



March 2003

The Fox Valley Aero Club Flypaper



March 2003

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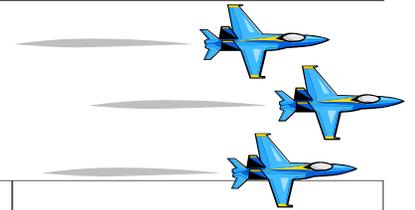
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Message from the President



This month's club meeting will be held in the usual spot, the St. Charles Township Building, on Thursday the 13th at 7:30 pm.

Modeler extraordinaire Bob Molinski will be our guest at this month's club meeting. Bob will be sharing a very interesting video presentation that you won't want to miss.

In case you haven't looked at the calendar lately, Spring is coming! I know, I know, it's still pretty cold out there. But it won't be for long! Get your planes tuned up, your batteries cycled, and your thumbs limbered up. Make this the year that you do some real pilot stuff!



This year has started FVAC on a journey into the past and into the future. We have been given the honor of our Festival of Giants being one of the Centennial of Flight events in the Midwest. The recognition of our Festival as a premier event for the public to witness is testimony to the efforts and contributions our club members have made through the years. The March/April issue of R/C Excellence magazine has a double page spread on our 2002 Festival.

Into the future, we again have the opportunity to showcase our hobby, club and commu-

nity at the festival. We should always be mindful of our community relationships, as our future plans require we "put our best 'prop' forward. The success of other clubs around the nation has depended on how well they interacted with their surrounding community.

Fun fly events will begin soon. These short weekend events are a blast to participate in. All levels of pilot flying skills are represented. Beginners to experts all have a chance to garner those great points for the fun fly raffle in November. We need some new ideas and a member or two to put together the schedule for this year.

I know many members have just completed winter projects. Bring your plane to the meeting and tell us about it. Was it easy or hard to build? What changes, did you make or would you make to the kit?

Circle your calendar for the March meeting. Our guest presenter, Bob Molinski, president of Propmasters R/C Club, has a great video tied in with a quiz. The video is fun to watch and brings with it a learning experience that should help us all to fly better and safer.

MelZ

March Highlights

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A Note on Frequency Control

We have a good system for frequency control down at the field, but remember, it's only as good as our compliance with it. Any system can fail, so it's a good idea to walk the flight line and see who's on your frequency. Especially with beginners and non-members, it's easy enough to forget and flip the transmitter on without the frequency clip. The best policy is to always use the clip system we have, even when there are just a few guys at the field. Plus, with all new flyers and visitors, we need to introduce them right away to our frequency control system, and make sure they understand it.

Tips and Tricks

Now that it's Springtime, don't just dust off that plane after a winter in the garage or basement. Check it out! Tighten bolts, re-shrink covering, cycle batteries, balance, check incidence, remove warps, range-check the radio, clunk-test your tank, discard old fuel, and get ready to start off on the right foot this season!

February '03 Club Meeting Minutes

by Kevin Hersey

Fox Valley Aero Club General Business Meeting Minutes February 13, 2003

President Mel Ziska called the meeting to order at precisely 7:34 P.M. at the St. Charles Township facility.

Secretary's Report

The January meeting minutes, as published on the club's website, were approved.

Treasurer's Report

Treasurer Bill Simmons reported on the Club's assets. The Treasurer's report was approved as presented.

COMMITTEE REPORTS

FIELD REPORT - Field Chairman Lee Patterson reported that everything is fine at the field.

Membership - Membership Chairman Al

Zabel recognized Bob Kastory for his efforts in contacting members to remind them to renew their membership.

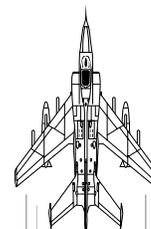
Two new members were initiated into the FVAC. Please welcome Joe Vancure. Joe has been flying for approximately 20 years and is returning to the hobby after a five year absence. Please welcome John Meisch. John has been an avid R/C car enthusiast and is now getting out of the car business.

TRAINING - Dan Compton was unable to attend the meeting.

