



NEWS OF NORTHWEST CONTROL-LINE MODEL AVIATION

1073 Windemere Dr. NW, Salem, OR 97304

Editor: Mike Hazel

APRIL 1998

ISSUE #146

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- and a few other tidbits!*

Welcome to this issue, folks. Notice how the cover date actually matches what your calendar says!

With Spring time comes tax filing (you got yours in, right?), the weather teasing us, and the start of the great Northwest contest season. The first "Scoreboard" of the season is in this issue. John Thompson once again is handling the statisticians chores for keeping track of our competition points standings. See more details in that feature.

NORTHWEST REGIONALS NEWS

Actually, there isn't much to report regarding our "big one". Things are pretty much in place. Event directors have been lined up (although some misc. helpers are always needed), publicity has gone out, equipment ordered, trophies and prizes being procured, and the usual amenities have been lined up.

The Northwest Regionals management committee has one more meeting later in this month to nail down the rest of the details. Then, it's a matter of waiting until the week of the contest and all of the extensive field preparation work starts.

Hopefully we will see you there. A flyer for the contest ran in the last issue. If you need any information or questions answered, check the contest

calendar listing for contacting Craig Bartlett, the contest director.

A reprint feature this month, is an article that John Thompson wrote for M.A.N. several years back on the 1957 Eugene Propspinners all out endurance record. Although the technical details are not really relevant to today's endurance event flying, we thought you still might find this interesting.

Watch for information coming up on CL endurance flying. Mark Hansen now holds the NW record, with a time of some 38 minutes. More details on that, and the complete NW records listing in the next issue. There will be an endurance contest in Salem on July 12, for those of you wishing to pursue this event. Check the calendar for details.

Those of you into the internet thing, check out John Thompson's model page. This is a new URL, so update accordingly.....

<http://members.aol.com/JohnT4051/NorthwestCL.html>

Guess that's about it. Keep those cards and letters coming (?????????????)

SPRING RACING TUNE-UP
MARCH 28, 1998 PORTLAND, OREGON

There was a good turnout for the first big racing meet of the year. Weather was ok for much of the day, but as per typical Northwest spring patterns a few variables were thrown in.....winds came up every now and then. The wind was bad enough to bring down one entire heat of beginner Clown Racers. Hopefully these folks won't be too discouraged, they did a credible job until the heavy breeze slackened a set of wires which kind of wrapped up the rest. Also at the end of the day right after the Clown Racing the weather looked very ugly on the horizon, and so participants decided to cancel the NW Super Sport event. Some nice merchandise prizes were doled out, and everybody took off. Hats off to the NW Fireballs for a good meet.

MOUSE RACE I (7 ENTRIES)

1)	Nitroholics Team	(watch error)
2)	Todd Ryan	5:25.96
3)	Greg Nelson	6:43.75
4)	Nathan St. John	DNF

FLYING CLOWN RACE -EXPERT (3 ENTRIES)

1)	Todd Ryan	290 laps
2)	Nitroholics Team	254
3)	Dave Shrum	185

NW SPORT RACE (4 ENTRIES)

1)	Todd Ryan	10:40.78
2)	Nitroholics Team	15:51.84
3)	Dave Shrum	15:59.12
4)	Nils Norling	DQ

FLYING CLOWN RACE- BEGINNER (3 ENTRIES)

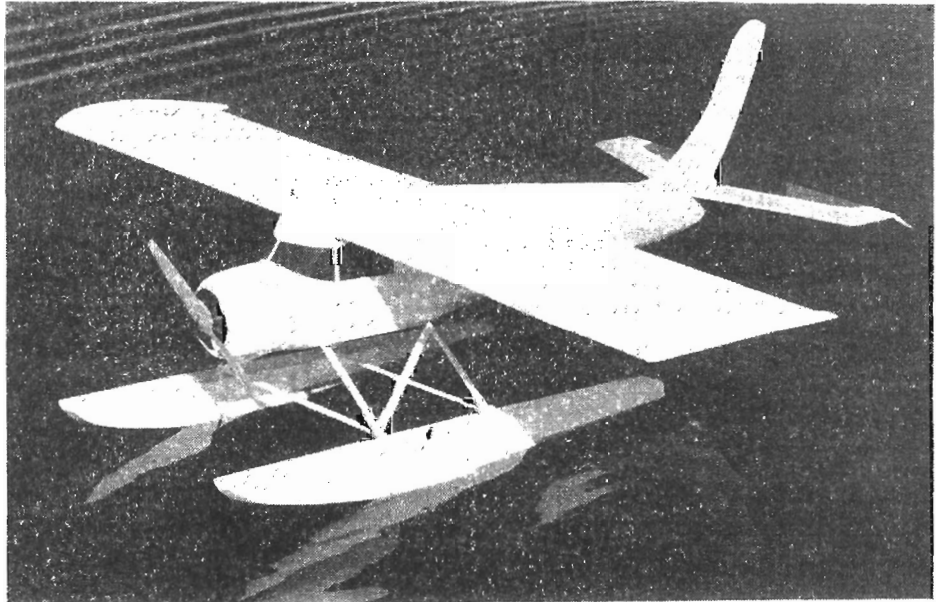
1)	Mike Nelson	46 laps
2)	Ron Howell	15
3)	Greg Nelson	14

(NW SUPER SPORT RACE CANCELLED)

Pictured is Grant Hiestand's highly modified Sig Kadet, now a semi-scale Beaver. This was the pink plane seen last year.

This is one of four planes that Grant and FL columnist, Fred Cronenwett, plan on bringing to Roseburg to fly at the NW Regionals.

The "pond" has been greatly improved, so the flying off the water experience should be much enhanced.



The *FLYING LINES* staff: John Thompson, Orin Humphries, Jim Cameron, Paul Gibeault, Gerald Schamp, Fred Cronenwett; 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.

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ON LINES with Jim Cameron

First, I want to thank Gary Harris for doing the contest director duties at the Fireballs March contest. He did a fine job. I also want to thank all of the contestants who came out to fly at the contest. Without your support the Fireballs would not be able to have the contest.

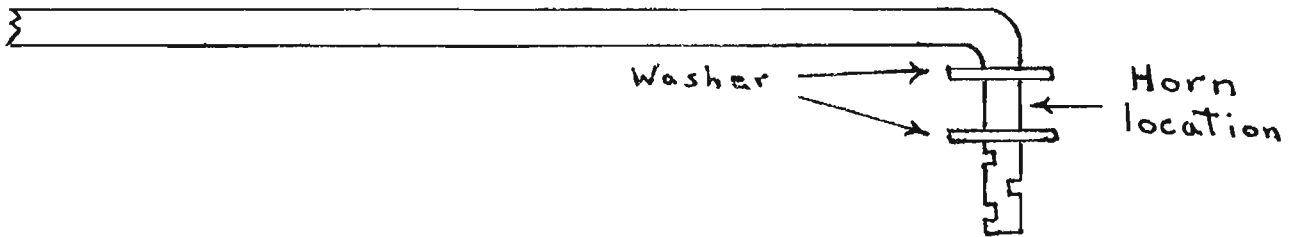
ATTENTION: GLOBEE BATTERY OWNERS:

Last summer I had a problem with my battery, and I thought some of you might experience the same situation. My battery was giving all the indications that it was going dead. Amperage was down, and charging only helped for a short time. I was just about to order a new battery. Then I opened the unit to take a look around. I looked at the rheostat and wondered if dirt could cause the problems. So, I took the unit apart. The rheostat in my Globee doesn't have a housing around it, so I was able to get at the electrical contacts with ease. I took some 600 grit wet/dry sandpaper and lightly polished the contacts. Don't forget to clean the wiper. This cured my problems. One caution: if your rheostat has a metal housing, take care not to break the little tabs which hold the back on.

