

FLYING LINES



NEWS OF NORTHWEST CONTROL LINE MODEL AVIATION

1073 WINDEMERE DRIVE NW
SALEM, OREGON 97304

EDITOR: MIKE HAZEL

DECEMBER 1986

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Subscribers: Please note the issue numbers listed on your mailing sticker. If the last number is circled, then this is your last issue! Please send in renewal promptly to ensure continuous service.

COCKPIT CHATTER



NOTES FROM THE EDITORS' DESK

Happy New Year!

Just as this issue is getting finished up, I'm getting ready to ring in the new one, and all that kind of stuff.

One thing we could have done with this issue, is to cover our new years' resolutions. Y'know, promises and ideas that sound good, but will never be accomplished for more than two days. Well, if you have such things to report, then do so, so we can have some more space filled in the Airmail section.

My, what a convenient lead-in. Howcumzit, all the mail, or at least most of it, is coming from everywhere but the NorthWest? One would think that one of three things have happened: NorthWest modelers have 1) become lazy or don't know how to write 2) are being selfish or shy and don't want to share their ideas with others or 3) Have become brain-dead, and their copies of FL are being read to their vegetating bodies which lie in the waiting-to-croak-ward in the hospital. C'mon you guys! If you don't write, I'll even be welcoming the off the wall correspondence from SlackRat Magoo! Nuff said. (for now)

Do have some letters from out of region, will print next month. Not to many items for the Flyaways section this month, so those Misc. mumblings will just be condensed into this section.

Firstly, don't forget the NW Model Expo, taking place at the end of the month. Like most trade shows, it is primarily RC oriented, but the CL folks have made their presence known in increasing steps each and every year. Hopefully, this year we will do the same. There are lots of interesting displays and information to absorb, so attend if you can. For those of us with "flea market mentality", there will be a swap shop. A couple of years ago, I picked up some real good deals, and your deal may just be waiting for you. Check last page of issue for more details.

Speaking of the "Where the Action Is" section, we should start seeing this department expand, just as soon as the 1987 schedule shapes up. As has been encouraged before (about 1693 times), notify FL as soon as possible so dates can get published! About this time of year, each and every year, it makes sense to have some more organizational planning coordinated throughout the region. One year we had a contest director's association formed, but it never got off the ground. The next best thing that CD's can do, is to plan far in advance, and find out what's going on in the rest of the region. Some years we have just flat out had too many meets that involved consecutive weekends, and other problems!

Product News: Tom Dixon reports that a special production of Merco 61 engines will soon be available. These engines feature dual piston rings for excellent compression seal, and better head design. Matched muffler is included. Delivery is scheduled for late January. Check ad in issue to contact Tom.

Also scheduled for delivery sometime next month, is the long awaited Fox Combat Special Mk VI! One notable feature is the change to an ABC cylinder assembly. Other changes include: enlarged crankshaft, new conrod and wrist pin design, and others. Another feature quoted is 2,000 RPM faster speed than the Mk IV! Check the Fox ad in this issue (which is not accurate anymore) for contacting the factory, as this is a factory direct product.

THE DRIZZLE CIRCUIT

ROUND and ROUND in the RAIN?



Report by Dave Green

On December 14th, 14 contestants showed up at Delta Park in Portland for the kick off of the 86-87 Drizzle Circuit season. The weather tried to live up to the D.C. name, as it rained off and on and was windy most of the day. But it was not bad enough to stop the hardy racers from doing their thing.

There were some new faces, as well as most of the old timers. Jim Cameron, a Navy man for the last six years, is now in Bangor, Washington, and is back flying in the D.C. again after a long lay-off. George Mickey and "Dr. Bob" Danielson, from the Seattle area are trying their hand at the racing action. Dan Burdick of "Circle Jerk" fame was there, back from several years absence from racing. It was good to see the new faces out there.

Notably absent was the infamous (notorious?) Nitroholics Racing Team. A job conflict will keep John Thompson from attending this years racing circuit. The other half of the team, Mike Hazel, made an appearance but didn't bring any planes. (ed note: this is known as a racer's cameo appearance, "Hi, fly your plane, sure, race is done, OK, bye!")

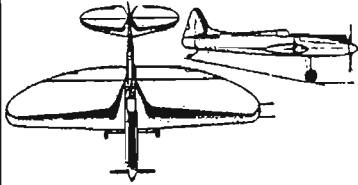
The secondary event, $\frac{1}{2}$ A Mouse I had 4 entries with Jim Cameron coming out on top with a 7:26 time. The S & S team of Dick and Richie Salter were second with 7:48, followed by Dick Peterson with a 8:40 time.

Northwest Sport Race had 10 entries with Jim Cameron again emerging victorious with a 10:38 time. Second was Wayne Drake of Portland (area) with a 10:45. The SHT of Glenn Salter and John Hall was third with a 10:54. Very slow times, but things will improve as time goes on.

In NW Super Sport, there were 8 entries, which is up slightly from some previous D.C. contests. The winner was Dave Green with a 9:14. This sounds slow till you realize that included 4 pit stops, a fire, and a prop change. Second was the SHT team (you can pronounce that anyway you want) with a 11:32. Third was Dick McConnell with 48 laps. This was significant for Dick, as he has been trying to make a final for 7 years. Talk about perserverance! Way to go, Dick!

Here are the complete Circuit points standings:

<u>NW SPORT RACE</u>		<u>NW SUPER SPORT RACE</u>	
Jim Cameron	10	Dave Green	8
Wayne Drake	9	SHT Team	7
SHT Team	8	Dick McConnell	6
Dave Green	7	S&S Team	2
Dick Peterson	2	George Mickey	2
Bob Danielson	2	Dick Peterson	1
Dick McConnell	2	Bob Danielson	1
S&S Team	2	Jim Cameron	1
Dan Burdick	2		
George Mickey	1		



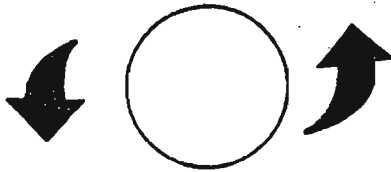
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ROUND & ROUND

By: John Thompson

Dec. 14 was an unusual and painful day for me, in modeling terms. That was the day of 1987 Northwest Drizzle Circuit Contest No. 1. I wasn't there.

What was unusual about that is this: The Drizzle Circuit is in its ninth year. The Dec. 14 contest was Contest No. 41 in the overall series.

It was the first Drizzle Circuit Contest I have missed. As far as I know I competed in every Northwest Sport Race and Super Sport Race event in the first eight years of the series, which I helped start.

By my rough calculations, that amounts to approximately 11,200 laps of preliminary heats and somewhere around 5,500 laps of feature races, or a total of 16,800 laps and 1,200 miles of racing. But who's counting?

So what happened Dec. 14? Was I out of planes? Did I lose interest. Nope. I was working. Sad to say, the price of professional advancement for me has been the move to a Sunday work shift for the indefinite (but hopefully temporary) future.

So, as I sat there at a computer terminal trying to keep myself busy on a fairly slow work day, it was hard to keep my thoughts from wandering to Delta Park. "Should be about time for the Sport Race feature now...Tuning up for Super Sport Now...Pizza should be on the table at Engine house..."

There in the workshop hung a brand new Sport Racer, two back-up Sport Racers, two Super Sports, and the Mouse Racer for the secondary event. All dressed up with no place to go!

Believe me, it's hard to get this hobby out of your blood. I hope that further changes in my job will allow me to get back in the thick of it before the circuit ends in 1987. Meantime, I'm spending my spare time (mornings, now, it seems) in the workshop. I'll be seeing you at the big contests, the Nats, etc. Forgive me if I'm a little rusty.

The mailbag has been brimming with modeling information. There are so many interesting and/or disturbing things to mention, I don't know where to start...but here goes:

SHHH -- Well, folks, the universal muffler rule was defeated in the AMA rules-making process. A look at the voting indicates the RC types were reasonable in their consideration of the matter, not voting to ram it down everyone's throats. However, I predict it will be back.

(By the way, most of the Northwest feedback I got before casting my vote was favorable to the muffler rule. I voted for it to allow further consideration, but hadn't decided on my vote in the final ballot). Anyway, in anticipation of the rule, I have started working with Rolland McDonald of SST Specialty Products on development of a muffler for the Fox Combat Special. This muffler would weigh about half an ounce and be very effective. It is based on the popular SST stunt muffler. I plan to demonstrate this muffler during 1987. See me for details.

