

FLYING LINES

1411 BRYANT AVENUE
COTTAGE GROVE, OREGON 97424

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PUBLISHER: MIKE HAZEL

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NOW THAT IS COMBAT Bladder Grabber IV

(Editor's note: Bladder Grabber IV, offering \$4,000 in prizes, drew 26 of the region and the coast's top combat fliers in the biggest crepe-chopping contest in a long time. FL asked combat expert Gene Pape of Eugene, third-place finisher, to report on combat day.)

By Gene Pape

This year's Bladder Grabber was a real surprise for me in many ways. All year the turnout at contests has been well down, and the quality of the combat equipment not really top-notch. At the Bladder Grabber both the turnout and the equipment were at their peak.

Many people came out of retirement to have a go at the goodies. The Shady Acres crew (from Spanaway, Wash.) was back, along with several other Seattle-area fliers who hadn't been seen for some time. We also had three people up from the San Francisco Bay area who haven't been very active lately.

The quality of the equipment is thanks largely to Duke Fox. Almost everyone was using Fox engines. Most went fast, some went very fast. All were reliable.

The first few rounds showed how rusty many of the fliers were. I think I flew about the only match in the first round where at least one airplane wasn't destroyed...my opponent never got his engine started.

With the carnage of the first two rounds out of the way, things started to shape up. Several really good matches were flown, a large portion of them involving the eventual winner Mike Petri.

Things started to look really good for me when I beat Rich Brasher with a quick kill (Editor's note: that made Gene the last undefeated flier). My glory didn't last too long, as Mike Petri beat me the next round. Since Rich, Mike and I were all that were left, it was time to get serious.

I drew Rich for the next match. We chased each other around for some time for only one cut each. Our final meeting was engine-to-engine. Since he got up first, that was the end of me.

The final match saw Richard Brasher and Mike Petri fly the best match I have ever seen. They both went right up and flew tooth and claw for a full tank of fuel (about two minutes). After a fairly quick pit (Mike needed a plug and a prop) they went at it until a mid-air ended things with Mike ahead about four cuts to two.

Three other people who flew very consistently were Gary Stevens, Ron Scoones and Chuck Thomas. They all went out in the same round and flew off for fourth. Chuck came out with the prize.

Thanks to the efforts of Gary Stevens, Mark Satterlee and others, plus the generous donations from Bob Carver (stereo equipment) and Phil Granderson (pool table) this year's Bladder Grabber was a great success. I hope we can do it again next year.

(Editor's note, continued: Gene observed verbally after turning in his report that Bob Carver and Phil Granderson, along with Gary and the other contest organizers, may have given Northwest combat, and all modeling in general, a much-needed shot in the arm. We hope the old faces that came out of retirement will once again join the ranks, and that their enthusiasm will spread to other events as well.)

Here is a report on the rest of the Bladder Grabber weekend, Oct. 6-7:

Saturday's slow combat, Northwest Sport Race and precision aerobatics, were informal affairs, with low entry lending a relaxed atmosphere. We do not have complete details of times and matchings at press time, but will follow up next month.

Keith Iwanski of Tacoma, Wash., won slow combat, battling out in the final against Dick Salter, who made an excellent showing his first time out, using McCoy .35 "redhead" engines for power. Dick is from Seattle. David Ireland of Tacoma and John Knoppi of Seattle were third and fourth, according to our unofficial results.

Salter started the weekend's flyaway derby (which unfortunately saw miscellaneous planes and parts zooming off in too many directions) by cutting

Phil Granderson's slow plane loose on a journey that went halfway across Marymoor Park's vast expanse and bombed a parking lot. All were relieved that a crowd of soccer players had just vacated the lot. Spectators who like that sort of thing were entertained on Sunday by another of Phil's planes, being used by vacationing Massachusetts resident Steve Sacco, which looped its way out of sight into the clouds, drifted around dead stick for a bit and finally plunked down harmlessly into another soccer parking lot.

Gary Stevens slipped by John Thompson by one second in sport race, turning a 9:04 to John's 9:05. Thompson's plane had an extra pit stop brought on by a collision with a trash can at the edge of the circle. It was good for a few laughs, but Thompson failed in his bid to get a head start on Sunday's "trash can" combat event. (Which by the way was canceled due to lateness.) Jim Cameron was third in NWSR. One highlight of the race was Thompson's record-setting 3:53 preliminary heat.

Phil Granderson edged out Bob Emmett in an expert precision aerobatics duel that was fought with as much verbal sparring on the ground as there was flying. While the two kept the spectators grinning with their hi-jinks, they also turned in some good stunt patterns. Phil's final score was a 558, edging Emmett's best of 520. Joe Dill of Spokane also flew, but had engine troubles that kept him out of contention. Jim Cameron won advanced with a 421 score, his personal best. Dave Mullens made his first try at stunt but had to give up early after an unfortunate thunk on the sod.