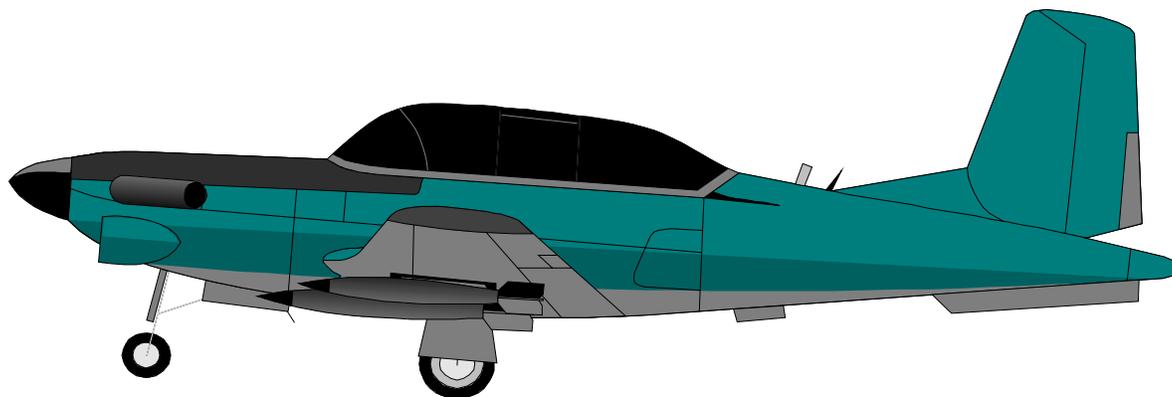
Safety - President Mel Ziska advises extra caution when flying during cold weather.

Flypaper - Thanks to

(Continued on page 3)



"Two new members were initiated into the FVAC..."



February 2003 Meeting Minutes, continued



(Continued from page 2)

Jack Henderson for refreshing the website. It looks great. For a short period of time the website address, www.foxvalleyaero.com, was unavailable. A fee must be paid to retain the domain name. Jack renewed the website name and www.foxvalleyaero.com has been restored!

“One of the events to be advertised is the Festival of Giants!”

Reminder, Jack is always looking for articles to publish in the newsletter. So share your experiences with your fellow Club members.

EVENTS AND GENERAL BUSINESS

Swap Shop – On February 22, 2003 the Club swap shop will be held at the Pottawanamee Park facility. Set-up will start at 7:00 A.M. for the early risers and 7:30 A.M. for the late risers. If you show up by 8:00 A.M. everything will already be set-up. Historically this has been a very successful event and table sales are ahead of previous years.

As previously mentioned there will be a Club table. Donations are accepted and the proceeds go directly into the Club coffers.

Fuel Sale – Details of the fuel sale are being worked out with Hobby Town and will be published in the Flypaper. In the past bulk quantities of fuel have been purchased on a once a year basis. To avoid the management difficulties with a large fuel volume, fuel will be available year-round at a sale price.

Festival – Don Bennish reports that teams are now being formed to support the Festival.

President Ziska reported that Jack Henderson was contacted by the Chicago Centennial of Flight Commission. To honor the 100th anniversary of the Wright Brothers first flight, the Commission is promoting 12 events to commemorate the first flight of 12 seconds. One of the events to be advertised is the FESTIVAL OF GIANTS!

To include the Festival in the 12 events, the Commission contacted the AMA and received a positive recommendation (obviously). One concern expressed by the Commission was the ability to handle the crowds! This will be a welcome challenge. Without question, the free advertising alone will certainly boast this year’s

event!

Next Meeting – President Ziska indicated that next meeting will include a 20 minute aviation video presentation followed by a short quiz. Mel indicates that it will be interesting!

Guest Speaker – We were fortunate to have Charlie Bauer, AMA District VI Vice President as a guest and speaker.

Charlie started his presentation with a recollection of his wedding day. Charlie is seriously into competitive flying. He flew in competition between his wedding and the reception. Now that’s dedication and living life dangerously (if ya know what I mean)!

