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## NEWS OF NORTHWEST CONTROL-LINE MODEL AVIATION

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1073 Windemere Dr. NW, Salem, OR 97304

Editor: Mike Hazel

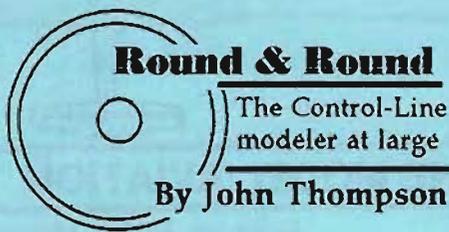
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**MARCH 1996**

**ISSUE #129**

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- IN THIS ISSUE:**
- \* *articles by Jim Cameron, Gerald Schamp, Mark Wahlster, and John Thompson*
  - \* *Updated NW Contest Calendar*
  - \* *Southern California Contest Calendar*
  - \* *Photos!*
  - \* *Discussion on 80 mph Combat, and Flying Clown Race!*
  - \* *Ballot form for the above!*
  - \* *More of the usual good stuff.*
- 

We are working on a real tight deadline to try and get this thing to the print shop on time, so there are a few little editorial bits and pieces that will have to wait until next time. We got a big issue for you this time. If you are involved in either the 80 mph combat event, or Flying Clown race, please take the time to cut out the ballot form, and return it as indicated. The form was made single-sided, so you won't have to damage the issue to use it. Guess that's it for now. Hey, if your subscription is expiring, it will be noted below:



## Round & Round

The Control-Line  
modeler at large

By John Thompson

Modeling thought for the month:

*"Change is inevitable, except from a vending machine."*

### 80-mph combat, Part II: Time to nail down the rules

LAST MONTH we talked about some proposals offered by Jeff Rein for the general improvement of combat, particularly the 80-mph event.

We promised that this month's edition of *Flying Lines* would contain a ballot that formalizes the 80-mph combat rules that we've been flying with for the past three years.

Well, here it is.

Some words of explanation:

The 80mph rules that have been informally in force since the event began at the Northwest Regionals have been "provisional" in the sense that they have not yet gone through the process of formal approval that has been used to adopt rules for other Northwest events such as Northwest Sport Race, Super Sport Race, and so forth. They've been going through a test period.

Jeff Rein suggested that we make some modifications in the rules. He had two suggestions: (1) deleting the two-plane limit and (2) eliminating the kill.

See last month's edition of *Round & Round* for a detailed discussion of the issues.

As the informal coordinator of the Northwest Rules, I decided that the two issues should be dealt with separately, since both have the potential of changing the character of what is now a fun and low-key event.

Let's get a formal set of rules on the books, and deal with issue No. 1, the two-plane limit, first. That's what the ballot in this edition is intended to do.

With those rules in place, we can examine the kill issue, and possibly try a no-kill contest as an experiment, before we conduct a separate ballot on the kill issue, possibly at this time next year.

Take a look at the rules published in this issue.

Option A is the rules that we have been using for the past three years.

Option B is the rules that we have been using, except that the two-plane limit is deleted.

Then fill out the ballot at the end of this column and mail it to me at the address provided.

The deadline for ballots will be April 15 (tax time!) That will give us a chance to publish the results before the Regionals in May. We'll use whichever set of rules is approved for our Memorial Day Weekend bash.

A word about the Northwest Rules: Since 1979, *Flying Lines* staff (primarily John Thompson and Mike Hazel in this capacity) have maintained the Northwest rules files. The formally adopted rules are those recognized in compiling of Northwest records. In some events, such as combat, where there are no records kept, the use of the official rules is strongly encouraged to make sure that Northwest contests are standardized. Fliers will know what to expect when they attend out-of-town contests, and the standings kept by *Flying Lines* will compare performance in similar events.

In addition, there's also a place you can go to get the current rules: Contact John Thompson at the address below, and you can receive a set of rules for any event by return mail. Rules are kept for Northwest Sport Race, Northwest Super Sport Race, Northwest Goodyear, Northwest 80-mph Combat, Flying Clown Race, and .15 Carrier.

#### BALLOT

##### Northwest 80-mph combat

I favor the following option for Northwest 80 mph combat rules:

Option A (current rules) \_\_\_\_\_

Option B (deletes 2-pl) \_\_\_\_\_

Signature \_\_\_\_\_

Mail to: John Thompson, 295 W. 38th Ave., Eugene, OR 97405.

Deadline: April 15

SAMPLE

And feel free to add your comments to the discussion; rules are in force for a finite period of time — they can always be adjusted later.

Send comments, questions, and topics for discussion to John Thompson, 295 W. 38th Ave., Eugene, OR 97405...e-mail [JohnT4051@aol.com](mailto:JohnT4051@aol.com).

# Option A (Current provisional rules)

## RULES FOR NORTHWEST 80MPH COMBAT

- 1. PURPOSE:** It is the intent that this event will provide a form of combat that is slower, more relaxed, and less destructive to equipment than all-out AMA combat events.
- 2. ALL rules for AMA (fast) combat shall apply except as follows:**
- 3. ENGINES:** Any engine up to .40 displacement is permitted.
- 4. AIRPLANES:** Each contestant is limited to two airplanes total for the contest. If a contestant has only one airplane of his own and destroys it, he may borrow a second airplane. No third airplane shall be allowed.
- 5. ADVANCEMENT:** If a contestant has destroyed all his airplanes, he cannot advance any further in the contest. If a contestant who would otherwise advance has run out of airplanes, the last contestant he defeated shall advance in his place.

**6. SPEED LIMIT:** The airspeed limit for all contestants shall be 80 mph, which is defined at 6.43 seconds for a two-lap period at 20-foot height. No devices capable of varying the speed of the airplane in flight, such as throttles or carburetors adjusted by elevator trim, are allowed.

**7. MATCH PROCEDURE:** Flying of matches shall be exactly the same as in AMA combat except as follows:

### Airspeed timing:

The first airplane to launch will be timed for two laps after the first full lap, at a height of approximately 20 feet (brief deviations in height for safety reasons are permitted). If the time for those two laps is greater than 6.43 seconds, the airplane will be judged eligible to compete. Pilots must keep the plane near the 20-foot height; failure to do so will delay timing.

If the second airplane launched appears to the circle marshal to be slower than the first plane, after the first plane has been declared eligible, the circle marshal may waive the timing of the second plane and signal the start of combat. If the second plane appears equal to or faster than the first plane, the circle marshal may time the second plane as well before beginning combat.

In the case of a simultaneous launch, the faster airplane will be timed.

Airplanes will not be timed on successive launches in the same match, unless the circle marshal has reason to believe that a plane has passed the 80mph speed limit. The circle marshal retains the right to stop combat at any point and re-time any airplane that appears to have passed the 80mph speed limit.

### Exceeding the speed limit:

If, on the initial launch, a plane is judged to be flying in excess of the 80mph speed limit, that plane's airtime watch will be cleared, and airtime will not be counted until the plane is judged to be consistently flying below the airspeed limit; combat will not be started until both airplanes are within the speed limit. If a plane is judged to exceed the limit at sometime during the match — after the initial timing — the airtime watch will be stopped and not restarted until the plane is judged to be consistently flying below the speed limit; combat will be stopped until both planes are below the speed limit.

