



NEWS OF NORTHWEST CONTROL-LINE MODEL AVIATION

1073 Windemere Dr. NW, Salem, OR 97304

Editor: Mike Hazel

MARCH 1997 ISSUE # 138

In this thrill packed issue.....

- * **Round & Round, by John Thompson**
- * **Throttle Control & Test Flying, by Fred Cronenwett**
- * **Carrier for Event Directors, by Orin Humphries**
- * **NW Contest Calendar**
- * **Engines, Etc., by Paul Gibeault**
- * **And more little modeling morsels**

Greetings, Readers! Another thrill-packed issue of FLYING LINES is in your hands! We didn't get to everything we had wanted to, so some things will get carried over to the next issue. So what else is new?

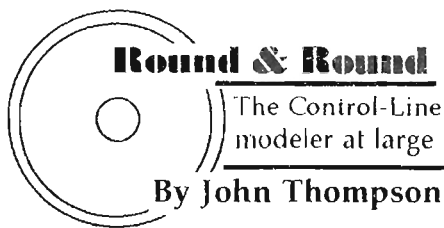
Included is a piece by Orin Humphries on doing the duty of a Carrier event director. This is another installment of an occasional piece we have run on contest officiation. Orin has some interesting observations and takes on running the event. Carrier flyers, read up! Orin refers in the article to a rules summary, which does not appear in this issue. Just not enough space. If you are interested in a copy of this, just send a request to the editor.

Ever tire of reeling up those lines at the end of a flying session? Then do what Jim Drury did, and build an electric line reeler! Jim showed this to me last year at one of the Portland meets. The compact little homebuilt unit has an axle that a standard line reel slips onto, press the button and go with it!

The SKYWRITER, newsletter of the Seattle Skyraiders has been looking real good since Bill Darkow took the helm as editor. Lots of interesting well-rounded coverage of activities, which we will report on in upcoming issues. Plus it is nice to see some mention and acknowledgement of FL. Thanks for the plug, Bill!

Earlier this year there was an organization formed called the "Oregon Model Aircraft Club Alliance". This was formed as a result of some political action taking place in certain areas of Oregon where the RC fliers were being shut down because of being in violation of land usage laws. Specifically, the local laws state what activities can be done in land zoned as Exclusive Farm Use. If the law doesn't say you can do it, then you can't! ORMACA is orchestrating an effort to lobby the legislator to amend the law, allowing operation of all types of model airplanes. While primarily a concern for RC flying (lots of RC activity is on farm type land), it is good to see that the organization is also concerned about possible impact and activities for the free flight and control line modelers as well. This situation has been mentioned in the AMA magazine, and our AMA district VP, Ed McCollough, has been actively involved.

We heard from Dick Kulaas from Wenatchee, WA recently. Dick wanted to pass on to readers that may be interested in flying the .21 speed events that there is an inexpensive alternative to the big bucks engines. K&B makes a .21 engine specifically for CL speed, but it is not advertised. What you ask for is the K&B part number 1111-3.5. Price is \$105.00



Modeling thought for the month:

"If you don't know where you're going, you'll probably end up somewhere else."

That ain't castor you smell

No, it's diesel fuel. It's wafting all around us, from Clown Race to the combat circles.

Yes, there's a new event catching the interest of some combat fliers, called Vintage Diesel Combat.

There'll be a demonstration event for it at The Regionals in May, in addition to three contests in Mission, B.C. over the course of the year. See the contest calendar for schedule details.

I won't say much more than that, because I haven't seen the event in person, but the Seattle area fliers who have tried it out tell me that it's great fun at a slow pace and a low cost.

But, just to open the door for anyone else who might be interested in giving it a try, I'll pass along the rules sent to me from Ken Burdick, who got them from Mel Lyne, who should know about British combat events!

Here are the B.C. rules:

FIVE ROUNDS OF VINTAGE DIESEL COMBAT 1996 British Columbia Rules

THE MODEL

(a) A vintage combat model must be built in accordance with a design which was in common use prior to and up to December 31st 1970 or was kitted prior to that date. Only models which are on the approved list may be used. The model must be for .15 size engines.

(b) Models must be an accurate plan view of the original. The following alterations are permitted:

(1) Addition to or omission of sheeted areas i.e. centre sheeting.

(2) Changes to wing section or internal structure.

(3) Additional booms or replacement of wire booms with wooden ones.

(4) Recessing the engine into the leading edge.

(5) A balanced elevator may be changed to a conventional elevator and vice-versa. The elevator must retain the original outline.

(6) Such changes must be carried out using constructional techniques that were commonly used at the time that the model was in use. The use of carbon, kevlar or boron fibre reinforcement is not permitted. Modern adhesives are permitted.

(7) Foam construction instead of wood may be used.

(8) Exterior controls may be used.

(c) The following alterations are not permitted:

(1) Any change to the original plan view except those outlined in b.1, b.4, and b.5 above, i.e. no smaller or larger elevators, no increase in wingspan, root chord or tip chord. (2) The omission of or alterations to the size of any fin(s).

(3) The use of metal motor mounts instead of wood.

NOTE

The CD may decide not to accept a model which, in their opinion, has been altered so as to change the appearance or performance of the model as originally designed.

The onus of proof in any such case must always lie with the competitor.

(d) The model may be covered in any material including films and plastics.

(e) The name (and mark #) plus the year of the model must be clearly visible on the upper flying surfaces.

ENGINE

(a) The engine shall be a diesel of .15 cu. in. (2.5 cc) maximum displacement with iron/steel piston liner. Schneurle ported engines are not permitted.

(b) Only suction fuel systems are permitted.

(c) The propeller must be a Tornado Flexi White Nylon 8" diameter x 6" pitch. The only modifications allowed are: balancing the propeller by sanding one blade.

LINES

(a) Control line length from the inboard grip of handle to the longitudinal centre line of the model shall be 52'-3" (+/- 6 inches).

(b) Control lines shall be multi-strand and of a minimum diameter of 0.015".

(c) Line changes during combat period are not permitted.

NUMBER OF MODELS

A contestant will be allowed to use one model per bout with a maximum of three models per

contest.

PIT CREW

Two pit crew are allowed per contestant. A contestant may start his own engine.

OFFICIALS

A contest shall be run by a Circle Marshal, who shall be the overall time keeper, and one scorer per contestant.

THE BOUT

(a) A contestant's flight commences after a 60 second period for engine starting. The last 10 seconds of which shall be counted down by the Circle Marshal prior to the start signal.

(b) The flight shall last 5 minutes from the starting signal and its completion shall be signaled by the Circle Marshal

(c) The engine must be started by flicking the propeller by hand.

SCORING

(a) Scoring will commence at the starting signal and finish at the completion signal.

(b) One point will be awarded for each second that a contestant's model is airborne during the flight period.

(c) 50 points will be added to the contestant's score for each single cut of their opponent's streamer or string with knot.

CONDUCT

(a) A pilot must remain inside the centre circle while his model is flying except at the moment of release of his model.

(b) After a midair collision the heat shall continue as if both models had landed.

OFFENSES

If during the servicing of a grounded model the pit crew break or cut the streamer it must be replaced with a new full length streamer prior to launch.

If during servicing the streamer should become entangled and subsequently fail to unfurl the pilot must immediately land to have the streamer untangled or replaced. No additional penalties other than ground time will be incurred.

CONTEST PROCEDURE

(a) Each contestant shall compete in five rounds. 2 points for a win, 1 for a tie, 0 for a loss.

(b) The total scores of each contestant shall be added to provide an overall winner.

COMBAT SITE

The combat site shall be laid out using 2 concentric circles to provide a 5 foot radius pilot's circle and a 65 foot radius safety circle.

Speaking of rules: I'd like some feedback on

the matter of Northwest Goodyear. One of the most inexpensive engines — and one of the best — for that event (if you can get one) is a Moki sport .15. Should it be added to the engine list? Is there enough interest for a ballot on this question? This might eliminate the need some people feel to spend in three digits for the Conquest .15 or similar engine. Any thoughts?

Micro madness: I recently bit on a magazine advertisement and I'm glad I did. Well, yes, I spent \$94 on nuts and bolts. But it was a lifetime supply of nuts and bolts! No more of this \$1 for four screws business. If this sounds good to you, sent off for the Micro Fasteners catalog: Micro Fasteners, 110 Hillcrest Road, Flemington, NJ 0882, e-mail microf@blast.net. You will be astounded at the number of little bits and parts you can buy in bulk, pretty cheap — and at how much money you'll spend on your first order!

