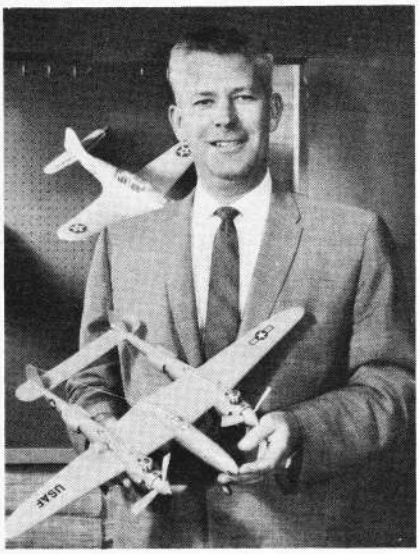

Len McRoskey

Wen-Mac

In the custom molding business producing plastic parts for others for some time, the McRoskey brothers, Len and Jack figured it might be less hectic if they did some of it for themselves. Pre-fabbed all-aluminum model airplanes that sold for $75 caught their eye. They felt a comparable affair could be done better and cheaper in plastic. Some molds were made and sales of the planes were good from the start. At first they used only 100 engines a week, but soon got up to 1000 per day; by this time they were obtaining powerplants from three different makers, but still couldn't get enough.

Only answer was to make their own. Bill Atwood designed an .049 for them, and with production and quality control in their own hands, things went lots better. Then they decided that starting any small engine was the biggest hurdle for the purchaser. A pull-cord starter was developed, which worked fine. But there was still a problem—the cord was designed for a 4" pull and when some users yanked it a foot or more, the starter was out of business. So the present Roto-Matic starter has no cord but depends upon self-contained spring action to flip the engine. This first came out in '57, has been used ever since.

Jack McRoskey

By this time Wen-Mac had accumulated quite a few firsts in the hobby field. They had made the first ready-to-fly all-plastic model planes, introduced window packaging to better display them, marketed the first complete model plane outfit which included fuel, starting battery and all other accessories needed to fly and maintain the model. Since then still more firsts include bomb dropping, parachute ejection in flight and rocket firing.

Perhaps we'd better explain how the company name originated. The "Mac" part is obvious; the "Wen" came from Adolph Wenland, an early partner in the model manufacturing. Though Wenland left the organization many years ago, it was felt the name was too well known in the field then to change it.

Six thousand .049's are turned out per day by Wen-Mac. Some 15% of these, picked at random from production, are test run; if any trouble shows up in this sampling, the production line is stopped to find out what's wrong. Line stoppages have ranged from ½ hour to several days (but there have been no serious hold-ups). There are 6 test stations in the engine testing building, and there are usually several engines being run 8 hours per day, for as much as 30 days or more, as a check on overall endurance.

During our trip through the plant, parts were picked at random from bins and when enough had been accumulated, two complete engines were assembled as we waited. These were taken to the test stands and both were started on the first flip. The gal who did the running handled the engines with all the aplomb of a top grade Team Racing mechanic. Engines are normally tested only for easy starting and peak RPM; they are run for just long enough to peak them out.

For the volume of engines they turn out, Quality Control has to be tops at Wen-Mac. Pistons are held to tolerances of 15 millionths of an inch for size, roundness and taper. Each machine operator spot checks a certain percentage of the parts she produces (women do most of the engine manufacture), there are several further checks before engine parts and assemblies leave the department, and an overall factory check on top of this. Such care is one reason Wen-Mac can give a 3 year guarantee on their engines. Company salesmen offer to take a Wen-Mac engine from a hobby shop shelf, promise to have it running in 15 seconds after it's mounted and fueled, or they will close their order books and leave.

Successful high volume production requires close control over every manufacturing process, by doing every job themselves Wen-Mac has such control. They grind 5000 engine parts per hour (on grinders normally used for precision gage making). They do their own heat treating. They make their own glow plugs; one operator sitting at a rotary table turns these out at tremendous speed. The last step is an electrical and high pressure air test. The concern mixes and cans all its own premium grade fuel. Ingredients cost more, but this makes Wen-Mac engines run better and last longer.