**8. SCORING:** Per AMA Combat.

For information, contact: John Thompson, 295 W. 38th Ave., Eugene, OR 97405

jmt/FL/1-21-94/rev:2-18-94/6-10-94

# Option B (Deletes 2-airplane rule)

## RULES FOR NORTHWEST 80MPH COMBAT

- 1. PURPOSE:** It is the intent that this event will provide a form of combat that is slower, more relaxed, and less destructive to equipment than all-out AMA combat events.
- 2. All rules for AMA (fast) combat shall apply except as follows:**

**3. ENGINES:** Any engine up to .40 displacement is permitted.

**4. SPEED LIMIT:** The airspeed limit for all contestants shall be 80 mph, which is defined at 6.43 seconds for a two-lap period at 20-foot height. No devices capable of varying the speed of the airplane in flight, such as throttles or carburetors adjusted by elevator trim, are allowed.

**5. MATCH PROCEDURE:** Flying of matches shall be exactly the same as in AMA combat except as follows:

### Airspeed timing:

The first airplane to launch will be timed for two laps after the first full lap, at a height of approximately 20 feet (brief deviations in height for safety reasons are permitted). If the time for those two laps is greater than 6.43 seconds, the airplane will be judged eligible to compete. Pilots must keep the plane near the 20-foot height; failure to do so will delay timing.

If the second airplane launched appears to the circle marshal to be slower than the first plane, after the first plane has been declared eligible, the circle marshal may waive the timing of the second plane and signal the start of combat. If the second plane appears equal to or faster than the first plane, the circle marshal may time the second plane as well before beginning combat.

In the case of a simultaneous launch, the faster airplane will be timed.

Airplanes will not be timed on successive launches in the same match, unless the circle marshal has reason to believe that a plane has passed the 80mph speed limit. The circle marshal retains the right to stop combat at any point and re-time any airplane that appears to have passed the 80mph speed limit.

### Exceeding the speed limit:

If, on the initial launch, a plane is judged to be flying in excess of the 80mph speed limit, that plane's airtime watch will be cleared, and airtime will not be counted until the plane is judged to be consistently flying below the airspeed limit; combat will not be started until both airplanes are within the speed limit. If a plane is judged to exceed the limit at sometime during the match — after the initial timing — the airtime watch will be stopped and not restarted until the plane is judged to be consistently flying below the speed limit; combat will be stopped until both planes are below the speed limit.

**6. SCORING:** Per AMA Combat.

For information, contact: John Thompson, 295 W. 38th Ave., Eugene, OR 97405

jmt/FL/1-21-94/rev:2-18-94/6-10-94

## **FLYING CLOWN RACE RULES DISCUSSION.....**

If you were following things closely from the last issue, then you would have noted that there is a mild controversy regarding the popular Flying Clown event. The comments have evoked some written responses which follow the editor's comments here, and there have also been some conversation on the phone as well.

Let's set the stage here by summarizing what has prompted this exchange. Some months ago, ye olde editor heard mumblings that some competitors may be using tanks that were not specifically meeting the one ounce rule. No one has accused anybody of cheating, but evidently it was found that some one ounce tanks gave better mileage than some other one ounce tanks. What seemed obvious here was that the store bought tanks that were labeled to be one ounce, were assumed to be legal no matter what the capacity really was. (*how many sets of made-up lines have you had to measure and change? The label don't make it so!*)

A suggestion was made that perhaps the rules should have a provision for requiring that fuel tank capacity be checked. This is mainly what has drawn discussion. In retrospect, it dawned on me that maybe there doesn't even need to be such a provision, since the rules require a maximum of one ounce, and the contest director has the right to check any aircraft for compliance to rules anyway. If nothing else, this discussion has been a wake-up call to competitors and contest management alike that it is important to check out such things. One view which has been expressed is to keep the status quo for now. However, since this entire event revolves around the tank capacity rule, I don't believe that would be fair for all. We should have a level playing field for all, and putting off taking action may allow some an unfair advantage.

One other point of the rules that came up while the tank discussion was happening, was that the rules were silent on the number of fliers per race. I believe that most venues have been going with three-up races, but it has been reported that some four-up races have taken place, which might make for some heavy traffic with those short 52 foot wires and a novice pilot sprinkled here or there. Methinx a three entry race is best.

Some other thoughts about the rules have been expressed, but for now it would appear that the most critical items to address are: 1) Attention to tank capacity, 2) number of planes in a race. As mentioned elsewhere, there is a ballot form in this issue, and we urge you to make your preferences known. For any concerns or ideas that are not specifically brought up on the ballot, you may want to indicate those on the form and pending sufficient interest, these can be discussed further.

Following are letters from those who have written in on the subject.....

Although still very new at CL flying and competing, I believe that I have learned a lot from just watching and listening to the other competitors. No matter what the contest, someone always seems to find an angle to squeeze the rule book for that little edge towards the winners circle. That's the essence of great competition. If I am beaten by someone who has done their home work, practiced harder, built a cleaner meaner machine, then I am only wasting my time in the complainers circle. In the spirit of the sport, it behooves me to do my homework, build a better model and spend the time fine tuning my design concepts. If I lose having done the best I could, then it was a good day. If I want to win next time, I had better be taking notes, learning new techniques and going back to the drawing board.

The designers and promoters of Clown Racing should be patting themselves on the back. This is an event that is becoming very popular, bringing out new competitors and well promotes CL model building and flying. Every one uses the same plane, fuel tank size and engine specifications. Who ever flies the most laps in 15 minutes is the winner. Simple and straight forward competition. Easy for the beginner to get involved in. **For this season lets not muddy the water on a good event.** A 1 oz. tank is a 1 oz. tank is a 1 oz. tank. Use this season to fine tune the event, keeping it simple and popular. Collect data on 1 oz. tanks and tank manufactures. Ask all the competitors for input. Take notes on what the winners are using and apply the lessons learned to event clarification for the 1997 season.

Now given that I have just recently flown my Flying Clown model 462 laps using my new \$73.00 German designed, hermetically sealed, Titanium/composite 1 oz. fuel tank, *The Farfentanken*, and the Russian flex 1" I.D. fuel line, I feel that this will be my season on the Flying Clown competition circuit.

Alan Olsen  
aolsen@techline.com

Mike, Thought I might take a minute or two to put down some ideas about your article about tank size for Flying Clown. Perhaps the easiest way to eliminate any problem of tank capacity is to go back to the original set of rules on this as we wrote up for the first few races the CBBB had. When the rules were setup we decided that everyone should use the exact same tank. I believe that we required the Perfect #21. After those first few races, we then went to a one ounce size requirement that enabled anyone wishing, to use any tank they wanted providing that it had a one ounce capacity. I think the rules should never been changed, but since they were and I believe the ruling change was to enable those that wished to "build a better mousetrap", that is to say change the shape or plumbing for uniflow, etc. A good idea would be to have the rule read.....Only Perfect #21 tanks with one ounce capacity are legal. Changes in the interior of the tank are allowed, as long as the exterior size of the tank remains as it comes from the factory with the exception of exterior tubing, or some such wording.

