

MODEL BUILDER

NOVEMBER 1974

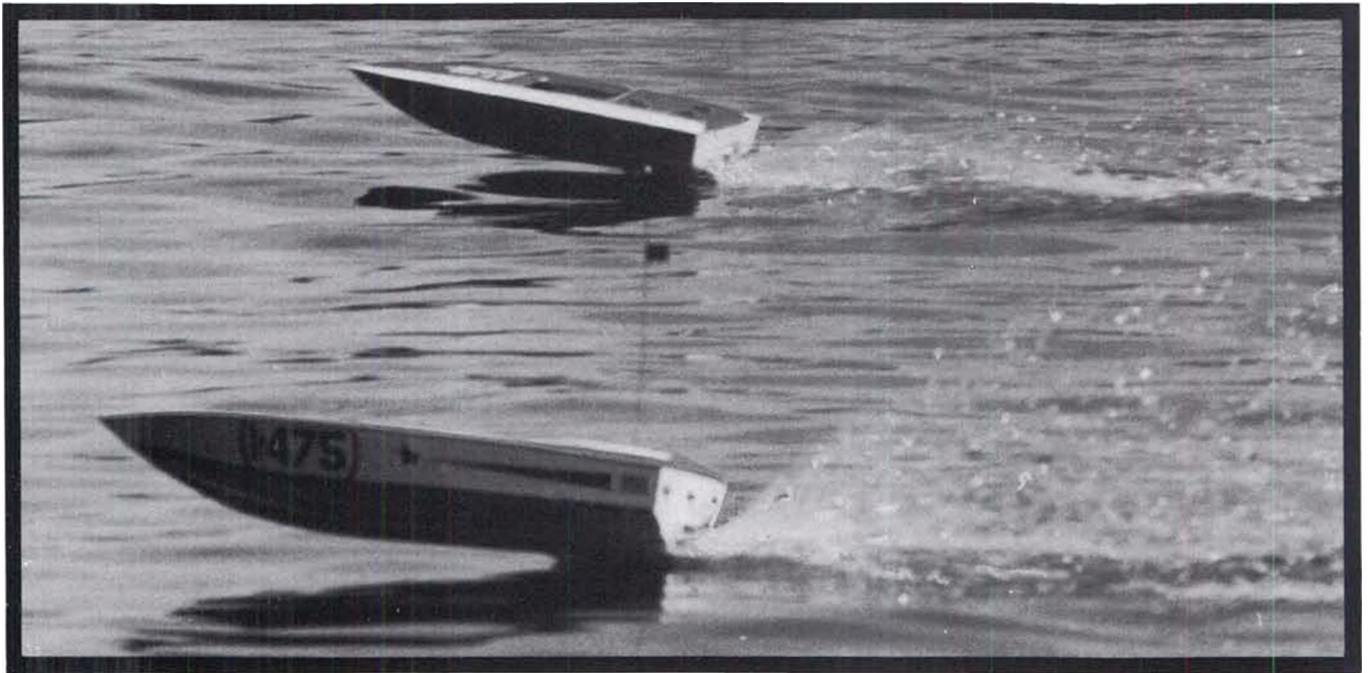
volume 4, number 35

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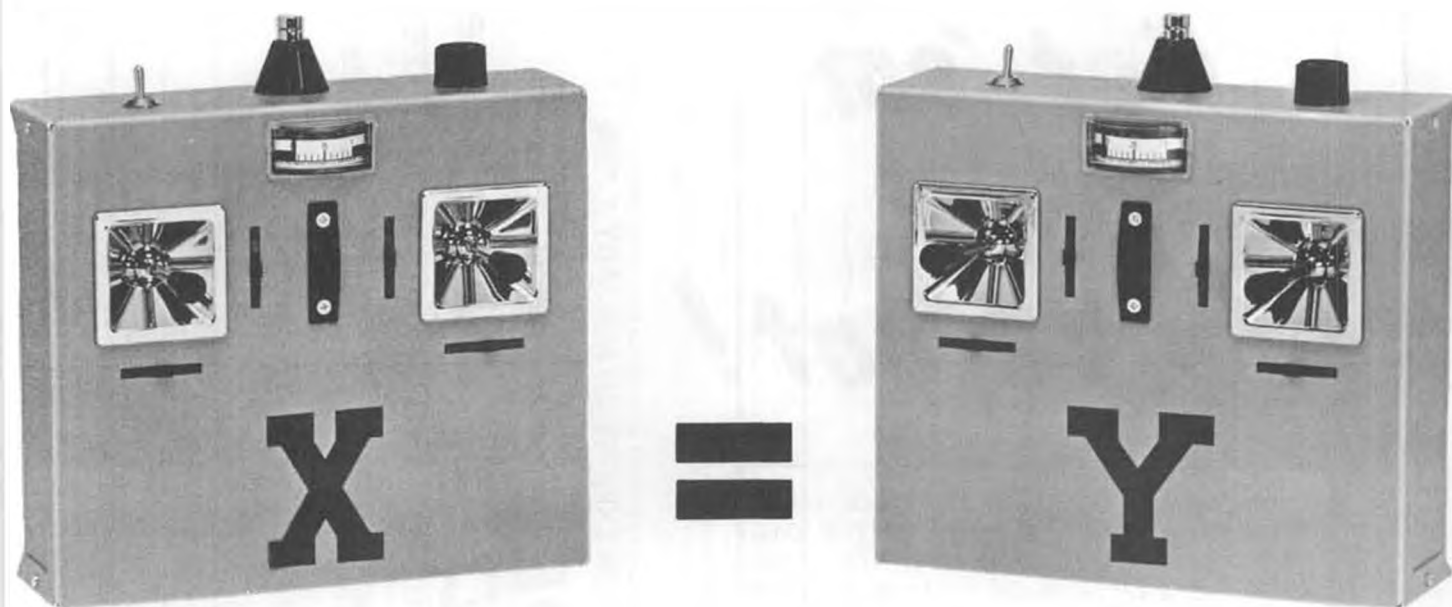


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1105 SPURGEON, BOX 4336, SANTA ANA, CALIFORNIA 92702

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MODEL BUILDER

NOVEMBER

1974

volume 4, number 35

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Cover: The scene was Cole Palen's Old Rhinebeck (N.Y.) Aerodrome, the date was September 7 or 8, 1974, and the occasion was the Eighth Annual Rhinebeck World War I R/C Jamboree. The young gentleman is Brian Perkins, representing the R/C Club of Connecticut, and the aircraft is a 2" scale Bristol Scout D "Bullet." We suspect it was built from Hale Wallace's plans which were published in M.A.N. a few years ago. It is powered by an O.S. Max .40 and controlled by a Futaba 710 radio. The Kodachrome was taken by Vic Nippert, author of our F/F Nats report.



The editor, and daughter Juliet Lehn, who, with her husband Carsten, visited for a week, just after the Nats. The couple were married a year ago in Denmark, Carsten's homeland, and now live in Reutlingen, West Germany, where he is finishing college. Their main interest is music. Winners over hundreds in a TV talent contest, they have appeared on network TV in Germany and won several awards.

from

Bill Northrop's workbench . . .

● There are poor sports in every field of competition, and to view it philosophically, one would have to allow that that if it weren't for such individuals, we might not appreciate the good guys. The sport of model aviation has its examples too, and again, it's best to dismiss such unfortunate occurrences rather than dwell on them. Anyhow, at times, it can be difficult to differentiate between an overdose of competitive spirit and an underdose of manners.

One thing we cannot bring ourselves to dismiss lightly, however, is intimidation of contest officials by manufacturers or representatives of manufacturers. In recent months, we have received in-

formation on two specific examples of this type of treatment of officials; one by a representative of a manufacturer, in which case we truly believe the manufacturer was totally unaware, and one directly by a manufacturer, in which case there was no doubt as to who was the instigator!

The purpose of bringing this matter to print is not *necessarily* to chastise guilty manufacturers, but primarily to caution contest and event officials, whether it's before, during, or after a contest . . . *don't let 'em do it to ya!* Furthermore, it is our feeling that such incidences should be reported by Contest Directors, and after one or two repeat

performances, the manufacturer's name should be officially disclosed.

We were involved in a situation of this nature over five years ago, which was on a Nationals level, and in ways, reached up to International. The fact that we refused to be intimidated resulted in a strong letter to AMA. AMA, in turn, just as strongly backed us up in our decisions.

Naturally, any manufacturer or importer is interested in seeing his product make a name for itself, and it will if it's good enough . . . but a bad name will have a more lasting effect than a good one, so make the choice wisely.

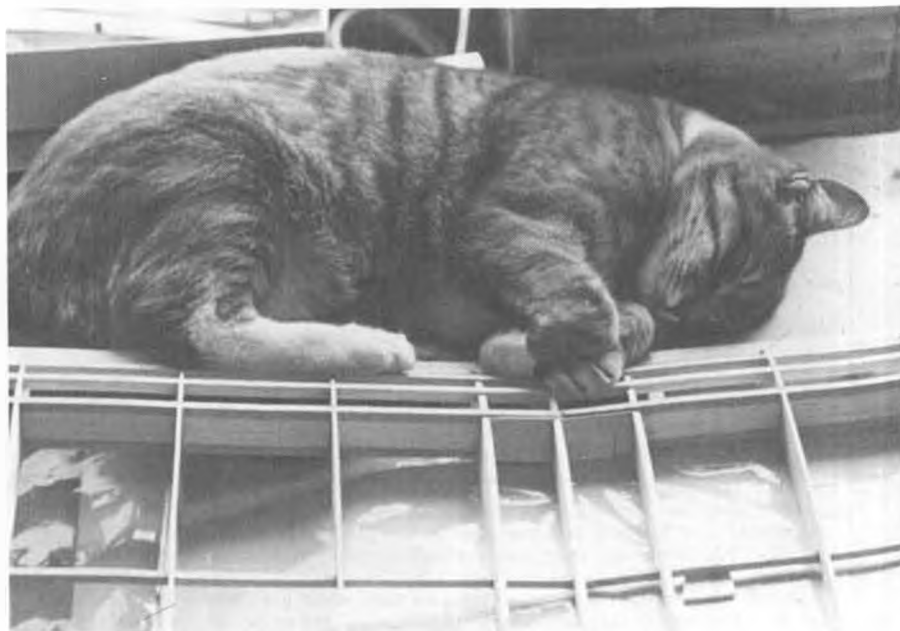
ANOTHER HAT IN THE RING

Al Rabe, Irving, Texas, well known in control line circles (ouch!) for his prowess in stunt with very scale-like aircraft (1st in 1972 and 1973 with a Sea Fury, 3rd in 1974 with a Mustang), has decided, against considerable odds, to run for AMA President for 1975-76. His name has been placed on the official ballot by the Nominating Committee.

Although we came out for Johnny Clemens' reelection in our June '74 issue, we felt that since we're supposed to be living in the most democratic nation in the world, we had darn well better act that way ourselves, and therefore offer you the following encapsulation of Al's admittedly somewhat uninformed opinions of how AMA membership might be served:

Free Monthly Mailing: Combine the Monthly Mailing with Competition Newsletter, possibly rename it good old "Model Aviation," and send it to all Open members.

Proposed permanent site: Would a permanent site be progress of public



"Sometimes it is necessary to hold the parts together until the glue dries . . . no matter how long it takes." Photo by Art Hemler.