Our flying heritage: Unless you live in a cave, you know about the Vintage Stunt Championships, the biggest gathering of old-timers and classics (people and planes, both!) in the world. The ninth annual extravaganza is March 21-22-23 in Tucson, Ariz. Someday I'm gonna make this one (maybe after the All-American's finished). Alas, I'm going to be close by (Yuma) on the 24th, but couldn't work out the details for a side trip. Bah.

Caught in the Web: Here's another Web page for modelers. Bill Calkins' new page has links to MACA, PAMPA, NCLRA and others. Check it out at: <http://pwp.starnetinc.com/clflyer>.

Field of dreams: I had a chance to check out the WOLF club's new field at the Salem, Ore., airport recently. It does the heart good to see a new flying site appear on the map. WOLF plans a small contest for Aug. 17. This is one everyone will want to support to help inaugurate this new flying site and welcome this active group to the contest circuit.

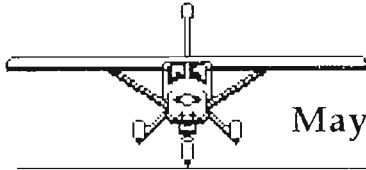
News flash: This just in — the urgent Navy Carrier proposal has passed by a 10-0-1 vote of the Control-Line Contest Board. This proposal allows an extra two minutes of starting time for each engine of a multiengine carrier plane.

Dick Perry, the proposer, points out that there are more multis being built and there was no provision in the rulebook to allow "flicking" all those props.

Send comments, questions, and topics for discussion to John Thompson, 2456 Quince St., Eugene, OR 97404...e-mail JohnT4051@aol.com.

The 26th annual...

Paul Agerter **Northwest**
Control-Line Regionals



May 23-24-25, 1997

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

IMPROVED SITE AND SCHEDULE!

With **43 events** and **132 trophies**, the Northwest Regionals provides the largest selection of control-line competition events and awards available in a single contest in the United States.

You can compete
in these great championship events:

- AEROBATICS — 4 PAMPA classes, Old-Time Stunt and Classic stunt!
- COMBAT — AMA, Slow, 1/2-A, 80-mph (Shutoffs required in AMA, Slow and 80-mph Combat).
- NAVY CARRIER — Profile, Class I, Class II and .15 carrier!
- RACING — Mouse I&II, Rat, Slow Rat, Goodyear, NW Goodyear, NW Sport, NW Super Sport, Clown
- SCALE — AMA Precision, AMA Sport Scale and Profile Scale!
- SPEED — 1/2-A, 1/2-A Proto, A, B, D, FAI, Jet, Formula 40, .21 sport and .21 Proto.
- JUNIOR EVENTS — NWSR, Class I Mouse, Junior/Senior Record Ratio Speed
- UNOFFICIAL DEMONSTRATION EVENT — Diesel Combat

The Regionals returns to Roseburg Regional Airport!

Three asphalt circles, two grass circles ... Ample parking
Camping and RV space ... Rest rooms ... On-site hobby shops ... On-site food concessions
Registration, vendors and modelers' meeting place inside an airport hangar!

Motels and restaurants nearby!

A new practice site at the Douglas County Fairgrounds, and a newly improved carrier circle!

This area is noted for warm weather with low wind velocity!

TROPHIES ... MERCHANDISE PRIZES ... GRAND CHAMPIONSHIP TROPHIES
CATERED SATURDAY NIGHT "HANGAR PARTY" AT THE AIRPORT

Be sure to check the back of the flyer for details of the new, improved schedule. The flying site at Roseburg Regional Airport is just off Interstate 5 in north Roseburg.

Contest Director Craig Bartlett, 205 N.E. Cedar Lane, Corvallis, OR 97330
(541) 745-2025

The Paul Agerter Northwest Control-Line Regionals

Roseburg Regional Airport, Roseburg, Oregon

SCHEDULE OF EVENTS

FRIDAY

Slow Combat 12:30
Speed (all classes) Noon-5
Northwest Goodyear 12:30
Carrier (all classes) Noon-5
Flying Clown Race 2 p.m.

SATURDAY

Mouse Race I (Jr.) 8:30 a.m.
80-mph Combat 8:30 a.m.
Carrier (all classes) 8:30-5
Speed (all classes) 8:30-5
Old-Time Stunt 9 a.m.
Mouse Race I (Sr.) 10:30 a.m.
Mouse Race I (O) Noon
Classic stunt 12:30 p.m.
Mouse Race II 1:30 p.m.
1/2-A Combat 2 p.m.
Rat Race 3 p.m.
NW Super Sport 4 p.m.

SUNDAY

Prec. Aerobatics 8:30 a.m.
Scale (all classes) 8:30-noon, 12:30-4
AMA Combat 8:30 a.m.
Goodyear 8:30 a.m.
Slow Rat Race 9:30 a.m.
NW Sport Race (Jr.) 10:30 a.m.
NW Sport Race (S-O) 11 a.m.
Speed (all classes) Noon-4 p.m.

SCHEDULE NOTES

- * Registration is open Friday from **noon-5 p.m.**, Saturday and Sunday **8 a.m.-noon**. Early entry encouraged.
- * Precision, Old-Time and Classic aerobatics entrants and scale entrants check at registration for meeting info.

RULES INFORMATION

- * AMA events are per 1996-97 rule book, except as noted below. **Know the rules!**
- * Official Northwest Rules will be used for the following events: *NW Sport Race, NW Super Sport Race, Northwest Goodyear, Flying Clown Race, .15 Carrier, 80-mph combat*. For complete rules, write John Thompson, 2456 Quince St., Eugene, OR 97405. **Not knowing the rules is no excuse -- get your copy now!**
- * **COMBAT** - All events flown double-elimination. **FLYAWAY SHUTOFFS REQUIRED for AMA, 80mph and slow combat**. Shutoff's subject to ground test; any flyaway in which shutoff fails to work will result in disqualification. An unofficial demonstration competition for **Diesel Combat** will be flown following Slow Combat on Friday afternoon. For information contact Combat Director Jeff Rein, 14326 102nd Ave. N.E., Bothell, WA 98011.
- * Precision Aerobatics Model Pilots Association rules will be used for *Old-Time Stunt* and *Classic Stunt*. North American Speed Society rules will be used for *.21 proto*. Write appropriate organizations for rules.
- * Navy carrier — Mufflers optional. No tuned pipes, Magic mufflers OK.
- * **Safety thongs** required in **all** events.
- * Contestants may at some times be required to assist in timing or judging.

OTHER INFORMATION

- * A new rise-off-water pond, just for fun. Try your hand! for details, call Dave Shrum, (541) 672-8893.
- * AMA or MAAC membership required for all participants, including mechanics. AMA membership available at registration.
- * Only participants and officials allowed in flying areas. All others must stay outside roped-off or restricted areas.
- * Absolutely no alcoholic beverages on flying field during meet hours.
- * Awards — Trophies and merchandise through third place in each event and age grouping, and first- through third-place grand championship trophies. **Approximate value of awards: \$2,500.**
- * Overnight camping and RV space is available on or near site. Rest rooms, restaurant, etc., are nearby. Food concessions and hobby shops will be on site most of each day.
- * Advance registration by mail requested for Saturday night banquet. Forms available from contest director

FOR MORE INFORMATION, CONTACT:

Contest Director Craig Bartlett, 205 N.E. Cedar Lane, Corvallis, OR 97330 — (541) 745-2025

Throttle Control and Test Flying

By: Fred Cronenwett

While most Control Line models have a fixed venturi with a needle valve, which means the engine runs at a set RPM until the model runs out of gas, other CL models have throttle control. I fly models that have a carburetor so that I can adjust the RPM of the engine during flight. Throttle control on a scale model is expected if you are going to do well. While it is possible to enter a scale contest with a model that does not have throttle control your odds of placing well is not good.

The two methods available to us to adjust the throttle is the old tried and true system called 3-line and the electronics of course. We will not be discussing how to set up these systems here today but what to do with the throttle once it is working properly. Throttle is mainly used on scale, carrier and sport models. If you fly combat, speed, racing or stunt you probably never really thought about it at all. The next time you have a whim to build a different kind of model consider putting in throttle control for a change of pace. You will find that it opens up a whole new range of challenges and fun.

