News of Northwest Control-Line Model Aviation

FLYING LINES

2456 Quince St., Eugene, OR 97404 JohnT4051@aol.com Editor: John Thompson/Publisher: Mike Hazel

New flying field opens

The brand-new paved circle at Evergreen Aviation Museum in McMinnville, Ore. The museum, seen in the background, houses the Spruce Goose and many other famous airplanes. *(Jerry Eichten photo)*

Northwest control-line fliers got great news this fall when the fabulous new paved circle opened at the Evergreen Aviation Museum in McMinnville, Ore. **See Page 7 for details.**

There's good news about flying fields popping up all over. The Richmond, B.C., Rice Mill site is scheduled for repairs and improvements next year. Bill Riegel Field in Salem lost its grass circle this fall but the Western Oregon Control-Line Flyers have plans to develop another grass circle just across the road from the paved circle.

In other exciting control-line news, Joe Just has organized a four-day fun-fly in Waitsburg, Wash. The COLD contest returns to Eastern Oregon next year.

Sounds like 2004 will be a great flying year!

In this issue ...

Round & Round

The Control-Line modeler at large

By John Thompson

Modeling thought for the month:

"If one views one's problem closely enough, one will recognize oneself as part of the problem."

— Ducharm's axiom

A starter was the end of it

I've always been a bit suspicious of using electric starters on CL engines. Maybe it's just that macho feeling that "real modelers can hand-start their engines" that us old-time CL fliers have.

It always seemed to me that ramming that rubber jobby on the spinner and grinding the prop around couldn't be good for an engine.

But stunt folks have been using starters a lot lately and nobody ever seemed to have any problems, so I've been using one now and then myself. Usually, I try to hand-start, but if the engine's a little cranky from being cold, etc., I'll grab the ol' Sullivan and give 'er a spin.

Well, an experience this fall confirmed some of my fears about starters. It's very possibly a fluke, but I've traced the blame for a ruined engine to my use of a starter. I may have done something wrong, which would make it "operator error." Or it may just illustrate the hazards of using artificial means to start our delicate engines.

Here's the tale:

The Fall Follies was a kind of cold, wet, miserable weekend. I hauled my Lite Wave out to the circle for the first official flight. As usual, because I was also administrating the contest, I had not had a chance for a test flight.

I had burped the engine on the sidelines, but given the cold, etc., when it was time to start my official flight, there was no discernable bump. The O.S. .40 FP in that plane usually starts pretty easily, even when it won't show a bump, so I shrugged, waved "hi" to the friendly judges, and flipped away. No answer from the O.S.

Well, the clock's ticking, so I grabbed the ol' Sullivan starter and gave 'er a spin. First spin, and the engine didn't start. I backed off and flipped the prop once or twice, just to see if there maybe was a bump now. Oooh, something does not feel right. Stiff. Not stiff like flooded, just stiff, like binding. Another debacle in front of the judges! Pitman Mike and I looked at each other, frowned and wondered what the heck was up.

Well, the clock was ticking, so I rammed the ol' Sullivan on the spinner again. This time the engine fired right up, and seemed to run fine. Mike and I looked at each other, shrugged, and I headed off to the handle. The flight was fine (for me — the usual 442.5 score!).

However, after taking the plane to the pits, I flipped the prop again. *Still stiff!* Whatever had come up at the moment of that first spin by the starter had not gone away.

I was busy running the contest, so did not have time to tear anything down and look for the cause. Next official flight, it again required the starter, but despite being stiff, the engine started and ran.

I didn't think about this again until I went out for Sunday flying a couple of weeks later. The engine was still stiff, but started with the starter for the first flight — and, when still warm, one-flip started for the second flight. But it remained stiff, despite my hope that it would loosen up.

I theorized that the stiffness could come from any number of things: Maybe the crankpin had been driven against the backplate. Maybe the crank or the thrust washer had galled. Maybe the spinner backplate was rubbing against the front of the plane, though it didn't appear to be.

So I took the plane home and tore things down, testing for the bind at each stage.

Prop and spinner off, still stiff. Engine removed, thrust washer off, no help. Backplate off, no trouble there. Disconnected the crank from the rod and the crank spun freely; no galling. Finally, I removed the piston and liner and — bingo — very tight. It took considerable effort to get the piston up into the liner and down again.

Hitting that engine with the starter had damaged the piston/liner combo. Must have knocked one or the other out of round, I guess.

I considered trying to re-lap the p/l to a new fit, but decided to retire the engine and replace it with another I had on hand.

I did learn something, but only part of the mystery was solved. I know what happened, but not exactly why. Or how to prevent it from happening again. I hope somebody will have an idea about this and write a *FL* article explaining it. It's something we could all learn from.

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

Jan. 1, 2004.

Polar Bear Fun Fly, Rice Mill Road Park, Richmond, B.C. For info, contact Bruce Duncan at a.b.duncan@shaw.ca. Sponsored by Vancouver Gas Model club.

Jan. 31-Feb. 1

Northwest Model Expo, Western Washington Fairgrounds, Puyallup, Wash, 9 a.m. to 5 p.m. Saturday, 9 a.m. to 4 p.m. Sunday. Manufacturers, vendors, exhibitors, model displays, live demos, swap meet. For information, contact Bob Brownell, (253) 847-5721, expoinfo@nwmodelexpo.com. For swap meet reservations, contact Don Sweasy, (253) 445-4763. Sponsored by Mount Rainier RC Society.

May 28-29-30

Northwest Control-Line Regionals, Albany Municipal Airport, Albany, Ore. Full slate of AMA and Northwest CL competitive categories in the 33rd annual running of the West's biggest CL contest. For info, contact *Flying Lines*. Sponsored by Northwest Regionals Management Association and *Flying Lines*.

July 31-Aug. 1

Western Canada Stunt Championships, Rice Mill Road Model Park, Richmond, B.C. For info, contact Chris Cox, (604) 596-7635, e-mail ccox1@telus.net. Sponsored by Vancouver Gas Model Club.

Sept. 4-5

Can-Am Speed Championships, Upper Coquitlam River Park, Coquitlam, B.C. For info, contact Bruce Duncan, (604) 513-9450, e-mail a.b.duncan@shaw.ca. Sponsored by Vancouver Gas Model Club.

Sept. 16-19

Great Intergalactic Fun Fly, Waitsburg, Wash., in conjunction with Lions Salmon Bake and Waitsburg's annual Buffalo Feed. For info, contact Joe Just at ukeyman@justice.com

Best wishes for ailing NW flier

Ron Salo, of Surrey, B.C., a Northwest speed and racing flier and a member of the 2004 Canadian speed team for the world championships — and all-round control-line good guy — has recently dealt with extensive medical difficulties.

We don't have all the details, but the problems involved major surgery and extensive time in hospital intensive care and critical care units, and a long recovery is involved. Latest word is that Ron is on the road to healing.

At this writing in early December, Ron is reportedly not able to deal with all the messages he has received, but no doubt he will appreciate our best wishes. Ron's address is:

Ron Salo, #111-7838, 120 A St., Surrey, B.C., CanadaV3W 5E6

Thanks to Bruce Duncan for the info.

Clip this out and give it to a new CL flying friend!

Flying Lines subscription form

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The Flying Flea Market

Classified advertisements — FREE for *FL* subscribers

FOR SALE: Nelson N36 Combat; new style with 1/4x28 prop shaft. Used only in a few matches, still like new. $175 plus $5 shipping. Gary Harris, (503) 324-3450, e-mail harisgaris@comcast.net.