Personally, while I haven't been competitive in the clown event for some time, I have promoted it outside the area, and on May 16th, the first sanctioned Clown Race outside the Northwest will be held near the New Hampshire border in the state of Maine. During my week long trip to that area last August, I observed many clowns (the planes, not the flyers), that were using the Perfect tank with minor plumbing changes and from my nearly weekly phone conversations with those back there I believe they feel the modified #21 is perfectly in keeping with the original intent of the event.

On another related subject, if you are interested, I think that the event may soon evolve from its original intent if the pursuit of "winning with cubic dollars" comes about. I refer to engines. To eliminate the introduction of high tech engines, I strongly feel that the engine requirements should be limited to those that have a list (not sale) price of under \$100. In toying with the Clown Race in the East some of the competitors in that area feel that if the event is opened up to "unlimited" engine cost, the event will not only lose one of it's basic appeals, it will become another "pro" event for those that are willing and able to buy the top of the line engines.

We are at the crossroads with Clown Race, and I think we have a golden opportunity to keep the event as it was intended, a race for fun, with restrictions that keep it within the range of anyone that wants the event for the sport it can be without going the way Slow Rat, Rat, or for that matter....Profile Carrier. I do not wish to eliminate diesels by the way, as I am finding whole new ways of learning and having fun since I was seduced into giving diesels a try last summer.....smelly as hell, but a hell of a lot of fun!!!!!!!!!!!!

Best Personal Regards, Joe Just

Mike,

3/4/96

The Columbia Basin Balsa Bashers got together recently to discuss potential changes to the Clown Race rules. In general, the sentiment was "Don't try to fix it if it ain't broke". The list we came up with is fairly short. We feel that the race has been quite successful with the 1992 rules, and we're in a "Wait and see" mode right now. Considering that the Ryan machine which holds the current record of 301 laps is about as stock and unsophisticated as you can get, as well as dirt cheap, we don't see any reason to get too technical with the rules.

We plan to measure tank volumes at our race in March. We've never done this before, but feel it would be worth knowing how everybody compares. Maybe we'll learn something.

Hope to see you at the race.



## NORTHWEST FLYING CLOWN RACE

1. **PURPOSE:** This event is intended for all fliers and pit crews interested in a simple racing event which uses a common aircraft, emphasizes both speed and economy, and encourages the use of a wide variety of engines.
2. All AMA control-line unified racing rules apply, except as follows:
  - 2.1. Pull test is 25 pounds. Lines are .015 stranded steel. Length is 52 feet, plus or minus 6 inches, measured from the center of the handle to the fuselage.
3. **Engine:** Any design or make of piston engine is allowed, except that maximum engine displacement is limited to .19 cubic inches. Modifications are not restricted within the limits of the AMA safety code.
4. **Fuel tank:** Any design of fuel tank is allowed, including pressure systems, except that fuel capacity is restricted to 1 ounce. The fuel tank shall be fully external of the plane, on the outboard side of the fuselage, and entirely in front of the leading edge.
5. **Fuel:** Glow fuel shall contain a maximum of 10 percent nitromethane with 20 percent lubricant and the rest methanol. Glow fuel will be supplied by the contest management. Diesel engines may use diesel fuel.
6. **Aircraft:** The only aircraft allowed is the PDQ Flying Clown or faithful replica. Changes to the planform, profile, or wing thickness are prohibited. Wheels must be at least 1 inch in diameter, and be spaced laterally about 7 inches.
7. No hot gloves, fast fills, or trick pitting equipment is allowed.
8. **Races:** All preliminary heats and the final race will be timed for 15 minutes from start to finish. The contestant with the most laps wins.

jmt/cbbb/FL/rev:6-10-94

### PROPOSED RULE CHANGES FOR N.W. FLYING CLOWN

The following changes to the rules as written in 1992 are proposed:

Rule #4:

**Fuel Tank:** Any design of fuel tank is allowed, including pressure systems, except that fuel capacity is restricted to 1 ounce **with a + 5% tolerance (31 cc max.)**. The fuel tank shall be fully external of the plane, on the outboard side of the body, and all in front of the leading edge.

Rule #8:

**Races:** All preliminary heats and the final race will be timed for 15 minutes from start to finish. The contestant with the most laps wins. Preliminary heats may be 7 1/2 minutes if agreed to by a majority of contestants. Records shall not be established for heats less than 15 minutes. There shall be either 2 or 3 pilots in heat and final races.

**FLYING LINES ballot form**

**return to John Thompson, 295 W. 38th Ave., Eugene, OR 97405**

**return by April 15th.**

**NORTHWEST FLYING CLOWN RACE**

**RULE #4, adds to one ounce tank specification....."with a +5% tolerance, 31cc maximum"**

\_\_\_\_\_ approve proposal

\_\_\_\_\_ reject proposal

**RULE #8, adds: "preliminary heats may be 7-1/2 minutes if agreed to by a majority of contestants. Records shall not be established for heats less than 15 minutes. there shall be either 2 or 3 pilots in heat and final races".**

\_\_\_\_\_ approve proposal

\_\_\_\_\_ reject proposal

**(please include any other ideas for future discussion on the reverse side)**

**BALLOT**

**Northwest 80-mph combat**

I favor the following option for Northwest 80 mph combat rules:

Option A (current rules) \_\_\_\_\_

Option B (deletes 2-plane limit) \_\_\_\_\_

Signature \_\_\_\_\_

Mail ballot to: John Thompson, 295 W. 38th Ave., Eugene, OR 97405.

Deadline: April 15

The following is from the pages of the "WOLF CALL", newsletter of the Western Oregon Control Line Flyers.

**PRODUCT REPORT: COX .049 VENOM ENGINE**  
**by Mark Wahlster**

Be careful when purchasing one of these engines, as I have found a defect in the venturi intake area: the hole in the backplate that the needle valve assembly is pressed into has been drilled too deep, and has caused a hole to appear in the air intake area of the venturi. To find out if the engine you are thinking about has this flaw, carefully remove the intake filter screen, you can use a pin or a needle to pry up the screen. The hole, if it's there, will be just above the air intake hole and it will be very small and rectangular in shape. If you find this hole don't buy the engine, as this will affect the way the engine runs.

If you find this problem on a Venom you have already purchased, then call the Cox 800 phone number found on the instruction sheet and explain the problem to them and they will send you out another backplate. I did this for the two engines I bought, and it only took a couple of days for the parts to show up.

These engines seem to require a break-in period, so follow the instructions. The crankshafts fit very loose so make sure that your props and spinners are very well balanced. The practice of breaking in a piston and cylinder set on a TeeDee crankcase to save wear and tear on the reed valve crankcase won't work with these engines, as the light weight piston must be mated to the special crankshaft to work properly. I have not been able to determine any RPM figures as yet with my two engines, as I'm still trying to break them in. I look forward to these being a good entry level Mouse racing engine, but time will tell.

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**FOR SALE:** FASCAL- CLEAR AIRPLANE COVERING 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. PRICE IS 75 CENTS PER FOOT, PLUS SHIPPING. I WILL DELIVER IT AT CONTESTS IF CONTACTED IN ADVANCE. JOHN THOMPSON, 295 WEST 38TH AVE., EUGENE, OR 97405, OR E-MAIL 73473,1407 COMPUSERVE.COM. NO PHONE ORDERS, PLEASE.

