



NEWS OF NORTHWEST CONTROL-LINE MODEL AVIATION

1073 Windemere Dr. NW, Salem, OR 97304

Editor: Mike Hazel

MARCH 1992

ISSUE # 96

In This Issue.....

- * Round & Round, by John Thompson
- * Directory of NW Clubs, NW officials,
and Special Interest Organizations
- * Letters to the editor
- * Scale, by Orin Humphries
- * Model Expo 92, by Steve Scott
- * Rippoff .15 Combat, by Lyn Murray
(reprinted from Airwaves, Frank Boden, editor)
- * Northwest Contest Calendar
- * Oldie but Goodie reprint: O.S. Max-H 40S
- * Lots more good stuff!!!!!!!!!!!!

Cockpit Chatter



Notes from the
editor's desk
By Mike Hazel

Greetings, and welcome to this very late issue. While Ye Olde Editor should have been putting this issue together, he was off trekking around in California to a speed meet. The April issue will come out in more of a timely fashion. Those of you with columns, classified ads, letters, and CONTEST CALENDAR information, get your dope to FL by about March 28th.

Had a good time at the NW Model Expo in Puyallup, as usual. I got into the ticket line first thing on Saturday morning, with designs of getting into the swap meet early. It seems about eight million other people had the same idea. Comment overheard was, "there's nothing here". No wonder, even with about 100 tables, it was wall to wall people the first couple of hours, and could hardly see anything.

Across the way in the manufacturer's booths, I happened across a business selling "RC Sunglasses". I good-naturedly asked the proprietor if a transmitter was necessary to use his product. He didn't get it, I explained the fact that there are several other facets of modeling that do not use radio systems. This guy didn't seem to have a clue as to what I was getting at, when I further mentioned concepts of narrow marketing, inappropriate labeling, etc. It never ceases to amaze me how 99% of the aeromodeling industry sees and labels itself as "RC", when "aeromodeling" is a much more all-inclusive and accurate label. In most all cases, I believe that this is a situation of either arrogance or ignorance. In the case of the sunglasses, it would appear to be the later.

SPEED RULES REVISITED: We kinda thought there would be something firm to report on by now, but no. The so-called emergency safety rules have not yet been signed by all those who need to do so, leaving the speed rules in a moratorium situation. Rather than list any of the modified specifications that are pending, we will wait until they are final. Some of the specs that were listed in a previous issue have been changed. Hopefully this will all be settled soon.

I heard recently of some rules changes in the works for the Canadian (MAAC) fliers. These included a provision to automatically follow AMA rules for speed and racing events, requirement of a safety thong in all events, and safety headgear for racing pitmen. Not sure as to when these are to take effect, will give update when received. Any differences here from AMA rules will need to be remembered if you cross the border going North to a contest.

Your opinion please, on old magazine reprints. This month we have a reprint of a 20 year old stunt engine article. Some people may see old information as just a waste of print space, and an editor's attempt on easy filler material. Others may see such material as welcomed research information of a nostalgic flavor. There are many newcomers the hobby that may not have seen these article, and can learn from them. Also, it might be nice for those who do not wish to search out certain articles within a magazine collection. With old reprints, it will be our intent to make the stuff relevant to at least a reasonable group of modelers. Any thoughts on this?

NW REGIONALS: This promises to be a big one this year. Many of you should have already received an information package. The "official" accomodation facility will be the Red Lion, at the I-5/Beltline Rd. interchange. They have offered special room rates for us. We will also have a Saturday nite banquet there, but you must make arrangements earlier in the month. If you do not receive the informatin package, please write to Craig Bartlett, the contest director. (address in contest calendar). We will include a Regionals flyer in next issue.

The Great Oregon Model Exposition

April 11 & 12, 1992

BENTON COUNTY FAIRGROUNDS

**OPEN TO THE PUBLIC SATURDAY NOON-6
SUNDAY 10 a.m.-4 p.m.**

ADMISSION: \$2⁵⁰, Under 12 — \$1⁰⁰, Preschool Free

- DINNER Saturday Evening
For modelers, guests, interested persons. Must sign up in advance or by noon Sat.
- AMA MEETING Saturday afternoon at the Expo site
- AMA SANCTIONED FUN-FLY Sunday, 9 a.m. Adair county park
- TEST FLY our demonstration R/C Airplane

- ★ Giant model sale Model Swap Shop
- ★ Movies, slides, demonstrations, and videotapes on modeling
- ★ Flying demonstrations — R/C Car demonstrations
— R/C Helicopter demonstrations
— R/C Airplanes
— Control Line Airplanes

MODELERS: ENTRY SATURDAY, APRIL 11, 10 a.m.-2 p.m.

There is no "Builder of Model" rule this year.

ENTRY FEE: \$6.00 for 1 model, \$9.00 for two, \$12.00 for three, beyond 3 is \$3.00 each; includes Expo admission both days. Non-competition models may be displayed, but modeler pays admission.

CRAFTSMANSHIP COMPETITION CATEGORIES

MILITARY STAND-OFF SCALE*
NON-MILITARY STAND-OFF SCALE*
GOLDEN AGE AIRCRAFT
SPORT MULTI-WINGS
SPORT MONOPLANES
MOTORIZED GROUND VEHICLES
SCALE POWERED BOATS & SHIPS
COMPETITION POWERED BOATS & SHIPS

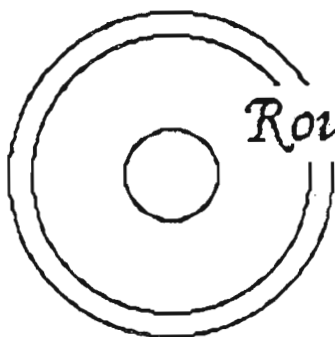
HELICOPTERS
SAILPLANES
PATTERN AIRCRAFT
PYLON RACERS
FLYING BOATS
ORIGINAL DESIGN
SAILBOATS

FREE FLIGHT CATEGORIES

POWERED
NON-POWERED
OLD TIMER
CONTROL LINE CATEGORIES
PRECISION SCALE
STAND-OFF SCALE
AEROBATIC
REQUIRES DOCUMENTATION

PRIZES: Awards to third place in each category, trophies for best of show, contestant choice & public choice.

CONTACT: Jim Trump, 2401 NW Kings Blvd., Corvallis, OR 97330, (503) 753-7540



Round and Round

The Control-Line
modeler at large

By John Thompson

WHATEVER HAPPENED to winter?

This is the time of year when we're supposed to be holed up in the workshop, building for the flying season while the wind whips the rain against the windows.

But, with winter having missed the Northwest entirely this year, there's been plenty of good flying weather. That could bode ill for the summer contest season, when all those projects that should have been built during the winter, well, won't have been.

Then again, there are some of us who have stayed indoors all winter anyway. For 11 years prior to last year, there was an excuse for winter flying called the Northwest Sport Race Drizzle Circuit. This would have been a great year to resume it weather-wise. I still hold out the hope that, perhaps next year, some kind of winter contest series can be resumed to do what the DC was originally intended to do — keep flying activity going during the winter.

For my own part, I have only myself to blame for not getting out more. There's lots of sport flying activity in Eugene and Portland, but I get lazy. It comes of living 40 minutes from the flying field. A half-hour to pack up, 40 minutes of driving each way, and a half-hour to unpack makes flying a 2-1/2-hour activity for me — before I even get a plane out of the car!

It's only when I finally get to the field and get something aloft that I realize how much I miss the flying. To paraphrase a steamy novel's title: "Once a Month is Not Enough!"

Anyway, even in a winter of sunny Sundays, there's some building that gets done. I've appealed in the past for some exchange of information among Northwest fliers in this "modeler at large" column. How about you readers dropping me a note or a postcard with a description of your winter building projects.

Let's compare notes and see if we can get an idea what to expect on the field this summer.

I can start, because my list of winter projects (accomplished) is pretty short.

Actually completed are some 1/2-A combat planes. I've been tinkering for about a year with a modern 1/2-A design, after having realized how out of date everything on my rack was when I resumed competing in 1/2-A.

The "Chihuahua," which looks a lot like a baby Underdog (get the idea of the name?) took several prototypes before I was happy with it, but this winter's crop is the combination I've been looking for.

