

NEWS OF NORTHWEST CONTROL-LINE MODEL AVIATION

1073 Windemere Dr. NW, Salem, OR 97304

Editor: Mike Hazel

JANUARY / FEBRUARY 1997 ISSUE # 137

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Greetings all, and welcome to this slightly belated issue. Our next issue is tentatively scheduled for mid-March, so get those articles, letters, classified ads, columns, etc., in fairly soon.

First up in this issue, is an excellent article by NW stunt guru Don McClave on the care and feeding of the good old Fox 35 stunt engine. Don offers a little bit of stunt history and lots of technical notes on making this engine run better. Parts or all of this article have shown up in a couple of other region newsletters, but the included is the original uncut, uncensored version, plus six extra minutes of digitally-enhanced material has been added. (whoops! never mind.....that's another program). Thanks for the article, Don.

With spring fast approaching, that means the Northwest contest scene will be starting up soon. This issue has the first draft of that schedule. It looks like clubs are getting their ducks in a row, and planning early this year.....good to see. As always, FLYING LINES contest calendar central needs to hear from you directors and club leaders ASAP on your plans, so we can get them published. FLYING LINES consistently publishes the most complete and accurate schedule for the Northwest. And since FL reaches about two thirds of the active contestants in the NW, CD's who don't get their information into us must be knuckleheads!

First up on the schedule is the Columbia Basin Balsa Bashers spring opener for racing events. You racers should all try to make this to get the year started off right. The CBBB always put on a good show. The CBBB usually have a full slate of meets, and we should hear from them soon about the rest of their schedule. We are also waiting to hear regarding the 1997 Bladder Grabber.....Howard? Also the BC ACES may put on a speed meet this year. A NW Regionals flyer will be included next month, in case you haven't seen one yet.....watch these pages for NW Regionals news!

For contest information in Southern California, contact Fred Cronenewett at 818-719-0167, or write him at 7352 Independence Ave, #201, Canoga Park, CA 91303. They have a scale and carrier meet coming up on March 9 at the Whittier Narrows site. We will publish a California contest calendar when info is received.

All for now, outa space, outa time. See ya next month!

Flying with Foxes

In July of 1958 I had the chance to attend my first national model airplane championships at the Glenview Naval Air Station, just north of Chicago, Illinois. My memories of that experience include the many beautiful stunt ships tracing seemingly effortless figures in the sky. Most of these planes were powered by the most popular stunt engine of the day, the Fox .35.

Many years later, after an absence from modeling of more than two decades, I resumed national competition at the 1982 championships in Lincoln, Nebraska. Lo and behold, one of the five open finalists that year was a guy flying an update of the venerable Nobler design, still powered by a Fox, who puffed on his pipe while he flew. It was, of course, the great Bob Gieseke, who had won five national championships while I was away, and who finished a close second at the 1982 contest. Bob's seemingly effortless flying style brought back memories of my first Nats and I was struck with his remarkable consistency. During a week when flying conditions ranged from periods of dead calm to winds exceeding 25 m.p.h., Bob's pretty red Nobler didn't miss a beat!

In talking with Bob, I learned that he used a setup virtually identical to that used by most fliers competing with Foxes in the late 1950's: a 10-6 propeller, lines about 60' long (measured from the handle to centerline of the aircraft), a wingspan of 50-54" with 525-575 sq. inches of wing area, and a flying weight of 38-42 oz. While Bob's plane flew slowly through the stunt pattern, he said that his Fox .35 broke into a 2-cycle "at just the right places" to provide the necessary power.

In 1990, I decided to focus most of my modeling energies on the newly created Classic Stunt event. Part of the attraction for me was to recreate designs I grew up with as accurately as possible in all respects, including weight, trim and power. Since the Fox .35 was the only one of the many 1950's vintage engines still in production and therefore readily available, it seemed a natural choice. An added bonus was that the vast majority of planes in the Classic era were originally powered by Foxes, which would add to each project's authenticity.

My Classic Stunt projects have included a Nobler, two Smoothies, a Pow Wow, both versions of the Thunderbird, a Fierce Arrow and my current ship, Dee Rice's fine Oriental. With the exception of the Fierce Arrow, all of these ships are generally within the size and weight parameters mentioned earlier. I've competed in Classic Stunt at five national championships, winning once and never placing lower than fifth. Along the way I've learned a bit about the nearly ancient art of getting the most out of the Fox .35 engine, which I'll pass along in the following paragraphs along with some thoughts on trimming and flying Fox-powered stunt ships.

