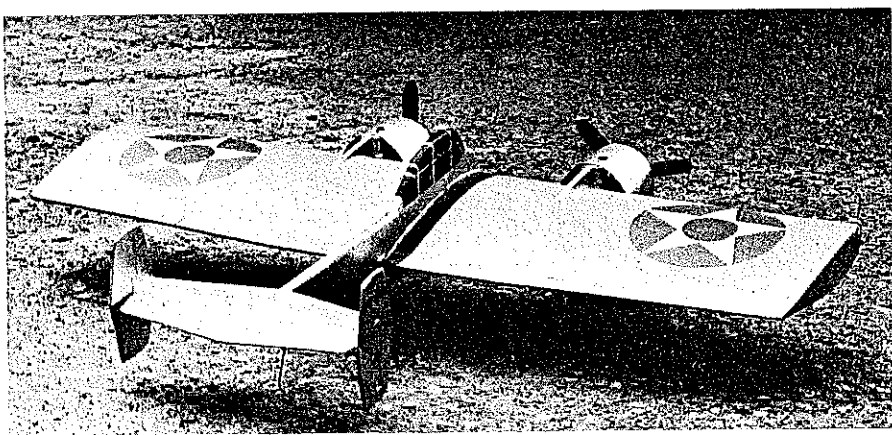


Grumman



Cowls made from aluminum cans give the model a lot of charm and scalelike appearance. They're readily available from the trash can, rugged, and easy to work with and to paint. Needle valves are adjusted through the cowls with a screwdriver. Amazing things can be done with kit-model variations.

The author converted a .15-.19-size CL profile kit to this interesting sport model powered by twin 1/2A engines. You can do the same, or you can completely scratch-build it from the plans. ■ Allen Wulf



AFTER STARING at the stack of Control Line profile kits I had amassed from many club swap meets, I decided I could not just let them collect dust. On the other hand, what could be more boring than building the same type of model over and over again? Combat is one way to use up old kits, but it takes two people, and the inevitable crashes don't appeal to me.

What else could I do? I began to look into the possibilities of converting the old kits

Waiting for its turn at the flying circle, the Skyrocket makes a refreshing change of pace for the sport flier. It's also a good model for the beginning Stunt pilot to practice with.

Skyrocket

into some form of contest machines, but they were not quite right for that, either. (It's unfortunate that contest events today have little room for the available kits.) It became obvious that my kits would be destined to remain sport models, but what could I do differently with them?

I had always wanted to build some twins for fun flying, so I began to investigate the possible designs. The first to come to mind was the Grumman Skyrocket. I had always wanted to build it. It looks so powerful with the twin radial engines out front and the neat twin rudders. It did not take long for the enthusiasm to set in, and I began redrawing the kit plans. A quick look through some old magazines produced a set of three-view drawings of the Skyrocket. The work began in earnest.

Maybe you'd like to know something about the Grumman Skyrocket. It was the first twin-engined fighter designed for carrier operation for the U.S. Navy. It first flew in the early 1940s, and it proved to be a real "skyrocket." The performance was outstanding. A tremendous amount of power gave it a fast top speed and an exceptional climb, but it was also a handful to fly, even worse to land. The big radial engines were hard to see around in the critical landing pattern, which was something a carrier pilot

The distinctive lack of fuselage nose is most evident in this plan view. Aileron outlines, insignias, and wing walks add a lot to the appearance with almost no weight penalty.

