

TIPS FOR IMPROVING YOUR MASS LAUNCH AIRPLANES

by Mike Nassise

Published in the March 2012 issue of Tailspin, Mike Nassise, Editor

Most of this information (provided by clubster Doug Beardsworth) was originally written up by Gene Smith in his Free Flight Sport column in the November 2011 issue of Model Aviation Magazine. It nicely complements (Richard Zapf's piece on competing in the FAC mass launch events, so it is included here for your further edification — Editor.

In his column in the Nov 2011 AMA magazine, Gene Smith devoted much space to describing the beautiful job done by Connecticut FAC'er Doug Beardsworth in building his Dave Diels kit Bf-109. What caught my attention, however, was the additional information Gene included that related how Doug modified his model after competing in the Flying Aces Club Nationals. Here's what Gene had to say.

"After flying his Bf-109 at the Nats, Doug picked up some tips that helped his building and flying. One was to change the motor peg location. He moved the motor peg forward by a full 2 inches. The same motor length was used but with braided turns to prevent slacking. This resulted in two improvements for his airplane. He was able to remove 2 grams of lead ballast from the nose and eliminate the fouling of the motor against the formers as it unwound in the narrow rear part of the fuselage. Those two changes really helped the Emil go.

If one plans to fly using a 15% motor (a rubber motor weighing no more than 15% of the model's empty weight is required in some FAC contests), the peg could be moved forward to a point directly above the wing's trailing edge and still have plenty of hook-to-peg distance to manage that motor length. Doug found that two loops of 3/32" for a model of this size (18" span) and weight (26 grams) will fit nicely into a 5 or 5.5" hook-to-peg length. With this more radical repositioning of the peg, one should be able to remove at least another gram or so of nose weight. Doug also thinks that if one used chalked tissue instead of paint, and built really light aft of the CG to go along with the forward motor peg position, the model could come in closer to the 20 gram range, further improving its performance potential."

Doug's mods are certainly worth trying on your mass launch models, particularly if you fly in the Northeast where the 15% rule is often in effect. While I'm on the subject of flying to the 15% rule, let me add another suggestion to what has already been offered. It's been my experience that reducing the diameter of the propeller (i.e. 9.5" to 8 or 8.5") when using less powerful 15% motors allows the prop to spin faster so that the model climbs out faster and higher when launched. The added height achieved is a big advantage, especially if your ship is a "floater" (one that has been built very light and carefully trimmed for a good glide).

Prop pitch is another important factor that should be considered when flying in 15% mass launch events. Bill Henn favors props

with a relatively low pitch of about 1.1 times the diameter (1 D x 1.1 Pl. He feels that the lower pitch works best for him, especially with the new FAI Sport rubber. Be advised, however, Bill Henn builds extremely light weight models (true "floaters") that are well suited for smaller, lower pitch props. If you're a builder with a "heavy" hand, his approach may not work well for you. That's it for now, clubsters. See you in the tall green stuff!