

FLYING LINES

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Keith Varley starts the engine on his Mk3 Evolution at a Salem contest in 2002, as Mike Conner holds. The contest season is about to get under way. See *Where the Action is* for coming events. (FL photo)

We're goin' flying!

It may still be winter, but daffodils are coming up in the flower beds. It may be 40 degrees outside but some days are sunny. And people are beginning to show up at the flying field!

Here at FL HQ, the skies were alive last Sunday with the whole Eugene club out at the airport. "I counted 23 airplanes!" exclaimed Mel Marcum. It's happening all over the Northwest as planes get dusted off, batteries charged, toolboxes packed and the first flights of the year go up.

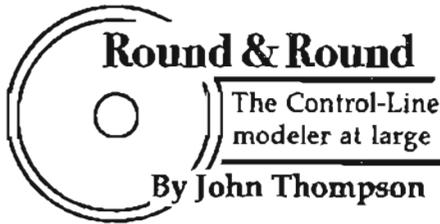
Check out *Where the Action Is* in this issue. There are control-line flying events galore already scheduled for 2003, and some surprises and changes in the traditional schedule. *Flying Lines* will be there to report on the contest activity and keep you up to date on all the latest

developments, points standings, record performances, and whatever else catches our eyes.

Remember, everyone reading this is a part of the FL staff, and your contributions to the news and views of Northwest CL model aviation are welcomed. Let's hear from you!

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Round & Round

The Control-Line
modeler at large

By John Thompson

Modeling thought for the month:

"You will only be remembered for two things: the problems you solve or the ones you create."

— Mike Murdock

Creatures of habit

Some of us may laugh at people who organize their sock drawers, or keep their CDs in alphabetical order, or always put the cream in their coffee before the sugar, not the other way around.

But we can all learn something from obsessively organized people, if we hope to be successful in control-line model aviation — and especially if we hope to win in competition. Because success in CL modeling is often a matter of developing good habits.

This means habits for building, habits for preparing our planes for a day of flying, for packing our tool boxes, for connecting lines, starting engines, and so forth.

No two model airplane/engine combinations are the same — even if they are supposed to be identical (with the possible exception of a finely trimmed fleet of combat planes). Each requires its own special handling. Practicing that handling and having the habit and sequence down pat means that we don't have to think when under contest pressure.

I like to use an example that comes from racing but could apply to any event. Casual spectators often are deceived at the deliberate actions of top racing pit crews. They seem to be relaxed, almost casual, never in a hurry. Yet their pit stops are very brief. Shut off, land, catch, fuel, flip, away. How can they be so fast, when they don't seem to be in any hurry at all?

The answer is that they are not slow, they are not casual, but they're *not hurried*. They are taking care to do every step in the pitting sequence in exact order, exactly correctly, the first time. Meanwhile, the novice in the next pit is fumbling and dropping things, digging for tools in a basket full of unnecessary paraphernalia, guessing at

which way to hit the prop, flooding the engine — hurrying like heck to waste a lot of time!

Practicing whatever type of modeling activity you specialize in and memorizing an exact sequence of careful habits takes away the pressure in competition. That means, if some emergency takes place, your mind is free to think about how to solve it, and you still will do the routine things correctly, when it's time to do them. Another example from racing:

Let's say a problem crops up with 1 minute left in the countdown — a plug blows, a prop is chipped, something is loose, the shutoff breaks. You have 55 seconds to think about what to do to fix the problem, get the tools and spares and make the repair. Many things can be fixed in 55 seconds. That's not the question. The question is, with the five seconds remaining after you're done making the repair, can you get the plane started on the "go" signal. If you've practiced your habits, yes you can.

I was trying to apply this logic the other day as I was making up a notebook for my stunt efforts, which seemed top be necessary since I now go out to the field at various times with one or more of some four different airplanes. There's the newly repaired Light Wave (O.S. .40), the Magna (S.T. .60), the Cierra (O.S. .35) or the Oriental (O.S. .35). Each one seems to like a different fuel, prop, line length, and starting sequence.

After a couple of embarrassing errors, I hit up on the obvious: a little pad that lists, for each plane, what prop, what fuel (and how much), what lines, what handle, etc. Now there's no excuse if I use the oily fuel that's meant for the SuperTigre in the O.S. .40, which demands 10/10/10.

Here are a few other ideas for good habits that any modeler might find useful. Undoubtedly you have your own that could be shared with FL readers. This list is by no means complete:

- **Flight boxes:** Periodically, you should take everything out of the toolbox and make sure that everything you might need at the flying field is in there, in good condition. Tools, repair materials, etc. Garbage is removed, worn out items replaced, supplies replenished. I make it a habit to do this before every contest. Also, I pack the toolboxes in a very specific way. Then, if something is missing, I immediately notice the empty space.

- **Preflight checks:** Before going flying, look over the planes you plan to take. Everything

tight? Hinges working, not pulled out? Covering stuck down, no punctures? Prop tight? Engine bolts tight? Line clips in good condition? Wheels and skids on securely? No cracks in high-stress areas?

- Accessory checklist: For the planes you've selected, do you have the lines, handle, fuel, props and spare plugs you will need? There's nothing worse than getting to the field and finding out you don't have something essential to fly the plane.

- Batteries: Are they fully charged before each flying session? Check the clip, the wires, the terminals. Try it on a plug. Does the meter move, the plug light? Is the connection continuous, not intermittent? You can't know how important this is until you've lost a race or a combat match because of a bad battery or clip.

- Lines: Inspect the lines when you roll them out. Any kinks or frays? Especially examine the lines near the ends, where they are most subject to wear. Do you have a spare set for each plane? At least once each day, you should wipe down lines with alcohol on a rag. Clean lines work better; dirty lines can make a plane hunt in level flight. Is there a lot of traffic in the pit area? Maybe you should roll 'em up between flights.

- Handles: Have you adjusted the handle before the first flight? (Here's an idea: Have a different handle for each plane. When you disconnect the lines, leave one clip on the plane and one on the lines. Then, you'll connect the lines up the same way every time, and never have to adjust the handle after you've got it the way you want it.) Inspect the handle the same way you do the lines: Are the terminals in good condition, the safety thong secure, the adjustment tight?

- Props: Do you have spares? Do you have a couple of different choices in case conditions change drastically or the plane is still being trimmed? Inspect the prop before each flight, to make sure it didn't get nicked on the last flight. *Is it on tight?*

- Plugs: When was the last time you checked the plug's condition? In stunt and sport planes, plugs tend to last a long time — which can lead to a false sense of security. Why not check it before each flying session? It's 30 seconds well spent.

- Wind: It should be so much a habit to check wind direction that you do it constantly without thinking. You can't successfully fly a CL airplane with any kind of precision — whether it be a stunt plane, combat plane, carrier plane, racing plane,

etc. — without knowing the wind direction. Most experienced fliers can feel it on their backs as they turn. Many will grab some grass and see where it drifts, or blow (on a cold day) and see where their breath goes, etc. Each type of flying has different reasons for needing to know wind direction, but they all have that need.

- Fuel: Is each jug clearly marked with the type of fuel? Do you have a note somewhere telling you which plane needs which fuel? Do you know how old the fuel is, and what its mixture is? Did you put the cap on tight after fueling the plane (if you didn't, while you're motoring around the sky, little water molecules are diving into the jug and swimming around, contaminating your lifeblood!). Your notes should tell you whether the plane needs to be short-tanked or full.

- Starting sequence: Each plane has a different sequence. You should figure it out and do it exactly the same, every time. One example: Two of my stunt planes have the same sequence. Before the first flight of the day (or after a long time of sitting in the pits) they need to be turned upside down, primed, and "burped" to run out the prime and loosen things up. Then, the fuel goes in, the engine is choked two turns (watch for fuel to drip out the venturi), the prop flipped three times, battery applied, feel for bump. At this point, both of those planes will start on one flip, 99% of the time. The presence of judges seems to represent the other 1%. Do I vary the sequence in some subtle way under contest pressure? Food for thought! Another example: Racing engines seem to need a little or a lot of "gush" — fuel charged through the lines after the shutoff is reset or the uniflow cap opened. Practice determines how much. If you figure it out in practice, and do it exactly the same way in a race, you'll get the great starts. If you have no idea what the engine wants, you will flood the engine, or bang away forever on an engine that *needs* more fuel, or otherwise flounder while your opponents fly.