We'll try to list the complete scores for all events in the November issue, but here are the partial results:

FAST COMBAT
(26 entries,
double elimination)
1. Mike Petri
2. Richard Brasher
3. Gene Pape
4. Chuck Thomas
5. Ron Scoones
6. Gary Stevens

SLOW COMBAT
(6 entries?)
1. Keith Wanski
2. Dick Salter
3. David Ireland
4. John Knoppi

NW SPORT RACE
(6 entries)
1. Gary Stevens
2. John Thompson
3. Jim Cameron
4. Dick Salter

PRECISION AEROBATICS
(Expert)
1. Phil Granderson
2. Bob Emmett
3. Joe Dill

(Advanced)
1. Jim Cameron
2. Dave Mullens

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CLAMBASH CULMINATES COASTAL CONTEST CALENDAR

The second annual CLABbash, Astoria, Oregon's second contest of the year (the first was the Northwest Sport Race Drizzle Circuit contest last spring) came off Sept. 22 after a couple of unfortunate delays caused by problems in obtaining the site. The contest moved into town from the ideal Camp Rilea site, but John Warren Stadium, the high school football field, proved quite pleasant. The contest had a sort of big-time air with Bill "Darth" Varner doing expert commentary over the field's public address system. As usual, CLAMS made beautiful trophies.

The contest's only drawback was lack of participation. The uncertainty over the date, nearness to the Bladder Grabber, and just general lateness after all the summer contests, contributed to a disappointingly low entry.

The contest kicked off with Class I $\frac{1}{2}$ A mouse race, and it was 11-year-old Rod Watson who showed what it takes to win on grass. While John Thompson and Jim Cameron watched their trick racing planes flip and break on the stubbly surface, Rod's wheelless beginner plane purred to an easy win and Rod's first first-place trophy.

Class I $\frac{1}{2}$ A combat might not have come off, except for Chris Genna's reluctant willingness to challenge only entrant Jim Cameron. Chris, a firm non-competitor, was corrupted by his first combat competition. We all knew Chris's non-competitive attitude had disappeared when he instructed his pit man to rip off that loose outboard wing after a crash. Shore 'nuff, Chris downed Cameron two straight matches, to take first place.

Class II $\frac{1}{2}$ A combat was indeed the domain of old pros, with Gary Stevens finding his way easily to the top spot, followed by Phil Granderson, whose screaming TD threw its crankshaft. Best match was between Jim Cameron and John Thompson, who spent most of the time tangled but still flew some exciting combat. (Jim won).

Fast combat didn't live up to its reputation as a crowd pleaser, as the only two matches were somewhat anti-climactic. In the first match, Granderson had engine-starting trouble. Thompson got a quick cut, came down for a pit stop and didn't re-start, winning on the cut and air time. Varner breezed to the win over Thompson, whose early crash destroyed his plane and ended the show. After it was all over, Granderson and Varner flew a match just for fun and put on the best show of the day.

Stunt brought out two entries, one of whom had engine problems, and there was no official flight. No trophies were awarded.

The highlight of the day, for those who keep track of speeds, times, and records, was in Northwest Sport Race. Preliminary heats were a mixture of excellent times and dumb luck, but the final was "something else."

Stevens won the first preliminary with a 4:04 time, edging Rich Schaper's 4:05. Both times would usually be good enough to win. John Thompson had a sour run and recorded a 4:13, though a suspect stopwatch rendered the time questionable. The second preliminary went to Phil Granderson, with a 4:44, beating out two DNFs.

That set the stage for the rip-roaring final. Some between-race repairs rendered Thompson's plane fit once again, and the go-signal was the start of the best final race ever turned in NWSR. Thompson won with the record time of 7:40. However, Stevens' plane, a Dumas Tomahawk with ST.35, was also turning blistering air speed until a structural failure caused a crash late in the race. Granderson picked up second with a 10:07 time.

Here are the complete results:

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NORTHWEST SPORT RACE

Heat #1

1. Gary Stevens 4:04
2. Rich Schaper 4:05
3. John Thompson 4:13

Heat #2

1. Phil Granderson 4:44
2. Jim Cameron DNF
3. Tom Knoppi DNF

 $\frac{1}{2}$ A COMBAT CLASS I

1. Chris Genna
2. Jim Cameron

 $\frac{1}{2}$ A COMBAT CLASS II

1. Gary Stevens
2. Phil Granderson
3. Jim Cameron

FINAL RACE

1. John Thompson 7:40, Ringmaster, K&B .35
2. Phil Granderson 10:07 Ringmaster, McCoy .35
3. Gary Stevens DNF Tomahawk, ST .35

 $\frac{1}{2}$ A MOUSE CLASS I

1. Rod Watson 10:26
2. John Thompson 57 laps
3. Jim Cameron 24 laps

PRECISION AEROBATICS

Two entries, no flights, no trophies awarded.