WELCOME HOME -- Jim Cameron is back on the Northwest contest circuit. Jim is one of the all-time modeling characters who was sorely missed when his Navy duties took him out to sea. Flying will be more fun now that he's back in the pilot's circle.

RULES -- We've already mentioned above a couple of the rules proposal results. Some others of interest:

The proposal to eliminate the senior class failed. Passing were the CL proposals to define a Stunt pilot's circle, clarify the Stunt clover maneuver, clarify a stunt "attempt," revise the exit from a square outside loop, ban sharing of Carrier planes, prohibit backing up for Carrier landing, and redefine lack of a safety thong as a foul.

All others failed on the first ballot. Will the last Rat Race pilot please turn out the lights?

WALLET GRABBER -- Southern California Combat people have set up the first of what they hope to be an annual answer to the Northwest's famous Bladder Grabber Combat tournament. April 4-5 is the date for the Money Nats, a triple-elimination AMA Combat contest with the following prizes: \$1,000 first place, Carver stereo for second place, Hoffelt .68 engine for third. It's at Whittier Narrows in Los Angeles, with John Salvin as director. Contact Chuck Rudner at (714) 730-5549 for information.

HIGHS AND LOWS -- Thanks to Leroy Cordes for many years as editor of HI-LOW LANDINGS, the Carrier newsletter. He is turning the job over to Melvin and Brenda Schuette of P.O. Box 293, Auburn, KS 66402.

PU GNIKCAE -- The Carrier newsletter has had quite a few letters and opinions about the backing-up-to-land question, and somebody actually has been caught doing it. Two of three proposals to ban the practice passed on the first ballot, and it surely will be illegal in 1988.

FOAMING AT THE WING -- Stunt great Bob Hunt is back in the foam wing business, with a wide range of stunt designs available. Robin's Wing, RD #1 Box 57, Lafayette, NJ 07848.

RIGHT FIELD -- The Eugene Prop Spinners have been advised that they WILL have use of their traditional field -- or an excellent alternate site -- for the 1987 Regionals. See you there!

SCALE MAGS -- I still have copies available of the English Scale magazine Aircraft Modelworld, available for the asking.

CELEBRITY COMBAT -- Motore Cipolla Combat is organizing a Celebrity Combat challenge for the 1987 Nats. You pick the celebrity of your choice to fly Combat against, and have your own grudge match, with plane and engine provided. Fee is a couple of bucks to the AMA museum or building fund. Take your chances against Dick Stubblefield, John Grigg, you name it. For info, write Doc Passen at P.O. Box 111, Jasonville, IN 47428. By the way, Motore Cipolla Combat has Fox piston/liner ABC sets for \$89.95, along with its range of other combat engine products. Write for catalog.

COMBAT BLUES -- Politics is hurting AMA now, and it's killing the Miniature Aircraft Combat Association. It is hoped that a new slate of officers currently being elected will restore the stability of the organization. That's not to say there's anything wrong with the old leaders, but the organization is lately bogged down in infighting that is bad for the hobby. MACA would be much better off if more Combat fliers would join up and take part...it's a needed voice. All the specialty organizations seem to be prone to some of the backbiting...it's even showed up a little in PAMPA. There's a natural process at work...first somebody takes on hard jobs nobody else wants; then pretty soon the people on the sidelines begin to take them for granted, and finally they start to complain and criticize. That may be self-gratifying, but the way to REALLY be worth while is to pitch in and work for the good of the hobby together. We're all on the same team!

THINKIN' LINCOLN -- If you've never been to a National Model Airplane Championships, this would be a good year to make the pilgrimage. The Lincoln, Neb., site is just about the best site (within reasonable driving distance from the Northwest) that's available. There are miles of pavement for practicing all manner of flying and a beautiful grass Combat site. RC events are nearby should you desire to watch the pattern or racing activities. Accommodations are within sight of the flying site and the town of Lincoln is fairly pleasant...somewhat like Eugene, Ore., with a major college. The Nats are early this year, July 11-18. We've already got our reservations. Get yours now.

NEW BLOOD -- Tom Cope has retired after long and flawless service as Dist. XI contest coordinator. Thanks to Tom for his work and welcome aboard, Dick Salter, his replacement.

TALK TO ME -- One final hope I have for 1987 is that contest directors will keep the FL calendar informed of their schedules far in advance. In fairness to all Northwest fliers, contests should be publicized in the calendar so that all fliers could compete if they desire. It seems proper, if fliers are claiming points in the Northwest standings, to make contests open to all by announcing them in advance. Several local contests this year were not made known beforehand to the FL calendar.

SEASON'S GREETINGS -- And a happy 1987 to all. See you in the circle!

--John Thompson, 1505 Ash Ave., Cottage Grove, OR 97424.

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WANTED: Old Veco/Dumas CL kits or patterns, Smoothie, Thunderbird, Chief, etc. call (404) 556-6897 or write to: D. Barry, Rt 2, Box 264 D2, Harlem, GA 30814

FOR SALE: Over 150 kits of all kinds, UC, FF and RC. Send SASE for list or tell me what you want. Burt Brokaw, 494 E. 700 N. Ogden, Utah 84404, or call (801) 782-7723

WANTED: Fox 59 stunt long shaft. T.W. Rollison, 1828 Sherwood, Pontiac, Mich 48053

FOR SALE: Flying Lines back issues. Fill in the gaps of your FL library. singles \$1 each. Four or more @ 50¢ each. Issues available:

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49	50	51	52	53	54
57	60	61	62	64	64
65	66	68	68	69	70
71	72	74	75	76	77

Ye Olde Editor's "LOTS OF GOOD STUFF FOR SALE" Sale

KITS: ~~Steeling 3/4 inch Corsair \$28~~, Scientific .049 Mentor \$8, Carl Goldberg .049 Jumpin' Bean \$7 PLANS: Li'l Rebel .15 Goodyear, Sig Shoestring (.15), Terrel (3/4 stunt), Pink Link ~~set~~ ~~quietie rat style~~ EACH PLAN \$1

ENGINES: K&B 40 RC with Perry pump/carb, new in box \$58; K&B 3.5 uc/ff- new in box \$44; 0-S. 20 FP-S, new in box \$32; Testors .049 new in box \$9; K&B 40 RR series 71, new \$35; Mecey 29 stunt like new \$14

ENGINE PARTS: 2 Super Tigre 15 spinnars \$5 ea; 4 Fox Combat special suction Venturi inserts 50¢ ea; 1 Super Tigre AA 35/55 ~~socket set~~ \$9; 1 custom suction venturi for K&B 58 with ~~AA~~ ~~AA~~ \$7; 4-K&B 40 nylon racing venturi with n.v.a. \$3 ea; 1-K&B 35 plain bearing RC carb \$5; 1 Super Tigre 40 carb \$2; 1 0-S. 60-65 spinner \$10; 1 0-S. 60-65 conrod \$7; 1-Cox 15 conquest bottom end w/ rear bearing (used) \$3; 1-~~Box Thermal Hopper~~ ~~reder~~ ~~original package~~ \$2; 1-~~Super Tigre 29/40 racing venturi with spraybar~~ \$4; 1-K&B 6.5 minipipe, cut to 3-3/4 inch \$1; 1-E.D. #2 tuned pipe (29/40) \$10; 1-E.D. #2 long exhaust manifold (for pipe) \$4; 1-~~Jim Walker fuel regulator~~ ~~original package~~ collector's item \$10; 1-Miebach .15 size tuned pipe, collector's item \$20

FUEL TANKS: 1-Carolina Taffinder 1 1/2 oz round w/ fast fill \$3; 1-Carolina Taffinder 4 oz rat tank kits \$5 ea; 1-Randy's 2 1/2 oz rat w/ fast fill \$3; 1-Veco 2 1/2 oz pressure \$1

PAINT, K&B Superpoxy, set of 1/2 pint A & 1/2 pint B \$5, choice of orange, yellow, red, white, and primer; ~~Sig dope retarder~~ ~~paint~~ \$1 ea; on boy, take a chance with my choice of color- 4 ounce bottles of Aerogloss- only 50¢ each.

