

FLYING LINES

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A couple of our favorite flying fields appear to be in danger of going out of existence. Above, Bill Riegel Field in Salem, seen at last year's Salem Summer Meet, is threatened by a rental car development. Status uncertain at this time (J. Ayer photo). At right, Field of Dreams in Redmond, Ore., seen at last year's COLD contest, has been allowed by the RC club to deteriorate (FL photo).

CL models make the world go 'round

You could get depressed, hearing about the potential loss of flying fields, older modelers passing away, and so forth.

But just when you do, there's good news. New modelers materialize (your editor got an e-mail today from a new flier right here near *FL* headquarters). New flying sites are established (there may be one right at the Evergreen Air Museum in McMinnville, Ore. Contests lost are recovered — the Seattle area schedule seems to be back to its usual hot 'n' heavy activity for 2003.

Change is what we live with, and we're flexible! Never a dull moment in CL flying!

One thing won't change: There'll be a 32nd Northwest Regionals — it will be at Albany again and much like last year, only enhanced, with a swap meet and pizza feed to go along with

the three days of competition and camaraderie.

Clubs are beginning to get their contest information together. Watch the Where the Action Is column every issue for updates.

Now's the time to be thinking about what events to attend in 2003, and getting the planes ready. The first meet will be upon us in no time!

CL flying is an event that sets us aside from our neighbors and co-workers. We're aviators! We're motor sports competitors! Good for us!

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A peek into modeling history

By Don McClave

On Christmas Eve, I was given a book by a friend, Herman Grafe, a lifelong Portland resident and pre-WW II modeler. He, in turn, had inherited the book from his father.

The book is entitled "Model Aeroplanes and their Engines." The author was George A. Cavanagh, Model Editor, *Aerial Age* magazine. It was published by Moffat, Yard & Company in New York, 1917.

The book describes the origins of aeromodeling as a hobby/sport, reports on early designs, competition categories and rules, describes and contains photographs of the first model engines, and reports on the first national championship contest.

Some of the highlights of the book, which were new information to me, were as follows:

The first model aeroplane club in the United States was the New York Model Aero Club, organized by Miss E.L. Todd in 1907.

The New York Aero Club staged the first National Model Aeroplane Competition in 1915. It was held somewhere in the New York area. Competitions for speed, distance and endurance were held, divided into hand launched, rise-off-ground and rise-off-water categories. Propulsion was by rubber powered propellers, and designs generally appeared to be the "A-Frame" canard type favored by the European flyers.

While the specific times and results of the first "NATS" were generally a little vague (the text was written and copyrighted in 1916, a year after the event), two specific accomplishments were noted. A new national distance record was established by Thomas Hall, of the Illinois Model Aero Club of Chicago. Robert La Tour, of the Northwest Model Aero Club of Seattle, set the first national record for "hydroareoplanes"

The second NATS was held in 1916, also staged by the New York Model Aero Club, and a new category was added for "mechanically driven models," defined as those powered by compressed air, steam or gasoline. This change was made, according to the author, to accommodate "the desire of many fliers for more realistic models in place of the stick-types now commonly used."

The book contains photographs, drawings and

performance data on early compressed air, steam and reciprocating gasoline model airplane engines. Two of the more interesting gasoline engines were the Midget Gasoline Engine and the Jopson 1 H.P. Gasoline Engine.

The Midget was manufactured by the Aero Engine Company of Boston, Mass. It was reported to be the "most successful" of the early engines. It weighed 2-1/2 lbs., including coil and condenser, and stood 7" tall. It ran at speeds from 400-2,700 rpm, and was said to develop 1/2 horsepower on an 18x13 prop.

The Jopson was designed and built by W.G. Ipson, of the Manchester Aero Club in England. It was a 4-cyle, twin horizontal opposed cylinder engine with an aluminum case, cast iron piston and sleeve. Bore was 1-1/4 inches, and the stroke was 1-3/8 inches. It weighed 7-1/2 lbs., which included the copper gas tank and a 30" adjustable pitch propellor (put that in your Mustang, Walker!). With the prop set at 15" pitch, the engine produced 9-1/2 lbs. of thrust.

The book has bylaws for organizing a model airplane club, competition rules, and a listing of all the national records established through early 1917. There are also chapters on how to build and finish a plane, and carve a propellor, which are quite interesting — even today (No, the book is not to blame not to blame for my mediocre finishes). Also of interest are the pictures and illustrations.

Thought you'd all get a kick out of this. I'm not quite sure what to do with the book, which is probably a national treasure that has fallen into my hands. The AMA museum? Ideas, anyone?

Happy New Year, and I'll see you at VSC XV.

Modeling thought for the month:

"A man never discloses his own character so clearly as when he describes another's."

— Jean Paul Richter

The end is near! Don't miss an issue! It's time for *Flying Lines* renewals from: David Baxter, Jim Booker, Paul Gibeault, Ted Gritzmacher, Ron McBurnett, Will Naemura, Scott Riese, Jeff Rein, Richard Scherer and Phillip Straka.

Where the action is!

Coming events in Northwest Control-Line model aviation

Feb. 1-2, 2003

Northwest Radio Control Model Exposition, New Pavilion and Expo Hall, Western Washington Fairgrounds, Puyallup, Wash. For info, contact Mount Rainier RC Society, P.O. Box 73939, Puyallup, WA 98373

May 18

Seattle Skyraiders Spring Fun Fly. Details to be announced.

April 27

Vancouver Gas Model Club, contest for Northwest Clown Race, Northwest Sport Race and Balloon Burst, Rice Mill Road, Richmond, B.C.

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.

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 27

Western Canada Stunt Contest Rice Mill Road, Richmond, B.C. Details to be announced.

Aug. 2-3

Can-Am Speed Championships, Upper Coquitlam River Road Park, Coquitlam, B.C. Details to be announced.

Aug. 17

Seattle Skyraiders Summer Fun Fly. Details to be announced.

Aug. 24

Tailhook Navy carrier contest. Details to be announced.

Sept. 7

Bruce & Gerry's 1/2-A Stunt Contest + Balloon Bursting, Rice Mill Road Park, Richmond, B.C. Details to be announced.

Sept. 13-14

Raider Roundup. Details to be announced.

Sept. 20-21

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

Oct. 4-5

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

Your contest date, 2003 ???

It's not too early to get your upcoming contests listed in the "Where the Action Is" calendar. Send the information to *Flying Lines*.

Want to make sure people come to your contest? Make sure to send FL the details of the contest, for the calendar listing. Your info should look like this:

Name of contest, what events are to be held, location of contest site, entry fees, trophies, other pertinent details, and the name, address, phone number and e-mail address of the contest director.

Flying Lines editorial policy

The newsletter publishes information, comment and entertainment on topics related to control-line model aviation.

Generally, all submissions received on those topics are published. Timing of publication is based on space available. All submissions are subject to editing.

Editing is as much as possible confined to correction of spelling, punctuation, grammar and style. Submitted articles may be shortened for space reasons, and topics unrelated to control-line flying may be deleted.

Flying Lines encourages the exchange of diverse opinions, and comment on controversial issues is welcomed. However, FL reserves the right to edit or delete any material containing obscenity, personal attacks, deliberate falsehoods or unfairness.

The Flying Flea Market

Classified advertisements — FREE for *FL* subscribers

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: sraigbart@yahoo.com.

MAGAZINES: Free plus cost of shipping. I'm out of shelf space and will be disposing of the older ones. Available now: *Model Aviation* May 1978; *Model Aviation* Jan. 1979; *Model Airplane News* May 1979; *Model Aviation* May 1979; *Model Airplane News* July 1979. John Thompson, e-mail JohnT4051@aol.com or write me c/o *Flying Lines*.

WANTED: BY&O 11x6 props. John Thompson, e-mail JohnT4051@aol.com or write me c/o *Flying Lines*.

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 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>

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.

The Scoreboard

Northwest control-line
competition standings.

Combateer Rein reigns as competition champion

Jeff Rein of Bothell, Wash, dominated the combat circles in the Northwest in 2002, nailing down the Competitor of the Year title — the first time ever that the honor has been captured by a person flying only combat events.

Rein's Northwest title adds to his prestigious No. 1 finish in the Miniature Aircraft Combat Association national overall combat standings.

