

# STERLING



## OLYMPIC CHALLENGER

By DEWEY NEWBOLD . . .

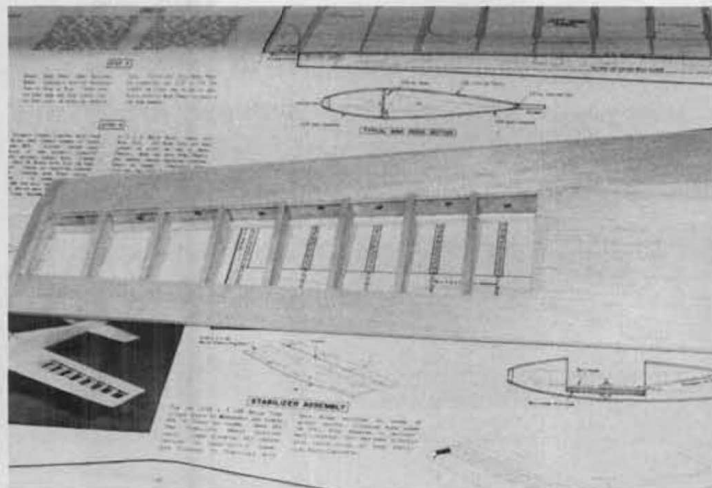
• Sterling's Olympic Challenger is a low-wing sport/pattern design for .19 to .35 two-stroke engines. We must admit this project was approached with some initial skepticism. After years of reviewing primarily .60-size pattern and sport scale designs, we had developed a definite prejudice against small airplanes, at least as far as our own flying tastes were concerned. Our reservations were unfounded, however, as the Challenger's flight characteristics make it a rewarding and fun project even for pattern flyers. More about that later.

### GENERAL DESCRIPTION

The Challenger has a wingspan of 48 inches, wing area of 414 sq. inches, overall length of 38½ inches, and Sterling quotes finished weight at 36 oz. "minus fuel and radio." The construction is conventional balsa and plywood, with a box fuselage, built-up wing, and flat sheet stab and rudder. The balsa and plywood parts are die-cut and a formed plastic cowl is provided. The hardware package is quite complete, with horns, clevises, screws, hinges, and even aluminum motor mounts. A set of water slide decals is included for both the military and sport paint schemes shown on the box label. There is no instruction manual, but an excellent set of full-size plans is provided. Instructions are printed on the plans, along with isometric views,



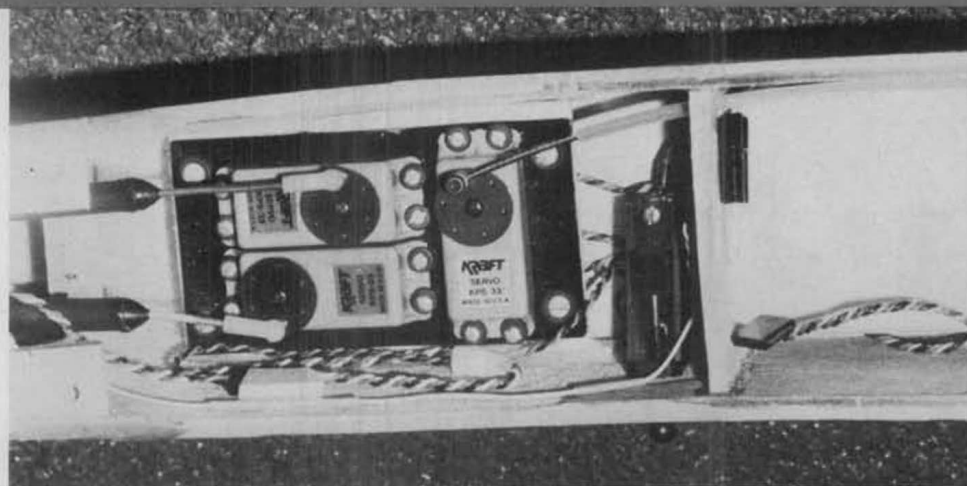
Out of the box. Die-cut parts, hardware, cowl, decals, strip and sheet wood, plans.



One assembled wing panel, with full-span shear webs. Note details on plan for building control line version.



Fuselage construction is simple and basic. Note keved splice and overlapping ply and balsa doubler.



Radio installation. Throttle servo mounted across fuselage. Rudder and elevator servos to the rear. Dave Brown pushrods. Wiring neat and organized.

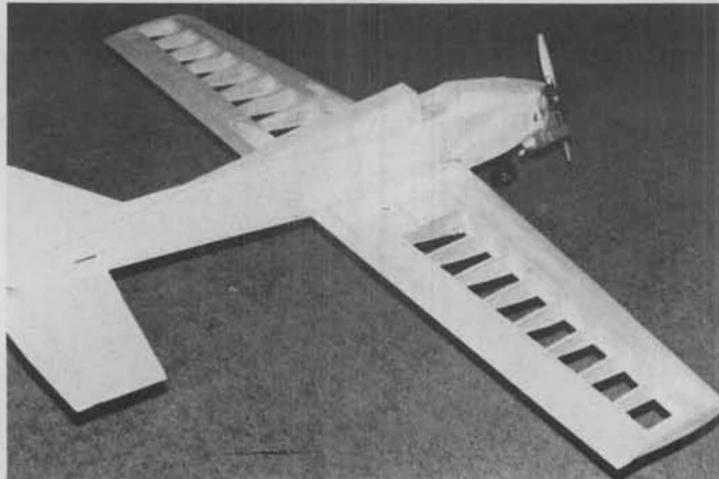
and are quite adequate. As a bonus, there are even instructions for converting the Challenger to U-Control.

