

NEWS OF NORTHWEST CONTROL-LINE MODEL AVIATION

1073 Windemere Dr. NW, Salem, OR 97304

Editor: Mike Hazel

DECEMBER 1992

ISSUE # 103

IN THIS ISSUE.....

- * "Rayette", an oldie reprint
- * Round & Round, by John Thompson
- * Scale, by Orin Humphries
- * Hook Nook, by Joe Just
- * Contest Results,
 - Really Racing/Fall Follies, Eugene
 - VGMC Internats, Richmond
 - Raider Roundup, Kent
- * NW Competition Standings
- * NW Competition Records
- * Record Review: AMA Slow Rat Race
- * Lots of more good stuff!

Cockpit Chatter



Notes from the
editor's desk
By Mike Hazel

Early winter greetings to y'all!!!! It's been nearly two months since the last issue went, and hopefully this largish ish will take care of your FL fix.

A reminder that your AMA dues are due, in case you haven't taken care of that business yet. December 15th is the deadline quoted as the cutoff of being in time as to not miss any of your Model Aviation magazines.

Speaking of Model Aviation, it was good to see the construction article by Bill Darkow and John Hall in the December issue. Their "Curtis Seahawk" is a good looking bird, saw them in action at the VGMC Internats. It would be good to see more NW modelers putting together articles like this. Ever wanted to do an article but did not know how to go about it? Our own Round & Round columnist, John Thompson, made that a subject in FL a few months ago. Look it up, and give it a thought. If you can't find the article, I'm sure John won't mind checking to see what issue that article was in.

Wow! Here's another mention Model Aviation magazine. Without trying to be at all cynical, but can you believe they went 4 (f-o-u-r) months without an RC plane on the cover??!!!! Yep, not only that, but the last four covers, (up thru December issue), had actual to goodness shots of control line and free flight stuff on them. Hooray for the photographers and the editorship.

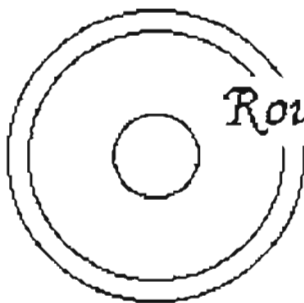
Save for going to club meetings and making an occasional mess in the workshop, there won't be a lot of CL activities going on for awhile, what with the Monsoons now visiting us. (wait a minute, that didn't stop us from competing when we had the Drizzle Circuit) The next major scheduled modelers event in the NW, is the NW Model Exposition, known more commonly as "Puyallup". See flyer in this issue for more details. If you are planning on attending, please consider taking up one of your best looking planes to put into their entered display. We need all the exposure we can get. The Skyraiders are planning on their usual flying demonstration, and hosting a club booth. Make sure you stop by and say hello.

In the January issue of Model Aviation, a summary of CL rules proposals was listed. (page 139). Most of them concern precision aerobatics, speed, racing, and combat. Please give these a look, and if you have any questions or input, let our contest board member hear from you. That would be John Thompson. The CLCB must submit their votes later this month, so do not delay with your input.

In the September issue of FL, we had a carrier control system schematic included in the carrier column. It was brought to my attention, and rightly so, that this is an obsolete arrangement. Modern day carrier birds use a elevator activated tailhook release, and the sketch showed a throttle-activated unit, which works, but puts a lot of mechanical drag on the throttle control. This was the editor's inclusion, not Joe's, sorry!

If all works ok, you will notice computer generated mailing labels, instead of the editor's hand scrawling. The numbers by your name denote the beginning and ending issue number of your subscription. If the number on the face of the issue matches the last number on your mailing label, then this is your last issue, and it's time to put bucks up!!!! By the way, it doesn't hurt to send in renewals early, then you are sure not to forget and miss an issue. Speaking of missing issues, we have a few who have not renewed. They will not be reading about it though, since they don't receive FL anymore. Make sure you ask your flying buddies if they are current on FL, and if not, tell them to get with it.

With this issue, comes the return of the Record Review department. Some of you other NW record holders can expect to hear from the editor this winter, soliciting details.



Round and Round

The Control-Line
modeler at large

By John Thompson

A racing/stunt weekend

THE EUGENE PROPSPINNERS' annual Really Racing/Fall Follies weekend was a Beauty & The Beast type of affair.

The Beauty was a pleasant, well-attended Sunday precision aerobatics contest, with good weather (though slightly windy during part of the day), good humor and good flying.

The Beast had visited a day earlier, however.

Really Racing, which had been promoted far and wide for several months — a contest that has been developed over the past several years in response to calls from Northwest racers for more opportunities to fly AMA events — drew a grand total of four entrants.

Two of those entrants drove 500 miles from California's Bay Area to compete, only to be disappointed and a bit disgruntled by the lack of competition. The only other two entrants were drawn from the local people involved in putting on the contest.

It's going to be difficult to get members of the Eugene Prop Spinners who are not active racers themselves to come out for an entire day of contest work for this level of participation. It is hoped that the Northwest racing community will come to some agreement in the coming year about what kind of contests it will support. This kind of full-scale racing contest can continue only if there's some level of interest shown.

In spite of the low entry, the racing meet was indeed held, with racing going on more or less constantly from 10 a.m. until 4:30 p.m. There were from two to four entries in each of six classes (two classes had no entries). Because of the small number of racers, there were not enough pit crews for three-up races, so all of the classes with three entries were run as round robins, with each team flying twice. Those with two or four entries in-

volved single feature races.

Some good races evolved, and the Northwest slow rat race feature record was knocked down not once but twice in the same day.

Considerable thanks are due to the Prop Spinners who worked hard all day to provide this racing opportunity for Northwest fliers: Dave Hammond and family, Ron Graff, and Morrie Gilbert. Morrie also arranged for the trophies and much-appreciated on-field rest rooms.

Sunday was definitely a different story, as stunt fliers turned out in force, providing competition in all four PAMPA classes. There was at least one withdrawal because of the wind, and a few passes were logged. However, most fliers completed all their flights.

Welcome aboard to new fliers Robbie Liedle and Gary Harris, first-timers in the beginner class.

Judges for all four classes were Gerald Schamp and John Thompson; the scoreboard was provided by Mel Marcum.

Here are the results of the two-day contest on Oct. 17-18:

Class I Mouse Race: 1. Mike McCarthy, Glen Ellen, Calif., 5:35.97. 2. Nitroholics Racing Team (Mike Hazel/John Thompson), Salem/Cottage Grove, Ore., 6:32.25. 3. Bob Boling, Richmond, Calif., 89 laps. (100-lap feature).

