

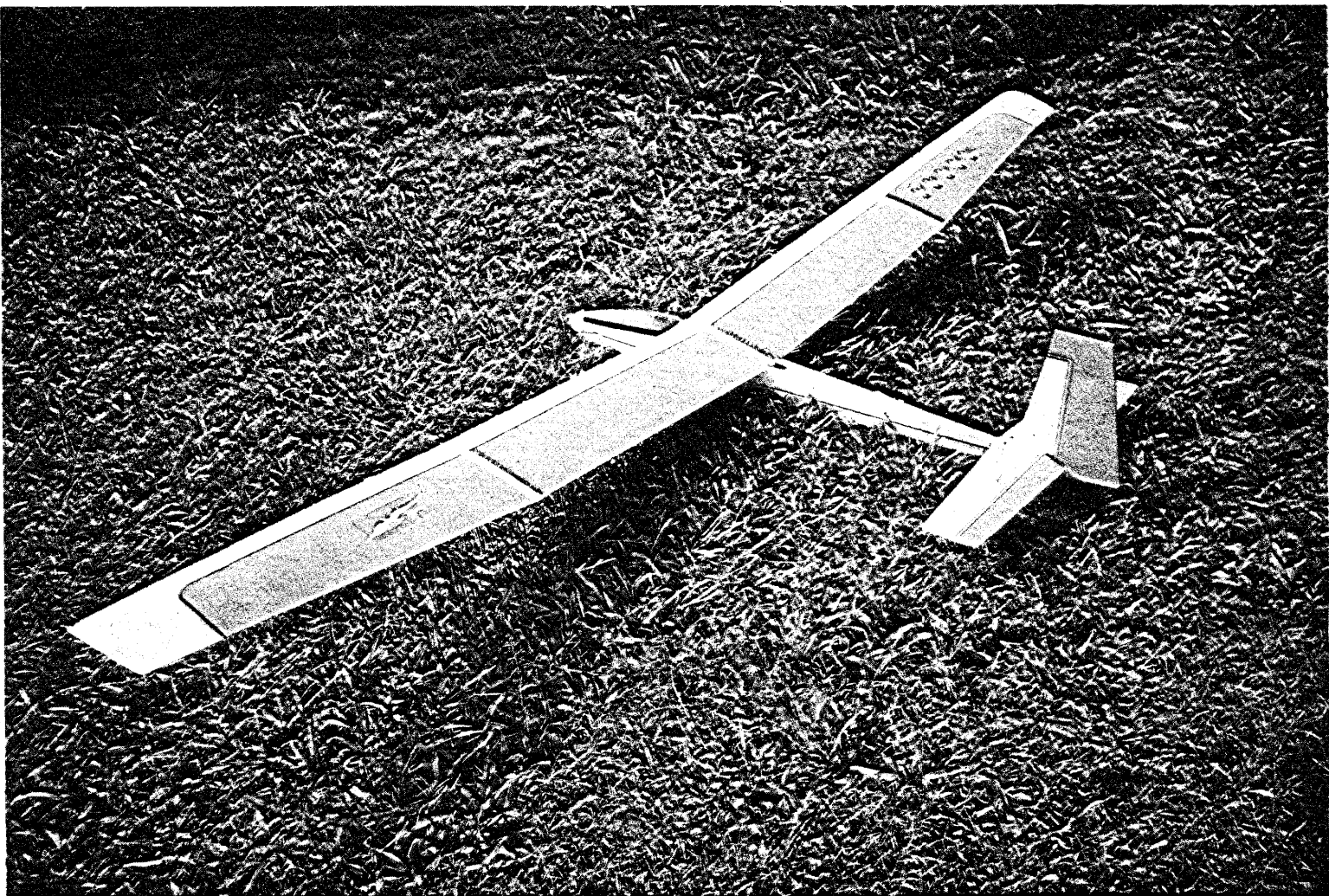
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# Radio Sportman

NEWS MAGAZINE

THE MAGAZINE FOR ALL RADIO CONTROL ENTHUSIASTS

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A graceful beauty in repose at the 1978 AMA Nationals. Soaring events had over 80 entries. Page 14 for more pictures of the Nats.