Congratulations, Jeff, on a fantastic year!

Combat is one of the hardest events to dominate, because the Northwest has a large number of excellent fliers and there's always a luck factor making it hard to get those important contest wins. To top the competition standings in combat is a true achievement.

Jeff scored 88 points in combat. His nearest competitor was Bruce Hunt of Salem, Ore., who scored all of his 67 points in aerobatics events. In third place was Nils Norling of Metolius, Ore., who scored 65 points in aerobatics.

The number of people scoring points in competition in 2002 was down slightly from 2001, with 71 people or teams scoring, compared with 88 the previous two years. Note that this is *not* the total number of competitors, only the number of people placing first through fourth place in sanctioned competition.

As usual, stunt had the greatest distribution of people scoring points, with 32 people, down from the the 35 in 2002. Racing came in next with 17 scoring, up one from the previous year. There were 16 combat fliers scoring points, down from 22 the previous year. Ten people scored carrier points, compared with 13 in 2001. Eight speed fliers

scored points, compared with 18 in 2001. Only one flier scored points in scale, compared with four the previous year. Again, these totals reflect only placement, not actual number of competitors.

The Competitor of the Year recognition has been given since 1980, the second year of *Flying Lines* publication. Here is the history, giving the top three finishers each year:

Competitor of the Year, 1980-2001

1980: 1, John Thompson 2, Bill Varner 3, Jim Cameron

1981: Dick Salter, Thompson, Dave Green

1982: Dick Salter, Thompson, Mike Hazel

1983: Green, Thompson, Glenn Salter

1984: Green, Dick Salter, Gary Byerly

1985: Glenn Salter, Green, John Hall

1986: Not available

1987: Dick Salter, Glenn Salter, Green

1988: Not available

1989-90: *Flying Lines* not published

1991: Joe Rice, Rich McConnell, Tom Strom

1992: Rice, Todd Ryan, Hall

1993: Ryan, Rice, McConnell

1994: Ryan, Chris Cox, Nitroholics Racing

Team

1995: Ryan, Jeff Rein, Don McClave

1996: Ryan, Stephen Cox, Rick Meadows

1997: Ryan, Paul Gibeault, Stephen Cox

1998: Ryan, Mel Lyne, Dan Rutherford

1999: Ryan, Shawn Parker, Mike Conner

2000: Ryan, Lyne, Scott Riese

2001: Chris Cox, Ryan, Lyne

2002: Jeff Rein, Bruce Hunt, Nils Norling

Anyone who would like a printout of the complete 2002 Competitor of the Year standings can get one by sending a stamped, self-addressed envelope to the standings coordinator. The address is at the bottom of the column.

It's 2003 now and time to remind contest organizers to keep score through fourth place in all of your sanctioned contests, and send those results to *Flying Lines* for calculation in the standings.

Final standings in each 2002 event were published in *Flying Lines* issue 185 (November).

Following are the Final 2002 Competitor of the Year rankings. Initials after the names indicate the events in which points were scored.

C=Combat.

NC=Navy Carrier.

R=Racing.

Sp=Speed.

Sc=Scale.

St= Precision, OTS or Classic Stunt

2002 OVERALL STANDINGS

1. Jeff Rein — C	88
2. Bruce Hunt — St	67
3. Nils Norling — St	65
4. Mel Lyne — C, R	57
5. Paul Walker — St	55.5
6. Chris Cox — St	53.5
7. Bob Smith — C	51
8. Don McClave — St	44
9. Howard Rush — St	43.5
10. Keith Varley — St	38
11. Tim Strom — C	37
12. Mike Rule — C, R	32
13. Cayce Rule — C, R	29
14. Bob Huber — C	28
15. Jody Taylor — C	27
Shawn Parker — NC	27
17. Mike Potter — NC	26
18. Mike Conner — NC, R, St	25
19. Dave Royer — St	24
20. Todd Ryan — R	23
21. Tony Huber — C	22
Chuck Schuette — Sp	22
Loren Howard — Sp	22
24. Paul Gibeault — R, Sp	21
25. Nitroholics Racing Team — R	20
26. Ken Kortness — Sp	19.5
27. Bob Smiley — St	18
Pat Johnston — St	18
Chuck Matheny — C	18
S&S Racing Team — R	18
31. Emil Kovac — St	17
32. Scott Riese — St	16.5
33. Mac Ryan — R	16
34. Ron Salo — R, Sp	14.5
35. Dan Rutherford — St	14
36. Mark Hansen — C, NC	13*NC4
Gary Harris — C	13
Mike Hazel — NC, Sp	13 *R20
Jim Booker — Sp	13
40. Milissa Huber — C, R	12
41. Jack Pitcher — St	10.5
42. Bill Pettersen — C	10
Bob Nelson — C	10
44. Allen Hoffmann — NC, R	9
45. Dave Shrum — NC, R	8
John Thompson — St	8*R20
47. Remy Dawson — R	7
48. Jerry Eichten — St	6.5
49. Mike Haverly — St	6
Mike Anderson — St	6

James Cox — NC	6
52. Gerald Schamp — St	5
Montana Marlatt — St	5
54. Alan Resinger — St	4.5
Randy Powell — St	4.5
56. Joe Just — St	4
Rich Walbridge — St	4
Mike Wisnieski — St	4
Don Richardson — St	4
Hansen/Gritzmacher — NC	4
Henry Hajdik — R	4
Mark Conner — St	4
Buzz Wilson — C	4
64. Hube Start — St	3
Steve Helmick — St	3
66. Maria Huber — R	2
Frank Boden — R	2
Bob Parker — NC	2
Craig Bartlett — Sp	2
70. Steve Niemeth — St	1
Chris Gomez — Sc	1

* Also scored with a team entry. Symbol after score indicates category and team's points.

Flying Lines keeps track of standings in all AMA rulebook and Northwest official events, in all Northwest sanctioned contests.

Your *FL* editors do their best to keep up with the results, but contest directors can help keep the standings up to date by making sure to send the results to *FL* immediately after the contest. If you spot errors, please let us know.

Results must include the placing in each event through fourth place and the report also must list the number of contestants in the event, in order for the point standings to be counted accurately.

Also, please include in your report the hometown of the contestants, and note which contestants are juniors. Only Northwest residents are counted in the standings (AMA Dist. XI and British Columbia). The score of each contestant also should be listed for general reporting purposes and for checking against the Northwest records.

Remember, only results that we receive can be counted, so send them in. If you flew in a contest that doesn't appear to be counted, contact the contest director or *FL* and let us know.

Special notes: Precision aerobatics expert fliers' scores are multiplied by a factor of 1.5. When an individual is allowed more than one entry in a single event, only the highest-placing score shall be counted.

Send contest results, corrections and other correspondence regarding Northwest Competition Standings to John Thompson, 2456 Quince St., Eugene, OR 97404, e-mail JohnT4051@aol.com. For a printed copy of complete standings for any event, or for a copy of the rules for any Northwest event, send a self-addressed, stamped envelope.

A Classic recognized

By Jim Johnson

Efforts to secure Jack Sheeks' Me109 stunter (*Flying Models* April 1970) to classic status have been successful!

At Vintage Stunt Championships 13 I talked to Jack about the exact date of this plane. He said he would look through his files and see what he could find. A year passed, and I put this project on the "things to do" list. Through an eBay transaction, I came in contact with Jim Phillips of Guthrie, Okla. One thing led to another in the course of our e-mails, and he mentioned he was going to VSC 14. He also expressed interest in this plane and I asked him to talk to Jack.

After Jim returned from VSC, he e-mailed me that he had talked to Jack: Jack recalled that the model was constructed maybe two years before the publication date. Jim had a copy of the original article, which Jack signed with the note that "It was constructed before the classic cutoff date."

There are other classic stunters published after Dec. 31, 1969, which are now recognized as true classic stunters. There are other models that may qualify with a little more research.

Here's a list of the planes published after the cutoff date now recognized as Classic-eligible:

- Kawasaki Hein, Vince Miccia Jan. 1970 *Flying Models*, profile with landing gear in the wing.
- Me109, Jack Sheeks, April 1970 *FM*.
- Novi IV, Dave Gierke, May 1970 *FM*, 1969 Nats.
- F-86 Saber, Bob Lampione, June 1970 *FM*, 1969 Nats.
- Hawker Typhoon, Dennis Adamisin, Sept. 1970 *American Aircraft Modeler*.
- Shoestring Stunter, Bill Simmons, Sept. 1971 *FM*, 1969 Nats.
- United, Bob Lampione, April 1972 *FM*.