Class II Mouse Race: 1. Nitroholics, 11:46.00. 2. Mike McCarthy, 12:40.76. 3. Bob Boling, 12:53.56. (200-lap feature).

Northwest Goodyear: 1. Nitroholics, 10:45.28. 2. Morrie Gilbert, Eugene, Ore., 11:28.85. (140-lap feature).

AMA Goodyear: No entries.

Slow Rat Race: 1. Nitroholics, 6:37.91 (Northwest record). 2. Mike McCarthy, 8:11.63.

3. Bob Boling, 12:23.56. (140-lap feature).

Rat Race: No entries.

Northwest Sport Race: 1. Mike McCarthy, 9:21. 2. Nitroholics, 10:57.28. 3. Bob Boling, 12:35. 4. Morrie Gilbert, 14:24. (140-lap feature).

Northwest Super Sport Race: 1. Mike McCarthy, 7:51.06. 2. Bob Boling, 8:03.63. 3. Nitroholics, 9:07.35. (140-lap feature).

Pit Stop Championship: No entries.

Beginner Precision Aerobatics: 1. Gary Harris, Hillsboro, Ore., 165. 2. Robbie Leidle, Kirkland, Wash., 43.5.

Intermediate Precision Aerobatics: Dave Royer, Portland, Ore., 353. 2. Alice Cotton-Royer, 303.5. 3. Terry Dean, Klamath Falls, Ore., 290. 4. John Leidle, Kirkland, Wash., 166.

Advanced Precision Aerobatics: 1. Bob Parker, Renton, Wash., 455. 2. Jim Cameron,

Portland, Ore., 419.

Expert Precision Aerobatics: Paul Walker, Kent, Wash., 582. 2. Don McClave, Portland, Ore., 521.5. 3. Jack Pitcher, Gresham, Ore. 476.

Fox .35 Combat: No entries.

Here's a reminder for those interested in helping set up the network of "homes away from homes" for modelers traveling to contests, as mentioned in last issue's edition of this column: If you are willing to provide overnight accommodations for modelers in your home, send a postcard to: John Thompson, 1145 Birch Ave., Cottage Grove, OR 97424. Include the facilities you have available and any other notes that should be forwarded to people looking for lodging. The information will be logged as part of The List, the Northwest's comprehensive mailing list.



The Flying Flea Market

Classified advertisements — FREE for FL subscribers

ENGINES FOR SALE: 1 ea new Cox TD 049 (stock)- \$35; 2 ea new factory tested special TD 051 (stock) \$40
1 ea used Rossi 15N MkII, modified venturi & Gillott finned head, for Goodyear- \$80; 1 ea new Irvine 15 modified for Goodyear (special heads for Nelson plug and Dye P/L) - \$160;
1 ea new Fox 35 Stunt (cleaned, lapped and fitted)- \$65; 2 ea K&B 6.5 MkIII newley rebuilt with Dye ABC P/L -\$125
1 ea K&B 6.5 Mk II newly rebuilt with Dye ABC P/L- \$100; 1 ea K&B 6.5 MkII older Lee custom version with sub-port induction, history unknown -\$65
-All prices quoted in U.S. dollars
-All engines in excellent condition.
-Please add extra for postage.
-Additional modifications to any of the above engines available on request.
-I have many spare parts for all the above engines, write for prices.

Paul Gibeault, 87 Macewan Parkway NW, Calgary, Alberta, Canada T3K 3E4
phone (403) 275-9630 24 hr answering machine, or FAX (403) 282-7917, Attn: Paul Gibeault.

WANTED: "Frog" 350 or 500 glow motor. Hope to find one in usable shape for an old time stunt project. Any info or pix would be appreciated. (509) 663-3929 days.
David Thompson, Po Box 1652, Wenatchee, WA 98807

FOR SALE: Back issues of FLYING LINES. Many issues available with lots of valuable technical data, and lots of nostalgia. Write to FL for a list.

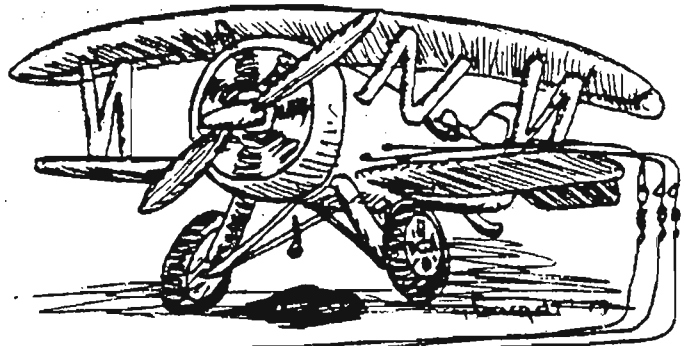
FOR SALE: Quality composite props for racing, speed, carrier, etc. Now available, bench reference props in 35 and 40 sizes, ready to run, \$17.00 ea New Schuette 21 MK II, \$6.50 for glass, or \$8.50 for carbon version. Add \$2.50 shipping on orders. For complete listing, send request to: Mike Hazel, 1073 Windemere Drive NW, Salem, Oregon 97304.

FLYING LINES subscribers: This space is for you!!!! No charge for your ad. Ads run twice, unless otherwise requested. Change your ad, or submit new one at anytime.

CONTROL LINE

SCALE

by orin humphries



CG FOUR, REVISED

Local R/C folks are having some difficulty with their 12' Telemasters. They are relying on the adage, "Balance it on the high point of the wing". That works only for conventional aircraft like the Piper Comanche, Spitfire, etc., with downward lifting tails. Both Telemaster teams complain that the birds don't get on and off the ground properly. The tail stays level and it takes miles of runway. Their birds have upward lifting tails and are balanced grossly nose heavy for this configuration. The proper CG range for this bird is perhaps 30% - 35%

Recalling Part III of this series, any lift-producing wing/h.tail will have a pitching moment placed upon it by the uneven air pressure distribution. Again, a "moment" in this usage means a tendency to rotate around some axis. It is like leverage from some applied force, as with a torque wrench. Wings try to pitch nose down. If nothing else were going on, all airplanes would only fly in outside loops as a result. So, enter proper CG placement.

Because the wing will always have this nose down (negative) moment, something in the arrangement of the plane must produce a countering, positive moment of sufficient strength. That is, the sum of the pitching moments on the bird HAS to be adjustable to zero, with a little elevator.