I've built two for another flyer under the barter system, two for myself, and have another three under construction at the moment for myself, as well as a kit for a young flier in the Prop Spinners. (**No**, I'm not in the kit business! This is a one-off for a beginner.)

The Chihuahua's ancestry, if you trace it far enough back, includes blood from the Golly Gee Whiz, Dirty Beaver, Cheap Imitation, Pupfighter, Dogfighter, Undertaker, Underdog and more modern designs by Gary Arnold and Spencer Sheldrew.

Flying characteristics include good tension upwind and down, stability combined with quickness on demand, and relative simplicity to build. I say "relative" because it's actually more work than a full-size Underdog, but that's just because it's so teeny.

It's a 32-1/2-inch span tapered foamy with a laminated Undertaker-style fuselage, except that the motor mounts are built into the fuselage.

Otherwise, the winter building season for me has included only one fast combat plane, because I had plenty left over from last year (that tell a little about my success level in '91). It's just another Underdog with a few minor experimental changes.

Under construction in collaboration with designer Gerald Schamp is a full-fuselage version of the Cierra stunt plane. I began flying the Cierra profile, designed by Gerald and built by Mel Marcum, last year. This one will be intended for SSF (Serious Stunt Flying). It's not far enough along yet to give much detail.

I've also developed a hankering for an old-time stunter and have bartered for an All-American kit. Now that I'm officially an old-timer myself, I guess it's time to acknowledge it by dabbling in the old-time events.

All right, guys, let's hear about your winter projects. Send along a snapshot if you have one.

Write John Thompson, Round & Round, 1145 Birch Ave., Cottage Grove, OR 97424.

P.S. I can't end this without including a plug for the Northwest Regional Control Line Championships on Memorial Day Weekend in Eugene. New CD Craig Bartlett is organizing an excellent contest for the 21st year of the Regionals, and the Prop Spinners are working hard on the West's biggest contest. Don't miss it!

SPECIAL INTEREST GROUP DIRECTORY 1992

For membership information in any of the following organizations, write to the contact address (%). All of the organization memberships include a newsletter. Join up!!!

Precision Aerobatic
Model Pilots Association
(PAMPA)

% Tom Morris
1019 Creek Trail
Anniston, Alabama 36206

Northwest Rep.:
Paul Walker
25900 127th Ave SE
Kent, WA 98031

Miniature Aircraft
Combat Association
(MACA)

% Chip Giordano
Po Box 1000
Toms River, NJ 08754

Northwest Rep.:
John Thompson
1145 Birch Ave.
Cottage Grove, OR 97424

Canadian Rep.:
Frank Boden
4791 Shepherd St.
Burnaby, BC V5H 1L6

North American
Speed Society
(NASS)

% Chris Sackett
Box 82294
North Burnaby, BC
V5C 5P7

Northwest Rep.:
Mike Hazel
1073 Windemere Dr NW
Salem, OR 97304

National Association of
Scale Aeromodelers
(NASA)

% Bert Dugan
11090 Phyllis Drive
Clio, MI 48420

Northwest Rep.:
Mel Marcum
2065 Providence St.
Eugene, OR 97401

Navy Carrier Society
(NCS)

% Joe Just
709 Crescent
Sunnyside, WA 98944

1992 NORTHWEST CONTROL LINE CLUB DIRECTORY

CLUB:

PRESIDENT

VICE-PRES.

SEC-TREASURER

NEWSLETTER EDITOR

VGMC:

Vancouver Gas
Model Club
2929 East 22nd Ave
Vancouver, BC V5M 2Y3

Bruce Duncan
(604) 261-8776

Dave Finnie

George Moul

Dave Finnie
Marty Higgs

SS:

Seattle Skyraiders
11422 87th Ave Ct E
Puyallup, WA 98373

Joe Dill
(206) 631-2367

Al Brands

Steve Scott

Steve Scott

EPS:

Eugene Propspinners
205 NE Cedar Lane
Corvallis, OR 97330

Craig Bartlett
(503) 745-2025

John Thompson

Lynna Clark

Mel Marcum

Morrie Gilbert John Thompson

PAC:

Pacific Aeromodelers
Club
4791 Shepherd St.
Burnaby, BC V5H 1L6

Lyn Murray
(604) 467-2573

Henry Hajdik

Barbara Bell

Frank Boden

CBBB:

Columbia Basin
Balsa Bashers
590 E. Valley Drive
Pasco, WA 99301

Mack Ryan
(509) 545-5961

Kevin Magnuson

Ron Hale

?

NWF:

Northwest Fireballs
1705 NE 86th Avenue
Portland, OR 97220

Greg Beers
(206) 687-7907

Jim Cameron

Laura Beers

Dave Royer

AMA / MAAC Who's Who in the Northwest

- * AMA District XI Vice President: Ed McCullough, Po Box 13677, Portland, OR 97213
- * MAAC Assistant Zone Director: Bruce Duncan, Po Box 58037 Stn. L, Vancouver, BC V6P 6C5
- * District XI Contest Coordinator (CL & FF): Dick Salter, 7217 S. 133rd, Seattle, WA 98178
- * District XI CL Contest Board: John Thompson, 1145 Birch Av, Cottage Grove, OR 97424
- * District XI Scale Contest Board: Earle Moorhead, 1407 Park Ave NE, Salem, OR 97301
- * District XI Associate Vice Pres.: Dave Mullens, 15559 Palatine Av N., Seattle, WA 98133
- * MAAC National CL Committee Chairman: Ron Salo, #131 8460 Lansdowne Road, Richmond, BC V6X 3W1
- * District XI Rules Advisory Committee Members:
 - Speed (SAC) Mike Hazel, 1073 Windemere Drive NW, Salem, OR 97304
 - Carrier (NCAC) Bob Parker, 15828 SE 184th St., Renton, WA 98058
 - Combat (CAC) unknown, perhaps vacant
 - Racing (RAC) Mike Hazel, 1073 Windemere Drive NW, Salem, OR 97304
 - Stunt (PAAC) Paul Walker, 25900 127th Ave SE, Kent, WA 98031

***** THE FLYING FLEA MARKET *****

WANTED: The following control-line kits, A.J. Aircraft, Firecat or Super Firecat, Guillows, Reactor, Jetco, Sabre Stunt, Kenhi, Cougar & Wildcat Any C/L Speed kit

TRADE: For some of the above kits, A.J. Aircraft Firebat, Veco Redskin.

SELL OR TRADE: Replica OTS All American, Barnstormer, Yak-9, Fox 19 BB R/C NIB. Bruce Duncan, PO BOX 58037, Stn L, Vancouver, BC V6P 6C5 phone (604) 261-8776

WANTED: McCoy Redhead engines, stunt or rc versions, no speed engines. What do you have you can let go? Call or write: Joe Just, 709 Crescent, Sunnyside, WA 98944, or (509) 837-5983 mornings, or (509) 837-2299 evenings.

WANTED: Back issue magazines: Young Men 9/56; Flying Models 2/87; Model Builder 1, 2, 3, 4, 5, 7/77, 3/78; Junior American Modeler 1-2/73, 5-6/74, Also Glo-head for Cub .059. Ron Bales, 5481 70th Ave SE, Salem, Oregon 97301

WANTED: CL Speed kits, Mike Hazel, 1073 Windemere Dr NW, Salem, OR 97304

WANTED: Sterling Navion kit. contact John Thompson, 1145 Birch Ave, Cottage Grove, OR 97424

FOR SALE: High quality fiberglass and carbon fiber props for speed-racing, combat. Send for list. Mike Hazel, 1073 Windemere Dr NW, Salem, OR 97304

To Flying Lines,

Rob Martin, a member of the PAC club, is now offering for the fast combat enthusiast an automatic fuel dump. Essentially when ones ship is cutaway the motor is shutoff and all the fuel dumped immediately. This is a shut off very similar to the one Norm McFadden perfected. It is small, light, self contained and will bolt on any existing fast combat plane. Rob owns Forward models and manufactures kits and accessories of the highest quality.Frank Boden, Pacific Aeromodelers Club

(sketch of unit, and Forward Models address elsewhere in issue , Ed.)

