MODEL BUILDER

NOVEMBER 1976

volume 6, number 59

$1.50

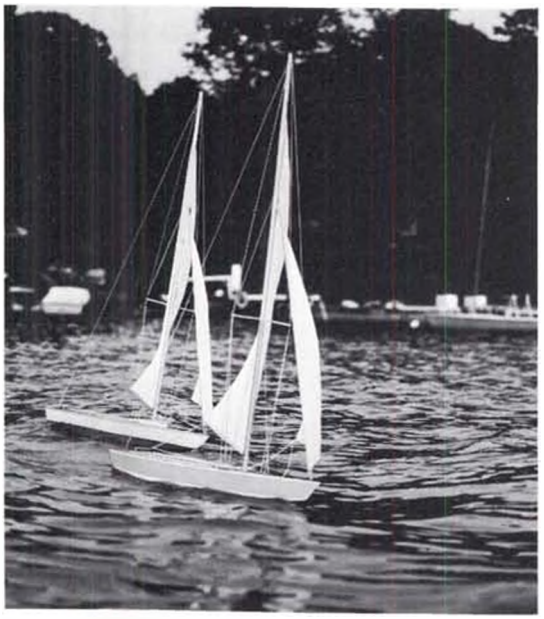
JOIN THE DUMAS' SAILING FLEET FOR "76"

Beating to windward rail down, broad-reaching or running you'll sail right to the head of the fleet.

Our fully molded fiberglass kits are complete, including hardware and dacron sails by Chuck Black. The only thing you'll need to complete your kit is a radio and sail trimming unit. But don't despair . . . the new Dumas-Probar sail control unit is now available from your local hobby dealer . . . so you won't be looking at the water . . . you'll be out there sailing.

See the new Dumas sailing fleet and auxiliary hardware at your hobby dealer's now and start winning with a winner in "76".

BINGO
50/800 ACCR 1975 champion designed by Doug Peterson for the most discriminating skipper.



STAR
45" semi-scale model of the world famous one design available in wood or fiberglass. Cotton sails included with kit — dacron sails optional.
Available summer "76"

ETCHELLS 22
50/800 stand-off scale designed by Skip Etchells for both fun and competition.

EQUATION
36/600 semi-scale model of the famous ocean racer designed by Bill Barton.

dumas boats

Dumas Products, Inc.
790 South Park Avenue
Tucson, Arizona 85719

The Winners' Choice

These gentlemen are smiling because they took the top five places in the '76 N.S.R.C.A. Master's Tournament.

They're also smiling because they fly with the world's best equipment:

Kraft Signature Series Radios
Kraft .61 cu. in. Engines
Kraft Retractable Landing Gears

Phil Kraft
Third Place

Tony Bonetti
Fifth Place

Steve Helms
First Place

Joe Bridi
Second Place

Jim Kimbro
Fourth Place

Write for Free Catalog Dept. C

KRAFT SYSTEMS, INC.®

450 WEST CALIFORNIA AVENUE
P.O. BOX 1268 · VISTA, CALIFORNIA 92083

World's Largest Manufacturer of Proportional R/C Equipment

pulse commander

☆ IMPROVED!
☆ NOW ON 72 MHZ!
☆ LIGHTER WEIGHTS!

BABY TWIN SHOWN

Ace R/C is proud to announce the improved version of the Pulse Commander pulse proportional rudder only system. –Available on 72 mHz! –New double tuned front end receiver! –New powerful RF deck! –New lighter flite pack weights! These units are wired, tested, and guaranteed.

Rudder only flying still offers the ideal way to start in R/C and also is the perfect system for relaxed sport flying due to its small size, light weight, simple operation, and low cost. Four different systems are available for all needs.

All systems are $75 complete. Available on 72.080, 72.160, 72.240, 72.320, 72.400, 72.960, 75.640, 53.1, 53.2, 53.3, 53.4, 53.5 MHz.

BABY (10G75)
–Airborne weight=2.5 oz. (70.9g)
–For .010 and Pee Wee .020 planes up to 36" span.

STANDARD (10G76)
–Airborne weight=3.1 oz. (88 g)
–For Babe Bee and slow flying Tee Dee .049 planes up to 42" span.

BABY TWIN (10G75T)
–Airborne weight=2.7 oz. (76.5g)
–For .020 and slow flying .049 planes up to 40" span.

STOMPER (10G77)
–Airborne weight=3.5 oz. (99.2 g)
–For hot .049 to slow flying .15 ships

NOTE: 27 MHz systems are still available: Baby, 10G15 ($69.95); Baby Twin, 10G15T ($72.95); Standard, 10G16 ($71.95); Stomper, 10G17 ($74.95).

ACE R/C, Inc.

Guppy

designed by TOM RUNGE

Span: 34"
Area: 160 sq. in.
Weight: 8 oz. all up
Engine: Pee Wee .020
Radio: Pulse Commander
Baby or Baby Twin

13L113 Guppy $8.95

A Pee Wee .020 power assist rudder only glider designed expressly for the beginner and the Pulse Commander Baby or Baby Twin radio system.

The 34" span foam wing and simple, yet attractive balsa fuselage make for quick and easy construction. Gentle flight characteristics are ideal for making the first R/C attempt successful.

Please send me your complete catalog. Enclosed is $1.00 which is refunded on my first order. (Add $.50 for 1st class mail return; add $1.00 handling on all other orders.)

NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

ACE R/C, Inc.
BOX 511D, HIGGINSVILLE, MO. 64037

SIG KITS AT THE '76 NATS

Heading photo: Mike Sheek's Sig Piper J-3 cruises smoothly around the scale control line circle at Dayton. Above, he anxiously watches the officials applying the pull test to his lines and model. But it passed OK and he placed 1st in Sr. Controline Scale. Mike is from Indianapolis.
Upper left: Col. Betkey's Flying Circus performed at the Nats Air Show. One of the acts featured is a two plane precision aerobatic demonstration using Sig Skybolts. Dave Baum is shown here with his.
Left: Dave Fitzgerold of San Mateo, California took home the first place trophy in Jr. CL Precision Aerobatics with this Sig CL Super Chipmunk powered by a muffler equipped Adamisin - Max .35.
Lower left: The Sig Bearcat used by Tom Fluker to win first in Jr. Controline Scale is no longer in production, but is still available at some Sig dealers.
Lower right: For the second year in a row, Joe Mekina (Barberton, Ohio) won B Gas Senior with his Sig ABC Scrambler.

RC-34 SKYBOLT $58.50
CL-19 SUPER CHIPMUNK $24.50

SIG®

RC-3 PIPER J-3 $37.95
FF-16 ABC SCRAMBLER $14.95

See your dealer first. To order direct add $1.00 postage in the U.S., $1.50 in Canada. No C.O.D. orders.

SIG MANUFACTURING CO., INC. . . . Montezuma, Iowa 50171

ANNOUNCING!

MODEL BUILDER magazine's

THIRD ANNUAL INTERNATIONAL

Parcel Post Proxy Peanut

RUBBER SCALE CONTEST!

Every peanut model, from near or far, will be proxy flown, indoors, by some of the U.S.A.'s best rubber scale flyers, including Walt Mooney, Bill Hannan, Clarence Mather, Bob Peck, Fernando Ramos, Bill Warner, and many others.

Local modelers will be allowed to enter, but their planes must also be proxy flown, and no verbal or physical help will be allowed from the owner . . . only written instructions to the proxy flier, as allowed for all entries.

"Spirit of St. Louis"

SPECIAL EVENT

To commemorate the 50th Anniversary (May 20, 1977) of Charles Lindbergh's *history making flight across the Atlantic Ocean from New York to Paris, we will have a special category for Peanut Scale models of the* "Spirit of St. Louis." *All judging and flight rules to be the same as for the 5 other categories. There will be prizes for Best of Scale, Highest Flight Points, and a* Cox-Sanwa 2-channel radio for Best Overall.

Open to modelers from all parts of the world... any nationality... any age... any sex... come one, come all!

AWARDS to include TROPHIES and MERCHANDISE . . . ALSO, a KRAFT RADIO SYSTEM to the

GRAND PEANUT of 1977!

(HIGHEST OVERALL COMBINED STATIC AND FLIGHT SCORE)

Other prizes include such items as; Peanut Scale kits and materials, Astro Flight and VL Products electric motors, Brown Jr. twin and single cylinder CO_2 engines, Uber Skiver knives and sets . . . over 50 trophy and merchandise awards alltogether!

Contest Director: CARL HATRAK

Competition will be divided into five (5) classes: Pioneer, World War I, Golden Age, World War II, and Modern. There will also be individual awards such as; most distant entry, best shipping container, entry most damaged in shipping (Don't try hard for that one!), best entry built from Walt Mooney plans, best model by a female, best entry by any modeler under 15 years of age, oldest qualifying contestant, youngest qualifying contestant, best biplane (Big John Award!), best entry built from a Peck-Polymers kit, longest flight, most static points, plus a few surprises.

Chief Static Judge: RUSS BARRERA

Scoring will be based on the total of each entry's static scale points (100 maximum) and flight points (100 maximum). Static judging will be according to AMA Indoor Rubber Scale rules. Flight points will be the average of the two best flights out of four official flights (10 seconds minimum, 100 seconds maximum). Ties will be broken by highest single score, or a fly-off. Number of attempts to be limited, subject to size of total entry. DO NOT SEND UNTESTED MODELS! *A three-man jury will preside over all decisions.*

SCHEDULE: Register by mail on or before February 1, 1977.
Models to be on hand on or before April 1, 1977.
Contest to be held approximately April 15 to May 1, 1977.

Send in now for your registration form, which includes an entry blank, a complete set of rules, and other particulars. Write to:

MODEL BUILDER PROXY PEANUT CONTEST
621 West Nineteenth St., Costa Mesa, California 92627 USA

MODEL BUILDER

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Second Class postage paid at Costa Mesa, Calif., and additional offices.

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SCALE VIEWS

CONSTRUCTION

Cover: This month's cover almost didn't happen. We put off going to Orange County Airport just one day too long, and then sunny California clouded up for a week! The star of the photo is Dale Sebring's Travel Air "Mystery Ship", our scale R/C construction article for this month. The star of "Bah Bah Blacksheep's" second episode, Frank Tallman's Grumman J2F-6 "Duck", provides nostalgic background. We just may have a construction article on it early next year. Photo by Bill Northrop.

"You can't fly them here! This is a public recreation area!" This cartoon by Paul McIlrath graphically illustrates one of modeling's biggest problems, whether the modelers involved are youngsters or adults. Solving it should be the uppermost aim of our national organization.

from Bill Northrop's workbench . . .

• In this year of our country's Presidential election, there is so much about it in magazines, newspapers, TV and radio, that we are almost reluctant to bring up the fact that our little old AMA has one going this year, too. The issues may not be of such a catastrophic nature as those between our two primary party candidates, but in our own small world of modeling, there are issues over which we can get just as concerned as we do when it relates to our national government.

Unfortunately, the percentage of AMA members who bother to vote is lower than the percentage of voting U.S.A. members. Only 1 out of every 10 members of AMA who are eligible to vote, take the trouble to make a couple of check marks and/or write in names on a ballot, when they renew their membership.

Maybe the club renewal system is the problem. AMA chartered club members simply bring their money to a meeting and give it to the club officer in charge of charter renewal. It's the old "Let George do it" system. Perhaps AMA members should be required to vote in order to validate their membership.

Anyway . . . we've got two candidates for AMA President, and in order to promote our favorite, we've got to give "equal time" to the other. As to which one is which, it's none of your d--- business.

In a way, it's too bad the voting has to be by secret ballot. Wouldn't it be nice if each member who votes could receive an "I Voted" membership card? Then, when you get into a heated discussion with some guy about "that dumb AMA", you could demand to see his "I Voted" card before bothering to discuss the matter . . . If you do, you better be sure you have one too!

The candidates are Earl Witt, who is now, and has been for some time, the Secretary-Treasurer, and John Clemens, who is seeking his fourth term as President.

Johnny Clemens says, "I am seeking the important office of President of the Academy of Model Aeronautics 'one more time' to continue the pursuit of important projects already started, and the tackling of needed new goals, without the loss of momentum that would happen with the changing of top officers. This is especially important while the present excellent and progressive AMA Executive Council is available.

"Pursuing the universal problem of flying sites is foremost on my list of 'needed things to do', especially now when it looks like some government land might be available.

"Developing useful and interesting programs for use by Chartered Clubs, and making them available, is also one of my new goals.

"I am eager to see AMA develop educational and inspiring programs for youth involvement. These to be aimed toward occupying, educating, and entertaining our young folks as an investment in the present and future of our great American community.

"Establishing of a model aviation museum for the preservation of the history and memorabilia of AMA's past is an absolute 'must' in my plans.

"Success of my past leadership is evidenced simply in the fact that the membership in the Academy of Model Aeronautics has more than doubled in numbers while I have served as the Academy's President. I would very much like to add to AMA's dynamic growth and success by serving 'one more time'."

Earl Witt presents the following brief for his candidacy:

Earl, AMA No. L21, has been an active and key worker in the AMA for more than 30 years, and a model builder for half a century, first winning recognition for a model of the Southern Cross, at the age of 6, in Venice, California.

Though maintaining a low profile without publicity, Earl was honored by an AMA Fellowship Award in 1959, the AMA Distinguished Service Award in 1967, and became the 21st Life Member of the AMA in 1975.

Including his participation on the AMA Executive Council as an absentee Vice President's representative, he has more years experience on the Council than any other elected officer, including the President.

Earl Witt was elected to the AMA Executive Council as Secretary-Treasurer when the AMA membership was only 20,000 members, with a yearly income of a mere $160,000 and was operating with a year-end *deficit* of $19,600. He has been a part of the AMA management through the years of phenominal growth to the present 65,000 members, and an annual budget of close to a million dollars in the black.

He is the only remaining member of

Continued on page 103

OVER THE COUNTER

Ace R/C has released the first in a new line of electronic accessories for field and bench. The series features top quality components in state-of-the-art designs, easy to assemble kits or assembled units.

The Servo Cycle is designed to operate individual servos independent of the radio system, so you can test for proper operation and set up control surfaces. The unit also has an automatic cycle that drives the servo back and forth so you may 'burn in' a new system, or pinpoint an intermittent condition. The first time that a servo defect is found, thereby preventing a crash, will more than pay for this $16.95 kit.

Another versatile item, now that so many of us are using different size nickel cadmium batteries for different sizes of airplanes, is a variable rate charger. Ace's Metered Vari-Charger should more than fill this need. It is rated to charge from one to ten cells at from 10 to 100 mils, and the meter accurately tells you the amount. An LED shows "On" and also indicates that the battery being charged is properly connected. The price is $14.95 as a kit, $17.95 assembled.

A safety-plus item for the transmitter without a meter, the Mini ESV (Expanded Scale Voltmeter). It requires only a 1/2 inch hole to mount, two connections to the switch, and you now have accurate and continuous indication of the voltage of your battery. The two-color scale indicates a normal state as long as the needle stays in the green. A reading approaching or into the red indicates a critical low voltage, and recharging or replacement is due. No reading tells you that the battery is fully discharged or that a dead cell is present.

Available for 9-volt dry batteries, or for 9.6 volt nickel-cadmiums, either model is only $5.95.

All of these, and more, from your local Ace Dealer or direct from Ace R/C, Box 511 Higginsville, MO 64037.

* * *

First to recognize and fill the need for an electric starter for the increasingly popular 1/2A engines, Astro Flight Inc. calls its new product a 'Mini Starter' and designed it to be powered with the usually available 12 volt battery.

Ace R/C's Servo Cycle checks and breaks in servos.

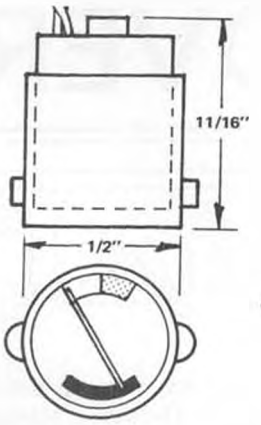
Latest Heathkit catalog is now available.

Bede 5-1/2 for Half-A radio control, by MH Manufacturing.

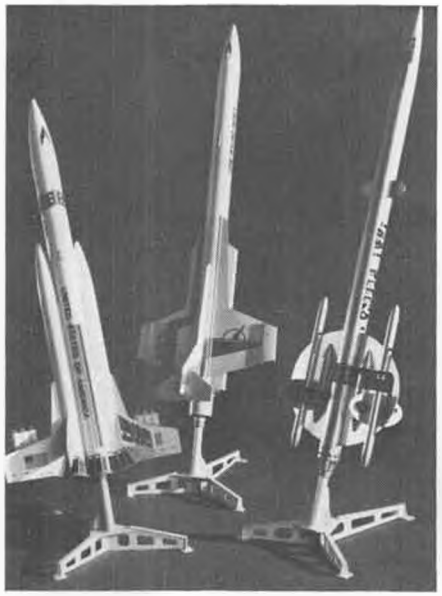
Astro Flight's electric starter for Half-A engines. Companion gell type battery can be used for any size starter.

Fusite's GloBee "Fire Plug" provides variable current for different plug needs.

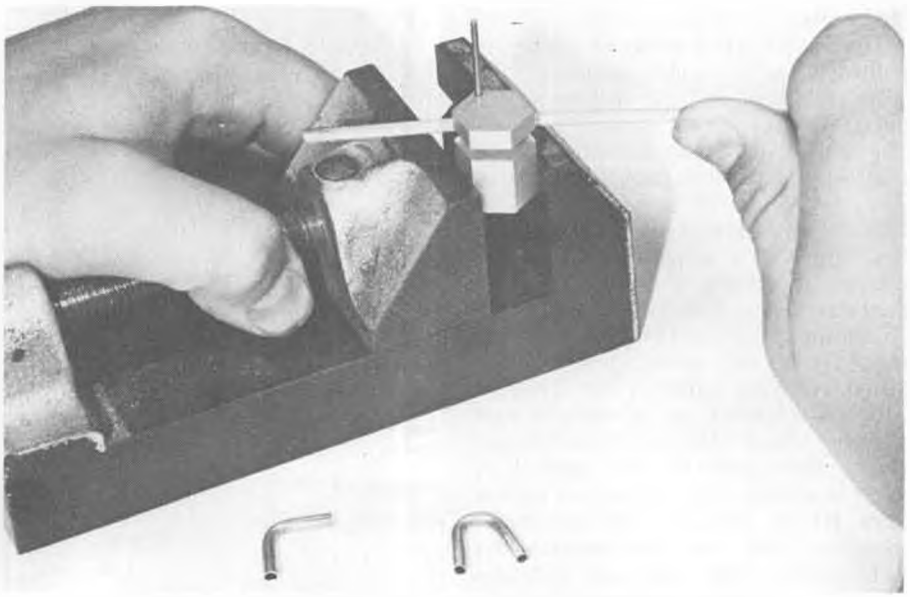
Mini ESV meter for transmitters, by Ace R/C.



Scale drawing of Ace transmitter meter.



New "Super Kit" rockets by Centuri.

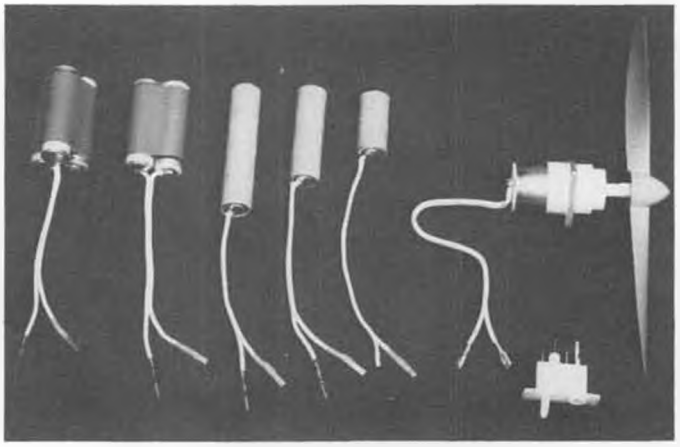


Hard brass tubing bender by Harry Higley. Twice diameter bends without kinking.

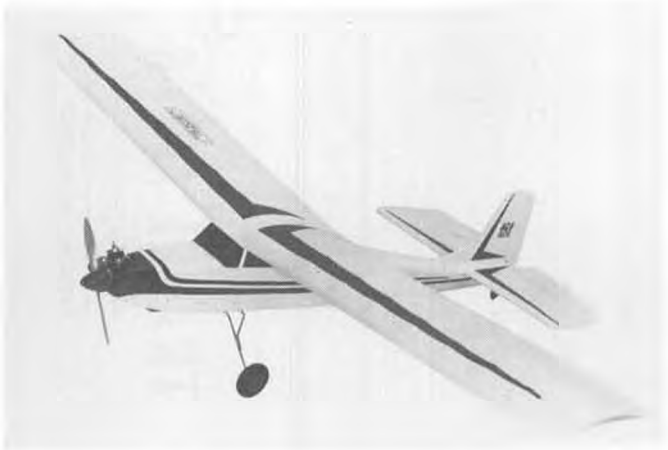
This handy little item weighs a mere 10.5 ounces, including the power cord, and measures 1-3/4 inches diameter and 5 inches in length, including the cup assembly. The high speed, high efficiency permanent magnet motor is especially designed to turn glow engines up to .051 displacement at the best speed for rapid starting. No lugging down, as with the starters designed for larger engines. The cup is designed to fit the Cox prop nut, or a small spinner. Complete, at only $15.

As a companion item, in the event you do not already own a starter battery, or are ready to update to a gelled electrolyte type, Astro Flight has available a 12 volt 4.5 amp/hour capacity gell type battery, priced at $26.66. The battery weight and size is comparable to the well known motorcycle variety, but has the advantage of being completely sealed, will not leak in any position, and is absolutely maintenance free. It will provide enough current for hundreds of starts with the 'Mini Starter', or with any of the larger starters in common use. A companion charger, small enough to be carried in your field box for those long weekend

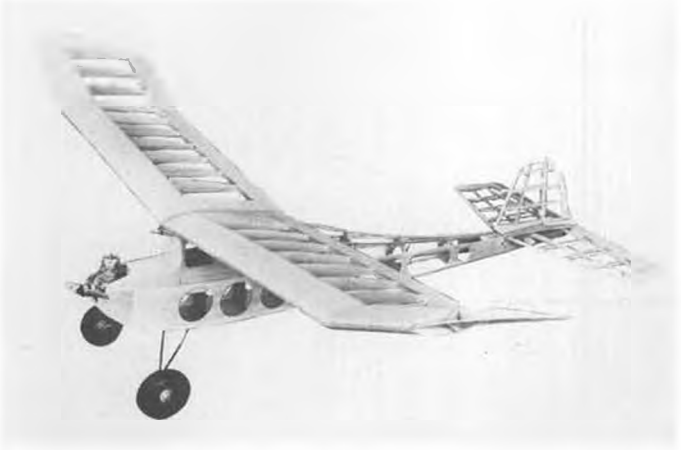
Metered Vari-Charger by Ace Radio Control.



Five different nickel-cadmium power packs from VL Products, to power Hytork 48 electric flight motor.

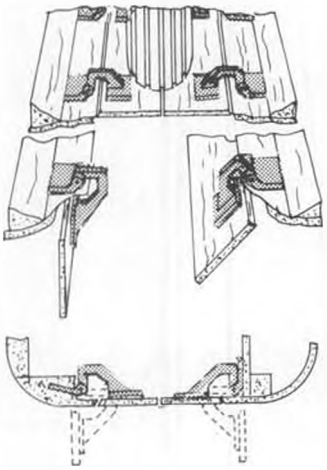


M.E.N. Trainer, for 3-channel radio and .15 to .25 engines.

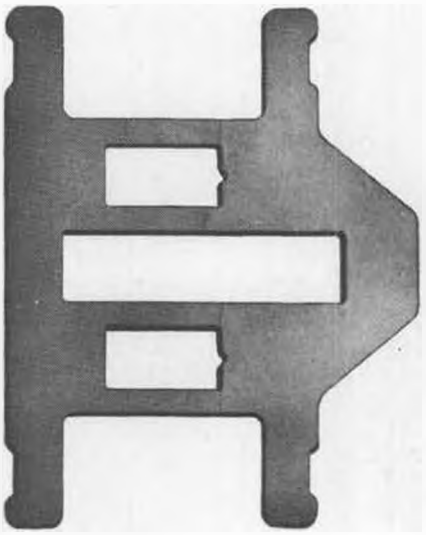


Buzzard Bombshell O.T. by M.E.N., for .25 to .40 power. S.A.M. rules limit glo engine to .361.

Du-Bro "Kwik-Fill" manually operated fuel pump.



Hatch and door hinge by Delp's Hobby Products.



Radio Plate for R/C cars, by Tatone.

contests away from home, is only $7.95.

All at your favorite dealer, or inquire from Astro Flight, Inc, 13377 Beach Ave, Venice, CA 90291.

* * *

Did you hear about the two Englishmen who met on a trail in the middle of a dense African jungle. One was holding a transistor radio to his ear, at full volume, in the manner favored by the American teenager.

The other one said: "Heathkit, I presume?"

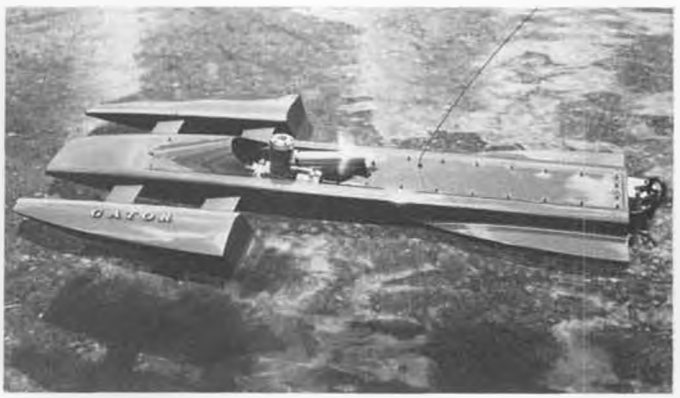
It is a well known name, and one whose products are used in many countries of the world. The Fall 1976 Heathkit catalog has just become available, and it is yours for the asking. As usual, it is chock full of interesting things, not only for the model hobbyist, but for the home, and those more into, or wanting to learn more, about electronics.

You can get a digital clock to wake you at the proper time so you won't miss the contest. You can get a weather monitor that will tell you what to expect outside your workshop. You can get items that tell you about the condition of your auto, as well as others that entertain you on the way to the field.

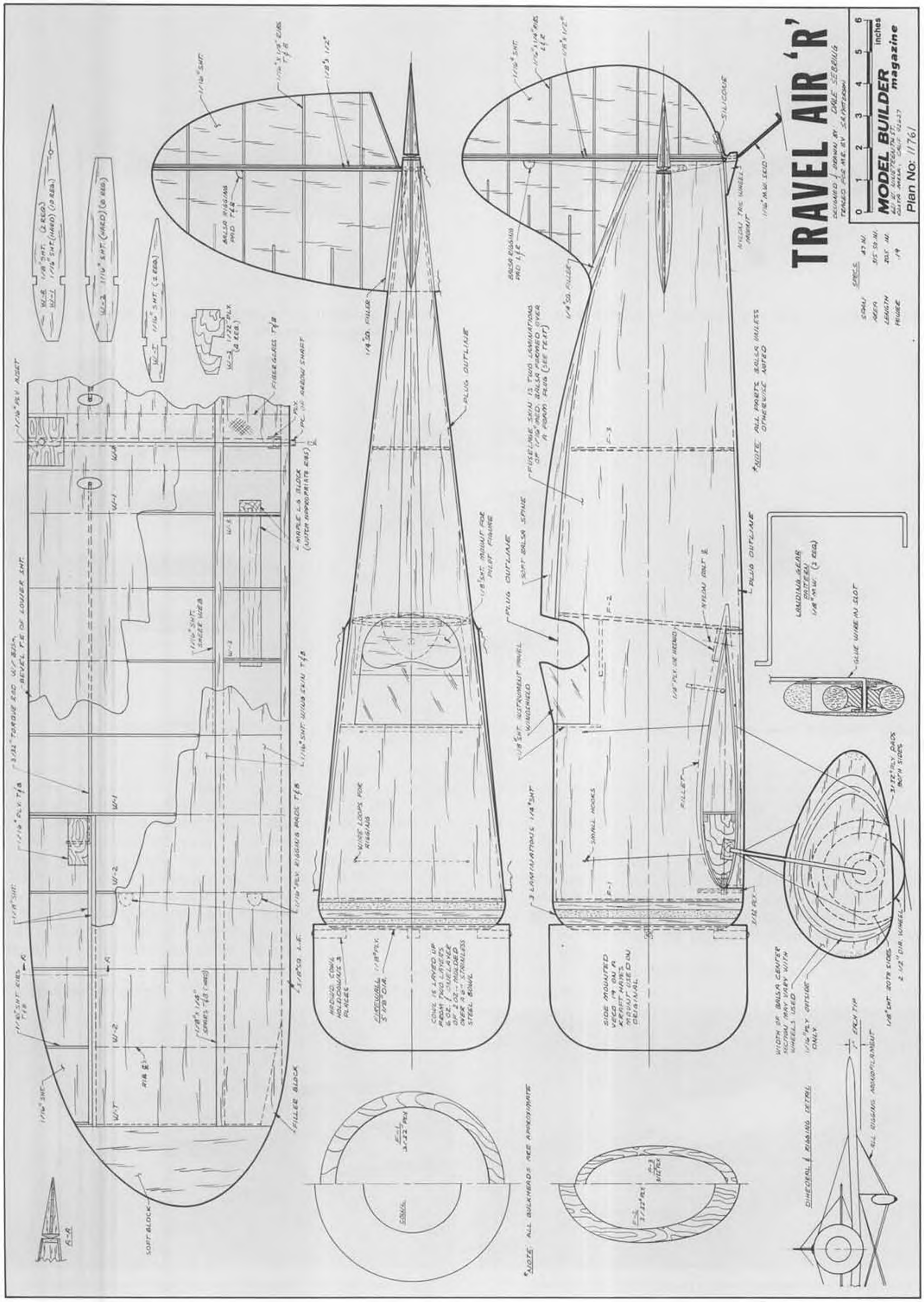
You can get your glider, or power plane from Heathkit, as well as the R/C system of the proper type for them. Your engines and other accessories will operate more efficiently, as well as last longer, when cleaned in your Heath ultra-sonic cleaner.

Continued on page 97

"Thunderboat" by Pinckert Custom Boats, a 42" long hydro for 60 size engines.



The "Gator 40" and "Gator 60" are outrigger hydros by Pinckert Custom Boats.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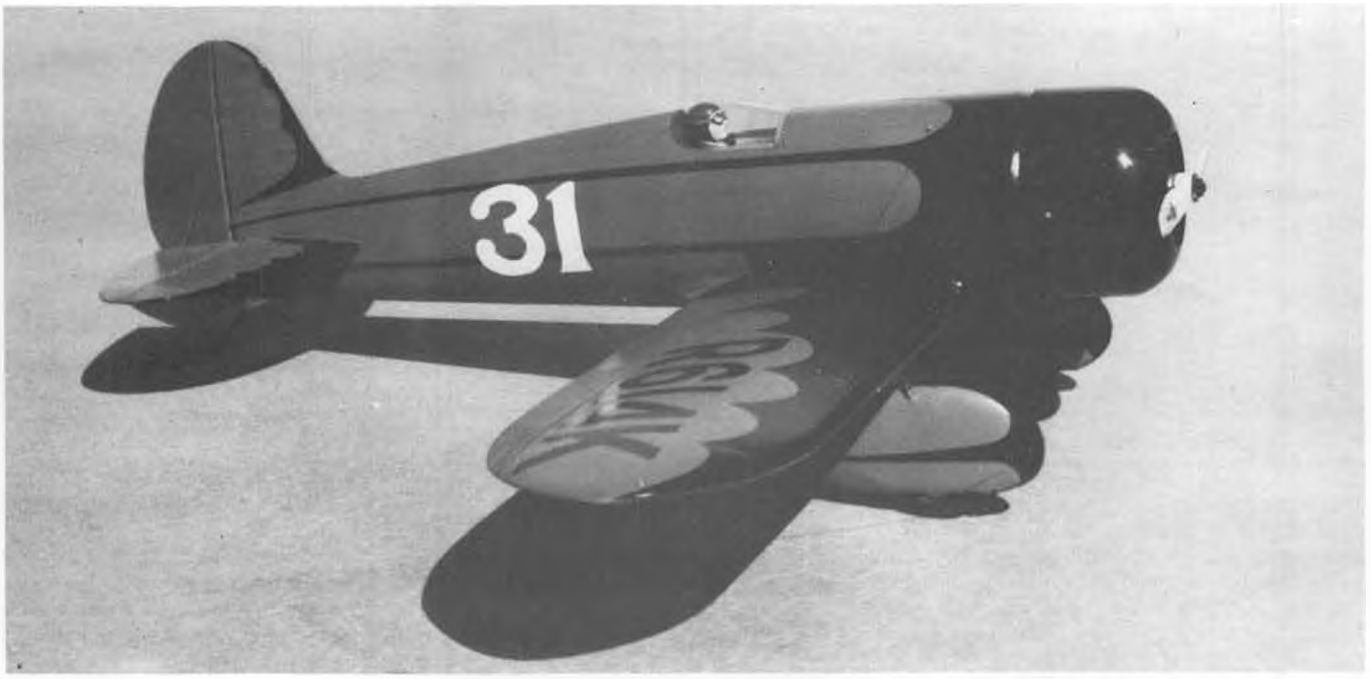


THE TRAVEL AIR "MYSTERY SHIP"

By DALE SEBRING . . . A combination of nostalgic scale and an interesting fuselage construction technique makes this a fascinating project. Radial engined Thompson Trophy racers would look great around the pylons.

● Race planes in general, and the Travel Air Mystery Ship in particular, have always appealed to me. It seems to embody all those brutish yet beautiful qualities that an airplane must have to be appealing and functional. This particular Travel Air represents the plane with which Doug Davis won the 1929 Thompson Trophy Race. The colors of bright red and black trim with white numbers are very attractive. There are several other color schemes that could be substituted, however, such as Frank Hawks' Model-R of 1931, the Texaco Number 13, which was finished in red and white, or the Shell Oil Model R which Jimmy Doolittle flew, finished in red and yellow.

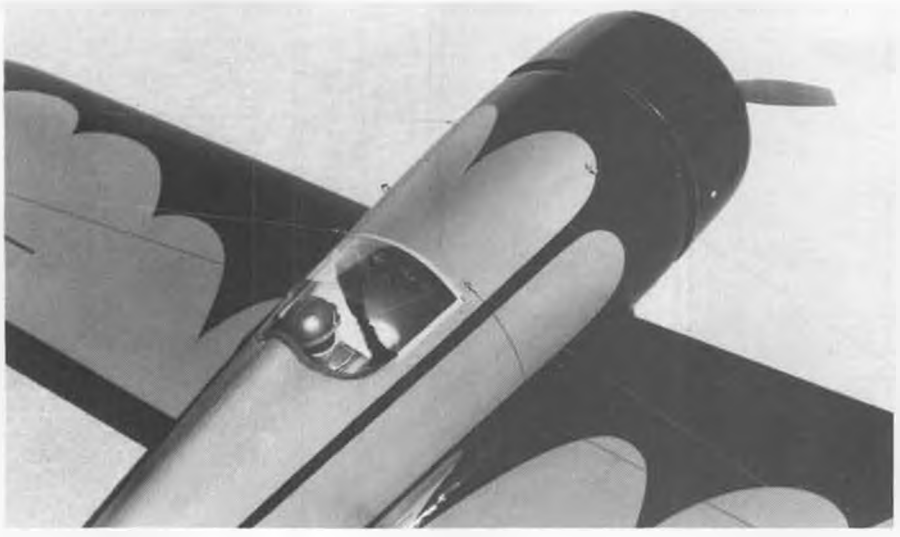
I won't get into much on construction details, as this is a relatively simple aircraft to build. However I would not attempt it as a first, scratch-built project.

I think a close examination of the plans will give you a pretty good outline of the construction and the details involved.

The wing is quite simple . . . 1/16 skin and ribs, and single top and bottom spars with webbing. Secure the landing gear blocks well. A little extra epoxy here won't hurt. They may take some added shocks later on. Hollow the wing tips, if you wish, to save a little extra weight.

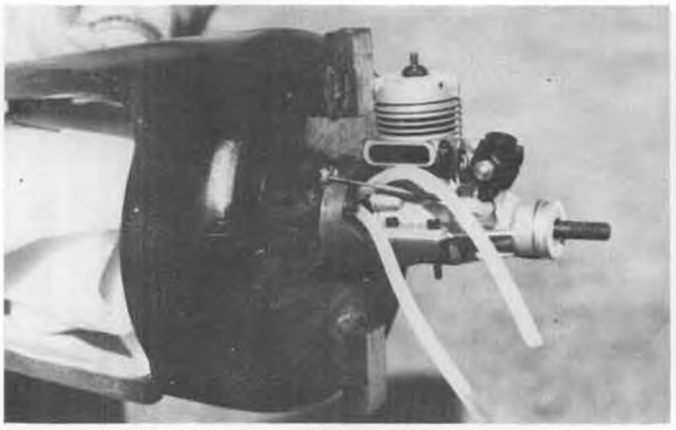
The ailerons are torque tube actuated, which I feel are more positive and perhaps a little bit lighter than the standard push-rod and bellcrank system. They are also more attractive with no horns showing, and they are not that difficult to fabricate. Be sure to glass the center section of the wing with some glass tape and resin.

The fuselage is a little different from the usual. A simple plug is carved from styrofoam, over which you shape the

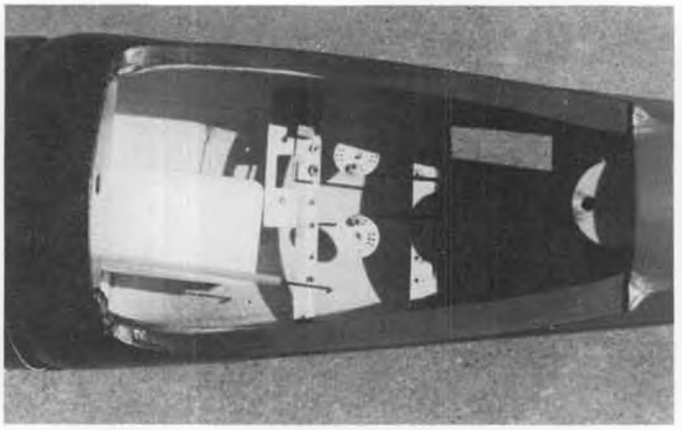


Smooth, neat workmanship enhances any model and is worth points in Sport Scale. It's quite apparent in this photo of the Travel Air. All-up weight without radio is just under 2-1/2 lbs.

Styrofoam plug for molding balsa fuselage skins. Finish needn't be super-smooth.



K & B .19 is radial mounted to firewall with Kraft-Hayes mount. Hardwood blocks take cowl mounting screws.



Monocoque fuselage shell provides unobstructed interior, is quite strong, yet extremely light. Tank is packed in foam.

fuselage sides in half shells, and later join them on their center lines. This plug need not be real smooth or neat, just a rough approximation as shown on the plans, will be quite adequate. When the desired shape is achieved, two sheets of 1/16 balsa fuselage skin are soaked in a water and ammonia solution so they will become very flexible, then wrapped around one side of the plug and secured with an ace bandage or something similar. Use large enough sheets to permit trimming to the centerline later. Allow to dry until completely cured (overnight), then the other fuselage side can be formed in like manner. At this time you can also fit the bulkheads to see if they are lined up properly. When satisfied, disassemble the fuselage shells and then separate the two 1/16 balsa skins. Doing one shell side at a time, the two 1/16 skins are laminated with contact cement.

Spray both facing areas with a cement, such as 3M 77. With two extra hands to help, spread the outer skin, roll the inner skin a little tighter, and set it inside the outer shell. Spread carefully, then place back on foam plug and press skins together. Trim the two halves for a neat glue joint along the center line.

Fuselage construction can then go ahead by joining the two shells and installing the bulkheads at the same time. The front bulkhead laminations are 1/4 inch balsa, which is sanded to conform to a semi-radius cross-section. This shape will lead to the firewall which is 1/8 plywood, to which your motor mount is secured.

I used a Kraft-Hayes 19 size motor mount to fit the Veco 19 which I used in the aircraft.

The tail surfaces are a simple procedure. Balsa cores of 1/16 sheet are cut to the correct outline and then stringers and caps are glued to these cores, top and bottom. They are then sanded to the correct cross-section. This makes for a simple yet strong and light-weight structure.

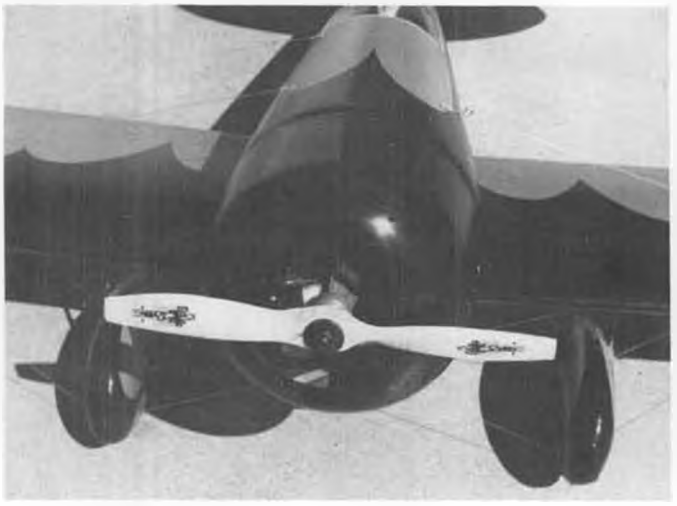
The landing gear is bent up from 1/8 music wire. One end is fitted to the hardwood blocks in the wings. The other end fits into the wheel pants, which are carved from balsa and ply laminations.

The cowl is constructed from fiberglas. I happened to find a metal bowl which was the correct shape and diameter. This was used as a mold to which three layers of 6 oz. fiberglas cloth was layed up with polyester resin. This made for a very strong, yet light weight cowl.

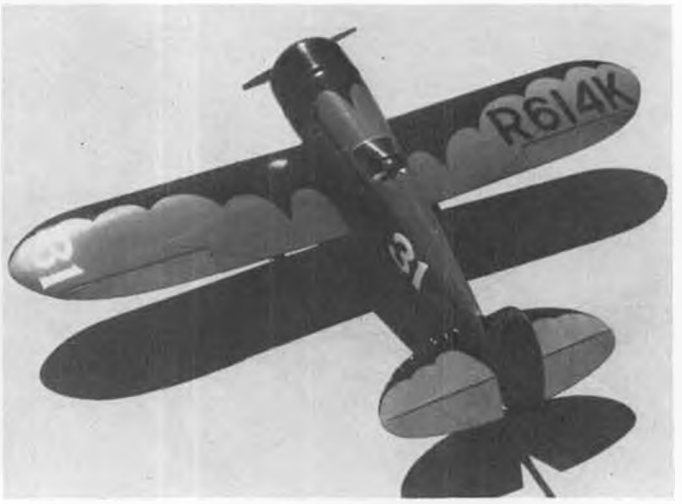
This model was covered with red Permagloss Coverite. It seemed to work out quite well because it was only

Continued on page 89

This angle gives away the simplified, single strut landing gear. Others may be faked, as long as there is flexibility in the set-up. Tailskid is steerable, which greatly improves ground handling.

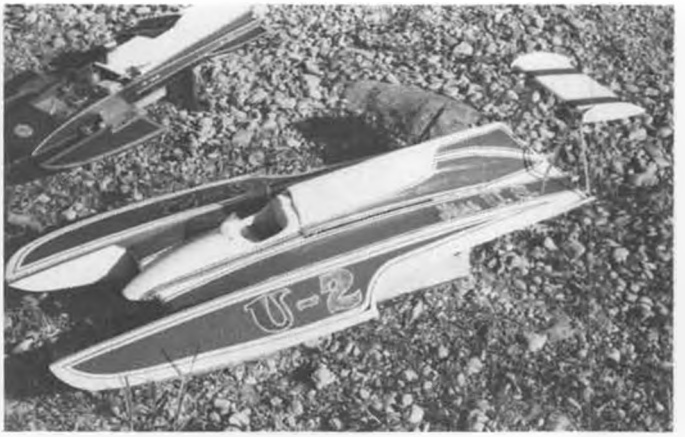


Cowl molded over 6 inch stailess steel bowl. Balanced, ready-to-use Zinger props are gaining popularity with top west coast fliers.



Model is covered in red Permagloss Coverite, needed only the black trim paint to finish. Ship is stable and easy to handle in the air.

Bob Preusse's OPS 60 powered "Lincoln Thrift" scale unlimited, seen at the Minute Breakers regatta.



Doug Riha's "Miss U.S.", also OPS 60 powered and seen at the Minute Breakers regatta in Illinois. See text for more.

R/C POWER BOATS

By BOB PREUSSE

• The 1976 season was enhanced by a unique regatta sponsored by the Minute Breakers Model Power Boat Club, and the merchants of Depue, Illinois. With 163 entries, it proved to be comparable in size to the Internats. The race was unique in that it culminated the efforts of a model boat club and the merchants and people of a small Mid-western town. It is generally assumed that our hobby is growing each year, but sponsorships are somewhat rare. This may be true, but this writer feels sponsorship is the way to go for the major events, as most clubs do not have the budget to host the "big ones."

Preparation for the meet started in mid-1975, almost one year before the race date. This enabled the Minute Breakers to work closely with the enthusiastic group of individuals from Depue on setting up all facets of the meet.

The running site was an inlet of the Illinois river, west of Ottawa and Starved Rock National Park. The lake is several miles long and extremely wide. The only problem with this much water is the effect of the wind in any direction except from behind the drivers. Several years ago, class hydros (the big ones) held annual races on this site. This will give you some idea as to its size. However, as it became necessary to dam the Illinois River upstream, the water level dropped severely in this area. Now at best, believe it or not, you have two feet of water in most areas with a very soft, silty bottom. Boaters beware, don't wade too far off shore or we will have to rescue you with a tow rope! Thus, the site conditions prohibited a larger boat from competing on this lake because of the shallow nature of the water. Even our models had problems due to the shallow water. Skip Horstman, Martin Davis, and a few others had the experience of having their boats tripping abruptly in the straightaway and taking several minutes to resurface from the soft bottom. Clean the mud out of those carbs!!

Last summer, the Minute Breakers hosted an impromptu type race for the merchants, the Depue State Bank representatives, the Mayor of Depue, and local residents. It was hoped at that time that there would be enough interest in our boats to sponsor a major regatta in 1976. Without a doubt, the plan started working from the beginning, but not without a lot of work from all those concerned . . . just to name a few: Bud Beaird, Ben Beaird, Jack Treadman, Gary Preusse, Vern Johnson, George Chase, and really many more.

It was quite amazing to note the number of spectators we had for the race in 1975. Considering that these people are true race fans, our models provided the next best thing to seeing the large boats compete. With this as a background for the contest, let me go through the results of the meet.

THURSDAY, JULY 29

This day was set aside for early arrivals; all day was used exclusively for open water. Those who arrived early were busy setting needle valves and making sure that their hydros and monos were trimmed out properly. Not too many competitors arrived on this day, but maybe that is just as well, as it seems most accidents and careless radio

"Slow down . . . SLOW DOWN!" Coming in at the end of a heat.

Drivers lined up and ready for the start of a race. Could be an R/C car photo without the water. Mustn't look strange to a fisherman.

The new K&B Outboard is making its first appearance. Watch for a review coming soon.

The Pineapple Gang, from Hawaii (l to r): Marshall Mizobe, Glenn Monden, George Kelly, Richard Han, Paula and Butch Farm. District IX NAMBA Championships.

mishaps occur on open water situations.

FRIDAY, JULY 30

On Friday morning, drivers checked in to receive their programs, jacket patch, and to confirm their registration for accuracy. A brief word on the program; Gary Preusse did an excellent job in editing and presenting a pleasing format. It is nice to come to a contest and see all the heats pre-established in a program, as each boater knows when he will race, and against whom, will be well prepared, and even have time to plan extra activities with his family. Of course, this is not true of the host club, as the membership is always busy counting laps, refereeing, being pit manager, contest director, and operating retrieve-boat crews, etc.

Enough on this sidelight. Let's go to the straight-away record trials.

The morning started out with calm water conditions. It was a bright sunny day, somewhat humid, so everyone set their needles for a hot run. Tony Maas, of the Minute Breakers, put his .40 Hustler through the traps at 4.25 seconds. This earned Tony his first 50 mph patch; not bad for a new boater! The fastest time of the day was turned in by Skip Fricke, from the Wolverine Club of Detroit. Skip's twin .65 outrigger

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NAMBA

The District IX Radio Controlled Power Boat Championships, as seen by a non-boater (so far) . . . By ELOY MAREZ.

PHOTOS BY AUTHOR

• Southern California having so many beaches and areas for nudists, nature lovers, sun worshipers and who knows what else, I had some reservations when I was invited to 'Leg' Lake for Labor Day Weekend, Sept. 4th through the 6th. But remembering that Bobby Tom, the able Customer Service Manager of K&B, who was doing the inviting, is quite straight and just recently married to a very attractive and charming young lady, I decided that he was not up to some way-out entertainment, and listened further. What he was talking about

Marshall Mizobe shows his launching form. Is it W.T.O. (Wet Take Off)?

Scale 'Miss Bardahl' placed 3rd for Pal Jennings, of San Diego, California.

Dr. Joe Bruzzese, Las Vegas, Nevada, with his Class C Hydro record breaker, an Octura Wing Ding, with OPS 60 power. See text for more.