Here is a list of planes that may also be eligible with a little investigation:

- Ryan PT-20, A DiMezza, March 1970 *FM*.
- Stuka, Jack Sheeks, July 1970 *FM*.
- F-51 Mustang, Joe Berry/Jack Sheeks, Sept. 1970 *FM*.
- Vulcan, Bob Lampione, June 1971 *FM*.
- Mystere II, Jim Van Loo, Oct. 1970 *FM*.
- Stunt Machine, Gene Shaffer, Dec. 1971 *FM*.
- P-40 Warhawk, Bil Simions, June 1972 *FM*.
- Nimrod III, James Mannall, Sept. 1972

Model Airplane News.

What led me to believe that these planes may qualify were pictures in the articles, text and magazine lead time.

Bill Simions' P-40 is on the list because of the photos. It appears the Shoestring and P-40 were photographed the same day, and may have been built at the same time, as the wings are similar.

The Joe Berry Mustang article talks about flying in March of 1970. This plane was most likely built during the winter of 1969 and was designed by Jack Sheeks before that. Jim Mannall's Nimrod III was designed right after the 1969 Criterion of Aces because his Nimrod II weighed 54 ounces. The Nimrod design includes five versions from 1969-72, all the same basic design with subtle changes. Jim Mannall has been located according to Dave Day, www.iroquois.free-online.co.uk.

Other planes just exist in photographs.

Jim Tichy's Colossus has been built and flown by Gordon Delaney. An old-time stunter, very large, appears on page 39 of the April 1949 *Air Trails*. Its builder was Arthur J. May.

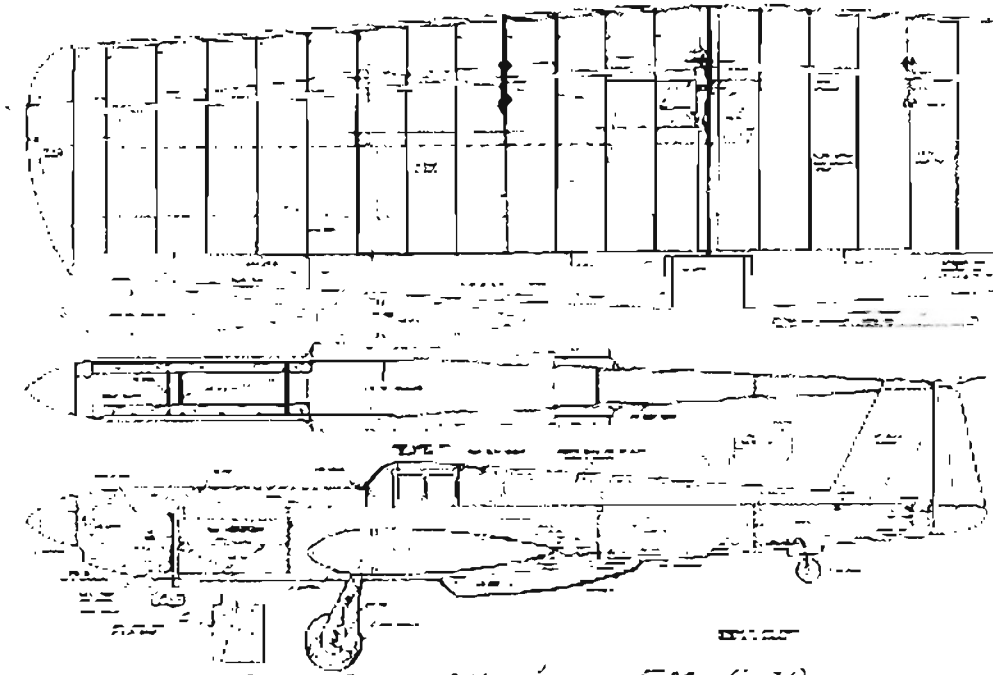
An F-86-like stunter by Maurice Waldorf in AAM March 1957 appears on Page 62. With today's building techniques it could be made lighter to reduce the wing load as the article suggests.

Some articles include the history of how the design evolved into the actual plane published. My new Sun Devil II is an excellent example of "new" designs to model for the classic event. The Classic Stunt event is still evolving, and many old stunters are out there waiting to be found and flown. The spirit of this event is tradition and revival of what most of us wished we could do when we were younger.

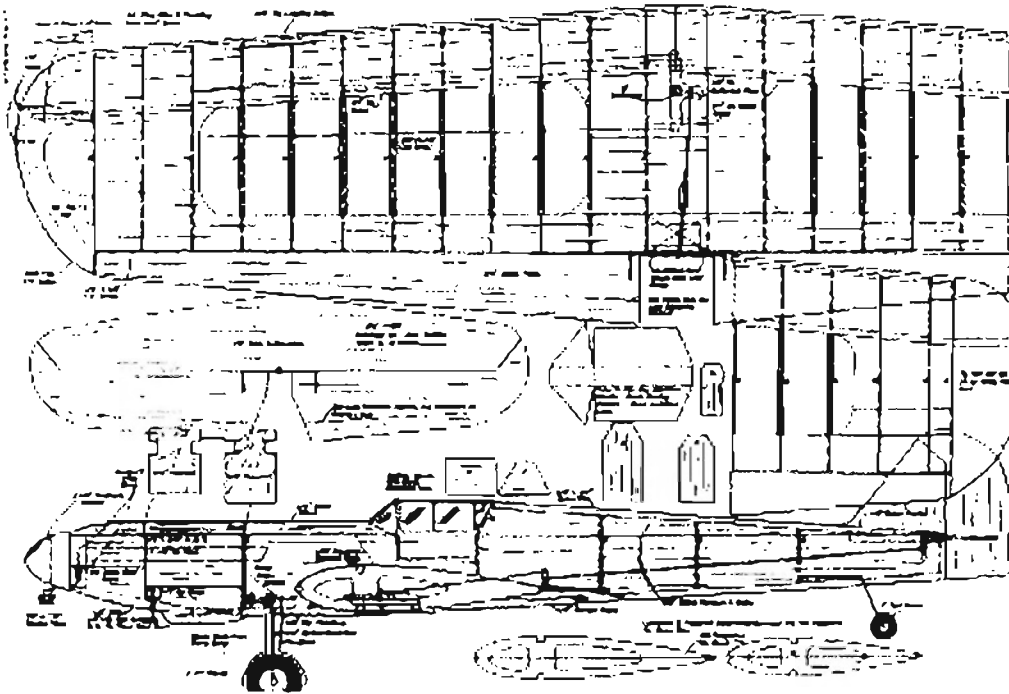
I have articles and plans for all the planes I've listed if anyone needs them. If you decide to build the Me109, weight will be critical as the wing area is 530 square inches. Jim Phillips' rendition of the plane turned out at 48 oz., using Rustoleum paints, and he was disappointed with its performance. Another drawback is the canopy. Jack used thin plywood to construct his or build it totally out of wood.

Good luck on your next classic stunt project; build something that will keep the spirit of this event alive, not just another stunter that everyone has done.

Jim Johnson can be contacted in care of Flying Lines.