The Fox .35 stunt engine was first produced in 1948 and its basic design has remained unchanged since that time. Attempts to modify and improve the engine from its stock form have generally been unsuccessful (with a handful of exceptions which I'll discuss in a moment), usually because they have changed the basic running character of the engine and the gentle change from 4-cycle operation in level flight to 2-cycle operation in maneuvers which is its trademark. This characteristic is what makes the Fox .35 so suitable for stunt and is the reason why it is still the most popular stunt engine of all time. The Fox is very light, which makes it wonderful for stunt, but it also has small cooling fins and a limited ability to dissipate heat. Raising the compression, or "hopping it up" in other ways tends to raise the engine's operating temperature. This in turn means that the engine will 2-cycle nearly all the time, and/or be excessively sensitive to needle valve settings, which isn't acceptable.

Incidentally, currently produced Fox .35 engines have a "40th Anniversary" logo on the side of the crankcase. These engines, produced from 1988 on, are manufactured to closer tolerances than some previous production runs and are generally of excellent quality.

Now, what improvements to the engine do work? Here they are:

- Replace the Fox needle valve assembly with either a Super Tigre or Kustom Kraftsmanship assembly. This gives a much finer adjustment (replacing the Fox needle valve assembly has been a common practice for decades).
- Replace the stock cylinder head and backplate with a "stuffer backplate and hemi head (either the Fox or Foster/Smith version will do). Together, they smooth out the engine run and improve the fuel draw during maneuvers (a number of competitors secretly made these changes to their engines during the 1950's).
- Replace all engine bolts with 4-40 Allen Head bolts so that you can evenly tighten the cylinder head and backplate in place.
- Replace the Fox muffler with the very light RSM tongue muffler which will run much better and save weight.

The set up I've described (with the Fox version of the hemi head) is exactly what was in my 1994 Classic National Champion Thunderbird. The engine provided plenty of power to handle the howling winds which blew across the Lubbock, Texas flying site on the day of the Classic competition. Since then, however, I've used L & J Fox engines prepared by Larry Foster of Mesa, Arizona. These engines contain all the improvements described above, plus they are fitted and balanced. This speeds break in and results in a noticeable lessening of engine vibration. The cost approximates that of a new Fox plus the replacement parts and I highly recommend them. However, if you already have a Fox .35 engine, simply make the changes noted; it will work just fine.

Before using any new Fox engine, you must give it a thorough break in. The piston/liner seal is very important and the only way to get it is by taking time to carefully break in the engine. Here's how:

- Mount the engine on a test stand with a four ounce tank and a 9-6 propeller. Do not install a muffler during break in!
- Fill the fuel tank with the fuel you will use for flying. I recommend a mixture of 28% castor oil, 10% nitromethane and 62% methanol (for altitudes above 3,500 ft. increase the nitro content to 15% and drop the methanol content to 57%). This is quite similar to the "Powermist with added castor" mix so popular with the Detroit fliers and others during the 1950's. FHS will custom blend the fuel for you or you can purchase Sig 10/25 blend or Taff's 10 percent PAC, which are both acceptable substitutes. The long popular Fox Superfuel only has 5% nitro and produces less power than the blend I've described, so I don't recommend it. Under no circumstances should you use off the shelf R/C fuel in your Fox. It does not have anywhere near enough oil, and the oil which it does contain is mostly synthetic, which doesn't provide adequate lubrication for the crankshaft bearing or facilitate the carbon build up in the cylinder which helps form the piston/liner seal.

- Start the engine by choking it 2-3 times with the battery disconnected. Flip the engine several times to work the fuel through the engine and loosen the bearing, then connect the battery and the engine should start easily. Little or no choking is required on hot starts. Run about a gallon of fuel through the engine in a fairly fast 4-cycle. Allow to cool between tankfuls. Do not run the engine blubbering rich or you may damage the connecting rod. During the last 1/2 gallon, pinch the fuel line momentarily. Hold it for 5-10 seconds and release. The engine should immediately snap back into a 4-cycle. Repeat the process several times during each test run.

