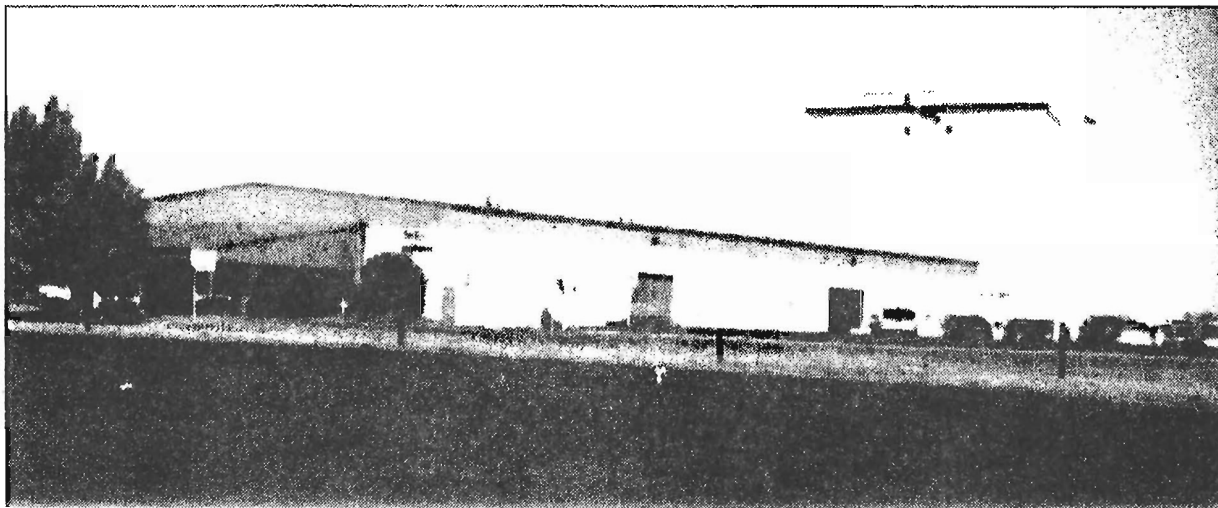


# FLYING LINES

2456 Quince St., Eugene, OR 97404 JohnT4051@aol.com Editor: John Thompson/Publisher: Mike Hazel



Flying is what it's all about. Here's Dan Rutherford's Oriental in flight over Salem. *FL photo.*

## Happy Holidays from *FL*!

**H**o, ho, ho, and Season's Greetings.

It's holiday time and you know what that means: Yep, you should have your 2003 competitive planes built by now and ready for testing right after New Year's.

But don't worry: You're not the only one who's not yet ready for the flying season. How to get yourself pumped up for all that building work?

Bundle up nice and warm and haul your current flying fleet out to the field for some winter flying. It'll do wonders to get your enthusiasm back up. Just make sure to wear gloves — those little bites from the prop hurt twice as much when it's cold!

Another way to keep the interest up during the winter is to do some thinking and writing about the hobby. Put your thoughts, ideas and knowledge down on paper and send them to *Flying Lines* for publication in an upcoming issue. Now's the time of year that we can publish all those technical and competitive tips you've been collecting.

Here's another way you can contribute: How

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about an article about your favorite plane, along with a picture?

Is there a modeler who has inspired you through his or her mentorship, volunteer work, or simply his brilliance as a modeler? Contribute an article about that person to *FL*'s "Unsung Heroes" feature.

Now's the time to catch us up on local news. Condense your club newsletter, or if there's no club or newsletter, just send *FL* a page of info about your local flying activities.

Share your wealth of knowledge!

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## Round & Round

The Control-Line  
modeler at large

By John Thompson

Modeling thought for the month:

*"Much of the vitality in a friendship lies in the honoring of differences, not simply in the enjoyment of similarities."*

— James L. Fredericksen

### Viva la differences

If all of us CL fliers were normal, we wouldn't be out there, up to our elbows in castor oil, with dirty knees, cuts on our fingers, sunburned necks and earplugs in our ears. We'd be on a couch somewhere with a beer, watching whatever sport was in season, or mowing the lawn and digging up weeds. You know, the stuff normal people do.

Not us. We're dBatty. We're out Clowning around with our model airplanes. Making an Impact with our Shark. We're hookers. We're getting a handle on things. We're jet speedsters. Lets face it, we modelers are Super Sports.

Alike as we are in our shared experiences in our inverted world of engines, fuels and braided wires, we're all different, too. Look at the dBat debate, where it took about 45 pages of text to mull over the proper way to fly combat at 64 mph. The national Clown rules process, where passions ran high among some red-nosed participants.

Now and then we have to step back and keep these things in perspective. It's all for fun, and all in fun. Yes, our competitions can be deadly serious, but there's an underlying foundation of fellowship and camaraderie — or else we might as well be doing something productive with our time, such as mowing the lawn.

You have to laugh now and then.

At this point I call your attention to Mike Hazel's Divot Diver airplane (see the picture on Page 19). Mike has made so many divots that he can't remember them all. Ask him about the one that Yippee rat racer made in the asphalt circle at Eugene — he can't even remember the plane. I remember because I had to duck the flying parts!

Mike has the right idea. Now and then he drops the speedsters and the racers and builds something just for fun. Lately it's Mr. Stubby, the epitome of the low-aspect-ratio sport plane. Flies

pretty good, except in sharp turns, when it turns into "Mr. Tubby."

Then there is Mike's 100-foot-line Ringmaster. The sequel is being designed, by the way, but 100 feet may not be far enough away from it. Along these lines, Jimmy Banks in Eugene is working on a CL plane powered by a humongous engine from a chain saw or some such.

Mike's 5-engine bomber (eat your heart out, Paul Walker) is the stuff of legend. By the time we got all five Black Widows running, and topped off, and the plane launched, you could get about five laps in before the engines started dying off. Gene Pape looped it, though, just as he did the 100-foot-liner.

Bill Varner built the Flying Clam, and it did, just barely. His wingless mouse racer didn't, but it was a hoot to watch it barrel roll away from the launch.

Some things just don't work and some just do. The Nitroholics Racing Team's Bobcat Slow rat made its maiden flight in a heat race at the Regionals, and set a Northwest record. Never even a test flight! It died a horrible death several years later when a poorly trimmed competitor did a fair amount of the stunt pattern in front of it during a Regionals heat race.

You haven't *really* flown until you ...

... have been chased around the circle by a Devastator fast combat plane going 120 mph. They were noted for chasing their own pilots when just a little out of trim.

... had a stunt plane quit at the top of the circle, go entirely slack, dive, level off and make a 35-point landing — pointed straight out toward the edge of the circle, still slack all the way.

... used your jet speed plane to interrupt a speech by a presidential candidate (Mike Hazel, 1996 — you can look it up).

... looked down at a handle with limp lines ending two feet from your hand, and looked up to see your fast combat plane and its \$\$\$\$ engine going straight up about 1,000 feet above you — and fished it out of the Columbia River an hour later, undamaged!

Hey, this hobby is a sport and it's entertainment, and most of all, it's just for the fun of it. Enjoy it while you can.

Or go mow the lawn.

Send comments, questions and topics for discussion to John Thompson, 2456 Quince St., Eugene, OR 97404. E-mail [JohnT4051@aol.com](mailto:JohnT4051@aol.com). World Wide Web: <http://members.aol.com/JohnT4051/NorthwestCL.html>.

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# Where the action is!

Coming events in Northwest Control-Line model aviation

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May 23-24-25, 2003

Northwest Control-Line Regionals, Albany Municipal Airport, Albany, Ore. Full schedule of AMA and Northwest competitive categories in the West's biggest CL contest. All details tentative at this point. For info, contact *Flying Lines*.

## Your contest date, 2003 ???

It's not too early to get your upcoming contests listed in the "Where the Action Is" calendar. Send the information to *Flying Lines*.

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Send FL your local news! Northwest club newsletter editors are invited to condense their news down to a page for inclusion in *Flying Lines*. Similarly, anyone in an area without a club is invited to join the region's CL news network!

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# OOPS!

Mistakes are no fun, but at least in a newsletter they're less of a headache than, say, in a vertical eight. Nevertheless, we try to correct ours:

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Todd Ryan holds the Northwest Regionals record for .15 Navy Carrier at 244.7, established at the 2001 Regionals in Roseburg. Our Regionals records listing in Issue No. 182 contained an incorrect record holder/performance. Thanks to alert reader Mac Ryan for noticing the error.

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Have some friends who don't know about FL? Ask and you shall receive a bundle of FL subscription forms to hand out to your new flying pals!

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*Flying Lines* is produced by a staff of dedicated volunteers interested in keeping lines of communication open among Northwest region control-line model aviators. *Flying Lines* is independent of any organization, and is made possible by the financial support of its subscribers.

The staff: Jim Cameron; Chris Cox; Fred Cronenwett; Bill Darkow; Dave Gardner; Paul Gibeault; Mark Hansen; Steve Helmick; Mel Lyne; Nils Norling; Mike Potter; Howard Rush; Dan Rutherford; Gerald Schamp; Buzz Wilson; John Thompson, editor; Mike Hazel publisher; and you.

Contributions for publication are welcomed. Any material submitted to the editor which is not for publication should be indicated as such. Duplication of contents is permissible, provided source is acknowledged.

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Tell your friends about *Flying Lines*! Here's a subscription form you can give them:

## *Flying Lines* subscription form

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Send the above information along with \$14 (\$15 U.S. funds in Canada) to *Flying Lines*, 2456 Quince St., Eugene, OR 97404.

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# The Flying Flea Market

Classified advertisements — FREE for *FL* subscribers

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**MAGAZINES:** I'm out of shelf space and will be disposing of the older ones. Available now: *Model Aviation* May 1978, \$1; *Model Aviation* Jan. 1979, \$1; *Model Airplane News* May 1979, \$1; *Model Aviation* May 1979, \$1; *Model Airplane News* July 1979, \$1. All of the above for \$4. John Thompson, e-mail JohnT4051@aol.com or write me c/o *Flying Lines*.