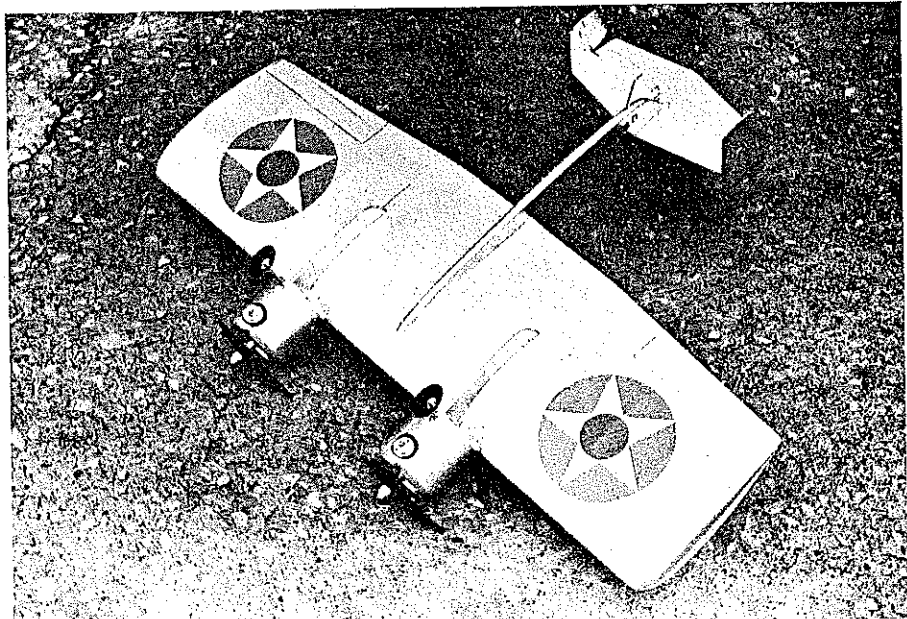
could not tolerate. The design evolved further into what we know as the F7F Tigercat.

If the Skyrocket was considered less than successful as a carrier fighter, it was very successful as a propaganda tool. Few airplane enthusiasts of the day didn't recognize it at once. Pictures of the Skyrocket littered the pages of airplane magazines and model magazines. Many of us are still held by its strange allure of power.

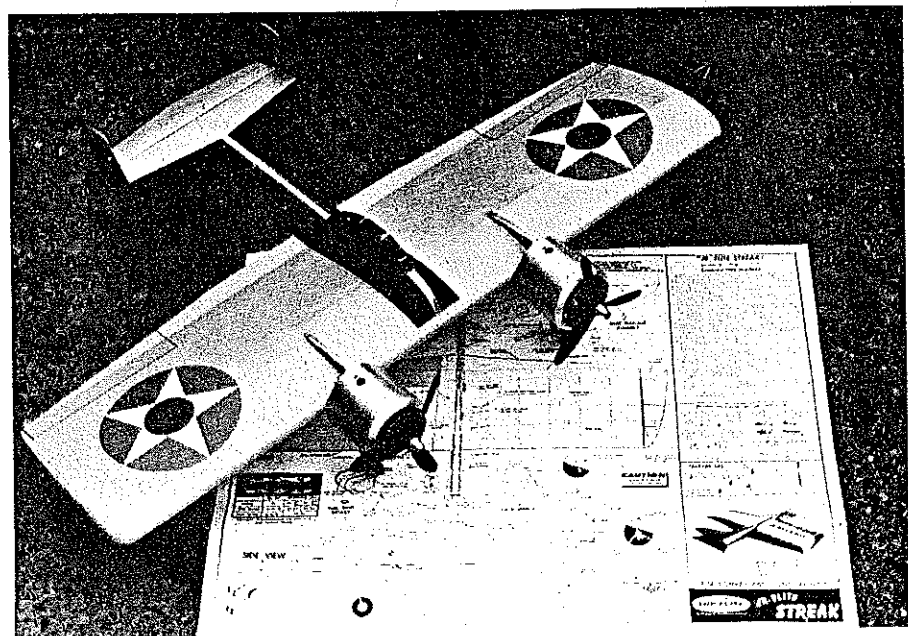
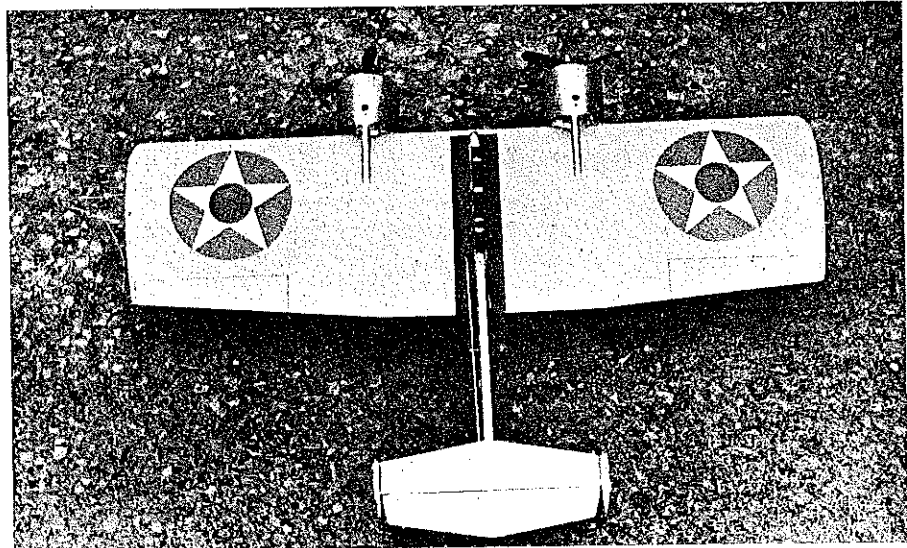
Building the model. Blow the dust off of any .15-.19-size profile kit you may have laying around the shop, and dive in. All it takes to build the Skyrocket is a rectangular-shaped kit wing in the approximate size shown on the plan. For those who do not have a kit, just fabricate the parts and follow along.