This month we look at a plane rigged to have an h.tail that produces upward lift. This is rather uncommon in full size aviation, but alive and quite well in virtually every Canard, and is the rule in F/F small size aircraft. Fig. 1 shows the moments (c.c. arcs) and lift vectors of the wing and tail, though the F-84 was never arranged like this!

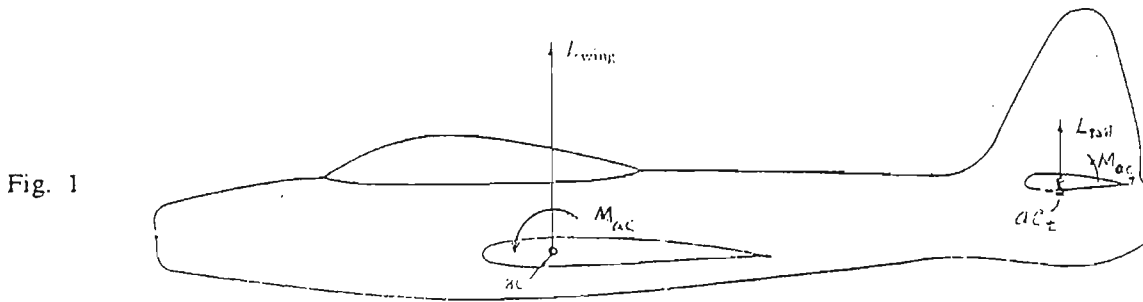


Fig. 1

The aerodynamic center is a useful concept for the study of stability and

Figure 2 shows the WRONG situation when the CG is placed ahead of the wing's lift vector. The wing's lift, being at a distance from the CG, produces another moment (force times distance). Look at this set of moments. If you added them up, wouldn't the sum be negative? Is there a positive one anywhere? That's why it's wrong. This bird will only do outside loops.

PRINCIPLES OF STABILITY AND CONTROL 367

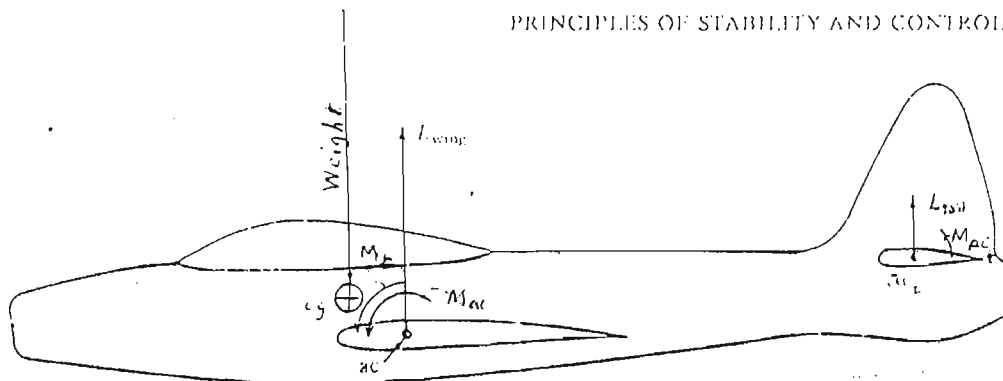
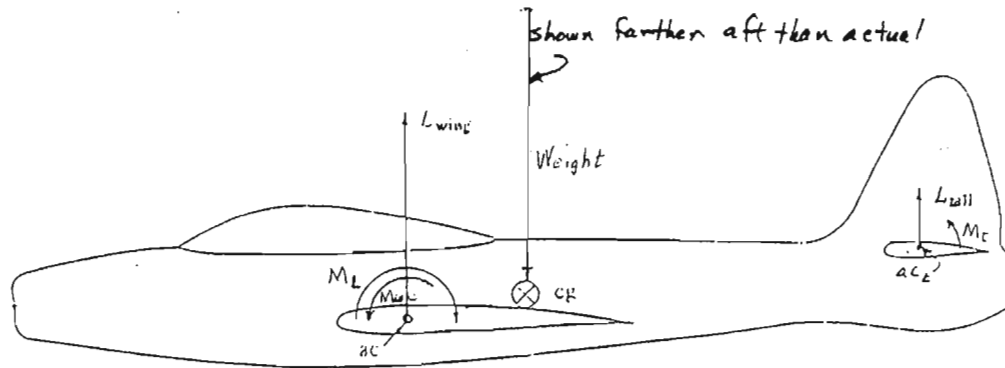


Fig. 2
WRONG

If we correctly place the CG behind the wing's lift vector, the moment this will produce is positive, it will make the nose tend to pitch up. See fig. 3.

Fig. 3
RIGHT



Here, it is possible to adjust the sum of the negative and positive moments to zero so the plane will not pitch unless you want it to do so.

Where is the wing's lift vector so you would know where to put the CG? Well, we don't talk so much about where this is as we do the aerodynamic center, the ac . We are really locating the CG with respect to the ac . The ac does not move in flight. For all symmetric airfoils the ac is at 25% mean aerodynamic chord, mac , until you deflect a trailing edge surface (aileron/flap), then the airfoil is not symmetric. The big majority of unsymmetric airfoils have their ac 's between 23.5% mac and 24.5%. This is the point from which you should figure things.

An old time design, like the Telemaster with its upward lifting tail, is going to balance, properly, in the range aft of 30%. Just where depends on where the neutral point is, the topic of a forthcoming piece. The famous Bill Rae, of the U. of W.'s Aeronautical Laboratory Wind Tunnel, tells me that this kind of tail arose with the Ohlson .23, the first engine of significant power. Its thrust line on those F/F birds was well below the wing which caused the planes to pitch nose up. The uplifting tail cured this.

For a conventional bird with downward lifting tail, balance forward of
the ac . [downward lifting h. tail, conventional planes] with
straight Leading Edge wings should start with CGs at 18-19% root chord and ones with tapered LE/TE outlines should be around 21-22% root chord. Adjust from there as you desire to changed the stability. Make SMALL adjustments, 1% at a time.

What about airplanes with flat or symmetric h. tail surfaces? If the overall arrangement is conventional, it flies as a downward lifting tail, but can be balanced with an up-lifting one.

Flying Wings have added area at the TE, and the mid-line of this stretched airfoil is reflexed, or reverse curved, upwards. This produces the necessary positive pitching moment to counter the rest of the wing's natural downward moment.

Canards produce most of their lift with the main, aft, wing. They in general balance forward of the aft wing's LE (if no appreciable sweep angle). There was an excellent four part series on Canard design in MA last year.