## OVERHEARD

Octura Models has a new line of boat props. 1467 Beryllium for 60 hydros, X455 for 60 Deep Vees and Mono and a 1750 for 40 Deep Vee and 20 hydros.

From models to full size. Bill Bennett of Circus Circus fame will have a full size hydro at the upcoming races in San Diego.

Polaris Products of Canada has word from Peter Buford, former owner of Tiapan Engines, that a new super fiberglass cloth and resin prop is on its way. Press molded up to 18 in. dia.

EWH has a 2.6 cu. in., 2 cycle engine. The Homelite engine is called a Super Hustler and turns a 24x8 prop at 1700 RPM to develop 24 lb. thrust. For a limited time it is priced at \$179.95.

Rumor has it that the Rev-Up propeller people are coming out with a new series of glow plugs.

(continued p. 3)

## RB 101 CROWN

by Pavel Bosak

The model aircraft I have designed does not necessarily belong with the models that win medals in the world championships. But it is a model that is built according to my experience in F3A category of FAI competition. It is the latest development in a long series of designs.

I have experimented with many different models and with many different airfoil sections between 10 and 20%. After much experimenting I made the decision to use an airfoil section with a thickness of 15.7%. I consider this a

good compromise for a model that flies like a jet but when stalled it will not fall into a swift turning spin. I have also experimented with swept wing designs. A swept wing model is more stable in straight flight which is good, but it is also stable crosswise which we do not like in an aerobatic model. In addition to this, when a swept wing model is flown slow it has a tendency to reel about to both sides. For these reasons I have chosen a wing with a slight sweep and a straight trailing edge and it is easier to assemble the ailerons and

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ABOVE: The author poses with his Crown 101. The radio is a British-made Sprengbrook. BELOW: The author makes some final adjustments as he prepares for another flight.

(continued from cover)  
torque rods.

The fuselage was shaped from an aesthetic point of view with regards to a pleasing side view. Originally the projection on the front bottom of the fuselage was done so the tank would be in line with the engine and to have more space for the undercarriage. I have since changed to a Robart fuel pump but have left the projection because it looks good. I am sure some model builders will agree with my design ideas and some will argue, but it is my opinion that there is no ideal model for every-

“... it does not do unexpected turns and it is not too sensitive on the rudder.”



constructed. First we must decide what type of undercarriage we intend to use. I have seen a few Crowns without retractable undercarriages and the flying speed seems to be reduced, but this is the only apparent difference. If you decide to use retractable undercarriage as I have drawn on the plans I would suggest Rhomair, as I consider them better than the push rod type. If you intend to use retracts you must make special cuts in ribs W4 and W5. The first step is to cut the ribs. I suggest the use of so-called rasp interpolation

“... a tuned exhaust . . . is not necessary as I have flown two seasons without one.”

method. Cut ribs W1 and W12 of plywood. Place 12 pieces of balsa between them and bolt them all together and now file them to the proper shape. In this way you will get 12 ribs with the proper taper. Ribs W1, W4 and W5 are reinforced with this plywood epoxied to them.

Make cuts for the undercarriage mounts in ribs W4 and W5 at this time. According to the plan make ribs W4 and W12 shorter. Now epoxy the ribs on Web 13 and at the same time epoxy in the space spars. For the wing assembly it is advantageous to use a wing jig. The leading edge, W14, and the trailing edge, W16, are now epoxied to the ribs.

... body. It can be clearly seen that the best models of the world's best pattern pilots are designed according to their specific demands and this is why they can hardly serve for common usage, though the exception prove the rule. Who can say that if you build a Curarre you will win the world championship, the model does not include Mr. Prettnier's hands. More important than the well-known model is to build a straight, not twisted model. This is the key to future success.