Besides the kit wood, you will need to sift through your scrap box for a few odds and ends. However, you should be able to adapt nearly all the wood from the kit to work for the Skyrocket.

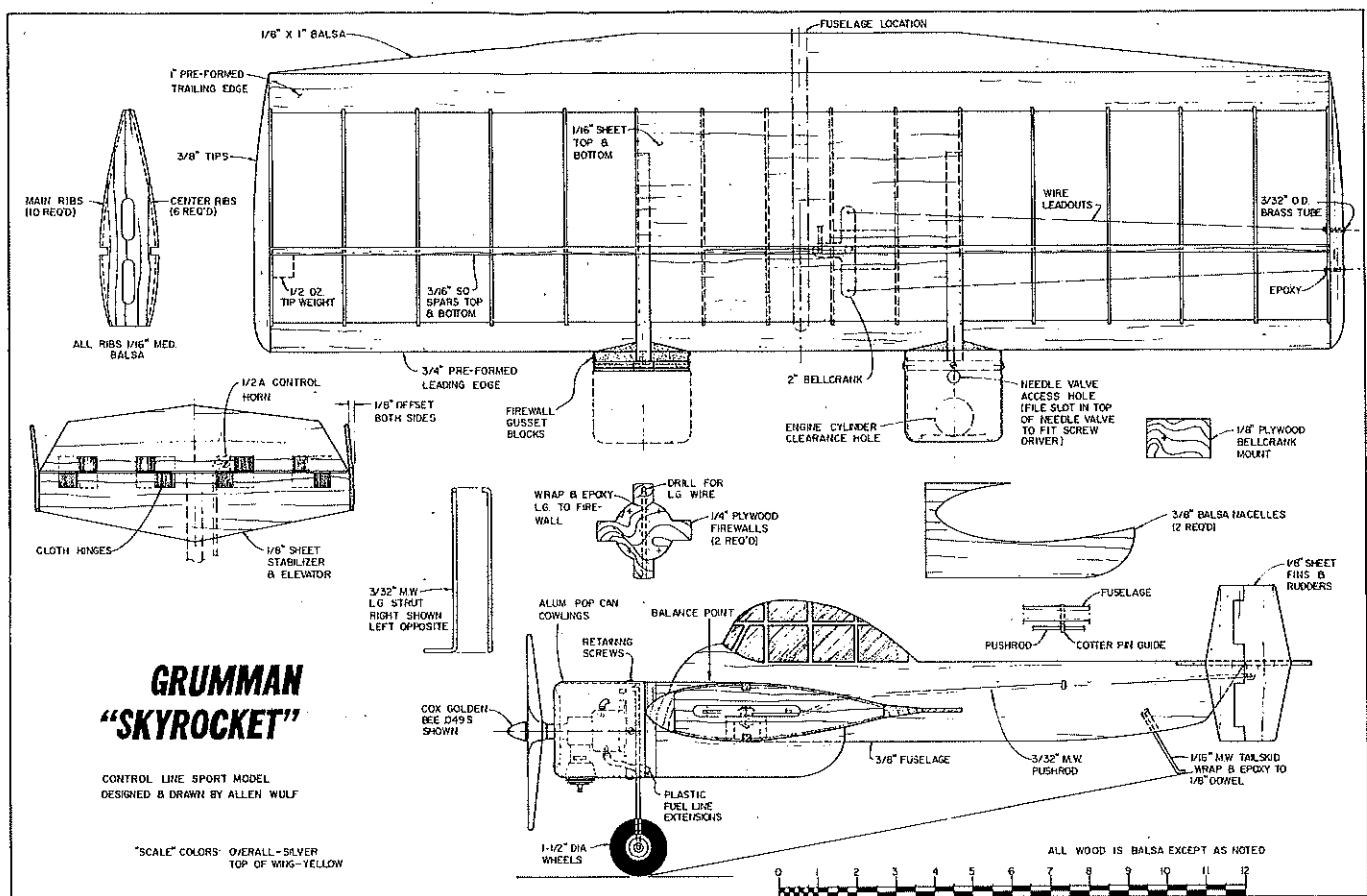
Start with the wing. Punch out or cut out all the parts, and assemble them over a flat building board. Be sure to trim the center ribs for the planking that should extend out to the nacelles. When the glue of the main wing is dry, add the bellcrank mount, and beef it up with gussets. This is a twin-engined aircraft, and it needs to be strong; don't scrimp on the bracing and epoxy for the bellcrank mount and the lead-out tubes. Mount the bellcrank, add the lead-outs, and bend and solder the pushrod in place. Check the controls for smooth operation, and then



