**The ever-popular Super Hots now joins the two-wing set.**

# SUPER Hots BIPE

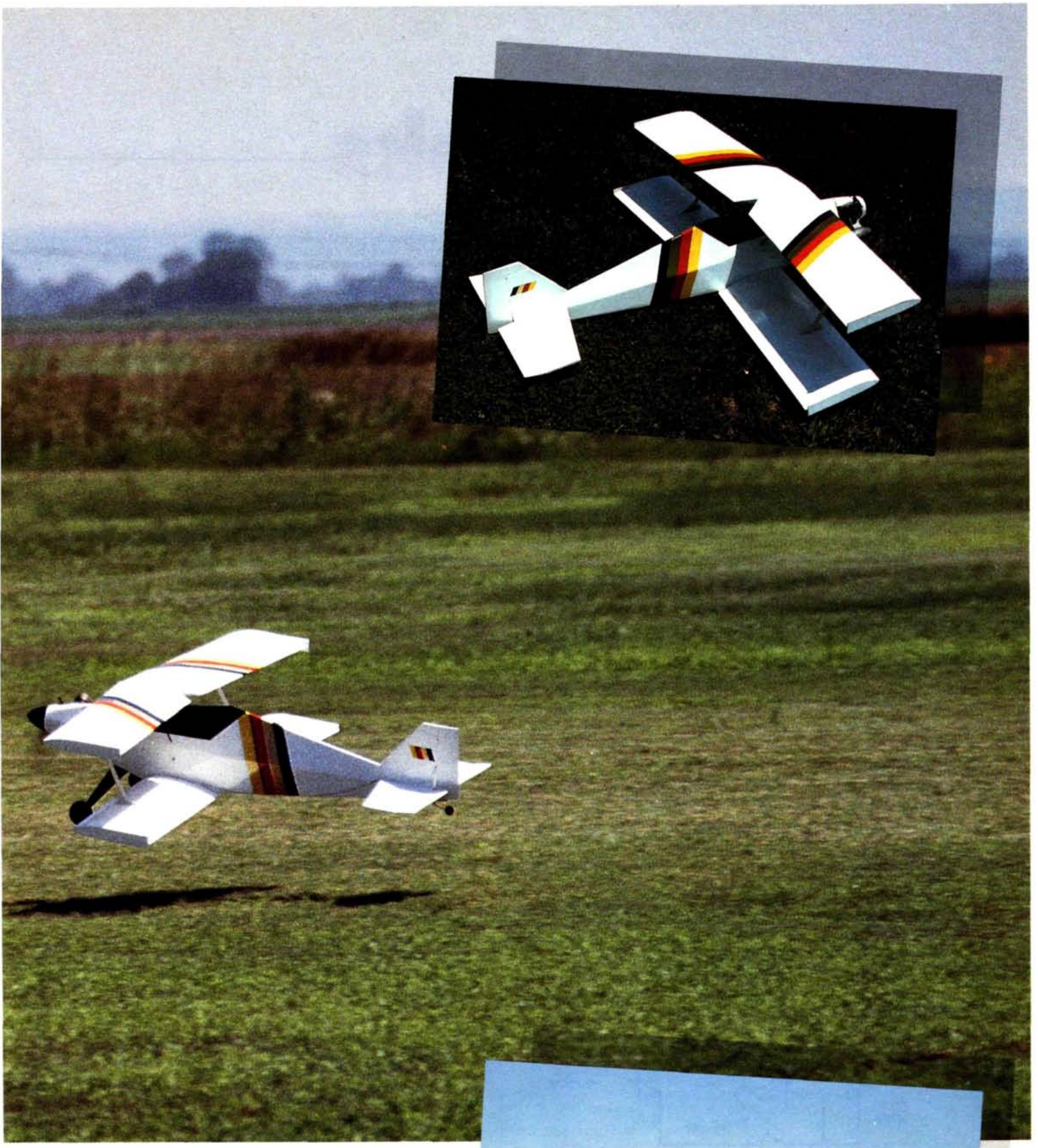
by FLOYD MANLY

THE SUPER HOTS BIPE is almost an exact copy of the *M.A.N.* Super Hots with the exceptions of an added inch of depth to the fuselage and the cabane installation. We designed and built new wings to get the desired square inches, and we swept them both back simply because they look good that way. Their stagger was determined from a very old formula of Chuck Cunningham's that has worked on every bipe I've built.