CONTROL-LINE SUPPLIES: Just arrived: Top Flite Flite Streak ARF: Durable balsa/ply construction covered with MonoKote — a classic is reborn. Regular price is $89.99. Special for *Flying Lines* readers, $69.99. Also: Top Flite Nobler ARF: Wood covered with MonoKote, painted fiberglass cowl, leadout already installed!! Regular price is $139.99. Special for *Flying Lines* readers, $119.99. Remember — We ship UPS daily. Eugene Toy & Hobby, (541) 344-2117, www .eugenetoyandhobby.com.

COMBAT SHUTOFF: H&R MKIII Combat Fuel Shutoff now available. Sliding bellcrank design. CNC milled 7075 anodized and hard coated aluminum. Brass bushing and line buttons. 3" for Fast and 80MPH, all new 2" for F2D and 1/2A. $25 plus $5 S&H. Contact Jeffrey Rein at jeffrey.a.rein@boeing.com, or (425) 823-6053.

VIDEOS FOR SALE: Videos of the 2003 Vintage Stunt Championship and the 2003 Northwest Regionals Precision Aerobatics competition are available for $15 plus $3.85 shipping, each. Videos are 2-hour summaries of the highlight flights, with stills and captions. Available from Bruce Hunt. Call (503) 361-7491 or e-mail at bhunt@swbell.net

DBAT HELP OFFERED: I can provide assistance and advice on Diesel Combat engines,planes and equipment. Mel Lyne, (604) 898-5581 e-mail: mlyne@sea-to-sky.net.

SPEED INTEREST GROUP: Join the North American Speed Society. USA and Canada dues are $25 annually, membership includes "Speed Times" newsletter. Write to: NASS, P.O. Box 371, Fenton, MI 48430.

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

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.

WANTED: K&B 4.9 engines and parts. Craig Bartlett, (541) 745-2025.

FREE: Old model magazines, in lots of five. Free plus cost of shipping, unless I deliver them to you at a contest, then free. Contact John Thompson, JohnT4051@aol.com

FASCAL: Back by popular demand. The ultimate combat plane covering, good over open frame or foam. Available in full 27"x150' rolls. Contact me for price and availability info. John Thompson, JohnT4051@aol.com.

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.

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 clflyer@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.

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

2003 F2A Speed Team Trials

Cincinnati, Ohio, September 20-21

By Will Naemura

The F2A Speed Team Trials took place on September 20 and 21, 2003 at Lufkin Field in Cincinnati. The Buzzard CL club held the competition with the help from many dedicated people. Bill Lee was the on hand with his wife Shirley and their nice motor home. One can tell that Bill is enjoying his retirement as they had a great time with all the competitors and friends.

As mentioned, the TT took place on the weekend of September 20 and 21, but in reality it started soon after the previous World Champs. After a WC, there is always the "look forward" to the next Champs. The agony and disappointments of the Champs makes you look forward to what will be different at the next competition - the commitment to be better prepared and the hope to realize the magical performance that will characterize your modeling achievements for years to come.

But, this hope is unsure of for an entire year as the focus is on the selection process to even be on the team. It keeps that hope in check because one may never be able to compete in the next WC until the Team Trials is over. So, the year of agony, uncertainty, hope and focus is shifted to a certain but yet unset date sometime in the fall of the next year. And when the TT happens — all the posturing, pretending, secrets will all be laid on the table and reality hits. So, you either perform or you go home and look forward to the hope of the next team trials.

The Northwest team of Jim Booker, Will Naemura and Todd Ryan came out victorious in team placing. It has been a long time since all team members have been from one area and close enough to work together as a team. The TEAM is much stronger than just the sum of the parts and hopefully the performance will be realized at the WC.

Rather than go through a detailed review of the competition, I will focus on some of the highlights and events as they related to the Northwest Team. If you want the complete results from the trials, go to Bill Lee's web site, www.wrlee.com/2004CLWC/F2ATeamTrials/F2ATTResults.html and www.wrlee.com/2004CLWC/F2ATeamTrials/F2AFlights.html.

The 2004 United States FAI speed team (from left): Todd Ryan, Pasco, Wash; Jim Booker, Arlington, Wash, Will Naemura, Portland, Ore. Kneeling: Junior member Scott Matson. *(Will Naemura photo)*

This year, the F2A Trials were ripe for some unexpected changes. For years, the team has been made up of the same members with the performance remaining relatively the same. With the international competition going faster every year, the U.S. team has been going further down in the standings. The past two years has seen a marked improvement of equipment that would perform if handled correctly. With the availability of this equipment and several relatively new F2A competitors, the possibility of a team member change was highly probable but maybe not foreseen.

The trials are run in rounds where each competitor flies right after one another. Two rounds are run each day with the first round at 10 a.m. and the second round at 1 p.m. For each round, each competitor can have two attempts. The second attempt is called a refly and is permitted if the clocks are not started on the first attempt. Some competitors choose to use their first attempt to see if all their adjustments are right. They do not enter the pylon, so the clocks are not started. Then they refly to try to clock an official attempt. In total, there are four rounds; two attempts per round and the average of two best flights are used for team placing. This is a different format than at the WC where there are only three rounds (one per day), two attempts per round but only one

flight is needed for individual and team placing. The strategy is different at a team trials than at a WC. At the TT, you can come off the unreliable edge of ultimate performance and tune for consistency. Since it takes two flights to average the time for a team place, then it is not the fastest flight that necessarily can win the TT.

Even though Jim Booker has been a longtime modeler, he is relatively new to the F2A world. But, within the last two years, he has learned more than many people have learned in a lifetime. He imports and distributes the Profi F2A engines, airplanes and support equipment. He has learned how to make them run fast and consistent and has helped many people around the world to setup and compete with this equipment. Jim's consistency was evident in his two great runs of 12.37 (291kph) and 12.34 seconds (291.8kph) to put him into first place. His runs were significant in that he is now the second fastest person in the world that uses the Profi equipment! The fastest is the four-time world champion, Louis Parramon from Spain , and Jim has the same results as Hugh Simons, the Australian F2A record holder.

I posted the fastest time of the competition at 12.15 seconds (296.3kph). This was better than my AMA record of 12.19 seconds, but I did not have a fast-enough second flight to post a record. I was using a relatively new Sergei Kostin CK engine setup and used a prop that was fast and relatively easy to run. On paper, Jim and I tied on a two-flight average time, but Jim had a faster third time so he was awarded first place.

Todd Ryan had the most adventurous time getting on the team. This was his second F2A team trials, so he had a previous taste of the uncertainty of this event. He was also using Kostin CK equipment that was newly acquired in our training visit to Moscow a month earlier. His practice days were great with an easy 12.30 time on his No. 1 model and a fast but unstable flying No. 2 model. On the first round, he went lean because the air was different than on the practice days and he did not adjust properly. He posted a 12.66 seconds (284.4kph), which was still a good time compared to the rest of the competition. The second round is where it got interesting. On take-off, his control system locked in full up and he did a wing over coming out of the dolly. He saved it, managing to shut it off while G-lining it to keep if off the ground. But, with no power, it hit the ground and had a "catastrophe" as the Russians would say. Then on his refly he flew his backup model that was a handful to fly but with his team race flying ability, he got the flight in at a respectable 12.55 seconds (286.8kph). This put him in third place after the first day of the competition. During practice that night, his second model skipped out of the dolly and shaft run, destroying his entire second model. Now, he had two destroyed models and was on the bubble for a third place team placing. After dinner and inspecting the models, it was determined that the first model could be repaired for the next day's third round. So, at 11 p.m., we started the work for the night with the uncertainty of success.

During the mornings inspection it was noticed that the model's shutoff was not working, so the model had to come apart again. Using the first attempt of the third round for a test flight, the refly was a perfect flight with a spectacular 12.31 seconds (292.5kph) result. This was a true miracle and it put him in a solid third-place finish with the second-fastest flight of the meet. Not knowing at the time, but Todd needed to have this flight as Carl Dodge's fourth-round flight would have beat Todd if he did not get his good third-round flight in. Needless to say, the team trials was a real adventure for Todd.