You are invited to try the following simple exercise. Add the lengths of the lift arrows and compare to the length of the weight arrow in either of figures Two or Three. Also, add the degrees of clockwise arcs in fig. three and compare to the degrees of the clockwise arc. Call or write any time.

Again, my apologies for the original flaws.

Orin Humphries, 19805 48th Av. W., #A101, Lynnwood, WA 98036, 206-776-5517

Scratch 'N Dent Repair

Here is an old hint that you might find beneficial while building a plane. At times it becomes necessary to bend balsa wood to fit a contour. A good method to accomplish this is to spray the surface of the wood with Windex, or you can make your own solution. Use 1/3 ammonia and 2/3 water.

Wet the surface of the wood to be formed, then slowly form the balsa to shape and let it dry. Take it easy so as to give the wood time to bend. The ammonia breaks down the wood structure temporarily then dries to its new shape.

Mix rubbing alcohol with the solution you have left over and you have a good cleaning agent for cleaning your plane after flying.

Following is part 2 of Joe's interview with some top Carrier fliers conducted at the Nationals.

J.J. ... Back to Bill Calkins. Bill and I have been talking about the idea that perhaps a beginner, a novice, or a retread might prefer to get into Navy Carrier in one of the scale classes. Bill, this presents a slightly different problem for such a flyer, doesn't it?

Bill Calkins..... Well, the scale planes are a little trickier to build. The one thing I think you have to do is to start with something simple. A Martin MO-1 is an excellent airplane. There are a lot of plans out there. It builds relatively easy, they fly well. I think the worst thing you can do is go out and build some fancy twin engine thing with flaps, line slider, and all that stuff.

J.J. We are possibly talking different engines, of course, in scale carrier. Would you recommend a beginner going into class one for example, use the same engine in that as he uses in Profile, or should he go to a different type or size engine?

Bill Calkins A good engine to start with, and they are readily available, are any of the front intake 40's. You can get one in any hobby store, they have good reliability. They run well...like the O.S., and like that. They put out a lot power! The O.S. FSR is a very strong engine, the old FSR. My first trophy in Class I, I took an OS 40 FSR, put it in the plane, added an exhaust baffle and it worked. I blew it up, but it did work well!

J.J. Bill, would you recommend a beginner give class I or II a try before they attempt profile, or do you believe they should start in profile.

Bill Calkins I think he has to know how to fly first off, because Class I is going to fly faster than Profilee.

J.J. So, what is recommendation? Start with Profile, then jump to Class I?

Bill Calkins Start with a Profile, maybe start building a Class I as soon as you have the Profile built.

J.J. Pete Mazur, You have been listening to this and I believe you may have a different viewpoint on whether a novice should go into Class I or II.

Pete Mazur I started Carrier flying in Class I. I had been flying control line before, but I didn't start in Profile and didn't go to it until fairly late in the game. The Class I was a lot of fun. The engines were fairly easy to come by. Even in the sixties I went out and bought a front intake K&B 40RC and it worked fine. Now you can go out and buy a front intake OS schnuerle, or any other powerful schnuerle 40 available for RC. They are available, reasonably priced and some times you can pick up one at a RC swap shop at a very good price, still in good shape. If you wanted to go into class II, get an older 60, don't go to a racing .65, that's more than you want to tackle at the early stages. You could get a .46, either a front or a rear intake are available and these things are tremendously powerful. Then you have to build the airplane, and there's the challenge!

J.J. Therein lies the rub!

Pete Mazur You bet! There are very few really good sets of plans that are available, not zero, but very few. The modeling press have some, Dick Perry in his M.A. column has discussed over the years what is available. The Navy Carrier Society, in their newsletter have listed them on occasion, but, there are not too many!

J.J. Name one off the top of your head.

Pete Mazur I like MO-1's! I have always liked them. They fly reasonably well and they are easy to build. The guys in Texas, Bill Bischoff, is developing the MO-1, basically from a beginners stand point. They are using foam wings now, and the planes are going together very quickly. In the early prototypes, the controls are fully external, the pushrod is on the outside so you can fiddle with these things. It is easier to build that way. You get more room for your fuel tank and these are sore of a cross between a Class I and a Profile. They are very competitive, even with the true construction types.

J.J. Pete, that's some of the best advice as to planes, and plans availability I've heard. Next, back to Roy Ward. Roy, a beginner comes up to you and says, "I really don't like Profile Carrier, but I'm dying to get into Carrier and I want to build a Class I, I've got a .40RC engine". What should I do?

Roy Ward Build a Royal $\frac{1}{2}$ A Zero.

J.J. The Royal $\frac{1}{2}$ A "Zero", originally designed for RC. What kind of reinforcement would be needed on that kit?

Roy Ward The only reinforcement necessary would be to build new motor mounts and even a beginner could design and build these.

J.J. Other than the motor mounts, what other changes are we talking about?

Roy Ward That's basically it, the bellcrank is mounted to the top of the motor mounts through the first bulkhead, extending into the third bulkhead. The landing gear mounts need to be beefed up, other than that, no modifications were made on my plane.

J.J. OK, let's say this guy's 40RC is not very good. What .40 should he get?

Roy Ward I like the OS front intake, rear exhaust engines myself.

J.J. On your "Zero", the tank is nestled in the cockpit area, will the engine you mentioned need a Perry Pump, or some other pump?

Roy Ward I am running mine on crankcase pressure and that's all that is needed. I do use an exhaust baffle on mine. They are a little hard to come by, but they work!

J.J. Steve Dinerman, we have a lot of people in the West kicking around the idea of getting started in Carrier. I would like to ask you a couple of questions. First.. let's say a guy comes up to you says he would like to get involved in Carrier.....

Steve Dinerman..... First I would tell them to do what I did with my son. I bought him a Sig Shoestring, put on an Enya .15, and taught him how to fly with it, and then taught him to fly slow with it until he was comfortable.

J.J. So you are saying that a good way for a beginner to start is a .15, rather than with a .35?

Steve Dinerman It's cheaper, and really you don't have to go to 70% nitro or exotic stuff in order to win.

J.J. A Sig Shoestring, did you modify it in anyway?

Steve Dinerman.... No, you build it as is, you don't get any scale points in .15 anyway.

J.J. You used external controls on it of course. Is there any good engine to begin with?

Steve DinermanTo begin with? The Enya isn't the engine to use. It will go around in circles, which is OK, but the throttle is lousy! Actually, I would recommend the Cox. 15, The K&B Cox, now being made by RJL.