Joe Berry Mustang FM-4-70



Shaska Me 109 - FM-4-70

ME 109.
 Just back from the VAC, I ran into Jack Sheets, showed him the Me 109 article and Jim's and he recalled that model was constructed well before Taylor two years before the publishing date. Anyway, he signed the magazine article stating that it was constructed prior to cutoff date so it is definitely Lamer legit.
 I hope to start construction soon.
 Later
 JBT

The Real Thing

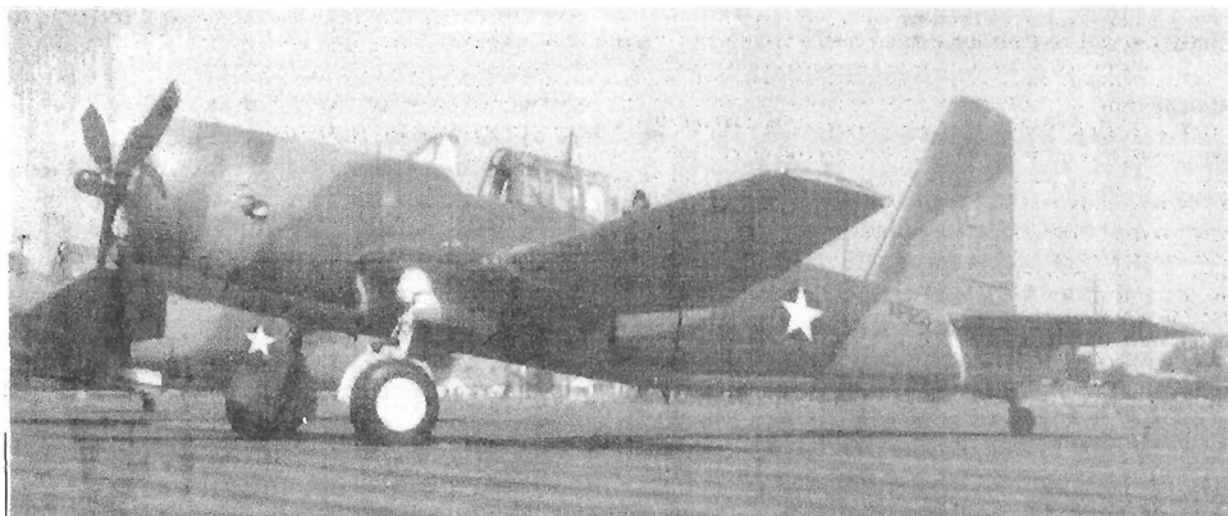
Scale building and flying, by Fred Cronenwett

How to enlarge 3-views for CL scale models

One of the more enjoyable aspects of Control Line Scale that I like is that you never know what you are going to see at a contest when you show up. Everyone likes to build and fly different kinds of models. I particularly like the era from 1930's to the 1950's, especially the World War II fighters and bombers. Building and flying scale models requires research into the airplane you are model-

that is no bigger than 11" x 17" and end up with a copy of the 3-view with the desired wingspan you want to build.

There are three methods that I have used to enlarge 3-views to scratch build model airplanes. The first method requires the use of a computer, scanner and cad software to print out an enlarged version of the 3-view. The second method requires the use of photocopiers to enlarge the 3-view until it is the desired size you want. My last choice is to



One of the few color photos that I have found of the Vultee Vengeance – gorgeous huh!

ing, but also a big challenge often is finding a set of plans or kit to build from. Often, plans and kits of the more obscure aircraft that we like to build and fly are just not available. It is easy to find a kit or set of plans for the P-51D Mustang, but try finding a kit or plans for a Vultee Vengeance?

You will want to scratch build a model of some obscure aircraft that you really like, but you just can't find any plans or kit to build from. That is when you will have to draw up your own plans from an accurate 3-view and build the model from scratch. I am assuming that you have a good quality 3-view that is accurate and matches your photographic documentation that you will show the judges once the model is built and flown. I will show you in this article how to take the 3-view

use an overhead projector and trace the image onto a piece of paper taped to the wall. Working from enlarged copies of the 3-view I can sketch in the model structure on the paper copy and build directly from there. These are intended to be working drawings and would have to be cleaned up for others to use or to be published in a construction article in a magazine.

Method #1 – Computer

Materials required:

- Computer with flatbed scanner
- Computer program to convert bitmaps to DXF Vector format
- CAD program (AutoCAD, Pro-E, Design

CAD or others)

- Access to a 36" wide plotter to plot your drawings

Let me first say that I don't have a fancy, super fast computer at home and I was still able to this except for the plotting the final drawing since I don't have a 36" wide plotter at home. I used a 350 MHz, Pentium II computer, Corel Draw 7, and the student edition of Pro-Engineer (version 2001) to generate enlarged copies of a Vultee Vengeance 3-view. This process requires some background in computers and I like this method the best since I can save the file and plot out the airplane 3-view to any almost any size I want. The process I show here is what worked on my computer system. You may find another program that does the same thing that you like better; I only show the programs I used to illustrate the basic method. Computer programs are constantly changing so hopefully this basic method you might find useful in your own attempt on our own computer.

First let's define what a bitmap and DXF vector image is. The vast majority of our favorite 3-views are copies from books, magazines and other sources and must be scanned in by a flatbed scanner. The typical flatbed scanner will take our 3-view (it calls it "line art") and create a bitmap file. A bitmap is nothing more than a series of points that creates an image. Unfortunately Pro-engineer and some other CAD programs can not understand the bitmaps so we have to convert them to a file that the CAD file can understand. One of the formats that can be imported into a CAD program is DXF. The CAD program requires a file that has vectors. A vector is a line that goes from one point to another point. I used Corel Draw 7 (computer program) to convert the bitmaps to DXF format (using OCR-TRACE, centerline method) so that I could pull these images into my CAD program. Design CAD has the ability to bring in bitmaps directly into the CAD program so you don't have convert bitmaps to DXF format if you use Design CAD.

First locate a good quality 3-view that is accurate that you want to build your model airplane from. Using your computer and a flatbed scanner, scan the 3-view in sections and save them as bitmaps. Scan the 3-view in sections, you will need the following: Front view, top and bottom view of the wing, side view of the fuselage (port and starboard), top and bottom view of the fuselage which also will include the elevator. Scan each of

these items from the 3-view you have selected. Scan any other sections of the 3-view that you want, if building a sport scale model you will also need the fuselage cross sections. I used Corel Paint 7 to remove the excess text and other lines that I did not need in the bitmap image before converting the file to a DXF file. Then using Corel Draw version 7, I converted the bitmap images to DXF vector images using OCR-TRACE, centerline method. The computer program does all the work, converts the points into vectors, all you have to do is save the new file as a DXF file (see example).

Import the DXF image into the CAD drawing. You have several choices when this happens. For my purposes I allowed Pro-Engineer to scale the DXF images to fit the format size of the drawing. But this requires that the bitmap images be the same size otherwise the scale of each view will be different (see example). You can also import the DXF into the CAD drawing but this time, do not allow the drawing to scale the DXF image. The resulting DXF image on the drawing will be same size as the 3-view. Now you can plot the drawing at your desired scale to get your desired wingspan.

My goal from the start was to get a copy of the 3-view with a wingspan of 55" of this aircraft. Since I knew the size of the model I wanted, I allowed Pro-Engineer to scale the DXF image to fit the format size of the drawing.

A drawing format is a rectangular box that defines the 1:1 size of the drawing. The format can be almost any size. An "A" size format is 8" x 11" and an "E" size format is 48" long and 36" tall. Your CAD program may work differently but I was using Pro-Engineer, Student edition, Version 2001 and this is based upon this CAD system. When you import a DXF image into a Pro-E drawing format It will import the DXF image at it's original size or scale the DXF to fit the format. If the DXF image is different in length it will scale each image at a different scale. That is why I have the 2 black marks on the lower left and lower right of the bitmaps to make sure the DXF images are imported into the CAD drawing at the same scale.

If your CAD program allows to you to pick the scale of the DXF image that would be ideal. In that case you would not need the two black marks. This process will require experimentation on your part to figure out what works best with your computer, software and CAD system. I tried 5 or more ideas to make sure the scale of each image was the same size.