This all takes some time, but you will be rewarded with a strong, reliable engine that will last for years. After break in, you can install the RSM muffler. I suggest you mount it using Allen bolts and a screwdriver type Allen wrench rather than a TORQUE wrench, as this minimizes any tendency to overtighten and perhaps distort the crankcase. Be gentle and tighten evenly!

Next is the fuel tank. What I suggest is as follows:

- Use a 4 ounce Taffinder or Smith Tank Kit and install your own plumbing, using 1/8" copper tubing.
- Install a uniflo vent facing into the airstream. The uniflo tube should be 1-1 1/4" in front of the fuel pick up tube inside the tank and be mounted level with the fuel pick up tube (this is nearly identical to the tank in Bob Palmer's 1957 Thunderbird).
- Install a vent tube wherever you wish. After filling through the uniflo tube, the vent tube is capped.
- In flight, the airstream provides ample positive pressure through the uniflo tube. Do not use muffler pressure!
- Those of us who are older remember being told to mount the engine and tank flat against the engine bearers so that the needle valve and the fuel pick up tube would be on the same level. This is not the way to do it! Instead, shim the engine 1/16" off the engine bearers, which will equalize the engine run both upright and inverted.

Foxes have long been famous for their ability to 4-cycle in level flight, then break smoothly into a 2-cycle during maneuvers. Here's how to set that up:

- Set your well broken in engine on the ground in a 2-cycle, breaking into a 4-cycle every few seconds. The exact setting will depend on angle of the attack as your plane sits on its wheels. A plane with a shallow angle of attack needs the engine set a bit richer than one with a steep angle of attack.
- After the airplane takes off, it should settle back into a fast 4-cycle in about a lap. "Fast" means that the engine is just on the verge of 2-cycling. Lap times on 60' lines with a 10-6 propeller should range from 4.9-5.1 seconds.

Running your Fox .35 in this manner will ensure that you're operating close to its torque peak and that the engine will be generating plenty of power for a 40 ounce, 550 square inch stunt ship. The lap times of 4.9-5.1 seconds may sound fast to you if you're used to flying larger, modern planes on longer lines, but it's actually slower than most of today's aircraft as you'll see when you start flying maneuvers.

Now that we're ready to go flying, a couple of words about glow plugs and props. There are a lot of choices, but I recommend the following:

- Thunderbolt RC - long glow plugs, which I have used for many years with great success in temperatures ranging from 45-105 degrees Fahrenheit.
- 10-6 B- Y&O propellers. These are the famous Y&O propellers now manufactured by Clarence Bull using Henry Orwick's original tooling. They are an absolutely perfect match for the Fox .35. Other acceptable choices are the 10-6W Rev Up and the 10-6 Top Flite.

The last item before we go flying is the control lines themselves. I'm a big believer in the Bob Gieseke notion that "the shorter, the better" works best for the Fox. It's no accident that nearly all Fox powered aircraft were flown on 60' lines during the Classic era. It's because this length is so compatible with the engine's power. I strongly suggest that you use this length, at least as a starting point. By the way, that's 60' from the handle to the centerline of the aircraft, not the eylet-to-eylet length.

One of the things you'll soon discover flying a Fox powered ship on 60" lines at a 5.0 second lap time is that it's relatively easy to hit the bottoms accurately on wingovers and square maneuvers. There are a couple of reasons for this. First, the light weight of the Fox results in minimal weight at the extremities of the aircraft (nose and tail) and this makes it easier to start and stop turns. Second, and most important, the airplane is actually going quite slowly, thus the "closing speed" as the plane approaches the ground is less than that of larger planes and is easier on the reflexes. In addition, the Fox .35 tends to "back off" as it breaks back into a 4-cycle while the plane is diving - a braking effect which is mimicked by today's tuned pipe set-ups.