PROPS, 50¢ EACH GROUP: 1-pkg Cox 7x3 1/2, 1-tornado 9x8 nylon (yellow) 12-tornado 8x6 nylon (white), 10-tornado 9x7 (black), 1-Talpan 7x6; 2-old style TF 10x8 1/2, 2-old style TF 10x9, 2-old style TF 8x8, 1-old style TF 8x8 1/2, 4-old style TF 9x1 1/2, 2-Rossi 9x13, 6-Rossi 9x14, 2-Rev-up 5-3/4x9, 1-Rev-up 5-3/4x11

PROPS, \$1.00 EACH GROUP: 2-TF thick hub 9x12 1/2, 2-TF 6x7, 4-TF 6x7 1/2, 1-Rev-up 8x9 1/2

PROPS, \$2.00 EACH GROUP: 7-Rev-up 9x12, 3-Rev-up 9x13, 1-?custom 9x12

LINES: 2 sets .008 x 42 solid on plastic reel \$3 ea; 1 set .008 x 70 solid on cardboard reel \$2; 1 set .014 x 60 solid on cardboard reel \$2; 1 set 60 foot Sullivan Tufstrand on plastic reel \$1; 1 set .006 x 52 solid on cardboard reel (rare size) \$3; 2-~~60 Sta Bright monoline~~ \$2 ea; original package Stanzel monoline wire: 1-.022 x 60, 3-.028 x 70, \$1 ea.

MISC BITS AND HARDWARE: 1-Fox 1 1/2 inch conv. spinner (in package) \$7; 1-Fox .60 size motor mount \$4; 1-Tatone .60 size motor mount \$4; 1-pkg of misc. nylon bolts .50¢; 1-4 ounce stainless syringe- needs new gasket \$5; 1-Fox 15-19 size motor mount \$3; 1-five inch E2-just handle (used) \$2; 1-Tatone pocket booster battery charger \$2; 1-Tatone "B" half speed pan, drilled for ST 29 \$2; 1-Sturdi-Built upright 1 wire bellcrank (in pack) \$5; 1-Royal-Products Phototachometer \$12; 1-fiber-glass team race fuselage (two halves) \$6; 1-package of monoline torque unit assortment (A, B, D, new and used) \$12 Lots- small size Veco elevator horns -50¢ each; also have large assortment of Veco spinners -request size desired, will check on availability.

Please add \$2 on each order for shipping/packaging.
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WOW! CHECK OUT THESE BARGAINS!!
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Braving intense cold but clear weather with a strong 25 MPH wind, twelve hardy teams battled it out for one of the biggest payouts for a sport race ever on Sunday Nov 9th at Richmond B.C. The tremendous wind made for very hairy racing indeed and only quick thinking and good piloting avoided certain disaster.

We started out the day with our annual NW Sport Speed event, this time we timed the guys for the normal speed of 7 timed laps in the pylon just like 'A' speed instead of the proto deal we ran last year. A lot of new guys tried their hand at flying from the pylon....a new experience. Three V.G.M.C. guys all running M&P Bonanzas' copped the top spots. BRUCE DUNCAN showed up with a brand new shiny Bonanza and although had trim problems still managed to turn 81 MPH with a stock prop. HENRY grabbed top spot with his well proven Bonanza running a 8 $\frac{1}{2}$ -9 Top Flite pylon racing prop. and newcomer MARTY HIGGS cranked out 83 MPH for second with his two month old Bonanza. Looks like HAJDIK will soon be hard pressed for the top dog position with all these new 'stars' looming on the horizon! Anyway on to the actual racing.....man it was wild and wooly ! In heat 1A with HIGGS, LYNE and BODEN up the wind caused some unintentional wing overs and line tension was at a premium however the guys made it through that one with HIGGS low man at 4:35. Heat 1-B had BRUCE DUNCAN, GLEN SALTER, & AL RESINGER up. A few pitting problems kept the times of SALTER and RESINGER down but DUNCAN in his first ever sport race turned a crisp 4:22 but unfortunately due to the strong wind blew in on landing and snapped off the stab. On to heat 1-C, it was HAJDIK, newcomer BARRIE SHANDEL and DICK McCONNELL from Seattle up. Barrie forgot to warm up his motor and never did get it started with the small race prop and returned no time, McConnell had some pitting bugs and only turned a 6:07. Mr Sport Race (HH) had no problems and returned a sparkling 4:02.85 (4:03) to easily qualify No 1. In heat 1-D S&S DNF and DAN BURDICK hit a 5:24. In the second round of preliminaries both HAJDIK and HIGGS passed relying on their times to hold fast. In heat 2-A Mel improved to a 4:29 with Resinger & McConnell both having problems. In heat 2-B GLEN SALTER from Seattle qualified for the final with a good 4:56, S&S returned a 5:06 and SHANDEL turned a 5:10.....real good for a brand new guy to the event!. In heat heat 2-C BURDICK, BODEN and RESINGER all had problems and DNF. So the feature had HAJDIK, LYNE, HIGGS and GLEN SALTER up in a real great looking 140 lap go round. Other than the fact that Glen had early starting problems it was just terrific racing with all four ships flying neck and neck at many points in the race. HAJDIK was off first with a two flipper, with LYNE up shortly after, HIGGS pitman broke a prop on warm up and was late getting off and some real starting problems befell SALTER but once all four teams were up it was super racing. HAJDIK had just great pit stops and went on to take it at a strong 8:05, MEL checked in at a reasonable 8:49, HIGGS, even with the broken prop at the start took third at 9:36 and GLEN SALTER trugéd home at a 12:15 for fourth. BRUCE DUNCAN on the strength of his 4:22 heat took fifth. For his first place win HENRY took home a FOX 35, a M&P Cherokee kit, a first place plaque the Creative Hobbycraft Perpetual award and a replica.....not a bad haul for an afternoons racing. Mel LYNE grabbed a rare Junior Ringmaster kit and a plaque, HIGGS grabbed a Circle Jerk kit and his plaque for third, Dick SALTER picked up his trophy and another rare Ringmaster S-1A kit for fourth position and DUNC got a gallon of Omega 10% fuel for fifth. Seems like everybody likes a lot of merchandise booty....seems to draw the guys in. Although it is a loser financially it does a lot to stir up interest....we will go again next November for the season finale.....start building those new ships now.

V.G.M.C. SPORT RACING GRAND FINALE Results

Nov 9, Richmond BC

1)	HENRY HAJDIK	New Westminster, BC	M&P BONANZA	4:03	Pass	8:05
2)	MEL LYNE	Squamish, BC	M&P MONGOOSE	4:43	4:29	8:49
3)	MARTY HIGGS	Vancouver, BC	M&P BONANZA	4:35	pass	9:36
4)	GLEN SALTER	Seattle, Wash.	M&M ARTESIAN	5:31	4:56	12:18
5)	BRUCE DUNCAN	Richmond, BC	M&P BONANZA	4:22	-	
6)	SALTER & SALTER	Seattle, Wash.	RINGMASTER	DNF	5:06	
7)	BARRIE SHANDEL	Surrey, BC	M&P BONANZA	DNF	5:10	
8)	FRANK BODEN	Burnaby, BC	M&P BONANZA	5:18	DNF	
9)	AL RESINGER	Delta, BC	M&P MONGOOSE	5:43	5:23	
10)	DAN BURDICK	Seattle, Wash	CIRCLE JERK	5:24	DNF	
11)	DICK McCONNELL	Seattle, Wash	RINGMASTER	6:07	:36	
12)	DENNIS MATTHEWS	Surrey, BC	FOKKER D-7	-	-	

SPORT RACE SPEED RUN RESULTS (Pure stock FOX 35s)

1)	HENRY HAJDIK	88.25 MPH	(8 $\frac{1}{2}$ -9 Top Flite pylon prop, McCoy plug)
2)	MARTY HIGGS	83.03 MPH	(8 $\frac{1}{2}$ -8 Rev-Up pylon prop, K&B 1L plug)
3)	BRUCE DUNCAN	81.15 MPH	(8 $\frac{1}{2}$ -8 Top Flite pylon prop, K&B 1L plug)
4)	MEL LYNE	80.80 MPH	(9-7 Tornado nylon, McCoy plug)
5)	BARRIE SHANDEL	78.40 MPH	(8 $\frac{1}{2}$ -7 $\frac{1}{2}$ Top Flite pylon prop, K&B 1L plug)
6)	FRANK BODEN	73.25 MPH	
7)	GLEN SALTER	71.23 MPH	