**FLYING LINES SUBSCRIBERS:** THIS SPACE IS FOR YOU!!!!!!!!!! SEND IN YOUR AD FOR SELL/SWAP/OR FOR NEEDS. YOUR AD WILL RUN FOR TWO ISSUES, UNLESS YOU REQUEST OTHERWISE. CHANGE AT ANY TIME.

**BUY/SELL/TRADE:** MODEL MAGAZINES AND SPECIAL INTEREST NEWSLETTERS. SEND S.A.S.E. FOR LIST. JOHN THOMPSON, 295 WEST 38TH AVE., EUGENE, OR 97405

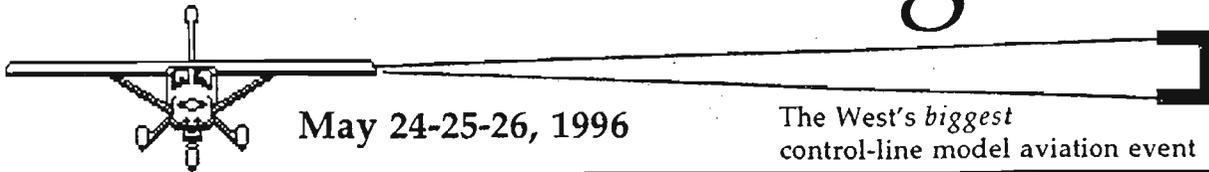
**FOR SALE:** NEW REWORKED VA .049 MOTORS. ALL MACHINED SURFACES HAND LAPPED, FIT, BLUEPRINTED AND MY NEW BULLET PROOF (BP) CONNECTING ROD INSTALLED IN EACH MOTOR. NO BREAK IN REQUIRED, READY TO RUN. 30,000+ RPM OUT OF BOX. \$75. REWORK YOUR OLD VA \$25 LABOR PLUS PARTS. 7075T6 ALUMINUM BP CON ROD \$10. JEFFREY REIN, 14326 102ND AVE NE, BOTHELL, WA 98011, PHONE (206) 823-6053

**WANTED:** RACING MECHANIC FOR ALL CATEGORIES, MOUSE TO RAT. MUST BE QUICK, NIMBLE, AND HIGHLY MOTIVATED. WILL BE EXPECTED TO LEARN ON THE JOB. ALL PIT EQUIPMENT PROVIDED. SHOULD BE ABLE TO REFUEL AND HOT RESTART ALL FORMS OF EXOTIC RACING ENGINES ON FIRST FLIP, LOOKING FOR 10 SECOND PITS MAX. NO PAY AND WILL BE EXPECTED TO PAY 1/2 TRAVEL EXPENSES. SEND RESUME TO: MARK WAHLSTER, 1404 N. 2ND STREET, SILVERTON, OR 97381 (503) 873-3775 (P.S., I'LL BE GLAD TO PIT FOR YOUR PLANES TOO. TERMS NEGOTIABLE).

The 25th annual...

Paul Agerter Northwest

# Control-Line Regionals



May 24-25-26, 1996

The West's *biggest*  
control-line model aviation event

*Control-line model aviation action at its best*

With **40 events** and **124 trophies**, the Northwest Regionals provides the largest selection of control-line competition events and awards available in a single contest outside the U.S. National Model Airplane Championships.

## You can compete in these great championship events:

- AEROBATICS — 4 PAMPA classes, Old-Time Stunt and Classic stunt!
- COMBAT — AMA, Slow, 1/2-A, 80-mph (Shutoffs required in AMA, Slow and 80-mph Combat).
- NAVY CARRIER — Profile, Class I, Class II and .15 carrier!
- RACING — Mouse I&II, Rat, Slow Rat, Goodyear, NW Goodyear, NW Sport, NW Super Sport, Clown
- SCALE — AMA Precision, AMA Sport Scale and Profile Scale!
- SPEED — 1/2-A, 1/2-A Proto, A, B, D, FAI, Jet, Formula 40, .21 sport and .21 Proto.
- JUNIOR EVENTS — NWSR, NW Goodyear, Class I Mouse, 1/2-A Proto Speed

## Enjoy one of the world's finest control-line flying sites

Three asphalt circles, four grass circles ... Ample parking  
Camping space ... Rest rooms ... On-field hobby shop ... On-field food concessions  
WITHIN WALKING DISTANCE: Restaurant ... Airline terminal ... Rental cars  
EASY DRIVE TO city of Eugene, motels, restaurants, cultural events  
TROPHIES ... MERCHANDISE PRIZES ... GRAND CHAMPIONSHIP TROPHIES

SATURDAY NIGHT BANQUET WITH AN AVIATION PROGRAM!

And much, much more...

**Important note for 1996:** There is a small possibility that the contest will be moved to an alternate site. Contact the contest director after May 1 to confirm the site.

### FOR INFORMATION, CONTACT:

Contest Director Craig Bartlett, 205 N.E. Cedar Lane, Corvallis, OR 97330  
(541) 745-2025

# The Paul Agerter Northwest Control-Line Regionals

## SCHEDULE OF EVENTS

<u>FRIDAY</u>	<u>SATURDAY</u>	<u>SUNDAY</u>
	Prof./Sport Scale 8:30 a.m.	Prec. Aerobatics 8:30-4:00
	Precision Scale 8:30 a.m.	Speed (all classes) 8:30-4:00
	Rat Race 9 a.m.	AMA Combat 8:30 a.m.
	Old-Time Stunt 9 a.m.	
	80-mph Combat 8:30 a.m.	NW Goodyear (Jr.) 9 a.m.
	Carrier (all classes) 9-5	NW Goodyear (S-O) 9:30 a.m.
	Speed (all classes) 10-5	
	Mouse Race I (Jr.) 10 a.m.	
Slow Combat Noon	Mouse Race I (S-O) 10:30 a.m.	NW Sport Race (Jr) 11 a.m.
Speed (all classes) Noon-5		
	Mouse Race II - - 12:30 p.m.	NW Sport Race (S-O) Noon
Carrier (all classes) Noon-5	Classic Stunt 12:30 p.m.	
Flying Clown Race 2 p.m.	Goodyear Race 2 p.m.	NW Super Sport Race 2:30 p.m.
	1/2-A Combat 2 p.m.	
	Slow Rat Race 4 p.m.	

## SCHEDULE NOTES

- \* Registration is open Friday from **noon-5 p.m.**, Saturday and Sunday **8 a.m.-noon**. Early entry encouraged.
- \* Precision, Old-Time and Classic aerobatics entrants check at registration for meeting info.