- Packing the car: You may laugh, but even here, a sequence or habit can be useful. I put things in the truck just so: Fuel here, toolboxes there, in order, planes, rain gear, coat, rags, stooge, etc. All in a sequence and position. Why? If I forget something, the empty space reminds me!

John Thompson can be contacted by mail c/o Flying Lines, or by e-mail at JohnT4051@aol.com. Web site: <http://members.aol.com/johnT4051/NorthwestCL.html>.

Where the action is!

Coming events in Northwest Control-Line model aviation

March 29

Diesel Fizz outlaw Vintage Combat contest, Arlington Airport, Arlington, Wash. All-day feed. Prizes. No entry fees. See flyer in this issue for details. For more info, contact Ken Burdick, (425) 273-5997, ps@zipcon.net.

April 12

Vintage Diesel Combat Fun Fly, standard rules, Arlington, Wash. 10 a.m. start. Contact Mel Lyne, (604) 898-5581, mlyne@alpha.sea-to-sky.net.

April 27

Vancouver Gas Model Club, contest for Northwest Clown Race, Northwest Sport Race and Balloon Burst, Rice Mill Road, Richmond, B.C. Contact Bruce Duncan, (604) 513-9450, a.b.duncan@shaw.ca.

May 18

Seattle Skyraiders Spring Fun Fly. Details to be announced.

May 23-24-25

Northwest Control-Line Regionals, Albany Municipal Airport, Albany, Ore. Full schedule of AMA and Northwest competitive categories in the West's biggest CL contest. All details tentative at this point. For info, contact *Flying Lines*.

June 14-15

Stuntathon, aerobatics contest sponsored by Seattle Skyraiders. Details to be announced.

June 21

Big Money Vintage Diesel Combat, Arlington, Wash., 9 a.m. start. Contact Mel Lyne, (604) 898-5581, mlyne@alpha.sea-to-sky.net.

July 5

WOLF Lucky Hand Fun Fly. Bill Riegel Field, Salem, Ore. Date and details tentative. Contact Mike Hazel, ZZCLSpeed@aol.com, (503) 364-8593.

July 12

Open Diesel Combat Fun Fly, Arlington, Wash. 10

a.m. start. Any plane, any diesel engine, 70 mph speed limit, match rules same as standard dBat. Contact Mel Lyne, (604) 898-5581, mlyne@alpha.sea-to-sky.net.

July 19-20

Stunt Clinic sponsored by Seattle Skyraiders. Saturday: Trimming, setups, coaching. Sunday: Four PAMPA classes, judging clinic. Contact Steve Helmick, sbasser@yahoo.com.

July 27

Western Canada Stunt Contest Rice Mill Road, Richmond, B.C. Contact Chris Cox, (604) 596-7635, ccox1@telus.net.

Aug. 1-3

Bladder Grabber triple-elimination fast combat tournament, Harvey Field, Snohomish, Wash. Friday: Double-elimination 1/2-A Combat on 42-foot lines, starters OK. Fast on Saturday and Sunday. Contact Jeff Rein, Jeffrey.Rein@PSS.Boeing.com.

Aug. 2-3

Can-Am Speed Championships, Upper Coquitlam River Road Park, Coquitlam, B.C. Contact Ron Salo, (604) 599-8301, salor@shaw.ca.

Aug. 17

Seattle Skyraiders Summer Fun Fly. Details to be announced.

Aug. 23

Tailhook Navy carrier contest, Clover Park Technical College, Tacoma, Wash. Details to be announced.

Sept. 6-7

Oregon CL Speed Champs, Salem, Ore. Details tentative. Contact Mike Hazel, (503) 364-8593, ZZCLSpeed@aol.com.

Sept. 7

Bruce & Gerry's 1/2-A Stunt Contest + Balloon Bursting, Rice Mill Road Park, Richmond, B.C. Contact Gerry Boyd, (604) 275-9192.

Sept. 13-14

Raider Roundup. Details to be announced.

Oct. 11-12

Fall Follies, Bill Riegel Field, Salem, Ore. racing and aerobatics. Details tentative. Contact John Thompson, (541) 689-5553, JohnT4051@aol.com

The Flying Flea Market

Classified advertisements — FREE for FL subscribers

FOR SALE: RTF Oriental, built by a world class competitor, set up for a Fox .35. \$75 Call Gary Harris at (503) 324-3450 or e-mail; Slowcombat@att.net

FOR SALE: New, never started, OS .15 cv-a, ABC, no carb. or muffler, with or without large venturi for pressure. \$55. Gary Harris, (503) 324-3450 or e-mail; Slowcombat@att.net

WANTED: Old AMA rulebooks, looking for 1966, 68-69, 73, 76-77 contact Mike Hazel. (503) 364-8593.

WANTED: Original, Early version Veco Tom Tom Kit, for a "builder." Contact Craig Bartlett, (541) 745-2025, e-mail: scraigbart@yahoo.com.

WANTED: New Magnum .65 GP plain bearing engine. contact Rick Wallace, (360) 683-9860, or preferably by e-mail, toolman50@prodigy.net.

WANTED: Collectable quality speed kits. Looking for several, including: Italian "Speed King" for ST 15, DMECO Speedwagon 29, Ameco "Scat," DynaStreak, etc. etc. Mike Hazel, (503) 364-8593.

FOR SALE: Cyclon Top 3 engine, \$130. (New price is \$165.) This one has about 3 minutes of running time. E-mail Tom Strom at TStrom@aol.com.

CONTROL-LINE SUPPLIES: Remember — We ship UPS daily. Eugene Toy & Hobby, (541) 344-2117, www.eugenetoyandhobby.com.

WANTED: K&B 4.9 engines and parts. Also early version of Veco Tom Tom kit. Craig Bartlett, (541) 745-2025.

AEROBATICS INTEREST GROUP: Right now — as in TODAY — is the very best time to join PAMPA! Your \$25.00 will see a full year's worth of the world's best CL-specific magazine (at 100-

plus pages we no longer call it a newsletter!) dropped in your mailbox. Send check or money order to: Shareen Fancher, 158 Flying Cloud Isle, Foster City, CA 94404.

WANTED: Fox .35X and .36X parts. Also SuperTigre .35 parts. Chuck Matheny, (360) 659-0155.

COMBAT INTEREST GROUP: Miniature Aircraft Combat Association offers national newsletter with technical articles, organizes national events, keeps national combat standings, and much more. Send \$15 dues to MACA, c/o Gene Berry, 4610 89th St., Lubbock, TX 79424.

NAVY CARRIER INTEREST GROUP: Navy Carrier Society offers newsletter with technical articles, organizes national events, keeps national standings and more. Contact NCS, c/o Bill Bischoff, 2609 Harris, Garland, TX 75041. Online: President Bill Calkins at cflyer@tbcnet.com.

RACING INTEREST GROUP: National Control Line Racing Association offers newsletter with technical articles, organizes national events, keeps national standings and more. To Join, send dues of \$10 U.S. (\$12 international) to NCLRA, c/o Mike MacCarthy, 4704 Hillsboro Ct., Santa Rosa, CA 95405. Online: <http://www.NCLRA.org>

HELP WANTED: *Flying Lines* welcomes contributions of all types of articles and regular columns on control-line model aviation. Share your knowledge by becoming an active member of the FL staff. Columns or single articles are welcome on all competition categories as well as on sport and show flying. Photos also needed of all types of airplanes and activities. Articles compensated by subscription extensions.

YOUR AD HERE: Remember, classified ads are free to *Flying Lines* subscribers. Send yours in today for publication in the next edition.

Putting on a contest? Ask FL to send you a sheaf of contest winner information forms, so you can easily collect all the data on the winners for the FL contest report. FL subscription forms also are available, along with FL toolbox stickers.

Northwest Rules Discussion Corner

Information and
exchange of views on
regional rules

Two options for Open dBat proposed

The variety of opinion on the direction of the increasingly popular Vintage Diesel Combat event has led to discussion over the winter of creating a second class of the combat category, allowing a wider range of equipment and slightly higher performance.