PUSHROD PROBLEMS?

Many years ago Dave Green taught me how to connect the pushrod to a control horn in an airplane.

Pushrod



SUBSCRIPTION EXPIRATION DEPARTMENT

YO! This is the last issue for the following..... **MIKE MacCARTHY, R F STEVENSON, WAYNE SPEARS, DAVID THOMPSON, JERRY THOMAS, TED DINEEN, PAUL DRANFIELD, PAT JOHNSTON, STEVE KENDALL, RICHARD KULAAS.**

GET THOSE RENEWALS IN BEFORE THE NEXT ACTION-PACKED ISSUE!

NORTHWEST CONTROL LINE CONTEST CALENDAR

THE FOLLOWING LISTING IS A SUMMARY OF ALL KNOWN A.M.A. AND M.A.A.C. SANCTIONED EVENTS AS OF 4-07-98. 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 18 RICHMOND, BRITISH COLUMBIA
EVENTS: NW SPORT RACE, .15 SPORT RACE, NW FLYING CLOWN RACE. SITE: RICE MILL ROAD SPONSOR: PACIFIC AEROMODELERS CLUB CONTACT: MIKE CONNER (604) 465-7277

MAY 2 MISSION, BRITISH COLUMBIA
EVENT: NOSTALGIA DIESEL COMBAT SITE: MISSION FLYING FIELD CONTACT: PAUL DRANFIELD (604) 826-3376 E-MAIL: pdran@bc.sympatico.ca

MAY 3 SALEM, OREGON
"SPRING SPEED TUNE-UP"
EVENTS: 1/2 A SPEED, A SPEED, B SPEED, D SPEED, JET SPEED, FAI SPEED, FORMULA 40 SPEED, .21 SPORT SPEED, 1/2 A PROFILE PROTO SPEED, .21 PROTO SPEED, NW SPORT JET SPEED. SITE: BILL RIEGEL MODEL AIRPARK (SALEM AIRPORT) SPONSOR: WESTERN OREGON CONTROL LINE FLYERS. CONTACT: MIKE HAZEL, 1073 WINDEMERE DRIVE NW, SALEM, OR 97304 PHONE (503) 364-8593 E-MAIL: ZZ CLspeed@aol.com

MAY 9 RICHMOND, BRITISH COLUMBIA
EVENTS: CARRIER (ALL CLASSES), PROFILE STUNT USING OLD TIME PATTERN. SITE: RICE MILL ROAD SPONSOR: PACIFIC AEROMODELERS CONTACT: MIKE CONNER (604) 465-7277

MAY 22-23-24 ROSEBURG, OREGON
"NORTHWEST CONTROL-LINE REGIONALS"
EVENTS: PRECISION AEROBATICS IN FOUR PAMPA CLASSES, OLD TIME STUNT, CLASSIC STUNT, AMA FAST COMBAT, AMA SLOW COMBAT, 1/2 A COMBAT, 80 MPH COMBAT, VINTAGE DIESEL COMBAT, PROFILE CARRIER, CLASS I CARRIER, CLASS II CARRIER, .15 CARRIER, MOUSE RACE CLASS I, MOUSE RACE CLASS II, RAT RACE, SLOW RAT RACE, SCALE RACE, NW GOODYEAR, NW SPORT RACE, NW SUPER SPORT RACE, NW FLYING CLOWN RACE, AMA PRECISION SCALE, SPORT SCALE, PROFILE SCALE, 1/2 A SPEED, A SPEED, B SPEED, D SPEED, JET SPEED, FAI SPEED, FORMULA 40 SPEED, .21 SPORT SPEED, 1/2 A PROFILE PROTO SPEED, .21 PROTO SPEED, NW SPORT JET SPEED, 1/2 A REED SPEED (JR-SR ONLY). SITE: ROSEBURG REGIONAL AIRPORT. CONTACT: CRAIG BARTLETT, 205 NE CEDAR LANE, CORVALLIS, OR 97330 PHONE (541) 745-2025

JUNE 20-21 KENT, WASHINGTON
JIM PARSONS MEMORIAL SUMMERFLY
EVENTS: OLD TIME STUNT, CLASSIC STUNT, PRECISION AEROBATICS (INT / ADV / EXP), .15 CARRIER, PROFILE CARRIER, CLASS I & II CARRIER COMBINED, MOUSE RACE CLASS I, NW FLYING CLOWN RACE, NW SPORT RACE, NW SUPER SPORT RACE SITE: BOEING SPACE CENTER IN KENT. SPONSOR: SEATTLE SKYRAIDERS
NOTE* DETAILS TENTATIVE

JUNE 27-28 SNOHOMISH, WASHINGTON
BLADDER GRABBER XXI
EVENT: AMA FAST COMBAT, FLOWN TRIPLE ELIMINATION
CONTACT: JEFF REIN (425) 823-6053

JULY 10-11-12 MUNCIE, INDIANA
A.M.A. NATIONALS FOR CONTROL LINE SCALE EVENTS

JULY 11 MISSION, BRITISH COLUMBIA
EVENT: NOSTALGIA DIESEL COMBAT SITE: MISSION FLYING FIELD CONTACT: PAUL DRANFIELD (604) 826-3376 E-MAIL: pdran@bc.sympatico.ca

JULY 12 SALEM, OREGON
"ENDURANCE RECORD TRIALS"
EVENT: AMA CL ENDURANCE SITE: BILL RIEGEL MODEL AIRPARK (SALEM AIRPORT) SPONSOR: WESTERN OREGON CONTROL LINE FLYERS. CONTACT: MIKE HAZEL 1073 WINDEMERE DRIVE NW, SALEM, OR 97304 PHONE (503) 364-8593 E-MAIL: ZZ CLspeed@aol.com

JULY 13 - 18 MUNCIE, INDIANA
A.M.A. NATIONALS FOR CONTROL LINE EVENTS

JULY 25-26 RICHMOND, BRITISH COLUMBIA
"P.A.C. INVITATIONAL"
EVENTS: CARRIER (ALL CLASSES), NW FLYING CLOWN RACE, NW SPORT RACE, GOODYEAR, OLD TIME STUNT, PRECISION AEROBATICS IN FOUR CLASSES, SCALE. SITE: RICE MILL ROAD SPONSOR: PACIFIC AEROMODELERS CLUB CONTACT: MIKE CONNER (604) 465-7277

AUGUST 1-2 COQUITLAM, BRITISH COLUMBIA
"CAN-AM SPEED CHAMPIONSHIPS"
EVENTS: SPEED SITE: UPPER COQUITLAM PARK SPONSOR: VANCOUVER GAS MODEL CLUB CONTACT: RON SALO (604) 279-0530, OR PAUL GIBEAULT (604) 525-1020

