

AREA

# Gollywock

*She may only be a half-size version of the Wally Simmers classic, but there is nothing half-size about her performance.*

*By Steve Higginson*



**W**ay back in 1939 when men were aeromodellers and all model aeroplanes were made of wood, paper, glue, spit and wire, a young model aviation icon by the name of Wallace Simmers (Wally to everyone) designed and built one of the greatest model flying machines that was ever to grace the skies. He called it the Gollywock and was the sibling ship of, his already famous, 31 1/2" span Jabberwock (named after the awesome character beast from Louis Carroll's "Alice's Adventures in Wonderland").

The Gollywock used the same wing,

tailplane, rudder and propellor as the Jabberwock but a new "stick" fuselage was designed to comply with the current Class "C" Stick rules. This new fuselage was 2 1/2" longer and could accommodate a rubber motor some three inches longer. Both the Jabberwock and the Gollywock were very modern designs for the era sporting polyhedral wings and folding propellers. These features were not seen anywhere other than on the most advanced aeromodels.

The Gollywock was an instant hit boasting more than 15 trophy wins during the 1940 contest season. Over the years, the Gollywock was kitted in at least four

different versions by the Midwest Model Supply Company. Each version had its differences and minor changes in design, but all continued to perform to a very high standard. To this day, the Gollywock remains one of the world's most successful flying models ever designed.

Like any aeromodeller worth his or her salt, I have been familiar with the Gollywock and I began a life-long love for this bird at an early age. My first REALLY successful rubber model was a Gollywock and I have built roughly a half-dozen versions over the years. My current modelling predicament had me wanting to build and fly another.

But, my flying site is waaayyyy too small for a full-sized Golly. It was not hard to see that once unleashed, the full-Golly would not be in my possession very long. So I thought, "Why not build a half-sized version???"

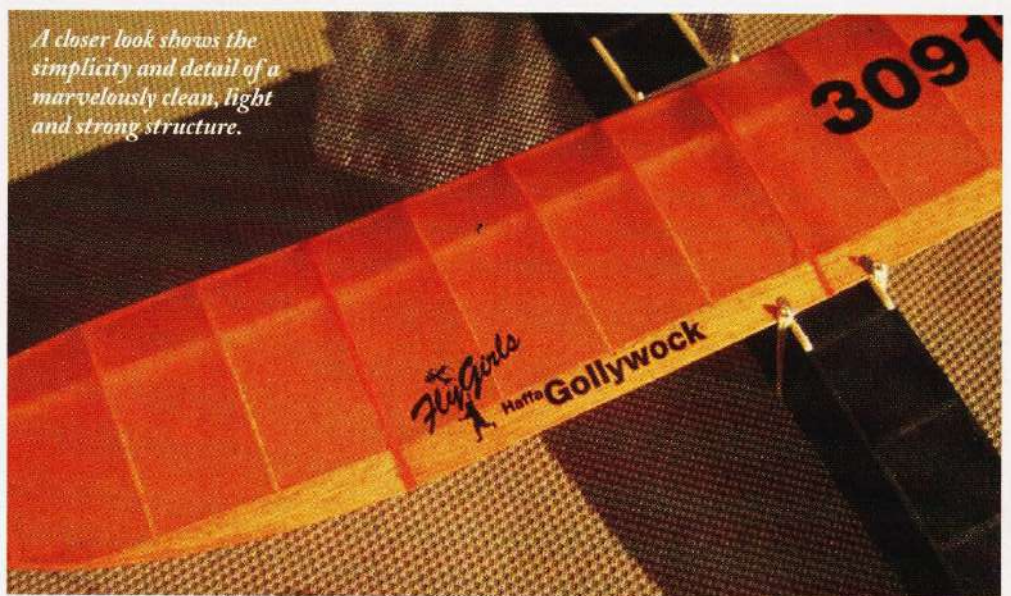
Which brings us to the subject of this article. The ARFA (halfa or an acronym for Another Really Fine Aeromodel) Gollywock. What put me over the edge about half-size aeromodels came while reading the late, great Walt Mooney's approach to Pistachio Scale models. He postulated that "If all the structure on the model and covering could be scaled down, the model weight would go down by the cube of the scale factor, while the surface areas would decrease by its square and the wing loadings would decrease."

WOW! This all meant, in a nutshell, by cutting the size of everything that goes into the model in half, the overall weight would work out to be roughly one-quarter that of the full-size model. I quickly figured that if a 60-gram, full-size Gollywock would weigh as little as 15-grams as a half-size. And I would be able to fly it at my local flying site without fear of losing it! Right?

So, here's what I REALLY found out by doing this. Building the little critter was as simple as the big one ever was. Construction is so straightforward and uncomplicated; I was able to build the framework in about 6 hours. Handling the lighter, smaller lumber was no more difficult than building a Prairie Bird embryo model. In fact it was easier with fewer pieces of balsa.

The fuselage structure is mostly 1/16" square stock and all sheet balsa is 1/32". I build laminated or steam-bent strip wood tips on everything and the process has become second nature to me. Laminated/strip tips are much stronger and in most cases lighter than sectional tips and I like the way they look on the finished model.