One such proposal was offered by Mark Hansen in Issue No. 187. After deadline for Issue 187, a similar proposal arrived from Mel Lyne. Both proposals aim at the same goal, which is to create an "Open Diesel Combat" class.

Because the two proposals are so similar, the balloting for the first proposal will be delayed so that we can offer both proposals together, and let fliers pick the preferred version.

After time for discussion, FL will publish a ballot asking two questions:

1. Should there be an "Open" dBat event?
2. Which one?

Once the question is settled, final rules will be published and standings will be kept for the event.

In a related matter, Ken Burdick is sponsoring an "open" style limited .15 combat event in March. See the flyer in this issue. This contest will give fliers a chance to try out some equipment options.

Following is the second "open" dBat proposal.

Open Diesel Combat rules proposal #2

By Mel Lyne

Due to the immense popularity of "Vintage Diesel Combat" in the Seattle-Everett area, I propose a second class of "performance" diesel combat to be called "Open Diesel Combat." You just can't have too much of a good thing!

The rules are designed to accommodate everyone but especially the people who complain

that "Vintage Diesel Combat is too restrictive on equipment, the planes wobble, come in, and are difficult to get to perform well." We all know that more power and higher speeds solve line tension problems, floppy model problems, overcontrol problems, poor piloting techniques etc. etc. And we want to make as much equipment (motors, planes etc.) available as possible. A bit like 80mph Combat Class.

Proposed rules for "Open Diesel Combat" By Mel Lyne

70mph speed limit, any plane, any diesel engine up to .21 cu. in, any prop. The match procedure, line length etc. shall be the same as Vintage Diesel Combat.

This event will allow everything (except glow engines)! Foamie planes, metal mounts, outside controls, Schneurle, ABC, AAC, AAN, or plain old iron engines. Everything is OK. There is a good selection of European hi-tech engines, U.S. Nelsons, Chinese replicas (although I think the CS Oliver is now history. The cranks broke, contra pistons came loose etc.). PAW has more powerful twin ballrace engines also, and MVVS has a very inexpensive ABC Schneurle engine available through Ed Carlson. So a wide range of engines can be used just like in 80mph.

This event is the exact opposite of "Stone Age" Vintage dBat. It is as hi-tech as you want to go. The 70 mph speed limit on 52-ft lines is manageable and negates the need for shutoffs. This event, like Vintage dBat, is aimed at simplicity.

For those enterprising people who like a challenge (there are a few of us), Vintage dBat planes can be used in this class. A good PAW .15BR on a 7-1/2" prop can haul a Warlord at 67mph. Larger Vintage planes with more powerful racing engines can be quite competitive.

Send comments for the Rules Discussion Corner to Flying Lines. Full rules for the two proposals will be published in an upcoming issue along with the ballot.

Diesel

7933

(With a Nitro Twist)

COMBAT TOURNAMENT

COME ONE AND ALL TO AN UNUSUAL EVENT.

SPEED LIMIT .15 COMBAT

THIS CONTEST WILL BE SANCTIONED AND PROOF OF AMA MEMBERSHIP REQUIRED.

CONTEST DIRECTOR: Buzz Wilson.

WHEN: MARCH 29

WHERE: JUST WEST OF THE ARLINGTON, WASH., AIRPORT

ENTRY FEE: \$0.00 NONE.....NADA.....ZIP.....

PRIZES • COOL STUFF • ENGINES • AIRPLANES • ROOTBEER!! • CANADIAN ROOTBEER!!

FOOD!!!!!!!!!!!!..... an all day feed will be provided at no cost to you.

Authentic southern GUMBO that includes my own recipe with homemade roux will be available from 10 am till it's gone. The pot is 5 gal... Deep fried turkey and will be available at lunch As well as home made potato salad.

RULES: FIVE ROUNDS, CUTS ONLY.

DUCK-DUCK -GOOSE: POINTS AWARDED

SPEED LIMIT: NO MORE THAN 68 MPH (with streamer)

ENGINE: ANY .15 DIESEL OR GLOW (sport glow engine) (see fine print below)

PROP: ANY

AIRPLANE: (foam ok, metal mounts ok)

Pre 1971 preferred but if not then no more than 290 sq" wing and 1.50 thick airfoil

MATERIALS: ANY

PAIRED SCORING. Fliers will be paired into teams. Combined scores only

LOOSERS MUST SING. Those not in the top three must sing "Three Jolly Coachmen" to the winners. (Sheet music provided)

Line length, starting time will be the same as Vintage Diesel Combat rules.

PILOTS MEETING 9:00 AM

Contact Ken Burdick for details. (425) 273-5997. ps@zipcon.net

FINE PRINT: Double length streamer strings. 15-pound pull test. General rules as per N.W Vintage Diesel. (cut points timing of the match and so on) Engines if diesel it must be .15 disp. Engines if glow must be sport .15 and not a racing engine. The fastest Glow engine allowed will be the Fox .15 BB. Cox Conquest/ RJL.15 not allowed. Suction fuel tank only.

Duck Duck Goose points.

Balloons that correspond to each streamer color will be placed on sticks in the circle. The balloon may be popped at any time during the match after the start to combat signal is given. Both airplanes must be flying when attempts to pop the balloons are made. If a balloon is popped then the pilot for that color receives the equivalent points of one cut. The judges will only note that what color balloon is popped, NOT who popped it so if you pop your opponent's, they will receive the points and not you! Look out — don't be the goose. Illegal balloon popping will not be counted.

A Simple Finishing System for Stunt Ships

By Don McClave

Finishing a stunt ship is a time-consuming process which requires skill, equipment and the shop facilities to spray on the many coats of paint which are required for that concours-winning finish. In addition, too much paint can result in added weight, which in turn can transform your beautiful creation into an overweight dog!

Here's an easier way for those of you who, like me, lack the skill, facilities or time to properly apply a dope finish. You won't create a 20-point airplane with the method I'm going to describe, but you'll have a nice looking, 15-17 point ship which will be light, fuel- and rainproof, and which won't take months to accomplish. You can then spend more time practicing!

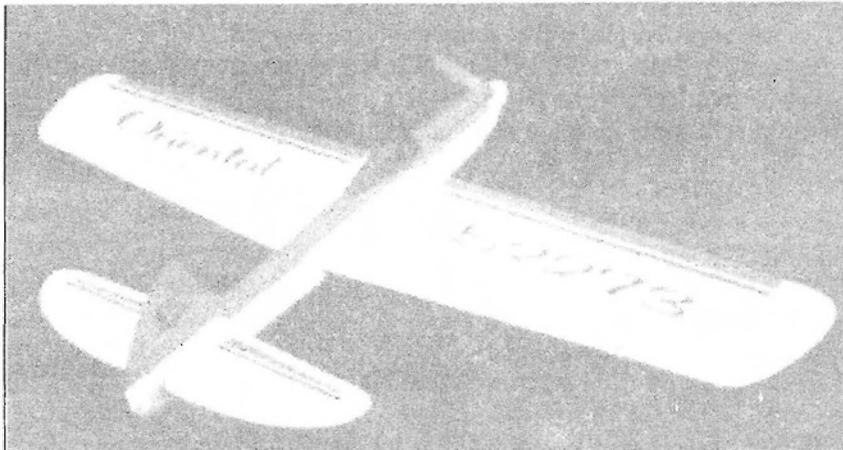
The finishing system I'm going to describe involves the use of epoxy finishing resin, Monokote, micro-balloons and Lusterkote.

The basic techniques have been around for a long time, and I learned the fundamentals from Gary McClellan and David Fitzgerald more than twenty years ago. They can also be used in connection with other heat shrink coverings, such as Ultracoat and Oracover; and other paints, such as Rustoleum or the 21st Century products. However, since my experience has been with the Monokote/Lusterkote process, that will be the focus of this article.

Begin by building your plane in the normal manner. Use pin-and-barrel hinges, such as those made by Du-Bro or Great Plains, for the flaps and elevators, but do not glue them in place yet. Also, do not apply fillets to the wing or stab junctions with the fuselage. That comes later. Finish sand

the plane carefully and remove all dust from the surfaces. This is very important!