Jim Whitlatch and another Wing Ding. With this one , Jim set the X Class Straightaway Record. Current Dist. IX Cl. C High Pointer.

Sally Stewart, Bakersfield , Ca., 2nd Place C Mono winner, with her B Hydro.

Popular racer, Gene Adams, won 2nd Place in B Hydro.

Pretty Penny Muck, holding her dad Steve's "Pay 'N Pak" Hydro.

was *Legg* Lake, which is part of the Whittier Narrows Recreation Area, located in South El Monte and just 18 miles from the center of Los Angeles. And the event was to be "the biggest R/C boat race in the west", the NAMBA District IX Radio Controlled Power Boat Championships.

CD'ed by Dennis Coleman, of Baldwin Park, CA, and run by the Prop-Nuts of San Gabriel/Pomona Valley, the race consisted of as many as ten heats for some classes. Included were A, B and C Mono; A, B, and C Hydro; Sport 40; Scale Hydro; and 40 and 60 Deep Vee events.

Now, it will soon be obvious, so it must be mentioned, that while I have been in R/C for many years, I have never built any model that wasn't meant to fly. Not every one did, which is another story, but they were meant to. MB's Power Boat expert, Bob Preusse, is back east, and feeling that this event deserved some coverage, I agreed to get my feet wet. So if I missed some important points or if I express disappointment at the lack of a victory

Continued on page 89

Pat and Charley Pottol concentrate on the job at hand. They're Marine Specialties.

Beautiful scale "Pay 'N Pak" hydro, trailer and all, by Leonard Feeback. Cockpit is also very well detailed. How about an R/C scale customized pick-up to pull the whole deal?

Tammy Gourd, Commerce, Calif., holds Gene Adams' Class B hydro. Hmmm . . . power boating certainly DOES look interesting!

The gals always seem to be there for the paperwork, bless 'em. Jean Riccio assists CD Dennis Coleman.

This 1976 NSRCA trophy beats anything we've ever seen. Also a lamp base.

The 1976 NSRCA Masters winners, all flying Kraft Signature Series radios (l to r): Phil Kraft 3rd, Tony Bonetti 5th, Steve Helms 1st, Joe Bridi 2nd, Jim Kimbro 4th.

'REMOTELY SPEAKING...'

by BILL NORTHROP

• The lean, muscular young Olympic diver strode confidently out toward the end of the diving board, cast a measured glance at the clear, rippling pool of water some 30 feet below, and knelt down to carefully place his hands at the very edge of the board. In beautiful slow motion, and with the grace and agility of a cat, the trim athlete brought himself to a full handstand. The huge crowd, made up of the friends, supporters, and relatives of the competitors from many nations, hushed itself into complete silence as the supple figure at the edge of the board seemed to turn into a motionless statue, suspended in delicate balance above the diving pool. Even the water had become perfectly smooth and glasslike, seeming to prepare itself to receive the diver when he sliced cleanly into its surface.

Suddenly the silence was shattered by the voice of the diver as he raised his head from between his shoulders and called out to the farthest corners of the huge auditorium . . . "My next dive will be a 4-Point Gainer followed by 3 Inside Somersaults . . . on this . . . heading . . . starting . . . Now!"

Ridiculous, no? Ridiculous, Yes! How about the figure skater announcing through his lapel microphone, "I will now do a Triple Enchilada combined with Two Rump Steaks, ending up in the lap of the third judge from the left!"

Can you think of any precision demonstration type of competition in which the contestant must announce his next dive, stunt, maneuver, figure, etc., except R/C aerobatics? Not even Control Line Stunt!

Why, then, in R/C?

Calling out a maneuver goes back to the earliest days of R/C competition, when the performance of anything as predicted, whether a simple turn or a few feet of actual straight flight, could be just as much of a surprise to the contestant as it was to the judge. In those days, you sort of established your own schedule, and you told the judge what the next maneuver was going to be in order to help him to know what it was after he saw it! We recall one flier saying, "I'm gonna try a loop next, but if she sorta rolls out at the top, it's an Immelman."

We're sure some of our OFB's from the old Delaware "Lost Controller's" Club will remember Ken. At a contest, he'd call a maneuver, then his aircraft would go through a bunch of gyrations and finally level out, at which point Ken would shout "Atta Baby!" The poor bewildered judge would think he had watched something he was supposed to recognize, and Ken would get a score. Back then, it was 0 to 5, because there wasn't that much difference between a good and a bad maneuver!

Over the years, though radio control in general, and pattern competition in particular, has advanced tremendously and become as sophisticated and precise as competition diving and skating, our pilots are still required, under the threat of zero points, to call out the name of each maneuver, and announce its beginning and end.

Is it really necessary? Who needs to know what maneuver is next? The judges have a schedule right under their noses, on the score sheet. From a promotional point of view, spectators should

Marty Barry pulled up for a loop and Joe Bridi flew right through him! Joe had no external damage, but wing had stress cracks.

Didja ever see a complete pattern without any right turns? NMPRA Pres. Ron Schorr flew in Novice at NSRCA Champs. Bob Smith aids.

Jim Oddino is currently flying this "Stiletto" designed by Daryl Bergstrom, along with Jim, and Bill Salkowski.

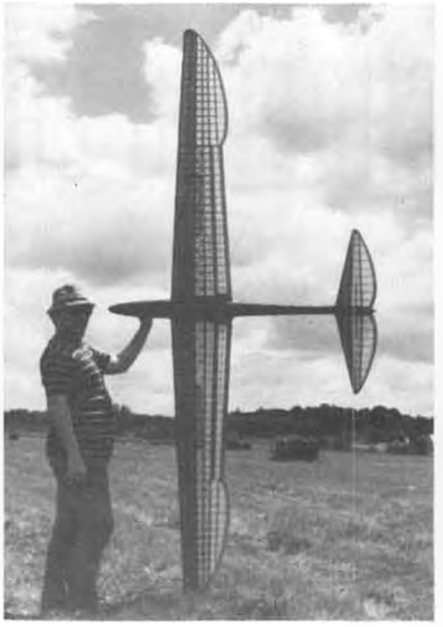
George Hill's Phoenix 7, his latest Airborne Associates production kit. Fiberglass fuselage, foam wing cores.

Bob Beltrano, Hawaii, flew in Masters at NSR CA Champs. BIRD Bill Pihl does the calling.

schedules (such as at this year's Nats). Third, and most important of all, in a large contest that requires long periods of continuous judging, it is helpful for the judge to be able to remove his eyes from a plane when a maneuver is completed. It rests his eyes, gives him a moment of relaxation, and helps to prevent the hypnotic effect that can often occur. The announcement of the next maneuver gives the judge warning that it is time to reacquire the model and get his eyes back in focus. By the time he hears "Now", or "Hup", or whatever, he is all set to judge the maneuver.

In our opinion, the pilot should not have to name each maneuver, but merely call something like "Ready!" as he pulls out of his Split-S or turnaround, lines up, and comes into the frame, and "Now!" as the straight flight into the maneuver is started. If the pilot wishes to name the maneuver for his own assurance, let him do it, but voluntarily, at the "Ready!" position. Other than

Continued on page 100

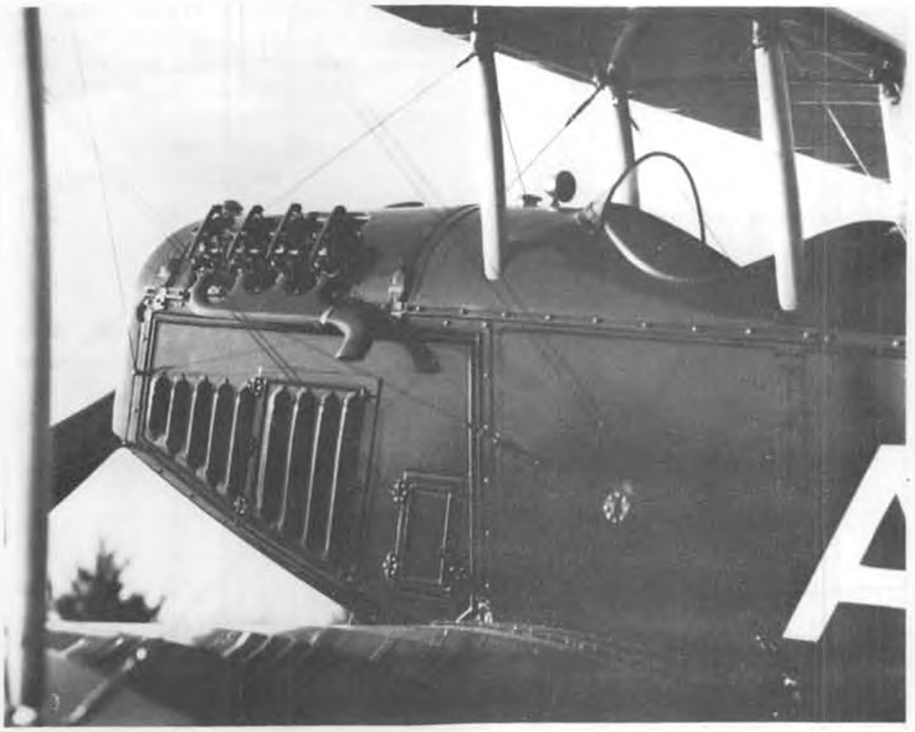


An exercise in construction! Ken Bonnema and his fantastic glider, seen at the '76 Nats.

be informed. But they can't possibly hear the pilot's calls unless he's wired to a PA system. In World Championship competition, calling out the maneuvers is just as unnecessary, but at least it's more entertaining, hearing the many different linguistic versions of a particular maneuver. Matter of fact, some of the foreign names for maneuvers are totally unrecognizable, proving that you don't need to hear the call as long as you have a score sheet!

Compounding the situation particularly in the United States, are the over done presentations by some pilots, who keep up a continual line of chatter with the judges. Cliff Weirick used to be great at this. On the other hand, Harold Goldklank's commentary should *never* be discouraged!

However, there is a little to be considered in favor of a minimum presentation. First, as long as Big Brother FAI keeps it up, we'll have to play along so our pilots won't get out of practice. Secondly, in a contest with mixed Novice, Advanced, Expert, and Master fliers, it can be a help to the judges because of the varied pattern



Ralph Beck built this Jenny from his own plans, which are now available through Proctor Enterprises. Proctor has many of the fittings required to build a model such as this.

John Tucker's completed Super Heli-Baby, with Webra 40 engine. Only difference from regular model is collective pitch rotor head.

Up, up, and away! The Super Heli-Baby on an early test flight. All flying characteristics are excellent. It's an easy one to pilot.

CHOPPER CHATTER

By JOHN TUCKER

GOOD NEWS

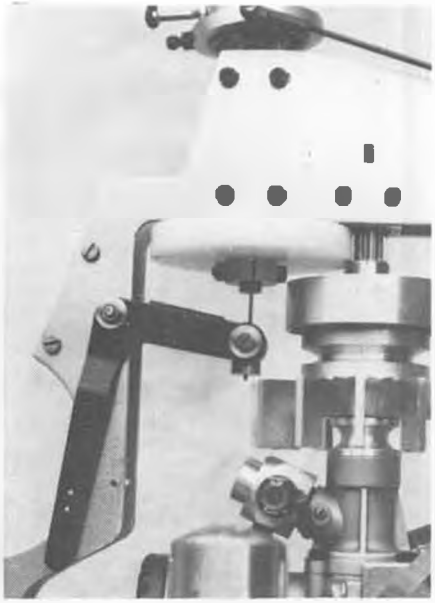
● If you've been holding off on that purchase of a Kavan Jet Ranger, or the new Alouette II, because the price was too steep . . . then wait no longer! Mr. Franz Kavan has just announced, that on the occasion of his tenth anniversary in the production of fine model aircraft components and helicopter kits, he will offer both the Jet Ranger and Alouette kits at drastically reduced prices in limited numbers. The offer became effective on October 1, 1976, and sufficient kits have been stocked to provide an adequate supply, at least through Christmas, when the big rush is on! These kits are standard "on the shelf" items and have not been changed or modified in any way. The Jet Ranger, which normally retails for $479.95, will be offered at $320.00, while the Alouette will carry a new price tag of $160.00 instead of the normal price of $239.95. As an added bonus, the Kavan electric starter will be available for $32.00, a savings of almost $14.00. Let's hope that this offer sets the stage for an industry-wide reduction in prices on helicopter kits . . . they *are* pretty expensive and we need the lower prices to increase the acceptance of this fantastic hobby.

HELI-BABY "MIT" COLLECTIVE PITCH

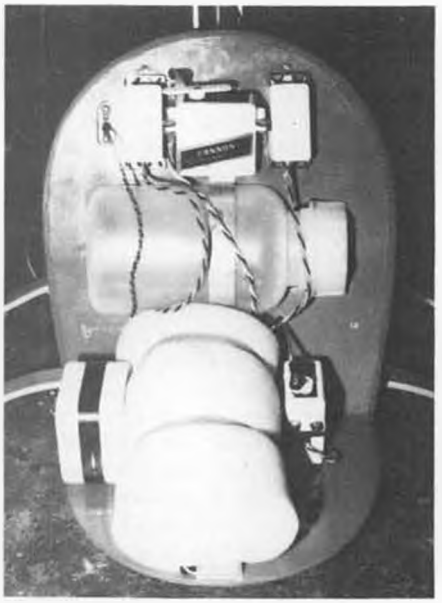
A couple of months ago, just before I went on vacation, I promised to do a kit review on the new collective pitch mechanism for the Heli-Baby chopper. I had just received the package about two days prior to leaving for Cairo, and it almost ruined my trip because I was so anxious to get back and start assembly. Perhaps I'd better explain that I've always been impressed by the way Dieter Schluter puts things together, and also by the fantastic reliability and performance obtained by the average modeler with his products. The Heli-Baby, with its unusual stability, has been one of my favorites for a long time, and I've really looked forward to seeing if his new collective pitch was as simple as it looked, and whether it really added anything to an already fabulous performer!

Well, to begin . . . the Schluter products are distributed in the U.S.A. by MRC (Model Rectifier Corp.), 2500 Woodbridge Ave., Edison, New Jersey, 08817, and their distribution system is such that most any hobby shop in your area either has them in stock now, or can get them on a moment's notice. There are two ways you can go, either select the "Super-Baby" kit which contains the original chopper with collective pitch, or you can purchase the collective

How many types of R/C planes can you test hop in the back yard? Here's John doing it.

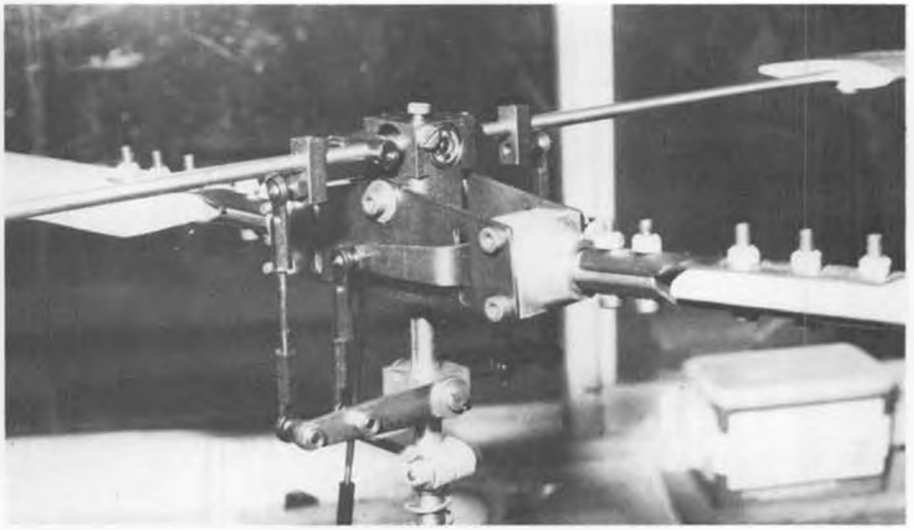


Pushrod rides in slot in drive shaft, operates pitch control from bellcrank.



Fuel tank and radio installation. Most everything is covered by pilot's seat.

With pilot and seat in place, instrument panel removed and Kavan giro installed.



Close-up photo of collective pitch head on Heli-Baby. Head may be purchased separately, for those who already have a standard Heli-Baby.

pitch mechanism by itself and install it on your existing Heli-Baby as a modification. The "Super-Baby" retails for $310.00 and will be available when you read this. The modification kit, by itself, retails for $94.95. Either way you go, You can be assured of complete success, since the two units are easily and quickly "married".

Opening the attractive new box, I was pleased to note that separate instruction books are provided to explain the construction elements of the basic helicopter and the collective pitch mechanics. I should point out at this time, that the Super-Baby kit does not contain a stock rotor head and blade attachments, since the collective pitch package replaces these items with a completely different assembly. All parts are neatly packaged in numbered pouches for easy identification.

Construction is started by assembling the basic framework first, then adding the collective pitch unit as a final stage. This works out real fine, since it's the same way you would accomplish the modification on an already-built chopper. Since the basic frame-work construction has been covered in an earlier article in Model Builder, I won't go into details at this time, but will proceed with the installation of the new rotor head and collective pitch.

One of the first things you will note upon opening the bag of parts, is that the main rotor shaft has a slot machined along its entire length, for the purpose of accommodating a music wire push-rod. This push rod is connected to a slider which activates the pitch control mechanism, and is driven from below by the ingenious addition of a bellcrank assembly connected to the throttle linkage. The entire assembly has been completed by the factory in the Super Baby kit, so about all you have to do is install the bellcrank, assemble the new rotor head and attach the connecting links. It couldn't be easier!

If you are modifying an existing Heli-Baby, it will be necessary to drill two additional holes in the aluminum frame plates to hold the bellcrank. The Super Baby frame is already drilled. The bellcrank (with brass bearings) is fixed in position on the main frame with 3 x 10mm bolts. It is adjusted by sliding it in the oblong holes until the end of the music wire push rod is centered in the connecter unit directly beneath the main rotor shaft. The long arm of the bellcrank is attached directly to the throttle servo and the carb, so that it has a total movement of 14mm (including throttle trim). Now, as the throttle servo is advanced, the bellcrank lifts the slider up the main rotor shaft in proportion to the carb opening.

The next step is to assemble the two mixing levers onto the slider with 3 x 3mm screws, and prepare the push-rods and ball joints per the instructions. The main rotor assembly is also completed at this time and balanced in accordance with the Heli-Baby instructions. After all components have been installed, and checked for freedom of movement, you can start on the final adjustments. Remember that the see-saw will probably be a little tight at first so a drop of oil here and there will help a lot to free it up.

The basic adjustment philosophy requires that you start with the transmitter throttle stick (and trim) in the neutral position. The servo should also be exactly centered at this time. Now, adjust the pushrod (bellcrank to carb)

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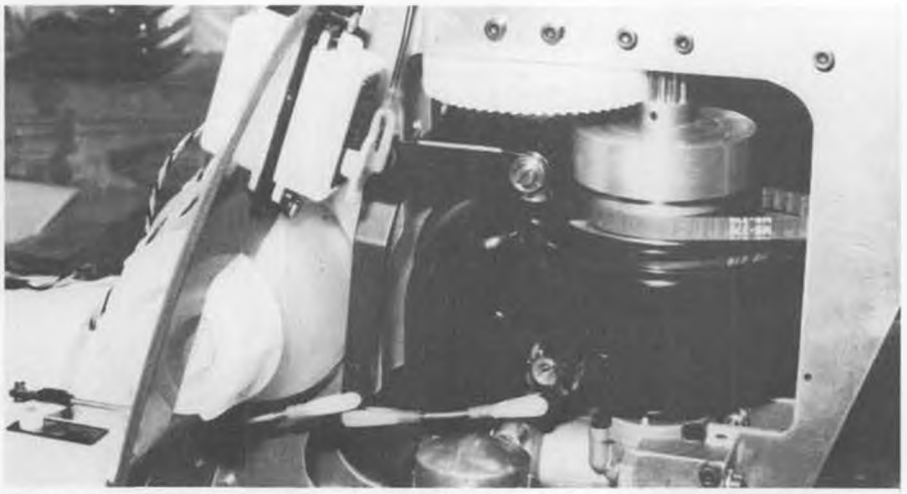
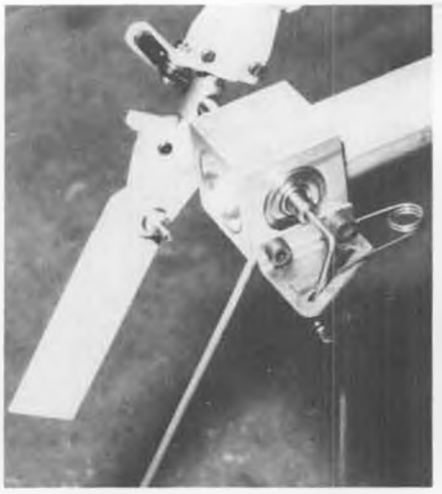
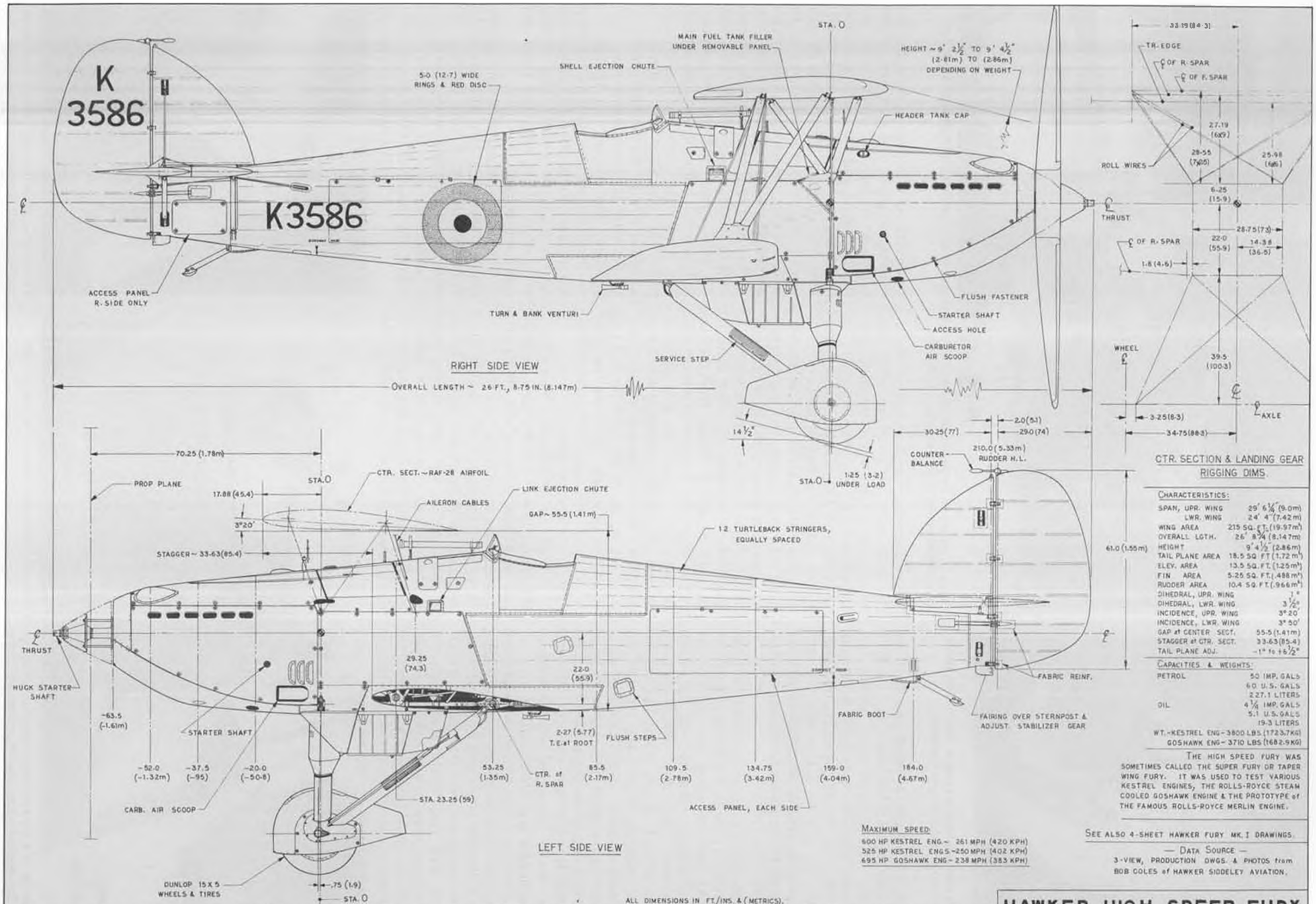


Close-up of engine and drive mechanism for main rotor. Pitch control crank arm acts as linkage for throttle servo, slightly increasing throw.



Tail rotor control linkage. "Safety pin" takes up slop which is needed to avoid binding.



CTR. SECTION & LANDING GEAR RIGGING DIMS.

CHARACTERISTICS:

SPAN, UPR. WING	29' 6¼" (9.0m)
LWR. WING	24' 4" (7.42m)
WING AREA	215 SQ. FT. (19.97m²)
OVERALL LGTH.	26' 8¾ (8.147m)
HEIGHT	9' 4½ (2.86m)
TAIL PLANE AREA	18.5 SQ. FT (1.72 m²)
ELEV. AREA	13.5 SQ. FT. (1.25m²)
FIN AREA	5.25 SQ. FT. (.488m²)
RUDDER AREA	10.4 SQ. FT. (.966m²)
DIHEDRAL, UPR. WING	1°
DIHEDRAL, LWR. WING	3½°
INCIDENCE, UPR. WING	3° 20'
INCIDENCE, LWR. WING	3° 50'
GAP at CENTER SECT.	55-5 (1.41m)
STAGGER at CTR. SECT.	33-63 (85-4)
TAIL PLANE ADJ.	-1° to +6½°

CAPACITIES & WEIGHTS:

PETROL	50 IMP. GALS
	60 U.S. GALS
	227.1 LITERS
OIL	4½ IMP. GALS
	5.1 U.S. GALS
	19-3 LITERS

WT. - KESTREL ENG - 3800 LBS (1723.7KG)
GOSHAWK ENG - 3710 LBS (1682.9KG)

THE HIGH SPEED FURY WAS SOMETIMES CALLED THE SUPER FURY OR TAPER WING FURY. IT WAS USED TO TEST VARIOUS KESTREL ENGINES, THE ROLLS-ROYCE STEAM COOLED GOSHAWK ENGINE & THE PROTOTYPE of THE FAMOUS ROLLS-ROYCE MERLIN ENGINE.

MAXIMUM SPEED:
600 HP KESTREL ENG. ~ 261 MPH (420 KPH)
525 HP KESTREL ENGS. ~ 250 MPH (402 KPH)
695 HP GOSHAWK ENG ~ 238 MPH (383 KPH)

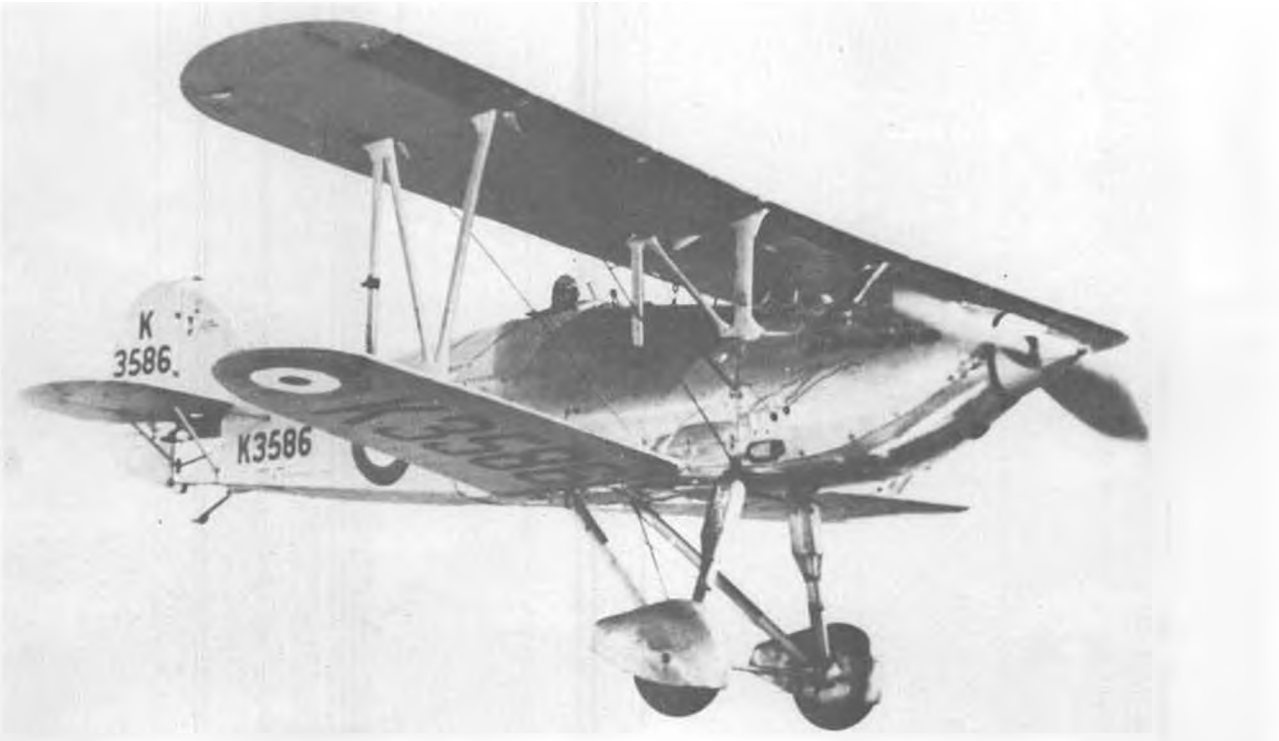
SEE ALSO 4-SHEET HAWKER FURY MK. I DRAWINGS.

— DATA SOURCE —
3-VIEW, PRODUCTION DWGS. & PHOTOS from BOB COLES of HAWKER SIDDELEY AVIATION.

HAWKER HIGH SPEED FURY

PETER WESTBURG SANTA MONICA, CALIF. MAY, 1976

PHOTOS FROM HAWKER-SIDDELEY AVIATION



The Mark II High Speed Fury had a Goshawk steam cooled engine. Condenser tanks were located in upper wing leading edge and top surface back to 50% of the chord.

Hawker HIGH SPEED FURY MARK I & II

PART ONE

By PETER WESTBURG

• Some mystery has always been attached to a very special Fury. It was often called the Super Fury or the Taper Wing Fury, but officially it was the High Speed Fury, Mark I and Mark II.

Hawker assembled three special Furies; the PV-1 (Private Venture No. 1, **Model Builder**; September, 1976) bearing the civil registration G-ABSE; the PV-3, the ultimate development of the Fury line with four guns, spats on the wheels, a swept back wing and a steam cooled Goshawk engine made by Rolls-Royce; and the PV-2, the subject of this and next month's articles.

The PV-2 came into being because

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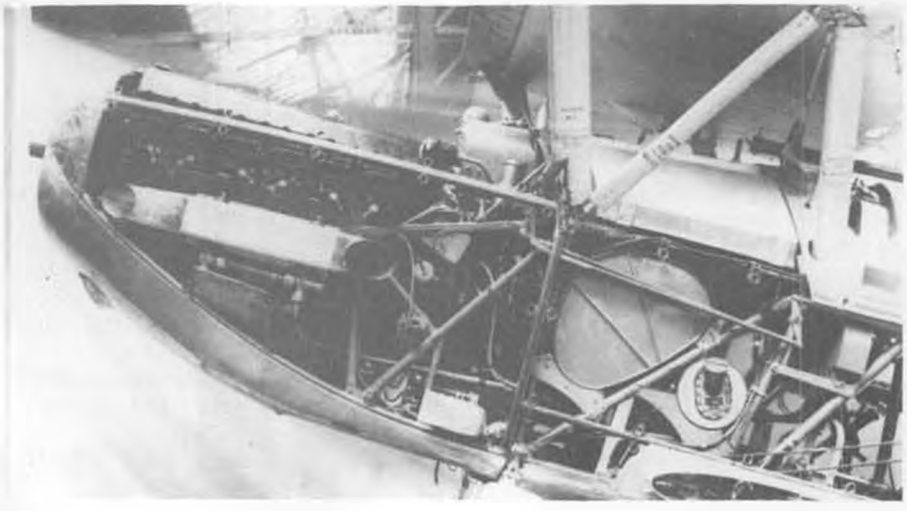


Front end of the Mark II High Speed Fury. Wing leading edge condenser tank is visible. Purpose of duct is unknown. Object below it is a clipboard.

The PV-2 Fury was placed "on charge" by Air Ministry before first flight. Note vertical rudder stripes in this May, 1933 photo.

Mark II version, as at top. Note mysterious duct holes. Rudder stripes had vanished now, as on all RAF aeroplanes after this.

All or a part of over 100 of the 140 Formula I pylon racers lined up in the hangar and ready to be handicapped. How'd you like to juggle that many models into a progressive order of fidelity, finish, and workmanship! SOMEBODY STOP THAT STEAMROLLER!!!

PYLON AT THE NATS!

By JIM GAGER

PHOTOS BY GAGER AND NORTHROP

First, let me warn you that this is going to be a very prejudiced report on the NATS. Let me set the background for what will follow: I've been in and out of modeling for the last 20 years and have followed NATS reports every year that I had any interest in models at all. I can remember reading about the exploits of certain famous flyers and envying them, their abilities and the obvious comradeship and close friendships that had to develop at a gathering such as the NATS. Even the supposed fiascos of having such a contest in the most hot and humid part of the summer, in the South, on several occasions, dampened my enthusiasm only a little for this one at Dayton, Ohio. Apparently I'm not the only one who felt this way, as early counts showed that this would be the biggest NATS yet, attendance-wise.

As I write this, I still pause and marvel that any group could put on such a show and have everything as "together" as it was. Sure, there were probably some petty items that may have caused consternation among contestants (the porta-johns arriving late at the pylon site for one thing . . . some contestants are prone to be nervous on race day), but unless you were willing to replace one of the volunteer workers who made it "go" for us, none of us have a right to complain about anything unless it's constructive criticism and is accompanied

Our Pylon editor, hard at work gathering information on the Nats! Gail Jacobson, right, seems to be a little ahead of Jim, or way behind.

(l to r): Woody Pretzer, Bill Hager, and Jan Sakert haggle over a close one during QM processing.

Nats QM winners (l to r): Bob Ruether 5th, Gail Jacobson 4th, Gale Helms 3rd, George Parks 2nd, and Dave Pearce 1st. Dave made a clean sweep by also taking First in Formula I.

Dave Pearce and Bill Hager. Speed is nice, but consistency pays. When you're hot, you're hot!

with a suggestion as to how to improve things. *(Amen! wcn)*

So, my hat's off to all the NATS people who made this the greatest contest I ever attended, and made my dreams of what is a NATS, come true in the fuzzy, sunny glow of storybook tales that end up happily ever after. ("Ever-after": Being entered in Quarter-Midget and Formula I and returning home with two airplanes, radios and engines intact. There were a lot of flyers who can't lay claim to that statement!!)

Quarter-Midget racing dawned bright and early on Monday, August 2nd, with the first Q-M heat off at 7:38 AM. The starting of racing only 8 minutes later than the scheduled time of 7:30 is another tribute to the efficiency and planning that went into this NATS.

Without going into a heat-by-heat account of the races, it was obvious from the start that with eighty-one contestants flying in excess of 140 heats, not only did you have to go fast, but you also had to win all your heats to place first. Anything less would rapidly drop you out of contention for first place. After four rounds, the leaders with 16 points, were Dave Pearce and George Parks, followed closely by Bob Ruether, Gale Jacobson, and Jerry Small, with 15 points. This set the pressure on the leaders . . . knowing that there were several flyers breathing down their necks just waiting for one slip.

Weather continued bright, sunny, and warm through Wednesday, until after seven complete rounds were flown and the stage was set for the flyoffs. The flyoff for 15th and 16th places was between Bill Weesner and Duane Gall; Weesner took the lead from the start and easily held it to win 15th place.

Dan Kane, Bill Hempel, Sr., and Ray Bingham went for 12th, 13th and 14th places. This flyoff set the tone for the others to follow. It was wild, erratic, and full of cuts. It was hard to tell what was actually happening as the cuts came fast and furious. After 11 laps, Ray Bingham was 12th overall as he was the only in this race that didn't cut out. On the basis of times, William Hempel, Sr., was 13th and Dan Kane was 14th.

Brian Richmond, Al Grove, and David Boyte then fought for 9th, 10th, and 11th places. With everything riding on this one last flight, everybody let it out in an effort to be first. Al Grove broke the ice with the first cut on the 3rd lap, leaving the race to Richmond and Boyte until lap 7, when Richmond cut pylon No. 1, and Boyte maintained his cool to capture first place in the race and 9th place in overall in Q-M. On the basis

Tom Christopher and his 2-year old Ricky Rat had fastest time. House of Balsa kit.

Bruce Richmond; 3rd in Formula I and Best Jr.-Sr. in Formula I.

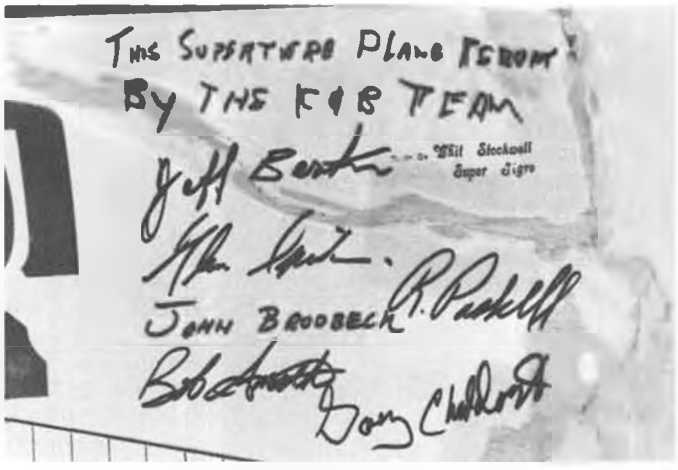
Bob Violett and his own-design "Loki", which was judged Number One in handicapping, over 140 other Formula I aircraft.

QM winners in Jr.-Sr. division (l to r): Brian Richmond 1st, Dave Boyte 2nd, and Greg Tiffany 3rd.

Whit Stockwell takes a long walk back after a slightly overshot landing.

Jim Maki (standing) puts the triple whammy on NMPRA President Ron Schorr, who's ignoring the whole thing. Bill Williamson and Bob Smith are respective callers. Basil Derough at far right.

John Jr. (Brodbeck) re-epoxies (!) servo mount cross pieces in Whit Stockwell's patched-from-scraps Form I Lil Toni (ST X40).



The printing tells the story. "This Supertigre plane repaired by the K&B Team." More info in text.

of times Al Grove placed 10th and Brian Richmond took 11th.

Next up were Greg Doe, Bob Ruether, Jim Moorehead, and Gale Jacobson, to fight it out for 5th through 8th. This was a tough race for the pylon workers as all four aircraft were light colors; Doe's was basically all white, Ruether's was light yellow, Moorehead's was white and orange, and Jacobson's was white and red. It was a tight, close race from the drop of the flag, with the airplanes closely bunched all around the course. It was well that proper identification of aircraft was made as this race was decided on the basis of cuts also. Gale Jacobson kept his cool to win the race after Doe, Ruether, and Moorehead all received two cuts. Again on the basis of best times, Jim Moorehead placed 8th, Greg Doe took 7th, Bob Ruether placed 6th, and Gale Jacobson walked away with 5th.

Then came the BIG ONE . . . flyoff for first place between Dave Pearce and George Parks. It was to be a patriotic flyoff, what with Parks' plane being blue and white and Pearce's plane painted red and white. Pearce kept his cool for this last race staying just ahead of parks for the full 10 laps to wind up the NATS Quarter-Midget Champ. We've not heard the last of Dave as you shall

Who said we wouldn't print it, Glen?

"Goin' fast and turnin' left?". "Nope, just turnin' left." Nats pylon report without a photo of "Pappy" DeBolt wouldn't be complete.

This is what turns pylon workers gray. All four airplanes are basic white, with either orange or red trim. Pilots better have narrow vision, too!

shortly see.

Overall, Q-M flying was noted for the competency of its flyers and the sophistication of their aircraft. We've come a long way from when Q-M was first introduced and it no longer has to take a back seat to any other kind of air racing. Just as a kind of backtracking sidelight, at the 1974 NATS there were 48 Q-M competitors and fast time was 1:48.7; at the 1975 NATS there were 51 entries and fast time was 1:40.0. We've come a long way, baby . . . 1976 NATS; 81 entries and fast time, by Tom Christopher, was 1:35.1, with his Rossi powered Rickey Rat.

Now go back and look at the official standings published elsewhere in this column. I hope we haven't confused you too much, since we reported the racing as it happened. However, an unfortunate incident occured during engine teardown of the top 20 aircraft. The 3rd place aircraft was discovered to have had a chromed steel liner in its engine and was disqualified. This moved everybody up one place from there on down and enabled a great guy, Leonard Wiederhoeft, to crack the top 20 bracket. By the way, that bright yellow van with the pylon racing mural on the sides was Leonard's. Great way to let others enjoy our hobby.

The top twenty QMs were impounded as they came back from last round. All were torn down for engine inspection. One flunked.

Best Junior-Senior flyoffs were between Dave Boyte, Brian Richmond, and Greg Tiffany, and it was just a good, sane race ending up with Brian Richmond in 1st, Dave Boyte in 2nd, and Grey Tiffany in 3rd.

FORMULA 1

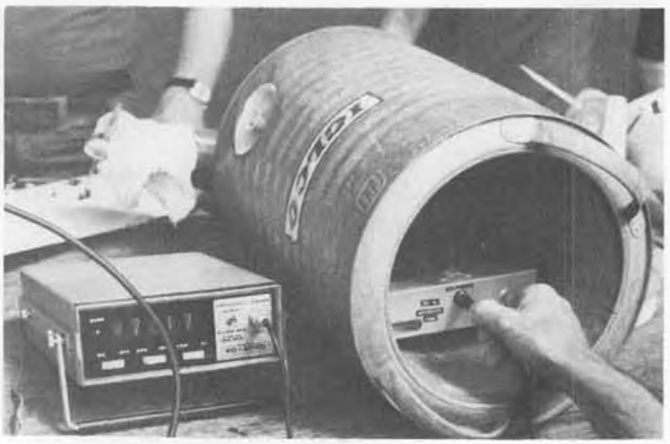
Formula 1 racing also dawned early, but not so brightly, as it was rainy when we got up at 5 AM. Knowing that they probably wouldn't fly in the fairly heavy rain, we slowly went through the motions of getting to the field.

SURPRISE, SURPRISE, SURPRISE! First race was off at 7:37 AM, and it caught several of the racers in the first heat flat-footed. There was much hurrying and running toward the flight line so as not to be left out. C.D. Bill Hager was keeping his word and we were going to get in 7 rounds of racing, come what may.

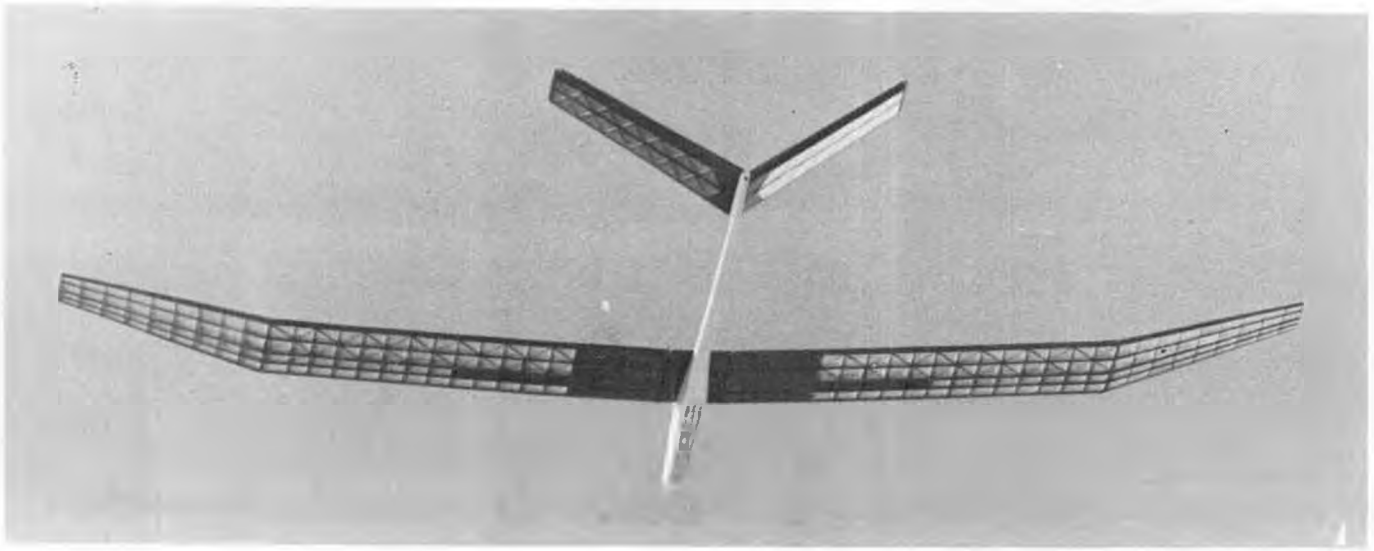
Even with notes, it's hard to reflect back on what happened. Even though there were long periods of time between heats, there was always something to do in preparation for your next race, or some other flyers stopping by to trade information or just generally b.s. One impression of what happened was the

Continued on page 84

Fly off for first place in Quarter Midget. George Parks in lower left corner. His plane followed Dave Pearce's most of the way.



This photo for the benefit of R/C assist Old Timers. No, it wasn't the radio processing of QMs that shot some of you down.



Even though there is nothing for size reference in this photo, Dick Eagle's glider looks BIG . . . and it is. Called the Westwind 18, it spans 18 feet!

R/C SOARING

by Dr. LARRY FOGEL.

PHOTOS BY AUTHOR

• There's a flurry of interest again in U.S. patent 3,706,430 (dated December 19, 1972), which describes a most unusual airfoil. According to the patent, "In the comparatively low or subsonic speed range, the conventional airfoil has cambered surfaces that define a profile of gradually decreasing thickness from the leading edge to the trailing edge. For high or supersonic speeds, the airfoil camber is comparatively small and the wing thin so that the upper and under surfaces tend to be substantially planar. It follows therefore, that the drag characteristics of the subsonic airfoil are not suitable for supersonic speed, whereas the lift characteristics of the supersonic airfoil are not well suited for low airspeeds. The present invention is concerned with providing a new and basic airfoil design that can be readily varied to meet the requirements of a wide range of airspeeds." Pretty ambitious.

The patented airfoil is wedge-shaped, with an undercut lower surface about halfway through the chord (Figure 1). The inventors emphasize the importance of keeping this understep clear for its proper functioning. According to the patent, "As regards accepted aerodynamic theory, the technical reasons for the improved performance of the present airfoil are unknown to the inventors." They claim that *"small-scale airplanes* (constructed according to their invention) *were tested in flight and demonstrated unusually good lift, stability, and pitching-moment characteristics."*

You can purchase a copy of this patent from the United States Patent Office, Department of Commerce, Washington D.C. Any suggestions on the required theory and practical application of such wings for sailplane flight?

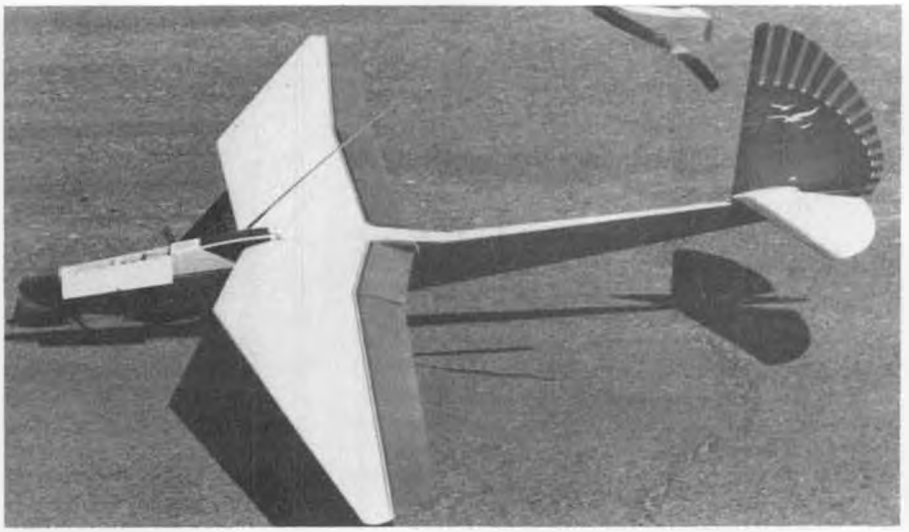
Let me introduce Jerry Slovecek and his Apogee, a most unusual bird, to say the least. The overall appearance is gull-winged. The inboard wing panels sweep up and forward. The outboard panels are horizontal and seem to sweep

FIG. 1

THE KLINE – FOGLEMAN AIRFOIL

Radio problems caused crash of Westwind at Torrey Pines. Lack of nude bathers that day made it doubly unpleasant!

Just in case you're not convinced about Westwind's size, here it is standing guard over a teeny little Windfree.



Jerry Slovecek's interesting and unusual, birdlike "Apogee". Ought to arouse considerable interest among the feathered, non-R/C types.

