



# Sniffer Construction Notes

"Sniffer"-so named because of its thermal sniffing qualities -- is a small, stable cabin model, designed around the Anderson "Spitfire" and the O.K. cub. Ample volume has been provided for whatever engine timing device and/or dethermalizer that the builder may wish to install.

Construction is begun by cutting the two fuselage sides and all parts marked with an 'F' from the printed sheets. Note that there is a right and left-hand side. The first step in building is the cementing - with plenty of cement - parts F-1 and F-2 on each side piece. Note from the top view that these pieces extend only as far as the location of the former F-3. In effect, these give the model a "plywood" nose.

After the two sides are dry, on one of the sides, formers F-3, F-4, F-5, and F-11 can be cemented. Notice that F-11 forms a sort of floor to the cabin. The second side can now be cemented in place and the two back ends brought together and cemented securely. Check at this time to be sure that the sides are square with each other. If they are true, add the rest of the formers.

The landing gear is next cemented in place on the rear of F-3. The gear is locked in place by the addition of the two F-10's, which are finely cemented to each side. Give the completed landing gear attachment section an extra coat of cement after the first is dry. The next step is the mounting of the 3/32" diameter wing-attachment dowel and the wing platforms #1 and #2 (which are cut from the printed 1/8" sheet). Cement the dowel in place, first, in the center of the tops of F-5 and F-6, and when this is nearly dry, on each side place WP-1 and WP-2, Note that a shallow groove is formed. This will act as a keyway on the center wing rib to help keep the wing aligned.

The die-cut firewall can next be cemented into place. Use plenty of cement on this operation - preferably with cement that will resist the action of glow-fuel. If it is planned to use the Q.K. "Cub" holes will have to be drilled in the plywood furnished as shown on the plan.

Covering the top and bottom of the fuselage with 1/32" sheet balsa is the next step. Note that the bottom is covered (at this time) from F-3 to the rear. (The cowling can be added after thrust adjustments are made). The only trick in covering with balsa is to work rapidly, putting the cement first on the bulkheads and then on the sides, and holding the piece either by hand or with pins until the cement sets. When dry, the excess can be trimmed off with a razor and the completed fuselage sanded smooth all over.

The wing and stabilizer are built directly on the plan. Cut out all parts from the printed sheets and sand lightly. Shape the wing spar as shown and pin in place. Cut the four lengths of trailing edge and pin them also in place, blocking up the front edge with scraps of 1/32" wood. This will maintain the airfoil correctly. The ribs can be then cemented in place (note the ribs at the dihedral breaks are not put in until the dihedral is formed). When this assembly is dry, block-up the tips and the center panels the amounts show on the small front view. Then using plenty of glue, add the dihedral braces W-2 and W-3. With the wing still blocked-up add the regaining ribs, the leading edge and the tips. When the wing is dry; glue in the small triangular gussets in each corner or the dihedral breaks.

Sand off all excess glue. Then sand off the leading edge and tips to make a more perfect section.

The stabilizer is made in the same manner, but not having dihedral, can be completed flat on the plan. Note: the 1/32" sheet fill-in on the bottom. This is done in 4 small pieces so the bottom of the stabilizer will be flat.

The rudder can be completed by sanding to a gentle streamline section and setting aside to cover. The first step in any covering job is a good, soothe framework. Go over the entire model with medium sandpaper making sure there are no protrusions. Begin by cutting 8 pieces of tissue -- each a little larger than the wing panel on which it is to go, with the grain of the tissue running span wise, Cover the bottom of the wing first, using thick dope or thin cement to hold the tissue against the bottom of the ribs. Work from the trailing edge to the leading edge, On the upper surface, it is not necessary to dope the tissue to any other then the end ribs and those at the dihedral joints. Cover the upper surface of the tips with a small separate piece of tissue,

The stabilizer is covered in a like manner again using small pieces for the tips. It will be necessary, however, to dope the tissue to the 1/32" fill-in, and on the upper surface, to the center ribs and tip ribs. The rudder is covered on both sides with tissue.

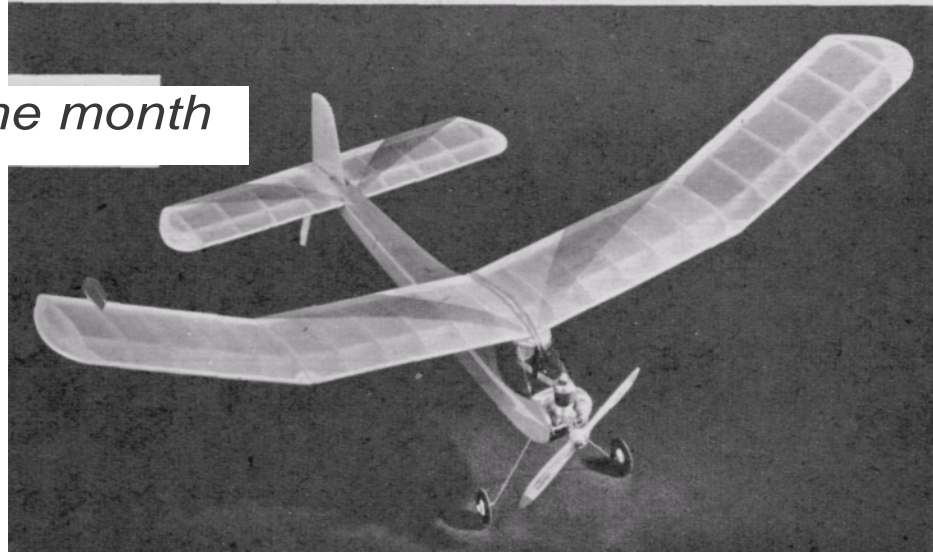
The entire fuselage is covered with tissue including the sheet sides. Starting from the nose; cover to-wards the tail, using only convenient sizes of tissue. This is especially important around the cabin. Do not put on the 1/32" sheet nose cowling till after the model is flown as it may be necessary to make thrust adjustments.