Brush a coat of epoxy finishing resin onto the bare wood of the fuselage, including the engine/tank compartment. Work it in, remove any excess, and let cure for several days. Sand smooth with 150 or 180 grit paper, trying not to cut through the resin if you can help it. If you do go through, touch up these spots with more resin, let cure, and sand again. Apply a second coat of resin, spreading as thin as possible. When cured, sand smooth, touching up any spots where you go through. You should now have a smooth, even surface that is ready for painting.



Don McClave's Oriental, from *ModelAirplane News* plans, which can be obtained from PAMPA. Finish is Monokote on wings, Pacer epoxy finishing resin and Lusterkote enamel on the fuselage. Engine is Fox .35 with 10x6 BY&O propeller. It flies on 60-foot lines with 10% nitro Powermaster GMA Blend fuel. Weight is 39 ounces. The "5" on the ail represents the number of Orientals Don has built. All of them weighed 39 oz.! The lettering can be purchased from most sign shops. (McClave photo).

Now, clean the plane again, removing all dust with a tack cloth. Apply Monokote to the flying surfaces by tacking the material in place at the edges with a 350 degree iron and shrinking it with a heat gun. The basic idea is to stretch the

Monokote as tightly as possible before shrinking it, and to bring the material to about 3/32" from the fuselage. Monokote works best when it has a real "set" to it, so get it as hot as you can. Be careful not to get it so hot that it melts! Wingtips will require that you put a protective glove on one hand, grip the Monokote with the gloved hand, and pull the material while heating it with the heat gun. The material will "give" when heated and stretch nicely around curved surfaces. Don't stretch it too much, or it will pull apart. If you haven't done this before, practice on an old wing to get the hang of it. Don't be intimidated — it's easier than it sounds! If you're not happy with

the results, just peel off the Monokote, clean off the surface again, and begin anew.

The next step is to mask off the flying surfaces about 1/2" from the fuselage junction. When this is done, apply fillets to the wing and stab junctions with the fuselage, overlapping the Monokote by about 1/2". Use microballoons mixed with epoxy finishing resin for this task, and mix in enough microballoons so that the resulting concoction is about the consistency of cookie dough. Smooth out the fillets however you like, and then carefully remove the masking tape. Dip your finger in water and gently run it along the fillet/Monokote joint to remove any ridges that may be present. When the fillets cure, the Monokote will be locked in place permanently.

Painting the fuselage comes next. Here's how to do it. First, mask off the wing and stab. You want the paint to extend about 1/16" beyond the fillets onto the Monokote. Second, take a spray can of Lusterkote primer, shake it thoroughly, and then heat it by placing it in your sink in a pot of hot tap water (leave the tap running, so it won't cool off) for about 10 minutes, shake again and spray on a very light "fog" coat of primer. Put the can back in the hot water for five minutes while the light coat you've applied becomes tacky. Next, spray on the rest of the primer in an even, wet coat and let it dry. After a few days, sand the primer with #320 grit paper, touch up any spots as necessary, and you're ready for color.

Once again, clean the surface to be painted carefully and apply the base color coat. Do this just exactly the way you did the primer coat and you should wind up with a smooth, shiny surface. If you're not satisfied, sand and repeat. Now you're ready for some trim!

You can either paint the trim, or use Trimkote (aka sticky Monokote), depending on your trim scheme and personal preference. You can paint over Monokote if you first rough up the surfaces to be painted with # 0000 grade steel wool. Painted surfaces should be sanded with #320 grade paper so that the paint will stick properly. If you paint, remember that you need a white base over which to apply the trim color, so that everything will match properly. For example, if your base color is dark blue, and you want to apply white trim, you'll need to shoot on a coat of primer before applying the trim. The same applies if you used red Monokote on the wings, blue on the fuselage, and want to paint red trim on the fuselage. If you

just paint over the blue, then it won't match the red on the wings.

If you use Trimkote, you won't have to worry about color matches. Just apply the material to either the painted fuselage or the Monokoted flying surfaces. Cut Trimkote to the shape desired, spray the location where it is to be applied with soapy water solution, and apply. The soapy water solution enables you to position the trim and press out any bubbles of air which may have been trapped under the surface of the Trimkote. Let dry for 48 hours and apply small circles of clear Monokote to cover the trim corners and prevent them from coming up. Do this with a trim iron set at about 225 degrees (thanks to Dan Rutherford for this tip!).

Stick-on letters and numerals can be obtained from a sign shop. Apply them as you did the Trimkote, except for the part about the clear Monokote, which isn't necessary. Now, you can attach the flaps, elevators and wheels, and the job is done. I hope you're pleased with the result!

A couple of additional points. Top Flite makes a Lusterkote product called Crystal Clear Topcoat, which is intended to provide a high gloss surface. I don't recommend using it on light colors, because it tends to yellow and isn't needed to fuel proof the finish. Be sure to warm all of your paint in the manner I've described, so that it will flow nicely onto the surface. However, you must never, ever use an open flame to heat spray cans because risk of explosion is too great!

Finally, I should mention that one spray can of Lusterkote will apply a coat of paint to the average .35 sized stunter. You'll need more for larger ships. Don't use up the entire contents of any paint spray can, because the spray pattern tends to deteriorate as the can is emptied. I usually stop when the can is about 3/4 consumed, and suggest that you do the same.

Product news

- Randy Smith Aero Products has moved. This supplier of great CL planes, accessories and PA engines is now at: Aero Products, 980 Winnbrook Drive, Dacula, GA 30019. Phone (678) 407-9376. Fax/order line is (678) 985-5085. The web site is www.aeroproducts.net.

- J&J Sales has lots of Taipan props in stock. Sometimes they're hard to find. Write J&J Sales, P.O. Box 99, Waitsburg, WA 99361, or e-mail ukeyman@justice.com.

SPEED STUFF, by Mike Hazel

Greetings, all! If you are a NASS (North American Speed Society) member you should have recently received your Oct-Dec issue of Speed Times. One of the features was an article on the Sport Jet event which will be flown at the 2003 Nationals in Muncie. There had been a bit of correspondence regarding this in order to come up with a set of rules that could be used. The rules listed in that issue are the outcome. As you can see, they are mostly a composite of the original Texas rules, and the Northwest version rules.

There are two major differences between this new Nats version and the NW rules. Number one is the stock engine rule. We allow hacked up heads and cowls, so long as the inside is stock. The Nats rules do not allow any cutting other than mounting provision.

The second difference is that of the line size. The Nats version is requiring .022 wire, versus the .018 most of the country has been using. Length is still at 60 feet. The new diameter was derived using the rule book formulas on pull. Hey, just read the article for all the skinny on that.

We may want to think about increasing our local Sport Jet speed wires for additional safety margin. However, I would suggest that an increase to .020 in our region would be adequate. Where I

depart from the logic of the .022 size is that it is figured on planes going 155+, and having a max weight of 45 ounces.

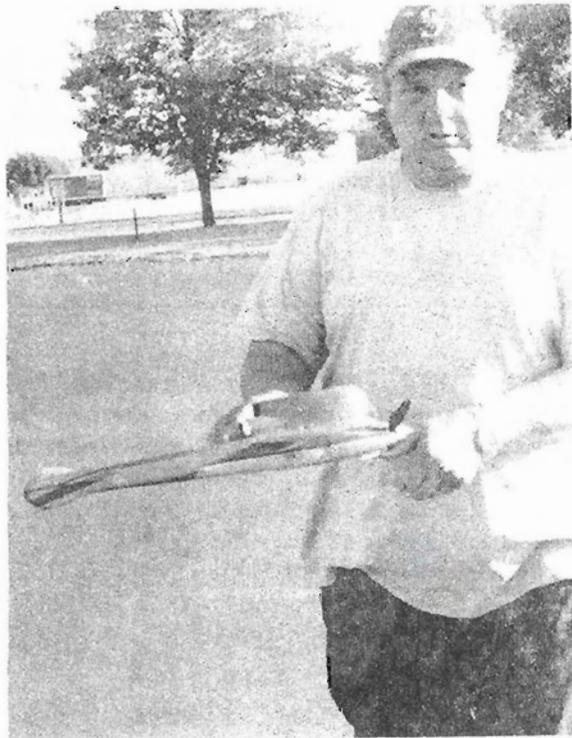
We haven't quite gone that fast in this region yet, and I also think the weight limit is excessive. The typical NW Sport Jet with fuel load weighs in at 38 to 40 ounces, which is much lighter! My wood plane weighs in at only 30 ounces, dry. So please give some input on this soon. If we are going to change sizes, we should decide on it soon.