**WANTED:** New Magnum .65 GP plain bearing engine. contact Rick Wallace, (360) 683-9860, or preferably by e-mail, toolman50@prodigy.net.

**WANTED:** Collectable quality speed kits. Looking for several, including: Italian "Speed King" for ST 15, DMECO Speedwagon 29, Arneco "Scat," DynaStreak, etc. etc. Mike Hazel, (503) 364-8593.

**FOR SALE:** Cyclon Top 3 engine, \$130. (New price is \$165.) This one has about 3 minutes of running time. E-mail Tom Strom at TStrom@aol.com.

**HAPPY HOLIDAYS TO *FL* READERS FROM THE GANG AT EUGENE TOY & HOBBY.** This month only — Create your own sale — 25% off the regular price of any item or items that are not already discounted. Remember— We ship UPS daily. Sorry, does not apply to magazines. Eugene Toy & Hobby, (541) 344-2117, www.eugenetoyandhobby.com.

**WANTED:** K&B 4.9 engines and parts. Also early version of Veco Tom Tom kit. Craig Bartlett, (541) 745-2025.

**AEROBATICS INTEREST GROUP:** Right now — as in **TODAY** — is the very best time to join PAMPA! Your \$25.00 will see a full year's worth of the world's best CL-specific magazine (at 100-plus pages we no longer call it a newsletter!) dropped in your mailbox. Send check or money order to: Shareen Fancher, 158 Flying Cloud Isle, Foster City, CA 94404.

**WANTED:** Fox .35X and .36X parts. Also SuperTigre .35 parts. Chuck Matheny, (360) 659-0155.

**COMBAT INTEREST GROUP:** Miniature Aircraft Combat Association offers national newsletter with technical articles, organizes national events, keeps national combat standings, and much more. Send \$15 dues to MACA, c/o Gene Berry, 4610 89th St., Lubbock, TX 79424.

**NAVY CARRIER INTEREST GROUP:** Navy Carrier Society offers newsletter with technical articles, organizes national events, keeps national standings and more. Contact NCS, c/o Bill Bischoff, 2609 Harris, Garland, TX 75041. Online: President Bill Calkins at clflyer@tbcnet.com.

**RACING INTEREST GROUP:** National Control Line Racing Association offers newsletter with technical articles, organizes national events, keeps national standings and more. To Join, send dues of \$10 U.S. (\$12 international) to NCLRA, c/o Mike MacCarthy, 4704 Hillsboro Ct., Santa Rosa, CA 95405. Online: <http://www.NCLRA.org>

**HELP WANTED:** *Flying Lines* welcomes contributions of all types of articles and regular columns on control-line model aviation. Share your knowledge by becoming an active member of the *FL* staff. Columns or single articles are welcome on all competition categories as well as on sport and show flying. Photos also needed of all types of airplanes and activities. Articles compensated by subscription extensions.

**YOUR AD HERE:** Remember, classified ads are free to *Flying Lines* subscribers. Send yours in today for publication in the next edition.

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Putting on a contest? Ask *FL* to send you a sheaf of contest winner information forms, so you can easily collect all the data on the winners for the *FL* contest report. *FL* subscription forms also are available, along with *FL* toolbox stickers.

## An un-common thread: Dbat debate deconstructed

As mentioned in Issue 185, an interesting debate on the state and future of Nostalgia Diesel Combat, one of the Northwest's most popular and controversial competition categories, took place recently over the Internet.

It's a fascinating debate which says a lot about how competitive events get created and evolve, which might make interesting reading for combat fliers and non-combat fliers alike

To simply publish the thread of commentary in *Flying Lines* would have taken 45 pages of the newsletter.

The invitation was issued to everyone who had participated in the discussion to contribute a couple of paragraphs to an article to summarize positions on the topic. By the time the request went out, people were more or less played out, and not much was contributed. That left it to ye olde editor to try to summarize the discussion.

What follows is the editor's attempt to condense the topic into a few newsletter pages. As much as possible, I have deleted repetitive or irrelevant material, remarks that tended to get a little too personal, and so forth. I've tried to retain the main points of everyone's comments. If I didn't capture anyone's view accurately, my apologies — and you're all invited to submit more on the topic.

At this point there is no formal proposal for any kind of change in the dBat event, which is quite popular as it is. But a lot of thinking has been done, and something could be proposed in the future.

So, here goes ... what people are thinking about dBat. In quoted material, "... " indicates material deleted by the editor.

**Jeff Reichel** started things off by clearly stating the purpose and concept of dbat, as excerpted here:

"The overriding concept of this event is to have as much fun as possible in a low-tech ... low-cost environment ... Every competitive event will at some time or other attract those who will try to figure out little decks, tweaks, and other loopholes to the rules that will give an edge to the pursuit of winning. This is NOT the intent of this event. The rules have been carefully structured with one goal in mind: to have a level playing field ... as much as possible as to the equipment being used. Performance has been 'dumbed down' with this express purpose in mind. The best and luckiest flier should emerge the winner, NOT the guy (or gal) who soaked their streamer in fuel at the knot, or put CA on the string, or 'balanced' their prop by trimming to 7 5/8" diameter, or any of the other 'tricks' of the trade. ... We need to understand the rules are written with a 'permissive' outlook. In other words, the rules tell you what you CAN do, anything else, you CANT."

**Jeff Reichel** also brought up a point about midair collisions, which increase the shop time for fliers:

"I would like to propose an alteration to the rules to provide for a penalty for midairs or a bonus for a clean round. ... Even though dBat has less carnage than other combat events, I'd still like to see it reduced."

**Mel Lyne** reviewed some past efforts to prevent midairs and offered these thoughts:

"Groups of us have had many discussions on the midair issue with no really good solutions. From talking to a number of retired combat fliers over the years, midairs using up their models has been a major factor in their retirement decision.

"The 'kill' rule was supposed to save models. You can argue it both ways. I find that in kill combat the fliers are more trigger happy and there are frequently wild

exchanges right at the start horn.

"A bonus to each flier for a midair-free match is something I've never heard tried (*Jeff had suggested this - ed.*). It's similar, but in reverse, to the GX midair penalty system. But I can see the fliers making a deal and having a 'tame; match just to get the 'clean match' bonus."

**Adrian Duncan** remarked that he quit combat in the '70s "in some disgust over the lengths to which people at that time were starting to be prepared to go to win and the resultant carnage and ill-temper." The same thing happened to him recently with dBat.

"The most fun that I can have is to take part in a relaxed and fairly run contest against flyers with identical equipment potential and a sportsmanlike attitude, sans sour grapes, etc. ... If I ever become convinced that things are back on the 'fun and sportsmanship' track, I'll be back in for sure."

Adrian also discussed the "midair problem" extensively. He said some fliers are more prone to midair collisions than others, but that airplane-limit rules and points penalties don't seem to work to reduce midairs. He suggested a "two collisions and you're out" rule, or possibly a three-collision-and-out rule.

**Pat Willcox** remarked:

"1. There will always be collisions because that is part of the risk of having two planes in same airspace especially ones that are chasing each other.

"2. If you attempt to legislate collision avoidance, I believe it will spoil the thrill of the event."

"... To help stop collisions pilots need more time to react and or equipment that performs better. You could change to 60' lines to allow more reaction time but I think this would make for more sluggish performance with the current fleet.

"To get better performing aircraft you will have to go to lighter planes or ones with better wing loading. No can do with current rules. So leave the rules as is. Build one neat aircraft over the winter but only use it for "show and tell" and maybe an occasional staged combat for the spectators. For combat switch to a simple cheap single design that flies well with diesel power."

**Adrian Duncan** responded:

"The "disposable modular airplane" concept doesn't work for me since it would destroy the core of the event, which is to re-create the sound, smell (!), look and feel of diesel combat in the 60's. In fact, I reckon it would promote even higher-risk flying and more collisions.

"... If you really like collision-course combat, there's always Fast, 1/2A and FA!! In those twitchy events, things happen so fast and furiously that frequent collisions are indeed inevitable. ... dBat is supposed to offer an alternative to that."

**Mel Lyne** responded:

"The typical flyer we are attracting to D/Bat is the "Not too serious flier" who doesn't have a lot of time to put into it, who has never cut foam cores, and who just wants a bit of fun without busting too much equipment.

"... Adrian's old club rules of 2 or 3 strikes and you're out are interesting but difficult to administer. Firstly we need a clear definition of a midair ...

"... I can see that almost all rules changes or additions are adding to the judges' workload. ... So the bottom line is to KEEP IT SIMPLE...

"An interesting concept for a trial contest would be one model only per flier ... So you would need to make the one model last 6 matches. Difficult, but not impossible."

**Adrian Duncan** explains: "Our definition of a mid air collision was a model-to-model contact resulting in one or both models being rendered temporarily or permanently unflyable."

**Jeff Rein comments:** "If you are concerned about breaking to many planes, make it a one airplane per contest event. If the prizes make the competition more aggressive, put the names of all of the contestants in a hat, and draw for the prizes at the end of the contest. The winner of the contest will have the satisfaction that he or she was the best on that given day."

**Jeff Reichel responds:** "I suggest that we state that a midair has occurred if damage is visible to the judges ... I'm sure everyone is currently shuddering at the inevitable confrontation that an upset contestant will cause with the judges. ... Here's my proposal: anyone who aggressively confronts a judge ... will be given the equivalent of a midair penalty and the normal consequences for cumulative midairs will follow." (Editor's note: Current AMA rules, which govern matters not covered in the Northwest dBat rules, already state that arguing with officials or other disorderly or unsportsmanlike conduct can be penalized with forfeiture of the match, or, upon further violation, disqualification from the contest. --jt)

**Buzz Wilson** commented on midairs and other matters:

"With the trips to Canada, I think I lost one airplane because of a midair. During those times there was a center circle marshal that kept the flyers together and helped manage the match. The circle marshal has not been used at recent events nor has there been a positive indicator (ye ole carpet) of where the circle is. This creates wandering. There is an influx of new flyers who have not flown a lot of combat. In my opinion this is part of the increase in midairs.

"A couple of thoughts on reducing midairs: Lengthen the string ... Reinststate the circle marshal.