Scott Matson and family also had an impressive trials. As a junior, he was flying his first TT. I was impressed with his flying ability and for the good clean flights he got. He actually set a junior F2A AMA record (13.27 seconds, 271.2kph) and he should have good success at the WC — especially since it is in his backyard at Muncie.

As always, the Team Trials are filled with many memorable moments. F2A is an event that gives you hope when things work right – then it throws you curves that make you realize that we are just beginning. For the weekend of Sept. 20 and 21, the Northwest Team had it figured out. The hope is that the U.S. Team can figure out the difficult humid air in Muncie and post some good results.

There has never been an easier time to get involved in F2A. With the great Profi equipment being imported by Jim Booker, all the equipment is available for starting your F2A adventures. With the WC and international competition, F2A can take your modeling experience to another fascinating level.

Aviation museum adds model flying field

■ Visitors to McMinnville Aviation Museum now can access DeAlton model flying site!

By Jerry Eichten

A new model facility is ready for action in McMinnville, Ore. About 40 miles southwest of Portland, DeAlton Field is adjacent to the Evergreen Aviation Museum on Highway. 18. DeAlton Field is home to a new club of control-line and radio-control enthusiasts. Featuring a paved control-line donut and a 500' x 24' paved runway for radio-controlled aircraft, the site is available for use by AMA members.

Over two years in the works, the model park is a cooperative effort between the museum, an aviation-minded donor, and modelers. Evergreen Aviation supplied the acreage, funding in excess of $70,000 came through the DeAlton Trust, and interested flyers formed a new club called TEAM, for The Evergreen Aero Modelers. With its first meeting in April TEAM became an AMA-registered club and members set to work preparing the fields for use.

There were lots of things to do! Members have been very busy putting in over 800 feet of fencing, planting grass, running electrical lines, getting the irrigation system in, planting over 200 shrubs, and organizing the club's activities and procedures. Frequent Saturday morning work parties have been attended not only by TEAM members, but also have attracted helpers from other area clubs who just wanted to be part of the effort!

If you're a visitor and a current AMA member, you may fly for the day with a paid museum admission as long as you sign the guestbook at the museum's front desk. Without a paid admission you may also fly as a visitor by paying $5 and registering at the front desk. TEAM members also sign in each time they fly and display their club card and AMA card at the flying site.

Roger Weeks is president of The Evergreen Aero Modelers, the group that developed the McMinnville RC and CL flying site at the Evergreen Aviation Museum. (*Jerry Eichten photo*)

Club dues are only $20 per year. The DeAlton model field is open from 8 a.m. to 8 p.m. Mufflers are required! Applications for club membership may be made by sending $20 with your name, address, phone number, e-mail address, and a photocopy of your 2004 AMA card to

Dave Bibbee
TEAM Treasurer
26050 N.E. Viewcrest Court
Newberg, OR 97132

The museum's website is www .sprucegoose.org

The new flying field includes pit tables and an announcement board. AMA members can fly on the circle after paying a fee at the museum. (*Jerry Eichten photo*)

Northwest Rules Discussion Corner

Information and exchange of views on regional rules

Time for a vote on official Northwest Sport Jet Speed Rules

In the last issue (No. 195), Mike Hazel presented a proposal for formalizing the Northwest Sport Jet rules, in light of events involving sport jet at the national level.

The Northwest event has operated for several years under provisional rules status — which means that the rules we were using were written up for a specific contest and never voted on by speed fliers in general.

The Northwest rules coordination process calls for such rules eventually to be approved by a vote of the region's fliers. Such votes are conducted via a ballot process facilitated by *Flying Lines*, and once approved, the rules become the standard for all Northwest contests.

The official Northwest rules become the standard for judging record performances, standings, and other regionwide comparisons.

There's a long-standing process for approving new rules or revising existing rules.

Here's how the ballot process works:

- The proposal is presented in *Flying Lines*. (That happened in Issue No. 195).
- Time elapses for discussion of the proposal.
- A ballot is published in *Flying Lines*. Votes are cast by interested Northwest fliers.
- Results of the ballot are announced. Rules are thereafter available by request from the coordinator (currently *FL* editor john Thompson) and are published yearly in *Flying Lines*.

The ballot for the Northwest Sport Jet official rules is in the column on the right. **Now is the time to vote!** There has been some exchange of views informally, but none of that counts as an official vote. Only votes cast in response to the accompanying ballot are official. If you want your opinion on this matter to count, vote now!

Who can vote: Anyone living in the Northwest, defined as AMA District XI and British Columbia.

How to vote: Fill out the ballot below and mail it to *Flying Lines* by Jan. 10, 2004. You can also vote by e-mail to johnt4051@aol.com.

All ballots must include the voter's name and home town. Ballots whose senders cannot be verified will not be counted.

BALLOT

Do you approve of the Northwest Sport Jet Speed Rules listed on the next page?

☐ YES

☐ NO

_____

Name

_____

_____

Address

Western Canada speedsters sweep!

In our excitement to report the Northwest speed fliers' sweep of berths on the U.S. world championship team (Issue No. 195), we neglected to check out the Canadian results. It turns out that three Western Canada fliers well known in Northwest contests swept the Canada trials as well:

Ron Salo of Surrey, B.C., Paul Gibeault of Edmonton, Alberta, and Les Akre of Calgary, Alberta, will represent Canada.

All the more reason to be on hand in Muncie in 2004. Good luck, all six Northwest fliers!

NORTHWEST SPORT JET SPEED

All A.M.A. rules from the control line general and control line speed sections shall be applicable, except as follows:

1) AIRFRAME:

1.1 Any design configuration and construction method is permissible so long as the contest management considers the model to be safe and sound.

1.2 The engine and engine mounts shall receive a ***35*** pound pull test.

1.3 The control system must be mounted external to the normal aircraft contours. This includes the bellcrank, leadouts or control lines, pushrod, and elevator horn. No more than one inch of the leadouts or control lines can be enclosed by the leadout guides.

1.4 The maximum weight of the aircraft in ready-to-fly condition, ***including*** fuel shall be 40 ounces.

2) LINES & PULL TEST:

2.1 The model must be flown on two single strand steel control lines of .018 minimum diameter. The distance between the centerline of the fuselage and the center of the control handle grip shall be a minimum of ***70*** feet.

2.2 The model and entire control system, lines and handle shall receive a ***75 pound*** pull test.

3) ENGINE:

3.1 The allowed jet engines are the Dyna-Jet, Bailey Sport Jet, and the O.S. II.

3.2 It is required that the engine shall be in stock condition internally. No material may be removed or added to the engine, except as follows:

a. Engine head: Part or all of the head fins may be removed. Holes may be drilled into the head for purposes of engine mounting. Valve face may be lapped as needed for routine maintenance. Engine cowling is permitted, but the front of the cowl must be behind the intake throat.

b. Flowjector: Fuel feed holes may be drilled out to larger size, or filled and redrilled. (holes allowed in original location only). A short piece of metal tubing may be installed into the tire pump connection to facilitate quick removal of the air supply hose. Alternatively, the threads on the tire pump connection may be filed off, or filled in so as to make a smooth surface to facilitate quick removal of the air supply hose.

c. Metering jet: Any metering jet may be used, and may be located anywhere between the tank and the flowjector.

d. Tailpipe: A stock tailpipe with ignition plug in place must be used. (starting ignition may be by means of a starting probe). Repaired tailpipes are permissible, provided stock dimensions have been faithfully adhered to. The front surface of the tailpipe (combustion chamber screw ring) and the lock ring may be lapped.

e. Reed valve: Any commercially available valve may be used.

