

NEWS OF NORTHWEST CONTROL-LINE MODEL AVIATION

1073 Windemere Dr. NW, Salem, OR 97304

ISSUE #155

20 YEAR ANNIVERSARY ISSUE!

MAY 1999

That's right! FLYING LINES first took off exactly twenty years ago this month! This jam-packed issue contains some history along with the regular features. Also included is a special FLYING LINES commemorative sticker.

IN THIS ISSUE.....

- * Round & Round, by John Thompson
- * Stunt Stuff, by Chris Cox
- * Scale, by Fred Cronenwett
- * Record Review: 1/2 A Speed
- * Updated Contest Calendar
- * Northwest Records
- * Northwest Competition Points
- * Contest Reports
- * Plenty more good stuff!

Late last month yer editor just happened to be thinking back on modeling activities of days past, and it seemed that FL might have an anniversary coming up. Sure enough, a quick check into the FL archives found the date on the first cover to be that of May 1979.

With such a milestone, it would be a shame to pass up the opportunity of a little pomp and circumstance, not to mention a couple of hip-hip-hoorays! In JT's Round & Round column, he recounts some Northwest control line history, which include the hows and whys FLYING LINES came about. Please give this a good read, and then read it again. Not only the history of our roots is interesting, but this also serves to give an excellent reminder of what FLYING LINES continues to be all about.

Your editor also has some historical tidbits to share in this column, keep reading. Somewhere else in this issue, is a "roll call" of all of the current and former FL staffers. To come up with this list, I did a quick perusal thru the FL archives. Actually, it wasn't so quick. It was exactly like going thru old model magazines, you just keep getting deeper and deeper. If you haven't been with FL for most of the duration, you might want to consider requesting the back issue list. It really is fun going thru those old issues. Not only is there a wealth of good information here and there, but it is also very

interesting to note the names and faces. Speaking of faces, I did notice in the photos that most of the faces had a lot more hair on top.

Editor: Mike Hazel

But I got off track there, we were talking about FL staffers. Most of the names you will recognize as still being around. A few of the names belong to folks that have faded from the control line scene. And some of the names belong to folks who although tied to the newsletter, were not physically in the Northwest. That dates back to the days when FL had a wider circulation. At one time there were subscribers in at least 20 plus states, plus 3 or 4 nations. Circulation has been deliberately curtailed since those days.

One feature that I intended to run in this issue, is a reprint of page one of that first edition. However, it had to be cut when it was evident that this was going to be a maximum size issue. The current news is coming first. Look for that reprint next time around, space permitting.

Sparing no expense, we have included a twenty year commemorative sticker in this issue. Since this issue is going out well before the Northwest CL Regionals, let's see these things out in force by then. Put them on your toolbox, plane, lunchbox, car bumper. Combat fliers can put them on opponents sunglasses. Want more of these stickers? Contact John Thompson, who can supply them for nominal cost.

SOME FLYING LINES HISTORY.....

As already mentioned, issue number 1 was in May 1979. Back in the early days, the physical layout of the newsletter was on 8-1/2 x 14 paper. I don't remember why we did it on the long size, but we did. The issues were put out monthly, and the subscription price was five bucks. (which we found out wasn't enough!)

There were some different features back then, which reflected the interests of the day. One feature which is sorely lacking today, is that of reader mail. We get very little nowadays, compared to how it used to be. Still haven't figured that one out. In the earlier days, we also had display advertising from hobby businesses, including some of the major manufacturers.

In going thru the FL archives, I had forgotten about some of the excellent cartoons that were included. These were drawn by Steve Lindstedt, who lived in the Portland area. Steve seemed to have a good insight as to the humor potential in our hobby. Unfortunately, he wasn't around for too long, and disappeared from the scene not to be heard from again. We will recycle some of those cartoons from time to time, which incidentally, occasionally made it around the country in other newsletters.

Production and publication chugged along, and over several issues the overall look and content of the newsletter would slowly evolve, but still retaining its purpose. The early days were with manual typewriters, and eventually the look became cleaner with electric models.

At issue number 70 (Februrary 1986), a major layout change was made. We went to the present 8-1/2 x 11 page format. This meant a couple of more pages, but the more conventional size made things a little easier.

As mentioned in John's column, a burnout occurred with the editor. In issue number 86 (December 1987), it was announced that FL would cease publication, unless someone stepped forward to take over. No serious offers were made, and number 87 (January 1988) was a good-bye issue!

Then later in the spring of '88, a subscriber from Montana said that he would take the FL reins as editor. This was good news, or it appeared to be so. This individual was a newer modeler, but seemed to have the energy and interest, remote location not withstanding.

But then things turned sour. This individual turned out a grand total of two issues. (Some people have reported to have received only one issue, but two were done. Mailing was obviously not complete). A long time FL subscriber, that being Rory Tennison, who also lived in the general area of the new editor, did some detective work in tracking down this guy. The concern was now to get back the unpublished articles,

graphics materials, and subscription moneys! We were never successful at these attempts. Oh well........

The Northwest then did without FLYING LINES for three years (not one year, as noted in John's article). Due to changed circumstances in my life, the time looked right to resurrect FLYING LINES, and issue number 90 came out in June 1991.

The graphics and layout were then looking a little better. At issue number 106, the editor finally started moving forward in technology, with the use of a computer. Bit by bit, usage evolved to the point where the newsletter has a neater, cleaner look.

And that basically takes us to today, where although this newsletter is not on the cutting edge of publishing technology, and does not look "slick", still serves the same purpose..... acting as a communication tool for Northwest control line fliers.

As mentioned earlier, there are back issues of FL available. Not all issues are available, but the majority are. It really is fun to look thru our recent NW CL history. If you are interested, drop a line to the editor and get a list. The cost is nominal, pretty much just to cover postage.

You can note in the classified ad section that Dan Rutherford (PAMPA ad), makes a claim that yer editor has never entered the stunt event. He made this ad up before the recent Portland contest, at which yer editor actually did enter! Since I have been flying quite awhile doing the usual boring holes in the sky, and tracing loops and square corners whilst sport flying, I thought I would give some Precision Aerobatics a try.

As mentioned, I am reasonably skilled at some non-level flight. (hey, I even used to fly combat Dan! I seem to remember beating you on at least one occasion!) However, I did not know all of the maneuvers. So with rulebook "cheat-sheet" in hand, I worked on the "other" manuevers during the last couple of weeks before the Portland contest.

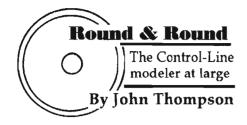
I entered the Intermediate class, and even managed to place. Hey, that was great fun!

But there is some history to lay on you here. In Portland, circa 1982, I entered beginner class stunt at a contest there, placing second. So my second stunt entry was 17 years later. The gap between 2nd and 3rd try will be a bit shorter......

Looks like space on this page is running out. Looking forward to seeing everybody at the NW Regionals in Roseburg. If you can't make that meet, then hopefully we will cross paths later this year.

Keep your wires	tight
LICED ACRI MILES	HGIII

Mike Hazel (503) 364-8593; ZZ CLspeed@aol.com



Modeling thought for the month:

"The trouble with doing something right the first time is that nobody appreciates how difficult it was."

Hampton's homily

Drizzle Circuit hotly contested

That was the first headline on Page One of Flying Lines.. It was issue No. 1

The date? May, 1979.

Yes, 20 year this month. And 155 issues.

Jimmy Carter was president. Mount St. Helens had not erupted yet. CD players, home computers and cellular phones did not exist. The big contests on the Northwest schedule were the Regionals (in Eugene), the Boeing Management Association Scholarship and Open Contest (Kent), the Aeroliners Control Line Classic (Portland), and CLAMBash (Astoria, Ore.)

Racing and speed were on unlimited nitro. Combat shutoffs had not been imagined. Precision Aerobatics skill classes were just being experimented with. These events had not been invented in their present forms: 80mph combat, diesel combat, Northwest Super Sport Race, Clown Race, Northwest Goodyear, .21 Sport Speed, .21 Proto Speed, Sport Jet Speed, .15 Carrier. A lot has changed in CL model aviation since May of 1979, including Flying Lines.

But the main thing about FL has remained the same: its reason for existing.

Rest assured, the original reason for FL was not to keep certain modelers out of their workshops, though it has efficiently performed that function. If you don't believe it, note the 16-year-old Super Sport and the 13-year-old sport racer still campaigned by the FL editing team.

No, the original reason for FL was simply this: To help assure that there would continue to be control-line flying in the Pacific Northwest.

A little history makes the point a little more clear.

1977 was a big year for CL in the Northwest. Lots of contests, big contests, with lots of entries. And maybe a little burnout. In 1978, the activity level crashed. Contest attendance was far down from previous levels. A gasoline shortage exacerbated the burnout problem. Could the region withstand even one more year of such a dropoff?

Some of us began talking about what to do about the situation.

One idea became the Northwest Sport Race Drizzle Circuit. The concern was that, over the winter, people turned to other activities, and some just sort of forgot about toy airplanes. The next summer, they were gone. What could we do to keep people interested over the winter, so that they'd be around next year?

The idea of a five-contest racing circuit was conceived. There would be a contest somewhere in the Northwest on the second Sundáy of the month, December through April. There would be sport race, and we'd keep standings and other statistics, and give away big circuit trophies. There were also other events at each contest. The first circuit (hotly contested, as the headline says), was a hit — and it ran for 10 more years, evolving eventually to include the new Super Sport Race as well.

But more was needed. There needed to be a way to connect fliers in Spokane with fliers in Eugene with fliers in Vancouver (both Vancouvers) with fliers in Seattle and fliers in Astoria. We needed a communications network of some kind.

The idea of a newsletter came up. Clubs had newsletters, but there was no regionwide connection. The idea was to launch a newsletter that would be independent — it would not depend on the comings and goings of club officers, would not be oriented to one city or club. It would not be about one particular kind of flying — not a racing newsletter or a stunt newsletter, but a control-line newsletter.

