

# FLYING LINES

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## DRIZZLE CIRCUIT WINDS DOWN TO EUGENE FINALE

"A study in contrasts" is the story of the two March contests on the Northwest Sport Race Drizzle Circuit. One contest was plagued by mishaps and a rain of airplanes and balsa chips, while the other was a showcase of close racing and consistency.

Sport racers gathered first at Carkeek Park in Seattle, Wash., March 9 for the contest with the largest entry of the season. Fifteen started the race, and the first heat draw looked like a typical feature, with Rich Schaper, Mike Hazel, Richard Simpson and John Thompson getting off to a roaring start.

The first heat set the tone for the day, but it wasn't entirely the right tone. Yes, there was some go-fast racing, and Richard Simpson's crash portended the doom that later befell many entries. The day was in many ways a comedy of errors and mishaps, contributed to by pilot errors, mechanical errors, devilish puffs of Puget Sound wind and freak accidents.

Two weeks later, however, the Drizzlers headed for Portland, Ore., and the make-up of the snowed-out January contest in Redmond, Wash. This time, the racing was smooth and polished, with eight entrants. For the first time in the history of the circuit, not a single entrant failed to finish a heat, and the slowest heat time of the day was a 7:33. Considering that the winning time of one heat March 9 was 22:44, and another was 59 laps, the two contests were indeed dissimilar.

22:44??? Yes, Don Zipoy of Seattle won a heat in a time of 22:44. One of the starters crashed, another dropped out with mechanical problems, and Zipoy and Jim Fuller spent most of the race in the pits before Zipoy's crew finally got his plane to go the full 70 laps. Later in the day, Dick McConnell retired the winner in a heat where nobody finished, with 59 laps.

John Thompson of Cottage Grove, Ore., continued a trouble-free campaign, flying through the carnage in Seattle and the stiff competition in Portland to win both contests, making it three in a row. Rich Schaper of Kelso, Wash., continued to chase Thompson's tail, coming in third in Seattle and second in Portland. Both fliers have made the feature in all four contests. Schaper trails by only seven points in championship scoring with one contest to go. Third place in the circuit remains open to Richard Simpson, Tom Knoppi, Roger Simpson and Mike Hazel, with Richard having the best shot.

In spite of the casualties, the Seattle contest was refreshing in bringing in several new competitors. Dan Burdick of Seattle had the best luck, winging his way to fourth place with a K&B .35 and a jazzy M&P V-tail Bohanza. Also new on the circuit were Mike Biderbost, Don Zipoy, Dick McConnell and Jim Fuller.

Tom Knoppi made it to second place in Seattle despite a run of bad luck for the Knoppi/Gary Stevens team. Both of their planes were badly damaged in crashes but the Stevens Knoppi International Racing Team (S.K.I.R.T.) managed to patch one up in time for the feature. Dick McConnell scored well enough to make the feature but retired because of a broken motor mount.

The Seattle contest was another indication of the current health of the Seattle Skyraiders, reorganized last year and going strong. The Skyraiders hosted the DC contest in fine style, including the preparation of a humorous "hard luck" trophy that went to the trouble-plagued Simpson family team of Silverton, Ore.

Slow combat was the secondary event at Seattle, with John Thompson winning.

In Portland, the only newcomer was Bruce Guenzler of Cottage Grove, Ore., who was entering his first contest with a "big one." Bruce, 13, finished all his heats in spite of a broken wing on a hard landing in the first one. His 7:32 for that heat would have been better if his pit crew hadn't spent a full minute in conference before deciding to put it back together.

The Portland contest also marked the first feature race for Dave Green, president and one of the founders of the CLAMS club. Dave, of Astoria, Ore., has been a big competition booster though he often has done his participation from the sidelines. "Mr. Consistency" was Jim Cameron of Seaside, Ore., whose heat times were 4:44, 4:41 and 4:43. Thanks go to Jim Zehrung of the Portland Aeroliners for printing award certificates.

Secondary event, AMA combat was run double-elimination and Gene Pape took first place.

Next contest on the circuit is the finale, in Eugene, Ore., April 13. That's when circuit prizes will be handed out. Besides NWSR the agenda will include scale racing (Goodyear) and FAI team race. See contest calendar elsewhere in the newsletter for details.

Here are the complete results:

NORTHWEST SPORT RACE DRIZZLE CIRCUIT CONTEST NO. 3  
Seattle, Wash., March 9, 1980

FEATURE RACE

1. John Thompson . . . 8:49 -- 15 championship points + 3 heats finished = 18 points. (Ringmaster, K&B .35)
2. Tom Knoppi . . . 10:23\* -- 14 + 2 = 16 points. (Ringmaster, K&B .35/ Ringmaster, ST .35)
3. Rich Schaper . . . 8:58\* -- 13 + 3 = 16 points. (Ringmaster, Fox .36)
4. Dan Burdick . . . 12:54 -- 12 + 2 = 14 points. (M&P Bonanza, K&B .35)

HEAT WINNERS

- Round 1: John Thompson, Tom Knoppi, Don Zipoy, Dick Salter  
Round 2: Knoppi, Richard Simpson, Mike Biderbost, Roger Simpson  
Round 3: Dick McConnell, Dan Burdick, Thompson, Dave Mullens

SLOW COMBAT

1. John Thompson
  2. Gene Pape
  3. Bill Varner
  4. Dick Salter
  5. Jim Fuller
- \*Feature race times for Knoppi and Schaper were disputed, due to a stopwatch malfunction. Fliers determined placing by agreement upon order of finish. It was that kind of day.  
Best heat of day: 4:23, John Thompson

NORTHWEST SPORT RACE DRIZZLE CIRCUIT CONTEST NO. 4  
Portland, Ore., March 23, 1980