3.3 Interchanging of parts between the above listed engines is permissible.

3.4 Fuel delivery to the engine shall be by suction, no pressure feed is allowed.

4) FUEL:

4.1 Fuel used shall be the A.M.A. formula: 80% methanol & 20% propylene oxide.

5) OTHER:

5.1 Timing will be for 1/2 mile (***6 laps***).

5.2 All other general rules for control line speed flying (attempts, number of models, competition flying from pylon, timing of flights, etc.) shall be applicable.

5.3 Builder of the model rule is not applicable to this event.

5.4 Entrant of the model shall either be the pilot, or shall start the engine.

News from the Northwest Skyraiders

Editor: **Dave Gardner,** 15107 SE 145th Pl., Renton, WA 98059 — Phone: (425) 226-9667 — E-mail: DGardner55@msn.com

Skyraiders Web site: www.nwskyraiders.com

MODELING ACTIVITIES:

The website address is: http://www.nwskyraiders.com. Steve Helmick has nearly all the local and regional contest activities available, including the following Skyraiders' and other local noncontest activities.

Saturday, January 17, 2004: Northwest Skyraiders Annual Banquet

5 p.m., at Barnaby's (same place as last year). West Valley Highway at Strander Blvd. Food will be ordered straight off the regular menu. Arnold says: "Be der, haf fun. I'll be bock." E-mail gomez580468@earthlink.net.

Jan. 31 & Feb. 1: Model Expo at Pierce County Fairground, Puyallup.

See the vendors, the swap meet, help at the club booth, do CL Flying demos outside. E-mail gomez580468@earthlink.net.

ACTIVITIES REPORTS:

Nov. 29 (Saturday after Thanksgiving): Greg Tutmark's Swap Meet

Lynnwood Petosa's Restaurant: This was a fairly successful swap meet, within the limitations of the location. It's a great place for selling ... in the dim lights and all ... VBG .. and the tables are a bit small ... but it seemed to work out for most everyone ... and there was a good turnout! It may be starting to outgrow Petosa's!

FOR CONTEST DIRECTORS AND GENERAL KNOWLEDGE:

Dick Salter has moved from Seattle to the country! In case you didn't know, Dick is the Contest Coordinator for our District (AMA District 11 or XI, depending on your Roman knowledge) for Control Line and Free Flight activities. All contest sanctions are sent to him for review of schedule interferences. His new address is:

Dick Salter, 3140 184th Ave S.E., Tenino, WA 98589, phone (360) 357-4347.

THINGS FOR US ALL TO THINK ABOUT...FOR THE GOOD OF OUR HOBBY AND ACTIVITIES:

Continued success for the Skyraiders (that's all of US!) depends on keeping an interest in our hobby/sport, promoting it, and having a place to do it. We need to think about the schedules for next year, and what/who will be making them work. In addition, Ron Caanan has this current report on flying sites:

First of all let me bring everyone up to speed on our flying sites as of December 2003.

Arlington is still open for our use with no restrictions as far as I know. You may fly there daily.

Clover Park is open for our use on weekends, please let security know that you are there.

Ft. Dent is closed to our use. They are building an indoor soccer field on top were we were flying.

Emerald Downs; Seattle Auto Auction leased the space for another year.

RiverWalk: I just received a phone call from Lori Flem of the Kent Planning Dept. She informed me that the Corps of Engineers has not received funding for RiverWalk for the year 2004. Estimated time of construction has been moved forward to the summer of 2005. We can continue to use RiverWalk as we have for the past five years. We are still shown on the parks development plan as the only users of the site when completed. However, we will be giving a flying demonstration at RiverWalk this spring when the city council and other interested parties, (us included) will take a walk through of the site with the Corps of Engineers.

Carkeek Park: Seattle Parks has extended our use permit for this site for 2004/2005. They would like to see it used more if we are to keep it. As some of you may know this site was overgrown and was cleaned up for our use two years ago. At one time it was a major site for the Seattle Skyraiders. You have paved parking just a few feet from where you fly, benches and tables to use right next to the circle, trash cans etc. The carrier deck was put in by the club back in the 1960's as was the 10- ft. paved center. There are NO noise restrictions as this site is quite distant from any housing and is right next to the beach (Puget Sound 20 feet away across the railroad tracks)

with woods on three sides. Granted, it is only one grass circle but what the heck, there is a paved carrier deck to take off of. The Parks Dept. keeps the grass cut short.

Orting site: This site belongs to the Orting Lions Club. It is used mostly for soccer but has more than enough room for several circles. You can park and get out of your car and set up right next to the parking area if you wish. It's kinda like Arlington in that there is no designated area to use. We suggest that you use the Northwest end of the area that is farthest from the soccer fields. There are a few RC fliers that use the site off and on. I couldn't find out who to talk to about this site. The one guy I talked to really didn't give a darn if we used it or not.

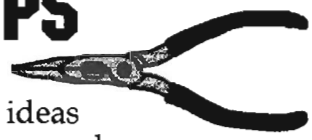
Proposed Valley Regional Model Park: As was reported at the last meeting we have made contact with Renton Parks Advisory board with good results. They have agreed to join with Kent and Auburn to look into a joint flying site. I have contacted Jeannie Zeitler of the Covington Parks Dept. and have discussed this with her. She thinks it would be a good idea and is passing it on to her boss Dave Erikson for action. He will contact me this coming week. Jeannie knows Lori Flem at Kent Parks and had talked to her about a joint venture with our club and the other cities. We will still have to talk to the parks board like we have with Kent and Renton and show them our planes and plans. Our insurance from AMA seems to have been the deciding factor for Covington to look at our proposal.

King County Parks: Well, here goes another attempt to make some headway with County again. I was directed by Robert Nunnenkamp, King County parks director, to contact T. J. Davis from their office who works with partnership agreements on closed parks and vacant land for joint use with the cities in the area. This is the first step in getting the county involved with a regional site for us. By the way guys I am doing this at the request of Lori Flem who set up the dog walk park for the area with county and the cities. She has a plan on how to go about this and I am following her suggestions.

A DIFFERENT APPROACH TO STUNT!

If some of you don't think we, as control line flyers, are getting enough good press and good plan articles, take a look at the latest (January 2004) Model Aviation. Bill Netzeband (Wild Bill) has the BareCat 650, an offshoot of the 1/2A BareCat campaigned by Bob Baron. If ya don't like to fool around with flaps, here's a design which will do it all without them — and you can get a heavy dose of Wild Bill's design philosophy as well!

SHOP TIPS



Clever building ideas
from *Flying Lines* readers

Quick stunt: Just a quick note about some products advertised in *Stunt News* that are available for our use. For those of us who have a little extra money to do so, its from Tom Morris and his Tom's Building Service. I ordered an assembled wing and landing gear with wheel pants, plus one of his complete rod end control linkage set ups for a classic plane I'm building. Its the Cavalier of John Simpson's design. I already had built the fuse and tail surfaces, but just couldn't find the time to get a wing built. I called Tom up and told him what I wanted and 5 days later everyting arrived at my doorstep. This is his Millineum Wing with the strip ribs, like an I-beam, but sheeted leading edge with cap strips. It has the bellcrank and push rod in it with leadouts and adjustable leadout guide. Just a little sanding and its ready for dope and finish. The landing gear is all bent to spec and wheel pants are rough shaped, but not a lot to do, other than finish them and assemble. Wheel were even included. The shipping was one part that I was concerned about, this is a fully assembled wing at 50 inch span. Tom makes a really neat little shipping crate that the wing is shipped in and its all wrapped in bubble wrap, arrived in perfect condition.

So, for anyone that is interested in going this route, I'm here to tell you that its a great way to go. Especially considering the alternate foam wing setup that some are offering, this is by far the better deal. The finished weight is 1/2 that of the two sheeted foam wing halves. I won't put the weight down on paper, just take my word for it. Its the lightest, strongest and straightest system anyone could ask for. Reasonable price as well.