Method #2 – Enlarge with Copier

Materials required:

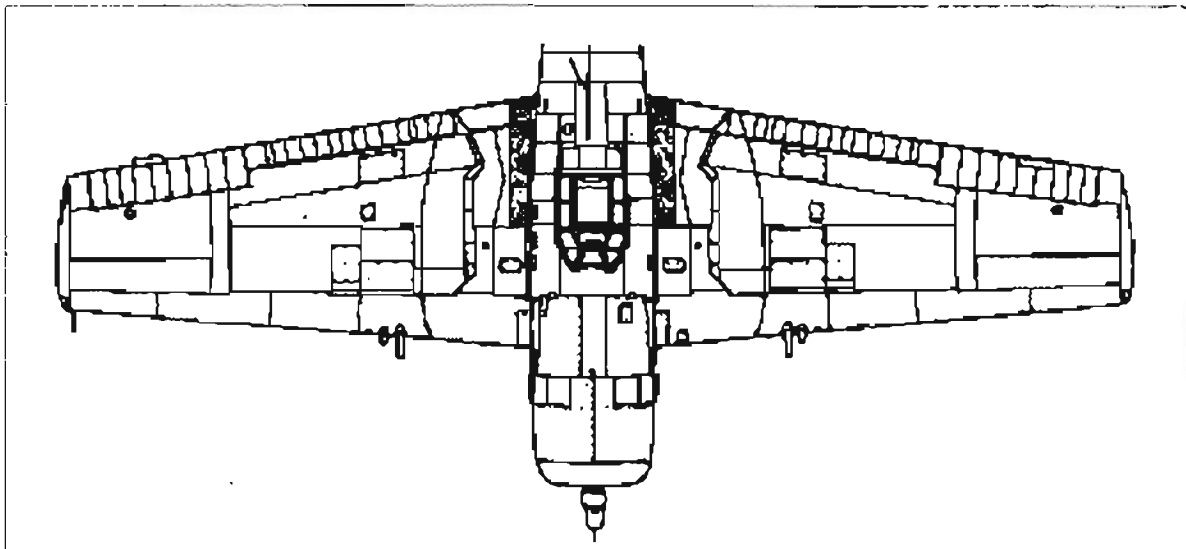
- Copy of 3-view (25% of desired size of model airplane)
- Scanner and plotter, typically found at Kinko's
- Scissors and 18" metal ruler
- Calculator

The Kinko's near my house added a scanner and plotter that has the ability to scan a document and enlarge the image up to 400%. The maximum width of the enlarged image can be no wider than 36", this means the original you send through the scanner portion can be no wider than 9". Take your 3-view you want to build from and determine the wingspan of the aircraft in your

scanner / plotter combination. The service is self service at my location, but ask for help to make sure you are putting the original through the scanner portion correctly and have the plotter set up correctly. You have to enter how many copies you want, how much you want it enlarged and a few other items.

Hint: Use the normal 11"x17" copier at Kinkos to enlarge the original 3-view as needed. Use an accurate metal ruler to make sure your original you send thru the scanner portion has the correct wingspan to get the desired wingspan when you are done. Use the scissors to cut up the copy of the size 3-view that will be scanned and then plotted on the 36" wide plotter.

Our 3-view needs to be enlarged 182% before



Enlarge your original 3-view into sections like these keeping the height 9" or less.

	<u>1/72 scale 3-view</u>	<u>Full size aircraft</u>	<u>Model airplane</u>
Wingspan	7.139 inches	42 feet, 10 inches	52"

original 3-view. For this example let's say we have a 1/72 scale 3-view of a Grumman F6F-5 Hellcat.

Step #1: Divide wingspan of model airplane by 4: $52" / 4 = 13"$

This is the wingspan of the 3-view that will be scanned at Kinko's (1/4 size 3-view)

Step #2: Divide the 1/4 size 3-view by the wingspan of the 3-view you are starting with $13" / 7.139" = 1.8209$ (multiply this number by 100 to get %)

The Kinko's near my house gave me a quote of 67 cents per square foot of paper plotted from the

we can run it through the scanner / plotter. You can see here that we want to end up with a copy of the 3-view with a wingspan of 52". But the scanner and copier at Kinko's can only enlarge the image 4 times the original size of the 3-view. This means that the original we send through the Kinko's scanner/copier setup must have a wingspan of 13". But our 3-view has a wingspan of 7.139". So we take the original 1/72 scale 3-view and enlarge it 182% using a normal copier, which will give us a 13" version of the 3-view. Measure the wingspan on the enlarged 3-view to verify the 13" span.

Take the 13" wingspan version of the 3-view

and cut it into pieces so that no piece is no wider than 9". You will need the side view of the fuselage, top view of the wing, top or bottom view of the elevator and the front view of the aircraft. These are the minimum views you will need to draw up a set of plans to scratch build a profile scale model. Be sure to include the fuselage cross sections if you want to build a sport scale model. These 13" wingspan copies will be scanned by the scanner / copier setup at Kinko's, enlarged 400% and the resulting plot will have a wingspan of 52".

Method #3 – Overhead projector

Materials required:

- Overhead projector, available at Office Supply Stores
- Copy of 3-view on clear sheet
- Banner Paper, available at Office Supply stores
- Long and short straight edge
- Pencil

An overhead projector is commonly used in an office environment during meetings to display images on a wall or screen. This method requires that a clear overhead copy be made of the 3-view so that we can project the 3-view image on a flat wall. Align the overhead projector so that it is pointing straight ahead at the wall. Make sure the lens is not angled up or to the side, otherwise you will get some rather noticeable distortion of the image. Tape the banner paper to the wall and trace the image on the paper until you are done. You will have to move the projector back and forth until the image is the desired size of the model airplane. Be sure to focus the lens, this will also change the size of the image. Be sure that you don't move the projector until you have all views traced, top, side, front and anything else you need. This process can take upwards of 2 or 3 hours so plan a full evening to trace the image at your desired scale.

What to do after you get your full size plots of the 3-view

Whatever method you picked to enlarge the 3-view you now have a large version of the 3-view in your hands that can be used to build a model airplane. I take these copies and sketch basic construction ideas on and build from these working copies.

Summary:

There were three methods presented here on how to enlarge 3-views so you can scratch build a scale model airplane. My first choice would be to use the computer and the scanner, but if you don't have the knowledge or the computer equipment the copy method at Kinko's is the best choice. The method of using an overhead projector would be my last choice due the possible distortion. Good luck with your next scratch built airplane and happy landings.

What else is possible with a computer CAD program:

Through my research on this subject I ran across Pat Johnson who has drawn 51 Control Line plans with AutoCAD (all 2-D drawings) for Brodak, Windy Urtnowski and others. These plans are not based upon any 3-views, but are original designs with all 2-D elements on a CAD drawing to build from.

Another person I talked with is Mike Laible (see Contact section at end of article) who is creating detailed CAD 3-views of real aircraft by using Design CAD and other Design CAD software tools. He takes a 3-view and scans it in and then cleans up the image and lofts out additional fuselage stations. He can then take his CAD 3-view and create fully detailed plans of these aircraft to build from. Be sure to look at Mike's web site, he has some documentation on how to uses the Design CAD software tools to scan in the 3-view, loft out the fuselage stations and create a detailed CAD 3-view of a full size aircraft.

My background as an Engineer has allowed me to use several CAD programs, CADAM, CATIA and Pro-Engineer. CADAM is a 2-D drafting program and CATIA and Pro-Engineer are 3-D modeling CAD packages that work great for 3-D models that can also do drawings. Picking the CAD software to use is a hard choice and learning the CAD software is often a challenge.

Contacts:

Centauri Models (DXF Cad 3-views of aircraft & Plans, see list below)

Attn: Mike Laible, 2823 Sea Ledge, Seabrook, TX 77586, (281) 474-1255

Web Site: www.orbitworld.net/mlaible/cent/

Look at the link: SWAC2000 PRES for detailed information on scanning, lofting and other details.

Mike has the following 3-views available on DXF format and AutoCAD draw format ready to import into your CAD program. I currently have a copy of the Hellcat, Tempest and the Seafury and they are worth the money. Mike has lofted the fuselage stations and done a lot of work to make building from scratch easy.

- Republic P-47 Thunderbolt
- Chance-Vought F4U-1 or -4 Corsair
- North American P-51B and D Mustang
- Hawker Tempest Mark V
- Hawker Seafury FB 11
- Grumman F6F-3 Hellcat
- Sukhoi SU-26MX

Bob's Aircraft Documentation (3-views and photographs of full size aircraft)

Attn: Bob Banka 3114 Yukon Ave Costa Mesa, CA 92626, (714) 979-8058

Order his catalog see his website for details: www.bobsaircraftdoc.com.

Combat Cornucopia

Combat news
and views by
Mel Lyne

Fox .36X Combat Engines: Keeping Them Alive (Part 1)

For the past 20 years I've been using Fox combat engines, and I've learned a lot, mostly the hard way through breakages. The past few years I've been doing all my own engine work, getting advice and information from people like Glen Dye, Mark Smith and Greg Davis. In this article I'll recount what I've learned, how to keep them running, and also how to make them go fast. While the quality of some of the Fox components is not the best, there are ways to correct or remedy many of the motors' shortcomings.