"How can that be?", you ask. "Five second laps are a lot faster than my regular PAMPA stunter which flies 5.5 second laps." True, but modern stunters typically fly on 70' lines. Actually, a plane flying 5.0 second lap times on 60' lines is going quite a bit slower than a plane doing 5.5 second laps on 70' lines (51.4 m.p.h. vs. 54.5 m.p.h., to be exact). You can compare airspeeds with your favorite stunter by using the following formula:

$$\text{airspeed in m.p.h.} = \frac{4.284 \times \text{line length} \times \# \text{ of laps}}{\text{time in seconds}}$$

A properly broken in Fox .35, set up in the manner I've described, is still an easy to operate, competitive engine nearly half a century after its introduction. It was Duke Fox's finest effort and is still the standard against which stunt motors are measured. Bob Gieseke once told me that "nothing runs like a Fox". I agree, and perhaps you will too.

While some of what I've discussed in this article is applicable to other Classic era engines, such as the McCoy, Veco, O.S. MAX and Johnson .35's, I've focused on the Fox .35 because it was far and away the most popular engine of the period, many planes were originally designed for it and because it's still in production. It's also not my intention to ignore the accomplishments of numerous individuals who have been successful in converting modern, Schnuerle ported engines for stunt use. Their success speaks for itself!

However, for many of us who want to experience stunt as it was actually flown 40 years ago, putting a Fox .35 in the nose of one of the many great planes from the Classic era is the only way to go. If this appeals to you too, then I hope this article gets you off to a good start. Please refer to the accompanying suppliers listing which tells you where to obtain the various products described in this article.

Fox .35 Engine, Fuel and Accessory Suppliers

B- Y&O Industries
P.O. Box 492
Harrisburg, OR 97446
(541) 995-6509

- B- Y&O Propellers

Carolina - Taffinder
8345 Delhi Road
North Charleston, SC 29406
(803) 553-7169

- Taff's Fuel
- Taff's Tank Kits

FHS Supply, Inc.
P.O. Box 9
239 Bethel Church Road
Clover, SC 29710
(800) 742-8484

- Red Max Custom Fuel

Fox Manufacturing Company
5305 Towson Avenue
Fort Smith, AR 72901
(501) 646-1656

- Fox .35 Engines
- Fox Hemi Head and Stuffer Backplate Kits
- Fox Superfuel

Kustom Kraftmanship
P.O. Box 1538
San Marcos, CA 92079
(619) 761-0511

- KK Needle Valve Assemblies

RSM Distribution
40 Calendula
Rancho Santa Margarita, CA 92668
(714) 858-8575

- RSM Mufflers
- L&J Fox .35 Engines

Sig Manufacturing Company
401 South Front Street
Montezuma, IA 50171-9900
(800) 247-5008

- Fox .35 Engines
- Sig Fuel
- Rev-Up Propellers
- RSM Mufflers

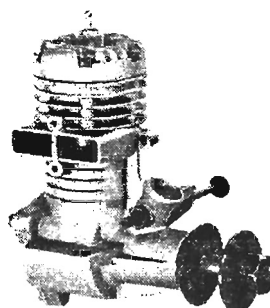
Kenn Smith
521 Jansen Avenue
San Dimas, CA 91773-1617
(909) 592-2100

- Smith's Tank Kits

Randy Smith
1880 Scenic Highway
Snellville, GA 30278
(770) 979-2035

- Foster/Smith Hemi Heads
- Super Tigre Needle Valve Assemblies
- Thunderbolt R/C Long Glow Plugs

Donald S. McClave
January, 1997



FOX 35 STUNT

WT. 6 1/2 OZ.
DISP. 352
RPM 9,600
WITH 10-6 PROP

NORTHWEST'S CH. CONTINUES! CALIFORNIA

THE FOLLOWING LISTING IS A SUMMARY OF ALL KNOWN A.M.A. AND M.A.A.C. SANCTIONED EVENTS AS OF 2-15-97. FOR FURTHER INFORMATION, PLEASE CONTACT THE INDIVIDUAL LISTED. CONTEST DIRECTORS AND CLUB LEADERS ARE ENCOURAGED TO CONTACT FLYING LINES AS SOON AS POSSIBLE WITH THEIR PLANS, INCLUDING REVISIONS AND TENTATIVE DETAILS.