FINAL SEASONS STANDINGS FOR CREATIVE HOBBYCRRAFT PERPETUAL AWARD 1986

1)	PINK PANTHER ; H. Hajdik & Chris Sackett	7 Races	668 Points
2)	MELVIDO EXPRESS ; Mel Lyne and whoever ,	5 Races	340 "
3)	IRON CROSS TEAM ; Frank Boden and whoever ,	7 Races	337 Points
4)	GREEN HORNETS; Marty Higgs & Chris Sackett	2 Races	83 "
5)	SURREY SHAGS; Dennis Matthews & whoever	4 Races	71 "
6)	TEAM PHANTOM ; Paul Dranfield & Mel Lyne	1 Race	67 "
7)	I-J TEAM Glen Salter & ?	1 Race	64 "
8)	S & S TEAM ; Dick and Rithie Salter	2 Races	58 "
9)	PURPLE PEOPLE EATERS; Bruce Duncan & C. Sackett	1 Race	57 "
10)	BLUR TEAM ; Al Resinger & Dave Bredefeld	2 Races	53 "
11)	EH TEAM ; Ron Salo and whoever	3 Races	46 "
12)	NITROHOLICS ; John Thompson & Mike Hazel	1 Race	45 "
13)	STANDARD BRED ; Barrie Shandel and whoever	1 Race	42 "
14)	SCALE CREW Orin Humphries & ?	1 Race	33 "
15)	FWF TEAM ; Roy West and whoever.	1 Race	27 "
16)	CIRCLE JERKS ; KEN BURDICK and whoever	1 Race	20 "
17)	ARMY BRATS ; Dick McConnell and ?	1 Race	13 "

Note; The engine of Henry Hajdiks airplane will now be retired as it seems to be an unbeatable freak for a stock engine. This means the Creative hobbycraft perpetual is really up for grabs in 1987. All you guys should try to make all the races and knock old HH off the throne. There are many new 'comers' around the corner, should be an interesting session in 87.....start that new ship now.

NEW CONTEST COORDINATOR

Dick Salter is the new District XI Contest Coordinator for controline and free flight. Dick is replacing Tom Cope who is heading South for the winters. Dick's address is: 7217 S 133rd St., Seattle, WA 98178. The telephone is: 226-1129. All contest sanctions should be forwarded to Dick.

NITRO: What It Is and How To Use, It

I've had a request to elaborate on the concept of using high percentage nitromethane content fuels. An excellent question too I might add. You must understand that this topic can get very indepth, but I'll try to cover the basics. This particular article is aimed at the flyer who wishes to try higher nitro fuels in hopes of gaining more performance, perhaps for the first time.

I hope you find this interesting and hopefully you will avoid the nitro related problems I've had.

1. Nitromethane: The highest distillate form of methane, is used primarily in our model fuels as an oxygen liberator. Most of us know from chemistry that oxygen assists in the combustion of just about anything, and the more oxygen the better the burning, ... to a point. (we'll get back to this later)

2. My definition of fuel is as follows:

Low nitro 5 - 15%

Med. nitro 25 - 40%

High (or heavy) nitro 50%+

SAFETY PRECAUTIONS

For those mixing their own fuel or spiking their current mix, be well aware of the following. Pure nitro is toxic and can be readily absorbed through the skin. Therefore, you must wear rubber gloves when mixing fuel. Nitro (among other chemicals we use) should not be breathed in, as it's a heart stimulant. Therefore do not sniff the bottle and do mix in a well ventilated and open area. (i.e.; garage with the big door open)

Remember also that the potency of highly nitrated fuel decreases under two conditions:

1. Exposure to direct sunlight.

2. Exposure to open air (it becomes contaminated with moisture, etc., plus it also evaporates!) Therefore, fuel should be kept in a sealed opaque plastic jug, or metal can. It must be kept tightly capped at all times, and also kept cool, in the shade or with a large rag shielding it from the sun's rays. It should be noted that the denser the fuel, the more power can be extracted from a given amount. Fuel density is directly proportional to fuel temperature, so keep your fuel in a cool place, not in your car trunk on a hot day!!

For high nitro 70%+ fuels with propylene oxide added, some of the smarter speed guys bring their contest fuel in an ice chest (cooler). Gycol gel-filled "ice paks" available for camping are excellent for this. A fuel bulb resting on hot pavement on a hot day can even boil over under certain conditions! Under such conditions of course, nitro won't last for long.

With the foregoing in mind, you should now know how to handle highly nitrated fuels. Next we'll discuss how to tune the engine to allow it to handle the fuel properly.

I assume most of you were like me when starting out. I would watch the "fast guys" who used high nitro fuels and figured that if I used the same, I would go just as fast. What eventually happened, was that I would use low nitro fuel for practice flying and high nitro for contests. Sometimes it worked, often times I went slower due to erratic runs or burned plugs. It never dawned on me 'till much later that definite correlations existed and that engine, prop, and other changes had to be made in order to obtain better results.

I also found out (sometimes the hard way) that use of high nitro fuels caused several unwanted characteristics, some directly related to the fuel and some indirectly. Direct problems are usually obvious. An example of an indirect problem is the fuel tank.

A goodyear racer (or slow combat, or carrier ship) with a regular "store bought" tank may give a reasonably steady run at slow speeds, with low nitro fuel. But when tuned to run very fast with high nitro fuels, you notice it now goes from burbling rich to bonkers lean throughout the run. The increase in speed (say 10 to 25 m.p.h.) has increased the g-force on the fuel in the tank. You may also get fuel foaming, due to increased vibration that you never had before. The ideal solution is to use proper feeding tanks and stiffer motor mounts. The problems have been induced by the high performance obtained from the fuel, and not by the fuel itself. Return to low nitro low performance fuel and the above mentioned problems diminish, (but so do your chances of winning). Without dwelling on this, I hope you can see my point.

With an incorrectly tuned engine the introduction of high nitro fuel can cause any of all of the following problems:

1. Harder starting / re-starting
2. Pre-ignition and / or detonation
3. Prop oscillates back and forth on compression
4. Engine kicks prop off
5. Overheating
6. Engine won't hold a steady needle setting
7. Fuel economy is lower
8. Plugs burn out sooner, sometimes every run
9. Accelerated engine wear
10. Engine burns down when run overlean (major damage).

However, the potential advantages of using higher nitro fuels are:

1. Increased engine power
2. Increased engine torque
3. Better running on cold days
4. Better running all around on 1/2A and smaller engines.

So, with all the inherent problems, why do we use it?? Well, the quest for more power is mesmerizing to say the least. Also, many of the top fliers have managed to overcome (by proper engine tuning) all the problems associated with erratic/ unreliable engine running. So then; we have witnessed that increased performance of any engine (whether schneurle ported or conventional cross-flow) has been obtained while still maintaining reliability. Let's investigate how.....

Most sport engines and many of those imported from Europe and Japan (i.e.; O.S. Max, H.P., H.B., S/T) are set-up at the factory for the most part to run best on low nitro fuels. The major change, required to realize the boost of medium and higher nitro fuels is to lower the value of the engines internal combustion chamber pressure.

The easiest way to do this is to lower the compression ratio, by means of increasing the head clearance.

Again, a bit of the basics:

1. Compression ratio: (i.e.; 10 to 1) is a fixed but alterable value determined by the mechanics of the engine itself. You can change this value by:

(A) Machining the head; (you can raise or lower the compression ratio/ head clearance depending on which surface of the head that you machine away).

(B) Adding or subtracting head shims (if your engine has them).

(C) Adding shims to the cylinder liner. (this reduces compression only, and raises all cylinder port values in the process).

2. Combustion chamber pressure (C.C.P.): this is the actual pressure valve that exists inside the engine cylinder under running conditions. This varies in direct proportion to the cylinder temperature, i.e. increase in cylinder temperature = increase in cylinder pressure.

Whereas, compression ratio is varied mechanically, C.C.P. varies with ambient air temperature, barometric pressure, humidity, mechanical efficiency, and fuel (specifically nitro content).

Head clearance:(deck height). This value is found by measuring the distance between the piston at the top of its stroke (t.d.c.) and the lowermost part of the head.

Head clearance is easily measured with a dial depth guage. First the distance from the lowermost part of the head to the lower gasket surface is measured, then the distance from the top of the sleeve to the flat on the piston at t.d.c. is taken. The head clearance is the first number subtracted from the second. This clearance can be as low as .002" in a Nelson .15 Goodyear engine, and up to .028" in a Rossi .15 FAI piped engine. It depends entirely on engine type and use.