"... Some things to help the judges: Go to a wider streamer — bigger pieces are easier to see. ... Contrasting colors for the streamers based on the conditions — sunshine and blue sky vs. dark and gray. Position the judges so they are not looking into a dark background.

"Losing an airplane in a midair and also losing the match is a double whammy. Consider giving the plane that is hit no ground time. Likewise, if the plane that caused the midair is still flying, give it ground time until the downed plane is back in the air or the end of the match.

"If the event is a speed limit event, then why limit the type of engine?"

**Ken Burdick** asks: "Here is a question to all of us who are no longer active in D-bat that once were enjoying it.

"What SPECIFICALLY caused you to stop? Maybe if we get enough input we can make changes to the event (yes I said the C word) and get it back on track."

**Adrian Duncan** answers: "What would I like to see? A return to the early days of D/Bat when sportsmanship prevailed and winning wasn't as important as having a good time, when respect for your competitor and his or her equipment was a constant factor, when stretching the rules of competition and flying strategy were not things that we really had to worry about and when the ideal of a level playing field was something that we all valued."

**Mike Conner** answers: "I have gone on record many times in the last several years as saying 'D-Bat is the most fun I have had with my clothes on' and I maintain that opinion. I have flown with some great pilots and some novice pilots and enjoyed every match. I think I might have even won a few, but that was NEVER the reason I went to the field. I still have three models over five years old, with an average of around 100 flights/40 matches and a dozen repair jobs on each ... The reasons I have not

flown them since last September (The contest held in Surrey just after 9/11 last year) are several and varied. I have a very demanding job which keeps me out of town a lot and requires some juggling of priorities with available time. I have made a commitment to spending more of my available modeling time with my free flight stuff and have only made a few token appearances this last couple of years at the control line venues ... Keep a light on for me and check over your shoulder now and then. If it looks like FUN, I won't be too far away."

**Mike Rule** comments:

"I think 1st place ought to go to the pilots who introduce beginners to the sport.

"Combat is combat, part of the intrigue of the sport is the midair, the flyaways and the battle. What are you going to say to the beginners that get two minutes of flying in and then they don't get to fly anymore? When we were younger we accepted the rules ... Now, apparently we can change the rules to mold to our aging handicaps ... I think this event is for veterans as well as beginners, and beginners cannot do this with just one plane"

**Pat Willcox** comments: "I think you should do a two-airplane limit if you are inclined to establish such a measure because one is not realistic."

**Remy Dawson** comments:

"I was out of town for the contest dates this year. Assuming better (or reduced) travel scheduling, I plan on flying again next year ...

"Less carnage is always better ... One of the attractions of D/bat is that everyone gets 4 or 5 rounds. A one-plane limit would often be a fun-per-contest limit, and limiting fun is very un-D/bat. Will going from three- to a two-plane limit reduce the season's carnage?"

**Ken Burdick** asks: "If I want to use external controls and a wooden prop, so what, it still goes 64 mph?"

**Jeff Reichel** answers:

"Speed while going flat around the circle really is a minor performance parameter. I can get a sheet of plywood to go 64 mph around the circle ... A more important criterion is the ability to maintain that speed in maneuvers and how tight a plane can fly those maneuvers ... If we only have a speed limit and allow unlimited airframe and engine combinations, the event will turn into an arms race to develop the lightest, most maneuverable plane possible and essentially what happened to slow combat will occur in dBat. By limiting the planes ... and the engine to an unmodified relatively low cost and available standard, it puts the emphasis on the flying, rather than finessing design and engine modifications."

**Jeff Rein** speaks out:

What are the reasons that caused me and many many others to quit D-Bat? What would it take for us to return? Well here it is!

"50% of the reason is 'boy does it stink!' ... But that is not enough of a deterrent to keep me away ... The other 50% of the reason is the asinine rules that we must abide by ... An example is slow combat. The intent was to fly combat at a slower speed. The results was an event that was ruled to death ... It met NONE of the intentions of slow combat. It died a natural death and was replaced by speed limit combat. The same is happening to D-Bat.

"The 'FIX': Throw away ALL of the current rules and replace them with just three rules:

"1. The plane must resemble a pre-1971 airplane in profile and overhead view and be designed for a .15.

"2. A .15 diesel must be used.

"3. The speed shall not exceed 64 mph while towing a streamer.

"... 1. MOTOR. We are limited to single ball race

engines that don't run well and are EXTREMELY difficult to tune, namely the PAW ... Who cares what motor you use to go 64 mph...

"2. PROP. We must use a horrible full length 8-6 prop. Why? People complain about too much carnage. More than half of the problem is the prop. Not enough RPM to keep the lines tight ...

"3. CONSTRUCTION. Who cares if some of us prefer foam wings with external controls? They don't fly any better ...

"4. MOTOR MOUNTS. Why not allow aluminum motor mounts? You allow aluminum adaptors. All diesels come in different non-standard sizes, width, length, hole pattern. You need to build a different plane for each motor ... With aluminum mounts any motor can fit any airplane with the same center block.

"5. NOSTALGIA. Some of these changes may seem to take some of the Nostalgia out of the event. It might not be exactly the way we did it in the 60's in merry ole England. Of the 25 or more diesel combat flyers in the area, how many actually flew in England in the 60's? ... Fine, build YOUR planes the way you used to. Over the last 40 years, we have come up better ways of doing things. It's cheaper, faster, and more fun for some...

"6. Midairs. Make the string twice as long ...

"With these changes the participation would probably double, and the 'FUN' factor would increase fourfold.

**Mark Hansen** made a similar comment:

"The only way to bring me back to this event is: Allow any engine, any fuel system, any prop, any building material, and enforce the speed limit. I hope that this event changes, because I miss flying it."

**More from Jeff Rein:**

"Four or five years ago, Ken talked me into D-Bat. We built planes, bought motors, and bashed together and had a blast. Our equipment was equal so it just came down to pilot skill. Then when we would go to Canada to a contest we would get our clocks cleaned by a select three or four people who could really make their motors run strong. This is not fun to fly with a serious disadvantage in equipment. We have 70 years of modeling experience between us yet we could not compete on an even keel with our PAW's. Once it was decided that any non-Schneurle ported steel piston motor was allowed, we went hunting for another motor. We selected the CS Oliver Tiger copy. What a nice motor. Short break in time, easy to start, easy to tune, inexpensive, and would run near or at the speed limit. The next contest we went to, we were finally on an EVEN keel with the best of the competition ... I had a great time ... Every match that I flew, my motor ran consistent and near or at the speed limit. No advantage, just equal with the best. The next week our motors were outlawed, and we were not permitted to use them again. A couple of months later my foam airplane was outlawed as well. That was the last contest that I had FUN flying D-Bat. I built wood models and went back to the PAW the next year. There I was again back to a serious disadvantage in equipment against the three or four people who could really make them work. Frustration galore. You want to know what the main reason is for midair collisions? It is not aggressive flying. It's not being a serious competitor. It is acts of DESPERATION. If you don't have a chance to follow a guy because of a serious lack of speed. If your plane falls in at you while trying to do a wingover, you are left with no choice but to make a desperate head-on pass and hope for the best, or just give up, fly level, and give the match to your opponent ... If we were allowed to choose a motor and prop combination that suits OUR needs so that

everybody can go 64 mph, and stay tight on the lines, it would be fair for all, not just a select few who possess the skill to make the PAW and the oversize 8-6 prop to work. In 80 mph combat I have flown against .15's, .25's, .28's, .35's, .36's, and .40's. They all have their own characteristics, none of them had a distinct advantage or disadvantage over my Magnum .36. They all went 80 mph. That is the equalizer. Not the motor or the prop. If the rules that have destroyed this event were abandoned, we could see as many as 25 entries in dBat contests next year. We would ALL have equal performing equipment. They would not fall out of the sky anymore, and there would be great combat galore."

**Bruce Matthews** comments:

"What if after a midair BOTH PLANES GOT GROUND TIME until the second airplane was relaunched. It would be much easier for the judges to react and would still ensure that neither flier got an advantage due to the misfortune of the other. I know that in some cases this would effectively end the match but that would be better than the survivor going on to win through air time only ..."

"I moved on (from dBat) because I just got interested in other things and got frustrated with the amount of time spent repairing the models.

"Of lesser account was the restriction to 'classic' designs and diesel engines. Prior to dBat we were running a speed limited event here in the Vancouver lower mainland. In this version any design, engine and material was allowed. We ran it on 52-foot lines so it was primarily a .15 to .20 event with the odd Fox .35 tossed in that had some stick stuck up it's nose to slow it down a little. It was all great fun. When we changed over to dBat I had to build new models and run diesel engines but that wasn't really a big deal other than being a minor annoyance. In my case it meant that I had to rely on Paul or Mel for a new can of fuel each time as I didn't practice enough between events to ensure that the old stuff was still fresh ...

"I haven't been out to an event for a while so I don't know if a lawyer is required part of the ground support equipment these days but it's obvious from the e-mails that there needs to be a return to Adrian's ideals. In the end it's supposed to be about the flying and not the ground time, midairs ..."

**Adrian Duncan** pointed out that .15 diesel engines can be tuned for greater performance and consistency, and that the prop and speed limit rules are designed to prevent anyone from doing so to advantage. Further ...

"Even if we kept the speed limit ... , I could build designs having far larger wing areas and hence far greater aerodynamic performance in turns, etc. So I'd have a speed advantage ... advantage based on my extra wing area, and ... my 'desperate' opponents would be flying into my models left, right and center rather than let me win on the basis of my performance edge. I'd soon stop having fun then, since all my time would be spent building the replacement models and breaking in and tuning the replacement motors that I'd need ...

"Certainly, I wouldn't enjoy the competition that way — I'd rather compete with the exact same equipment as everyone else. That's the level playing field that I wanted to see develop here.

"... Surely the maximizing of the 'legal' equipment is a valid element of any competition? So some folks presently are better than others at getting this stuff to work — where's the problem?? All the rest have to do is learn to do the same! It ain't hard — there are no secrets here! ...