AUGUST 22-23 SALEM, OREGON

WOLF 2ND ANNUAL SUMMER MEET

EVENTS: NW SUPER SPORT RACE, NW SPORT RACE, NW FLYING CLOWN RACE, MOUSE RACE CLASS I, 80 MPH COMBAT, PRECISION AEROBATICS, 1/2 A SPEED, 1/2 A PROFILE PROTO SPEED, A SPEED, B SPEED, D SPEED, JET SPEED, FORMULA 40 SPEED, FAI SPEED, .21 SPORT SPEED, .21 PROTO, NW SPORT JET SPEED, & FUN FLY EVENT. SITE: BILL RIEGEL MODEL AIRPARK SPONSOR: WESTERN OREGON CONTROL LINE FLYERS CONTACT: MIKE HAZEL (503) 364-8593

SEPT 5 COQUITLAM, BRITISH COLUMBIA

EVENTS: MOUSE RACE CLASS I, NW SPORT RACE, NW FLYING CLOWN RACE, .15 SPORT RACE. SITE: UPPER COQUITLAM PARK. SPONSOR: PACIFIC AEROMODELERS CONTACT: MIKE CONNER (604) 465-7277

SEPT 12-13 KENT, WASHINGTON

RAIDER ROUNDUP

EVENTS: OLD TIME STUNT, CLASSIC STUNT, PRECISION AEROBATICS (INT / ADV / EXP), MOUSE RACE CLASS I, NW FLYING CLOWN RACE, NW SPORT RACE, NW SUPER SPORT RACE, .15 CARRIER, PROFILE CARRIER, CLASS I & II CARRIER COMBINED, 1/2 A COMBAT, VINTAGE DIESEL COMBAT, 80 MPH COMBAT, SPORT SCALE SITE: BOEING SPACE CENTER IN KENT. SPONSOR: SEATTLE SKYRAIDERS *NOTE: DETAILS TENTATIVE

SEPT 26 COQUITLAM, BRITISH COLUMBIA

EVENTS: MOUSE RACE CLASS I, NW SPORT RACE SITE: UPPER COQUITLAM PARK SPONSOR: VANCOUVER GAS MODEL CLUB CONTACT: RON SALO (604) 279-0530, OR PAUL GIBEAULT (604) 525-1020

OCTOBER 3 RICHMOND, BRITISH COLUMBIA

EVENTS: CARRIER (ALL CLASSES), STUNT- TENTATIVE SITE: RICE MILL ROAD SPONSOR: PACIFIC AEROMODELERS CONTACT: MIKE CONNER (604) 465-7277

OCTOBER 10 SALEM, OREGON

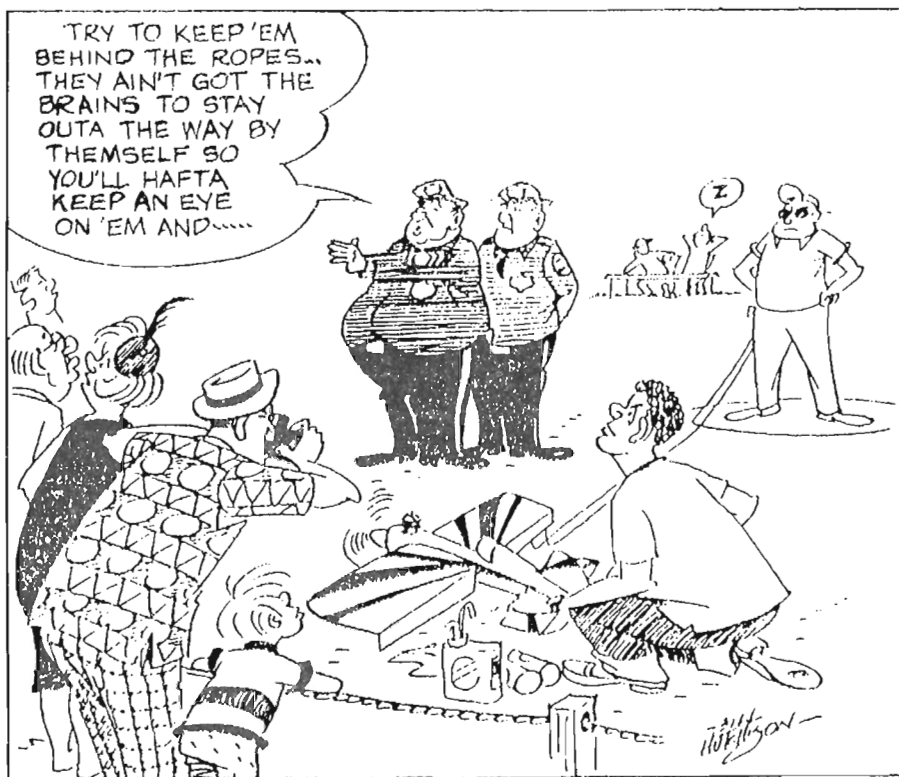
"REALLY RACING"

EVENTS: AMA AND NORTHWEST RACING EVENTS DETAILS TENTATIVE

OCTOBER 11 SALEM, OREGON

"FALL FOLLIES"

EVENT: PRECISION AEROBATICS DETAILS TENTATIVE



"AIN'T IT THE TRUTH!"

If somebody asks you,
"How long will one of these things fly?" Tell them . . .

64 HOURS, 33 MINUTES!

by John Thompson

• Control line model aviation goes back a long time in Eugene, Oregon. There has been a flying club there for more than three decades, and the flying goes back all the way—literally—to the invention of the bellcrank.

But the Eugene Propspinners' notch in model aviation history was carved 21 years ago when a homely, overweight craft named the "Spirit of Exchange" lumbered into flight on a voyage that is now a model aviation legend. In September of 1957, after several months and six unsuccessful attempts, the Propspinners broke the then-existing AMA control line endurance record by keeping a single plane in the air for 64 hours, 33 minutes and 14 seconds.

Records for continuous flight by multiple-piloted, in-flight refuelable aircraft are no longer kept by the AMA and the remarkable feat of the Propspinners' modified Veco Chief is now all but forgotten in the modeling world. But in Eugene there are a number of men who can still hear the drone of the twin-plugged K&B Allyn Torpedo .35 in their ears. Recent reports of a 26-hour control line "Fly-A-Thon" in Reading, Pennsylvania, in which a world record was claimed (though three airplanes were used), revived the memories of the stunning Eugene flight.

The Propspinners' plane flew night and day, with pilots first taking one-hour shifts but eventually cutting it down to only minutes as their powers of concentration waned.

The craft was a marvel of engineering for that time. For one thing, it was the third plane the Propspinners had built for the endurance record attempt—the first two had shaken apart. The third, built with steel hinges, fiberglass and other strengthening techniques (in a day when many of our present miracle adhesives were not available), held together beauti-



Shown with the "Spirit of Exchange" are: (left to right, kneeling) pilot Bob Miller, pilot Pat Holland, chief pilot Dick Wampach, pilot Bert Gray, pilot Danny Sparks, pilot Bill Kuykendall; (left to right, standing) pilot Ron Fetsch, pilot and technical advisor Obie St. Clair, pilot Fred Hazel, ground crew member Morris Gilbert, ground crew member and Propspinner president Chuck Nickens, pilot Ray Howard, ground crew member Judy Kuykendall, pilot Wendell Gray and ground crew member Bob Steen.

fully—and still hangs in Paul Agerter's Eugene Toy and Hobby shop in Oregon.

But even more amazing was the engineering of the system that pumped fuel from a gallon can on the pilot's chest to the airplane's twin on-board tanks. Also essential was a homemade servo, powered by current fed through the control lines, that adjusted the fuel mixture as the temperature ranged from 83 degrees down to 43 degrees during the three-day flight.

