



The Fox Valley Aero Club

Flypaper



January 2006

Club President
Jeff Anderson

Club Vice President
Paul Douds



AMA Charter 252



Editor: **Paul Jacobs**
Paul@mertes.com



AMA Charter 252

January 2006

Club Secretary
Julian Pugh

Club Treasurer
Bill Simmons

Dominic Saverino and Jeff Anderson deliver “toys for tots” to Captain Daren Spencer of The Salvation Army. Mayor Don DeWitte of St. Charles and Jim Wheeler of the St. Charles Park District helped unload the toys which were donated by FVAC members at the December Christmas party, see page 16.



THE SALVATION ARMY	
OFFICE HOURS	M-F 8-4
PRANTRY	M-F 830-330
BREAD DIST.	T-F 830-930
SUNDAY SCHOOL	945
WORKSH. SERVICES	1100
BIBLE STUDY	
1ST,3RD SUN	6PM-1ERY
2ND,4TH SUN	12PM-1ERY

BASKETBALL	
ADULT	M 6-830P
AFTER SCHOOL PROGRAM	
M,T,TH	3-7
WED & F	3-6 MJC

ACTIVITY		TIME
WALKING GROUP	M-F	8-10AM
YOGA WORKOUT	M&F	9-945 AM
GOLDEN DISH	F	9-1 PM
SENIOR EYE	W	1030-115AM
WOMEN'S MINISTRY	M	6-730PM
WIC	T	4-7 PM
BE WISE	4TH W	8-4 PM
SONDAYS SCHOOL	W	5 PM
TEEN WITE	4TH FRI	N

President's Message

By Jeff Anderson



Boy I miss summer!! We had a lot of fun and laughs learned a few lessons and even made some mistakes. I remember when it was 100+ degrees for days on end. All I wanted was some snow outside, a football game on the TV and a nice fire going inside. Well it's here, and I want the summer back...oh well...anyway

We have grown exponentially, and this club is a horse! It's time to make some changes to adapt to her new running style. We need to fine-tune our club and really define the direction we are going for 2006. We did some awesome things in 2005 and made a few mistakes along the way too that we will try not to repeat in 2006. Just so you know, your board of directors is planning the BEST

year the FVAC has ever had! You DO NOT want to miss any of this stuff!! There is once again a full schedule of fun and activities planned for the summer. We will need club members to help and enjoy!!

And Coming Out of the Gate:

Dominic Saverino arranged for the "press" and Mayor of St.Charles Don DeWitte to be there when we dropped off the donated toys. This was great exposure for FVAC.

Also there was Captain Daren Spencer, who runs all the Scouts and the Toy drive, after telling him about FVAC, he says he will be at our kids fly day (June 10th) with 50+ kids!!

Ken get ready!! ..and....Thanks Dom !! Thanks to those Club Members who donated!! It was pretty cool!

Dom has some other things planned for 2006 as he will be in charge of City & AMA relations for 2006. Please help him out and let him know you appreciate his efforts!

The FVAC will have a key man in charge of "CLUB PRESS" in 2006 which includes newspapers, radio, Internet, and e-mail. Our Flypaper editor & Board Member Paul Jacobs is set to take-on this role. Paul is already building his contacts with the local papers for all the club happenings. Paul is also totally revamping our Web site in 2006. Thanks Paul , You Rock!! www.foxvalleyaero.com

There will be NO more Mass E -Mails sent out to you all. Even the pictures Paul Douds & others so graciously take will be sent to Paul Jacobs and posted on our web site for all to view as they wish. Please send all and any info you want to share to Paul Jacobs for posting. paul@mertes.com In 2005 we had some rumors and incorrect information disseminating throughout the club mostly by E-Mail. Hopefully, this new route of disbursing all information will prove more effective.

We will be working on several smaller changes to make our Horse run smooth and you will all be kept informed and asked for your input at club meetings

RememberThe officers and I do this for FUN!! Please!! Always try to be part of the solution.....not part of the problem!