Normal operation

Throttle control changes how you fly and what you can do with the model. Instead of starting the engine and hanging on with the engine at full bore we can reduce the RPM to an idle before takeoff. I normally warm up the engine in the pit area checking for proper operation at full throttle and at idle. Once I get into the circle I set the throttle at 1/3 to 1/2 power and start the engine. When I am ready to takeoff I will reduce the RPM to an idle and then start my takeoff roll.

I never fly at full throttle with my larger models, the line tension and speed would not be safe or practical. Grant Hiestand and I have flown very large CL scale models in excess of 17 lbs. After flying one of these monsters you are very glad you have throttle control. The line tension is a function of how fast you fly. I normally fly at 1/2 power which results in a nice cruise speed with the engine humming along at a modest RPM.

Now that we throttle control, this means that we can land with the engine running instead of landing dead stick. Every model will land differently. My A-20 Havoc which I fly in Profile Scale competition has a pair of OS-20FP's for power with Single Channel electronics controlling the throttle. This model has tricycle landing gear and must land nose high or it will bounce. The two main wheels must land first with the nose wheel touching the ground after the mains have touched. In fact the landings with this model are planned 3 laps in advance. The throttle is reduced slowly, as the speed reduces, up elevator is cranked in raising the nose. As I slow down even further, even more up elevator is cranked in resulting in a slow flying model with the nose pointed up (approx 5 degrees) even though the model is descending. Once the nose is high enough and the descent rate is correct I let the model settle in on the mains. Obtaining the combination of nose high, speed and decent rate is tricky and takes practice. Once the mains touch, the throttle is pulled back to full idle and full down elevator is applied. The full down elevator keeps the nose from bouncing too much. During takeoff with this model I apply full down elevator until I have enough flying speed at which point I apply up elevator and climb out. The full down elevator during the start of the takeoff run keeps the nose wheel from bouncing.

Models with tail wheels will land differently and it is hard to generalize this type of model. But the Sea Fury that I fly in .36 Profile Carrier is very easy to land. All I have to do is reduce the throttle until the sink rate of the model is ideal. If you simply go from 1/2 power to full idle when you are 20 feet above the hard deck the results will not be good. Reduce the power ***slowly*** until the model begins to sink at a rate that is safe and realistic. Let the mains touch and then reduce the power to idle and let the tail wheel settle. Then taxi up to a position close to your parking spot on the circle and shut down the engine.

Test Flying

Since we have control of the engine at all times we can land and shut down the engine at any time. This is especially helpful when test flying new models. If you were to test fly a new scale model you just don't cram the power to full and apply full up elevator. How will the model react, will it be overpowered, is the CG in the right spot and other questions.

One of the first things I do when I fly a model for the first time is a taxi test, at low power setting. During these two laps I am figuring out if the model is going to turn in on me when I apply more power to take off. Some models that I have flown have required me to step back several steps to keep line tension on takeoff. Since the vast majority of the engines we use turn the propeller counter-clockwise the torque wants to make the nose of the model turn to the left. This is why pilots of full size Corsairs, Mustangs and Bearcats apply large amounts of right rudder on takeoff roll. Also see if you need to apply some wheel brakes to perform the taxi option. You should be able to come to a complete stop with your engines idling to perform the taxi option properly.

After the taxi test, apply more power, let say about 1/3 throttle. The point here is to get the tail off the ground (assuming you are flying a tail dragger) and roll on the mains without taking off. This part will give you some idea how effective the elevator will be and how the model will react. If everything is going good by now, then apply more power, just enough to fly 2 or 3 feet above the ground. If the model is stable you will be able to tell at this point. If there is a problem your prized model will only be a couple feet above the hard deck. Then land right away and evaluate how the model flew with that amount of line rake and CG location. Ask yourself was there enough line tension, was the elevator too sensitive, etc..

After making any required changes now is the time to really have some fun. 9 times out of 10, I make very few changes at this point. But I was test flying a friends Bearcat (Brodak kit) powered with an OS-26 four Stroke engine several years ago. Steve had spent weeks building this model and it could all be over if the test flight did not go well. After getting this model 2 or 3 feet off the ground it became very apparent that the CG was too far back. This model was almost unstable and dangerous to fly. Very small movements of the elevator resulted in drastic up and down movements of the model. The model finally settled down and I barely got it back on the ground safely. In fact I broke off one of the gear doors during the hard landing. After adding some noseweight the model trimmed out very nicely.

Formation Flying

Now this is a real challenge - how close do you get? Since the people I fly with all have throttle control we normally fly together in the circle together. But instead of just passing we use our throttle control to fly in formation. We have flown models within 2 feet of each other at 40 mph. But to do this we need models that are equally matched in size and speed. The line length does not have to be the same, but radically different line lengths can be a problem. The cruise speed of the models should be very close to each other. In other words flying a 90 mph carrier model in formation with a Piper Cub that only flies at 50 mph is not practical. The throttle control systems must be precise enough so that small changes can be made to the throttle setting during the flight.

Once you have selected two models that are equally matched in flying speed one pilot should decide to fly lead. The lead model will be placed 1/8 to 1/4 lap ahead of the chase model and both model engines shall be started. Once both engines are idling the models are released at the same time and the lead model sets the pace for the takeoff roll. The chase model must know where the lead model is so he or she does not overtake the lead model during takeoff.

Once the models are at cruising speed the lead model should set the throttle and not change it. This will allow the chase model to carefully adjust it's throttle setting to form up on the lead models tail. The chase model pilot will be making constant changes to the throttle setting to stay on the tail of the lead model. If you need pass, the chase model should climb and then fly over the lead model with the lines going over the head of the lead pilot.

Stacked formations of 4 or 5 models is possible, but his requires practice and matched models. We did this once I can't wait to try this again. But his requires the 3rd model to fly formation behind the 2nd model and so on. Basically each person is really flying formation with the model ahead of them and should not really care where the other models are located. If everyone who is flying in the circle follows these rules it works very well.

Information about electronic control systems:

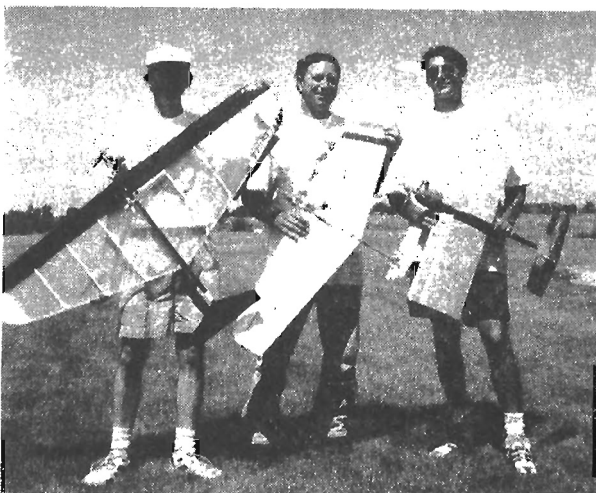
Send 5 first class stamps in trade for the articles discussing Single and Multi Channel electronics to the following address:

Fred Cronenwett
7352 Independence #201
Canoga Park, CA 91303
(818) 719-0167

3-Line control Systems:

Contact Brodak Manufacturing for a catalog

Brodak Manufacturing
100 Park Ave
Carmichaels, PA 15320
412-966-2726
FAX 412-966-5670



Maybe bigger is better! Jeff Rein on left with huge combat ship won 1st place in 80 mph event at August 96 meet in Burbank, Wash. Gary Harris in center took 2nd, and Joe Rice on right was 3rd.



John Thompson demonstrates the Craftsman detail sander mentioned in the December Round & Round column. Shown alongside the fuselage of an All American, the size of the sander is indicated. Works well for stubborn and/or tough-to-reach spots.

Northwest Fireballs Present :

**Saturday April 26, 1997
Delta Park "Spring Tune-Up" Racing
Awards Thru 3rd Place**

Events:

- 1/2 A Mouse Class I (Junior)
- 1/2 A Mouse Class I (Senior)
- Northwest Sport Race (JSO)
- Northwest Super Sport Race (JSO)
- Flying Clown Race (Beginner)*
- Flying Clown Race (Expert)**

Location:

East Delta Park in Portland, Oregon

Miscellaneous:

Official Flying Starts At 9:00 A.M.