## RULES INFORMATION

- \* AMA events are per 1996-97 rule book, except as noted below. **Know the rules!**
- \* *NW Sport Race*: Stock Fox .35 stunt, stock profile kits or accurate copy of kits, 1-wheel (2") landing gear OK, no shutoff, no fastfill, suction feed, no hot glove. **Fox hemi-head/stuffer kits are prohibited.** *NW Super Sport Race*: Single-bypass front-intake .40 with .315" venturi, AMA Slow Rat plane specs with outboard suction tank. Lines for both events are .018x60 stranded. *Northwest Goodyear*: Restricted to specific engines.
- \* **COMBAT** \_ All events flown double-elimination. **FLYAWAY SHUTOFFS REQUIRED for AMA, 80mph and slow combat...** Shutoffs subject to ground test; any flyaway in which shutoff fails to work will result in disqualification. *80-mph Combat* — Any plane/fuel system, .018"x60' lines, AMA fast scoring.
- \* *Old-Time Stunt, Classic Stunt, .15 carrier, Northwest racing events, .21 proto, 80-mph combat* — Write contest director for rules.
- \* Navy carrier — Mufflers optional. No tuned pipes, Magic mufflers OK.
- \* **Safety thongs** required in all events.
- \* Contestants may at some times be required to assist in timing or judging.

## OTHER INFORMATION

- \* AMA or MAAC membership required for all participants, including mechanics. AMA membership available at registration.
- \* Only participants and officials allowed in flying areas. All others must stay outside roped-off or restricted areas.
- \* Absolutely no alcoholic beverages on flying field during meet hours.
- \* Awards \_ Trophies and merchandise through third place in each event and age grouping, and first- through third-place grand championship trophies. **Approximate value of awards: \$2,500.**
- \* Overnight camping is available on or near site. Rest rooms, restaurant, etc., are nearby. A concession truck and hobby shop truck will be on site most of each day.
- \* Advance registration by mail requested for Saturday night banquet. Forms available from C.D.

## FOR INFORMATION AND SPECIAL RULES, CONTACT:

Contest Director Craig Bartlett, 205 N.E. Cedar Lane, Corvallis, OR 97330 — (541) 745-2025

# **NORTHWEST CL CONTEST CALENDAR**

THE FOLLOWING LISTING IS A SUMMARY OF ALL KNOWN A.M.A. AND M.A.A.C. SANCTIONED EVENTS AS OF 3-12-96. 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.

**MARCH 16 :** **RICHLAND, WASHINGTON**      EVENTS: MOUSE RACE I, NORTHWEST SPORT RACE, NW FLYING CLOWN RACE.      SITE: HORN RAPIDS ATHLETIC COMPLEX.  
SPONSOR: COLUMBIA BASIN BALSA BASHERS.      CONTACT: PAUL RICE (509) 627-3142

**APRIL 14:** **TACOMA, WASHINGTON**      EVENTS: CARRIER      SITE: CLOVER PARK TECHNICAL COLLEGE.      SPONSOR: SEATTLE SKYRAIDERS      CONTACT: DICK McCONNELL. (OTHER DETAILS NOT AVAILABLE AT PRESS TIME)

**APRIL 20:** **PORTLAND, OREGON**      EVENTS: MOUSE RACE I (JR ONLY), NORTHWEST SPORT RACE, NW FLYING CLOWN RACE, CARRIER: CLASS I, CLASS II, & PROFILE FLOWN RECORD RATIO      SITE: DELTA PARK.      SPONSOR: NORTHWEST FIREBALLS.      CONTACT: WAYNE SPEARS, 7454 N. BURR, PORTLAND, OR 97203      PHONE: (503) 286-1397

**MAY 4 & 5:** **RICHLAND, WASHINGTON**      EVENTS: CLASS I MOUSE RACE, FLYING CLOWN RACE, NW GOODYEAR, NW SUPER SPORT RACE, PROFILE CARRIER, .15 CARRIER, CLASS I & II CARRIER COMBINED, AMA RECORD RATIO SPEED, NORTHWEST RECORD RATIO SPEED, OLD TIME STUNT.      SITE: COLUMBIA POINT MARINA PARK.      SPONSOR: COLUMBIA BASIN BALSA BASHERS.      CONTACT: PAUL RICE (509) 627-3142

**MAY 24 & 25 & 26:** **EUGENE, OREGON**      **NORTHWEST CL REGIONALS**  
EVENTS: PRECISION AEROBATICS IN FOUR PAMPA CLASSES, OLD TIME STUNT, CLASSIC STUNT, AMA FAST COMBAT, AMA SLOW COMBAT, AMA 1/2 A COMBAT, 80 MPH COMBAT, PROFILE CARRIER, CLASS I CARRIER, CLASS II CARRIER, .15 CARRIER, MOUSE RACE I, MOUSE RACE II, AMA RAT RACE, SLOW RAT, AMA GOODYEAR, NW GOODYEAR, NW SPORT RACE, NW SUPER SPORT RACE, NW FLYING CLOWN RACE, AMA PRECISION SCALE, AMA SPORT SCALE, PROFILE SCALE, 1/2 A SPEED, A SPEED, B SPEED, D SPEED, JET SPEED, FAI SPEED, FORMULA 40 SPEED, .21 SPORT SPEED, 1/2 A PROFILE PROTO SPEED, .21 PROTO SPEED.      SITE: EUGENE AIRPORT.      SPONSOR: EUGENE PROSPINNERS.      CONTACT: CRAIG BARTLETT, 205 NE CEDAR LANE, CORVALLIS, OREGON 97330      PHONE: (541) 745-2025

**JUNE 15 & 16:** **KENT, WASHINGTON**      **1996 STUNTATHON**  
EVENTS: PRECISION AEROBATICS, OLD TIME STUNT, CLASSIC STUNT.      SITE: BOEING SPACE CENTER.      SPONSOR: SEATTLE SKYRAIDERS.      CONTACT: JOE DILL, 22533 152ND AVE SE, KENT, WA 98042      PHONE: (206) 631-2367

**JUNE 29 & 30:** **SNOHOMISH, WASHINGTON**      **1996 BLADDER GRABBER**  
EVENT: AMA FAST COMBAT      CONTACT: HOWARD RUSH (OTHER DETAILS NOT AVAILABLE AT PRESS TIME)

**JULY 8 - 13:**      **MUNCIE, INDIANA**      **AMA CONTROL LINE NATIONALS**

**JULY 20 & 21:** **COQUITLAM, B.C.**      **CAN-AM SPEED CHAMPIONSHIPS**  
EVENTS: ALL CLASSES OF SPEED, & SPECIAL JR ONLY CLASS I MOUSE PROTO EVENT.      SITE: UPPER COQUITLAM RIVER PARK.      SPONSOR: VANCOUVER GAS MODEL CLUB.      CONTACT: BRUCE DUNCAN (604) 855-7295      OR      RON SALO (604) 279-0530

**AUGUST 3:** **RICHLAND, WASHINGTON**      EVENTS: 1/2 A COMBAT, 80 MPH COMBAT  
SITE: BURBANK SCHOOL.      SPONSOR: COLUMBIA BASIN BALSA BASHERS.      CONTACT: DON STEWART, 1922 THAYER DRIVE, RICHLAND, WA 99352      (509) 946-0915

**SEPTEMBER 14 & 15: KENT, WASHINGTON 1996 RAIDER ROUNDUP**  
EVENTS: TENTATIVE SITE: BOEING SPACE CENTER SPONSOR: SEATTLE SKYRAIDERS  
CONTACT: JOE DILL, 22533 152ND AVE SE, KENT, WA 98042 PHONE: (206) 631-2367

**OCTOBER ??????: EUGENE, OREGON REALLY RACING & FALL FOLLIES**  
EVENTS: RACING, PRECISION AEROBATICS. DETAILS TENTATIVE

**OCTOBER 5 & 6: RICHLAND, WASHINGTON DESERT CARRIER BASH**  
EVENTS: PROFILE CARRIER, .15 CARRIER, CLASS I & II CARRIER COMBINED, FLYING CLOWN RACE, CLASS I MOUSE RACE, NW SPORT RACE, NW SUPER SPORT RACE, OLD TIME STUNT.  
SITE: HORN RAPIDS ATHLETIC COMPLEX. SPONSOR: COLUMBIA BASIN Balsa BASHERS  
CONTACT: PAUL RICE (509) 627-3142

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## **ON LINES, with Jim Cameron**

First, I must explain that this is more of a list of topics that I hope will provoke thought. I have found some of these actions to help me over the years.