There is nothing in the latter set that cannot be done by any model. The flying speed can be increased with the help of a tuned exhaust but it is not necessary as I have flown two seasons without one. Again I would like to stress that the

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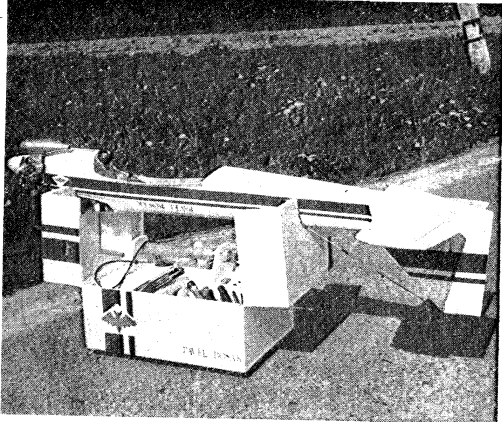
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**CONSTRUCTION**

The Crown RB101 has no special construction problems. It was built by the common method for building all balsa models. We will begin with the wing which we will need when the fuselage is

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A few model builders who are not very experienced have built the Crown and all of them are satisfied. The model can be gently controlled, it does not do unexpected turns and it is not too sensi-



The Crown fuselage rests in the very functional field box of Pavel Bosak.

Epoxy the inside of the undercarriage mounts including spars W17 and W18. The bottom wing sheeting is next. Balsa wood sheets are epoxied together to make a rectangular board that is as big as half of the wing. When dry, sand the board smooth. I epoxy the leading edge first and let it dry, then I epoxy the board to the ribs and trailing edge. After the sheeting is dry I build in the entire undercarriage including the undercarriage doors. When complete, take the undercarriage out and epoxy the inside pegs, W19, and the thin plywood reinforcement in the middle of the rear part of the wing. After the torque rods are installed for the ailerons, sheet the top of the wing as was done for the bottom. Epoxy the second part of the leading sides. All of the dimensions are on the edge, W15, and the wing tips, W21,

and sand the wing smooth. The wing is ready for MonoKote or silkskpan covering. The wing halves can be assembled now with the plywood joints W20.

**STABILIZER**

The stabilizer is built by the same method as the wing. The only difference is that we use only balsa webs without spance spars. I think that a detailed description would be of little value.

**FUSELAGE**

Before you start on the fuselage, cut out all of the necessary parts. Start with the vertical fin. Build the framework according to the plans and sheet both sides. All of the dimensions are on the plans. Cut the engine mount according

to the engine you intend to use. Epoxy blind nuts to the engine mount to secure your engine at this time. Assemble bulkhead F2 and the engine mount with the nose gear attached. Drill holes in bulkheads F2, F3, F4 and F5 for the necessary push rods and fuel lines. The easiest way to align all the holes is to lay the servos right on the plan and make the necessary drawings according to the way the servos turn.

In the case of the fin and elevator you must cut large holes for balsa push rods. The sides of the fuselage are the base for the assembly. The front part of the sides are reinforced with plywood. Epoxy the

The canopy is formed from thin plexiglass or similar material. The canopy can also be supplied by the author. The entire fuselage should be sanded and horizontal stabilizer fitted and epoxied in place. Sand the fuselage again and fill all nicks and cracks with putty or other filler. It can also be covered with silkspan. Put the wing and fuselage together and prepare to make the lower wing fairing. For this you will need bulkheads F3A and F4A. The elevators, rudder and ailerons are sanded from solid balsa blocks. Install with your favorite hinge. That is all of the construction. Install the undercarriage with the wheels and



The radio installation in the Crown is very straight forward.