Charlie related that there are currently 173,000 AMA members including 26,000 youth memberships. There are 2600 clubs, 277 of which are in District VI. The AMA budget is 8.25 million dollars.

Like every organization, the AMA is having difficulty finding an insurance carrier. Charlie advises that the coverage has a 1.0 million dollar deductible and the deductible must be on deposit!

(Continued on page 4)

February Club Meeting Minutes (continued)

(Continued from page 3)

Concerning our efforts to obtain a new field location, the AMA supports the development of new fields with grant money. There is a budget set aside to contribute up to 10% of the cost.

Charlie's responded to questions and indicated that he will be up for election soon. Your support is appreciated.

Show and Tell – Carl Wegner displayed

his Graupner Show Flyer. This is a 60.5 inch wingspan ARF, weighing 6 pounds with a .91 engine. The aircraft is attractively covered in a transparent film. This has to be one of the best looking ARFs that I have seen!

Ken Moorecraft displayed his Nobler aircraft. The Nobler weighs 5 pounds and is powered by an O.S. 46.

Bill Simmons, our intrepid Treasurer, displayed two of his electric powered aircraft. One of the aircraft has a profile fuselage and foam wing. Bill has flown this plane at the field a number of times and performance is truly impressive. The second plane is a Laser Models Mini Laser. This kit is traditional balsa construction and Bill indicated that it can be framed up in an evening. The plane was framed up and almost ready to cover.

Thanks to the Club members for bringing in there projects!

The meeting adjourned at 8:45 P.M.

Kevin Hersey



“Bill Simmons... displayed two of his electric powered aircraft.”



The *Flypaper* is always looking for articles, tips, news items, for-sale notices, and other contributions from FVAC members!

Send to: Jack Henderson, 26 W 586 Embden Lane, Wheaton, IL 60187 jackhenderson@covad.net

Flight Trimming Chart

Notes: Trimming must be done with little or no wind. Make multiple tests before making adjustments. Start at the beginning and work down the list for best results. If any changes are made, go back over the previous steps and verify or adjust further if necessary as each adjustment can cause earlier settings to change. **CHANGE ONLY ONE THING AT A TIME!!**

1. Control Centering: Fly straight and level. Use transmitter trims for hands off straight and level flight. Adjust clevis to center transmitter trims, or reset computer trims.

2. Control throws: Fly model and apply full deflection of each control in turn. Check response of each control; Aileron hi-rate: 3 rolls in 4 seconds, low rate: 3 rolls in 6 seconds, Elevator high rate: to give a good and smooth corner, low rate: to give a loop of approx. 130 foot in diameter, Rudder high rate: 30-35 degrees for stall turns, low rate: to maintain knife edge.

3. Decalage: Power off vertical dive, cross wind (if any). Release controls when model is vertical (elevator trim must be neutral).

A: Model continues straight down; no adjustment

B: Model starts to pull nose up; Reduce wing incidence

C: Model starts to pull nose down; Increase wing incidence

4.Center of gravity:

Method 1: Roll into a near vertically banked turn

A: Nose drops; Add tail weight

B: Tail drops; Add nose weight

Method 2: (Simple) Roll inverted

A: Lots of down elevator required to maintain level flight; Add tail weight.

B: No down elevator required or plane climbs; Add nose weight.

5. Tip weight: (course adjustment) Fly straight and level upright. Adjust aileron trim for level flight. Roll inverted, level wings and release stick.

A: Model does not drop a wing; No adjustment.

B: Left wing drops; Add weight to right tip.

C: Right wing drops; Add weight to left tip.

6. Side thrust: Fly away from you, into any wind and pull vertical.

A: Model continues straight up; No adjustment.

B: Model veers left; Add right thrust.

C: Model veers right; Reduce right thrust.

7. Up/Down thrust: Fly normal path into wind, parallel to you, approx 100 yards from you. Elevator trim should be neutral per test 3. Pull vertical and release elevator.