**FUEL:** I like to keep it in the smallest jugs I can. I have two extra jugs- One half gallon and a one quart, and, as the volume of fuel goes down, I switch to one of the smaller jugs. This keeps the volume of air in the jug to a minimum. Remember that air has water in it. Something else I do is to squeeze the jug just a bit as I put the cap on. You will not get all of the air out. What you will do is to cause the jug to pull a slight vacuum on the cap to keep more air out.

**BATTERY REMINDER:** Have you charged it in the past five months? The GloBee unit likes to be topped off before using. I try to charge mine after each usage. Remember, this is not the case for ni-cads. Ni-cads like to be discharged before charging. Ni-cads form a memory when charged before discharging. This will limit the charge capacity of the cell. This might be a good time to check the battery clip and leads. Remember, the thicker the electrical cable the less amperage loss you will have.

**HEARING PROTECTION:** For the past few years this has been a part of my flight box. One friend of mine after a day of racing would go home with a headache before he started using hearing protection. For the past few years I have been flying with Gary Harris. He flies combat, and I have noticed that when pitting for him, my concentration is more focused when I use hearing protection. In some cases I use earplugs with muffs over my ears. I think some of the FAI speed motors put out a db level which might require both plugs and muffs.

Something I did about ten years ago was to start FILES OF INTERESTING ARTICLES. If you are like me, you read hundreds of pages a year, and there is too much information to keep in your head (or at least mine). I use a photocopy machine to copy articles dealing with airplanes that I want to build, or of procedures I would like to try. I also keep a notebook with quick-to-write items. I cannot count how many times I have gone looking for a bit of information and found it in one of the files. This was great, because I did not have to look through 200 magazines and newsletters.

Last item for the month..... I like to get myself into OTHER PEOPLE'S SHOPS. I must have a few thousand hours in Dave Green's shop. The important thing is to watch how others build and work on parts of a project. Once you have confidence in yourself, teach someone else. You may have a better way of doing a job, exchange information.

# 1996 Los Angeles Control Line Contest Calendar

EVENT	DATE	LOCATION	FUN FLY	BALLOON BUST	SCALE	STUNT	RACING	SPEED	CARRIER	COMBAT
SCATR Racing	Feb 4	Whittier					X			
Blacksheep Fun Fly	Feb 11	Basin	X							
Knights 1/2a Day	Feb 11	Miles Square	X							
Blacksheep Balloon Bust	March 3	Taft, CA		X						
SCATR Racing	March 3	Whittier			X				X	
Roland Baites Scale / Carrier	March 10	Whittier					X			
SCATR Racing	April 7	Whittier					X			
5th Annual U.S. Team Race Champs	April 13-14	Whittier					X			
Knights Fun Fly	April 14	Miles Square	X							
Blacksheep Scale & 1/2a	April 21	Basin	X		X					
SCATR Racing	May 5	Whittier					X			
Blacksheep Balloon Bust	May 24-27	Taft, CA		X						
NW Regionals	May 24-26	Eugene, OR			X		X	X	X	X
SCATR Racing	June 2	Whittier					X			
Knights Joust	June 8-9	Whittier			X		X	X	X	X
Bob Palmer Stunt Meet	June 30	Basin				X				
SCATR Racing	July 7	Whittier					X			
Nationals - Profile Scale	July 9	Muncie, IN			X					
Nationals - Profile Carrier	July 11	Muncie, IN							X	
Nationals - Class I/II Carrier	July 12	Muncie, IN							X	
Nationals - CL Scale	July 12-14	Muncie, IN			X					
Knights Judging & Scoring Clinic	July 21	Whittier			X				X	X
Blacksheep Electric Scale & Stunt	Aug 4	Basin			X		X	X	X	X
SCATR Racing	Aug 4	Whittier			X					
Southwestern Champs	Aug 31/Sept 1	Dallas, TX					X			
Knights Fun Fly & Carrier	Sept 1	Whittier	X						X	
SCATR Racing	Sept 8	Whittier					X			
Blacksheep Fun Fly & More	Sept 15	Basin	X							
Karl Marschinke Memorial	Sept 28-29	Tucson, AZ								
Knights Stunt Clinic & Contest	Sept 29	Miles Square				X				
SCATR Racing	Oct 5	Whittier					X			
Seebree Hayes AAA Memorial	Oct 12-13	Whittier			X		X	X	X	X
SCATR Racing	Nov 2	Whittier					X			
Knights Fun Fly	Nov 10	Whittier	X							
Blacksheep Fun Fly	Nov 17	Basin	X							
SCATR Racing	Dec 7	Whittier					X			
Toys for Tots Fun Fly	Dec 8	Whittier	X							

To add or correct information on this calendar Call Fred Cronenwett (see number below)

For more information:

101st Screaming Eagles  
Fred Cronenwett  
7352 Independence  
Apt #201  
Canoga Park, CA 91303  
818-719-0167

Blacksheep Squadron  
Tony Naccarato  
2121 Hollywood Way  
Burbank, CA 91505  
818-842-5062

SCATR & Knights  
Kenn Smith  
521 Jansen Ave  
San Dimas, CA 91773  
909-592-2100

# AMERICAN JUNIOR Aircraft Historical Society, Inc.

# MODIFIERS SWAP MEETS

Saturday  
Apr. 27, & Nov. 2, 1996

## ADMISSION:

ADULTS: \$ 3.00  
CHILDREN: \$ 1.00  
Under 12 Free With Paid Adult

HAUL OUT ALL YOUR OLD MODEL AIRPLANES,  
CARS, BOATS, ENGINES, & RELATED ITEMS;  
BUY... SELL... SWAP... AND HAVE FUN!

## OVER 150 SWAP TABLES

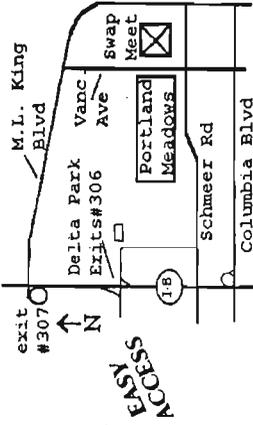
For-Table Reservations:  
Detach & Mail in form below

## HOURS:

9 a.m. - 4 p.m.