People in the Northwest who know Obie St. Clair aren't the least surprised about the engineering feats that kept the Chief flying. For those elsewhere, it is sometimes necessary to point out the little known fact that Obie claims the title of "The Father of Control Line Flying" through his invention of the bellcrank control system in the late 1930s. (Confirmation of this fact was once the subject of a California court battle.) It

(Continued on page 83)

was another well-known Northwest modeler and showman, Jim Walker, who made the bellcrank and control line famous.

St. Clair, still an active Propspinner, is the diminutive man who has for decades dazzled Eugene-area modelers with his inventions—a completely operational control line flying simulator, a throttled profile stunt plane with landing gear on top and bottom, and a tiny stooze that is a masterpiece of engineering, to name a few. But that's another story. St. Clair's engineering was only one element in the tedious effort of the Propspinners to chase a record that at the time was 35 hours, 8 minutes, set by a club in Dallas, Oregon.

Talk of trying for the record of continuous flight started early in 1957. The record of the Dallas club seemed within reach, some Propspinners thought. Once the decision was made to make an attempt at establishing a new record, the project went forward at full speed. One early priority was to get the backing of the Eugene Exchange Club, and the Veco Chief became the "Spirit of Exchange."

At the forefront of the planning, model construction and contacting of sponsors were Propspinners John Murray, Dick Wampach and Bill Kuykendall. Hobby shop proprietor Paul Agerter's name appears on much of the correspondence with model equipment manufacturers.

Next came contacts with industry representatives. The first question was fuel. Where could 50-gallon drums of the stuff be obtained at a reasonable price? With the help of Dave Mallory of the D. C. Parker Co. (now D. N. Mallory Distributors), an offer came from John Brodbeck, Vice President of K&B Allyn Co., to supply the drum of K&B Supersonic 100 at cost. And Brodbeck also supplied a K&B Torpedo .35, modified slightly for endurance (mainly by the installation of a second glowplug), and helpful advice about props and engine handling. Several other model companies supplied prizes to be given to spectators during the record trial.

However, obtaining a plane, fuel and an engine did not make the flight easy. The first attempts were made on June 16, 1957. The initial flight lasted only 29 minutes. The second attempt went three hours and 19 minutes. The third attempt ended heartbreakingly after 14 hours, 20 minutes, when the tired Chief began to shake apart.

Disappointed but not beaten, the Propspinners returned to the drawing board. A second Chief was built, and in July the group tried again. Their fourth attempt lasted 24 minutes; the fifth was two hours and 16 minutes. The sixth try ended after 13 hours and 56 minutes. Again, failure. But the modelers were more determined than ever to complete their project.

The third Spirit of Exchange incorporated building techniques that look crude today—such as giant steel elevator hinges—but they were the strongest methods available at the time. Paul Agerter recalls that the plane was extremely heavy and flew slowly. But it did fly. The engine was sent to John Brodbeck, who looked it over, replaced a connecting rod, and sent it back ready to go again.

On September 1, 1957, the Spirit of Exchange took off for its legendary flight, covering an estimated 2,705 miles and burning up 30 $\frac{3}{8}$ gallons of fuel. The site was the infield of an automobile racetrack.

Pilots, with the gallon fuel can strapped to their chests, passed over control of the plane with use of a dual handle system. Some went home to sleep and eat, while others stayed at the field. Thirteen pilots and four non-flying ground crew members participated. Needle-valve adjustments were made by the servo, activated by the pilot through the electrically-charged lines as the temperatures and settings fluctuated. Speed of the plane varied from 36.5 to 44 mph.

Equipment problems didn't plague the effort this time, but a problem of another kind came up. The fuel supply, depleted by earlier attempts, began to run out. A flying service not far away at the Eugene airport came to the rescue, donating a plane and pilot to fly to Portland and pick up 19 more quarts of K&B Supersonic 100—at the hefty price of \$1 per quart.

The plane finally landed at 4:41 p.m. on September 3rd, after both Champion glowplugs had given up the ghost. Actually, some theories proposed that the plugs had been destroyed for some time

before the engine quit, and recollections are hazy about exactly what brought the plane down. Some remember that it was simply shut off by the pilot, but nobody is sure.

The Propspinners and the Spirit of Exchange claimed the new record, which might never have been beaten. (Today's control line endurance records—10:03.25 in the Open class—are based on AMA rules requiring completely on-board fuel tanks and a single pilot.) The flight was reported at the time in the modeling press and became the subject of a K&B Allyn advertising campaign. The effort was well-covered by the Eugene *Register-Guard* newspaper as well.

When K&B people examined the engine, they found some wear but determined the Torpedo had another 25 to 30 hours left in it—in spite of 99 hours, 51 minutes of running time, including break-in, test-running and flights. So pleased about the flight were K&B officials that the company sent the Propspinners a check to cover all fuel costs and the cost of a new engine.

But the old engine, and the Veco Chief, were mounted on the hobby shop wall, never to be taken down again for another flight. The mission of the Spirit of Exchange had been accomplished. ■

DSC - Direct Servo Connection for CL models

By : Fred Cronenwett

Any tour through a hobby shop today reveals a lot of equipment expressly designed for Radio Control models. Some hobby shops know nothing about CL models and do not try to stock any kits, motors or parts designed for CL models. What if I told you could pick up a scale kit such as the Top Flite Gold edition Corsair, an OS-61FX engine, Robart Retracts, and a JR XF622 radio and never fly this model at an RC field. Converting kits from RC to CL is no secret but the radio that I choose was not a random choice. This radio has a feature called DSC that can be used to fly a **CL model electronically without any special conversion required**. The engineers at JR incorporated a feature that allows the transmitter to be hard wired to the receiver in its stock configuration. Ideal for scale models this system allows you to operate up to 6 features with two flying lines. Can you imagine an B-17 with retracts, throttle, flaps, bomb bay doors and bomb drop? Trying to set up this model with a 3-line system would be quite the experience, it would require at least 5 lines to operate all of the features.

Setting up this model with the JR radio is quite easy. Install the bellcrank as you would normally, but since throttle control will be controlled electronically we will install a 2-line bellcrank. The center bolt of the bellcrank should be approximately 1" behind the CG of the model. Now decide how many functions you want to have on your Corsair. Flaps, throttle, retracts (including tail wheel) and sliding canopy comes to mind. Before you start building decide where you are going to put the servos. Make sure you can get to the servos after the model is built so you can service the pushrod connections and the servos themselves.