The entire model is then lightly sprayed with water. When dry dope with 2 or 3 coats or clear dope, followed by 2 coats of MIDWEST Fuel Proofer, sanding lightly between coats. Add the windshield and the wheels. The wheels are held in place with a cemented or soldered washer. This completes the model, so, bolt on the engine and prop; grab your battery and fuel can; and go out and see what cooks.

The original "Sniffers" balanced at a point about 1-3/4" forward of the trailing edge of the wing. It was found that the models could be circled either way. both in the power and the glide, but, for general flying it is recommended that the model be set to glide in an approximate 50' diameter circle to the left, (this is accomplished offsetting the rudder tab about 1/32" to the left), and to climb to the right in about the same size circles, (This can be accomplished to adding washers under the left lugs of the engine), There is about 1° of down thrust built into the nose to prevent power-on stalls. If this is insufficient more can be put in with washers under the top lugs of the engine.

Start your flight tests by gliding the model from shoulder height and make all trim adjustments before trying power flights. If your model should be tail-heavy — add weight to the nose. **DO NOT TAKE OUT INCIDENCE.** Make your first power flight with reduced RPM till you are sure of the flight characteristics - then "wind her up" and put on your running shoes. Happy landings!!

## *Model of the month*



# Sniffer

Midwest Model Supply's latest creation: a semi-prefab for the small engines.

TECHNICALLY speaking, the model airplane industry is one of the few that lived up to those beautiful post-war promises. For the past three years a stream of new major developments has created an effect of continual, breathless revolution. "Chain reaction" is a more apt description.

Take the glow plug. Not only are there more fuels today than there are brands of hair tonic in the local tonsorial parlor, but small airplanes have become practical. No coil and batteries meant smaller ships could be made. For them, smaller engines would be needed. Then, in one fell swoop, K & B knocked displacement tradition in the head with the wee .02 Infant. Both Herkimer and Anderson produced excellent hot engines of about 1/20 cubic inch displacement. And this brings us to the question of kits for these popular little engines, specifically to the new Midwest Sniffer, designed around the engines, and selling at \$1.50 in your local hobby shop.

Midwest Model Supply, one of our older concerns, is noted principally for two things. First, the reputation its products enjoy for performance and, secondly, the fascinating names of its kits. You may forget the cabin and stick rubber jobs Midwest put out, but you'll never forget the Jabberwock and the Gollywock! Or Snorky and Porky! Sniffer is especially aeronautical and appropriate, in view of baby-engine free-flight

models' thermal snagging tendencies.

Like other kits from the south side Chicago firm, the Sniffer is a team design. The plans say that Roland Schmitt designed it, Dick Struhl drew it, and Wally Simmers approved it. Actually, the boys put their heads together on all proposed new items.

"We anticipated popularity of kits for small engines," explains Wally. "Small engines meant small airplanes that could be carried easily in a car and flown in a park. In the Sniffer we shot for realism, ruggedness, and flying ability." Four progressive test models of the Sniffer were built and two of these were lost out-of-sight before all the bugs had been removed.

The Sniffer kit you see on your dealer's shelf makes up a 29 1/2 -inch span ship, of 135 square inches area and a weight of 4-1/2 ounces. It is partly prefabricated. The two cabin sides are fully and neatly cut out, including the slot for the stabilizer and the windshield section. Formers and ribs are printed. The sheet-balsa vertical tail is die-cut. As to materials, the kit includes a formed wire landing gear, strip wood, triangular trailing edge stock, cut-out windshield, wheels, engine mounting bolts, and so on. Inside the rather generous plan are folded two sheets of tissue, one white, the other colored.

Like previous Midwest plans, the drawings for the Sniffer follow a familiar pattern. Nothing

elaborate but competent and easy to follow with a sizable portion given over to directions for building. Both wing and stabilizer are built-up with single spar construction; the wing employs polyhedral. The finished fuselage is sheeted on top and bottom, making a rigid, sturdy unit. In common with other manufacturers of kits for the small engines, Midwest has been pleasantly surprised by the typical builder's experience in Half-A class models. The baby-engine free-flight job is capable of the same still-air time as the prewar Class C models, then considered the biggest and best in performance. When properly trimmed and flown, half-A ships are proving capable of times of four minutes and more. Except for the wind factor, which takes them out of sight sooner, they are capable of pushing the larger A models in contest work. Since the A models are pushing everything bigger, including the D monsters, it follows that any good Half-A job packs its share of thrills.