If we could get people involved from all corners of the region (which came to be defined as AMA District XI and British Columbia), we could keep activity going and maybe rebuild the level of participation.

It would, we decided, not be the effort of an individual or two: From the beginning, FL had a staff of contributors. Columnists on all the various events were the main features. The idea of standings, records, contest reports and a calendar were part of the concept from Issue No. 1.

We published Issue No. 1 on faith and a dozen or so initial subscriptions. We passed out flyers and subscription forms at the 1979 Regionals. It caught on, and before long we had exactly the subscriber/s and base we intended — fliers from all corners of the region.

It took a while, but by 1981 CL activity in the Northwest did in fact begin respond to these efforts, and eventually became the strong, year-round competitive and sport activity we see today, still connected after all these years by Flying Lines.

In addition to keeping the standings and records and calendar, FL eventually became the clearinghouse for Northwest rules, so that contests across the region were flown by the same rules. It's hard to appreciate this unless you traveled about in 1977 or 1978 and had arguments at each stop about whose sport racer was legal and whose wasn't.

The calendar was no small accomplishment, either, helping to sort out the schedule conflicts between contests in the U.S. and Canada, among other things.

Certainly this is not to suggest that FL was the primary reason for the resurgence of CL. All the individual contest directors, club officials and just general promoters of the hobby, along with the fliers themselves, are the real reason. All FL did was keep all of these diverse people connected and more or less heading in the same direction.

FL has had its ups and downs. The original editor, yours truly, found himself a stranger to the workshop to such a degree that he stepped down after the first six years and handed the whole load to the current editor, Mike Hazel. Mike hit the wall, so to speak, a few years later and handed the newsletter off to a new editor, who published exactly one issue before being overwhelmed and giving up. FL took a one-year hiatus and then came back in a slightly modified form that exists today.

The original effort of the primary editors to be newspaper reporters, attending every contest and reporting on each one in detail, helped to bring down the original incarnation of the newsletter. Now it depends considerably more on contest directors to contribute their results (with lot of prompting and cajoling to keep things complete, of course). Columnists and support staffers help keep the newsletter loaded with good info. The editors still keep the standings and records and coordinate the rules and keep the calendar up to day.

After many years of being published by manual typewriter and a lot of hand cutting and pasting, FL eventually moved into the computer

age and now gathers a lot of material electronically. What a blessing — in the early years, the editor and publisher spent an estimated 20 hours a month on the newsletter, not to mention the time spent by the early columnists in preparing the original material.

FL now has an Internet presence, via the CL Calendar maintained by your R&R editor (address in the tagline below).

Another change is in the scope of readership. By the time it suspended publication in the late 1980s, FL had an international circulation — about half its readership was outside the Northwest. Now, by and large, promotional efforts have concentrated on the Northwest, in order to keep the physical labor of assembling the newsletter within the capabilities of the publisher, one hard-working guy, Mike "ZZ Prop" Hazel.

We continue to hope for additional contributions from the Northwest fliers in a couple of key areas. If we could build up modelers' support in these areas, it would be a better newsletter and a better service for Northwest modelers:

- More exchange of information via the newsletter: One of the great features of FL's early years was the extensive letters-to-the-editor page. We'd like to see more such exchange of ideas. Pretty much anything that's not obscene or a personal attack will be published. Let's have some healthy debate!
 - More photos: Send 'em in.
- More people on the network: Flying Lines is independent both editorially and financially. Lots of people read it in other people's workshops. But to be financially viable, it needs subscribers. Readers are urged to sign up their buddies, for two reasons: One, to support the newsletter financially, and, most importantly, to make sure that everyone is well informed. Don't let FL be your own secret. Spread the word and get everyone on board!

Anyone interested in catching up on Northwest CL history can get back issues of *Flying Lines* from the editor. For those issues no longer available, extra copies can be made for the cost of copying. Check with the editor for details.

New CL online club formed: A new control-line model club open to anyone with a computer has been set up in the Yahoo! clubs service. It has message boards and a real-time chat room. All you need is a computer with World Wide Web capability. Check it out and join up at

http://clubs.yahoo.com/clubs/controllineflyingfo rum. You'll have to think up a name and password to join, and then you can participate. There's no charge. It's another service set up by Flying Lines for your CL enjoyment!

The contest season is under way and our enthusiasm for flying gets quite a boost, as might be expected.

The Northwest Fireballs in Portland are really beginning to make a showing as a strong CL competition-oriented club. They put on a great spring contest for racing, carrier, aerobatics and diesel combat.

The report's elsewhere in the newsletter, but from a personal perspective it was the usual early-season mix of joy and pain.

The joy was in getting out and flying, going head-to-head in racing with the best (There's no more enjoyable way to spend seven minutes than racing hard in a super sport heat with Todd Ryan!) The pain was in trying to sort flying of the just-finished, repaired Perpetual Thunderbird (see previous issues for earlier installments of the saga) in aerobatics. It's all finished and flying but I've definitely not learned how to use it yet. That recessed Fox (can't reach in there to choke it) is balky to start and I still have yet to learn a trick sequence to get it going without looking like the true hacker I am when it comes to stunt. That is high on the Sunday flying agenda. But it's flying and I'm on to other projects, finally!

The Fireballs had lots of members out on the field working to support the contest. The officials learned a lot quickly, including how hard the contestants can be on officials. But there are things they know now that you can only learn through doing. Racing officials now will know how to make sure people use the contest fuel, and how to make sure the right people are in the features, etc. And stunt officials will know never to declare a lunch break without telling everybody when to be back! All sorts of little details that pop up unexpectedly make for a lively day and a real CL education. I've been an official for at least 20 years and I learn some new thing, usually the hard way, at every contest.

Also, the Fireballs did a great job assembling a great table of prizes for both day's activities. If you missed that contest, you missed out on some fun!

All indications are that the Regionals in Roseburg later this month will be the biggest ever. Lots of new racers and combat people are expected. More float fliers, the usual huge contingent of

stunt fliers, and more speed fliers are expected. Get your reservations now. And don't miss out on the banquet, which will catered at the local armory. It will feature a great slide show on the Oshkosh EAA fly-in and the Reno Air Races.

Product note: We got a flyer from another new CL supplier, called TCI. Lots of kits and hardware. Call for their catalog: (800) 606-0097.

Workshop musings...

- The new Ultra Poxy from K&B seems to work pretty well for certain applications, but I learned a couple of hard lessons on the T-bird project: Use the primer. After you sand it off, if you've gone through and exposed different colored parts underneath, use more primer. The color doesn't cover too well, and you don't want to use many coats, cause it's heavy.
- The Perfect Paint rattle cans are pretty good paint for a simple project. More tips from the T-bird project. Use the primer. Perfect paint covers pretty well; a couple of coats should do. Always have at least two cans of whatever color you're using, because they have a way of plugging up at the worst moments. Store 'em upside-down to prevent plugging. If you cover the color with clear, watch out: It's got a yellowish cast, so if it runs or builds up, you'll see the yellow.
- Larry Driskill's Litehawk 1/2-A combat planes are incredibly easy to build. If you're thinking of 1/2-A combat, consider one of his double-kits. He'll set you up with a metal motor mount for the kind of engine you plan to use.
- Think tank height doesn't matter in a racing plane? Think again. It took us somewhat dense Nitroholics a year of frustration to figure out that the tank on our Clown racer, which is asymmetrical and has the pickup point of the tank a little below center, needed to be moved up a quarter-inch. We tried everything else before doing the obvious it seemed too easy.
- Let there be light! I have this big old work bench/drawer cabinet combination in my workshop, with a dark finish. Sometimes it was hard to spot little nuts and bolt and bits of hardware on that dark surface. I bought a can of white oil-based enamel paint, sanded and painted the workbench top. Not only can I find little parts, it brightens up the whole working area! Simple pleasures!

Send comments, questions, and topics for discussion to John Thompson, 2456 Quince St., Eugene, OR 97404. E-mail John4051@aol.com. World Wide Web: http://members.aol.com/JohnT4051/NorthwestCL.html

NORTHWEST CONTEST REPORTS

RICHMOND, BC MARCH 28, 1999

Our first crack at this contest was rained out, but we tried again and got a few flights in before the weather once again took a turn for the worst.

PROFILE CARRIER (5 ENTRIES)

1)	Shawn Parker	235
2)	James Cox	233
3)	Mike Conner	165

.15 CARRIER (3 ENTRIES)

- 1) Mike Conner (scores N/A)
- 2) Frank Boden
- 3) Shawn Parker

FIVE ROUNDS OF NOSTALGIA DIESEL COMBAT

The first contest of the season had 10 entries on a day with some morning wind, but mild temperatures.

There were 2 junior flyers, David Pelletier and Travis Eshpeter and one new novice, Angelo Chies. The rest of the field were expert class flyers: Buzz Wilson, Rick Meadows, Mel Lyne, Troy Lyne, Paul Dranfield, Frank Boden, and Mike Conner.

Action was sporadic in the first rounds, with flyers relearning their equipment and tactics after the long winter layoff. Rounds 3, 4, and 5 produced some entertaining matches.

At the end of 5 rounds, Troy and Mel were tied at first, and Paul in third. David, the top junior/novice, then was added to the flyoff.

The first semi had David against Troy in a very close match. Two line tangles with Troy dorking,

gave David the win.

The 2nd semi had Paul against Mel. A close chase with both flyers getting ground time, but Mel getting 2 cuts to win it.

The final, David against Mel, finished with 2 cuts each, and David with some ground time. The win went to David by 2 seconds. His first-ever and well-deserved win, a result of smart flying.

Our new Champ is David Pelletier, a junior. Until this win David was an intermediate, with a points bonus against experts. Now he is a full expert flyer. Not bad for someone who only started flying a year ago!

Best crash trophy went to newcomer Angelo Chies for a beaut of a mi-air with Mel.