Apogee makes a beautiful silhouette against the sky as it reaches for altitude at launch.

aft. Thus the ailerons are active without the disturbing effect of dihedral. Flaps on the inboard panels can modify the airfoil to meet varying needs. Vertical rising spoilers in these panels are coupled to the flaps and take effect only as the flaps descend beyond a preset position (See photos).

The fuselage and wings are framed of balsa and covered with doped silk. The radio compartment is protected by a hinged cover. The large rudder is independently controlled, helping the aircraft become aerobatic. It can perform the usual loop and roll maneuvers, then almost stand still in midair. It's not the fastest ship in the sky, but it surely is maneuverable. Jerry uses wire skids under the nose and wings. These protect against rough terrain. They can be replaced by a conventional wheel landing gear for sufficiently smooth runways.

He's also devised some special mechanisms. For example, a wire is fixed to the screw rod inside the clevis so that a control position adjustment can be made without removing the clevis from the horn. It works like a turnbuckle.

Jerry likes an extended right hand control stick and mounts his transmitter in brackets to allow suspension by a strap around his neck. All in all, here is an unusual design which shows a great deal of originality.

John Gorham, of Thousand Oaks, California, suggests that the Hobie Hawk's stability and landing performance can be improved by dropping the forward wing wire a bit, thus reducing the angle of attack. The original design keeps the fuselage at a slight down angle. This flys the tail surfaces in undisturbed air. Unfortunately, the high rudder then also causes a rolling moment when a turn command is being executed. Reducing the angle of attack reduces the rudder moment arm. To complete the picture, John recommends a one-inch extension of the rudder and the addition of a dorsal fin to provide more lateral area. We ought to take these remarks seriously, for this ex-English modeler was an open class champion in 1950. He has flown free flight, R/C power planes, and is now an expert in model

Roger Taylor and his modified Windfree. Wing area has been increased.

helicopter flight. In a "larger" sense, he's contributed to the design of the L-1011 aircraft. Nowadays he spends his professional time as an aviation consultant.

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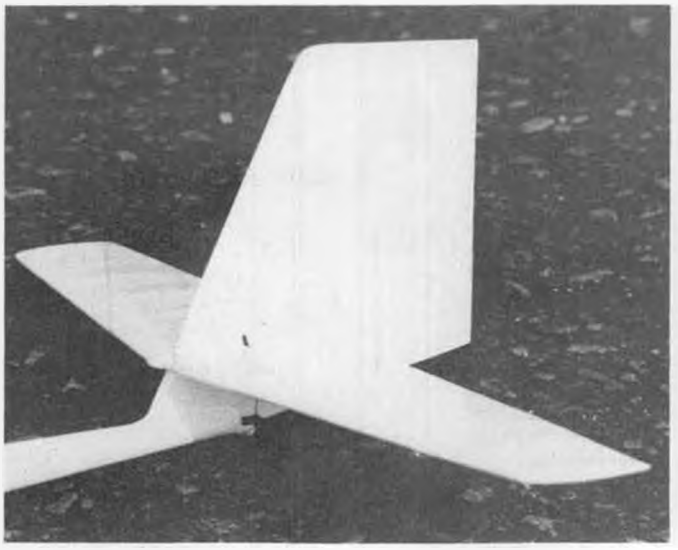
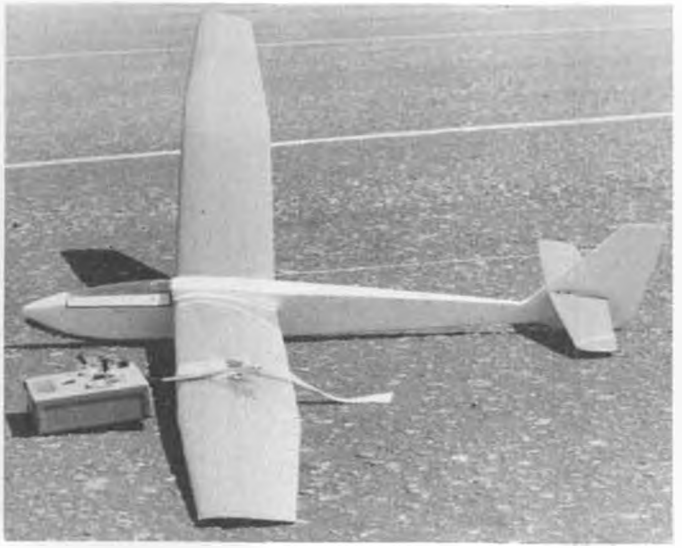


The Hobie Hawk mods continue. This enlarged rudder helps, especially when using the 10 foot wing set.



Taylor's Windfree wing has constant chord half way out, then tapers to tip. Fuselage narrowed aft of wing.

A LOOK AT *MODEL ROCKETRY*

By DOUGLAS PRATT . . .

• August, September and October always tend to be the busiest parts of the contest year, at least for me. Of course, the first week of August is always the NARAM, which finishes up the preceding contest year, with the awarding of the National Championships in the three age divisions. In late August and September, there are always numbers of small regional or area meets held, which are usually well-attended, since their contest directors have been talking them up at the NARAM. There's also the Mid-Con, the annual Mid-America Convention, in Detroit. Finally, in October, there's ECRM, the East Coast Regional Meet, held in Virginia for some twelve years now. ECRM traditionally polishes off the flying season, except in Florida and California, where those lucky !%**@!$*es fly all winter. In Spring, since we seem to be laying out a calendar here, there is always the Pittsburgh Spring Convention about halfway through March, to herald the beginning of another flying season. Then the East Coast clubs hold MARS, the Mid-Atlantic Regional Shoot, usually near Washington, DC. Both of these events have been running for twelve or so years, and of course, they are by no means the only events; they just happen to be the oldest. Since it's too late to publicize Mid-Con in this issue (sorry fellahs), we can at least pass along a contact address for the Pittcon in March. It's held by the Steel City Section of the NAR, which can be reached in care of Kevin Barkes, 205 Emerson Ave, Munhall, PA 15120. I don't have the addresses for the other meets yet; you can watch the Model Rocketeer for them (another good reason to join the NAR).

If you're at all interested in rocketry, competitions are where it's at. Whether you crave the thrill of competition or not, the experience of being surrounded with people who talk the same language and are just as crazy as you are, is not to be missed. The NARAM is the grandaddy of all the meets, but the little weekend meets are just as much fun in smaller doses. As an example, there's the MAR-76, Mid-America Regional in Davenport, Iowa that we traveled to the weekend of August 28.

The meet was hosted by the Davenport rocket club, and CD'ed by Bill Cadwallender. Bill is quite well-known for one of his spare-time activities; he runs a small company called COS Products that custom-prints very spiffy little plaques to be used as awards in NAR and EAC contests. Since Bill does this principally as a way to support contest activity around the country (he's not really a printer, just a nuclear scientist), the prices are well within the reach of the smallest club or contest committee. Bill also showed us some little gems he's come up with lately, including an electronic staging timer about the size of your pinky fingernail. Although it's designed for igniting second stages, it might conceivably have some DT uses. No idea if or when he plans to make it available, but you can get the latest info from Bill at 819 Hillside Drive, Bettendorf, IA 52722.

As we chugged out to the range Saturday morning, we were suitably impressed by the expanse of carefully-mowed, treeless landscape. Bill has found the perfect launch site; a sod farm! The land was soft enough to avoid dings and dents on touchdown, which was much appreciated in Eggloft. The timing events were flown Saturday, and those who got their Parachute Duration and Boost/Gliders up first, caught all the thermals. In 1/4A and 1/2A parachute and streamer duration events, there seems to be a design battle going on between the

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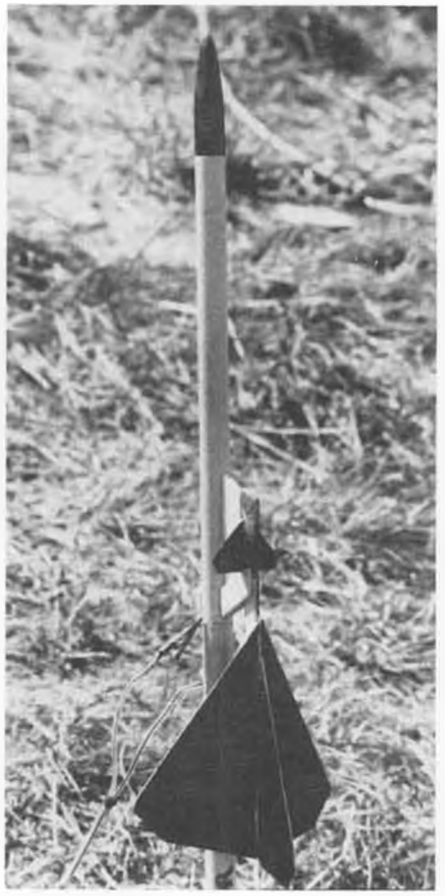
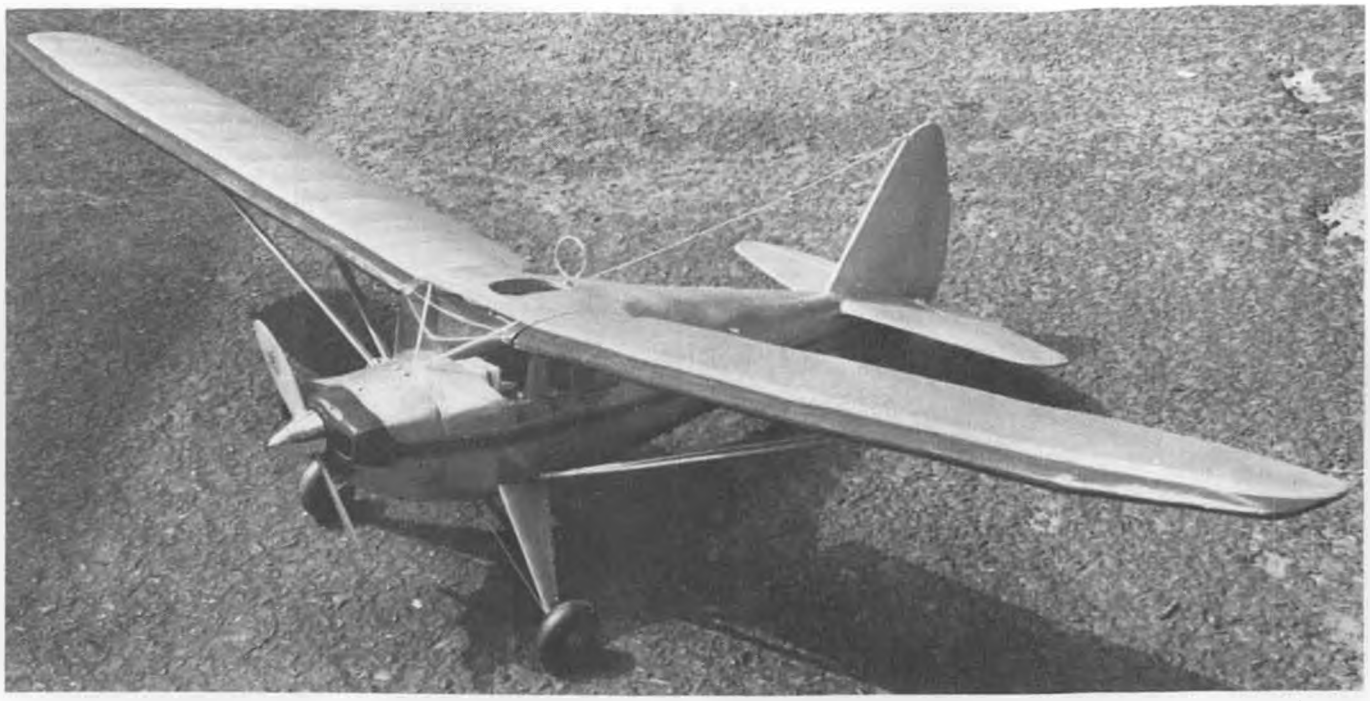
Chris Tavares hooks parachute duration model to piston launcher. Photo by Craig Kuhn.



Novel delta-winged glider ready for takeoff at a Florida meet. CAPCOM photo.

Flat Cat glider appears at the NARAM. Photo by Craig Kuhn.



Tom Mountjoy's rejuvenated Luscombe "50", which was originally featured in the December 1940 issue of Flying Aces magazine. Now it's flying again, with R/C assist. Plans and article appear on pages 32 and 33 of this issue.

PLUG SPARKS

By JOHN POND

• In line with presenting something new every month (just check the last five issues for example!), the columnist is greatly pleased to present a chronology of the old timer development in New Zealand. For this, the writer is greatly indebted to Ivan Treen, of Levin, N.Z., for the material he has submitted.

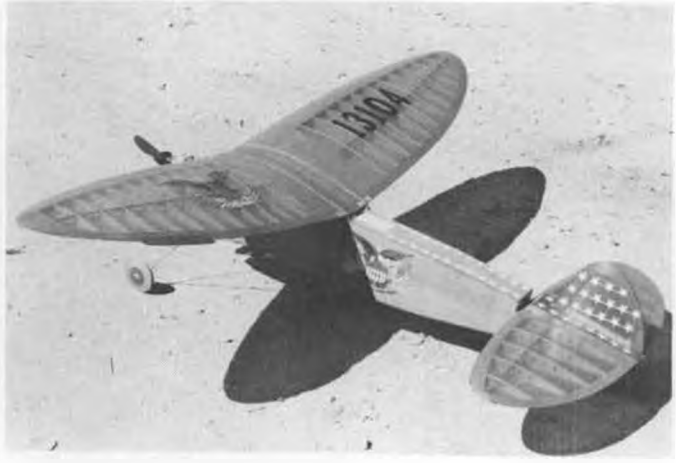
The first time the Old Timers (the New Zealand boys call them Vintage) came to the attention of the modelers, was in 1968 at the 21st N.Z. Nationals. The first rules were simple (aren't they always?) to encourage entries. Several genuine old timers made an appearance, and only a few flew due to the stiff wind that developed. The events were also scheduled for the evening and this helped keep the flying down to a handfull, as prized models and motors were grounded by their careful owners.

Despite the poor weather and time of day, interest was raised among many modelers who could recall flying those big cabin designs of yesteryear. Surprisingly, in spite of the interest, only a small group of vintage enthusiasts endeavored to spread the "gospel". It was not until the 25th Anniversary N.Z. Nationals in 1972 that a vintage event was scheduled again. Being a special event, it was again scheduled for evening flying in the hopes that weather (wind) would be at a lull.

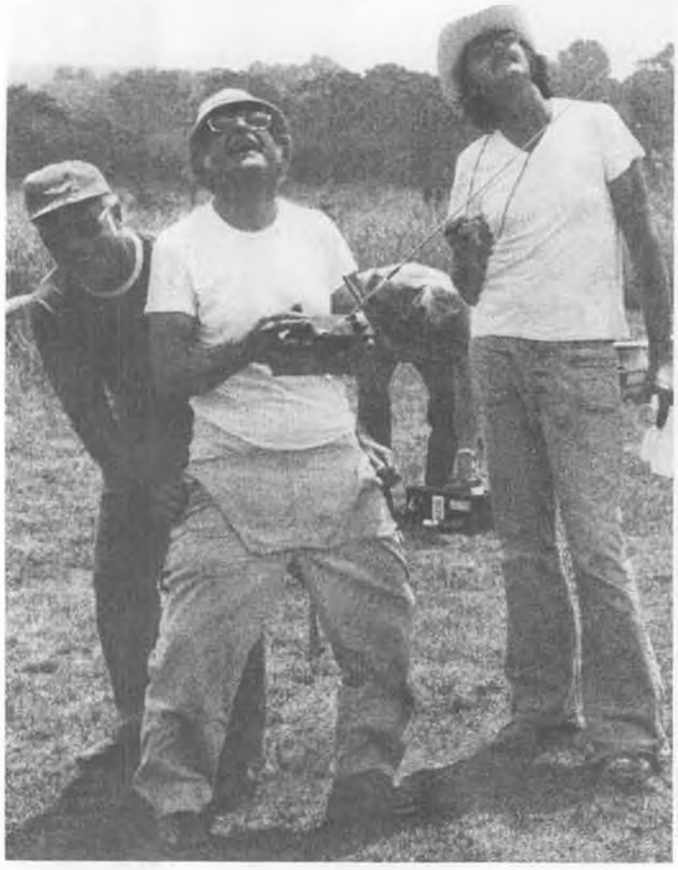
In the 1972 O/T N.Z. Nats Event, a considerable improvement in the number of models and modelers was noted. One modeler, Gareth Newton, showed up with no less than three models. Newton chose to fly his new Ruler and made a spectacular debut in front of a large gallery of spectating fellow modelers. Nothing like the real thing in flight to stir the imagination!

Other models that debuted were several Ben Shereshaw Air Trails Sportsters (this plan had been featured in Aeromodeller in hopes of developing O/T interest), several English designs, mostly Keilkraft designs; and even a radio assist Comet Clipper. They darn near beat the U.S.A. to the punch with an early R/C assist F/F model at the Nationals!

Rare, 1938 vintage "Courier Sportster", a Berkeley design, with .35 K&B and Kraft radio. Built by Joe Averitt, Chicago, Illinois.



Roy Marquard's "Riser Rider", beautifully reproduced by SCIF Phil McCary. Uses Super Cyke for power.



If you can't beat 'em, "Pants 'em". Lee Shulman demonstrates the method on our dignified SAM President, Joe Beshar. It didn't work.

SCAMPS newsletter editor, Jim Dean, and his "Square Footer". An .020 Replica (144 sq. in.) of the Foote Westerner.

Bob Schafer, Spokane, Washington, brought this beautiful Weathers Westerner to the U.S. Free Flight Champs at Taft, California.

From these simple beginnings, interest in Vintage models has expanded greatly. Full credit for this expansion of interest should be given to Snow Linn, who virtually on his own has correlated the needs of a handful of enthusiasts. Linn has devised the present rules employing many questionnaires. In addition, he has written a monthly newsheet devoted to old timers, to the extent that he has been able to get the National Model Ruling body to adopt the rules on an official basis.

Although the rules have failed to make publication in the Rule Book, a Vintage Gas Model Event has been staged every year since 1972, employing the so-called unofficial-Official Rules. Basically, the rules are as follows:

1. Only spark ignition or diesel motors are allowed.
2. Gas Event is a three-flight contest with a maximum flight being considered as two minutes.
3. All flights over 2 minutes are penalized two points per second over two minutes and receive a penalty of one point per second under two minutes.
4. All points are added and averaged.
5. Bonus points are awarded as follows:
   (a) one point per year prior to 1950 for design age.
   (b) 50 points for spark ignition motor power and 20 points for vintage diesel engine.

As Ivan points out, any good flight over two minutes could really ruin you and one could actually end up with a minus score!

The Gas Event held at the last New Zealand Nationals suffered right along with all the rest of the events, as very unseasonal wind and rain prevailed during the Nats week. Noting the increasing interest in Old Timers, two flight periods were assigned to the Vintage flyers, an evening spot and early morning flying session. Treen notes that conditions were much the same regardless of which portion of the day you chose to fly. The wind strength did not vary to any great extent, and thermal activity was light.

Held on a grassy aerodrome, luckily the wind was blowing down the full length of the field. However, this was of

Rare Ontario Modelcraft Commando, by Harry Lowe. Looks somewhat like scaled Brigadier.

What ever happened to Joe Foster? He decided to relax and enjoy modeling for a change. Flying 3-ch. Comet Clipper at SAM 21 meet.

Close-up of the nose end of Tom Mountjoy's rejuvenated Luscombe. Brown Jr. replaced by HB 61. Silver Hobbypoxy finish.

Dismantled for traveling, Mountjoy's Luscombe "50". Wing struts are functional. Fuselage is 1/16 sheet over bulkheads and stringers.

minor comfort, as models were disappearing off the field in two minutes or less. Some flights exceeded the field limits quite easily and ended up behind a belt of trees (shades of Oshkosh, no less!).

Because of the wind, the R.O.G. requirement was scratched (truly a shame. This is the crux of old timers, the realistic takeoff and flight). Some, like Bill Cooksey, were not too crazy about hand launching, as handling a Super Buccaneer in a stiff breeze can be a real handful!

Cooksey's Super Buccaneer, the previous year's winner, was proxy flown by his clubmate, Allan Douglas, as Bill was visiting the good old U.S.A. He was too careful and shorted the flights. On the other hand, Ian Henrys' Quaker Flash flew too good and ended up with a very low score.

For the first time, an O/T Rubber event was held, much to the delight of the onlooking modelers. This event should catch on next year if interest was any indication. The rubber event differs from the gas event (which is more a precision type contest), in that the duration is the paramount issue; three minute "max" flights, with three flights determining the winner.

To the New Zealanders, quality of flight is more important than sheer duration. Ivan Treen feels the next logical step will be the institution of the .020 Replica Class that has taken the O/T fraternity in U.S. by storm. This should appeal to those modelers who find that the rising costs of materials make large old timer model construction prohibitive.

Closing off the discussion of Old Timer flying in New Zealand, Ivan Treen notes with considerable envy the number of events flown at the SAM Champs, or for that matter, the Old Timer Events held on one day at the Nationals.

Treen extends a cordial welcome to all modelers who would care to come to New Zealand and gather a proper appreciation of this scenic paradise. According to reports, Dick Dwyer, MECA Coordinator, District 2, will be taking in the N.Z. Nationals in late December or early January. We hope to have a report on this also.

The official New Zealand Vintage Event Results:

GAS

1.	I. Treen (Modelaire Skyrocket/ ED Comp.)	115
2.	R. Murgatroyd (Winged Yankee/Mills)	97
3.	R. Bain (Zipper/Enya 15 Diesel)	79
4.	W. Cooksey (Super Buc/Cyclone)	74
5.	S. Finn (A.T. Sportster/Bantam)	70
6.	B. Keegan (Pacer/Pepperill Diesel)	57
7.	G. Newton (Sailplane/OR 60)	46
8.	C. Gardner (Southern Dragon E.D.)	38
9.	R. Jones (Modelaire Skyrocket/ Hurricane)	17
10.	I. Henry (Quaker Flash/Rocket)	5
11.	L. White (KK Pirate/Mills)	0
12.	J. Godfrey (AT Sportster/Mills)	-35

RUBBER

1.	R. Harfield (Dusty MK VIII)	299
2.	C. Gardner (Aristocrat)	242
3.	J. Godfrey (Redbird Jr.)	130
4.	C. Hawkins (Redbird Jr.)	121

ENGINE OF THE MONTH

While Bill Brown and Maxwell Bassett were setting the modeling world on its ear with the Brown Jr., a fellow named Dan Calkins, on the West Coast, was quietly working on a small, lightweight single cylinder engine. Eventually produced in Portland, Oregon, the Elf made its appearance in late 1935.

Many of the well known early gas modelers on the West Coast, such as Joe Weathers, Don Knapton, and others, used this engine. The writer's earliest experiences with the Elf engine indicated it was anything but the claim in the Elf brochure, "the Elf engine starts easily and quickly . . . " In those early days, there was no one there to tell the new engine owner how to start and run the engine. Invariably, the engine would be primed too heavily, and then the rest of the day would be spent trying to crank the engine clear.

The Elf single cylinder engine was rated at .035 horsepower (only a 1/32 h.p.!!) at 4700 rpm. Fuel economy (the forte of the Elf engine), was 2.8 lbs per brake horsepower hour at 3500 rpm. These fancy figures mean the engine would run 40 minutes on one ounce of fuel! Whatta motor for Texaco!

Unfortunately the low horsepower output restricted the model size to three or four feet wingspan. Counting the

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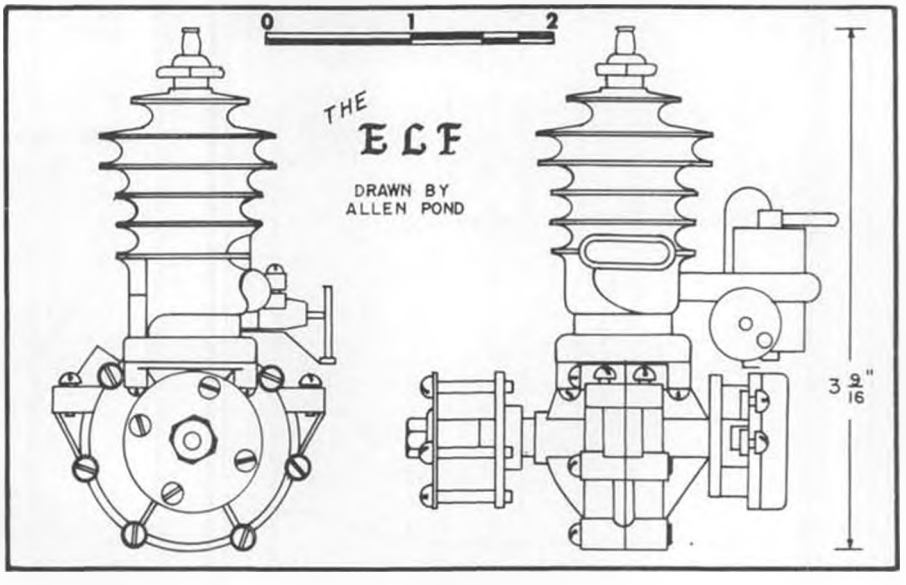
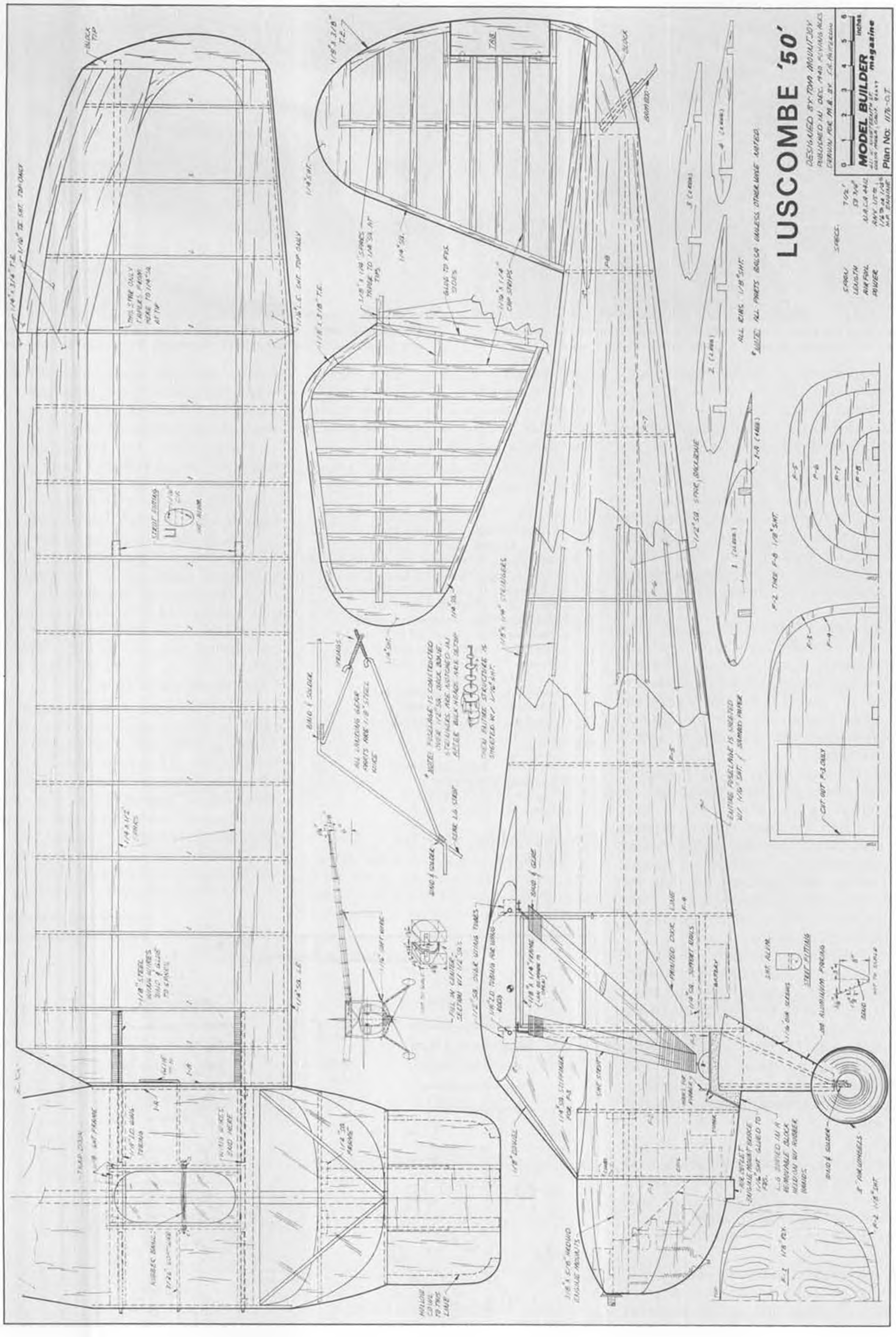




FULL SIZE PLANS AVAILABLE — SEE PAGE 104

The original Luscombe, with Brown engine, and the original Tom Mountjoy . . . with hair! Wouldn't you like to have that Ford now?

The original Luscombe, with HB 61 engine, and the original Tom, with a little less hair! If it was in good shape, I'd still take the Ford.

PHOTOS BY TOM MOUNTJOY

TOM MOUNTJOY'S LUSCOMBE "50" FLIES AGAIN

•••• OLD TIMER Model of the Month ••••

Text by: Bill Northrop

Drawn by: Al Patterson

The before, the after . . . and now the between. Not unlike restoring a classic found in a barn.

• Our O.T. model for this month is kinda special, in that we're not only featuring a design that is 37 years old, we're also featuring the airplane itself . . . at least major portions of it.

The model, very close to scale even by today's standards, had already made a name for itself in many East Coast contests before it was published in the December 1940 issue of Flying Aces. It probably had about the best combination of scale fidelity and flying ability of its period.

Tom became interested in R/C about two years ago, after laying off of model building since shortly after World War II. John Pond's "Plug Sparks" column convinced Tom that he should drag the "basket case" Luscombe out of the attic and resurrect it.

Originally, the Luscombe was powered by an inverted Brown, but Tom re noved it (says it still runs like a Swiss watch), and installed an HB 61, which is a little too much power for the plane, though it's span is almost 8 feet. Other modernizations include a Hobbypoxy Silver finish, DJ striping, Sig balsa to fill in for the missing or deteriorated structure, Du-Bro wheels, and a Kraft radio. As Tom says, the experience of bringing the old Luscombe back to life was very similar to finding a real antique airplane in somebody's barn and restoring it to flying condition.

The most unique thing about this model is that it is eminently suitable for old timer F/F scale, O.T. Cabin, Radio Assist and F/F Texaco, R/C Limited Engine Run, and not least of all, modern R/C Sport Scale. The model's fidelity to scale should be top level, as Tom was employed as an inspector at the Luscombe factory when he designed and built it!

As with any old timer which is being built in our modern age, new materials and construction techniques will be cause for modification. Also, if built for R/C, the additional weight and flight stresses will necessitate general beefing up of certain parts of the structure. As usual, we can't anticipate each modeler's thoughts on modifying, so the plans are presented exactly as originally published.

With all that's going for it, the Luscombe "50" will probably be around for *another* 37 years! •

September 1939 photo of the Luscombe taking off at Philadelphia's Northeast Airport. Tom was an inspector at Luscombe factory, had first hand scale information!

Another close-up of nose, showing radio, tank, and engine installation. Very neat work.

Alec Booth's Victoria State Champion "Sonic Boom II", designed by Adrian Brewer. Plans are available from MODEL BUILDER.

STRICTLY SAIL

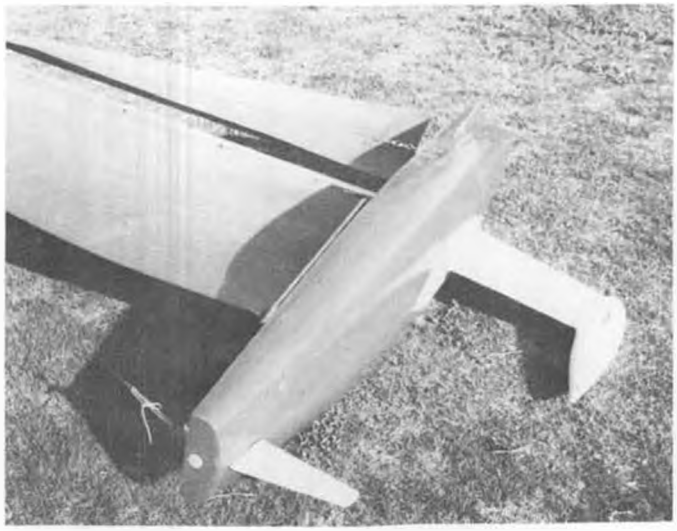
By ROD CARR

• The heading pictures are a recent arrival from Adrian Brewer, designer of SONIC BOOM II, which appeared in the Sept. '76 issue of MB, and is available therefrom as plan 976-S3. The boat belongs to Alec Booth, and is the present Victoria State Champion, as well as Albert Park MYC Champion. Adrian reports that the heavy air ability of this hull is making fast converts in Australia. I would like to hear from any of you who decide to build her in order to keep Adrian informed of how his design is doing in the U.S.

Every now and then it is the duty of a writer to go back and recover some of the ground he has already spaded up. He should do it for the simple reason, that progress may have dictated changes in his original thinking. He should also consider his responsibility to give newcomers access to the same information base which might be considered "old hat" to the oldtimers in the field. In our case, the old field to be retilled is one of sail cuts and shapes. In those earlier pages, way back in May 1974 to be exact, we took a look at the 4 basic kinds of sails being made and discussed the strong and weak points of each as it applied to jibs. Let's look at the situation again, and move back to the mains'l for this discussion.

Figure 1 really spills all the beans in one place. The first format is the basic single panel sail. This is the standard kind of sail to be found in many of the kits available today. The shape in the sail arises from the extra cloth cut into the leading edge, or luff of the sail, which when set upon a straight mast, is pushed back into the center of the sail becoming "flow" or "draft". Wind pressure will cause the flow to move aft in the sail, and to balance that, a knowledgeable skipper will tension the luff of the sail, using either a halyard or a downhaul. This tension will promote a return movement of the flow toward the luff. Herein lies the major benefit of single panel sails. They are inherently capable of being adjusted in balance with the wind forces, to produce a sail with the flow where you want it. The smaller a single panel sail becomes, the harder it gets to promote a good curved shape. This arises between the small forces the wind generates on a small sail, and the strength and resistance to deformation one finds in the sailcloth used. In general, the best single panel sails are made from 2.2 oz. Dacron. In regions of heavy air, single panel sails are often made from 3 oz. cloth, but this is to provide the robustness and resistance to permanent stretch that such wind loads require.

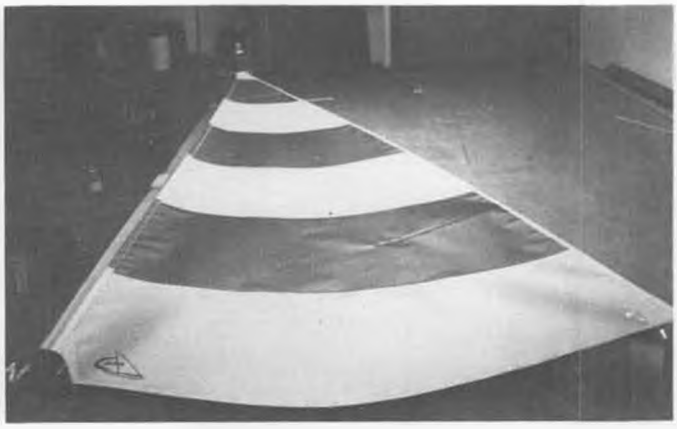
The initial attempt to introduce shape into the sail was the Tampa Cut. In this form there are broadseams taken in the area of the foot and tack of the sail. This builds a so-called pocket into the lower third of the sail. While this does produce shape, it does so at the expense of adjustability. The camber in the lower third of the sail no longer responds so completely to the pull of the clew outhaul. And the foot itself will round up, forming a shelf under tension. Pro-



Sonic Boom's big keel bulb is one reason for her ability in heavy air. Design is gaining popularity.

The "Saratoga" bow is immediately recognizable, but note also the shroud chain plates.

Hooked leach on a Newport 12-Meter main, caused by too tight leach tabling. Battens removed.



Resewn leach tabling, and proper battens in place. See text.

ponents of this sail form tell you that this shelf is acting as an "end plate", keeping air from escaping around the foot of the sail. Should you desire it, a single panel sail can be recut into a Tampa Cut, but the reverse is usually not attempted. The benefits of the Tampa Cut are generally believed to be increased drive in light airs, since the wind does not have to deform the sail to the airfoil shape before producing the differential pressures that result in thrust. It does have the small disadvantage that the foot can never be completely flattened, but if used as a light air sail, this should never be noticed.

The next level of sophistication was to spread the broadseaming to the luff of the sail. Now we have really started to build the shape in. A good sailmaker will do the cutting for the broadseaming, sew it up and then attend to the question luff round. California Cutting, as this is called, since Chuck Black was its first major promoter, seems to be just wonderful for use in jibs. It seems that a very tight leech develops when a sail is built this way, and when hit by a gust, the middle of the sail bulges, the leech tightens even more, and hooks to weather, backwinding the main slightly. This is precisely what one would do to keep the boat on her feet, yet the California Cut jib does it automatically. When used in mainsails, however, the same process seems to produce a vicious temporary weather helm which can overpower a rudder quite easily. The California Cut is not nearly so adjustable as the previous two, and can be obtained in forms with too much camber, or too little, or not in the right place, if careful specifications are not made.

The benefits derived from having the shape just sitting there waiting for the wind are partially offset by a drastic increase in surface roughness caused by all the seaming and sewing along the leading edge of the sail. Smooth airflow is important on sails of the size we use, and each increase in surface roughness is going to result in a disturbance of easy airflow and an increase in drag. A California cut sail is also getting to the point that it will have a definite peak performance at one windspeed, and be less efficient on either side of that speed. It can mean superior performance, as long as the wind is steady and typically over a range that is 4-5 knots either side of the "magic speed." This can mean less versatility, and may require a continual switching of rigs as wind builds and dies during a day-long regatta. California cuts are made in both popular Dacron weights, since they can be tailor-made for a specific range of wind.

Finally, we get to the fully-paneled sails that some skippers are using. In sails of this type, shape can be designed into the sail in a very precise manner, through the tapering of the seams, and the tapering of the panels themselves. The result can be a sail which will exactly match a limited range of wind, more limited than the California Cut. It is a sail which cannot be adjusted much at all, save for tensioning the luff to avoid the draft moving too far aft, though the sail should have been built for that wind speed already. The surface roughness has increased measurably, and the more panels that are used, the worse it gets. Typical sails of this kind use panels in the 10 to 12 inch width, which makes an EC/12 main consist of 5 or 6 panels. There are cosmetic advantages, since you can have sails made in a rainbow of colors and schemes. If you want your cake and would like to eat most of it too, you can specify that the sailmaker make you a paneled sail, but not taper any of the seams. He is in effect making a flat sail out of a number of flat pieces (maybe multi-colored), then proceeding to cut out a single panel sail with all its adjustability, and the bright appearance. 'Tis a neat trick, but not cheap, as the time required for such a sail is the time for paneling.

The main point of trouble with all sails seems to wind up being the leach shape. The leach of the main, like that of the jib, is the longest side which is unsupported except at the head and clew. The shape it takes is the result of a number of forces: a) wind pressure, b) sheet tension, c) traveler location, d) vang tension, e) backstay tension and its effect on mast shape. The actual construction of the sail at the leach will have an effect too. In many of the larger classes, or on tall 50/800 rigs, it is standard practice to provide additional strength to the leach by tabling it, through a separate strip of cloth folded over the edge and sewn down, or just folding the leach over and sewing it. Whichever is done, it is common to see a "hooking leach" start to develop (Photo 1). The cure is really two fold. First, don't sew the tabling tightly, give

Continued on page 96

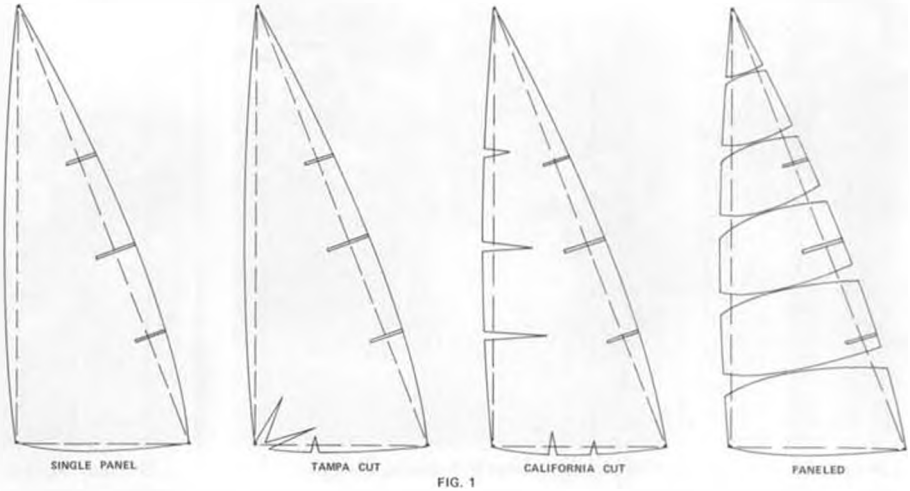
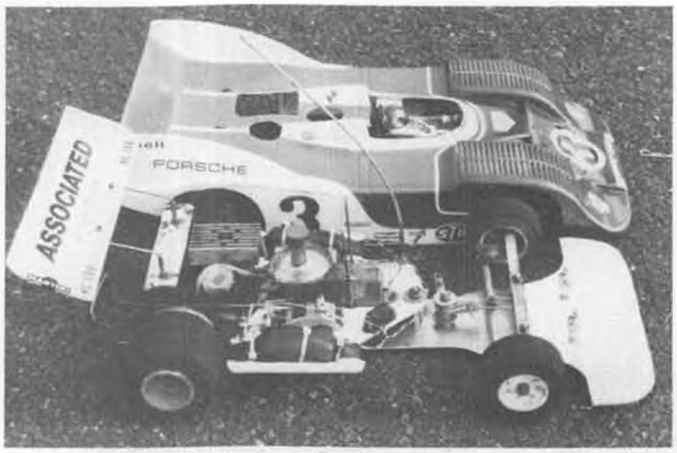


FIG. 1

Tom Krygiel won both the 'C' Superstock and 'C' Sports mains with this car. Changed carb and fuel for Sports race.



Bill Jianas' 'A' Sports winner. Engine was really a goer, and nothing trick was required because of super track conditions.

R/C AUTO NEWS

By CHUCK HALLUM

• The 1976, 1/8 Scale ROAR Nats was held in Merrillville, Indiana, from August 17 through August 22, 1976. There were about 140 competitors, with many entering three, four, or five events. The weather for the 1976 Nats was a nearly ideal 75°F to 80°F for the first couple of days, going up to 85°F to 90°F for the last couple of days. Skies were clear, or only partially cloudy, and only the last two days did the humidity seem to be high. The Chicago RC Car Club ran the race and did a good job in getting all the events run. This year, there were more racing events than in the past because there was an added car category, the G.T. Superstock event, and there was an additional driver class . . . Novice . . . as well as the usual Amateur and Experts (termed C, B & A). So there were nine racing events and two drag classes run off in six days, a very full schedule.

At the '76 eighth scale Nats it was really great to see several gal competitors. And they all did pretty well, too. Anita Bloom, Georgia Campbell, Reba Steele, Sue Dunlap, and Yvette Schubert really looked good (their cars, too!). Georgia Campbell and Reba Steele took home some gold, and Anita Bloom probably would have, but blew a gear while running second in a 'B' road qualifying race.

A little guy who really captivated the attention and hearts of many racers and spectators was little (about two car lengths tall and eight years old) Peter "Re-Pete" Fusco III. What driving ability he had . . . no pressure driving on his part . . . occasionally his dad had to call him in from playing in the fields to run a race.

In the novice, or 'C' class, Tom Krygiel looked super. Tom hasn't been driving for a year yet, but drove consistently and had a very reliable car. His qualifying times would have put him well up in the expert class.

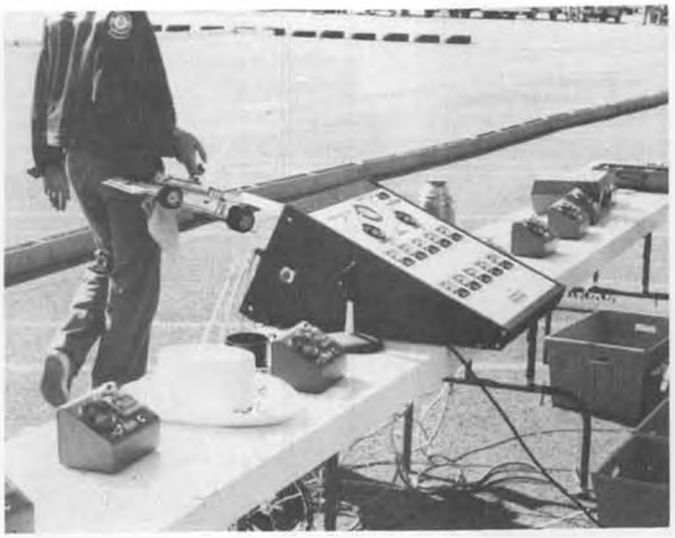
In the expert class, young Jim Crawford looked great. Besides having super running cars, Jim had good driving technique and willpower . . . waiting until appropriate times to pass. Jim placed second in the 'A' oval event, and it was a pleasure to see a new young face among all the 'old timer' expert faces.

I do have to mention Roger Curtis (one 'old timer' expert). Roger usually only runs one race a year . . . the Nats . . . and won the first event, 'A' oval.

Bill "The Greek" Jianas, super happy after winning the 'A' Sports main.

Rail drag final. Harold McCoy, far lane, beat Bill Steele, who was using McCoy's back-up car.

A 'B' Road Main is in progress. Bob Stevens announces from behind master lap counter console. Chicago club members counting.



Master lap counter console, with individual car lap counters to each side. Details of its operation are in the text.

Bill Steele's winning 'B' Oval car. A super-strong engine, but no basic changes in layout from his road cars.

This took the pressure off, and Roger also got second place in the 'A' road event. Without a doubt the reason he did so well was because of his team inputs . . . but what a personal accomplishment.

Then there's Bill Jianas. Jianas is a super competitor, and came through this year to win the Road main. Besides that, Bill was top qualifier and hit the track looking like a winner from the start.

And finally, the new Super Stock class, using G.T. bodies, seemed to go over quite well and provided some excellent racing. Times within all the classes were very close, showing that many different engine set-ups were equally competitive.

The Chicago RC Car Club did a good job considering the number of entries and the number of events that were run. The four people primarily responsible for the race conduct were Dave Bloom, Tom Wisvader, Jerry Argalas and Bob Paradis. Most of the tech inspection on Superstock engines was done by Roy Moody . . . bore, stroke and carbs . . . and he did a great job. There was very little other tech inspection done. For the road and oval events, Bob Stevens provided the lap counting and timing equipment, which is now quite sophisticated and well suited to the racing format. Pictures of the equipment show the individual car counters and timers as well as the master panel. The master panel, in front of Bob Stevens when he is announcing the race, shows the lap count of each car. The individual stations for each car have a timer, with a master start, a lap counter, and a timer stop switch. Each station attendant trips the lap counter and records a time on a permanent record for each lap a car completes and notes when pit stops are made. If there is a lap count question, the permanent record really shows what happened. The Chicago club members did the lap counting chores and really did a bang-up job. Bob "The Voice of R/C Cars" Stevens announced all the races in his usual superb manner . . . I don't know how his voice holds up so well. For the drag events, Pete Petri brought his timer from Texas. Again, this timer has been improved to the point where it really works well. All light beams can be checked at the master panel. Count down, start, red lighting, E.T., and winning lane are all part of, or shown on, the master panel.

So, oval racing was on Tuesday and Wednesday, drag racing on Wednesday afternoon and Thursday morning, Superstock G.T.'s Thursday afternoon and Friday, and Sports cars on Saturday and Sunday. Since there was a lot of griping about no main events, the race directors took votes of the racers before each driving event was run. As a result of this voting, there was no main event for oval racing, just the best time of two 60-lap heats, and there were 50-lap main events in Superstock and Sports cars for the top

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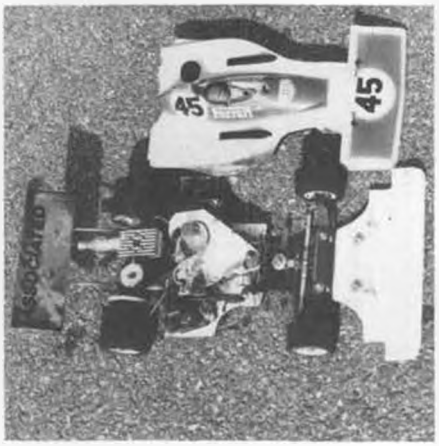
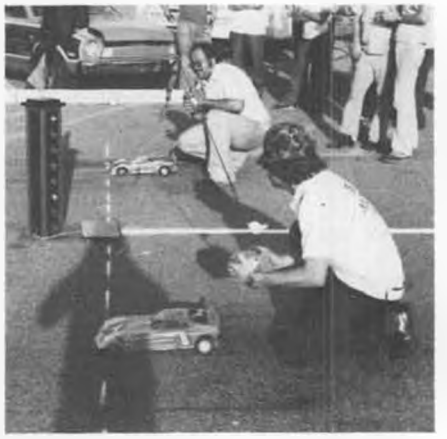
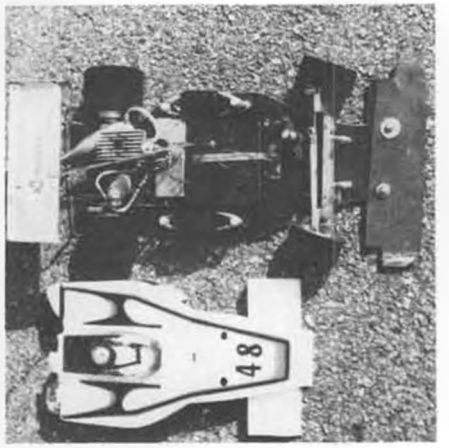
Peter "Re Pete" Fusco III was 'B' road fast qualifier. He was popular with spectators.