HELP WANTED
Assistant to the Editor

There is an opening for someone with a background in modeling to assist the Editor/Publisher of MODEL BUILDER Magazine.

Applicant must be able to tell a D/T from an A/2, a Rat from a Proto Profile, and a DARA from a Compensator.

Primarily, we need someone with ability to create layouts for the editorial and advertising content of the magazine, in addition to assisting in postal and telephone communication with modelers and advertising clients.

Applicant should also expect to attend various scheduled modeling activities and be able to provide photo and word coverage for publication.

Position is available immediately and relocation to Orange County, California is necessary. Salary will be discussed during personal interview.

... A non-smoker is preferred ...

No telephoned applications will be considered. Send resume to:

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relations? As for the Nats, the site is usually free, so what's to gain? Permanent site will bring taxes and insurance, maintenance of buildings and hard surfaces, grass to be cut, and at least a token staff to be paid. Museum has doubtful attraction. Most people would rather see planes and people in action.

Rules: Executive Council should not make rules. Contest Board members voting on rules for events where they have no experience is a "lousy" system and should be "junked." Turn rule making over to special interest groups such as PAMPA, NMPRA, NFFS, etc. and return to one year rules cycle.

Industry support for our major contest: Try to obtain support by sending responsible representatives to such outfits as Chrysler, Ford, GM, McDonnell Douglas, Lockheed, Boeing, TWA, United, Eastern, etc.

Nats site selection: Executive Council should look at sites that are not traditionally windy.

Magazine subscription with membership: Shouldn't members be allowed to select the magazine of their preference? Eight pages in AAM are largely duplicated in Competition News and Monthly Mailing.

AMA Finances: Way too much money being spent on public relations, i.e., \$45,735 in 1973. Do members really want NAA magazine which cost AMA \$47,655 in 1973? All contracts should be competitively bid and the results and details published. Proposals for major expenditures should be announced to



William "Al" Rabe, candidate for AMA President in 1975. One thing sure as hell . . . we'll have a president from Texas, no matter which way it comes out!

the AMA membership.

Presidential visibility: Is the presidential PR worth the cost? "President's Memo" space could be better used to publish business and management affairs of AMA.

Bureaucracy in AMA: Nominating procedure adopted in 1970 by Executive Council requires that candidates for national office must be or have been elected officers of AMA (such as VP), or as officers appointed by the President or Vice-Presidents, and that they be Leader Members. This should be changed back to the original Leader Member-only requirement.

The above comments are a condensa-

tion of Al Rabe's campaign platform for AMA Presidency. No matter which way you lean . . . toward Johnny or Al . . . don't just flap your jaws about it . . . VOTE!

SPEAKING OF HATS

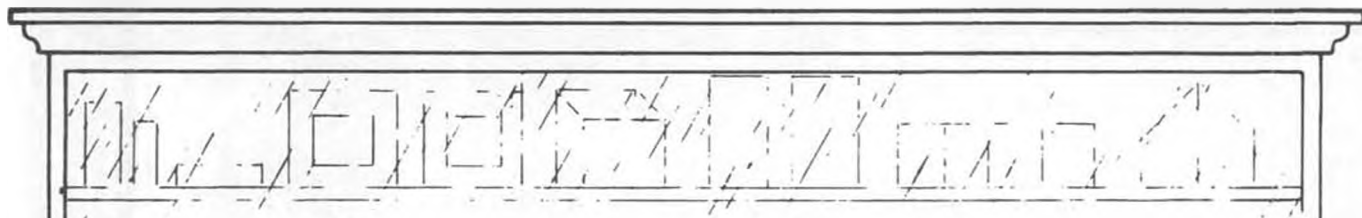
At long last we've got some information on how to make those crazy crocheted beer can hats! It all started as a joke when we published a photo of Johnny Brodbeck's hat and suggested that you write him for the pattern. We got lots of requests and had to go on a frantic search. Send us a self addressed stamped envelope and we'll mail you instructions which show three different

Continued on page 79



Spanish spoken here! (l to r): Lupe Cuevas (wife of Mario), Mrs. Art Black, Mrs. I. G. Angus, Naomi Castaneda, Anita Northrop, and the only gentleman in the group, Louis Castaneda.

OVER THE COUNTER



● Maybe it went to war like Lucky Strike's "green," but anyhow, Midwest Products' "Micro Cut" balsa will no longer be identified by the green ink label stamped near one end. From now on it will be sporting a red, white, and blue stick-on label which may be peeled off when you're ready to use the wood. The samples we received could be "de-labeled" without damaging the wood. The label did not separate the fibers on the surface, and now, of course, you won't have to sand half way through a sheet to get rid of ink traces.



The Mini-Flite Company, 48 Princeton St., Red Bank, New Jersey 07701, has added an R/C advanced trainer to its line of kits. The "AT50", with ailerons, should take up, for the learning flier, where the Mini-Flite "BT" leaves off.

Spanning 50 inches, and designed to fly with 19 to 30 size engines, the AT50 features all balsa construction, easy building, and scale-like (Cessna-ish) appearance. Price is \$34.95.

Our control line editor, Jed Kusik, bitten by the R/C bug after helping his partner, Larry Jolly, in FAI R/C Pylon at the Nationals, is building the BT, and we should have a report from him soon. If all goes well, maybe he'll move up to the AT50 after a while. Remember, folks, modeling is modeling, is modeling!



Mini-Flite's Beginner Trainer (BT) for .09 to .15 engines. Use with 2 or 3 channel radios.



Two newest Peanut Scales by Peck-Polymers; Zero and Mustang. Both are steady flyers.

"Ryan Broughams and Their Builders" is the title of the most recent publication to be produced by well known aviation historian, Paul Matt. Written by William Wagner, the profusely illustrated, 98 page soft cover book covers in detail a five year period beginning in 1925, quite obviously including the year 1927, which should need no further explanation. Again but on a much larger scale than our presentation of the Lone Eagle in last month's issue, is another odd coincidence with the passing away of Charles Lindbergh occurring just as material relating to him is about to be published.

The book starts with a description of the development of the first Ryan monoplane, the M-1. It then follows Ryan, by way of quotes from men who were there, early aviation magazines, and personal letters by people who flew and/or worked on the planes, through the vari-

ous models (M-2, B-1, the super historic NYP, B-2 through 7, and C-1). A familiar and thorough set of 3-views of the B-5 model are also included that should get every scale modeler's fingers itchy. A typically interesting photo shows the NYP wing being lowered onto the fuselage by a dozen or so men, including Lindbergh and a young looking fellow by the name of Douglas Corrigan, who later earned the nickname "Wrong Way."

The Ryan book is available directly from Historical Aviation Album, P.O. Box 33, Temple City, California 91780, price \$7.50. Send also for a complete list of books from this publisher. They're all superb.

Two more Peanut Scale ships have been added to the growing line of kits by Peck-Polymers, P.O. Box 2498-MB, La Mesa, California 92041. Newest addi-



Mini-Flite's Advanced Trainer (AT) for .19 to .30 engines. Use with 4 channel radios.

tions are World War II fighters; the P-51 Mustang and Zero. Both span 13 inches and feature molded canopies and new pressure sensitive decals. Price of each is \$3.49; If not available from your dealer, order direct by adding 35 cents for postage. A new "75" catalog is also available for 25 cents.

* * *

As expected, Dave Platt Models, 1300 C W. McNab Rd., Ft. Lauderdale, Fla. 33309, will be releasing a kit for Dave's Nats winning Focke-Wulf 190 D-9 Sport Scale R/C model. Because of uncertainty of supplies, the kit will be a short-run item at first, so availability may be limited.

* * *

Jim Crocket Replicas, makers of those new great series of cast aluminum fittings for free flight models, has added a couple of new items.

Now available are mounting rings for the old and new series Brown Jr. CO₂ motors. The ring is glued to the back of your engine firewall and is threaded to receive the 0-80 or 00-90 brass mounting screws which are also included. Price is \$1.50 for 1, \$2.25 for 2, \$3.00 for 3.

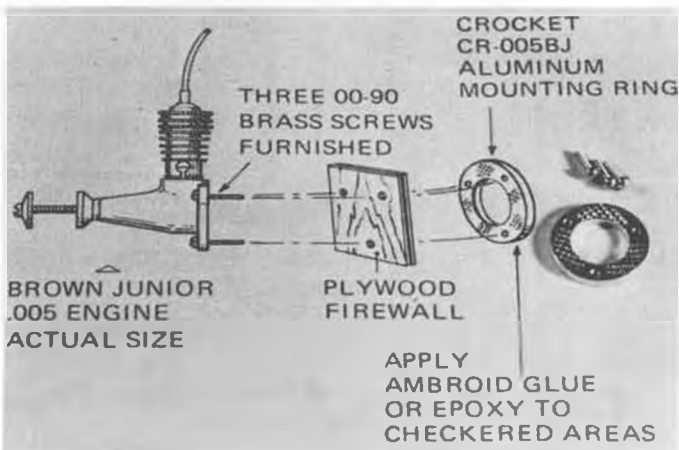
The second item is a pressure sensitive I.D. label for your free flight models. Info is printed or typed on a piece of paper which is then applied to the model *under* the sticker. The labels are priced at 5 for \$1.00.

* * *

Scott Research Co., P.O. Box 22, Costa Mesa, Ca. 92627, is a new company to the modeling hobby, and its intention is to produce high quality hardware items. First product is an adjustable tow hook for gliders, primarily R/C, but also adaptable to A/1 and A/2 free flight.

The unit consists of a diecast aluminum alloy body with a music wire hook. The alloy is ductile enough that the body may be bent to follow the bottom contour of any currently available glider fuselage. Long slots in the body permit up to an inch of back and forth adjustment.

* * *



Jim Crocket Replicas is making aluminum mounting rings for the .005 and new .003 single and twin Brown CO₂ engines.



Focke-Wulf 190 D-9 for R/C Sport Scale. Being kitted by Dave Platt Models.



Die cast aluminum alloy towline hook for R/C and F/F gliders by Scott Research.



Chipmunk control line stunter by L. M. Cox. A follow-on to the ME 109.