JUNIOR & SENIOR ENTRY FEE: \$5 for first event - \$2.50 each additional

OPEN ENTRY FEE: \$10 for first event - \$5 for each additional

Safety thongs required for all events

Current MAAC or AMA License required for all pilots and mechanics

Information:

Gary Harris ☎(503) 324-3450 CD: Wayne Spears ☎(503) 286-1397 Dave Royer ☎(503)254-3173

* Beginner is defined as anyone who is not a member of the Flying Clown "200 Lap Club" as of November 1996 Flying Lines Issue #135.

** "Expert Flying Clown Race" imposes no prior performance limits.

NORTHWEST CL CONTEST CALENDAR

THE FOLLOWING LISTING IS A SUMMARY OF ALL KNOWN A.M.A. AND M.A.A.C. SANCTIONED EVENTS AS OF 3-18-97. 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. CONTEST FLYERS CAN ALSO BE INCLUDED AT NO CHARGE, ON A SPACE-AVAILABLE BASIS.

APRIL 6: VANCOUVER, BRITISH COLUMBIA

EVENTS: .15 CARREIR, 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

SPRING TUNE-UP

EVENTS: CLASS I MOUSE RACE (JR) & (SR) ONLY, NW SPORT RACE, NW SUPER SPORT RACE, NW FLYING CLOWN RACE. SITE: DELTA PARK SPONSOR: NORTHWEST FIREBALLS. CONTACT: JIM DRURY (503) 283-6898

MAY 3 & 4: RICHLAND, WASHINGTON

MAY Balsa BASH VIII

EVENTS: TO BE ANNOUNCED. SITE: T.R.A. CENTER 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, 1/2A 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, 1/2A SPEED, A SPEED, B SPEED, D SPEED, JET SPEED, FAI SPEED, FORMULA 40 SPEED, .21 SPORT SPEED, .21 PROTO SPEED, AND (JR & SR) RECORD RATIO SPEED. SITE: ROSEBURG AIRPORT. SPONSOR: EUGENE PROSPINNERS & UMPQUA VALLEY MODELERS CONTACT: CRAIG BARTLETT, 205 NE CEDAR LANE, CORVALLIS, OREGON 97330 PH (541) 745-2025

JUNE 7: RICHMOND, BRITISH COLUMBIA

VGMC ALL STUNT DAY

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

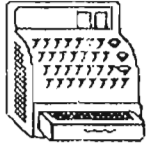
AUGUST 17: SALEM, OREGON **(TENTATIVE)**
EVENTS: NW SPORT RACE & COMBAT(?) & STUNT EVENT(S) (?) SITE: SALEM AIRPORT
SPONSOR: WESTERN OREGON CONTROL LINE FLYERS CONTACT: MIKE HAZEL (503)
364-8593

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 ?: PORTLAND, OREGON **REALLY RACING & FALL FOLLIES**
DETAILS TENTATIVE, EVENTS: MOST RACING EVENTS & PRECISION AEROBATICS
SITE: DELTA PARK SPONSOR: EUGENE PROSPINNERS & NORTHWEST FIREBALLS



The Flying Flea Market

Classified advertisements — FREE for FL subscribers

FLYING LINES SUBSCRIBERS: THIS SPACE IS FOR YOU! SEND IN YOUR AD FOR SELL/SWAP/ OR FOR NEEDS. YOUR AD WILL RUN FOR TWO ISSUES, UNLESS YOU REQUEST OTHERWISE. CHANGE AD AT ANYTIME.

FOR SALE: NEW REWORKED VA .049 MOTORS. ALL MACHINED SURFACES HAND LAPPED, FIT, BLUEPRINTED AND MY NEW BULLET PROOF (BP) CONNECTING ROD INSTALLED IN EACH MOTOR. NO BREAK-IN REQUIRED, READY TO RUN. 30,000+ RPM OUT OF BOX. \$75. REWORK YOUR OLD VA \$25 LABOR PLUS PARTS. 7075T6 ALUMINUM BP CON ROD \$10. JEFFREY REIN, 14326 102ND AVE NE, BOTHELL, WA 98011 PHONE (206) 823-6053

FOR SALE: SPECIAL FIBERGLASS PROPS JUST FOR BREAK-IN AND REFERENCE BENCH TESTING UNDER THE ZZ!PROP BRAND ARE AVAILABLE FROM MIKE HAZEL. BENCH PROPS ARE AVAILABLE IN .15, 40, AND 60 SIZES. PROPS ARE SUPPLIED SEMI-FINISHED, SO YOU CUSTOM TAILOR THE SIZE AND LOAD TO YOUR INDIVIDUAL APPLICATION. SEND SASE FOR PRICE LIST AND INFO TO: MIKE HAZEL, 1073 WINDEMERE DRIVE NW, SALEM, OREGON 97304

FOR SALE: FASCAL= CLEAR AIRPLANE COVERING MATERIAL FOR EITHER FOAM OR OPEN FRAMES. IT HAS STICKY ADHESIVE, SO IT'S GOOD FOR ON-FIELD REPAIRS. WORKS WITH HIGH OR LOW HEAT, AND CAN BE PAINTED. A MUST FOR COMBAT FLIERS. PRICE IS 75 CENTS PER FOOT, PLUS SHIPPING. JOHN THOMPSON, 2456 QUINCE STREET, EUGENE, OREGON 97404 E-MAIL: JohnT4051@aol.com

WANTED: METAL SPEED PAN SUITABLE FOR FORMULA 40 SPEED PLANE, NEW OR USED (IF REUSABLE). ALSO LOOKING FOR REPRINT OF MODEL AVIATION MAGAZINE ARTICLE OF AUGUST 1975 ON "HOOPTEE" PROPELLER PITCH GAUGE CONSTRUCTION. DICK KULAAS, 815 YAKIMA STREET, WENATCHEE, WA 98801 PHONE (509) 663-4874

FOR SALE: CONTROLINE AND OLD TIME FF TANKS; SIZES 14CC TO 7 OUNCE. COMPLETE LINE OF FUELS, FAI (0%) TO 75%, AS WELL AS INGREDIENTS. BROCHURE \$1.00 CAROLINA-TAFFINDER, 8345 DELHI ROAD, N. CHARLESTON, SC 29406 TEL & TAPE: (803) 553-7169 E-MAIL: DDTAFF@AOL.COM

BUY/TRADE/SELL: AIRPLANE & CAR GASTOY COLLECTABLES: COMET, COX, WEN-MAC, AURORA, TESTORS, THIMBLE DROME, ETC. ETC. SHAWN MAGRINI, 31769 TOWER ROAD, SALEM, OHIO 44460 PHONE AFTER NOON & BEFORE 5 PM, AFTER 5 PM LEAVE MESSAGE (330) 222-2314

FOR SALE: FLYING CLOWN KITS, \$25 EACH. SHIPPING IS INCLUDED. MAC RYAN, 590 E. VALLEY DRIVE, PASCO, WA 99301 PHONE (509) 545-5961

WANTED: REPLACEMENT VALVES FOR "TIGER-JET" PULSE JET ENGINE. THIS IS THE SMALL JET ENGINE THAT AHC (AMERICA'S HOBBY CENTER) SOLD BACK IN THE EARLY 60'S FOR ABOUT 11.95. MIKE HAZEL, 1073 WINDEMERE DRIVE NW, SALEM, OREGON 97304 PHONE (503) 364-8593

SUBSCRIPTION EXPIRATION DEPARTMENT

IT'S TIME FOR THE FOLLOWING SUBSCRIBERS TO 'RE-UP':

JIM DRURY, AVERY CLARK, BILL DARKOW, ROBERT HOLLAND,
JOE JUST, TOM KNOPPI, DONALD HANSEN, PRESTON HUSTED, MARK
HANSEN, JEFF REIN, EDWARD SHUNK, WILL NAEMURA

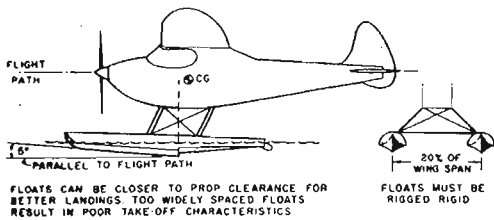
Hurry and send in those renewals today before you forget!

THERE'S SOMETHING NEW AFLOAT THIS YEAR AT THE NORTHWEST CL REGIONALS.....