## At The Pay n' Pak Center

8900 N. Vancouver Avenue  
Portland, Oregon



## Table Reservation Form

PLEASE PRINT CLEARLY

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 CITY: \_\_\_\_\_ STATE: \_\_\_\_\_  
 PHONE: \_\_\_\_\_ ZIP: \_\_\_\_\_  
 Please Reserve \_\_\_\_\_ Tables at \$10 EACH Totaling \$ \_\_\_\_\_ Pre-paid check enclosed.

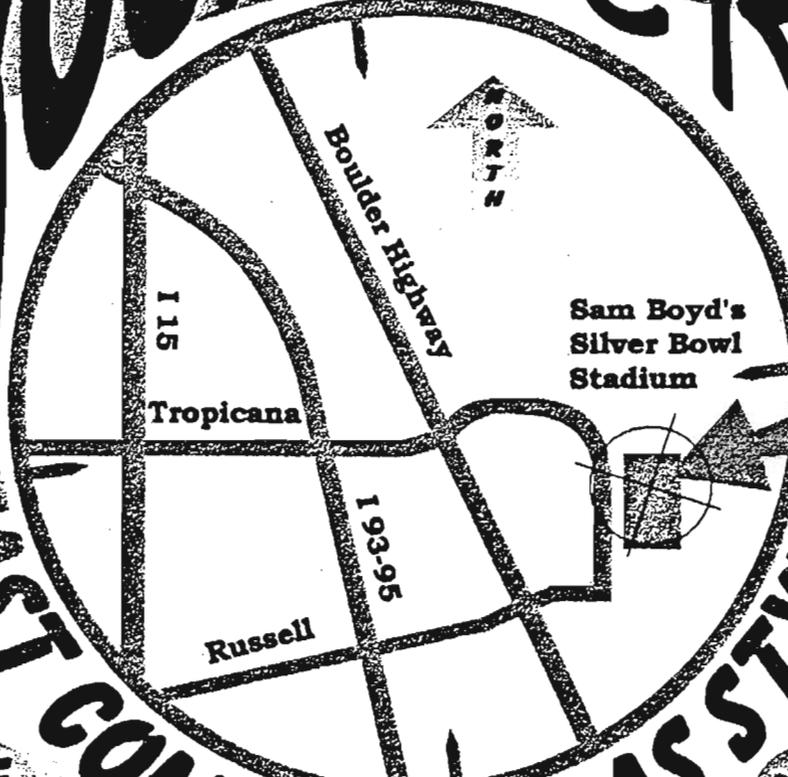
# 1996 SWAP MEET RULES

1. ALL tables must be preregistered and prepaid by Apr. 20 for spring swap meet and by Oct. 26 for fall swap meet to reserve your space.
2. ALL reservations are to be made by mail. Confirmation by postcard.
3. Please make all checks or money orders payable to:  
*American Junior Aircraft Historical Society, Inc.*
4. Send to:  
American Junior Aircraft Historical Society, Inc.  
P.O. Box 22885  
Milwaukie, OR 97269-2885
5. Each 6 ft table is \$10.00, subject to availability.
6. For each vendor, there is only one free admission charge. A special hand stamp All "helpers" must pay regular admission charge. A special hand stamp will be used to mark all vendors and helpers for ID.
7. Set-up time is 7:30 a.m. on day of swap meet; doors will open to the public at 9:00 a.m. All Vendors must enter through the REAR DOOR for vendor check-in and entrance during set-up.
8. All vendors must claim their tables by 10:00 a.m. or be subject to possible loss of space, prepaid or not, no refunds.
9. The swap meet hours are 9-4. We must be cleaned up and out by 5 p.m.
10. AJAHS is not responsible for any loss of personal property, injuries or other damages which may occur during the swap meet.

# YOU ARE INVITED

TO

# GROUND ZERO



**CONTEST DIRECTOR**  
**FRED REESE**  
**PHONE**  
**(702) 876 4718**

**CONTEST MANAGER**  
**DOUG ELLIS**  
**PHONE**  
**(702) 368 6328**

**FIRST COMBAT 'VEGAS STYLE**

**ENTRY FEE**  
**\$50**

**PROP FOR AN ELEVATION OF 2100 FT. ABOVE SEA LEVEL AND BRING AN ATTITUDE OR KISS YOUR BUTT GOODBYE!**

**DUST DEVILS**

**AMA SANCTIONED FUEL SHUT-OFF MANDATORY**

**IN SUNNY NEVADA. HOME OF THE TEST SITE**

**MAY 18TH & 19TH 1996**

**\$1000 FIRST PRIZE (PENDING ENTRIES)**

# SCHAMP ON STUNT

## THE SIMPLE APPROACH

by Gerald Schamp

A couple years ago I found myself getting very frustrated with what airplane to build. I talked to Windy, Paul, Ted, Don, and so on. All had various ideas and all good suggestions. I had become acquainted with Scott Smith at Aerosmith Model Aviation through past orders of foam wings and kits, etc. I was talking to him late one night, Scott likes to talk late at night in case any of you don't know that. Anyhow, he told me of this group of fellah's he had been working with, and the plane they were building. It sounded simple enough to me. At that time I needed something simple, still do for that matter. The plane he had been working on was a modification of Bob Hunt's Genesis 35. This plane was to be designed around various engines available, OS .40 FP, FOX .40, OS .32, ENYA .40 and various others too. I have had my ups and downs with the OS .40FP. I know some where inside that little engine lives a good engine. To most it has proven to be a DEMON. So I got Scott's foam wing and all that stuff to build my own plane. His name for this plane is CD MAC Special.

This plane finishes up at about 575 to 580 sq. in. With some good building and a passible finish it should come in under 50 ounces. I'm guessing that if one were built at 42 to 45 ounces that you have one fantastic flying airplane. Mine finished out at 53 ounces, and it is a good flying airplane. I stretched Scotty's numbers a little, with a longer tail moment, bigger lower aspect ratio stab/elevator, outboard flap 1/8" wider at tip and so on. Slowed controls down, with Scotty's 4 inch bellcrank, but used 1 1/4"/1" flap horn and 1" elevator horn. My next one will be even slower with 1 3/8" / 1" flap horn and 1" elevator horn and even a lower aspect ratio stab/elevator. Current one is 4.3 to 1, next one will be 3.8 to 1, at 25% of wing area. Tail moment will be at 16 1/4", current one is at 15 3/4". I am a firm believer that the lower aspect ratio tail and slower control set up, are keys to getting a stunter to turn and stop correctly. This current plane has a good corner, with flat bottoms. Tracking is good every where.

The OS .40 FP. I used an RC engine that's basically stock right out of the box. By that I mean no one did any rework to it. The things I changed are as follows: Removed the RC carburetor, installed a 260" dia. venturi with 1 inch long barrel, Kustom Kraftsman NVA with hole pointed at cylinder. One head gasket. Thunderbolt Long R/C plug. Rev-Up 11x5W prop balanced very carefully. For fuel I run Red Max 10% nitro, 25% lube blend. I use a muffler that I made from a K&B .28 Sportster barrel and a K&B .45 Sporster stack. The stack has to machined down, because it is too heavy and is about 1/4 inch too long. I assembled all these components with JB Weld. The muffler weighs a hair under an ounce. I did a lightening job on the inside to get it to this weight.