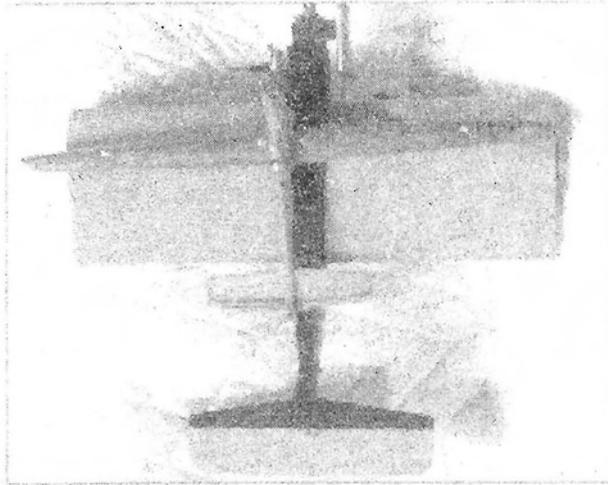
Speed Meet Schedule: So far it looks like three meets again this year.....The NW Regionals, the Can-AM Champs, and the Oregon Speed Champs. Would sure be nice to get a meet in Tacoma again. Anybody up there willing to do the honors?

Here's the usual pre-season reminder: Get your gear ready well ahead of time. I know that the Regionals tends to be a warm-up session for many of us, and that's OK. But do make sure your planes are well-prepped and safety inspected. Check your handles and wires, pack that toolbox, and get your props carved up!

Photos: "Dueling D's at Oregon CL Speed Champs" from last September in Salem. Ken Kortness on left, Ron Salo on the right.

(Gary Harris photos)





A CONTRAST IN STYLES

By Mike Hazel

As you know the basic geometry of an airplane wing is expressed as the "aspect ratio". This is simply the wingspan divided by the average chord.

The photo shows examples of two extremes! The plane with the skinny wings is John Newton's design 21 sport speed ship. The tapered wing spans a total of 32-1/2 inches, with an aspect ratio of 18 to 1.

The plane below the speed ship is my own "Mr. Stubby", which spans an even 30 inches. The constant chord is 10 inches, which makes an easy to figure aspect ratio of 3 to 1.

Incidentally, the wing thickness of Mr. Stubby is 2.375 inches for the entire span. The wing thickness of the speed ship is just .280 inches at the root, and it thins down toward the tips.

PUBLISHER'S NOTE TO FLYING LINES READERS

Here are just a couple of reminders about the "business" side of *Flying Lines*. As you know, we are entirely supported by the subscription fees. When your subscription has hit the last issue, we try and include a reminder within the pages. And when I carefully and lovingly hand-assemble your copy, I usually mark the mailing address label if you need to re-up. However, don't feel bound to wait until this comes up, just look at the issue

Flying Lines Issue #188

number noted on your mailing label, and the current issue number and respond accordingly. This will save us a little work. (In other words, it's a good thing to renew early).

Also, when you send your funds to *Flying Lines*, either the Eugene or Salem address is OK. However, if you use the Salem address it will save John a postage stamp, because *FL* central banking operations are located in Salem.

Please remember that your length of subscription is based on number of issues, not per year. While we shoot for nine issues per year, this might vary somewhat. Sometimes people have been puzzled by the renewal notices, because it hasn't been exactly one year.

I would also like to take the opportunity to announce that *Flying Lines* back issues are available. The archives were recently sorted, and inventories made. Many of the issues which date clear back to 1979 can be yours to add to your newsletter library. Yes, much of it is "old news," but reviewing past events, people, and places makes for some interesting reading and perhaps you can settle some bets. And check out some of the early photos when most of us still had hair! Plus, there is plenty of relevant technical material tucked away between those old pages. Price for the back copies is very reasonable: Just \$2 for 3 issues, and \$5 will get you a full dozen. This includes your shipping to either USA or Canada addresses. Just request the *FL* back issues order form which will detail what is available.

—Mike Hazel

The end is near!

Quite a few subscriptions expire with this issue. If you don't want to miss an issue, send in your subscription renewal now, and remain a member of the Northwest *CL* communications network!

Preston Briggs, John Clemans, Bob Dash, Bill Darkow, Stanley Davis, Bruce Duncan, Jim Green, John Hall, Chuck Matheny, Bob Parker, Dennis Patera, Paul Rice, Jeff Riechel, Jerry Rocha, Dave Royer, Ryans, Dick Salter, John Salvin, Keith Varley, Paul Walker.

Do you have a favorite plane? *Flying Lines* readers would like to hear the story of how you came to love it so much, when and how it was built, what it was used for, and if you still have it. Send the story to *FL* for publication!

February 2003 Page 11

FLYING LINES BACK ISSUE ORDER FORM

Listed below are the FLYING LINES issues that are still available. Here's your chance to complete your newsletter library. Most all issues include technical information, and certainly a nostalgic look back at past NW events and affairs. The issues are listed by issue number and date. Circle, or underline the issues you wish to receive. Some of the issues are down to a single spare, so you might want to indicate second choice(s).

The price: Just \$2 for three issues, or \$5 for twelve issues (what a bargain!)

(4) Aug 79	(11) Mar. 80	(13) May 80	(23) Jan 81	(32) Jan 82
(33) Feb 82	(36) Jun 82	(37) Aug 82	(38) Sep 82	(39) Oct 82
(40) Nov 82	(43) Mar 1983	(44) Apr 83	(45) May 83	(49) Nov 83
(50) Dec 83	(52) Feb 84	(54) May 84	(61) Feb 85	(62) Mar 85
(66) Oct 85	(70) Feb 86	(73) May 86	(74) Jun/Jul 86	(75) Aug 86
(77) Nov 86	(78) Dec 86	(80) Feb 87	(84) Jul/Aug 87	(86) Nov/Dec 87
(87) Jan 88	(91) Jul/Aug 91	(96) Mar 92	(98) May 92	(99) Jun/Jul 92
(102) Oct/Nov 92	(103) Dec 92	(105) Mar 93	(106) Apr/May 93	(108) Jul/Aug 93
(111) Dec 93	(112) Jan/Feb 94			
(113) Mar/Apr 94	(114) May 94	(115) Jun/Jul 94	(116) Aug/Sep 94	(117) Oct 94
(119) Jan 95	(120) Feb/Mar 95	(121) Apr 95	(122) May 95	(123) Jun/Jul 95
(124) Aug 95	(125) Sep/Oct 95	(126) Nov 95	(127) Dec 95	(128) Jan-Feb 96
(129) Mar 96	(130) Apr 96	(131) May/June 96	(132) Jul 96	(133) Aug 96
(135) Nov 96	(136) Dec 96	(138) Mar 97	(139) Apr/May 97	(140) Jun/Jul 97
(141) Aug 97	(142) Sep/Oct 97	(143) Nov 97	(144) Dec 97/Jan 98	(146) Apr 98
(147) May 98	(149) Aug 98	(151) Nov 98	(153) Jan/Feb 99	(154) Mar/Apr 99
(155) May 99 (20 yr anniversary issue)			(159) Nov/Dec 99	(160) Jan/Feb 00
(161) Mar 00	(163) Jun 00	(165) Aug/Sep 00	(166) Oct 00	(167) Nov 00
(168) Dec 00	(169) Jan 01	(170) Feb 01	(171) Apr 01	(172) May 01
(174) Jul/Aug 01	(175) Sep 01	(176) Oct 01	(178) Jan 02	(181) May 02
(183) Jul/Aug 02	(184) Sep/Oct 02	(185) Nov 02	(186) Dec 02	

Combat Cornucopia

Combat news and views by Mel Lyne

Fox Combat Engines: Keeping them Alive (Part 2)

(See Part 1 in Issue 187)

The piston and rod assembly should now be clean. Find the roll pin pressed through the piston wall and the piston wrist pin. Look carefully at the ends of the tiny roll pin and make sure that these ends and this end of the wrist pin are really clean. Use a straight pin to push out any gummy deposits and do a final clean in lacquer thinner.

