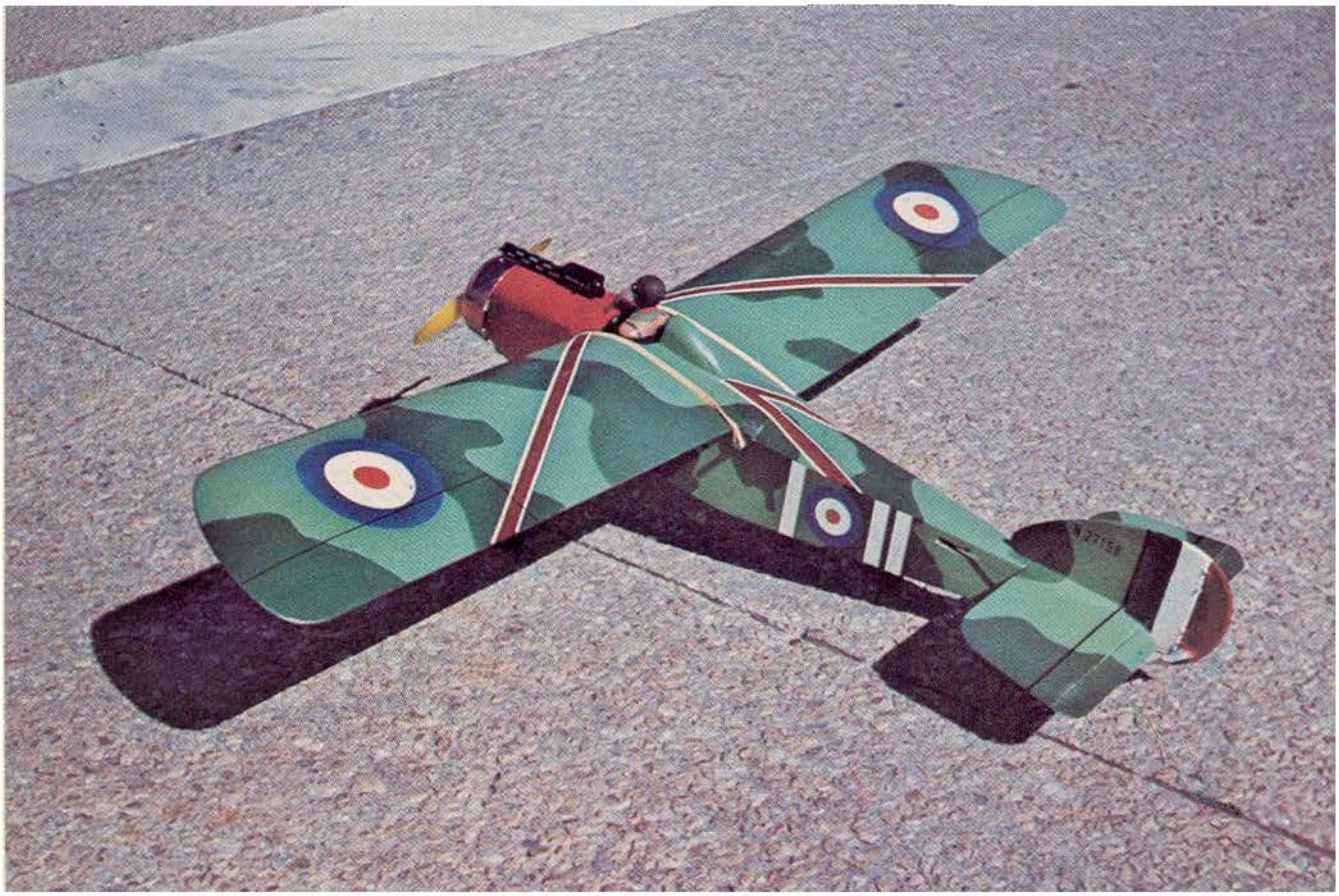


MAD THRASHER

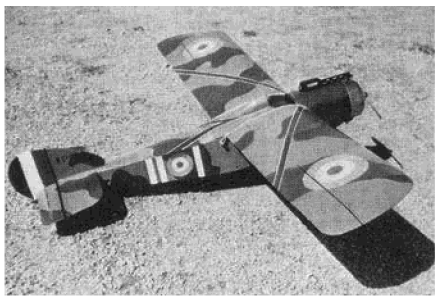
.09 TO .15 POWERED VINTAGE-TYPE SPORT AIRCRAFT FOR GALLOPING GHOST OR SMALL DIGITAL PROPORTIONAL SYSTEMS. AN EXCELLENT AIRCRAFT FOR THE SPORT AND SUNDAY FLIER AS WELL AS FOR FLYING IN SMALL, CONFINED FIELDS.