A good season-opener contest with great weather. Thanks to Lorna and Adrian Duncan, our CDs, and to all their crew.

FINAL RESULTS:

 David Pelletier 	8 pts				
Mel Lyne	10				
Troy Lyne	10				
4) Paul Dranfield	7				
5) Mike Conner	6				
6) Angelo Chies	4				
7) Buzz Wilson	3				
8) Travis Eshpeter	2				
9) Rick Meadows	2				
10) Frank Boden	0				

DICUMOND	n.c				

RICHMOND, BC APRIL 17, 1999

A very small entry for the first race of the season. The lack of participation resulted in not flying three-up finals in Nostalgia 15 and NWSR.

NW FLYING CLOWN RACE (3 ENTRIES)

1) Conner/Meadows Team 287 laps

2) Paul Gibeault 276 3) Dennis Matthews 218

.15 NOSTALGIA SPORT RACE (4 ENTRIES)

 1) Paul Gibeault
 8:45.11

 2) Dennis Matthews
 8:56.85

3) Mike Conner no score 4) Frank Boden (heat) 4:34.27

NW SPORT RACE (3 ENTRIES)

1) Paul Gibeault 9:02.78 2) Mike Conner 20:07.75

3) Dennis Matthews DNF

PORTLAND, OREGON APRIL 24 & 25, 1999

SPRING RACING TUNE-UP NORTHWEST CARRIER CHALLENGE PRECISION AEROBATICS PRIMER FIVE ROUNDS NOSTALGIA DIESEL COMBAT

MOUSE RACE I (3 ENTRIES)

1) Todd Ryan 5:24.3 2) Nitroholics Team 6:24.0 3) Ron Howell 41 laps

NW FLYING CLOWN RACE (7 ENTRIES)

(* Note: due to error, final race was run for 17 minutes)

Todd Ryan
 Nitroholics Team
 Mark Hansen
 Mike Conner (heat)

NW SPORT RACE (3 ENTRIES)

1) Todd Ryan 8:54.19 2) Nitroholics Team 10:54.79 3) Ron Howell 47 laps

NW SUPER SPORT RACE (2 ENTRIES)

1) Todd Ryan 6:59.75 2) Nitroholics Team 7:25.20

NAVY CARRIER CLASS i & II (2 ENTRIES)

1) Roy Beers (scores N/A)

2) Mike Hazel

PROFILE CARRIER (6 ENTRIES)

- 1) Shawn Parker
- 2) Mike Potter
- 3) Mike Conner
- 4) Darrel Rupnow

.15 CARRIER (7 ENTRIES)

- 1) Shawn Parker
- 2) Craig Bartlett
- 3) Mike Potter
- 4) Mark Hansen

PRECISION AEROBATICS - EXPERT (4 ENTRIES)

- 1) Paul Walker (scores N/A)
- 2) Don McClave
- 3) Jack Pitcher
- 4) Dan Rutherford

PRECISION AEROBATICS-ADVANCED (7 ENTRANTS)

- 1) Bob Parker
- 2) Jerry Eichten
- 3) Scott Riese
- 4) John Thompson

PRECISION AEROBATICS - INTER. (3 ENTRIES)

- 1) Roy DeCamara
- 2) Mike Hazel
- 3) Nils Norling

PRECISION AEROBATICS - BEG. (3 ENTRIES)

- 1) Bill Veselik
- 2) Bruce Hunt
- 3) Jim Johnson

D-BAT DIESEL COMBAT (5 ENTRANTS)

- 1) Jeff Rein
- 2) Gary Harris
- 3) Ken Burdick
- 4) Buzz Wilson

SALEM, OREGON MAY 8 & 9, 1999

RACING & SPEED TUNE-UP

Most of the active NW speedsters showed up for this, but where were the racers? As the name implies, this is a tune-up contest, and strategically scheduled before the NW Regionals. I guess all of the NW racers are all tuned-up, and won't be looking silly and un-practiced in Roseburg. ?????

The weather on Saturday was a bit cool, and sometimes a bit windy with a raindrop or two thrown in. Sunday was a little better. Results:

MOUSE RACE I (2 ENTRIES)

- 1) Nitroholics Team 6:11.3
- 2) Ron Howell 7:21.6

NW SPORT RACE (2 ENTRIES)

- 1) Ron Howell 8:48
- 2) Nitroholics Team 10:16

AMA RAT RACE (1 ENTRY)

1) Nitroholics Team 6:34.7

NW FLYING CLOWN RACE (4 ENTRIES)

- 1) Nitroholics Team 220 laps
- 2) Ron Howell 208
- 3) Mark Hansen 206
- 4) Bartlett/Wahlster 68 heat

.21 SPORT SPEED (1 ENTRY)

1) Loren Howard attempt

AMA JET SPEED (1 ENTRY)

1) Jerry Thomas 168.95

NW SPORT JET SPEED (2 ENTRIES)

1) Dick Salter 147.97 2) Mike Hazel 135.28

FLYING LINES STAFF

HALL OF FAME

As we have often mentioned, all subscribers are considered contributing editors. But of course some special mention should be made for the regular columnists and staffers that have worked on Flying Lines over the years.

Since the inception of FL twenty years ago, there have been several. Some were short term, others have come and gone and then returned. And then a select few have been at it for the long haul. Not all the FL staffers were even columnists. Not all are from the Northwest. In the early days we also had photo editors, advertising reps, and folks who did graphics work.

Thanks to all of you, in no particular order.....

GENE PAPE ORIN HUMPHRIES JOHN THOMPSON PAUL WALKER LARRY MILES KEN BURDICK FRANK MACY **BRUCE GUENZLER** RICH SCHAPER DAVE HAUGHT **CHRIS GENNA** JIM CAMERON **GERALD SCHAMP BUZZ WILSON** PETE BERGSTROM STEVE LINDSTEDT JIM LaBARGE DAVE GREEN PAUL GIBEAULT **BOB KAMPMANN** DICK McCONNELL JOE JUST FRED CRONENWETT CHRIS COX

TODD RYAN



Northwest Competition Records

Record performances established between Northwest CL modelers in sanctioned competition

HERE WE GO! Now with the 1999 competition season into full swing, we should be having an occasional records updating.

One change so far this year. Todd Ryan now owns the NW Super Sport mark for the feature race. His seven minute flat time

is especially notable, as it erases Dave Green's record which has stood for 12 years! Todd's time bettered Dave's by three seconds. The record was set in Portland on April 24th at the Racing Tune-up. Incidentally, Dave's record was also made on the very same circle.

1/2 A SPEED A SPEED	110.34	MIKE HAZEL	9-06-98	TACOMA, WASH.
B SPEED D SPEED JET SPEED FORMULA 40 SPEED 21 SPORT SPEED FAI SPEED 1/2 A PROFILE PROTO 21 PROTO SPEED NW SPORT JET SPEED	168.47 183.41 196.64 153.13 152.87 179.54 101.60 133.03 151.97	RON SALO BOB SPAHR JERRY THOMAS MARTY HIGGS CHUCK SCHUETTE CHRIS SACKETT CHUCK SCHUETTE CHRIS SACKETT DICK SALTER	6-14-97 7-14-95 8-8-93 6-26-94 7-20-97 8-17-97 5-26-96 5-25-97 5-03-98	KENT, WASH. RICHLAND, WASH. RICHMOND, B.C. RICHMOND, B.C. COQUITLAM, B.C. COQUITLAM, B.C. ROSEBURG, OREGON ROSEBURG, OREGON SALEM, OREGON
MOUSE RACE I -50 LAP MOUSE RACE II -100 LAP MOUSE RACE II -75 LAP MOUSE RACE II -200 LAP AMA SCALE RACE -70 LAP AMA SCALE RACE -140 LAP NW GOODYEAR -70 LAP NW GOODYEAR -140 LAP SLOW RAT RACE -70 LAP SLOW RAT RACE -140 LAP	2:17 4:40 3:32 10:00 3:01 7:47 4:00 8:01 2:47 5:49	STEPHEN COX PAUL GIBEAULT WILL NAEMURA JAMES COX TODD RYAN JOE RICE JOE RICE JULIE RICE TODD RYAN TODD RYAN	8-23-97 9-05-98 5-23-98 5-24-97 7-15-98 5-25-96 5-22-98 5-27-95 7-16-98	SALEM, OREGON COQUITLAM, B.C. ROSEBURG, OREGON ROSEBURG, OREGON MUNCIE, INDIANA ROSEBURG, OREGON ROSEBURG, OREGON EUGENE, OREGON MUNCIE, INDIANA MUNCIE, INDIANA
AMA RAT RACE -70 LAP AMA RAT RACE -140 LAP FAI TEAM RACE -100 LAP FAI TEAM RACE -200 LAP NW SPORT RACE -70 LAP NW SPORT RACE -140 LAP NW SUPER SPORT -70 LAP NW SUPER SPORT -140 LAF FLYING CLOWN RACE, LAPS:		TODD RYAN KNOPPI/McCOLLUM KNOPPI/McCOLLUM BRUCE DUNCAN TODD RYAN DAVE GREEN TODD RYAN TODD RYAN	5-24-98 6-84 6-84 5-12-87 7-25-98 4-13-86 4-24-99 6-14-97	ROSEBURG, OREGON SHANGHAI, CHINA SHANGHAI, CHINA RICHMOND, B.C. RICHMOND, B.C. PORTLAND, OREGON PORTLAND, OREGON KENT, WASHINGTON
CLASS I CARRIER CLASS II CARRIER PROFILE CARRIER .15 CARRIER	318.30 330.25 314.00 234.00	ROY BEERS ORIN HUMPHRIES TODD RYAN TODD RYAN	9-13-86 9-19-87 5-23-97 9-19-98	KENT, WASHINGTON KENT, WASHINGTON ROSEBURG, OREGON KENT, WASHINGTON
AMA ENDURANCE	39:56	MARK HANSEN	7-12-98	SALEM, OREGON

NORTHWEST CONTROL LINE CONTEST CALENDAR

THE FOLLOWING LISTING IS A SUMMARY OF ALL KNOWN A.M.A. AND M.A.A.C. SANCTIONED EVENTS AS OF 5-12-99. FOR FURTHER INFORMATION, PLEASE CONTACT THE INDIVIDUAL LISTED. CONTEST DIRECTORS AND CLUB LEADERS ARE ENCOURAGED TO CONTACT FLYING LINES AS SOON AS POSSIBLE WITH THEIR PLANS. INCLUDING REVISIONS AND TENTATIVE DETAILS. CONTEST FLYERS CAN ALSO BE INCLUDED AT NO CHARGE. ON A SPACE AVAILABLE BASIS.