RAFFLE PRIZES:

1. Mike Brewer, Fox Combat Special
2. Tom Leach, Sterling P-51 Mustang kit
3. Mike Brewer, St. Clair launcher
4. Al Clapp--subscription to Flying Lines

CROWD-PLEASER AWARD

(for best crash of day)
Gary Stevens (NWSR)

CERTIFICATES GO OUT TO NW RECORD-HOLDERS

Thanks to amateur printer and professional modeler Jim Zehrung of Portland, FLYING LINES last month began mailing out certificates to all Northwest control-line record-holders. FLYING LINES began keeping records of racing times, speeds and carrier scores at the 1979 Northwest Regionals and will continue to do so. Each time a new record is set, the new record-holder will get one of the certificates donated by Jim Z. The documents list the event, record performance and date, along with the name of the flier and the signature of the editor or publisher of the newsletter.

Beginning at the start of 1980, FLYING LINES also will begin keeping combat flying standings, since that is an event that does not lend itself to records. The standings will be based on fliers' wins against others over the course of the season.

Records fell like rain during the months of September and early October.

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New records were established in both Class I and II mouse race heats and finals, in AMA slow rat heat and final, and in Northwest Sport Race heat and final.

Jim Cameron of Seaside, Ore., set Class I mouse race heat and final records of 3:05 and 6:36.9 at the Ratbash racing contest in Eugene, Ore. The team of George Gilbert and Jeff Shelby set a record in Class II mouse race heat of 4:24 at the same contest, and Cameron took the final with a time of 14:32. None of the four mouse records had been established previously. With establishment of those records, FL is eliminating its records for mouse race in 70-lap and 140-lap races, which are based on 35-foot lines. FL records from now on will be based on AMA rules, except for NWSR. Both records (3:27 and 6:30) had belonged to John Thompson.

Mike Hazel set a slow rat record (previously unestablished) of 4:15.4 and John Thompson bettered the record with his 8:33.6 for a feature race. The feature record had been Richard Simpson's 9:06. To date, all slow rat records have been set by sport racers. Rumor has it that a nationally-feared slow rat racer is moving to the Northwest, so better get those projects done, folks!

Northwest Sport Race records, both official FL records and all-time recorded memories, were wiped clean during the months of September and October. John Thompson set a new standard for a feature race with a 7:40 at the CLAMBASH in Astoria, Ore., and followed that performance with an equally unprecedented 3:53 heat at the Bladder Grabber in Seattle. Previous feature record was Mike Hazel's 8:40 (set at Ratbash) and Richard Simpson's 4:01 had been best for a heat.

Here are the complete records:

1/2A MOUSE, CLASS I	50-lap: 3:05 (Jim Cameron)	100-lap: 6:36.9 (Cameron)
3/4A MOUSE, CLASS II	75-lap: 4:24 (Gilbert-Shelby)	200-lap: 14:32 (Cameron)
GOODYEAR	80-lap: 3:52 (Mike Hazel)	160-lap: 7:31 (John Thompson)
SLOW RAT	70-lap: 4:15.4 (Mike Hazel)	140-lap: 8:33.6 (John Thompson)
RAT RACE	70-lap: 2:35.55 (Mike Hazel)	140-lap: 5:21 (Mike Hazel)
FAI TEAM RACE	100-lap: --	200-lap: --
NW SPORT RACE	70-lap: 3:53 (John Thompson)	140-lap: 7:40 (Thompson)
1/2A SPEED:	76.57 (Jeff Bell)	JET SPEED: 165.83 (Mike Hazel)
A SPEED:	125.82 (Mike Hazel)	FAI SPEED: 88.05 (Scott Newkirk)
B SPEED:	142.47 (Mike Hazel)	1/2A PROTO: 71.97 (Jeff Bell)
C SPEED:	--	B PROTO: --
D SPEED:	--	FORMULA 40: 149.5 (Mike Hazel)
PROFILE NAVY CARRIER:	208.78 (Marty Phillips)	
CLASS I NAVY CARRIER:	268.98 (Terry Miller)	
CLASS II NAVY CARRIER:	319.65 (Orin Humphries)	

Records listed here must be set by Northwest residents, though they may be set at any location in an AMA-sanctioned contest.

Jim Zehrung, printer of the certificates, writes, "I received the latest copy of FL yesterday. You guys really do a good job. Keep up the good work. I am going to try for a certificate from you for 1/2A multi-engine profile scale inverted speed."

WHO ARE YOU?

Flying Lines would like to print capsule biographies on Northwest control-line model aviators. Send us a note telling us about your background, occupation, family, other hobbies, and main modeling interests and projects. Help us get to know each other better!