— Gerald Schamp

No-slip sanding: When you can't block sand, take the chosen piece of sandpaper and laminate a piece of 180 grit sand paper back to back. This will keep the sand paper from moving around in your hand.

— John Clemans

Spokes, man: Forget that tricky Z-bend or the complicated solder job when attaching a pushrod to the bellcrank. Go to your local bike shop and buy some bicycle spokes. They have a ready-made keeper at one end. For small planes or one end of an arrowshaft pushrod, just cut off the excess. For longer pushrods, use a rod coupler to solder the spoke to your pushrod. I've used dozens, and never had one fail.

— John Thompson

Send your favorite "secret" method to Flying Lines *for inclusion in "Shop Tips." Or expand it into a full-length article and get an issue added to your subscription. What a deal!*

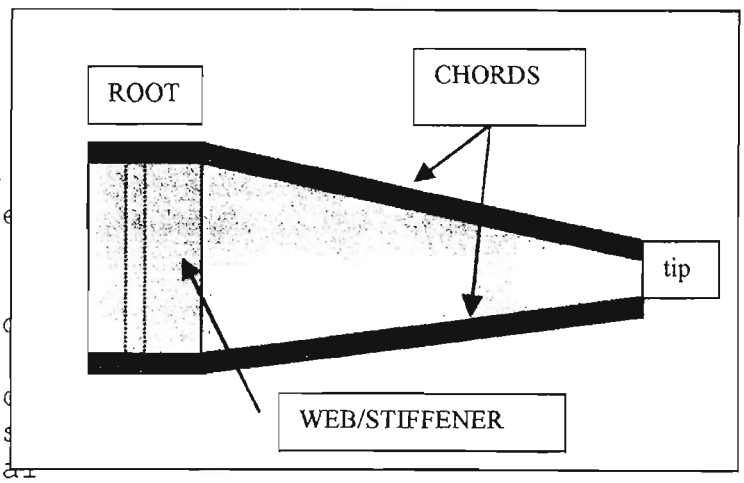
GREAT SPAR

By Orin Humphries
9/4/2003

THE BEST SPAR I EVER SAW, PART 2

Recall the central theme of all this; "Something is strong so long as it holds its shape". I don't recall just who first published this design. It may have appeared in RCM or some such. When I saw it, I couldn't get over how elegantly simple it was.

Remember how I-beams used in railroad trestles have all those stiffeners running vertically on the beam web? They do two things. They keep the web from buckling, and they kee the chords from getting waves in them.



That's what the core this beam does. It is made of soft, light material suc as styrofoam or the lightes balsa you can buy on specia order.

The upper and lower chords are the usual firmer balsa. The web/stiffener not only keeps the waves out of the chords, but it is its on web supporting structure. The chords get support over 100% of their surface instead of just periodically. Imagine that the web is a thin slice of this filler running along the center of the beam, shown in dotted lines above. The web, then, is supported over 100% of its surface, as well.

The reasons for the lightest possible weight for the filler are these: (1) the forces in the web are very low, compared to those in the chords, the web thus needing no substantial strength, and (2) given that, efficiency comes from the strength-to-weight ratio. The lighter it is for a given strength, the better.

How would I build a wing with such a spar? One way would be to assemble the lower chord and web, and then notch the web for the ribs. Each rib would have a corresponding notch. After the ribs were installed, I would drop on the upper chord. If I were building a multi-engine model or a Carrier model, I would use the hardest available balsa for the chords. I don't think spruce is required. For other models medium to medium-hard balsa is enough. How many parts does this spar have? ☺

Stunt stuff

NOTES ON PRECISION AEROBATICS
FROM CHRIS COX

Tuned Pipes on a Budget?

Switching from the standard 4-2-4 setup (i.e. Fox .36 Stunt) into the realm of tuned pipes can be a little intimidating. Personally, I can take a fairly simple project and before even starting, convince myself that there is no way I will ever be able to finish it. I suspect I'm not that different from most people however, and the fact of the matter is that once I actually start a new project, with help, things generally progress pretty well.

So, if you are considering trying a tuned pipe for the very first time, do not dismay, these things work great and are easy to use. You CAN do it! I will not make brash statements like "you will never experience a bad engine run again" or "this is guaranteed to move you into the "Top Twenty" list. Heck, you might not like it, but on the other hand, most do. Of course, until you try, you'll never know what you're missing.

It is not my intent to talk about how to install and adjust a tuned pipe set up right now. That said, write or e-mail me and I'll try to answer any technical questions you may have. What I would like to offer is a super engine option that is not likely to make your significant other cringe (too much). As it stands right now, there are two manufacturer's who offer superb stunt engines specifically designed to be run on tuned pipes. One being Randy Smith at Aero Products and the other is Richard Oliver, producer of the RO-JETT engine. No question, if you want the latest and greatest, these are the guys to talk to, but like all good things, it does come at a cost. Price range (note, all prices quoted are approximate and in Canadian dollars) for these engines (.40 to .65 ci) is between $420.00 and $560.00. Another terrific engine, although exceedingly more difficult to locate, is the out of production OS (.40 and .46) "VF" series. They are on the heavy side, but their consistent, smooth and no fiddling necessary characteristics more that makes up for their obesity. You can try posting a "wanted ad" at your local hobby shop for a used VF. I have first hand knowledge that this has worked. Price range will probably be between $100.00 and $200.00. Oh, don't forget, you will also need a header pipe and the pipe itself to connect to the engine, running around $42.00 and $140.00, respectively. Hmmm, a little math, 560 plus 42 plus 140 equals ... ouch!

OK, so what is this super engine option I mentioned above? Would you believe the Magnum .36 XL! I had the pleasure of flying Phil Granderson's "Diva" while attending the Golden State Stunt Championships in Clovis, California, last October. The Diva is slightly smaller in size (640 sq. in) than the more typical 700 square inch jobs. Phil did not want to get into the large engines and really admired the OS .40 VF engine runs, so he started testing some currently available .40's. During this testing, Phil came across the Magnum XL .36. The engine weighs less than 10 ounces, makes similar, if not more power than the .40 VF, and if that is not enough, cost only $98.00, brand spanking new! With no modifications whatsoever, the engine run is virtually identical to the VF, sort of like a soft 2 stroke - hard two stroke - soft two stroke (2-2-2). Very consistent and smooth, and despite the 32C temperature, it had plenty of power for a 56 ounce Diva. Of course, you will need to replace the RC carburetor with a standard venturi, a wrap around header (the Magnum only comes in a side exhaust version) and the pipe itself. All of these extra's can be purchased from Aero Products. Randy will be able to best suggest the correct venturi size. Phil was running a three blade "Bill Lee" carbon propeller, cut to 10.5 inch diameter and 4.0" pitch at around 11,000 RPM. I really liked this set up and recommend it without hesitation. Let's do the math again, 98 plus 42 plus 140 equals ... Ah, much better!

How did the Diva fly, you ask? Well, quite possibly it was one of the best flying airplanes I've ever had the pleasure to fly. Point and shoot, on rails the whole time, beautiful! Very similar to the Saturn, and that is probably why I liked it so much. It took about a quarter tank of fuel before I was feeling totally at home with it. Diva and a Magnum XL .36, you can't go wrong. By the way, Phil tells me that the Diva is to be published in the AMA "Model Aviation" sometime next year.

The Fox .35 turns 55

By Don McClave

In 1948, the late Duke Fox began producing what became the single most popular model airplane engine ever produced. It came at a time when AMA was only twelve years old and had fewer than 10,000 members, the glow plug was new, control line flying was just beginning to displace free flight as the most popular phase of modeling and stunt was only a provisional event. Because of its excellent running characteristics, light weight and affordability, the Fox .35 soon became the engine of choice for stunt flyers and dominated the event for the next two decades. In fact, the legendary Bob Gieseke won Open Stunt and his fifth Walker Cup with a Fox .35 powered Nobler at the windblown 1979 Nationals in Lincoln, Nebraska – more than three decades after it was first offered for sale!