Roger Curtis' winning 'A' Oval car. Note weight shift to left, double tray to protect equipment.



Funny Car drag final. Bill Jianas, far lane, beat Harold McCoy, also had low e.t., 3.17.



Jim Crawford's 2nd place 'A' Oval car. First Eagle body we've seen to really work.

Dick Perry, Carrier Advisory Committee chairman. Active flier, and working hard on rules.

Dave Clarkson, C/L editor for Aeromodeller at our Nats. Designed Tamerlane (Oct. '76).

Wynn Paul, top gun in Stunt, also PAMPA "Stunt News" editor.

Control line

By "DIRTY DAN" RUTHERFORD

PHOTOS BY AUTHOR UNLESS NOTED

● Short column this month so WCN can fit in the NATS C/L report.

RULES . . . HERE WE GO AGAIN

Although other columnists, both in MB and other magazines, have stated that they much prefer to not get into any discussion of rules in their columns, I have no fear of doing so. In fact, I rather enjoy it. Properly approached, there can be a lot of entertainment in hassling about rules. Some people get so up-tight about little things, that it is really funny. The trick is to always take any rule under discussion just slightly less seriously than the guy you're talking to.

With the deadline for rules proposals to be submitted just having passed, I guess I have copies of everything to be worked on this next couple of years. Light work-load, compared to the last cycle. Only (?) 90 C/L proposals plus 14 General proposals.

As you can imagine, I can hardly list all of the proposals in this column, so I want to urge you to read the proposals, as they are published in the AMA Monthly Mailing. There are some particularly good proposals in the mill this year, especially some of those from the various advisory committees. And there are some real losers, also. Look 'em over and contact your CLCB representative, or the chairman of the appropriate advisory committee. If we don't hear from you, we'll just go ahead and do what we feel is best . . . and you may not like it come the '78 rule book!

NEW CLCB CHAIRMAN

What has to be the most shunned job in all of AMA's voluntary categories of work has just been taken on by Ron McNally. Although I don't understand why Ron is chairing the CLCB (Homer Smith tried to get me to do it . . . his nose-bleed stopped in only 15 minutes and he indicated that he understood my answer perfectly), I am glad he is taking it on. I've read through correspondence generated by Ron and he seems to be rational enough, plus having a pretty fair working knowledge of all C/L events.

Good luck, Ron. You're gonna need it, 'cause there are a whole bunch of turkeys out there who you won't hear

Continued on page 67

Larry Hill checkin' things over before Goodyear heat. Had mid-air with Bill Lee in final. Him pretty damn big feller!

Holladay, of Hill/Holladay Team Race duo, mixing fuel. Got so rattled at picture taking that he blended fuel wrong, had to start over!

Bob Vojslavek, Nats Control Line Director. Handles tough job enthusiastically and fair.

What it's all about. Pat Willcox, Combat Co-director, presents 1st place Jr. Slow Combat trophy to Charles Conners, really cute kid who everyone liked. Easy on his flyin' hand, there, Pat!

Control line AT THE NATS!

By "DIRTY DAN" RUTHERFORD

SUNDAY, AUGUST 1

● Ah, yes. It's Sunday morning, I'm awake early and there's nothing to do. Guess I'll sleep in a little, clean the car and then maybe go flying in the afternoon.

Before dozing back off, I notice that my suitcase, camera bag and three Combat planes are sitting in the hall. That's kinda strange.

Oh, well. My kids are always playing games, they're probably making-believe they're going to the NATS.

Omigosh, the NATS! *I'm* going to the NATS. Wifey, wifey, wake up and take me to the airport! I've never been to a NATS before and I ain't a gonna miss this one!

With a start like that (I left out the really weird parts), you can imagine that the start of my trip to Dayton, Ohio was slightly hectic, but everything worked out fine and soon I was relaxing someplace inside a United 747.

In Chicago, I ran into that noted F/F columnist (I won't go into what he is noted for) Bob Stalick, who was taking the same plane as I into Dayton.

A short flight into Dayton and Bob and I made it to the dorms in a rental car mysteriously made available to him by Hardy Brodersen. Got lost only a little bit, found the dorms and Bob says "Bye!"

In the dorm, I found I'd made a slight mistake in not paying in advance for my room, and that I had to get to Wright Patterson AFB fairly quickly. No problem, has to be somebody around that's going out. Sure enough, a short look around found the Aloise bunch wiping down planes and getting ready to go to the base.

With my room paid for, the Aloise family and I wandered around and found some of the Nashville boys practicing . . . and lookin' good. Well, as good as a profile Rat can look, anyway. Mike Wheeler comes up in a half fit-of-rage and announces that he has been ripped for a CB radio and three brand-new Rats at a local motel. The lesson is obvious. When in Dayton, do as the Daytonites do . . . keep *everything* locked up!

Back at the dorms we played "Do you know which room so-and-so is in?" and "Who are you, you look familiar?"

Duke Fox congratulates Sherwood Buckstaff on his second consecutive win in Fast Combat. Second place went to Mike Strieter, who can be seen in the left background.

Don Jehlik, Team Race CD, laying down the law. Everyone new where they stood here.

Jason Harrow placed third in Jr./Sr. Class II Carrier. ST 65 ABC, Perry carb, 194.70.

Bill Lee warms up for final in Goodyear, which resulted in mid-air with Larry Hill. Ended 3rd.

Jed Kusik, Kusik/Jolly Team Race pair, warming up engine for a heat. Won at Nats.

I steadfastly refused to honestly answer the last question, most of the time claiming to be Rich "von" Lopez, as most of the people around had already presumed I was Rich anyway. Several days later, Rich (the real Rich Lopez) told me that a lot of people thought he was Dirty Dan, so it all worked out about even!

MONDAY

Up early and over to the cafeteria for a decent breakfast at the best prices in town. So far, the AMA has done right by us, a good breakfast helps when going out to fly toy airplanes.

Not much happening on Monday, just FBI Combat and Slow Rat. As many have been predicting, Slow Rat is bound to be most anything but slow and Paul Tune proved that by smokin' 'em with a 6:14 in the Open Final. As Slow Rat rules call for big planes, profile (draggy) fuselages, 36's and suction feed, I regard a time in the low 6's for 140 laps with a couple of pits thrown in for yuks and spectator diversion, as flat *gettin' it on!!*

In Senior Slow Rat, Allen Swanson flat blew everybody's doors off with a 6:53. His competition was way off the pace, back in the 8's and 9's. Chris Busby got pushed a little harder in Junior Slow Rat, to win with a 6:37.

FBI Combat was interesting, with equipment ranging from pretty fair to ridiculous. I saw one plane that I swear is smaller than my present .049 planes! Size and flying ability of the planes aside, there was an unbelievable range of engines in use. Lots of 'tigre 15's of course, but I also saw diesels (yeccch!), Taipan's, Rossi's, old-style Cox 15's, a K&B or two, several O.S. Max's, and prototypes of the new Fox 15. Surprisingly, I didn't see any Cox Conquest 15's, even though they had been out for several weeks. Many missed a good bet here, as I think the Cox ought to be a pretty fair motor for this event.

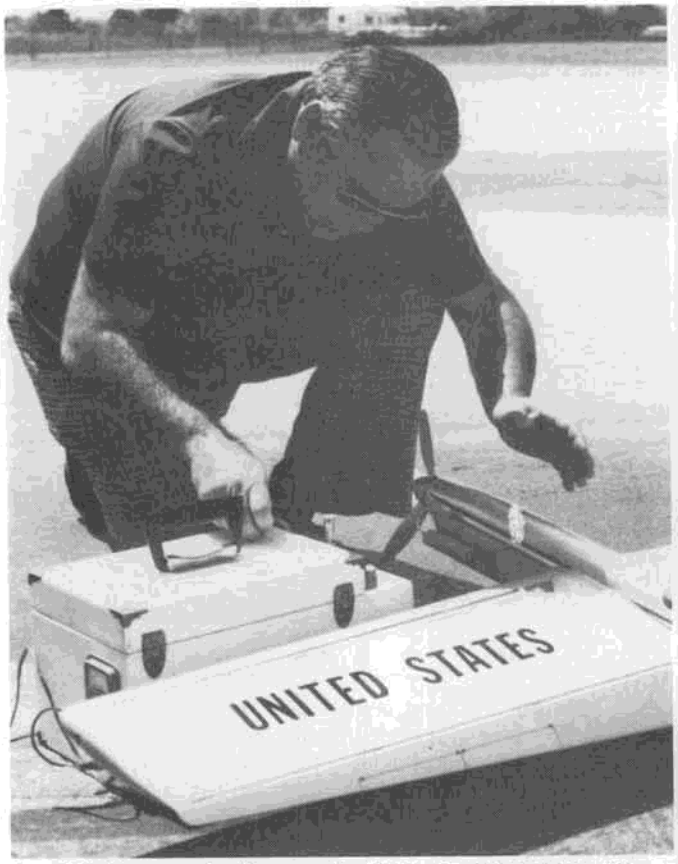
Flying tactics in FBI were about what I expected . . . seems as if only a very few understand this event . . . we're going to have to clean up our act if we are to stand a chance of winning when we take on the British in the next World Champs.

All criticisms aside, Richard Stubblefield took a well-deserved win here, and he did it with a pair of the new Fox 15's, to introduce Fox's latest with a NATS win. Duke Fox wrote out a $200.00 check to Richard and didn't mind one bit!

Later, back at the dorms, everybody seemed to know where everybody else was staying and there was a lot of room-hopping goin' on and the B.S. was knee-deep out in the halls. I found that the only place I could enjoy a "straight"

Ken Kall firing up 1/2A Profile Proto for son, Joe. Had some fuel and setting problems, but came in 7th at 82.08.

Jim Rhoads working on his A Speed. Had problems, but kept after it, practicing most every day.



Gene Schaffer preparing for a practice flight. Came in second with 519.50, only 1.67 points from first. Flies back'ards (clockwise).

David Fitzgerald scored 418.25 to easily win Junior Stunt. Ship is from a Sig Chipmunk kit.

conversation was alone in the showers. My wash-rag doesn't talk much, but it has yet to lie to me. Well, once it told a little fib about the soap, but I told it I was going to let Mike Tallman wring out the truth and we got along fine the rest of the week.

TUESDAY

A big day this, with Carrier I and II, 1/2A Proto, Badyear and assorted Kiddie Combat. Tried to watch some Carrier, but could only stay long enough to watch Walter Mayo and Dick Perry die on their slow speed runs. Maybe I was expecting too much, but I was expecting a larger turn-out for Carrier than I saw.

First place winners were: Bill Boss in Class I with a 345, and Dick Perry in Class II with 370, both Open results, incidentally. I don't have Jr./Sr. results for Class I, but Louis Matustik did it with 341 in Class II. Class I scores were pretty tight, with Boss just leading the pack, but Perry pretty much dominated in Class II, with a 23 point winning margin.

A real hassle developed later in the day at the Carrier circles, with Dave Wallick getting what he thought was a bad call on his last official. Wallick's solution to the dispute was to later step up to Marion Sawicki and punch him out.

Wallick was kicked out of the NATS and off of the base, only to spend most of his new-found spare time trying to sneak back in. Pretty sharp guards at Wright Patterson, prevented his return, even for the supposed purpose of visiting the Air Force Museum.

At last check, no action against Wallick was in the offing, either from the Air Force, Sawicki, or AMA. AMA's rules provide for no more penalty than expulsion from the contest in which the individual displays unsportsmanlike conduct, regardless of the severity of the act.

I only got to see a little Speed on Tuesday, but Phil Bussell took Jr. 1/2A Profile Proto with 93.49 mph. Sr. and Open 1/2A Proto was taken by Glen VanSant and Al Stegens, respectively, with 89.65 mph and 104.61 mph.

Open Badyear saw a bunch of howlin' Rossi 15's and fully-wired pit-men. After qualifying and semi-finals, the shoot-out between John Ballard, Larry Hill and Bill Lee looked to be *outstanding.* This was for the whole ball-of-wax and my money was on Larry Hill, who's Rossi is the most impressive I've ever seen.

With all eyes on the action, we were expecting everything except what happened. It was a real bummer, with Hill and Lee's planes doing their mid-air thing at around lap 20. Two of the nation's best Badyears went splat into the pavement and Ballard droned on all alone to come in with a 6:32 and a rather hollow victory.

What really caused the mid-air is unsettled in my mind, even though I have a short series of pictures showing the pilots immediately before the mid-air. Speed can't be blamed, even though the planes were all fast, they were all pretty even, and only a bad move or pass could have created a real problem. There was quite a bit of bumping going on in the center, plus a little bit of standing directly in the center of the circle and letting the other guy run, but I didn't see anything that experienced Racing pilots shouldn't be able to handle.

If nothing else, it proved that even the best in the land can have problems . . . try to remember that the next time *you* crash!

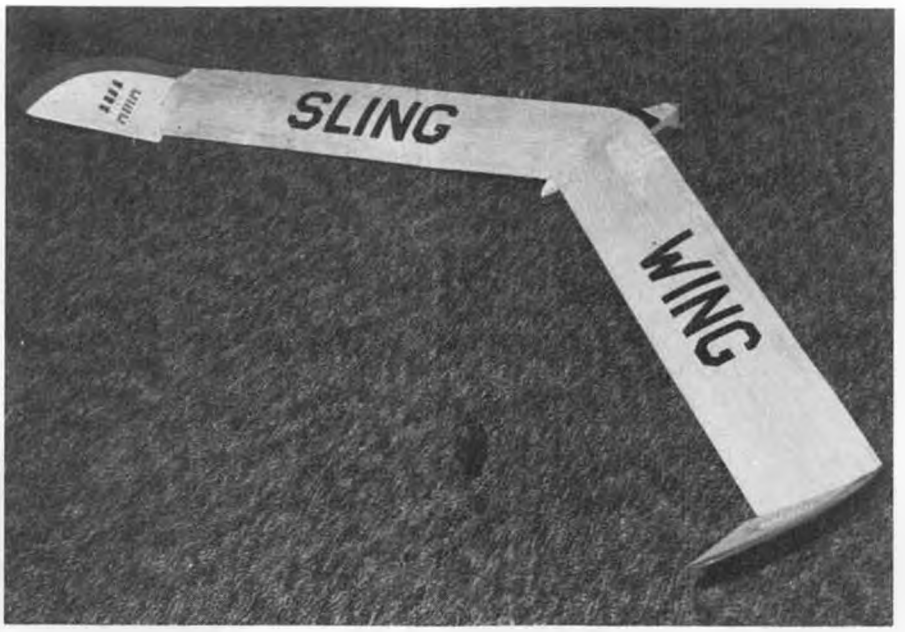
Although I didn't see much of Kiddie Combat, I heard there were some pretty good matches and some real talent coming along with an eye on Open Combat in the years to come. All of us Open fliers welcome you guys, but just remember that experience will win out over quick reflexes almost every time! Tom Fluker took Jr. Fast Combat and Tony Igenoso did it in Sr. Fast Combat.

That night I got tied in with a group of FBI Team Race fliers and the evening was shot . . . and they think Combat fliers are nuts!

WEDNESDAY

With Open Slow Combat to be run in the afternoon, the Jive Combat Team was out in the morning to test Gary Stevens' and Phil Granderson's planes. We got kicked off of one nice, grassy field, moved to another, got kicked off of that, and finally found a place to fly with Hissem, Tallman and Marvin Denny.

Continued on page 70



PHOTOS BY AUTHOR

the "SLING WING"

By ROGER CARIGNAN . . . Here's a one evening project that could get that youngster hooked on soaring. Hmmm . . blow it up 3 times . . .

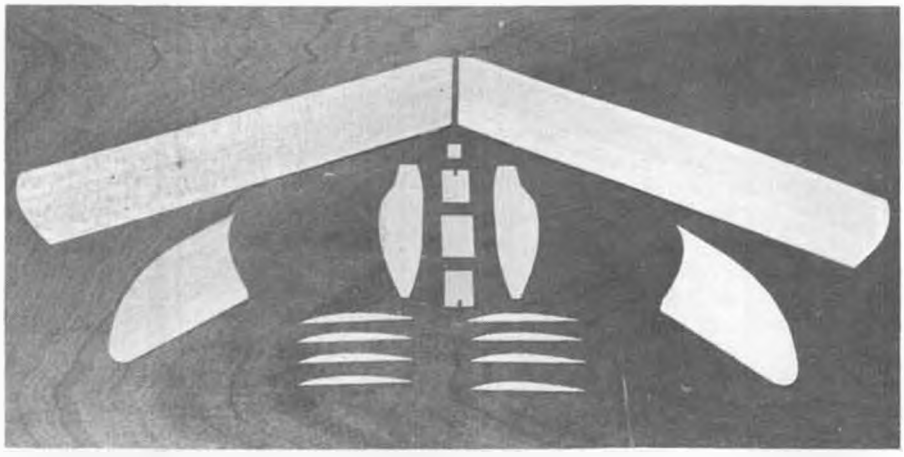
• Models without a conventional rudder and stabilizer always attract a great deal of attention. "Sling Wing" is such a model with a swept back configuration. The tip stabilizers, angled at 45 degrees, provide stability in both pitch and yaw very much like a V-tail design. With tip stabilizers, the wing can be made flat without having to build in warps as in other swept wing designs.

After launch from towline or hi-start, Sling Wing provides slow, graceful flight, ready to respond to the slightest updraft or thermal.

All balsa construction allows the model to be completed in a few evenings work.

CONSTRUCTION

Select medium weight 1/16 sheet balsa. Cut the wings from the same sheet to ensure uniform weight and strength. Cut the curved wing tips first, then measure over 14-1/2 inches along the leading edge as shown on the plan before cutting the wing outline at the pod. Cut out remaining pieces, checking for uniformity of similar parts. Mark the location of the wing ribs on the underside of each wing. Use the tick-marks on the plan and make sure you make one right and one left wing. Next, with the wings bottom side up, attach each rib with a small spot of glue at the highest curved portion of the rib, line up each rib with the marked positions on the wing making sure all the leading edges are pointing forward and centered on the chord. When these are dry apply glue to the remaining curved portions of the ribs then turn over, dampen the top surface of the wing with a sponge, and pin down the leading and trailing edges. Allow to dry completely before removing from your building board.



The quickest way to build most any model is to make up a "kit" of the structural parts. Make up several for a group project. All parts shown are cut from 1/16 medium weight balsa.

The pod is made by first attaching formers F2 and F3 on top of fuselage bottom B1. The formers should be flush with the ends of B1 and centered to allow the pod sides to fit onto B1 and against the sides of the formers. Glue in the pod sides checking against the plan for proper position; allow to dry thoroughly. Tack glue small scraps of sheet balsa to the outside of the pod sides at the nose and tail sections (See photograph). These are to protect the pod sides when clamping the nose and tail together. Apply glue to F1 and position in the nose between the pod sides. Use a rubber band around the nose section to hold the sides against F1. Dampen the sides before gluing the tail together. Use a spring type clothspin to clamp until dry. Remove the protective scraps of balsa and cover the bottom forward section to the pod with the grain running crosswise. Cut a piece of 1/8 dowel to fit just behind F3. Bend the towhook using 1/32 wire or a straight pin with the point and head cut off. Glue the dowel with the towhook into position behind F3, then cover the rear bottom.

Bevel the wingtips using sandpaper on a block of wood. When fitted properly the tip stabilizers should make a 45 degree angle with the base and should have no curvature. Use the tip dihedral gauge as shown on the plan to check alignment. When the fit is satisfactory glue the tip stabilizers to the wingtips and hold in position until dry.

Fit the wing halves together at the center, using a sanding block to square up the ends, then glue the center joint, keeping the wing on a flat surface until dry. No dihedral is used since the swept-back design provides dihedral effect.

Glue the completed wing to the pod top then add the windshield and rear pod top. Fit the forward pod top which is not glued in. This piece forms a removable hatch which allows addition or removal of ballast when trimming the model.

The nose block can be made from a single block of balsa if available but may also be made by laminating from sheet balsa pieces. Shape the nose block and sand the entire model rounding off all edges on the pod.

Apply two coats of clear dope to the entire model sanding lightly after the first coat. Trim may now be applied for the final touch.

ADJUSTMENT AND FLYING

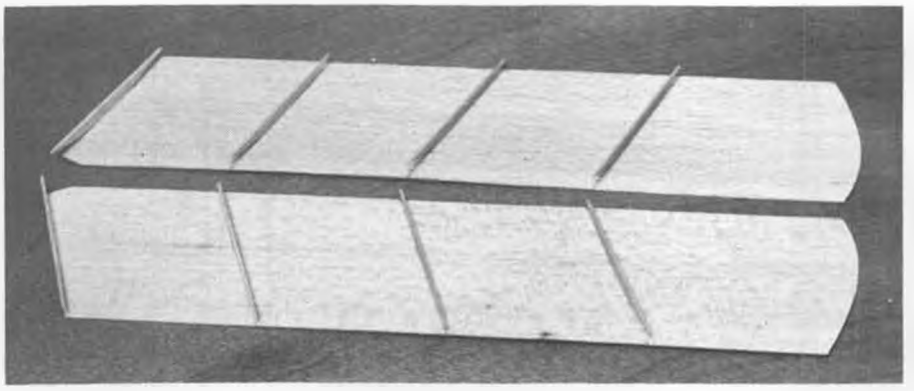
Check for wing warps by holding on a table top with the pod overhanging the edge. Remove warps by holding over a steam spout then twisting in the opposite direction. Hold the twist slightly beyond the required position until cool.

Add clay to the nose compartment to balance at the points shown on the plan. Test glide the model, preferably into tall grass. Do not throw but give a gentle push forward; Sling Wing flies slowly, and a hard launch will cause it to zoom up and stall. Add weight to the nose if the model stalls and remove weight if the model noses down with a fast glide. Make small changes in weight until a smooth, stable glide is obtained.

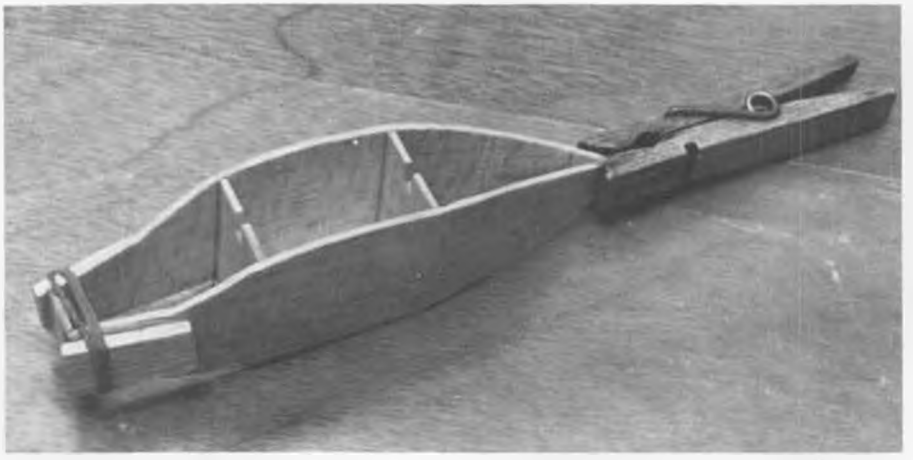
A good way to launch Sling Wing is with a hi-start which is shown on the plan. This is made using elastic sewing thread which is obtainable in sewing stores or departments. Cut a 50 foot section of this elastic and attach to it a 50 foot section of lightweight sewing thread. At the free end of the line attach a metal or plastic ring and a 12 inch strip of 1/2 inch wide cloth. The air drag of the cloth helps to free the ring from the towhook after the model has reached maximum altitude on the towline.

Tie the elastic end of the hi-start to a stake or have a helper hold it. Make your test flights on a day when the wind is light. Stretch the hi-start so that the model will be released into the wind. The correct stretch will be obtained when you are between 150 and 175 feet from the stake or your helper. Attach the ring to the towhook and release the model at a slight upward angle. The model should reach about a 50 foot altitude and then release from the towline. Observe these first flights carefully and add or remove weight to obtain the best glide. Higher altitudes can be obtained with a longer line and if your helper runs with the line after the model is released.

Make sure you put your name and address on your Sling Wing. Those unseen thermals on a sunny day can easily carry your model out of sight. ●



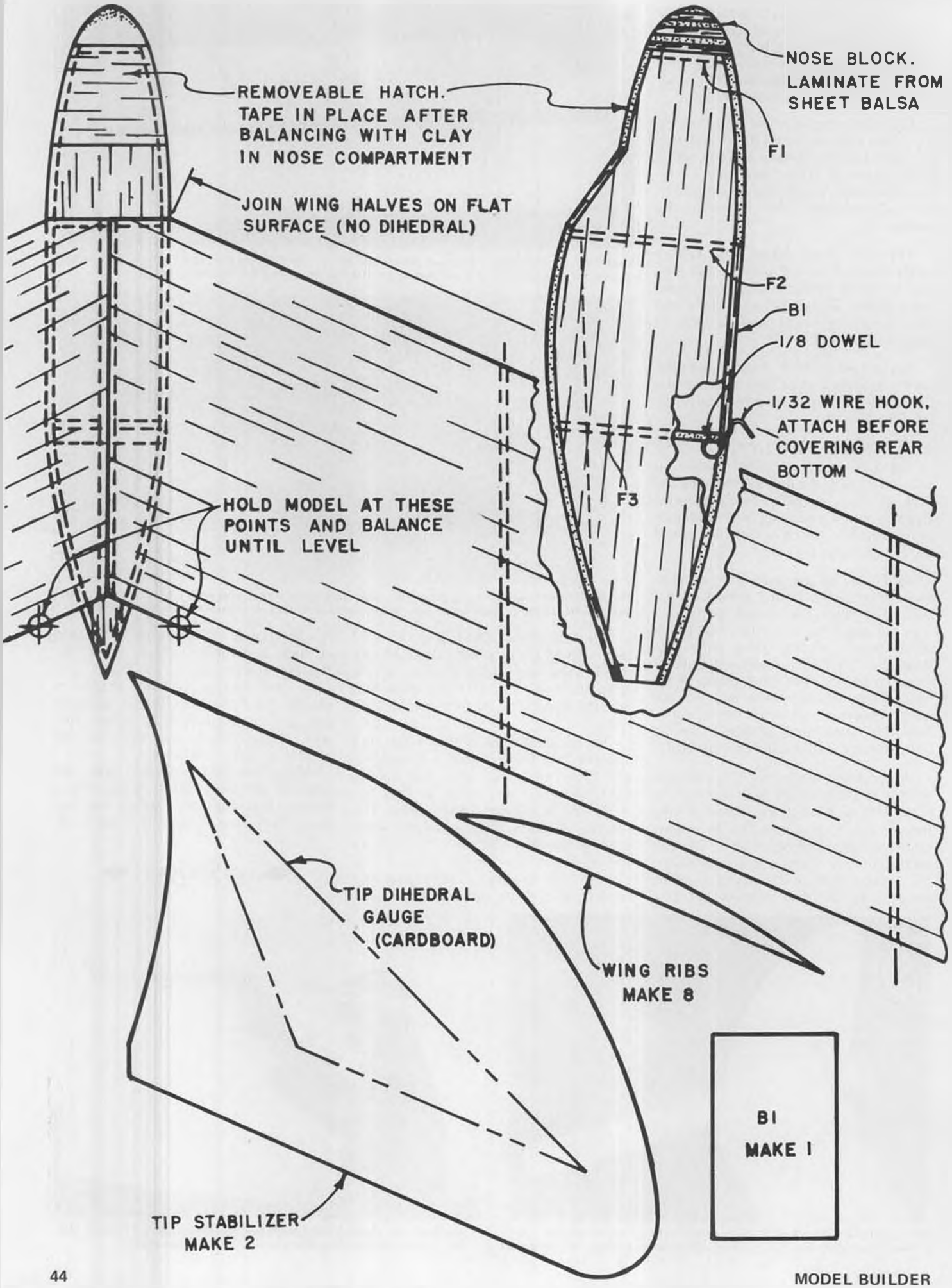
Spot glue ribs in position, at about the middle of the chord. When dry, apply glue to remainder of ribs, turn wings over, and pin leading and trailing edges to FLAT building board.



Pod is clamped together while glue dries, with clothespin at rear, and with rubber band at nose. Scrap balsa is used as padding at nose to protect sides from being crushed by rubber band.

Use a cardboard tip dihedral gauge at the trailing edge to set the proper angle while the glue is drying. Scrap balsa applies even pressure.

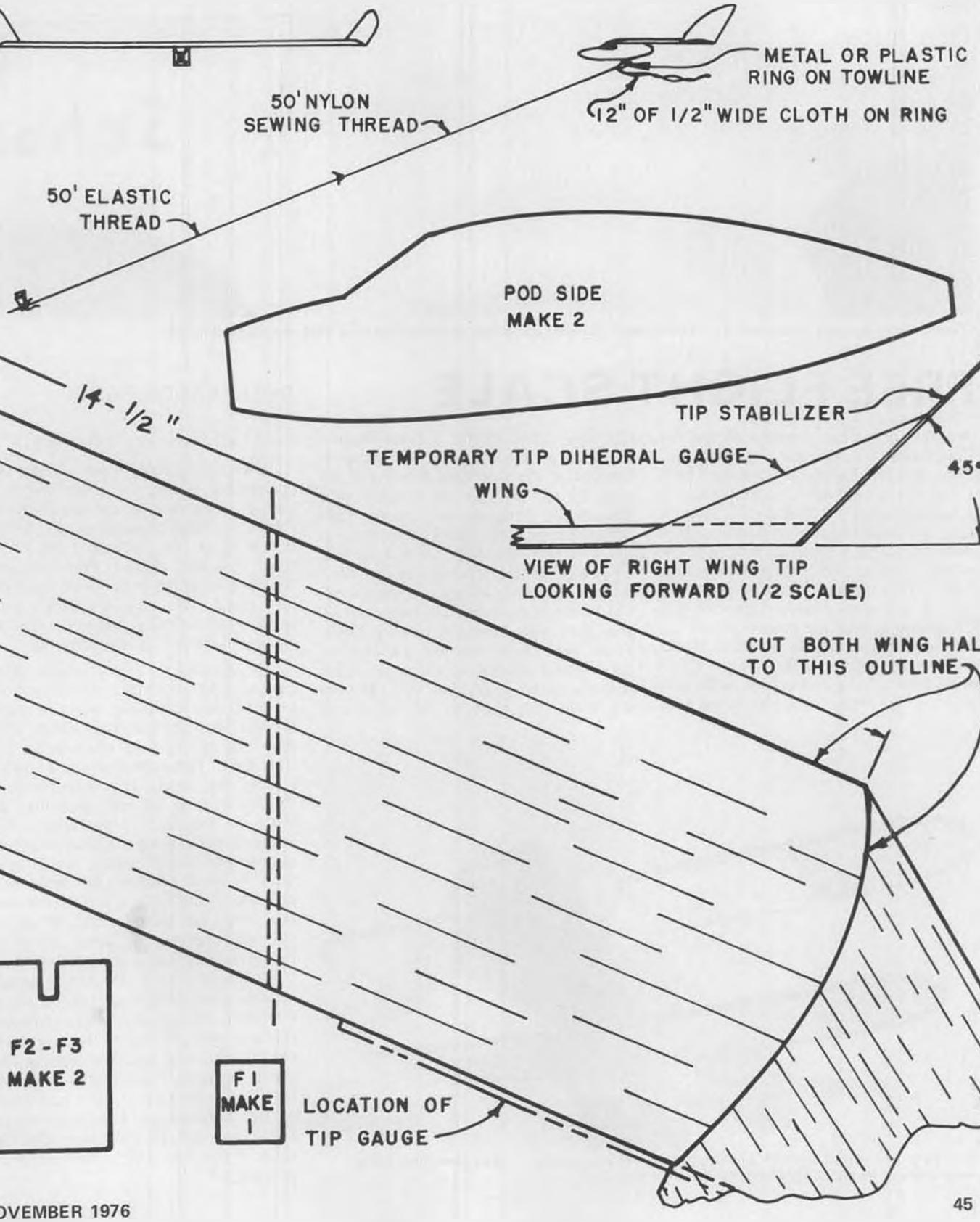
Author's son shows proper angle for releasing glider on hi-start. Gee, that's a big stake you're using to anchor the other end!!

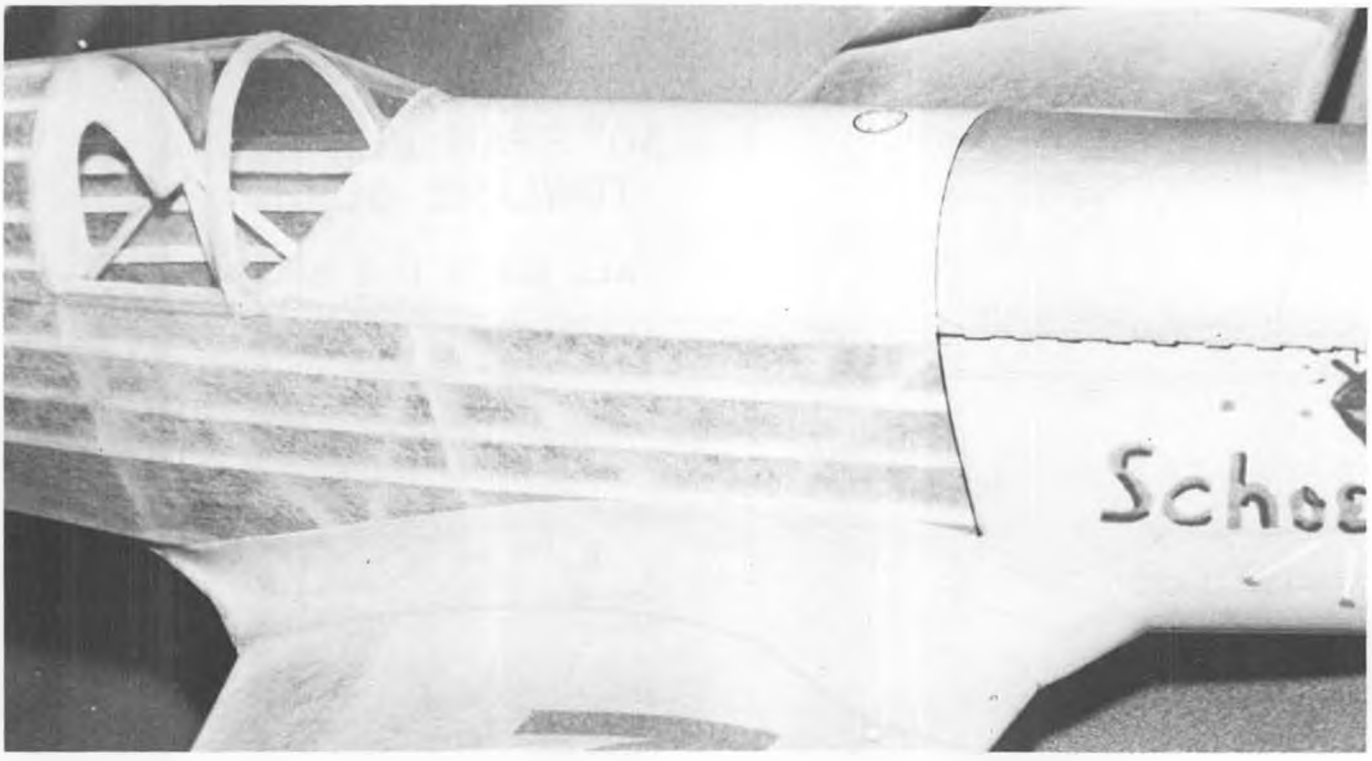

REMOVEABLE HATCH.
TAPE IN PLACE AFTER
BALANCING WITH CLAY
IN NOSE COMPARTMENT
JOIN WING HALVES ON FLAT
SURFACE (NO DIHEDRAL)
HOLD MODEL AT THESE
POINTS AND BALANCE
UNTIL LEVEL
NOSE BLOCK.
LAMINATE FROM
SHEET BALSA
F1
F2
B1
1/8 DOWEL
1/32 WIRE HOOK.
ATTACH BEFORE
COVERING REAR
BOTTOM
F3
TIP DIHEDRAL
GAUGE
(CARDBOARD)
WING RIBS
MAKE 8
B1
MAKE 1
TIP STABILIZER
MAKE 2

SLING WING

30" SPAN ALL BALSA TOWLINE GLIDER

ALL PARTS 1/16 BALSA





Close-up of Fernando's Schoenfelt R-4 "Firecracker", showing completed papier mache wing fillet, as described in text.

FREE FLIGHT SCALE

By FERNANDO RAMOS

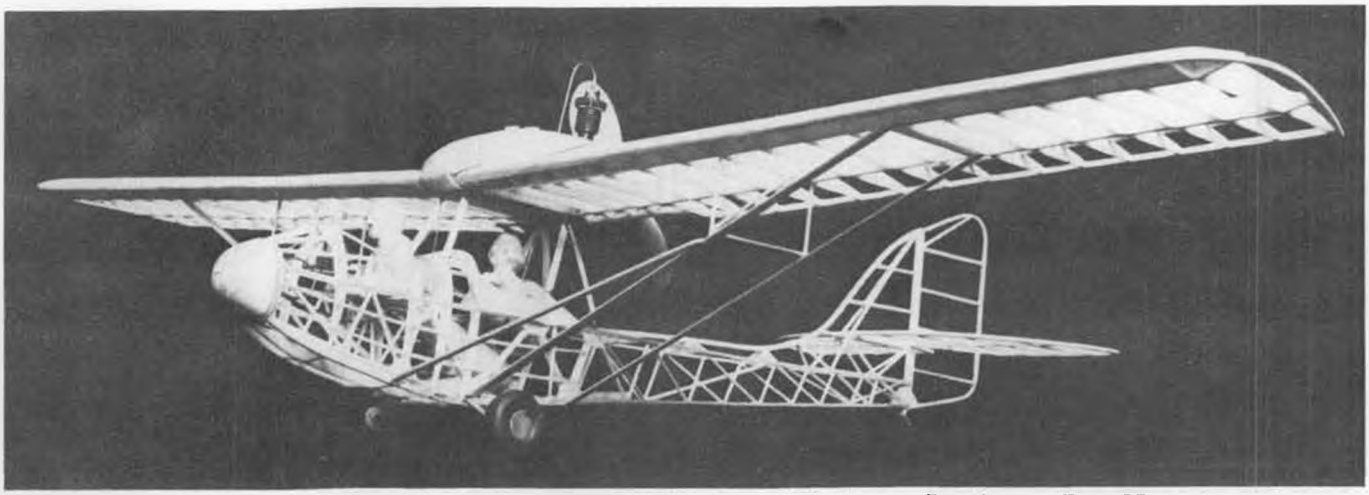
● While preparing a model of the R-4 Firecracker for a recent Flightmasters' Thomson Trophy contest, it wasn't until I had the model nearly completed that I realized what enormous wing fillets it had. The model was covered and partially detailed before I came up with a rather simple solution for making these large fillets. This technique can be used with almost any size model, rubber or gas. I'll briefly outline the procedure.

I selected a couple of balsa blocks that were just as wide as the fillets would have to be and as high as the profile of the fillet plus the wing root ribs (See illustrations). I then made a template of the wing fillet profile as it appears on the side view drawing of the plan. I took the root rib template plus the profile template and traced them onto the balsa blocks just as they look on the side-view drawing. Using a jig-saw I cut around each tracing very carefully. At this stage, they resemble a large hook. I put them back-to-back to make certain that they were identical to each other. From here on, it was just a matter of carving and sanding to the exact shape that the fillets should be. You can even slip them into place on the model, and make further changes, if necessary.

When completed, you have two options. You can use these molds to vacuum form or you can do them like I did . . . a kind of papier-mache. If you decide to go the vacuum form route, then I would suggest that you glue the root wing rib portion of the block into place. This gives the block more support, as well as giving you a distinct cutting line after vacuum forming.

My method is really simple. After carving a left and right side fillet mold, I waxed one of the molds using an orange crayon I happened to have handy (I did only one mold, since this was the first time that I had done this, and I was just feeling my way). The orange crayon turned out to be my undoing, but more on this later. I cut several long strips of medium weight silkspan (white) and several short pieces, each larger than the mold. I thinned out some white glue about 50/50, and brushed an even coat over the waxed mold. While the glue was still wet, I layed one of the long strips of silkspan onto the mold and it laid neatly over the entire length, including over and under the front edge. I brushed another coat of glue, followed this time with several of the short strips placed vertically and over-lapping each other slightly. I alternated with the long and short strips until I had a total of five laminations. I brushed on one last even coat of glue over the final strip of silkspan, and let the set-up dry thoroughly.

Bob Haight's Laird LCDW 500. Looking at it makes you wonder . . . Who came first, Leroy Grumman, or Matty Laird? Photo by Warren Shipp.



David Deadman, Surrey, England, built this 22 inch span Curtiss Junior. It is powered by the new, English made, Telco CO_2 engine, which will soon be available in this country. Watch for ad appearing in next month's issue.

When it had completely dried, I lightly sanded over the fillet and then coated it with clear dope. I carefully peeled the almost-completed fillet from the mold. To my surprise I had a rather decent looking fillet. Using scissors, I trimmed the fillet right to the mold line, and anxiously put it in place on the Firecracker. Darn if it didn't look like it belonged on the model! *But* . . . the fillet was orange and my model was yellow! I painted the fillet yellow, but it just didn't look right against the natural yellow of the tissue. What to do? Well, if an orange crayon gave me an orange fillet, it only stands to reason that a yellow crayon would give a yellow fillet.

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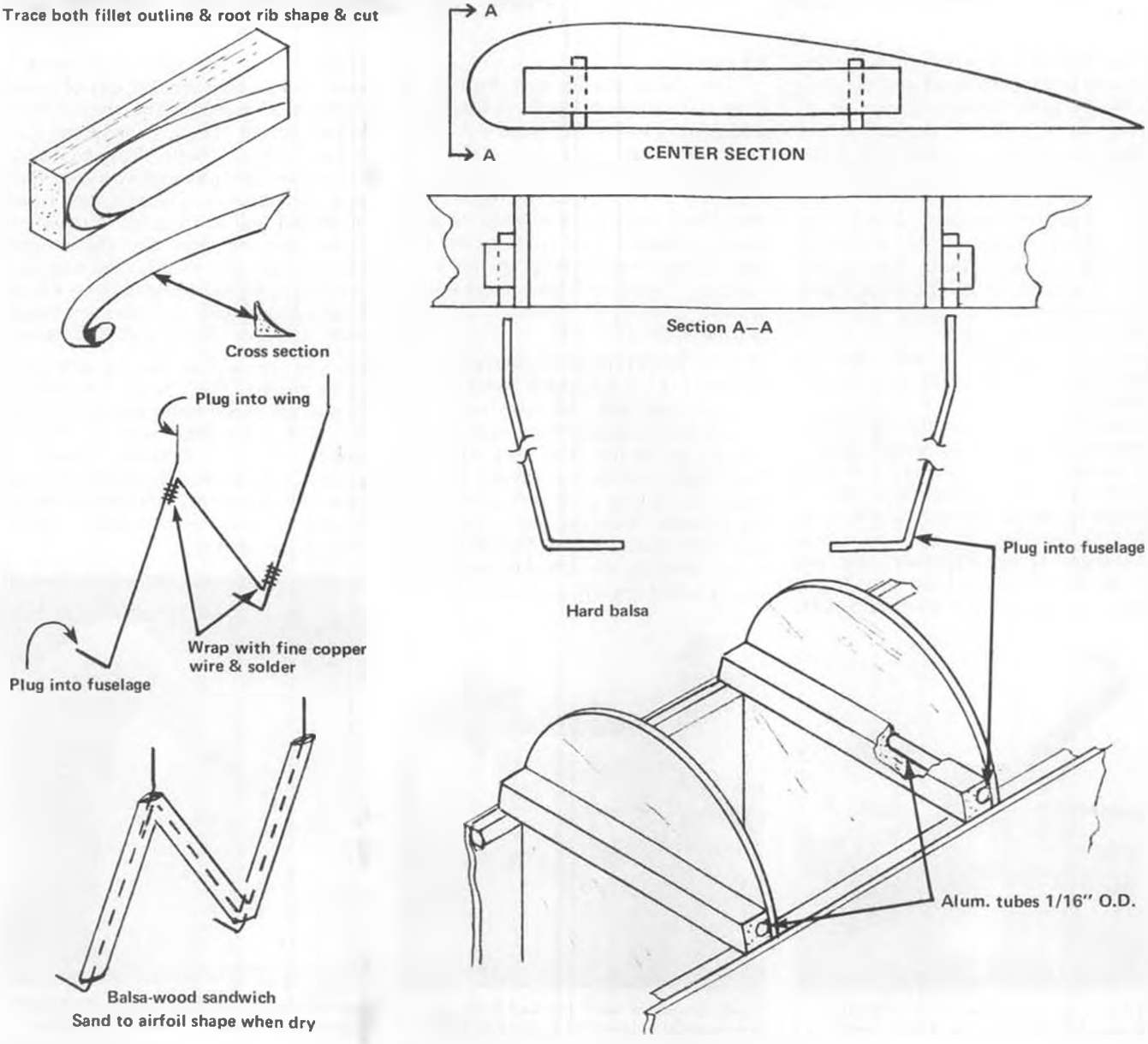

Our guest from Sweden, Lars Olofsson, used back-up ship to place 4th in FAI Power.

Pierre Chassebourg, visiting U.S. from France, flew at Nats after 4 week tour.

An all-time favorite, the Spacer A-B. Emmett Holt launches his, with ST 23 power.

PHOTOS BY AUTHOR

F/FLIGHT AT THE NATS!

By BOB STALICK

● The 50th Free Flight Nationals! This fact was proclaimed loud and clear on the bright blue T-shirts being sold all during Nats week. Some had special writing on the back, saying such things as Hardy Brodersen, F.F. Category Director, and Homer Smith, F.F. Assistant Category Director. These two fellows were responsible for the entire operation . . . not without some expert help, of course. *(Actually, Free Flight is the only basic category that can claim 50 years. That's where it all began. And though it may surprise some, Control Line is the youngest of the three. wcn)*

Columbus, Ohio, was the site for the indoor events which began on August 1. The outdoor events followed two days later on the large municipal airport at Springfield, about 45 miles to the west, and still another 20 miles west was Dayton and Wright Patterson AFB, the site of the Control Line and Radio events, as well as the pre-Nats S.A.M.. Champs.

The indoor events were held at the state fairgrounds coliseum at Columbus, which was a nice size, Category II indoor site with a reasonably clean ceiling. The outdoor site was very adequate for Category II flying, during normal wind conditions, except for some of the most densely planted corn crops I have ever seen. These crops bounded the field on a couple of sides, and were to give some trouble later on in the meet. But I am getting ahead of myself.

IF YOU WANT TO WIN INDOOR PEANUT, FLY A LACEY M-10

Good old Bill Northrop called me several months ago to find out if I would like to go to the Nats and cover the free flight events for **Model Builder**. That's like asking a fish if he'd like to go for a swim. You bet, sez I, especially since this would be my first Nats since 1971. Working my schedule around so that I could get off to go was the first problem, but I was able to get going in time to miss only the first day of indoor flying at Columbus. This meant that I missed indoor H.L.G., Pennyplane, Easy B and Scale . . . both AMA and Peanut. Conversations with those who were there gave some clues as to what it took to win in Peanut and AMA scale. Much of the battle was between the lightweights, the not-too-scale models, and the super detailed not-too-flyable designs. Charlie Learoyd swamped the others in Peanut with a Lacey M-10 and 427 points.

His was one of four Laceys entered in Open Peanut. There were 3 entered in Junior, which Bill Henn won with a Fike B. AMA scale was won by IMAC's member Chuck Markos, flying a Grumman Widgeon. There were 5 Laceys entered in this event, with George Meyers placing with his, only 4 poin behind Markos for second.

Jim Lewis launches his winning Unlimited. Also won Mulvihill, for best Unlim. time.

Hardy Brodersen (left) and Carl Fries, both instrumental in founding and life of NFFS.

Clarence Mather demonstrates the "softball" or underhand launch, with his FAI model.

Hardy Brodersen, prior to the annual, and very spectacular "planting" of his 'C' size "Saltpeanuts".

Gil Graunke receives the McNeill cup, complete with new Rossi .15, from AMA Sec/Treas and presidential aspirant, Earl Witt.

Easy B and Pennyplane were originally envisioned as beginner's events. Nothing could be further from the truth. They have developed into really competitive and sophisticated events; including built-up but sheet balsa covered propellers, near-tandem planforms and supporting surfaces. What does all of this get? Well, Clarence Mather, all the way from San Diego, won Open Pennyplane with a score of 11:34; Mike Plotzke won Senior with 8:45.8 and Jim Bowers took Junior with 7:14.2. All of that in a 65 ft. ceiling site.

I overhead someone say that Richard Whitten, of N.Y. and son of the editor of the Starskippers Newsletter, ought to be banned from indoor flying. Why? Is Richard one of those difficult teenagers? Hardly. He's just a super indoor builder and flier. He won Senior Easy B with 9:38.4. Kathy Mullins won Junior with 7:55.4. The best scores of the day, however, were left for Earl Hoffman, who clocked 13:05 and a solid first in Open. Indoor H.L. Glider was won by Bucky Servaites, with 1:14.2, Senior by Dan Belieff with 88.0, and Junior by Bill Langley at 79.8.