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GRANDERSON GOES TO POLAND

Phil Granderson, the "Mr. Cool" of Northwest combat, calmly dispatched seven consecutive opponents Sept. 15-16 to win the top spot on the team that will represent the United States in the control-line world championships in Poland next year.

The team was selected at a triple-elimination contest sponsored by MACA, the Miniature Aircraft Combat Association, at St. Louis's Buder Park. Granderson rose to the top of a list of 24 of America's "big name" combat fliers. Another Northwest combateer, Howard Rush of Kirkland, Wash., ended the trials with a 4-3 record.

Granderson's win at the team trials was no surprise to combat fliers who have watched "P.T." win the 1978 U.S. National Championships in fast combat and too many other contests to count in a 13-year combat career. He was the only flier at the team trials to go undefeated.

He will be joined on the team by Texan Sherwood Buckstaff and George Cleveland (this year's fast combat Nats winner) of Louisiana. The world championships are held every two years. Buckstaff and Cleveland had one loss apiece. Alternates on the team are Paul Curtis (6-3), Ron Columbo (5-3) and Paul Smith (4-3).

Granderson, 31, of Seattle, has been flying model airplanes for 24 years, going to his first Nats as a stunt flier in 1967 and taking second place in the senior division. His interest slowly shifted toward combat, and though he still is considered a threat to win the expert division of any Northwest stunt contest, Phil is known best for his combat flying. He also regularly flies Northwest Sport Race.

"According to my parents, the first word I said was airplane," Phil said in an interview in his North Seattle home recently. "I never even saw a model airplane before I wanted one. Phil built his first gas model at age 9, though he says, "It took me two years to learn how to fly around in a circle."

He has gone through several jobs, businesses and other pursuits, but says, "Somehow I always find time for airplanes." Now, he operates a pool table distribution business (and donated one of his products as a prize in the Bladder Grabber combat contest.)

Granderson was born in New Orleans, La. An "Army brat," he grew up all over, including three years in Germany. He lived several years in California before moving to Seattle six years ago.

His "trophyography" lists the first place in every major combat contest on the West Coast, except for the Bladder Grabber. He has won fast combat at the Northwest Regional Control-Line Championships (1977 and 1979--in the '77 contest, he also won stunt and NWSR to gain the Grand Champion trophy).

"The only thing left is the Bladder Grabber," Granderson says. He vowed to win it this year, but it's the nature of combat to make such predictions foolhardy. That's the very element of uncertainty that keeps Phil flying the event.

"Combat doesn't get old," he says. "Building planes gets old."

It's axiomatic in combat that on any given day any combat flier can have an off day. But, as another prominent Northwest combat flier says, "When he has an off day, it's still harder to beat Phil than it is most people."

Granderson likes FAI combat best of all the combat events, partly because of the rules that allow two planes and a start with engines running.

"Every match is just about four minutes solid combat," he observes.

He went through six airplanes in the team trials, though he took a dozen. He plans to take 12 to 15 to Poland, and will work on designs during the winter and spring. This year's trials were Phil's second try to make the team. The quest for a suitable design will be a quest for consistency. Phil has several designs in mind and is at work on the first prototypes.

"The hardest thing is to be consistent," he says. It's something he apparently hit upon at the team trials, beating Bob Rule, Ernie Lane, Dick Imhoff, Chuck Rudner, Paul Smith, George Cleveland and Paul Curtis.

The Seattle-area Jive Combat Team, of which Phil is a member, bills itself as "globally-feared," but Phil has truly established himself as one of the international elite of control-line modelers. Try as we might to beat him at the usual Northwest balsa-smashing get-togethers, Phil's usual opponents here will be rooting for him and the rest of the U.S. Team in Poland in 1980.

MAILBAG

Dear FL:

...We've noticed the plugs you've given our newsletter (CL-RPM Racing News) in yours! We'll start putting one in for you on our back page (under the stamp or in some other equally choice location).

Who wrote that "eau de rose?" Sounds like you, Hazel (Editor's note: Wrong--it was Thompson) Arrrgh! Who everheard of a Cro-Magnon saying that?

In spite of that, we proceeded to read the rest of the n/l. It's about time that the racing column appeared! We even liked it. Always wondered--why have an engine and propeller? Now we know. The advice about props is right on, even if most people don't do it. Breaking those suspect props will

save you a lot of grief later. You might also mention using Hot Stuff to seal those bleeding fingers on pit men--I use it frequently.

Have you tried a Rev-Up 9x7 instead of that Zinger? Some of the Big Goodyear boys say it works better. Speaking of Big Goodyear, have you been following the squabbles about the rules? We've got the answer-- $\frac{1}{2}$ A Goodyear ships powered by Quadras! What more could you ask for except possibly twin Quadras?