"Why worry so much about the winning bit? For

that, there's Fast, 80 mph and 1/2A. The original intent of this event was to create something quite different from all the other classes around at the time — a low-budget event where the emphasis was expressly on having fun learning to do things as they USED to be done, rather than as they are done now, with the emphasis on fun and sportsmanship rather than winning."

**Jeff Rein** responds:

"When I said tuning the engine, I didn't mean hopping it up, I meant adjusting the needle and compression for optimum performance and consistency. You say it is easy, but not for me, and many others ... And if you go to the next dBat meet you will find that more than 50% of the contestants are having the same problem and not coming close to the speed limit. That gives a huge advantage to the experts who can do it properly consistently. Winning is not everything. Some of my most memorable and enjoyable matches were ones that I lost. But I gave it my best shot and got beat fair and square. But going up in the air like a lame duck just to be cannon fodder isn't fun for either contestant. Count how many planes fall out of the sky and crash due to lack of power at the next contest. All I suggest is that for the people who cannot make that motor/prop combination work for them, allow them to use one that does work for them ... If everybody were allowed to use a motor/prop combination that THEY could get to run 64 mph consistently you would see attendance double or triple..."

**Adrian Duncan** responds: "The 64 mph is a MAXIMUM, not a requirement. I fully agree ... that at least half of the field will be under 60 mph with a streamer, some quite well under. Leaves some room for improvement, which is part of what it's all about ... !

"If everyone starts running "on the edge", you'll have to start DQ'ing folks for speeding!! The 64 mph incorporates a bit of a cushion so folks aren't forever being done for speeding."

**Tom Strom** comments:

"I could not have said it better myself Jeff, thanks. I bought a PAW and Dick Salter built us 6 foam winged, profile fuse airplanes. We did not get to fly at the Regionals to due time conflict. Next year, guess what? No more foam wing airplanes! So, I built 2 wood ones. They flew terrible. Could not get the PAW to run, and basically had a bad experience with diesel combat. Will I be back? Not on your life. There are better things to do with my time. Would I be back if we had better airplanes and motors? You bet."

**Jeff Rein** comments:

"In the other speed limit event, 80 mph combat, the rules are set up so that ANYBODY can easily attain the speed limit, novice or professional. I have watched and flown hundreds of 80 mph matches. Rarely is there any noticeable difference in speed between competitors. This levels the field so that flying skill is the main determining factor in who will win the match. In D-Bat the rules are set up so that only a select few can attain the speed limit giving an insurmountable advantage to those select few ...

"It could be a great event. We could have 25 or more entries at a contest. 64 mph is a fun speed, if you can keep up that speed in a wingover or loop ...

"Fast combat almost died here in the U.S. because of one thing. The MOTOR. Fox tried his best, but he just could not come up with a motor that would HONK without eventually blowing up ... Henry Nelson single handedly saved fast combat with his MOTOR."

"Slow combat died because of idiotic RULES that made it so difficult to compete that it just wasn't worth the hassle and frustration.

"1/2-A Combat almost died because of the

MOTOR. The Tee-Dee was good after it was broken in, until just before it blew up. The VA and AME never lived up to their potential due to quality control issues. Finally Cyclon built a MOTOR that would start and run fast, and so far does not seem to break ...

"Why isn't FAI more popular in the U.S.? The RULES. Hey, we are a lazy people who like things simple and easy, and not too complicated.

"... Why is 80 mph so popular? The MOTOR. The selection is endless. No hassles.

"History has told us that what either makes or breaks an event is either the RULES, or the MOTOR. History always repeats itself!"

**Adrian Duncan** comments:

"It seems obvious to me that fixing this problem in a manner that will suit both points of view isn't possible. The event can't be all things to all competitors. It's either something that's just for fun and a bit of a unique challenge, or it's just 80 mph combat with a lower speed limit and a far worse smell! I advocate the former — you and your supporters advocate the latter. So what it comes down to is deciding which philosophy has the most general support and decide on any appropriate changes. Not everyone will agree with such changes as may be made, just as some don't support the status quo. Those whose views are not represented by the changes (or a continuation of the status quo) will simply have to exercise their option to move on to other things (as some of us have already done)."

**Buzz Wilson** comments: "Without changing the rule for engines, you are going to kill the event. As people get better, they are going to realize the short coming of the equipment and leave because of frustration ...

"John Thompson ... What needs to be done to initiate a change in the Northwest rules?"

**John Thompson** answers:

"Regarding how to change the rules:

"Someone makes a formal proposal. You send it to me. I will work with you to assist in getting it into a clear and enforceable form. It will be announced in *Flying Lines*, and time will be left for published comments.

Then I will publish a ballot for voting.

My suggestion is that those who have similar views on this get together and come up with one clear, concise proposal that covers the issues. There may be an opposing view, and we may get competing proposals. I'll try to sort this out so that the final proposals that go to ballot clearly propose what is intended.

"Then there is a vote (maybe more than one if it's a complicated issue) and what wins will be the coming year's rules.

"In a perfect world, all of you will get together and hammer out a compromise, so we can make one proposal, one ballot, and all be more or less happy with the result.

**Ken Burdick** comments:

"I am going to sponsor a fun D-Bat next spring. The rules will be:

"1. Airplane pre-1971 must be for a .15; foam or wood.

"2. Diesel engines only any loop scavenge, open prop.

"3. 64 mph max speed limit WITH streamer 68 mph without.

"4. Any mounting system.

"5. Double length string streamers.

"6. No kill.

"7. The contestants will be drawn and paired into two person teams. Their combined score will count.

"8. Five rounds will be flown.

"... This will be an unsanctioned event as will the



one next weekend so it can not be called a contest — a party perhaps, a fun fly maybe (we'll see) ...Ya want fun? — I'll give you fun! — just show up we'll all be the party.

From **Steve Helmick**:

"I have to wonder how many newbies to D-Bat were running their first diesel? Did you take your time and run-in the engine per the article in the dBat Web site? Did you use the correct fuel, mix your own, or buy any available diesel fuel through some easy source? Did you take the properly broken-in engine out and sport fly it for a while to get used to setting it, or head to the next contest? Did you read the PAW instruction sheet and take it along when you went flying? Print out the adjusting tips from the dBat Web site? Have you "de-coked" your engine every running hour or so, to clean out the varnish ... ?

"It's a different animal than the glow engines we are used to.

"There are also some poor examples that come out of the PAW factory, no doubt. If you think you have one of those, I'd bet that Mel, Paul or Adrian would help you get it up to snuff.

"... I plan to do the break-in correctly and wait until I have enough current diesel experience to remember how to adjust them. I hope D-bat survives until that time comes.

**Mel Lyne comments:**

"I'll try and address some important things which may have been overlooked in the heat of debate.

"Firstly, the double length streamer string idea has merit." Mel goes on to explain that there are problems with extra-long streamers in windy conditions.

"We all have choices. D-Bat is not for everyone ... As far as dBat being a dead event or the "imminent death" of it, I'm afraid that escapes me completely. I am hard pressed to keep up with the demand for equipment ... supplying the beginners and novices with the time it takes to get them on track enjoying the flying, and the general demand for flying dates from our current crop of active fliers. dBat has turned into an ideal method to introduce new people to CL flying. From flying and dorking the tough dBat planes they can choose any event they wish to try. The ... toughness of the dBats gets a lot of newcomers to stick with it ... during the learning process ...

"So what I'm going to do now is write a spiel about how dBat came about and why it has the present rules ...

"In summer 1989 I returned to England after a long absence to fly diesel combat at the British Nationals ... The main organizer was "Mr. Warlord," Vernon Hunt. He had also organized a "Vintage Diesel" combat event at the Nats. I had no model for this so Vernon loaned me a rather heavy "beater" Warlord which I put my Oliver into. This event was all PAW .19s in the smaller vintage models and it was faster than "open" diesel combat ... I returned to Canada with some good memories and talked to Paul Dranfield about maybe getting some Canadians going in a diesel event. I built vintage models and gave some demo flights. But there weren't enough Canadians still doing combat. So we took the demo models south and got a few Americans interested. We had in mind a "fun" event right from the start, with much slower speeds than in England, and very relaxed rules. So the first few "fun" days we flew just for cuts. And it seemed to be working. We were using any non-Schneurle, Iron piston .15s that people could find. Frank Smart in England helped us get plans for the better designs.

"But soon we knew that we needed a decent motor that was readily available, tough, and inexpensive. We tried all types including Chinese Silver Swallows, CS Olivers, various PAWs etc. Paul was bringing in RC

PAWs for the RC crowd, so he got us a selection to try.

"About this time a couple of other Canadians were getting interested and I think it was Bruce Matthews who first said that we should get a basic philosophy for the event written down so that we would know what our goals were. With input from maybe 8 fliers we decided that we wanted to stay away from the horsepower route that other events were going towards, and that we wanted it to be beginner-friendly and low-key. In fact contests as such were run as fun-flies for a while. We had flies at Carkeek Park, Richmond, Harvey Field, Whonnock, and other places. There was a popular 65 mph glow event using Fox .15s in Canada at the time. So Bruce Matthews and Mel Lyne flew in this event using diesels, with great success. Bruce used an Oliver and Mel a Rivers. This gave us the idea that 65 mph was a good speed, as opposed to the 80 mph plus speed of British diesel combat.

"More people were getting interested, beginners especially, and we needed a motor to advise them to start with. After a lot of testing we settled on the PAW .15BR as the best bang for the buck. It was tough, reliable, available, cheap, and as low-tech as it gets. The Grish flexi 8x6 was also cheap, available and unbreakable. This was an ideal prop, and suited .15 diesels as it had a fair flywheel effect to help starting, unlike the smaller 7" props. But we knew we had a tough time ahead teaching the newbies how to operate the diesels. At this time it was Mel and Paul and a small band of fliers. Then a lucky phone call found us Adrian Duncan, a real diesel motor man, who helped to share the teaching load.

"So the event slowly grew until we were having actual competitions. But then it started to get serious, and we couldn't find a way to back it up and stay fun. Our lack of tight rules led to matches where a flier would take a couple of cuts, then be grounded by a "tech problem," and take the win. So to stop this we added negative ground time points. This still didn't stop guys landing when they were ahead, so we sliced the cut points in half (now 50 per cut) to force them to stay airborne. We wanted a full 5-minute match where nothing stopped the match. But of course we had no formal rules, so in the contests we had to use the "midair stops it" American rule. This caused many unsatisfactory results. It just wasn't the British "fly the whole match way", that we really wanted ...