MAY 15

RICHMOND, B.C.

EVENTS: CARRIER (ALL CLASSES). PROFILE STUNT SITE: RICE MILL ROAD. SPONSOR: PACIFIC AERMODELLERS CONTACT: MIKE CONNER (604) 465-7277

MAY 28 - 30

ROSEBURG, OREGON

NORTHWEST CONTROL LINE REGIONALS EVENTS: PRECISION AEROBATICS (BEG, INT, ADV, EXP). OLD TIME STUNT, CLASSIC STUNT, AMA FAST COMBAT, SLOW COMBAT, 80 MPH COMBAT, 1/2 A COMBAT, VINTAGE DIESEL COMBAT. PROFILE CARRIER. CLASS I CARRIER, CLASS II CARRIER, .15 CARRIER, MOUSE RACE I, MOUSE RACE II, RAT RACE, SLOW RAT RACE, AMA GOODYEAR, NW GOODYEAR, NW SPORT RACE, NW SUPER SPORT RACE, NW FLYING CLOWN RACE, B TEAM RACE, AMA PRECISION SCALE, SPORT SCALE, PROFILE SCALE, SPEED: 1/2 A, 1/2 A PROFILE PROTO, FAI, A, .21 SPORT, .21 PROTO, B, FORMULA 40, D, JET, NW SPORT JET, SCHNEIDER CUP FLOATPLANE, OPEN SEAPLANE. SITE: ROSEBURG REGIONAL AIRPORT SPONSOR: N.W.R.M.C. CONTACT: CRAIG BARTLETT, 205 NE CEDAR LANE. CORVALLIS. OREGON 97330 (541) 745-2025

JUNE 12 & 13

KENT, WASHINGTON

STUNT-A-THON 99

EVENTS: PRECISION AEROBATICS, CLASSIC STUNT, OLD TIME STUNT SITE: KENT BOEING SPACE CENTER FIELD SPONSOR: SEATTLE SKYRAIDERS CONTACT: DAVE JULY 24 & 25 GARDNER (425) 235-5190 OR (425) 226-9667

JUNE 19 & 20 TACOMA, WASHINGTON

NORTHWEST CL SPEED CHAMPIONSHIPS EVENTS: SPEED: 1/2 A, 1/2 A PROFILE PROTO, FAI, A, .21 SPORT, .21 PROTO, B, FORMULA 40, D, JET, NW SPORT JET. SITE: CLOVER PARK TECHNICAL COLLEGE CONTACT: VIC LICHTENBERG, 5903 89TH ST CT E, PUYALLUP, WA 98371 (253) 841-7681

JUNE 26 & 27

SNOHOMISH, WASHINGTON

BLADDER GRABBER

EVENT: TRIPLE ELIMINATION AMA FAST COMBAT SITE: HARVEY FIELD. CONTEST DIRECTOR: JEFF REIN. CONTACT: HOWARD RUSH, HRUSH@GTE.NET

JULY 3 - 6

PORTLAND, OREGON

NORTHWEST ENDURANCE RECORD TRIALS EVENT: AMA CL ENDURANCE. SITE: DELTA PARK MARK HANSEN, 3585 SE FRANKLIN. CONTACT: PORTLAND, OR 97202: (503) 234-1971; FASTCOMBAT@AOL.COM

JULY 10

SURREY, B.C.

EVENT: NOSTALGIA DIESEL COMBAT SITE: 176TH ST & 8TH AVE - SURREY CONTACT: ADRIAN DUNCAN (604) 941-9409

JULY 11

SALEM, OREGON

WOLF LUCKY HAND FUND FLY EVENTS: NW SPORT RACE. PLUS SPECIAL "POKER DRAW' SPORT FLYING EVENT FOR CASH AWARD.

SITE: BILL RIEGEL MODEL AIR PARK SPONSOR: WESTERN OREGON CONTROL LINE FLYERS. CONTACT: MIKE HAZEL (503) 364-8593, ZZCLspeed@AOL.COM

JULY 11 - 16

MUNCIE, INDIANA

A.M.A. CONTROL LINE NATIONALS

RICHMOND, B.C.

P.A.C. CLASSIC

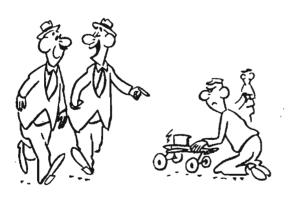
EVENTS: CARRIER (ALL CLASSES). NW FLYING CLOWN RACE, NW SPORT RACE, GOODYEAR, OLD TIME STUNT, PRECISION AEROBATICS (BEG, INT, ADV, EXP), SCALE RICE MILL ROAD SPONSOR: PACIFIC SITE: CONTACT: KEITH VARLEY (604) AEROMODELLERS

327-4932

JULY 31 & AUG 1 COQUITLAM. B.C.

CAN-AM SPEED CHAMPS

EVENTS: SPEED: 1/2 A, 1/2 A PROFILE PROTO, FAI. A. .21 SPORT, .21 PROTO, B, FORMULA 40, D, JET, NW SPORT JET SITE: UPPER COQUITLAM RIVER PARK SPONSOR: VANCOUVER GAS MODEL CLUB CONTACT: RON SALO (604) 599-8301





TACOMA, WASHINGTON

EVENTS: PROFILE CARRIER, CLASS I & II CARRIER, .15 SITE: CLOVER PARK TECHNICAL COLLEGE SPONSOR: SEATTLE SKYRAIDERS

TAILHOOK '99

AUGUST 21 & 22 SALEM, OREGON

WOLF 3RD ANNUAL SUMMER MEET

EVENTS: NW SUPER SPORT RACE, NW SPORT RACE. MOUSE RACE I, AMA GOODYEAR, NW FLYING CLOWN RACE, CLASSIC STUNT, PRECISION AEROBATICS (BEG, INT, ADV, EXP), 80 MPH COMBAT, SPORT SCALE, SITE: BILL RIEGEL MODEL AIR PARK, PROFILE SCALE SPONSOR: WESTERN OREGON CONTROL LINE FLYERS CONTACT: MIKE HAZEL (503) 364-8593

AUGUST 29

COQUITLAM, B.C.

VGMC RACING CLASSIC

MOUSE RACE CLASS I, NW SPORT RACE. SITE: UPPER COQUITLAM RIVER PARK SPONSOR: VANCOUVER GAS MODEL CLUB CONTACT: RON SALO (604) 599-8301

SEPTEMBER 11 & 12 KENT, WASHINGTON

RAIDER ROUNDUP 99

EVENTS: MOUSE RACE CLASS I, NW SPORT RACE, NW SUPER SPORT RACE, NW FLYING CLOWN RACE, 80 MPH COMBAT, VINTAGE DIESEL COMBAT, AMA FAST COMBAT, PROFILE CARRIER, CLASS I & II COMBINED CARRIER, .15 CARRIER, OLD TIME STUNT, CLASSIC STUNT, PRECISION AEROBATICS (3 PAMPA GROUPINGS), AMA SPORT SCALE, PROFILE SCALE SITE: KENT BOEING SPONSOR: SEATTLE SKYRAIDER\$ SPACE CENTER CONTACT: TOM KNOPPI (425) 228-9502, OR STEVE HELMICK (425) 255-1887

SALEM, OREGON SEPTEMBER 18

EVENTS: ALL SPEED: 1/2 A, 1/2 A PROFILE PROTO, FAI, A, .21 SPORT, .21 PROTO, B, FORMULA 40, D, JET, SITE: BILL RIEGEL MODEL AIR PARK NW SPORT JET. SPONSOR: WESTERN OREGON CONTROL LINE FLYERS CONTACT: MIKE HAZEL (503) 364-8593



SEPTEMBER 26

RICHMOND, B.C.

P.A.C. PIONEER DAY

EVENTS: DIESEL STUNT, PIONEER STUNT, WHIP SPEED SITE: RICE MILL ROAD CONTACT: MEL LYNE (604) 898-5581

OCTOBER 8 & 9 SALEM, OREGON

REALLY RACING & FALL FOLLIES

EVENTS: MOUSE RACE I, MOUSE RACE II, GOODYEAR, SLOW RAT RACE, RAT RACE, NW SPORT RACE, NW SUPER SPORT RACE, NW FLYING CLOWN RACE, PRECISION AEROBATICS (IN FOUR PAMPA CLASSES). SITE: BILL RIEGEL MODEL AIR PARK, SPONSOR: WESTERN OREGON CONTROL LINE FLYERS, CONTACT: MIKE HAZEL (503) 364-8593

OCTOBER 9

SURREY, B.C.

EVENT: NOSTALGIA DIESEL COMBAT SITE: 176TH ST & 8TH AVE - SURREY CONTACT: ADRIAN DUNCAN (604) 941-9409



Dick Lee shows off jet ship at last years speed meet in Tacoma. Design is a Hoyt "Cat-Jet".