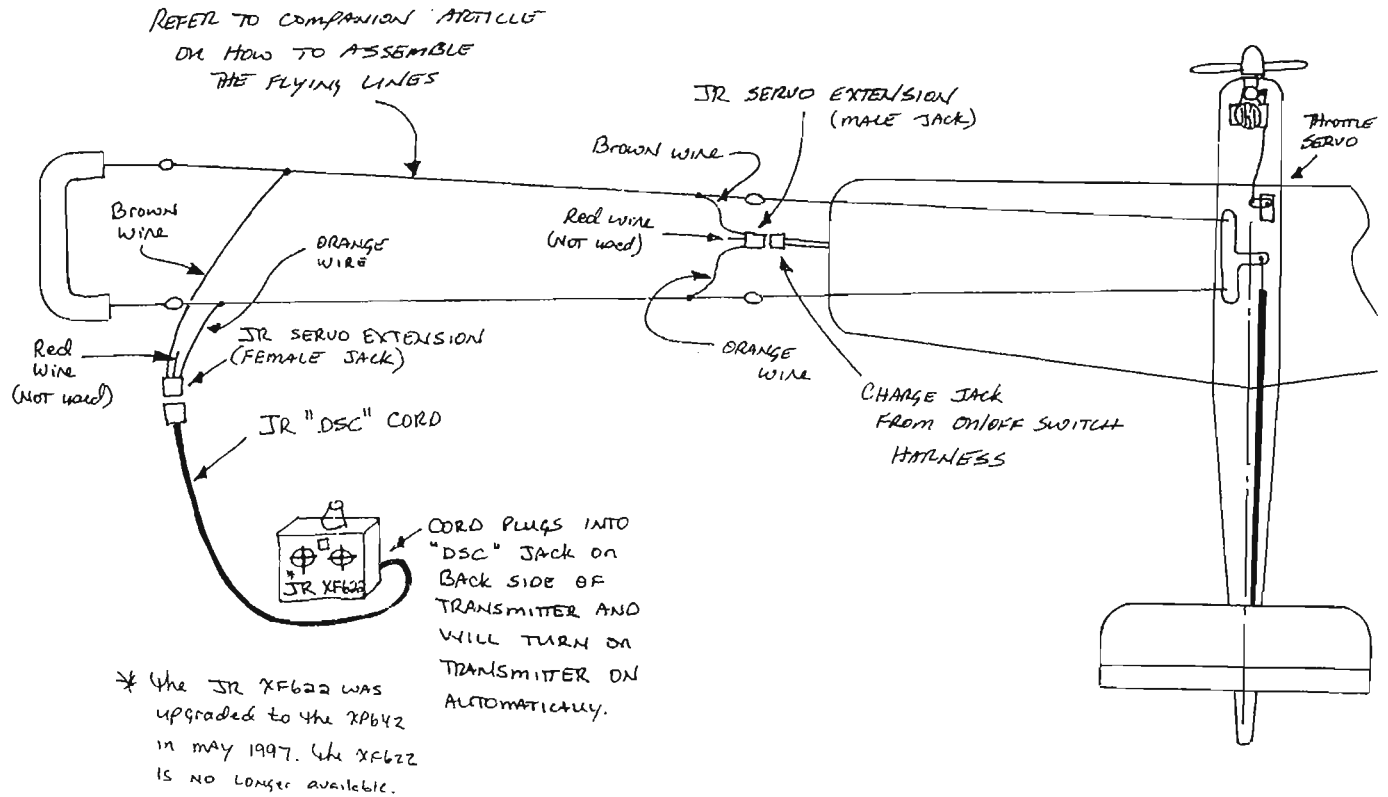
The best location for the throttle servo is behind the tank in the fuselage. Since the retracts will have an air valve with a tank, consider putting the tank, valve and main gear retract servo in the wing. Another servo hooked in parallel with the main gear retract servo will be located in the fuselage and will retract the tailwheel. The flap servo will be located in the wing, with the remaining servos located in the fuselage. The receiver and battery will be located in the fuselage also.

Now you say I have cross-breed model, half Radio Control and half Control Line. So now we need to set up the JR radio so that it works in DSC mode so we can fly our model as a CL model. The Transmitter and Receiver can still operate in its normal mode transmitting a RF frequency but we are going to pick up three stock JR items that allow us to operate in DSC mode for CL flying. Refer to the schematic and take a close look at how the system is set up. As a precaution I removed the crystals from the Transmitter and the Receiver on my Piper Cub that flies with this system.

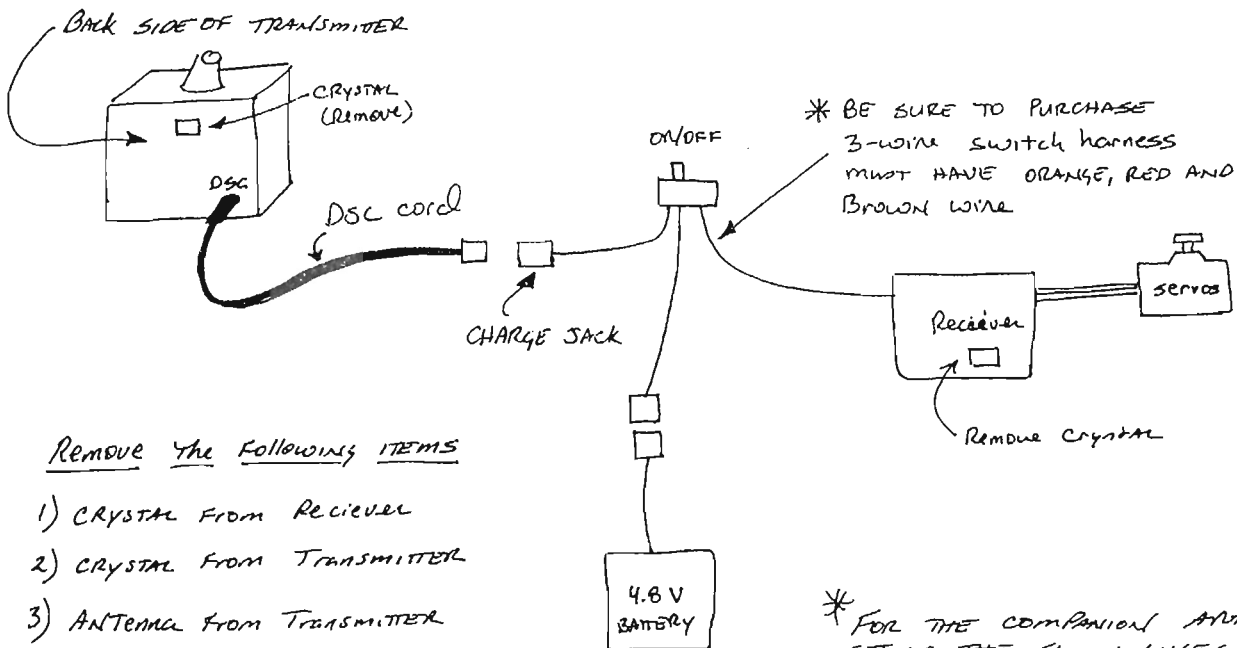
When to go to your local hobby shop to purchase the radio be sure you remove the stock switch harness from the radio and pick up the DSC cord, Servo Extension and the deluxe 3-wire switch harness. Take a close look at the switch harness that comes with the radio and you will notice each wire bundle only has two wires, you need the switch harness that has 3 wires (red, orange and brown). This allows the signal to be hard wired directly to the receiver. The servo extension is cut in half, the female connector end is used at the handle end of the lines and the other half is used at the airplane end of the lines (see figure #1). Pay close attention to figure out which wire is used to transmit the signal and ground down the lines. The red wire on the servo extension is not used and is cut short.

Operation at the field is quite simple. Since you have a radio that is capable of transmitting a RF frequency be sure to remove the crystal from the transmitter. You will never turn on the transmitter with the on / off switch on the front of the transmitter. When the DSC cord is plugged into the transmitter it automatically turns it on. You will hear a beep and the voltage will appear on the screen. Now plug the DSC cord into the charge jack of the airborne unit switch harness and power up the airborne unit. You will notice the servos move as if you were transmitting with an RF frequency. Now all you have to do is put a set of flying lines between the two connectors and you have an electronic model without permanently converting the radio for CL use. You could turn around, install the crystals and antenna and fly this model as an RC model assuming there was a servo to control the elevator.