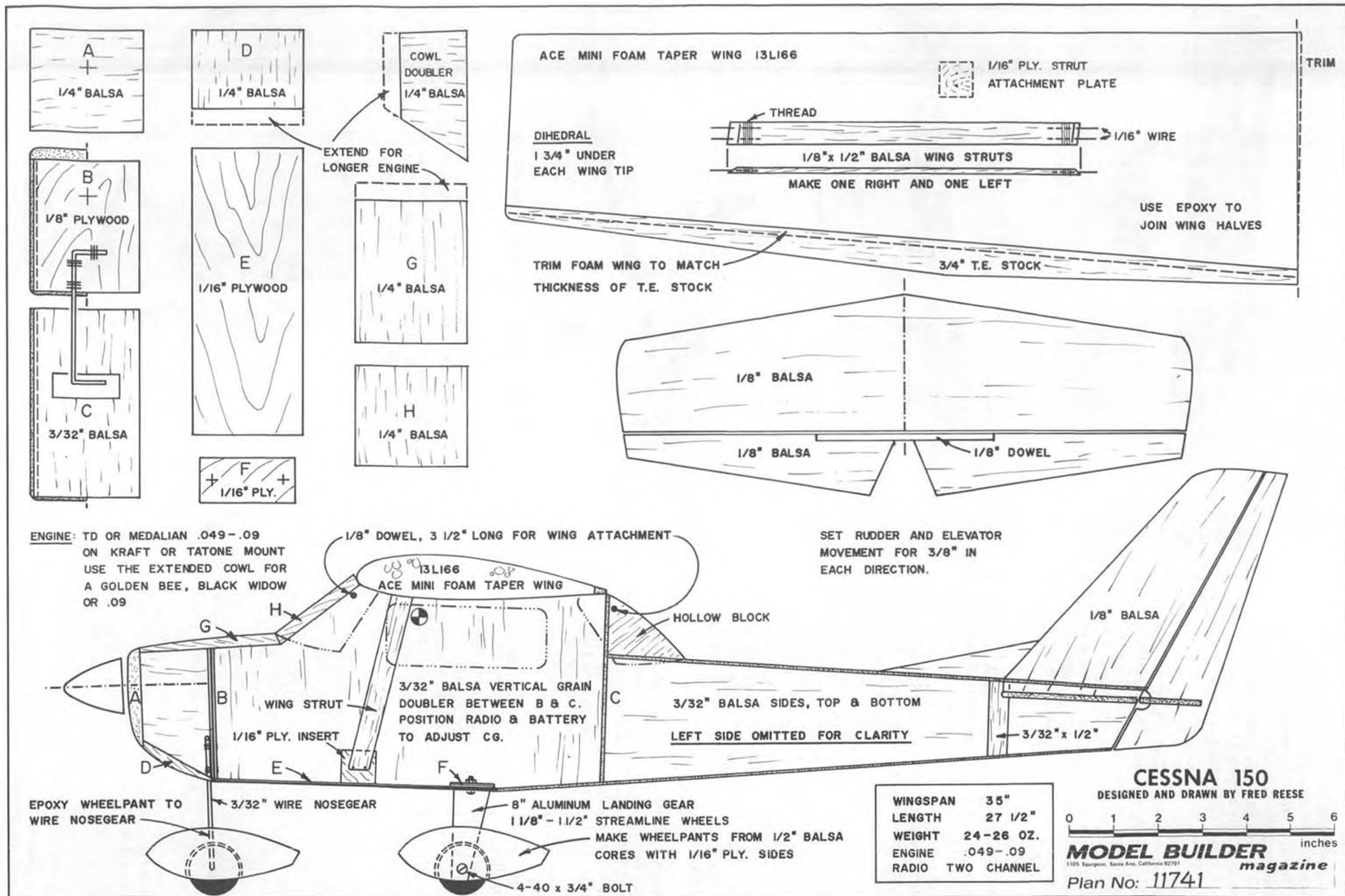
What appears to us to be one of the handiest modeling tools to come along in some time, is being provided by Applied Design Corp., 5531 Shore View Drive, Palos Verdes Peninsula, Ca. 90274, (213) 375-4120. It's called the

"Mini-Sander," and really has all kinds of applications in addition to modeling. The unit consists of a pair of molded plastic pieces, which, when fitted back-to-back, form the basic shape of the

Continued on page 79



New "Mini-Sander" by Applied Design Corp.





PHOTOS BY THE AUTHOR

It's surprising how much a little trim in the right place and a well arranged photo will contribute to the realism of a model airplane.

CESSNA 150

A lesson in simplified realism, this little R/C bird duplicates the big ship's characteristics without the usual complication of scale construction. By FRED REESE

● There are Cessna 150s at almost every airport, yet rarely is an R/C model seen. Most of us are probably thinking of building more exotic flying machines . . . but think of all the Cessna color schemes. Some have very simple stripes, while others have more intricate patterns, and Cessna went wild with its 150 Akrobat. By using the Ace foam wing, wheel pants, struts, and Monokote trim on a balsa box, you can have a very realistic looking little flyer in about a week of evening work.

A Cox .049 or .09 makes the Cessna 150 an exciting airplane to fly, and it is not really a beginner design. I shortened the moments and reduced the horizontal tail in order to get more maneuverability and quicker spin entry. The model Cessna 150 is fast, does nice rudder rolls, flies inverted, and the power-on spins are fantastic. Spin recovery is immediate and the landings are easy. The Cessna 150 will take off from a paved runway, but should be hand-launched if flying from a grassy or rough field.

CONSTRUCTION

The sides of the fuselage are straight from the nose back to bulkhead C; consequently all of the forward structure is completed before pulling the sides together at the tail. Begin by deciding on the engine position. I made no designation on the plan, as the engine can be mounted upright, inverted or sideways. Cut out the firewall and bolt on the en-

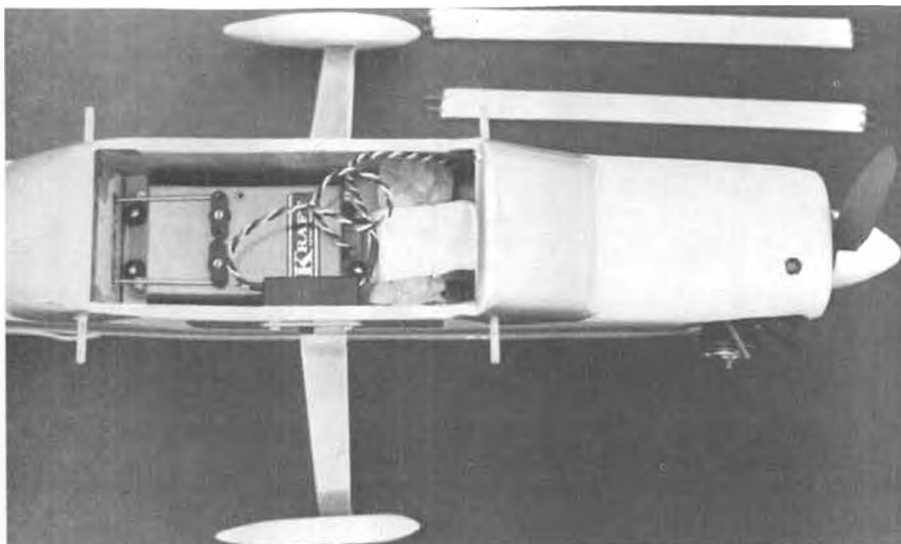
gine mount and attach the wire nosegear with "J" bolts, copper wire, or heavy thread. Cut out the fuselage sides and mark the firewall and bulkhead positions. Contact cement the fuselage and cowl doublers to the sides, leaving slots for the firewall and bulkhead C. I used 5-minute epoxy for the firewall and bulkhead, and Wilhold Aliphatic glue for the remainder of the wood construction. Glue on all of the cabin top and bottom pieces D, E, G, H, and then epoxy in the landing gear doubler F. With a sand-

ing block, true up the front end and glue on piece A.

Pull the tail together and glue. Add the top and bottom rear sheeting. Fit and shape the rear window block, hollow it out, and then glue into place. Finish shaping and sand the entire fuselage. Cut the stabilizer slot (if you haven't already done so) and cut a slot in the top for the rudder. Glue the rudder to the stabilizer and when dry, slide the tail group into the slots from the rear and glue. Join the two elevator halves with an 1/8



A simple modification of the Ace foam wing gives it the typical Cessna look. Ship is a snappy performer, and perhaps just a little tricky for a beginner. Reduced surface movement could help.



Kraft "Brick" installation is quite easy . . . provides rudder and elevator control. Why fuss with a throttle when you're just flying for fun?



Business side of the model reveals the radio switch, engine cut-out, and the nosewheel strut fix. Separate fuel fill and vent were added for easy servicing. Spinner from Cox Sport Trainer.

inch dowel. Cut out the engine opening and trial fit the engine. Inset the two 3/4 inch squares of 1/16 plywood in the sides of the fuselage for the wing struts to plug into.

The Ace Mini Foam tapered wing No. 13L166 can be ordered through your local hobby shop or directly from Ace RC, Inc., Higginsville, Mo. 64037, for \$2.95 plus \$1.00 for handling. The \$1.00 handling charge will get you the Ace catalogue, if you ask for it. The catalogue contains airplane plans and how-to-do-it features, along with all of the manufacturer's listings and descriptions.

Prepare the foam wing by first trimming about 3/16 of an inch from the trailing edge so the foam matches the thickness of the balsa trailing edge stock. Glue on the 3/4 inch T.E. stock, flat to the bottom of the wing. Trim the T.E. stock to get the additional tip taper and then reshape with a sanding block. Inset a 3/4 inch square of 1/16 plywood in the bottom of each wing to receive the wing struts. Sand the wing roots for the proper dihedral angle and then epoxy the wing halves together, blocking each wing tip up 1-3/4 inches. Lightly sand off all bumps and flashing from the wing with No. 320 paper and add a strip of Scotch brand strapping tape (nylon reinforced) from tip to tip on the underside of the wing before covering.

To finish the model, cover everything with white Solarfilm and then add any additional trim colors with Monokote trim strips. Use either silver or black for the windows. Flying magazines or a trip to an airport will give you scale color schemes.

When installing the radio, glue the rear servo rail up against bulkhead C, and epoxy the forward servo rail across the fuselage according to the length of your servos or brick. For pushrods, I

Continued on page 70



The simple-to-build square fuselage doesn't really detract from the overall appearance of the model. Fred covered his in white Solarfilm and trimmed it with Monokote. Flying mags will give you all sorts of trim color combinations . . . or do your own thing.



This 1/2A "Hot Canary" pylon racer by Jerry Holcomb, Vancouver, Washington, gives you an idea of what can be done with this interesting class of racer. Looks as though that might be the radio hatch on the side.

pylon

A report on FUN racing . . . 1/2A R/C Pylon, as developed and flown in the far Northwest. By JIM BOYDSTON

● Nearly two years have passed since the first introduction to 1/2A Class pylon racing in the Puget Sound area. It all started when someone brought out a new "Upstart" to the Boeing Hawks flying field at Kent, Washington. That little .051 engine fired up and away it went! I was very intrigued with the performance. Operating with only two con-

trols, aileron and elevator, the little plane flew very gracefully, but quite responsive. It seemed to turn on a dime! On a calm day it would keep pace with the larger .60 powered pattern ships. But let the wind get up a little, say 15 to 20 MPH, Wow! Then you've got something! While flying almost as slow as a kite upwind, it seemed to rocket by on the

downwind leg of the course!

The interest began to grow by leaps and bounds after that first day. We decided to ask around if the guys would like to get a few races set up. The PROPS (Pylon Racers of Puget Sound) said they would organize the races if the Hawks would let them use their field. It was agreed to hold a race on the first Sunday of each month, starting in October 1972.

The first race was small, with only about eight or nine planes entered. Each flyer had five heats and the race was on! Everything went fairly smooth and it took only a couple of hours to run it off. Thus was the beginning of a very exciting winter of racing.

Since that first race in October 1972, we have held and completed races every month through April without *one* cancellation! And would you believe we repeated this again this past winter of

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One way to keep warm in the cold Northwest is to have some hot 1/2A racing! Winners of one race were (l to r): Bob Mikko 3rd, Dave Katagiri 2nd, and Jerry Upton 1st.



Larry Sperburg's beautiful little 1/2A Gee Bee rounding a pylon.