FEATURE RACE

1. John Thompson . . . 8:17 -- 8 championship points + 3 heats finished = 11 points. (Ringmaster, K&B .35)
2. Rich Schaper . . . 9:37 -- 7 + 3 = 10 points. (Ringmaster, Fox .36)
3. Dave Green . . . 12:05 -- 6 + 3 = 9 points. (Yak-9, K&B .35)
4. Jim Cameron . . . 103 laps -- 5 + 3 = 8 points. (Yak-9, K&B .35)

HEAT WINNERS

- Round 1: John Thompson, Dick Salter, Rich Schaper  
Round 2: Jim Cameron, Schaper, Thompson  
Round 3: Roger Simpson, Thompson, Schaper

AMA COMBAT (3 entries)

1. Gene Pape
  2. Bill Varner
  3. John Thompson
- Best heat of day: 4:15, John Thompson

DRIZZLE CIRCUIT STATISTICS after four contests

<u>CHAMPIONSHIP PDINTS</u>		<u>Best Heat/Feature</u>	<u>Most Heats Won:</u>
1. John Thompson . . . . .	58	4:02 8:17	10, John Thompson
2. Rich Schaper . . . . .	51	4:25 8:58	
3. Richard Simpson . . . . .	29	4:17 8:55	<u>Most Heats Finished:</u>
4. Tom Knoppi . . . . .	19	4:31 10:23*	12, Thompson, Schaper
Roger Simpson . . . . .	19	4:26 10:43	
6. Mike Hazel . . . . .	17	4:25 9:04	<u>Most Times in Feature:</u>
7. Dan Burdick . . . . .	14	5:10 12:54	4, Thompson, Schaper
8. Jim Cameron . . . . .	10	4:19 103 laps	
9. Dave Green . . . . .	9	5:04 12:05	*Disputed time, stopwatch malfunction.
Dick Salter . . . . .	9	5:09 --	
11. Dave Mullens . . . . .	8	5:31 --	
12. Bill Varner . . . . .	7	4:47 --	
13. Jeff Young . . . . .	4	4:44 --	
14. Gary Stevens . . . . .	3	4:28 --	
Paul Wallace . . . . .	3	6:17 --	
Bruce Guenzler . . . . .	3	5:31 --	
17. Don Zipoy . . . . .	2	6:30 --	
Dick McConnell . . . . .	2	5:20 --	
Mike Biderbost . . . . .	2	6:34 --	
20. Keith Iwanski . . . . .	1	9:17 --	
21. Jim Fuller . . . . .	0	38 laps --	

CONTEST REPORT, SPEED & RACING, MERCED, CALIFORNIA, MARCH 16  
By Mike Hazel

Your speed and racing editor along with fellow Northwest speed flier Scott Newkirk wandered down to Merced to find beautiful sunny skies and warm temperatures.

Several AMA and Northwest records lay open just waiting for anything to claim them, since this was the first speed meet of the year (Editor's note: several records were wiped out Jan. 1 by rules changes).

Scott did a 137.88 mph in Formula 40, which included two laps of burning down as the result of the plug seal going pffft! A backup flight would have made this the national record, but the piston and liner were out of commission.

It will hold up for a Northwest record. Yours truly went after after the class B speed mark, with a best time of 149.67. This was shortly blown away by Frank Hunt's 180.6 mph, which is now an AMA record. In class A, the 1979 nationals winning team of Fred and Joyce "M&M" Margarido put up a 166.14 speed. The M&M team also took 1/2A with a 101 mph speed. The meet's most outstanding performance was by veteran speed flier Luke Roy, who upped the FAI class record to 160.29 mph.

There also was some action over on the racing circle. AMA slow rat saw only three entries, with Vic Garner turning a 5:59 for low time. Vic also took top spot among six Goodyear entrants, with this writer coming in second with a (oops!) four-pit 7:53 time. Of some interest, Tim Gillott's entry was clocked at 120 mph plus, proving that while the new line sizes are safer, there is no significant speed reduction. With this sort of speed, why didn't Tim win? A two-piece crankshaft tells the story.

There were eight rat entries, indicating a healthy interest in the event. Tim Gillott took this one with a good 4:53 time. The Northwest entries were plagued with glow plug problems, and finished as also-rans. Mouse race classes also were flown, but I do not have the information. Perhaps one of the participants will supply that for the editor.

After the meet it was the usual gab and grub session at the local barbecue eatery. Thanks to Frank Hunt for an enjoyable meet.

THREE NEW NW RECORDS ESTABLISHED

The trip to Merced, Calif., paid off for Northwest speed and racing experts Mike Hazel and Scott Newkirk, who each established new Northwest records.

Newkirk turned a time of 137.88 miles per hour in Formula 40 speed, and Hazel set a time of 149.69 in Class B speed. Hazel set a scale racing (Goodyear) feature raice record of 7:53.

In all three cases, the new marks fill in blanks caused when records in those events were wiped out at the first of the year by rules changes. Under previous rules, Hazel held the Formula 40 record at 149.5 and the B speed record at 148.95. John Thompson held the Goodyear feature record at 7:31.

Flying Lines has been keeping track of Northwest competition records

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RECORDS, continued

since the 1979 Northwest Regional Control-line Championships in May, 1979. They can be set by any Northwest flier in any AMA-sanctioned contest, though some documentation is requested from anyone claiming a record set out of the region.