JR "DSC" SETUP (FIG #1)



(FIG #2)



Remove the following items

- 1) CRYSTAL FROM RECEIVER
- 2) CRYSTAL FROM TRANSMITTER
- 3) ANTENNA FROM TRANSMITTER

* FOR THE COMPANION ARTICLE TO SET UP THE FLYING LINES AND OTHER RELATED HARDWARE SEND 5 FIRST CLASS STAMPS TO:

FRED ORONENWETT
21320 PARTHENIA STREET, #101
CANOGA PARK CA 91304

The cost involved to purchase a normal radio and then have it converted for CL use can add up. This system allows the user to purchase a radio for a modest cost, install it and fly it the next day as a CL model. The time and money required to convert other radios has been eliminated. However, don't expect your local hobby shop to know what DSC is. I have yet to find a hobby shop that really understood DSC and how it works. If you tell them you will be using this system to fly a CL model they will really think you have lost our marbles. Tell them what you need and go have some fun.

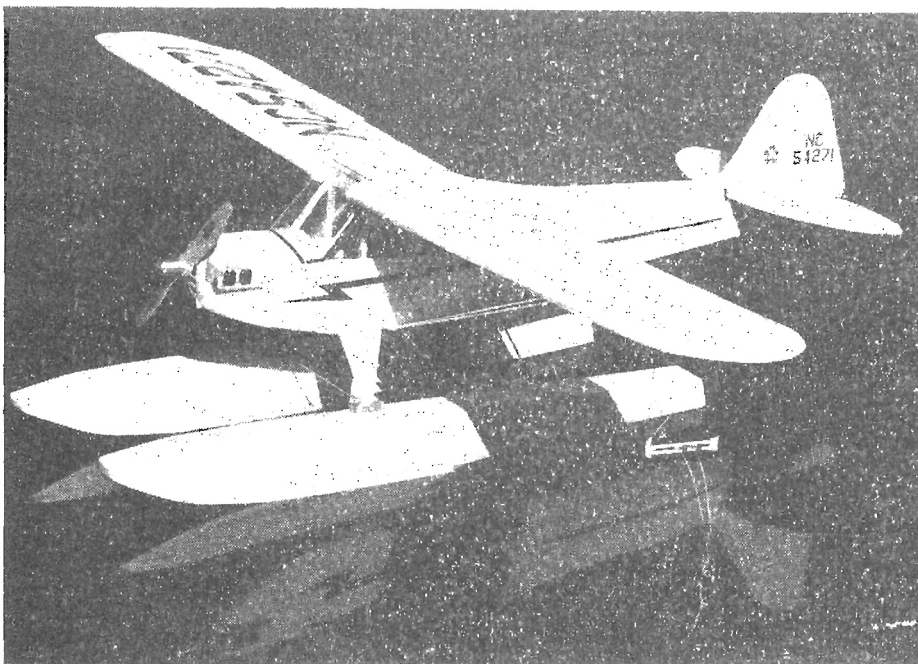
OR XP642

Now, there are at least two radios that have this feature, the XF622 and the F400. The F400 has a 4 channel transmitter with a 6 channel receiver (Strange...). The XF622 has a 6 channel transmitter with a 6 channel receiver. I recommend buying the 6 channel unit. You can buy additional receivers for new airplanes and only have one transmitter. You can use the same transmitter for all of our airplanes and each airplane can have it's own airborne unit. The reason for getting the 6 channel unit is for options like retracts. This option is best operated with a toggle switch which only comes with the 6 channel version.

There are very few instructions included with the XF622 radio on how to set and use the radio in DSC mode. This is why most hobby shops know nothing about this feature. The F400 radio also has this feature but the instruction manual for this radio mentions nothing about it. Still haven't figured why JR did not include instructions on how to use it. JR has taken the time to include a great feature and then mention nothing about it in the instruction manual. It was designed to allow RC pilots to operate the radio without transmitting an RF frequency in the pit area to warm up the engine and test other features like retracts. Great idea but I bet that many RC pilots did not know that this feature is right under their nose.

Now all you have to do is make a metal bracket that allows you to hook the transmitter to our belt. The Transmitter hangs on our belt, you will operate all of the electronic functions with your left hand and fly with your right hand (assuming you fly with your right hand). The DSC cord is long enough to allow your arm to reach full extension without unplugging the wire at the handle. This system allows you use a normal 2-line handle with full adjustment for neutral elevator adjustment. The normal 3-line handle does not have any neutral elevator adjustment short of changing the length of the up or down line.

For a complete article on how to set up and fly an electronic CL model send 5 first class stamps to the address on figure #2. You will need this to set up the lines and other related equipment. don't hesitate to call if you have any additional questions.



Pictured is Fred's scale CUB model complete with floats.

The plane was built from a Hanger Nine ARF kit and spans 81 inches. Floats are made from the Great Planes 60 size float kit, and then fiberglassed. Power is by an Astro 40 electric Super Box geared motor, and it swings a 16 inch prop.

Fred says that getting an RC ARF plane and converting it is an easy quick way of having a float plane ready.

Watch for this plane in the air at the NW Regionals this year!

The Scoreboard

Northwest control-line competition standings.

The contest season must be under way, because we have standings to report!

Yep, there was a racing contest in Portland, Ore., on March 28, and a Carrier contest in Richmond, B.C., on March 14. There was also a Vintage Diesel Combat meet on April 4, but results of those will appear in the next standings update.

Contests counted to date: March 14, Richmond, B.C.; March 28, Portland, Ore.

Following are the standings for updated events:

1998 STANDINGS

MOUSE RACE CLASS I

- | | |
|----------------------------|---|
| 1. Nitroholics Racing Team | 7 |
| 2. Todd Ryan | 6 |
| 3. Greg Nelson | 5 |
| 4. Nathan St. John | 4 |

NORTHWEST SPORT RACE

- | | |
|----------------------------|---|
| 1. Todd Ryan | 4 |
| 2. Nitroholics Racing Team | 3 |
| 4. Dave Shrum | 2 |
| 5. Nils Norling | 1 |

CLOWN RACE

- | | |
|----------------------------|---|
| 1. Todd Ryan | 5 |
| 2. Nitroholics Racing Team | 4 |
| 3. Mike Nelson | 3 |
| Dave Shrum | 3 |
| 5. Ron Howell | 2 |

OVERALL RACING

- | | |
|----------------------------|----|
| 1. Todd Ryan | 15 |
| 2. Nitroholics Racing Team | 14 |
| 3. Dave Shrum | 5 |
| Greg Nelson | 5 |
| 5. Nathan St. John | 4 |
| 6. Mike Nelson | 3 |
| 7. Ron Howell | 2 |
| 8. Nils Norling | 1 |

.15 NAVY CARRIER

- | | |
|-----------------|---|
| 1. Mike Potter | 3 |
| 2. Shawn Parker | 1 |
| 3. Frank Boden | 1 |

PROFILE NAVY CARRIER

- | | |
|-------------------|---|
| 1. Mike Potter | 4 |
| 2. Mike Conner | 3 |
| 3. Barrie Shandel | 1 |
| Dennis Matthews | 1 |

OVERALL NAVY CARRIER

- | | |
|-------------------|---|
| 1. Mike Potter | 7 |
| 2. Mike Conner | 3 |
| 3. Barrie Shandel | 1 |
| Dennis Matthews | 1 |
| Shawn Parker | 1 |
| Frank Boden | 1 |

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.