This roll pin is the Achilles heel of the Mk VI, since it almost always snaps where it passes through the rhs edge of the hollow wrist pin. The loose bits then score the piston and cylinder. To prevent this happening on a 80 mph motor, which is generally operating at less than 18,500 rpm, red Permatex High Temp RTV is pushed into the roll pin ends and the roll pin end of the wrist pin. Do it carefully and remove any excess so that the three areas are dished below the piston surface. Let it cure 24 hours before assembly. If the areas are really clean, the RTV will last indefinitely without problems. The roll pin may still eventually break, but the pieces cannot go anywhere being embedded in the RTV. I have numerous motors like this and have never had one fail. For very high RPM engines used in Fast there is a more extensive fix. We'll cover that later.

Next is the cylinder. The quality of the chroming and of the honing is the thing we are checking here. After cleaning look carefully at the chrome inside the cylinder, especially between and around the port areas. It should be solid with no gaps showing brass where the chrome has flaked away. If flakes of chrome are missing, the cylinder is no good. While it will run, the "bare" areas will just flake more, and the piston wall will become scored. If you have one of these cylinders, you need to find a replacement.

Fox uses a 2-stage machining process on the chrome inside the cylinder. A very shallow taper is cut from the top of the exhaust port to the top end. Then a steeper taper is cut from the bottom

end to the top of the exhaust port. On the better cylinders the transition is quite smooth. However, a number of cylinders have a definite ridge where these tapers meet. You can see the change, and feel it if you drag a straight pin up the inside of the cylinder. If you have a ridge on your motor, when you rotate the crank you will feel the piston "clunk" as it hits the ridge, then travel upwards smoothly. This is the way some motors come. Now before you get out the emery paper, DON'T! The chrome at this point is extremely thin, and usually wears away here first. So don't try to polish it down. If your motor is like this, the best thing you can do is run it on the rich side with lots of oil in the fuel for the first few flights. This is a good idea with any new motor. The piston and cylinder will fit themselves to each other in the first 6 or 8 heat cycles. After this they will polish while running to hopefully wind up at a perfect fit. Just don't run too lean or on low oil content. Because of the exhaust area getting hotter than the transfer port areas, there is uneven heating of the aluminum piston, and uneven expansion. To get around this problem, Fox intentionally makes its aluminum pistons slightly oval. This allows them to grow and match the cylinder contour without seizing.

One Fox with that chrome "ridge" turned out to be a very fast motor. So if you are careful on the break-in, it can work out OK. If the ridge really bothers you because the piston seems to clunk on it, it is possible to use a scraper tool to "soften" this transition ridge. However, it takes some skill. I use a kitchen paring knife and lay the tip over at a shallow angle and using medium pressure pull the tip around the cylinder ridge to soften the transition. I've only done this to one motor which was exceptionally bad. This particular motor, belonging to a friend, had snapped the rod when it seized on the first run.

The earlier Mk VI motors have a piston with a straight sidewall, no chamfer at the top. Later VIs have a tiny chamfer extending about .025" down the side of the piston. Fox may have added this to help the piston negotiate the transition ridge in the cylinder. If you have a new piston/cylinder that "klunks" on the way up with

no chamfer at the top of the piston, adding this chamfer is a good idea. It only extends inward about .003", so it is a precision job. You can do this very carefully with a fine file.

The last component for attention is the head button. The VI comes with the standard Fox small single bubble button installed in the motor with a deck height of .025" to .028". The "deck height" is the distance measured from the top of the piston at top dead center (TDC) to the lowest point on the head button, which is normally at the piston edge. An easy way to measure this is to put a piece of 1/16" lead solder into the glowplug hole so that it goes out to the piston edge. Then slowly turn the crank through TDC and back a few times to compress the solder. Remove the solder, snip off the edge .010" that squished down the piston chamfer, then measure the solder thickness with a micrometer or calipers. For 80mph combat the standard deck height, which is quite low compression, is fine. If the piston/cylinder fit is good, 15% nitro will run well. If your fit is going south you may need 25% nitro. The way the motor needles will tell you. If there's not enough nitro on a 8-1/2 x 6 prop, the motor will quit instead of run rich.

This standard head button runs fine, but it is hard on plugs. The double bubble buttons seem to put much less "shock" into the plug element, resulting in longer plug life. An easy "mod" to your standard button is to put a chamfer on the sharp corner of the single bubble. This lessens the shock reaching the plug element. You can do this in two ways. First, put a blown plug in the button to protect the threads. Now use the #11 X-Acto knife to carve a 1/32" x 1/32" chamfer all around the sharp corner. Smooth it off with wet emery paper. Another way to do it is to use a sharp 3/8" drill bit hand-held. The aluminum trims easily so go slowly until you have a nice chamfer.

Now you are ready for reassembly. Oil the piston/rod assembly, making sure the red RTV is dished below the piston surface. Oil the cylinder and test the fit of the piston in it. Now install the piston/rod on the crank pin with the roll pin and the con-rod oil holes to the front. Slide the cylinder into the case and twist it so that the piston engages the bore.

This should all slide smoothly into place, since you've well-oiled it all.

If something jams, don't force it. Figure out what is wrong and try again.

A tiny bit of dirt in the case can make the cylinder a tough fit. Orient the cylinder so that the exhaust ports line up with the case and push the cylinder all the way down. Now install your head button, cylinder head clamp and screws. Just do the screws finger tight initially. Put a prop on and slowly rotate the crank. It should be smooth. Now start the tightening sequence on the head bolts. Tighten each just a little in a diagonally opposite pattern. After each round of tightening rotate the crank. There should only be tightness close to TDC.

Lastly install the backplate with the gasket. The gasket is re-useable if it is not broken. Notice that the top 2 backplate screws are shorter. This is so that they do not jam against the cylinder.

.....to be continued in Part 3

Eastern Washington Report

By Jce Just

Just a brief update on what is or isn't going on control line wise here in Eastern Washington.

Right now it looks like Mac Ryan will soon have his partner (Todd) back as Todd's college days are about over. Also, I have heard through the grapevine that Mac and up and coming-hard stunt flyer Mark Conner have been toying with the idea of entering NW Sport racing scene as a team.

Talked with Mark the other night and he is in the finishing stages of his new Saito .72-powered Bearcat.

While the first Bearcat he built and showed off last

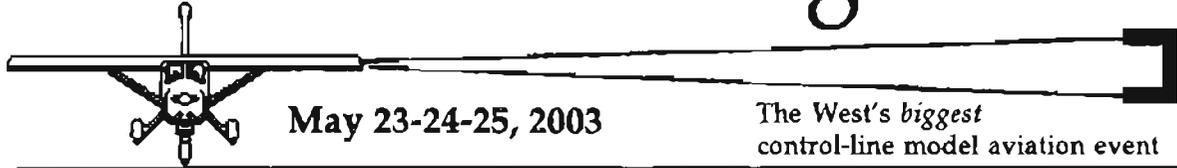
Fall in Salem was a winner, Mark feels that it was grossly overweight.

Not much else going on with the exception that there is some talk about an invitation stunt get-together being planned for July in this area. Will let you know for sure in a month or so.

Who's your **unsung** hero? In your modeling life, there's a person who inspired you to greater things, who did thankless work in the background to make the hobby better, who made your hobby more rewarding and enjoyable. Tell the story of your **unsung** hero with an article in *Flying Lines*. It will inspire others to great flying and great service to our fantastic hobby.

The 32nd annual...

Northwest Control-Line Regionals



May 23-24-25, 2003

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

Championship Control-Line flying competition

With **39 events** and **124 trophies**, the Northwest Regionals provides the largest selection of CL competition events and awards available in a single contest in North America.

You can compete in these great championship events:

- AEROBATICS — 4 PAMPA classes, Old-Time Stunt and Classic stunt!
- COMBAT — 1/2-A (high-performance), 80-mph, Vintage Diesel!
- NAVY CARRIER — Profile, Class I, Class II and .15 carrier!
- RACING — Mouse I&II, Rat, Slow Rat, Goodyear, NW Goodyear, NW Sport, NW Super Sport, Clown and Quickie Rat! Separate trophies for best .15 rat and best novice Clown!
- SCALE — AMA Precision, AMA Sport Scale and Profile Scale!
- SPEED — 1/2-A, 1/2-A Proto, A, B, D, FAI, Jet, Formula 40, .21 sport, .21 Proto, NW Sport Jet!
- JUNIOR/SENIOR EVENTS — Northwest Sport Race, Class I Mouse Race!