Herein lies the rub. Maximum power output is derived when you have a correctly balanced compression ratio for the fuel/air charge your engine is pumping into it's cylinder. Assuming the compression ratio is set in the ballpark which it most likely is on most production engines. The peak C.C.P. is what we ideally wish to optimize. If this value is too low (undercompressed); lost power, easy running characteristics and excellent plug life result. If too high (overcompressed); lost power results, due to overheating, possible detonation, poor running and burned out glow plugs. If right on (or very close) maximum power is achieved with good torque and reasonable (but not exceptional) plug life can be expected.

To find out at what point an engine tolerates nitro, I use several fuel blends. With oil content fixed at approximately 20% I blend up the following mixes:

1. 10%
2. 25%
3. 40%
4. 60%

Through experience I've found out that you pretty well have to increase the nitro content by 15% increments in order to see a noticeable change in r.p.m. (My definition of noticeable change is 500 r.p.m.'s and most meter movement tachometers I find can't discern a smaller change than this.)

Starting with Formula #1(10%) and regular flying prop., run up your engine and obtain a tach. reading.

Now try Formula #2(25%). If r.p.m. increases, o.k. Try it out in the air, with initial rich setting and procede to dial-in your needle. If heating up is not a problem(i.e.; no sagging) and plug life is acceptable, try Formula #3(40%).

Now, about this time(if not earlier with the 25% fuel) you should find one or more of the following symptoms:

1. No further r.p.m. gain(or slight drop).
2. Harsh, hot running.
3. Plug burns out quickly.
4. Hard to needle engine.

Now you've exceeded the optimum C.C.P. value for this engine/plus/fuel/prop combination.

If everything is fine except plug life then consider using a colder range glow plug, as these have a heftier element which stands up better. If not; at this point you now start to add head shims.

For up to .15 size engines add .003-.005" thick head shims one at a time. For .29-.40 size engines add one .005" thick shim at a time.

Run up the engine again and take a tach. reading. Note the r.p.m. and steadiness of the run. The additional shim will help but may not be enough. If not, add another shim and try again.

In Goodyear/Rat racing for example; the general rule of thumb is to keep adding extra head shims one at a time until r.p.m. just starts to decrease. And it will fall off noticeably just after you've exceeded the "sweet spot". (Optimal maximum deck height).

The best way to adjust head clearance of any engine for a particular fuel is to run a series of tests, raising and/or lowering the head clearance until optimal performance is reached.

Rather than get into specifics for head clearance numbers, etc. this writer suggests the following.

The fastest results are by consulting the expert fliers. Write, phone, or talk to those who use your type of engine. Pretty soon you'll be able to find what works and what doesn't.

A last note on plugs:

A cold plug retards the ignition point and is generally used with higher nitro content fuels for racing, etc. Cold plugs don't work too well in sport engines due to poor idle characteristics. This writer personally finds that K&B plugs are fine for virtually all nitro ranges. For heavy nitro useage I've also used Globee #4 plugs with some success. But you yourself have to decide whether the Globee's reliability is sufficient.

I will close this dissertation on a note of thanks to Mr.'s Clarence Lee and George Aldrich whose notations on nitro usage appear next.

I am also indebted directly to the following experts who have supplied reference material to me on the subject.

1. Mr. T. Gillott
2. Mr. L. Dziak
3. Mr. J. Klause
4. Mr. G. Jennings

(1) -Clarence Lee-

"There is no set ratio between compression ratio and the amount of nitromethane that can be used in an engine. Too many other things have far more effect---- port timing of the engine, r.p.m. at which it will be run, etc. As you increase the amount of nitro, you in turn have to reduce prop size and let the engine run faster, i.e. you would not want to take an ordinary sport .35, put on a 10x6 prop and then try to burn 60% nitro to get all possible power. You would melt the engine. Another example of why we run racing engines at high r.p.m. with small props. Most F-40/Rat engines turn 21,000 r.p.m. with 40-60% nitro on the ground. To try and lug the engine down to 15,000 r.p.m. with a larger prop would result in pre-ignition, overheating and destruction of the engine.

So, the design of the engine and r.p.m. at which you are going to run the engine etc., are more important than just knowing the compression ratio. An engine intended for high nitro will use less compression than an engine intended for FAI fuel naturally but, even with nitro, you want to use as high a compression ratio as you can without detonation. If the glow plug will not last for the flight, chances are pretty good that the compression needs lowering.

This is based on the engine being designed for high nitro use and propped properly. Too much prop for the amount of nitro being used would also take out the plug."

(2) -George Aldrich-

"The head clearance and/or compression ratio of an engine also plays a most important part in its ability to idle properly for carrier use, or give a strong steady 4-cycle for stunt. If the head clearance is too close (compression ratio too high) an engine will tend to cut abruptly during or just after a sharp or tight turn.

For a racing/speed engine that is tuned for maximum performance, it is normal to burn out a plug a run.

Any modeler will enjoy much more pleasure from his engines if he adjusts head clearance (and props) to suit the fuel and purpose for which it is used."

NORTHWEST COMPETITION STANDINGS

DAVE GREEN REPEATS AS "MR. COMPETITION"

Dave Green of Astoria, Ore., captured the title of "Mr. Competition" in 1986 for the fourth consecutive year, with a record-high competition score of 156 points in the Flying Lines competition standings.

Green, though the Northwest's premier racer, also scored points in Profile Carrier, Formula 40 Speed and Balloon Bust to round out a complete season. He was season champion in Northwest Sport Race, Northwest Super Sport Race, Slow Rat Race, Class II Mouse Race and Overall Racing.

General growth of Northwest Control-Line competition also continued in 1986, with 89 competitors accounting for 782 event entries, compared with 82 people and 748 entries in 1985. A total of 22 separate contests were held in the Northwest during the year.

Within event categories, racing continued to generate the most entries with 228 almost the same as the 227 of 1985. Combat was the fastest-growing category, jumping to 204 entries from the previous year's 174. Precision Aerobatics fielded 101 entries, down from the 116 of 1985.

Old-Time Stunt had 23 entries, up from the previous year's 21. Scale jumped to 32 entries from the previous year's 26. Speed entries declined slightly to 65 entries from 76. Carrier bounced back to 62 entries from last year's 56, returning almost to the 67 of 1984. Balloon bust soared to 67 entries from 52, continuing a steady growth.

Green dominated Racing with 107 points to his nearest competitor's 71. It was closer in the combat circles, where a late .15-Combat victory in Vancouver, pushed Mel Lyne into the winner's circle with 67 points, barely edging two other competitors as nobody topped more than one class category.

World-Championship team member Paul Walker topped Precision Aerobatic fliers with 42 points. Randy Schultz, not much of an old-timer himself, won Old-Time Stunt with 23 points. Dave Mullena was the Scale champ. Loren Howard used D, Jet and Formula-40 points to win Speed with 21.

Bob Parker repeated as Carrier champ with 32 points. Old popper Dick Salter blew away the competition in Balloon Bust with 84 points.

Corina Byerley won a hard-fought season championship in the Junior Category with points in Racing, Aerobatics and Balloon Bust.

Again, several people competed as teams in Racing events. Highest-scoring team entry was the S&S Racing Team of Dick and Richie Salter. Individually and as a team, the Salters scored a total of 222 points.

Here is the complete rundown of combined 1986 scoring, followed by the final standings.