Choose you balsa stock carefully and apply basic indoor model methods to your building and this will be a successful modelling



A closer look shows the simplicity and detail of a marvelously clean, light and strong structure.

endeavour for you. Longerons are stiff and springy 7-pound 1/16" strip and the uprights and spreaders do well as 4/5-pound stock. I use 5-pound "C" grain 1/32" sheet for all ribs, fillers, rudder and gussets. The nose block is cross-laminated from 5/7-pound 1/16" sheet.

I used Esaki Japanese tissue for its strength and lightweight. Make sure you stick the tissue real good to the undercamber of the wing. Just as with her big sister, this hybrid Clark Y and RAF 32 airfoil works very, very good with the wing loading this little bird works with. If you don't stick the bottom, all that efficiency is diminished considerably.

I build in all my thrusts at the nose with 3° down and 1° right respectfully. The plans reflect this and if you built it as such it will climb like a homesick hawk with 2° positive wing incidence and 0° tailplane. On this model, I needed to back off the right thrust 1/2° when using an outdoor motor.

NOW... the hooker from the Walt Mooney wisdom from paragraph 5. When all was said and done, this little bird weighed in at a whopping 11.2 grams less motor. That

was with a well shaved and balanced 6" peck prop (1.6g.). I now knew the mini-Golly could fly well indoors also.

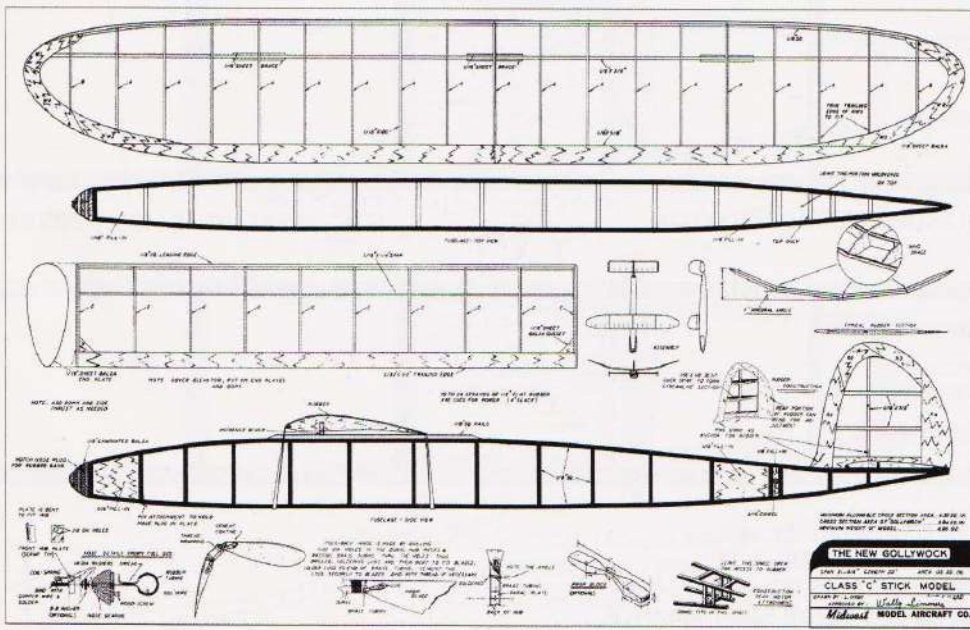
My first calculations led me to install a single loop of 1/8" TAN Super Sport rubber. 250 winds later, the Gollywock was screeching to the rafters in my local CAT I gymnasium. No damage, just a little hair-raising. I then tried a loop of 1/16" TAN and that was the indoor ticket. With no trimming, the ARFA Gollywock settled into a steady right-hand climb up to about 15-feet where she showed a want to cruise. I continued to up the dosage with winds and by the end of the evening she was turning in consistent 80-90 second flights. I was thrilled and was immediately hit with a dozen requests for plans from my fellow Black Sheep Squadron club members. Outdoor flying was even more spectacular with a loop of 1/8" TAN Super Sport. It flew just like a full-size Gollywock. An extremely fast and aggressive climb, followed by settling into a gentle climb through the end of the power band, then a gentle glide back down to terra-firma.

Then I got greedy. 2 1/2 minutes and I kept upping the ante. A dozen flights into the day and she was OOS at 7 1/2 minutes. Definitely, an experience that is thrilling and bittersweet at the same time. Validation for the design followed by an afternoon sobbing on my beer over the loss of a little sweetheart.

Build it strong... Build it light... Enjoy the build... Enjoy the flight.

Go to: [www.aeromodeller.com](http://www.aeromodeller.com) and check out the Bonus Content section for issue 921. There you will find more on the ARFA Gollywock as well as more information on all our subjects in this issue.

The new Gollywock was originally drawn by Lou Vargo who was Wally Simmers main draughtsman in the early years. This plan was revised with many building detail illustrations in 1946.



THE NEW GOLLYWOCK  
CLASS 'C' STICK MODEL  
DESIGNED BY WALLY SIMMERS  
WILBUR MODEL AIRCRAFT CO.