The Flying Flea Market

Classified advertisements — FREE for FL subscribers

FOR SALE: 2 EA NELSON 15 ABC FIRE, EXC, JUST BACK FROM HENRY NELSON (NEW BEARINGS, ETC) USED FOR FF & COMBAT US 135 OR BOTH FOR 260: 1 EA NELSON 15 ABC FIRE LONGSTACK, C/W SPINNER, EXC, LOW TIME USED FOR GY US \$130; 1 EA NELSON 15 ABC FIRE, C/W SPINNER & MINI WELL USED BUT STARTS & RUNS GREAT. USED FOR GY US \$100; 1 EA NIB IRVINE .15 MK 2 GY/FF VERSION. P/L CHROMED & FITTED BY DYE. FITTED NELSON HEAD, LARGE VENTURI & PRESSURE BACKPLATE US \$150: 1 EA NIB IRVINE .15 MK 2 FOR SPEED, CAV SPINNER, P/L CHROMED AND FITTED BY DYE. 4.9 MM PIPE STINGER US \$185: ALSO MANY EXCELLENT IRVINE .15 PARTS FOR SALE: HEADS, SHIMS, SPINNERS, P/L, VENTURIS, NVA, WRITE FOR DETAILS-PRICES: 1 EA ORIGINAL VERSION CYCLON .15S FAI PIPED SPEED ENGINE, MINT COND IN ORIG HANDMADE WOOD BOX W/ PLEXI-GLASS TOP, C/W FACTORY PAN, PROP, SPINNER, SHUT-OFF, TANK, & ALSO C/W DOC PACKAGE FOR SPARE PARTS. COLLECTORS US\$200: 1EA NIB RUSSIAN CYCLON .40 ABC PYLON (RIRE) C/W, GORGEOUS 2-1/4 INCH SPINNER, MINIPIPE, HEADWRENCH US \$275. 1 EA WELL USED, BUT RUNS, K&B 6.5 C/W EXTRA USED ABC P/L US \$25. PAUL GIBEAULT, 54-5380 SMITH DR., RICHMOND, B.C. CANADA V6V 2K8 PHONE: (604) 525-1020 WEEKENDS

WANTED: DEBOLT STUNT WAGON KIT (BOTH SIZES) AND PLANS, MADMAN KIT (BOTH SIZES) AND PLANS. SCOTT CRICHTON, 10427 30 DR SE, EVERETT, WA 98208 (425) 379-0494 (EVES)

NEWSLETTERS: DD SEZ: MIKE HAZEL, FL EDITOR, HAS TO MY KNOWLEDGE NEVER ENTERED A STUNT CONTEST. CL RACING AND SPEED ONLY FOR THIS BOY. YET REACTION TO HIS RENEWED MEMBERSHIP IN PAMPA, THE MAGAZINE STYLE AND SIZE "NEWSLETTER"? MIKEY LIKES IT!!!!! YOU WILL TOO, IT'S QUITE A PIECE OF WORK. DUES ARE A MERE \$20.00 PER YEAR, SEND TO: PAMPA, C/O SHAREEN FANCHER, 158 FLYING CLOUD ISLE, FOSTER CITY, CA 94404

HOBBY SHOP: VISIT OR CALL JOHN HALL'S SUMMIT HOBBIES FOR YOUR CONTROL LINE NEEDS. 10917 50TH AVENUE, TACOMA, WASHINGTON (253) 536-1338

WANTED: K&B 4.9 ENGINES AND PARTS. ALSO EARLY VERSION OF VECO TOM TOM KIT. CONTACT: CRAIG BARTLETT AT (541) 745-2025

FLYING LINES SUBSCRIBERS: THIS SPACE IS FOR YOU! SEND IN YOUR AD FOR SELL/SWAP OR FOR NEEDS. PLEASE INDICATE HOW MANY ISSUES AD SHOULD RUN. CHANGE YOUR AD AT ANY TIME.

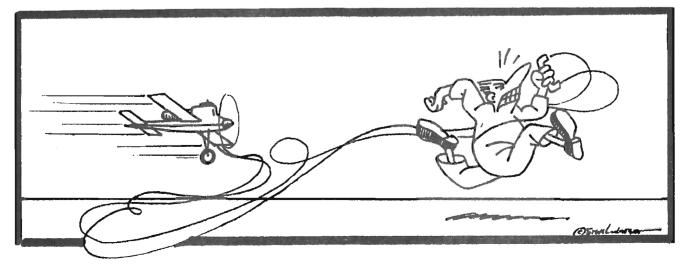
FOR SALE: FASCAL=CLEAR AIRPLANE COVERING MATERIAL FOR EITHER FOAM OR OPEN FRAMES. IT HAS STICKY ADHESIVE, SO IT'S GOOD FOR ON-FIELD REPAIRS. WORKS WITH HIGH OR LOW HEAT, AND CAN BE PAINTED. A MUST FOR COMBAT FLIERS. JOHN THOMPSON, 2456 QUINCE STREET, EUGENE, OREGON 97404 E-MAIL: John4051@aol.com

FOR SALE: FOX "ROCKET" COMBAT SPECIAL, USED BUT IN GREAT SHAPE, WITH BOX \$60.00 O.B.O. CHRIS STRASBOURG, (425) 823-8644, OR E-MAIL: CATBOATR@AOL.COM

WANTED: OLD A.M.A. RULE BOOKS. LOOKING FOR COPIES IN THE 50'S, 60'S, AND MOST OF THE 70'S. LET ME KNOW WHAT YOU'VE GOT FOR ME. MIKE HAZEL, 1073 WINDEMERE DRIVE NW, SALEM, OREGON 97304

FOR SALE: N.I.B. K&B 5.8 ENGINE, \$100.00 POSTPAID. MIKE HAZEL (503) 364-8593

FOR SALE: BRODAK PROFILE CARDINAL KITS, LIST \$80, NOW \$63.00 POSTPAID. CALL J & J SALES AT (509) 337-6489. OR SEND CHECK TO J & J SALES, PO BOX 99, WAITSBURG, WA 99361



The Scoreboard Northwest control-line competition standings.

Spring is here, so it's time for the first batch of 1999 CL competition standings.

Contests in January, March and April got things going in Oregon and British Columbia. From now through October, the action will be hot and heavy and the standings will most likely be updated in each edition of Flying Lines.

Since this is the first report of the year, a reminder to contest directors: Be sure to turn in your results as soon as possible after your contest to make sure the contestants get credit for their efforts. See the end of the column for details.

Contests counted to date: Jan. 3, Salem, Ore.; March 28, Richmond, B.C.; April 10, Surrey, B.C.; April 24-24, Portland, Ore. No results received yet: April 17, Richmond, B.C.

Following are the standings for updated events:

1999 STANDINGS

CLASS I MOUSE RACE	
1. Nitroholics Racing Team, Oregon	3
Todd Ryan, Klamath Fails, Ore.	3
3. Ron Howell, Hoquiam, Wash	1
CLOWN RACE	
1. Nitroholics Racing Team	8
Mark Hansen, Portland, Ore.	8
3. Todd Ryan	7
4. Mike Conner, Pitt Meadows, B.C.	4
5. Mark Wahlster, Silverton, Ore.	1
NORTHWEST SPORT RACE	
1. Todd Ryan	3
2. Nitroholics Racing Team	3
3. Ron Howell	1
NORTHWEST SUPER SPORT RACE	
1. Todd Ryan	2
2. Nitroholics Racing Team	1

OVERALL RACING 1. Todd Ryan Nitroholics Racing Team 3. Mark Hansen 4. Mike Conner 5. Ron Howell 6. Mark Wahlster	15 15 8 4 2
PRECISION AEROBATICS 1. Bob Parker, Renton, Wash. 2. Jerry Eichten, Dundee, Ore. Paul Walker, Kent, Wash. 4. Scott Riese, Portland, Ore. 5. Don McClave, Portland, Ore.	7 6 6 5 4.5
VINTAGE DIESEL COMBAT 1. David Pelletier, B.C. 2. Mel Lyne, Garibaldi Hglnds, B.C. 3. Troy Lyne, Garibaldi Hghlnds, B.C. 4. Paul Dranfield, B.C. 5. Jeff Rein, Bothell, Wash.	10 9 8 7 5
PROFILE CARRIER 1. Shawn Parker, Seattle, Wash. 2. Mike Conner 3. Mike Potter, Auburn, Wash. 4. James Cox, Delta, B.C. 5. Darrel Rupnow	11 7 5 4 3
1. Shawn Parker 2. Craig Bartlett, Corvallis, Ore. 3. Mike Potter 4. Mark Hansen 5. Mike Conner	8 6 5 4 3
OVEALL CARRIER 1. Shawn Parker 2. Mike Potter Mike Conner 4. Craig Bartlett 5. James Cox Mark Hansen 7. Darrell Rupnow 8. Roy Beers, Vancouver, Wash. 9. Mike Hazel, Salem, Ore. Frank Boden, Vancouver, B.C. Barry Shandel, Surrey, B.C. Dennis Matthews, Langley, B.C.	19 10 10 6 4 4 3 2 1 1
TOP IUNIORS 1. David Pelletier, B.C.	10 ·

Flying Lines keeps track of standings in all AMA rulebook and Northwest official events, in all Northwest sanctioned contests.

Your FL editors do their best to keep up with the results, but contest directors can help keep the standings up to date by making sure to send the results to FL immediately after the contest. When you send your report to AMA, remember to send the results to FL, too. If you spot any errors, please let us know.

Results must include the placing in each event through fourth place and the report also must list the number of contestants in the event, in order for the point

standings to be counted accurately.

Also, please include in your report the hometown of the contestants, and note which contestants are juniors. Only Northwest residents are counted in the standings (AMA Dist. XI and British Columbia). The score of each contestant also should be listed for general reporting purposes and for checking against the Northwest records, another popular FL feature.