sides and the bulkheads together and at the same time install the fin. Do not epoxy bulkhead F3 in place, just put it in place. When the bulkheads and sides are dry, glue on the bottom fuselage sheeting so the fuselage will not twist. Now epoxy in bulkhead F3 and finish the wing saddle. If you put bulkhead F3 in properly it is advisable to put paper between the fuselage and wing so the extra epoxy will not join the two forever. Place bulkhead F3 on the wing bolts and apply epoxy, then mount the wing and fuselage together. Hold the two together in the correct place with rubber bands. Now install F8 in its proper place. The space between F8 and the side should be filled with a mixture of glue and balsa dust, according to detail BB. When the tank and push rods have been installed you can finish the rest of the sheeting. Now cut the space for the engine and arrange a place for the cockpit. Install the cockpit floor and finally the canopy. Don't forget the pilot.

install the engine. Balance the model to determine the correct center of gravity. Now balance the model by the rudder and the spinner, it should be level.

**FINISHING**

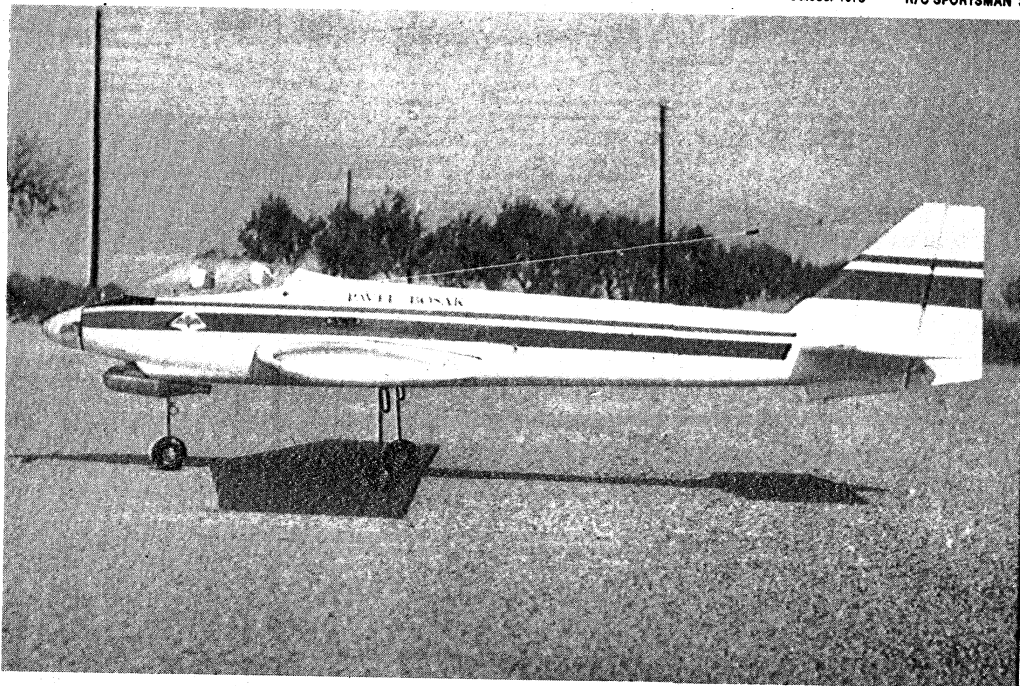
I believe every modeler has his own method but I covered the whole model with thin silkskpan and lacquered it six times. The color scheme was done in epoxy paints.

**FLYING**

If the plane is balanced according to the plans everything will be okay. If not, add weight to make it correct. There is no difference between flying the Crown and any other of F3A category as far as the flying is concerned. If this is your first pattern model, take my advice and let your more experienced friend help you with the first takeoffs and landings. The model is fast.

Now I would like to say a few things about my style of flying for which the Crown was designed. I like to fly a nose

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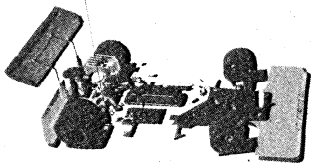


ABOVE: The profile of the Crown shows the generous fin and rudder area. Notice the sub fin. BELOW: The author displays the clean line of the Crown with the gear retracted.



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