"Also at this time, Paul and Mel made a trip to the U.K. for 3 classes of Diesel Combat at 2 contests. It was a bust! Speeds had gone wild, and any of the good fliers were using Dave Harrison reworked PAW .21s at 250 pounds (almost \$500) each. We were shell-shocked. We talked to Vernon Hunt (Mr. Combat in U.K.) about it. We came up with an idea. We put on a Canadian Rules dBat for .15 diesels only. Paul and Mel ran it, cuts only, and had 16 top fliers. It was a great success with speeds only about 70 mph. After we returned to Canada two of the Brits ... took our event and started "Oliver Only" Vintage diesel combat, to try and get the speeds down. Sadly this has now got back up to 80 mph.

"So we had learned that keeping the speed down was crucial. But using a speed limit was not what we wanted. This was more work for judges, policing etc. So we experimented and found that the PAW .15BR with the Grish 8x6 prop in a Warlord could tow a streamer at almost 64 mph. This was exactly what we wanted. It was self-regulating. We also tested many other combinations including 7x4 props at 19,000 rpm, 7x5 and 8x4.

"The 7x4 howled and produced way more noise which we didn't want at our pastoral Canadian flying fields. It also produced a lot more power, especially up high, and could pull a much bigger ship. This meant that

although we still had a 64 mph plane, the performance level was up quite a bit, and the larger ships were built lighter and weaker like FAI models to get the superior performance. This was not going to work for beginners.

"... We really wanted a level playing field with everybody having equal performing tough equipment.

"We held a series of contests at Mission BC. The first, with all our juniors, was quite successful. But there were still incidents where somebody ... would come down with a split elevator hinge and claim unflyable to stop the match since he was ahead ...

"The match stopped at these points which was not what we had in mind. The three visiting Americans, Ken Burdick, Buzz Wilson, and Jeffrey Rein were now getting their CS Olivers in larger models to really perform. The final contest at Mission that year had the Oliver models clearly outperforming the PAW .15 BRs which most Canadians were running. There was no speed limit. This contest that Jeffrey recalls as being so much fun was more like shooting fish in a barrel with the Olivers so outperforming the PAWs. Needless to say the Canadian juniors especially were very disheartened ... "

"We had hit a wall with our level playing field gone, plus several other problems resulting in matches being stopped (due to the American midair rule) when they should have continued ...

"So the 5 founders of dBat spent a long time deciding what to do to keep the event the way we wanted it. We all knew that to allow the twin ballrace performance diesels to be used would increase model size, increase performance, and make for more fragile models. This was not what we intended. The event had to stay beginner friendly. Tough models that could take a lot of dorks. We formulated a set of rules that covered everything to keep everybody at the same performance level. It was either this or let the event go ...

"So that is how we came up with the "single ballrace" sport diesel engine specification. It self-regulated the speed on the mandatory Grish (unbreakable) 8x6. And the beginners all loved the event. The performance guys hated it. And of course we took a lot of flak for outlawing the racing diesels. We have a "nothing stops the match rule," and we did have a "line change in the match rule" in case you wrecked your lines. AMA rules have made us nix that one.

"So today, after 3 rounds of proposed rule changes, we have hung onto the event in basically it's intended form. We know some fliers are not happy with this. They can fly the other events if it doesn't suit them ...

"In closing, Vintage Diesel Combat has a basic set of rules to get new people started ... It's not rocket science. And it's inexpensive. We intend to keep the present format (possibly with the odd minor change) to provide fliers with an entry level event which is also an excellent beginner training tool. We don't care if it's an official event or not. We just want to have fun flying it. I have been saying for years that people who want a "Hotter" diesel event should start one. European F2E is the ultimate, and there's everything in-between. Your imagination is the only limit. You decide what you want and we'll see who likes it."

**Jeff Rein responds to Mel's remarks:**

"For those of us that have decided to drop the event, it just turns out that our vision was different than yours ... Maybe it doesn't need to be fixed if it is not broken, especially if it achieves all of the goals of the vision ... Mel, you are appreciated by all of the combat community here in the Northwest for your tireless efforts to promote control-line combat. Keep it up!"

From Ken Burdick: "The interesting thing is there

is not much difference in the suggestions that will bring back people to the event and what is there now.

"I believe that an open mind to trying other peoples ideas is important to keep an event alive. We have tried these rules for a few years now and I don't think it would hurt a thing to try a few of the suggestions that have been cited as specific reasons they will not come back.

"So it's not about the event at all — just listening and trying to help things get better."

More from Mel Lyne:

If you keep the dBat speed limit at 64 mph but build bigger, lighter planes with the more powerful lighter weight racing twin ballrace diesels to pull them, of course you'll get better performance, especially up top.

We've done this and proved it.

In the Northwest, fliers have purchased over 100 single ballrace diesels in recent years for the dBat event. If we change the rules to allow the higher-horsepower diesels then all the current motors and planes will be obsolete within a year. They just won't be competitive ...

"So the solution is leave dBat ... where it is and experiment with some other different diesel events ...

"Ken has an idea for something we could call "Outlaw dBat" next spring, using Vintage-type planes but with the twin ballrace iron piston motors.

"The one problem may be finding a decent motor that isn't a PAW, now that CS is gone.

"The big selection of diesels today are almost all ABC/Schneurle, other than the PAWs. These are used in Europe for ... "open" diesel combat. This is the top end with performance close to fads. You could go this route, but that class of motor is expensive. And we really don't need a 85 mph plus diesel version of F2D.

"70-75 mph on 52ft lines is a really nice speed for quite experienced fliers. You could use any plane and any modern diesel for this. Mejlzik builds F2E planes designed by Loet Wakkerman that would work beautifully with a low cost MVVS .15 diesel (available from Carlson in Arizona). And Jeffrey could build a gazillion foamie "knockoffs", with metal mounts. We have tested the ABC/Schneurle MVVS motors, and they are reasonably priced, quite user-friendly, but a bit weak in crashes. Having the aluminum piston you have to be careful with mud in them (unlike PAWs) or they wear out quickly. A 7x6 prop would give about 70 mph in the big F2E models. A good combination, but of course weak and prone to crash damage ...

"PAW is one of the biggest diesel producers, but they are not modern, no ABC sets. But in Europe they have allowed plain bearing .19 and .21 PAWs to compete in F2E class combat against the .15 ABC/AAC Schneurle Russian Star, Italian AD, Rossi, Cippola, Czech MVVS, U.S. Nelson and other motors to increase the pool of affordable motors. This approach could be considered for a Northwest event, allowing a greater choice of motors.

"Contrary to what some fliers think, I am not looking for more "business" building planes. I started doing it for a few friends as a favor and it kinda grew. Tanks is the problem, and I'm pretty sick of making them. But I'll keep doing it to supply the guys that need them.

"... Introduce someone new to combat planes. Any combat planes ... And don't push people to compete. Just get them flying. We need all the interested support people we can find ... Get them flying. Flying anything. But the more bulletproof the trainer, the better. If they've got nothing but bits after a 20 second flight, then you won't keep them for long ..."

Jeff Rein argues for a change in the prop rule:

"We all now understand the vision for D-bat as it was intended as per the founders. Let me try to sum up on

how the event currently does not meet all of the criteria of the vision, and what simple changes, if implemented would help dBat meet the criteria of the vision.

"The vision consists of a high-fun, low-tech, low-performance, low-budget, low-carnage, even playing field diesel combat event. It currently is low-tech, low-performance, and low-budget. Where it falls short of the vision is in low carnage, even playing field, and high fun for most. These three shortcomings could be resolved simply by allowing the use of a 7-4 prop. You stated 3 reasons for selecting the 8-6 Grish prop.

"1. Unbreakable: The prop no longer exists.

"2. Lower noise for the pastoral Canadian flying fields: Almost all of the flying is done at Arlington now, so that reason is no longer valid.

"3. Performance may become too great allowing larger tighter turning planes: ... Fine, simply state that a plane with a wingspan of more than 35", 34", 33", 32", or 31" shall not be used. Pick a size that the rules committee thinks is too high performance, and eliminate it.

"It has been stated ... that even the PAW 15BR can pull a D-Bat at 64 mph, and maneuver while keeping the lines tight on a 7x4 prop. The motors are easier to adjust for proper compression and needle when they run in the proper power band. I've been told that a Master Airscrew scimitar 7x4 is able to take a dork without breaking, although it will be rarely necessary since the motors will be able to be properly tuned the first time with a 7x4 prop.

"Now, back to "The Vision"

"Low carnage: The 8x6 prop causes more carnage than any other factor in dBat.

"1. It makes getting a consistent perfect setting extremely difficult. This causes the plane to fly underpowered. Do a wingover, the lines go slack, the plane comes in and crashes on the outboard tip, and destroys the plane. Even with a good setting, do a maneuver up wind, and a strong gust comes up (6-8 mph), and the same, slack lines, plane crashes, plane breaks.

"Hit your opponents streamer with the top of your inboard wing, slack lines, plane crashes and breaks. You're lucky, or skillful opponent gets a better tune than you, you are a sitting duck, you have no chance to follow the person, so you take chances to try to get away, or get a cut, midair, two planes crash and break. This goes totally against the vision of dBat ...

"2. The 7x4 prop would level the playing field. More people will get acceptable runs on their motors due to the fact that they are easier to tune with the proper prop. The 8x6 separates the field into the planes with good tunes, and the planes with bad tunes.

"3. Fun: It is no fun having your plane come in and crash. Midair's are not fun. Wallowing around like a lame duck is not fun. The 7x4 can change all of this ..."

Mel Lyne responds:

"You need a heavy prop to help starting. The Grish 8x6 after a dork or 2 lost pitch and became a 8 x 5 1/2. This made the motors happier revving around 13,500 rpm in the air.

"Now I will tell you how to get the most out of a PAW .15BR in a combat plane ...