(Joe's interview will conclude in the next issue)

VANCOUVER GAS MODEL CLUB

INTERNATIONALS REPORT

This Competition was held October 24 th and 25 th at the City of Richmond, Rice Mill Road Model Park. As can be expected in mid fall, we had to contend with weather problems. On Saturday the 24th it was a great day with lots of sunshine but 20 to 30 plus M.P.H. winds. This kept everyone grounded, besides which we still had Sunday to fly. Well Sunday started out with a low overcast, very light breezes, and finally the sun breaking through making it a very good fall type of day.

This Competition was all classes of speed and all classes of carrier, including 15 profile carrier, record ratio/cash contest. We, the Vancouver Gas Model Club, were very pleased with the support shown for this contest and will definitely be repeating this format next year. MARK DOWN THE LAST WEEKEND IN JUNE FOR THIS EVENT NEXT YEAR, site is still to be determined.

CARRIER RESULTS

1st place,	John T. Hall,	15 profile	195.72 Pts.	* 101%
2nd place,	Steve Baardsen,	15 profile	192.25 Pts.	99%
3rd place,	Bruce Duncan,	15 profile	186.59 pts.	96%
4th place,	Bill Darkow,	Class 1	289.32 pts.	68%
5th place,	John T. Hall,	Profile 35	235.91 pts.	61%
6th place,	Mike Hazel,	Profile 35	196.72 pts.	51%
7th place,	John T. Hall,	Class 1	201.84 pts.	47%
8th thru 10th	several un-named attempts			

SPEED RESULTS

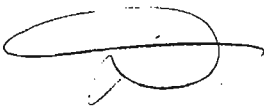
1st place,	Marty Higgs,	F-40	147.85 MPH	* 99.6%
2nd place,	Ron Salo,	Class B	138.41 MPH	* 83%
3rd place,	Mike Hazel,	21 speed	123.49 MPH	81.5%
4th place,	Chris Hazel	21 speed	79.90 MPH	71%
5th place,	Eruce Duncan	1/2A Profile	N/T	--
6th place,	Eruce Duncan	1/2A speed	N/T	--

* Three (3) New Northwest Records were established at this meet.

Chris Hazel (Mikes son) did his first flight in the pylon with no problems at all, I wish I could say the same for myself.

A special thank you to George Moul who volunteered to time all day Sunday. Also a thank you to those who attended making the V.G.M.C. "Internationals" a lot of fun.

Bruce Duncan C.D.



CONTEST RESULTS: RAIDER ROUNDUP, Sept. 12/13, Kent, Wash.

PROFILE SCALE (2 entries)

- 1) Dennis Mathews 93 pts
- 2) Shawn Parker 76

RECORD RATIO SPEED (2 entries)

- 1) Joe Rice (sr-21 sp. 128.25/106%)
- 2) Todd Ryan(jr-21 sp. 116.31/105%)

NW SPORT RACE (9 entries)

- 1) Tom Strom 9:20
- 2) Dennis Mathews 9:51
- 3) Tim Strom (jr) 11:15
- 4) Nitroholics RT heat

PROFILE CARRIER (3 entries)

- 1) John Hall 221.86
- 2) Barrie Shandel 188.75
- 3) Frank Boden 71.53

CLASS I CARRIER (2 entries)

- 1) John Hall 93.41
- 2) Mike Hazel 64.03

NOSTALGIA STUNT (2 entries)

- 1) Don McClave 465.5
- 2) Gary Nelson 420.5

BEG. PRECISION AEROBATICS (2 entries)

- 1) John Leidle 209
- 2) Dave Thompson 207

EXP. PRECISION AEROBATICS (3 entries)

- 1) Paul Walker 489.5
- 2) Lee Uberbacher 476
- 3) Howard Rush 395

JR SR BALLOON BUST (2 entries)

- 1) Rich McConnell
- 2) Dave Mullens

FOX COMBAT (4 entries)

- 1) Rich McConnell
- 2) Frank Boden
- 3) John Thompson
- Randy Schultz

SPORT SCALE (2 entries)

- 1) Jim Sofra 132
- 2) Jim Fuller 113

NW FLYING CLOWN RACE (6 entries)

- 1) Joe Rice 244 laps
- 2) Tom Strom 230
- 3) Joe Campbell 189
- 4) Tim Strom (jr) 188

NW SUPER SPORT RACE (5 entries)

- 1) Nitroholics RT 7:53
- 2) Tom Strom 7:58
- 3) Joe Rice (sr) 9:24

.15 CARRIER (2 entries)

- 1) John Hall 170.38
- 2) Jim Fuller 60.01

CLASS II CARRIER (1 entry)

- 1) Frank Boden 68.53

OLD TIME STUNT (5 entries)

- 1) Don McClave 260.5
- 2) Darrel Harvin 260
- 3) Rich McConnell 246.5

ADV. PRECISION AEROBATICS (7 entries)

- 1) Bob Parker 444.5
- 2) Darrel Harvin 441.5
- 3) Bob Hazle 414
- 4) Jim Cameron 411

INT. PRECISION AEROBATICS (2 entries)

- 1) Gary Nelson 398
- 2) Jim Fuller 382.5

JR BALLOON BUST (1 entry)

- 1) Wes Mullens

NW Competition Standings

Flying Lines' compilation of event placings by Northwest
modelers competing in Northwest region contests

All the contests are behind us for the year, so it is time to publish the points totals. The following is a partial listing, the other events not listed will be done next issue, along with the overall point total to determine who is Mr. Competition 1992.

BALLOON BUST (6 contests, 28 entries)

1) Rich McConnell	12
2) Dave Mullens	10
3) Todd Ryan (jr)	9
4) Angela Bell	6
Wes Mullens (jr)	6
6) Stephen Cox (jr)	5
7) Bobbie Graff (jr)	4
Michelle Hajdik (jr)	4
9) Isabelle Hajdik	3
10) Kevin Magnuson (sr)	2

OVERALL COMBAT (8 contests, 70 entries)

1) Gary Byerly	43
2) Frank Boden	10
3) Rich McConnell	8
4) Jeff Rein	7
Joe Campbell	7
6) Kevin Magnuson	6
7) Norm McFadden	5
Dick Salter	5
Tom Strom	5
Todd Ryan (jr)	5

PROFILE SCALE (2 contests, 5 entries)

1) Dennis Mathews	2
2) Bill Darkow	1
Shawn Parker	1

SPORT SCALE (3 contests, 6 entries)