Monday was clear and bright in Springfield, and so it was in Columbus, with all of the indoor rubber powered duration events spiriting around the coliseum. Drift was there but not extreme. The big performance of the day came from Jim Richmond, who put up a two-flight total of 55:07 in FAI Stick. Jim beat second placer Tom Vallee by nearly 12 minutes. Although there were many excellent flights and fliers, Richard Whitten won 2 firsts, as did Richmond.

That evening I met the gentleman who was to be my roommate for the duration of the Nats . . . Lars G. Olofsson, the current FAI Power World Champion. We met at the S.A.M. dinner, held at Wittenberg University, and immediately after eating and gawking at Miss S.A.M., we took off to the processing area at the airport to get

Carl Goldberg puts in his annual Nats appearance . . . still flying, and still shagging his own.

Chris Matsuno placed 5th in Wakefield with this long-boomed model.

FAI Power winner, Gil Graunke, launches for his Seventh Round max.

The only guy whose airplanes need no introduction, George Perryman, with the Unlim-Unlim winner, "The Great Speckled Bird".

No, the pond doesn't leak, the runway got rained on! Lee Campbell releases his Sal Taibi "Hydrostar", TeeDee powered.

Smiling Bill Chennault, with his Pearl Express, flown in Class B.

Looking like a Pennyplane in the air, with big stab, Tom Kerr's OS 40S original goes up.

Ron Roberti shows how to wind up a Wakefield . . . between showers.

Bob Sifleet took out some weight and added a Fox Combat Spcl to an old FAI ship for 'C'.

Susan Brown, 5th in Payload with this model. Also flew it in 1/2A. TD .020 power.

Maximillion (Hutchins) with super-strong K&B .21. Cut down 8x5 Top Flite woody.

Lars' models ready for the next day's competition.

HAPPINESS IS A SHORT ENGINE RUN LAUNCHED INTO A THERMAL . . . SADNESS IS D.T.ING EARLY.

And the next day dawned beautifully, with warm mid-to-high 80's temperatures and light to moderate winds . . . generally in the "right" direction (that is: away from the corn). It was time for A/2, B Gas and Coupe.

Circle towhooks are now the norm in A/2 glider, with all of the usual kinds being seen: Max-aids, Hatscheck being the most popular, and variations on the Russian types being most successful. Brian Webster had a simple rig made from a coat hanger wire . . . it was good enough to get him second place, even flying an old and experienced model.

If you were flying an Ultimate Dragmaster, you were with the "in" crowd. This NFFS 1976 A/2 Model-of-the-Year by Tom Hutchinson, was as popular as Satellites were in B gas. The newly marketed kit, by R.M. (Round Man) Enterprises was being sold at the Nats by Hutch, and all of the ones he brought with him were sold out. A nice kit and an excellent performing model, available from Tom at 3255 N.W. Crocker Lane, Albany, OR. 97321.

B Gas was a Satellite and Midi-Pearl event. Hot S.T. 23 engines were powering most of them, but now and then there would be a screaming Rossi-like sound coming from the front of someone's ship. Before I could get there, the ship was well into the air and streaking skywards. Finally, I got to look at the motive power. A K&B 3.5cc (.21) was there. Stock, too. Just a few are out on the market, but they are the absolute best small B class engine I have ever seen or heard . . . stock or modified. If

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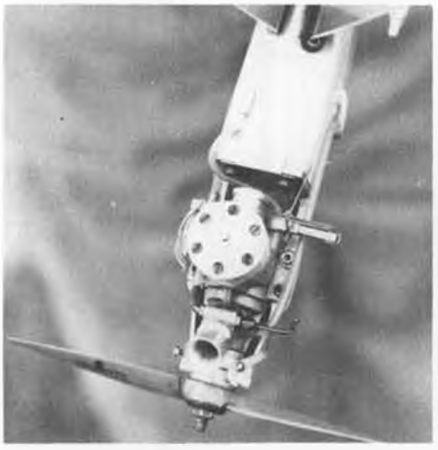
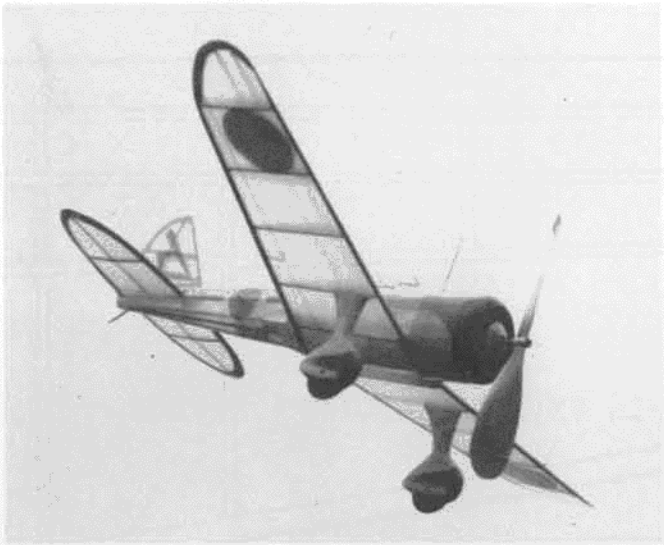
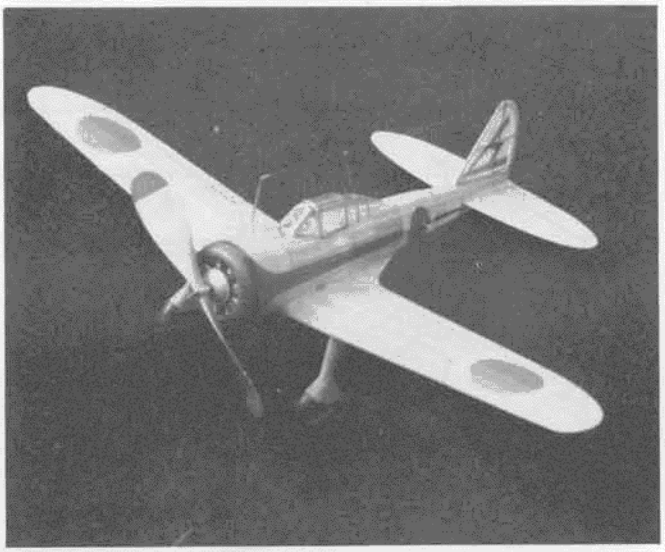


Device on Dick Lyons' model fires flash cube when engine cuts, for benefit of timer.

Doug Galbreath shows off Cox 40 in his 3rd place GYSOB (July '76 MB).

Jim Bradley and his Open Rocket winner. Perfect size and trim for existing conditions.





PHOTOS BY FUDO TAKAGI

Peanut Nakajima KI.27a

By WALT MOONEY . . . Ah, so . . do you have a yen to build a Japanese peanut? The star performer in the aviation portion of the Manchurian incident of the late '30's, this was about the best fighter of the time.

• This little Japanese fighter was probably one of the very best in the world at the time it was first built in 1937. It was a classic low wing, fixed gear, light weight, highly maneuverable design. In addition, in service it was painted up in what would appear to be very pretty color schemes. A three-view for this airplane can be found in "Fighters" volume three, by William Green, published by Hanover House. The KI.27a is the model in the photographs.

As a choice for winning a Peanut contest using the present AMA rules, it is not the best, but for fun it will do fine and it is a pleasure to look at with the red trim, looking almost like a modern racer. The model was finished with white tissue and red (of course) insignia, cowl front, fuselage and wheel pant stripes, and tail decoration.

The real airplane had plenty of dihedral, but the horizontal tail is not very large, so this has been enlarged, as indicated on the plans, in the interest of more stable peanut flights.

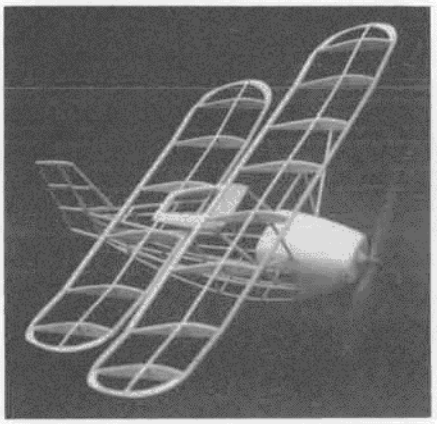
The flying surfaces are constructed in the standard fashion. The curved outline pieces are cut from sheet balsa. The wing ribs are cut from sheet balsa. Assemble the wing directly over the plan. Cement the two spars in place in the rib notches, except for the center rib. Do not put cement in the center rib notches as the wing is assembled. After the assembly is dry, cut the leading and trailing edges at the centerline and proceed to shorten the spars very carefully at the center just enough to allow the proper amount of dihedral to be put under each tip. Then cement all joints in the center line at the center rib.

Tail surfaces are built flat over the plans. When dry they are removed from the plan and the rib form pieces added to the top and bottom of the ribs. When these are dry the airfoil contour is sanded into the tail surfaces.

The tail surfaces can be built with the contour pieces omitted, if desired, for a small decrease in weight and a slight decrease in scale appearance.

Sandpaper is used to shape the leading and trailing edges of all surfaces. The leading edges are given a rounded contour, and the trailing edges are tapered to a more or less triangular section. Don't forget to add the little triangular gusset at the front of the vertical tail, or you will get a wrinkle in the tissue covering at this point.

The fuselage is built using the keel and bulkhead technique which is fairly common in kitted scale models, but which has not been used very often in peanut scale efforts. As a consequence, a detailed description of the method used for this model will be undertaken.



Next Mooney Peanut is this Lederlin Flying Flea. "Look, Ma, no stab!"

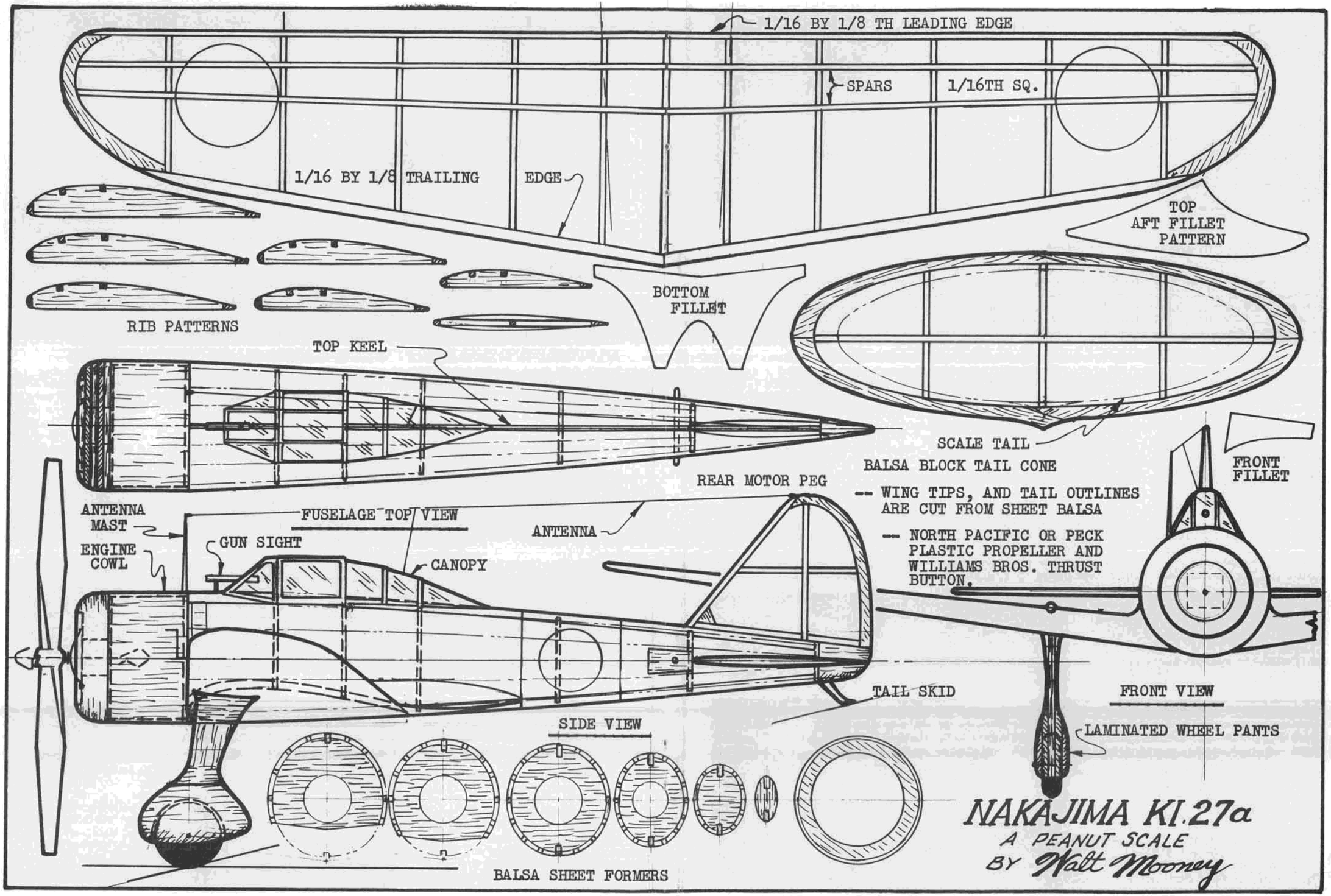
From the leading edge of the wing forward, the engine cowl is made as a separate assembly. Get some "A" grain 1/32 sheet. Cut two rectangles to be used as the wraparound part of the cowl and edge glue them into a single sheet. Cut out two former rings and proceed to make a barrel-like assembly by wrapping the sheet around the rings. When this assembly is dry add the laminated sheet balsa front of the cowl. A Williams Bros. thrust button is used, and a dummy engine is built up inside the front face of the cowl around the thrust button.

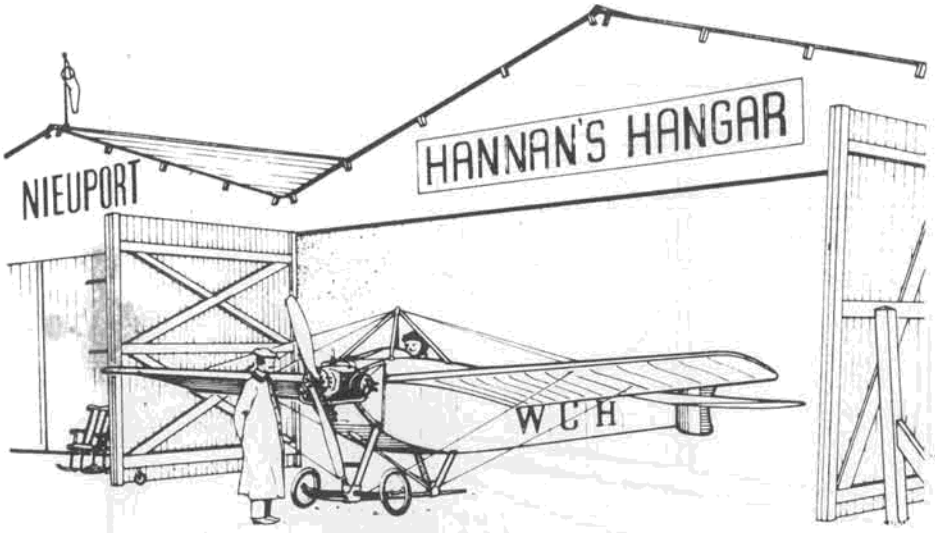
Select the wood for the fuselage stringers carefully so they are all of about the same consistency. An extra stiff stringer or an extra limp one can result in an unwanted fuselage warp. Cut a top and bottom keel out of firm 1/16 sheet. These keel pieces should run from the front of the wing to the most aft bulkhead (After the fuselage is completely assembled, they will be cut away for wing clearance and the cockpit opening). Cut out all the fuselage bulkheads. Note that they are notched only for the keels and then only for half the keel depth. The stringers will simply be cemented to the outer circumference of the bulkheads.

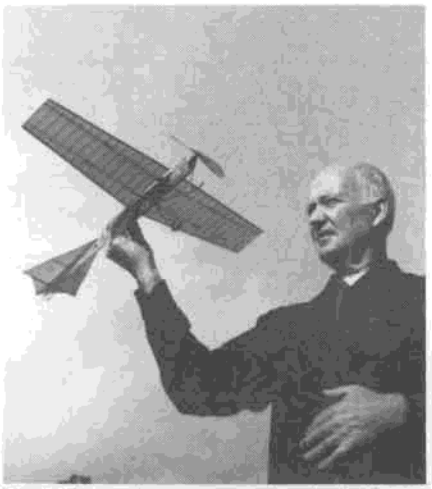
This technique results in a smoother fuselage covering, because the bulkheads will not touch the tissue which will only be attached to the stringers.

Cement the bulkheads in place on the keels. Make sure they are correctly located and perpendicular to the keels in plan view. Now fit two opposite side stringers to the bulkheads. At this point you should check all the possible stringer positions to make sure that no bulkhead

Continued on page 74


1/16 BY 1/8 TH LEADING EDGE
SPARS
1/16TH SQ.
1/16 BY 1/8 TRAILING EDGE
TOP AFT FILLET PATTERN
BOTTOM FILLET
RIB PATTERNS
TOP KEEL
SCALE TAIL
BALSA BLOCK TAIL CONE
REAR MOTOR PEG
-- WING TIPS, AND TAIL OUTLINES ARE CUT FROM SHEET BALSA
-- NORTH PACIFIC OR PECK PLASTIC PROPELLER AND WILLIAMS BROS. THRUST BUTTON.
FRONT FILLET
ANTENNA MAST
ENGINE COWL
FUSELAGE TOP VIEW
GUN SIGHT
CANOPY
ANTENNA
TAIL SKID
SIDE VIEW
FRONT VIEW
LAMINATED WHEEL PANTS
BALSA SHEET FORMERS
NAKAJIMA KI.27a
A PEANUT SCALE
BY Walt Mooney





Frank Zaic, who proposes a trophy in the memory of Charles Lindbergh, studies rubber-powered Antoinette.

Did you know the first lady aviator was "Kitty Hawk"?

• Our lead-in line this month is a quote from an elementary school pupil of Harold Dunn, which appeared in the Journal of Aerospace Education, passed on to the Hangar by Bill Warner.

THE LINDBERGH TROPHY

Frank Zaic, dean of American aeromodelers, has proposed a new trophy in memory of Charles Lindbergh. A very worthy idea, particularly in view of the fact that May 27, 1977 will mark the 50th anniversary of the historic New York to Paris flight, which quite literally awakened a sleepy world to the dormant possibilities of aviation. Frank had this to say: "While I was visiting my family in New York, my brother John mentioned that we should do something to remember Lindbergh, especially since what he did caused such a dramatic increase in model plane activities (a zoom of at least 1000%). We are still reaping the benefits of his achievement.

"I liked the idea and wondered why none of us in the model game had thought of it before. So, on the way back to California, I stopped at the Nats where I mentioned the Lindbergh memorial trophy to everyone I met. The response in every case was enthusiastic. Frank Ehling, the financial wizard at AMA, was all for it. He did not expect any problem in raising money. His concern was how we would select the recipient. I told him the best way to finance the trophy would be to have the model builders of America . . . and from other countries . . . subscribe to it. Thus, all would have a personal, and continued interest in the award every time it was presented.

"Be that as it may, at the moment the major effort should be in organizing the program so that we will have a suitable trophy in time to present it in 1977. I estimate that a $10,000 fund should give us an exceptional trophy and enough money for administration. Never forget administration for perpetuals.

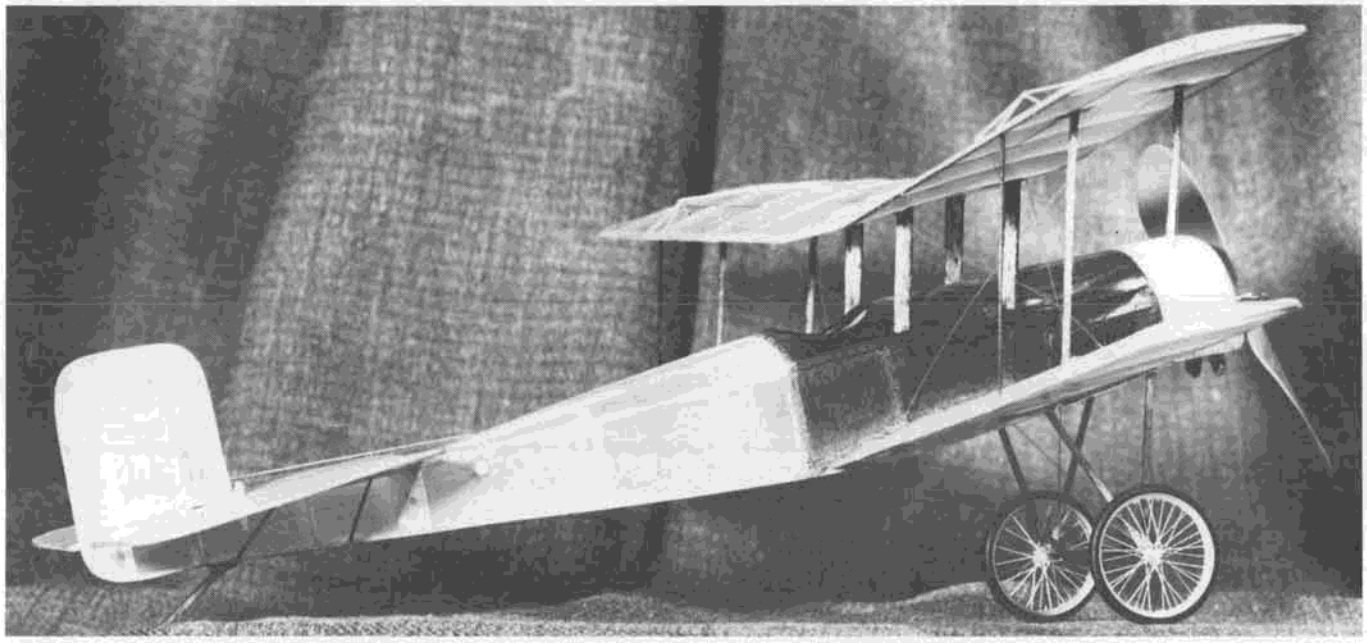
"My wife Carmen remembers seeing the 'Spirit of St. Louis' in Guatemala, during Lindbergh's Central American tour. She remembers peering into the plane's cabin, and clearly recalls Lindbergh's boyish figure wearing whipcord breeches with tight bottoms. But she was most impressed that a boy like that would fly a big plane.

Regards,

Frank Zaic."

A phone call from Frank Ehling brought his thoughts on the subject, the substance of which was: The trophy should NOT be awarded at the Nationals, where it might almost be lost in the shuffle, but instead perhaps at one of the major trade shows. Its presentation should be FORMAL, befitting such a prestigious honor . . . not merely an "added attraction" at a contest.

The award should be non-partisan in nature, to prevent it being associated with any particular class of models, or



Peanut Scale Bristol Scout, by Milan Kacha, Czechoslovakia. Weight is 7.5 grams. power is 3/32 rubber, covering is condenser paper, Peck-Polymers prop, and Hungerford spoked wheels. Photo by Miroslav Kvapil.

slanted to any specialty, such as R/C or free flight.

The awards committee should consist of ACTIVE modelers, not just administrative types, who may only have been active in the dim past.

The award itself should be kept physically small and dignified, NOT huge and ostentatious, for two reasons: First, it should be a cherished memento, not simply another trinket. Second, compactness would simplify transportation and storage, often problems with perpetual trophies.

So there you have it readers, if you'll pardon the pun, "Frank discussions" of a most intriguing idea. By coincidence, we also heard from Lou Proctor, famous scale model builder, who recalled his first big win, which occurred during 1929. The prize? A tour of Canada and Europe! In France, a banquet was given with no less an aviation hero than Louis Bleriot, who graciously presented his autograph to the modelers!

We are open for suggestions regarding the Lindbergh award, which will be passed along to Frank Zaic for careful consideration.

AND SPEAKING OF
THE SPIRIT OF ST. LOUIS

Some months ago we wondered why a "Peanut of St. Louis" model had not yet appeared, even though its proportions leave a great deal to be desired. Happily, one now exists, in of all places, Italy. According to the magazine "Modellistica" Peanuts are "taking hold" in that country, and a recent contest there attracted a wide variety of entries including Ord-Humes, Pietenpol, Bleriot, Fokker E-V, Russian PO-2, the aforementioned "Spirit", and (finally) a couple of Italian subjects, the Pegna PC7 and a Fiat AS2.

ALSO ON THE SUBJECT

Writing in the July "Aeromodeller" (England) "Clubman" in reference to current Peanut Scale rules says: "Personally I would like to see the way-out, wide-chord monoplanes more heavily penalized so that the events do not become a walk-over for dull-looking, high performance Stodge." Amen!

GIBSON'S HANDY HINT

From Canton, Ohio comes this nifty information: "Pancake all-weather gummed paper", manufactured by Champion Paper is just the ticket for scale buffs. Type no. 4150 Silver-P gummed paper would appear to be ideal for simulating metal on, for example, balsa wood cowlings. It can be embossed from the back to simulate rivets, panel separation lines, hinges, etc. And, by twirling a pencil eraser against the material in even rows, a fair simulation of "engine-turning" can be achieved. Doubtless your local printer would be able to obtain test samples for you.

LOUIS GARAMI REMEMBERED

Perhaps one of the most versatile

Continued on page 95

Louis Garami, master model builder, in a pensive mood. Photo supplied by Henry Struck.

Louis Garami with two of his designs. The low winger was a terrific flier. The other is a sq. in., high wing rubber ship. Photo supplied by Henry Struck.

Group shot taken in front of Queens Aero Model Association clubhouse, at Holmes Airp near Jackson Heights, Long Island, during the "good old days. (l to r, standing) Lo - G. Bill Hodden, Sid Goldin, Gene Wagner, Art Moore, George Tabery John Smith, El Ba Burt Kaiser. (Kneeling): Ray Falautes, Henry Struck, Jim McPheat, Jerry Leamy,

House of Balsa's Sport Scale P-51D, for 1/2A R/C.

The 1/2-A SCENE

By LARRY RENGER

• After a month's delay due to the Nationals, here is the information I promised on how to scale down model designs to 1/2A power sizes. This column will avoid a detailed derivation from theoretical aerodynamics. I won't even toss the "bottom line" formulae at you. You'll get what you really need, a detailed list of weights and wing areas for each engine/model type combination.

The goal of scaling down models is to achieve performance in a small model which appears to be the same as the original. The important word here is "appears". The reason this is a vital point is that if you took a proven design such as Bob Hunt's National's winning "Genesis" and made a 1/2A model which flew at 55 to 60 mph, you'd wear out your left leg turning to keep up with it.

A model looks right when its speed takes it some particular number of times its own length every second, and when it's turning or looping radius is some set number of times the wingspan. These length factors stay constant and result partly from the fact that your human time sense and reaction times are unchanged, and so is the modeler's ability to see the airplane in the air.

Since speed and maneuver size both drop with scale size, you can see that weight has to drop much faster than wingspan. Fortunately, power requirements drop nearly as fast as weight does.

The place to start is with the available power, not engine displacement size. For example, the Tee Dee .049 puts out exactly double the power of a Babe Bee .049! I'll get into reasons for that in another column, but right now, it tells us that the same model won't work right for both engines.

The table is broken down by engine type. Wing area and weight are given for each engine power level and several currently popular types of models. Area is square inches, weight is in ounces.

The weights specified are toward the high end. Try not to exceed them, as performance will noticeably suffer. Wing areas are much more flexible, and your tastes may run to either a hotter or more docile model. Stay within a 10% increase or decrease in area.

Try to keep the weight the same whether you increase or decrease the area a bit. Weight is related to available engine thrust, and that stays the same.

You'll note that some of these size/weight points are going to be difficult to meet. The most unlikely are the combat models. The reason for this is that a Tee Dee engine puts out roughly 3 hp/cu. in., while a hot .36 is tuned a bit hotter with ball bearings. Also, when you start working on the really

Q-Tee R/C Trainer by Lee Renaud. Parasol configuration is both nostalgic and stable. Cox QRC engine provides quiet power for schoolyard flying.

The author, with the results of one of his better landings. Eat your heart out, Bob Hunt!

small R/C ships, you run into trouble due to the weight of the radio. Let me know if anyone manages to build an 88 in^2, 4-1/2 ounce, 2 channel, .010 aileron and elevator model. I suspect that a Tee Dee .02 is as low as you can go with the current radio state of the art for a high performance airplane.

To do the scaling operation, take the original design and calculate its wing area. Divide this area into the area of the small model. Take the square root of the ratio and you have the "linear scale factor". Multiply each dimension by your scale factor and you have your new model. Currently it seems advisable to stretch the tail moment an extra 5% to 10% to smooth out performance a bit.

Handy Hint: Since weight is of tremendous importance in 1/2A flying, even the weight of adhesives is worth consideration. The lightest glues currently available are the cyanoacrylates, such as Hot Stuff and Zap. Aliphatics like Titebond and Quick stick are next. Epoxies and Polyesters are heaviest, mostly because it is difficult to use very small amounts for a simple joint. Used properly, any of these glues will produce a "stronger than wood" bond.

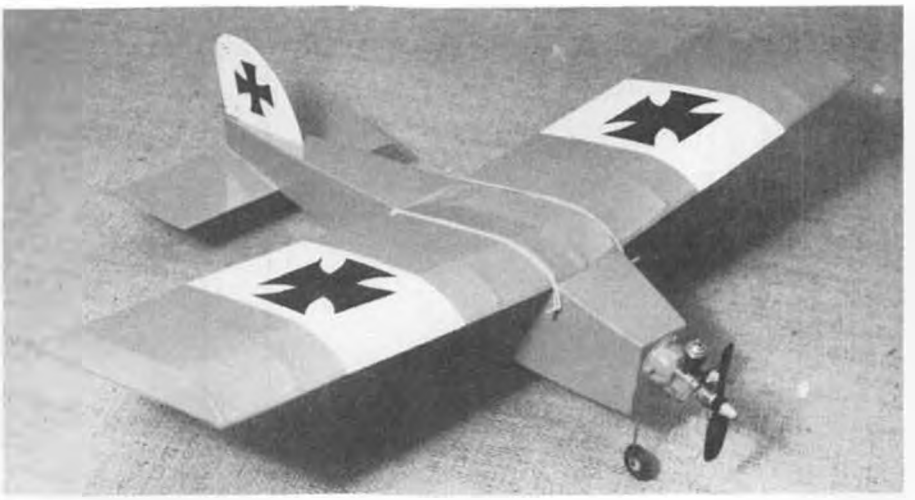
MODELS & STUFF FOR THE MONTH

First up is my favorite R/C trainer, the Q-Tee. Designed by Lee Renaud, this model captures the '30's era parasol wing styling while achieving a rugged, docile flying machine. Use of a QRC engine makes construction simple, and you can fly in the local schoolyard. There are a lot of copies of this model around now, but the Q-Tee was the first and is still the best.

Second model is Midwest's P-40, from its beginners series. These all have sheet balsa construction, but the plywood reinforcement around the nose and the nylon engine mount make them remarkably rugged. Photo courtesy of Midwest models.

Third model is a high performance 1/2A free flight. The Viking, by Carl Goldberg, is a clean high-thrust design which won at the Nationals a few years back. They are still flown frequently and there were a few at the Nats this year.

Fourth, is an early entry in a really new trend in 1/2A flying. This model is House of Balsa's stand-off scale P-51D. These photos were of a factory prototype. Next month I hope to show you an even *nicer* one built by 11 year old Tim Holden for the Annual OCRC scale meet at Mile Square.



The Ace R/C "Littlest Stik" for .010 R/C.

The Viking, by Carl Goldberg, has enjoyed a long career as a competition 1/2A free flight. There were a few at this year's Nats.

Midwest's P-40, from its beginner's series. All sheet balsa construction, ply reinforced nose, and nylon engine mount.

Fifth, in my search for glory, here I am with a clear demonstration of what has made my flying reputation what it is. Eat your heart out, Bob Hunt!

Last, and most assuredly least, is the Littlest Stik. This is an .010 powered single channel version of what must be the all time favorite R/C airplane. This baby storms along with all of 19-1/2 inch wingspan and less than 6 oz. of weight. The area of 83 square inches falls right in there for R/C acrobatics, but you need to cut another 1-1/2 ounces out for performance comparable to a .60 pattern ship. Maybe next year . . .

• • ● • •

"Rapid Rick" Sarpolus and his Bearcat.

All sheet construction, very little shaping. Great for a beginning scratch builder.

the "Bearcat"

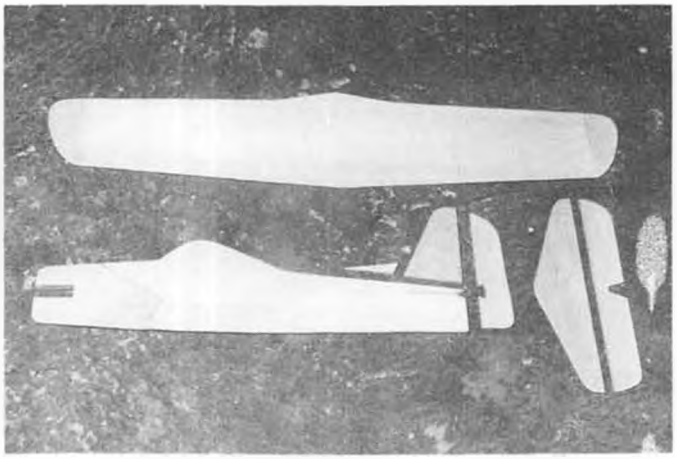
Just right for the youngster who has a couple of kit-built 1/2A ships under his belt and wants to try scratch-building. It's built exactly like the "FLIP", which Dick also designed, and was published in our March 1976 issue. No instructions are really needed, but just in case, we'll include a reprint of the Flip article with each set of full size plans.

By DICK SARPOLUS

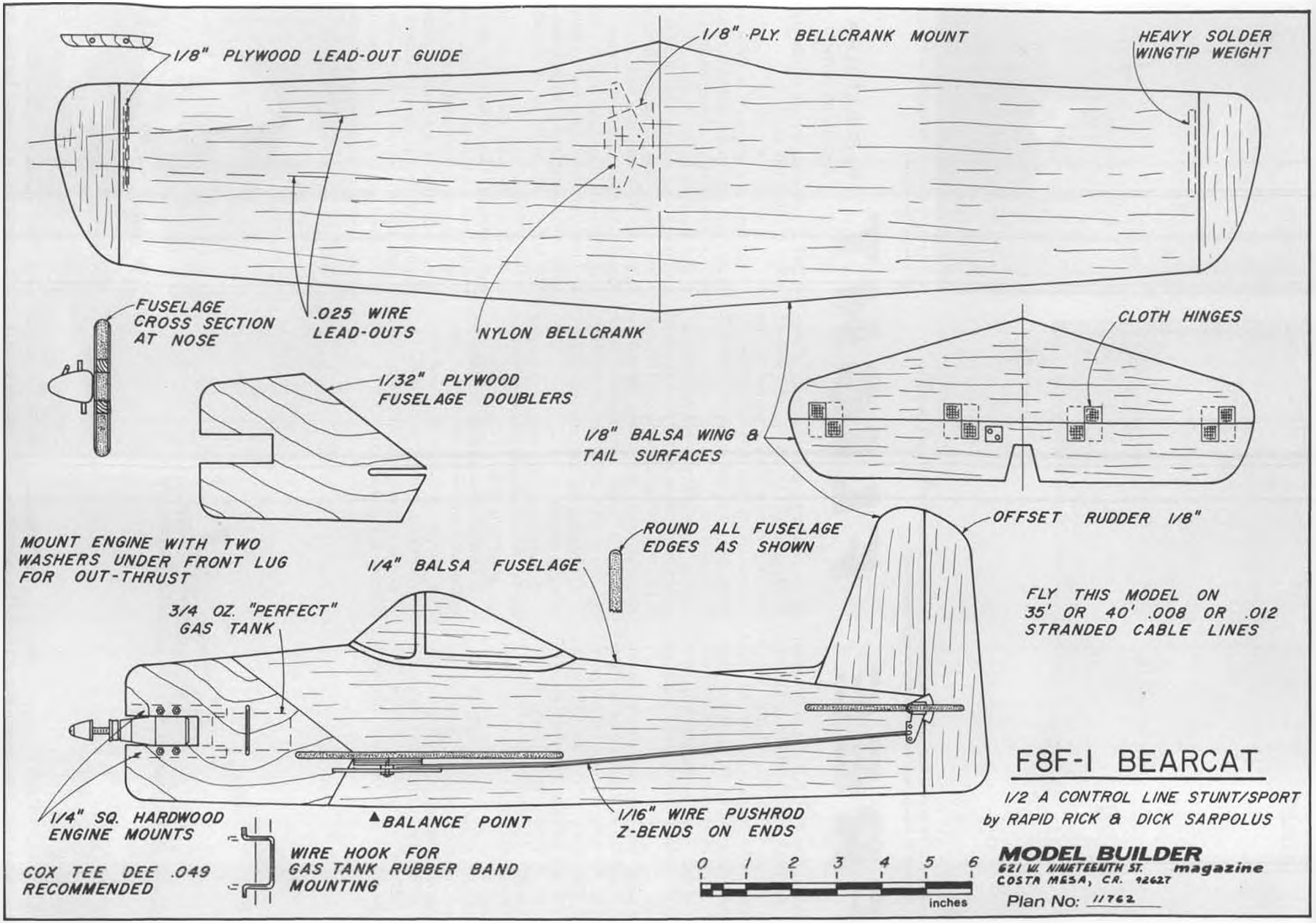
A Cox .049 Tee Dee provides the motive power. Perfect tank held on with wire hooks and rubber band. All 1/4 and 1/8 sheet construction.

A little extra time with the painting and finishing makes the Bearcat just a little better than the usual "slaptogether" model.

Only time the designer gets to touch this model is during the launch. DON'T FLY NEAR OVERHEAD WIRES!!



Like we said in the "Sling Wing" article, make up a "kit" of the parts before you pick up the glue. It'll go together faster.



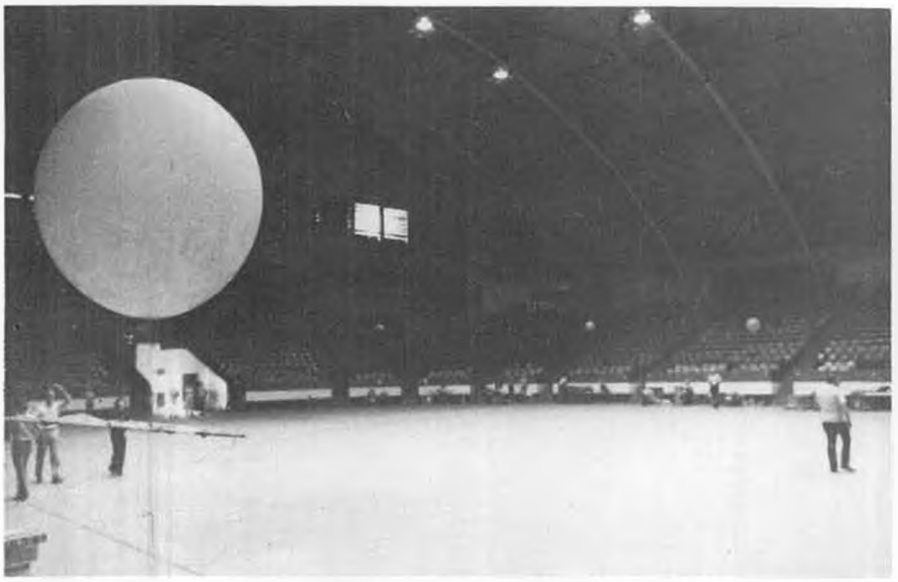
F8F-1 BEARCAT

1/2 A CONTROL LINE STUNT/SPORT

by RAPID RICK & DICK SARPOLUS

MODEL BUILDER magazine
621 W. NINETEENTH ST.
COSTA MESA, CA. 92627
Plan No: 11762

FULL SIZE PLANS AVAILABLE – SEE PAGE 104



A view of the '76 Nats indoor site in Columbus, Ohio. Large curved rafters and clear floor area. Balloon in foreground for retrieving or steering models.

Ron Ganser's Cabin model chases an FAI stick job toward the rafters.

FREE FLIGHT

By BOB STALICK
PHOTOS BY AUTHOR

FLASH: The FAI F.F. Team Selection for the 1977 (78) World Championships was moved from its original site at Blaine, Minn., when one of the local farmers determined to plant his crops early, thus effectively cutting the flying area in half. The new site was located on several farmers' fields near Hastings, Minn.

Flying and winning places on the team Saturday in Wakefield were: (Sept. 4) Bob Piserchio, Phedon Tsiknopoulos, and Walt Ghio, all from California . Flying and winning places on the team Sunday in Power were: (Sept. 5) Tom McLaughlin (Florida), Charlie Martin (Washington), and Al Bissonnette (Oklahoma).

Nordic glider, which was to have been flown on Monday, Sept. 6, was postponed because of high winds and the difficulties caused by retrieval in the terrain. A decision by the jury, made up of C.D. Willard Anderson, Dave Linstrum, and chairman, Hardy Brodersen, backed up by a 2/3 vote of the A/2 competitors approved of the postponement. The FAI committee will reset the date and place of the A/2 finals shortly.

(An unofficial protest on the cancellation has been lodged by a group of the contestants in attendance. They say the wind was not strong enough to cancel the meet. In addition, four possible courses of action are proposed:

1. Reschedule the contest and fly all eight rounds.

2. Reschedule the contest, maintain the two rounds already flown and require use of same models.

3. Declare selection process complete, and select team from two rounds flown.

4. Forget the whole thing and don't send a Nordic team to the next WC.

Contact Robert E. Mattes, 3042 Willow Wood Rd., St. Charles, MO. 63301 if you want a copy of the statements in full detail. wcn)

* * *

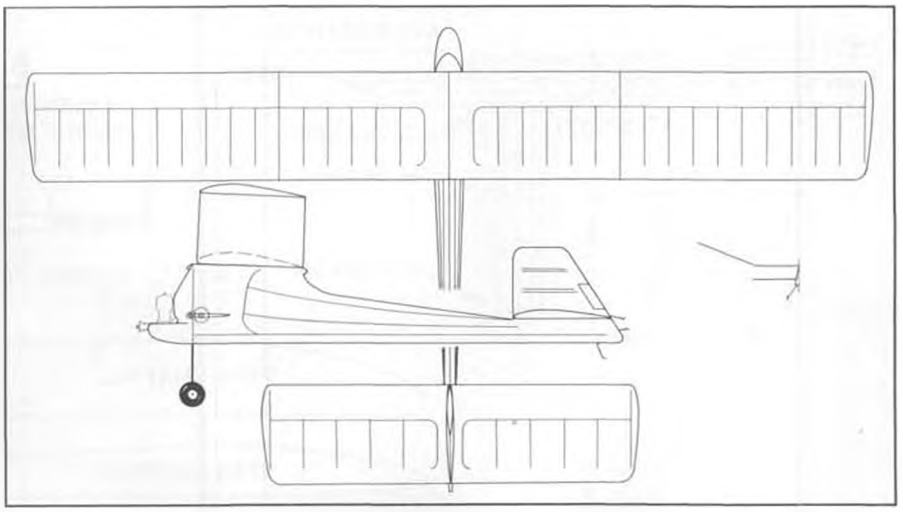
My sympathy goes out to those who move to new locations, and have to pack up and transport all of their models and model supplies. In late August, I had to go through this trauma. On top of it all, I was moving from a nice workshop and large home in Albany to a town house in Eugene, Oregon. The town house has less than half the space, and no place to build, let alone store any models (I have since converted a large closet at the top of the stairs to an erstwhile building space).

What to do with the C-Quell wing and fuselage? How about all of the models just started but not com_ted? The magazine collection that goes back into the 1930's? A few ignition engines mounted on display stands? Thanks to friends and fellow club members, such as Earle Moorhead and Al Grell, those little

Bob Sylvester, Hall, Mich. came up with this device for transporting his models via motorcycle.

Nobody sat on it . . . C. C. Johnson built it this way! Tee Dee .051 power.

Rol Anderson tunes his Cox .15 powered FAI ship with which he won 'A' Gas. Ten maxes.



MYSTERY MODEL for NOVEMBER

things and big things can be taken care of. Fortunately, too, I will be returning to the Shady Lane address in Albany next summer, my year of residency at the University completed.

In the meantime, I guess I'm supposed to do very little with models except build small ones. Indoor, here we come!

MYSTERY MODEL FOR NOVEMBER

Fellow club member, Al Grell, first introduced me to this model. Seems that he built one and shortly afterwards, the AMA changed the power loading rules (the what?), which caused him to change engines in this month's design. Originally it flew for Al with a K&B 32, but the new rules with the increased weight requirement made it more appropriate for a 19. In went the smaller engine. Al still has the ship, too. I thought at first it was a sledge hammer, when he showed me the fuselage, but I was even more naive then! A good model for its day I hear . . . if you know what it is and can write it on a card or letter posted to Bill Northrop before anyone else does, he will reward you with a nice prize. If you can't, you can join up with all of the others who have tried.

DARNED GOOD AIRFOIL . . . C5408

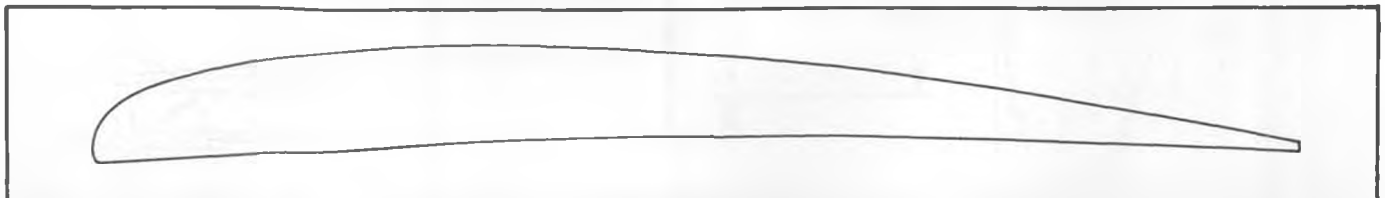
Hank Cole designed this one and Dave Parsons has recently put it to good use on his Cathexis FAI Power Ship. It has a 5% camber at 40% of the chord and an 8% thickness at 25% of the chord. Several features of the section are the extremely blunt leading edge, which provides adequate turbulation, and the flat front portion of the lower surface,

Continued on page 63

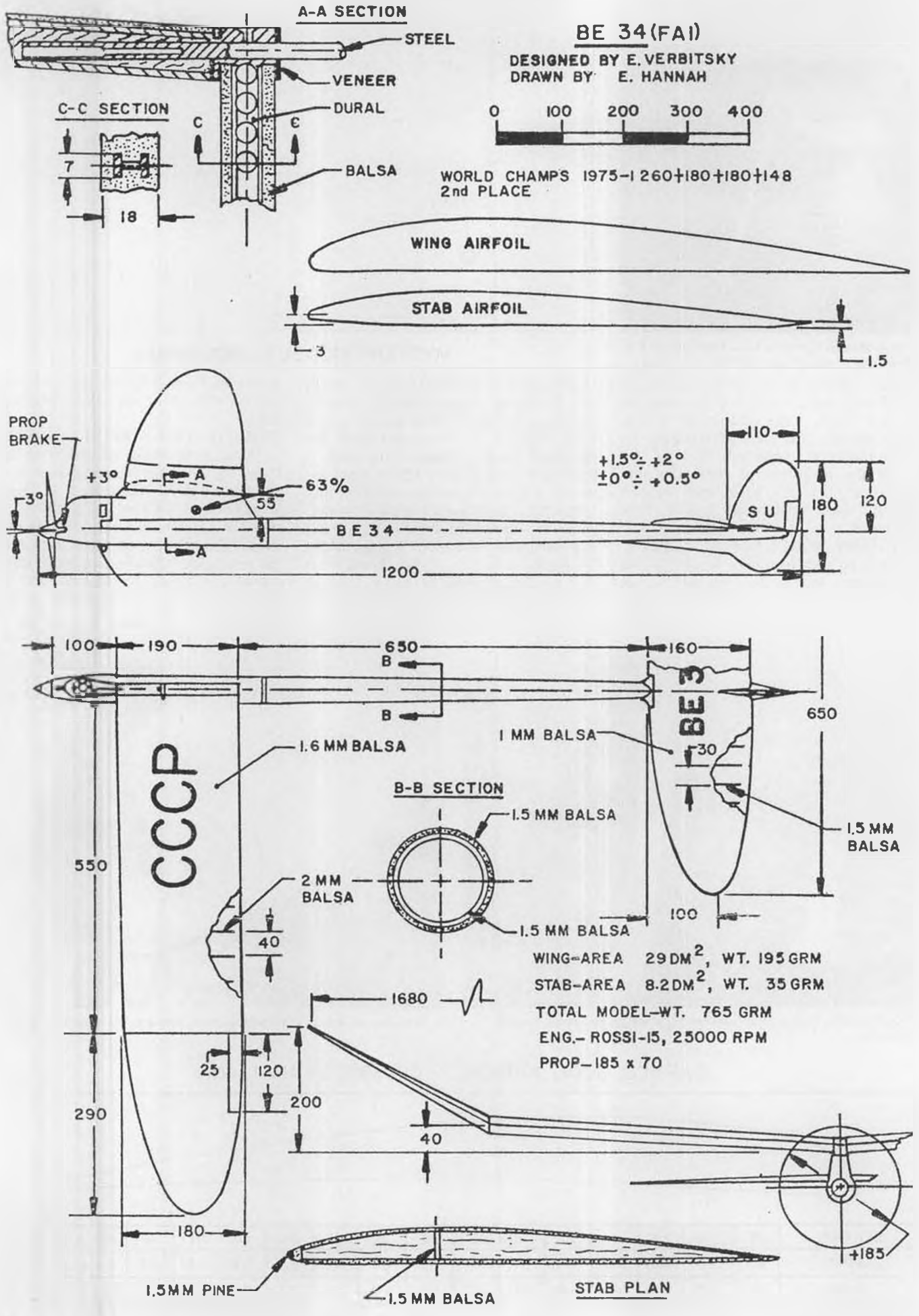
This Coupe by Curtis Zink features foam wings. He placed Second in Junior.