Dramatic photo of a P-38 about to "buy the farm." We're glad it was only a model, but the owner, Savo Miele, probably wasn't too happy. Scene was the 1973 World War II Scramble at Lakehurst Naval Air Station, New Jersey. Photo by Michael Roselli, North Bergen, N. J.

'REMOTELY SPEAKING...'

R/C News, by BILL NORTHROP

● With basic categories firmly established . . . for powered, fixed wing R/C models . . . in aerobatics, scale, and racing . . . it would seem there's no place to go except to variations of these, i.e., different types of aerobatics with different types of airplanes, different types of scale models, and variations on the racing theme (Formula I, FAI, Quarter Midget, Quickie 500, Skooters, etc.)

However, Dick McGraw, Fort Walton

Beach, Florida, has turned in an official rules proposal to the AMA for an R/C Clipper Cargo Payload event. Basically, the competition is to see who can take off, fly around, and land safely with the biggest load . . . Before the Christian Temperance Union breaks out its tambourines, we're only kidding . . . the competition is to see whose R/C model can take off, fly around, and land safely while carrying the heaviest cargo . . . a

removable weight that is not part of the aircraft structure.

As proposed by Dick, the legal model would have no size restrictions, would weigh not less than 1½ pounds ready for flight, but without fuel or cargo, and would be powered by an engine of not over .1526 cu. in. (2.5 cc) displ. (could be total displacement if more than one engine). The landing gear must not be retractable, and must be able to support the model and cargo throughout official flight.

The cargo, which must be supplied by the contestant and may be of any solid or liquid material (well, no nitroglycerine, dummy!), would be carried in one or more compartments which are completely within the airframe, yet can be easily removed for weighing.

Flight of the aircraft would not be judged for quality, but it must break final contact with the ground in 200 feet or less from start of takeoff, perform straight flight out, procedure turn, straight flight back, traffic pattern approach, and landing. Scoring is strictly based on the amount of weight carried.

Though Dick suggests three official flights, with the heaviest weight carried on any one flight being the score, we see it more of a Limbo-type event, similar to high-jump or pole vault, where the load weight is increased with each round until only one plane remains capable of doing the job. Dick also points out that the event could be sub-divided into different engine size classes, such



"Pete and Paul, eh? I don't care who it's named after. Get me outta this bucket and gimme my bottle!" Don Patton's granddaughter, Christine Hernandez.



Long time R/Cer Al Pinson, Atlanta, Ga., has joined the BJOCA (Big John Owner's Club of America). This is 1A model from MB plans.



Another BJOCA member, Steve Adams, Newton, N. C. Model was built by Clem Williams . . . an O.M.T. from RCM plans.

as .15, .30, and .60. His preference is actually for a .15 size engine, but he realizes that there is a larger choice of kits available for 60 size engines for such an event (Ugly Stik, Big Daddy 88, Senior Telemaster, Senior Falcon, etc. Hmmmm . . . Big John with a Clark Y airfoil . . .)

With the recent government and aerospace interest in R/C model aircraft (to avoid the "toy" image, industry has renamed them RPV's, or remote piloted vehicles . . . poop-poop-a-doop), where various types of payloads are being chauffeured around the sky, this type of competition could develop practical usage as well as provide new challenges for the amateur aeroknock-around engineer.

Wonder how much weight a .61 glow engine could lift, if it was in the right aircraft?

THE BEST OFFENSE

No matter how exotic our radio control equipment becomes, it is a frustrating fact that when we launch a product of our blood, sweat, tears, and wallet into the air, we have no real assurance

that some illegal CB clown, near or far away, isn't going to shoot us down while babbling away on some subject to someone whom he could just as well have called on the phone!

Old flying buddy John Strong discussed this situation in the September newsletter of his DC (District of Columbia) RC club. John points out that in addition to goofs by other R/Cers who turn on without checking, there are four main sources of interference: illegal Citizens Band operation on our R/C channels, illegal high power CB operation on adjacent channels, legal CB operation close to the flying site, and legal amateur operation in the 50-54 MHz band.

"Location of our 6 channels in the 11 meter (27 mHz) band makes our puny signals vulnerable to CB voice operation, to say nothing of the illegal operation there. It is possible to get adjacent channel interference from *legally* operated CB transmitters if they are located close to flying fields. Between each pair of RC channels, there are *three* voice channels, two of which are just 10 kHz away from the RC channels!



One of the best pattern-type aircraft we had the pleasure of building. Remember the designer and where the plans were published?

"It is now legal to use variable frequency oscillators instead of crystals on the CB voice channels. Some commercially available CB transmitters have



Winners of the Texas City Summer Fun Fly contest (l to r): Bill Thienes, Kinsey Pitts, Grand Champ Charles Danley, Al Johncock, and Mike Andrus.



Mike Johncock, age 11, flying the Pilot's Delight as CD Karl Remmler watches.

R/C spots marked on their frequency dials! An open invitation for the scoff-laws to use these obviously open channels! After all, if they break the law by using their station as a hobby, by giving false identification, and by exceeding their power limitation by two orders of magnitude, why worry about using those 5 nice open channels? The threat of heavy fines or jail sentences don't seem to deter all of them, so what can we do to protect our planes and our skins? Fortunately, the vast majority of Class D operators use their transmitters as they should for business and emergency purposes on legal frequencies and with low power. It takes only a few lawbreakers to sweep the sky clear of R/C planes. And during those periods when the 11 and 6-meter bands are open for long distance communications, you could be shot down by someone thousands of miles away!"

The best defense against all of this is a monitor. Obviously, if you're in the air when interference strikes, all you can do is find a large basket! However, checking with a monitor before and between flights might just save you a lot of grief. There are several monitors available through hobby manufacturers and dealers, and in the near future, we'll present one that can be built at a minimum of cost and effort.

THE KOMPLEATE KRAFT

Kraft Systems is the second radio control manufacturer to announce a no-holds-barred, nothing-but-the-best R/C system (Orbit is the other). To be priced in the \$800 range, the "Super Kraft" radio will feature a variation of the dual



Remember the good old days in radio when we'd try anything? Bob Strand, Minniapolis, built this huge, 3'x1' Vought SBU-1. Forster 99, 19 1/2 lbs., 100" span, Bonner compound escapement(!) worked by ED receiver, 7 1/2" wheelbarrow innertube tires. Did it fly?

conversion receiver, highest quality components, and custom appointments, such as Slow Roll button, Instant Low motor, Dual Rate, etc.

Production is expected to be limited to about 20 a week and will be primarily in the hands of Steve Helms.

'NOTHER BIPE

Hugh Stock, of Soarcraft Products, has revealed that his company will soon be producing a kit of the Steens Skybolt, a homebuilt-type sport biplane, which

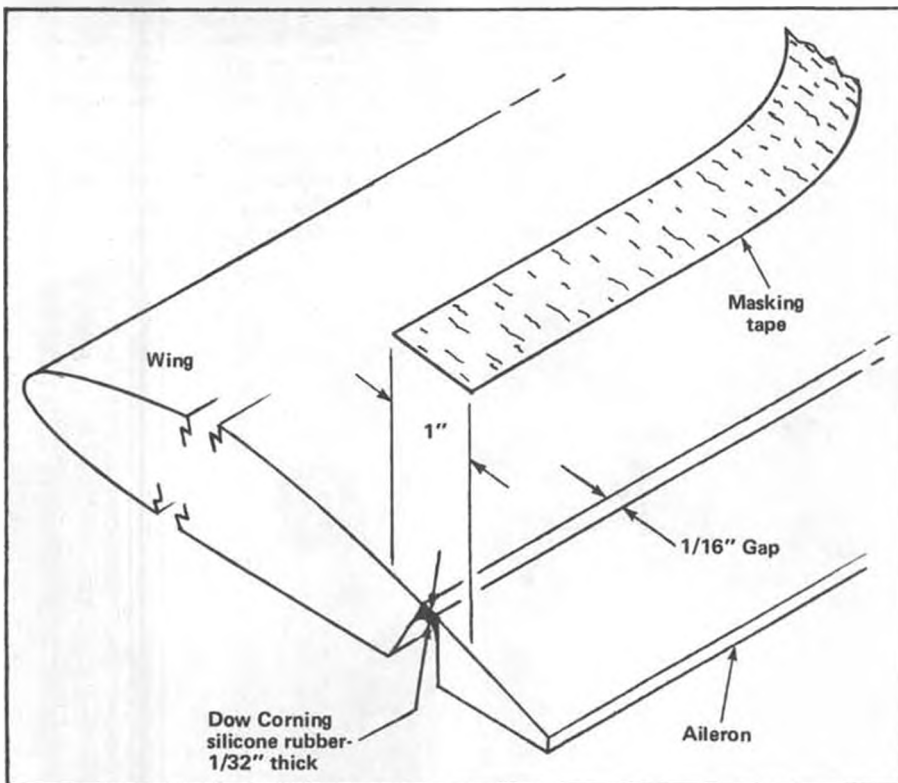
will fit into the National Sport Pattern Association competition rules. Kit will feature a fiberglass fuselage and cowl, and will be complete in all respects. No price as yet. Based on the quality of other Soarcraft products, this should be an excellent kit.

By the way, if you haven't done so yet, join the NSPA and help support biplane sport pattern. What could be nicer? Send 5 to N.S.P.A., 23 Marie Dr., Downers Grove, Ill. 60515.

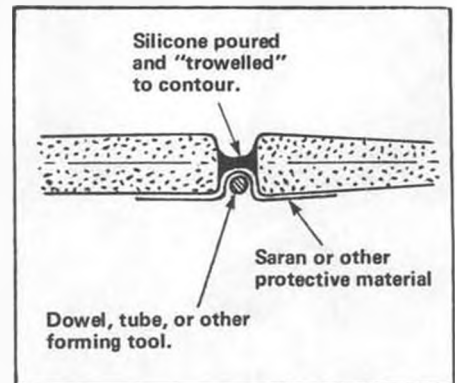
BIG JOHNS FOREVER!

Seems as though we should start a Big John Owners Club. Only problem is, what do we do with it after it's started? One thing sure, we won't have a proxy contest as we're doing with the Peanuts!

The two latest owner reports come from Al Pinson, Atlanta, Ga., and Steve Adams, Newton, North Carolina. Al's ship is red silk fuselage and rudder, with yellow Solarfilm wings and stab. This is the revised first model 1A, published in November 1973 MB, weighs 12 pounds, and is powered by a Webra 60. Al plans to install an O.S. 80 later on.



Neat method of hinging with silicone rubber. See text.



Alternate hinging method for sheet surfaces and center pivot point.



Jim Duda, Davenport, Iowa, and his 1st place winning Kestrel built from WIK kit.

Having a difficult time making the 4 cabane struts come out even when bending, Al cut the struts and rejoined with brass tubing which was soldered in place once the struts were levelled. Good idea.

Steve's ship is a model II, or O.M.T. (One More Time) as published in RCM back in 1965. It was built by Clem Williams, is powered by an O.S. Max 80, and has used Kraft radio for its over 100 flights. It's all medium blue with white trim. Steve is with TRC Sales and Service, and is a member of the Hickory R/C Prop Twisters, Hickory, N.C.

LOADED GLIDER

Jim Duda, Davenport, Iowa, was winner of Scale at the Soaring Championships in Lockport, Illinois this summer. His winning Kestrel 17 was built from a WIK kit, as imported and distributed by



Jason Duda hefts the 1st Place in Scale trophy that his dad won at the 1974 Soaring Championships in Lockport, Ill. Jim added a lot of scale features to the stock kit from Midwest Model.