1) Jim Sofra	2
2) Frank Boden	1

OVERALL SCALE (6 contests, 14 entries)

1) Dennis Mathews	2
Jim Sofra	2
3) Bill Darkow	1
Frank Boden	1
Shawn Parker	1

FOX COMBAT (2 contests, 7 entries)

1) Rich McConnell	6
2) Frank Boden	4
3) Tom Strom	3
4) Randy Schultz	1
John Thompson	1

OLD TIME STUNT (6 contests, 37 entries)

1) Don McClave	21
2) Darrell Harvin	17
3) Al Resinger	12
4) Barrie Shandel	10
Todd Ryan (jr)	10

NOSTALGIA STUNT (3 contests, 14 entries)

1) Don McClave	14
2) Bob Emmett	9
3) Chris Cox	3
4) Rich McConnell	2
5) Gary Nelson	1

NW FLYING CLOWN RACE (5 contests, 32 entries)

1) Joe Rice (sr)	31
2) Kevin Magnuson (sr)	18
3) Ron Hale	12
Todd Ryan (jr)	12
5) Jim Welch	9



"Whoever you are, you're bired."

The following stunt engine information will be very basic and out of date to you Pro-Stunters, but should be useful for many others.

Living with SchneurleBob Baron



Using Schneurle engines for stunt requires a slightly different approach to engine tuning compared to loop-scavenged types. My experience with the OS.40 and .45FSR series and the new .35FP indicates that each of these engines responds similarly in adapting them to use in control-line stunt. The Schneurles appeal to me particularly since the starting point is usually having too much power on hand and then taming the engine to suit the needs of a particular ship.

As a generalization, the Schneurles like to run faster than loop-scavenged engines and are not particularly happy with a classic two-four cycle type of run. I like to set them up so they run quickly in level flight to give a good entry speed for each maneuver and then control the power to keep the maneuver speed manageable. Control of power seems to be adjustable through playing with the air intake, compression, and fuel in conjunction with finding a prop that also limits power. This sounds like a lot of work finding the combination, and it is! However, the saving grace for grinding out the combinations is that once it is found, it is very repeatable from engine to engine. For example, all three of my .45FSR's have been set up the same way and are virtually interchangeable for a given ship, and the speciality work is essentially limited to the fabrication of the air intake. I have not found it necessary to alter the engine timing through dropping the liner to achieve acceptable results.

The intake diameter and shape seem particularly useful in minimizing the tendency of the OS Schneurles to wind up excessively on outside maneuvers. In fact, the OS.40FSR can be made to actually wind up less on outsides than insides by playing with the intake. The shape that has worked very well for me is one in which the selected intake diameter is located even with the spray bar and the mouth is tapered linearly with a five-degree angle to the entrance of the intake. The height of the intake is at least one inch from the top of the case to the top of the intake. This length is very important to controlling the windup tendency on outside loops and smoothing out the run in general. For the .45FSR an intake diameter of .275 works very well. The .40FSR works well on a .285 intake since the milder timing of the crankshaft seems to permit the larger intake. The .35FP appears to work best on a .275 intake, again with a one-inch long throat and a five-degree taper. All of my engines have been set up with a standard Supertigre needle valve assembly. The remainder of the intake from the spray bar to the very bottom of the intake is kept at the chosen throat diameter. Delrin is an excellent material for machining an intake. In the case of the .40 and .45FSR's, the side of the case must be milled approximately .050 on each side to center the hole of the Supertigre spray bar. The spray bar on the .35FP is already centered when using an ST needle valve assembly.

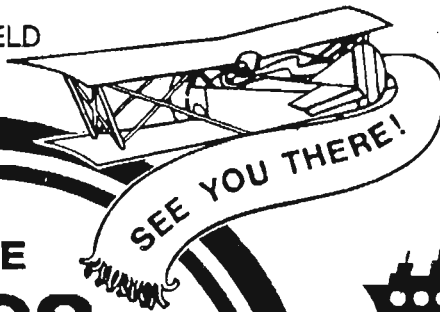
If the power break is too much, all of the OS Schneurles respond well to inserting an extra head gasket. The only problem with the extra gasket is that the engines do not start quite as well but are still very easy to start.

Fuel is a critical element in dealing with Schneurles. As I mentioned, extra power is usually the problem with these engines, and low nitro fuel is the way to containment of these engines. Typically, I use only 5% nitro and 20% castor oil. Keeping the nitro at 5% and increasing the oil to 25% will further keep the power under control.

The propeller is the only link between the engine and the airframe, and it deserves as much attention as you can give. Efficiency in the propeller is not necessarily the goal, since typically there is more power available than required. What we are looking for is a nice balance between entry speed and maneuver speed. Trying different brands, pitches, and diameters will show trends relatively quickly. In general, higher pitches give sharper appearing corners but aggravate the windup tendency in the wind. Cutting diameter on a given prop is very effective in controlling the maneuver speed in the wind. One-eighth inch changes in prop diameter are readily felt at the handle, so go easy when cutting off the tips. By increasing pitch and limiting diameter, it is possible to balance level flight speed and maneuver speed to suit the pilot.

Clearly, these procedures involve a great deal of energy and trial and error but with very good results. Experiment with these variables and register your accomplishment.

THE LARGEST MODEL EXPO EVER HELD
IN THE PACIFIC NORTHWEST!



THE
1993

TWELFTH ANNUAL

NORTHWEST RADIO CONTROL MODEL EXPOSITION

JANUARY 30th and 31st

SATURDAY, 9AM - 6PM SUNDAY, 10AM - 5PM

AT THE EIGHTH LARGEST FAIR IN THE U.S.A.

**NEW PAVILION AND EXPO HALL
WESTERN WASHINGTON FAIRGROUNDS
PUYALLUP, WASHINGTON**

A FANTASTIC DISPLAY OF ALL TYPES OF MODELS

**AIRCRAFT — CARS — BOATS
HELICOPTERS — RAILROADS**

Model/Manufacturers' Displays and Demonstrations
Manufacturers' Reps. — Experts — Nats. Reps.

LATEST R/C — ENGINES — ACCESSORIES — KITS — TOOLS

BEST OF SHOW TROPHY

Spectators' Choice

1st thru 3rd place trophies to be awarded
to best entries in each category

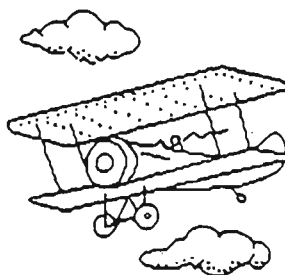
DRAWINGS — SWAP MEET

Food, Beverages, Accommodations, R.V. Parking
Ample Automobile Parking, Quick Access From Freeway

*Sponsored by the Mt. Rainier R/C Society
P.O. Box 73939, Puyallup, Washington 98373*



Planning
a contest?