Vice -President's Report

By Paul Douds



Nothing submitted at press time.

The winter of 1932 was so cold that Niagara Falls froze completely solid.



Secretary's Report

By Julian Pugh

Minutes of the December 9, 2005 Meeting



Julian is off strolling on the beaches of Cancun Mexico with his wife Carolyn so there are not any official minutes for the meeting that took place during the Christmas party. Actually I'm not sure the meeting was officially called to order but I do know that the only order of business for the night was to elect the Board and

Officers for 2006. President Anderson did announce that the only contested office was won by Paul Douds and he will continue as the Vice President. Other Officers are Julian Pugh, Secretary and Bill Simmons, Treasurer. The six at large board members are Greg Bohler, John Fischer, Cliff Fullhart, Karl Greisbaum, Kenneth Kaiser and Robert Walker. Jason Walsh stays on as membership chairman, Mel Ziska as past president and Paul Jacobs as Flypaper editor. The highlight of the evening was the awarding of the Lee Patterson Memorial Award to Cliff Fullhart (see page 12). The rest of the evening was spent handing out prizes to members and their wives for the various raffles. The largest prize was won by Robert Sampson, the Curtis Hawk P6E biplane ARF. Special thanks to Cindy of Al's Hobby for her help with the prizes, gift certificates and putting up with Jeff as the emcee.

Did you know that no word in the English language rhymes with month, orange, silver, or purple?

Treasurers Report

By Bill Simmons



At the time I am writing this I do not know who won the position of Vice President. Both candidates are winners to me so my congratulation goes out equally to both. As I was running unopposed I figure that there was a better than 50/50 chance that I won so I'll take a leap of faith and say thank you to all of you who voted for me. The fruit is in the mail.

I went foamee flying at the dome per Jeff's recommendation last month. The dome is 100 yards long by 100 yards wide by 100 yards high. This was more fun that I thought it would be and I had high expectations. I managed to fly into Dan Compton's plane at the top end of my beautifully executed loop. It was his fault even though I flew into him. The planes got locked together and fell to the ground like a leaf. My plane was damaged pretty good but the plane Dan was flying was OK. At least until about a half hour later when Jeff had a head on crash with it and that plane became grounded for the night. Everyone has a great attitude about the crashes because the planes are easy to fix and the dome is rather tight when you have 15 or more airplanes flying around at the same time. It was all part of the fun. Parking was close, the bathrooms were clean, and there were even a couple of hot babes there too. Don't miss out on this facet of the hobby.



Treasurers Report

By Bill Simmons



Tools (All available from our three supporting hobby stores).

There are several tools that everyone should have in their arsenal even if all they build are ARF's. The first one is a good sanding block. I've used them all and the one I like is from Great Planes called the Easy-Touch Bar Sander.

It is made of aluminum and come in different lengths and sizes. The sandpaper comes in roles and in 3 or 4 different courses. You stick the paper to the bar and away you go. There are still people who just use sandpaper by itself and believe me it shows. To get a great result takes the right tools and the right process and patience.

Stock Numbers:

GPMR6170 - 11 inch Bar Sander

GPMR6172 - 22 inch Bar Sander

GPMR6174 - 33 inch Bar Sander

GPMR6176 - 44 inch Bar Sander



The second tool that I think everyone should have is a good hand planer. I use the one from Master Airscrew (about \$7.00). You can get replacement blades, and I did, (around \$2.00) but the one that came installed with mine is still sharp as ever. Using a plane on your models surface before you do ruff sanding cuts down on the time and at least some of the mess. This tools works so well I bought two just in case I misplace one.

Treasurers Report

By Bill Simmons



The third tool I want to talk about this month is #9 single edged razor blades. You can buy them in bulk (100 blades in a box) and you want to. If you even think the blade is getting dull replace it. Buying in bulk makes this easy, even for a Scotsman like myself. I will use as many as ten when I put covering on a new airplane and I probably should use more.