The tip plates are an innovation copied from a full-size Super Pitts Special that is seen in our Arkansas skies very often. They work! Roll rate is increased noticeably, and slow speed stability is dramatically enhanced!

This is not a beginner's airplane nor a first-time scratch-building project, so the usual step-by-step instructions and photos aren't included here. The plans should be true because they were dimensioned and drawn *after* the model was built and flown.

It flew so well, publisher Louis DeFrancisco, Jr., insisted that we get plans, pictures, and a story to him right away. The pictures are of the original conversion after 50 to 60 flights. The plans were done with as many notes as possible, and the



story is abbreviated because only experienced fliers will build a Super Hots Bipe, and they don't read instructions anyway (though they should).

CONSTRUCTION. The wire cabanes will take some grunting and cussing over, until you get the top wing incidence right. Don't give up on them until you have parallel wings with 1° to 1½° negative incidence in the top wing. The interplane struts

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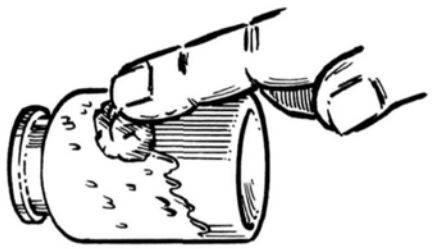
# Hints & Kinks

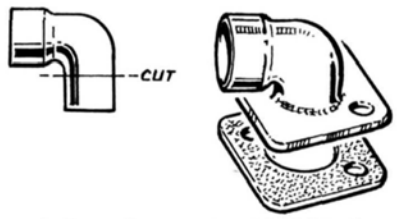
by JIM NEWMAN

**Model Airplane News** will give a free one-year subscription (or one-year renewal if you already subscribe) for each idea used in "Hints & Kinks." Send rough sketch to Jim Newman, c/o **Model Airplane News,** 632 Danbury Rd., Wilton, CT 06897. BE SURE YOUR NAME AND ADDRESS ARE CLEARLY PRINTED ON EACH SKETCH, PHOTO, AND NOTE YOU SUBMIT. Because of the number of ideas we receive, we cannot acknowledge each one, nor can we return unused material.



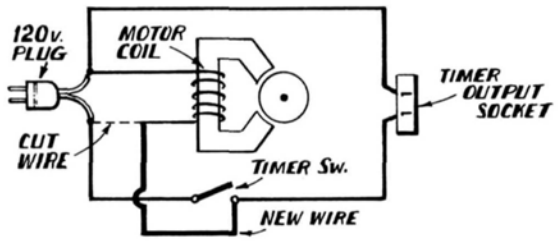
Some modelers use the technique of rubber cementing their templates to balsa wood. On peeling the templates, a rubber cement pick is useful for removing the residue from the balsa. Make a pick by painting rubber cement on a clean glass jar. Roll the dried cement into a ball, then use the ball or pick by dabbing vigorously on the balsa—this picks up the cement residue very easily.

*Dennis Bryant, Burgess Hill, Sussex, England*

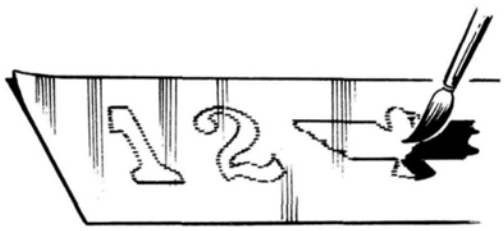



On many cowled gasoline engines it's difficult to reach in to choke the intake. Use a regular copper plumbing elbow, cut as required, then silver-solder to an adapter plate. Use a cork or similar gasket material for the gasket when bolting the elbow to the carburetor flange. A regular cork or surgical rubber bung is used for choking—in addition the elbow also serves as a neat ram air intake. A nylon stocking filter might be a good idea in dusty conditions.