You will want to get your copy of ...

The List

It's a comprehensive mailing resource of vital importance to Northwest control-line contest managers, including addresses for

- Western U.S. CL fliers and key national leaders
- Northwest hobby shops
- Nationwide CL product suppliers
- Northwest modelers who have lodging available
- A listing of the national CL model aviation press

These listings are available on mailing labels or as raw data.

The List

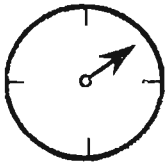
is available free of charge to Control-Line contest organizers. Donations will be accepted to cover expenses.

To obtain your copy, please write to:

Please specify which lists you want:
fliers, hobby shops, product suppliers,
lodging and/or modeling press.

John Thompson
1145 Birch Ave.
Cottage Grove, OR 97424

The List is a non-profit service intended for the promotion of control-line model aviation in the Pacific Northwest. It is not intended for commercial use. A \$10 donation is requested for orders requiring use of mailing labels. Information about lodging only is available by calling (503) 942-7324.



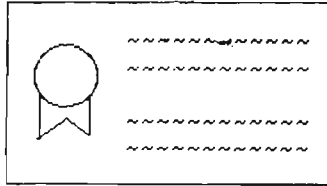
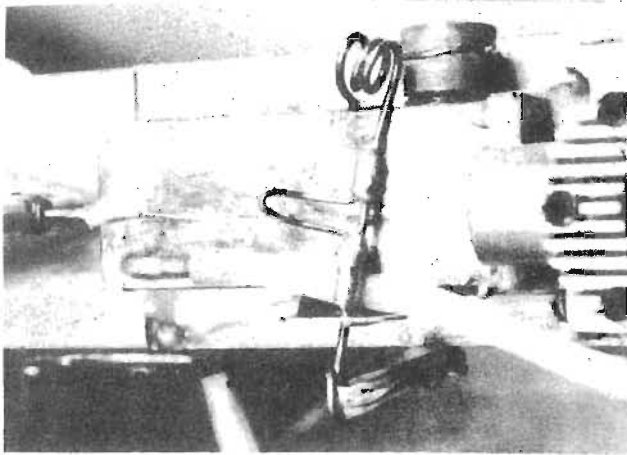
Northwest Competition Records

Record performances established between Northwest CL modelers in sanctioned competition

Wow! Lots of new records to report on since the last listing. Ron Salo edged up the B SPEED mark slightly, taking the mark away from the Beers Team. This was accomplished at the VGMC Internats in October. Also at that meet, Marty Higgs posted a very good 147+ score in the up-to-now vacant FORMULA 40 category. Early in October, Jerry Thomas trekked down to the Seebre Hayes Memorial meet in Southern Cal to boost up his own mark in JET SPEED. The team of Hazel/Thompson took away Dave Green's long standing feature record in the AMA SLOW RAT RACE event at the Really Racing meet in Eugene. There has been a correction of sorts in PROFILE CARRIER. Bob Parker has held a record of 238.44 since 1987, but recently documentation surfaced showing he had beaten that mark way back in 1988. (during the then absence of FL) Belated congrats to you, Bob! One more new Carrier record to report, that of .15 CARRIER. John Hall bested his own record by a couple of points, and proves once and for all, not all Carrier records are set in Kent.

1/2 A SPEED	83.13	Bruce Duncan	5-24-92	Eugene,OR
A SPEED	151.07	Chuck Schuette	5-24-92	Eugene,OR
B SPEED	138.41	Ron Salo	10-25-92	Richmond,BC
D SPEED	172.34	Loren Howard	5-24-92	Eugene,OR
JET SPEED	167.40	Jerry Thomas	10-11-92	El Monte, CA
FORMULA 40	147.85	Marty Higgs	10-25-92	Richmond, BC
21 SP. SPEED	139.91	Chuck Schuette	8-9-92	Coquitlam,BC
FAI SPEED	179.75	Chris Sackett	9-22-91	Coquitlam,BC
1/2 A PROTO SPEED	84.04	Jeff Cleaver	5-24-92	Eugene,OR
MOUSE RACE I-50 LAP	2:43	Joe Rice	10-3-92	Richland,WA
MOUSE RACE I-100LAP	5:59	Joe Rice	5-23-92	Eugene,OR
MOUSE RACE II-75LAP	3:40	Dave Green	5-24-86	Eugene,OR
MOUSE RACE II-200LAP	10:04	Hazel/Thompson	9-19-87	Kent,WA
AMA SCALE RACE-70LAP	4:22	Clarence Bull	5-24-86	Eugene,OR
AMA SCALE RACE-140LAP	9:02	Clarence Bull	5-24-86	Eugene,OR
NW GOODYEAR-70LAP	4:29	Joe Rice	10-3-92	Richland,WA
NW GOODYEAR-140LAP	10:33	Joe Rice	10-3-92	Richland,WA
SLOW RAT RACE-70LAP	3:14	Hazel/Thompson	5-23-92	Eugene,OR
SLOW RAT RACE-140LAP	6:38	Hazel/Thompson	10-17-92	Eugene, OR
AMA RAT RACE-70LAP	2:40	Dick Salter	7-22-86	Richmond,BC
AMA RAT RACE-140LAP	5:46	Dick Salter	7-22-86	Richmond,BC
FAI TEAM RACE-100LAP	3:36	Knoppi/McCollum	6-84	Shanghai,China
FAI TEAM RACE-200LAP	7:40	Knoppi/McCollum	6-84	Shanghai,China
NW SPORT RACE-70LAP	4:00	Bruce Duncan	5-12-87	Richmond,BC
NW SPORT RACE-70LAP	8:50	Mel Lyne	7-11-92	Burnaby,BC
NW SUPER SPORT-70LAP	3:14	Dave Green	4-13-86	Portland,OR
NW SUPER SPORT-140LAP	7:03	Dave Green	3-8-87	Portland,OR
NW CLOWN RACE-15MINUTE	244 laps	Joe Rice	5-2-92	Richland,WA
CLASS I CARRIER	318.30	Roy Beers	9-13-86	Kent,WA
CLASS II CARRIER	330.25	Orin Humphries	9-19-87	Kent,WA
PROFILE CARRIER	240.11	Bob Parker	9-17-88	Kent,WA
.15 CARRIER	195.72	John Hall	10-25-92	Richmond, BC
AMA ENDURANCE	18:37	Wesley Mullens	8-15-87	Kent,WA

