

February 2004



The Monthly Newsletter of The New Hampshire Flying Tigers Radio Control Club

Send all correspondence to: The NH Flying Tigers RC Club, P.O.Box 99, Derry, NH 03038-0099

President - Glen Bolser Vice President - Dave Sigillo Safety Officer - John Clark Field Marshall - Paul Pazolt
Secretary - Dave Annicelli Treasurer - Dan Wilder Newsletter Editor - Will Widgren Training Coord.- John Lavery

**This Month's meeting will be on
Wednesday, Feb. 25th, 7:00 pm at the
Marion Gerrish Community Center**

What's Happening

**Special presentation at this month's
meeting on MICRO Flyers.**

Minutes of Last Meeting

Meeting began at 7:03pm with 34 members present.

Treasurer's report was read and accepted.

New member - Robert Demaio of Londonderry.

John Lavery announced that the date for the competition will be moved to Sept. 18th. This is for the advanced training.

John also talked a little about the advanced training program and that more info will be posted to the newsletter and the website.

Rich Bono reminded all members about the password protected areas of the club's website and that all members that would like access to these areas should send an email to him requesting a password. Rich also encouraged all

members to visit the discussion forums.

Paul Pazolt announced that the annual work party will be on April 10th with a rain date of the 17th.

There was also a discussion on purchasing a roller rather than renting one every year. A suggestion was also made to possibly build one.

Paul also encouraged members to make suggestions on improvements or changes they would like to see at the field. One such suggestion was to move the field further north to avoid flying over the parking lot and propane tanks.

Glen talked again about the situation with Ed Burie regarding his threats that were made at the November meeting. The officers have contingency plans in place should Ed follow through with these threats.

A vote was taken on Glen's motion to remove Ed from the club. The motion passed with 32 in favor and 2 abstained.

The proposal to reimburse Glen and John Lavery for the CD fees was voted on with all members present voting in favor. Motion passed.

Rich Bono's proposed to amend the constitution under Article VI Section I to add the following wording:

Shall have the authority to add, change, or remove any appointed position.

Don Cox questioned the wording whether it was an individual or position. There was a brief discussion and it was decided to vote on the motion as it was written.

The motion passed with all 25 members voting in favor 2 opposed and 5 abstained.

After a brief break the 50/50 raffle was held with the lucky winner being Steve Widgren winning \$17.50.

Dan Wilder went over the proposed 2004 budget with only minor changes being made. After a very brief discussion the new budget was voted in with all members present voting in favor of the proposed budget.

Richard Barnes proposed to double the charge for the access keys to the field rounded up to the nearest dollar. This charge would cover the cost of making new keys and to have the locks re-keyed. The motion was not voted on at this meeting.

The meeting was adjourned at 8:44pm.

President's Corner

Hi Folks, I hope all is well and you are anticipating an active flying season as soon as this weather starts to turn around and warm up slightly, heck at this point, I'll settle for 45 degrees with a slight breeze, but Spring is just around the corner and I can't wait to get outside and start flying again.

The elected and appointed officers have had several discussions regarding the upcoming year and we have several items on the agenda. An application has been sent in for June Fly-In, and a few of us have also applied for the AMA introductory pilot program which gives us a few more options when it comes to training perspective members. Rich and John have spent countless hours on the web site, adding options and updating membership information. Paul Pazolt is working on securing a roller for the work party and getting an inventory list together of all club assets. John has also been working on advanced pilot training program for this season in hopes that it will get a few more of the members interested in next level of flying and it will also make all participants better and more confident pilots.

Please visit the club web site and use it. It has been set up and updated for your benefit. Also offer suggestions on what you would like to see on the site. Don't forget to cycle those batteries, and we'll see you on the 25th, where we will have a presentation, so all business will be discussed after the presentation has concluded.

Thank You,
Glen

From The Training Program Coordinator

This month I'd like to provide a little more information on the advanced training program.

This program has been formed in an effort to help all pilots who participate, hone their skills. It is intended to be a learning experience for all who participate. It is not intended to teach aerobatics. We will help each other and learn as we go.

The advanced training program will consist of eleven sessions and culminate with a friendly competition. Our first session will be held on April 21st, weather permitting, and will include handouts for the season, and for the final competition, to be held on September 18th.

This year's competition will include the following aerobatic maneuvers

Inside Loop: (center maneuver) session one
April 21st

Half Cuban Eight: session two May 5th

Roll: (center maneuver) session three May 19th

Immelman: session four June 2nd

Split S: session five June 16th

(Club meeting on the 30th no session)

Hammerhead: session six July 7th

Half Reverse Cuban Eight: session seven

July 21st

Putting it all together: session eight August 4th

Putting it all together: session nine August 18th

Judging: session ten September 1st

Final Practice: session eleven September 15th

Competition: September 18th (rain date September 19th)

The competition is open to any proficient pilot who attends at least three advanced training sessions.

Those pilots participating in the competition will act as judges for the competition. Awards will be handed out for first, second and third place.

I hope to see many of you participate remember this is not only for the advanced pilot but for the beginner as well.

The outline for the program has been added to the web page and can be downloaded or printed. Also available on the web site is the Aresti sequence for the final competition.

As always if you have any questions or suggestions please feel free to email me.

Training coordinator
John Lavery
trainingcoordinator@newhampshireflyingtigers.org

PROPELLER BALANCE: What you should be looking for

By LLOYD SULLIVAN

Let's talk about balancing propellers. There is more to it than just throwing the propeller up on any one of the many different balancers and sanding the heavy blade until it is level. This, of course, is better than not doing anything and assuming it is balanced from the factory, but in my 27 years in this hobby, I can only remember three instances where I did not have to do anything before using the propellers. As a matter of fact, just the other day I picked up a 28x10 Bolly propeller that was perfectly balanced, and I did not have to adjust it. This is very unusual. Typically the propellers and/or the hubs are out of balance.