This year, the Fox .35 is in its fifty-fifth year of continuous production. The factory, originally located in North Hollywood, California, moved to Fort Smith, Arkansas in the late 1950's. Duke and his wife, Betty, have passed away, but their children still run the company. The engine is still produced basically unchanged except for upgrading of some materials over the years. In fact, Fox .35 parts sold today will fit the original 1948 engines! The factory operating instructions that come with the engine describe it as a "modern antique", and it is certainly that. The tooling and materials used in the engine are representative of the late 1940's – early 1950's period when it was conceived and developed.

With the advent of the Old Time and Classic Stunt events, the Fox .35 has undergone somewhat of a renaissance, since it is the only remaining engine from the 1948-1969 period still in production and readily available to anyone at a reasonable price. While there are an abundance of powerful, inexpensive modern engines for sale today which are well suited to powering aircraft of this size, the only way you can really experience what it was like to compete in the Old Time/Classic era is to fly with a Fox!

Convinced? Then get on the phone and order your Fox .35 from either RSM Manufacturing (which distributes the L&J Fox .35 prepared by Larry Foster), or Lew Wollard, who prepares the Silver Foxx .35 (both RSM and Lew Wollard advertise their products in *Stunt News*). The reason for getting hold of one of Larry or Lew's engines is that they assemble each engine from parts that they've de-burred, polished, reworked and hand fitted. In addition, they install a few custom parts (similar to homemade parts used by some competitors in the 1950's). The result is engines that operate more smoothly and develop maximum power. Plus, they're less expensive than if you bought the engine from a hobby shop, ordered the custom parts and put everything together your self. I've used engines prepared by both Larry and Lew for several years now and highly recommend their products to you.

Here are a few simple tips to help you get off to a good start with your new Fox:

- Break your engine in slowly and carefully with a 10-5 or 10-6 propeller cut down to 9" diameter. Either Sig 10% Nitro/25% Castor or Powermaster GMA 10/29 blend are suitable fuels. I use GMA blend myself. Whatever you use, be sure that it has *at least* 25%, and preferably 28-29%, *Castor* oil.
- Construct a 4.5 oz. Uniflow tank (available in kit form from Brodak) with the uniflow pick-up tube located *at least* 1" in front of the fuel pickup tube in the back of the tank and facing into the airflow (do not use muffler pressure). Locate the tank 1/16" below the engine mounts, which is easily accomplished by shimming the engine 1/16" off the bearers. This will equalize the upright/inverted engine run.
- Use an RSM muffler on your Fox. It has exactly the right number of exhaust holes already drilled in it, and is very light. I like to attach my mufflers by tapping the muffler attachment holes on the engine crankcase to accept 6-32 bolts, which makes it a simple matter to attach the muffler without having to drill holes in the cowling. Be sure not to make the bolts too short, because you can strip the holes when tightening the muffler. Mine are 1-

1/4" long.

- Unless the design you are building calls for it, avoid shaft extensions. They add stress to the crankshaft, increase wear on the crankcase bushing, and can shorten the life of the engine. In any event, don't use an extension longer than 1/2" regardless of what the plans call for.
- Start with a 10-6 propeller on your engine. The rpm range on the Fox is pretty narrow, and the pitch on a 10-6 is about right for most installations. The BY&O prop is the best I've found, but a number of people have had good luck with the Top Flite Power Point and other propellers.

After the engine is broken in, the next question is what to build for it? Ideally, a Fox .35 should be in a plane weighing 38-42 oz., with a wing area of about 550 sq. inches or less, and should be flown on lines which measure 60 ft. from the center of the airplane to the handle. Virtually all the popular OTS designs fall into this category, as do most pre-1962 Classic designs. Larger craft, such as the Thunderbird, Cobra, Lark and 1962 Ares can also work quite well with a Fox *if* you are confident of your ability to bring in the completed airplane at the required weight. I won the 1994 NATS flying a 37 oz. Thunderbird in a 28 mph wind, and Paul Walker won at VSC in 1999 with his 41 oz. Cobra – also in windy conditions.

Have fun and drop me a line if you have questions.

Don McClave can be contacted in care of Flying Lines.

Combat Cornucopia

Combat news and views by Mel Lyne

Fox .36X Combat Engines, Keeping Them Alive (Part 6)

The Mk VI along with the Mks III, IV and V come stock with a deck height between .025" and .028". This can be good for 80 mph operation but is way too low compression for producing big horsepower for Fast Combat. To clarify the term "deck height", this is the dimension from the top of the piston to the bottom of the head button at TDC. The greater the deck height the greater the combustion volume and the lower the compression.

To measure deck height we can use a caliper to record the dimension from the top of the piston at TDC to the top of the cylinder flange, then subtract the dimension the head button protrudes into the cylinder, before the head clamp and head button are installed. An easier way is to take some soft .050" solder, bend it in a 1/2" dogleg, and insert the end through the glowplug hole so that it touches the cylinder edge. Now rotate the prop so that the piston goes through TDC and squishes down the solder.

Take the solder out, snip off the edge 1/32" which has the piston chamfer, and micrometer the flattened solder. This method can be used on any assembled motor.

Continuing with the assembly of our 80 mph Mk VI, check again for piston freeness once the head clamp is fully tightened. The bolts are 4-40 so you don't need a tremendous amount of torque to tighten them. The factory deck height should be OK for 80 mph operation if your piston fit is reasonable. Once you are happy that the motor flips through compression without binding up, install the backplate with the gasket. Remember to use short screws in the top 2 holes so you don't bottom them on the brass cylinder. Now add a glowplug and your motor should flip over with good compression.

For 80 mph I usually use 9 x 5 or 9 x 6 props cut down to 8-1/2" diameter with 10% nitro fuel containing 25% to 29% oil. With the tall suction venturi restrictor installed, but still running on a bladder, ground rpm is about 17,500 rpm which winds up a bit in the air to give close to 80 mph in a 48" combat model. I use medium or hot plugs for the low nitro fuel. K & B standard, Fox, or Thunderbolt. If you are using this heat range plug you should get a good run. If you are having cutting out problems it probably indicates not enough compression, which is letting the fire go out. The easiest fix for this is to up the nitro content. Try 15% nitro and see if it improves. On a really cold or wet day you do usually need a bit more nitro. If you go right up to 25% nitro and still cannot get a steady run without cutting out, then you are seriously undercompressed. This is probably caused by a poor piston/cylinder fit. Other than a new piston/cylinder, the solution is to reduce the

deck height. The easy way to do this is to change to a deeper head button. For 80 mph operation I recommend going down to .015" deck height on a motor with a poor piston/cylinder fit. You need to measure the head button depth as well as the deck height (DH). If your DH is about .025", then you need a head button .010" deeper than the one you are using to bring the DH down to .015". It is easy to shim up the button to increase deck height(you do this when your motor is frying a plug on every run), but you need a deeper head button to significantly reduce deck height.

You can reduce deck height two or three thou with some careful lapping of the cylinder top flange, but this may not be enough of a reduction. To do this take #240 grit emory paper on a piece of glass glass is flat), wet the paper and use a figure eight motion holding the inverted cylinder's top flange onto the paper with light but steady pressure. Measure the flange thickness before you start. Clean the flange and remeasure every 30 seconds until you have removed .003". The trick is to remove the brass uniformly. .003" can be done fairly easily. To remove more takes a while and the chance of making the flange out of square increases with the more material you remove. If you do wind up with the flange out of square, then unless you have a machinist buddy, you will have to keep lapping and measuring and test fitting until you've got it close to square. You will know it is not square when you tighten down the head bolts. The piston will start to bind near TDC as the cylinder distorts with the head bolt tightening.