Hi Mike,

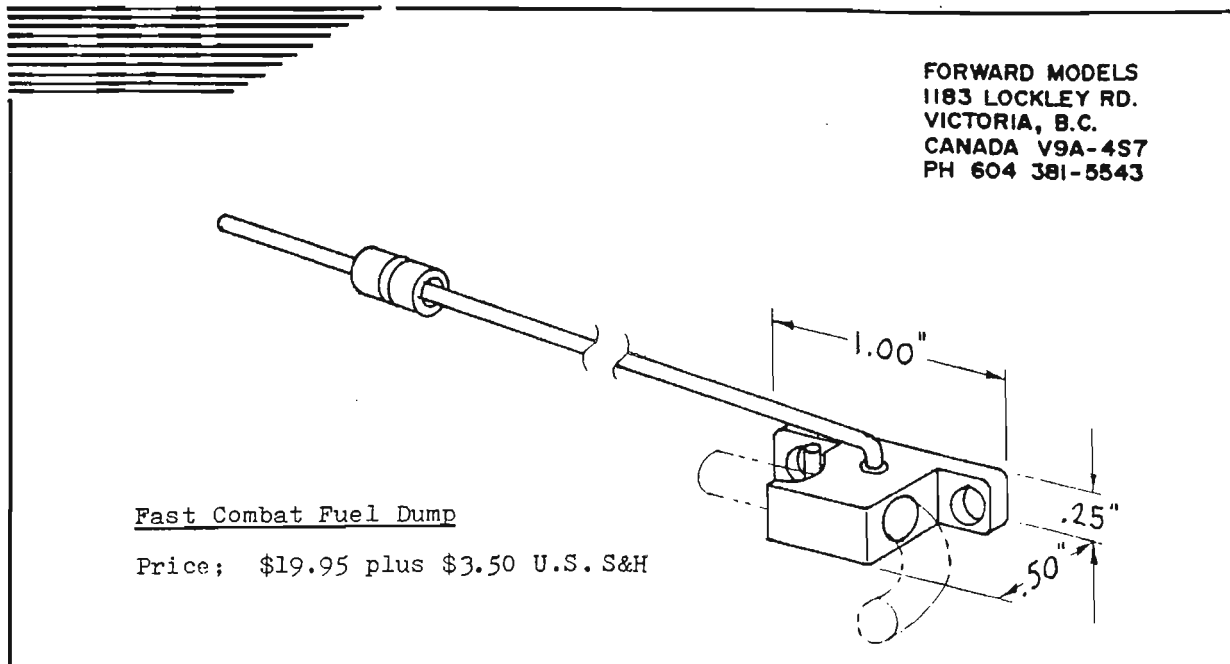
Nice to have Flying Lines back on the line. Guess once you get that editor stuff in the blood it's hard to kick the habit. I'm not editing for toy airplanes right now, but I edit a newsletter for a boy scout troop.

I proposed an idea on Modelnet about sponsoring a postal controline contest. John T. has mentioned the same type of contest. Each site would have an individual contest director, record results and send them to contest central. Results would be compiled from all contestants from all sites. I was thinking of three events such as: time target, spot landing and stunt balloon bust. Any plane, any engine, any length lines, all the ingredients for a fun no pressure event.

Evidently, not many District XI fliers are on the modelnet forum on Compuserve. I didn't get any responses, but I did get inquiries from other districts proposing we make it a national event. Maybe later, but I would appreciate it if you would query the Flying Lines subscribers as to how many would be interested.

If we get enough interest in such a proposal I would be willing to coordinate the overall contest and get the flyers and sanction and all that stuff started. With so many active local controline clubs we also need feedback on when would be a good time to run this contest.

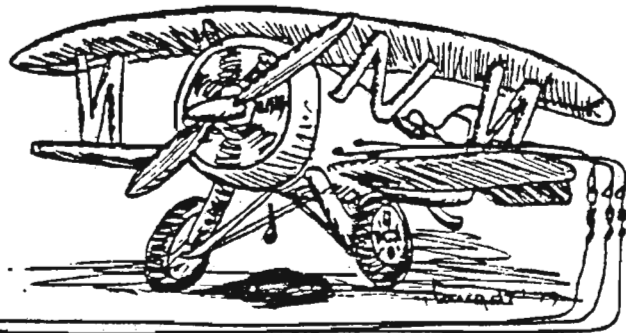
District XI, is one of the few districts with a controline AVP. I serve as the AVP and encourage any controline fliers with concerns or problems with AMA to let me know. My address is 15559 Palatine Ave. N., Seattle, WA 98133. Telephone (206) 365-5436 on my E-mail number on Compuserve is 70732,3327. My address is the only Seattle address of any District AVP and I spend more time answering out of state calls concerning RC than I do controline. Thanks,.....Dave Mullens



CONTROL LINE

SCALE

by orin humphries



CG TWO

Last time I suggested you spend an afternoon flying a familiar bird with a range of CGs from quite nose heavy to slightly tail heavy. It is something that has to be experienced to be appreciated. Since then I received a letter from Rory Tennison of Montana who is temporarily working in Alaska. He said he'd benefited from my earlier efforts to educate on this subject and that his project, a CUB, has flown quite nicely as a result. Thanks for the support, Rory, see you when you get back.

I just finished a book I couldn't put down on the career of a Navy carrier pilot, Rear Admiral Gilcrist, "Feet Wet". And therein lies the source of this installment. Adm. Gilcrist describes several of the 100+ aircraft types he has flown in his time and how they handled around the carrier. Their behavior on approach and coming off the catapult frequently varied widely, and I'd like to show how CG explains this.

He said the F-8 Crusader (Hi, John T. Hall) was "terrible coming aboard, unsteady in attitude, position, and speed, and steady as a rock off the cat". The way the fuel and stores were arranged and expended on this aircraft made it nose heavy at launch and tail heavy on final. The F-4 was the opposite, Gilcrist relates. It approached the stern "like it was on rails". This tells me that when empty it was nose heavy. Off the cat, however, "There are only two kinds of F-4 drivers: those that have over rotated and those who will someday." When the huge external tanks and the weapons were distributed on this layout, it had an aft CG. If you didn't [keep the stick one fist forward of your belt buckle] on launch it would start to rotate [nose up] so fast that nothing you did could halt its reaching a stalled attitude just clear of the bow. There, "you lit the afterburners and walked the rudder trying to keep it level until you got more airspeed."

The same sort of thing happened to my Vigilante a handful of years ago at Eugene. It had been so terribly nose heavy due to its layout that I didn't think you could get enough lead in the tail. You can!!! I launched off the Carrier deck with, it turned out, the CG so close to that bird's "neutral point" that the nose pitched up 180° before it got to four feet high. Nothing I could do with the elevator. The thrust brought it to a halt and it fell straight down, suffering no damage. It sure got everyone's attention. "Massive tail heaviness" I heard a knowledgeable witness remark. Later, decreasing the tail ballast 40% made it a sweet flying bird.

Two decades earlier I'd been talked into flying my plans Mauler almost as tail heavy. It flew a sine wave twelve feet crest to trough that I could do nothing about. It's CG must have been an eyelash in front of the neutral point. Luckily I didn't lose it, and that was the start of my education on CG. I cracked up my venerable A-26 on its first flight in 1970 due to an aft CG that wasn't even this bad. We'll talk a lot more about that experience some time soon.

Gilcrist said the best airplane he flew on carriers was the F-14. It was steady at both ends of the boat. Carrier aircraft design had progressed that far over the years and CG range control for all loads was the key. However, in fighting arrangement it could be pushed through the edge of the envelope and would enter a flat spin. Another aircraft did this in WW II, the P-39. When it reached North Africa there were complaints about its entering a flat spin when pushed too far. Both aircraft have/had an aft CG at that point in their flights. Its cure was to move the CG forward with ballast for the P-39.

Next time I will get into how this all comes to be in non-technical terms. What is this neutral point? Where is it? Why so much attention to this theme? The very life of your Scale aircraft is solely determined by this one item. Thanks for listening. See you in Eugene.

Orin Humphries, 19805 48th Av. W., #A101, Lynnwood, WA 98036, 206-776-5517

PUYALLUP MODEL EXPO '92

Damp Skies Fail to Damper This Year's Annual Extravaganza for Models

The Skyraiders hosted a club booth and fielded a show team which flew their usual crowd-pleasing Control Line demonstrations February 1st and 2nd for the 11th annual Northwest Model Expo held at the Puyallup Fairgrounds. The marginal weather plus some extensive construction activity at the fairgrounds pretty much grounded the R/C demonstrations so the sponsoring folks of the Mount Ranier R/C Society were very pleased that we were able to operate in the less-than-ideal conditions.

