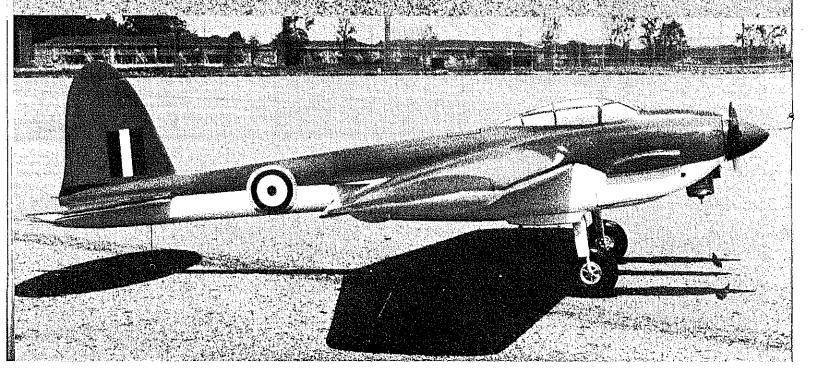
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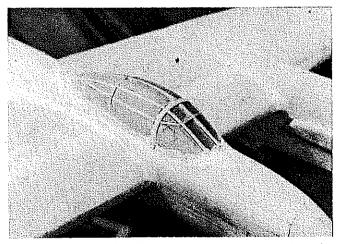
DEHAVILAND MOSQUIN

■ Jack Sheeks

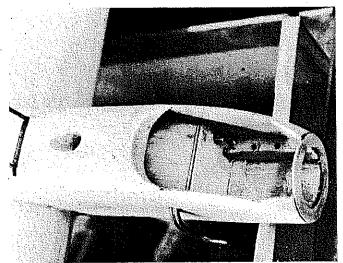
Upper view reveals close grouping of the engines, which, helps, in keeping, the mass reasonably centered: in (lower) side view, the sleek ness of the Mosquito becomes obvious, Note that the engines, wing, and stabilizer eligre close to the design's horizontal center—an aid for uniformity of maneuvers whether upright or inverted.

Patterned after a WW II plane of British origin in which modelers feel a kinship—it had lots of balsa in it—this model for two .35s is designed to be fully competitive in Control Line Precision Aerobatics.





Canopy started out as a Sig WW II type of 11 in, size, then was trimmed to shape. Framing is of 1/32-in, balsa held on with Hot Stuff.



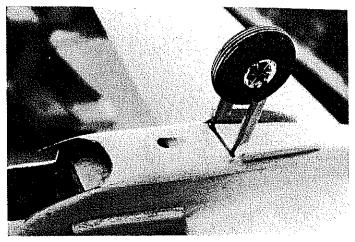
Installation of the Mike Mustain tank shows here, together with the engine mount and 1/16 ply nose ring. Provides simple, strong nacelle.

NICKNAMED the termite's dream and the wooden wonder because of its plywood construction, the Mossie came into being during the dark days of 1939 and 1940. England was at war with Germany and needed a fast high-altitude bomber and reconnaissance aircraft capable of deep penetration. It was designed to be so fast that it wouldn't have to be armed. When it finally entered service, it was faster than any fighter either side could put up. It had a speed of 382 mph loaded. Still, it's a good thing that the

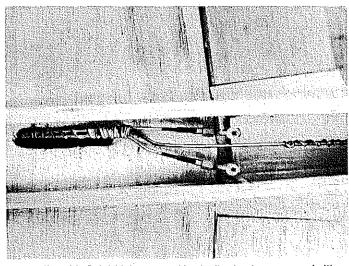
re, together with the mple, strong nacelle. Copper wire and sold designers had a little forethought to leave room under the flooring for four 20mm cannons.

There were 7,781 Mossies built in England, Canada, and Australia—in some 41 different models. It had a wingspan of 54 ft. and 2 in., weighed 19,670 lbs., and was powered with two 1,460-hp Rolls Royce Merlin engines. The construction included balsa which was sandwiched between plywood sheeting.