Part # 331

3/4" Super Ball Link Control Horn
with 2-56 & 4-40 Clevis

MSRP \$5.95 (2 pkg.)

[Click to Order](#)



Lastly I want to talk about some control horns I recently tried from Robart. They have a bend in them that allows you to mount them further into the control surface for a stronger installation. They also have a

ball link on the end that adjusts as the control is moved. Spend the extra money to get the ones with the metal ball. These come with two different sized clevises and have a screw and lock nut that secures the clevis and control wire to the ball link. This will never fail. Don't skimp here. Your plane will usually fail at its weakest link.

Next Month I plan on highlighting some tools I found at Costco and perhaps I will give details on how I made a 9' x 4' workbench for under \$100 from Menard's and Home Depot.

The words 'racecar,' 'kayak' and 'level' are the same whether they are read left to right or right to left (palindromes).

There are more chickens than people in the world.

The Fox Valley Aero Club



Swap Shop



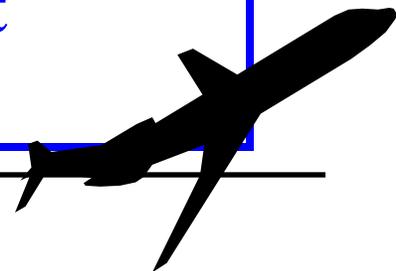
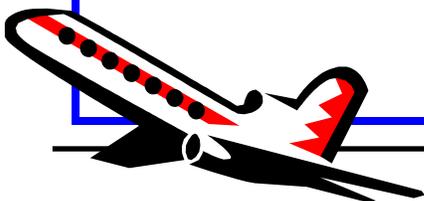
**New Location: Kane County Fair Grounds,
St. Charles, IL Entrance on Randall Rd.**

Saturday, February 25, 2006

**Table set up 8:00-9:00 AM.
Admission at 9:00 AM– 2:00 PM**

**Cost: \$5.00 Adult (children under 12 free)
Table Rental: \$12.50 each prepaid
\$15.00 at the door.**

**For table reservations and information
contact Steve Baker 1-815-246-4227 or e-
mail Julian Pugh at
cpugh50@yahoo.com**



Setting Incidence by Dennis McFarlane

Angle of Incidence: The angle at which a ray of energy impinges upon a surface. Usually measured between the direction of propagation of the energy, and a perpendicular to the surface at the point of impingement.

The above definition was found in the “Dictionary of Technical Terms for Aerospace Use” I am not an engineer, I am a hobbyist. To me, although I understand the words being used, and even the manner in which they are being used, the definition really means nothing. To over simplify the definition would be to state that incidence is the angle of the flight surface in relation to the line of flight. Not being an engineer I may not be 100% correct, but it’s how I view incidence.

I have suggested both at the flying field, and at club meetings, when setting up an airplane you should always check the incidence. It’s sometimes hard to remember that newer modelers may not understand exactly what they are being told. Even old timers have fallen into the ARF syndrome where because the airplane was built in a jig it should be right. This came to light recently when an experienced modeler took my suggestion and bought an incidence meter. The next time we met he mentioned to me that he had used the meter just as I had instructed, but he had no idea what he was looking at, and even if he did, he wouldn’t have the slightest idea what to do about it. For this reason I felt a bit of a tutorial would be in order.

Lets start by understanding that this is not a lesson in aeronautical theory. It is an instructional article. I hear all sorts of theory regarding aeronautics at the flying field. Some accurate, some rather general, and frankly some pretty off the wall. I have no intention of covering the theory of flight, only how to diagnose, and make adjustments.