A: Model continues straight up; No adjustment

B: Model pitches nose up; Add down thrust

C: Model pitches nose down; Reduce down thrust



Flight Trimming Chart (continued)

8. Tip weight:(fine adjustment)

Method 1: Fly model as per test 7, and pull into a small loop (1 only).

Method 2: Fly model as per test 7, and push into a small outside loop (1 only).

A: Model comes out with wings level; No adjustment

B: Model comes out with right wing low; Add weight to left tip.

C: Model comes out with left wing low; Add weight to right tip.

9. Aileron differential:

Method 1: Fly towards you and pull into a vertical climb. Release controls, then do a half roll.

A: No heading changes; No adjustment.

B: Heading changes to opposite of roll command (veers left after right roll); Increase differential

C: Heading changes in direction of roll command.; Reduce differential.

Method 2: Fly model on a normal pass and do three or more rolls.

A: Roll axis on model center line; No adjustment.

B: Roll axis off same as roll same as roll command (right roll, roll axis off right wing tip); Increase differential.

C: Roll axis opposite of command; Reduce differential.

10. Dihedral: Fly on normal pass and roll knife edge. (left and right)

A: Model holds knife edge; No adjustment needed.

B: Model rolls in direction of rudder; Reduce dihedral.

C: Model rolls opposite direction of rudder; Add dihedral.

11. Elevator alignment with independent halves: Fly model per test 6 and pull into a loop. Roll inverted and push into an outside loop.

A: No roll tendency when elevator applied; No adjustment needed.

B: Model rolls same in both tests; Elevator halves misaligned. Raise one half or lower the other according to roll.

C: Model rolls opposite in both tests; One elevator half has more throw than the other. Model rolls in the direction of more throw.

12. Pitching in knife edge: Fly per test 10.

A: No pitch up or down; No adjustment needed.

B: Nose pitches up; *

C: Nose pitches down; Reverse below.

*Alternate cures:

1) Move C.G.aft

2) Increase wing incidence;

3) Add down trim to ailerons.

Developed by Geistware of Indiana©, 1999.

<http://www.geistware.com/>

Updated December 25, 2002



Tip-o-Rama!

A collection of handy R/C wisdom

Developed by Geistware of Indiana©
<http://www.geistware.com/>



Installing Control Horns

When installing control horns onto control surfaces the screwdriver invariably slips. The result is a hole poked into the covering material or a gouge in the balsa.

There is a simple tool you can make that will eliminate this damage. Take a small piece of thin plywood and cut a rectangular opening in it just slightly larger than the base of the control horn. Place this opening around

the control horn base before tightening the mounting screws. Now when the screwdriver slips there will be no damage to your new aircraft!

Mark Hinges

When using CA hinges use a marker to draw a black line across the middle of

the hinge. This way you can tell if the hinge is being pushed into the wing when you put on the aileron. I have had some hinges do this and end up with a sixteenth of an inch in the aileron and the rest in the wing, not very strong. If you can't keep the hinge from being pushed into the wing, stick a pin through the middle of the hinge it will not weaken the hinge at all.

Fiberglass Hint

How do you get the creases or lumps out of the fiberglass cloth

we use to reinforce the center section of the wing? This method will probably eliminate them.

Prior to applying the fiberglass cloth to the center section of the wing, take the time to iron it flat with your clothes iron. This will make it soooooo much easier to achieve a FLAT surface. Next, place the glass cloth on the center of the wing and tack it down to the surface with one drop of CA (each corner, top and bottom).

This may require that you have to pull the cloth taught, but don't overdo it! Now you should have the cloth resting smoothly on the top of the wing. Now apply the resins (or CA) over the cloth. You may find that after 3/4 of the cloth is attached that you now have puckers along one edge or the other, but this is easy to fix. Lift the material where you tacked it to the wing (remember I said to tack it down, not permanently attach it), pull taught, and tack it down again. there you have it!

Cowl and Canopy Mounting

Glue balsa blocks in internal locations, where your screws are desired for mounting your cowl or canopy. Drill an appropriately sized hole through the cowl and into the balsa block. Drill out the balsa block to accept Nyrod. Press a short length

of Nyrod in the hole and wick thin CA around the Nyrod. You now have a very vibration-proof mounting method that will undoubtedly outlast your model.