Should the present trend of interest in just two classes of free-flight result in actual rules, the makers of kits for the Half-A jobs will get a great big break, for the most logical division point for displacements seems to be the .09 engine. More small engines are due on the market, ranging from .035 to .065, which, by the way, are the suggested limits for the Sniffer.

One interesting feature of the directions for building the Sniffer is the notes on flying. While the job can be flown either way—left or right—in both power and glide, the manufacturer recommends a left turn of about 50 foot diameter in the glide. This is accomplished by means of slight offset in the rudder tab. Climb is then to the right, with washers behind the left-side motor lugs to obtain right offset thrust. About one degree of down thrust is employed to stop power-on stall tendencies. These settings are worked out during test flights, and only then, is the nose completed to cover in the engine mounting.

While Midwest works every bit as hard as the "big boys" in the industry, the firm continues to get its leisure time fun out of modeling. Like Frank Zaic, Wally Simmers keeps his interest in contests and contest models on a high level. Not only is this interest reflected in the types of kits produced, but it is evident from the technique in presenting those kits. While some bigger manufacturers have gone into complete prefabrication of U-control models, Wally and his

boys have a successful operation based on a mixture of prefabrication and let-the-guys-do-some-work-on-their-own.

You find interesting people dropping in at Midwest to chew the rag. Many of them remember their first contact with Midwest at those Chicago Nationals when Midwest rented a room in the Sherman and hung up a mysterious sign in red dope which said simply "Midwest." A cryptic arrow mystified regular guests but meant to worried contestants that rubber, wood, and glue could be had down the corridor.

Midwest got its start way back in 1934, the first year that Simmers attended a Nationals. He has not missed one since. That year the firm began to cut balsa wood, and developed slowly until 1941, when the war halted its activity until 1946. The firm's recent products include: Jabberwock, a 145-square-inch fuse job; Gollywock, a 135-square-inch stick; Dynamoe, another 145 fuselage; Porky and Corky, 135-square-inch models for the CO<sub>2</sub>; Snorky, 24-inch span, and Super Snorky, a 44-inch trainer; and the Cosmo, a 48-inch towline glider. Besides kits, Midwest has a fuel proofer, Nitro-X fuel, and control-line wire for Infant size jobs.

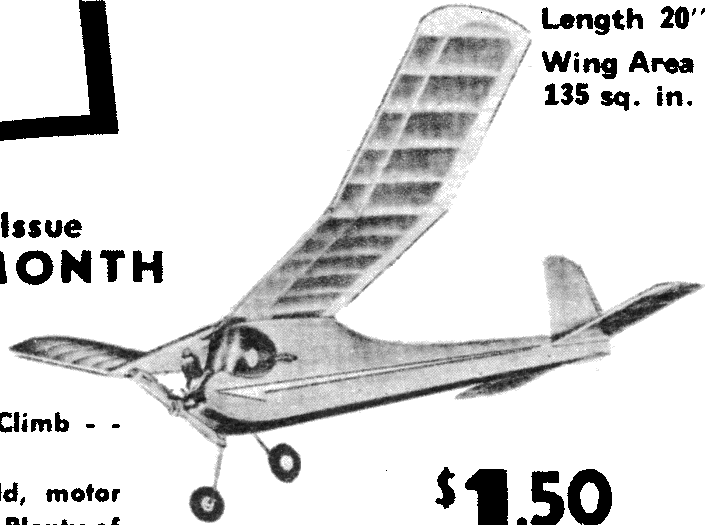
Wally himself got his start seven years before the firm, in 1928 to be exact, when he made gliders and R.O.G.'s. In 1934 he won a Moffett medal at the Akron Nationals. In 1937 he took first in indoor stick, winning the Stout trophy. He snared a second in the Mulvihill on three other occasions, competed in the old Junior Birdmen contests, and held several cabin and glider records. From 1942 to 1946 he was with an Air Force navigation school. A unique record which probably very few people can match is Simmers' winning of a place at every Nationals. He managed to hang on this year by picking up a seventh at Olathe. Asked how Midwest really got its start, Simmers recalls with a grin that the firm first sawed wood so that club members could build models.

Last winter the brains behind Midwest were preoccupied with policy: should they make hybrid models, suitable for various types of power plants, or stick to their guns with special kits for special power plants. In the Sniffer, Midwest continues their concept of specific planes for specific power plants.

# SNIFFER

## Featured in this Issue KIT OF THE MONTH

Easy to build - - Easy to fly - - That's the thermal **SNIFFER** - - Tried and proven design for the small bore events. Elevator Climb - - Feather Glide - - Stable as a rock  
Die cut fuselage sides, Formers, windshield, motor mounts, etc. Selected full strength wood - Plenty of tissue - Streamlite wheels - formed landing gear - "Aw-heck - - Build one - - You can't go wrong."



Length 20"  
Wing Area  
135 sq. in.

**\$1.50**

KIT ONLY

**FOR ENGINES UNDER .05 DISPLACEMENT**