"Firstly you MUST mount solidly. If you use metal mounts they must attach very rigidly to the plane. Or you will lose it all in vibration. For the same reason, the solid wood planes seem to make a better mount than foam ... The PAW iron piston really adds to the vibration problems at high rpm. Getting a good setting on the PAW at 18,000 is way tougher than at 15,000 to 16,000. Just try it! You need way more compression to get it to run smoothly.

"If you read the PAW instruction sheet, it will say

you can run this motor on a 7x4 prop (with air rpm close to 19,000 rpm). But it warns you to keep checking the con-rod. Both ends (non-bushed) can wear rapidly at this speed. I'm not aware that PAW has a bushed rod available. They make lots of money selling rods to the racing guys! Also, the .15BR has no front bearing. It is the steel crank running in the aluminum case. So always run at least 25% castor if you want it to last ...

"So, from our testing and the Brits extensive use over a 40 year period here is what works. You want to wind up with about a 7 1/2 dia x 5 to 5-1/2 pitch. And you want it to be a heavier prop for starting. And you want it to take dorks without breaking. This runs at 15,000 to 16,000 rpm and if you run 25%-28% castor the con-rod ends don't wear.

"I think we have finally got the all-around answer in a prop. Tests are not complete but it looks good so far. The Kavan 8x6 "softprop." You need to boil it for 60 minutes (low boil-simmer in water) and let it cool.

This REALLY softens the prop so it doesn't break in dorks. But it will de-pitch slightly in dorks. It should be ideal as a replacement for the Grish ...

"The big question now is how will this prop test out for the 64 mph speed limit ..."

Jeff Reichel's comments on Jeff Rein's ideas:

Regarding the proposed wingspan limit "What's the controversy here? A size has been picked: as per plans prior to 1971. Personally, I don't see a problem with using foam if some people don't do well with wood, but how do we keep carbon and other exotic materials out of the event which will create an uneven "field" in favor of the high-tech planes? ...

"You keep blaming crashes on slack lines. Certainly this happens. Doesn't it happen in Fast, 1/2a, or 80 mph? Most of the crashes that I've sustained and seen others endure have been due to pilot error; either flying into the ground or after being whacked by the other pilot. Crashes due to loss of control from slack lines are rare and sometimes the pilot even recovers control before going for gophers. If the wind is high enough to blow in an upwind plane in maneuvers, stop doing that."

Ralph Simonds comments:

"The concern I have with different props, foam planes, and different engines is this. Every type of competitive event has its top level of the sport. Money and time and technology rule, if given flies with equal ability.

"D-bat gives me the opportunity to compete against equal equipment if I choose to put in the time and the effort to move up in the sport. As in any competition of speed, skill and mental strategy there will always be those who want to elevate the sport. This has killed more good competition and eliminated growing participation than any other thing I know. You get a group involved, then change the rules, many newcomers leave and never return. Then the old-timers who want to have someone to beat drop the standards again, and more new blood arrives ...

"Why not start a new event? Leave dBat as is, it is attracting many new comers. Have a high-tech class if you want, they can move up, maybe to 80 MPH, fast diesel, fast, whatever they want ..."

"If you change the rules, I can't help but think that a lightweight foam plane will accelerate out of a tight maneuver quicker than a repaired and heavier wood plane would. This is not fair to those who don't have the technology or the tooling to make foam planes. Also, if I go to a smaller prop, and it gets easier to tune, but I can't start it, and I can't fly well enough to beat those older fliers who can turn tighter, I also feel I have a disadvantage ..."

# Northwest rules discussion corner

## P-40 Stunt Proposal official ballot

Discussion and testing of the P-40 stunt event has taken place during the past two years. Now comes the time to vote on the official rules for 2003 and beyond.

**Who can vote:** Anyone living in the Northwest, defined as AMA Dist. XI and British Columbia.

**How to vote:** Fill out the ballot at right and mail it to *Flying Lines* by Jan. 1, 2003. Photocopied ballots are acceptable. You also can

vote by e-mail to [johnt4051@aol.com](mailto:johnt4051@aol.com)

**ALL BALLOTS must include the voter's name and place of residence!**

<b>BALLOT</b>	
Do you approve of the P-40 stunt rules listed below?	
<input type="checkbox"/>	YES
<input type="checkbox"/>	NO
_____	
Name	
_____	
_____	
Address	

### NORTHWEST P-40 STUNT Proposal

1. **PURPOSE:** This event is intended to provide a competitive opportunity for fliers of all ability levels using profile-fuselage airplanes limited to .40 engine displacement.
2. All rules for AMA precision aerobatics shall apply except as follows:
3. **Airplane:** Any profile airplane is allowed.
  - 3.1. The engine may be mounted in any configuration — side-mounted, upright or inverted.
  - 3.2. Doublers or triplers and cheek cowls are allowed, including faired spinners, but the fuselage must meet the "profile" definition of 3/4" thickness by the trailing edge of the wing/flap hinge line, and the engine must be fully exposed from lugs to plug.
4. **Engine:** Any engine up to .40 size, including four-strokes (no 60% rule for four-strokes).
  - 3.1. Mufflers are allowed, but not mandatory. Any exhaust system is allowed.
5. **Lines:** Line sizes must follow AMA Precision aerobatics guidelines
6. **Pattern:** Standard AMA Precision Aerobatics pattern.
7. **Appearance:** There are no appearance points.
8. **Skill classes:** Whenever possible, competition shall be divided into two skill divisions, as follows:
  - 8.1. **Expert:** Any flier may enter this class.
  - 8.2. **Sportsman:** PAMPA expert-class skill fliers may not fly in this class.

[jmt/mwh/dg/FL/11-02/proposal](mailto:jmt/mwh/dg/FL/11-02/proposal)

Northwest rules are coordinated and sponsored by Flying Lines, the independent voice of Northwest Control-Line model aviation. Subscriptions cost \$14 per year. Flying Lines, 2456 Quince St. Eugene, OR 97404, [JohnT4051@aol.com](mailto:JohnT4051@aol.com)

# NCLRA approves Nats Clown rules

As reported in previous editions, the National Control-Line Racing Association has been working at developing a set of rules for Clown Race to be used at the National Model Airplane Championships.

Clown Race is a racing event born in the Northwest, but now popular nationwide. Rules in all areas are based on Northwest rules, but some variations have evolved. The NCLRA sought to reconcile differences and come up with a set of rules for the Nats.

The NCLRA rules were developed by a committee of racers from around the nation, including your *FL* editor, under the leadership of NCLRA president Bill Lee. They were approved by NCLRA officers.

**Important note:** There are some differences between NCLRA rules and Northwest rules. This action by NCLRA does *not* constitute a change in Northwest rules. The NCLRA rules are for use in NCLRA-sponsored contests, mostly the Nats. Northwest rules remain unchanged. Most planes legal for Northwest Clown should be legal for NCLRA Clown.

Following is a report from Bill Lee and a copy of the NCLRA rules.

## NCLRA Clown report

By Bill Lee

We have finally come to some sort of conclusion on the Clown Race rules.

### 2003 NATs Clown Race

This first attempt at running Clown at the NATs as a nationwide event will be different than what you might expect.

We will be "grandfathering" all existing Clown racers!

Now, what does this mean and why?

Until the attempts by NCLRA to create a truly national set of Clown Race rules, there were at least a couple of distinct "flavors" of Clown being run. The NCLRA rules adopted none of them, but tried to take the best elements. Remember that the point of view of the Clown rules committee was to create a *national* set of rules.

Given that, the NCLRA rules as written render many models currently being flown in *all* parts of the country "illegal." No more cheek cowl, no more sheeted wings, no more single wheel gear, etc.

And, as you would expect, a lot of wailing and gnashing of teeth is the result! :-)

So, we have decided that at the 2003 NATs, where we will truly have the first opportunity for *all* of the "factions" to participate together, we will be "grandfathering" all of the existing racers. If it looks like a Clown, if it conforms to the tank and engine restrictions, fly it!

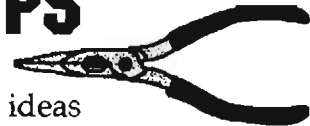
Areas which we WILL keep an eye on and which must conform to the rules:

1. Engine maximum size
2. Tank size
3. Line size and length
4. Pull tests
5. Race conduct

We *will* judge each model against the NCLRA specifications and you will be told what, if anything, is not "legal," but no disqualifications (other than as mentioned above) will occur. But it *will* be expected that for 2004, *all* models will conform to the NCLRA rules in order to be allowed to fly. Here are the NCLRA Clown Race rules. (SEE PAGE 14)

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## SHOP TIPS



Clever building ideas  
from *Flying Lines* readers

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**DOUBLER DUTY:** I'm building a Mike Pratt "Primary Force," a profile stunt trainer without flaps, .25/.35. One of the things about this design is that the nose doublers only touch the fuselage perimeter in a few places, and I was a bit worried about getting the doublers epoxied on off location. Ended up drilling two 3/32" diameter holes, one about 1/4" ahead of the leading edge and another into the balsa ahead of the engine bearers in a dry assembly, then smeared the epoxy to it and stuck round toothpicks in the holes. It really surprised me how well it worked, almost zero effort and perfect accuracy.

— Steve Helmick

Send your shop tips to Flying Lines!