Our booth was staffed both days to show the AMA video *Wired for Excitement* and answer questions.

We also passed out over one hundred special edition newsletters which briefly explained control line models and the club. A membership application was conveniently included with the newsletter. Between ten and fifteen *thousand* people attend this show each year. Most of the major national manufacturers are present along with a good representation of local suppliers.

Staffing the booths were Jim Cameron, Randy Schultz, Bob Parker, Roy Nakano, Dennis Patera, John Hall, Paul Walker, Joe Dill, Rich McConnell, Shawn Parker, Dave Mullens, Wes Mullens, and Steve Scott. Other members who stopped by to say Hello were Dick Peterson, Dave Gardner, Lee Uberbacher, Rich Brannon, R. F. Stevenson, Norm Whittle, and Don McClave. Jack Pitchner also stopped by Saturday to chat.

Performers on the show team were organizer Randy Schultz, John Hall, Rich McConnell, Dave and Wes Mullens, Jim Cameron and Tom Strom. Flying some three-up and (at times) four-up super slow combat proved to be as exciting for the participants as it was for the spectators. We didn't see any of Randy's spectacular mid-air this year but he and John did manage to get into a healthy line/streamer tangle which resulted in an airborne tug-of-war contest and minor damage to both planes. Paul Walker put in some stunt patterns with his newest 'world beater'—an 1100 sq. in. delta-winged airplane that looked like an oversized Russian FAI combat ship. It had an OS .32 with a tuned pipe and actually flew very well. After the 'mock' combat matches, Dan Rutherford went up solo in his screamin' FAI ship to wow the audience.

The Oregon model clubs really cleaned up on the static display awards this year:

Old Timer: While not an exclusive Control Line category, Larry Wilson of Portland's Northwest Fireballs club (formerly the Portland Aeroliners) walked off with 1st place. Larry had a very nice 1939 vintage American Junior Fireball with an Ohlsson .23 ignition engine.

U-Control: Larry Wilson also took 1st place with another beautifully finished AJ Fireball—this one a 1946 version with a Forster .29 ignition. Second place went to Jim Cameron's nicely done 'Spiffy'—a modified Sig Twister profile stunter with an OS .40 FP. Jim also grabbed 3rd place and an Honorable Mention Ribbon with a Cox Medallion .09 powered profile 3/4-scale Fireball and his Cox Medallion .09 Knight Twister profile scale biplane (where *did* you get all those Cox Medallions, Jim?).

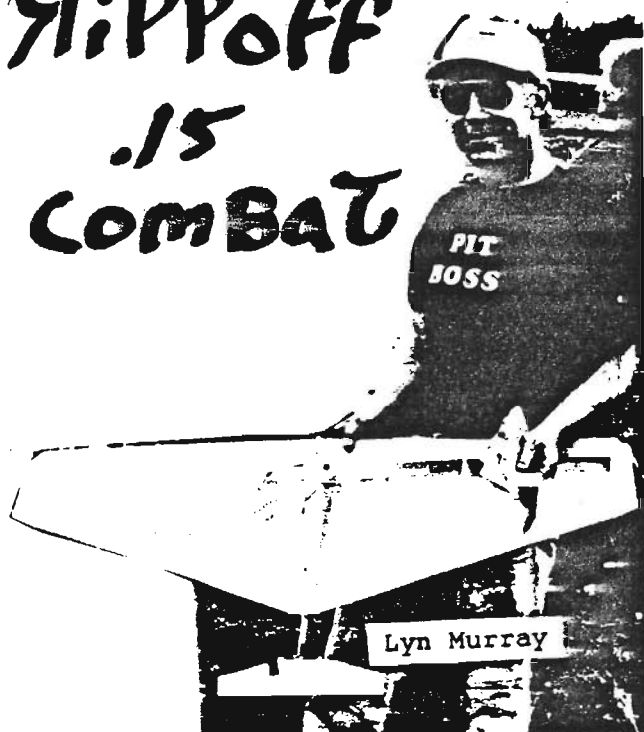
U-Control Scale: First place was grabbed by Mel Marcum of the Eugene Propspinners and his very nice P-51D Mustang. I believe he had a McCoy .35 redhead in it. Second place was grabbed by Morrie Gilbert, also of the Propspinners, and a cute Piper Skycycle with an Ohlsson .23 on glow. Third in scale went to Shawn Parker and his profile Grumman F-6F Hellcat carrier model with a K&B 5.8 cc mil. Bill Darkow was awarded an Honorable Mention with his Curtiss XF7C-3 Seahawk profile biplane which was powered by an OS .40 H. Tom Strom also had a profile carrier Grumman F8-F Bearcat powered by an OS .35 FP.

Best of Show - Overall: This spectator's choice award went to a 1/4 Scale R/C Stinson Reliant by Jim Olson of the RAMS club. The 'official' judges only gave this entry a 2nd in R/C Precision Scale.

Best of Show - Aircraft: The other spectator's choice was another R/C model of a Vultee P-66 Vanguard by Vance Mosher of the Clark Co. R/C Society. The judges gave this one a 3rd in R/C Military Stand Off Scale. Vance had an excellent weathered finish on his model.

Again, it was a good show. The Mount Ranier R/C people must be overwhelmed by all the logistics of putting on this annual show yet they have managed to pull it off now for 11 straight years. We, as a club, are very pleased to be a part of it.

RipPoff .15 COMBAT



BY LYN MURRAY

EVER SINCE A FEW OF US STARTED FLYING .15 COMBAT AS A CLUB EVENT A COUPLE OF YEARS AGO, THERE'S BEEN THIS QUEST FOR THE PERFECT COMBAT MODEL. UNFORTUNATELY WE CAN ONLY COME CLOSE.

WHILE ATTENDING THE BLADDER GRABBER LAST YEAR, I HAD THE OPORTUNITY TO BUY ONE OF ED LIPOVSKY'S FAI TYPE COMBAT SHIPS THAT WAS CONVERTED TO FAST. I THINK THE MODEL FLIES SUPERB, NOT ANY BETTER THAN OUR BEST COMBAT SHIPS WE ARE FLYING, JUST DIFFERENTLY. IT SEEMS TO ME TO TURN A BIT TIGHTER, BUT I SENSED IT SCRUBBED OFF A BIT OF SPEED WITH CONSECUTIVE TIGHT MANOUVERS. IN A DISCUSSION WITH DAN RUTHERFORD (WHO FLIES THE LIPOVSKY DESIGNS) HE SAID A GOOD SIGN OF A TRULY FINE HANDLING MODEL IS THE ABILITY FOR IT TO EXECUTE LARGE LOOPS, PROGRESSIVELY SMALLER AND SMALLER, THEN OPEN THEM UP AGAIN. THE MODEL SHOULD REMAIN CONTROLABLE

ENOUGH TO KEEP THE LOOPS ACCURATE. THE LIPOVSKY MODEL DEFINATELY PERFORMS THIS TEST EASIER THAN THE CURRENT FAST MODELS WE ARE FLYING. IT ALSO GIVES ME MORE CONFIDENCE THAT IT WON'T STALL WITH REPEATED TIGHT LOOPS. IN FACT I'VE NEVER GOTTEN IT TO STALL OR WOBBLE ON THE LINES AT ALL. I'M SURE THIS IS ATTRIBUTED TO THE DEEP ROOT HI-TAPERED WING SO POPULAR WITH THE EUROPEAN DESIGNS. I WAS IMPRESSED ENOUGH THAT I BUILT A SMALLER VERSION FOR OUR .15 CLUB EVENT. (ED. OLD VON BODEN BUILT THREE OF THEM, LOVES EM).

I TRIED TO KEEP THE RATIOS AS CLOSE AS I COULD TO THE ORIGINAL. JUST SMALLER. I ALSO OPTED TO USE FOAM FOR QUICK BUILDING AND DURABILITY. WHEN I WAS FINISHED I HAD A VERY PLEASING AND VERSITILE MODEL AND BECAUSE OF THE INSPIRATION I RECEIVED FROM ED LIPOVSKY'S MODEL IN THE FIRST PLACE AND BECAUSE THE DIMENSIONS ROUGHLY ARE THAT OF HIS, I NAMED THE MODEL THE LIPOV RIPPOFF OR JUST RIPPOFF FOR SHORT.