Finishing up my Wild Turkey slo rat for Hubschmidt's 2-ounce, no-schernerle one-hour enduro. G21/35 with diesel conversion up front. Should be "wild."

Later, T&C

(Editor's note: T&C, Toodles & Chop, are Greg and Sherry Holland, editors of Racing News and operators of Chop's Products. Another little "Chop or Chopette" is on the way, we hear.)

WHERE THE ACTION IS

Winter doesn't necessarily mean doldrums as the following schedule shows. Here is what's coming up in control-line competition. If you know of a contest or informal event not listed here, remind the contest director to send the details to Flying Lines for inclusion in the next edition of the contest calendar. Results should also be sent promptly.

- NOV. 18.....EUGENE, Ore. -- Flying Lines Benefit Turkey Tournament. Entrants will use one airplane to fly four events, speed, racing, novice stunt and slow combat. Any plane and engine legal for sport race or slow combat is allowed, one plane only. Entry fee \$5 for FL subscribers, \$6 for non-subscribers, \$10 for subscription plus entry. First prize--a Thanksgiving turkey; second prize-- a model airplane kit; third prize--a FL subscription. Site: Mahlon Sweet Airport, Eugene, Ore. Contest director, Mike Hazel. Contact Flying Lines, 1411 Bryant Ave., Cottage Grove, Ore., 97424 (503) 942-7324 for information.
- DEC. 9.....PORTLAND, Ore. -- Northwest Sport Race Drizzle Circuit No. 1. Northwest Sport Race (three preliminary heats for each entry, four-plane final, points accumulate for circuit trophies). $\frac{1}{2}$ A Mouse Race. Contact John Thompson, c/o Flying Lines, or Contest Director Dave Gardner, 17870 Shasta Trail, Tualatin, Ore., 97062, (503) 638-4224. Site: Delta Park. Sponsored by Portland Aeroliners
- JAN. 13.....KENT, Wash. -- Northwest Sport Race Drizzle Circuit No. 2. Northwest Sport Race (above details) and Scale Race (Goodyear). Site: Boeing Space Center. Contact John Thompson c/o Flying Lines or Gary Stevens, (206) 633-3992. Sponsored by Red-Max.
- FEB. 10.....ASTORIA, Ore. -- Northwest Sport Race Drizzle Circuit No. 3. Northwest Sport Race (above details) and $\frac{1}{2}$ A combat, classes I and II. Site: Camp Rilea, south of Astoria on Highway 101. Contact John Thompson, c/o Flying Lines, or Contest Director Dave Green, 200 W. Franklin, Astoria, Ore., 97103 (503) 325-7005. Sponsored by North Coast Control-Line Aeromodelers' Society (CLAMS).
- MARCH 9.....SEATTLE, Wash. -- Northwest Sport Race Drizzle Circuit No. 4. Northwest Sport Race (above details) and slow combat. Site: Carkeek Park. Contact John Thompson c/o Flying Lines, or Al Johnson, c/o Hobby House, 10011 Holman Road NW, Seattle, WA 98177. Sponsored by Seattle Skyraiders.
- APRIL 13.....EUGENE, Ore. -- Northwest Sport Race Drizzle Circuit No. 5. Northwest Sport Race (above details), Goodyear, and FAI team race. Circuit trophy presentation. Site: Mahlon Sweet Airport. Contact John Thompson, c/o Flying Lines, or Contest Director Mike Hazel, 1319 Aspen St., Eugene, Ore., 97401 (503) 726-1185. Sponsored by Eugene Propspinners.

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DRIZZLE CIRCUIT UPDATE

It is drizzling in Oregon as this is being written and that means the Northwest Sport Race Drizzle Circuit is getting closer. Actually, DC organizers (FLYING LINES and the Eugene Propspinners) have ordered another five Sundays like last year's circuit, during which it rained only once for part of a day. Our engines run best in moist air, right?

Anyway, the circuit is shaping up much as originally planned, and we hear of racers new and old getting ready. Hopefully there will be a whole crop of newcomers getting their feet wet, so to speak, in racing.

Details of the contest procedures were listed in the September Flying Lines. For those who missed it, here's a quick review: Every entrant gets to fly three preliminary heats, with four finalists selected on the basis of placing in the heats. Everybody gets one championship point for heat finished, plus additional points for their placing in the final race. Championship points will mount up toward year-end trophies. Each contest on the circuit will have a secondary event.

Entry fees, prizes and other details will be left up to contest hosts, though all NWSR events will be run the same under the watchful eye of FL, which will be keeping circuit statistics. Complete circuit details will be on a flyer to be published in the November FL and circulated globally.

For further information, contact John Thompson, c/o Flying Lines.