Here are the complete records as of April 1, 1980:

1/2A MOUSE CLASS I	50-lap: 2:48 (Bill Varner)	100-lap: 5:50 (Bill Varner)
1/2A MOUSE CLASS II	75-lap: 3:54 (John Thompson)	200-lap: 11:39 (Thompson)
GOOLYEAR	70-lap: --	140-lap: 7:53 (Mike Hazel)
SLOW RAT	70-lap: --	140-lap: --
RAT RACE	70-lap: 2:35.55 (Mike Hazel)	140-lap: 5:21 (Mike Hazel)
FAI TEAM RACE	100-lap: --	200-lap: --
NW SPORT RACE	70-lap: 3:53 (John Thompson)	140-lap: 7:40 (John Thompson)
1/2A SPEED:	80.33 mph (Wallace-Young)	JET SPEED: 165.83 mph (Mike Hazel)
A SPEED:	125.82 (Mike Hazel)	FAI SPEED: 88.05 (Scott Newkirk)
B SPEED:	149.67 (Mike Hazel)	1/2A PROTO: 71.97 (Jeff Bell)
D SPEED:	--	FORMULA 40: 137.88 (Scott Newkirk)
FORMULA 21:	--	PROFILE NAVY CARRIER: 208.78 (Marty Phillips)
CLASS I CARRIER:	268.98 (Terry Miller)	CLASS II CARRIER: 319.65 (Orin Humphries)

COMPETITION STANDINGS

Here are updated Northwest competition standings for the events at March contests. The number of contests and entrants are listed after the event name.

Flying Lines is compiling standings of competition events, publishing them as they are updated. Standings apply to AMA-sanctioned contests in the Northwest, and only Northwest fliers are listed. Contestants placing in the top four of any event will receive scores, with first place equal to the number of contestants, second worth one less, and so forth.

<u>NORTHWEST SPORT RACE (3 contests, 35 entries)</u>		<u>SLOW COMBAT (1 contest, 5 entries)</u>	
1. John Thompson . . . . .	35 + 11 = 46	1. John Thompson . . . . .	5
2. Rich Schaper . . . . .	29 + 10 = 39	2. Gene Pape . . . . .	4
3. Tom Knoppi . . . . .	14	3. Bill Varner . . . . .	3
4. Dan Burdick . . . . .	12	4. Dick Salter . . . . .	2
5. Mike Hazel . . . . .	11		
6. Richard Simpson . . . . .	10	<u>AMA COMBAT (1 contest, 3 entries)</u>	
7. Dave Green . . . . .	6 + 8 = 14	1. Gene Pape . . . . .	3
8. Jim Cameron . . . . .	5 + 9 = 14	2. Bill Varner . . . . .	2
		3. John Thompson . . . . .	1

SHUTOFFS FOR NWSR? UH-UH

The vote is in on the Northwest Sport Race shutoff legalization poll. The response was a resounding "no" vote. Out of 20 persons voting, 16 were against introducing shutoffs into NWSR and four favored it.

All may not be lost, however, for the proponents of the shutoff. That is because FL is conducting another, more important poll regarding changing NWSR to a one-engine event, namely the Fox .35. If that change is made, it has been proposed to create a Northwest Slow Rat event, which would give a home to current sport race engines. As presently conceived, the NWSRat event would allow addition of shutoffs, fast-fills and hot gloves as optional equipment, while retaining current engine restrictions. See below:

SPEAK YOUR MIND ON FOX .35 ISSUE

Flying Lines is still seeking opinions on the proposal to change NWSR rules to require all planes to be powered by Fox .35 engines, in an effort to slow the event down and make it once again accessible to all levels of fliers. Our opinion poll asks two simple questions: Do you favor this change? Would you also favor a Northwest Slow Rat event allowing the same engines as in present NWSR, with relaxed airplane restrictions?

Please respond to this poll. It is planned that the rules change would take effect in December, 1980, for the start of the 1981 Brizzle Circuit. The decision would be announced at the 1980 Regionals in May, so that competitors will have most of a year to prepare.

Send your opinions to FL at the address on the masthead.

REGIONALS UPDATE

As some may have noticed by now, the scale event has been dropped from the schedule of the Northwest Regional Control-line Championships (May 24-25). That's because of the low entry in the past couple of years. However, the decision is not irreversible.

Scale will be added to the schedule IF advance entries are received

REGIONALS, continued

by the contest director by the first of May. There's no minimum number set, but if there aren't a couple of firm entries by May 1, scale will be left out. OK scale enthusiasts -- the ball's in your court.

Otherwise, plans for the Regionals are rolling along. See the flyer in this issue for details. Volunteers are still needed in various areas. Contact Gene Pape, 4528 Souza St., Eugene, OR., 97402, (503) 689-1623.

LAST CHANCE FOR ENGINE RAFFLE

The Flying Lines benefit engine raffle is drawing to a close. Last day for buying raffle tickets will be April 20, with the drawing April 21.

The prize, if you hadn't heard yet, is a Fox .35 engine. The winning ticket will be fished out of the jar by an impartial third party, Heather Thompson, 4. Flying Lines editors are not eligible to win.

Chances cost \$1 each, or three for \$2. Proceeds go to keep Flying Lines airborne. Fill out the form below, or just send your money and scratch the info on the back of a broken prop and send it in. Next month we'll start a new raffle with a different prize. The winner will be announced next month, and the engine will be sent by mail.

Name \_\_\_\_\_ Telephone \_\_\_\_\_ Number tickets \_\_\_\_\_

Address \_\_\_\_\_ Amount enclosed \_\_\_\_\_

FLYAWAYS

(Random tips and ribs from the FL workshop floor)

====News (good or bad? We're not sure) for GloBee Fireplug owners: Fusine has sold the GloBee line to Twinn-K, Inc., P.O. Box 31228, Indianapolis, Indiana, 46321. That's the response we got when we wrote to inquire about a new cell for our Fireplug. Hope the products remain available, since we're all Fireplug junkies now!