PLEASANTLY I FOUND THE MODEL CAPABLE OF A VERY WIDE SPEED RANGE. VERY FAST, TIGHT TURNING EASY TO AIM AND FLICKABLE WITH NO TENDENCY TO STALL BUT ALSO CAN BE SLOWED RIGHT DOWN TO COMPLY WITH OUR SLOW COMBAT RULES. WHEN FLYING SLOW YOU CAN REMOVE APPROXIMATELY TWO INCHES FROM EACH WINGTIP FOR GREATER DURABILITY WITH LITTLE PERFORMANCE LOSS. THIS SMALLER WING COUPLED WITH THE DEEP ROOT SECTION MAKES THE MODEL EVEN EASIER TO FLY AND A LOT MORE RESILIENT TO WING TIP DAMAGE AND OTHER STRUCTURAL DAMAGE IN THE HANDS OF A BEGINNER OR WHEN YOU INADVERTANTLY USE IT FOR DIGGIN WORMS.

I ALSO EXPERIMENTED WITH DIFFERENT LINE RAKE AND SHORTER OUTBOARD WINGS TO ENHANCE LINE TENSION AT SLOWER SPEEDS, BUT CAME TO THE SAME CONCLUSION AS BOB CARVER, AND THAT'S ENGINE OFFSET HAS BY FAR THE MOST EFFECT ON KEEPING THE MODEL TIGHT ON THE LINES. LOTS OF LINE RAKE, ALTHO INITIALLY FEELS GOOD, WILL MAKE THE MODEL HINGE BADLY (JUST AS IT HAS GOT TOO MUCH OUTBOARD WING WEIGHT) WITH CONSECUTIVE TIGHT MANOEVERING. THE SAME HOLDS TRUE I FOUND, WITH SHORTENING THE OUTBOARD WING. I DON'T BELIEVE MANY COMBAT DESIGNS UTILIZE THIS ANYMORE ESPECIALLY FAST.

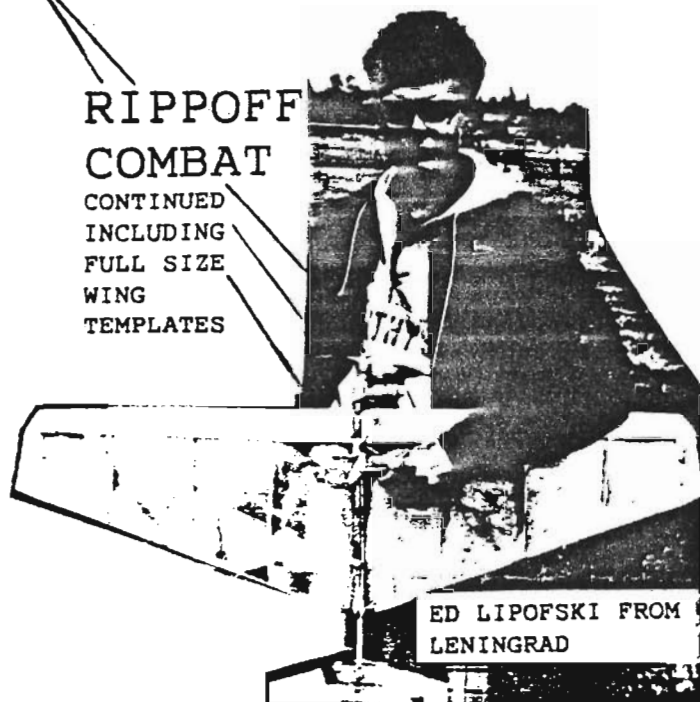
CONSTRUCTION IS TYPICAL, THE WING RATIO IS CLOSE TO LIPOVSKYS AROUND 2.5 TO 1. THE AIRFOILS NOTHING FANCY, IT GOES STRAIGHT BACK FROM THE HIGH POINT.

(NEXT PAGE)

12

RIPPOFF COMBAT

CONTINUED
INCLUDING
FULL SIZE
WING
TEMPLATES



ED LIPOFSKI FROM
LENINGRAD

THE ROOT IS SO DEEP I WANTED TO SAVE AS MUCH WEIGHT AS I COULD AND, A FAT MORE CURVED AIRFOIL MAY MAKE KIT TAIL HEAVY.

CONTROLS ARE EXTERNAL WITH SMALL BLIND NUTS ON THE BELLCRANK TO LOOP YOUR LINES OVER (SIMPLE). LOTS OF DRYWALL CHEATER TAPE IS USED (THE OPEN MESH STICKY ONE SIDE STUFF) 2 OR 3 LAYERS IN THE CENTER SECTION. THIS KEEPS THE MODEL STIFF AS IT'S DEEP RATHER THIN ROOT SECTION WILL SOFTEN AND BEGIN TO HINGE AND LOOSEN UP AROUND THE SPARS WITHOUT IT, ALSO WITH THE STRENGTH OF THE DRYWALL TAPE, YOU WON'T NEED TO RUN THE ALUMINUM TAIL BOOM ALL THE WAY UP TO THE MOTOR MOUNT, SAVING TIME AND WEIGHT. I SANDWICH IN A PIECE OF 1/8 TH. BALSA AT THE OUTBOARD WING AND USE 1/4 INCH WOOD FOR THE OUTBOARD WING TIP WEIGHT. THE OUTBOARD WING TIP IS ALWAYS MOST PRONE TO DAMAGE.

USE 1/8 LIGHT PLY FOR INBOARD TIP, THE TIPS ARE SO SMALL THAT WEIGHT ISN'T A PROBLEM, AND IT BETTER ANCHORS THE LEAD OUT GUIDE. THE WING CORES ARE A BIT OF A PAIN TO CUT, OWING TO THE FACT THAT THE HOT WIRE LAGS AROUND THE SMALL TIPS BURNS AWAY MORE FOAM THAN YOU LIKE. THE WAY TO GET AROUND IT IS TO EITHER MAKE A LARGER TIP TO THE PLATE OR MAKE THE WING PANELS AN INCH OR TWO LONGER, THEN CUT TO SIZE AFTER YOU'VE CORED THEM. I CUT THE SPAR SLOTS ON ALL MY COMBAT SHIPS WITH A TABLE SAW AND A DADO HEAD. A LITTLE TIME TO SET UP BUT YOU CAN BLAST THROUGH WHEN YOU ARE MASS PRODUCING. I NOW USE A CELLOPHANE TYPE FILM FOUND IN FLOWER SHOPS (ALA' DAN RUTHERFORD) WITH 3M 77 SPRAYED ON THE FILM AND IRONED DOWN LIKE REGULAR PLASTIC COVERING. WORKS EXCELLENT! THE FILM IS REALLY CHEAP AND SEEMS EVERY BIT AS STRONG AS SOLARFILM. I'VE DONE EXTENSIVE EXPERIMENTING WITH THIS AND WILL GLADLY SHARE IT IF YOU GIVB ME A CALL.

THE MOTOR MOUNT IS 1/2 INCH OFF CENTRE. I DON'T KNOW IF THERE IS ANY ADVANTAGE TO THIS OR IT'S THE SAME AS HAVING A SHORTER OUTBOARD WING, BUT IT'S EASIER. FOR EASE OF CONSTRUCTION, THERE IS NO LEADING EDGE SWEEP BACK AS WITH MOST CURRENT MODELS. WHEN THE COVERING IS SHRUNK IT PULLS A BIT OF SWEEP IN THE WING. USE YOUR FAVOURITE METHOD TO MOUNT THE STAB TO THE BOOM. DON'T BE AFRAID TO REMOVE AN INCH OR TWO FROM THE WING TIPS IF YOU ARE FLYING SPORT COMBAT TO SUIT YOUR PREFERENCE. GIVE THE MODEL A TRY. IF YOU ARE FLYING SPORT OR SLOW TYPE COMBAT, STICK ON A FOX .15 STUFF A PIECE OF BALSA DOWN IN THE VENTURI, THROW ON A 9-4, WITH LOTS OF ENGINE OFFSET AND MILD FUEL. THEN TAKE OUT JUST ONE OR TWO AND COMBAT ALL DAY. THE SLOWER SPEEDS ALLOW YOU AVOID MOST CARNAGE AND IN THE EVENT YOU DO HAVE THE OCCASSIONAL MIDAIR, OR SLAM DUNK IT INTO THE WORMS, DAMAGE IS USUALLY MINIMAL, AND EASILY REPAIRED.