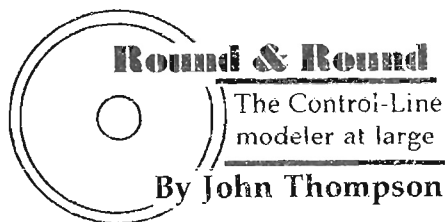
Send results to statistician John Thompson at the address listed below.

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 john4051@aol.com. For a printed copy of complete standings for any event, send a self-addressed, stamped envelope.



"That's something new, isn't it . . .
jet endurance?"



Round & Round

The Control-Line
modeler at large

By John Thompson

Modeling thought for the month:

"In the abundance of water, the fool is thirsty.

— Ancient proverb

Hobby shopaholics' heaven

There's no more pleasant errand than a visit to the local hobby shop — if you have a local hobby shop, and if it has any control-line stuff.

Oh, yes, they all have one bellcrank and one set of .008x70 single-strand lines. But do they really have what you need? When you say, "handle," do they think you mean the big piece of dowel that RCers use to tow along their wheeled flight boxes? When you say "prop," do they think you want an 18x6 Master Airscrew for your 1/2-scale F-16-shaped Ugly Stik? When you say "engine," do they think you mean a 100-cc chainsaw engine?

As we all know, there are hobby shops, and their are hobby shops.

All control-line modelers know that, for better or worse, part of *our* hobby is knowing how to find the things we need. We're all experts at mail-order. We get stuff from the local hobby shop, and from Czechoslovakia and Pennsylvania and Iowa and Kiev. But it's one thing to order RTF combat planes from Czechoslovakia or high-zoot racing tanks from Southern Cal., but what about those times when we just need a jar of a certain color of Aero Gloss dope or a few Cox high-compression heads, and the "hobby shop" at the nearby shopping center doesn't stock it because there's no room on the shelves what with all the macrame and slot car stuff?

Well, there may be a hobby shop in the next shopping center up the road, or in the next town that would be glad to sell — and maybe even mail — it to us.

So, here's a resource for those who might need to hit the next hobby shop up the road.

You've all heard about The List, the comprehensive Northwest mailing list, maintained here at Round & Round headquarters. It's the constantly list contest directors use for contacting modelers to let them know about

upcoming contests. The database also has a category for CL-related businesses. And finally, it has a comprehensive list of Pacific Northwest hobby shops.

The hobby shop list has just been updated, and should be pretty close to what's actually out there in the malls and byways of Northwest cities large and small.

It's published in this issue of *Flying Lines* for the general edification of CL fliers who are looking for products that they may not be able to find in the shop down the road. Drop these shops a postcard or give them a call, or drop in on your next trip through their town. Maybe they have what you want.

The List's database has phone numbers for all these shops, but it became a bit too much to publish. However, if you need the phone number for one of these shops, send me an e-mail or a self-addressed, stamped postcard and I'll supply it to you.

By the way, if you see an error or omission on the published list, let me know, and I'll add or subtract or correct The List to make it reflect reality.

How about a hobby shop review? *FL* readers are invited to tell us a little about their favorite shops.

More links for Web fliers to follow:

Sig Manufacturing Co.: www.netins.net/showcase/sig

Brodak Manufacturing Co.: www.brodak.com/index.htm

You can also e-mail both companies. Sig's e-mail address is flysig@netins.net. Brodak's is flyin@brodak.com

There's also another new engine supplier, handing CS among other items, on the Web: James Zhou's site is: home.earthlink.net/~whizzz/welcome.htm

If you're interested in worldwide CL news, you may want to subscribe to the e-mail newsletter, the Circulator, published periodically over the Internet by Goran Olsson of Sweden. Contact him at olsson@plasma.hth.se to sign up. He maintains a cool Web site, too: www.plasma.kth.se/~olsson/cl.html

Send comments, questions, and topics for discussion to John Thompson, 2456 Quince St., Eugene, OR 97404. E-mail John4051@aol.com. World Wide Web: <http://members.aol.com/JohnT4051/Page4.html>

Fred's Hobbies & Guns 349-A W. Washington Sequim, WA 98382	George's Tool Rental and Hobby Supply 143 N. Alder Burns, OR 97720	Gig Harbor Hobby & Craft 6820 Kimball Drive Gig Harbor, WA 98335
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Harley's RC Route 1 Box 277A Walla Walla, WA 99362	Hillsboro Hobby Shop 351 E. Main St. Hillsboro, OR 97213	Hobbies at the Bon 3rd & Pine Seattle, WA
Hobbies Unlimited 4503 N. Interstate Portland, OR 97217	Hobby Stop 317 E. Market St. Aberdeen, WA 98520	Hobby Warehouse 8532 SW Apple Way Portland, OR 97225
Hobby Center 1125 Dale St. S.E. Albany, OR 97321	Hobby Hive 703 W. Holly Bellingham, WA 98225	Hobby Town 402 Garfield St. Tacoma, WA 98444
Hobby Tree 333 E. Main Medford, OR 97501	Hobby Mania 520 S. Wenatchee Ave. Wenatchee, WA 98801	Hobbycraft For All Ages 310 S.W. 6th St. Grants pass, OR 97526
Hobbyhouse 8550 S.W. Apple Way Portland, OR 97225	Hobbytown USA 3317 N. Cole Road Boise, ID 83704	Hobbytown USA 8952 S.E. Sunnyside Road Clackamas, OR 97015
Hobbytown USA 16421A Cleveland St. Redmond, WA 98052	Hobbytown 13923 Pacific Ave. Tacoma, WA 98444	Hobbytown USA West 1896 Pullman Road Moscow, ID 83843
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Joe's Hobby Barn 2710 N. Meridian Road Meridian, ID 83642	John's Hobbies 251 Arrow Way Tri-City, OR 97457	K&J's Trains and More 137 S.W. Main St. Warrenton, OR 97146
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Model Aircraft Supply Center 505 N. 20th Yakima, WA 98902	North Idaho Hobby Center 5624 N. Government Way Coeur d' Alene, ID 83814	Oak harbor Hobbies 790 S.E. Pioneer Way Oak Harbor, WA 98277
Pacific Rim Hobby 124A West First St. Port Angeles, WA 98362	Performance RC Products 328 E. Fairhaven Ave. Burlington, WA 98233	Performance Specialties Highway 5 East Saint Maries, ID 83861

Abernathy's NW Hobbies
2105 140th Ave. N.E. #A
Bellevue, WA (206) 747-9914

Aero Motive Products
607 Spirit Lake Highway
Castle Rock, WA 98611

All's Toys & Hobbies
36 N. Central
Medford, OR 97501

All Hobbies
1430 E. Main
Puyallup, WA 98372

Anderson's Hobby Center
536 S.W. 6th St. Suite A
Redmond, OR 97756

Arlen's Hobby & Craft
503 Meridian S.
Puyallup, WA 98372

Bailey's Hangar
733 Bailey Drive
Heyburn, ID 83336

Bob's Enterprises
1414 Ripon
Lewiston, ID (208) 743-3342

Castle Craft Hobbies
921 N.W. Comyn Road
Poulsbo, WA 98370

Columbia Cycle & Hobby
1808 N. Monroe St.
Spokane, WA 99205

Divers Den & Hobbies
1574 N.E. 7th St.
Grants Pass, OR 97526

Dow's University Village Hobbies
4746 University Village Pl. NE
Seattle, WA 97105