RANK	COMPETITOR	POINTS	EVENTS PLACED IN (in order of score)
1.	Dave Green	156	Racing, Carrier, Speed, Balloon
2.	Mel Lyne	122	Combat, Racing, Balloon
3.	Dick Salter	106	Combat, Balloon, Racing
4.	Glenn Salter	103	Racing, Balloon, Combat, Aerobatics
5.	John Hall	97.5	Racing, Balloon, Carrier, OTS, Aerobatics

6.	John Thompson	96	Combat, Racing, Aerobatics
7.	Randy Schultz	89	Aerobatics, OTS, Scale, Balloon, Combat
8.	Dick Peterson	77	Racing, Speed, Balloon, Scale
9.	Dave Mullens	76	Aerobatics, Scale, Racing, Combat, Balloon,
10.	8&8 Racing Team	71	Racing
11.	Howard Rush	50	Combat
12.	Henry Hajdik	49	Racing
13.	Rich Saiter	45	Combat, Balloon, Aerobatics
	Bob Danielson	45	Scale, Balln, OTS, Carrier, Aerobtx, Speed
14.	Paul Walker	42	Aerobatics
15.	Don McClave	40.5	Aerobatics, OTStunt, Combat
16.	Frank Boden	38	Combat, Racing, Balloon
17.	Orin Humphries	36	Carrier, Scale
18.	Bob Parker	32	Carrier
	Gary Byerley	32	Combat, Racing
20.	Ron Salo	27	Speed, Racing
21.	Wayne Drake	24	Racing
	Phil Granderson	24	Combat
23.	Beers-Cole Racing Team	23	Racing
	Ray Mathis	23	Aerobatics, OTStunt
25.	Corina Byerley	22	Aerobatics, Balloon, Racing
26.	Loren Howard	21	Speed
	Dick McConnell	21	Racing, Combat
28.	Jason Howell	20	Combat
	Mike Rule	20	Combat
	Wesley Mullens	20	Balloon, Aerobatics, Racing
31.	Richard Birch	19	Combat
32.	Norm McFadden	18	Combat
	Randy Powell	18	Aerobatics
34.	Jack Fitcher	17.5	Aerobatics
35.	Shawn Mullens	16	Balloon, Aerobatics, Racing
36.	Terry Miller	15	Carrier, Aerobatics, OTStunt
	Gerald Schamp	15	Aerobatics, OTStunt
	Teresa Byerley	15	Balloon, Racing, Aerobatics
39.	George Mickey	13.5	Aerobatics, Balloon
40.	Jason Huntress	12	Aerobatics, Balloon
	Mike Hazel	12	Racing, Speed
42.	Bill Varner	11	Combat
	Rick Wallace	11	Carrier
44.	Joe Dill	10.5	Aerobatics
45.	Jim Booker	10	Combat
	Marty Higge	10	Racing
	Jim Cameron	10	Racing
	Paul Dranfield	10	Combat, Racing
	Jim McCurrach	10	Scale
	David Shrum	10	Carrier, Aerobatics
51.	Greg Davis	9	Combat
	Dave Gardner	9	OTStunt, Aerobatics
53.	SHT Team	8	Racing
	Chris Sackett	8	Speed
	Jerry Thomas	8	Speed
	Alan Resinger	8	Aerobatics, Racing
57.	Glenn Birch	7	Combat
	Dave Bredfield	7	Balloon, Aerobatics
59.	Ron Underhill	6.5	Balloon, Aerobatics
60.	Lloyd Birch	6	Combat
	Wayne Spears	6	Carrier
	Roy Beers	6	Carrier, Speed

NORTHWEST SPORT RACE (16 contests, 115 entries)

1. Dave Green	Astoria, Ore.	51
2. S&S Racing Team	Seattle, Wash.	49
Henry Hajdik	Vancouver, B.C.	49
4. Mel Lyne	Grblidi Hghlnds, B.C.	44
5. Glenn Salter	Seattle, Wash.	32
6. Wayne Drake	Troutdale, Ore	24
7. Dick Peterson	Renton, Wash.	23
8. Beers-Cole Racing	Vancouver/Portland	17
Frank Boden	Burnaby, B.C.	17
10. Marty Higgs	Vancouver, B.C.	10
Jim Cameron	Bangor, Wash.	10

NORTHWEST SUPER SPORT RACE (9 contests, 63 entries)

1. Dave Green	Astoria, Ore.	46
2. John Thompson	Cottage Grove, Ore.	29
3. Glenn Salter	Seattle, Wash.	21
4. John Hall	Puyallup, Wash.	20
Dick McConnell	Seattle, Wash.	20
6. Dick Peterson	Renton, Wash.	19
7. S&S Racing Team	Seattle, Wash.	19
8. Dave Mullens	Seattle, Wash.	7
SHT Team	Seattle/Puyallup	7
10. Beers-Cole Racing	Vancouver/Portland	6

SLOW RAT RACE (2 contests, 6 entries)

1. Dave Green	Astoria, Ore.	4
2. Dick McConnell	Seattle, Wash.	2
3. Glenn Salter	Seattle, Wash.	1

RAT RACE (4 contests, 11 entries)

1. Dick Salter	Seattle, Wash.	8
2. Dave Green	Astoria, Ore.	4
3. Roy Andrassy	Vancouver, B.C.	2
4. Mike Hazel	Salem, Ore.	1
Dick McConnell	Seattle, Wash.	1

GOODYEAR (2 contests, 8 entries)

1. Clarence Bull	Eugene, Ore.	4
2. Ron Salo	Burnaby, B.C.	1

CLASS I MOUSE RACE (4 contests, 17 entries)

1. Dick Salter	Seattle, Wash.	4
Wesley Mullens (J)	Seattle, Wash.	4
3. Mike Hazel	Salem, Ore.	3
Corina Byerley (J)	Spanaway, Wash.	3
5. Dick McConnell	Seattle, Wash.	2

CLASS II MOUSE RACE (7 CONTESTS, 16 ENTRIES)

1. Dave Green	Astoria, Ore.	9
2. Dick Salter	Seattle, Wash.	8
3. Ron Salo	Burnaby, B.C.	5
4. Mike Hazel	Salem, Ore.	3
5. Roy Andrassy	Vancouver, B.C.	2

OVERALL RACING (38 contests, 228 entries)

1. Dave Green	Astoria, Ore.	107
2. S&S Racing Team	Seattle, Wash.	71
3. Glenn Salter	Seattle, Wash.	53
4. Henry Hajdik	Vancouver, B.C.	49
5. Mel Lyne	Garibaldi Hghlnds, B.C.	44
6. Dick Peterson	Renton, Wash.	42
7. John Thompson	Cottage Grove, Ore.	33
8. John Hall	Puyallup, Wash.	23
9. Wayne Drake	Troutdale, Ore.	24
10. Beers-Cole Racing	Portland/Vancouver	23

SPEED (All classes combined) (18 contests, 65 entries)

1. Loren Howard	Vancouver, Wash.	21
2. Dick Peterson	Renton, Wash.	19
3. Dave Green	Astoria, Ore.	16
4. Ron Salo	Burnaby, B.C.	15
5. Chris Sackett	Burnaby, B.C.	8
Jerry Thomas	Puyallup, Wash.	8
7. Mike Hazel	Salem, Ore.	5
8. Bob Danielson	Bothell, Wash.	4
9. Chuck Schuette	Vancouver, Wash.	3
Greg Beers	Vancouver, Wash.	3

SHOOTING BUST (9 contests, 67 entries)

1. Dick Salter	Seattle, Wash.	34
2. Glenn Salter	Seattle, Wash.	26
3. John Hall	Puyallup, Wash.	25
4. Dave Green	Astoria, Ore.	14
5. Dick Peterson	Renton, Wash.	12
Randy Schultz	Seattle, Wash.	12
7. Rich Salter (S)	Seattle, Wash.	11
10. Mel Lyne	Grblidi Hghlnds, B.C.	11
6. Bob Danielson	Bothell, Wash.	10
9. Wesley Mullens (J)	Seattle, Wash.	10
Teresa Byerley (J)	Spanaway, Wash.	9

PROFILE NAVY CARRIER (5 contests, 33 entries)

1. Bob Parker	Renton, Wash.	27
2. Dave Green	Astoria, Ore.	19
3. John Hall	Puyallup, Wash.	14
4. Orin Humphries	Spokane, Wash.	13
5. Bob Danielson	Bothell, Wash.	6
6. Rick Humphries (J)	Spokane, Wash.	5
7. Darrell Rupnow	Federal Way, Wash.	4
8. Joe Just	Sunnyside, Wash.	3

CLASS I NAVY CARRIER (3 contests, 13 entries)

1. Orin Humphries	Spokane, Wash.	8
2. David Shrum	Roseburg, Ore.	7
3. Terry Miller	Roseburg, Ore.	6
4. Rick Wallace	Sequim, Wash.	5

CLASS II NAVY CARRIER (3 contests, 7 entries)

1. Wayne Spears	Portland, Ore.	6
Orin Humphries	Spokane, Wash.	4
3. Roy Beers	Vancouver, Wash.	2
4. Rick Wallace	Sequim, Wash.	2