THE FOUR THAT I'M FLYING RIGHT NOW HAVE LITERALLY DOZENS OF MATCHES ON THEM, WITH ONLY ONE FINALLY RENDERED NON-REPAIRABLE. LET'S SEE A FEW MORE OF YOU GUYS FLYING COMBAT THIS YEAR.



NORTHWEST CONTEST CALENDAR

MARCH 29 -----PORTLAND, OREGON-----

MARCH MADNESS

Events: Profile Carrier, NW Sport Race, NW Super Sport Race, Limbo, and special "traffic-jam" event. Site: Delta Park
Contact: Greg & Laura Beers (206) 687-7907, or Jim Cameron (503) 287-9620
Sponsor: Northwest Fireballs

APRIL 5 -----RICHLAND, WASHINGTON-----

Events: NW Sport Race, NW Super Sport Race, Class I Mouse Race. Site: Horn Rapids Athletic Complex. Contact: Joe Just, 709 Crescent, Sunnyside, WA 98944
Sponsor: Columbia Basin Balsa Bashers

MAY 2/3 -----RICHLAND, WASHINGTON-----

Events: Flying Clown Race, Class I Mouse Race, NW Goodyear, Speed, Carrier. Site: Marina Park. Contact: Paul Rice, Rt 3, Box 8642, Richland, WA 99352
Sponsor: Columbia Basin Balsa Bashers

MAY 22/23/24 -----EUGENE, OREGON-----

NW CL REGIONALS

Events: four PAMPA classes Precision Aerobatics, Old Time Stunt, Nostalgia Stunt, Balloon Bust, Fast Combat, Slow Combat, Fox 35 Combat, 1/2A Combat, Profile Carrier, Class I Carrier, Class II Carrier, .15 Carrier, Mouse Race I, Mouse Race II, Fast Rat, AMA Slow Rat, AMA GY, NW Goodyear, NW Sport Race, NW Super Sport, Precision Scale, AMA Sport Scale, Profile Scale, Speed: 1/2A, 1/2A proto, A, B, D, Jet, FAI, Formula 40, .21 Sport
Site: Eugene Airport Contact: Craig Bartlett, 205 NE Cedar Lane, Corvallis, OR 97330 (503) 745-2025
Sponsor: Eugene Propspinners

JUNE 14 -----RICHLAND, WASHINGTON-----

Events: 1/2A Combat, Sport Combat, Balloon Bust. Site: Hanford School
Contact: Paul Rice, Rt 3, Box 8642, Richland, WA 99352
Sponsor: Columbia Basin Balsa Bashers

JULY 11/12 -----BURNABY, BRITISH COLUMBIA-----

PAC INVITATIONAL ANNUAL CL CONTEST

Events: Precision Aerobatics, Old Time Stunt, Fast Combat, NW Sport Race, .15 Sport Race, NW Super Sport, Scale, SuperSlow Combat. Site: Burnaby Lake Sports Complex. Contact: Lyn Murray (604) 467-2573 or Henry Hajdik (604) 438-9888 Sponsor: Pacific Aeromodelers Club.

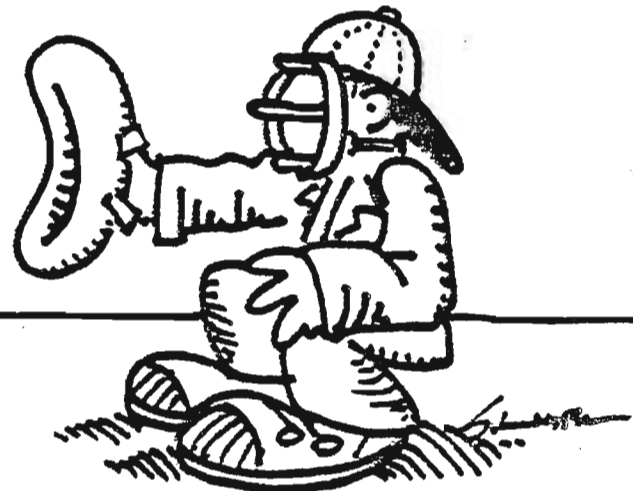
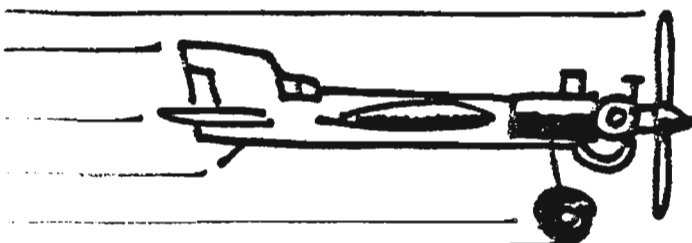
Additional dates already in use by the Columbia Basin Balsa Bashers are: August 8, September 6, October 3/4.

We are waiting to hear from VGMC. Other meets we assume will happen are: Bladder Grabber, NW Speed Champs, and Raider Roundup.

Information will hopefully follow in our next issue.

CONTEST DIRECTORS AND CLUB LEADERS!!!!!!!!!!

Your sanctioned event should be listed here! Please forward all pertinent information as soon as possible.



TYPICAL NORTHWEST SUPER-SPORT PIT-MAN

It has been awhile and for good reason, the club secretary, Laura Beers had been put down for the last month and half of her pregnancy, then ended up delivering three weeks early on December 10th to a beautiful baby girl. So, she has been quite busy along with chasing after a toddler as well, actually this is me, but now I'm back and ready to fly.

Our club was quiet the last couple of months of the year, not having many meetings with just hit and miss get togethers making sure everyone got their monthly flights in, including me, I flew a Hornot on thread lines in my family room while I was down, it worked great, even ROG'd it. We have five members who will be receiving their all weather flyers patches for being such diehards. Maybe some of you bigger clubs would like to try and match our percentage of flyers flying every month.

We finally started organizing again in Jan., having a meeting in Wayne Spears basement, we got a lot of business caught up and started planning for another contest for the end of March, making this the third in 13 months. Pretty good for a new club with only about 8 active members.

This contest will be more involved than the Fun Fly of Feb 1991, and all of the proceeds will go to the club account, to help build funds for future events, hopefully a full blown 2 day contest!

Members of our club attended a model expo in Nov. at the Portland convention center, but it wasn't very well organized, being the first of it's kind, we weren't very happy, as we didn't have a specific area for our models so everyone assumed they were all RC, the only real good publicity we got out of it werethe flyers we handed out.

We also were part of the going-ons for the American Junior Historical Society Swap Meet on Dec. 7th, which went really great, so I was told. I was still down, they raised a lot of money for the society and we even sold a few things for our club account, and a lot of people making deals for themselves. There was even raffle tickets and door prizes which included some of Frank Macy's beautiful Fireballs as prizes. I sure will be looking forward to this event next year.

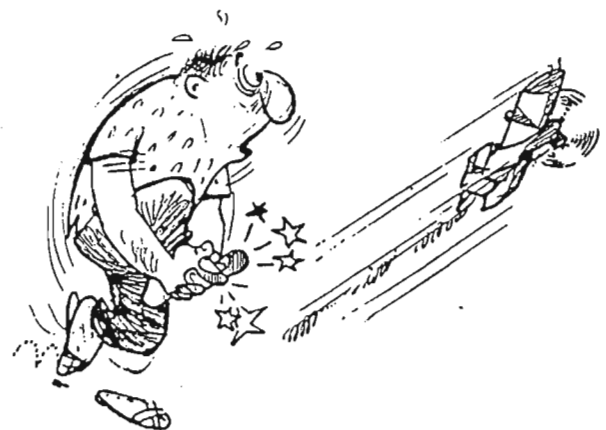
This ought to just about catch us up for now, we sure hope to be seeing a lot of you out there in March, it will be a blast!

