OLE TIGER

A full scale 600 sq. in. class racer designed by Frank Johnson, ardent RC'er and Crew Chief for Bob Downey's Miller Special.

By FRANK JOHNSON

I'm not much at writing articles, but due to numerous requests, and several threats for Bob Downey, to get these plans out, I decided to try my hand at it.

Regarding the history of the "Little Gem, (Ole Tiger") it was originally built in 1948 by Jim Miller, then of Fort Wayne, Indiana. It raced in the 1948 races at Cleveland, but as with most new aircraft, it didn't do so well. Throughout the years Jim made several changes to the aircraft. He used three different wings at one time or the other. (No, not at the same time.) He also changed the tail section twice, and various changes were made to the fuselage and cowling. Finally, he came up with a real bomb. Unfortunately some little airport manager from Warwick, New York managed to turn his aircraft into a potential bomb at the same time. In case you don't know who I'm talking about, it's "The Red Baron," "Grim Reaper," or whatever name we can thing or dream up to call him. As most of you must have guessed by now it's, Bill Falk and his famous "Rivets."

This guy and airplane has been Bob and my nemisis for the last four years. Now every racing season we look forward to each race, with only one thought in mind. **BEAT FALK!** Every time we manage to squeeze another mile or two per hour out of "Ole Tiger," Bill manages two or three miles per hour out of "Rivets." But one of these days . . .!

Well enough of this and on to the model. It was fairly easy for me to get accurate dimensions for this model, because I became the crew chief of the real "Ole Tiger." If you can't find what you want, then go about it the hard way. It was necessary to go this route, for, according to Jim Miller, there wasn't any drawings made for this aircraft. Everything was drawn on the garage floor and literally built from the ground. (would you believe floor), up. The wing airfoil is a composite of several drawn together on the floor and then selecting the one that looked the best. (Some way to build a winner).

Once again I was sidetracked, but I keep remembering these little things, and I thought you would be interested in them. Now, here we go again! My model was scaled 3" to the foot, simply because it's easier to figure Quarter scale than it is to figure 2.6" to the foot. I'm slightly lazy. And this puts you in the 600 sq. in. class.

For you guys that are too impatient to wait for the small version, then you can scale these plans down (or up, depending if you spring for the full size plans or not). I don't know why you can't wait a little longer. I only started the smaller version plans in 1965.

The fuselage can be built either with sheet sides, or for you scale buffs (like me) then build with 1/4 sq. balsa for built up sides and fuselage. The only real hard part of the fuselage is the nose, from the front of the wing and 2B forward. This area really squeezes down, so be extremely careful with this part. I planked the top of the fuselage from 4T to the nose with 1/8" x 1/2" strips, however, the block method would be much easier anad simpler. Each modeler has his own method so I'll not try to tell you how to build your version.

K & B's 45 with the extension shaft and a K & B radial mount will fit the firewall as it is shown on the plans. If you use any other engine or mount be sure to move the firewall to suit your particular needs. Some change of the firewall dimensions may have to be made.

The top of the fuselage of the real aircraft has a metal wrap around the top of the bulkheads. This is the reason for the balsa block shown on the plans. Install a hard sheet of 1/4" balsa at the front and rear of the wing cutout. Glue these in well, making sure they are flush with the top of the wing cutout. These blocks are the wing hold downs, so don't spare the glue. Install 1/4" ID or 3/8" ID aluminum tubing from the bottom of the fuselage to the bottom of the wing hold down blocks.

Place these tubes as near the center of the blocks as possible and fasten them in securely. Due to the Mid-wing design of this aircraft, it is easier to put the bolts for the wing hold down through from the bottom. The tubing helps center the bolts and keeps them from getting lost in the fuselage. Use 1/4 x 20 bolts. I used two 4-40 bolts and haven't lost a wing yet, but why not be safe and go the 1/4 x 20 route?

The tail shown is only 12% of the total wing area. It will work, but it is tricky to handle. Therefore, by using the dotted line outline you increase the area to 14%. (15% would be better, everyone keeps telling me, so do as you see fit). The full size aircraft had the tail surfaces slightly enlarged for the 1967 racing season, so you scale guys will be OK with the larger

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tail.

The scale gear location works well, and the wheel pant sare shown with the gear legs going inside near the top of the pants. (Or should I say wheel fairings?)

The wing is built by laying the front top spar on the plans. Pin down on a straight, flat building board. Block up the rear of each rib as you install and glue them to the spar. After all ribs have dried, add the leading edge next. Stop at the inboard rib on each side and glue a small piece between the center ribs.

Add the bottom front and rear spars at this time. Plank the entire bottom of the wing. Let dry completely before removing from the plans. Now turn the wing over and add the top rear spar and 3/8" trailing edge stock between each rib. Now glue 1/8" plywood or 1/4" maple blocks (again depending on the hold down bolt size used) behind the leading edge and in front of the trailing edge stock in the center section. Be sure to glue well to the ribs and bottom planking. After this dries completely place the wing and fuselage hold-down blocks. Make sure the holes are close to center of the tubing. This is extremely important as the complete wing line-up depends on how accurately you do this. If you use 4-40 or 6-32 bolts be sure to install blind mounting nuts at this time. (Sure is hard to put them in a completely planked wing!) You can tap the maple block for 1/4 x 20 at any time before you need to fasten the wing on. Install the aileron bellcranks, pushrods, and aileron to bellcrank at this time. After double checking to make sure everything has been done, plank the top of the wing. Add the wing tips and sand to shape.

Mark and cut out ailerons. Add the plywood plate for the aileron horn now. Glue the Aileron leading edge and wing cutout trailing edge in place, making sure to cut out enough material to clear the added pieces. Install the hinges and aileron horns.

The finishing and painting is done by whatever way comes natural to you. I finished my model in scale colors and scale striping. Those three color paint jobs are really lots of FUN? Oh well, you never can tell, some of you might be as nuts as I am!

Be sure to balance "Ole Tiger" well forward, especially if you used the small tail section. Landing speed **must** be slightly faster than you are normally used to. That small tail section just doesn't work at slow speeds.

Well, for those of you that have asked and those who read this magazine, here it is. Hoping you enjoy having a TIGER by the tail. Lots of luck and win races.

Have a ball and let us hear from you;

Frank Johnson
and also, I'm sure,
Bob Downey.

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From RCModeler Mar. 1970