

R/C FLYERS
EAST PEORIA, IL.

<http://www.summitvalleyrc.com>

The Summit Valley

News

Next Meeting



Our next meeting will be at the Navy Marine Club 1310 E Sieberling Ave in Peoria Heights at 7:00 pm on Tuesday, February 10 2004.

Mow Schedule



I am working on the 2004 Mow Schedule.

DUES



If you have not paid your club dues yet you are delinquent.

Please make sure you get a check to our Treasurer very soon. We need the money to pay of our mower and get some projects rolling.

Annual Banquet



The Annual banquet at Alexander Street Steakhouse was a real treat. A chance to

meet with friends and fellow members to review the years trials and tribulations, share a great meal and find out who took home all

those coveted awards for the year. The turn-out was less than spectacular but it was still a great time. For those of you who were not able to attend a list of the award winners follows:

- Whiner of the Year – Kayton Heavrin
- Mister Meteor – Steve Grob
- Master Mower Knower – Dave Olson
- Aviation Farming Award – TJ Klise
- Master Flight Instructor – Glen Howard
- Master of Spin – Bob Heuermann
- Mid Air Master – Pete Mahrt and Bryan Miller
- Golden Divot of 2003 – TJ Klise

Club Roster



The club roster is as complete as it is going to get. It will be distributed via

email at the same time notifications for this Newsletter go out. For those of you without access to the club website, paper copies will be placed in the clubhouse.

Bulk Fuel Purchase



Anyone in the club can order fuel at \$2 per gallon less than the regular price. This is a savings of

President	Bob Heuermann
Vice President	TJ Klise
Sec./Treasurer	Jim Martin
Editor	Steve Grob
Safety Officer	Vern Mall
Sergeant at Arms	Tim Berg
Grounds Maint.	Pete Mahrt
Equipment Maint	Brian Miller
Safety Committee	TBA

\$8 per case. There are 4 gallons to a case. Members can go together if they don't want a case. Payment is to be made at the time of the order. I think that this is good until the end of the first or second week in February? After that the sale goes off at the distributor and Rick can no longer pass it along to us. This is the same offer we had last year and those who did not take advantage of it wished that they had. Members should go to Central RC on War Memorial Drive, contact Rick, pre-pay their order and Rick will do the rest.

U.S. Scale Team

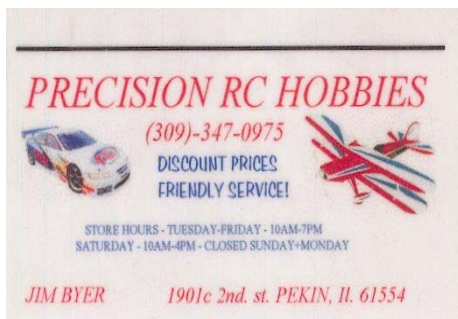
Bob Heuermann reports that he has heard from Al Kretz a former club member and hobby shop owner now living in Huntsville, Alabama. Al is a member of the 2004 US Scale Team that will be competing in Poland this summer. Our US Teams need all of the support we can give them as they are representing the USA in world competition.

'Round the world in 80 Hours

Actual photos of the Global Flyer have been posted to the website. Look in the Press Area for some high resolution shots. Steve Fossett has been named as the pilot with Sir Richard Branson as backup pilot. If something happened to Steve, Richard would fly the mission. Read all about it here: www.virginatlanticglobalflyer.com/

The Ultimate in R/C

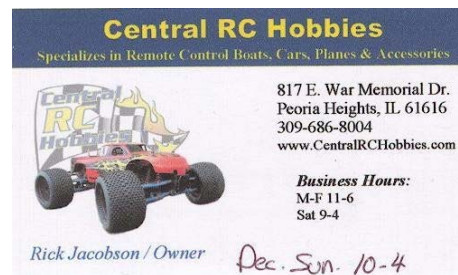
Typically our transmitters have an effective range of about a mile even though we rarely use it. Can you imagine sending radio control signals across 286 million miles of space to drive a rover on the surface of Mars? Incredible as though it may seem NASA now has two rovers on MARS that are under the control of the Jet Propulsion Lab back on earth. Each rover took about 7 months to travel from Earth to Mars. If you find this interesting you can follow the activities of these two incredible radio controlled machines at the following website: <http://marsprogram.jpl.nasa.gov/index.html> There are lots of photos the rovers have taken of Mars and great information on the whole mission.



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This photo was taken by Don Pyles on 1/10/2004. He was taking aerial photos for the Morton Chamber of Commerce and just 'happened' to fly over our field at about 2,000 feet. Great shot Don!



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Note: The following is a reprint of a tech article published on the AMA website.

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*
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Airplane Club
Paul Shaffer, editor
Highlands TX