A MOTTO FOR ALL CONTEST DIRECTORS

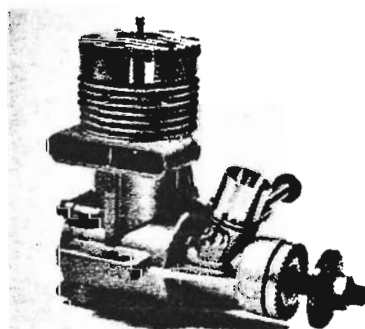
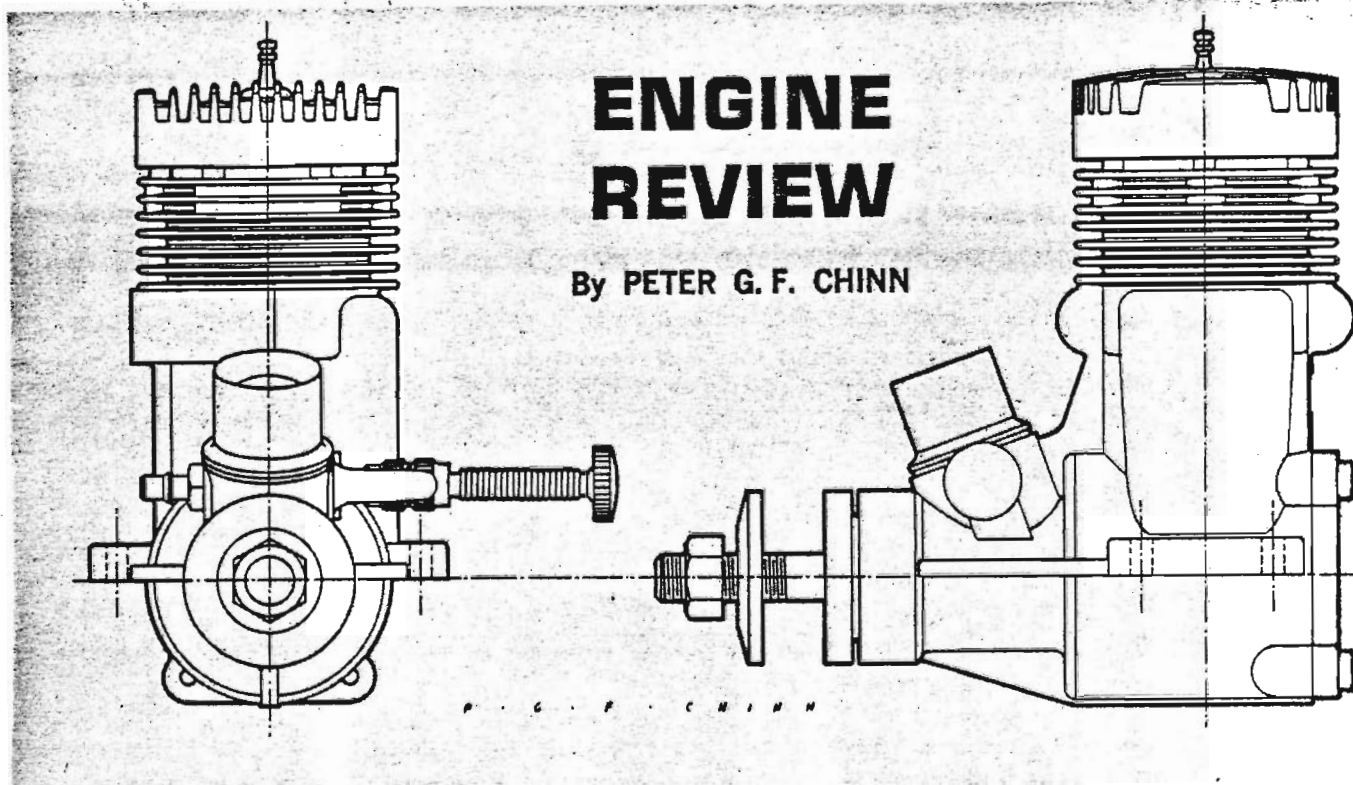
*"I know you believe you
understand what you think
I said but,
I am not sure you realize
what you heard
is not what I meant."*



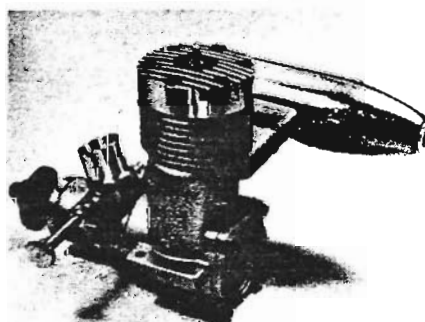
"Prop needs balancing, I guess."



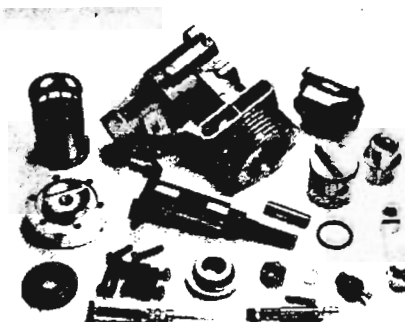
AN OLDIE BUT GOODIE!!!! This was state of the art stunt power, circa 1971.



Based on H.40 main casting, new motor has all necessary modifications to ensure good engine.

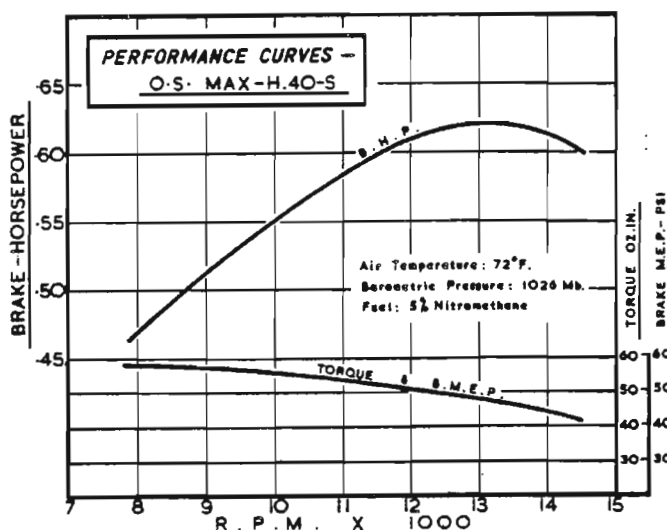


Crisp appearance is O.S. hallmark, good stunt characteristics with O.S. Jetstream "L" muffler.



Features include single-ring alum. piston with the crankshaft carried in ball bearing, bronze bush.

Control-line stunt motors are getting bigger again. New model O.S. 40, developed expressly for Control-line aerobatics, offers good power, plus excellent handling for most of the stunters.



O.S. MAX-H .40S

• For the past twenty years, control-line stunt circles have been dominated by .35 size motors and, in all probability, the traditional .35 cu. in. displacement stunt engine will remain the most popular choice for C/L aerobatics for a long time to come. However, if recent international events are any indication of future trends, it looks as though we may be seeing, for contest work at least, a renewed challenge from engines of increased displacement and power. In the 1970 World Championships, for example, the number of .35's used was just about balanced out by an equal number of larger motors ranging from .40 to .49 cu. in.

The subject of our report this month is a member of this new generation of stunt engines. For many years O.S. have been offering a conventional stunt package in the shape of the Max-S.35. The Max-S.35 conforms to the highly successful stunt formula (originated with the Fox 35) of a compact, lightweight, shaft-valve layout with bushed main bearing and lapped piston, ported for medium speed per-

formance and good transition between two-cycle and four-cycle running through a stunt pattern. This popular engine will continue to be available but, for the benefit of those who demand more power for larger and more elaborate models, O.S. have evolved a new stunt motor based on the .40 cu. in. Max-H.40 series.

A side-by-side comparison with the Max-S.35 reveals that the Max-H.40-S is 3/16 in. longer from backplate to prop driver face and needs a 5/64 in. wider bearer spacing. It is, however, only about 1/16 in. taller above the center line and although its weight, at 8.38 oz. is 25 percent up on that of the ultra-light S.35, it is by no means heavy for a .40 cu. in. motor. Appearance is similar to that of the S.35 except for a much heavier looking body casting.

