

February 2005



Grassfield R/C  
Club  
AMA Club #1405  
www.Grassfieldrc.org



Pete, Dave Andersen is going to do a special presentation on building scale models. We may even get him to talk about how he helped test the Army's new secret weapon!

O.K. Willie, I always wanted to talk to one of RCM's most distinguished authors, but Secret Weapons? Wow!

# "The Clippings"

## The Newsletter of the Grassfield Radio Control Club, Brooklyn Park, MN

### Freeze Your Ailerons Off Sunday, February 20th

By Phil Zuidema

President Richard Steine was in his own zone this month. He has been working like a whirling dervish on his Ziroli B-25 Bomber. It will have two Zenoah, gas fueled engines on it. The wingspan is in the neighborhood of 110". It is a beauty. Construction is nearly complete and it's getting ready for primer. I think Richard will bring it in to the meeting for a show and tell, but probably not until March.

Don't forget, the April meeting is the Annual Builder's Show, where we will have Scale, Novice, Racer and ARF categories. (There may be one more, but it doesn't come to mind at the moment.)

Here's the BIG NEWS. On Sunday, February 20th, the Grassfield will host it's annual Freeze Your Ailerons Off. That's spelled, FYAO. Last year was an amazing success. The best one that I can remember. Typically, that weekend in February is fairly moderate weather, certainly warm enough to stand by the blazing bonfire. We asked everyone to bring something to share, a pot luck with the central theme being chili. I got to taste some of the best chili I have ever had, with so many variants, we could write a cook book.

Jesse Platt brought a fabulous pheasant stew. I brought some chili and pies, one was pecan, which I believe Scott Holm-Hansen gave the "thumbs up" to. There were so many great contributions, pardon me for not mentioning all the people who put time into fixing their favorite for everyone.

This year, I will bring pie again. You better get there before Jerry Elert does, cuz' he's always talkin' about my pies. Let's see now, I do a killer New York cheesecake, too.....hmmm, what to bring? Oh well, show up and you'll find out.

So don't forget your chili (or some other favorite soup or accompaniment) and most importantly, don't forget your airplane. I'm not sure if we'll have snow or not, (the field is almost clear as I write this), but if not, then no one can use the excuse that they don't have skis. Yeah! Bring planes and food. Last year I think we had over thirty people and the weather was fine.

### Do You Know This Modeler?



FYAO 2004

Photo by Bill Hempel

This modeler is an old-comer to modeling, but a fairly new comer to the Grassfield. He attends most of the meetings and frequently can be seen in the back of the auditorium selling things. Do you know who he is?

### this month's Clippings

Freeze Your Ailerons Off	1
Do You Know This Modeler?	2
From the Editor	2
From the Secretary	2
Wingtips	2
Strength and Stiffness	3
Speed Secrets	3

## Notes from the Editor

By Phil Zuidema, editor.

There may be some of the newer members who have been missing out on their *Clippings*. (No, could this really happen?) Yes, Martha, I'm afraid it could and did. Pat suggested this month that I read his member roster he creates each month. So I went over in excruciating detail the mailing list and I found out that I had at least ten people on Pat's (the Master list) that I didn't have on mine. So, to those newbies, I apologize. Also, there were a number of people that were getting the Clippings who weren't current members. But, they won't see this message, because I have removed them from the mailing list. So, I strongly suggest you don't miss this meeting, as model designer extraordinaire will be showing us considerations in designing scale models. His explanation will help all of us build, repair and understand the aerodynamics of our models, whether you ever plan to build one or not. Dave has written numerous design articles, fiction articles and graced the cover of more *Radio Control Modelers*, than anyone else I know. Don't miss this event!

## Grassfield Monthly Meeting

This month's meeting will be held:

**Date:** Friday,  
**Time:** 7:00 p.m.  
**Location:** Brooklyn Center Civic Center  
 6301 Shingle Creek Pkwy.  
 Brooklyn Center, MN 55430

See [www.Grassfieldrc.org](http://www.Grassfieldrc.org) for a map.

## Notes from the Secretary

By Pat Galarneault

I'd like to thank Phil Zuidema and Dick Steine for helping out with the membership processing at the last meeting. Jerry Elert, Dave Norman and I went down to the Winterfest Q-500 race in Phoenix, Arizona. It was hosted by the Speedworld R/C Fliers. They put on a first class event, featuring electronic starting, timing, and scoring. For three days of racing the weather was perfect; no wind, sunny days and 70 degree temps. Dave Norman was in or near the top ten until a cutout on a refly cost his score dearly. (see [www.nmpr.org](http://www.nmpr.org)). Jerry Elert was fast and doing well until a cut-out (my fault) and a crash, due to bad air, set him back in the scoring. I started out poorly due to a new plane. As I got things sorted out, trims, throws, etc. I started to do better. Jerry Bednark, who winters over in Arizona, was going good until a midair cost him his best plane. Despite the various setbacks we all had a good time down there. If any of you are looking for a good winter break this contest is definitely worth considering. Approximately 45 of you have renewed your memberships for 2005. I will have apps, cards laminator, etc. at the meeting to process membership renewals. All new and renewed 2005 members should have received their 2005 club cards. If you have not received one yet, or have not been receiving your *Clippings*, please do not hesitate contact me. See you at the meeting.