Midwest Model Supply, Chicago, Illinois.

You can't win a scale competition these days with a stock kit, so Jim really piled it on. As presented to the scale judges, it had operational dive brakes (spoilers), ailerons, retractable wheel and wheel cover, and water ballast; also wingtip rollers, pitot tube, simulated air vent in canopy, full cockpit with instrument console, and complete pilot seated in correct position. It is finished in the color and markings of Captain (National Airlines) Robert Maynard's Kestrel (N1124W) located in Boca Raton, Florida.

The water ballast feature should be of interest to all R/C glider guiders, since carrying extra weight can be useful under certain conditions . . . particularly slope flying and in flying the AMA Speed Task. On Jim's Kestrel, the ballast release is coupled to the spoilers for one servo operation. Silicone rubber tubing leads from the brass tube outlet, through a pinch-off wire loop from the servo, and into a rubber balloon/reservoir by way of a rubber fuel tank stopper. The balloon is filled through the outlet tubing, using a fuel bulb. Holding pressure on the bulb, the servo is operated, retracting the spoilers and pinching the water line. Dumping consists mainly of releasing tension on the pinch-off wire.

* * *

Here's another idea that has been used on gliders and could probably be applied to some power ships . . . RTV (silicone rubber, such as Dow-Corning bathtub calk) control surface hinges. Main advantage of this hinge is the completely sealed gap along the hinge line. The idea comes from George Steiner, Sacramento, California.

Follow these steps (See sketch):

1. Prepare wing to just before final covering.
2. Lay masking tape on wing and aileron, keeping at least 1/16 inch or more gap between them.
3. Turn wing over and lay down on hard flat surface. The trailing edge of the wing and leading edge of aileron should be pressed down hard.
4. Cut a balsa wedge out of 1/16 or 1/8 sheet to make a trowel. See that it fits the air gap between wing and aileron, and is just able to touch the sticky part of the masking tape.
5. Spread the silicone rubber with the balsa trowel so that it contacts the masking tape and walls of the wing and aileron.
6. Keep the thickness to not more than 1/32.

Continued on page 65



Filling the water ballast tank (balloon) in Jim Duda's Kestrel glider. Spoiler servo releases water when spoilers are deployed.



Water being dumped from ballast tank by R/C. Look out below, here comes Duda!! Pilot relaxes with cancer stick.



The sixth and last Meteor P-2-S, NC-12294. Five production models had Hamilton Standard props, and all six were powered by Kinner K-5 engines, 100 hp. What great lines for most any type of model; F/F gas-rubber-peanut-jumbo-CO₂, or R/C. Photo by Pete Bowers.

GENERAL WESTERN METEOR

By PETER WESTBURG

THE GENERAL WESTERN METEOR

● The Meteor was a rare bird, seldom seen away from its native haunts along the Southern California coast. Only a half-dozen were built in the early '30's and only one is known to have survived into the mid-fifties. To the pilots who knew it, the Meteor was a sweet airplane, able to do all of the aerobatics asked of it with ease. Like the Davis and other high-wing monoplanes, it was highly regarded for its ease of handling.

Designed and manufactured by the General Western Aero Corp. of Burbank, California, in late 1930, the Meteor arrived on the scene at the same time as

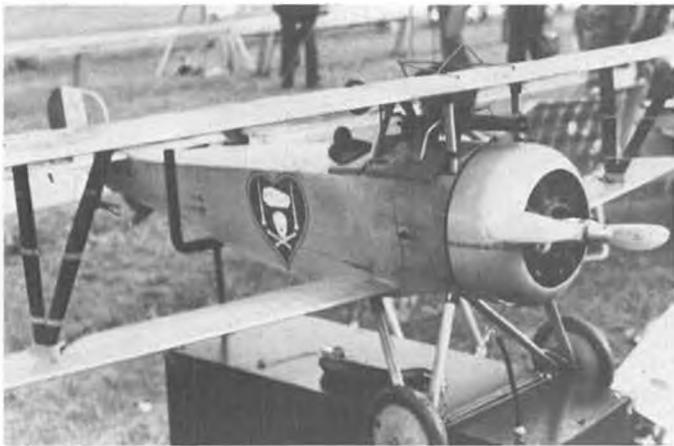
the Great Depression. The firm had its difficulties and moved to Santa Barbara, where five production units were built and used primarily in the flying school the company also operated. In 1935, the Air Transport Co. of Burbank bought the rights to the Meteor, but the airplane was never produced by them.

Two models of the Meteor were offered; the second was actually a stripped down version of the original P-2-S "Sportster," which was equipped with brakes, a nicely upholstered interior, additional instruments and navigation lights. The P-2-T "Trainer," without \$330 worth of these "luxuries," sold for \$2950.

The Meteor was a well thought out airplane. The high wing gave it inherent stability and near-perfect visibility. A 100 hp Kinner K-5 pulled it along at 105 cruise and a top of 126; the landing speed was a slow 40 mph. The tail surfaces and fuselage frames were of welded 4130 steel tubing, and the wing had spruce spars and ribs of spruce strips and mahogany plywood gussets. The color scheme was anodized aluminum, aluminized dope on the fabric and black trim and lettering. The six registration numbers assigned to the Meteors were: NC-188W, NC-958Y, NC-12238, NC-12254, NC-12260 and NC-12294. ●



The prototype, 101, was completed in December, 1930. First called "Bantam", then "Phantom", and finally "Meteor." Appears to be an OX Travelair in background. Booted gents are standing in front of a "Seaside Oil Company" tank truck. Pete Bowers photo.



Nieuport 17 in Nungesser's colors, by George Rose. Powered by an O.S. Max .60.



Tom Dietrick's veteran replica of Cole Palen's Fokker DR 1 at 2½" scale. Merco .61 engine and Skyleader (English) radio.

1974 RHINEBECK JAMBOREE

The Rhinebeck World War 1 Jamboree, where today's Sport Scale actually got its start seven years ago. Still the largest and best single contest for this event. By DENNIS NORMAN

● 0700 Hours . . . He walked with cool determination toward the flight line. A gentle breeze wafted through his sandy hair and the dew, fresh from the night, moistened his boots as he approached his destiny.

Shades of "Dawn Patrol?" Are we at the "Western Front?" No. It was the beginning of the Eighth Annual Rhinebeck World War I R/C Jamboree, a two day contest, sponsored by the Mid-Hudson Radio Control Society. As in previous years, the event was held on the east bank of the Hudson River, about one hundred miles north of New York City, at Cole Palen's Old Rhinebeck Aerodrome.

Registration began at 7:00 A.M. on Saturday, September 7, 1974, because a large turnout was expected and because Mr. Palen's full scale air show

would be held on both Saturday and Sunday afternoon. Traditionally, the R/C competition covered all of Saturday and two-thirds of Sunday, but by 1973, the growth of Palen's splendid collection of antique aircraft, together with increasing popular demand, led to a change of program. This year, the contestants and their families, plus a drove of spectators, were treated to a demonstration of pre-World War I and "Lindbergh era" types on Saturday, with the traditional World War I display on Sunday.

The Jamboree has been billed as a "fun contest" with emphasis on "fun." Four events were scheduled: Mission (bomb drop, balloon burst, and spot landing); Maneuvers (16 required, with seven others optional); Scale (with both static judging and a reduced list of required maneuvers); and Team Combat

(a "cooperative demonstration between two pilots," with no mandatory maneuvers).

A record-breaking 128 models were entered in 1974. Considering that only seventeen were entered in the first meet in 1967, this represented an impressive growth and quite possibly, as the program announced, "the largest gathering of World War I model airplanes ever assembled." Nearly half the entries were non-scale types, with fast-moving "Moraines" and "Eindeckers" the most numerous. Even so, a "scale man" could not have gone gone dissatisfied, as there were a number of masterpieces to savor. Among these, a two inch scale Sopwith Pup by Frank Evans, of Kitchner, Ontario, brought raves and a first place in scale. Ralph Jackson returned with his venerable Handley Page Bomber and



Jack Swift, Oakville (Ontario) R/C Club, uses Orbit, Merco 61, in 1½" scale Albatros D II.



Frank Evans, Kitchner, Ontario, was 1st in scale with 2" Sopwith Pup; Merco, Skyleader.



Der "Model Builder" reporter und der Black Baron (Himmel, vot a meany), Cole Palen.



Immaculate Pfalz D-III by Ernst Mavsof, Esmond, Rhode Island. Scratch built to 2-1/8" scale, Kraft radio, Enya .60. (Not flown)



Handsome Junkers D-1 by Dick "Uncle Bud" Griffith, R/C Club of Connecticut. Veco .61, Futaba radio. Typical excellent construction.



Unique Rhinebeck trophies incorporate WW-I instruments, making them even more valuable than usual. Kits and accessories also given as follow-up prizes.



Charles McLean, Cocord, N.H., makes repairs after hassle with "Der Sausage Factory und Gazwerks." Fox .78 and MRC 5 radio.

claimed second in scale. Although not placed in scale, John Goodrich, of Burlington, Vermont, also wowed the scale fans with a 1 1/4 inch scale Handley Page that weighed 14 pounds, 10 ounces, had a 125 inch span, and realistically lumbered overhead at the insistence of two roaring OS Max. 60's.

Although a light drizzle delayed flying until 9:00 A.M. Saturday, the weather cleared. The winds, which had gusted considerably at some of the earlier meets, were mild and almost non-existent. Sunday was bright, calm and sunny. Nonetheless, there were several crashes, with the trees on the far side of the field being especially attractive to pilot

error. Palen's "Der Sausage Factory und Gazwerks" claimed at least two victims, including a beautiful white Fokker D-VII built and flown by Charles McLean, of New Hampshire.

McClean took things philosophically, however, and reasoned that the crash was inevitable. It seems he was using a tomato can for a fuel tank and when he got over Der Sausage Factory, the attraction became irresistible! He diligently spent the rest of the show making repairs.

The event was smoothly coordinated and controlled by George Bickle, the contest director, and his staff (including a number of Civil Air Patrol Cadets).

and everyone appeared to have a great time.

Palen's Saturday air show opened with "ribbon cutting" as he masterfully snipped a floating tissue ribbon four times with the aid of a handsome Fleet Biplane. The "old timers" were a riot, with Dave Fox (on crutches) just clearing ground in a Bleriot, followed by

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Magnificent Handley Page by John Goodrich, Burlington, Vt., spans 125" weighs 14 lbs.-10 oz, powered by 2 Max 60's, 1 1/4" scale. Flies!



Being a correspondent has its rewards! Our reporter seated in Cole's Thomas Morse Scout, one of many "full scalers" at Rhinebeck.



Winners of the first R/C helicopter contest at an AMA nationals (l to r): Ed Walther, Faye Peoples, Ernie Huber, Grady Howard, Horace Hagen, Mike Bosch. Not available for the picture were Bill Ellis and Aubry Radford.

CHOPPER CHATTER

Special report on the first AMA conducted National Helicopter Championships. By HORACE HAGEN



ALL PHOTOS BY THE AUTHOR

● The 1974 National R/C Helicopter Championships were held on August 4 and 5 at Chennault Airbase in Lake Charles, Louisiana. A practice and pre-registration date was given as August 3. The majority of the competitors arrived on Saturday, Aug. 3, a very hot and humid day, and spent a good part of the day adjusting the engines to compensate for the change in climate.