OVERALL NAVY CARRIER (14 contests, 62 entries) *

1. Bob Parker	Renton, Wash.	32
2. Orin Humphries	Spokane, Wash.	27
3. Dave Green	Astoria, Ore.	19
4. John Hall	Puyallup, Wash.	15
5. Rick Wallace	Sequim, Wash.	11
6. David Shrum	Roseburg, Ore.	7
7. Terry Miller	Roseburg, Ore.	6
Wayne Spears	Portland, Ore.	6
8. Bob Danielson	Bothell, Wash.	6
10. Rick Humphries (J)	Spokane, Wash.	5
Roy Beers	Vancouver, Wash.	5

PRECISION SCALE (2 contests, 4 entries)

1. Orin Humphries	Spokane, Wash.	3
Jim McCurrach	Vancouver, B.C.	3
3. Dave Mullens	Seattle, Wash.	2
Roy West	Vancouver?, B.C.	2
5. Bob Danielson	Bothell, Wash.	1
Wade West	Vancouver?, B.C.	1

SPORT/PROFILE SCALE (6 contests, 26 entries)

1. Dave Mullens	Seattle, Wash.	18
2. Randy Schultz	Seattle, Wash.	13
3. Bob Danielson	Bothell, Wash.	12
4. Jim McCurrach	Vancouver, B.C.	7
5. Orin Humphries	Spanaway, Wash.	6
6. Dick Peterson	Renton, Wash.	4
7. Dennis Matthews	Vancouver, B.C.	2
8. Darrel Rupnow	Federal Way, Wash.	1

OVERALL SCALE (8 contests, 32 entries) *

1. Dave Mullens	Seattle, Wash.	20
2. Randy Schultz	Seattle, Wash.	13
3. Bob Danielson	Bothell, Wash.	13
4. Jim McCurrach	Vancouver, B.C.	10
5. Orin Humphries	Spokane, Wash.	9
6. Dick Peterson	Renton, Wash.	4
7. Dennis Matthews	Vancouver, B.C.	2
Roy West	Vancouver?, B.C.	2
8. Darrel Rupnow	Federal Way, Wash.	1
Wade West	Vancouver?, B.C.	1

OLD-TIME STUNT (4 contests, 23 entries)

1. Randy Schultz	Seattle, Wash.	22
2. John Hall	Puyallup, Wash.	15
3. Bob Danielson	Bothell, Wash.	8
4. Dave Gardner	Renton, Wash.	6
5. Don McClave	Portland, Ore.	5
6. Terry Miller	Roseburg, Ore.	4
Bob Emmett	Renton, Wash.	4
8. Ray Mathis	Bremerton, Wash.	2
Gerald Schamp	Albany, Ore.	2

PRECISION AEROBATICS (24 contests, 101 entries)

1. Paul Walker	Kent, Wash.	42
2. Randy Schultz	Seattle, Wash.	38
3. Don McClave	Portland, Ore.	34.5
4. Dave Mullens	Seattle, Wash.	31
5. Ray Mathis	Bremerton, Wash.	21
6. Randy Powell	Nampa, Idaho	18
7. Jack Pitcher	Gresham, Ore.	17.5
8. John Hall	Puyallup, Wash.	13.5
9. Gerald Schamp	Albany, Ore.	13
10. Corina Byerley	Spanaway, Wash.	11

FAE COMBAT (2 CONTESTS, 6 ENTRIES)

1. Phil Granderson	Portland, Ore.	4
2. Mel Lyne	Grblidi Hghinds, B.C.	3
3. Gary Byerley	Spanaway, Wash.	2
4. Frank Boden	Burnaby, B.C.	1

SLOW COMBAT (5 CONTESTS, 16 ENTRIES)

1. Mel Lyne	Grblidi Hghinds, B.C.	16
2. Dick Salter	Seattle, Wash.	11
3. Glenn Salter	Seattle, Wash.	10
4. Gary Byerley	Spanaway, Wash.	6
5. Jason Howell (J)	Tacoma, Wash.	5
Frank Boden	Burnaby, B.C.	5

HALF-A COMBAT (5 CONTESTS, 42 ENTRIES)

1. Richard Birch	Everett, Wash.	19
2. Dick Salter	Seattle, Wash.	15
3. Mel Lyne	Grblidi Hghinds, B.C.	12
Glenn Birch	Everett, Wash.	12
5. Bill Varner	Astoria, Ore.	11

NW SPORT/FOXDOG COMBAT (4 CONTESTS, 21 ENTRIES)

1. Rich Salter (S)	Seattle, Wash.	18
2. Dave Mullens	Seattle, Wash.	7
3. Jason Howell (J)	Tacoma, Wash.	6
4. Frank Boden	Burnaby, B.C.	5
Glenn Salter	Seattle, Wash.	5
Bob Nelson	Seattle?, Wash.	5

AMA COMBAT (6 CONTESTS, 97 ENTRIES)

1. John Thompson	Cottage Grove, Ore.	61
2. Howard Rush	Kirkland, Wash.	50
3. Dick Salter	Seattle, Wash.	31
4. Mel Lyne	Grblidi Highinds, B.C.	23
5. Mike Rule	Bothell, Wash.	20

OVERALL COMBAT (25 CONTESTS, 204 ENTRIES) @

1. Mel Lyne	Grblidi Highinds, B.C.	67
2. John Thompson	Cottage Grove, Ore.	61
3. Dick Salter	Seattle, Wash.	60
4. Howard Rush	Kirkland, Wash.	50
5. Rich Salter (S)	Seattle, Wash.	28
Gary Byerley	Spanaway, Wash.	28
7. Phil Granderson	Portland, Ore.	24
8. Glenn Salter	Seattle, Wash.	23
9. Jason Howell (J)	Tacoma, Wash.	20
Mike Rule	Bothell, Wash.	20

JUNIOR OVERALL COMPETITION STANDINGS

1. Corina Byerley	Spanaway, Wash.	22
2. Jason Howell	Tacoma, Wash.	20
Wesley Mullens	Seattle, Wash.	20
4. Shawn Mullens	Seattle, Wash.	16
5. Teresa Byerley	Spanaway, Wash.	15
6. Rick Humphries	Spokane, Wash.	5
7. John Rupnow	Federal Way, Wash.	2
Travis Lyne	Grblidi Highinds, B.C.	2

CONTESTS COUNTED

These standings include scores from the following contests. If an eligible contest has been held that is not listed here, the results have not been received by the statistician. Send results through FOURTH place and the number of entries in each event to John Thompson, 1505 Ash Ave., Cottage Grove, OR 97424.

- Northwest Sport Race Drizzle Circuit Contest 2, Jan. 12.
- Northwest Sport Race Drizzle Circuit Contest 3, Feb. 9.
- Northwest Sport Race Drizzle Circuit Contest 4, March 9.
- Seattle Skyraiders Sx1, March.
- VGMC Sport Race, April 6.
- Northwest Sport Race Drizzle Circuit Contest 5, April 13.
- Northwest CL Speed Record Trials, April 20.
- Spanaway Spring Tune-Up, April 26-27.
- Richmond Spring Ukia Meet, May 4.
- Northwest Regional Controline Championships, May 23-25.
- VGMC CL Meet, June 8.
- CLAMBash, June 8.
- Bladder Grabber, June 21-22.
- Northwest CL Speed Championships, June 21-22
- Stuntathon '86, June 28
- Canadian National Model Airplane Championships, July 21-24.
- VGMC 42nd Annual Internationals, Aug. 30-31. #
- Washington State CL Championships (Raiders Roundup), Sept. 13-14
- VGMC Sport Race and .15 Combat Meet, Oct. 5.
- Eugene Prop Spinners Fall Follies
- VGMC Sport Racing Grand Final, Nov. 9
- Northwest Drizzle Circuit Contest No. 1, Dec. 14

* When two or more class of competition are combined for a contest (i.e. Class I/II Carrier, Precision/Sport Scale), points scored are shown in the "overall" category only.

@ When a type of competition occurs which fits the general nature of the event but does not fall in a specific category (i.e. .15 non-FAI Combat, Sport Goodyear, etc.), points are listed in the overall category only.

No. of entries unavailable...statistics reflect only 3 entries per event.

Here's a quick and relatively easy method for finishing your next stunter. It's for those of you who don't have the time, ability, or equipment to spray on a magnificent dope finish like Windy Urtnowski, Stan Powell, or Ted Fancher. Even if you do possess all of these skills and equipment, but would rather spend your time flying, read on.