Here is the now-firm schedule:

DATE	CITY	SITE	HOST	2ND EVENT
Dec. 9	Portland, OR	Delta Park	Aeroliners	1/2A Mouse
Jan. 13	Kent, WA	Boeing SpcCtr	Red-Max	Goodyear
Feb. 10	Astoria, OR	Camp Rilea	CLAMS	1/2A Combat (2 classes)
March 9	Seattle, WA	Carkeek Park	Skyraiders	slow combat
April 13	Eugene, OR	Airport	Propspinners	Goodyear & FAI team race

The flyer and next issue of FL will list entry fees, prizes and any other details not tied down at this time.

GOBBLE, GOBBLE

Alright. We've heard all the talk about "turkey events." Now here's a chance to fly in the real thing.

On Nov. 18, the Sunday before Thanksgiving, will unfold the Flying Lines Benefit Turkey Tournament. It's a chance to use one airplane to fly four events, compete all day long, have some laughs and maybe win yourself a large turkey (plucked, cleaned and frozen, of course). Second prize will be a model airplane kit, and third prize a subscription to Flying Lines.

The flyer elsewhere in this issue has all the lurid details, but here is a brief rundown: Any plane legal for Northwest Sport Race or slow combat is legal. So is any engine for either event, but sport race legal engines will get a slight points bonus.

The first event is speed. It will be run formula 40 style. Fourteen laps from a standing start, rising off ground. Next event is racing. A 100-lap preliminary heat and a 200-lap final. No pit stops required, but a 3-ounce tank maximum. (What will it be guys, speed and pit stops or economy?) The third event will be the AMA novice stunt pattern (look on page 34 of your rulebook for the maneuvers). Then comes the finale--slow combat. Combat fliers beware--you only get the one airplane and when it's gone, you're done.

So grab down that old slow combat job off the wall (or build one--it'll only take a couple nights) and show up with your turkey feathers on. Entry fee is \$5 for FL subscribers and \$6 for non-subscribers. For \$10 you can enter and get a subscription, too. All the money (except for the turkey) goes to keep FL publishing.

The site will be Mahlon Sweet Airport, Eugene, Ore.

SPEAKING OF FLYING LINES...

Flying Lines circulation has been growing steadily, thanks in part to the salesmanship of its subscribers, support from hobby businesses, and a bit of promotion by the editors. "Attaboys" are well-deserved by many of you out there who have helped us get to issue No. 6--a half year of publishing. The "arm-twister" award of the month must go to Tom Anoppi, who has singlehandedly brought in several subscriptions, as well as to Gary Stevens, Orin Humphries, Gene Pape and others who have helped out. Also thanks is deserved by our regular columnists, Orin Humphries, Buzz Wilson, Chris Genna, Rich Schaper and Mike Hazel. (Watch for a new column on scale, starting soon.) Flying Lines now goes to Oregon, Washington, Washington, D.C., Illinois, New Jersey, Texas, Pennsylvania, Florida, Virginia, California.

Tell your flying buddies to sign up and find out what's happening in Northwest control-line model aviation. Send \$6 to Flying Lines, 1411 Bryant Ave., Cottage Grove, Oregon 97424. Ad rates: \$5 per half page, \$3 for a quarter page, \$10 per year for Hobby Shop Directory listing, \$1 for five lines of classified advertising. Letters, articles, photos, criticisms gladly accepted.

HOOK NOOK

By Orin Humphries

Boy, did John and Mike uncork a motor-mouth when they gave me this column! We will go over the ins and outs of a carrier model and the flying of them 'till the cows won't come home. But none of it will be super-technical. Nuts and bolts stuff only. From me, that is. If a reader wants to contribute higher material, I'll print it.

I ran out of space in the first installment on leadout position, and I need to share some final remarks. Why so much space to this subject? I have seen more models with mushy line tension and more models crash, all due to having the leadouts exit the plane at too high a location than for all other reasons combined (Except combat...)

I'm a teacher with an after school model club. I organized and honchoed the Spokane U-Control Association for its five year run, and most of those people were new to the sport; they were unaware of many points of model building--like all newcomers. So, I've seen many, many new pilots, builders and planes. The one thing that surfaces as the most frequent and immediate threat to the safe operation of a model is having the leadouts exit (or go through a guide that is above the actual center-of-gravity location in the model. For all control-line models, not just carrier planes.

We are complacent. Just the way a model is built makes it very difficult to get the fore and aft leadout exit location in a wrong place. Just because a kit is mass-produced and plans are widely circulated, we think the designer has the correct vertical leadout position. I can prove that at least one third of all kits and plans on the market have the leadouts too high. These planes will have mushy lines or will crash. The pilot will say, "It torqued in on me!" Not so.

Right now, I feel like a preacher. Am I wearing you out?