====Bad news (no doubt about this one) for Magnum fans. George Aldrich writes that he no longer produces Magnum R/C and Cool Long Glow Plugs, due to the market price increase of platinum. Worse, Aldrich announces discontinuation of the Magnum control handle. "Should it seem profitable to resume production, we will do so with utmost haste," George writes.

====Congratulations to Jim Jones and Howard Banks of Spokane, Wash., who finished sixth and seventh in the AMA's 1979 Fall Flying Fair for 1/2A CL models. The contest was a 48-lap race, with contestants starting their own engines, and a pit stop required. Each contestant flew individually and mailed their times to AMA. Jim's time was 3:54.5 and Howard's 4:03. Randy Harris finished ninth with a 4:50 and Danny and Mike Enholm tenth with 6:25. They also are from Spokane. All four came from the Libby Junior High School flying club, advised by Orin Humphries. First place in the national postal contest went to Sheldon C. Ybanez of Roanoke, Va., with a 2:10.1 He used a Mighty Might (15" span, 13" fuse, V-tail, 4-oz. weight) with a Chop's carbon-fibreglass 5"x4 1/2" prop, and a

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# HOOK

# NOOK

navy carrier notes by orin humphries

Profile carrier pilots, what would you say is the most frequent source of irritation to us, with respect to equipment? If you are the proud and perplexed owner of a Supertigre .35 engine, I'll bet that is your answer. I must talk about this subject at this time for it to be of use to you in the Northwest Regionals this year. I originally planned to talk about bellcranks.

## THE SUPERTIGRE .35

No other engine is as strange in its response to changes in needle valve setting than an engine with the Tigre's MAG carburetor. (The initials are the inventor's.) One out of three Tigres will vibrate unacceptably at a low setting, say, 10 percent above dead idle. Have you seen a profile plane on low speed with hard enough vibrations to shake standing waves into the lines? If it happens, it comes precisely at the point in the throttle range where you need to boost the plane a teeny bit during the low speed portion of the run. Two out of three engines don't vibrate enough to worry about, but if you own that third one...

Let's talk about that vibrating first. My second engine was a bad one for that. Couldn't control the plane when it shook. I spent eight hours on my knees in front of the plane running the engine at idle, making one change at a time, and checking the idle again at that 10 percent point. Imagine how many variables that could conceivably cause the vibration that you could check in eight hours of experiments. (What kind of nut would go to that much trouble?) My knees still hurt when I'm sober. The vibrations are caused by the design of the carburetor and tolerances in manufacturing. I traced it to the carb, gang. It's the design of the spray bar and needles.

If your engine vibrates badly, and it's not a prop you assumed was "perfect," the only thing you can do is get another carb from the shop and hope it, also, is not a vibrator. If the engine is brand new, send the carb to World Engines for an exchange.

What is happening is this: At dead idle (0%), the engine is four-cycling, and above 10 percent it is two-cycling. At the transition point, the fuel flow and atomizing action is unstable. Droplets of fuel go unatomized and the engine vibrates. Changing carbs is the only thing you can do if troubled by vibrations.

Now, about this idle adjustment: Ever had trouble doing that to a MAG carb? Sadistic question, wasn't it? The problem for us is that we are accustomed to twisting a needle valve as the only means of adjusting an engine. Trying to set the idle on a MAG carb by the idle needle is a guaranteed 90-minute job. And if you then change the idle stop screw, you get to do the needle bit again. I found the best way to adjust a MAG carb's idle is to use the idle stop screw and not the needle. I can adjust any Tigre carb now, in 10 minutes maximum. Just do it this way:

First, ignore the size of the barrel opening when the throttle is closed. That doesn't affect the idle speed on the MAG carb. Close the barrel until the opening is 1/32" to 1/8"; doesn't matter where, and set the stop screw.

Second, while holding the throttle closed, blow through a piece of fuel tubing on the fuel nipple and adjust the idle needle closed until the air will not move. You are blowing by trapping a pocket of air between your tongue and the roof of your mouth and pushing with your tongue. Slowly open the idle needle, with the throttle still closed, until a pocket of air the size of a marble takes three or four seconds to get through the carb without rupturing your tonsils. This will get you, ultimately, a slightly rich idle that can be fine-tuned.

Third, start the engine and close the throttle. Chances are it will simply die. No speeding up or slowing down at the last like the poop sheet that comes with the engine says. Just die. What would you adjust next? If you are conditioned like me, you said, "idle needle." WRONG, on this carb, anyway.

Adjust the stop screw, podner. On the MAG, it's all in the stop screw. No other carb in the world is this way. Turn it in to open the barrel, about 1/4 turn at first. Restart the engine and close it down. If it still dies, turn in the stop screw 1/8 turn and repeat.

You will soon come to a point where the engine will remain running at idle. From here on, the adjustment of the stop screw position is extremely sensitive. One sixteenth of a turn or less is where it's at.

Finally, the fine tuning of the idle mixture does use the idle needle valve. Chances are you are too rich and will detect this by the amount of

## HOOK NOCK, continued

oil smoke that comes out when you open the throttle after 30 seconds of idling. If so, turn in the idle needle three small clicks at a time until the engine response and amount of smoke upon opening the throttle are as they should be.

Oops! Shouldn't have said, "finally." One more step. You must fly the plane as if you were in a contest. Do your high speed and then your low speed. If it loads up during low, turn the idle needle in three clicks at a time, from one flight to the next until it runs all the way through low speed and then some. Finally (guaranteed) immediately upon landing, after having done the high and low speed portion, walk over and put your finger on the crankcase far from the cylinder head. If the case is cold, your mixture is rich. Two or three clicks tighter on the idle needle. If you can leave your fingers on it for a count of four or five, it is perfect. If too hot, you're lean. Adjust the idle needle, not high speed.

