

STRETCH WINDING TENSIONED MOTORS

From freeflightml (the internet)

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Much has been written about stretch winding motors such as stretching to 7 times motor length, winding in half the turns, walking in, etc. This may be fine for the relatively short untensioned or minimum tensioned motors that are used in most endurance models but what of the long, braided motors that many FFers use in scale models? At the recent FAC Nats I switched to longer motors in all my models, at least double the prop hook to rear peg distance, braiding them sufficiently to prevent bunching and to prevent the nose block from falling out of the model. For determination of max turns, I used the charts (Shermans?) and John Barkers estimates on turn reductions/braiding (previous thread). Even with the turn reductions factored in, I was only getting about 85-90% of the calculated turns. Unfortunately I did not bother to use my torque meters. Nevertheless I blew several of the 6 X 1/8" motors that I was using in most of my models. Therefore I believe I was putting in close to the max turns that the rubber would take. I have concluded that my winding procedure is faulty, perhaps because the rubber is not being stretched sufficiently. I have never measured the distance that the motors are stretched before winding begins but is considerably less than 7 X hook to peg distance, maybe 5 X, however it feels very tight at this point, enough to alarm my son who was holding for me. I am not looking for any theoretical solution to my problem but just some practical advice from those of you who have had experience actually winding braided motors.

Bill Henn

Bill, A lot of this is going to be practice. Working on the basis that a stretch of 10 is what is needed to break the rubber in. This seems to be about right for Tan II and Tan SS. Winding would be less of a load on the broken in motor. My advice would be to go with what you are comfortable with, 7 seems OK to me.

Put on half the intended turns then come in. Regardless of how close to the max you intend, put on half and pace the rest in evenly. The requirement to get the motor to wind and thus knot correctly is to keep an even pull throughout the wind up. The consistency is probably the most important aspect of the wind up. To be consistent one needs a decent winder, one that suits the task, this could mean more than one in the box if you fly a range of classes. If you have to fight and struggle you will never get a proper wind up. To back up the winder the model must be held securely in a decent stooge, you mate might be good but an inanimate object is better. Counters and torque meters help but are not essential.

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