Years ago (actually about 9 or 10) I flew scale aerobatics. I wasn’t really that good, but at the time I enjoyed the flying. I would practice every night after work doing nothing but loops and rolls always in search of the perfect maneuver. Week-ends were spent at events where I’d stand on the line attempting to execute in front of a judge just what I’d spent the week practicing. Then one day, my caller missed a maneuver. I had the pattern memorized, but when he called, I followed his lead. I knew at once I was facing the wrong direction. I asked the judges if I could reenter the pattern. I was told I’d have to take a zero on that maneuver, but I could turn around and get set up for the next one. Something clicked, I’d had enough, I was burned out. I mean completely burnt. I landed and called it quits. Not only at the event I was attending, but aerobatic flying in general. Then late this past summer I realized that I had relaxed enough, and was now bored. Time to get back into things so to speak.

I looked the available models over. I wanted a biplane, but I couldn’t bring myself to buy an Eagle, or Ultimate. After checking I found the Sundancer by SIG to be a pretty nice set up. It was large, had a fully symmetrical airfoil, and from what I could tell had the correct moments to be quite a performer. There’s all sorts of sayings regarding pattern flying, and I’m going to leave them all out of this article except for one.



Photo 1



Photo 2

How do you expect it to fly straight if it isn't built straight? Photo-1 shows what's needed to do a proper setup. I like to use two incidence meters, the why of which will be explained shortly. You will also need some sort of gizmo to jack up the tail of your airplane. I started the setup by using stacks of Futaba servo cases, and a few wood shims. I quickly realized I needed a gizmo. Since no tail support gizmos seem to be commercially available I made one. It's a couple of pieces of hard wood, a couple of dowel rods, and some triangle stock. The top piece is free to slide up and down on the dowels allowing for infinite adjustment. Photo-2 shows how it works. The tail wheel is cradled in the slider, which is moved up and down on the dowels. Next you are going to need a reference point. No adjustments of any sort can be made until you have a reference point. I'm lucky. On the Sundancer the horizontal stabilizer is set at zero degrees. This is not always the case. On many classic designs the stab will have around 2deg of positive incidence, or the leading edge of the stab will be at +2 compared to level. My Sopwith Pup is 2deg positive. The datum line for that airplane is the top fuselage longeron. Photo-3 shows the meter on the stab of the Sundancer. At this point the meter is reading zero. Neither positive or negative. All