It seems that there is a new feature or addition almost every year at the NW Regionals. For 1997 the new twist may make kind of a splash.....literally. Immediately adjacent to the Carrier circle there is now a semi-circle pond for flying off of, and hopefully landing onto.

Dave Shrum, who headed up much of the field work and organization of last year's Regionals, provides some details..... The pond is located on the South end of the airport, where the Carrier circle was to be last year (but was flooded out). That circle has been fixed, thanks to the city of Roseburg, with the addition of about one thousand yards of fill dirt. The floatplane pond is just outside of the carrier deck location, so there will be no interference there. The pond itself is 100 feet long, 10 feet wide, and about 8 inches deep, and of course curved to accomodate 52 to 60 foot long wires. Activity on the floatplane pond will be run as an unofficial demonstration event. Okay NW modelers.....here's your chance to crash and sink at the same time! (just kidding!) For more information you can call Dave Shrum (541) 672-8893.

The magazine article reprint below is from the 1963 American Modeler Annual. Some of the info seems a bit dated, but might help for those wanting to scratch build float units, be sure to use modern stuff like glass and epoxy for water-proofing. Also, last check in the Tower Hobbies catalog found several brands and styles of floats available. Remember to select by model weight, rather than engine size since we are not flying RC!



■ The exciting art of flying a model off the water has its own special tricks. We hope, though, that we can dispel the idea held by many plane builders that "ROW flying is not for me." There are a few basic points to watch, then you can really enjoy rise-off-water competition.

Primary requirement is that the floats be large enough. Second, you must attach these floats rigidly so they will not spread apart or change their angle when your model takes off. Last, but just as important as the other two requirements, the floats must have the proper angle in relation to the thrust line or your model may never get airborne.

Decide first what "type" of take-off you desire. Do you want your model to skim along for a considerable distance before finally breaking free? This sort of takeoff would be preferred for scale, sport and R/C models. For such ROW work the floats should resemble the "Edo" type, the long narrow streamlined sort used on full sized planes.

Where the model should get off the water just as quickly as possible—as is the case in contest flying—one of several 3-float layouts may be utilized. The two main arrangements depend upon where the single large float is placed, at front or rear of the plane. Use of a single float at front, with two much smaller ones at the tips of the stabilizer seems most satisfactory. The attachment for a single front float is simpler and the weight is less. Mounting gear should permit the large front float to be adjusted for maximum or minimum angle; the former will give the best and fastest takeoff, while a lower angle will give less wind resistance and hence a better glide. Try various angles to see which will give you the best duration.

Many ROW models suffer from lack of waterproofing—the builder keeping weight down by going light on the dope. However, as soon as such a model is put on the water it will take up enough moisture to more than offset the weight of dope that was saved! If the model fails to ROW on the first try, it will probably never get off the water till it is well dried out.

Also: When a model with insufficient waterproofing gets wet, the balsa is softened, and when the covering tightens again, warps are bound to result. Castor oil added in small quantities to the dope will make the doped surfaces more water repellent, and will also prevent warping that occurs with a heavily doped surface on a light frame. Add the oil a few drops at a time; too much will make the surface very tacky.

A set of floats will often outlast several models, so it is smart to do a good job of building and finishing.

What engine size is best for ROW competition? If you pick a Class A size model power it with an engine of perhaps .23 capacity when you add floats then you will have enough extra power to get off the water quickly. Many a good float plane designed to minimum requirements will dunk occasionally, whereas if it had a little more power it would hop off the water quickly every time.

Always use the floats when you are test flying an ROW model, first make your tests glides over soft long grass to prevent damage. While undertaking these early tests, set the floats at a

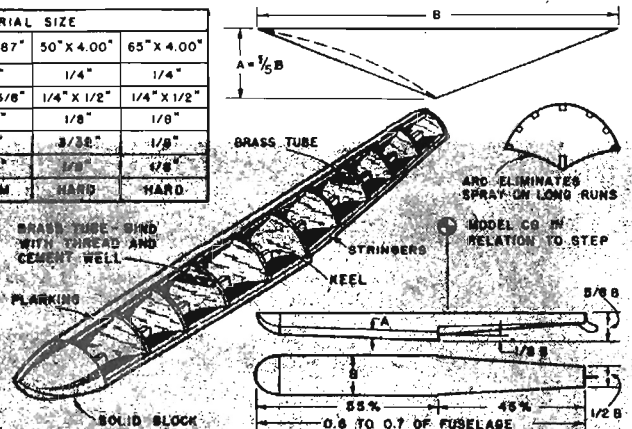
rather high angle. This will slow down the plane somewhat, making flight adjustments easier. When you have the flight pattern under control you can try an ROW flight. If you are new at this, there is one precaution you *must* remember—DON'T push the plane to "help" the takeoff. It will most surely prevent a takeoff. With the high float angle mentioned above, the plane will probable take off easily, and successive flights can be made with less and less angle to the main float to improve the glide. At the same time, add negative angle to the stab, bit by bit, until you get the best possible glide while still retaining good ROW characteristics.

The Edo type floats should not be set at too shallow an angle, as the takeoff will be much longer. These floats must ride with the nose quite high out of the water to keep from dunking.

Final points to consider: Short-coupled models give the highest angle of attack to the wing, and therefore assure fastest takeoffs. Long models require a long takeoff run, which means much more chance of dunking. The rear floats should be arranged to allow the highest possible angle of attack. All float attachments should be absolutely rigid so that float angle and alignment do not shift as the model scoots over the water. Strut attachments should be bound and cemented (even fiberglassed) to the basic float structure, then covered. Plenty of coats of dope will waterproof the floats as well as harden and protect the balsa. And remember—when launching, *don't push!*

FLOAT SIZE	MATERIAL SIZE			
	20" X 3.50"	40" X 3.87"	50" X 4.00"	65" X 4.00"
STRINGER	1/8"	3/16"	1/4"	1/4"
KEEL	1/8" X 3/16"	3/16" X 3/8"	1/4" X 1/2"	1/4" X 1/2"
BULKHEAD	1/16"	3/32"	1/8"	1/8"
PLANKING	1/32"	1/16"	3/32"	1/8"
WIRE DIA.	1/16"	3/32"	1/8"	1/8"
MATERIAL	SOFT	MEDIUM	HARD	HARD

FUSELAGE LENGTH	TOTAL WT.	FLOAT WIDTH
20"	18.0Z	3.00"
30"	24.0Z	3.75"
40"	30.0Z	3.87"
50"	36.0Z	4.00"
60"	42.0Z	4.00"
65"	43.0Z	4.00"
70"	44.0Z	4.00"
75"	45.0Z	4.16"



CARRIER - FOR EVENT DIRECTORS

by Orin Humphries

Dave Shrum asked me to put out a guide on this complex event for people to use while running this circle. The guides will be one page each for the four classes and will appear subsequently. This present work is a leg up for those EDs wanting to get ahead of the curve on running the event. The first thing I had to do at Roseburg was refresh on the current rule book. If you feel you are ahead of the power curve on the rules, great, but there are a couple of things you might want to note, things that are commonly missed by Northwest officials. Pilots: should you read this article? I will be telling the judges what to "bust" you on so you might want to look at your planes and your "act" while reading this. I will tell you pilots something that you should be negotiating with the ED so you don't lose landing points.

INSURANCE

I served as insurance advisor to the Skyraiders for two years and actually read the AMA policy in its entirety (took a year off my life span). Everyone needs to note this subject. The bottom line is, any safety or general rule infraction or failure to enforce, cancels the policy from that moment forward for that contest. The urge to let spectators onto the field so they might be afforded a better view and join in this activity is powerful. Don't do it. Place the pit near the mandatory barrier so they can look from there. The moment they are allowed to wander and remain in the contest active area, no more insurance. It doesn't resume when they leave.

If there is an accident and a lawsuit the following people/entities will have to spend money to defend themselves: The contest organizers, workers, site owners, facilitators, money or merchandise suppliers, and club members. Yes, even the club members who never attend meetings and those who were not even present on that day will be spending money. That's the great American legal system. This means all of you will be putting that house of yours, the one your family lives in, on the block if the plaintiff wins. So, who should be keeping their eyes peeled for spectators, alcohol consumption, etc.?