MARCH 15: RICHLAND, WASHINGTON CBBB SPRING OPENER
EVENTS: CLASS I MOUSE RACE, NW FLYING CLOWN RACE, NW SPORT RACE SITE: HORN RAPIDS ATHLETIC COMPLEX. SPONSOR: COLUMBIA BASIN BALSA BASHERS. CONTACT: PAUL RICE (509) 627-3142

APRIL 6: VANCOUVER, BRITISH COLUMBIA
EVENTS: .15 CARRIER, CLASS I & II CARRIER, NW CLOWN RACE SITE: ? SPONSOR: PACIFIC AEROMODELLERS CLUB. CONTACT: MIKE CONNOR (604) 465-7277

APRIL 20: MISSION, BRITISH COLUMBIA
EVENT: B.C. NOSTALGIA DIESEL COMBAT. SITE: CALL FOR DIRECTIONS. SPONSOR: MISSION WINGS MODEL CLUB. CONTACT: PAUL DRANFIELD PHONE (604) 826-3376
E-MAIL: pdran@bc.sympatico.ca

APRIL 26: PORTLAND, OREGON
EVENTS: CLASS I MOUSE RACE (JR) & (SR) ONLY, NW SPORT RACE, NW SUPER SPORT RACE, NW FLYING CLOWN RACE (BEGINNER) & (ADVANCED) SITE: DELTA PARK SPONSOR: NORTHWEST FIREBALLS. CONTACT: ?

MAY 3 & 4: RICHLAND, WASHINGTON MAY BALSA BASH VIII
EVENTS: TO BE ANNOUNCED SITE: COLUMBIA MARINA PARK SPONSOR: COLUMBIA BASIN BALSA BASHERS. CONTACT: PAUL RICE (509) 627-3142

MAY 10: VANCOUVER, BRITISH COLUMBIA
EVENTS: NW SPORT RACE, PAC 15 SPORT RACE SITE: ? SPONSOR: PACIFIC AEROMODELLERS CLUB. CONTACT: MIKE CONNOR (604) 465-7277

MAY 23 & 24 & 25: ROSEBURG, OREGON NORTHWEST CL REGIONALS
EVENTS: PRECISION AEROBATICS, OLD TIME STUNT, CLASSIC STUNT, AMA FAST COMBAT, SLOW COMBAT, 1/2 A COMBAT, 80 MPH COMBAT, PROFILE CARRIER, CLASS I CARRIER, CLASS II CARRIER, .15 CARRIER, MOUSE RACE I, MOUSE RACE II, SLOW RAT RACE, RAT RACE, AMA GOODYEAR, NW GOODYEAR, NW SPORT RACE, NW SUPER SPORT RACE, NW FLYING CLOWN RACE, AMA PRECISION SCALE, AMA SPORT SCALE, PROFILE SCALE, 1/2 A SPEED, A SPEED, B SPEED, D SPEED, JET SPEED, FAI SPEED, FORMULA 40 SPEED, 21 SPORT SPEED, 21 PROTO SPEED, JR / SR RECORD RATIO SPEED. SITE: ROSEBURG AIRPORT. SPONSOR: EUGENE PROPSPINNERS & UMPQUA VALLEY MODELERS CONTACT: CRAIG BARTLETT, 205 NE CEDAR LANE, CORVALLIS, OREGON 97330 PHONE (541) 745-2025

JUNE 7: RICHMOND, BRITISH COLUMBIA VGMC ALL STUNT DAY (TENTATIVE)
EVENTS: PRECISION AEROBATICS, OLD TIME STUNT SITE: RICE MILL ROAD SPONSOR: VANCOUVER GAS MODEL CLUB CONTACT: VGMC, PO BOX 58037, STATION L, VANCOUVER, BC V6P 6C5

JUNE 14 & 15: KENT, WASHINGTON JIM PARSONS MEMORIAL (TENTATIVE)
EVENTS: PRECISION AEROBATICS, OLD TIME STUNT, CLASSIC STUNT SITE: BOEING SPACE CENTER, KENT. SPONSOR: SEATTLE SKYRAIDERS

JULY 6: MISSION, BRITISH COLUMBIA
EVENT: B.C. NOSTALGIA DIESEL COMBAT SITE: CALL FOR DIRECTIONS SPONSOR: MISSION WINGS MODEL CLUB CONTACT: PAUL DRANFIELD PHONE (604) 826-3376
E-MAIL: pdran@bc.sympatico.ca