moving forward, photo-4 shows the meter attached to the front of the engine using the prop washer and nut. Although for aerobatic purposes I'd prefer the engine set at zero, I'm showing 2deg of down thrust. 2deg of down thrust is a pretty typical for most flying. Should I choose to take this out at a later date there won't be much problem. For smaller motors a few washers stacked between the motor mount and firewall can be used. I'm not big on putting washers under the motor "lug" as this can lead to a distorted case. Now comes the real fun. Install the wing, in this case, the lower wing, and attach the incidence meter as close as possible to the fuselage, photo-5. For most sport airplanes a reading of 2deg positive is right. I'm interested in an aerobatic setup. I was lucky in that I had zero degrees of incidence in the lower wing. If you have an abstract reading check to make sure you haven't pinched an aileron lead in the saddle between the wing and fuse. I have had to do some pretty serious adjustments at this location in projects past. Nothing is worse than modifying the wing saddle only to find you've repaired a non existent problem. Photo-6 shows why I like to use a second meter. Place this meter as far outboard as possible without encroaching on the aileron. Hopefully if your root reads zero, the tip reads zero also. Although most ARF's are built and covered in jigs, warps in this area do occasionally occur. Should a warp be present. Have a helper twist the wing opposite the warp while you re-shrink the covering. For most minor warps this will straighten the wing out. If you've discovered a warp just keep twisting and shrinking until it's been worked out of the structure. Photo-7 shows the top wing installed, and both incidence meters attached. When first installed the meter was indicating 3 degrees of negative incidence. I double checked to make sure I'd installed the wing properly. Remember what I said about fixing a nonexistent problem? I had to do a bit of shimming at the front cabane in order to get the wing to read zero degrees of incidence. Take your time, try a shim, if you have to take it apart and try another, or even a stack of shims, get this correct. I wanted my reading to be zero. This required a .032 shim stacked with a .065 shim in order to get the incidence reading I was looking for. Some biplanes will have the top wing set at minus-1. Rarely will you find a biplane with positive incidence in the upper wing, although I'm sure there's one or two out there somewhere. We're almost at the end. At this point you should be most of the way through a pot of coffee. If I were allowed to smoke, I'd have burned a pack by now. (nothing goes with a problem like a cup of coffee and a cigarette) Photos-8/9 show where a lot of guys make their biggest mistake. We've come this far, everything is perfect, and you jamb the interplane struts in place. Just as the cabane had to be shimmed to bring the wing to zero, the interplanes are going to have to be shimmed to avoid introducing a warp into the wing. At first I tried a .065 washer under the rear top interplane bracket. This was the spacing I was looking for, but it was still putting some tension on the upper wing. I ended up using a .032 nylon washer under the rear brackets both top and bottom of both wings to keep from inducing a warp in the respective panels. Once I was finished mounting the struts I marked them left and right. There's no use going through this much work only to cause future problems by installing components backwards. Photo-10 shows a couple different types of mounting brackets. The one on the left is the SIG product. On the right is the Great Planes unit. Next to the brackets are some nylon shim washers I picked up at the local Ace Hardware store. I got two sizes. #8 by .032, and #8 by .065. The washers were .05 cents each, so for a whole buck I got 10 of each. For this project I used six shim washers. (.065 and 5 .032) Gee, for a total of .30 cents I've turned what might have been a pile of dog poop into a bowl of ice cream.



Photo 3



Photo 4



Photo 5

How important is this information? The typical trainer comes from the factory with four degrees of down thrust in the engine, and 4 degrees of positive incidence in the wing. This setup (along with a high lift airfoil and a special twist known as washout) allows for extremely slow forward flight, and low landing speeds. There's a trade off though. Trainers climb under power, and they balloon in turns. If you take 2degrees of down thrust out of the engine (two sometimes three washers) and two degrees of incidence out of the wing (a 1/8 shim under the trailing edge) the flight characteristics will change rather dramatically. The airplane won't climb nearly as bad under power, and the ballooning in turns will be reduced. There's a trade off though. The speed needed for forward flight and landing will both be increased significantly (sounds like a second airplane doesn't it) . 2 degrees doesn't sound like much, but a good friend, and master builder, Pete Frankenthal, had put together a 1/4 scale Balsa USA Fokker TriPlane. This thing was gorgeous to look at, but it didn't fly all that great. The plane flew in a tail down squat, and was sensitive to pitch. These two handling problems are characteristic to a plane being tail heavy. Pete knew the balance was correct, but added nose weight. This only made the problem worse. After some head scratching Pete removed the horizontal stabilizer added 2 degrees of positive incidence, and tried again. The results were incredible. The squat was completely gone, and the pitch sensitivity had all but been eliminated. If you look at a protractor, two degrees doesn't seem like much at all, but in our world of miniature aviation two degrees is a lot.

By the way, how accurate are the prefabricated ARF's? Just to give you an idea my Sundancer was obviously off 3degrees. I've had the opportunity to build several of the Great Planes aerobatic biplanes. These are extremely high quality airplanes that have a great reputation for both their build and flying qualities. However, of the three I've built, the best was off 6-degrees at the cabane, and the worst was off 8-degrees. When I built my GP TriPlane the "quatraplane" or small wing on the axle was factory drilled at minus 10deg. We checked Charlie Baxa's, and his was also at -10. When I built Dom's just for the heck of it I put the "quatraplane" in backwards, and it was perfect, but 10 off when installed correctly. That leads me to believe that indeed a jig was used, but it's not of much help if the part is put in backwards. Hanger-9 isn't getting off the hook either. Of their monoplanes that use the tube and socket set up the wing is always (from my experience) dead on. It's the tail. For some reason every horizontal stabilizer I've checked has been off by a couple of degrees either one way, or the other. I've watched Cliff have some porpoise landings with his Stearman. It could just be the nature of the beast, but I'd like to sit down with him and put a meter on that airplane also. As I previously stated. You can't expect your airplane to fly straight if it isn't built straight.