THE RULE BOOK

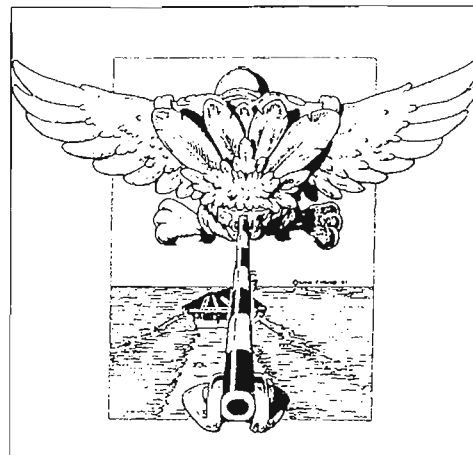
Not only as a Carrier pilot but as a former teacher, I can tell you the rules are something with which you will never feel comfortable until you do what's necessary. Spaced repetition is the only pathway to long term retention. That means every three months (spaced) you must re-read (repetition) it. When do you stop? Never. You can some day spread it out to yearly. Do you enjoy feeling behind the power curve on the rules when a contestant is in your face? Pilot's, *whose responsibility is it to put knowledge of the rules and your rights into your head?*

The quality of officiating varies across the USA and from time to time at the same site. The variations between classes..... Spaced repetition. ED's, never accept, "So-and-so let me fly the plane this way at that other contest". If you're further ahead in this judging business than the other judge, that's great. The pilot should have read the rule book, right?

THE DECK

I don't know of a legal deck in the Northwest. I haven't seen the one in Richland in two years, though. ED's, it is your responsibility to provide a legal deck environment. Get help from the owners if needed (Yo! Owners...). The decks all have legal dimensions, as far as I can see, but it's the rope height. The "rope shall be suspended between 1/4 and 1/2 in. above the deck". Why? Higher rope placement will allow the small wheels we use on our birds to get underneath them upon landing and the plane can be tripped. If it stays upright, the greener judges (please don't be insulted) will cancel landing points because the hook was not the cause of arrestment as required. If the plane is tripped it will be damaged and they will also likely take away the points. By the way, the book does not say where to measure this height. It assumes the taught rope is a straight line, but we know better. I recommend measurement at the deck centerline.

ED's, you should give the landing points if the plane is tripped by your illegally high ropes. It was not the plane's or the pilot's fault. (Hello pilots, negotiate this before you fly.) Grass deck layouts are something I hate. The grass holds the ropes up and NO ONE can get them down to proper height. Be especially careful about taking away points from airplanes that get tripped.



What is wrong with our deck's? The eyes are too big. Large eyes are purchased "so the rope can slip through easily" (overly conservative). To compensate, the eyes are screwed down until they contact the deck. At that point everything looks fine. The inside of the metal ring is about 1/4" above the deck, so the rope will hang just right???? Nope. The bags are placed so the ropes are at about a 45 degree angle to the edge of the deck. Consequently, the ropes ride up the back side of the rings and are well above legal height. The easiest fix I can think of is to remove a little wood beneath the rings and let them sit lower. Check the ropes when stretched out and keep adjusting the eye height until the ropes hang right. Between contests, please.

Deck placement is a bear. The winds will change throughout the day. I prefer a little CCW from dead down wind. CW from dead down wind is BAD. There are other reasons for other placements. If the wind is messing everyone up, maybe you should stop for 15 minutes and reposition the deck.

BEFORE WE FLY

Assistants, don't wait for the ED to tell you each move. He may be busy and not mention the same thing for every plane. Find out if you are to do the pulling or not. Someone must pull every plane before every flight if you want insurance (p.29#6).

LINES

There are vital things about the lines in other parts of the book. They must be "in good condition" and they must be "of uniform diameter throughout their length" (p.28#5). If you find a kink, that line is permanently "downed". A few curls are no big deal but there comes a point where your judgment must make the call. Ask the ED if he will accept it. If you find a broken strand, it doesn't matter if it will pass a pull test or not. It fails the "good condition" criterion; down it. A splice of any sort in a line is forbidden. (Leadouts are not covered by that.) You *must* inspect every set, starting with mic'ing their diameter. Check the book for size.

The most commonly violated rule on lines: there may be no more than one connector on any end of any line. Period. Three lines equals six connectors, one per end.

RUBE GOLDBERG THROTTLE SYSTEMS

"Load bearing line" is not a "sometimes thing". If it carries a load at any time in the flight cycle, it is a load bearing line throughout as far as the book cares. All criteria apply. If it sounds like it might not be a load carrying line, then the other two **MUST** be of a diameter called out for two line systems for that class of plane. I have yet to see one of these "creations" meet that specification. Your final judgment must be based upon your assessment of the safety of flight from start to finish. If the line is insulated for electricity, the insulation thickness does not count.

THE PLANES

BOM rule does not apply. No plane or engine may be flown by more than one pilot at a given contest. By p.45#8.1b, "...Aircraft is designated as a carrier aircraft by an acceptable source (in cases where actual carrier-type takeoff and arrested landing are not documented)." MO-1's are legal.

ED's, the book has returned to the original intent on paint schemes. It is different for scale and profile. Scale (I & II) "must have the paint scheme of the user nation". Profile may have any military paint job of any nation, not tied to the user as in scale. **Pilots**, anybody out there need to repaint their old scale bird? Northwest .15 Carrier requires nothing in regard to paint scheme.

The **Pilot** must furnish the 3-view for scale points. I saw a profile MO-1 get popped in the Tri-Cities for having a wing that was not in good proportion, span and chord wise. It had too much span. Shapes AND proportion count, but are a little looser for Profile. For Scale it is +/- 5% max. allowable, almost always assessed by eye.

The book does not facilitate the awarding of partial scale points, but I see it happening once in a while. That's okay with me. Not my call. It is hard to be consistent, though. An SNJ at Roseburg in Class I got 80 points because the pilot mistakenly thought the engine had to be enclosed and had an oversized cowl on it.

COWL

Any part of the engine or exhaust may hang out. The maximum allowable gap between it and the cowl or fuselage is 1/4", the size of a pencil eraser. An exception might be like the Canadian A-1 at Roseburg. It *might* be overlooked, *locally only*, to have a wider opening if that is necessary to get at a part of your system for safe and proper operation. The A-1's fuel line was accessed via that gap. **Pilot's**, just have your story ready as to why you need that gap. Don't be surprised when the Nats judges disallow a gap over 1/4".

MULTI's

All engines must contribute through high speed's completion for multi points. All engines must run throughout low speed for complete speed ratio points. See p.46#11.2.1

HOOK

The length may be 1/3 that of the fuselage when extended. That is, the portion of the hook that protrudes *past the edge* of the fuselage when extended can reach 1/3.

FINAL

It is really hard to tell a pilot the plane is illegal and can't fly that way. We don't enjoy that. The urge to overlook something is powerful. NEVER overlook safety issues. As to other things, the only thing I can say is you probably should not allow things when this pilot keeps bringing illegal airplanes to contests. They need to get into the rule book, and obviously for them pain will be the only teacher. Ask if you can help them with the book after the contest. We allow things at smaller contests and some day they show up at the Nats and get popped for illegal equipment. *It's harder to fix things when you are far away from home.*

THE FLIGHT

TAKEOFF

An attempt is defined as "any endeavor to make a takeoff". It's kind of fuzzy, so I feel that if the pilot brings the plane with lines, battery, etc., connects the battery and flips the prop, that's an "endeavor to make a takeoff". You decide. At the Nats I believe if you bring your plane to the engine start area when your name is called, that's the endeavor.

No part of the plane may be farther forward of the tenth rope than 42" at release.

You start your watches at the moment of release and *move quickly to the stern*. Stop the watches when the plane crosses the stern (not the front edge of the ramp) on its last lap.

The flight becomes an official one when the pilot signals for the start of low speed and his bird crosses the stern. The time starts one lap later. We all use the stern as the start/stop point. Consider allowing as many attempts/officials vice three/two as can be accommodated by the contest schedule AND fair to all carrier entrants.

PILOT MOVES: FOUL

Page 30 #9: "Whipping the model in an event where speed is a factor shall constitute a foul", is..."an attempt with no official score." People want to affect the watch reading by how/where they hold the handle or how they move about. The pilot may not do anything that affects the time measurement. The pilot "may not move in a circle greater than 3 ft. in diameter" [or in a manner that violates the above quotes]. They can't, for instance, stay on the side of the three foot circle (which you do not have to mark) that is away from the plane on high speed and then on the same side as the plane during low speed. That would "change the effective length of the lines". They can't whip the plane, retard the plane; no racing or speed culture is allowed here. As a guide, though, it is commonly softened to allow their holding the handle against the chest during high, *facing the plane*, and extending the arms (elbows straight) during low speed if both hands *can* touch the handle simultaneously. EXCEPTION: the "pilot may leave the 3' circle to regain control of the aircraft provided they return immediately" upon regaining it.

