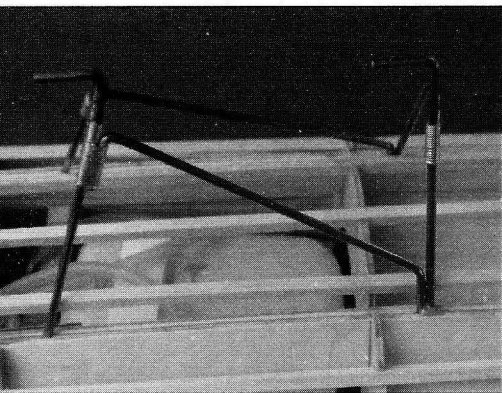
It should only take about one evening to put the simulated stitches on a wing and another evening for the pinking tape. It's not hard and will really put that finishing touch on your next project. Give it a try! **MB**



■ LEFT: This technique involves putting lines of glue across the ribs to simulate the rib stitching cord. The glue to use is called Aleene's Tacky Glue, available at craft stores. It's a white glue that dries clear and doesn't get hard. RC-56 might work also. ■ CENTER: Use a soft pencil to lightly mark the stitch locations. If you have a full-scale model to copy, space the stitches accordingly. The author used a 1/2-inch spacing on his sport scale Skybolt. ■ RIGHT: Put a blob of glue on a piece of wax paper, pick up some glue on a toothpick and make a short line with the glue on each mark. Let them dry thoroughly.



■ LEFT: While the glue is drying, make up enough 3/8-inch wide pinked strips (Super Coverite in this case) to cover each rib. For smaller models, check the hairdressing section of your local variety store for 1/4-inch wide, pre-pinked tape—this should work also. ■ CENTER: Iron on the pinking tape and you're nearly done. Using a trim iron helps get between each stitch. If the pinked tape material you're using doesn't have its own heat-activated adhesive, a coat of Coverite's Balsarite or Sig's Stix-It will do the trick. ■ RIGHT: If you're using Super Coverite, coat the surfaces with three coats of dope to seal the edges of the pinking tape. Make sure the pinked edges are firmly ironed down before dopping. This panel is done, awaiting paint and primer.



■ **TOP LEFT:** Cabane strut wires come pre-bent, but you have to bind and solder them together. Bottoms of the cabane wires are laminated between three pieces of plywood, which run from the firewall to the cockpit. ■ **LEFT:** George found that when he drilled the engine mount holes, the upper left hole interfered with the cabane mount. The solution was to notch the cabane mount to clear the engine mount bolt and then add a short plywood doubler to each side of the cabane mount to insure a strong attachment to the firewall. ■ **ABOVE:** George sure did a beautiful job of building his Skybolt. He went all the way and installed an AMP Smoke Master II smoke system, which can be seen mounted just forward of the landing gear.

quartering right headwind, so no right rudder was needed on takeoff. It quickly became apparent that the O.S. 1.20 was

going to give excellent vertical performance. Only minor trim adjustments were needed for hands-off stability.

The nerves settle, the tank gets filled and we're ready for round two. On this flight, Bob pulled out all the stops. Aile-

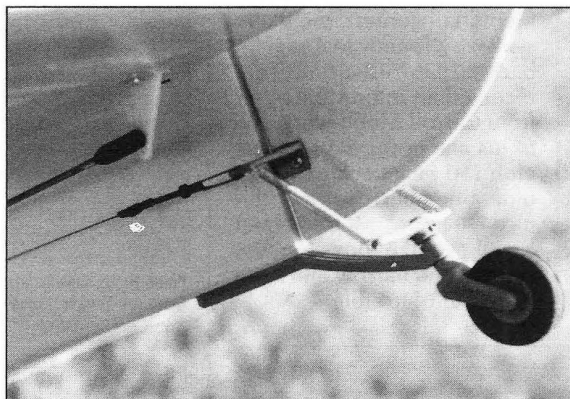
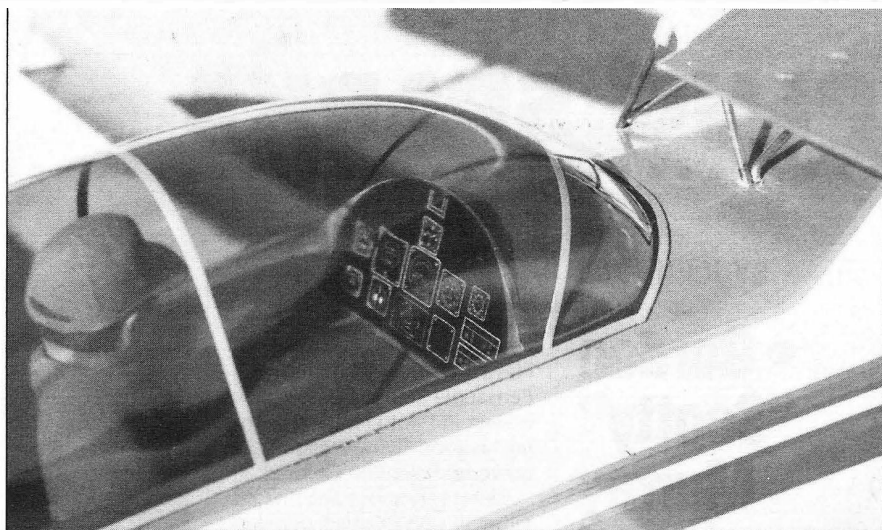
ron rolls, snaps, spins, tail slides, stall turns, you name it, the Skybolt will do it! But the most impressive thing to me is its stability. The winds were 10-15 mph on test day but the Skybolt made it look calm upstairs. It was absolutely rock solid. We found the ailerons and rudder to be quite effective. The recommended throws are good starting points.

Slow flight was most impressive. All control functions had authority up to the stall point. Slow flight showed no signs of tip stalling.

The Skybolt displays some typical bi-plane characteristics, i.e. roll coupled with rudder and yaw coupling with aileron. The Infinity 660 handled these mixes with ease. I'm not completely happy with my current mix ratios but the 660 has the capability to get me there.

CONCLUSION

The combination of the Great Planes Super Skybolt, O.S. 1.20, Infinity 660 and the AMP Smoke Master II is sure to peg the old fun meter. This isn't a recommended package for novices or the faint of heart, but if you can handle a low-wing sport pattern ship like an Ultra Sport, this is one potent package! The Skybolt does take some building skill, but the end result will reward the builder with a great looking, great flying airplane. I really enjoyed this kit. A tremendous amount of effort obviously went into it, and it shows. Great Planes, you have a winner! **MB**



■ **ABOVE:** The OGA pilot keeps a close eye on the kit-supplied Mylar decal instrument panel. Even a simple cockpit treatment like this adds much to the overall scale effect. ■ **LEFT:** Close-up of the tail wheel installation. The author likes to really wring out his aerobatic ships and therefore chose to substitute 4-40 linkage hardware for the 2-56 parts supplied. He also used pull-pull cables for the rudder control, and installed a scale-type Klett tailwheel assembly.