Eugene's Toy & Hobby
32 E. 11th
Eugene, OR 97401

Fantasy World Toys Inc. #2
10315 Silverdale Way N.W.
Silverdale, WA 98383

Action Hobbies of Bend
61419 S. Highway 97 Suite C
Bend, OR 97702

Aero-Tronics Model Supply
320 Locust St.
Twin Falls, ID 83301

All Hobby
2310 A Mildred West
Tacoma, WA 98466

Alpha Hobbies
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Mount Vernon, WA 98273

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Kent, WA 98032

Bargain Bin
1941 N.E. Stephens
Roseburg, OR 97470

Carey's Toy & Hobby World
10448 Overland Road
Boise, ID 83709

Coin Corner & Hobbies
215 7th St.
Oregon City, OR 97045

D's Toys & Hobbies
926 N.E. Greenwood Ave.
Bend, OR 97701

Dixon's Model Hobby Supply
305 30th Ave.
Longview, WA 98632

Edmonds Hobby Shop
120 4th S.
Edmonds, WA 98020

Everett Model Shop
2816-1/2 Rockefeller Ave.
Everett, WA 98201

Fantasy World Toys Inc.
7901 South Hosmer A-6
Tacoma, WA 98408

Aero Sports & Hobbies
17941 NE Glisan St.
Portland, OR 97230

All's Bike & Toy
808 Klamath Ave.
Klamath Falls, OR 97601

All Aboard Hobbies
780 N.W. Garden Valley Blvd. Suite
182A
Roseburg, OR 97470

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731 S.W. 185th Ave.
Baseline Shopping Center
Aloha, OR 97006

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Wenatchee, WA 98801

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Spokane, WA 99207

Bellevue Hobby Center
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Bellevue, WA 98007

Cascade Modelers Supply
11422 N.W. Kingwood Drive
Redmond, OR 97756

Cole Bros. Aviation Co.
Highway 30 & First St.
Haines, OR 97833

Dapco Hobbies
2211 Garrett Way
Pocatello, ID 83201

Don's University Village Hobbies
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Seattle, WA 98105

Engel Pacific Hobby Co.
1678 S. Beaver Creek Road
Oregon City, OR 97045

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Federal Way, WA 98003

Flying Dutchman
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North Bend, OR 97479

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174 W. Hermiston Ave.
Hermiston, OR 97838

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35030 Brooten Road
Pacific City, OR 97135

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Oregon City, OR 97045

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1506 N.E. Yaquina Heights Drive
Newport, OR 97365

R&R Industries
321 Craighill Ave.
Richland, Wa 99352

R.C. Model Shop
14010 NE 21st St.
Bellevue, WA

R/C & More Hobbies
15603 S.W. 116th Ave.
King City, OR 97224

Ralph's Toys & Hobbies
935 Northgate Mall
Seattle, WA 98125

Ralph's Toys & Hobbies
10448 Overland Road
Boise, ID 83709

Rambo's Model Hobby Supply
1233 Commerce
Longview, WA 98632

RC Pit Stop
P.O. Box 1787
Pendleton, OR 97801

RC Hobbies of Spokane
12609 E. Sprague Ave. # 1
Spokane, WA 99216

RC Modeler NW Hobbies
17140 S.W. Shaw St.
Beaverton, OR 97075

Ready To Fly RC
N. 6408 Altamont
Spokane, WA 99207

Red Baron International
710 Cleveland Suite 4
Idaho Falls, ID 83402

S&S Hobbies & Toys
221 Highway 20
Ashton, ID 83420

Sam's RC Hobbies
187 Spring St.
Friday Harbor, WA 98250

Sequim Hobby Supply
609 W. Washington, Bldg. 7
Sequim, WA 98382

Skysport
4564 Commercial St. S.E.
Salem, OR 97302

Southgate Hobbies
5109-C Capital Building
Tumwater, WA 98501

Springfield R/C Hobby Shop
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Springfield, OR 97477

St. Helens Hobby Center
145 N. 18th
St. Helens, OR 97051

Stoneway Hardware & Supply Inc.
4318 Stoneway North
Seattle, WA 98103

Summit Hobbies
10917-50th Ave. E.,
Tacoma, WA 98446

Tammie's Hobbies
12024 S.W. Canyon Road
Beaverton, OR 97005

Tenderfoot
177 Riverside Drive
Winthrop, WA 98862

The Toy Shop Inc.
837 Poleline Road
Twin Falls, ID 83301

The Hobby Habit
409 Fir St.
La Grande, OR 97850

The Toy Store
P.O. Box 415
Belfair, WA 98528

The Clover Leaf
4110 Main St.
Union Gap, WA 98903

The Ultimate Group Inc.
12809 N.E. 5th St.
Vancouver, WA 98684

Three Flying Dutchmen
263 N. Broadway St.
Coos Bay, OR 97420

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2507 Broadway
Everett, WA 98201

Toby's Hobby Shop
65110 Highway 97
Toppenish, WA 98498

Trump's Hobbies
2401 NW Kings
Corvallis, OR 97330

Ultimate Hobbies
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Portland, OR 97217

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1615 9th St.
Lewiston, ID 83501

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Auburn, WA 98002

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Idaho Falls, ID 83401

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Seattle, WA 98133

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Wenatchee, WA 98801



The Flying Flea Market

Classified advertisements — FREE for FL subscribers

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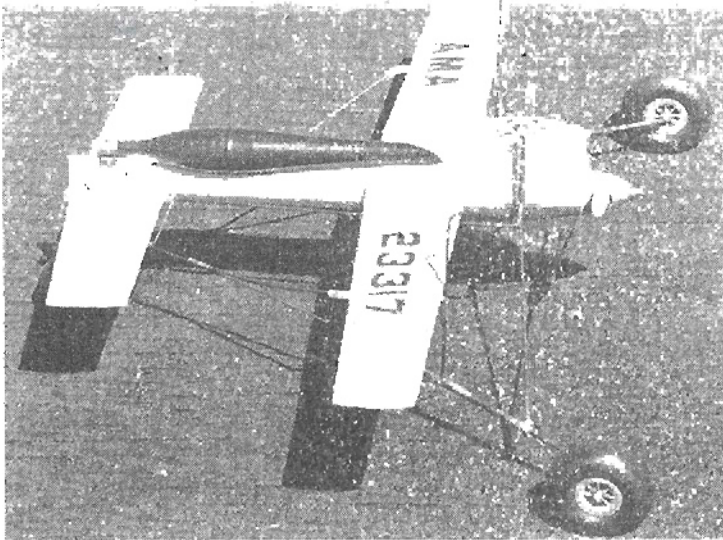
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ON THE LEFT: Jerry Rocha's .15 tuned pipe powered speed ship. Plane is his original design for class 'A' event.

Jerry hails from Napa, California, and is a frequent competitor at the NW regionals.

TO THE RIGHT:

Jet speed ship belongs to Dick Salter of Seattle

Jerry Thomas design features metal surfaces and aluminum fuselage crutch with balsa filler blocks.