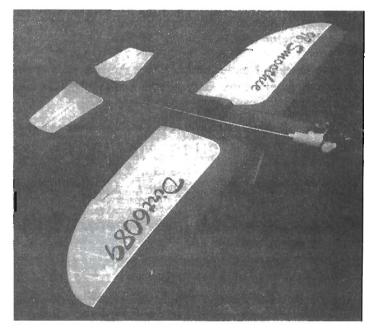
Remember, only results that we receive can be counted, so send them in. If you flew in a contest that doesn't appear to be counted, contact the contest director or FL and let us know.

Send contest results, corrections and other correspondence regarding Northwest Competition Standings to John Thompson, 2456 Quince St., Eugene, OR 97404, e-mail John4051@aol.com. For a printed copy of complete standings for any event, or for a copy of the rules for any Northwest event, send a self-addressed, stamped envelope.



left) Northwest Combat great Gene Pape retired from combat flying several years ago......or is he just dormant and laying in wait??????? He appears every so often, such as earlier this year at the Eugene Airport site......shown here holding his FAWF design, which was published by Model Aviation many years ago.

below) Here is a Smoothie, as campaigned in the Stunt Wars by Da Dirt......otherwise known as Dan Rutherford, the PAMPA district XI Stunt Dictator. He flies this plane in three classes.



How to Select Control Line Scale Options

By: Fred Cronenwett

When you approach a new Control Line scale model one thing to look at before you start building is the options you are going to choose when you get the flight portion at the next contest. While you may ask why think about this now? Well, the type of event you will be entering is an important consideration in the features you put into the model and don't put into the model.

First ask yourself what event you want to fly in, Fun, Profile, Sport, Precision or FAI? There are some very important differences between these events. All of these events require six (6) options to be selected. You don't have to perform all six options, but if you want to win you better be able to select six options for your model. The list of options you can select from is quite large, but the model you select may not be able to perform all of the options listed. And then some options may be possible with your model but was never performed by the full sized version. An example of this is a B-29 Bomber doing inverted flight and outside loops.

Lets look at the list of some the options that you may select from: Retractable landing gear, throttle, flaps, bomb drop, brakes, 45 degree high flight, taxi, touch & go, and other mechanical options that the full size aircraft was able to perform. Other mechanical options could include sliding canopy, bomb bay doors, rotating turrets, and moving oil cooler doors.

While it may seem odd, Throttle control is an option in CL scale and is not a mandatory feature. Most people think that a CL model has a venturi and a needle valve and is set on the ground and then released. You fly at one power setting until you run out of gas. When you fly in CL scale throttle control is almost expected and actually adds a lot more than you think to the model. How many pilots in Radio Control Scale would build a model without being able to control the throttle? So why do we in Control Line think the opposite? It is not typical for people to install throttle into a CL model unless you fly in Scale or Carrier.

Now here are some basic rules that are important to understand:

- 1) Taxi, Touch & Go and retractable landing gear counts for TWO options in Fun, Sport and Profile
- 2) Taxi is a mandatory option in FAI and is not included in the 6 options.
- 3) Throttle control is counted as an option
- 4) Throttle control is the bare minimum you want in your scale model
- 5) Multi-engine counts as an option

So now that I have you totally confused, let's look at some typical aircraft and find out what they are capable of. Let's look at the Piper Cub, P-51 Mustang, B-25 Mitchell bomber and an Extra 300 and pick some options for each of the models.

SUBSCRIPTION EXPIRATION DEPARTMENT

This is the last issue for the following subscribers:

Craig Bartlett, Ted Dineen, Larry Hyder, Pat Johnston, Steve Kendall,

Gary Letsinger, Vic Lichtenberg, Al Likely, Mike MacCarthy, Dave Shrum,

Wayne Spears, Jerry Thomas, Bill Young

Please renew promptly, you won't want your NW Regionals report issue to be delayed! Renewal is \$13.00 for USA, and \$15.00 for Canada (U.S. funds)

Piper Cub	P-51 Mustang	B-25 Bomber	Extra 300		
Throttle Control	Throttle Control	Throttle Control	Throttle Control		
Taxi	Taxi	Taxi	Taxi		
Touch & Go	Touch & Go	Touch & Go	Touch & Go		
45 degree flight	45 degree flight	45 degree flight	45 degree flight		
Banner Tow		Sliding Canopy Bomb Bay doors Loop			
	Radiator door	Bomb Drop	Inverted Flight		
	Flaps	Retractable Gear	Other aerobatic options		
	Retractable Gear	Rotating Turrets	•		
	Bomb Drop or	Flaps			
	Drop Tank release	Multi-engine			
5 total	9 total	10 total	7+ total		

OK, now take a good look at the major differences between the Cub, P-51 and the B-25, notice that the Piper Cub can only easily do five (5) items! Do the math 5 is less than the six (6) options that is listed on the scale flight score sheet. Now we are going to enter the Piper Cub in all five events and create a list of options that we are going to select at the contest.

	Fun	Profile	Sport	Precision	FAI
Option #1	Throttle	Throttle	Throttle	Throttle	Throttle
Option #2	Taxi	Taxi	Taxi	Taxi	45 deg flight
Option #3	Taxi	Taxi	Taxi	45 deg flight	Touch & Go
Option #4	45 deg flight	45 deg flight	45 deg flight	Touch & Go	Banner Tow
Option #5	Touch	Touch	Touch	Banner Tow	???????
Option #6	Go	Go	Go	??????	???????

Now look at the above table and notice that all 6 six boxes for the options in Fun, Profile and Sport are filled in, except for Precision and FAI. But when flown in Precision scale you really have to get creative to fill all six options with this aircraft. Then notice in FAI that the Taxi option is not listed because it is a mandatory part of the flight. Perhaps the Piper Cub is not the best choice for Precision or FAI scale entry. Now lets look at the P-51 with the same goal of filling all six options.

	<u>Fun</u>	Profile	Sport	Precision	FAI
Option #1	Throttle	Throttle	Throttle	Throttle	Throttle
Option #2	Taxi	Taxi	Retract s	Retracts	Retracts
Option #3	Taxi	Taxi	Extend	Flaps	Flaps
Option #4	45 deg flight	45 deg flight	Flaps	Canopy	Canopy
Option #5	Touch	Touch	Touch	Touch & Go	Radiator door
Option #6	Go	Go	Go	45 deg flight	45 deg flight

Notice that the Fun and Profile version only has throttle as a feature on the model. Now you understand why Fun, Sport and Profile rules allows the Taxi, retractable landing gear (retracts) and Touch & Go to count as *TWO* options. It allows the model airplane with throttle only to enter scale and fill out six options without doing aerobatic options. Notice that in the Sport scale entry the retracts replace the taxi option, but still 6 options are selected and can be changed easily. Now look at the Precision scale entry, now we can fill out all six options but we had to pull the 45 degree flight back into the line up because now retracts and Touch & go only count as *ONE* option in Precision scale. And finally we are able to fill out all six options in FAI, which is very important in international competition. The B-25 is similar to the P-51 except you have even more features to choose from to fill out all six options.

The Extra 300 is an aircraft that is capable of performing aerobatic options since the full size version is capable of performing the same maneuvers. But don't forget to install throttle control in this model. While you could build the plane with a fixed throttle venturi engine and select 6 aerobatic options this may not be best choice from a Scale point of view. Remember that 10 points of your flight score in Profile and Sport are called REALISM and are earned thru the entire flight. Even though the line drag from two electronic control lines will degrade the flight performance you will improve your flight score by having throttle control. The takeoff and landing score will improve with throttle control installed in the model.

Some options should be your first choice:

Options can be classified as Mechanical or flight options. When you pick the Touch & Go option you will find a lot of variation in scores since every landing is not the same. One day you grease the landings and other days you end up bouncing the plane three times before it settles down. The Piper Cub that I fly for Fun Scale is difficult to land consistently.

Mechanical options are best performed during actual flight, such has dropping the flaps during the flight and then raising the flaps after 2 or 3 laps. This is a fairly simple option, either the flaps come down or they don't. Unless your flap servo or mechanism doesn't fail this option is pretty hard to mess up. Flaps also allow you to slow down even more for landing they look great. But remember to lower the flaps slowly... the trim change due to the flaps is sometime very noticeable. While flying my A6M5 Zero when I first dropped the flaps the nose pitched up so drastically and the airplane almost stalled. By the time I applied enough down elevator to get the nose down I decided that it was time to raise the flaps. But then I had all of this down elevator applied, so then I was diving at the ground at Mach I and then barely cleared the nice hard concrete...lots of fun. The next time I added some more nose weight and trimmed the airplane out better and it calmed down.

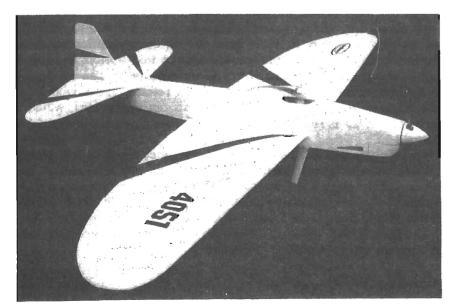
Retractable landing gear is difficult to setup and the spectators love it, if set up properly it really makes things interesting. If you are building a FAI scale model it better have all of the features that the full size had. While it is acceptable to have fixed gear on a Sport Scale P-51 Mustang, you better have retractable landing gear on the FAI version. FAI is very similar to our Precision Scale.

Bomb drop and other similar options are great crowd pleasers. This is assuming of course that you don't hit the judges. Don't laugh, this almost happened at one of our local contests, the bomb ended up at judge's feet! At least the judge can't claim he did not see the bomb come off the plane! This option is extremely easy to setup with a simple pull cable and release pin, an easy option to earn 10 points.

While the mechanical options like sliding canopy are difficult to setup but again worth the work when you can drop the flaps, gear and open the canopy in flight. But don't get your model to complex; add just enough options to suit your event you wish to enter. As the model gets more and more complex so does the work at the flight line during a contest.

Spend the time to pick your subject and options carefully before you start building. The research may take a month or more but worth the time and effort. Locate a good scale kit (RC or CL) and then build a duplicate of *ONE* particular airplane.