I owe a big debt to Greg Davis, the Canadian motor wiz and machinist, who has taught me so much. In the early '90s he did excellent rebuilds on about 40 Mk IIIs for the Dreaded Canadian Combat Contingent. His crankshafts, cylinders, and motors are still performing exceptionally well today.

I want to first mention fuel and lubrication. I firmly believe that plenty of lubrication is the

key to keeping Foxes running. A total oil content of 25% to 30% in the fuel is essential. And as much as possible of this should be castor oil. Even Fox themselves say this. Tests show that the flash-point of castor is more than 100 degrees F higher than the best synthetic oil available. This means that if you get a lean run and the motor overheats, the synthetic oil burns off first. Castor oil is still the best insurance for Fox motors. Typical store-bought fuel has between 16% and 20% total oil content, with possibly some castor in there. The fuel jugs rarely say how much or what type of oil is being used. So I always add 9% castor oil to every jug of fuel. Sure, this lowers the nitro content, but it will keep your Fox together. As a handy measure for adding oil, a 35mm film canister is almost exactly 3% of a quart. So I add 3 of these canisters of castor to a quart of fuel, or 12 to a gallon. Then I know that I have at least 9% castor in the fuel, and I have a total oil content of between 25% and 29%.

I'm going to start with the Mk VI, since so many of us have them; they were the "breakthrough" by Fox into ABC setups, and they have some fairly easily correctable problems.

When Duke Fox sold the Mk VI for \$100 more than 10 years ago, he told us that this motor was being produced as a service to the combat community.

He wasn't making any money on the motor, and he explained that what you got in the box was a quickly assembled motor that had not been test run at the factory. Duke had a soft spot for combat, and even though the later combat motor lines were not moneymakers, he carried on production on a break-even basis, trying to keep the motors affordable. In a conversation with Duke Fox and Lyn Murray, his Canadian agent, at the Tri-Cities Nats in 1989, Duke said that he made no money on the combat motors, but the Fox Glow plugs were a gold mine, making most of the money in the model engine side of the business.

So, if you have a new Mk VI in the box you basically have a bunch of bits.

Running it the way it is can be a gamble. I have seen several new Mk VIs break the dreaded "roll pin" within the first few runs and ruin the piston and cylinder as the pieces exited. So this becomes the first "fix." Duke was an experimenter, and he was changing things on the motors even during production. So there are several versions of the Mk VI out there, all with the roll pin, and

some better than others.

Today a stock Mk VI with the "suction" venturi restrictor installed can be a good motor in 80mph combat. With only some basic maintenance and changes you can have a reliable motor for 80mph.

Let's assume you are starting with a stock new Mk VI.

Clean the outside of your motor if it is dirty, then put clean paper towel on your bench, with a couple of empty butter-type containers for putting the parts into. You'll need a plug wrench and a medium Phillips screwdriver, WD-40 (a cleaning agent), lacquer thinners, oil such as Rislone or ATF, Permatex High Temp RTV Silicone Gasket Maker, a #11 X-Acto knife, #500 grit emery (silicone carbide) paper, and a fine flat file.

Carefully disassemble your Mk VI as follows. Remove the backplate and gasket. Remove the glowplug, then remove the head bolts and lift off the head and head button. If the brass cylinder is stuck tight in the case and won't push up with your thumb, spray in some WD-40 or soak it in acetone or lacquer thinners. Remove the brass cylinder, pushing from the bottom with a wood dowel if needed. With the crank vertical and the piston down, the rod should slip off the crank pin. Do this low over the bench so you don't accidentally drop the piston/rod on the floor! The roll pin in the piston goes to the front.

Look in the case and remove any machining bits, swarf, or debris in there.

If the crank is "gummed up" with old castor oil, soak the components in WD-40. Old castor oil goes gummy in motors, so after running it's a good idea to work some Rislone or ATF into the motor, especially if the motor won't be run for a while. You want a backplate that seals well onto the case with no leaks. So, without the gasket, push the backplate into position and see if it fits flat onto the case. If you have a bad one that rocks or doesn't lay flat, locate the bad spots on the case and backplate flange, and use a fine flat file to carefully remove any bumps. Always go easy when removing material. Some mistakes cannot be fixed. The crank is a light press fit inside the rear bearing, and you don't want to wear out this fit by removing the crank unnecessarily, so we'll leave the crank in for this maintenance. Wash all the motor components in lacquer thinners. This will remove any dirt and all the oil. The dozen or so Mk VI cranks that I have worked on all had very

rough crank pins. The pins are not ground and polished as on the III and IV, but have machining marks visible on them. I think Fox wanted the bronze bush in the con-rod to polish this crank pin on the first run. This gives a loose big end fit. If you want a more snug fit, take some wet #500 grit emery paper and do some hand polishing on the pin in the motor. The end of the pin also has a sharp corner which acts as a cutting tool when the bushing slides over it. So it's a good idea to polish this sharp corner off also. The III and IV motors had a radius here. Wash the crank in thinners after polishing. The prop driver should just drop off to show the front bearing. Put some drops of oil in the 2 bearings and down the venturi to lubricate the crank. When you rotate the crank now it should feel silky smooth. If it is lumpy, then there is a problem. I'll deal with these kind of problems in a later part of the article. Put the cleaned and oiled pieces in a safe place. Any cleaned steel parts should be oiled before putting aside, otherwise rusting can occur.

The original rear bearing, a crimped-cage ballrace, is O.K. for the slower speed 80mph combat use, provided it is silky smooth. If dirt goes through this bearing it will develop a "lumpy" feel, the cage will split, and pieces of it will score the piston/cylinder. Bearing replacement to a "phenolic" cage version will be covered later in the article. Bearings will last provided you don't run dirt through them. So do a thorough cleaning job each time you "mudball" dork. The front bearing is a hybrid, but it is much lower-stressed than the rear and seems to run forever if it is kept clean.

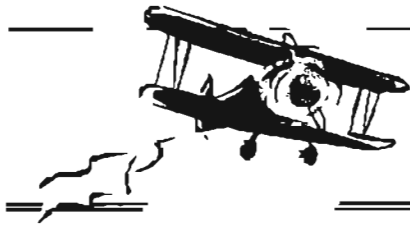
...to be continued in Part 2

Mel Lyne can be contacted in care of Flying Lines.

Chilling news on COLD contest

Nils Norling reports that the Central Oregon Lawn Darts contest will not be held in 2003 for two reasons. One, the Field of Dreams circle in Redmond has been allowed to deteriorate by the RC club that owns it, and a new site needs to be found. Secondly, the date that Nils had zeroed in on for the 2003 meet conflicts with the PAC contest in Canada.

Nils promises to keep us posted on plans to find a new flying site and for future contests in Central Oregon. Many of us will miss the COLD bash, one of our favorite contests!



Our Favorite Airplanes

Some models just have a special place in our hearts

By Mike Hazel

In last month's issue, John brought up the subject of how we as a modeling group build and fly a rather diverse selection of aircraft.

He briefly described a few of mine. I thought it would be fun to expand on that theme, and cover a cross-section of planes that have come out of my shop (or out of the closet?). The following selection are just a few of either my favorites, or planes that are just interesting.

Before I do so, bear with me in a moment of regret. I started this hobby when I was in my teens, and have been building and flying pretty much nonstop over the years. One thing that I began a few years into the hobby, was to create a simple logbook listing the planes that I had built. By the late 1970's, the list of planes had numbered over one hundred. And even though the list included some production style combat planes and junk stuff, I considered this to be a prolific number. Sometime during that decade, the logbook was lost and with it the memory of many projects. If it had it to do over again, it would be a combined logbook and photo album. Oh well!

Here we go, in no real special order of preference:

RACING PLANES:

My very first racing plane was a "SKAT RAT", which was a Carl Goldberg kit that had been released in 1963 or 1964. I built mine in 1965, and it was powered by the newly released Fox 36X. Though the construction was perhaps a little over-engineered, but here was an actual rat race plane available through mainstream hobby shops, and it had state of the art information in it on how to compete in racing! (hard to imagine that now). The plane's first competitive outing yielded a second place trophy in Junior Rat at a contest in Albany. These planes flew pretty good, and I built at least three of them over the years. Incidentally, this was the very first control line plane of any kind that I had built.