## Wingtips

By Jeff Queen

I hope everyone is enjoying the winter months and getting those building projects completed. The builder's show is right around the corner, and as you know, this is a special time to earn "bragging rights." Speaking of building airplanes, whether it is a kit, or an ARF, there is one major tip to keep in mind. Always include your name, address, phone number, and AMA number affixed to the aircraft. Some people will write it on the inside, and others just use mailing labels. Either way will work fine, just as long as you remember to do it. This is an AMA policy, and your insurance could be in jeopardy without it.

Here are some other tips to keep in mind:

- ?? Don't put your fingers in a running engine, it will hurt.
  - ?? Don't touch hot mufflers, it will hurt.
  - ?? Don't crash your new plane, it will hurt.
- Don't tell you wife you bought a new plane, to replace your crashed one, IT WILL HURT.

Also, just as a reminder, we will be installing a First Aid kit somewhere inside the frequency hut. I will get this installed as soon as the weather gets better and let you know its exact location. Until then, have fun flying, and be safe.



Jim Brown readies his big Waco, a.k.a. "Big Bird", for it's next, realistic flight. Next to it sits Al Schwartz's Hawker Sea Fury and Dick Steine's Katana, which you can buy at Hobby Warehouse.

### Photo on the Front Page is:

This modeler, who has been involved in most every facet of RC Modeling, showed me inverted flying two feet off the "deck" way back in 1981. So, that should give you an idea of his time in the hobby. There's a good chance that if you have a spinner nut, it was made by him under Dubro's brand, or if you fly O.S. Quickie 500, you are probably using one of his motor mounts. Eric Malkerson has been in this hobby a long and happy time!

## Strength & Stiffness

By Klotz the Kat



"What wonderful fabric," a modeler said after retrieving his crashed airplane. "The wing was completely busted up, but the covering wasn't even torn."

In this case, the fabric covering was contributing nothing to the strength of the wing. It was so flexible that it stretched with the wing even when the wing was disintegrating. Structurally, it was dead weight.

Strength isn't the whole story. Equally important is flexibility and its cognate, stiffness. In a model structure that consists of a variety of materials, designers try to make all structural members share the load by matching stiffness. Think of stress as a liquid that flows thru the structure, taking the path of least resistance. It flows thru the flexible stuff and builds up at the stiffer parts. In order to spread the load evenly we need to match both strength and stiffness.

Consider what happens in a wing with poorly matched structural members. Consider, for example a wing with oak spars, balsa sheeting and a very flexible heat-shrink plastic covering. Imagine this wing pulling thru a 20-G pylon turn.

Oak is very strong, but it's also very rigid. So nearly all of the G-load is borne by the oak spars. The rest of the wing feels no stress and bears no load. Until the spars break. Then all of the stress is transferred to the wing sheeting. Chances are it will break too, putting all the stress on the stretchy plastic covering. If it is flexible enough, it merely acts as a bag to hold all the broken parts together on their way to the ground. It's like the old party trick of ripping a phone book in half by tearing one page at a time.

Now consider a wing with more equally matched flex—spruce or basswood spars (it's hard to get spruce anymore), balsa sheeting and a stiffer covering such as Monokote or fiberglass cloth.

In the dreaded 20-G turn, the spars bear a lot of stress, but they flex to flow a major part of the load thru the ribs to the 9

Good design puts the strength where the stress is and distributes the stress as evenly as possible throughout the entire structure. Making a part overly strong adds unnecessary weight that increases the load on other parts. Super flexible covering materials may be easy to iron on, but, if applied to a stiff structure, add little to strength.

Strength-to-weight ratio is the end product that we wish to maximize.

### COPYRIGHT NOTICE

All material printed herein is copyright 2005, Grassfield R/C Inc. and may be subject to other copyright as well. Any material from this publication may be copied for personal use. If printed with the statement "Copyright 2005 Grassfield R/C Club Inc." and the author's name. Any articles contained herein may be republished for any non-profit purpose by any AMA member club. Any other reproduction, publication, or redistribution, in any form, is prohibited. All other rights reserved.

### PUBLISHER'S STATEMENT

*The Clippings* is a newsletter published monthly by The Grassfield Radio Control Club Inc. It's distributed to club members, hobby shops and other interested parties. For membership information, editorial submissions, and advertising inquiries, please contact Grassfield R/C Club Inc., c/o Phil Zuidema, 4945 Pennine Pass N.E., Columbia Heights, MN 55421-2075, PHZuidema@comcast.net (763) 571-9627.