If you do have a machinist buddy then you can machine the bottom side of the head button flange to increase the depth of the button inside the cylinder. However, now you will find that your head clamp will not clamp this thin flange. So you need to make up an aluminum washer to act as a spacer under the head clamp. Aluminum house siding works well, but any thin general purpose aluminum is good.

So now you have a reliable 80mph Fox VI. If you find you are running a tad fast for 80mph, then try different props. I've tried 10 x 4 props cut to 9" diameter. But I find the best prop is a 9 x 5. The motor seems happiest on it and speed is just under 80 mph. The Master Scimitar comes in this size.

Now we will prepare a Fox VI to run at it's peak in Fast combat. The weakest component in the VI seems to be the crank pin. So if the motor is to run really fast we must do what we can to lower the stress on this item. This we can do by running fast on only lightweight props. Wood props are the key. In practice I use the Scimitar 8 x 6 Combat prop which is the lightest plastic prop I have found. In practice also, I never run the motors flat out. I always back off on the nitro and run a tad rich to save the motor for the contest. Also, running below peak without a streamer in practice gives about the same speed as flat out with a streamer in a match. The lighter the prop the less the load transmitted through the crank pin. One other controversial practice is "normalizing" the crankshaft. My experience has shown that it helps keep cranks together. The surface of Fox cranks is hardened and seems to be prone to stress raiser cracking, especially at the crank pin. Fox machines the pin out of the crank bar stock and unfortunately doesn't do the greatest job.

The radius between the pin and the throw is too small to be useful, and as a result many pins have sheared off under high load. By normalizing or stress-relieving the crank, the surface cracking tendency in this critical area can be alleviated. To do this, clean the crank, then put it on an aluminum pie plate in a cold oven. Turn the oven up to 500 deg F and hold that temperature for about an hour. Then turn off the oven and let it cool down for 2 hours. Don't open the door until cool. The crank will have turned a nice blue color and will be stress-relieved.

On the VI, Fox has left the crank pin with machining marks on it. On previous marks, Fox ground and polished the crank pins. The rough pin actually polishes itself in the first few runs. However, it does open up the conrod bushing in the process, and you wind up with a loose-fitting big end. An RPM rod or similar can be ordered in a size to snugly fit the polished crank pin.

If your crankshaft is new, then a light polishing with 320 grit paper and finally 600 grit will smooth out the machining marks. Also, polish in a very small radius on the back end of the crank pin. This stops any "chewing" action as the rod floats over the end. Most modern motors now use a pressed in crank pin made from a needle roller out of a roller bearing. This material is super steel and highly polished. The Fox VI cranks have plenty of meat in the intake area and rarely fail here. For fast running this area is opened up.

.....to be continued in Part 7

Flyaways

Random tips and ribs from the *FL* workshop floor

It's winter: Nothing's going on — and everything's going on. Contest plans are being made for 2004. How many of us are going to the World Championships and Nats in Muncie? It's the year to go, if we're going.

Closer to home, the *second* **Regionals** planning meeting has been held. Much to do, much to do! One of the things we hope to add to the mix this year — among many refinements and improvements — is to provide some sort of uniformed security so that we don't have a recurrence of the thefts from cars that happened last year. However, it turns out that hiring a security guard is a wildly expensive proposition. An alternative is a volunteer from among the modeling community, preferably some person or persons who would like to attend the contest as a supporter/spectator and would not mind spending some time prowling the parking lots and keeping an eye on things. Anyone interested, contact *Flying Lines*.

Big Doings east of the mountains: We'll have a full report in *FL* in due time, but early word is that there will be a huge four-day fun fly in Waitsburg, Wash., home of Joe Just and J&J Sales, in September of 2004. They're calling it the Intergalactic Invitational Fun Fly & Lie Swapping Control Line Extravaganza. The plan is for no formal competition, just lots of flying and hobnobbing. The city and the local Lions club have gotten behind the idea. The flying area will be a couple of nicely groomed softball fields. There's a Lions salmon bake and the town's annual buffalo feed going on the same weekend. (Maybe Nils can bring some cougar and wild boar over from Eastern Oregon!). Watch *FL* for more details of the event. In the meantime, you can contact Joe Just at (509) 337-6489, or ukeyman@justice.com.

Hit song! Jeff Rein reports on the entertainment news we've all been waiting for:

"I have been kind of quiet lately. Divorce and stuff sometimes gets in the way. When I moved in to my new place I met a guy named Larry who was in a band and the subject came up that I wrote a song 30 years ago that was a spoof on Hot Rod Lincoln. It was about a combat plane that I named the Fokken A that I flew in a slow rat race. The first line says, 'Now you've heard the story of the slow rat race, when the Fox and the Tigers were settin' the pace. That story is true and I'm here to say, that I was flying my Fokken A.'

"I've performed it about a dozen times over the years, and most people get a kick out of it. I have had a lot of request for it over the years but could not come up with a copy good enough to give to any one. Larry said we should record it and put it on CD. I asked how can we do that? Then he told me he was also a producer and showed me his studio filled with all of this professional recording equipment. Long story made short is that using the karaoke version from Hot Rod Lincoln I recorded Fokken A, Hot Rod Lincoln, and we also put a copy of Commander Cody's version on a CD. Then he started talking about graphics for the front and back cover. What we ended up with was something of professional quality that looks and sounds as good as anything you could buy at a store. I was kind of excited when he came over last night with 20 copies. If you've heard the song before and want a copy, e-mail or let me know and I will send you one for 10 bucks.

NVAs, etc.: Joe Just reports that his special needle valve assemblies are "expert approved" for stunt use and have been selling like hotcakes. These are Czech-made units that come in two sizes, one suitable for Fox .35 engines and one for larger engines. They're $14 per set, or $22 for two sets. Also, Joe speaks highly of the Leo .37 and ASP .25, a pair of inexpensive engines that he has been both flying and distributing. Contact Joe at ukeyman@justice.com to get a copy of his catalog. The mailing address is J&J Sales, P.O. Box 99, Waitsburg, WA 99361.

Fractious fractions: A note to you heroic individuals who have continued to make *Flying Lines* great with your contributions of articles: If you are submitting your articles via e-mail or on CD, please type out all fractions, like this: 1/4. *Do not* use a special key that puts in the fraction as a single character. For some reason, those one-character fractions often do not translate from whatever software you use to the software used here at *FL* headquarters.

Congratulations, we think: Scott Riese has taken over the Northwest Fireballs newsletter editor, along with being secretary-treasurer, field officer and safety officer. We presume he also will get coffee and take phone messages at Delta Park. Jim Cameron remains as Fireballs president. These two guys are hard workers, and, like most club leaders, they need some help. But it's nice to receive a Fireballs newsletter again. Scott reports that the club is planning a January banquet and an April contest with Old-Time Stunt, Classic Stunt, precision aerobatics and 80mph combat. Watch the *FL* contest calendar for details.

Online combat newsletter: Bob Furr has started e-mailing a very informative combat newsletter called *Great Plains Combat News*. If you're interested in receiving it regularly, e-mail Bob at icerinkdad@aol.com. Another excellent combat newsletter, which comes in printed form, is *New England Combat News*, which has been published for many years by Neil Simpson, 129 Podunk Road, East Brookfield, MA 01515. The newsletter is free but Neil happily accepts donations to cover the cost. The Web site is www.homestead.com/necn.

Field of bumps: Good news for users of the Rice Mill Road Park flying site in Richmond, B.C. Bruce Duncan of the Vancouver Gas Model Club reports that the VGMC and Pacific Aeromodellers Club will cooperate next spring on a repair job that will smooth out the aging Rice Mill circle. Incidentally, that's where everyone in Vancouver will be on Jan. 1, when the club conducts its annual Polar Bear Fun Fly.