JULY 12- 19: MUNCIE, INDIANA A.M.A. CL NATIONALS

JULY 19 & 20: COQUITLAM, BRITISH COLUMBIA CAN-AM SPEED CHAMPS
EVENTS: ALL CLASSES SPEED, PLUS SPECIAL JR. EVENT SITE: UPPER COQUITLAM PARK. SPONSOR: VANCOUVER GAS MODEL CLUB CONTACT: VGMC, PO BOX 58037, STATION L, VANCOUVER, B.C. V6P 6C5

JULY 26 & 27: RICHMOND, BRITISH COLUMBIA P.A.C. INVITATIONAL
EVENTS: NW FLYING CLOWN RACE, NW SPORT RACE, CARRIER, OLD TIME STUNT, PRECISION AEROBATICS, SCALE. SITE: RICE MILL ROAD SPONSOR: PACIFIC AEROMODELLERS CLUB CONTACT: MIKE CONNOR (604) 465-7277 & CHRIS COX (604) 596-7635

AUGUST 10: MISSION, BRITISH COLUMBIA
EVENT: B.C. NOSTALGIA DIESEL COMBAT SITE: CALL FOR DIRECTIONS SPONSOR: MISSION WINGS MODEL CLUB CONTACT: PAUL DRANFIELD PHONE (604) 826-3376
E-MAIL: pdran@bc.sympatico.ca

AUGUST 17: SALEM, OREGON (TENTATIVE)
EVENTS: NW SPORT RACE & COMBAT(?) & STUNT EVENT(S) (?) SITE: SALEM AIRPORT SPONSOR: WESTERN OREGON CONTROL LINE FLYERS CONTACT: MIKE HAZEL (503) 364-8593

AUGUST 24: VANCOUVER, BRITISH COLUMBIA
EVENTS: NW FLYING CLOWN RACE, MOUSE RACE I SITE: ? SPONSOR: PACIFIC AEROMODELLERS CLUB CONTACT: MIKE CONNOR (604) 465-7277

SEPTEMBER 13 & 14: KENT, WASHINGTON RAIDER ROUNDUP
DETAILS & EVENTS TENTATIVE: PRECISION AEROBATICS, SCALE, SPEED, RACING, CARRIER, COMBAT SITE: BOEING SPACE CENTER, KENT SPONSOR: SEATTLE SKYRAIDERS.

SEPTEMBER 28: COQUITLAM, BRITISH COLUMBIA VGMC RACE-O-RAMA
EVENTS: CLASS I MOUSE RACE, NW SPORT RACE SITE: UPPER COQUITLAM PARK SPONSOR: VANCOUVER GAS MODEL CLUB CONTACT: BRUCE DUNCAN (604) 855-7295

OCTOBER 7: PORTLAND, OREGON REALLY RACING & FALL FOLLIES
DETAILS TENTATIVE, EVENTS: MOST RACING EVENTS & PRECISION AEROBATICS SITE: DELTA PARK SPONSOR: EUGENE PROPSPINNERS & NORTHWEST FIREBALLS

The Scoreboard

Northwest control-line competition standings.

Todd wins again

We're sorry. There just wasn't any suspense again this year. Yup, Todd Ryan was Mr. Competition in 1996.

Todd scored 160 points in four event categories — Navy Carrier, Racing, Old-Time Stunt and Speed — to sweep away the competition.

And it was a banner year for competition in the Northwest, with 101 fliers scoring points. The fliers who score points are those who placed in the top four of some event in a sanctioned Northwest contest during 1996 — even more fliers participated who did not score points.

Racing was once again the most active competitive category, with 49 fliers scoring points in 12 days of competition. Precision aerobatics was the next most popular, with 32 people scoring in seven contests.

In case you hadn't noticed, there's a youth movement in the Northwest. By our count (lumping together everyone from juniors to college age) five out of the top 10 fliers are young folks. Todd Ryan leads the pack, with junior flier Stephen Cox in second place with 60 points, junior James Cox in fifth with 48, Joe Rice in sixth with 47, and Euan Edmonds in seventh with 43. And, as you look down the list, you see lots of juniors and seniors in the standings, particularly among the racers.

Anyone who would like a printout of the complete 1996 Mr./Ms. Competition standings for 1996 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 1997 now and time to remind contest organizers to keep track of standings through fourth place in all of your sanctioned contests, and send those results to *Flying Lines* for calculation in the standings.