Two last points and I'll leave it. I have a friend in Spokane who is building an OV-10 Bronco, a high-wing twin-engine ship. He wants to put the leadouts in a concealed location in the wing for aesthetic reasons. I told him that would be above the CG and that the model will roll in on him just like his last Class I carrier ship. He thinks he can overcome a too-high leadout exit with the right aileron setting. I told him I had actually tried that on my A-26 and it just won't overcome high leadouts. Forget ailerons. He won't listen. It is a shame to see all that time, work, love and money smash up on takeoff as it surely will.

An example of a kit with improper leadout position is the Sterling Corsair. They want the leadouts to come out the wing tip. I tried it and it was too high; the model was rolled inboard. I moved them to the bottom of the third rib in from the tip and it is just right. Whew! Done at last. Thank you for your patience.

How many times have you heard that you can put the bellcrank anywhere in a model as long as you have the leadouts right? It's true. But that's not always best. Let me tell you of a bitter lesson my Corsair gave me in bellcranks.

BELLCRANKS

The Sterling kit puts the bellcrank up at the fuselage centerline so the leadouts can go through the tip of the wing. Already I have said that's a no-no. But in moving the leadouts to the correct place, I then had a significant angle between them and the bellcrank platform. So I pulled on the leadouts hard, looking for a bind. I didn't find one that scared me, but I was skeptical. Do I take time to tilt the platform and eliminate the angle? I pulled on the wires again. No big deal. So, I finished the model and flew it. ARRGGH!!

In flight, the throttle would not budge from high speed. Six ounces of fuel at 92 mph. I loved it.

Back in the work shop, I sawed into the fuselage and removed the bellcrank platform. I stuck a wedge underneath it that raised the outboard edge $\frac{1}{2}$ ". Now the platform was parallel to the leadouts. On its next flight, the throttle worked freely.

By contrast, most carrier planes are like my A-1 Skyraider, from plans. The bellcrank is in the bottom of the fuselage as the A-1 is a low-wing job. The engine is mounted upright, so the carburetor is nearly two inches above the bellcrank. Herein lies the remaining point for this article.

Modern engines many times require more movement of the throttle rod to go from full open to closed than a J-Roberts crank can furnish. That is, if you use the farthest hole in the carb arm rather than the one closest to the carb barrel's axis. I like the farthest hole in the arm as I feel it gives

more vernier movement. But I wouldn't argue that point. The point of this is, we can't afford to lose any of the bell-crank's output in the throttle rod throw department. If the crank is putting out, say, 11/16" of throttle rod travel, we need all of it to get to the carb arm. Doesn't it, you ask? Not if the bellcrank and carb are at different levels in the plane.

Triangulation gets into the act when the crank and carb are at different levels. Try this: On your favorite carrier ship plans, draw a pencil line representing a bellcrank platform that is two inches below the carb arm and 5 1/2" back. Draw a line straight from the platform to the carb linkage arm for an upright engine. Now, if you will measure the angle this line, representing the throttle rod, makes with the horizontal, you will find it rises at a 20-degree angle to get to the carb arm. The throttle section of the bellcrank is moving in a horizontal direction, and the throttle rod is moving in a slanted direction. Trigonometry (uh, yeah...) tells us the rod will get only a percentage of the crank's output, because of the angle. In this case, the percentage is called the cosine (cos) of the angle. If you look up cos 20° in a trig table, you will find the value .939. This means you will get 93.9% of the crank output into the rod. If the angle were 30°, in a smaller model, you would get 86.6% of the crank throw available at the carb arm.

So, you have two choices: Either mount the bellcrank at the same level as the carb arm, or mount it at a different level and use a second, intermediate, regular bellcrank between the J-Roberts and the carb arm. This second crank would be mounted vertically instead of flat. One rod would go straight, level, forward to the second crank, attaching to one end. Another rod would come from the other end of the crank forward to the carb arm. This second crank, then, takes care of the difference in elevation. Both rods must be the same distance from the center of this second crank.

Can you simply put a Z-bend in the rod instead of the second bellcrank? No. Geometry says there is no substitute for the second crank that will preserve the output of the J-Roberts crank.

I am not wild about a second bellcrank in the system. It is a source of drag and slop. I used it in my A-1 because I didn't know better at the time. My next ship will be like my Corsair in that it will have the J-Roberts at the same level as the carb arm, even though I may have to tilt the bellcrank platform. I will be careful to route the leadouts to the proper point and not to put any leadout tubes for the wires in which will bend the direction of the leadout wires--that would introduce drag into the system. I will bend the throttle rod to clear the tank and maybe move the tank a little (this is no stunt ship, right?) Bending the rod is okay here because the platform and the carb arm are on the same level--no triangulation.

Hope I didn't lose you. Write for a diagram if you like. Next time: What do I do to my tailhook that lets me take home some of your trophies?