Bulletproof trainers: One of the hardest things to do in CL model aviation is to train a young flier to the point where he or she is competent to fly without help — before the plane being used as a trainer is destroyed. Your *FL* editor recently designed a trainer designed to be "indestructible." I'm putting together an article on the project — the plane was built from my plans by a member of the Eugene Prop Spinners — as soon as we've tested the plane. Coincidentally, Joe Just recently came up with a design of his own with the same purpose. I hope to cover both in the upcoming article. If you have your own favorite "bulletproof trainer," feel free to send the info along, and we'll include it in the article as well.

Merry Christmas and Happy New Year from all of the *FL staff*!

— jt

The Real 'Dirt'

Some tight lines from the bad boy of CL flying, "Dirty Dan" Rutherford

FOR A SINGLE NW RACING EVENT:

In previous discussions concerning CL Racing in the Northwest I have intentionally emphasized conceptual and procedural changes, with difficulty staying away from making a specific proposal about the model/engine combination to be used in bringing Racing back from the brink.

But maybe it is time to be more specific. I envision an event — a single event, mind you, all others having been cast off as having outlived their usefulness — where it is relatively easy to get involved, yet performance levels are sufficiently high to be attractive. And where the equipment is suited to Racing, reducing frustrations from engines that are hard to hot-start, tend to burn down piston/cylinder sets, etc.

As the best way to accomplish these goals is to specify much of the equipment, consider this: A SIG Skyray 35 as the only allowable design. Very easy to build, easy to copy (the kit includes full-size plans) and it's pretty tough with lite-ply ribs, the (relatively) weak fuselage being easy to fix and/or reinforce. Available at virtually any hobby shop worth frequenting.

O.S. 25LA as the only motor allowed. No modifications permitted. Now available in a CL version, the 25LA is large enough to, I believe, go faster than a Fox 35. Modern and reliable construction means less breakage. Pretty consistent tolerances on O.S. engines in general means little variance in performance one example to the next. (They might not be real fast. But they will be equally slow would be another way to put it, I suppose.) While we would have to test a couple engines first, it is my belief they could be used in absolutely box-stock condition. Including the needle valve assembly. And the muffler, should we hold a contest where mufflers are required. Or at a CL demonstration site.

Big wheel(s). Big enough to use when flying from grass. First, those flying by themselves might well have only a grass field from which to fly. Secondly, this Racing event might see greater acceptance if it can be flown from grass fields. Don't laugh, we've been spoiled by asphalt. My first Rat race — and the first time I met Mike Hazel--we were flying at Carkeek Park. From grass ...

Nylon tanks. Sullivan units being my choice. They work. They're tough and reliable. Easy to modify as to plumbing arrangements. Available from *any* hobby shop. And should this event require a maximum tank size, all stock tanks would be legal. Although we might want measure a couple off-the-shelf tanks just to see what, exactly, is the capacity of each usable size.

Props. I don't know what to do here. As far as I know, the issue of specified props, the desired result being elimination of some supposed unfair advantage, has never worked in any event in which it has been tried. Props are indeed a big factor in going fast. But wood props are inconsistent, nylon props can be de-pitched simply by crashing or in other ways beating them against the ground, even APC props can be heated, pitch twisted in or out. It's a general problem, but the real problem is that the very people we are trying to get involved will have the most difficulty with prop selection.

Ready availability of good props is already covered. I see the best solution being near-instant communication of what works, what modifications are required from a pro-active core group of racers more interested in seeing newcomers be competitive than in keeping their tricks secret. Just one competent blabber, combined with region-wide communication via *Flying* Lines, would keep racers current and happy with their efforts.

Fuel. I very much favor picking a standard, readily available fuel so practice time will relate nicely to contest flying. SIG's 10% Champion fuel gets my vote. Yes, sponsoring clubs would (probably) have to supply this fuel, including the cost in entry fees, increasing the hassle factor a bit for sponsors. It will be worth the effort.

Going against the philosophy of Northwest Sport Race, I feel strongly that not only should fuel shutoffs be allowed, they ought to be required. In the case of line tangles they are a safety item. For the Lone Racer fighting to get a needle during that one-hour pre-contest practice session they are viewed as a necessity. They are

simple to fabricate and install, especially on a profile model. New racers could use them to safely shut down an engine rather than see it burn to the ground with a lean run. They are just a little, teeny bit of hardware to fiddle with, something all racers enjoy.

Format: Every entrant runs in three qualifying heats. First-round heats are festival seating (random draw). Second-round heats see the board arranged such that the lowest elapsed time is at the top, working our way down to the highest time. The first three fly in a heat, as do the second three and so on. Same deal with third round; the lowest combined times from the first two heats go to the top of the board, highest to the bottom. With third round of heats completed we set up main events on the same basis. Except that the winner of the first (slowest) heat can move up if he chooses to do so. If he does, it's a four-up main event; if not, we fly three-up.

While not mentioned in the obvious place above, *all three heats count* toward placement in the main events. We don't want to encourage banzai runs or tactics one might see when you get three shots to finally put together one clean run. We wish to emphasize consistent and reliable equipment flown sensibly. Plus such an approach tends to mix up the results from contest to contest as not even the Nitroholics can be assured of never blowing a plug or forgetting to check the rheostat on Mr. GloBee.

I invite you to seriously consider a Racing event as outlined above. My ideas are not presented as being perfect, just the beginning of a conversation.

DISC SANDERS

There is a huge selection of power tools out there. While I have at least the basics for all sorts of wood- and metalworking operations, I honestly believe the single piece I could not do without in model building is a simple disc sander. There many options here, but mine was a gift from Dad. Yep, homemade.

The electric motor is something he got at a scrap yard or out of his pile of, ahem, stuff. It's a mere 1/3 hp, 1725 rpm unit, but that is a lot of power, certainly more than needed. The motor, like so many others you can readily locate, came with a mounting bracket and this is bolted to a 3/4" ply base.

More 3/4" ply served to make a rest for pieces which are being sanded. It's not complex, just hard to describe with the written word. Still, it's simply a four-sided box with open ends facing disc and operator. Bottom plate is slightly wide than the two uprights and slotted for a couple carriage bolts coming up from ply base which also has motor attached.

The top of this box is wide enough to allow use of entire disc, meaning this surface is actually a couple inches wider than diameter of the disc. Yes, this means you'll have to figure most of the actual dimensions for your own disc sander...

The disc itself is the only tricky part. Dad simply screwed 1/8" steel plate to a pulley which has a wide flange on one side, chucked it all in his lathe and made a couple passes to be sure 7"-diameter disc was flat and running true. The pulley/adapter was then mounted to motor shaft.

Full sheets of 50- or 60-grit paper are easily mounted with a light coating of 3M 77 Spray Adhesive on both paper and disc. Use a knife you don't care about to trim excess paper from disc. When the paper is toast, hit it with a heat gun, strip off the old stuff.

And why is this tool so valuable? Because very little of what goes into a model need be worked down to the perfect size with hand tools. Build oversize, shove the piece into this disc sander and it's almost magic how quickly and accurately good parts can be made. Plus it's a dynamite pencil sharpener...

AIR MAIL

Letters from FL readers

Dear FL:

I have been using a four-stroke in my stunt plane but not having much success. What should I do?

— Ratso Magoo

Dear Ratso:

Your problem is that you are not thinning your dope enough. If you add more thinner, you can get the paint on with the two-stroke method, one forward stroke, one backstroke.

P.S.: If you get tired, just do the backstroke for a while, it'll let you rest up.

— FL advice editor

Express yourself! Send your comments and questions to the FL editor.

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