## Speed Secrets

By Dave Norman

It was not my initial intention to make this a running series, but after several words of encouragement (and maybe a little arm-twisting), I thought I would at least give it a 2<sup>nd</sup> shot. Considering all the things a person can do to go fast, what I feel gets missed most often is the attention to details I see on many of the planes on a typical race day. I'm not saying that any one of the little things makes that much of difference by itself, but when looked at a whole, I believe there is a cumulative effect at work here.

I will start at the nose of the plane, and work my way back in future articles. Probably the biggest hindrance to speed is the prop on the front of the engine. I will make the assumption that you have the proper size and pitch in place, but what about the prop itself? Is it old, chipped, dry rotted, and showing signs of stress? As APC props age, you will start to see small white stress lines out near the tips, and in my opinion, this is the time to get rid of them. Here is how I like to prepare a prop for racing. First off, I like to ream out the center of the hub from the back with a good tapered reamer. Ream the prop out so that you come close to, but not into the slightly larger ridge molded into the back of the prop. If you go to [www.darrolcady.com](http://www.darrolcady.com) he sells prop rings for the Nelson engine that you place over the crank that will allow that little recessed ridge to sit perfectly on the spacer sleeve. This will give you a perfectly centered prop on the nose of your engine. At one point there were some prop rings floating about for the O.S. .46, but I am not sure at this point who has access to them. If all else fails, a simple rubber o-ring from the hardware store works fine in a pinch.

Next, I have 3 small sanding blocks that I made for preparing my props. They are about 6" long and made with 3/4" x 1/2" pine. I have them set up with 150, 220, and 400 grit papers. If you look at the four edges of a new APC prop, you will see a ridge of plastic flashing that runs all the way around the prop. This flashing is legal to remove, as long as that is all you are removing, you are not allowed to rework the prop, just the flashing. I start with the 150 grit, and make roughly 10-15 passes along one side of the blade to remove the flashing at the TE of the prop, I then go to the LE with 150, and then the same with the other blade. It is important to make the same amount of sanding strokes with your block, or you will throw off the balance. After the 150, I do the same process with the 220, and then again with the 400. You need to be very careful at the tips, as the material gets very thin there. At this point, I take a damp rag and remove the sanding residue. At this point, the flashing should be gone, and you will have a very smooth LE and TE on your prop.

Now that the flashing is removed, it is time to check the balance of the prop. If the reaming, and sanding was done properly, the prop should be very close to balanced. I absolutely hate sanding on one blade for balance, so all I will do at this point, is take a sharpie (green is a good color for this) and mark the heavy blade. This is also a good guide to know that the prop has been properly prepared. When you get ready to install the prop on the engine I will set the piston at top dead center, and place the prop with the heavy blade opposite the engine head. Now that you have what I would call a properly prepared prop, how do you maintain it? After each and every heat on race day, I give the prop a very good look over. Look for chips, dings, and even broken tips from the plywood boards that we launch off of. I like to take a rag or paper towel and clean the prop after each heat as I inspect it for defects.

That's it for this installment; stay tuned for future "speed secrets"!



If you don't think that modeling is a family activity, better check these smiles again. Gregg and AJ Hemken teach each other how to race.

## Grassfield R/C Club Board Members

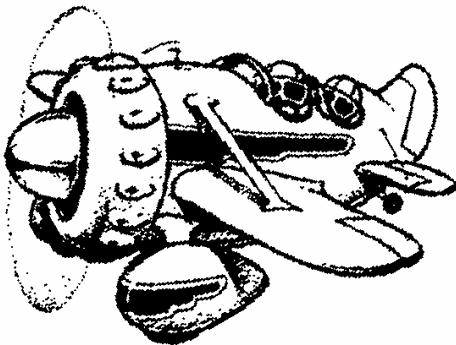
Richard Steine	President
612-823-4956	RSteine02@aol.com
Dave Norman	Vice President
763-643-2641	dnorman@banta.com
Pat Galarneault	Secretary
320-255-0496	pkg@cloudnet.com
Bill Hempel	Webmaster
763-424-2937	grassfldrc@aol.com
Scott Holm-Hansen	Treasurer
612-709-1541	sghh@comcast.net
Jerry Bednark	Field Marshal
763-753-6300	jerrybednark@yahoo.com
Jeff Queen	Safety Officer
763-425-5346	jeff_queen@ahm.honda.com
Phil Zuidema	Newsletter Editor & Contest Coordinator
763-571-9627	PHZuidema@Comcast.net

## The Clippings

*Newsletters of the Grassfield R/C Club, Inc.*  
[www.grassfieldrc.org](http://www.grassfieldrc.org)

**Phil Zuidema**  
 4945 Pennine Pass N.E.  
 Columbia Heights, MN 55421-2075

Place  
Stamp  
Here



Name  
Address  
City St Zip