*Richard Rhoads, Brookville, Ohio*

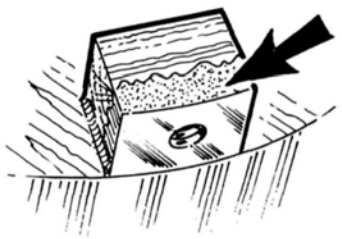



If one makes use of a household 24-hour outlet timer in charging Ni-Cd packs, it is not unusual to forget to unplug the charger after the charge cycle is complete, hence it switches on the charger again 8 to 10 hours after the last charge. Here is a simple modification to an inexpensive K-Mart timer. The modification disconnects the power from the outlet socket **and** the timer motor at the end of the charge cycle. *Don Kelton, Palm Beach Gardens, Florida*



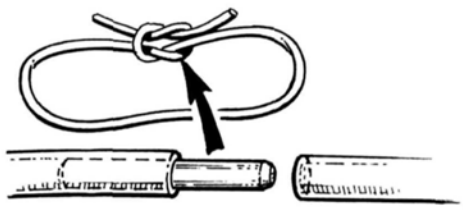
Many modelers now have microcomputers, which can be used to produce your own decals. Blank decal paper is available—try Sig or model railroad stores. Place a piece in the dot matrix printer to create your own design, which is then filled in with fuel-proof dope or enamel. The dot print can be carefully washed off with water if necessary.

*Julie Knott and Dave Prochnow, Bellevue, Nebraska*



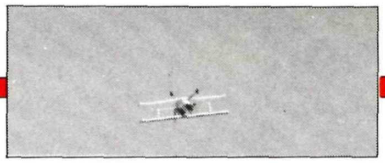
Many cowls are attached by wood or sheet metal screws into wood blocks. After a while the screws strip out of the wood blocks. This is a simple remedy, best put in place during building. Apply ⅛- to 5/32-inch Devcon Plastic Steel to each block. Because this is 80% steel filler, it's really hard and can be drilled and tapped for a machine screw, under the head of which a lock washer can be used.

*Ray Gareau, Laval, Quebec, Canada*



Do you have a large Old Timer that needs very large wing rubber bands? Make your own custom size bands from surgical rubber tube—the small-size, amber-color variety. Wet the ends, then tie a square or reef knot. Your columnist shows technique used to join glider high-starts. Cut a 2½-inch length of suitable size dowel, then apply cyanoacrylate into each end of surgical rubber tube. The joint is neat, invisible, and has never let go after hundreds of stretches.

*R. Paul Voogd, Parkersburg, Iowa*



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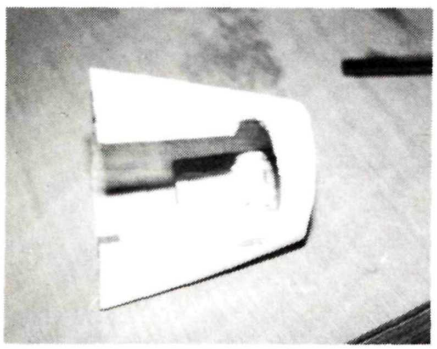
should be made after the wings are fitted to the fuselage and should be approximately 1/8 inch longer than the space between the wings to assure a tight fit.

The fuselage can be built in a couple of evenings. Be careful not to attach the chin plate and landing gear block until after fitting the bottom wing and drilling for the dowel in the leading edge.

The bottom wing builds in the following manner. Cut the 18 ribs needed from semi-hard 1/16-inch balsa sheet. Sand them all to the same shape, then mark their tops. Notch all but four of the ribs to be cut later for the ailerons. Build each wing panel separately, including the leading edge and trailing edge sheeting and cap strips, and shear webbing. Use a razor saw to separate the ailerons from the wings, then add 3/16x3/4-inch balsa stringers to the back of the wing and front of the ailerons. Join the wing halves with 3/4-inch dihedral under each tip, before sheeting the top center section. Cut out the servo bay and center ribs to install the plywood floor and dihedral braces. Fiberglass the center section before trial-fitting the wing to the fuselage. Carve and sand



*Cowl can be built of balsa blocks but a fiberglass cowl and wheelpants are available.*