It may have happened that at the start of the session, your engine didn't die as postulated. If it continued to run a while, it was at too high an idle, wasn't it? Don't grab the needle. Turn the idle stop screw out 1/8 turn and continue checking the idle until the engine dies as the throttle is closed. Then turn the screw in 1/16 turn at a time until it idles, and follow the above procedure.

## HIGH SPEED

Any other engine responds rapidly with changes in the sound and RPM when you turn the high speed needle a tiny bit. Noticable changes. Not the MAG carb, brother...five turns on the needle and nothing of note is different in the engine. Weird! Forget using your ear to tell when the engine is right on high speed. Start maybe five turns open and fly it. Look at your stop watch from flight to flight, having turned the high speed needle in 1/2 turn each flight. And each landing, check the temperature with your finger as described. Your watch and your finger will tell when it's right, not your ear.

This fall ('79) Stan Johnson and I discovered the engine does indeed respond to changes in the atmosphere over a high speed needle setting range of one turn from best day to worst day. Your watch will tell you with a range of three seconds. Don't accept a slower time than your best time. Adjust the needle, using your watch and finger. Wet day or hot day, less fuel. Cold or dry, more fuel. (Editor's note: We always thought it was the other way around, due to the added volume of moisture in the fuel during wet weather. Maybe that's a topic for a whole article by someone who understands the principle. Any takers?)

## AIR LEAKS

The MAG carb leaks air like a sieve. Put some silicone rubber inside the lock nut for the high needle. Put some around the spraybar-to-carb-body joint, also.

Well, hope this has helped. Without looking above, tell yourself what the primary adjuster is for the idle on the MAG carburetor. If you said, "stop screw," you're right. If you still have trouble with that \*#&\$@ MAG carb, call me or write. See ya, fellow hookers (my wife thrashes on me when I say that, har, har!).

--Crin Humphries, 5208 N. Elgin, Spokane, WA 99208, (509) 325-9773.

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# SCHAPER ON STUNT

by rich schaper

Here it is the first of March. With the Northwest Regionals less than three months away (two, by the time you read this -- ed.), most of the area stunt fliers should be getting some practice started.

This year the 1980 contest season will get started in Yakima, Wash. May 4 is the scheduled date. Although this is quite a distance to travel it will be worth it. Joe Just is the contest director and the schedule of events is: Precision aerobatics (PAMPA classes), old-time stunt, and Northwest Sport Race. Those who plan to attend bring your own shade and enjoy.

Three weeks later you'll find the action hot and heavy at the 1980 Northwest Regional Control-line Championships. As usual the site is Mahlon Sweet Airport, Eugene, Ore. If you're not familiar with the stunt circle at Eugene, here is a brief description. The surface is grass except for the center, which is a cement circle of about regulation size. Also the center is raised about two feet above the outside of the circle. This is something like a baseball pitcher's mound. Be sure and practice on dropping your bottoms a little more on this circle. The yearly mowings should leave the circle with about an inch (more or less) of nice green grass. (Editor's note: Stunt fliers may be asked to pitch in with some final groundwork if pre-contest weather hampers field preparations. It's been known to happen.)

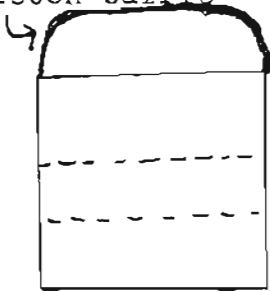
This even attracts some of the California stunt grunts and should not be missed.

## OS MAX .35 FOR STUNT

The OS Max .35 stunt engine has been around the control line circles for some time now. Being used most widely in precision aerobatics, it has powered many stunt ships both nationally and locally to the winner's circle.

A variety of fuel tank set-ups will work well with this engine. The uniflow tank design with muffler pressure will give a very steady run throughout the pattern. The uniflow tank also is a good choice for those using profile stunt designs.

Radius on  
corner of  
piston baffle



#60 drill oil  
holes at 45° angle



Crank pin end

Another good setup to use is the standard suction tank with or without muffler pressure. The suction tank without muffler pressure will give you some break between four-cycle and two-cycle in maneuvers. This change in four- to two-cycle is more prominent in the Fox .35 stunt which is a story by itself.

Though the OS .35 can be run right out of the box, its performance and reliability can be improved. Clear a spot off your work bench and lay some clean paper toweling down. Be sure you have good lighting and begin disassembly. Use a proper sized Phillips head screwdriver and remove the backplate and cylinder head. To remove the sleeve, first we must install a propeller. Use your favorite test prop for this. Now rotate the prop so that the piston is at bottom dead center (BDC). Now stick a couple of round toothpicks or a piece of balsa into the exhaust port. Rotate the prop, thus breaking loose the sleeve. With a twisting motion remove the sleeve. Never use a screwdriver or pliers for this operation. Finish by removing the piston-rod assembly and crankshaft. Push the wrist pin through the piston and remove the connecting rod.

Inspect all parts and remove any rough edges. Pay close attention to the inside of the case and intake port in the crankshaft. Deburr with a small jeweller's file, an X-Acto knife with No. 11 blade and 400 grit sandpaper (wet or dry type).

Lightly countersink the backplate holes in the case. This is to insure a good seal is maintained, when the backplate is installed. An electric drill motor with a 1/8" drill bit will do nicely for this operation.

The piston is the next item to be modified. What we'll do here is radius the corners of the baffle. This can be done with a file or a Dremel Moto-Shop using the sanding disc. This allows a little more fuel to the exhaust port side of the piston.

The cylinder head is next. All we'll do here is polish the combustion chamber. The Dremel Moto-Shop once again is used. Swap the sanding disc for the buffing wheel. With a mirror-like polish job the carbon will have a hard time sticking here.