Vertical Fin Alignment

To get a fin in correct alignment with a fuselage, try using thread. Make sure you have an accurate center mark near the top-front of the fuselage, and tack-glue a long piece of thread to the top near the nose, a distance from the centerline equal to half the thickness of the fin. Run the thread back to the tail, and hold it against the side of the fin. The thread should touch the side of the fin evenly overall. If it doesn't, rotate the fin until it does, then tack glue the fin into place, reinforcing it later. Last, remove the thread you tack-glued.

Balancing Planes

Here's a good way to balance airplanes. While building your plane, insert a half-inch square piece of plywood where the balance point should be. For a low wing, this should be on the bottom of the wing, and for a high wing this would be on top of the wing (Note: sometimes something will be in the way, like a canopy, and you can't use this technique).

When the plane is finished, put a small hook into the plywood and suspend the plane with wire or string. This way you can check the fore-aft balance AND the lateral balance at the same time (Note: a

(Continued on page 8)

“When using CA hinges, use a marker to draw a black line across the middle of the hinge.”



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Tip-o-Rama! continued

low wing will be suspended inverted).

Control Horn Installation

When installing control horns onto control surfaces the screwdriver invariably slips. The result is a hole poked into the covering material or a gouge in the balsa. There is a simple tool you can make that will eliminate this damage. Take a small piece of thin plywood and cut a rectangular opening in it just slightly larger than the base of the control horn. Place this opening around the control horn base before tightening the mounting screws. Now when the screwdriver slips there will be no damage to your new aircraft! (Courtesy Fred H., Derby Radio Control Club, Derby Kansas)

Cutting Dowels Straight

When cutting a dowel, it's easy to make the cut crooked. To help ensure a nice 90-degree end, especially on larger diameters, try rolling the dowel into the band-saw or scrollsaw blade.

Firewall Fuelproofing

Firewalls of planes are normally coated with epoxy to help prevent fuel and oil damage to the wood. On planes with no cowling, apply a coat of epoxy on the firewall after you cover the plane with film covering. Make sure the film overlaps a little onto the firewall. This way the epoxy seals the edges of the film covering. Besides, most film adheres better to wood than epoxy, so that's another plus.

Installing Triangle Stock

For me, triangle reinforcements have always been difficult to handle due to their shape, especially if they're coated with epoxy. Try sticking your Xacto knife loosely into one end of the triangle. Then lay it on the bench so that the wide part of the triangle (the hypotenuse) is against the benchtop. Now apply the epoxy or other adhesive to the sides that will contact the airframe. Next, by using the knife handle, insert the triangle into position in the airframe. Press down with your finger onto the wide side that has no glue, and carefully slide

the knife out of the piece.

This way you can cleanly install triangle stock, and not get any glue on your fingers.

Curving Balsa

Get some ammonia, found in the household section of the supermarket. Put some in a spray bottle, and spray both sides of balsa sheet liberally. Carefully bend the sheet to the right shape. You can even tape it to a form, such as aluminum soda cans, and let it dry. Once dry, it may be used as turtle-decks, etc.

Addendum:

To soak wood, get a piece of PVC pipe the wood sheet will fit in. Cap one end, and stand upright. Fill with water (You can't buy pure ammonia, the stuff on the shelf is low grade, water works fine) and drop in the sheet and cap the top if it floats out.

Wing-Tail Alignment

Get an old (but straight) telescopic antenna, the same type as on transmitters. Use it as an adjustable-length measuring rod to compare critical measurements on planes during construction. I use this idea to compare the distance from one wingtip to the stabilizer, and to make sure this distance is equal on both sides of the plane. This ensures that the stabilizer is parallel to the wing.