When the first Mosquito rolled out, many VIPs were invited to watch the show, and a very



Turned upside down, the air vent, landing gear, and gear skirts come into view. Gear held onto bulkhead with wrappings of copper wire.

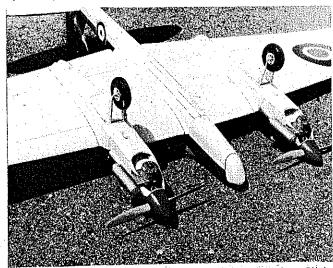


Large adjustable Quick Links are used for the flap hookup, wrapped with copper wire and soldered to the main 3/32-in. pushrod.

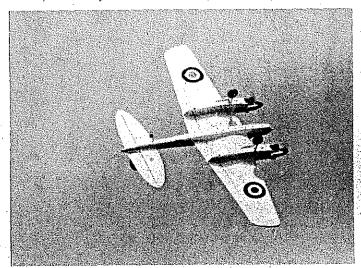
impressive show it was. They saw it perform vertical rolls from ground level with one engine feathered, and they saw it do over 400 mph. The Germans were also wanting to see the show, so they parachuted a man into England with a camera. He must not have spoken cockney English too well, as they caught him the next day.

If there is such a thing as best, the Mossie has to be the best all around twin to come out of the big WW II conflict.

As for the model, a little history might also be

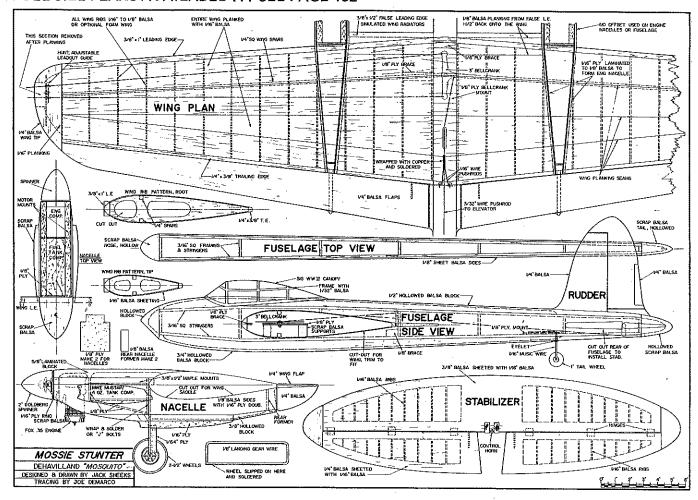


Ruled lines show up nicely on white bottom. Has Fox .35 engines, $2\frac{1}{2}$ in. Du-Bro wheels. Use of mufflers is highly recommended.



Here the Mossie is caught in a Reverse Wing Over. That twin engine sound really turns on a crowd; do you think it does any less for judges?

FULL-SIZE PLANS AVAILABLE ... SEE PAGE 132



in order. I've been building and flying twin Stunters for close to 20 years. Some were published in *Flying Models* magazine; others bit the dust (or perhaps we should say blacktop).

Some of the models were very good, and some were duds. We learned a little from each one, and have tried to use our education on the Mossie. This is why it has longer moments, larger stab and elevators, slower controls, and a high aspect ratio wing.

The beginning of the Mossie was a little shakey—as we had originally decided to build a P-38. But as time went by, and the weight of the P-38 was computed mentally, we decided, instead, that the Mossie was the way to go. It finished out at 4 oz., and we thought this would be a lead sled. We were wrong, as it really flys great.