Enjoy The Regionals at Albany Municipal Airport!

Smooth paved surface ... Ample parking ... Camping and RV space ... Rest rooms
Hobby vendors ... Static model display ... Food concessions ... Motels and restaurants nearby!

TROPHIES ... MERCHANDISE PRIZES ... EVENT CHAMPIONSHIP TROPHIES

*Albany Municipal Airport is alongside Interstate 5 in Oregon's Willamette Valley
Northbound, take Exit 234. Southbound, take Exit 234A*

Check the back of the flyer for schedule and rules details.

Saturday night swap meet and pizza feed!

Swap meet 5 p.m.- 9 p.m. \$5 table rental, \$1 admission. To rent tables, contact
Bob Stalick, 5066 N.W. Picadilly Ct., Albany, OR 97321 freeflyer@aol.com

Contest Director Craig Bartlett, 205 N.E. Cedar Lane, Corvallis, OR 97330
(541) 745-2025, e-mail sraigbart@yahoo.com

The Northwest Regionals are brought to you in part by
Eugene Toy & Hobby, (541) 344-2117, www.eugenetoyandhobby.com

The Northwest Control-Line Regionals

Albany Municipal Airport, Albany, Oregon

SCHEDULE OF EVENTS

<u>FRIDAY</u>	<u>SATURDAY</u>	<u>SUNDAY</u>
Speed (all classes) Noon-5:30	Speed (all classes) 8:30-5 p.m.	Speed 8:30 to noon
Carrier (all classes) Noon-5	Carrier (all classes) 9 a.m.	Precision Aerobatics 8:30 a.m.
Vintage	Old-Time Stunt 9 a.m.	Carrier (all classes) 9-4
Diesel Combat 10:30 a.m.	80mph Combat 9 a.m.	Scale static judging 9 a.m.
Northwest Goodyear Noon	Mouse Race I (Jr.-Sr.) 9 a.m.	1/2-A Combat 9 a.m.
Mouse Race II 2:30	Mouse Race I (Open) 9:30 a.m.	AMA Goodyear 9 a.m.
Slow Rat Race 4 p.m.	NW Super Sport Race 11:30 p.m.	NW Sport Race (Jr.-Sr) 11 a.m.
	Classic Stunt 1 p.m.	NW Sport Race (Open) 11:30 a.m.
	Rat Race 1 p.m.	Scale flights Noon
	Clown Race 2:30 p.m.	Quickie Rat Race 2 p.m.
		Contest ends at 4:30, award ceremony at 5 p.m.

SCHEDULE NOTES

Registration Friday 10 a.m.-5 p.m., Saturday and Sunday 8 a.m.-noon.

Absolutely no engine running before 8 a.m. any day.

RULES INFORMATION

- AMA events are per **2002-2004 rule book**, except as noted below. **Know the rules!**
- Official Northwest Rules will be used for the following events: *NW Sport Race, NW Super Sport Race, NW Goodyear, Flying Clown Race, .15 Carrier, 80-mph combat, Nostalgia Diesel Combat and Northwest Sport Jet Speed. Quickie Rat will use NCLRA rules.* For complete rules, write John Thompson, 2456 Quince St., Eugene, OR 97405, JohnT4051@aol.com. **Not knowing the rules is no excuse — get a copy now!**
- **COMBAT** — 80mph and 1/2-A double-elimination; Diesel five rounds if time permits. *1/2-A combat will be flown on 42-foot lines, starters OK.* **FLYAWAY SHUTOFFS required in 80mph: Failure of a shutoff results in disqualification from the event.** Be sure that yours works!
- **RACING** — *1/2-A Mouse Race Class II* will use contest-supplied 10% nitro fuel. .15 rats welcomed in AMA rat race; a special "Best .15" trophy will be awarded. A special "Best Novice Clown" trophy will be awarded.
- Precision Aerobatics Model Pilots Association rules will be used for *Old-Time Stunt* and *Classic Stunt*.
- **Safety thongs required in all events.**
- Contestants may at some times be required to assist in timing or judging.

OTHER INFORMATION

- AMA or MAAC membership required for all participants. AMA membership available at registration.
- Only participants and officials allowed in flying areas. All others must stay outside roped-off or restricted areas.
- Absolutely no alcoholic beverages on flying field during meet hours.
- Awards — Trophies and merchandise through third place in each event and age grouping, and first through third place. Event champion trophies for each category!
- **Product vendors contact Contest Director for permission and site info.**
- Primitive camping allowed on site (no hookups). Get directions from contest officials. Commercial camping/RV locations nearby.

FOR MORE INFORMATION, CONTACT:

Contest Director Craig Bartlett, 205 N.E. Cedar Lane, Corvallis, OR 97330 — (541) 745-2025
e-mail sraigbart@yahoo.com

The Northwest Control-Line Regionals are sponsored and produced by the Northwest Regionals Management Association in association with *Flying Lines* newsletter and Northwest control-line clubs.

Fast Laps

Notes on Racing by John Thompson

Safety is always a high priority in competitive model aviation, no more so than in racing, where planes are whizzing by at high speeds near pit crews, officials and spectators.

The pits are an especially hazardous place, as planes are landing and taking off at the same time that crews are preoccupied with servicing planes on the ground. If a pilot or a pit crew (or both) is not paying attention — bonk!

Just such an accident at Whittier Narrows in Los Angeles caused a serious injury to a pitman's arm — broken bones and other damage. It would have been worse had not a battery strapped to the arm taken much of the blow.

As a result, the Southern California racing organization, appropriately acronymed SCAR, has adopted some new safety rules for this season. And there has been discussion on the Delphi Racing Forum of some additional safety rules, such as a nationwide helmet requirement.

There's lots of other interesting racing discussion on the forum, too. You can check it out at <http://forums.delphiforums.com/CLRacing/mess ages>.

In case you are planning on attending any contests in California this year, you'll want to know about their special rules, which have been distributed by SCAR's Jim Holland on the SCAR web site. Here they are ...

SOUTHERN CALIFORNIA AIR RACERS 2003 SAFETY GUIDELINES

Statement of Purpose

The intent of these guidelines is to create and promote an environment that encourages competitors at SCAR organized racing events to develop an approach to racing control line model airplanes that stresses safety while encouraging competition and skill enhancement.

Safety Guidelines

1. All competitors must provide proof of current AMA membership before being allowed to practice or fly at a SCAR organized event.

2. All current AMA safety guidelines, Control Line General and Unified Racing Rules will be in effect. Refer to the AMA handbook for these regulations.

3. All pitmen (and assistants) must wear a safety helmet during practice and competition. While any helmet type will be allowed for the 2003 racing season, approved helmets shall be restricted to types that offer side impact protection from the 2004 season on. The Contest Director shall be the final authority for approving specific helmet types.

4. Any person wishing to fly a plane entered in a SCAR organized competition must meet one of the following criteria:

I. Be known to SCAR officials as a competent racing pilot with recent prior experience flying racing control line model airplanes in local, regional, national, or international events.

II. Have made a successful Qualification Flight for each racing class they propose to enter. Qualification Flights shall be made prior to the start of official practice (for each event) at any SCAR organized event and shall consist of the following:

A. Qualification flights shall be monitored by at least one SCAR official. Wherever possible, two SCAR officials shall be present.

Officials shall be positioned outside the pitting circle and inside the piloting circle (when two are present).

B. Qualification flights shall consist of the pilot flying the airplane over the set racing distance for that particular class (heat race) and making the required number of stops. The pilot shall comply with all applicable piloting rules and guidelines (walking the circle, moving to the center of the circle, landings etc.) for the duration of each qualifying flight.

C. Following the conclusion of the qualifying flight, SCAR officials will make a Go/No Go decision for that pilot. Any pilot receiving a "No Go" decision may receive one immediate reflight at the discretion of the SCAR officials.

D. A pilot that is approved to fly a racing class will be able to compete on that day (and at subsequent SCAR events without needing

to make another qualifying flight for that racing class), unless at the discretion of the SCAR official, the pilots skills are such that a qualifying flight will need to be made at the next event, prior to participation.