Engine Mount/Nosegear

If you have a small plane with a very tight engine installation (usually resulting from a very streamlined cowl), often there's no room for a nose gear assembly. Try drilling holes through the engine mount to accept the nose gear wire, and hold it in place with wheel collars. The steering arm can be placed below the engine, even on the outside of the plane. This will work with most engine mounts, even the two-piece ones as long as the engine is rotated 90 degrees.

Servo Blanks

Here's an easy way to make sure your servos will fit in your plane properly, especially helpful with scratch-built designs: Take the measurements of your servos, and

make a few from wood, identical to the real ones. This may be easy if the manufacturer supplies full-size drawings of the servos. I made my servo blanks from pine blocks, a little plywood for the mounting hole piece, and a dowel for the motor shaft. These servo blanks will not only help in drilling the holes to mount servos, but will assure adequate clearance on all sides. In addition, the dowel is the correct size to press on an actual servo arm, which will help in aligning pushrods or cables. Using this method will help keep your real servos safe and clean during the building process.

Poke a Hole in Your Covering

Gee, why would anyone want to make a hole in your nice new covering job?

Well, holes for wing bolts, switches, hatch screw holes, pushrod openings, etc come to mind. Sure you could cut the hole/opening with a Xacto, or razor blade, but then you have to adhere the fresh cut covering to the surrounding wood. The solution; get an old soldering iron tip (pointed preferably) and cut the hole/opening with it. I use a 25 Watt Weller, and it cuts through the covering with ease, and makes a perfect seal. Once you try this you won't want to do it any other way.

One word of caution, clean the tip after each cut. I use a wet sponge like that used for soldering, but use a different sponge as to not foul the clean tip used for soldering. If you don't clean the tip regularly the burned covering will cake on, and not only smell really bad, but will inhibit the cut, as you will not have maximum heat. I thoroughly clean the tip with a wire wheel after each use. After it completely cools of course.

Hardening Mounting Holes In Balsa

To harden small holes in balsa in order to better retain wood screws or threads, use thin CA. Sometimes the CA will get on a finished surface doing this step. To prevent getting CA on the outside surface, use MicroBrushes. If you

(Continued on page 9)

Tip-o-Rama!, continued*(Continued from page 8)*

do not have MicroBrushes handy in the shop, you can also use one of the plastic coffee stirrers cut at a sharp diagonal to form a thin point. A drop of CA in the cavity at the sharp tip can be used to place a small amount almost anywhere.

Locating Engine Mounting Holes

Engine thrust angle can be affected by small errors in the location of the mounting holes. To ensure the mounting holes are properly located on the engine

mount, the most important task is marking the holes to match the engine case lugs. One good way to mark these holes is with a machine screw of just the right size to pass through the hole in the mounting lug. Cut the screw so it is just a few thousandths of an inch longer than the thickness of the lug, and, cut it on an angle so

there is a sharp edge which extends just through the lug. Now, use two small pieces of double sided tape to hold the engine temporarily in place while you rotate the cutoff screw in each of the four mounting lug holes. This will leave a mark which is the exact diameter of, and in the proper location for, the mounting screws.

The next part is to get a true center mark for this mounting hole. If you have an automatic center punch, you may be aware that some of them come with replaceable tips. Buy an extra tip or two and grind them so they just fit through the mounting lugs and use them to center punch the holes.

Dust collector

Next time your housemate yells about the balsa dust from sanding, take one of those large fluffy bath towels and use it to sand on. It not only protects the airplane from dings, but it will trap a huge amount of dust. When done sanding fold it carefully then take it outside and shake it out.

Cutting covering

When cutting sheets of plastic shrink covering, nothing beats glass for a surface to cut on. It will not dull the knife or slow it down when cutting. The covering material will kind of stick to the glass if the backing is removed. You can also use low heat to make it stick even better for critical cutting.

You can use solvent to put together large panels of covering without it sticking to the work surface. The best place to find a suitable piece of glass is at the flea market. Look for an old glass top coffee table. The rectangular ones work super if you have the room. Stay away from non-safety glass, it breaks too easily.