The path to a presentable, yet simple, finish involves the use of Monokote and synthetic enamel. It results in a finish which is light, durable, and attractive. Planes finished in this basic manner have been awarded 15-17 appearance points at the past two national championships.

Since I prefer to use Formula U right out of a spray can for the painted portion of the finish, my comments will deal with that product. If you would rather use Hobbyoxy or Superoxy, that's okay--just follow the instructions for covering and priming the airplane.

To prepare the airplane for finishing, assemble all components and sand well. However, do not put any glue on the outside of the fuselage at the wing/fuselage or stab/fuselage junction and do not attach the flaps and elevators permanently. After sanding, remove all traces of sawdust with a tack cloth and (if available) a blower or shop vac.

Next, Monokote the flaps and elevators, followed by the wing and stab. Do this in the conventional manner; i.e., do the bottoms first, then the top of all flying surfaces. Tack the extremities with a Monokote iron, then use a heat gun to tighten the material and stretch it over the tips. Bring the material to within about 1/8" of the fuselage joint. After trimming, iron all seams carefully and remove any Monokote adhesive which runs out with acetone.

After the Monokote has been applied, mask off the covering parallel to the fuselage. I find it convenient to perform this operation where the flaps and elevators join the fuselage fairings. Now cover the wing and stab with newspaper to protect them during the finishing process.

At this point, you may now apply whatever glue is needed to the outside of the wing and stab joints with the fuselage. Then thin some Hobbyoxy Formula II glue with thinner just enough to be able to brush it on with a regular brush (about the consistency of thick nitrate dope) and brush a coat on the entire fuselage and rudder. If you plan to reinforce your nose section with microcloth, now's the time to do that too. Let the Formula II dry overnight and apply Expoxolite fillets to the wing and stab. I like to use a nickel or quarter dipped in water to smooth the fillets, but whatever method you prefer is fine. Be sure that your fillet is large enough to lap over the Monokote--this results in a "bulletproof" seal which will prevent fuel seepage later on. Your fillet will probably lap over slightly on the masking tape which you use to separate the flying surfaces from the fuselage, so remove the tape, moisten your finger with water, and gently smooth out any ridges. Then, re-mask the wing and stab junctions. After this is done, let everything sit for about a week.

When the Formula II base coat is thoroughly dry, sand it and the fillets thoroughly with #220 paper. Get it as smooth as possible, but avoid cutting through the base coat. If you do go through, re-coat with Formula II and sand again. Next apply rudder fillets and fill any dings with Model Magic or Spackle. You can also use these materials to touch up any imperfections in your wing/stab fillets. Sand with #220 paper and you're ready to apply filler.

Brush on two coats of Hobbyoxy fast fill or Superoxy primer. Sand well between coats with #320 paper used dry. At this point, you should have an almost entirely grain-free surface and are ready for final finishing. Be sure to note that the fuselage/flying surface masking tape must be removed after each coat is applied, and the joints re-masked after the paint has dried and before sanding.

Clean the painted surfaces thoroughly and you're ready to apply the final finish. Warm the Formula U in a pan of 100-110 degree water for about 10-15 minutes and shake thoroughly several times during this period. Be sure the spray nozzle is pointing at the colored dot on the edge of the spray can and spray on a very light fog coat of the base color and let dry for 12-15 minutes. Now lay on a moderate wet coat of the base color, remove the masking tape at the wing/stab and fuselage joints and let dry for several days. Mask and apply trim colors in the same manner, remembering to rough up any areas where trim colors are to be applied with #400 paper. The reason for this is that, unlike dope, enamels don't soften the underlying coats and consequently won't adhere properly unless the surface is roughened.

The flying surfaces may be trimmed in one of several ways. You can use Formula U or Hobby epoxy over the Monokote as long as you remember to sand the Monokote first, just as you would the painted fuselage. Don't use Super epoxy over Monokote--it just won't adhere well enough. You can also use Trimkote or even Monokote for trimming the flying surfaces. If you use Trimkote, spray a sudsy household cleaner on first so that you can position the trim pieces just like a decal. When they're in place, squeeze the cleaner out from underneath the trim piece. If you use Monokote, either use a very low iron setting or try one of the new heatless adhesives designed for this purpose.

I've grown quite fond of Carl Goldberg striping tape during the past couple of years. It sticks beautifully, lasts well and eliminates one more masking job. I also run a piece of thin black striping tape along the fuselage/flying surface junctions where the paint meets the Monokote because I think it gives a more professional look and obscures the fact that white enamel and white Monokote don't quite match. Just a matter of taste.

When you're done trimming, take a fine brush and apply a thin coat of clear Hobby epoxy to all Monokote seams and Trimkote edges. This prevents fuel seepage from attacking the adhesive, which isn't fuelproof. Don't use Super epoxy for this job because it won't stick and don't use Formula II clear because it has a distinct yellowish tinge to it.

Now all that's left to do is to permanently install the control surfaces and go flying. Although the process described in this article may sound complicated, it's really quite simple and you shouldn't have any trouble if you follow the directions. Good luck and good flying.

WHERE THE ACTION IS

CONTESTS and EVENTS THAT ARE COMING UP

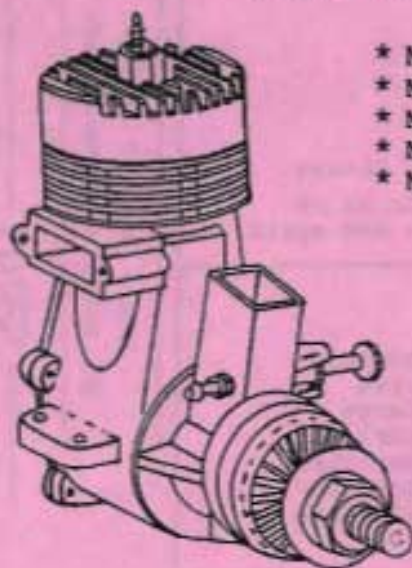
- Jan 11..... Drizzle Circuit #2, for NWSR, NWSSR, and Sport Goodyear. Delta Park, Portland CD: Dick Salter
- Jan 31/Feb 1..... NorthWest Model Exposition. Displays, Swap Meet, Demonstrations, Manufacturer's reps, door prizes, AMA district meeting, more. Site: Western Washington Fairgrounds, Puyallup. contact: Bob Pfeiffer, 10611 136th Street East, Puyallup, WA 98374
- Feb 8..... Drizzle Circuit #3, for NWSR, NWSSR, and 1/2A combat. Delta Park, Portland. CD: Gene Pape
- Mar 8..... Drizzle Circuit #4, for NWSR, NWSSR, and NW Sport Combat (know where by now?) CD: Mike Hazel
- Apr 12..... Drizzle Circuit #5, for NWSR, NWSSR, and AMA Rat Race CD: Wayne Spears

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Two Sizes

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This piece is from
HANGER TALK, Chris Peter,
editor.

Looks like my kind of
racing!

ZEE ZINK TANK by Zyder Zee

Zlowing schpeeds down zeems to be zee "in" ting these days,
zo Ole Zyder tinkt ve need more restrictions for our racing
events.

Here is an event I call Restricted Racing. All AMA rules
apply, except the following items are absolutely verboten from
der events: engines, tanks, props, flying lines, fuel, airplanes,
pit men, pilots, and races. Der event ist run like dis: all
contestants gather in a circle unt each team has un tree minute
attempt at talking a good race.

After all teams have had der attempts, der event director
and timers select the best story and declare dat team un vinner.

As you can plainly zee, dis event can be entered by almost
anyone with a very good chance of winning. (Even M. Derrig?
Ed.)

Of course, hard hats would be required as some of the racing
being thrown around could be hazardous to your head.

Judging vill be based on originality, imagination, und close
adherence to der restrictions dictated by der rules. Age
classification would be in effect, as open members would have a
decided advantage, due to exschpeerience.

Zo get your ear tachometers und eyeball airscheed
indicators calibrated, and let's get dis event goink!

Dis is Ole Zyder zaying, "If you don't like it, restrict
it." Let's go home, Adolph.

FLYING LINES is produced ten times a year by a dedicated staff of volunteers interested in keeping lines of communication open between Northwest control line modelers. FL is totally independent of any organization, depending entirely upon support from subscribers, advertisers, and donors.

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