--Orin Humphries, 5208 N. Elgin, Spokane, WA 99208

ROUND & ROUND & ROUND...

This month's photos are from the RatBash contest in Eugene, Ore., Sept. 16, an all-racing get-together. Results were in the September issue. Top, left: George Gilbert of Eugene's Gilbert-Shelby team releases a Class II mouse racer. Center, left: Bill Varner of Astoria releases his mouse in same heat. Bottom, left: Niftiest-looking Class II mouse around, Willie Naemura's design. Top, right: Lineup of racing planes--Class I & II mice (mice?), a slow rat, and sport racers. Bottom, right: Willie Naemura tunes up Class II mouse.

PARTING SHOT

Whew! Putting out this rag is a lot of _____ work! The support FL has received from NW modelers has been encouraging, and it keeps us going. Keep feeding us information and we'll keep burning the midnight oil. The first half year has gone by so fast we almost missed it, but here we are at issue No. 6. We have a backlog of articles on racing, combat, stunt, sport and carrier flying, are adding a scale column, and we've got two more issues worth of pictures. And somebody said CL was dead! Over FLYING LINES' dead body!

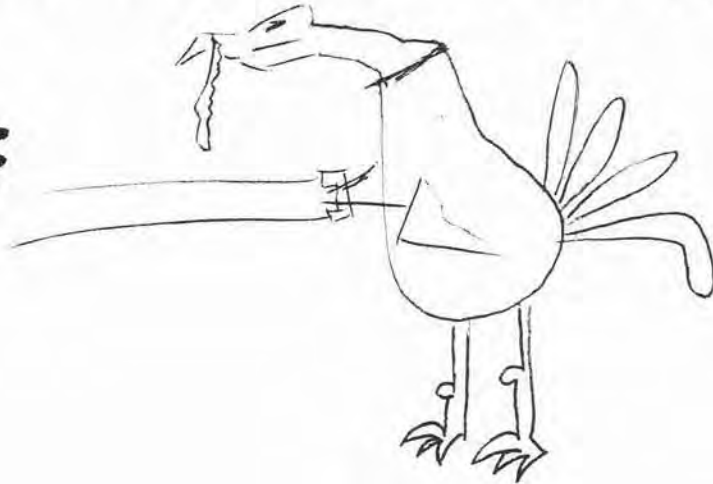
See you in November. (Oh, Lord...it's almost time to start typing that one!)

HERE'S A FUN FLY CONTEST YOU WILL JUST GOBBLE UP!!!!

ANNOUNCING THE FLYING LINES BENEFIT:

TURKEY TOURNAMENT

EUGENE



**NOV.
18**

FLYING LINES is sponsoring a real turkey contest. Proceeds from entry fees will go to the newsletters treasury, which needs money worse than Thanksgiving needs turkeys. Here's the details:

This contest will allow modelers from every sector of CL flying to compete in an event strictly for fun. And there won't be anybody standing around waiting for somebody's else's event to get done, since every entrant will fly all events.

Each contestant will use a single plane to compete in four events: Speed, Racing, Novice Stunt, and Slow Combat. The winners will be the people with the best combined scores .

AIRPLANE: Must be legal for NW Sport Race or Slow Combat. Must have LG.

ENGINE: .36 Max. Suction feed, no hot gloves or shutoffs, etc.

GENERAL: Only one plane may be used for the entire contest. Repairs may be made in the event of crash, provided the repairs do not unreasonably hold up events. Engines may be replaced only in the event of a mechanical failure. Props and plugs and fuel may be changed at any time, and landing gear may be removed for combat if desired. .018x60 stranded lines.

SPEED: As per Formula 40 timing; 14 laps from standing start, ROG.
Three attempts allowed.

RACING: Prelim heats of 100 laps, Final rade of 200 laps. No pit stops are required, but a maximum 3 ounce fuel tank is the rule.

STUNT: AMA novice pattern, must ROG.

SLOW COMBAT: AMA slow rules. Destruction of airplane constitutes elimination, any win in the process is counted. Hand launch OK.

SCORING: For each event, First place equals 10 points, subtracting one down to zero, for below tenth place. Combined points from all events equal the final score. It is not necessary to fly in all events, but a no fly is zero points, for that event.

AWARDS: First place prize is a genuine frozen turkey. (A better looking specimen than that pictured above)
Second place; one kit for .35 size engine.
Third place: Free subscription, or.....

Site: Mahdon Sweet Airport, Eugene, Oregon (the usual place)
AMA SANCTIONED.....AMA MEMBERSHIP REQUIRED...AVAILABLE AT REGISTRATION.

Entry Fee is \$5. \$10 buys you entry fee and a subscription.

Contest will get under way at about 10:00 AM

CD: M W Hazel, 1319 Aspen St., Eugene, Oregon

726-1185