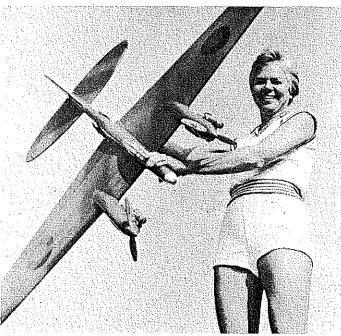
Before we could really get the Mossie going, we had to make a call and beg Fran Abt to build us a wing to match our drawing. He built us a very

fine wing that weighed in at 8 oz. and was very straight. (Wish he or someone would jig-build wings like these commercially. I'd probably be the best customer. Fran won't.) We picked up the wing at the first 1980 Dayton, OH contest, and carried it back to the shop (Sheeks' Hobby Shop), where we began our ballet of balsa butchery.

We felt badly about always building on the Continued on page 124

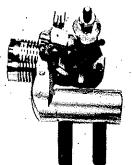


The author, Jack Sheeks, adjusts one of the Fox .35s prior to the first flight. Practice flights for judges at the 1980 Nats were impressive.



Shirley Jester holds the Mosquito for a good view of the top side—a tan and green camouflage-type finish with spray-can Pactra Formula U.

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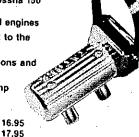


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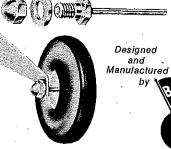
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1/16 rubber.

"Two main Vees of plywood, nicely streamlined, form the main supports for the through axle. Rubber strand 1/16 diameter is used to spring the axle in place. Two wooden wheels with rubber tires support the model. Skids were added to the landing gear to protect the hand-carved propeller in bad landings. The wide tread (15 in.) gives the model good ground stability."

On flying the model: "Flights were made over the Cornell University campus at Ithaca, New York. After starting the engine by using a large storage battery for ignition, and cranking the 20in. propeller, the ignition is switched over to a smaller battery carried in the fuselage. The tail is held as the motor revs up just like a large plane. When all is well, the tail is released, and the model fairly races across the field tail up. For a few seconds it is possible to keep abreast with it by running, and thereby direct its course by guiding the wing tips. Ground space has always been limited wherever Little Bitty has been flown; consequently, the automatic ignition cut out has been set to limit the flight to the size of the field.

"On block tests show the engine capable of running 20 minutes on a small quantity of gasoline,'

The Aero Digest article ended with a quiz on material covered in the report.

> **FLYING NEAR** AIRPORTS? BE CAREFUL!

Mosquito/Sheeks

Continued from page .52

ladies' counter, as it was hard for them to see the beads and stuff through the epoxy droplets and glue smudges. So we moved boats into that counter. Now the boaters can see the types of glue they need without buying or trying. We also used the model for instruction of beginners, as it was just sort of sitting there in the open.

We finally reached the point of showing off the Mossie. You know, where you shine up the model and hope your buddies see it and say something nice-without your pointing out all the neat things. The self-indulgence goes on until some wise guy finally realizes that you haven't flown it yet, and he wants to see it go. If you're like me, you want to see it fly, also, but you know that it could be the last of the new bird if you haven't figured everything right.

Finally ready, we gathered the best ground crew around-Al Pitts for the engine, Steve Ashby for the camera, and Big John Rodenbarger as our go-fer. After Al went flipidy-flipidyflipidy on the engines for awhile, and couldn't figure out why the Fox .35s were a little balky, I explained to him that they were brand new and had never been popped before. This slowed us down a little, as we had to run the engines a couple of times before Al would let me take off. Me-I wasn't worried. I've used Fox engines for over 20 years and was quite sure that they would run all the way through the test flights. They did,

Once the ship got airborne we knew the Mossie was good. It grooved like it was on rails, and it turned as fast as anyone would ever needwithout yawing, hopping, or any of that bad junk. We added another 1/4 oz. of outboard wing weight, bringing it up to one full ounce. Your ship may be different. So just counterbalance the wing to begin with. Just add enough weight to the outer wing so that it will droop when you pick up the ship at the center line.