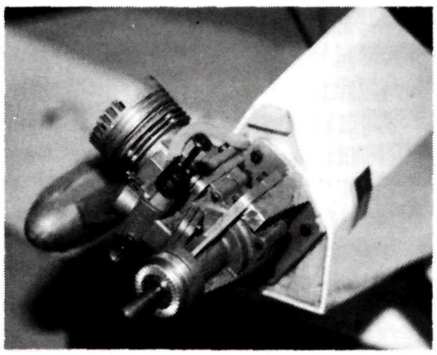
the fuselage to get a good fit and the zero incidence in relation to the fuselage reference line. Assure that the wing is centered and squared before drilling a 1/4-inch hole through the dowel mounting plate into the wing leading edge. Carefully epoxy the dowel into the wing leading edge, then recheck the wing for zero skew before drilling the holes for the rear mounting bolts.

Complete the bottom wing by finishing the little details of tip plates, control rods, hinges, etc.

The top wing is much easier and quicker to build because there are no controls or dihedral to contend with. First, build the halves separately, then join at the center ribs with NO dihedral. After all the sheeting and cap strips are installed, mark and cut the openings for the cabane mounting plates on the bottom side of the wing. Check for skew and the negative incidence before epoxying the plates to the wing. (That step is probably the most important of all.) A Robart Incidence Meter is essential. Without the negative incidence in the top wing, the aircraft will have a tendency to swoop, or climb, whenever speed increases as in diving approaches and throttle changes.

The rest of the building can be got directly from the plans.

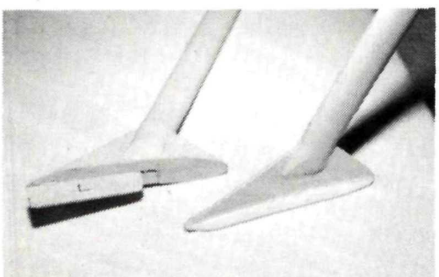
FLYING. Let me start with a question:



*Original airplane was powered by a Fox Eagle, which proved to be more than enough power.*

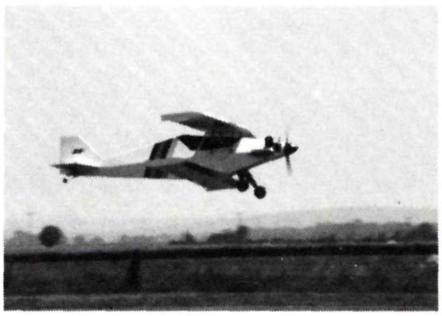
can anyone tell me why I need to hold a little down-elevator when doing a knife-edge with my bipes? Other than that fault, the Hots Super Bipe flies so well that the test hop portion of its first flight lasted about 1 minute until the trims were set, then we just flat wrung it out and landed only when it ran out of fuel. It was thumbs up from everyone that has seen her fly. She tracks well through all maneuvers and is very stable during slow flight, especially on landing approaches.

The Fox Eagle II .60 is too much engine for her, but I like the power to take off on prop alone and climb vertically to any altitude.

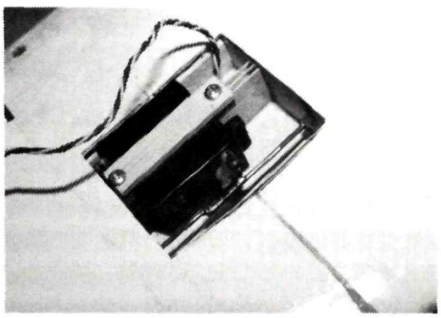


*Wing struts are simple plug-in types, but must be slightly oversize to remain in position.*





*It all comes together in the air. Airplane should be a fun-fly winner.*



*Aileron servo cavity shows an interesting hold-down method.*

The HSB is faster than most bipes and still as quick as any. I'll guarantee you that your first snap-roll will be more than one and a half! To get just one, you have to punch the sticks, and release them before she starts to roll or she'll keep going for more than you intend.

With the overwhelming success that the single-wing Hot has enjoyed in sports circles, this two-winged version will certainly bring home more than its share of fun-fly trophies! ■