E. Pilots receiving a "No Go" decision may retest at any subsequent SCAR event.

5. SCAR will maintain a list of qualified pilots and may (at its option) implement a licensing system.

6. A pilots meeting will be held by the CD prior to the start of practice for the purpose of reviewing these safety guidelines and other issues. Each pilot proposing to fly an airplane at the event shall attend the pilots meeting.

7. While airplanes from different racing classes may be allowed to fly together during practice, only planes with similar physical dimensions, airspeed potential and identical line length will be allowed to share the circle.

The CD has the right to limit simultaneous practice use of the flying circle to single classes of airplanes in the interests of safety.

8. All pitting of airplanes will take place with the centerline of the airplane located outside the pitting circle. Failure to follow this guideline will result in a warning being issued, with subsequent infractions being grounds for disqualification from that heat.

9. All pilots are expected to use common sense and courtesy when taking off and landing an airplane. Takeoffs should be made promptly, with the plane climbing steadily to the official racing height. "Skyrocketing Take Offs" are grounds for disqualification from that heat. Numerous "Skyrocketing Take Offs" are grounds for disqualification for the day.

Landings should always be made with consideration to the actions of other competitors who are currently on the ground and/or pitting.

10. In order to provide for a safe separation between all pitting areas, SCAR will adopt the practice of dividing the outer (pitting) circle into six evenly spaced segments. A team competing in a final or heat race shall pit their plane from one of these segments. In the event of a dispute over choice of pitting location, the CD shall randomly assign pitting segments for each heat and assign pitting segments on the basis of qualifying times for finals (#1 qualifier chooses first and so on).

11. With the exception of Mouse I, all airplanes entering SCAR races should be equipped

with functioning fuel shutoffs by the end of the 2003 season. Contestants activating a fuel shutoff for safety purposes during a race in an event that does not allow the routine use of shutoffs will be awarded a reflight at the discretion of the CD.

12. The CD has the authority to stop any race or disqualify any competitor when a blatant disregard of SCAR and AMA safety guidelines is observed.

A PLEA TO PUGET SOUND AREA CL FLIERS

By Steve Helmick

As many of you know the Seattle area CL fliers have been hurting for a contest-quality flying site since the Boeing Space Center was closed and sold, and then Clover Park decided to park buses on the runway that we used for a few years. The Skyraiders, being the only CL club in the Seattle area, has been very lucky to have a couple of guys who had the time and grit to approach the various city and county park departments and other possible sources for a permanent, dedicated CL model flying site, Ron Canaan and Chris Gomez.

In dealing with these agencies, it became apparent that numbers count, and to some extent, where those numbers live counts. We have established a good relationship with several Park Departments and things are looking good. However, it would help a bunch if ALL the CL fliers in the Puget Sound area would either join the Northwest Skyraiders or form a second CL club, perhaps in the North end of Seattle.

A new club wouldn't need to be very formal ... the important thing is being able to say that there's two clubs in the area, and there are all these people who need a flying field. Three clubs wouldn't hurt, either!

Check our website for NEWS (mostly about flying field progress), EVENTS (Club Meetings, Fly-Ins and Contests), MAPS to various legal flying sites and contest venues around the Pacific Northwest, etc. If you have a Contest, Fly-In, or other CL Activity, I would be happy to post it on our website. Include: Who, What, Where, When, and an e-mail or phone number for your contact person! <http://www.nwskyraiders.org>

Steve Helmick is secretary-treasurer of the Northwest Skyraiders. You can contact him by e-mail at sbasser@yahoo.com

From the Hot Head

The *Hot Head* is the newsletter of the Vancouver Gas Model Club in British Columbia.

The January edition of the newsletter reports:

The Vancouver Gas Model Club's Annual General Meeting was held Jan. 11 and the officers for 2003 are:

President: Ron Salo
Vice-President: Dick Postgate
Sect-Treasurer: Gerry Boyd
Free Flight Chairman: Art Lander
Control Line Chairman: Alan Resinger

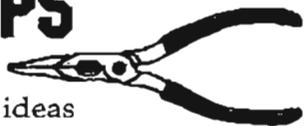
Also approved at this meeting was the addition of the late Doug Hannay and George Moul to the club's Hall of Fame list. Listed below is a current complete list of names of the V.G.M.C. Hall of Fame, in no particular order:

Vancouver Gas Model Club Hall of Fame Members 2003

Frank Rutland, Gogi Goguillot, Frank Boden, Al Jupp, Pat Jupp, Glenn Matthews, Chris Sackett, Doug Hannay, George Moul.

The purpose of the change approved a few years ago, from Life Members to Hall of Fame Members, is so they may continue to be recognized for years to come. All of these individuals at some time have contributed greatly to the Vancouver Gas Model Club in various ways, and should continue to be recognized for that.

SHOP TIPS



Clever building ideas
from *Flying Lines* readers

Oracover Update:

I received a new catalog from Hobby Lobby International, Inc. and was horrified to read they had changed the formula for Oracover. At one time or another I have tried every iron on covering. When I found Oracover my search was over. This was the best covering I had ever used and now they were changing it to a low temperature formula. My first reaction was to buy up every roll of the old formula I could get my hands on, but someone had beat me to it.

I decided to give them a call and ask for a sample of the new - they were great and sent me two rolls.

The project at hand was a Diesel combat model. If the covering will stand up to diesel fuel it will stand up to anything.

The dBat is all balsa with 1/16 inch plywood tips and elevator so it gave a variety of surfaces to test. Also laying on the bench was scrap foam from another project.

I use a Coverite Iron with a sock and had to experiment with the temperature for initial tacking to the structure. Well, I can report that the low temperature formula works great. I could not tell any difference between the Oracover Lightweight original and the new low temperature. I put it over raw foam with out any problem. In fact I put a piece of FasCal next to it to compare the adhesion to foam.

The covering is not brittle; it goes around compound curves and gives a perfect job with little effort. The sample was transparent red and very rich in color. When you order from a catalog, the material color will differ from the actual material. The colors shown on the web site are not true colors, at least not on my screen.

The old solid color Oracover weighed from 1.9 oz. to 3.2 oz. per square yard. The NEW Low-Temperature Oracover solid colors weigh from 1.8 oz. to 2.4 oz. per square yard. The NEW Low-Temperature Transparent Oracover weighs about 1.4 oz. per square yard.

How the NEW Low-temperature Oracover differs from the old Oracover:

It's lighter. It shrinks much more and wrinkles can be more easily eliminated. It is applied at lower sealing iron temperatures. Because of its lower temperature application, it can be applied to wood-sheeted foam core structures without damaging the bond of the wood to the foam.

How the NEW Low-temperature Oracover is similar to the old Oracover:

Both are made of polyester instead of polypropylene plastic. Both have great strength and less rubbery characteristics than other plastic covering films. Both are to be applied onto sheeted surfaces with strokes from the center outward to get adhesion without trapping air bubbles.

Hobby Lobby is the source for the source for the modeling pins Windy has shown in his videos. They now carry two types. The original pin is about 1-1/8" long. These have very narrow shafts and long taper points to prevent wood splitting. The metal shafts are bent 90 degrees inside the plastic end so they can not pull out. The plastic end has a shoulder so these can be used as compression clamps during gluing.

Hobby Lobby International Inc., 5614 Franklin Pike Circle, Brentwood, TN 37027. Phone 615-373-1444. Web Site: Hobby-Lobby.com.

— Buzz Wilson

Nelson Plug problems:

This is for those of you who use Nelson plugs. The Free Flight guys have had problems getting some Nelson plugs to seal properly. The problem is a batch of plugs from 2000 that were not threaded right up to the hex nut.

If you have a plug that won't seal even though it is tight, you have one of the bad batch. The correct solution is to run a 11/32" x 32 TPI die up the threads to chase the 2 bad threads at the top end. Doug Galbreath suggests you can "carve out" the top thread in your head button to beat the problem. This sounds a bit drastic. If you have a number of these plugs, then sending them back to Nelson would be your best option.

This info comes from SCAT free flight news.

— Mel Lyne

Send your building and field tips to Shop Tips
in care of Flying Lines.

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