Ron Ganser, 4th in FAI Indoor Stick, prepares his model for flight.

DARNED GOOD AIRFOIL – C(P)5408 BY HANK COLE



STATION	0	1.25	2.5	5	7.5	10	15	20	25	30	40	50	60	70	80	90	100
UPPER	0.7	3.4	4.3	5.3	6.0	6.6	7.8	8.3	8.7	9.0	8.8	8.2	7.3	6.1	4.6	2.9	1.0
LOWER	0	-0.82	-0.75	-0.6	-0.45	-0.3	0	0.3	0.6	0.9	1.1	1.4	1.2	1.0	0.8	0.5	0


A-A SECTION
STEEL
VENEER
DURAL
BALSA
C-C SECTION
7
18
BE 34(FAI)
DESIGNED BY E. VERBITSKY
DRAWN BY E. HANNAH
0 100 200 300 400
WORLD CHAMPS 1975–1 260+180+180+148
2nd PLACE
WING AIRFOIL
STAB AIRFOIL
3
1.5
PROP BRAKE
+3°
3°
A
63%
55
BE 34
1200
+1.5°÷+2°
±0°÷+0.5°
110
180
120
S U
100
190
650
160
B
1.6 MM BALSA
1 MM BALSA
BE 3
650
30
B-B SECTION
1.5 MM BALSA
2 MM BALSA
1.5 MM BALSA
1.5 MM BALSA
100
550
CCCP
40
1680
WING-AREA 29 DM², WT. 195 GRM
STAB-AREA 8.2 DM², WT. 35 GRM
TOTAL MODEL-WT. 765 GRM
ENG.– ROSSI-15, 25000 RPM
PROP–185 x 70
25
120
200
290
40
180
+185
1.5MM PINE
1.5 MM BALSA
STAB PLAN

F/F . . . . . *Continued from page 61*

which works well with box spar construction. Additionally, the nose is drooped near the leading edge. According to Hank, "The airfoil was derived from a family of airfoils I conceived back in 1942 to 1944 for flying wings. Those blunt nosed sections were obtained by transforming the Davis airfoil formulas into another dimension. The formulas are quite general; they simply give you a smooth curve with continuous derivatives. You have to know the general shape of the airfoil you want; then you manipulate the equations to produce such a shape. This particular one seems to work . . ."

I would say, with all of that kind of explanation, that the section deserves some more experimentation on competition models, wouldn't you? Any AMA class power ship would do . . . as well as FAI Power. Worth a try!

THREE-VIEW FOR NOVEMBER . . . BE-34 by Eugeny Verbitsky

In the world of FAI Free Flight, there are probably two well-known and respected names in current competition. One is the U.S.A.'s own Bob White, foremost Wakefield competitor and the other is Eugeny Verbitsky, Russia's leading FAI Power flier. As one who has followed the developments of FAI power models for the last 20 years or so, there have been noticeable improvements and startling innovations in the FIC class (as it is now called). It has become expected, that Mr. Verbitsky will be among those in the forefront of those developments. Such is the case with this month's featured model. As expressed in the January/February issue of Scatter, "Probably the most carefully engineered and built FIC in existence, this ship looks like no effort was spared in its construction. Exquisite detail shows in little hooks, hinges, cowl. You have to see it to fully appreciate it. And it flies on rails, just narrowly missing first place at the 1975 World Championships."

Unfortunately, the drawing is printed in Russian, so interpretation is difficult, but the model is powered by a Rossi 15 with timing functions controlled by a non-commercial (home-made, if you prefer) timer. The wings are skinned with 1.5mm balsa sheet using hardwood spars in an I-beam construction. The stab is covered with 1mm balsa sheet, using balsa spar web of 1.5mm thickness. The rear of the fuselage is a balsa cone made up of two layers of 1.5mm balsa joining with the front of the fuselage (just behind the pylon) which is of aluminum tubing. The rear of the fuselage is detachable, as are the wings, which plug into the pylon by means of a 5mm diameter wire. The stabilizer trailing edge is designed so that it fits around the fin assembly.

The model is completely white on the top surface. Why? To reflect the sunlight and minimize warpage. All of this on a sheet covered model. All dimensions in the drawing are in millimeters and hopefully, can be deciphered by the more patient of our readers. It is an excellent model . . . a premier example of the state of the art in FIC. It also deserves the recognition it has just received as the 1976 FAI Power Model of the Year, by the National Free Flight Society.

THE THREE-YEAR FAI WORLD CHAMPIONSHIPS CYCLE: SOME ALTERNATIVES

There now appears to be some creative thought being applied to the entire issue of the proposed 3-year FAI World Championships cycle. In short, the CIAM directed one of its subcommittees to construct some sort of alternative to the current 2-year cycle of FAI Championships. This direction was given serious thought (some say it was given no thought) and last April, the sub-committee recommended to move to a 3-year cycle of activities. The single aim was to put a ceiling on the efforts and expenses expected of national aero clubs in supporting teams to the World Championships. It was a general agreement that three such championships per year was an acceptable maximum. The proposal (which will be acted upon officially, either pro or con, in December) was designed to roughly equalize the number of team members per year . . . two world championships with large numbers of team members per year (F.F. and C.L. total 23) could

involve more travel arrangements and cost than 3 or 4 smaller team groups (Indoor-4, R/C Aerobatics - 4, Scale - 7, R/C Soaring - 4). Only part of the problem exists within the area of finding a suitable sponsor for such activities.

In the case of outdoor free flight, the only sponsor available at the last CIAM general meeting was Finland, who proposed flying off the ice. (Subsequently, their proposal was withdrawn). To the best of this writer's knowledge at this time (early September) there have been two tentative offers to host the 1977 F.F. World Championships:

1. The Danes have offered an airfield near Roskilde. The field is approximately 1.2 miles by 1.2 miles with 3 miles of flat field surrounding it.

2. The Southern California fliers are proposing Taft, CA for 1977.

These two offers, if indeed they do become reality, can provide some ammunition regarding the hosting of a World Championships for outdoor Free Flight in 1977. However, the CIAM, if it is intent upon the 3-year cycle, may choose not to honor the offers. If such is the case, there still will not be a World Champs in 1977, but in 1978 as per the proposed CIAM calendar.

In light of this possibility, the participants in the 1977 FAI Team Selection program recently amended the budget originally passed in 1975 to allow the U.S.A. to sponsor an off-year FAI Pan American Championships. The money would be used to pay the expenses of the team which was selected at Blaine, Minnesota, and the team manager to this Pan American FAI Championships, thus providing the opportunity for the entire U.S.A. team to work together before heading to any World Championships, and incidentally, resolving one of the complaints heard from previous U.S. World Champs participants that the team didn't really function as a team.

Unfortunately, the Pan American FAI F.F. Championships or the World Championships will remain in limbo until December, after the CIAM decision. Planning will need to continue along both tracks until the decisions have been reached. This, in turn, dissipates the already strained time demands upon those who are entrusted to do such planning, from the AMA H.Q. staff, to the various FAI Committees, contest managements, and the fliers themselves. At best it's a frustrating experience, at worst it has the potential to virtually destroy the enthusiasm for FAI F.F. International Competition.

I suppose it would be different if FAI fliers flew several kinds of events . . Power fliers might fly R/C Aerobatics, A/2 fliers might fly R/C Soaring, and Wakefield fliers might fly indoor FAI Stick, but each of these events is specialized enough to make such diversity impossible. However, if such were the case, then the proposed 3-year cycle would make such varieties of competition possible, even though highly unlikely.

So, where do we stand? The current situation is that we can do little but plan and propose prior to the CIAM decision in December. If there is a continuation of the current 2-year cycle, then the W/C will be held in 1977 somewhere (presumably either in Denmark or at Taft). If there are changes to a 3-year cycle, then the W/C would be held in 1978 (somewhere, perhaps including Denmark or Taft), or it is possible that the W/C might still be held in 1977, with the next F.F. W/C to be held in 1980.

That's where we stand, feet firmly planted in midair.

I have spoken to or written to many FAI fliers, both in this country and out, who are adamantly opposed to the 3-year cycle. The FAI F.F. Committee has taken a vote to unanamously recommend to the AMA's voting delegate, John Clemens, its opposition to the 3-year cycle. Other country's free flighters have taken similar stands. But we are not only talking about free flighters; we are talking about R/C Soaring, R/C Pattern, Control Line, and Scale people as well. Where do they stand?

Or have they even taken a stand?

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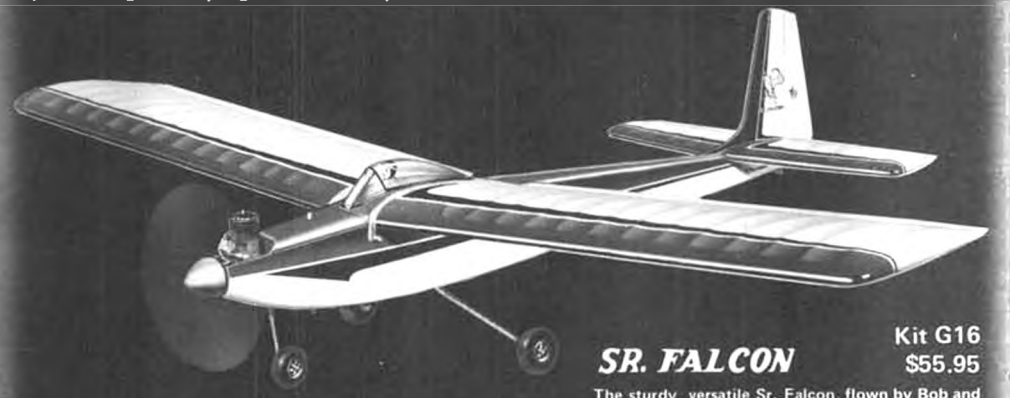

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BILL GIESKIENG . . .
FROM FLAPPERS TO FOLDERS

Bill Gieskieng, of Denver, one of the foremost proponents of flappers in FIC events (and incidentally the recipient of the NFFS 1975 FAI Power Model of the Year award for the concept), has given up on the beasts. A recent letter from Bill informs this correspondent that he has moved on to designing and flying folders.

Bill sez. "What is this speaking with forked tongue . . . that you can't have a good glide and climb both (referring to a recent 'Design Your Own Gas Model' section in Model Builder). How about a 1/2A with 180 squares and a zero mean camber foil for the climb that suddenly changes to a 360 sq. in. wing and a Nordic-like airfoil? Yeah, a folder. It's a little heavy at 8-1/4 ounces, but it's close enough.

"I've built my last flapper; the folder is simpler, much easier to build, easier to fly and has tremendous performance potential compared to anything else. I haven't been so excited in years.

"Some unusual features are gull wings (dihedral) and a moving pylon that changes the c.g. from near 100% for climb to 55% for glide. I won't claim it's a ship for a novice, but it doesn't take any extraordinary building skills either. In the next few years I think we are going to see a revolution in power design . . . and not just in the fancy FAI class. So be prepared to do some mind-bending."

Hopefully, we will have some pix and drawings of Bill's latest efforts for a future issue of **Model Builder** Free Flight. If what he says is true, all of us will need to rethink our entire approach to flying gas powered models. Come to ponder it, wouldn't a similar arrangement work for Wakefield? In fact, with a torque actuated wing pylon, the entire arrangement could be slowly moved back as the power ran out and the model would increase its gliding capabilities in a direct ratio to the remaining power left in the motor. Ah well, dream on fevered mind!

NEW THINGS TO BUY

Faceplates for your K-Mart Timer. If you are like me, you read and re-read Bill Hunter's "U-Make-It-Engine Timer" in the March, 1975 issue of **Model Builder** and went ahead to put one together. Worked and worked at it and finally got everything to work reasonably well. Wouldn't you know that someone would come along and make the same kind of thing available for you? Well, Phil (Silk) Sullivan has done just that . . . neatly made and well-crafted timer faceplates for your K-Mart timer. If I

remember correctly, the price is $1.25 per faceplate, plus postage. But to be on the safe side, drop Silk a line. P.O. Box 2272, Anderson, IN. 46011. Nice gizmo to complete your timer, and lighter than the brass variety, too. Of course, you could buy a Tatone timer, which is all made up and costs just about the same as the K-Mart timer with the new faceplate costs.

ENDING IT ALL

In attempting to close this month within my allotted space limitations, it is obvious that Part V of "Design Your Own Gas Model" will not fit, so it will be included next month. Since I have attempted to stay within the guidelines established by the Editor when I took on this job, I am still a little non-plussed by my compatriot who writes the Control Line Column for MB, who, during the August issue, took up space from everyone else to extol his circular arguments. The Editor even deleted the monthly F.F. 3-view in order to get Dirty Dan's Drivel into the magazine. Am I upset? Is rain wet? *(Quitch-erbitchin! You usually get 4 pages and DD gets 2! wcn).*

Well, not really, because I like Dan's writing style. And to prove it, I will pay off that 6-pack of beer I owe him for my not showing up at the N.W. Regional Control Line Contest last May so he could beat me in 1/2A Combat. I'm really relieved that the challenge is over. But where were you, DD, at the N.W. F.F. Championships, so that we could get on with our challenge in Hand Launch Glider?

I missed your fuzzy face. •

C/L . . . . . *Continued from page 38*

from until they've got a bitch . . . and it's too late for you to do anything for them.

OLD TIME STUNT

After the column asking about Old Time Stunt appeared, John Miske, from Clifton, New Jersey, wrote and passed on some good info. John says that his club, the Garden State Circle Burners, started OTS back in '70, when they ran it at their annual contest. Coverage was given in the MAN R&R column, March and July '71. More coverage was in R&R in the October '75 issue of MAN. Look up these issues, if you're interested.

John says there is a pretty good following in OTS in his area, and that he is willing to help others interested in promoting OTS. If you send John a *large* SASE (put *two* 13¢ stamps on it) he'll send you a set of rules for OTS. Write to: John Miske, 415 Clifton Blvd., Clifton, New Jersey 07013.

John realizes that most people don't

have plans for the oldies, so he and some other club members have been tracing and/or scaling up some of the stuff in his collection of old plans and magazines. And they are willing to sell them for very reasonable prices, around $2.50 a set. All proceeds from plans sales go into the club treasury, which in turn helps to promote the event. Sounds good to me.

Plans are presently available for: Barnstormer, Original Nobler, 1950 Internats Winner, Galloping Comedian, Original Ringmaster, Secret Weapon, Curtiss Swift, El Diablo, Upstart, Easy and Dragon. Soon to be available: Mars, Hotter 'n That, Gyrator and Madman, with more to come. Contact John if you're interested. Don't forget the SASE!

SO. CAL. STUNT STUFF

From "Mad Mike" Keville comes word that the "500 Club" is starting back up with Bart Klapinski as President. As I understand it, the "500 Club" membership used to be restricted to those who had scored 500 or over in Stunt. Club meetings must have been a real ego trip! Now, however, membership is open to anybody who is highly interested in Stunt. They seem to be pretty serious about it . . . dues per *monthly* meeting are $5.00!

SEEN AT THE COMBAT CIRCLES . . .

At the '76 Nats, I was standing around the Combat circles when I noticed Sid Axelrod, of Top Flite Models, lookin' around. I went over and talked to him for a bit and he mentioned that he had some new Pylon props that might work for Combat. We went over to his car (his trunk was almost completely full of props!), he showed me some of the new props and I agreed that they did look good and that I would like to try them. Out comes several boxes of props and I grabbed them before he could change his mind. I never turn down freebies.

Later in the conversation Sid mentioned that he didn't know many of the Combat fliers, but that he would like to have as many as possible try out his new props. "No problem," says I. "You just stand here next to your car and I'll send a few guys over." I don't think Sid was prepared for what happened. I sent people over in waves. Everybody was coming back with free props to try, Rich Lopez making off with three boxes! About the time I was running low on people to send over, I noticed Sid closing the trunk and making it out of there! He really wasn't prepared for the number of freebie grabbers I was able to locate!

Later, it turned out that we had made off with most all of the 8-1/2 x 7's and just generally made his trunk a whole lot lighter.

Right about now, I suppose a word or two about the props themselves is in order. These new Pylon props from Top Flite are all-new and bear little resemblance to the older style that you may have tried. The new props feature a very thick and strong hub. No chance of blowing blades. The blades themselves are nice and wide, making them plenty strong, unlike the old props. The props are finished in some kind of fuel-proof varnish. A nice feature is that these props are drilled to fit K&B 40's, so it is not necessary to ream them to fit a 'tigre G-21. All topped off with a decent price of 95¢ each.

The props are offered in sizes of 8-1/2 x 6-1/2 to 8-1/2 x 7-1/2, in 1/4 inch pitch increments. With five different pitches to choose from, you ought to be able to find a size to suit you, although you may have to cut the tips a bit, depending upon the strength of your motor. I have pretty much settled on the 8-1/2 x 6-3/4, cut to 8-1/4, as a good prop for my present engine/plane combination.

These props, besides doing the job in Combat, and being relatively inexpensive (high quality wood props cost money) are nice in another way, and that is that they will be easy to get, as Top Flite products are generally readily available.

NEXT MONTH

I'm going to try to finally wrap up Project Goodyear with a look at what I've learned from the whole bit, plus a couple of really good articles from Phil Shewski and Les Pardueski concerning Racing flyinski and pittinski! •

Soaring . . . . . *Continued from page 27*

I can now report that the 10 foot Hobie wings are very effective when cut down to 100 inch span. This provides greater area and less dihedral than the standard 100 inch wings. But to make these cut-down wings really perform requires a little wash out protection against sudden loss of altitude, which can occur when you "throttle back" while already operating near the point of stall. The bird flys with the conventional rudder, but you must maintain hard-over control to stay in a tight turn. This is inconvenient and inefficient for thermalling. Therefore, a larger tail is in order. Here, one more panel is added to each side of the stab and the rudder is made comparable to that of the Cumulus. Now it turns with rudder in neutral position and responds well to pitch commands. I'd bet this isn't the last Hobie mod you'll read about.

And now, another modification of the Windfree, this time by Roger Taylor, of the Torrey Pines Gulls. First, he adds

62 square inches to the wings by reducing the root chord to 7 inches, then keeping constant chord out to half the span, thereafter tapering one inch off the leading edge and one and a-half inches off the trailing edge to yield a four and one-half inch tip. This reduces the original aspect ratio of 17:1 to about 15:1. The airfoil is modified to replicate the NACA 6409 with flat bottom. Roger has gone on to reduce the drag by narrowing the fuselage aft of the wing and enclosing a bell crank in the fin, thereby eliminating the external elevator horn. These changes improve the overall performance and reduce the chance of tip stalling on launch. The overall weight remains at 32 ounces . . . a good unloaded weight for this size sailplane. I hope that Roger will enjoy the fruits of his labor in terms of still higher contest scores. In any case, he's helped to beautify the local soaring scene by his design.

Recently, I announced a new 18 foot V-tailed sailplane, the Westwind 18, designed and built by Dick Eagle, of San Diego, California. I've now seen that plane in the air again, but this time there was an unfortunate accident. Radio control was lost after a few minutes of perfect flight. Out of contact, the plane started to dive and flutter before it impacted on a cliff at Torrey Pines. All parts were retrieved and I'm certain that we'll see this sailplane again sometime in the future. It's certainly a majestic giant, worthy of the tremendous effort required to put it back in shape. Dick's handicap of being both deaf and mute doesn't limit him in any way in terms of designing and flying ability.

Tom Williams, of Craft Air, is convinced that establishing a new class for two meter sailplanes would be most worthwhile. He argues that many pilots already have smaller planes and would compete with these if this class were established. He contends that such increased activity in small aircraft would set the stage for major improvements in the design of these planes. "Those in the business need an incentive to develop new kits which would be fun for the beginner and at the same time pose a new challenge for the experienced flyer."

Perhaps he's right. Micro-servos are now on the market, and I've been thinking about designing a three-foot sailplane. Surely the smaller aircraft poses lesser demands on the flying site. Almost any schoolyard could be used for a contest . . . or at least a fun fly. On the other hand, the smaller the aircraft, the more delicate the design and construction. It's hard enough to realize real performance at the usual Reynolds numbers. A smaller wingspan can only make for still greater difficulty. Further, many pilots feel that there should be no classes, so that any plane can compete with any other plane in a contest. There's remarkably little difference between the final scores achieved by planes as different as the Windfree and Legionair. At this point I can't say who's right. What do you think? •

C/L Nats . . . . *Continued from page 41*

Test flights over, we went looking for some excitement at the Rat circle. Lots going on, with some teams going very fast, but not getting pits. Others were getting pits, but not going very fast. And, of course, a few were putting it all together with good pits and lots of speed. Ron Esman won here in 4:39. It took a sub-5 minute time to make it into the top four.

Did get to see a little of Sr. Stunt and Pierre Morel posted a 464.50 to beat out Joe Musumeci, who had a best of 452.50. That Morel kid must be pretty good, because I watched Joe fly and he looked plenty tough.

Half-A Speed was a gas to watch. All them big guys trying to make them ittsy-bittsy planes go as fast as possible. As I had never seen very much Speed, it was a real eye-popper to watch Chuck Legg go 120 mph. Amazing what 1/20 of a cubic inch will do, if massaged properly! Legg was a full step ahead of the field with Langlois/Huff/Hurlocker almost 5 mph down in second spot.

I had promised myself the chance to watch Profile Carrier, as I'm considering

trying it myself. However, with all of the things to do at the NATS, and the Carrier circles being located quite aways off, I just couldn't make it. My favorite Carrier flier, Carlos Aloise, Jr. took Open, to continue his NATS winning ways. Carlos' score was 247, which is pretty good! In Jr., Carlos' brother Richard took it with 243.70 to win Jr. Profile Carrier for *only* the third year in a row! As Richard is only 10, the future looks good for the Aloise team. A check of the scores shows that Richard was second only to his brother Carlos, none of the other Open or Sr. fliers could beat this outstanding Jr. flier! Otto Graf took Sr. Profile Carrier by a good margin with a 225.50, Mark Brunelle coming in second with 194.20.

Having spent most of the morning watching some exciting events, the Jive Combat Team thought it a good idea to watch a boring event, so we could more easily get psyched-up when it came time to fly Slow Combat that afternoon. For boredom, you just can't beat R/C Pattern, so we picked up and made it to one of the Pattern flight lines to watch and eat our lunch. An hour of this put us into a real lethargic state and we busted down to the Combat circles, being in danger of falling asleep standing up!

Got to watch the final matches in Jr./Sr. Slow Combat, where Charles Conners won in Jr. and Jim Plake did it in Sr.

Open Slow Combat, with 78 entries, was scheduled for two days and meant that only a round or so could be flown Wednesday. I don't recall any spectacular matches, and was quite surprised at some of the equipment being used. Impressive Slow Combat planes were hard to find and I was counting on seeing a bunch of them. All the B.S. about Slow's capable of going over 100 mph turned out be just more B.S., which was hardly surprising.

One thing that I forgot to mention was that Phil Granderson and I were driving to the hangar in mid-afternoon when I noticed that most practicing Stunt guys were nowhere to be seen. I asked Phil about this and he said, "You don't see Stunt guys out in the afternoon. If you want to see the Stars, you come out in the morning. By afternoon, they're all back in their motels eating Rolaids!" My apologies to all my friends in Stunt, but I just couldn't resist quoting Phil!

Before leaving the base, I did manage to sit in on the Racing Advisory Committee meeting, chaired by John Kilsdonk. All RAC rules proposals were hashed-out, many pertinent comments (and a few not-so-pertinent comments also) were heard. I had to leave before the meeting was over, but it seems as if a pretty knowledgeable, hard-working group is in charge concerning improvements in our Racing rules.

At the dorms that night we had a MACA meeting. Things started out OK, with Gary Frost (MACA Prez) going over some of MACA's accomplishments and plans for the future. Mike Streiter outlined the format for choosing MACA's '76 Top Twenty and quite a bit of discussion followed, but no serious problems came up. More business was taken care of, but gradually the meeting started getting a little out-of-hand with one half-drunk guy not making much sense (but talking a lot) and several others trying to settle local disputes at a national meeting, which is a little unreasonable.

Finally, it got to be too much for the JCT and Gary, Phil and I left to get some dinner. Not two minutes had passed since our departure when some yelling and arguing was heard from within the meeting room. Immediately thereafter, out came Burch, Tallman, Hissem, Gerhart and a few others. We looked around and all of the people responsible for rules proposals and such were standing in the hall shaking their heads! The MACA meeting was not a highlight of the NATS.

Don't get me wrong, folks. MACA is a *super* organization, and it has my full support. But supposedly I'm reporting on what happened at the NATS, and the above is what happened at the MACA meeting.

THURSDAY

Managed to watch some of the Open Stunt qualifying rounds and the flying appeared to me to be on a high level, even though there was a bit of wind. The wind caused a couple of crashes that I saw. When a Stunt ship goes in, it really destroys itself!

Although I kept making it to the Speed circles, I never did get to see a Jet flight up close, but did get to see some good flights in Gas. In C Speed, Becky Snyder did 164.77 to take it in Jr., Tom Giertz pulled 176.57 for the win in Sr.

In D Speed, Frank Garzon put up a flight at 189.40 to win in Open. JSO Jet Speed was taken by Langlois/Huff/Hurlocker with 201.49.

Sam Snyder just barely squeaked by in Formula 40 Speed. He had 152.35 for first, but was pushed hard by the top five, closest being Robert Ytuarte with 152.09 and a second place.

Jr./Sr. Rat was run in the morning and Dave Owen won in Jr. with 5:25. Remember, Jr.'s are now required to use profile planes in Rat, so the time in the mid-5's looks pretty good, doesn't it? Sr. Rat was won by Al Swanson in a real quick time of 5:01, which gave him a comfortable winning margin of 30 seconds plus.

I managed to see only one Scale flight, but here are the winners. Jr. Sport Scale, Mark Tullis with a Piper PA12. Sr. Sport Scale, Mark Bauer with a P-47D. Open Sport Scale, Claude Short flying a PT-22. Sr. AMA Scale, Mike Sheeks and his J-3 Cub. Open AMA Scale, Mike Gretz and his well-traveled Akrobat.

Having met a whole bunch of the Team Race guys, and never having seen a for-real TR event, I made sure I was on hand for as many heats as possible. I was really surprised at TR. The planes are deceptively fast, rules are very tight so you fly just right or get disqualified, the pit-work is much cleaner than we see in AMA Racing events, and the stink of diesel fuel wasn't half as bad as I was prepared for!

All in all, I was very impressed with TR. If I only had the time to get into another Racing event, TR would be it.

The entry of 24 teams in TR was surprising to most. A lot is being done to promote this event . . . possibly it is starting to catch on. Jed Kusik won here, but I don't have his time. Kusik/Jolly placed 5th at the '76 World Champs only weeks before, so they were the favorites and came through with the win.

Slow Combat (Open) rolled along all day. Some pretty good matches, but nothing really outstanding. Gary Frost came out on top here, beating Mike Tallman in the final match.

FRIDAY

With Stunt narrowed down to the top qualifiers, the heat was on here. A tough field, not so neat weather (rain) and a whole bunch of close scores. I didn't have time to watch too many of the final flights, but saw enough to understand Phil's statement about the Stunt guys eating Rolaids! The judges were only giving high scores for very good patterns and seemed to be able to pick up on the slightest flaws.

Bob Hunt, who had been oozing with confidence, simply flew his best . . . and won. His high score was a 521.17. Gene Schaffer was second with 519.50, Rabe was third with 516.00 and Werwage came in fourth with 515.17. Tight, huh?

The Speed circles were fairly active, with B Speed and B Proto. In Jr. B Proto, Becky Snyder blew 'em off with 132.35. Her brother, Max, then took B Proto Sr. with 138.67. Open B Proto was won by Dye/Baltes/Stockstad with a 150.44.

Jr. B Speed was won by Akihisa Kusumota with 149.57. Sr. B Speed saw Pat Hempel do 179.57 to win. In Open B Speed, Shannon/Shannon/Fridley turned 185.11 to win.

The Jr. and Sr. Badyear boys were to thrash it out today and it didn't look like a whole lot of fun, what with the rain and all. Some pretty fair times turned here, with Tom Fluker leadin' the Jr.'s home with 6:39 in the Final. In Sr. Badyear, Doug Harris won with (get ready) a 5:56.6! I know Ballard has gone 5:58 this year, but I don't believe he has broken that record. So, unless I am mistaken, Harris turned the fastest time ever in Badyear and he is a Sr.! Needless to say, Harris won by a comfortable margin, with G. Swartendruber coming in second with a plenty respectable 6:26.5.

I didn't get to see any of Mouse Race, which had 49 entries (Jr./Sr. Combined), but sounds as if they had a good time. Quite unusual for a Racing event, there was a tie for first place. Both Chris Scott and Brian Callis did 12:58.6. With timers being only human and bound to be off some in timing, I would have thought that a fly-off would have been in order, but evidently it was left as a tie and both Brian and Chris got first place trophies.

Friday was the first day of Open Fast (For-Real) Combat. With the recent introduction of the '76 Fox Combat Special, and the brute power it offers, there was a lot of speculation about the outcome of Combat. The Jive Combat Team's experience with the new Fox indicated that there would be a whole bunch of people trying to keep up with planes that were going too fast for them.

However, that was only speculation, and evidently due to the high humidity and towing water-soaked streamers, we didn't see one single honkin' run. The

Foxes and 'tigres sounded OK, but the speed just wasn't there. It looked a whole lot like Slow Combat, as a matter of fact. Burch and Lopez both were puttin' the watch on some of the planes and coming up with numbers like 90 mph!

With everybody down on power, the matches were still interesting, but no blood 'n guts Combat like we were expecting.

For those wondering if I flew in any event, I did. But not too successfully. As I flew to the NATS, I could only bring three Fast Combat planes with me, so I only flew Combat. Won my first match, but lost the second. In my second match, I flew like I fly in local contests, which was a mistake. I gave away a cut to get in a better position. was all of a sudden in a line tangle that smelled of extreme inexperience or purposeful entanglement on my oppoment's part. About that time I knew I had a problem, as I was getting absolutely zero help as far as getting out of the line tangle was concerned. Sure enough, the turkey punched in. My fault, of course, for getting behind in points, but I came to fly Combat, not kill worms!

My complaining aside, Combat went pretty well and the next day looked quite promising. Some "name" fliers were matched up for the next day and the forecast indicated better weather. Maybe the weatherman could bring out those 120 mph Combat planes?

SATURDAY

This day featured A Speed, FAI Speed, the Jim Walker Cup Fly-off and Open Combat. Sorry, folks, but I don't have the results of either Speed event. I assume Hunt took the Walker Cup, I watched his flights and they were super, considering the heavy wind. Looks as if we finish up with Combat.

The magic 120 mph planes still didn't show, but everybody was running better, we were getting down to the better fliers and it looked like lots of good Combat to polish off the week.

And sure enough, there were some good matches, although most were a lot shorter than we are used to seeing here in the N.W. There were a number of fliers starting to stand out as having a good shot at winning, but I kinda picked up on good ol' Will Rogers to plod his way through to a win. Turned out I was wrong (Will ended up fourth) but it was sure fun to watch him fly. He'd start his own engine (*nobody* does that!) slowly walk his lines out, straighten them carefully (all the while his opponent would be airborne and racking up air time points), just generally screw around for a while and finally signal for a launch. Once up, Will would do a Jekyll and Hyde number and turn into a sharp, aggressive flier. I watched him pull his act in three consecutive matches, each match he would get a single cut and then lay on a clean kill.

Came time for Will to fly Stubblefield and I figured the act would get changed some, 'cause Stubblefield is tough. Instead, it got worse! Will had noticed that Stubblefield was going slightly lean after a minute or so of flying in his previous matches. So, at the start of the show-down with Stubblefield, Will just stood there, watching Dick's plane go round 'n round! As soon as he heard Dick's motor fade slightly, he *finally* started his own engine, slowly worked his way to the center and pulled off yet another win. Combat needs more people like Will Rogers! He doesn't say much, but he's a gas to watch!

Gettin' down to the nitty-gritty, it was obvious that Buckstaff was the one to beat. He was flying super heads-up Combat and simply wasn't making any mistakes. On the other side of the pyramid, there were several people with a shot at the final match, but none were able to effectively deal with Mike Strieter's get-a-cut, tangle-the-lines and punch-it-in tactics.

So the final match was Buckstaff against Strieter. Buck knew the tactics he was up against and Strieter knew he was flying one tough dude! The match went about as predicted. Strieter was up first, Buck got a cut, Strieter got back ahead in points by getting a cut and we saw the most intentional tangling of lines I've ever seen. Things were *very*

physical in the center and Buck was wrapped up like a spider! Ol' Buckstaff is plenty Combat-wise and he snuck in a cut just before Strieter's plane went in, regaining the lead in the match and winning Open Fast Combat for the second year in a row.

That wraps up the C/L events at the '76 NATS. The competition was super, there were many contestants in each event, and even those who came away empty-handed as far as trophies goes, had gained in some respect.

Just have to thank all the officials for their work. Never ceases to amaze me how much work it takes to put on contests . . . and how (or why) certain people are always there to do the hard part . . . that of officiating.

Also have to thank the AMA organization for the most unbelievable contest I have ever attended. This was my first NATS, and being a bit of a rabble-rouser, I was on the watch for anything that might be an annoyance to contestants. I couldn't find a single thing to bitch about! All the details were taken care of for us, leaving us to play and fly toy airplanes for a whole week!

When I say all the details were taken care of, I mean it. In the dorms we stayed in, there was a rent-a-cop on duty all night. If asked, he would even call you on the inter-com to wake you up in the morning!

A note to the people who are still not sure who is Rich Lopez and who is Dirty Dan. After having people mix us up all week, Saturday Rich and I decided to put the whammy on everybody. I wore his banana farmer hat, complete with his "official" badge that proclaimed the wearer was none other than Rich "von" Lopez. And Rich wore my semi-famous Hoss hat, plus pinning my press badge to his jacket.

Rich and I were standing side by side when that good ol' boy Marvin C. Denny came up to Rich and laid it on him about how much he enjoys the C/L column in MB! With Rich nodding his head and emitting "thank-you's", I had to turn away, I was laughing so hard! Sorry, Marvin, someday I'll introduce you to the real Dirty Dan and give you a chance to get even!

To those who have never been to a NATS, I must say that you have never been to a *real* contest. Plan on going next year, no matter where it is. The NATS isn't a contest, it's an experience, and you're missing out on a real trip by not attending. ●

Peanut . . . . . *Continued from page 51*

has been cut under or over-size. Trim and fit as required. Then cement all the stringers in place in pairs on opposite sides of the fuselage. Now cement this assembly to the engine cowl assembly.

A thorough sanding at this point is in order. Cement a carved balsa tail cone in place.

Now carefully cut and fit a place for the wing and the horizontal tail. Also cut out a hole for the cockpit area. Fill in between two of the stringers on each side to provide a rear motor peg mount.

Cover the model components with light weight tissue. Water-shrink the tissue, and when dry, dope in the standard fashion.

Assemble the model and add details. The canopy can be formed over a mold. This one is small enough to be made in one piece on the good old Mattel Vacuform . . . or you can make the canopy out of flat sheets by cutting and fitting each area of the canopy, since they were all flat wraps on the original airplane. The tailskid is cut out of hardwood scrap and jammed into the tail cone. Landing gear legs are made out of five laminations of sheet balsa and carved to shape. The center lamination must have its grain going the long way of the legs for strength. Wheel axles are short lengths of wire. The antenna mast was carved from a toothpick. The antenna wire is monofiliment fishing leader. The gunsight is a short length of aluminum tubing.

The wing fillets are cut from bond paper according to the patterns. Use the patterns as a guide, because they may need to be adjusted to fit your exact model.

Roll the fillets on the tapered end of a small paintbrush handle to get the

varying bend radius required in the fillet pieces. The bottom fillet is put in place last and cemented to the other fillets very sparingly. When dry it can be trimmed with a sharp blade just to match the upper fillets and give a good sharp trailing edge on the fillet system.

The pitot tube is simulated with a piece of bent straight pin. How's that? Well, let's say it isn't straight when its finished.

The front of the cowl and the trim on the wheel pants was painted with plastic model paint after several coats of dope had thoroughly sealed the balsa. All the rest of the color trim was done with tissue. The model was double-covered with white tissue to simulate the white background area for the fuselage and wing Hinomarus. The Hinomarus, the striping, vertical tail decoration are red tissue. Engine detail is black and silver paint. The prop is a cut-down North Pacific plastic, painted silver with the tips left red.

Flight trim includes about 1/32 of washout on each wing, and a small amount of down thrust.

Have fun knocking those imaginary Polikarpov bipes out of your imaginary Mongolian sky with this Peanut Nakajima KI.27a. The real ones are supposed to have accounted for 1250 of the enemy against a loss of only 100 of their own number in the Manchurian incident. •

Plug Sparks . . *Continued from page 31*

engine as four ounces, propeller at 1/2 oz., coil and condenser and two pen-cell batteries at 3-1/2 ounces, the average Elf-powered model could be built from 12 to 18 ounces total all up weight. A remarkable achievement in those early days.

Elf engines, when first viewed, give the prospective buyer the idea the engine is rather crude, as the sand castings were never polished on the outside. Dan Calkins preferred to put his work on the inside where it counted. As a matter of fact, the machining work was so good that Dan recommended a gas and oil mixture where the oil was only SAE 40 viscosity.

One interesting fact gleaned from the Elf brochure is that the coil is designed to operate on one 1-1/2 volt battery! However, for more reliable starting, two 1-1/2 volt batteries in series are recommended. One and one-half hour runs are claimed with this battery setup.

The float chamber (the villian in most cases of balky starting) is connected to the gasoline tank with rubber tubing. To invert the motor, the float chamber must be turned half way around on its support. This places the carburetor on one side. In the old days, Calkins supplied a reversed carburetor for those who preferred the float chamber in normal position behind the engine.

For those interested in the technical features of the Elf single, the bore was 0.542 with a stroke of 19/32 inches, giving a piston displacement of 2.25cc, or about 1/8 cu. in. The cylinder and crankcase are sand cast of heavy aluminum (Calkins states you could machine 2 ounces off the castings if lightness was essential) with the cylinder being fitted with a steel piston. The aluminum piston was fitted with three cast-iron piston rings. Tubular steel is used for the wrist pin, while the connecting rod is an aluminum casting. Interestingly enough, the two-bearing crankshaft is turned from a solid piece of drill rod and fitted with steel counterweights.

Even in those early days, a Champion Spark Plug, 1/4–32 thread, was made especially for the Elf Engine Co. Claims were made that this plug would not foul when used in an Elf engine. According to the engine manufacturer, the Elf engine could be run for over 100 hours without wearing out. A truly remarkable claim.

The Elf engine was marketed by the Elf Engine Co., complete with spark coil, condenser, gasoline tank, instruction book, and propeller, mounted on a stand, ready to run. Cost was $21.50. That may seem cheap now, but in those days that was better than

a week's pay. The writer sometimes speculates, were those really the good old days?

CLAIMING EVENT

With everyone getting into the competition act and finding motors so darn expensive, the average Joe Modeler sez the heck with it. Noted at the last SAM Championships was the inroads made by very hot Schneurle powered radio assist models that seemed to scream out of sight. Not to be outdone, some of the free flight boys had goers with converted ignition motors.

With an apparent power race coming up in O/T, much to the dismay of many old timer enthusiasts, Tom Barnes sez, "why not have claiming events?" This is a wrinkle that might make the boys sit up and take notice.

As in horse racing, a horse entered in a $3,500.00 claiming race can be claimed by any other competitor for that price. Tom sez that if claiming contests were held, this would reduce the amount of money a modeler would be willing to spend on his latest hot motor. After all, a claiming contest of 50 or 100 dollars would eliminate those 200 dollar motor and gadgetry entrants. Worth thinking about.

GOOD GUY

After such an enjoyable SAM Champs put on by the Ohio boys, the writer would be remiss if he failed to acknowledge the efforts of one real good guy, Gerald Peters.

Peters and the rest of his club members were working the Nationals (the trophy cage) when ye olde writer showed up with a radio set that was suffering from crystal trouble.

Gerry, who runs a small hobby shop and repairs radio sets, volunteered to help. Hauling out his car and taking the columnist all the way home, he proceeded to spend the next two or three hours experimenting with various crystals. Finally, in an old Citizenship set, a crystal was found that worked beautifully.

Before returning to the field, the writer was given lunch as prepared by Peters' better half. Gerry then brought us back to Wright-Patterson and even assisted on the first official flight. Gerald Peters, Good Guy of the Year!

POND COMMEMORATIVE

It took a little time to get the 2nd Annual Pond Commemorative off the ground, but trust that energetic SAM 21 President, Tom Bristol to get things organized. In joint action with John LeSuer of SAM 26, the two have put together a real fine piece of work.

Scheduled for November 7, the meet will feature two classes of Limited Engine run; Classes I and II, with the dividing line at .289 cu. in. displacement. This means you can't use a .29 for Class I! Five minute flights with penalty for overflight and spot landing points feature this event. The Texaco Event will sport a 1/4 ounce of gas per pound of model (up to 7 lb), unless there are more than 10 entries, in which case the fuel allotment will be reduced to 1/8 ounce per pound of model weight.

Scheduled for this Annual will be the pre-contest dinner and get-together at the Howard Johnsons in Santa Maria. For full details, write Tom Bristol, P.O. Box 1091, San Carlos, CA 94070.

SAM 16 SHENANIGANS

The columnist felt like an official of AMA Headquarters as he received a Xerox copy of the Official Contest Director's Report on the SAM 16 O/T F/F Contest held on August 22 at Bridewater, Mass.

Despite what is generally thought of about the eastern coast, Free Flight O/T contests and modeling is just as strong as ever, with both SAM 7 and SAM 16 leading the way. According to C.D. Sears McCorrison, quite a few of the fellows who fly R/C are pretty fair country free flighters, as witness Ted Patriola winning Cabin/Pylon Gas, Tom Acciaviati placing in Gas Cabin/HL Glider, and Sky Streak events. Incidentally, Tom pulled this trick at the SAM Champs.

Also noted was the resurgence of O/T Towline Glider after the disappointing entry at the Spring Contest. Given enough push, this event could catch on. The other interesting fact was that .020 Replica (called the SCIF Event back last) set high time of the day. Those little things really go!

MORE EASTERN STUFF

Don Hartman reports the Central Jersey O/T Contest SAM Warm-Up Contest was one of the best yet.

Popular Joe Beshar came in for his share of ragging as Lee Shulman and others attempted to "pants" (remove his pants) Joe during a flight. Joe finally had to put his transmitter down to rescue his pants. Of course, it was strictly coincidental that Lee Shulman was leading at the time. Joe made the winning flight with his much maligned Fox. Haw! Don Hartman modestly allows he came in second with his Eastern States Gas Champ. (There's a real underrated design!).

As it turned out, Lee Shulman was unable to overtake Joe as he had transmitter trouble. Lee is presently suspecting skullduggery from you know who. As Joe sez, "The name of the game is Fun!"

NORTHWEST FROLICS

In reading the latest Williamette Modelers Club (WMC) Newsletter, it appears there are more than a few engine collectors in the club. According to Bob Stalick, Erle (Foggy) Moorhead went to the Salt Lake City Collectogether and had his picture featured in the Engine Collectors Journal. "Foggy" is now a big time collector and everyone thinks his photo was a perfect likeness . . . haw!

Furthermore, Don Dodd and Tom Cope, who never seem to tire of letting everyone know how expert they are (this is a direct quote) at nearly everything they try, set up special facilities at the WMC Collectogether, Sept. 11 at the Tangent Community Hall. Their latest offer is to give out advice to anyone who cares to spend money for information. A reasonable fee is considered to be 25¢ per answer. In addition, at the booth, Dodd says he gave out kisses for a dime. Whether you paid him or he paid you was not made clear. Haw!

With this action, and Foggy Moorhead promising to show how to clear a bench (purpose unknown), the WMC Champs look like the big thing in the Northwest. Don't miss the action!

Also in that same vein, Dave Knight, a displaced Northern California Antique Model Plane member, is busily putting on one O/T Contest after another. As he says, the only thing holding him back is site location.

At the last meet, they were shuffled off to Ranier Prairie by the Army, reducing the turnout somewhat. Dave is a go-getter, and in less time than it takes to write this, he had lined up (in conjunction with Don Zipoy) the Harts Lake Prairie Field for the next meet.

Dave further sez, he will order fine weather, round up good trophies and merchandise, and everyone will get something for showing up. To top that off, Knight will promote an Overall High Time Trophy and will cook up others as needed. All he needs now is participants. As Mel Allen put it, "How about that?"

"GOTCHA" DEPT.

C. P. "Lucky" Moody writes to say he has a "gotcha", as the columnist mis-titled the pretty Cleveland Viking as the work of Al Heinrich. Not so, sez Moody, although he does admit Al is a very discerning modeler.

Lucky is now living in Northern California, way up in Yreka, enjoying the clean air, rain, and trees. However, Moody is still producing the Pacific Ace and Soaring Glider kits (both original Modelcraft designs) at $4.95 and $3.98 respectively. Add $1.00 for postage and packaging. New address of the "Little Elf" is now: C. P. Moody, 722 Lennox, Yreka, CA 96097.

OHLSSON PARTS

After many letters inquiring as to the availability of Ohlsson parts, it was indeed a pleasure to receive a call from Mark Fechner. Mark's Model Motors has moved, and is now located at 4456 W. Fassio Circle, Granger, Utah 84101.

As most of you will recall, we gave Mark a plug when he started producing Genie and Thor engines. He still is! He also converts old glow engines to spark ignition, but don't ask him to convert a Schneurle ported engine. He doesn't want to get involved in that controversy again!

Fechner is now offering a limited amount of parts service for various Ohlsson engines. This is a real bonanza for a lot of those fellows who took off the timer housing and points to run their engines on glow plugs. If you are missing parts, write to Fechner and get his latest test.

Oops, almost forgot; although it is obvious, Mark does have replacement parts for Thor/Genie engines, including the gas tanks. So try Mark for those missing parts.

OHLSSON TWIN REVISITED

Our recent article on the Ohlsson Twin as Motor of the Month aroused a considerable amount of interest. Sears McCorrison, of Stoughton, Mass., writes to say he wishes he could have seen the original motors. In the next breath, he calls, having taken two photos of the Consolidated experimental R3Y-2 R/C model while it was on display at the Suffolk County AFB, Long Island, N.Y. Unfortunately, Sears only enclosed Xerox copies of his pics. Perhaps we can impose on him to send one of the photos of the four engined R/C job. It really is a monster!

HOT LEADS

As most well informed old timers know, this is the name of the newsletter put out by Jimmy Dean, of the Southern California Antique Model Plane Society

(SCAMPS), otherwise known as SAM 13. After listening to the various tales of flying and power at the just-concluded SAM Championships at Wright-Patterson AFB, Ohio, Jim notes this summary of model trends as observed at the Nationals:

". . . Our final impression of the gas events was that it has developed into a spectacular exhibition, rather than a friendly competition of one design against another. And that your chances of placing depends on how big an engine you can mount on a minimum allowable plane."

This is part of an account of the Nationals in 1939! As you can see, the power scramble is nothing new. As Jim puts it, "See, they were bothered by Schneurle-itis even then!" The writer has to argue. If the rules are such that a bonus is placed on those being able to attain the best motor performance, then it makes no sense to outlaw Schneurle engines, as there will arise another equally hot type engine to cause another controversy. A good hard look at the rules and methods of handicapping should be taken.

NORTH-SOUTH MEET

As reported by R. G. Brickner, Editor of the SCIFS newsletter, "The Flight Plug", the North-South meet in California was hosted by the SCIFS and SCAMPS this year (the hosting duties revert to the other side each year). Held on Aug. 21 and 22 at Taft, the contest was dominated by the So. Cal. boys. Also noted as a matter of interest, of the 41 entries, only five engines were of the converted type.

Brickner further reports a large crow made himself at home in the camp area Saturday night. The crow turned out to be quite tame and waddled (after the way the boys stuffed him) around, mooching all the food, grasshoppers, and booze he could cadge. He perched himself on a camp chair and to show his appreciation, flew up and down the flight line all day. Did someone think to time him?

Needless to say, with the poor showing from up North, the Southerners won handily; the big winners being Larry Boyer (San Diego), Rudy Calvo (LA), Brickner (LA), and Phil McCary (Hollywood). Hope the Northern boys have been saving their big guns for the 16th Annual Stockton Old Timer Contest to be held in conjunction with the 37th Annual Fresno Contest on Sept. 25-26. We'll have more on that later!

HOW TO STOP AN ENGINE

Hate to keep picking on our "illustrious" SAM President, Joe Beshar, but he is good copy. Noted at the last SAM Championships at Wright Field, Ohio, was Joe showing how to stop a hot running motor.

Seems as though Joe had a real hot Schneurle powered R/C model for the Limited Engine events, that certainly impressed the onlookers. As the crowd was attracted to this motor, making noises like no tomorrow, the model on takeoff, wrecked itself. Don't know if it was pilot error or what, but the motor, true to its advance billing, continued to run beautifully without any prop blades.