We worked out engine settings, fuels, mufflers, line lengths, and all the little things that can hold you back from competing, but we weren't quite ready to fly it at the 1980 Nats. (In fact, our older Stunt ship wasn't worth much, either, as we couldn't keep it running long enough at the Nats even to practice with.) But we did fly the Mossie at the Nats for judging practice, and they seemed to like how the ship performed, and they were surprised that it did so well.

The Mossie truly is a Stunt ship, so why not give it a try? If you don't have two Fox .35s laying around, they still are just about the least expensive Stunt engine on the market. And twins are the coming thing.

Construction. We started with a wing built for us, but you can cut a foam wing from the rib patterns, or you can construct a built-up wing. If the latter, start with good lightweight 1/2 balsa stacked between patterns as per the plan. Carve the stack to shape with an X-Acto #226 carving blade. Sand the rib stack to final shape, then build only a half of the wing at a time; this helps keep it straighter.

In building the wing, Hot Stuff the ribs to the spar, which you should anchor on a flat board. Align the ribs by centering them from front to back; also, measure them from center to working board, making sure each is equal in front and back. Then glue on the top spar, trailing edge, and leading edge. Make sure all the pieces are straight before installing the leading edge and trailing edge planking.

Build the other wing half. After aligning the two halves, glue them together with the plywood

doubler and the center planking. Leave off the top planking until you install the bellcrank, leadouts and pushrod to the flaps. Now you can finish sheeting the wing and install the tips (along with the adjustable lead-outs). Install the flaps, pinning the hinges. Hook up the controls, and make sure they work smoothly. You now have a complete working wing.

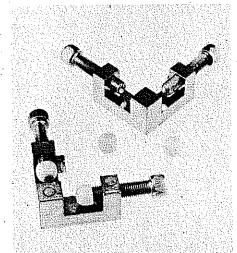
Cut out the four nacelle sides from ½ balsa, and the 1/16 plywood doublers. Glue them together, along with the ½ x ½ motor mounts. The formers for these nacelles on the prototype were cut to fit two Mike Mustain Custom 3½-oz. fuel tanks—an excellent product. All these pieces are fitted together around the tanks and glued. The motor mounts are then drilled, and blind nuts are installed to fit the two Fox 35s. The nacelles are then mounted on the wing with epoxy glue. No extra doublers are used, as a lightweight model is desired.

Build the fuselage from 1/8 sheet and 3/16 squares. Align the wing with the fuselage in both top and side views, and glue it in place. Do this before the top and bottom fuselage blocks are put on. While the glue is setting up, build the horizontal tail surfaces.

The landing gear of 1/4-in, music wire can be mounted nicely on the ply nacelle formers by wrapping with copper wire. This gives a lighter weight and is less bulky than other methods. The other thing you can do, if you wish an aged appearance, is to spray small amounts of black around judiciously, but on the prototype, we sprayed on clear to protect the ruled lines and tail wheel is similarly mounted.

When the stabilizer and elevators are all together and the glue has dried, sand to shape, then install the control horn and hinges. Solder the pushrod on, and slide the completed stab into place. Wrap the wing flap and elevator pushrods together with copper wire, then solder. Slide the stabilizer back and forth until it aligns horizontally

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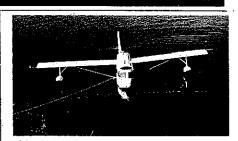
with the flaps (which should have been pinned in place along the center line used to align the wing with the fuselage). To make sure that the ship will groove properly, the wing, stab, and engine bearers all need to be perfectly aligned with one another.

Tack-glue the top and bottom blocks on the fuselage and nacelles, and carve away. When the proper shape is obtained, pop off the blocks, and hollow as much as possible. Then glue on the blocks permanently, and sand all the parts until really smooth.

Shape the nose of the nacelles to conform to a 2-in. spinner, filling in as necessary with scrap balsa. The nose and tail of the fuselage are made from scrap balsa and hollowed out. The canopy is cut and fitted from a 11-in. Sig WW II Canopy, then framed with 1/32 balsa. Install the 4 balsa rudder last, as it is too easily broken off when moving around the model. Make fillets with a mix of talcum powder and Sig dope, then do final sanding.