Dennis

highpd119@aol.com

PS: Even as understanding as Cindy is I wouldn't expect she'd take well to me working on an airplane anywhere but in the dungeon. The dining table was used for pictures only. By the time she got home from work everything was back downstairs. Trust me.....



Photo 6
Photo 7
Photo 8
Photo 9

Photo 10





At the Christmas party on December 9, 2005 Cliff Fullhart was presented with the Lee Patterson Memorial Award by Lee's wife Carol. In addition, the Piper Cub shown was owned by Lee and he had indicated to Carol that only a certain member of the club should have it. Cliff graciously accepted the Cub and the award as Jeff Anderson and Jeff Patterson (Lee's son) look on. It was quite an emotional moment as the club gave a final moment of silence and bid farewell to our departed friend and field chairman.

Fun Fly Report

by Allan Galle, Chairman



FUTURE FUN FLY EVENTS

- May 13, 2006 First Fun Fly
- June 3, 2006 Fun Fly
- July 8, 2006 Fun Fly
- August 12, 2006 Fun Fly
- September 16, 2006 Fun Fly
- October 14, 2006 Fun Fly
- November 11, 2006 Last Fun Fly

Fox Valley Aero Club

Al's Hobby Shop

Presents

RC OPEN COMBAT

JUNE 4th 2006 at FVAC FIELD

Cash and/or Prizes

RULES

Engine size is limited to a maximum size of .75
And 8lbs weight, No open exhausts, any type of
aircraft is acceptable

Maximum of six planes in the air per round
Five minute matches

One point for each second of air time

For a maximum of 300 pts

300 points per cut awarded to flier making cut

2 points for every foot of streamer left

60 points max awarded

10 pts Spot Landing

BACK UP PLANES HIGHLY RECOMMENDED

\$10.00 Entry Fee in advance

\$15.00 Day of Combat

Registration: 8:30 AM

Flying Starts: 9:30 AM

Membership News

By Jason Walsh



We have one new member this month. Please extend a warm welcome to Dennis Smalley. I'm sure once the weather warms up a bit you will have an opportunity to get to know him out at the field.

Final numbers on the year are starting to solidify. We currently have a total of 184 members 30 of which are new members who joined this past year. We have 16 junior members in the club, 7 of which joined this year. Thanks to all members who stuck with us throughout the new field construction and thanks to all you new members, you help make the club the great organization that it is today.

Renewals are due in February. Please make sure you send me your renewal if you wish to continue to be active in the club. Renewal rates are \$75 for the year.

Until then looks like building season is here. Make dust and have fun!



This is the real reason we watch so much football on New Year's Day. Be sure to attend our "first to fly" event at the field at 10:00 A.M. on January 1, 2006. See you there.

Safety Corner

By Karl Griesbaum

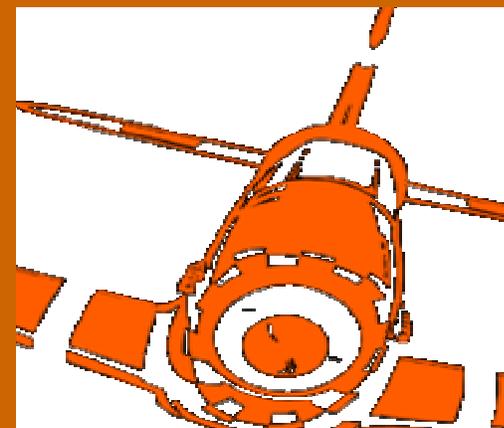


It's not always a good idea to blindly follow the leader as these ducks on the left can attest or maybe this was just a bad parenting job. In any event, the new year is an excellent time to reflect on the past and plan for the future. Safety must be on our minds at all time to prevent repeating a mistake from the past or preventing a mistake in the future. Let's make sure 2006 is our safest year ever. These are miniature aircraft capable of inflicting some serious damage if we become careless in our actions. Every member should read and reread the AMA safety code included with your membership information and posted on our bulletin board at the field.