From underneath we can see the clean installation of the Cox .049 engines. The short nose moment isn't a problem, as the weight of the two engines easily gets the balance in about the right place.



The Skyrocket at rest on the original kit plans. Such a quick and simple conversion makes the model more fun and challenging. Most .15-.19-size profile kits can be easily adapted.

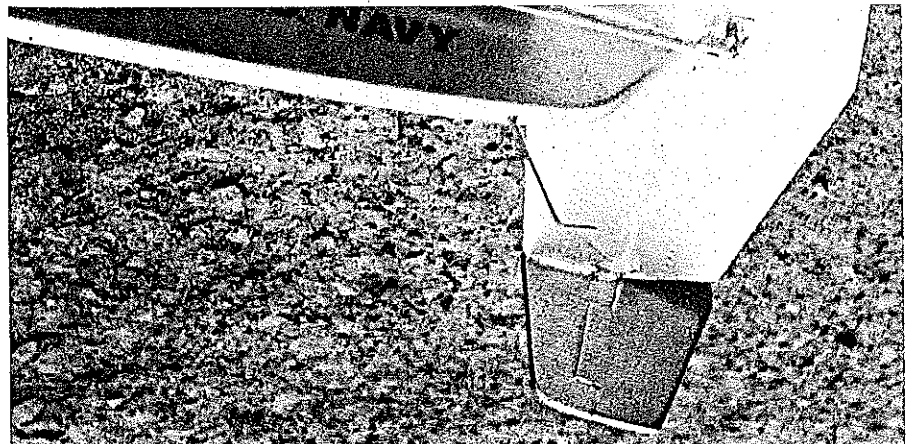


plank the top and bottom center section.

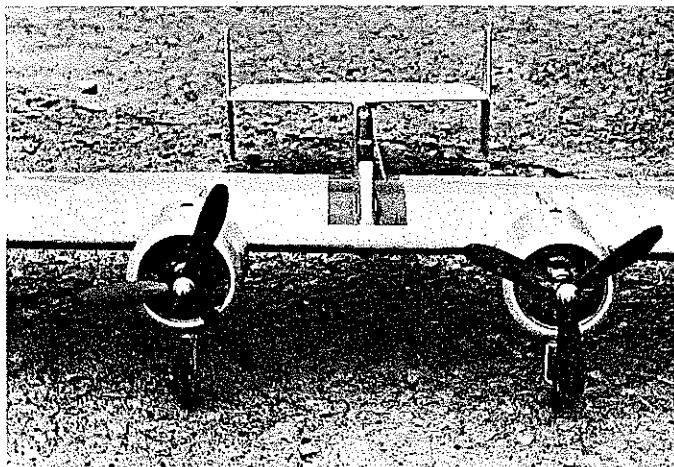
Carve the wing tips from scrap balsa, and add them and the tip weight, lead-out guides, and trailing edge "flaps." After this has all dried, sand the assembly. Apply three coats of dope to seal the wood, sanding each coat smooth. Cover the wing with the silkspan that came in the kit. Water-shrink the covering, and when it's totally dry, give it three coats of dope before assembly to the fuselage.