Finishing. Our process starts off by smearing on a coat of Hobbypoxy Formula II, and then scraping off as much as possible with a plastic playing card. However, the Hobbypoxy must be kept out of the controls. We apply a thin coat of heated Vaseline to protect the controls in this process, but you have to be careful to avoid a

Sand the first coat with 320 wet-or-dry sandpaper, and then give a second coat of Hobbypoxy. After again sanding, apply two coats of K&B. Super Poxy Primer—sanding between coats and afterwards. Final finish is Pactra Formula Ufrom a spray can—tan and green on the topsurfaces, white on the bottom. Decals are those put out by Bob Dively Model Aircraft Co. One



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Give the Mossie a try. You won't be sorry. If you're ever in Indianapolis look us up (Sheeks' Hobby Shop) and stop by. We may have something else all spread out, and you can join us in a kibitzing session.

CL Aerobatics/Paul

Continued from page 54

My favorite cure-all for everything from oversensitive planes to stress cracks in the fuselage is adding nose weight, as my "friends" are so prone to tell me. However, more nose weight can desensitize a tail-heavy plane, can help the "grooving" of a plane, and can help to make the round figures smooth out instead of appearing jerky.

Now you have enough variables to give you at least 50 flights which, if nothing more, will teach you a lot about your airplane and get you to know some of its characteristics. Besides, 50 flights is a good number of practice flights and is probably more than half the competitors at the Nationals have under their belts the last month before the meet! And, we haven't even cut into the plane yet to adjust the flap horns or the flaps. Neither have we changed the tank yet, nor shimmed the engine up in the front or the back to help the turning one way or another, nor have we changed the engine offset (if you're still having line tension problems).

It really helps to have a flying buddy there when you are experimenting with trimming. By observing the airplane from the judges' position,

or from underneath where the maneuvers are taking place, your flying buddy can give you valuable information on what the plane seems to be doing. Also, if you don't mind someone else flying your plane, try letting your buddy fly it and see what it feels like to him and what it looks like to you from a different perspective. This could be a valuable tool in helping you evaluate if the difficulties lie with the plane or with you!

For information on Stunt or PAMPA, contact Wynn Paul, 1640 Maywick Dr., Lexington, KY 40504.

CL Carrier/Perry

Continued from page 56

vide more current information than even the Competition Newsletter section of MA. The major advantage of NCS membership, however, is the common voice we have in our relationship to the CLCB and the Navy Carrier Rules Advisory Committee. Membership is \$6.00 for 12 months. You can join by contacting LeRoy Cordes at 1412 West Hood Avenue, Chicago, IL 60660. It's well worth the price.

Fuel tanks revisited. I've had a couple of questions regarding the fuel tank drawing in the April MA. The central theme of the letters seems to be, "Why doesn't the fuel run out?" With the entire vent tube below the level of the fuel in the tank, this would appear to be a problem, but it isn't.

With only two openings in the tank, fuel cannot flow out of either line unless air flows into the tank through the other line. As long as the inside end of the vent tube is above the fuel pickup point and below the carburetor, there will be no leakage either through the vent line or through the carb. With the tank mounted behind the engine on a conventional gear model, these conditions are met. Note that any uniflow tank will tend to pass fuel through the vent line if the engine is primed by choking, because the intake timing can cause air to be pumped into the tank through the fuel line.

Make it easy on yourself. How often have you found a need to change a fuel tank because of a leak or because you changed throttle systems? Or perhaps the throttle linkage or control mechanism needed to be modified. If you built your models like most of us, myself included, you either had to live with what you had or cut open the airplane to make the changes. This month's models, as well as being interesting prototypes, show some handy solutions to this problem.

Brian Silversmith used a hatch on the bottom of

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CORRECTION
The phone number for HORNER
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