Much to the amusement of the spectators, the best war dance then ensued, with Joe actually stomping on his motor in a vain attempt to stop the runaway engine. Joe, we didn't know you were part Indian! Maybe, a new rain dance?

Next month, we'll be back with more action reports. Hopefully we'll have some scoop on where the 1977 SAM Champs will be located. How does Las Vegas sound to you? •

Choppers . . . . *Continued from page 19*

so that the carb is also half-open. The throttle should now be exercised from full low to full high (including trim) to see if you have 14mm of linear travel to the carb. During this time, the slider should move up and down 6mm.

While the throttle is exactly centered, per the above, adjust the mixing levers to exact horizontal with all push rods standing veritcally! Any variations should

be corrected by resetting the clamps on the stabilizer bar. Also make sure that the main blade pitch levers are positioned horizontally (in center of slot). The instruction book contains several photos of this basic adjustment so you should have no problems. The final adjustment prior to flight is to advance the throttle (and trim) to full open and then rotate the rotor blade mounts on the rotor stud until the blades have a +2 degree angle of incidence to the stabilizer bar. This is accomplished with the help of the plastic template provided in the kit. Yes, 2 degrees is correct . . . you certainly won't need any more at this very high rotor rpm!

After firing up the engine, carefully track the main rotor blades. If the blades are out of track by more than 8mm, you should reset the blade mounts on the rotor stud. Smaller deviations may be corrected by adjusting the push rods.

Once adjusted, you will find the collective pitch control to be just about right, not at all jumpy, but very firm and positive. The Heli-Baby is already an extremely stable machine, and I was surprised to note that this characteristic is retained, or even increased a bit! After a few practice lift-offs and hovers, I sent it around the traffic pattern for a trial run and noticed the control response in cyclic was somewhat less than I had remembered. The instructions point out this fact and indicate the sluggish response can be improved by lightening the control paddles, or by making them from wood or plastic so that the slightest control input will deflect the paddles to a great extent. I have experimented with a set of "cans" in lieu of the paddles, but found they were a little too hot for me to handle. Next time around, I'll reduce the size of the cans to tame it down.

Further experiments are possible on the Super-Baby by repositioning the clamps on the stabilizer bar and the blade pitch change. Generally, the clamps are re-positioned towards the rotor hub to slow down the reactions, or moved outward to speed up response.

All in all, I'm very pleased with the way she flies, and am especially happy with the positive "touchdown" and final landing phase. Before, it was a struggle to get enough power "off-the-blades" so that it would land right where I wanted it, but now, you just tell it where to squat and it does just that.

FINAL APPROACH

We're a little shy on space in this issue, so will stop short before the Editor finds his scissors. BCNU next month. ●

Rocketry .... *Continued from page 28*

Estes mini-engines, which are 15mm in diameter, and the new AVI Micro-Jets, which are only 9mm in diameter. The Microjets do get better altitudes, since they have a lower frontal area with correspondingly less drag, but there did seem to be some difficulty getting a successful chute deployment out of a 9mm tube, which is about the thickness of the average pencil. We'll say this for the Microjets, they do seem to have hot ejection charges.

The winners in the parachute and streamer duration events were generally based around 15mm tube, Estes or Centuri mini-engines, and CMR plastic nose cones, which are so light that they almost blow away. The winning parachute duration material was aluminized mylar, 1/4 mil thick, in an octagonal configuration; you have to be careful not to scorch it, but you can easily pack a 36 inch diameter chute made of this stuff into one of the 15mm tubes. It's available in sheets from Competition Model Rockets and COS Products. The streamer material in use was good ol' crepe paper, which, although you can't stuff nearly as much of it in a tube as you can mylar, has a much higher drag factor than the shiny stuff.

Piston launchers and towers predominated as well. A piston launcher is one of several devices that use the gas generated at ignition to pressurize a

sleeve tube fitted around the engine, which pushes the model upward until it pops off the end of the tube; a tower is a device that supports the rocket between three vertical rods, so that no launch lug is used. Tests have shown that launch lugs add about 25% drag to a model.

Glider events are always very popular, and four classes were flown at MAR. There is a distinct difference in NAR Competition between Boost/Gliders and Rocket/Gliders: B/G designs may be parasite gliders, pop-pods, or other designs that eject their engines on separate recovery devices, while everything that goes up on an R/G must come down gliding. Pop-pods predominated in the two B/G events, with one notable exception; Lonnie Reese's C-engine powered Hawk B/G, which was a fixed-pod design that ejected its engine on a streamer. Such designs are heavier than the pop-pod models, since they carry a nose cone and engine tube; but they are more stable in windy conditions for that reason. Lonnie proved his point, when he beat the nearest C division competitor by over a minute for first place.

Sunday saw the tracking events, most notably Eggloft. Since they had such a splendid field, the MAR people decided to fly the two most powerful classes of Eggloft: Mercury Dual and Gemini Dual. "Dual" means TWO eggs must be flown as payload; and Mercury is limited to 40 nt/sec (E engines), while Gemini is 80 nt/sec. (F engines). These two events on the schedule brought the power-mad modelers from far and wide. Lonnie Reese, holder of the present Mercury Dual record, decided to concentrate on Gemini this time. He took his winning Mercury model and added a booster stage, with an E60-0 staged to an F100-10 as the motor stack. Ah, but the curse of the Dorpal Hawk (rocketry's version of the Great Bird of the Galaxy) descended on Lonnie . . . the E60 carried the bird up to about 200 feet, and a combination of wind drift and staging delay left the model nosing down at about 20 degrees when the F100 fired. The model became fertilizer, along with its two eggs. Lonnie's second attempt, with a backup bird, reversed the motor stack, using an F100-0 booster and an E60-8 sustainer. Perfect staging and a vertical trajectory gave a record-setting flight, but upon return, the judges discovered a crack in the lower egg. Seems Lonnie cut back the size of the parachute to insure recovery. Well, he got 'em back, all right.

Meanwhile, Bob Kaplow was gunning for the Mercury Dual record, with a slim model powered by an AVI E11.8 motor. The eggs were enclosed in a special plastic capsule that had been vacuum-formed just the night before. The model was tower-launched, once again because of the drag factor, since the E11.8 is a slow-thrusting motor that doesn't build up a lot of speed right away. Whatever Bob did, it worked, because he beat the U.S. record by a comfortable margin. Filing procedures are underway. Among muttered imprecations, a promise was heard from Lonnie that he'd try to get his record back at the Mid-Con.

Speaking of records, we've seen the afore-mentioned microjets being used in many, many record attempts lately. They are making a hit with the Design Efficiency fans because of the small drag. Design Efficiency is an event where the total impulse of the engine is divided into the total altitude achieved, resulting in points expressed as meters per newton second. Obviously, the better flight you get with the smallest engine, the more points you'll have. The microjet 1/2A seems to be the most popular, in spite of a price tag of $1 per motor. Standard strategy is to use a piston launcher, to drag every bit of power from the reaction, and to use all the other low-drag tricks (at the NARAM, we caught Bob Kaplow industriously scrubbing down his model with toothpaste). You can get an AVI catalog, which is so big it looks as though it had been printed on a bedsheet, from AVI Astroport, Mineral Point, WI 53565.

In this month's Howzat-Grabya Department, we have word from Dick and Joy Fox, of the Orange Rocketeers in Florida, that they successfully held a regional rocket meet next to the Vehicle Assembly Building at Cape Kennedy. Wow! It was part of NASA's Bicentennial display at Canaveral, and it is said to have come off very well. Have you ever seen the VAB? It's big enough to hold some of our events inside! Also from Florida, we have a picture from our buddies at the CAPCOM Model Rocket Journal. It shows a very interesting boost/glider design poised for takeoff at one of their section meets. Note the fact that the model is piston-launched; you can see the igniter wires protruding from the sides of the sleeve tube. Also for you glider fans, we have a photo taken at the NARAM of a basic pop-pod B/G, the Flat Cat. This model was designed many moons ago by G. Harry Stine, one of the founders of the NAR. Note the novel rudder arrangement; there are two, one on either stab tip. One of the first problems in B/G design is to find a way to avoid having the rudder fried off in the engine exhaust. Also from the NARAM, we have Chris Tavares hooking up a parachute duration model. Note the piston, once again. This piston is supported by the wooden block that clips on to the launch rod. The shaft is plugged at the top by a disc, and the outer tube slides freely on that disc until it hits a stop. The outer tube slip-fits over the engine. The launcher is available as a kit from Competition

Model Rockets, and is known to hardened modelers as the "Boom Tube." CMR's address is Box 7022, Alexandria, VA 22307. Both of these last photos are courtesy of Craig Kuhn.

To all of the people and clubs who have submitted photos for this department, many thanks. Keep it up, please; they'll get printed eventually. •

Power Boats . . *Continued from page 14*

turned in a 3.35 run on the straight 16. No records were established at this record trial, but all had a good time.

Shortly after 1 p.m., the wind came out of the southwest, the worst possible direction for this site, bringing in the rollers. From that point on no one wished to attempt a record run. So we called it quits for the day and opened up the water.

Friday evening saw several non-boating activities for the whole family. The Minute Breakers hosted a picnic, serving hot dogs, beverages, cold salads, etc., in the campsite area. The local merchants and townspeople also set up their weekend Flea Market, providing shopping for the boaters' wives all weekend.

SATURDAY, JULY 31
& SUNDAY, AUGUST 1

The heat racing started a little late on Saturday due to a failure in the starting clock mechanism. Once repaired, the heats moved smoothly. Most of the heats had 6, 7, and even 8 boats. Both mornings started with calm water, but as the day progressed, the water became almost unrunnable. Consistency proved more important than speed. Most heats were completed with less than half of the starting field. But even with rough water conditions, there was some good racing, and I feel a good time was had by all. Remember boaters, everyone runs under the same conditions in a heat, so don't cop out and blame any misfortune on the rough water.

One of the better heats in B mono was heat 2B. Gary Girvin, Sue Horstman, Stan Smith, Mike Schaaf, and the author were all in contention and closely bunched. The winner was not determined until the last turn. In B hydro, Mike Meelbusch proved to be the most reliable. Mike finished all his heats and finished first over-all.

Most noteable performances of the contest were:

1. Ed Keedy from Tennessee: Ed finished 2nd in EF mono, and combined with a 4th in E hydro, won the high point trophy of the meet. Congratulations to a super guy and a good boater.

2. Birth of the scale unlimiteds: The scale boaters gave several very competitive performances. This was their finest meet of the year. Their growth is a boost to boating. Look for a future article on these beauties. Great performances were turned in by Country Boy, owned by Bill Weaver (Country's first victory) and Miss Budweiser, owned by Gary Preusse. This meet finalized Gary's season as high point trophy winner for I.M.P.B.A. District IV.

On Saturday night, the boaters and their families enjoyed a smorgasbord-type banquet held at the Princeton Holiday Inn. Betty Beaird did a fine job in arranging the affair, and a good time was had by all. After all, what better time can a boater have than good food, good drink, and a lot of shop talk with his friends.

Before we present the awards, I would like to give special credit to Dave Peterson of the Minute Breakers, who was the Contest Director for the meet. With 163 entries, I don't think I have to stress that Dave had his hands full. Nice job Dave, we all thank you.

The boaters received engines, hardware, Dremel tools, and flywheel wrenches for first through fourth place in each class. Bernie Rich selected all of the merchandise. Here are the winners:

AB Hydro	AB Mono
Mike Meelbusch	Jack Dimond
Gary Mueller	Bob Preusse
Bernie Rich	Shannon Mueller
Bill Hoeschelle	Gary Kaldenberg
CD Hydro	**CD Mono**
Doug Riha	Mert Mischnick
Ben Beaird	Phil Thomas
John Ackerman	Gary Girvin
Bob Schneff	Stan Smith
E Hydro	**EF Mono**
Gene Klisnick	Skip Horstman
Leroy Peterson	Ed Keedy*
Al Metelak	Bill Pistello
Ed Keedy*	Dave Peterson
F Hydro	**Scale Hydro**
Ron Walker	Bill Wesver
Ben Beaird	Doug Riha
Brian Beaird	Gary Preusse
Bob Finley	Bob Preusse

*High Point Trophy: Ed Keedy of Tennessee

In summary, the Depue Race was one of the finest in 1976, due to the cooperate efforts of the Minute Breakers, people of Depue, and the contestants.

HAPPY BOATING! . . . Bob Preusse •

F/F Scale . . . . *Continued from page 47*

It was worth a try. I sanded off all of what was left from the orange wax, and thoroughly waxed the mold with the yellow crayon. I repeated the aforementioned procedure. This time I had a transparent yellow fillet that matched the tissue to a tee! I quickly laid up the other side and soon had a right and left wing fillet.

I mounted them by first gluing the front edge, which wraps all the way around the leading edge of the wing. When this dried, I pulled it snug and attached it to its anchor point at the rear-root portion of the wing. In essence, it was glued only at either end. By doing

it this way, the fillet lays nicely against the wing and fuselage without any gaps. I'm sure that if you had any gaps, you could carefully trim where required or just glue that portion down.

All in all, I was pleased with the results. If you were building a gas model, then I would add more layers of silkspan, followed by several coats of sanding sealer and dope. Rivet detail could be added if desired by either the glue-drop method or by using a small blunt tool (ball-point tip), and pressing from the back side onto soft wood. This embosses the rivet detail.

* * *

Those of you who have ever read or seen *German Aircraft of the Third Reich,* realize that the Germans had many airplanes that would make outstanding models. Many of the airplanes that I have chosen as good subjects from this book are parasol types. That is, the wing sits above the fuselage on a set of cabanes. This configuration, in general, makes outstanding flying models, except that I find one problem with this basic design. That is, the vulnerability of the wing mount. It seems as though with every parasol model I have ever built, the wing would pop off on every hard landing. This is very annoying, and the reason this happens should be quite clear. When the fuselage stops, the wing continues moving forward. For every action there is a reaction, and that reaction is usually an unhappy modeler! Using the conventional method of making the cabanes out of wood and gluing them to both the fuselage and wing just doesn't give enough support for the wing to stay permanently mounted.

For the past couple of years, I have been wanting to build a model of the Henschel 126 German Observation of WW II, but attaching the parasol wing had rather cooled my enthusiasm. Yet, looking at the proportions of the airplane, you know that this would make an excellent rubber powered model. A friend of mine, Pres Bruning, drew a set of plans for this airplane, and when I saw them, I knew that I could no longer put off building the model. I had the entire thing framed in no time at all, but it sat around unfinished for a couple of years. The hang-up was that I didn't want to attach the wing with just wooden cabanes and rely on glue joints. For a model with a 30 inch span, it wouldn't take much to "unperch" the wing.

I finally came up with a solution modified from the way I usually do my biplanes. In this case I used 1/16 OD aluminum tubing and piano wire. Essentially, it is a system in which the cabanes plug into the fuselage and the wings. For a model this size, the weight increase is a very small penalty to pay for the added strength. Another plus is that the wing alignment is simplified. I know in my own experience, that the process of gluing a top wing onto wooden cabanes is pretty squirrely until the glue sets. If some kind of supporting fixtures are not used, you stand a good chance of not having the proper incidence or not having the wing sitting square with the fuselage.

The way I do it is quite easy, and even though the illustrations are self-explanatory, I'll comment on the assembly. For the tubing mounted onto the fuselage, I take two pieces of very hard balsa the exact width of the fuselage. I then make a 1/16 groove down the center on the side of the balsa to accommodate the 1/16 aluminum tubing. I use a small rat-tail file to make this groove by passing it back and forth against a straight edge. I Hot-Stuff the tubing into the groove and this in turn will be glued against a fuselage bulkhead, wherever the correct cabane position is.

For the wing attachment, I first measure exactly where the cabanes attach onto the wing. This determines where the aluminum tubing will be mounted. Again, using very hard balsa, I cut a couple of pieces almost as long as the wing ribs they will be glued to. I measure the distance between the front and rear cabane strut and transfer this measurement onto the balsa. This time the grooves will be made vertically, and four short pieces of aluminum tubing will again be Hot-Stuffed into the grooves. I let the tubing stick out either side of the balsa strip. It is necessary to do this so that the tube only comes flush with the bottom of the wing without the balsa strip showing through the covering.

Using the front and side-view drawings of the plane, I determine the exact shape and size the front and rear cabanes should be. Remember that there should be some positive incidence in the wing . . . meaning that the leading edge is a bit higher than the trailing edge. After the cabanes have been formed, I plug them into the fuselage, followed by the wing. Immediately, you'll see the strength of this simple assembly.

Now is the time to check for align-

ment. A tweak of a wire here or there should do it. When satisfied that the wing is accurately aligned, bend the diagonal bracing wire for both sides. I use Hot Stuff to hold them temporarily before soldering. This simplifies the wrapping of copper wire and the overall soldering process. However, avoid smelling the pungent fumes that are given off during soldering. Once this step is completed, you'll appreciate the strength of this set-up.

The next and final step is to cover the wire with balsa by sandwiching the wire in between the balsa strips. When this task is over and everything is assembled, there will be no hint as to how everything is attached. Again the strength aspect far exceeds the slight increase in weight.

I use this same system basically for attaching the center section of a gas powered biplane. The only difference is that I use heavier wire and larger aluminum tubing. Instead of plugging the cabanes into the wing, I mount the cabanes permanently into the center section. I do this by lacing and epoxing the cabane wire onto plywood inserts. In this manner, the model is completely finished and painted, and then the center section and cabanes can be plugged into the fuselage. By doing it this way you don't have to work around the cabanes as if they are permanently mounted in the fuselage. To me, it is a pain to have to sheet, sand, dope and paint around these protruding objects. By the time all of the rigging, which is characteristic of biplanes, has been added, you end up with a pretty stout assembly.

* * *

As most of you know who read this column, I'm a basswood freak. There is no model that I construct, including peanuts, that doesn't have some basswood. I realize that many of you do not have ready access to this super material. Well, fear no more! It seems that MB's control-line editor, Dan Rutherford, works for A&L Distributors, which distributes Northeastern basswood. Actually, the company is called Northeastern Scale Models, Inc. Those of you who have dabbled in model railroading are more than familiar with this company. Not only do they have stripwood in all sizes, they also have structural shapes, sheetwood, all of which would be of

(The following letter came to us from Dave Gibson. It is self-explanatory, and should be of interest to most free flighters. wcn)

"In a recent issue of MB (and published in 'Hannan's Hangar'), I suggested the use of Dr. Martin's Transparent Water Colors for use in adding color to tissue and foam plastic. In that same issue, in another column (F/F Scale), it was mentioned that this material contains aniline dye and care should be taken in its use.

"A phone conversation with Mr. Larry Salis, Salis International, makers of Dr. Martin's colors, brought some interesting information. Larry pointed out that while Dr. Martin's does contain aniline dye, it is in very limited quantities in their water colors. In fact, only a few ounces are used to make a 5 gallon solution. The firm has been mixing their own colors since 1936, and are aware of no health problems arising in that time among workers. Further, it is not their workers who are checked medically every year, but rather those people who work in factories which manufacture the aniline dye. Salis International does not manufacture aniline dye.

"The most interesting fact of all was learned when Larry pointed out that Dr. Martin's dyes have a lower concentration of aniline dye than do food colorings approved by the Food and Drug Administration!

"Any special instructions and cautions in using Dr. Martin's colors? According to Larry, "If used 8 hours a day, every day, avoid prolonged skin contact. Otherwise it should be treated as any foreign substance would be, and neither ingested, nor applied to the body continuously."

"Sounds like what is required is simply good common sense, as with all model making supplies and materials."

interest to most scale modelers. They have I-beams that make excellent wing spars.

Northeastern's address is Box 425, Methuen, Mass. 01844. They have a 4 page catalog you ought to write for. A&L Distributors, Inc. 16509 Saticoy St., Van Nuys, CA. 91406, has the basswood in stock. As I have mentioned in the past . . . Vintage Aero also has basswood in popular sizes. If your hobby dealer doesn't carry basswood, contact one of the above. •

Pylon Nats . . . *Continued from page 25*

incredible number of mid-air collisions that occurred. I didn't keep track, but there had to have been at least 18 to 20 mid-airs. Several airplanes got hit with radio problems, one of which was Bob Violett's beautiful Loki, which had been awarded the Number One spot in the handicapping. It just rolled over on its back and dove into the ground at full speed, heading towards No. 1 pylon during a race. John McDermott wiped out his beautiful Number 1 Lil' Toni against pylon No. 3 on the 10th lap of a race. Most surprising was the number of "hot dogs" that were having trouble screwing in their needle valves in the damp cool weather, and the number of goose eggs on the scoreboard made the place look like an egg farm.

Probably the most incredible event of the races was the return by Whit Stockwell from a mid-air, the plane looking like scrap as Whit carried it back to the pits. It seemed as though he was out of the racing, as he hadn't brought a back-up aircraft. Next morning, though, he was back out with the same airplane, but with some borrowed parts from other mid-airs and a lot of overnight work to make a flyable airplane. Surprisingly, the plane flew remarkably well with only minor trim problems . . . check the photos for what the airplane looked like. Whit was using an ST X-40, and in the spirit which accompanies racing, it was people from K&B Manufacturing who were most instrumental in getting the plane repaired.

(Jim's notes failed him just a little, here. We happened by for Whit's first "after-repair" flight, and after the first or second lap, it was obvious that something had gone wrong. The plane was suddenly all over the sky and almost impossible to handle. The engine started sounding like it had just finished a big, rich bowl of hot chili con carne, burping constantly, but refusing to quit. Whit physically, and the crowd mentally, wrestled with the beast until the tank finally dried up, and amidst cheers of relief, he got it down . . . not too gracefully, but in one piece. You've probably guessed it . . . the servo tray mounting blocks had come loose from vibration. Following re-epoxying, complete with glass cloth reinforcing, Whit went out and put in a blazing final heat. wcn).

Murphy's Law was in full effect also, as Terry Prather ran afoul of him when, after starting his engine during one race, he leaned over to move his starting equipment out of his way and was turning back to his plane when he stuck his thumb into the prop. The prop shattered on impact, and while Terry was checking his thumb, Al Prather was busy shoving the spinner into the ground to shut the engine off. Terry came out with only 5 stitches, ably put in by fellow racer Dr. Barett. Steve Sica, right up there in contention for one of the top spots, also ran into Murphy, as during his last regular heat race, a plastic bag flew out of nowhere into his running prop . . . killing the engine and giving him a zero, as he was unable to get his engine started within the 90 second time limit.

Saturday, last day of regular racing and whatever flyoffs necessary, was also a rainy, overcast day. The only bright spot was our Publisher, Bill Northrop, wearing his customary cutoffs, which allowed his irradescent orange socks and bright orange rain jacket to leave everyone he came near thinking the sun had just come out in full force.

There was only one flyoff in Formula 1, and that had Bruce Richmond and Bill Pries meeting to determine the third place winner. Pries was in the Number One slot and was in the air with a slight lead over Richmond. Pries kept the lead until the 3rd lap when, while being pressed hard by Richmond, over-rolled around pylon No. 3 and pancaked into the runway, killing his engine and giving 3rd place to Bruce Richmond. Bill didn't damage his plane very badly, but it was enough to ruin his day.

Bruce Richmond also took the Junior-Senior trophy as he had finished highest in the standings of all the Jr. Srs. entered.

It had taken until the third day of racing for someone to break the 1:20 bracket, and it was done by Bob Brogdon with his K&B powered El Bandito, turning 1:19.9.

Results of the top 20 appear elsewhere in the column. Up at the top, in the number one slot, is the flyer from North Carolina, Dave Pearce, the same guy who took all the cookies in Q-M. Dave didn't post the fastest times of the meet, but his smooth, consistent flying, coupled with his obviously careful aircraft and equipment preparation, enabled him to win it all.

We'll close out with some comparisons to other NATS. In 1974, a total of 78

entrants showed up to race F-1, and the best time turned was 1:14.9. In 1975, a total of 49 flyers entered, and best time was 1:19.3. This year's NATS had 81 entries, and fast time of 1:19.9.

Well, there you have it! Somewhere in there should be some food for thought. Like; with Quarter-Midget entries equalling the Formula 1 entries, wouldn't you say they've come of age? Like; with the Dayton site outdrawing the last two NATS in entries, isn't this a good place to hold another NATS (1977, for instance??)

Catch you next month, and SEE YOU AT THE RACES!!

P.S.

I just got the photographs back from the processor and what a disappointment! I took over 200 photographs and the processor has totally ruined over 100 of them by leaving chemical spots on them or by what appears to be marks on them from running a squeegee over the negatives. I only mention this to let you know that the photos of the winners of Formula 1 were among those destroyed. Also, I had a great photo of hard-working Nancy Hager and really wish I could have run it in tribute to her.

If I missed taking a photo or mentioning someone's name who helped make this a success, please forgive me and accept my thanks on behalf of all the pylon racers who attended.

Jim. •

OFFICIAL RESULTS FORMULA 1

1.	Dave Pearce	Lil' Toni	S.T.-X 40	1:26.5
2.	Kent Nogy	LR1A	Lee K&B	1:22.6
3.	Bruce Richmond	Lil' Toni	K&B	1:22.1
4.	Bill Pries	Stegal Minnow	STX 40	1:22.2
5.	Terry Prather	Lil' Toni	STX 40	1:21.5
6.	George Zautner	D.S. Rickey Rat	STX 40	1:22.3
7.	Steve Sica	D.S. Rickey Rat	STX 40	1:23.8
8.	Clay Moncrief Team	Lil' Toni	STX 40	1:21.4
9.	Bill Williamson	Lil' Toni	STX 40	1:21.9
10.	Charles Brunner	Stegal Minnow	K&B 40	1:31.1
11.	Jim Stegal	Stegal Minnow	K&B 40	1:22.0
12.	John McDermott	Lil' Toni	STX 40	1:22.8
13.	Dan Kane	Lil' Toni	K&B	1:27.9
14.	Ronald Schorr	Minnow	STX 40	1:31.0
15.	Tom Christopher	LR1A	STX 40	1:33.3
16.	Whit Stockwell	Lil' Toni	STX 40	1:20.0
17.	Peter Reed	Lil' Toni	STX 40	1:26.0
18.	Art Chambers	Lil' Toni	STX 40	1:28.2
19.	Greg Doe	Lil' Toni	K&B	1:29.0
20.	Bob Mellon	Lil' Toni	STX 40	1:33.1
Fast time in Formula 1				
	Bob Brogdon	Bandit	K&B	1:19.9

OFFICIAL RESULTS QUARTER MIDGET

1.	Dave Pearce	Lil' Toni	Rossi	1:37.1
2.	George Parks	LR1A	Rossi	1:39.4
3.	Gale Helms	LR1A	Rossi	1:39.3
4.	Gail Jacobson	Cosmic Wind	Rossi	1:40.9
5.	Bob Ruether	Cosmic Wind	Rossi	1:38.7
6.	Greg Doe	Minnow	Rossi	1:39.5
7.	Jim Moorehead	Lil' Toni	Rossi	1:50.7
8.	David Boyte	Cosmic Wind	Rossi	1:51.0
9.	Al Grove	Cosmic Wind	Rossi	1:47.8
10.	Brian Richmond	Mustang	Rossi	1:49.3
11.	Ray Bingham	Cosmic Wind	Rossi	1:49.0
12.	Wm. Hempel, Sr.	Dara	Rossi	1:48.1
13.	Dan Kane	Toni	Rossi	1:50.7
14.	Gregory Tiffany	Cosmic Wind	Rossi	1:49.6
15.	Bill Weesner	Toni	Rossi	1:40.2
16.	Duane Gall	Paranoia	Rossi	1:49.5
17.	Dave Robertson	Lil' Cobra	Rossi	1:38.4
18.	Wayne Yeager	Proud Bird	Rossi	1:42.9
19.	Harold Watts	Cosmo	Rossi	1:50.5
20.	Leonard Wiederhoeft	Super Shoestring	Rossi	2:02.3
Fast time in Quarter Midget:				
	Tom Christopher	Rickey Rat	Rossi	1:35.1

F/F Nats . . . . . *Continued from page 50*

you fly B Gas, get one. Reportedly, you'll get 23.5K with a 8 x 3.5 prop, right out of the box.

With the heat building during the day, the models with the plastic covering were experiencing trim changes and consequently erratic power patterns. One such ship, a Mid-Pearl, went streaking head-high over the crowd for 60 or 70 yards before it finally began to climb straight up, the engine cutting at around 7 seconds. Transition was poor, slipping down to around 50 or 60 feet into a glide, then bumping and bumping into obviously strong lift. At 2-1/2 minutes it was nearly a speck in the sky . . . then it DT'ed early and came to earth just under a max . . . kind of a good news-bad news story of the day.

Contrary to reports from last year's Nats, B Gas was very competently flown . . . in fact, the standard was very high. Smaller models were predominant, but some 600-700 sq. inchers were around, most powered by S.T. or K&B .29s.

Open Coupe was won by James Lewis of Georgia, who also had high time. He got the NFFS Dick Black Memorial Trophy for his efforts. Later, Jim was to also get high time in Unlimited Rubber and with it the premier trophy of the Nats, the Mulvihill. With the emergence of some good kits in Coupe, 69 contestants entered this

event . . . a far cry from the first Coupe event held at the 1967 Los Alamitos Nationals as an unofficial NFFS event, with around 25 contestants. Lewis' 1219 points overshadowed all the opposition (that's ten maxes, boys). The ol' Perfessor, George Perryman, was second with 688. Junior-Senior was taken by Scott Clark with 439.

Payload was held at Dayton, and this reporter was unable to get over to Wright field to cover the event, but Dan Murphy won first in Junior-Senior with 335, and Open was taken by Ted Dick at 423.

Processing for the next day was held Tuesday night, as was the MECA dinner and the first annual MECA Nats meeting. I went to the MECA doings. This gave me a good opportunity to needle my Seattle buddies, Tom Cope and Don Dodd, who are self-recognized experts on nearly everything . . . until you pin them down. The MECA organization (Model Engine Collector's Association) is into collecting nearly everything, including engines, having to do with models present and especially

past . . . and then talking, trading, selling and buying from each other. Probably more talking than anything else takes place, but they do have a good time.

A GAS BECOMES ANOTHER FAI POWER EVENT

Wednesday was A gas, Unlimited Rubber and Cargo. A gas was a real cooker. The top three in Open were flying FAI Power models, complete with cold fuel, seven second engine runs and the usual weight penalty. Rol Anderson won it, flying his Cox 15 powered ship to 10 maxes. Lars Olofsson flew his "Korla Plankton" to 9 maxes and 97 seconds. Rol and Lars were flying from the same place, using Rol's equipment. They were putting up maxes one after each other all day long. The weather was a repeat of the day before, but with just a bit more wind. Thermals were reasonably easy to find . . . if you were patient.

The last flight was put up just before 4 p.m., when the runway had to be cleared for regular airport operations. Lars launched . . . after a long wait for good air . . . but just a bit early, as it turned out. Rol went immediately after and got into light lift, just enough to scratch out 3 minutes with only a couple of seconds to spare.

The "Korla Plankton" will be featured in **Model Builder** in the near future as a construction article. Bob Sifleet placed 3rd ahead of Sal Taibi. He was flying a squared-off Centaur. Guess what Sal was flying! Hank's boy, Steve Spence, won Junior A Gas with 4 maxes and 81 seconds.

What were they flying? Satellites by the dozens and Midi-Pearls . . . Mini's, too. Some Stardusters and Okie Birds. Most of the models were bigger A ships, rather than .051 powered 1/2A models . . . or so it seemed.

Unlimited Rubber with 3 minute flights should have had many maxes . . . and it did. Joe Mekina maxed out in Senior with 6 plus, and all the top seven in Open did it, but Jim Lewis did it better with his seventh flight (7 minute max), and finally dropped his eighth with "only" 242 seconds (that's 7 minutes and 4 seconds!). Junior Brad Fulmer made his first 3 and dropped his first flyoff with 112; but good enough for first place.

AS DAVE WHATSISTRUM WOULD SAY, "THE LUCKY LINDY LIVES"

After the trophies were presented that afternoon, which was how all trophies were awarded this year, FAI C.D. per excellence, Floyd Miller, began processing FIC models. Standing in line with Lars G., I was suddenly aware of another 3-fin model ahead of us . . . complete with many patches, checkerboard red and white front of fuselage, S.T. G 20, and Tatone Timers. Looked like a Lucky Lindy. It was. Processing it was none other than (sound of trumpets, ta-da) Larry Conover! Sez he's getting back into Power. Nice chatting with him. The Lindy, basically unchanged since it was last flown in 1965, was not too lucky the next day, though.

That evening, the Ninth Annual NFFS Symposium was held at Wittenberg, with about 150 free flighters in attendance. The new format of the Symposium has eliminated the sometimes deadly technical oral presentations of the past, and now concentrates on the Top Ten Models and other pertinent topics of interest. This year, moderator Rol Anderson presented John Worth and John Clemens, to answer questions regarding the CIAM proposal to create a 3 year cycle in all FAI World Championship Events. Lars Olofsson described his FAI Power winner, "Uncle Remus," and answered questions about FAI activities in Sweden. Bucky Servaites presented his top ten indoor winner, "Plain Vanilla," as did Tom Hutchinson with his "Ultimate Dragmaster" A/2 winner. John Pond, special award winner, was not present, as expected, to trace the development of the Old Timer movement. Bob Stalick, current FAI F.F. Committee Chairman, followed with a description of the current FAI program and further questions on the effects of the proposed 3 year cycle. The meeting ended only 2-1/2 hours later, with a repeat showing of "180 is Max", an excellent FAI film of the Save, Sweden World Champs. Symposium reports were sold for $6.00 and if you didn't get one of this year's . . . a super edition edited by Ray Harlan, you can by adding 75¢ postage to the $6.00 and sending the check to NFFS Plans and Publications, 5641 Diamond Hts. Blvd., San Francisco, CA. 94131. Add $2.00 for Airmail in U.S.A., $2.50 to Europe, $3.25 to Far East. The Top Ten Editor for next year's Symposium is Clarence Mather, 3860 Ecochee Ave., San Diego, CA 92117. If you have a nomination, drop Clarence a letter.

UNLIMITED-UNLIMITED RUBBER KICKS OFF THE COOL THURSDAY COMPETITION

What is Unlimited-Unlimited? Well,

it's a single flight flown at dawn and the rubber model that's in the air the longest on a single flight wins. The Toronto free flighters sponsored this one. This time, George Perryman's "Great Speckled Bird" pulled it off with a no-thermal flight of 362 seconds.

At 7 a.m., the other models filled the windy and cool air. A/1 towline was a wing snapper's delight. Many Topkicks and a few Jetstreams were out. As the day wore on, the wind picked up considerable speed. The typical A/1 is marginal under tow anyhow, but the wind made it even worse. Hand Launch Gliders were really a sight for sore eyes. Two minutes is a long time to keep one in sight with 15 mph plus winds. Ray Harper placed first in Open with 3 maxes, flying his own "Max Flyer" design. Jim Geraghty flew the same design to Junior first with a total of 225 seconds. Carl Goldberg, who has taken up residence in So. Cal., was there flinging a hand launch glider into the wind. Shagged them himself, too. No motorcycle or bike for Carl, unlike what the younger competitors were using. There was a total of 222 entries in HLG, all ages combined . . . a good turnout.

FAI power (or FIC, if you prefer) went down to the wire, with both Gil Graunke, of the Bong Eagles, and Doug Galbreath, making all maxes. Doug was using the new Cox .15 and Graunke a Rossi. Both models were the now standard all sheet, rear fin types. Flyoffs in Power were scheduled at 6:30 A.M. the next day. Because of the wind, Lars Olofsson flew an older rear-fin power model, and ended in 4th place behind Bob Sifleet. Joe Mekina won top Senior award in Power . . . there were no Junior entries.

Rubber scale and outdoor Peanut were flown at Dayton, Thursday evening, and were not covered by this reporter.

NEVER COUNT YOUR CHICKENS UNTIL THE LAST ROUND IN WAKEFIELD 'CAUSE FUNNY THINGS HAPPEN.

At 6:30 Friday A.M., the big FAI Power flyoff between Graunke and Galbreath took place. Launching at nearly the same time, Galbreath hit a guy wire during the glide, and Graunke stayed in the air an additional few seconds to win it . . . and the McNeill cup with its Rossi engine bonus.

Gil Graunke has a very scientific approach to trimming his Power models. He takes a portable tape recorder with him to the flying site and records his comments regarding engine runs, transitions, rpms, adjustments made, etc. After he returns home, he records his comments on paper for future reference . . . Dedication.

Half-A Gas and Wakefield were flown Friday. Old Man Weather was waiting. It rained and it blew. The Wakefield launch site was moved three different times to avoid the corn, but it still beckoned.

Wakefield ended up being a wind and wait contest (the waiting taking place in vans and under awnings). A flicker of decent air would bring out the ships for a quick toss into the air. Joe Macay had it all to himself through the sixth round and looked unbeatable. Flying a long running motor on a good gliding model, he was the man to beat. In the end, though, it was quiet Willard Smitz who won it with 1228 seconds, after Joe dropped 112 seconds in the last round . . . which was only good enough for 4th place.

Some really interesting developments are happening in Wakefield. Don Monson was flying a huge prop . . . single bladed and built up like an indoor model, covered with tissue. Motor run was in the 50 plus second category. Macay was using a 50 second plus motor run, too. Paul Crowley had some of the lightest solid balsa wings I have ever seen.

Willard's win, made with a standard low pylon, built-up and tissue covered model, made a clean sweep of the FAI events for the Bong Eagles. Smitz in A/2 Graunke in Power, and Smitz again in Wakefield.

Half-A gas was an instant carnage event. Many kit models, but a great number were either untrimmed or unable to handle the wind and rain. Satellites again were very evident, but as in the larger classes, some of them appeared to have problems. The patterns tended to be either a straight-out climb at a shallow angle with a good transition to a left glide, or a steep, slightly right climb with a left glide after losing over 100 ft. in a sweeping transition. The best examples were the GLH Series, flown to a right spiral climb with right glide. Other models seen were Dusters of all sizes, Mini-Pearls, Orbiteers, Witch Doctors and Okie Birds.

Carl Goldberg was there in 1/2A, too, but not with his near-antique Viking. He was flying a new and small high thrustline ship, covered with transparent Monocote and tentatively called the Skyrocket. Flew it well, too. Maybe, Carl should have flown the Viking, because Lee Campbell flew one to 4th place in Open.

PROCRASTINATION DOESN'T ALWAYS PRODUCE WINNERS, BUT IT WORKED FOR DICK COVALT

Open 1/2A was won by Dick Covalt, who was flying what looked like a derivation of Harry Murphy's Lunar-tic (from MB). Dick didn't start putting in official flights, though, until 3 p.m. He completed all of his officials plus his second flyoff flight before the 4 p.m. closing time, thanks in some measure to the Dick Covalt chase team, which was hastily formed at 3 p.m. and headed by Phil "Silk" Sullivan. Bill Burks, of Texas, who had the best looking model-box/cycle carrying/trailer at the Nats, took second with a Monocoted 300 sq. inch original called the B&B. Jim Clem took first in Senior with an Okie Bird and Steve Spence took Junior with 673

seconds, a time which would have been good enough for first in Senior and third in Open. Must be a chip off the old block.

JUST FLYING IN THE RAIN

Took a while for me to realize it, but the NFFS was sponsoring ROW on Friday, too. I should have realized that the models that were drifting by equipped with floats or pontoons were not flying off the rain-soaked runways, but were, instead, lifting off a pond, constructed just for ROW, down at one end of the field. I got there in time to see the last two official flights. Both Lee Campbell and Harry Murphy were flying Hydro-Stars. Others seen were large unlimited rubber model types, and at least one rubber scale model with pontoons. With the rain falling steadily all day, C.D. John Thornhill really didn't need that big tank truck to fill the pond, the rain did a pretty good job of it by itself.

WHEN THE WIND DECIDES TO BLOW, IT REALLY BLOWS

Welcomed by a cold and windy day, C Gas and Rocket were flown on the next to last day of the Nats, Saturday. Also flown was a special D Gas event, which had only a couple of entries. Early in the day, Doug Galbreath, flying his Cox 40 powered GYSOB (MB plan), looked like the one to beat. This model is truly impressive . . . straight up power pattern, a couple of clicks of the Seelig, and a beautiful soaring glide . . . right into the corn and trees! Hardy Brodersen took some time out of his schedule as an official, and flew his 660 sq. incher, HP 40 powered "Saltpeanuts" . . . right into the overcast. It was without question the highest climbing, fastest model at the site. A malfunctioning engine flood-off and wing flutter enabled him to claim the "deepest hole" award, however. Sal Taibi, the old master, placed second behind winner Bob Loeffler, flying his well used Starduster 900. Sal and son, Mike, were having to shag downwind three miles after each flight just to get the thing back . . . even fusing the model short didn't help much. Joe Norcross had what I consider to be absolutely the most decrepit model on the field. With about 37 colors of red, and patches upon patches, it was a much-used Duster 900 equipped with a K&B 40 and good enough for 4th place.

With only 2 fliers maxing out (Loeffler and Taibi), one might think that the level of competition was not high. Such was not the case. The winds were just very high, causing many to short DT, so that retrieval was more realistic. Bill Carney won Junior with 377 and Andy Barron took Senior with 506.

If C Gas had trouble with the wind, consider Rocket. At best, the Jetex 150 can power a well-trimmed model 200 or so feet into the air. With the wind, Rocket models were speeding downwind as quickly as they were climbing. Jim Bradley flew a perfect model for the day; a small area well-trimmed ship. It flew well enough for first place at 416 seconds. Some of the other Rocket winning times, however, were embarassingly low.

AND THEN CAME THE GOODBYES

And so it ended. The 50th F.F. Nats. An excellent contest, blessed with a very good site, reasonable weather most of the week, a large turnout, and a general camaraderie that is normally associated with the Nats. Because of splitting F.F. events from the other AMA activities, something was lost. Next year, with both Springfield, Ohio and Oxnard, California in the bidding for the Nats, perhaps the activities can all return to a single location.

What are the trends? Novice Pennyplane should help put an indoor rubber duration event back into the beginner's hands. If you want to win in Peanut Scale, build a Lacey or a Fike. The new rules are made to order for them.

Smaller models are predominant in the large gas events. Auto surfaces in A, B, C classes and a wider acceptance and use of prop brakes, with Tom Kerr's being the most popular. Hot Stuff and Zap are universal adhesives. Everyone uses them. Less use of plastic coverings than I remember from 1971. More tissue, but the quality of the available stuff is not too high.

Unlimited Rubber continues to gain in popularity . . . so does Coupe. And most are using winding tubes.

Lars Olofsson's models will influence more triple fin ships to be built in the U.S.A. . . . they are easy to build and fly extremely well. The Cox 15 is the engine that gives the Rossi competition. Wait for the Cox 40, it'll be worth it. In B Gas, the new K&B .21 (3.5) is the one without exception.

Use thermal streamers and bubble machines, either yours or someone elses . . . they were all over the place.

Dragmasters do it in A/2. Wire wing tongues in A/1 really help you keep flying . . . and winning.

The best thing going, though, is a well trimmed model with plenty of practice. It was an excellent F.F. Nats. I'm glad I was there. ●

Westburg . . . . *Continued from page 21*

the PV-1 was not stressed for the higher speeds called for in a new spec. The fuselage frame was strengthened, wheel spats and new wings were fitted. The leading edge of the upper wing was swept back and the trailing edge of the lower wing swept forward to save some wing structure and to keep the aerodynamic center from being dislocated too far from the center of gravity.

The High Speed Fury tested a number of Rolls-Royce Kestrel engines and a steam cooled Goshawk engine. A physical fact was responsible for the expenditure of a considerable amount of time and money on an experiment that did not pay off. The heat energy required to change boiling water to steam is approximately five times that required to bring ice water to a boil. Conversely, the water needed in a steam cooling system is one-fifth that of the water needed in a water cooling system, and no drag inducing radiator is needed.

To prove this theory, the High Speed Fury was fitted with a constant chord upper wing equipped with steam condensing tanks in the leading edge, and thin tanks in the upper surface extending back to the 50% chord line. The experiment was less than successful.

It is difficult to keep hose and pipe connections from leaking in a stationary steam powerplant installation, and impossible in a light aircraft structure subject to all the strains and stresses of aerobatic maneuvers. Work on the Goshawk was abandoned in favor of a new Rolls-Royce engine, superior to any liquid cooled engine yet designed.

(To Be Concluded)

T-Air. . . . . *Continued from page 12*

necessary to mask off the appropriate areas and spray the Aero gloss black dope for the trim. The numbers were also masked off and sprayed.

Radio installation should present no problems. Just keep all components as far forward as possible to maintain a good C.G. without adding ballast.

I used a Veco 19 engine and a Kraft 4 oz. tank. I see no reason why larger engines, up to a 25, could not be used, but I wouldn't go much larger than that.

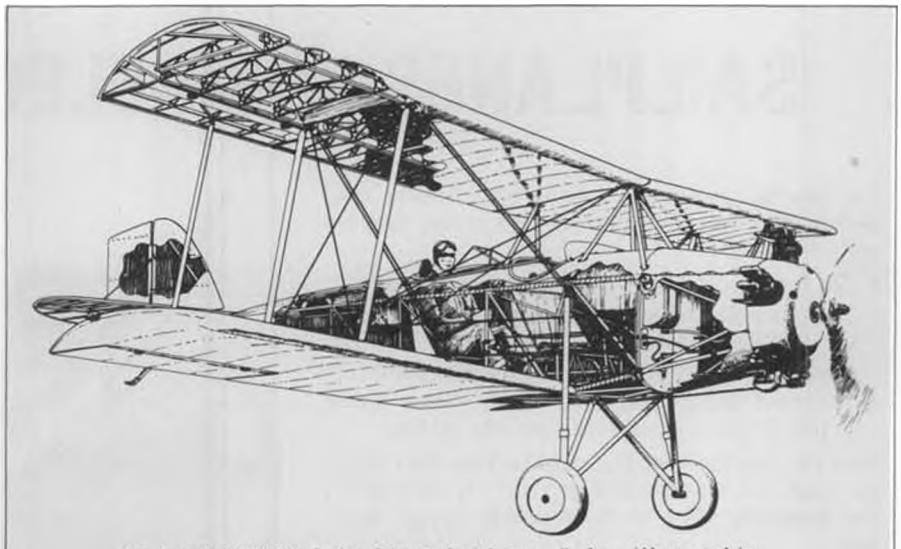
This aircraft is *very* responsive in flight . . . especially to elevator, and will perform snap rolls, faster than you can blink. It presents no problem on landing and takeoff. It is quite easy to fly. I hope you enjoy building and flying your Travel Air as much as I have. ●

NAMBA . . . . . *Continued from page 15*

roll after each heat, please remember my background and bear with me. I will quite gracefully accept criticism, especially since I have some of my own to make further along.

In spite of the lack of victory rolls, I was impressed. Any of our events, be they airplanes, cars, boats . . . either power or sail, or sailplanes that draw this large a number of contestants, in this case over 100, is impressive. I was glad to see the quality of the workmanship, and the degree of professionalism and preparation on the part of many of the contestants. In practice, it was pretty obvious who had done their homework and who hadn't

I noticed immediately that this was a well-organized event, being run by people who knew and cared what they were doing. The necessary equipment was there, from public address system, to timing devices, to generator, and it all worked, which also comes under the heading of being well prepared. A printed race schedule was available for EACH contestant; there was no doubt as to what day your events would take place, who you would run against, or the sequence of races during any given day. The CD and his assistants set and kept a reasonable pace, and when minor problems did occur, they were discussed with the persons involved, a decision was made, and racing continued. As the saying goes, you can't argue with success, and the fact that 114 persons competed with 230 boats in 190 heats certainly signifies a successful operation.



The VIKING KITTYHAWK designed by Frederick Royce Hamlen, illustrated by Richard Anderson. This meticulously researched plan is now added to the Golden Age portfolio. Many other fine plans available. For catalog send 50¢ in coin to GOLDEN AGE REPRODUCTIONS, Box 13, Braintree, Ma. 02184

Safety was also a prime consideration, as it should be at all of our events. The only delays were when some over-eager spectators had to be firmly but nicely asked to sit back a bit to prevent any possible unpleasantness.

Could it be that the smooth running is due to some unpublicized rule that he or she who does not cooperate is drowned?

When the roostertails settled and the wakes subsided, the final resulting winners were: (places and score)

A Mono

1	Glen Myrberg	1500
2	Doug Hole	1400
3	Gary Johnson	1400 (Time)

B Mono

1	Rodger Hooks	1600
2	Glen Myrberg	1500
3	Bruce Wren	1425

C Mono

1	Jim Whitlatch	1600
2	Sally Stewart	1225
3	Judy Prigley	1125

A Hydro

1	Bob Atchley	1500
2	Ralph Henry	1400
3	Leonard Feeback	1300

B Hydro

1	Frank Farm	1600
2	Gene Adams	1600
3	Glen Paykoff	1500

C Hydro

1	Jim Whitlatch	1600
2	Joe Bruzzese	1500
3	Dannie Jones	1025

Scale Hydro

1	G&P Racing Team	1400
2	Leonard Feeback	1200
3	Pal Jennings	1125

Sport 40

1	Ralph Henry	1600
2	Steve Muck	1300
3	Tom Di Leo	1225

40 Deep V

1	Dick Aubert	47
2	James Love	43
3	Larry Reynolds	41.5

60 Deep V

1	Judy Prigley	45
2	Douglas Nystrom	31
3	Don Reutlinger	30.5

One of the highlights of the race was Joe Bruzzese's record-breaking run in the third round of C Hydro. Joe, a dentist from Las Vegas, Nevada, broke the then existing record of 1:29.5, held by Ed Fisher of Seattle, Washington, with a new time of 1:28.1. This is a new International record of which Joe is understandably proud, and which he set with an Octura Models 'Wing Ding' powered by an OPS-60 engine reworked by Hap Williams of Livermore, California. Control was with a Kraft Systems radio. Our congratulations are added to those of the crowd at Legg Lake.