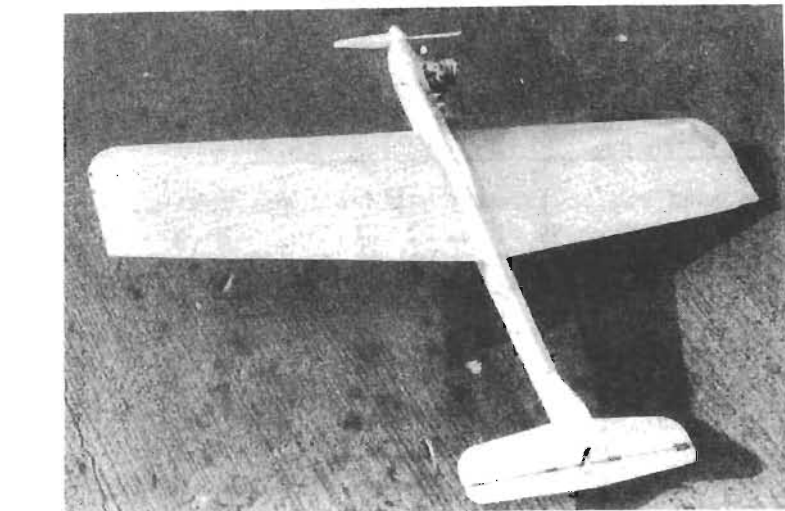
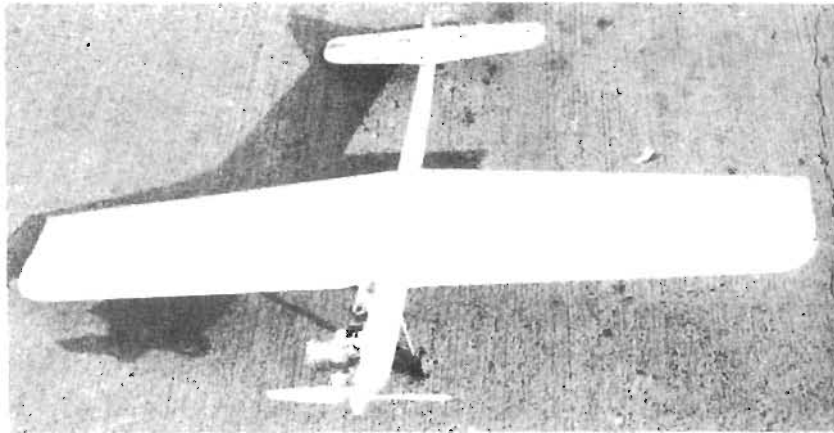
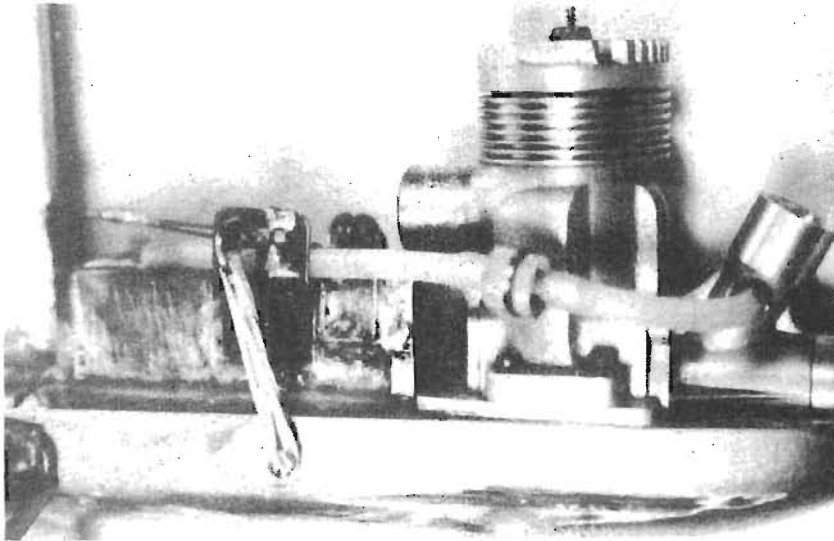
records as of 11-1-92



RECORD REVIEW

DETAILS OF NW RECORD PERFORMANCES

AMA SLOW RAT RACE



The featured plane here holds both the heat and final length race records for this event. The Slow Rat event is only flown a couple of times a year in the NW, reflecting the relatively low level of popularity both here and nationally. While touted as a somewhat complicated event because of special tank and engine carburation arrangements, this record holder is set up fairly simple and basic.

The record holder is the team of John Thompson and Mike Hazel, otherwise known as the Nitroholics Racing Team. The 70 lap heat record of 3:14 was set at the 92 Regionals, and the new record for the 140 lap feature (6:38) was set at the Really Racing meet in October.

The airframe is a slightly modified Bobcat, a slow rat design which was published in Model Aviation in the mid-70's. Wingspan is 39 inches, tailspan is 13 inches. Fuselage length is 28 inches. The aircraft is of conventional balsa/ply construction, and is finished in silver-gray epoxy paint and Monokote. Ready to fly weight is 32 ounces.

The engine is a vintage TWA 36 front intake, with .315 bore venturi and Kustom Kraftsmanship needle valve assem. The prop used was a Mike Hazel fiberglass "Zoot 9x7", which was trimmed to 8¼ inches

The tank has a capacity of 3½ ounces, and is equipped with a rubber fastfill. As can be seen from the photos, the shutoff is built onto the tank.

The pilot for both of the records was John, while Mike handled the pitting chores. In-traffic airspeed is about 105 to 110 mph, which the Nitroholics feel can be improved, and they hope to bring down those records to 3 and 6 minutes flat next year.

FLYING LINES

1073 Windemere Dr.
Salem, OR 97304



FLYING LINES is produced by a dedicated staff of volunteers interested in keeping lines of communication open between Northwest region control line modelers. FLYING LINES is independent of any organization, and depends upon the financial support of its base of subscribers.

FLYING LINES is published nine times per year. Subscription rate for USA is \$14.50, and \$18.00 for Canadian subscriptions. Check or money order may be made payable to FLYING LINES. U.S. funds, please.

RUSH TO:

JOHN THOMPSON O/O
1145 BIRCH AVE
COTTAGE GROVE, OR 97424

FIRST CLASS MAIL