Good Luck and have Fun!



This is the Thunderbird II, referred to elsewhere in this issue.

Plane was originally built by Don McClave, and then crashed under John's ownership

John sez, "viewed from this distance in the photo, it doesn't look too bad. Refinishing was a tribulation and doesn't stand up too well to close examination, but it was definitely a learning experience."

It's coming up NW Regionals time, and that means it is time for this annual feature...... the Regionals records. All entrants are eligible, not just NW folks. Lots of records were set in 1998. This listing will be updated for the post-Regionals issue, if there are any new records to note.

NW REGIONALS COMPETITION RECORDS BEST RECORDED PERFORMANCES AT THE EUGENE AND ROSEBURG, OREGON NORTHWEST REGIONAL CL CHAMPS BY ALL ENTRANTS.

1/2 A SPEED	136.48	JERRY ROCHA	1998
A SPEED	151.77	JERRY ROCHA	1997
BSPEED	179.75	FRANK HUNT	1994
D SPEED	191.01	MORRIS/MATHISON	1998
JET SPEED	187.62	BILL NUSZ	1995
FORMULA 40	159.22	JIM RHOADES	1998
21 SPORT SPEED	147.48	CHUCK SCHUETTE	1998
FAISPEED	175.45	CHRIS SACKETT	1997
1/2 A PROF. PROTO	107.48	JERRY ROCHA	1998
21 PROTO SPEED	133.03	CHRIS SACKETT	1997
SPORT JET SPEED	151.97	DICK SALTER	1998
(RACINO	G RECORDS REF	LECT ONLY FINALS)	
MOUSE RACE I	4:34.59	PAUL GIBEAULT	1992
MOUSE RACE II	8:55.72	BILL CAVE	1998
AMA GOODYEAR	6:00.34	LES AKRE	1995
NW GOODYEAR	8:01	JULIE RICE	1995
SLOW RAT RACE	5:59	RICHARD McINTYRE	1997
RATRACE	5:37.88	TODD RYAN	1998
NW SPORT RACE	8:32	ROGER MCINTYRE	1996
NW SUPER SPORT	7:57 7:57	RICHARD McINTYRE MIKE MacCARTHY	1996 1997
NW FLYING CLOWN	299	TODD RYAN	1998
CLASSICARRIER	405.9	ERIC CONLEY	1997
CLASS II CARRIER	418.1	ERIC CONLEY	1997
PROFILE CARRIER	314.0	TODD RYAN	1997
.15 CARRIER	229.5	TODD RYAN	1998

Stunt Stuff

By Chris Cox

Final Assembly

Ok, you have built a super straight wing and fuselage. The time has arrived to slap the whole assembly together and get on with the finish. Hold It! Did I just say "slap the whole assembly together"? Wrongo sports fans, the assembly of the main components into a whole is one of prime importance and should not be taken lightly. Any misalignment now will result in a less than satisfactory result at the flying field.

I use much the same technique as described by Paul Walker in his "Impact" construction article found in the May 1991 issue of Flying Models. Let's take another look at this procedure.

First off, you will need an assembly table. It must be a flat surface of at least 4 feet square to align your ship on. I was lucky a few years ago when I spotted a thick piece of glass used for a coffee table. It had been tossed out by the previous owner during spring clean-up. I quickly scooped it up!

You must set this surface up so that it is true both longitudinally and laterally. I accomplish this using my Robarts Incidence gauge and old business cards I use for shims (and mixing epoxy on, etc).

On this flat and now level table, draw a centre-line (C/L). This will correspond with the fuselage C/L. Now draw a line perpendicular to the first line in a location where the wing trailing edge (TE) will be located. Take several different measurements to ensure it is exactly 90° to fuselage C/L.

Now you will need to build up a dozen 90° triangular jigs out of 1/8" plywood, which can be screwed (or in my case, glued) to you assembly table. Be sure they are accurate! Bring them together and check that they meet each other with no gaps, top or bottom.

Carefully lay your fuselage upside down onto the table, it should lay flat on the upper longerons, on top of your first C/L. Secure four jigs on each side, eight total, of the fuselage. I place these jigs just ahead of the wing leading edge (LE), just behind the wing TE, just ahead of the stab's LE and about an inch forward of the tail post. I space these jigs about an 1/8" from the fuselage sides and then slide in a 1/8" balsa shim so as not to damage the soft fuselage sides. Once all fuselage jigs have been secured into place, remove the fuselage, roll 180° and place back into the jig. Doesn't fit? Your fuselage is warped. Either fix it so that it is straight or trash it! Ouch, did I say that? Stunt people should not tolerate a banana for a fuselage. Do yourself a favour next time and build the fuselage in a jig!

Place two 90° jigs about 18 or 24 inches out from the fuselage C/L on the TE reference line you marked earlier. Now with the fuselage inverted in the jig, lay the wing into the wing cradle cutout. Slide the wing back so that the wing TE is touching the two wing jigs. Using your (or borrowed) incidence meter, ensure that the wing is set at 00 incidence. Don't forget that the table has also been set at 0°. Level the wing to the table by measuring up from the table to the wing C/L at both tips, or at least as far out as your assembly table will allow. Get it exact! Tack glue the wing front and back, both side. Thick CA and kicker works well.

Now for the moment of truth.

Remove the 1/8" balsa shims, pick up the assembly, roll it 180° and place back into the jig. Perfect fit, right? The wing TE still touches both wing jigs just as it did when inverted. No? You say when one jig contacts the wing TE, the other has an 1/8" gap. Guess what, your 90° perpendicular line, isn't! No problem, break the spot glue joints and remove the wing. Remove the TE jig where the gap was and move it up one half the distance of the gap (ie. If the gap was 1/8", move the jig ahead a 1/16"). Lay the wing back into the now inverted fuselage, butt the wing up to the repositioned TE jigs, recheck for 0° incidence, level the wing and re-tack glue the wing into place. Whew! Roll it over again and check for alignment. Now does it contact both wing jigs simultaneously? If it does, your lucky, this can often take many tries. If not, do it again!

Assuming it is now perfect, with the airplane upright on the alignment table, block up the tail until the wing is again at 0° incidence. Use you incidence meter. Now measure back from the wing TE to where the stab TE will be located. Secure two more 90° jigs here near the stab tip locations. At this point I make up two additional jigs that the stab lies on when placed into the stab cutout in the fuselage. Provided the wing is set at 0° incidence and is level to the table, these jigs will hold the stab level and at the

correct incidence. The stab TE should be touching both stab jigs. Tack glue the stab, remove the tail leveling jigs, invert the assembly and place back into the jig. We know the wing is perfect (it was perfect, wasn't it?), is the stab? If not, guess what? Right, adjust the stab jigs and do it again.

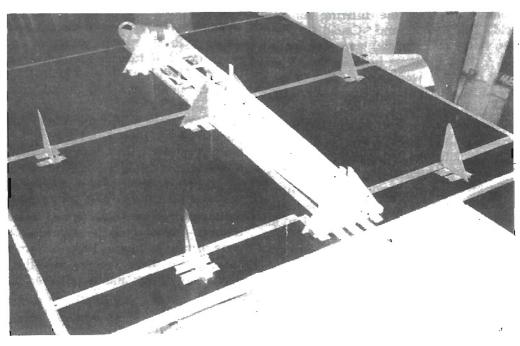
Once all is absolutely perfect, glue the whole assembly secure. I also install the top and bottom blocks while the ship is still in the jig to ensure straightness. I also install the vertical fin to be sure it is indeed 90° to the stab and wing.

Wow, what a bunch of work! Does it all take a couple of hours to perform? I wish. I generally schedule myself an entire weekend for this operation. Be sure to work slow and take frequent breaks in order to remain sharp. Once all tack glued together, I will let the assembly sit for the night. I often find that by leaving it alone for a while I will see something that I might not have noticed while engrossed in the operation.

So, all said and done, is it worth it? Sunday sport flyer? No. Clown racing model? No. Advanced/expert model? Yes. Pride of craftsmanship? Yes. Outstanding flying characteristics? No question, the only way to go!

Now back to the shop!

Send comments and questions to Chris Cox,, 11693 72A Ave., Delta, B.C. Canada V4C 1B3; email cox@direct.ca



Let's take another month to debate D-bat

In Issue No. 154 (March/April), proposed regional rules for Vintage Diesel Combat were published for review.

We indicated then that there would be a ballot for approval/disapproval in this issue of Flying Lines.

However, on further reflection, it seems that a little longer period of discussion would be a good idea, to make sure everyone's voice is heard.

We've received three letters on the subject, which are published below. Everyone else interested in the topic is now invited to weigh in. We'll publish any further commentary in the next edition, and most likely include the ballot along with the rest of the comments.

Then everyone will have had a chance to say what they think.

Anyone who wants to make a specific proposal for consideration can do so. In the case of conflicting proposals, the ballot can contain mulitple choice — such as 64mph speed limit, 70mph speed limit, or no speed limit.

The proposed rules can be accepted, rejected or modified as per the multiple choice ballots. If they're rejected, we'll have some ideas for modifications on a subsequent go-round.

The rules were developed by FL combat columnist Ken Burdick after some consultation among the fliers. These would, if approved, become the official Northwest rules for Vintage Diesel Combat. Some of the issues related to the D-Bat event — including the differing points of view held by U.S. and Canadian fliers (mentioned in the letter below) were discussed in the Round & Round column in Issue 154. If you missed it, it might be worth your while to catch up by reviewing that issue. Also see the letters below.

The discussion to date may well be incomplete and there may be a lot more to say. Send in your thoughts and look for the ballot next time.

The goal here at FL is not to promote any particular approach to the event, but to develop a standardized set of rules so that everyone knows what to expect from contest to contest and so the standings are fair and accurate.

We're listening...