Special congratulations also to Frank Farm, from Hawaii, who must be the one to place highest of their group. A most congenial group they were too, about fourteen of them, though I felt it would have been more fitting that they come over by ship. But concessions have to be made to time. Just don't forget my mangos next time, Paula.

As mentioned earlier, I have some questions . . . or criticisms. First, speaking as a landlubber, I would have welcomed more information. I will stress that I was fortunate to know a number of the boaters there, and even those who I did not previously know were most helpful with information and carefully and completely answered all my questions. Even the dumb ones.

But Legg Lake being the type of place it is, many of the spectators were there not primarily because the race was there. They were general public, there for their picnic, stroll through the park, or simply to get some relief from the rather hot days we experienced over this weekend. Many stayed to watch, and for them I feel that some commentary over the PA system would have made the day more interesting, and who

knows, maybe even earned us some converts.

Some basic information between heats could have been possible, such as engine and boat sizes, scale and non-scale, why five laps for some and the next group runs on and on and on. That took a bit of figuring, that the object had changed from who can do five laps first, to who will complete the most laps in ten minutes. No, the fact that the race was for the racers is not forgotten, but let's face it, we all like to do our thing before an appreciative crowd, and they will be moreso if they understand what we are up to. They would possibly feel more welcome, too.

The second question I have is probably more for NAMBA than it is for the officials of this event: WHERE ARE THE JUNIORS? Admittedly, this is a problem that all phases of modeling share, and all R/C events are overloaded with adult entries, but, in most R/C competition that I have been to, there were some youngsters entered. Some have been disgustingly successful; such as Rhett Miller, from Florida, in Pattern flying, John Simone Jr., Mission Viejo, California, in Helicopters, and in my Quarter Midget Racing Club there is 11 year old Timmy Holden, who barely displaces more than a K&B 6.5cc, yet manages to take off, fly ten laps, and land all in one piece.

At this race, I did not see a single contestant who looked to be less than in their twenties. It can't be the expense; all R/C is expensive. It can't be the lack of excitement, R/C boat racing hardly looks boring. It can't be the difficulty involved in building and getting a boat to run competitively; airplanes cars, and helicopters are complex and difficult too.

I don't know the answer, I can only see the problem: Where are tomorrow's Bruzzeses, Whitlachs, Stewarts, and Adams coming from?

Lack of information? Hard to believe, but possibly so. Bob Preusse is currently doing a series of articles planned to help beginners, and possibly some of the more experienced but not yet expert. Do we need to get more basic than that and start with an article that says, 'To get into radio control boating, first find some water'?

Would it help to publish plans for an inexpensive non-record-setting training type of craft, such as we do for airplanes? If you have any suggestions or contributions, they are all welcome and will be considered.

Maybe this was a freak event, and all the boating kiddies were elsewhere. But if this is the way it is everywhere, some persons closer to boating should evaluate the situation and come up with a sea-going Delta Dart program. If we at MB can help, we are willing and ready.

All R/C'ers share in the fun, the companionship, the frustrations, and the problems. I even heard the same remark I've heard, and said, at flying fields many times: the losers saying, "Boy, just wait 'till next time." •

R/C Auto . . . . *Continued from page 37*

eight drivers. In drag racing, there were double elimination runs as usual.

The biggest problem with the race schedule was the first day of oval racing. A little late start, two practice rounds (or more for some), then a practice round and a 60-lap heat, ran the racing very late. The last expert heat started just before eight o'clock, finishing about 8:10, and it was really dark. Jim Crawford had the worst experience of the heat . . . somebody (spectator) turned on their 1:1 car high beam lights right in his eyes . . . temporary blindness caused him to really blast his car into the wall and put him out of commission. The next day Crawford ran his good clean heat. His power was good, but his driving technique is what did the trick. Jim's car was handling well, but he would back off if he was getting to a car, or cars, on his line, and pick his time to pass. His driving was great, to post fast time in an early heat. Carwford's time held up for second place and wasn't beaten until the last heat.

John Thorp had his oval car running

the best I'd ever seen it go. The new K&B 21 really put John right up there in contention, with plenty of power. Besides that, his car was one of the smoothest running cars on the track down the straights. I think his car and mine bounced the least down the back straight, allowing us to set up for the north corners (No. 3 and No. 4) better than most. John ran a good race to win his heat and place third overall.

In the last oval heat, there was Arturo Carbonnel, Roger Curtis and Gary Kyes (and three or four more). Arturo had the fastest car, but got into trouble on the front straight and went end-over-end several times, hitting the pit lane separating wall with the car going backwards. Apparently, the car hit in such a way as to break off the idle fuel needle valve from the carbuetor . . . so Arturo was out. Meanwhile, Roger Curtis was in the lead by about a half lap over Kyes. When Roger pitted, Gary took the lead until his pit stop, then Roger was again a half lap ahead. Gary Kyes seemed to be a little quicker around the track and could pick up a little on Roger Curtis, but when they'd get to other cars, Roger always seemed to be able to pass better without getting into trouble. So in the end, Roger Curtis won, and posted fast time; and Kyes officially finished one and a half laps back with a time good enough to get fourth place overall. Gary's team protested, claiming a lost lap, but the protest was disallowed. I thought Kyes was only a half a lap down. The top three or four finishers, even though they were in different heats, all were essentially on the same lap after 60 laps of racing. Too bad there wasn't a main event for these guys to race head-to-head.

Before going on, a few words about the track. The track site was a K-Mart parking lot. The surface macadam, with medium size gravel in it, with a little of the surface washed away. Traction was reasonably good right from the start, but the far (back) straight had a few bumps in it, starting about half way down (in the counter-clockwise, oval race direction), up to the entry to the north corners. Oval cars, with less aerodynamic down force and lots of power, had quite a problem with bouncing . . . they could completely get out of shape, which would really foul up the north corners. Large diameter soft tires, springy chassis, gobs of power, and low aerodynamic forces all accentuated the problem. G.T. cars and Sports cars went the opposite direction, but didn't seem to have quite the same problem. The G.T. Cars had superstock engines and low nitro fuel, so power was down and probably the bigger rear wing helped. Sports cars had lots more aerodynamic force, so that helped too. Also the fact that the back straight was essentially common to both oval and road courses meant that traction was always improving. With better traction, the G.T. and sports cars just wouldn't get out of shape quite so badly, plus you had half a straight to get lined up for the next (to the south) corner. All-in-all, though, the track surface and track layout were great . . . besides, everybody had the same surface and course.

With oval racing over, the track perimeters for drag racing were set up, as were the Christmas tree (starting lights), timing lights, and master console. Then both the Funny cars and Rails went out for practice. Quite a few guys (Harold McCoy, Bill Jianas, Bill Newlin) got in several runs, getting their engines set about right, while lots more had radio, brake, fuel feed, and leaning out problems. One car I especially wanted to watch was Carl Petri's Funny car, with a gyro stabilizer no less. But Petri encountered radio problems about half way down the lane and blasted the boards at full bore, destroying much of the car, including the gyro (more on this car next month).

Next came Funny car qualifying to set up the elimination schedule. Bill Newlin had a great run to get 3.20 sec. for best qualifying time. There were quite a few close runs in Funnies that really had the crowd excited. Toward the end, it was getting dark enough that the timing lights at the end gave a great visual indication of the cars crossing,

first one then the other, even when there was only a few hundredths of a second difference. In the semi-finals, Bill Jianas defeated Reba Steel (who had gotten down to 3.30), and Harold McCoy topped Bill Newlin. Then Bill Newlin defeated Reba Steel for third. Going into the final, Jianas had the lane choice, and picked McCoy's favorite lane. Both cars had a good start, but Jianas had a little edge off the line. Bill Jianas had the lane choice, and picked McCoy's favorite lane. Bill Jianas had a terrific run to win, and also established the low e.t. of 3.17 seconds.

The Rail runoffs Thursday morning did not seem as exciting due to fewer entries and lots of problems on the line. There were several good runs and some close races, but not like the Funny cars. Harold McCoy ended up winning the Rail final against Bill Steele, who was running Harold's back-up machine. Harold McCoy also had low e.t. of 3.04 sec., well above his West Coast times of around 2.8 sec.

Now it was time for the G.T. cars with superstock engines to hit the track. After a little time on the track, the G.T. cars were going really great. Each driver class (C, B, & A) got one practice session, then there was a practice and a qualifying heat for each class.

Tom Krygiel's 'C' class time would have put him about 6th in the expert class. My 4th place time and Bob Titterington's time was only about 12 seconds behind Gene Husting's fast time. Right off the start, I got bumped hard, forcing me to go through some 'Botts dots', and into the tires at the second corner. A 'Botts dot' was caught between the front bumper and tire, jamming the steering. By the time it was cleared, I was down about 3/4 of a lap. So I felt my time was as good as Gene's time, and with the engine leaned down a little . . . we'd have a good race. I don't think engines from any region were much different than any others. Husting had a high-rev Jeff Thompson prepared engine, I had a torquer-low-rev engine, and the mid-west had some in-between. I'll have a report out on several of these engines in a couple of months, so you can see the wide variation of Super Stock engine set ups . . . but which didn't have much power difference.

On Friday, the G.T. schedule was practice, then a qualifying heat for each driver class (C, B, and A), and finally, the main events for the top drivers. I got to sleep in a little here, because the 'A' class didn't start 'til quite late. Even though traction had come up quite a bit, the times didn't improve. A lot of people, including myself, began experiencing rear end hop . . . both on initial acceleration and braking with any turning. I changed to a little harder rear tire compound; it helped some . . . but I only had one set of harder rubber which I was sure I'd need for my sports car. So I hoped the tires would wear down in order to get less bounce.

In the G.T. Superstock mains, there was good competitive racing in all the driver classes except Novice, or Class C. Tom Krygiel just ran away from the rest of the field. The 'C' race was really for second place. Krygiel just ran a smooth race and won by about 5 laps. Tom works for Dell Fisher and I'm sure Dell's assistance really helps. The 'B' main was a good race. For awhile it looked like Bill Rattey was going to pull it out for a win, but his engine seemed to richen up. With the engine rich, Bill could really blast through the infield, taking some of the corners super . . . but down the back straight everybody had him beat. Roger Berquist won the 'B' main with a good driving car and a good sounding engine. Clete Dart and Bill Newlin placed 3rd and 4th, but had a chance to win if Berquist and Rattey had any problems. Before the race, I thought Bill Newlin had a good chance to win . . . his car was running extremely well earlier . . . but he had some steering servo problems.

According to the qualifying times, the expert Superstock main would end with 7 of the 8 cars in the same lap. So many were expecting a very close race. But the race didn't develop that way.

Gene Husting drove a really smooth race, and had about a lap lead on the entire field at the half-way point. Gene ended up winning by over a lap, with Rich Lee in second place. Gene and Rich were probably the only two guys who had their cars running as well in the main as in qualifying (Rich Lee was the 8th qualifier). Husting's average lap time in the longer main was slightly better than in qualifying, due to the fact that only one pit stop was made in each race. The rest of the racers had their problems. Gary Kyes was in and out of the pits several times to lean out his engine . . . the needle valve was loose. My car continued its hop even as the tires wore down and never handled right. So Gene Husting won his first nationals event with a good drive and the right tire choices.

There was a little time left, though it was getting dark, and sports practice started. Many racers were at the Nats just for the sports car event, so they were anxious to get on the track. We had gotten used to the Superstocks on the track, and their speeds were good, but the unlimited engines really screamed . . . sounding like angry hornets. The traction was good enough that the sports cars handled quite well. The extra speed caused some problems at the end of the back straight and some of the other corners. The lap times were a little better than the Superstocks, but not much.

After the Saturday sports first qualifying round, it was still early in the day, about 5 pm, but the race committee informed the racers that no more sports practice would be allowed. The reason given was that the boards on the infield and outlining the track were being destroyed, and there might not be enough replacements to last through the Sunday races. It's too bad that something like this occurred. Many of the racers had traveled a long distance, and should be allowed to get their cars adjusted to be in top running condition. Some did not run Superstock, getting in road practice . . . so they only got four hurried five-minute practice sessions (and the two qualifying heats) to learn the track and get their engines and cars adjusted. Too bad.

Going into the 'C' class main event, it looked like a race between Tom Kyrgiel (486 sec) and Dick Behrend (495 sec). The rest of the field qualified back about 25 seconds. It wasn't until about the middle of the 'C' main that Tom Krygiel took the lead and then went on to win. Jack Mueller and Neil Tilbor took second and third, respectively, with 49 laps and only 5 seconds separating them. Georgia Campbell was next at 48 laps, and the rest of the field about 5 laps further back. The interesting thing here was that Tom used his Superstock engine, but with a 40 size carb and more nitro. Even at that, his 50 lap G.T. time with 19 carb, K&B 100, and G.T. body, was 30 seconds faster.

In 'B' road, little 'Re-Pete' Fusco had the fast qualifying time with Bruce Oakley 6 seconds back. Before the main started, Bob Stevens, the announcer, was requesting that a large tool box be removed from the drivers' stand. Shortly, he found that the tool box was for little "Re-Pete" to stand in order to see over the railing properly. 'Re-Pete' had some problems in the race, and was in the pits quite a bit, dropping him way off the pace. Phil Henzig won the 'B' Road main by a lap and a half over Bruce Oakley (2nd) and Gene Wallingford (3rd). I really enjoyed watching Wallingford's cars (his G.T. as well), because they looked so super-realistic. Gene placed third in the competition concourse with one of his cars. Jeff Rold didn't make the start because of a broken wire on one of the radio connectors. The wires had to be cut, stripped and spliced, so Jeff was down about 8 laps right away. Rold's car was really going great . . . the fastest car on the track . . . and he ended up 6 laps back.

At the start of the 'A' Road main, Bill Jianas, top qualifier by 15 sec., broke out in front at the start with Jay Costa. They tangled between turns 1 and 2 and Bill spun out. Just about every car in the field hit Bill, and he eventually

got started about half a lap back. After four laps, Arturo Carbonnel's car came to a halt . . . the flywheel had come loose. So Jay Costa was out in the lead for quite a while, with Gary Groosenbacker, Roger Curtis, and Mike Queller not far behind. On the pit stops, I think Groosenbacker had the lead for awhile. But in the meantime, Jianas was coming up all the time. By lap 40 Jianas had the lead, but couldn't stretch it out over Roger Curtis and Jay Costa. At the finish it was Jianas in front of Curtis and then Costa, with only about 5 seconds separating all of them. What a finale and a great win for Bill Jianas. It is interesting to note here that Gene Husting's Superstock time would have put him in fourth place in the sports road main.

During the Nats and at the ROAR meeting after the race, there were many discussions and comments about the rules and race conduct. A few of them have some merit, so I'll mention them. Racing always seems to run longer than expected. Most drivers (particularly experts who are the ones to drive in the dark) feel that the time schedule should be moved up an hour. So possibly the race shcedule should start at 7 AM, with no races planned after 6 PM.

When we got to the Nats this year, we didn't know whether there would be main events or not. The ROAR Nats Committee should define the program. Qualifying or heat lengths would be determined by the number of entrants and whether there is a main. I personally feel mains are great because it's head-to-head racing of the best drivers at that meet . . . and whomever wins that race is really the winner.

Next, a few changes to the Superstock rules may be in order. Racers should know well ahead of time what engine parts are allowable. A list of approved engine parts should be published in Rev Up. Only parts that have been approved 3 or 4 months ahead of the Nats would be allowable. We had some problems this year with the McCoy stroker crank. Even though 1000 had been manufactured about 2-3 months earlier, many racers were not aware of this fact, and the stroker cranks were not allowed . . . they are now currently OK'd for competition. Also, I feel local regions should be allowed to use synthetic oils, if they so desire. But for the Nats and large regional races, the fuel must be nationally available through normal outlets.

There were also some discussions about limiting horsepower, even on the open class cars . . . and engine noise. Personally, I feel there should always be an unlimited engine class, except for displacement, for the all-out competition. There will always be lots of racers who want to run this class, so why even consider dropping it? Noise is a little different. There is no way the current ROAR rules can be reasonably enforced, so I do feel a change here would help. The discussions seemed to center around limiting the outlet bore size of the muffler. The bore most often mentioned was .375 dia. I do feel this approach is one heck of a lot better than the current method of sound meter readings.

Well guys and gals, that's it for now. Writing a column every month gets to be a bore sometimes, but as I write the columns, some of the things really get me to thinking and spark my interest

RESULTS

Oval - 60 Lap - Best of Two

CLASS A	CLASS B	CLASS C
1. Roger Curtis	Bill Steele	Jerry Campbell
2. Jim Crawford	Roger Berquist	Dick Behrend
3. John Thorp	Herb Wilkerson	Tom Krygiel
4. Gary Kyes	Gary Argalas	Gary Campbell
5. Jay Costa	Manny Costa	Rick Heller

Super Stock, G.T. 50 Lap Main

CLASS A	CLASS B	CLASS C
1. Gene Husting	Roger Berquist	Tom Krygiel
2. Rich Lee	Bill Rattey	Bob Paradis
3. Rick Davis	Clete Dart	Georgia Campbell
4. Gary Kyes	Bill Newlin	Gary Higgins
5. Chuck Hallum	Don Stewart	Dick Behrend

Sports Car 50 Lap Main

CLASS A	CLASS B	CLASS C
1. Bill Jianas	Phil Henzig	Tom Krygiel
2. Roger Curtis	Bruce Oakley	Jack Mueller
3. Jay Costa	Gene Wallingford	Neil Tilbor
4. Gary Grossenbacher	Don Stewart	Georgia Campbell
5. Rich Lee	Carl Petri	Robert Jenkins

DRAG CARS

FUNNY	RAIL
1. Bill Jianas	Harold McCoy
2. Harold McCoy	Bill Steele
3. Bill Newlin	Carl Petri
4. Reba Steele	Gary Kyes

Low E.T.

Bill Jianas--3.17 sec. McCoy--3.04 sec.

CONCOURS

SCALE	COMPETITION
1. Bill Miller	Bill Miller
2. Jeff Zielman	Jerry Thompson
3. Gary Kyes	Gene Wallingford

again. There are still lots of things that can be done to improve the R/C car racing sport. If you have any comments or questions, please write to me . . . Chuck Hallum, 3859 S. Main Street, Santa Ana, CA 92707. Look for a detailed article on several Superstock engines in the near future. •

Hannan . . . . . *Continued from page 55*

flying model designer/builders of all time was Louis Garami. His range of interests seemingly encompassed the entire spectrum of flight, and his published designs included everything from extremely simple r.o.g. types through sophisticated "gas" models. Perhaps his best known examples, however, were small-size "compact" models. His work appeared in most of the model publications, as well as in kit form, in books and even an encyclopedia! Russ Barrera, curator of Russ-Craft Model Museum, compiled the following list, which while by no means complete, is indicative of Garami's prodigious output:

MODEL AIRCRAFT BUILDER MAGAZINE

Model	Type	Date
Midget Indoor R.O.G.	Rubber	June, 1936

MODEL AIRPLANE NEWS

Arrow Sportster	Rubber	April, 1935
Midwing Sportster	Rubber	Oct., 1938
Bipe Sportster	Rubber	May, 1939
Bee (Garami/Grant)	Gas	May, 1939
Colibri "A"	Gas	Sept, 1939

AIR TRAILS

Cabineer	Rubber	Nov, 1938
Duck (r.o.w.)	Rubber	Aug, 1939
Knockabout	Gas	Sept, 1939
Molecule	Gas	Dec, 1939
Half Pint	Gas	July, 1940
Skylark	Gas	Sept, 1940
Falcon	Rubber	Feb, 1943
Cadet	Rubber	Dec, 1943
Anopheles	Rubber	July, 1945
Chameleon	Rubber	Aug, 1945
Spunky	Rubber	Sept, 1945
Indoor R.O.G.	Rubber	Oct, 1945
Garami's Giro	Rubber	Feb, 1946
Mite	Control-line	Mar, 1947
Bipe	Rubber	Mar, 1948

FLYING ACES MAGAZINE

Indoor Moth	Rubber	June, 1936
Flying Aces Parasol	Rubber	July, 1936
Streamline Midget	Rubber	Sept, 1936
Profile Speedster	Rubber	Nov, 1936
Phone Booth Special	Rubber	April, 1938
Flying Aces Fighter	Rubber	Jan, 1937
Dihedral Dandy	Rubber	April, 1937
Gull Wing	Rubber	May, 1937
Cabin Special	Rubber	Nov, 1937
Pegleg Ike	Rubber	June, 1938
Bowlegs	Rubber	July, 1938

One of his better-known kits was the F/F gas job "Strato Streak." And, of course, the "Atom" engines and Garami were practically synonymous.

In gathering background information for this brief, but long overdue tribute to Garami, we enlisted the aid of several people who had known him personally. The following is based upon the recollections of Henry Struck, with added information supplied by Dave Stott, Frank Zaic, and Sol Berman.

Louis was born in Budapest, Hungary, about 1895, and gained an early interest in aviation, perhaps first triggered by the sight of Louis Bleriot, who gave an exhibition flight in Hungary.

Henry Struck first learned of Garami when told that someone was flying models among the giant cattails of Holmes Airport in Jackson Heights, New York. It was inevitable that they would meet and become close friends. At the time, Louis was operating a neat little radio repair shop, but gradually gave it up, and concentrated on building and flying gum-band powered models in a different way. In 1933-34, everything was constructed as lightly as possible, with as long a motor run as could be achieved. Louis preferred his models to climb as near vertically as possible, which required the solution of many problems, and a new approach to obtaining a perfect flight pattern. He built triangular cross-section fuselages, simple wings, and stabs mounted on the flat top. To control the power, he used stabilizers with up to 50% of the wing area, a small rudder and ingenious autostab, pulled down by the rubber motor tension, which returned to glide setting when the motor unwound. These models were hand-launched straight up (as FAI power flyers do now) with a 180° turn and then the glide. It was clear that if you could get the model high enough up, the risers would be more friendly.

Henry Struck and Louis Garami became flying buddies, and attended many contests away from home. Garami's kindnesses led to Struck learning many new ideas, and fostering the desire to continue in model designing and building. Struck says: "We learned that a contest must be won on the practice field, with the entry tuned and ready to go in advance of the meet. Every morning for almost a year, we went to Turn Verein hall to fly indoor microfilm models. This German gymnastic association let us in EVERY day, and allowed us to become indoor fliers. This developed the ability for extending the performance of a good model to its best potential, ready for the meets which were held in a New York Armory." "Finally," said Struck, "we were hungry enough to try selling some plans to a magazine. Every Friday afternoon, Avrium Zier, Editor of *Flying Aces* model section, would look over out attempts. It took almost a year to get something published (take heart in that, you present-day magazine contributors!) About 100 hours of subway riding to make $20." Henry modestly does not mention his own tremendous number of published designs.

Louis Garami, Chaplinesque in appearance with his small moustache, was not a contest flier in the usual pattern. To him, flying was fun, but it became apparent that winners could make their points . . . that only through contest-

winning could designers demonstrate the soundness of their ideas. Thus, Garami became a contestant. For outdoor practice, it was usually Sunday mornings at Holmes Airport . . . until the wind arose, and controlled experimental conditions were blown away. On this subject of intensive practice, Frank Zaic, who supplied much of Garami's balsa, says: "The two of them (Garami and Struck) did a lot of flying at Holmes Airport. In fact, we felt they were a bit unfair to practice fly before going to a contest. In contrast, we did all our first-time test-flying the hour before the contest. Maybe a short try at Van Cortland Park. You have to remember that anyone living in New York City was handicapped for a flying site. No one that we knew had a car available."

Sol Berman remembers the Van Cortland Park flying sessions too, and remembers that Garami invariably arrived with his model inside a paper sack, perhaps at least partially through embarassment in being seen carrying a "child's toy" through the crowded city. He also reminds us that Garami was somewhat older than the general run of model flyers in the Park . . . perhaps in his 50's while the majority were still teen-agers. He was, of course, the master of trimming, and was quite willing to help others with their adjustment problems.

Years of reading Garami's articles underline his dedication in backing up his theories with PRACTICAL operating hardware. His approach to aeromodeling was direct and ingenious. His list of innovations, well ahead of their time, include some that deserve re-examination today, for possible return to circulation. Among the ideas were:

Free-wheeling devices (the pivot latch type and the "spring aside" shaft hook type).

Variable incidence stabilizer, controlled by rubber motor tension.

Curled balsa sheet monocoque fuselages.

Simple profile rubber powered models.

Many of his ideas inspired others, and in at least one case, he was paid the flattery (?) of having a model copied almost exactly, and republished by another "designer".

Louis was against chicanery, and backed up his feelings with action. A case in point concerns model autogiros, which even today compete under totally inappropriate rules, which permit 50% of the total lifting area in the form of fixed wings. Thus, the majority of so-called autogiros flown in model form over the years, have been suspect, to put it diplomatically, and have resembled conventional aircraft with anemometers on top. With their fixed wings removed, they failed to fly, proving a lack of autorotation understanding by their builders. Louis Garami "blew the whistle" on this long-standing situation in the February 1946 Air Trails. Actually, he had flown TRUE wingless 'giros as early as 1936, proving that success was attainable without trickery.

Unfortunately, hard times and health gradually forced Garami into less active participation prior to his passing, but the fruits of his work live on today. In a recent letter, Henry Struck said: "It is fun to think back to those days and realize how lucky we were, and how much (our activities) did for our lives."

SILLY SIGN-OFF

Heard about the new pre-fabricated kit for Noah's animal-carrying boat? No glue is required, as it is assembled with an Ark welder! •

Sailing . . . . . *Continued from page 35*

it a chance to adjust itself, use light tensions on the sewing machine. Having done that, assure that properly matched battens are put in the pockets. Photo 2 shows the sail with a resewn leach tabling as well as proper battens. To be picky, I'd take the one out that is in the second white panel from the bottom and replace it with one that is slightly more flexible. Bad battens are almost worse than no battens. Ones that are too tight will make the whole leach area hard, flat and not smooth in transition from the mid-body of the sail. A fuller discussion of battens can be found in **Model Builder** December 1974, p. 30.

With all these options, somebody is going to want a recommendation. Based on 4 years of testing and analysis, I think that the best all-around performance can be had from a combination of cuts. For all normal sailing, and by that I mean up to the point where the wind blows steadily at above 18 knots, and for any boat smaller than a J-boat, I would choose a fairly flat, California Cut jib of 2.2 oz. Dacron. If I absolutely had to have some sort of color coding for identifiability, I would have the sailmaker do some striping on the jib. Behind the mast I would put a 2.2 oz. Tampa Cut mains'l, with a tabling on the leach.

As long as we are giving out prescriptions, let me add that I would use one of John Reynolds' (3010 Chris Lane, Orlando, FL, 32806) GOLDENSPAR aluminum masts. These are absolutely the best thing I've seen yet. Light, but plenty strong, and they take a very reproducible bend under backstay tension, if you contrive to mount your hardware without drilling holes in the mast. We'll go into the fitting end of it next time around. The GOLDENSPAR has a generous sail track, allowing use of the

popular bolt-rope method of mains'l luff attachment. But, the inside of the track is so smooth, that an ordinary servo could be used for luff tension adjustments while underway. The 'SPARS sell for $3.00 a linear foot, and are available in lengths up to 85 inches. Should you decide to try one, just remember how much time you spent making your last wooden mast, and figure out how cheap the GOLDENSPAR really is. If you order, tell John that I sent you *(By way of MB, of course. wcn).*

Now is the time to renew your membership in AMYA. The American Model Yachting Association's 1976 elections have given us a new set of officers who are raring to go with the business of organized R/C yachting. They can't properly represent you if you are not a member and let them know of your interest. Send your $5.00 annual dues to AMYA Secretary, Bob Crysler, 2709 So. Federal Highway, Delray Beach, FL 33444. Tell him that I sent you from **Model Builder.**

I will continue to field questions and comments at: Rod Carr, 7608 Gresham St., Springfield, VA. 22151, or in care of **Model Builder.** If you want a direct answer, please enclose a self-addressed, stamped envelope. ●

Counter . . . . . *Continued from page 9*

Tools? Books? Courses to help you obtain that desireable license so you can fly on the uncrowded six meter band? All available from this single source. Write for your free 96 page catalog, listing over 400 kits. Tell them you read about it in MB. Heath Company, Benton Harbor, MI 49022.

* * *

Du-Bro Products, Inc has announced the availability of its new "Kwik-Fill", manually operated fuel pump. Actually it can also be called a Kwik-Unfill pump, as it will do both jobs equally well.

The pump is small, light-weight, well engineered and built, and is designed to be mounted on cans, field boxes, and even plastic bottles. It is completely silent in operation, and frees the user from worries about dead batteries or possible explosion. Designed for many years of trouble-free service, though parts are readily available should any be required.

The pump comes completely assembled, with brackets to hold it to the side of the can, fittings for the fuel can top, tubing, filter, and even a small fitting of the proper diameter for easy insertion into the most common size of tubing used at the airplane.

With complete instructions, only $10.95, at all hobby shops. Dubro is located at 480 Bonner Rd, Wauconda, IL 60084.

* * *

Described as the world's first completely integrated glow plug starting system, the GloBee Fire Plug is now available and should be at your local store. Today's glow plugs are manufactured for specific uses in specific engines, and vary widely in their current requirements. The GloBee Fire Plug can be manually set to provide the exact current for your starting conditions, and monitors for normal or abnormal conditions on it's self-contained, high visibility meter.

Totally enclosed in a high impact polypropelene case with fluted sides for non-slip operation, it requires overnight charging about four times per year under average use conditions. Since a capability of over 150 recharges is claimed, it should be perfectly acceptable to recharge more often if use is extremely high, or to 'peak' it just before a long weekend of contest flying.

The 2 inch diameter case is 5-1/2 inches tall, weighs 1.2 lbs, fitting in the same space usually occupied by the not so versatile dry cell glow plug batteries.

The GloBee Fire Plug is priced at $26.95, and comes complete with instructions, including settings for 36 different plugs, and simple instructions

for those plugs not listed. Instructions also cover operating and charging.

A companion charger is available, designated as Fireplug Charger GBFC-1, and its price is $9.95. A 'package' of both items is $34.95.

Further information from: Fusite, 6000 Fernview Ave, Cincinnati, OH 45212.

* * *

Vas ist X-30? The latest jet fighter? New tooth paste? Venus lander? Another Big John?

No, no, it is the latest time saver from Pacer Industries.

Now think about it a moment. For the majority of us, the two main deterents to the enjoyment of our hobby are time and money, not necessarily in that order. Money comes in the 'personal problem' category, and is often inflexible, but there are many time-saving methods and the new fast adhesives certainly help.

X-30 is a 30 second adhesive, from the makers of the already proven 'Zap'. It features all the convenience and strength of the latter, with slightly more time for last moment corrections. In use, a small amount is applied to one surface, after which the parts are immediately joined. Enough pressure is applied manually for no more than 30 seconds, and the joint is made. X-30 has the proper viscosity to effectively form fillets for minor misfits (joints, not people!).

Super strong bonding is claimed for wood, vinyl, metal, leather, rubber, ceramics, and most plastics. Available only in 14.1 grams size, at $4.50. From your dealer, or write Pacer Industries, Inc 1550 Dell Ave, Campbell, CA 95008. (408) 379-9701.

As with all products of this type, some cautions are necessary and are clearly stated on the bottle and package. Heed them; don't get too 'attached' to your hobby.

* * *

Pictured with VL Products Hytork 48 electric motor and SJ-3 switch, are the 5 different nickel-cadmium batteries available to power this motor.

Left to right are the B303L (69 grams), B302L (41 grams), B34L (34 grams), B33L (26 grams), and the B32L (18 grams). The first two are special size AA cells that will run the Hytork 48 for up to 5 minutes. The latter three are 1/3 size AA cells that will run this motor for from 30 seconds to one minute, depending on the propeller used.

VL Products also offers a line of fast chargers, props, charger components, meters, plans and kits, and most everything necessary for the electric flyer. Prices range from $8.50 for the Hytork 48, to $24.00 for everything needed in the plane.

See your hobby dealer, or send 50¢ for a catalog to VL Products 7023-D Canoga Ave., Canoga Park, CA 91303.

* * *

MH Manufacturing, a new kit company, has introduced the first of what could be a long line of fine R/C kits, if quality is any indication. Their BD 5-1/2, a semi-scale, 1/2A version of the famous Bede 5 pusher, is as complete as a kit can be. A machine cut balsa fuselage, foam wings slotted for a spar, and shaped parts, all add up to a rapidly assembled airplane. Included also is a complete hardware package, pushrods, horns, snaplinks, landing gear material, and your option of the tapered scale wing, or a constant chord version, legal for racing.

For any .049, though the Tee Dee's should really make it perform, the BD 5-1/2 has a 43 inch span, 235 square inch wing, 21 ounce flying weight, and enough room in the fuselage for all modern radio systems, brick or standard.

Claimed to have stability and handling qualities not thought possible with 1/2A, the BD 5-1/2 will be available at all better stores, or direct from MH Manufacturing 2623 Honolulu Ave, Montrose, CA 91020.

* * *

The Flying Man's MEN . . . Model Engineering of Norwalk, has just launched two new kits for the R/C fraternity. For the Old Timer event, M.E.N. has re-created one of the classic free flights, strengthened and modified for R/C, the Buzzard Bombshell. Measuring 72 inch span, 52-1/2 inch length, and 850 squares, this bird meets all the requirements for the Society of Antique Modelers R/C Old Time competition. The engines can run from .25 to .40 glow, .45 to .60 ignition, though SAM rules limit the glow size to .361.

For the absolute beginner in R/C flying, the M.E.N. Trainer should fit the bill exactly. This trainer is claimed to enable you to learn radio control flying with minimum supervision and in minimum time. The slow flight and ease of control allows virtual hands-off flight. Using a .15 to .25 engine, the M.E.N.

Trainer flies at 8-10 mph, and will recover hands-off, from any altitude, in 100 feet or less of altitude loss.

The kit features plywood, spruce, balsa construction, with all pieces die cut. A generous hardware package is included, as is a pre-formed landing gear and brace.

Both of these fine models are designed for three-channel radio systems. The Buzzard Bombshell is priced at $49.95, the Trainer is $31.95. If not yet available at your dealers, order direct from M.E.N., 54 Chestnut Hill, Norwalk, CT 06851.

* * *

Three large, exciting, science fiction model rockets, right from your TV or movie screen, are now available from Centuri Model Rockets. Included in this line of new and different models are: USS America, a presidential command post; UFO Invader, an alien space probe; and ESS Raven, a flying laboratory.

Designated as 'Super Kits', each of these model rockets features a 6 x 12 inch four-color decal sheet, dual parachute recovery system, Centuri's patented baffle/chute ejection, and as a bonus, the Rocket Rack, as pictured, is included with each kit. Each Super Kit is $8.00, each Rocket Rack, available separately, is $1.25.

Centuri Model Rockets also has available a large amount of literature for the Model Rocketeer, ranging from catalogs for dealer's or individuals, to technical manuals about design and operation, and including an Educator's Guide, a teacher's guide for model rockets in the school. This literature, as well as the countless products, are stocked in most full service hobby stores. If not readily available, inquire direct from Centuri Model Rockets, PO Box 1988, Phoenix, AZ 85001.

* * *

Don't bother to ask us why it is called the 'Biso Bender'! But we'll tell you, without being asked, that we tried it and we like it.

This is a device to take the strain and pain out of an otherwise frustrating job with acceptable results every time. The 'Biso Bender' bends hard brass tubing quickly and without kinking, in a small enough radius for any requirement. Even a 180 bend, should one be needed, can be made in only twice the diameter of the tube!

As simple as it is, the job is made simpler yet with complete instructions. The bender should be available in all hobby shops at this time, at only $1.25, or write Harry Higley, 433 Arquilla Dr, Glenwood, IL 60425. (312) 755-8774

* * *

Because the usual modeler's budget doesn't allow for many power and machine tools, we are often slowed down by what should be a relatively easy-to-make part, but which isn't with the hand tools available. Such a part is the radio plate for 1/8 scale cars. Tatone Products rides to the rescue, with its Universal Radio Plate, designed by Gary Kyes, to fit all cars and radios, without alterations.

The plate is die-cut from tough ABS plastic, and requires only drilling the mounting holes to fit and install. It is tough enough to resist the most violent car crash, thereby offering maximum protection to your expensive radio. Only $7.95, at your dealers or direct from Tatone Products 1209 Geneva Ave, San Francisco, CA 94112.

* * *

The story goes that in Florida, there was a funny looking little yellow dog that kept the neighborhood completely clean of all other dogs. When asked as to the breed, the owner replied: "Well, before I cut its tail off and painted it yellow, it was an alligator."

We don't know if it too was bred by Don Pinckert, the father of the latest Florida 'Gator', but it sounds like it could have been.

The latest Gator is Don's Outrigger Hydro, available in two sizes, the Gator 40, for .29 to .45 engines, and the Gator 60, for .60 to .80 engines. This boat is designed for record performance racing, yet the kit is simple enough for the novice builder. Construction is of high quality balsa, plywood, and styrofoam. The "downdraft" outrigger booms are of white maple, for high speed

stability, and a patent is pending on the fully adjustable rear sponsons. The '40 is 34 inches long, and priced at $69.95; the '60 is 40 inches in length and is $84.50.

Also available from Pinckert Custom Boats is its "Thunderboat", a 42 inch long triple step sponson hydro that has been officially clocked at over 70 mph with an OPS 60. Constructed from highest quality fiberglas, with joined deck and hull, this boat is available with your choice of deck in black, apricot, gold, blue or red metalflake or 40 other colors on special order. The hull and cowling are in white gelcoat.

Only $99.50, to get in the winner's circle. For more information, write Pinckert Custom Boats, PO Box 138, Coconut, FL 33133, or call at (305) 446-5358. Either way, tell them you read about it in MB.

* * *

A Scale Type Aircraft Hinge, designed for retract wheel doors, and equally useful for hatches, personnel entry doors, canopies, spoilers, flaps, or any moveable parts has been introduced by Delp's Hobby Products, Inc., PO Box 82 Perkasie, PA 18944.

These hinges are precision molded of high impact styrene and can be glued to wood or plastics. A six-hinge package is available at $1.69.

* * *

The benefits from the reduction of skin friction have long been known to all operators of vehicles where the prime object is speed. This applies both to full scale and model planes, boats, cars, etc.

Now, we have available a product claimed to not only reduce this drag, thereby increasing speed, but also protects the finish from stains, oil, dirt and fuel exhaust. The product is Supercoat, a commercial surface treatment that is in wide use for non-hobby purposes, and now comes to us in 8 ounce containers more suitable to our requirements.

This special formula, designed for plastics and windshields, is perfect for most model finishes such as plastic coverings, dopes and the normal model materials.

It is easy to apply, dries to a hard glass-smooth and clear finish. Try your hobby store first, if not yet on hand, order direct, enclosing $3.00 plus 50¢ postage, from TB & Associates, PO Box 3162, Long Beach, CA 90803.

* * *

A must for the indoor model flyer is Fred Hall's new book entitled "Indoor Scale Model Flying".

The name is self-explanatory, however, there is lots of information contained that applies to all types of indoor flying, not only scale. The basic information is the same, carefully and completely explained, and should be invaluable to the beginning modeler.

The book is large size, 8-1/2 x 11, and contains 40 pages, in ten chapters ranging from the "Philosophy of Flying" through "Model Selection", to detailed how-to instructions and hints, to "Flight Trimming" and "Contest Flying". It is written in modeler's language, just technical enough to explain the subject without getting unnecessarily deep past the point of comprehension.

Definitely recommended for the newcomer, and contains enough information for the experienced builder to make it well worth the $3.95 (30¢ postage). Order yours from Fred Hall, 29 Sunrise Terrace, Westville, NH 13892. ●

Remotely . . . . *Continued from page 17*

that, the rule should be, "Shut up and fly!"

As a follow-on, why be required to call the end of a maneuver? Are we judging the flier's piloting ability, or his diction? Can you imagine our Olympic diver gurgling "Dive Complete!" as he surfaces and begins to swim to the pool edge? Would anyone who is judging need to be told when a maneuver is finished?

We'd like to have your comments and/or suggestions on this matter.

GET YOUR OWN!

Thanks to Ken Banks, editor of the Torrey Pines Gulls' Newsletter, La Jolla, California, the following editorial, which

we had planned to write for this column, has been well taken care of. Obviously, we endorse it 100%, and hope that all who read it will realize it's worth and take proper and immediate action.

"It is now quite apparent that our retention (for the time being) of the 27 mhz RC frequencies was direct result of the surprisingly massive letter-writing campaign waged by modelers across the nation. One key aspect was that the letters were individually composed, representing each writer's personal views. The effectiveness of such campaigns is rather impressive. Did you notice that Star Trek fans persuaded the government to name the first Space Shuttle the "Enterprise"? However, our ultimate fate at the hands of the FCC will depend on more than our letters.

"An important factor is simply the number of licenses. The common use of club licenses causes a problem here . . . the FCC sees only one license, but it actually represents perhaps 100 RC operators. This practice is a holdover from the times when RC licenses cost $20. The fee is now $4 for five years. The Gulls intend to maintain their club license for the convenience of beginners, but we *strongly* urge all members to apply for their own individual license. This is *important*. Simply call the local FCC office and request that they send you an application for a Citizen's Band Class C license. Do it *NOW!*"

And where is your local FCC office? Well, we can't hold your hand through this whole thing, but check the following list of cities in the U.S. which have FCC offices, pick the one nearest to you, then call information and get the FCC telephone number. Club officers might be able to get enough copies of the application form (No. 505) to supply all of their members who are too lazy or disinterested to do it themselves. In fact, with the new year coming up, it might not be a bad idea for clubs to install a rule to the effect that all members, have an individual FCC license, or at least show evidence of having applied for same. It's *that* important. And you can't beat the price, compared to many R/C items . . . only 4 bucks for a 5 year period.

Here's the list of cities with FCC offices:

Boston, Mass.	San Diego, Ca.
New York, N.Y.	San Francisco, Ca.
Philadelphia, Pa.	Portland, Ore.
Baltimore, Md.	Seattle, Wash.
Norfolk, Va.	Denver, Colo.
Atlanta, Ga.	St. Paul, Minn.
Savannah, Ga.	Kansas City, Mo.
Miami, Fla.	Chicago, Ill.
Tampa, Fla.	Detroit, Mich.
New Orleans, La.	Buffalo, N.Y.
Mobile, Ala.	Honolulu, Hawaii
Houston, Tex.	San Juan, P.R.
Beaumont, Tex.	Anchorage, Alaska
Dallas, Tex.	Washington, D.C.
Los Angeles, Ca.	

* * *

Fortunately, for a change, the newspapers' penchant for printing only

the bad stuff is working in our favor. Articles continue to appear, pointing up the negative aspects of CB and the illegal, actual criminal use of CB that's going on every day. A recent article described still another illegal facet of the "Garbage Band." Again, it's one that long-time R/Cers have been aware of for many years, though it was never publicized. Until now, we had no idea it had reached such proportions, but then, it shouldn't be too surprising . . . We're referring to the use of so-called "Bootleg" frequencies. These are unassigned or otherwise seldom-used frequencies to which the CBers can switch by merely changing crystals and, if necessary, returning their transmitters. Usually they go into the 25 and 26 mHz areas, though the higher end of 27 and some 28 mHz frequencies are showing signs of use.

Of course, all of this is completely illegal and subject to federal prosecution. But how can a relative handful of FCC officials (about 400) control the millions of furtive, illegal transmissions? And get this, there is a publication on the market which carries a list of names, addresses, and call letters of over 68,000 *registered* CBers operating on bootleg frequencies . . . all of them illegal! How's *that* for outright defacing of law and order?

We credit the newspapers for bringing these facts before the public, and condemn radio and television for glamorizing the illegal use of CB and making pseudo hams appear to be modern Robin Hoods . . . On second thought, "Hoods" we'll accept!

To end on a brighter note, the following was picked up from Charley Reed's newsletter for the Kansas City (Mo.) R/C club, which he, in turn, picked up from the TAC Times, Temple, Texas, editor Dan Amburn. We think it's the best yet.

"A man with a high IQ approached a doctor who had special machine for checking a person's IQ. He connected the electrodes to the man's head and the digital readout registered 196. The man explained that he was so smart he could not find anyone of his intelligence who could carry on a conversation with him. He told the doctor he had searched for 15 frustrated years, and wanted the doctor to de-IQ him so he could be brought down to a level that would enable him to converse with many people. The doctor threw the switch and the digital readout started down; 196 . . 195 . . 194 . . The phone rang. The doctor answered and got to talking to his fiance, forgetting about the man. Suddenly the doctor remembered the de-IQ machine, dropped the phone and ran to check the digital readout. It was reading 10 . . 9 . . 8 . . 7 . . 6 . . 5 . . The doctor threw the switch and jerking the electrodes off of the man's head, asked him if he was alright. The man responded "10-4 GOOD BUDDY." •

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I certify that the statements made by me above are correct and complete.
Wm. C. Northrop, Jr, Publisher.

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DON'T WASTE TIME - To find any plan, article, or three-view in Model Builder (prior to January 1976), you must have the new MODEL BUILDER Index and Digest, compiled by Paul Plecan, P.O. Box 1810A, Garden Grove, CA 92642. $1.50 per copy, postpaid.

WANTED: Back issues of MODEL BUILDER Sept/Oct 1971, September, and December 1972. John Garrett, 1834 Kinglet Court, Costa Mesa, CA 92626.

WANTED TO BUY: Old rubber flying kits - have some Berkeley U.C. kits to trade. All letters answered. Sam Hackney 1343 Quintero St., Los Angeles, CA 90026 (213) 626-9851

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MODEL BUILDER, 621 West Nineteenth St., Costa Mesa, Ca. 92627

Workbench . . . *Continued from page 6*

the original Nationals Executive Committee, having worked at 29 Nationals and two International meets, on all jobs from traffic control and parking, to Director or Manager. No job that would enhance and further modeling was too big or too menial for him.

Earl's education and employment as a career executive further qualifies him as President of the AMA. He is a City Manager-type Engineer and is responsible for the maintenance and operation of the facilities of one of the nation's largest Military supply installations, with a staff of 260 and a $10,000,000 annual budget.

Earl is aviation oriented. He was a pilot during WW II, has a flight instructor's rating, and pilots his own aircraft in conduct of much of his business.

From a practical standpoint he is in a location where he can work closely with AMA Headquarters at minimum cost and lost time, being only a 70-cent phone call away from Headquarters, two hours away by car, or 30 minutes by air. Earl is in a position where he can well afford the time and expense demanded by the office of the President of the AMA.

He has considerable experience in public speaking and will give the AMA dignified representation to the public, or business organizations required by the presidency.

We close with this thought . . . Earn the right to bitch . . . VOTE!

* * *

FRED MILITKY

It is with considerable sadness that we pass on the news that Fred Militky, of

INDEX TO ADVERTISERS

Kirchheim/Teck, West Germany, has died. Fred was Chief Designer for the Graupner model company, his best known design being the Cirrus glider, which is still outstanding in appearance and performance even though first introduced back in 1969.

Though his home in Germany has been far from ours in the U.S., we struck up a good friendship, beginning at one of the Toledo trade shows nearly 10 years ago. We visited his home on Paradiesstrasse in Kirchheim/Teck following the World Championships for R/C Pattern in Bremen, 1969, when we also first met his charming wife, Wilma.

His last efforts with Graupner had been in the developing of electric powered R/C models, of which he was a pioneer.

Modeling friends will miss his bubbling charm and enthusiasm.

HOWARD E. JOHNSON

A past president of AMA, holding office in 1965 and 1966, Howard Johnson died of a heart attack, in his sleep, on September 26. Howard had been confined to his bed for the past couple of years and experienced several strokes during that time.

PEN PAL

From far off Poland, behind an Iron Curtain that President Ford momentarily lost sight of while debating with Jimmy Carter, comes a letter written by Waclaw Sychlowy, 41-902 Bytom, ul. Grottgera 7/8, Poland. Waclaw is 31, works in electronics, speaks English and German, and is an R/C modeler. He would like to exchange correspondence with other R/Cers, trading experiences and ideas.

ANOTHER KIND OF "PEN" PAL

Donald J. Stephenson, 127516, is Secretary of the Clipped Wings Model Airplane Club of the Washington State Penitentiary, in Walla Walla, Washington, P.O. Box 520, zip 99362.

Members of Don's club have been allowed to promote the interest of gas powered model airplanes (control line, as you might guess). What they need are any out-dated, broken, or no longer useful items, "seconds," which the members might be able to rejuvenate and use. If you have such items, or would like to get more information, contact Don at the above address.

One comment. Some people are very much against "doing any favors" for those who are in the process of paying their debt to society. However, it is our feeling that if modeling is as wholesome a hobby as most of us claim it to be, then we are contributing to society by introducing and promoting the hobby to those who could benefit from its wholesomeness.

WHOOPS!

Our "For Ms. Only" columnist, Char Rohring, dropped a note to call out an error in her report on the SOAR Nats, which was published last month. She stated that the WINGS team (Women in Inter-National Glider Soaring) included Joan Nolte, along with Barbara Henon and Barbara Robinson. Actually, Joan had been replaced at the last minute by Margaret Gill, of Springfield, Illinois.

THOUGHT FOR THE MONTH

Jerry Nelson offered this very succinct observation during the Nationals, and no matter how we try, we can't escape its haunting truth.

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