The next morning the contest got under way after a pilot's briefing held by contest director Walt Schoonard. A total of 15 competitors from 9 different states and one foreign country entered the competition. The majority of the pilots had anticipated a better attendance (especially since some 30 entries

had been tallied at the R/C helicopter contest held at Greenville, Pa., the previous weekend).

At Lake Charles, there were 10 entries in the Novice Maneuvers class, and 5 entries in the Expert Maneuvers class of competition. Out of the 15 entries, 4 also entered in the Scale event.

After the first round of competition it became obvious to the pilots that a severe penalty was paid for each less-than-perfect landing. Some of the contestants felt that perhaps too much emphasis was placed on making good landings, but at the end of the contest it was evident that even the experts did not make 11 out of 11 good landings during each round, and found themselves work-

ing very hard at making soft and accurate landings (Helipad was 3 feet in diameter, four bases were 3 feet square).

Without question, the highlights of the contest were the demonstration flights made by young Michael Bosch, from West Germany, flying the Kavan Bell Jet Ranger helicopter. Contestants as well as spectators were spellbound by the fantastic maneuvers such as loops, stall turns, autorotational flight, fast takeoffs and landings, and pylon turns that would make a full scale chopper pilot shudder or green with envy.

Of the 18 helicopters flown at the Nats, 11 had collective pitch control. Judging by the comments heard in the pit area, those pilots who flew without



Scale winners, 1st through 4th (l to r): Ed Walther, Bill Ellis, Horace Hagen, and Ernie Huber. Ed's ship is the Hegi-Shuco Huey Cobra, all others are Kavan Jet Rangers.



Mike Bosch came from Germany to compete, also demonstrated loops and autorotation.



Bill Ellis, a member of AMA's Helicopter Advisory Committee. In the back, with hat, is hard working organizer and CD, Walt Schoonard, also a member and Chairman of the HAC.



Ernie Huber, top US R/C helicopter pilot, is currently in Hollywood, flying models for a movie. "Geeze mister, kin I have yer autygraph?"

collective pitch were convinced that it is the way of the future. By next year's Nats, there should be several additional collective pitch machines available.

One cannot help but be amazed, after observing the caliber of flying at the Nats, that only 4 short years ago there were no functional R/C model helicopters flown anywhere in the world. R/C choppers have sure come a long way in a short time!

RESULTS

NOVICE MANEUVERS:

- 1ST - HORACE HAGEN
- 2ND - RON WIENSCH
- 3RD - GRADY HOWARD

EXPERT MANEUVERS:

- 1ST - ERNIE HUBER
- 2ND - MIKE BOSCH
- 3RD - AUBRY RADFORD

SCALE:

- 1ST - ED WALTHER
- 2ND - BILL ELLIS
- 3RD - HORACE HAGEN

Continued on page 68

"CHOPPER CHATTER" by JOHN TUCKER

● How does one begin a "chatter" column, like this, after returning from a three-week vacation in Hawaii? (*By saying "Aloha," of course! wcn*) Believe me, it's hard to think about such things when you're already planning the return trip. Ha! Oh well, it was quite an outing and presented the opportunity to watch the "islanders" indulge in various forms of R/C activities... mostly R/C boats and sailplanes. I managed to visit a few well-stocked hobby shops and discovered there is quite a bit of R/C helicopter building but very little flying. All dealers reported numerous sales but had not seen any kits completed and flying! I'll bet they are there... I just couldn't get any leads on whose back yard they were flying in. Let's hear from you chopper pilots out there!

* * *

Looks as though choppers are here to stay, judging by the data cards that keep coming in. Here are five more modelers

from various parts of the country who would like to hear from other chopper builders:

R. White, 8.N. Ellesmere St., Burnaby, B.C. Canada, V5B-1J8. Phone 298-5807 (Kavan Jet Ranger) long time modeler, new to helicopters.

Robert D. Wilcox, 2316 S. Broadview Wichita, Kansas 67218, 684-9789. (Kavan Jet Ranger) learning to fly.

John Gorham, 1354 Calle Pecos, Thousand Oaks, Calif. 91360, (805) 498-3537. (Kalt, Hughes 300, Kavan, Scratch Built) expert pilot, can help others.

Kenneth G. Turner, 2508 S. Irvington, Tulsa, Okla., 74114, (918) 835-0039. (Hegi Cobra) O&R conversion on Cobra.

Howard G. Cole Jr., 1000 Lombard, P.O. Box 1283, Galesburg, Ill., 61401 (309) 343-9338. (Graupner 212) needs help setting up single stick Kraft.

We're sorry that we don't have the



Grady Howard, Salisbury, N. C., and his DuBro Shark.



Our Nats reporter and photographer, Horace Hagen, with his Kavan Bell Jet Ranger. Horace, from Red Bank, New Jersey, is also a member of AMA's Helicopter Advisory Committee.



Steve Darlington, Anderson, Indiana, and his Hagi Bell Huey Cobra. After a couple of years in production, this is still considered one of the best of the fixed-pitch helicopters.



Faye Peoples, another advisory committee member, from Warminster, Pa., and his trophy winning scratch-built chopper.



Ed Walther and his 1st place scale Cobra. In back, with hat, is "Nick" Nixon, a member of the hard working local LAKS club, which did so much for the Lake Charles Nats.

space to print all data sheets at once, but will continue to list a few each issue, if you'll keep 'em coming.

* * *

Received a fine letter from Cliff Cottrell, 1187 Escalero Ave., Pacifica, Calif. 94044, who has lots of good things to pass on. Cliff is an avid R/C modeler from way-back. His Graupner 212 was shown in the July issue of MODEL BUILDER (the one with the good-looking window treatment!) Here are some of his remarks:

"Thanks very much for putting the picture of the Bell 212 in the magazine, although it really isn't mine, I just built it. I have one just like it which flies great and is only held back by its pilot. The rear blower set up on the engine, in my opinion, is the best cooling job that can be done and I'm very surprised that more chopper kit manufacturers haven't done it the same way.

"You are exactly right on the window treatment on the Graupner, I cut the silver Monokote to size, air brushed the edges with black paint, let dry and the stuck them in place.

"That was my suggestion for last month . . . now for this month: a lot of fellas would probably like to use fiberglass mat instead of cloth when making up a fuselage, because of corners and such. Mat is a little easier to get detail with, but soaks up a lot of resin in the process of wetting in the mold. The best way I've found to use mat is as follows: 1) gel coat the mold after releasing agent has dried, 2) cut mat to approximate size, 3) wet the mat *outside* of mold by laying it on a piece of cardboard, wet it with resin, and roll it out with a small roller (old print roller, piece of dowel, etc.), 4) carefully pick the mat off the cardboard and lay into mold. Then all that's needed is a small brush to dab the mat into place. This method is much quicker and I believe you actually use less resin.

"One other item: If lots of fine detail is desired on a fiberglass fuselage, such as rivets, door handles, etc., good results can be obtained by working the female mold instead of the plug. A small drill will simulate rivets and door handles with ease."

NEW PRODUCTS

Model Helicopters, of Tustin, California, has recently stocked a good selection of Graupner 212 parts, such as No. 92 trainer conversion kit (extension dome, longer main shaft, control rod, etc.) at \$36.00; No. 84 stab rotor paddles at \$6.50 a pair (excellent for scratch builders); main rotor blades, etc.

The new Schluter gear box (transmission) case is also available at \$17.50 and features bearing recesses and stronger mounting lugs. It's drilled for new "expert" collective pitch conversion. Ask for part No. 202-203. Dieter Schluter

Continued on page 68



Charles Larkey's completed "Nutcracker" is brightly decked out in Navy blue and yellow. This was Jim Kirkland's last and finest design. Power is a K & B .61, and radio is by S & O.

PRODUCTS IN USE

AIRBORNE ASSOCIATES' "NUTCRACKER" by BOB UPTON and CHARLES LARKEY

● The "Nutcracker," designed by the late and renowned Jim Kirkland, is a product of Airborne Associates, of Annendale, VA. George Hill, a well known pattern flyer, is one of the people behind Airborne, and was instrumental in kitting Kirkland's last and finest design.

Charles Larkey, an up and coming pattern flyer, and member of the "fabled" San Fernando Valley Radio Control

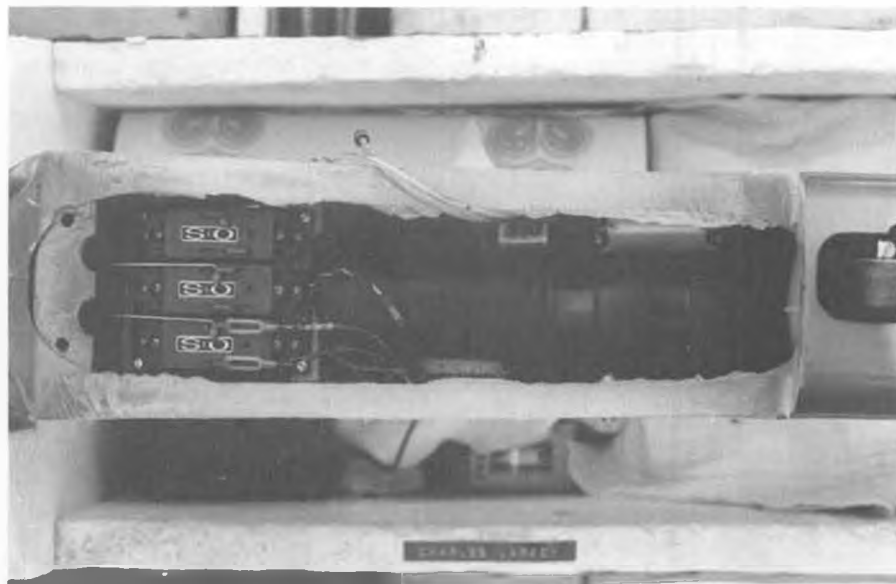
Flyers, was recruited to build this fine pattern ship. As you can see by the photos Charles did a fine job on this model.

The kit includes a gel-coated fiberglass fuselage of fine quality, with firewall and hardwood motor mounts securely attached within the nose section. Charles indicated that he would have preferred to use one of the popular

metal engine mounts and also would have liked to install the firewall himself. It is probably easier to pre-locate, drill, and install blind nuts in the firewall prior to epoxying it into the fuselage. However, this is primarily a matter of preference.

Wing and stabilizer foam cores are provided, and they are sheeted per accepted methods. No balsa is provided in the kit. A well thought out construction manual is included, and if carefully followed, a relative new-comer to R/C

Continued on page 77



The usual radio installation. As can be seen, fuselage is wide enough to locate three servos abreast. Note silicone rubber seal between fuse and wing . . . keeps grime out of radio.



Charles is a fast improving competition flyer, and the "Nutcracker" is not hindering him!



John "Daddy Warbucks" Pond about to take a flight with his Dallaire Sportster. Well known eastern modeler, Vince Bonema, awaits John's command to "leave 'er go." Scene is Lakehurst Naval Air Station during the SAM Champs. Note huge airship dock in background.