Following are the Final 1996 Mr./Ms. Competition rankings. Initials after the names indicate the events in which points were scored.

- C=Combat.
- NC=Navy Carrier.
- CS= Classic Stunt.
- OT=Old-Time Stunt.
- PA=Precision Aerobatics.
- R=racing.
- S=Speed.
- SC=Scale.

1996 OVERALL STANDINGS

1. Todd Ryan — NC, R, OT, PA, S	160
2. Stephen Cox * — R, S	66
3. Rick Meadows — NC, R, OT, PA, SC	53
4. Mike Conner — NC, R, OT, PA	49
5. James Cox * — R, S, SC	48
6. Joe Rice — R	47
7. Euan Edmonds — NC, R, S	43
8. Nitroholics Racing Team — R	41
9. Dick Salter * — C, S	38
10. Chris Cox — R, OT, PA	37.5
11. Rich McConnell — NC, R, CS, OT, PA	37
12. Paul Walker — PA	34
13. Chuck Schuette — S	30
14. Don McClave — CS, PA	29
Derrick Meadows — R, S	29
16. Bob Spahr — S	28
Alan Olsen — NC, R	28
18. Bruce Duncan — R	26
19. Bob Emmett — CS, PA	23
Ron Salo — R, S	23
21. Mac Ryan — R	22
Aaron Olsen — R	22
Jim Giles — R	22
24. Howard Rush — C, PA	20
Mel Lyne — C, OT	20
26. Jeff Rein — C	19
27. Tom Strom * — C, R	18
28. Pat Johnston — CS, S, PA	16
29. Emil Kovak — CS, PA	15
30. Henry Hajdik — R	14
31. Ken Burdick — C	13
Gary Harris — C	13
33. Paul Gibeault — R	12
VM Racing Team — R	12
Tiffany Mosely — R	12
Frank Boden — NC, R, S	12
37. Randy Powell — PA	11.5
38. S&S Racing Team — R	11
39. Jack Pitcher — PA	10.5
40. Jerry Eichten — PA	10
Karl Brown — S, PA	10

Nathan St. John — R	10
Bill Darkow — R	10
Norm McFadden — C	10
Buzz Wilson — C	10
46. Alan Resinger — PA	9
Jerry Thomas — S	9
Greg Davis — CS	9
Travis Morgan — R	9
Lloyd Marohl — NC	9
Mike Potter — NC	9
Jim Green — C	9
53. Dave Royer — PA	8
John Leidle — CS	8
Remy Dawson — R	8
56. Bob Parker — PA	7
John Brama — CS	7
Roy DeCamara — CS, PA	7
Thorin Brown — R, PA	7
Joe Just — R	7
Jesse St. John — R	7
Mike Hazel * — NC, S	7
63. Alice Cotton-Royer — PA	6
Chris Sackett — S	6
Cox Racing Team — R	6
Nick Hagman — R	6
Paul Dranfeld — R	6
68. Keith Varley — PA	5
Leo Mehl — PA	5
David Thompson — CS, PA	5
Dan Rutherford — CS	5
Julie Rice — R, S	5
Larry Bell — R	5
Dennis Matthews — NC, R	5
John Thompson * — NC	5
76. Jack Oster — R	4
Shawn Tilma — R	4
Dawndee Brittain — R	4
Jesse Gooby — R	4
John Howell — R	4
Terry Miller — NC	4
82. Dave Finnie — PA	3
Lee Uberbacher — PA	3
Bob Einhaus — S	3
James Mills — R	3
Mark Wahlster * — R	3
Barry Shandel — NC	3
88. Corrine Brama — PA	2
Chris Hazel — S	2
Greg Nelson — R	2
Terry Mitchell — NC	2
Jim Drury — NC	2
Bob Nelson — C	2
94. Hube Start — PA	1.5
95. Brian McPhail — PA	1

Scott Newkirk — S	1
Charles Edmonds — R	1
Wahlster/Rymon — R	1
Michael Nelson — R	1
Jay Just — NC	1

* Also scored points with a team entry.

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 on 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. When you send your report to AMA, remember to send the results to *FL*, too. If you spot any 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. 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, another popular *FL* feature.

Send results to statistician John Thompson at the address listed below.

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.

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, send a self-addressed, stamped envelope.