# NCLRA FLYING CLOWN RACE

1. **PURPOSE:** This event is intended for all fliers and pit crews interested in a racing event which uses a common aircraft, emphasizes both speed and economy, and encourages the use of a wide variety of engines.
2. All AMA control-line unified racing rules apply, except as follows:
  - a. Airplanes and the entire control systems shall undergo a pull test of 25 pounds.
  - b. Lines are .015" stranded steel.
  - c. Length is 52 feet, plus or minus 6 inches, measured from the center of the handle to the thrustline.
3. **Engine:** Any design or make of piston engine is allowed, except that maximum engine displacement is limited to .1999 cubic inches. Modifications are not restricted within the limits of the AMA safety code.
4. **Fuel tank:** Any design of fuel tank is allowed, including pressure systems, except as follows:
  - a. Fuel capacity is restricted to 1 ounce, with a +5% tolerance, 31cc maximum.
  - b. The fuel tank shall be fully external of the plane, on the outboard side of the fuselage, and entirely in front of the leading edge.
  - c. All tank vents are limited to a maximum size of 1/8" outside diameter. A spring-loaded pinchoff device capping the overflow vent on a uniflow tank is permitted.
5. **Fuel:**
  - a. Glow fuel shall contain a maximum of 10% nitromethane with minimum 20% oil and the rest methanol.
  - b. Glow fuel shall be supplied by the contest management.  
Note: Contest management may provide fuels with differing lubricant quantity and composition for contestant choice, which shall be announced in advance of competition.
  - c. Diesel engines may use diesel fuel.
6. **Aircraft:** The only aircraft allowed is the PDQ Flying Clown or faithful replica.
  - a. Prohibitions and allowances
    - i. Changes to the planform, profile, or wing thickness are prohibited. Changes in construction for strengthening or lightening that do not show on the exterior of the model are allowed.
    - ii. Cheek cowls are prohibited.
    - iii. Full-sheet doubler up to 1/8" thickness allowed on inboard side of nose
    - iv. Other than normal center planking as shown in the Clown kits, wing planking of any form is not allowed
    - v. No internally connected lines.
    - vi. No internal pushrods and elevator horns.
    - vii. Adjustable tip weight allowed.
    - viii. Leadouts need not be placed as shown on plans.
    - ix. Rudder offset need not conform to published plans
  - b. Landing gear:
    - i. Wheels must be a minimum of 1" diameter
    - ii. Two wheel gear is required.
    - iii. Minimum wheel separation is 5"
    - iv. Only wire gear permitted, diameter not specified. Extra wire bracing is allowed.  
Note: Local rules may provide for other configurations which shall be published in advance of any local competition.
7. **Equipment prohibitions and allowances:**
  - a. Hot glove electrical contact systems are not allowed. In addition to the "normal" hot glove, any contact device attached to the pit mans thumb or fingers to allow contact by simply gripping the model are considered "hot gloves".
  - b. Fast-fill setups are prohibited. Anything associated with the 1/8" fill tubing other than a single piece of soft tubing (e.g. silicon tubing) on the outside is considered a "fast-fill". E.g., shaped knobs, spring-loaded devices with internal o-rings, fill tubes with movable components, etc. No restrictions are placed on the fuel bottle or syringe.
  - c. Shutoffs are allowed but may *not* be used for racing purposes. (Shutoffs are a *safety* item.)
  - d. No added exhaust extensions of any kind are allowed
8. **Races:** All preliminary heats and the final race will be timed for 15 minutes from start to finish. The contestant with the most laps wins. Preliminary heats may be 7-1/2 minutes if agreed to by a majority of contestants or required by contest time constraints. Records shall not be established for heats less than 15 minutes. There shall be either two or three pilots in heat races. At least three aircraft shall advance to the feature race. The decision on the number of feature entries shall be made by the event director in advance before the start of any preliminary heats. If more than three planes advance to the feature, races will involve at least two and no more than three airplanes. All races should be three-up until only two or four competitors remain.
9. **Other Notes:** the event director may disqualify any entrant who is not in keeping with the spirit or intent of this racing event.

NCLRA 12/02

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# Stunt Stuff



Notes on Precision Aerobatics from **Chris Cox**

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## When to Practice?

"Wow, am I ever good"! Well, at least that's what sometimes goes through my mind when a light breeze is blowing from the sun (maneuvers away from the sun) and man with machine are as one. I think to myself, "Hey, bring on the very best, I could beat anyone right now." Ah yes, Stunt Nirvana. Of course, I've been around long enough to realize that given ideal conditions, the very best will no doubt prevail and still be the very best. Still, it is fun to dream about some day putting the boots to those currently residing at the pinnacle of our chosen sport.

What I believe really separates the men from the boys (girls/women?) is the ability to put in a ringer of a flight in less than ideal weather conditions. Seldom do we see "ideal" weather conditions at a contest. Believe it or not, but there are actually those among us who actually hope for the weather to turn nasty. The reason for this is quite simple of course. It's because they practice in less than ideal weather, and consequently they possess the confidence in both themselves and their equipment that come gale force winds, they will still be able to cope. Meanwhile, the fair weather flyers are either packing up to go home or the flight they do eventually put up is one of survival rather than anything resembling precision aerobatics. Ah yes, "Survival Stunt" as Mike Conner so eloquently calls it. It's not that this super human can necessarily score in the mid 500's flight in, flight out. It's just that he can fly better than everyone else, despite the conditions.

The solution to this is really quite simple. Oh sure, a little practice in ideal weather conditions is good for the soul and I heartily recommend it to everyone from time to time. However, what you really need to do is get out and practice when the wind does start to blow. Figure out where to place those maneuvers when the wind begins to howl. Learn how to fly around the sun rather than through it. Trim your aircraft so that even when line tension is lost, it will remain at the end of the lines rather than visit you in the center of the circle. Practice until you

find the confidence you need so come contest day and the wind begins to blow, you think to yourself, "yeah baby, bring it on"!

## Engine Troubles

I went out flying with Keith Varley a few nights ago. Following my first flight, Keith mentioned that my lap times had diminished significantly from the start of the flight to the end. Although it did not strike me as excessive at the time, the following flight bore out the truth of his comment and I knew my evening practice session had come to an abrupt halt. I probably have well over two thousand flights on the OS .40VF and one thing I have learned is that when the engine starts to act up, there is a good reason for it.

First things first requires a quick inspection of the glow plug. Rarely does this particular engine experience plug problems. Generally I try to replace the plug with a new one at the beginning of every contest season, whether the plug looks good or not. It gripes the heck out me changing a perfectly good plug before its time, but hey, \$5.00 a year I can handle. Barely! No big surprise here, the plug was fine.

Next is to remove the carbon pipe, pressurize it and immerse it in hot water. The bathtub is a good place for this procedure. If bubbles appear, a bit of JB Weld works wonders. Hnm, no leaks. OK, out comes the fuel tank and repeat the procedure just performed on the pipe. Solder in this case will repair any holes found, but alas, all is well. Out comes the engine and all head and back door screws are checked for tightness. Nope, all is well here too. Fine, now I invest in a buck's worth of fuel tubing and replace all fuel lines: filler, overflow and engine feed. A quick suck on the fuel filter and suddenly my eyes cross and my face turns blue. Bingo, the filter was plugged! I use the type of filter that unscrews so that you can easily clean the screen when dirty. A check of the fine mesh screen reveals a very thin layer of what I have come to describe as "Angel Hair." Pull the screen and remove the "Angel Hair," flush clean and reassemble. Back at the field next evening and lap times were dead steady, front to back. Ah

yes, "Stunt Nirvana." Yeah, yeah, the weather was perfect, but hey, somebody has to fly in this stuff!

You should note that I do filter my fuel before it enters my fuel tank, as well as another filter between the tank and the engine. Still, this "Angel Hair" seems to grow all on its own. Regular checks of the filter, say every 100 flights or so, is no doubt prudent advice. Whether I'll take my own advice remains to be seen, but something I do somewhat religiously is check all of the items listed above immediately prior to a contest. That's one time I'd rather not be surprised by an engine "acting up."

### On the Road Again

My day job requires occasional travel. When time permits, I will often check my Precision Aerobatics Model Pilots Association (PAMPA) reference manual for names and phone numbers of people who might live in the area and who share my love for model airplanes of the stunt persuasion. I've been fortunate to make many new friends this way. In Dallas, Texas, I am very honored to be able to consider the likes of Bob Gieseke and Don Hutchinson very good friends. On the East Coast I have had some wonderful visits with Windy Urtnowski, Bob Zambelli and Bob Hunt. In Toronto I've hoisted a few beer with Doug Carson and Bill Konduros. Recently during a trip to Calgary I hooked up with Will Reeb and Ken Clapson.

One thing becomes immediately clear when meeting new modeling folks for the first time, and that is the instant bond that is formed. Let's face it, there just aren't an awful lot of us control line stunt enthusiasts in the world, so how can we not get along when we meet each other.

Anyhow, the point is, if traveling and some time will be available, check your PAMPA directory (you have joined, haven't you?) and see who might live in the vicinity. I've yet to have anyone tell me to get lost, and my life as a result of these visits is much richer. Can't beat that!

Till next time, "Fly Stunt"!

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### Field tips:

When timing a plane for speed, for greatest accuracy, pick a reference point on the *opposite* side of the circle and time the plane when it passes there — not as it passes the near side.

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## The Real 'Dirt'

Some tight lines from the bad boy of CL flying, "Dirty Dan" Rutherford

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### Crutch-type motor mounts

I admire those who can glue maple motor mounts to opposing sides of a fuselage and then have them be perfectly parallel to each other when the fuselage is assembled. But I don't take the chance. Instead, a 3/4" or 1" thick block of balsa is first cut so the block is cross-grain to the maple pieces and spacing accommodates the motor of choice.

Initially the maple motor mounts are huge, generally 3/4" square. They are glued to balsa spacer with the best epoxy in the shop, lots of overhang front and rear.

When dry I simply start shooting this assembly through the table saw, being certain to take at least one pass on every surface, working the piece down to desired dimensions. The results, assuming your saw is set up properly, are absolutely flat surfaces on a perfectly squared-up crutch assembly.

Don't have a table saw? I think this technique is important enough that driving to a friend's better-equipped shop is worth the trouble.

As long as you're borrowing tools, if the guy has a band saw run sides of crutch up against the blade, creating 1/32"-deep cuts spaced about 1/4" apart down length of maple mounts. The theory is that these cuts give epoxy glue a better surface to grip.

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### Pond Plans to AMA

Craig Bartlett passes along this news from Bob Stalick, a prominent Northwest free-flyer:

"Regarding the inquiries about the current status of the John Pond Plans Service. This service was recently purchased by the Academy of Model Aeronautics and will be made available via AMA services in the future. I understand that the plan masters themselves need a fair amount of work to bring them back to usable condition, so the plans may not be on the market for a while.

"FYI: The National Free Flight Society attempted to purchase these plans but AMA came in sooner with more money than we could raise."