The Max-H.40-S is the latest in a series of four current models that have been de-

veloped from the original two Max-H.40 engines introduced some six years ago. Those earlier motors (the H.40-RR and H.40-R/C) had lapped cast-iron pistons and were distinguished by a tumble polished casting finish. The present four models all have ringed aluminum pistons and a shot-blasted finish. In addition to the new stunt model, they include the throttle-equipped H.40-SP for pattern R/C, the throttle-equipped H.40-P for extra high performance R/C including pylon-racing and the H.40-R for control-line rat-racing and contest free-flight. The two latter models each have twin ball-bearings while the "SP" and "S" have a single ball-bearing supplemented by a bronze outer bush. All four engines use 13 mm dia. crankshafts and have the same bore and stroke dimensions, but very few parts are interchangeable between them as each has been developed to produce the most desirable performance characteristics in its particular class. Port timings, intake areas, compression ratios and combustion chamber shapes have been modified on each model to achieve these qualities.

Like most of the current range of O.S. engines, the Max-H.40-S uses a one-piece pressure-cast body unit comprising crankcase, front housing and cylinder casing with drop-in cylinder sleeve. The sleeve has four exhaust ports timed to remain open for 125 deg. of crank angle and four bypass ports that are open for 105 deg. The aluminum piston has two 6 mm dia. skirt ports on the bypass side which register with two similar ports in the cylinder sleeve and is equipped with a single compression ring. Complete with ring the piston weighs 7.6 grams (0.27 oz.). It has the usual baffle on a flat crown and is fitted with a full-floating 5.5 mm (0.217 in.) dia. hardened steel tubular wrist-pin with brass end pads. Each of the piston bosses has two oil holes to aid wrist-pin lubrication.

The hardened and ground crankshaft runs in a 13 x 28 mm 8-ball steel-caged ball-bearing at the rear and a cast-in phosphor-bronze bushing at the front. The shaft has a 9.7 mm bore gas passage fed from a rectangular valve port that is timed to open at 45 deg. ABCD and to close at 40 deg. ATDC. It is counterbalanced by means of both a crescent counterweight and cutaways each side of the 6.35 mm (0.250 in.) dia. tubular crankpin. The connecting-rod is of machined duralumin and has two lube holes at the lower end.

The pressure cast and machined cylinder-head has a shallow hemispherical combustion chamber, as on the Max-H.40-SP, but a thicker aluminum gasket (0.8 mm —.031 in.) is used in order to slightly reduce compression ratio. Six Phillips head screws secure the head to the casting.

A machined aluminum venturi is fitted into the intake boss and, as befits a C/L stunt motor, choke area is small. Choke bore is 7.5 mm and this is further restricted by a 3.9 mm dia. spraybar, so that the effective choke area is approximately 15.8 sq. mm.

Our test model Max-H.40-S was a stock unit and had not been run beyond the normal factory check when we received it. Equipped with an O.S. No. 7 bar type glowplug it was set up on the bench with a stunt type Veco tank filled with straight 3 to 1 break-in mixture of methanol and castor-oil. An 11x6 Power-Prop Super-M propeller was installed for an initial check on starting qualities prior to break-in.

The needle setting was guesstimated and no exhaust prime was used; we simply choked the intake while flipping the prop to bring fuel up to the needle valve and into the engine. Whereupon the 40-S started on the second flip after energizing the plug. Running at a safe rich four-cycle, the 40-S was allowed to empty its tank which was immediately refilled to enable hot restarting to be checked. Again an instant start.

This exceptional ease of starting was maintained throughout the subsequent tests on a wide variety of props, with and without mufflers, using both straight and nitro fuel blends. The 40-S was, in fact, a most pleasant-handling engine, one that could safely be started on any appropriate propeller without risk to one's fingers.

From new, the 40-S showed little sign of needing a protracted break-in period, but we would add a word of caution here. Past experience of certain of the "H" series O.S. engines has indicated that the willingness of these engines to run at a fast two cycle when new without any outward sign of protest (such as tightening up) should not be taken as a go-ahead to ignore the usual rich mixture break-in treatment. Overheating can still occur (indicated by severe discoloration of the cylinder liner) which may seriously accelerate wear in the wrist-pin bearings. It is even more important to stick to the rules if a muffler is being used. Ideally, it is probably better to run the engine without a muffler at first. However, since stunt engines are usually set to four-cycle in level flight, leaning out to a fast two-cycle only in maneuvers, break-in is easily accomplished in the air. The idea is to just circulate at a steady four-cycle during the first few flights (for say, 20 minutes total running time) then to gradually introduce full power maneuvers over the next 30 minutes.

The appropriate O.S. muffler for the H.40-S is the O.S. Jetstream "L" type.

Like the other O.S. mufflers, this is an orthodox expansion chamber, pressure cast in two half-shells and is attached to the engine's exhaust stack with two concealed screws. It has a single internal baffle and is supplied with two detachable machined dural 7 mm. i.d. restrictor rings, one in the baffle and one in the outlet nozzle,

which limit the outlet area to 38 sq. mm. This is a fairly small area for a .40 and, while it makes for a very reasonable muffling effect, it does reduce power appreciably, knocking something like 1,000 rpm off the inflight rpm on a 10x6 TopFlite prop. Removal of the rings approximately halves the power loss. Naturally, noise emission is substantially increased, though not to quite such high levels as is presently being tolerated (?) with some venturi type mufflers.

The most suitable prop sizes for C/L stunt work with the .40-S would appear to be 11x6, 11x5 and 10x6. We checked the engine out at 10,700 rpm on an 11x6 Power-Prop Super-M, 10,800 on an 11x5 TopFlite standard, 11,400 on an 11x5 Power-Prop standard and 11,700 rpm on a TopFlite Super-M.

From our dynamometer tests on the .40-S a fairly typical set of "stunt engine" curves emerged, with maximum torque developed at medium speed (7,000-8,000 rpm) and the torque curve declining steadily as load was reduced, to give a brake horsepower peak at around 13,000 rpm. Here a maximum power of 0.62 bhp was determined. These figures were obtained on a standard 5 percent nitromethane stunt type fuel and without the muffler. With the muffler (less rings) maximum torque was not seriously affected, but the torque curve declined more rapidly under reduced load so that the power curve, in turn, levelled off about 1500 rpm earlier with a reduction in peak bhp of about 11 percent.

The modifications that the O.S. experimental department have carried out to the basic Max-H.40 design in order to make the H.40-S perform as a good C/L stunt engine should, seem to have been successful. In particular, response to varying fuel delivery pressures, such as are produced through stunt maneuvers, was very good indeed. It was difficult to make the .40-S cut, even with quite severe variations in mixture strength. From a normal needle setting for steady two-cycle running, excessive fuel delivery slowed the engine until it broke into a four-cycle in the required manner and it would then continue to accept considerably greater enrichment. Equally, quite severe fuel starvation was also tolerated, the engine simply slowing down instead of cutting out. Nor did temporary interruption of fuel flow from the tank cause the .40-S to cut; it could be slowed almost to a stop and would then pick up again instantly as full fuel flow was restored.

As we remarked at the beginning of this report, it is a safe bet that the traditional stunt 35 (for "traditional", read "Fox") will remain the number one choice among the majority of stunt fans for a long time yet. For anyone who wants to try something a little more powerful however, the Max-H.40-S might well be the answer.

Summary of Data

Type: Single-cylinder, two-stroke cycle with crankshaft rotary-valve and single ball-bearing plus bronze bush. Muffler optional.

Weight: 8.38 oz. (less muffler).

Displacement: 6.499 c.c. = 0.3966 cu.in.

Bore: 20.6 mm. (0.8110 in.)

Stroke: 19.5 mm. (0.7677 in.)

Stroke/Bore Ratio: 0.947:1

Specific Output (as tested): 1.55 bhp/cu.in.

Power/Weight Ratio (as tested): 1.18 bhp/lb.

Manufacturer: Ogawa Model Manufacturing Co. Ltd., Osaka, Japan.

FLYING

LINES SALEM, OR

1073 Windemere Dr. NW

Salem, OR 97304

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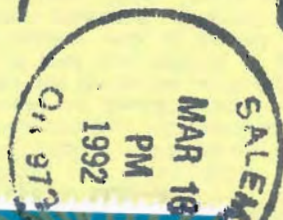
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