The stabilizer and rudders are fabricated next. Use medium to hard balsa for both, as they get a lot of abuse from grass fields and handling. Sand the edges round, and hinge the stabilizer to the elevator. Make sure the hinges are aligned and have free movement.

Continued on page 167

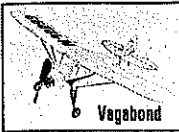


Hooking up the controls is simple. An RC-type clip connects the pushrod to the elevator horn. A cotter pin used as a pushrod guide helps to reduce possible bowing of the pushrod while in flight.



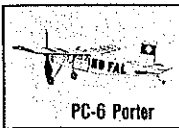
Left: Head-on, the Skyrocket seems to be mostly engines and cowls. The design lends itself well to the sport-model category. Right: Four small wood screws hold the aluminum cowls in place. Firewall cutouts and big cowl front holes give the engines plenty of cooling air.

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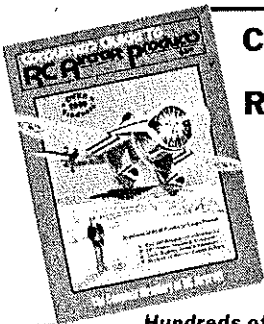
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Skyrocket Profile/Wulf

Continued from page 74

Add the control horn, and add a drop of epoxy on the bolt to keep it in place.

Both rudders need to be offset 1/8 in. to the outboard to keep the lines tight while flying the model. Glue the rudders to the stabilizer with epoxy or white glue. Add a good fillet of glue to strengthen the joints, and check the rudders to make sure they are square on the stabilizer in both top and front views.

The fuselage can be glued together from the existing kit parts. Use the plug removed for the wing to make the canopy. If necessary, cut a notch for the stabilizer; be careful to align it with the wing center line. Bend the tail skid from music wire; bind it to the dowel mounting pin by wrapping with heavy thread. Drill a hole to receive it in the fuselage; fill the hole with epoxy, and insert the tail skid assembly.

Fit the fuselage to the wing. When it looks good, epoxy it in place. Check to make sure it is properly aligned, and then add the tail assembly. When the glue has hardened, hook up the control system. Finish the lead-outs, and begin to build the nacelles.

The first step in constructing the power pods is to find a pair of undented aluminum pop cans. Cut the cans to the right length, depending on which engines you are using. The longer Golden Bee and Black Widow engines will fit the cowls as they are shown on the plan. Cut out the remaining parts for the nacelles. Trim the plywood firewalls to fit into the aluminum cowls. Drill the four cowl retaining holes through the cowls and into the firewalls, then add the screws. (It is easier to do this work before the fuselage gets in the way.) Drill the firewalls to mount the wire landing gear strut. Bend the struts. Bind the gear struts to the firewalls with heavy thread or thin wire; generously apply epoxy.

Cement the nacelles to the wing. Make sure they are on straight. Next, carve the firewall gusset blocks to fit the contour of the wing. Glue the gussets and the firewalls to the nacelles. Check for 0-0 thrust on both nacelles, then add glue fillets around the edges. When the assembly is dry, give it several coats of clear dope.

Finish the model in the colors you prefer. I suggest at least five or six coats of clear before adding the color dope. Paint the cowls with a matching enamel after you make the necessary cutouts for the engine cylinders and needle valves.

Add the final trim, cockpit outlines, and stars and numbers. All this helps the final appearance a lot, and it doesn't take too much time. Solder on the wheels, and bolt on the engines and props. Balance the Skyrocket as shown on the plans. Before you fly the model, add plastic fuel line extensions to the engines so that you can easily refuel them.

Practice starting and running the engines. The idea is to get a feel for handling the twin engines so close together. I suggest that you start the inboard engine first, then the outboard. This way, you don't have to reach