By JOHN POND

PLUG SPARKS

● Hate to say it again, fellas, but if you weren't at Lake Charles for the National Model Airplane Championships when the Old Timer events were featured, you missed a thoroughly good time!

In spite of all the warnings about the hot weather and humidity, the weather for the most part was very good, with wind filling in the gaps of heat. Most free flighters would agree that if you used Taft as 10 and Oshkosh as zero on a scale of 0 to 10, Lake Charles would be a favorable 8. When the wind finally

straightened around the second day of free flighting, those 12,000 foot long runways made shagging a real cinch. The surrounding low brush had the boys worried for a while with tales of cottonmouths, water moccasins, etc., but the prospect of a lost model seemed to overcome that allergy. Turned out that if you wore loose fitting pants and boots, there was absolutely no trouble.

Based on the tremendous success of the Old Timer radio control events at the SAM Champs, Lakehurst NAS, the writer decided to stage these events at Lake Charles. However, guess the boys were all "contested out," as the author spent all day alone making demonstra-

tion flights... Rats! Probably the biggest contributing factor to the lack of Eastern contestants was the close proximity of the Canadian Nats being staged during the same time period. After all, there is quite a difference between 1700 and 300 miles!!

However, a tremendous amount of enthusiasm was generated by the R/C flights outside the work hangar after 6:30 p.m. We pulled the usual stunt of allowing the model to climb to several hundred feet, setting it for a moderately wide turn, then putting the transmitter down, and allowing the model to free flight... After all, it was a free flight to start with!

We passed the transmitter around to anyone who wanted to learn to fly O/T radio control. Even Luis Rodriguez, from Puerto Rico, got in the act!

In some respects, it truly was a shame that the Old Timer free flight R/C events fell flat on their faces, as the field provided by the Lake Charles R/C group was simply tremendous, with concrete takeoff strips, side revetments, and an airconditioned club house! All due thanks to "Bo" Hinch, whose property has made all this possible!

During the week, it was the same old (yet, it seems new) Old Timer booth where all the boys could congregate for engine swaps, bull sessions, and just plain everyday enjoyment from looking at the models and photos on display. Credit should be given to Tim Banaszak and Bob Elmon, who manned the booth.



Marvin Bashaw, Davenport, Iowa, launches his Korda Rubber Stick model during Old Timer flying at the Lake Charles Nats. He took a 1st and 3rd in rubber events.

Bob also acted as the official Recorder during the Friday competition . . . a real tough job! To Bob, a "well done and thanks!"

With a lead-in like that, how can one keep from talking about the Old Time Free Flight competition held on Friday, August 9, between 8 a.m. and 5 p.m. Lotsa time to fly! Of course, the meet had its share of wind, holding down the number of flights. However, those who did fly, won! Someone might complain that a nine second flight won second in the antique event, but credit must be given to C. P. Puckett for tenacity, as he wearily repaired and repaired his model from overturning in the wind. The Turner Special finally did stagger into the air for a short flight, only to demolish itself. Dave Sweeney, Dallas, won the event with a Powerhouse that flew quite well. Poor Tim Banaszak suffered the unfortunate mishap of having the crankshaft fail on his OK Twin!

These tired old eyes got a real treat when Lee Webster, Tullahoma, Tenn., showed up to fly with his daughter as mechanic. Despite the fact she was wearing farmer type bib overalls, there was no disguising the graceful shapeliness. While clocking one of Lee's flights, the writer had to be reminded to watch the right model! What do you expect from a dirty old man?

As usual, Sal Taibi won his event. Sal generally prepares far enough ahead that he will specialize in one or possibly two events. Using the .020 powered Playboy he first flew at Oshkosh last year, he promptly put up three maxes. Feeling a little fatigued from the previous night's festivities (he was in bad company at Shakey's Pizza Parlor) he retired to the dormitory. Imagine his surprise when Joe Dodson banged on his door, aroused Sal, and promptly brought him back to fly off a tie with, guess who . . . Joe Dodson! Incidentally, they are long time friends from Langley Air Field, Va. Sal finally won out when Joe's Stratostreak indulged in a few extra curricular maneu-



Jim Robinson releases his Forster 29 powered Brooklyn Dodger.



Ron Sharpton, Daytona Beach, Florida, has just received John Pond's autograph on the left tip panel of his Korda Dethermalizer.

vers which cut down on the desired altitude.

Luis Rodriguez and the Puerto Rico contingent (3 in all) did not go home empty handed either. G. Becerril managed a very creditable third in the hotly contested .020 event. Not to be outdone, Luis picked up a third place in Class C on the very last flight of the day. Al-

though rules prohibit a contest director from flying in a AAAA meet, the writer had a ball starting a very recalcitrant Super Cyclone in Rodriguez's Playboy. Using a very modern electric starter really pays off!

The winner of Class C, Jim Robinson, really conformed to the R.O.G. rules requiring three point takeoff. If he didn't



Jerry Brofman designed this "Starduster" long before the famous Taibi "Dusters" came along. This one by England's John Haggart.



Ken Sykora, flying scale specialist, with his O & R .23 powered Skyrocket B, a Leon Shulman design.

LANZO 1940 NATS STICK WINNER

Designed by: Chet Lanzo
Redrawn by: Phil Bernhardt
Text by: Bill Northrop



Phil McCary holds his Lanzo Stick job in launching attitude. A 4-1/2 foot wingspan justifies that huge, paddle-bladed prop.



How's that for a flying site? Big ship deserves big space. It's the flats outside of Las Vegas, Nevada, during a recent O.T. session.

● Chet Lanzo's Nationals Stick Winner was originally published in the December 1940 issue of *Air Trails*. In those days, the average rubber stick job weighed about 8 ounces on 200 square inches of wing area. Chet's 300 inch model weighed only 9¼ ounces, providing a lighter wing loading and improved performance.

Typical of Cleveland area models of the time... and of Chet's designs... the wing featured multi-spar construction. Whether he had it in mind or not, the turbulator effect of the three top spars no doubt contributed considerably

to the excellent glide capability. The ship is one of a select few old-timers which has bridged the gap of time... it is very effective in today's Unlimited Rubber event.

The Lanzo Stick model in the photos belongs to Phil McCary, Beverly Hills, California, a member of the SCIFS (Southern California Ignition Flyers). While the original model featured an auto-rudder to obtain a circling glide, Phil quite naturally installed a kick-up stab D/T. His other modification is a 20 inch diameter, 31 inch pitch propel-

ler. The original 19½ inch prop is shown on the drawing.

Phil also installed a short wire skid on the nose and lined the subfin with 1/16 wire to protect the model on D/T landings.

Jim Noonan, 7454 W. Thurston Circle, Milwaukee, Wisconsin 53218 carries many old timer supplies, including 5/32 square balsa for the longerons. It's not too unlikely, however, to use 3/16 square, with 1/8 x 3/16 uprights and cross pieces. If you're worried about weight, round off the longerons. ●



Another Jerry Brofman design, the "Spectre". This one built by SCAMPS club member Hugo Lung.



Larry Clark fuels up his well flown Miss America. Photo doesn't do the model justice. It's beautiful!

get the tail skid of his Playboy firmly on the ground, the downthrust would tip the model over on the long takeoff. Loser by two seconds (!), Harold Munger took second with a Playboy, making the event a clean sweep for this type design.

Of course, if it isn't a Ranger winning Class A, then it is a Stratostreak. This

one dominated the event with Mike Fedor and Rudy Kluiber finishing first and second respectively. However, Rudy gained a measure of revenge by topping Lee Webster in Class B by thirty seconds. Guess Rudy wasn't watching the mechanic!

George Perryman's granddaughter, Stephanie, (June '74 cover), showed the

way to go again by winning the Junior-Senior Rubber event. You should have seen the little cutie give Bob Elman a kiss when he presented the first place trophy to her! George was just busting his buttons. Didn't seem to matter that "Gorgeous Gawge" won a first and second. George may have his work cut out

Continued on page 66



The Mile Square "Game Preserve" just after a large flock of "Monokote Breasted Radiohatches" stopped in for their annual LSF migration.

R/C SOARING

By LE GRAY

Special report on the 1974 LSF TOURNAMENT, by DR. LARRY FOGEL

● Well, another LSF Tournament is now history. Let me take you on a brief tour of this "happening."

The usual pilot's briefing occupied Friday night conducted by Dick Shilling, the Contest Director and Barbara Henon, Assistant C.D. (1972 LSF Champion). On Saturday morning, August 24, there were six active winches working in parallel on the runway, Mile Square, Fountain Valley, California. Another quick briefing for the 109 contestants and at 8:00 a.m. the first sailplane sliced into the quiet gray sky.

Typical weather here in Orange County is early morning overcast and no wind. The cloud cover burns off in the late morning and the wind picks up from the west. By mid-afternoon there is a strong steady breeze from the ocean (that same direction) that converts "too hot" into "almost comfortable." Toward evening the wind calms and the coastal cloud bank gradually resumes its cover. The pattern is very consistent so that weather forecasting for this area is a breeze . . . no pun intended.

All contestants were required to be



"Duster" scale entry by Lee Renaud. Will be an Airtronics kit.



The venerable Col. Bob Thacker launches his Hobie Hawk. More and more of these graceful-winged birds are showing up at glider sites.



MB's R/C Soaring editor prepares to launch his new T-tail design, which may appear as a kit. MB's editor stands by with stopwatch.

LSF 1000



Rod Smith is proud of his well-deserved Willow Bee Wand. Who will bee next?



Rick "White Trash" Walters and his new design with curved tip dihedral. Nice . . . a . lines.

AMA/LSF members and hold FCC licenses. Each pilot signed up in Open, Standard, and/or Scale class. "Open" is defined as, "unlimited as to the number of controls . . . size to FAI limit." "Standard" is, "wing span of 100 inches or less, two controls." "Scale" must be AMA documented.

Pre-registration is essential for any contest this size, and Chris Adams, the Registrar, did a fine job of assigning pilots by group and number in order to facilitate call-up for flight.

The tasks? Get this! Two three-minute duration flights with precision landing for points, two 10-minute duration flights and one two-lap speed trial to be performed each of the two contest days. You go up the winch and hunt around for a thermal while trying to decide, "Should this be a three- or ten minute flight?" You must inform your timer within the first two minutes. It's easy to decide if you are already down to 50 feet, but it's tough if you are at 500 ft. and feel sure there is something there but you only sniff a little lift. You're

allowed to perform these duration tasks in any order but it's smart to get the ten-minute tasks out of the way as soon as possible.

The open-winch system was used with the frequency flag being offered to the first pilot in each line-up by frequency. He can pass up this opportunity, moving his aircraft to the end of the line, but this may mean waiting almost an hour for another chance to get a winch. Again, the choice was difficult in that a closing time was placed on each event. Some of the pilots sandbagged early in the day, waiting to see some thermal activity break loose. Later, there was a surge of activity as everyone wanted to get to a winch as soon as possible. Pilots in the 27 MHz band were few, and thus found no problem in timing their flights.

Speed events took place each afternoon, with the pylons set for a 150-meter crosswind course. Most pilots chose to add weight to their plane to meet this two-lap challenge. For example, Mark Smith added an 11 ounce lead slug at the C.G. of his Windfree. He

WORLDWIDE LSF MEMBERSHIP TOPS 1,000

League of Silent Flight Member No. 1,000 was awarded to Don Bowhay, 116 Logan Cres., Regina, Saskatchewan, Canada. Bowhay's documentation of the soaring accomplishments required for membership in the League was processed on 23 July by LSF Secretary, John Nielsen.