With the engine brand new, I bolted it in the plane, put the muffler on it and ran two tanks of fuel through the engine, holding the plane in my hands. I pointed the nose up and down letting the engine heat up and cool down frequently. Next I put the lines on and flew. A couple of flights to make sure the engine wasn't going to get hot doing maneuvers. Then I started doing patterns. After 5 or 6 flights, I started taching the engine and was setting the engine at 98-9900 RPM on the ground. I used 63 foot lines eye to eye, and this gave me lap times of 5.1 to 5.3 depending whether the wind is blowing or not. I have flown this plane in 20 mph winds, set the engine at 10,000 RPM on the ground and go for it. There is no where anywhere in the flight that the lines go slack. Straight up overhead, I can give full up and the plane will stay there.

I guess its sort of a poor man's pipe set up, but it works and works good. I use a Smith 4 1/2 ounce tank. By cold I mean under 60 degrees. At first I didn't use muffler pressure to the tank. Have since added it because of slow down in windy weather. Have also gone to 11" x 4" APC prop. Am setting RPM at 10,000 RPM on the ground. Have gone to 65' lines eye to eye and lap times of 5.4. Line tension has remained in fact its even better.

I am very happy with this airplane and engine. I didn't invent the engine set up, a couple of guys from Salt Lake City, Utah were using this set up and it worked good for them. The airplane is all Scott Smith with a couple of my ideas that seem to work. I have enclosed a couple of pictures. How did I come up with the name? I was following a car with that name on it, and it just seemed to fit.

What I've discovered about the engine, is the port timing is different with the RC engine verses the CL engine. When running this engine the way I am, there is no runaway ever. What you have is a solid reliable power plant that does the same thing every time. No getting hot or cold. it just runs and puts out more than ample power for this type application.

One last thing, I always put after run oil in my engines after every flying session. I use Air Motor tool oil for this. My engine has about 6 gallons of fuel run through it to date, and shows no signs of wear anywhere. It always starts, first or second flip.

If yas takes cares uvs yur toys theys lasts longer.

Keep Your' Lines Tight,  
Gerald Schamp

---

## **PHOTOS!**

*going clockwise, starting with upper left:*

\* Gerald Schamp with his "Beretta" design, as described in article.

\* Another view of the Beretta. (both pix from meets in Seattle and Eugene).

\* This is the special Flying Clown 200 Lap Club trophy. Are you on it yet? When the blank spaces are filled, guess there will have to be another add-on "wing".

\* Jet speed entry of Glenn Lee, Model Aviation magazine columnist. Flew at the 95 Richland CL Nationals.

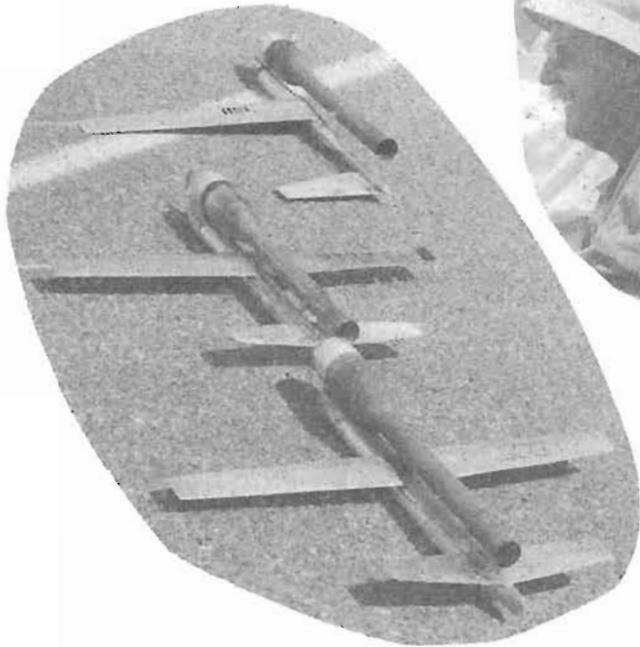
\* A couple of graduates of the aviation/science course taught by Alan Olsen in Hoquiam, Washington. Sorry, lost record of names. Look real close, person in background has a plane in the air.

\* Combat flier el supremo Jeff Rein seen prepping a couple of planes at one of last years meets. Note very tidy well organized pit box, helps in preparation and in winning matches.

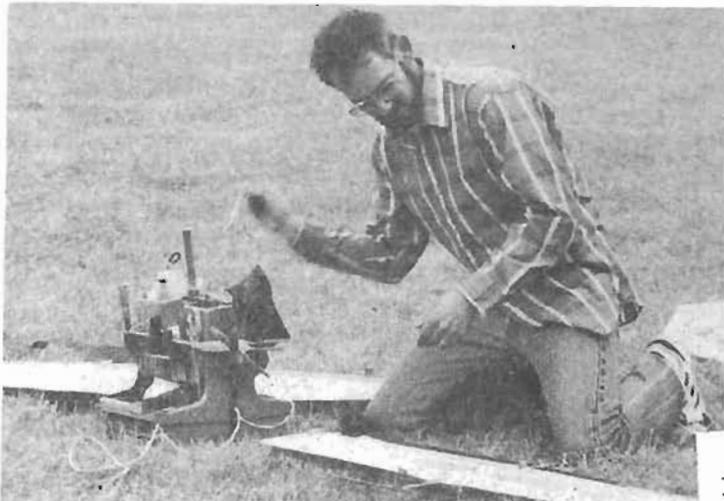
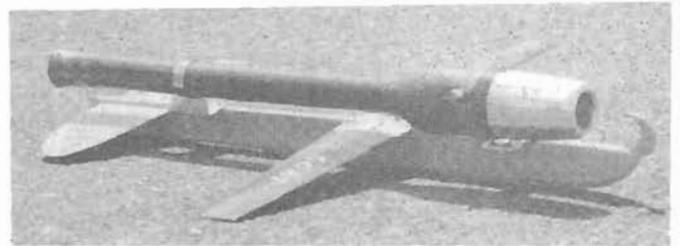
\* Some of the Northwest Jet fleet seen at the Richland Nats. Entries by Jerry Thomas (top), Bob Einhaus, and Dick Salter. Boom! Boom!

\* (center photo) Mac Ryan (left) and Joe Just take a breather between the Carrier action at the 95 Nats. Hey Joe, you are looking a little intense!

Photos provided by: Gerald Schamp, Paul Rice, Alan Olsen, Gary Harris, Mike Hazel.



FLYING CLOWN 200 LAP CLUB	
BOB BROWN - 1st	BOB BROWN - 1st
BOB BROWN - 2nd	BOB BROWN - 2nd
BOB BROWN - 3rd	BOB BROWN - 3rd
BOB BROWN - 4th	BOB BROWN - 4th
BOB BROWN - 5th	BOB BROWN - 5th
BOB BROWN - 6th	BOB BROWN - 6th
BOB BROWN - 7th	BOB BROWN - 7th
BOB BROWN - 8th	BOB BROWN - 8th
BOB BROWN - 9th	BOB BROWN - 9th
BOB BROWN - 10th	BOB BROWN - 10th
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BOB BROWN - 19th	BOB BROWN - 19th
BOB BROWN - 20th	BOB BROWN - 20th



# FLYING LINES

1073 WINDEMERE DRIVE NW  
SALEM, OREGON 97304

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

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