BY IVAN MUNNINGHOFF

Several years ago, when Galloping Ghost was considerably more popular than it is now, RCM's Fearless Leader published a small scale-like German GG design of his called the Wolfmeister LR-3. It was a cute little .09 sized ship with typically German scalloped trailing edges, WW I markings, and somewhat of an Eindecker look about it. When one of the other members of our club built one, I decided that I needed a plane in the same category as a flying companion for the Wolfmeister. A British antagonist was in order! The final design combined the features that I liked best of several Allied WW I planes with the simplest possible construction techniques. The result was a British tail-flapper – hence: the Mad Thrasher. However, the dream of aerial combat was dashed prior to the Mad Thrasher's completion when the German flew into a goal post and was wiped out. So now the Mad Thrasher flies alone – victorious by default. This design, by the way, won first place in the Model Aircraft Sport Design Competition held by RCM a few years ago.

When really small reliable digital proportional came into vogue not long ago, the Mad Thrasher became the test bed for my new Royal Classic. Even the relatively large PS-3 servos fitted into the small fuselage. The improved controllability provided by the digital radio greatly increased the performance of the Thrasher. It is now a pleasant change of pace from flying the hot pattern ships. Let's put one together.

Actually, the Mad Thrasher is a very simple plane to build. The fuselage is the standard box-type that is dressed up a bit by the metal cowling and a built-up turtle deck. Start construction by cutting out all the required parts for the fuselage. As you can see, there aren't many. Start with the fuselage sides, laying them on a flat surface and putting in the 3/32" balsa doublers (cross-grained), the plywood reinforcing doubler, and the tail-end vertical bracing. (Don't forget to make one left and one right side!) While these are drying, put a coat of Titebond glue on the edges of all three bulkheads and also along the sides of the fuselage where these formers will be attached. Sew the landing gear to the plywood former with copper wire. When everything is dry, reglue the formers to one half of the fuselage. When these are about half dry, glue



the other side of the fuselage on, and wrap the whole assembly with rubber bands to hold it firmly in place while it is drying, and to make sure that the slight right thrust is maintained, while keeping all the other intersections square. Choose a piece of very hard 1/8" or 3/16" balsa for the floor of the tank compartment – it will lend a lot of strength to this area. (I hope that you remembered to sew the landing gear to the plywood former. If you waited until this state, you're going to have all sorts of fun getting it in there!) The entire bottom of the fuselage is sheeted cross-grain with 1/16" balsa. The 1/8" x 1/4" hard balsa tail post extends all the way to the top of the fin to double as a rudder post and to strengthen the rudder-fuselage joint. The top of the fuselage is spaced with the three formers shown on the plans, 1/16" square stringers put in place, and covered with Silkspan.

The rest of the fuselage is self-explanatory. Just put it on when you get to it.

The cowling is the cut-down top from a drink shaker. Simply cut off the rim and cut a hole in the center for the prop to stick through. From there on, the holes are cut to suit your particular engine. I used a K & B .09 on a Tatone mount; the fuel tank is a standard control-line-type mounted wedge down. A clunk tank is not necessary unless you plan to fly upside down or doing outside loops.

The stabilizer and the rudder are made of 1/8" hard balsa sheet. There are no anti-warp cross-pieces on either surface. No problem has been encountered when care is taken to dope both sides of the surface at the same time with about the same amount of dope. Stiffeners can be added, if desired, to add a "ribbed" effect to the tail surfaces. Make sure that your control horns are on the opposite sides of the fuselage to minimize the chances of their interfering with each other.

The wing is patterned after the wing on the Guillow Vanguard. It has the three spars on top and one on the bottom. The only sheeting is 1/32" balsa on both sides of the center section which also has four small plywood dihedral braces. Two narrow strips of Sig Celastic add the final touch to the center strength. The main difference between the Vanguard wing and this one is in the tips. The only problem here is to be sure that the tips don't warp when covering and doping. The original model is covered with Silron which doesn't warp easily, fills in with very little dope, and lets you take out any warps that you might get by simply putting on another coat of dope and blocking the surface to the correct position until the dope is dry. The windshield is a piece of thin celluloid cemented into a slip in the forward fairing. It's flexibility keeps it from being broken off too easily. The pilot is a 1-¾" Williams Bros. standard. There should be 1-¾" dihedral under each tip.

Painting is the most fun in building models since you can let your imagination run wild with the camouflage scheme. I used two shades of green for the upper camouflage and a tan for the bottom pattern with bright red applied to the nose and all stripes (Aerogloss all around). The insignia and numerals are decals, and all black stripes and all white stripes are put on with Permacel tape. The wheels are Williams Bros. Vintage wheels with their center sections painted red. The machine gun is balsa with two dress snaps for fasteners so that it will pop off on hard landings.

Equipment installation is left entirely to personal preference. I originally used the Rand LR-3 servo, the World Engines NND-1 switcher, and CitizenShip relay receiver. The second system was a Royal Classic with strictly conventional mounting of equipment. All three servos were mounted side-by-side. Any of the new small digitals will fit easily.

That's about it. Unless you have some REALLY tall grass, I don't recommend that you test glide the Mad Thrasher. But with the incidences shown, and the center of gravity in the right place, there is no reason why you shouldn't have all sorts of fun right from the start.

It's a pretty plane – have fun!!!!!!

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