COMING NEXT ISSUE

SCALE, BY FRED CRONENWETT

ROUND & ROUND BY JOHN THOMPSON

UPDATED CONTEST CALENDAR

PHOTOS!

CLUB DIRECTORY

ZOOT'S MIXTURE

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Hurry and send in those renewals today! You don't want to delay your next action-packed, ever-thrilling issue!

COLUMBIA BASIN Balsa BASHERS PRESENT....

CBBB SPRING OPENER

MARCH 15TH, 1997
HORN RAPIDS ATHLETIC COMPLEX
Richland WA

Events will be:

CL I Mouse	(JSO)	9:30 am
N.W. Flying Clown	(JSO)	10:30 am
N.W. Sport	(JSO)	1:00 pm

Trophies to Third Place

CD: Paul Rice (509) 627-3142

Sponsor: Paul Rice & Columbia Basin Balsa Bashers

Entry Fee: \$5.00 per event



The schedule for the 1997 National Aeromodeling Championships is official! As last year, the events will be run primarily by the Special Interest Groups. The outdoor events will be held at AMA's International Aeromodeling Center in Muncie, Indiana and Indoor Free Flight will again be in the ETSU Mini-Dome in Johnson City, Tennessee. Entry forms have been sent to contestants participating the last two years and are available by calling AMA HQ Competitions Department or AMA's Fax-On-Demand number and requesting the entry forms. All material will include directions, maps and hotel listings.

Schedule of Events

Indoor Free Flight	Wednesday, May 28—Sunday, June 1
Scale	Friday, July 11—Sunday, July 13
Helicopter	Sunday, July 13—Saturday, July 19
RC Pylon	Sunday, July 13—Saturday, July 19
Control Line	
Precision Aerobatics	Saturday, July 12—Saturday, July 19
Speed	Monday, July 14 - Friday, July 18
Racing	Monday, July 14—Saturday, July 19
Combat	Monday, July 14—Saturday, July 19
Carrier	Thursday, July 17—Saturday, July 19
RC Pattern	Sunday, July 20—Friday, July 25
RC Soaring	Saturday, July 26—Saturday, August 1
Outdoor Free Flight	Monday, July 28—Friday, August 1
Electric	Sunday, August 2—Wednesday, August 5

Dear Northwest Control Line Modelers,

There is an unfortunate trend in our society today, one that threatens to change the very way we live our lives and how we relate to our fellow men, the trend which I speak of in such ominous tones, has not overlooked our ranks (the modelers of the NW), and in fact, is as pervasive as any other segment of society.

What is the problem, you ask. The problem is, our win at any cost attitudes! Our attitude that it is perfectly alright to bend, break, or flat out ignore the rules so long as you win. The rules of any particular event were created by those who originally flew and competed in the event; the rules were created to level the playing field for all who wished to compete. As the current participants in those events we can change the rules to suit our own needs. We make all the rules and if we don't like an event we should change it. Keep in mind however, that when you go around changing the rules- the record book becomes highly irrelevant. None of us wants that, do we!

When you sit down and think about it, the rule book has already gotten to be irrelevant, simply because the people who desecrate the rules and set a record in the process have made it irrelevant. The artificially achieved record is also doing serious harm to the beginners. They are bewildered by how unattainable most record setting performances are. And while I am on the topic of the beginners, there are certain events designed specifically for the beginner- so why do so many experts specialize in them; do they realize they are discouraging interest in that event. Without beginners modeling will die.

The only way to ensure modelings growth is to be absolutely punctilious about every rule. Please do not get me wrong. I will work between the rules as often as I can- but what is not stated directly in the rules is strictly left to the modelers imagination. I do not think we need any more rules or even any more specific interpretations.

What we do need however, is a better adherence and enforcement of the rules we already have. When a contestant signing up for a given event he has an obligation to know the rules of that event; he has a right to have the event run by an event director who knows all the rules, and applies them uniformly and without bias. Without uniform application of the rules, the average modeler would not know what to expect when he or she drives 300 miles for any given contest.

I suppose I have preached enough, and I hope I have offended people just enough to make a positive change in their behavior. In closing, I would like to say that let's show everyone that Northwest modelers are the finest sportsmen and women, in the world.

(signed) Mark L Hansen

FLYING LINES

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