One last modification is performed on the connecting rod. A number 60

size drill is used to drill two holes at 45 degree angles in the top (wrist pin end) of the rod. This seems to be a trouble area and needs the extra lubrication provided by the oil holes. All that is left to do now is to lap all moving parts. DuPont white rubbing compound is used throughout. Just a few seconds with each part is all that's necessary. Be sure and not to overdo the piston and sleeve as they seem to be a bit on the loose side.

Wash all parts in hot soapy water. The use of an old toothbrush works well in getting the parts really clean. Any rubbing compound left inside will instantly ruin your engine.

Carefully assemble the engine using 5% fuel as an assembly lube. Break in your engine using a 9-4 prop. Use 5% nitro fuel with at least 22% oil. Run at a sloppy four-cycle setting. You should be able to hold your fingers on the head without being burned. Run for two minutes and allow engine to cool completely. A total of 20 minutes should be sufficient. The last three two-minute runs should be at a fast four-cycle setting.

If you have done a good job your engine should have good compression, will start with one flip and have good power.

Send comments and suggestions to:

--Rich Schaper, P.O. Box 608, Kelso, Wash., 98626

#### WHERE THE ACTION IS

Here is the schedule of control-line competition events for 1980, as of our deadline. If you know of a contest or informal event not listed here, remind the contest director to send details to FL for inclusion in the next edition of the contest calendar. No need to wait until the flyer is ready. Give us the outline now so people can start planning. FL also will publish flyers free of charge and report results. Fun-fly events can be listed, too.

April 13.....EUGENE, Ore. -- Northwest Sport Race Drizzle Circuit No. 5. NWSR (above details), Scale Race (Goodyear), and FAI team race. Merchandise awards. Circuit trophy presentation. Entry fee \$3 for first event, \$2 for each additional. Site: Mahlon Sweet Airport. Contest Director: Mike Hazel, 1319 Aspen St., Eugene, OR 97401, (503) 726-1185. FAI team race starts at 9 a.m., Goodyear at 10 a.m., NWSR at noon sharp. Sponsored by Eugene Propspinners.

May 4.....YAKIMA, Wash. -- Yakima Valley Cherry Blossom control-line contest, sponsored by Control Line Association of Sunnyside (CLASS), Valley Aero Modelers and Clover Leaf Hobbies. Precision aerobatics (three PAMPA classes), Northwest Sport Race (JS)(O), old-time stunt. \$5 entry fee. Registration opens at 8 a.m., flying at 9. Site: Parking lot behind Valley Mall in Union Gap, Wash. Trophies and merchandise. Contest Director: Bill Tucker (509) 829-5027.

May 24-25....EUGENE, Ore. -- Northwest Regional Control Line Championships (AAA). Navy carrier (all classes), precision aerobatics (2 PAMPA classes), speed (all classes), NW Sport Race, AMA rat race, slow rat race, scale race (Goodyear), AMA combat, FAI combat, slow combat, mouse race (unofficial). Contact Gene Pape, 4528 Souza St., Eugene, OR 97402, (503) 689-1623. Sponsored by Eugene Propspinners in cooperation with all Northwest CL clubs. Site: Mahlon Sweet Airport.

Aug. 30-31...EUGENE, Ore. -- Northwest Control Line racing Championships, sponsored by Nitroholics Racing Team. AMA rat race (JSO), AMA slow rat race (JSO), AMA mouse race Classes I&II, (JS)(O), scale Race (Goodyear), (JSO), FAI team race (JSO), Northwest Sport Race (standard and expert), Formula 40 speed (SO), Formula 21 speed (J). Contest director: Mike Hazel, 1319 Aspen St., Eugene, OR 97401, (503) 726-1185. Site: Mahlon Sweet Airport.

NOTE: All events are AMA sanctioned unless otherwise noted. Age groupings key: J = junior (under 15). S = senior (15-18). O = open (19 and older.)

#### THE FLYING FLEA MARKET (Classified Ads)

OUCH! -- Has your finger been whacked one too many times by that balky engine? Beat on the prop next time with the Neater Beater, a hand-made leather starting thong. This two-fingered thong is tough yet pliable, and includes a palm flap for good grip and quick on-off. Laced for adjustability. Specify right or left hand. Send \$5 to John Thompson, 1411 Bryant Ave., Cottage Grove, Oregon, 97424.

SOMETHING FOR (ALMOST) NOTHING -- In order to stimulate interest in this swap-shop feature of FL, we offer all new subscribers or persons renewing the right to one free classified ad, a \$1 value. Send to FL c/o the address on the cover.

AIR MAIL

DEAR FL:

Thanks for the special reminder of my need to subscribe to Flying Lines. I had planned to do that very thing and your letter served as a strong and clear reminder that I better hurry up and get on the ball...

First, I am very excited about the 1/2A contest there in Eugene and would like to fool around in the combat event with some flat-wing "bow-wows" using a shot .051 on one and a Testor reed valve on the other. Any line length up to 50' -- as well as compete in the stunt event. I plan to bring about five counter-clockwise flying stunts that can be used by other fliers in stunt over grass. My only hangup is that I will have to hit a church service in mid-morning but after that I should be able to stay around 'till the last dog is hung.

I would also like to be considered available as a permanent volunteer for any stunt judging work that may be needed in the classes I don't fly in at any contest at Eugene...

Keep up the good work. By this time next year I hope to be in a position to be much more useful and active in our hobby-sport myself...

That speed pattern event suggested in Model Aviation looks like the kind of fun event that might really spark interest in CL competition. I'll bet 1/2As could be very competitive if the rules could be limited only to safety considerations.

--Rich Porter, 1988 Westown Drive, Stayton, Ore. 97383.

(Editor's note; Rich sent us several airplane designs and other information we will try to publish in future issues. Special thanks to Rich for providing planes and expertise at the Eugene Propspinners' 1/2A Fun Day.)