## CONSTRUCTION

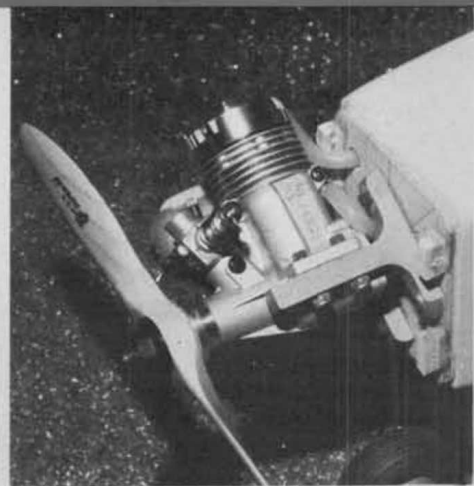
The wing construction is very conventional, with balsa ribs, spars, and sheeting, and full-length balsa shear webs for added strength. It goes together quite easily. The fuselage construction is also very simple, but several parts, notably the sides and vertical fin parts, required replacement due to dimensional errors. One other gripe is that the plywood provided is not typical aircraft plywood, but the dark variety more often found in boat kits. While not as nice to work with, we can't hon-



James Cummings with Challenger. Special Texas flying boots scare "critters" away while hunting for downed aircraft.



Assembled and ready for covering. Engine canted for muffler clearance.



The new O.S. 25 FP. Aluminum mounts are supplied in the kit.

estly say that it made a difference in the finished product. The nosegear is fixed and non-steerable. The firewall is of 3/8 in. plywood, which certainly doesn't hurt anything, but seems a little heavy for a plane this size. Overall wood quality was average.

## ENGINE

The engine used in our test plane is an O.S. Max 25 FP. This is a new, plain bearing, Schneurle-ported engine and proved to be an ideal powerplant for the Challenger. As is the usual practice for O.S., the engine comes complete with muffler, wrenches, and instructions. The quality and finish of the engine appeared to be consistent with O.S.'s usual impeccable standards. This engine replaces the O.S. Max 25 and allows the introduction of Schneurle porting, with its accompanying increase in power, at the same price as the older loop-scavenged model. World Engines claims that the 25 FP is only slightly less powerful than the ball-bearing 25 FSR. A new accessory is available that allows remote mounting of the needle valve assembly on a bracket fixed to the engine backplate, an excellent safety feature.

## FINAL ASSEMBLY

We covered our test airplane with Super MonoKote and installed a Kraft seven-Channel radio with the Kraft/Novak KPS-33 mini servos. The hinges supplied broke when flexed prior to installation, so we

replaced all of them with Radio South hinges. Hopefully, this was just an isolated case.

The design weight is easily achieved and our Challenger came out decidedly nose heavy. In fact, it was necessary to locate the battery pack just behind the wing trailing edge to balance the plane correctly. We mounted the engine using the aluminum mounts supplied, and canted it slightly to allow the muffler to clear the fuselage side. Our Challenger weighed 3 lbs., 4 oz. ready to fly, minus fuel.

## FLYING

Flight tests were conducted in less than ideal weather and due to our previously mentioned prejudices, expectations were not high. We planned to make only enough flights that day to give us an overall impression of the flight characteristics and get some photos, if possible. Instead, we flew the Challenger to near battery exhaustion as everyone who got their hands on the transmitter had an absolute ball. One of our pattern-flying group, Dave Percy, gave the Challenger a particularly good workout. Although we won't claim it is the ideal ticket to the pattern winner's circle, the Challenger proved itself capable of every maneuver in the AMA Expert Pattern. In addition to aerobatic ability, the Challenger has no bad characteristics.



Finished model in dramatic black, orange, and yellow.

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Challenger. .

Landings are slow, positive, and docile, with good control response all the way to touchdown. Despite the non-steerable nosegear, ground handling was excellent, except at very low taxiing speeds.

The O.S. 25 FP provided plenty of power for lively aerobatics. All flights were made with 10% Red Max fuel and a Fox glow-plug. After some experimentation, we settled on a Top Flite 8-6 propeller for best performance.

### SUMMARY

While we can't say the Olympic Challenger kit is without fault, it is reasonably priced and provides an overall rewarding flying experience. Deficiencies in the kit are more than compensated for by its excellent flying qualities. The O.S. 25 FP is a perfect companion for the Challenger, and performed flawlessly, as we have come to expect from O.S.

As a result of this project, our own feelings about "little" airplanes have definitely changed. The Challenger should be an excellent project for the sport flyer, as well as a great way for the seasoned contest flyer to relax and unwind. •