"YIPPEE" was the moniker of my own design rat racer. The plane went through various phases

of construction refinements, while maintaining this basic configuration: full length mag pan with upright engine, all wood fuselage with fully cowled engine, generous wing and tail area, and lighter than most of the competition, which made life a little easier on the pilot. The first version Yippee was built in 1971 and was equipped with K&B rear intake 40 power. Subsequent updates saw O.S. 40 RSR and K&B 40S powerplants. Wingspans varied from 32 to 36 inches, but all were of multi-piece construction which helped in the weight department (no basswood slabs!) Although the final version had a mostly balsa wing, it was still very strong due to a well-engineered layout utilizing spruce and maple spars. This series of planes put a lot of trophies on my shelf, and other Northwest racers campaigned this design as well. My last Yippee was sold or traded in the mid-1980's when I retired from serious rat race activity.

"SHARK" was the legendary rat design by Tim Gillott. Everything about this plane seemed trick, from it's special hardware to the streamline inverted engine configuration. The sleek tapered wings with raked tips made it look like 100 mph even when sitting still. Construction was a bit different from most other rats, with a shortened-length pan, many pieces of balsa, ply, and maple (no basswood!). The Shark-specific hardware consisted of a special design fuel tank, two-piece bellcrank, and probably the best engineered fuel shutoff design (Timmy G calls them fuel kills) I have ever seen. One had to build these planes from plans, but Tim sold the hardware needed, which was a good thing since this design took much longer to build than a conventional rat. However, when built accurate to plan, these planes flew absolutely fantastic. The key was the intricate airfoil / washout design on the 36 inch wing. I built my Shark in 1979, and it was equipped with a Gillott prepared K&B 40S, the engine to use for this design. Airspeed in traffic was typically 12-flat (150 mph to you non-racers).

The most memorable competition with this plane took place at the 1980 Regionals. The flight was a perfect four flip race (initial start and three pits) with all out airspeed and a resulting sub-five minute time. I retired the plane after only a couple of seasons because of some inflicted damage. The following season I built another "Yippee" so as to get something built in time for competition. Though I intended to build another Shark as time permitted, I never got around to it.

"KILLER" was the purpose-built racer for the Northwest Super Sport event. It was designed and built a couple of years after this event became popular in the early 80's, and mine was a team project with John Thompson. I did the design and the hardware package, and the building work was split up between us. The Killer had a sleek jet type of look with a high aspect wing. For drag reduction the controls and hookups were all internal, and the specially built tank cleanly faired in. One feature incorporated into the wing was expanding foam material poured into the outboard leading edge area within the sheeting. This was for the benefit of the pitman, who could then catch the plane in high-speed landings without worry of wing damage. Did it work? Yes, the wing was just about bulletproof. However, the plane did come out a bit heavy and the "Killer" name was somewhat prophetic, because that was the effect on the pilot's arm after a full day of racing. Despite some minor flying quirks, the Killer had absolute perfect ground-handling characteristics and could be towed around the circle eyes-off. This plane was long-lived, having only been retired about three years ago with many victories to its credit. In fact at some point, John and I documented that it had logged over 2,500 actual racing miles! Long time FL readers have probably already read about this plane, and perhaps seen photos of it.

SPEED PLANES:

My first jet speed plane came together in 1976, and was a Hoyt "SIDEWINDER MK XII". This was similar to the previous MK IX version of his, except it was slightly smaller and had better streamlining with features such as a special machined aluminum engine cowl/mounting unit. Although the 20 inch wing was conventional, the design could be described as asymmetrical, what with the outboard engine and the inside-only tail surface. Once particulars on starting the engine were figured out, the Sidewinder was very reli-

able and it was also thrilling to have a plane back then that would consistently fly 165 to 170 mph. There are a few stories that could be shared, but most would be boring to all but the jet aficionados. The exception here would be that is the jet plane involved in the legendary story of the presidential campaign speech disruption at the Eugene airport. For a nice photo of this plane, refer to Harry Higley's book "Flying Around".

"THE MOVE" was my second try in the Formula 40 event. Though it was slightly larger than many other planes in this class, it averaged a bit lighter. This made for a really nice smooth flying plane that got up to speed very quickly. Many of the construction features of The Move were quite similar to my "Yippee" rat design. The Move utilized a shortened length pan, and was of course a bit smaller than a rat racer. The first one was built in 1977, and I built 3 or 4 more of them over the years. Some of these F40 ships eventually wound up in the hands of other Northwest speedsters, and copies were also built by others. Incidentally, plans for this plane are available from Partner Productions. The Move held the Northwest and Canadian records several times. Power was typically the K&B 6.5 cc rear intake engine.

"PINK LADY" is the classic speed design by Bill Wisniewski, and many of you are already familiar with this series. I liked all of the sizes, and over the years built one in the .15 size, three in the .29 size, and also a .65 powered one. The "Pink Lady" planes flew great and would groove well at pretty much any height you picked. Talking about it kind of makes me want to build another one soon.

SPORT PLANES:

"BLACK WIDOW BOMBER" is a plane that was more interesting than it was favorite. For some reason I thought it would be fun to build a multi engine plane using some Cox reed valve .049 engines. The Bomber had a built up 36 inch (or so) wing with four engine pods. The tail was a twin boom affair, and it had a trike gear. It was painted a hideous metallic maroon color. On the maiden flights I found the "B-W Bomber" to be slightly tail-heavy, and seemed like it could use more power. When the plane showed up for the next flying session, the fuselage nose had been cut flush with a new firewall and another engine installed. Both weaknesses had been cured with this fix. As one might expect, getting this bird into the air took some doing. With three people

and a couple of batteries, engine starting would commence. When all engines were running the tanks would be carefully topped off, and away into the wild blue (buzzing) yonder it went. Yes, the "Bomber" did have a unique sound. After a few laps the engines start dying off and when down to two Black Widow engines buzzing the plane would start coming down. The plane still exists, minus the engines. The present owner who happens to live in Portland says that the wing needs to be recovered, but could be flying again. Oh boy, I can't wait!

"CRO-MAGNON AIR FORCE ONE", is also known by the abbreviated title CM-AF1. This plane was already in a FL feature some years ago, but hey, it is one of my favorites! This original design was built in 1976 and after countless flights, is still flying! I had wanted a throttle-equipped sport flier and just made up a generic looking design as I cut some wood. This bird is not light, as the odd size profile fuselage was sawed from a heavy balsa shipping crate piece. Many fliers at the Carrier circle have gotten used to seeing me show up with this ugly old three-wire wonder. Actually, the "C-M AF-1" was not originally built for Carrier flying, but a tailhook was added a couple years later. Never fast, never real slow, but always very steady and reliable, the plane has picked up many also-ran trophies over the years. At least a couple of times a year, I pull the hook off and do some fun flying with it. The plane was originally equipped with a Enya 35 RC, but now it's on a second Fox 36 MK V. It's oil-soaked, much of the paint is worn off, and the landing gear is suspect, but I think I will keep flying the "Cro-Magnon" a while longer.....

Things you may want to get from *Flying Lines* headquarters

- **Contest winner data sheet:** *Flying Lines* publishes data on the first-place airplanes in each competition category at contests. If *FL*'s editor is unable to attend, the CD can collect the info and send it along. Blank data sheets are available upon request. Ask *FL* to send you a bundle.
- ***FL* subscription forms:** You want your fellow modelers to get all the news and views, right? Ask for a bundle of *FL* subscription forms, and we'll send 'em to you.
- **Toolbox stickers:** Advertise your favorite news-letter: Send \$2 to cover cost of a sheet of stickers.
- **Back issues:** Many back issues of *FL* are available. Send S.A.S.E. for a list.

Northwest Rules Discussion Corner

Information and
exchange of views on regional rules

P-40 rules approved

The rules proposed for the Northwest P-40 event have been approved by voting on the ballot published in Issue No. 186.

The rules will be as published in Issue No. 186. They will be published again later in the annual *Flying Lines* rules issue.

The voting turnout was light, but the approval was unanimous among those voting.

As a result, *FL* will keep track of standings for P-40 as an individual event beginning in 2003. In the past, P-40 scores have showed up only in the overall stunt standings.