What to check for

The following list (in order) shows what I check on every propeller I buy.

- Hole is in the center (most are)
- Hub faces are square (most are)
- Tip shapes are identical (usually not a problem)
- Lateral side-to-side balanced (usually needs attention)
- Propeller hub balanced (usually needs attention)

I know this sounds like a lot to check, but the destructive power of vibration on our airframes, radio equipment, and even engine fuel mix via fuel foaming are relentless.

How do I check all of this?

Checking all of this is not as involved as it may seem. If the hole is not in the center or the hub faces are not square, I usually just take or send the propeller back and get a replacement. If the hole is not in the center laterally, it's usually not a problem to sand the long

tip until it is the same length as the shorter one. If the hole is not centered in the hub on the vertical axis (with the blades horizontal), get a replacement. The bad news is checking that the hole is in the center and the hub faces are square are the hardest on the list to determine. The good news is they are the ones that are most likely to be right.

There are two things that are essential to accurately balance a propeller: the knowledge to properly check a propeller and a balancer that is accurate enough to allow you to achieve perfect balance.

I hope this article gives you the knowledge you need. The balancer is another issue. It needs to support the propeller hub perfectly centered on the balancing shaft, and the propeller needs to be able to swing through its entire arc friction free. If you cannot position the propeller blades vertically while on the balancer, you never will be able to finish this procedure.

Balancing a propeller laterally is only one small step toward achieving proper balance. I use a High Point Balancer, which is no longer made under that name. I think DuBro markets it now with a plastic base. It supports the propeller on a shaft with sliding cones and the shaft rests in the "V" formed by overlapping wheels about 2 inches in diameter. This is a friction-free and accurate balancer. There are others made by Master Airscrew and some which use magnets. The key here is friction-free. The less friction there is, the more accurate the results.

Procedure

1. Hole is in the center: This is rarely a problem and I usually don't check it unless I am doing a lot of work to bring a propeller into proper balance. To check the hole on the propeller blade axis, I find a bolt that fits the center hole snugly. Then I measure from this bolt to the propeller tip on each side. It is important that these measurements are equal. If one blade is a little longer, I sand it to match the shorter side. To check the hole from the other directions, I use a digital caliper. The measuring device doesn't have to be digital but it needs to measure in thousandths of an inch.

I usually draw three lines across the hub face. One line is straight across the hub and 90° to the blades. The other two are 45° to this line so the hub looks like it has a straight line and an "X." It is important that each of these three lines go through the center of

the hole. Measure the distance from the edge of the hole to the end of each of these line segments. All four measurements on the 45° lines should match if the hole is in the center. Both measurements of the straight line should be the same, but they may not be the same as the measurements of the 45° lines.

2. Hub faces are square: This check only requires a flat surface a little longer than the propeller and a good ruler. I prefer a metric ruler because it has greater resolution, yielding a more accurate measurement. Place the propeller hub face on the flat surface and measure the distance each tip is from the surface. If the hub is square, the tips should be the same distance from the surface.

Check both hub surfaces for square. Another way to check for square is to look at the tips while the engine is idling. If the hub faces are not square, the tips will be out of track. Checking this at idle is important because propeller flex under load will affect the observation. Don't stand in line with the propeller arc above an idle for safety reasons.

3. Tip shapes are identical: Tip shapes should be identical as well. I just put the propeller on a piece of paper and trace the tip shape with a sharp pencil. Place the other tip on this tracing to check that both tips are the same. If they are not, shape the larger tip to match the smaller one. Although the two are usually very close and rarely need attention, it is something that should be checked.

4. Propeller hub and lateral balance: This problem is often overlooked. Hub balance is just as important as lateral balance. In fact, you cannot achieve proper lateral balance until the hub is balanced.

To check hub balance, position the propeller on the balancer so that the blades are vertical. If the propeller swings to one side, most likely the hub is heavy on that side. I usually test this two or three times to be sure the results are consistent.

To correct a heavy hub condition, you can sand the hub flat on the heavy side or take a 3/16 drill bit and drill shallow holes on the heavy side until you get as close as possible. If the propeller does not move when either tip is in the vertical top position, the hub is close enough. I also check the propeller in the 45° positions. Heavy hub and/or lateral balance will affect propeller movement here.

Position the propeller on the horizontal and check for a heavy blade. If the propeller balances horizontal, rotate it 180° and check it again. Heavy blades should be corrected by removing material from the front face of the propeller. Do not remove from the back side because the propeller will have a different pitch on one side. Be careful to preserve the airfoil shape while removing material. Go slowly. Sometimes a little goes a long way.

When the propeller balances horizontally, it is time to recheck the hub and fine tune if necessary. Place the propeller in both 45° positions. If it rotates consistently to a certain position, the hub needs attention at the low point. When the propeller is balanced, it will stay in any position you put it in on the balancer. Do not accept anything less. Do not try to correct an out-of-balance hub by removing material from a blade face.

Technical editor's note: If you remove any material from a wooden propeller, you must reseal the wood and you must add the same amount of sealer to all blades so that balance is retained.

from *Propwash*
Propnuts Radio Control Model Airplane Club
Paul Shaffer, editor
Highlands TX

Coming Events

Annual Work Party - April 10th with a rain date of the 17th.

From The Editor

Any comments or suggestions will be greatly appreciated.

If anyone has anything to contribute please mail to:

Will Widgren, 17 Dyer Avenue, Salem, NH 03079.

or: widgren@comcast.net

Deadline for submissions: March 22nd

Web Newsletter: The club newsletter is available on the web at: www.newhampshireflyingtigers.org,