There are many reasons for terminating a flight or charging an attempt. Check the book, page 45, # 6, #7. I will mention that if any part of the plane at all, such as the tip of the hook, touches anything, including the deck after takeoff and before a legal landing pass, that's a "crash". It doesn't say "during high or low only"; it is anytime between the two points stated. **Pilot**, you get any points completed up to then. If you haven't finished the slow speed yet, you don't get those, etc.

60 DEGREE RULE

You are not required to judge this from the center behind the pilot. If you are young enough to get around out there it's the best place there is. Otherwise, you must be conservative about laying a warning on them. This angle is very difficult to judge no matter from where you view it. Pitch a plane 50° and then yaw it outboard 30° or more, and I am sure your eye will try to tell you it's above 60°. You must *notify* the pilot at each occurrence. A whistle or horn is good, here. About *warning* them, see below.

First, momentarily exceeding 60° is not a warnable/chargeable occurrence. That is deemed "inadvertent". If the plane is pitching up and then pitching down without hesitation you cannot issue a warning. It is only when the plane hesitates while above 60° that you charge the pilot. However, if some hot pilot constantly exceeds 60° momentarily, never hesitating there, just up and down repeatedly, issue a warning. That is not "inadvertent"; that's controlled.

LANDING

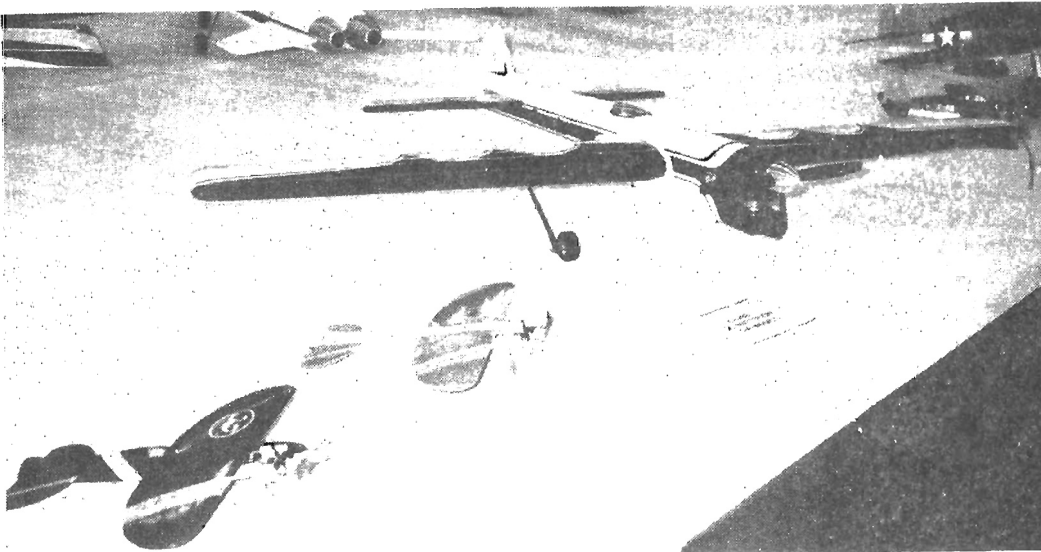
The hardest thing to judge is the landing. "The landing is complete at the moment forward motion ceases." That is an *instant* in time. You better be at the ropes, stooped over, hands on knees, staring intensely at the ropes if you want to see it. What is its attitude at that moment? If it is normal, that's full score minus missed laps, if any. It matters not what the model does after that instant. It can even fall off the deck afterwards. No matter. The landing was over when the forward motion first ceased. If it was on its nose at that instant, though, that's 50 points, etc. Touching the ramp by any part of the model at any time is a crash.

Pilots are forbidden to attempt an arrested landing above a proper low speed for this. Of the numerous attempts I've seen over the decades the big majority of the planes involved were damaged. Parts came off them either at the deck, threatening the officials, or afterwards in the air, threatening others. If the pilot does this, down the airplane for the remainder and charge a foul (p30#9) w/o score for a safety infraction. If the pilot

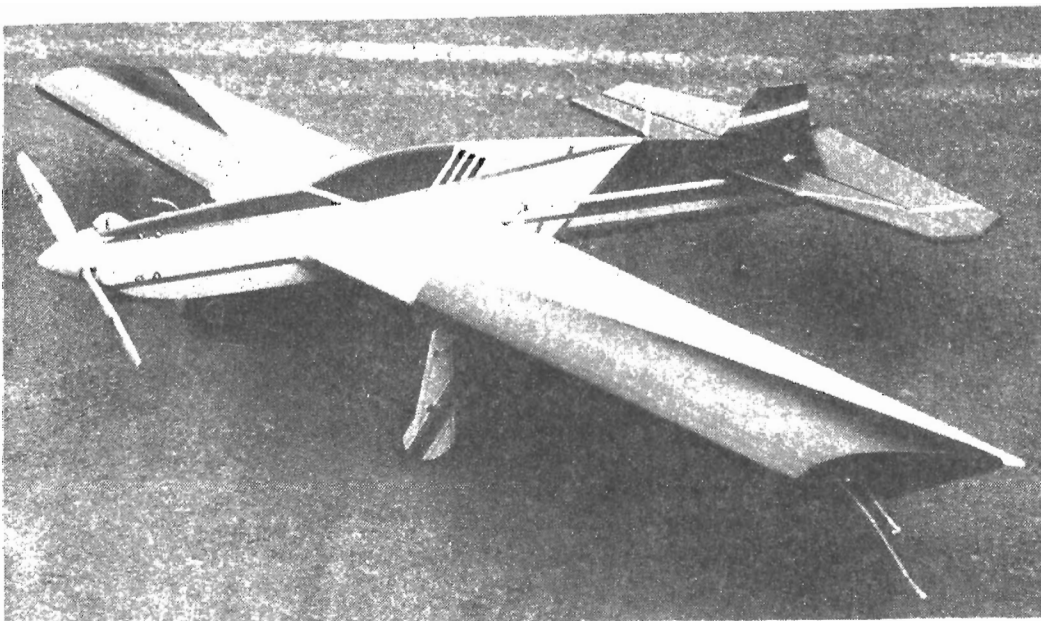
makes another safety infraction, down him for the rest of the event. You see, the defense lawyer would ask, "Mr. ED, you saw a repetitive pattern of safety violations by that pilot and did nothing? How much is your house worth?" If something comes off the plane anytime, that's a safety infraction. Two infractions and they are down.

CONDUCT

This is my personal view. From 90 to 95% of the pilots are gentlemen and ladies. I really, REALLY appreciate that about them. The 5% that are hotheads, well, I've hit the full mark. We contest workers are unpaid volunteers. We are giving up a lot of money and time so they can fly. This is a model contest, a "sport". Page 7 #17: "Contestants may be DQ'd...unsportsmanlike or *discourteous* conduct, infraction of good safety practice or procedure, or *conduct that is detrimental to the well-being of model aviation*". If a pilot loses it over something as small as this is, warn him once to speak to you as one human being should to another, and if he doesn't, pop him for "unsportsmanlike or discourteous conduct" and order his planes out of the circle. Families are watching us. Protect C/L modeling's image. Don't let him give us all a bad one ("detrimental to the well being..."). Besides larger things like that, you went to have fun, right? So why are you letting some knucklehead give you a tight stomach? Forget how we've just taken it in the past. If you were getting paid \$40/hr that would be different. Has the hothead ever officiated? Yes, one may lodge a protest per the rule book, but **there is a proper way to do that**, isn't here? If this were a cure for cancer..... but this is a model contest.



ENTERED FOR DISPLAY AT THE 97 PUYALLUP MODEL EXPO: AEROBATIC SHIP "DEFIANT" BY CHRIS COX. ALSO A COUPLE OF RACERS IN FOREGROUND BY JAMES AND STEPHEN COX.



THIS CUSTOM MODELS DESIGN "FORERUNNER" BELONGS TO JERRY EICHTEN

POWERED BY DIXON O.S. FP 40. LOOKS GREAT!