# News from the Northwest Skyraiders

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## **FLYING SITE REPORT:**

*FIRST THE BAD NEWS ... from Ron Canaan*

Well, guys this is getting tiresome, Thadd Faussett from the Bonneville Power Administration called me today with the news that Bonneville turned us down for a site in Tacoma because of liability concerns. They reviewed our request and watched our video several times and decided not to lease a site to us.



The only reason that Thadd expressed to me was one of if the Sanican tipped over and caused an ecological problem they would be responsible for any damage, not us. Thadd was on a cell phone and was getting broken up so

I don't know what other reasons were expressed. I am sure he will let us know at the next meeting. It is not open for review and it is a closed issue now. I don't know any of the reasons so please don't ask me.

## **AND FOR THOSE OF YOU WHO KEPT ON READING, WE HAVE THE GOOD NEWS!**

On a happier note, I am pleased to announce that we now have a permanent site at RiverWalk. The U.S. Army Corps of Engineers is only going to use 2 acres of the park (S.W. corner on the bend of the river), and return the rest to the City of Kent.

The Corps project manager told Lori Flemm, the Kent Superintendent of Planning and Development, in a meeting recently, that the Corps considers our club as passive users and has no objections to us using the park. The city had requested the continued use of part of the site for their model airplane club.

Lori Flemm has advised us that we should attend the Parks Commission meeting on November 12th at 4 PM at Kent City Hall. We need to ask questions about park development by

the Corps and the City regarding parking and benches that the city is thinking of installing at the planned fishing area. She also mentioned that we should move our 2 circles to the South end of the field after the Corps is thru with their part so we would be closer to parking and the table/benches.

Bottom line is we have the site now but can't develop it any further than we have, except for larger circle centers. The City is still supporting us on 'passive use' thing. I have been told how to get around this but it is time consuming and will take awhile. I have sent e-mails to Bruce White and Connie Epperly, both city council persons, (Parks Commission) who favor our type of park use. I want to talk to both of them before the Nov. 12 date and get them on our side. Bruce is aware of our use and thinks it is a very good use of the land. Connie is the person who ramrodded the co-development of the Kent Ice Rink, between the City and a private group for profit. What we want to do is ask her if we can develop the rest of our area jointly with the City.

We might never get anywhere with any requests but we can stay at River Walk officially now. Well, nothing in this world is permanent

**CARKEEK PARK** is ours to use, complete with the Seattle Park Department's blessings. A note from them relative to road access to the flying site, for your information:

"On a trial basis, we would like to lock the bollards on the road leading into the model airport at Carkeek Park on Friday afternoons through Monday mornings. This has been requested by several advisory council members as an effort to curb a rash of illegal activity such as drug dealing and use, sexual activity, car stripping, and other assorted behaviors. Typically, the road is closed off completely from December through March. This early effort will hopefully deter some of the current illegal activity.

"I have spoken with the contact from the NW Skyraiders, Mr. Canaan, in order to pass the word along to users. The area is still accessible by most users, just a short walk from the next closest parking area. The model airplane users are supportive of our effort.

"We will evaluate this measure after a few weeks and take feedback from citizens re effectiveness or negative impacts. The Advisory Council is also talking more directly with the

North Precinct about the illegal activity taking place in the park.

"Let me know if you have any concerns or questions about this effort."

The space is ours to use, and the Seattle Parks is happily concerned that the site is not messed with. We have 20x30 sandwich board signs to use when flying. The signs are white with black lettering: "CAUTION — MODEL AIRFIELD IN USE" Please put it back when you're through flying for the day.

#### **FORT DENT**

Fort Dent is open for our use now 7 days a week on first-come, first-use basis. We still have Monday and Thursday for our exclusive use, but now the Park is closed for car traffic and the restrooms will be locked. We have permission to use Fort Dent anytime we wish until April next year, on a first come first use basis. However, other users will have to contact the parks dept. to use the site as we have done already. As for parking Steve Helmick is working for us to use an insurance company's parking lot just outside the gates

#### **CLOVER PARK**

Mike Potter has confirmed that runway paved area is available. The condition of the main circle is excellent, and is perfect for our normal flying activities, but the suitability for a future contest site is limited, with the removal of the grass area. Our approvals are in place and it is open on weekends and I believe after 3 p.m. or so on weekdays. Note: Please contact Security, by any means possible, before setting up and flying. We've been away for awhile and Sept. 11 has made them more sensitive.

#### **SHELTON AIRPORT**

The Shelton Airport is possibly a great site, but there are mixed signals as to its availability for us to fly CL there, and it IS a long way out. There may be more to report on for this site, but with what we have, it's probably down the list for pursuing, right at the moment.

#### **ARLINGTON AIRPORT**

Arlington Airport has had some good reviews by folks who have flown there, and it could be a good venue for a contest. There are still some things to be resolved for that to happen.

#### **BEGINNER FLIGHT TRAINING PROGRAM**

Notes from Ron Canaan:

*You guys really surprised me when we brought up the idea of having small club trainers for kids*

*to fly at Auburn Good Old Days, Puyallup Expo and our other events. Mike Potter and Shawn Parker came up with a stash of Cox Reed Valve engines; Al Fernandez had a bunch of bits and pieces and 6 boxes of dope.*

Chris Gomez and I have put together 6 very good runners. Right now I now have 12 in great running shape with enough parts to assemble another 8 to 10 more if needed. They all have props, but it would be great if I could replace the standard Cox black props that break easily with the nylon ones that flex instead of breaking on a hard landing. The best props, accord to Larry Renger (ex-Cox), are the Cox black 5-3's. They let the engine run more in its power band than the 6-3's do. Another one is the old TF Nylon (long out of production) 5-1/4-3 or -4. These are nearly unbreakable! Tornado (Grish) also currently makes 5-3, 5-4, 5-1/2-3 and 5-1/2-4 flexible nylon props. We could try for a few of these.

Dave Gardner will donate one 1/2A Sig Skyray and the Kevlar flying lines and will make them up. Bruce at Ultimate Hobbies will furnish us with 5 more 1/2A Skyrays to complete our fleet. He has also said that they will give us the fuel and glue for sure. I've also managed to get a donation from Lowe's for several cans of Krylon spray paint for the basic color finish and some polyurethane clear spray for the fuel proofing.

It looks like we can do this for very little (if any) cash out of the club treasury. What we do need now is 3 or 4 guys to get together at someone's house and spend a couple of hours to put these little guys together. Please let me know if you can host a building session or would like to help in the building.

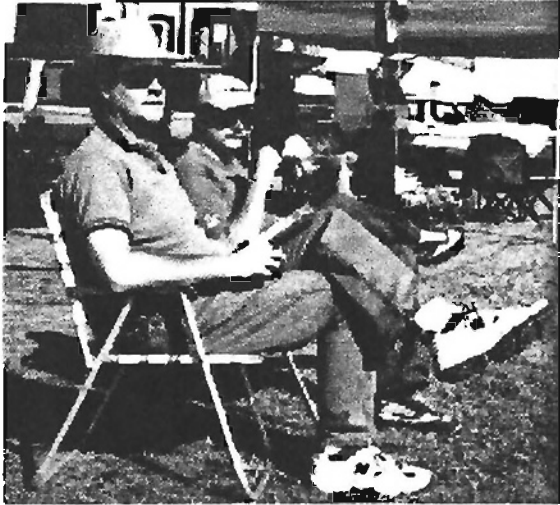
The whole reason behind this project is at the Auburn Good Old Days we were besieged by kids who wanted to try it. If we can hook a kid and his dad then we have done what we wanted to do and that is make control-line grow along with getting kids involved.

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#### **Field of Dreams goes to seed**

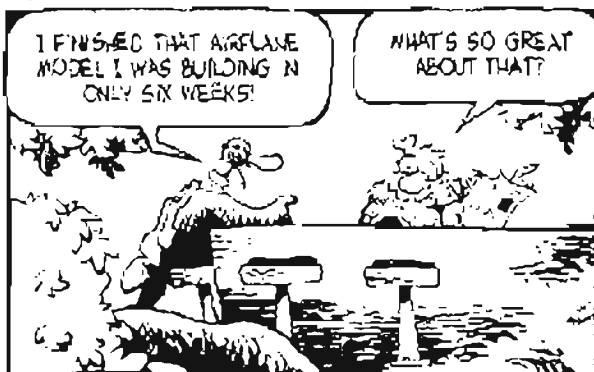
Nils Norling reports that the mostly RC club in Central Oregon has let the Field of Dreams CL circle in Redmond fall into ruin. Never fear, Nils is working on finding a site for the Central Oregon Lawn Darts contest for 2003. It will most likely be in the Madras area, just a few miles north of Redmond. Nils always puts on a great contest, so plan to attend!

# Modeling people and planes



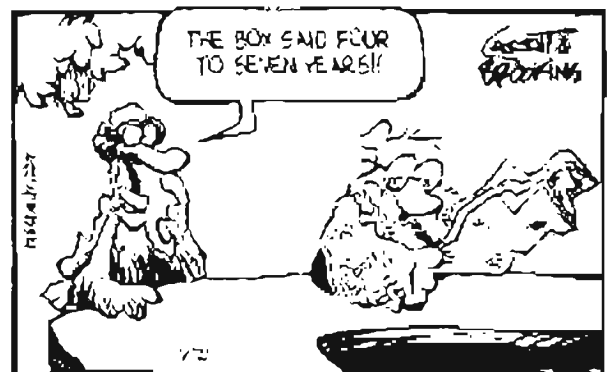
Top photos: Without workers, there would be no contests. At left, Jerry Eichten (left) and Randy Powell judge stunt at the Fall Follies in Salem. At right, Mike Hazel (left) and Bruce Hunt time a race.  
 Bottom left: Mike Hazel is not a golfer to our knowledge, but he has been known to dig out the occasional divot. His bipe, here, came up with about a pound of dirt after a recent, um, landing.  
 Bottom right: Dan Rutherford likes to tell it like it is, or like some say it is. His Impact says "Powered by Pond Scum."

Do you have photos of your local flying activity? E-mail 'em to *Flying Lines*



Flying Lines

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