DEAR FL:

I am mailing \$ for your newsletter. Being from the midwest I get a lot of racing and I fly Goodyear, rat, slow rat and sport race. Looking forward to your letter. See you at the nats.

--Rich Tupper; Phillips, Leone & Tupper Racing Team, 111 W. 65th St. #4, Westmont, Ill., 60559.

DEAR FL:

Although I am not into racing events as a competitor, I do keep up with what is going on, mainly from FL. Also, NCS newsletter ran some comments on SWCLA Big Goodyear that originally started out somewhat similar to NWSR. As time went on, engines, etc., were allowed to be modified, PDP, etc. Then the big gripe came when Ron Duly, of Navy Carrier fame, got beat at one meet and the next time he showed up with a Tune-Hill "Nashville Rat" engine, to take first place. But there was a lot of gripes later about "cubic money".

This situation came about because of pressures from other contestants to change the rules to the point that just about anything was legal. Now, it seems we are facing the same situation in NWSR. If I can remember correctly, it was Vic Garner who, at the Regionals a couple of years ago was allowed to run his slow rat with undersize rules in NWSR and some way or another tangled with Rich Schaper totally destroying Rich's plane. Yet, he gripes about the loss of his plane.

Also, since the rules were relaxed for him at that time, he seems to think they should be changed to his liking and every time the FL issue comes out, he has suggestions for changes (shutoffs, etc.). I have just one suggestion, that if he wants this type of equipment he should stick to slow rat and let the Northwest run their own events.

Just one more thing. My own thoughts on this event is this: With a shortage of K&B .35s and Fox .36s putting a crimp in things, an expert class that would allow ported engines, scratch builds instead of kits, fuel shutoffs could be the way to go (also it would make my profile carrier legal at 90+ mph. Then, a one-class engine, stock kits event with restrictors, no shutoffs, hot gloves, etc. These engines could be OS .35s or Fox .35s or something on that order. One thing is for certain, though. I would not like to see NWSR get to the point that someone could bring in a Tune-Hill and get away with it, which is what we would get into if we bow to the pressure of the "go-fast" gang who have to have it their way.

Don't make a "profile carrier" out of it.

--Bill Skelton, P.O. Box 105, Warrenton, OR 97146

Dear FL:

Just a quick comment re: Issue No. 11, Page 5, "Update on Fox .35 proposal." Disappointed to see that you're to compete with your advertisers in the sale of Fox .35s. What next? Props? Fuel?

--Al Johnson, Hobby House, 10011 Holman Rd. NW, Seattle, WA 98177

(Editor's note: We've made clear to Al that we don't intend to compete in the hobby supply marketplace. We have offered to promote the sale of Fox .35s by any hobby shop that wishes to offer them at a price similar to what

AIR MAIL, continued

Duke Fox offered directly to the newsletter. Our only interest is in making engines available to those who must change over if Fox .35s become the only legal Northwest Sport Race engine. Fuel? Props? No way -- we've got enough headaches putting out this newsletter!)

Dear FL:

Just read about your newsletter in Dirty Dan's column in Model Builder. Enclosed is a check for \$6. Please put me on your list. I have been building and flying UC for about 30 years off and on, but lately I have really gotten into it mainly because of the real good articles on CL, especially writers like Wynn Paul (Model Aviation) and Dirty Dan are great. We need informative articles for beginners and intermediates coming up a little. The pros and top flights know all of the ins and outs anyway.

UC is not a big thing like it used to be around here in the late 40s and early 50s. Most of my flying is done by myself and a stooge for launching so it is pretty hard to learn the finer points, unless I get it through magazines and newsletters such as yours and PAMPA, of which I am a member.

"How to Fly U-Control" by Dick Mathis is the best book I have ever got in UC flying. If ever there was a need for a book, that was it. It would be great if we had a book like that on building and trimming and gas tanks.

I am really interested in stunt and someday I hope to do the pattern.

--Paul Morrison, 44 Causeway St., Methuen, Mass., 01844

Dear FL:

Enclosed is a check for \$6 for one year's subscription to your publication. Please begin with the next nearest issue. Being new to the area, I am eager for local news in the model stunt flying field. Thank you very much.

--Paul Walker, 14230 SE 18th # E-1, Bellevue, WA, 98007

VOLUNTEERS ARE STILL NEEDED to participate in all phases of the 1980 Northwest Regional Control Line Championships, Memorial Day Weekend in Eugene, Ore. Interested persons should contact Gene Pape, 4528 Souza St., Eugene, Oregon, 97402. (503) 689-1623.

HOBBY SHOP DIRECTORY

SEATTLE AREA

INTERLAKE HOBBIES -- Control-line and RC supplies, specializing in parts. 1406 N. 80th St., Seattle, WA 98103. (206) 525-6757. Owned by the Reifel family. "If we don't have it, we will get it."

HOBBY HOUSE -- Control-line, free-flight and RC supplies. 10011 Holman Road NW, Seattle, WA Owned by Allyn Johnson (206) 782-1609.

HOBBIES, ETC. -- Specializing in U-control, free-flight and RC. Complete stock of engine parts. 16661 Redmond Way, Dept. FL, Redmond, WA 98052. (206) 883-2811.

PORTLAND AREA

HOBBYLAND -- 20 years serving all model aviation enthusiasts. 4503 N. Interstate Ave., Portland, OR 97217. (503) 287-4090. Owned by Ken Thorstad.

(Hobby Shop Directory listings are presented as a service to area model aviators who want to know where to go for their CL supplies. If your favorite shop isn't listed here, show them your copy of Flying Lines and suggest they sign up. Ad rates listed elsewhere in the newsletter. Support FL advertisers -- they support us.)