That first plane at the start of the business was called Aeromite—remains a good seller (100,000 per year). Only change has been substitution of trike landing gear for the original 2-wheeler. All planes in the line come fully assembled and ready to fly. There are some 10 basic designs, but various modifications and different color schemes more than double this. Most of the planes are scale—with such favorites as the Cessna 175, Airacobra and Corsair.

For such an extensive line of plastic planes, you expect a large molding department. Largest are three 48 oz. "spiral feed" machines. There are many smaller machines of various types. Both vacuum forming and injection molding are handled in this department, and in three main materials. High impact polystyrene which is employed for most parts comes in many bright colors. For parts that must be clear such as canopies butyrate is favored. And for toughness and wearing qualities (props, bearing surfaces) nylon is used.

Metalizing, a specialty process in its own right, is handled in one of the five Wen-Mac buildings. This process which consists of vaporizing aluminum foil in large vacuum chambers is most spectacular to watch. For proper adherence and protection, plastic parts to be metalized are sprayed with special lacquers before and after the vapor has been deposited. Needless to say, the last coat must be both tough and fuel proof. The aluminum skin is about 2 ten thousandths of an inch thick. The entire building where this work is accomplished is slightly pressurized so any dust in the air is blown outward at doors and crevices.

For the sort of high volume production Wen-Mac does the most modern handling methods must be used. We saw many overhead conveyor lines supplying parts to the assembly area while moving belts carried along models as more and more pieces were added to their assembly. Packaging and sealing is done automatically. Employment at the five buildings (all within a few hundred feet of each other) varies from 180 to 450; peak employ-

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perfect spot landing but with practically no points in between; plane was essentially a free flight design with lifting tail, experts said it couldn't possibly fly with R/C. Main R/C interest—control systems, gadgets and gimmicks, circuitry. Now serving as Executive Director of A.M.A.

Wen-Mac

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ment is in mid-summer, while low tide comes around New Years—all typical of this rather seasonal business.

Wen-Mac turns out premiums for various outfits. Many readers will recall seeing sleek marine oil tankers at just about every Texaco gas station in the country a few years ago. Well, all those tankers—to the tune of some 9,000 per day and over a million a year—came from Wen-Mac. Wen-Mac fire engines, later premiums for Texaco, were over a foot long, mostly of metal, and went out of the plant at the rate of 10,000 per day.

Practically all models, toys and other items produced in the plant are designed and engineered right there. One exception was the Wen-Mac R/C package, which consists of a super-het receiver and a compact but potent hand-held tone transmitter—both all-transistor. The transmitter was certainly the first in our field, the superhet one of the very first. These units, designed to strict Wen-Mac specs by Packard-Bell, sold in very large volume.

A line of Space-Age action toys are large units easily assembled without nuts, bolts, screws, rivets, cement or other adhesive by youngsters aged 4-9. All have moving parts powered by an electric motor.

It comes as no surprise to learn that Jack and Len McRoskey were avid model builders as youngsters. Both seem to be getting more and more active in this line now. Jack quite often rounds up a group of plant associates, heads out in the country for a day of model flying.

Jack McRoskey is President of Wen-Mac, Len is Chairman of the Board. The titles appear only a formality, since both can and do handle administration, sales, finance, manufacturing design and other problems in a very flexible arrangement. The concern is a division of American Machine & Foundry Co., a complex covering such diverse fields as the well-known AMF bowling pin spotters, automatic cigar and cigarette making equipment, nuclear reactors, golf clubs, precision tools and meters, bicycles, oil field drilling equipment.

And what about future products? Here we drew a complete blank. In the large volume hobby and toy business, competition is extremely keen. So a strict security setup is one of the facts of life. Under these conditions of operation, you can be sure Jack McRoskey wasn't about to discuss with us his future products!