Safety is no accident.

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FVAC gets some favorable press as this article appeared in the Examiner on December 22, 2005.

Club focuses on charity instead of planes



Fox Valley Aero Club member Paul Jacobs helps gather up toys at the



Mayor Don DeWitte shows some muscle as he carries in a large toy during a toy collection sponsored by the Fox Valley Aero Club.

Story and photos by Don Lyons

Members of the Fox Valley Aero Club helped Santa's sleigh make a temporary landing to collect toys at the Salvation Army Tri-Cities headquarters on 7th Avenue Saturday morning.

Helping with the effort was St. Charles Mayor Don DeWitte and Salvation Army Captain Daren Spencer.

The toy shipment was the result of a month's worth of collecting by the 200-member club, which regularly use the fields west of town in Campton Township to pursue its hobby of flying and displaying radio-controlled model airplanes.

"The effort came about during the annual Christmas party for the club," said Aero Club President Jeff Anderson. "We decided to have members collect toys and allow the mayor to decide where they should be donated."

The toys were donated by club

members, Hobbytown in St. Charles and Al's Hobby Shop in Elmhurst, which has close ties to the club.

DeWitte said he knew where to donate the toys when he was contacted.

"The Salvation Army and the Toys for Tots campaign was the best choice. They help so many people in the area," DeWitte said.

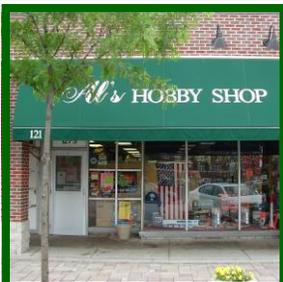
So last Saturday morning, DeWitte gave a bit of muscle to transfer the toys from the back of vans into the already toy-filled room at the Salvation Army. Helping him were Spencer, Anderson, Fox Valley Aero Club members Dominick Saverino, Paul Jacobs and Tri-Cities Toys for Tots Coordinator Jim Spencer.

The toys were separated on tables by gender and age. Parents from needy families in the Tri-Cities area will be able to select toys for their children to find under their tree on Christmas morning.



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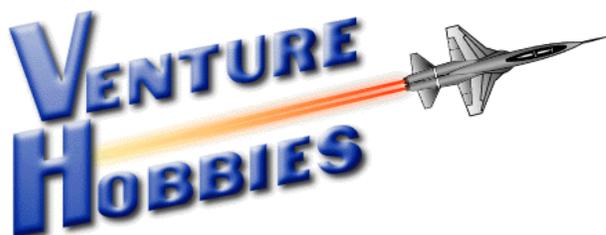
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The Fox Valley Aero Club Flypaper

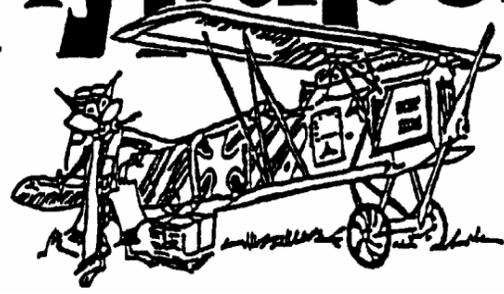
[Empty rectangular box for address]

Rush to:

Paul Jacobs
1010 Bankfield Ct.
Naperville, IL 60540



Flypaper



FOX VALLEY AERO CLUB