- John Thompson, NW rules coordinator

Mark Hansen's thoughts on D-Bat

Well, you asked for it and here it is in all it's glory and splendor ... My opinion concerning the current D-Bat rules proposal in Flying Lines

First some background and the evolution of the rules for this event I have come to know as D-Bat. I began flying diesel combat at the 1996 Bladder Grabber on an old plane of Mel Lyne's, the plane was powered by a vintage Rivers 2.5cc engine. I was immediately sold on the whole event and went home and ordered two Mars 3, 2.5cc diesels and a warlord kit; there were no published rules at the time. I changed the nose moment to accommodate the rear rotor of the engines I was using, and thanks to some careless building the elevator was also changed.

I participated in only one event (a fun fly at Harvey Field in Snohomish) with this equipment when I suffered a broken crankshaft problem and was forced to look for some other means of motivation. The new engine I found was purely by chance, a local hobby shop had come by two Russian KMD (\$75) 2.5cc (RISE) team race engines (ca. 1969). These engine are some of the finest sport diesels I have ever come in contact with! handling understatement. Easy is an Unfortunately, they were an iron-steel Schnuerle ported engine, and were made illegal; despite the fact that they were produced before the cut-off date for the model design and were available at the time.

So began my quest for a legal replacement for the wonderful KMD. I decided to try several engines from the Carlson catalog: Two models of the Silver Swallow (\$65), a TBR PAW (\$115), and the C.S. Oliver Tiger. I found that the Silver swallow was not powerful enough, and despite the high price the PAW suffered some quality problems, I opted for the Oliver instead and Bought THREE of them (\$290.00). Then — all engines other than the single ball race PAW were made illegal!

I have more money into diesel illegal engines purchased for D-Bat than I have spent on Nelsons for fast, and I wish I had every penny of it to spend again; I would buy more Nelsons.

The reason for the banning of the other engines is that some veteran American competitors were winning using the Oliver Tigers, at the Canadian contests, discouraging the Canadian juniors who were using the inferior PAW BR. In the spirit of keeping up with the Joneses the Canadians purchased Olivers and were forced to refit many

of the engines just to make them run. This reworking made for a great deal of work for Mel, Paul, and Adrian, and led to there decision to allow only The PAW BR. Then many of the people south of the border began having problems whit the PAW. Paul Dranfield now personally fits each PAW BR he sells; quite a stretch for a \$55 engine. Especially when a dual ball bearing, Schnuerle ported ABC, MVVS is exactly the same price!

Allow me to digress for a minute and say that no beginner should ever get discouraged by losing to a veteran. I lost my first match to Howard Rush, when he cut the elevator off. He added insult to injury by giggling all of the way out of the circle. Despite the humiliation I did not try to change the rules, I resolved to not let my self be killed that way again.

What has made the event particularly frustrating to me is that many Canadian participants of this event are all considered to be the top combat flyers in the region (according to Flying Lines), and one of them has made the MACA top twenty! I have been "ruled out" of the event, yet a 17 year old named Travis Eshpeter is ahead of me in the regional combat standings! Travis is not actively flying Fast, Slow, or 80mph has never participated in any combat other than D-Bat. However he is above me in the combat standings? All because the Canadians have been practicing what amounts to protectionist legislation. I respectfully feel that no Canadian results should be considered in the regional standings, because the rules differ from those used here.

Now that I have properly vented, lets talk about the rules I would support for a regional diesel combat event.

- 1) Any .15 size plane pre- 1971 design
- 2) Any .15 engine
- 3) Any propeller
- 4) 70 mph speed limit
- 5) 52' .015 lines plus or minus 6"
- 6) Five-minute match, no starting period, and each second of airtime counts for one point
 - 7) No kill, and each cut counts as 100 points.
 - 8) Pull test to be 20 lbs.

The rules proposed in the current issue of flying lines are too restrictive, they tell you the type of plane, engine, and even the prop; in essence they tell you what engine to use and how to run it. One other point of concern to me is the use of a 10-pound pull test, that is 5 pounds less than 1/2A!

My rules are what were used at The Fireballs

spring contest, and I hope all future contests. These rules allow just about anybody who has a .15 diesel engine, and an old JR Ringmaster, too participate; in an event that is both a starting point for beginners, and a recreational event for veterans alike.

I for one will be voting no, on the rules proposal and I will be encouraging my friends to do the same. If it were not for the amount of money I have invested I would not compete in this screwball event.

Mel Lyne's thoughts on D-Bat

Ken's rules in Flying Lines are fairly similar to an event in England called "Oliver Combat." This event has 80 mph speeds.

Your rules proposal has no speed limit, hot motors, cut down props, a mid-air stopping the match, and no line changes permitted. All different from our event.

In England they have three diesel events for the experienced combat flyer. They have Oliver Combat at about 80mph with .15 Olivers in vintage models. They have Open Vintage Combat which uses steel piston/liner.21s at about 90mph, and they have F2E which is F2D models using very hot .15-.21 Schneurle diesels.

Our intention is to keep our Canadian Nostalgia Diesel Combat event an entry level event with a 64 mph speed limit using sport engines and full size props.

If you believe the time has come to expand into a 2nd hotter class of diesel combat, then try it. A few of us from Canada may support a faster event, but the majority of our B.C. flyers will be staying with the entry level event which we are presently running, as it is very user-friendly for new flyers, and all of them now have the equipment.

Buzz Wilson's thoughts on D-Bat

I support the speed limit, the prop restriction and really do not care about motors since the speed limit takes care of it. I am in favor of a mid-air not ending a match.

NW Goodyear: Maybe we're not done yet

Over the winter, the Northwest Goodyear engine list was revised after a process of debate,

discussion and balloting.

After it was all done, an alert modeler not currently competing in the event pointed out a loophole in the list that we may want to consider immediately sewing shut before it generates controversy. It's not a problem with the new engine list — it existed even before the revision.

The engines on the list have been selected over the years on the basis of their being relatively inexpensive, thereby promoting the goal of a lowkey, low-cost racing event. The list basically is designed to exclude the extremely expensive AMA Goodyear engines such as Nelson and Rossi.

Some of the engines are specific: You can use certain models of certain brands. Others say "any version," based on the notion that there's no model made by that company that is an expensive world-beater.

However, it's been pointed out that some of the brand names may have non-aircraft versions that could, in fact, fall into the expensive worldbeater class if modified for aircraft use. At least one car engine is described as such.

It's not a problem now, because nobody is using such an engine. When somebody comes out with such an engine, it will violate the spirit of the event, but not the letter of the rules. We could most likely head off such a crisis by rewording the "any version" references to saying "any aircraft version."

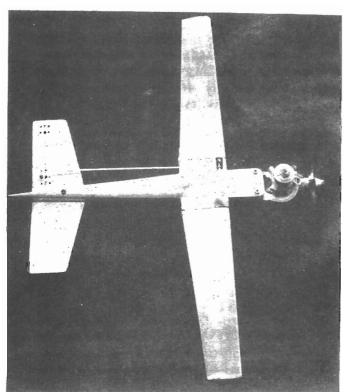
I will consider submitting such a proposal for balloting two issues down the road.

In the meantime, let's hear your comments. Is it a good idea or a bad idea, and why or why not? Seems to me to be a quick, easy way to prevent heartache for someone who spends \$250 for an engine that is later outlawed, and anger among those who have to compete against it.

- John Thompson, NW rules coordinator

NORTHWEST RECORD REVIEW

1/2 A SPEED: 110.34 MPH Record held by Mike Hazel



Just a few days before last years Regionals, Mike "ZZ" Hazel decided it was time to go after the NW 1/2 A record, which was pretty low. This actually made it attainable for your editor.

Everything was laying about the shop that was needed: A Cox 1/2 A pan, a monoline control unit, some pre-fab alum wings from Chris Sackett, some scrap wood, and oh yes...... an engine. The plane was put together in a couple of days, and first flown in Roseburg. After a couple of takeoff mishaps, a flight of 105+ was recorded, which was good for the new mark. Then later in the year at the NW Speed Champs, the 110.34 time was posted.

Aircraft Data: Wingspan: 15-1/4 inches; Length: 11-3/4 inches; Weight: 5.0 ounces.

Model constructed from full length pan, basswood fuselage, maple tail, Sackett aluminum wing panels, clear epoxy finish. Engine is not cowled, which was to facilitate quick building.

Engine is a Stels .049, supplied by Scott Newkirk and equipped with Nelson plug head. Prop is carbon fiber ZZ!prop 4-1/8 x 4-1/2. A bladder tank is used, and fuel was home brew 70% nitro with 25% oil.

Plane is launched on takeoff dolly. Pilot was Mike Hazel, with Dick Salter & Tom Strom doing pit duty.

The Seattle Skyraiders / Jim Parsons' Memorial STUNT-A-THON - '99

The 18th Annual Northwest's Premier All-Stunt Contest

June 12th and 13th, 1999

Boeing Space Center, Kent, Washington

Sponsored by the Seattle Skyraiders--- AMA Sanctioned

Flying site is on East Side of Space Center, behind the tennis courts

Entrance is off East Valley Highway, near 204th SE.

SCHEDULE

SATURDAY, June 12th:

SUNDAY, June 13th:

10:00 am- OLD TIME STUNT

9am - 4 pm PRECISION AEROBATICS:

BEGINNER / INTERMEDIATE

1:00 pm CLASSIC STUNT

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- 4. AMA membership is available at registration.
- 5. Events are per latest PAMPA rules and AMA 1996-97 Rule Book.....KNOW THE RULES !!!!
- 6. ALL SATURDAY EVENTS TO BE FINISHED BY 5 PM ON SATURDAY
- SATURDAY EVENT AWARDS WILL BE PRESENTED SATURDAY BY 5:30 PM.
- 8. ALL SUNDAY STUNT EVENTS WILL BE FINISHED BY 4 PM ON SUNDAY.
- 9. AWARDS PRESENTATION WILL BEGIN AT 4:30 PM ON SUNDAY.

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