Holding Canopies

Use electrical tape to secure the canopy on airplanes. {Striping tape that will hold a canopy on surprisingly well, however the oil always gets under it and loosens it in time.}

Rib Holder

Get a piece of aluminum 1 or 2 inch right angle that can be found at most hardware stores. Make sure it is really square (90%) then cut off 1/2 inch wide pieces. Next drill small holes in each end about the size of a push pin or T pin. Use the angles to hold ribs perpendicular to the building board by putting one on each side of the rib and then pinning it to the board.

Rotary Cutter

A good way to cut thin balsa sheets is with a rotary cutter made for cutting fabric. This also works well to cut plastic covering.

Better Holes

IF you have to drill a hole in thin balsa do not try to use a common wood drill it will usually leave a ragged hole that is the wrong size. Go to the hobby store and get a piece of thin wall brass tubing the same outside diameter as the hole you want to drill. Mount the tubing in an electric drill (preferably a drill press) then hold a piece of sand paper or a file against the end while turning to sharpen it.

Use this sharpened tube to drill your holes, and you will find they come out very clean and precise. After cutting several holes you may have to push out the wood that collects inside the tube with a stiff wire. If you can find a drill the same size as the inside of the tube, stick in in the top part so the drill chuck does not crush the tube. Also watch that the tube does not flare out at the bottom and change the size of the hole.

Better Plans Cover

Waxed paper is the standard covering for plans when building an airplane on top of them I find that waxed paper does not come in large enough sheets and tends to stick to the airplane. Last time I built I used some left over plastic that is used to cover windows. This stuff is made by 3M Scotch and comes in large 3X5 foot sheets. (This is just the size of the plans I was using.)

The plastic covering will shrink if heated but this is not necessary as it lays very flat. CA and other glues will not stick to this stuff at all and it is crystal clear, unlike waxed paper. There was even a roll of double stick tape in the box. The price on the box (Which was several years old) was \$5.

Better Screw Holes

When you have to use screws that will be removed often drill the holes for the screws large enough to allow you to insert a small piece of Sullivan Gold-N-Rod. Glue the rod in the hole. The screws can then be removed and reinserted without weakening the wood. (This is not recommended for high stress areas.)

Mixing Epoxy

When mixing epoxy use an old coffee can lid, after the epoxy hardens just flex the lid and the epoxy will pop off.



“Engine thrust angle can be affected by small errors in the location of the mounting holes.”

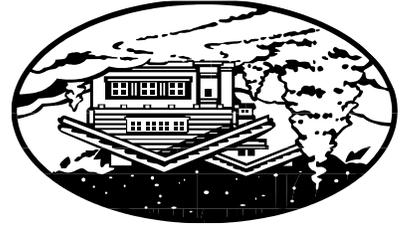
In This Issue...

The Latest Club News, and More!

The Fox Valley Aero Club *Flypaper*

Rush to:

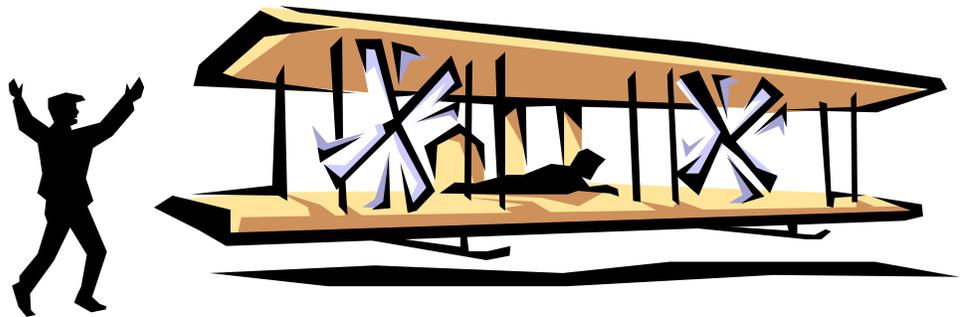
Jack Henderson
26 W 586 Embden Ln
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Club Meeting This Thursday!

See you there!

Spring is Just Around
the Corner!



Get ready for your "first flight" of the warm
weather season!