AD RATES

Advertisements in Flying Lines cost \$5 per issue for a half page, \$3 per issue for a quarter page, \$10 a year for Hobby Shop Directory listing, and \$1 per five lines of classified ads.

DRIZZLE CIRCUIT ACTION....(Photos, next page)

The Seattle, Wash., Northwest Sport Race Drizzle Circuit contest at Carkeek Park March 9 was the scene of a lot of action; plenty of thrills and lots of spills. Top left, Dave Mullens tunes sport racer. Top right, Bill Varner of Astoria, Ore., is marching this year to the beat of a different drummer. He used a biplane in Seattle and a high-wing monoplane two weeks later. Center left, pitman Dan Burdick of Seattle has bad news for his pilot. Center right, John Clemans of Kelso, Wash., launches Rich Schaper's entry. Bottom, an all-Seattle heat. Tom Knoppi, standing, left, pilots Gary Stevens' entry. We didn't get the name of the other pilot who's up in this picture, but he's flying Dan Burdick's entry (That's Dan in the background, giving directions. Kneeling are Dave Mullens, piloting Jim Fuller's entry, and Don Zipoy. Zipoy won this disastrous heat with a 22:44 time. That must be some sort of record.



# NORTHWEST REGIONAL CONTROL LINE CHAMPIONSHIPS

## MAY 24 & 25 ~~1980~~ 1980

### EUGENE, OREGON

SPONSORED BY THE EUGENE PROPSPINNERS IN COOPERATION  
WITH OTHER NORTHWEST AREA CONTROL LINE CLUBS

AMA AAA SANCTION NUMBER 323

#### EVENT SCHEDULE

#### SATURDAY

PROFILE CARRIER (JR-SR)(OP)	9:00-1:00
CARRIER I & II COMB. (JSO)	9:00-1:00
SLOW COMBAT (JR)	9:30-10:30
AMA RAT RACE (JSO)	9:00-10:30
GOODYEAR (OP)	10:30-11:30
AMA SLOW RAT RACE (JSO)	11:30-12:30
SLOW COMBAT (SR-OP)	11:30-2:00
GOODYEAR (JR-SR)	1:00-2:00
FAI COMBAT (JSO)	2:00-3:00
NW SPORT RACE (JR-SR)	2:00-3:00
NW SPORT RACE (OPEN)	3:00-5:00

#### SUNDAY

PROFILE CARRIER (JR-SR)(OP)	9:00-1:00
CARRIER I & II COMB. (JSO)	9:00-1:00
SPEED: 1/2A, A, B, D-JET COMB,	
FORMULA 40, FAI (EACH JSO)	8:00-5:00
FORMULA 21, 1/2A PROTO (JR)	
PRECISION AEROBATICS	9:00-5:00
AMA FAST COMBAT (JSO)	9:00-5:00

REGISTRATION OPENS AT 8:00 AM AND CLOSES AT NOON

- \* AMA MEMBERSHIP IS REQUIRED FOR ALL PARTICIPANTS.  
AVAILABLE AT REGISTRATION
- \* ONLY CONTESTANTS, HELPERS, AND OFFICIALS ARE ALLOWED IN FLYING AREA
- \* ALL OTHER PEOPLE MUST STAY OUTSIDE OF ROPED AND FENCED OFF AREAS.
- \* NO ALCOHOLIC BEVERAGES ALLOWED ON THE FIELD DURING MEET HOURS.
- \* NO PARKING ON GRAVEL IN FRONT OF FUEL DEPOTS.
- \* OVERNITE CAMPING ON THE SITE OK. RV RIGS PLEASE PARK IN THE PAVED LOT ACROSS FROM THE DOMED GRASS CIRCLE. CARS MAY ALSO USE THIS AREA
- \* RESTROOMS ARE LOCATED IN AIRPORT TERMINAL AND TOWER BUILDINGS
- \* CONCESSION TRUCK WILL BE AT THE SITE IN THE AFTERNOONS.
- \* FAST COMBAT WILL BE FLOWN DOUBLE ELIMINATION.
- \* NORTHWEST SPORT RACE: SINGLE BYPASS PORT PLAIN BEARING ENGINE, .36 MAX, STOCK PROFILE KITS, NO PRESSURE, NO SHUTOFFS, ETC.  
WRITE CONTEST DIRECTOR FOR FULL RULES.
- \* PRECISION AEROBATICS: FLOWN IN FOLLOWING PAMPA CLASSES:  
BEGINNER-INTERMEDIATE COMBINED, AND ADVANCED-EXPERT COMBINED  
FLOWN ON DOMED GRASS CIRCLE
- \* SCALE EVENT MAY BE FLOWN DEPENDENT ON ADVANCE ENTRY COMMITAL.  
CHECK WITH THE CONTEST DIRECTOR.
- \* UNOFFICIAL MOUSE RACE EVENT WILL BE FLOWN AFTER COMPETITION ON SATURDAY. CHECK AT REGISTRATION FOR MORE DETAILS.
- \* ENTRY FEES: JR & SR \$3, W/ ONE EVENT, \$1 FOR EACH ADDITIONAL  
OPEN \$5, W/ ONE EVENT, \$2 FOR EACH ADDITIONAL
- \* AWARDS: TROPHIES AND MERCHANDISE
- \* SITE: MAHLON SWEET AIRPORT, EUGENE, OREGON

FOR FURTHER INFORMATION CONTACT:

CD: GENE PAPE 4523 SOUZA STREET EUGENE, OR 97402 (503) 689-1623	OR	MIKE HAZEL 1319 ASPEN STREET EUGENE, OR 97401 (503) 726-1185	OR	FLYING LINES N/L 1411 BRYANT AVENUE COTTAGE GROVE, OR 97424
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