ENGINES, ETC.

by Paul Gibeault

BREAK-IN PROCEDURES FOR IRON/STEEL TYPE ENGINES (Part One)

This is fairly old information written about by Clarence Lee, Harry Higley, Peter Chinn, and others. Here is a condensed version coupled with my own experience. Break-in of a new or rebuilt engine means the gradual wearing away (by running) of macroscopic amounts of metal, from surfaces that have interference fits (i.e. rubbing). A very carefully fitted new engine requires little or no break-in to perform well. However, most stock engines can't be made this carefully for the price they are sold at, and therefore require varying amounts of "break-in" (A more correct term might be "wearing-in").

The very first stage of break-in for me involves stripping down the engine to individual parts, a thorough cleaning, de-burring of all holes including the spray bar. I may polish the crankshaft and head button if I see that they are scratched or carboned up. If you can push the piston right through the top of the sleeve, the fit is too loose for optimal performance. I may try a tighter fitting piston but replacing the whole piston / liner assembly is your best bet, if possible.

Strong running engines generally utilize a tapered liner (choke bored) so that the piston sticks somewhere near the top of the flange. Exactly where is debatable but suffice it to say, I prefer a tight fit to a loose fit. Let's assume for this discussion that the piston / liner fit is acceptable as received. A new engine may only need the backplate removed. A quick flush with Varsol or laquer thinner and re-oiling of the bearings before it is first run. You must be sure it's clean inside before its first run in any event.

Mount the engine to a solid test stand or model and fill the tank with 10% nitro fuel with 25% all castor oil. I feel that on any iron/steel p/l engine (Fox, Cox, K&B, Enya, etc.) that uses a plain bearing crankshaft or iron piston ring, pure castor ensures the best break-in. Ball-bearing shaft engines can use 50/50 castor-synthetic with no problems. Hook a fuel line to the spray bar and blow into it with your mouth, while opening the needle valve. Open approximately 4 turns or until you hear a good airflow, which will indicate a rich needle setting. It's easy to do once you've tried it.

Mount your regular flying prop and start the engine long enough to establish a rich running setting. Then shut it down. Now, switch to your bench prop, which allows for higher RPM but less loading. A prop you would normally use with one inch cut off the diameter works OK. I personally use calibrated test props, so that I can gauge the "strength" (horsepower output) of the particular engine being run.

My personal bench props are:

- 1/2 A: 1) Tornado 5 x 3 nylon and 2) 4-1/2 x 3 fiberglass
- .15: 1) Top Flite 8 x 4 nylon cut to 6 x 4 and 2) Hazel .15 Bench or McCollum Bench
- Fox .15 Clown: 1) APC 7 x 4 and 2) APC 7 x 5
- .35: Top Flite 9 x 6 Super "M" or nylon cut to 7 x 6
- .40: 1) Top Flite 9 x 6 Super "M" cut to 7 x 6 and 2) Hazel .40 Bench

When making your own bench props remember that larger props cut down allow for stronger hub sections and greater safety at high RPM's. An 8 x 4 cut down to 6 x 4 is much safer than a 7 x 4 cut down to 6 x 4.

In most cases, I run-in the engine on the fuel it's normally expected to run on, which is usually 10% nitro these days. I will run 1/2 A's on 35% nitro for a short while until I go to 60%. The first few 2-3 minute runs are done on the rich side. The next half dozen are brought up to peak for a few seconds and back slightly rich to cool off again.

Pinching the fuel line with hemostats is one way to do this without messing with the needle valve constantly. After a dozen runs (about 20 to 30 minutes) try running fully peaked. If it holds peak RPM without distress you're done! If you notice distress (engine runs unsteady, sags, black exhaust residue), the engine needs more high RPM running at a rich setting. The whole idea is to run-in an engine at a similar RPM regimen to what it's expected to do in the air.

I don't have much use for low RPM running and prolonged or extended break-in periods. If after the initial running the engine is still showing signs of distress or tightness, I'll usually try lapping the piston in more. Of course this requires a certain skill. It's much easier for the average modeller to do more bench running instead. Dale Kim does not lap in 1/2 A p/l's anymore. He simply keeps running them in more at 24,000 rpm running rich with a tiny prop.

Generally speaking my break-in for Clown, NWSR, Mouse, etc., are done in the air by flying. Where possible, I highly recommend the use of a shut-off, just in case the engine runs *awy* overlean. A simple shut-off turns a burn down disaster into a basic no worry event. For break-in runs in the air, I usually just use a bit lighter load prop than for full out use. (Fox .15 for Clown race use a 7 x 4 APC instead of the 7 x 5). While I'm running in an engine in flight, it also gives me time to observe my models flight trim, i.e. lead-out position and tank position. I also do aerobatics to 1) make the engine heat and cool throughout the run, this is known as "heat cycling", and 2) Allows me to fully know my models aerobatic capability should I get into trouble and really need it.

These are the 90's and we have come a long ways from the earlier break-in times of hours and hours on the bench. This is very good news because most of us just don't have time or interest in that any more.

Next time..... Breaking in the newer generation ABC, AAC, ABN engines.

Keep those cards and letters coming! My new address: Paul Gibeault, 54 - 5380 Smith Drive, Richmond, B.C., Canada V6V 2K8 phone (604) 525-1020

To: Mr. Mark L. Hansen

Re: Your letter to NW C/L modelers in FLYING LINES, Jan/Feb 1997.

Sir:

I am appalled at the apparent low regard you seem to have for your fellow NW modelers. I don't know what your experience has been, but I have yet to encounter a NW modeler with the "win at any cost" attitude you have projected upon us. In fact, I have found quite the opposite feeling seems to prevail and that is one of the reasons I enjoy competing. I have watched our current champion, Todd Ryan, and his father, Mack, "pay their dues" to get where they are today. They didn't do it with a "win at any cost" attitude. Mack has given me a prop or a glow plug when I needed one. When I was without a pilot for my NW Sport racer, Todd flew for me. These are only two examples of the spirit of cooperation and sportsmanship I have seen among NW modelers. Occasionally, such help results in defeat for the helper. When that happens, everybody has a good laugh and the helper never lets the winner forget it. I've been beaten with my own propellor in Carrier. All NW modelers I know will go to almost any length to help you get your plane in the air - where they can beat you or be beaten by you fairly and squarely. No one I know takes any pleasure in seeing a competitor in trouble.

Records and Rules. Records are made to be broken. Rules are made to be changed when they no longer serve the best interests of those who are competing. As a battle-scarred veteran of the rules-making process and an Event Director for Racing, it is my experience that rules are the guidelines we use to avoid danger and set standards of performance. They are also a way of stating what we believe to be the purpose of an event. If we were to be "absolutely punctilious about every rule" as you recommend, racing events would be interminably delayed as each model was "processed" for conformity. The races themselves would become debates over judgment calls about whipping and high flying. In brief, there is a high level of trust necessary for C/L events to be run safely and fairly. I have a lot of faith in the integrity of NW C/L modelers. If someone needs to have their ego boosted so badly that they will shave the rules to win an event, so be it. There is such a thing as victory without honor.

When the rules for an event are significantly changed, records set under the "old rules" do not go away. They are still record-setting performances. However, an opportunity is created for anyone, including beginners, to set new records. That should be a stimulating challenge.

In conclusion, Mr. Hansen, I do not believe you will bring about a positive change in the attitudes of NW modelers by preaching offensively at them. In fact, I'm not sure such an attitude adjustment is needed. We seem to be getting along just fine, thank you.

Sincerely, Bill Darkow



FLYING LINES

1073 WINDEMERE DRIVE NW
SALEM, OREGON 97304

FLYING LINES is produced by a staff of volunteers interested in keeping lines of communication open between Northwest region control line modelers. *FLYING LINES* is independent of any organization, and is made possible by the financial support of its base of subscribers.

The *FLYING LINES* staff: John Thompson, Fred Cronenwett, Orin Humphries, Jim Cameron, Paul Gibeault, Gerald Schamp; Mike Hazel, editor. Contributions for publication are welcomed. Any material submitted to the editor which is not for publication, should be indicated as such. Duplication of contents is permissible, provided source is acknowledged.

FLYING LINES is published nine times per year. Subscription rate is \$13.00 for USA, and \$15.00 for Canada (U.S. funds). Subscription expiration is noted on the mailing label-issue number listed after name.

RUSH TO:

FIRST CLASS MAIL