DBat developments

Two things have occurred on the always active field of Nostalgia Diesel Com bat since Issue No. 186 went to press.

First, Mel Lyne has indicated that he plans to sponsor a contest this year for an "outlaw" form of dBat, with less restrictive rules, to accommodate the group of fliers interested in that form of the event.

Secondly, Mark Hansen has made a formal proposal for rules for such an event. Comments from both are as follows.

DBat plans for 2003

By Mel Lyne

The present set of dBat rules will be the basis for events in 2003. A number of these events will be the "fun fly" type since those were very popular this past summer. Almost all the active D/bat fliers at Arlington, Wash., want to keep things pretty much the same with a few adjustments to cover prop shortages, longer streamer strings etc.

A number of people do want better performing planes, more horsepower, foam models etc. in a

diesel event. I sympathize with this group and want to accommodate them. A number of us have discussed this. So, as well as Ken Burdick's "Modified Rules" dBat fun fly event to be held this Spring in conjunction with a neat feast, I will put on a "Open dBat" fun fly in the summer at Arlington. The rules will be 70mph speed limit, any plane, any diesel, any prop, and the standard D/Bat match rules.

70mph on 52-ft lines gives a lot more performance than the 64mph that we use in standard dBat. Anybody wanting to test fly an "Open dBat" model can try one of mine at Arlington.

Proposal for "Class II" dBat

By Mark Hansen

I have read the entire abridged version of the "DBat Debate," as well as the long form last summer (much better reading with the profanity and personal attacks left in), and now as the Northwest's representative on the AMA Control Line Combat Contest Board member, I feel obligated to analyze the comments put forth in that debate and try to come up with a compromise.

Before I begin, let me first state that the reasons for all the controversy is not that both sides do not agree — in fact they do, both have the same event in mind; however where they part ways is how they look at the event.

Concerns about changing the event to liberalize the engine, airplane, propeller, have give rise to speculation, expressed by those involved in founding the event in the Northwest. These speculations have been based on fears that arise from visits to England, where the diesel combat was seen to have evolved into a costly, "Fast" event.

Hopefully I can calm those fears by saying, that "Fast" was designed to be the top level, completely unlimited event, as is (apparently) the event described in England. Vintage diesel combat is not our premier event — it is a small regional event flow for fun.

Also, changes in an event should never be based on concerns about who is winning contests. In a combat event where there is a level playing field, I would expect that Jeffrey Rein (MACA "Top Twenty" flyer each of the last seven years) is going to win a few contests, and outlawing his equipment to prevent this would be unthinkable!

However, in Mel Lyne's history of dBat he brings up a very interesting point and that is: The rules were changed in response to some pilot con-

duct issues that arose at one of these contest. Our editor at one point expressed concern over the rules omission of the phrase "All rules for AMA event 328 shall apply except for the following." Fifty years plus of flying combat have allowed the AMA rules to accommodate almost any situation regarding pilot misconduct. The AMA rules aside, what most disturbed me about this is that the rules appeared to have been changed to specifically eliminate certain competitors. If so, this would undercut the goal of having a level playing field and nurturing beginners.

I have chosen to specialize in 80mph combat (since having been ruled out of dBat), and I can tell you that I have flown against every engine class from .15 to .40 and none has an edge over any other, since the sole performance governing rule is the speed of the model. I use single bypass, cross-flow, loop-scavenged, dykes-ringed K&B .40 (the acme of technology in 1960). My motivation is that these engines are Cheep, \$10-\$15 at a swap meet and can be rebuilt for under 20 bucks. I could fly whatever I wanted from Nelson 36s to twin Cox Medallion .15's, nobody cares as long as I don't break the speed limit.

DBat has a speed limit, a prop and engine restriction, building restrictions, all of these are restrictions to the health (read as, there are people who want to fly but can't under the current rules) of the event.

Recapping this discussion:

1. Everyone seemed to be having fun with the event but somebody wanted more reliable engines, and bought Oliver tigers.
2. The Oliver's (mid-'50s technology) were vastly more reliable and therefore superior to the PAW's (late '40s technology).
3. Some became worried that the event would become just like AMA combat.
4. Some equipment was made illegal, which is why there is all this arguing about the rules now.
5. Two years later there is still unrest in the event, over the rules that were changed. The only fact for certain is that the event is not as it started.

Here is what should be done to resolve this issue, there are two possible solutions as I see it:

Case A

1. Stop holding formal contests, and hold only fun flies. Accept no entry fees, and give no prizes. Fly only for fun.

2. Do not send any results to either MACA, or *Flying Lines*.
3. Withdraw the rules from the ranks of Northwest events.
4. Go have fun flying dBat.

If this is not acceptable try the this solution:

Case B

1. Change the rules to include the AMA event 328 reference.
2. Remove the building restrictions, and engine and prop restriction.
3. Enforce the speed limit.
4. Continue to call the gatherings where flying takes place contests.
5. Send in the results to MACA, and *Flying Lines*.
6. Give big prizes and expect some to file protests at the results.

Doing the first would prove that the true point is to have a fun-only event.

If we have all decided that the second sounds reasonable, then we should pass a rules change proposal and get back to some friendly competition, in an event that is low key and for every one.

I will go out on a limb and make a formal rules proposal for a new version of dBat.

If it were to become very popular, we could consider consolidating the two events at a later time. The new event's rules would be the same as the current dBat, except for the following changes:

From: 1.1 "engine: any production .15 cid. Maximum diesel having a single ballrace or plain bearing, non-Schneurle, iron piston steel cylinder.

To: Engine: Any non-AAC, non-ABC, non-ABN, diesel of .15 C.I.D. maximum. *I have chosen to eliminate the ABC, ABN, AAC designs since most of them are not suited to combat, and are mostly made for team race, also, I figure I should compromise some.*

From: 1.3 The Propeller must be a Grish Tornado 8x6 white nylon flexi prop.

To: No propeller rule

From: 2.3. The Following alterations are not permitted:

To: Eliminate the rule

I know that this is going to scare a lot of people, and that when frightened some will flee and others will fight. But I have the same things in mind as the event's creators, that is: Have fun with diesel engines while flying combat, in an event that every one has the similar performing equipment.

Those of us who are moving for a change (back to what they were) of the rules have repeatedly been told that this is not to be serious, if this is so, then why can't the rules be changed to accommodate everyone?

I sincerely hope that we can all continue to move forward with the rest of our lives in a positive manner.

Comments about the above items can be sent to Mel Lyne and Mark Hansen in care of Flying Lines.

What happens now:

Since the above item represents a formal rules proposal, here's a review of how the Northwest Rules process works:

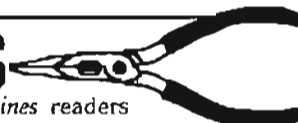
We'll leave a month for discussion: Comments anyone might have about the above proposal should be sent to *Flying Lines* for publication in Issue No. 188. Issue No. 188 also will include publication of the complete rules proposal.

Occasionally during the discussion period, changes to the proposal are offered either by the initial proposer or by others, and some time may be needed to come to agreement about what the proposal will say. Either in Issue 188, or after time has been allowed to work out the details, a ballot will be published.

If the event is approved, it will become part of the formal Northwest rules and standings will be kept for the category.

SHOP TIPS

Building ideas from *Flying Lines* readers



• **Dope finishing.** Clear dope weighs almost nothing. Don't believe it? Weigh a sheet of glass pour a whole jar of clear on it, allow to dry and weigh. Clear dope seals, attaches and shrinks coverings. Primer or sanding sealer is heavy. It's for filling grain and other small imperfections. Here, the key to proper use is sanding. Leave only enough to fill to divots. Color paint provides color and shine, nothing else. The most important factor in preparing a base for colored paint is sealing the surface. If you spray, there are a lot of little problems to consider. It's one of those adjustment things. If the paint is coming out so wet and runny, reduce either pressure or thinner. If the paint is drying before it gets to the model, more thinner or pressure — same if it's a narrow, thick pattern. If you spray wear a respirator, beware of spark and concentrated fume fire risks. Most of all don't try and do too much with one coat of paint, allow at least 3 hours between coats and overnight before you sand. The key to light, pretty finishes is sanding. Let dope dry 24 hours before masking. I use lacquer tape it's green, less likely to rip up paint available at paint stores.

— Allen Hoffmann

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