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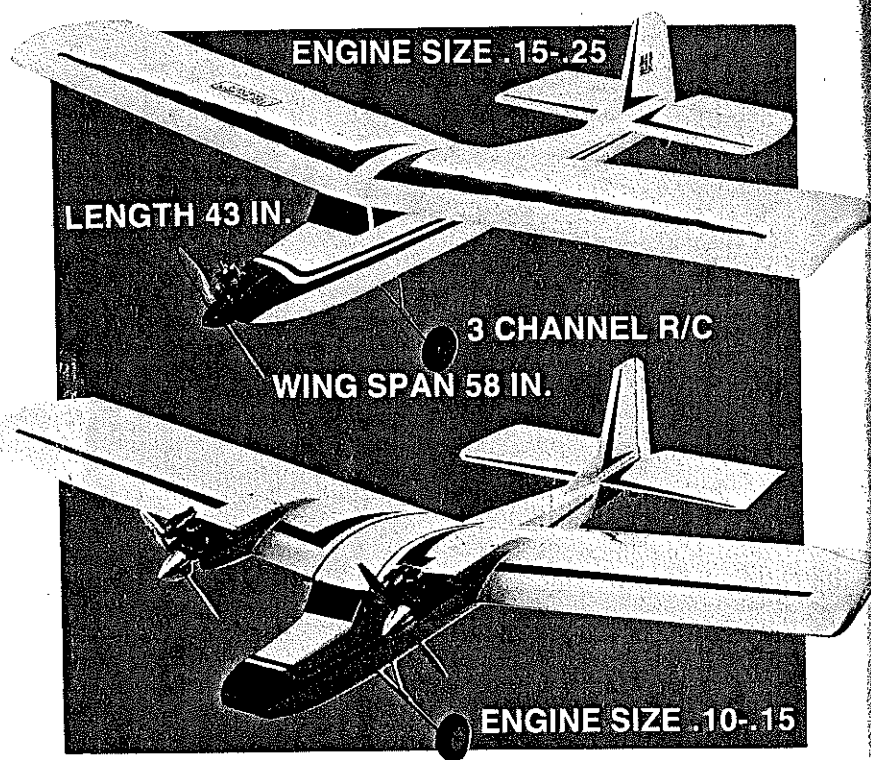
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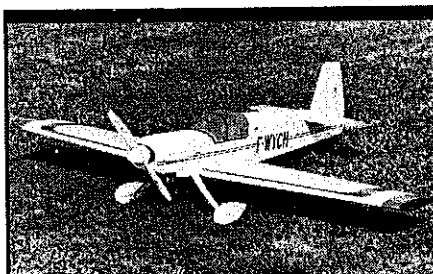
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over a running engine to start the next one. When both engines are running at full revs, tune the needle valves until they are running in synchronization. There is no sweeter sound than two engines in tune!

Fly the Skyrocket on 35-ft. steel control lines. I've had good luck with .007 solid Speed-type lines I had put away. Just be sure they are steel lines and not cloth.

Have fun flying your no-longer-boring profile trainer.

Bassett/Ritchie

Continued from page 76

From model planes to the real thing. Some say it's a wise champion who retires at the peak of his form. Perhaps Maxwell Bassett shared that view. But there's probably another reason why he made the 1937 Nationals his "last fling" at active competition. Viewed from an overall perspective, modeling seems to have been simply a stage (though a very important one) in his development as a young man—a preparation, as it were, for things to come. By this time, his interest in modeling was giving way to his pursuit of a career in full-size aviation.

Bassett didn't actually cease model building and flying altogether with his last Nats win. During this period he designed and built an entirely new model of only 48-in. wingspan as a test-bed for a miniscule new engine Bill Brown was developing. (This engine was the .12 cu. in. Lykens Brown.

Likens was Brown's middle name. Ahead of its time design-wise, it was the first model engine to incorporate a form of Schnuerle porting. Unfortunately, lack of sophistication in marketing resulted in only about 100 examples being sold—mostly through Fred Megow's organization.)

Patterned after the Rearwin Speedster, a popular modeling subject of the day, this plane was much prettier than any of the rather boxy ships he had designed before. In 1938 it was kitted by Megow as the Cardinal. It is the only one of Bassett's models that has survived to today.

Bassett also says that before giving up the hobby for good, he built and flew successfully a Radio Control model which he never entered in competition (there really wasn't much RC competition outside of the Nats in the late 1930s anyway). "It had rudder-only control," he says, "and the receiver had two tubes."

In 1939 he graduated from the University of Pennsylvania with a mechanical engineering degree. After doing graduate work in aeronautical engineering, he joined Martin Aircraft Co. in Baltimore, MD as an aircraft designer. His early projects at Martin included extensive design work on the B-26, the Mars flying boat, and other military aircraft during World War II.

One day in 1944 when it looked like the war's end was nearing, he found a note on his desk summoning him to the boss' (Glen L. Martin's) office. "Martin made me the head of an advanced design department,"