

RUBBER KNOT POSITIONING

by Bill Henn

Published in the January/February 2007 issue of Tailspin, the New England Flying Aces News, Mike Nassise, Editor

In the past few years much has been written regarding knots for rubber motors. As I recall, a few of our members described the making of knots that would not slip even if tied after the rubber was lubed (see July/Aug '06 *Tailspin* and the March 07 issue of *this rag*). I've never tried any of these knots because I have been using one that has never failed me, a simple overhand knot backed up with an overhand knot tied in the opposite direction. However, I have always built my motors so that the knot ends up at the extreme rear of the motor, at the point that the peg goes through the loops.

Now, I'm beginning to have second thoughts about this. Is this truly the best place to position the knot? Using my knot, it may be because the direction of the pull on the knot is in the same direction as the rubber strands run prior to tying the knot. If a motor using my kind of knot was tied so the knot was located in a place other than at either end, the rubber would be pulling at right angles to the knot. Would the knot be more prone to failure in such a case? Is there a better way to tie a knot that is located in the middle of the motor?

I ask these questions because I have observed during mass launch events at the FAC Nats and elsewhere that many of the top flyers have the knot tied near the middle of their motors. Obviously, there must be a good reason for doing this because it is quite opposite what I deem to be traditional procedure. Now that I think about it, years ago, when I built a Marie P-30, the designer, John Kamia, sent me a sample of one of his 6 x 3/32" braided motors with the knot tied near the center. Since John has twice been the National Rubber Champ, I assume he knows what he is doing. I wish I had asked him at the time why he did it that way.

What about knot strength? This has been researched regarding fishing lines, and knots that will hold at 99% of the stated line strength have been developed, but how about rubber motors? I have broken rubber motors at the knot but most have broken in other places, probably because of a nick or other defect in a strand, so maybe it does not make much difference. I believe all of this would be an interesting subject for further discussion, and I would love to hear your comments on the questions I have raised. Drop the editor a line (e-mail or snail mail) and I'm sure he will publish your comments for everyone's edification.

And, in the next issue of the Tailspin, Ed Pelatowski wrote:

"Bill Henn's piece about knot positioning in the last issue of *Tai/spin* was thought provoking. I've always felt it was a "major crime" to have the rubber knot anywhere but at the rear peg. I would even feel guilty if it wasn't there. I can't remember anyone ever stating this "rule" to me, or even reading it some where. I just did it automatically. One thing that I know for sure, is that on smaller models I didn't like the two cut ends flailing around against the tissue and, eventually, making it unsightly.

Lately, however, I have been remiss in this knot locating procedure, especially with multi-loop motors. I'm happy to report that my "faux pas" of not always positioning the knot where it "should be" has yet to produce any aerial disasters of note. My conclusion, therefore, is that Bill is probably quite correct when he says that always positioning the rubber knot at the peg end of the motor is just an old wives tale, perpetuated down through the years without evidence that it's the best way to go. Obviously, the knot position isn't as critical as we once thought."