Dan Pruss, LSF President, noted that Canadian Bowhay is one of several hundred members, representing 15 countries, outside of the United States. Bowhay's membership, as all those preceding and following his one-grand position, was earned by performance of specific flight goals; a 5 minute thermal flight, a 15 minute slope flight or a second 5 minute thermal flight, and five spot landings within 3 meters (9.84 feet) of a target point.

The Level I status of the LSF's Soaring Accomplishments Program, recently completed by Bowhay, is the first of five levels, each progressively more challenging. Level V, which has yet to be reached by any of the 1,000 members, requires a 2 hour thermal flight, an 8 hour slope flight, a 10 km (6.21 miles) goal and return flight, as well as considerable success in major soaring competitions. Approximately two dozen LSF members are approaching the Level V pinnacle, but none have completed all tasks.

Milestone, century membership numbers prior to Bowhay include: LSF 100, Daryl Whitney of California; LSF 200, D. Schwenger, California; LSF 300, J. K. Truitt, Texas; LSF 400, J. C. Dye, Oregon; LSF 500, C. Hendrickson, California; LSF 600, M. Marjoseph, California; LSF 700, R. C. Whitmore, Wyoming; LSF 800, R. A. Steele, Indiana; and LSF 900, Jakob Arnekleiv, Norway.

Any serious R/C soaring sportsman is invited to associate with the League. Inquiries should be directed to LSF Executive Board, P.O. Box 39068, Chicago, Illinois 60639. Correspondence should include 30 cents return postage.



Trim little Liballe by Soarcraft. This one was Hugh Stock's scale entry.

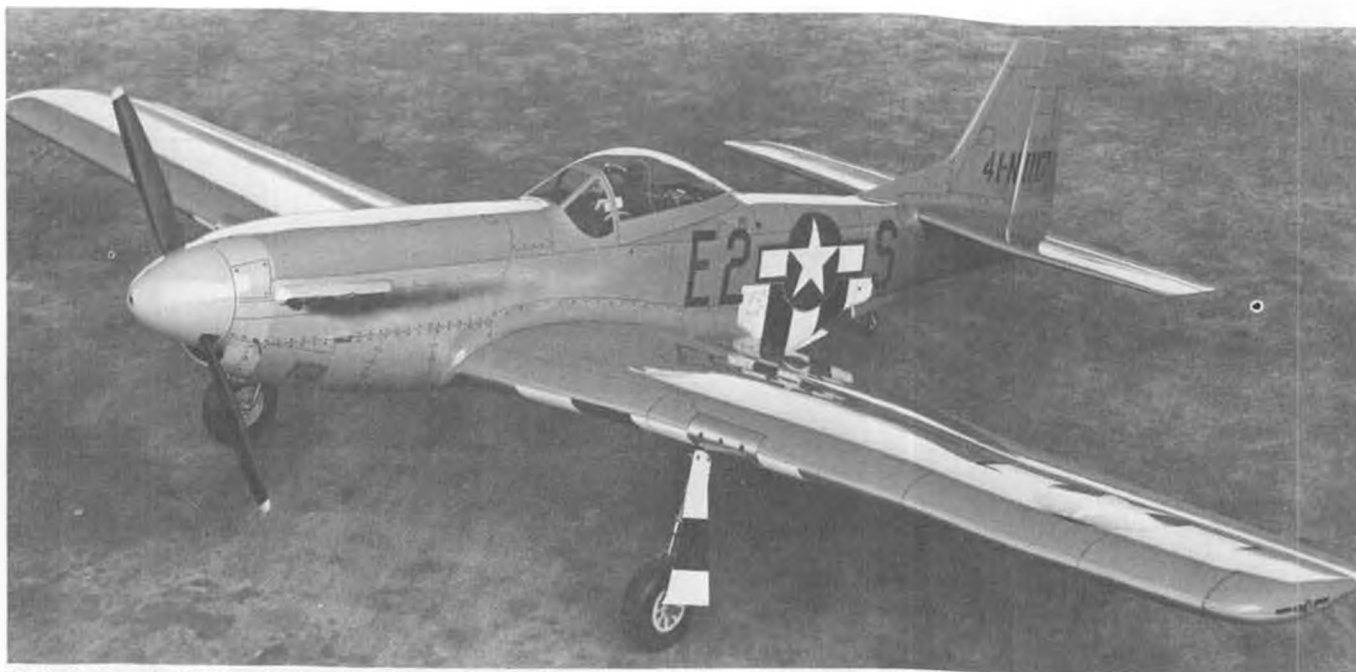


Pete Bechtel's scale Cobra, from a kit available from Windspiel Models.

presumed that what he'd lose in height he'd make up for in speed. I felt brave just to add eight ounces to my Windfree. Our final standings confirmed his judgment over mine.

For those interested in statistics, there were 15 Cirrus, 14 Windfree's, 9 Cumulus, 7 Grand Esprit, 5 Hobie Hawks, 5 ASW-17s, and fewer representatives of other kits. Special mention should go to some of the new kits: Centurion II, Legion Air, Albatross, Gull, and Cobra 17. Fourteen pilots came up with original designs.

Continued on page 68



Maybe it doesn't fit into today's scale fashion to have a nice shiney airplane, but it sure is a refreshing change after all the grubby looking "realistic" finishes we've been looking at ever since Dave Platt turned the tide in 1968 with his R/C SBD Douglas Dauntless. This Mustang is Al Rabe's 3rd Place Stunt winner at the '74 Nats. Span 54", 56 oz., Hobbyoxy finish, ST 46 power, special carved 13 x 5 prop.

C

ontrol line

"FROM THE HANDLE"
By JED KUSIK

● Frumble, Mumble, Gudge, Foey! Some months there is simply no way I can make myself sit down and write this column. Not even the faint, distant prospect of payment is enticing. This month is especially bad because I am working again on a regular daily basis, now that public school is in session (Grumph, Mudge, Rats).

Perhaps I can start off by answering my mail. I have before me letters written by Dick Lietric, Morrie Leventhal, Phil Cartier, Arlie Preszler, Bill Pardue, and

Jay May. I'll answer them in order: 1. Sorry 'bout that. 2. Thanks for the support. 3. Very interesting. 4. I appreciate the plug. 5. We're cheap. 6. You're my kind of people.

Well, that is taken care of. Now it's correct-the-goof time. Yes, folks, I blew it a couple of times. The beautiful and functional profile Grumman Guardian in the August issue was designed by Mike Taylor of Campbell, Calif., not Dick Lietric. Now perhaps he will send me a set of plans so I can build one for my-

self.

Fault No. 2: The fuel switch manufactured by Arnold Kosby of Technamics Corp., P.O. Box 1665, Scottsdale, Ariz. 85252 is not centrifugal, but trip actuated. Now maybe they will send me one for testing! Their in-line pressure check valves work great, by the way, write to them. Tell them where you read it.

FAI TEAM RACE

If there are those among you who would like to know how to get into this



Special Monoline handle by Sam Snyder, to help young speed fliers to stay in the fork.



Becky Snyder all hooked up and ready to go. Note extra safety thong. See text for more info.



Becky goes for a fast walk! She starts in fork, rather than hooking up after takeoff.



Three of seven 1/2A stunt ships entered at San Jose contest. Ryan by Arie Prezler, larger ship by Bill Fitzgerald. Cute, huh?



McCoy 40 powered original "Moby Dick" by Ted Fancher.

fantastic event, or where to get engines and equipment, write to me care of the MODEL BUILDER. I would like to know if there is enough interest to put together a package of plans and information for prospective team race flyers.

And now, more on diesels, the most popular topic to come "From the Handle."

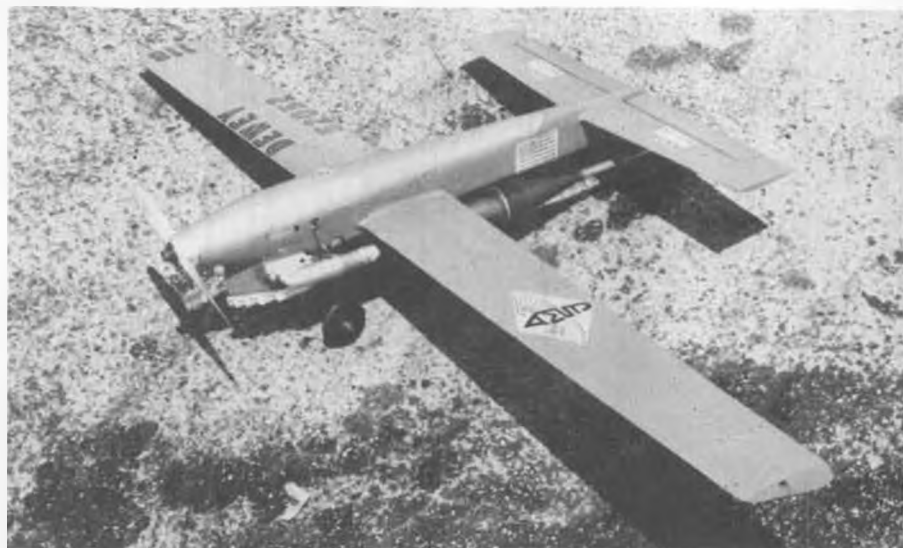
DIESEL STARTING PROCEDURE

The diesel has two adjustments; the standard fuel mixture needle valve and the compression screw sticking out of the head. The needle should be opened a lot; 5 to 8 turns. The diesel needs vast amounts of fuel when stone cold, but rapidly reverses its needs after coming up to temperature. Incidentally, the warm up time required for a diesel to be operating efficiently is much longer than the time required by a Glow. At least 3 to 5 minutes running is required before setting the final tune.

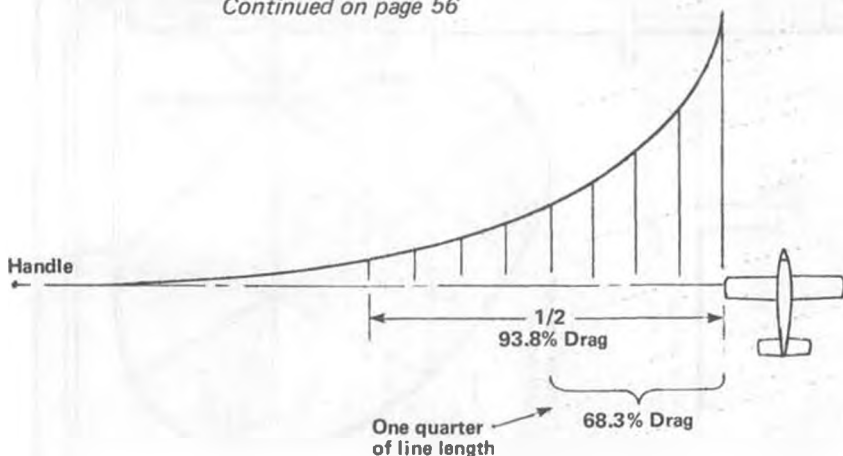
The compression screw should also be backed out until the engine flips easily.

Fill the tank, fuel line, and prime the exhaust as usual. Use an 8-4 nylon prop, cut down to 7½ inches, for bench

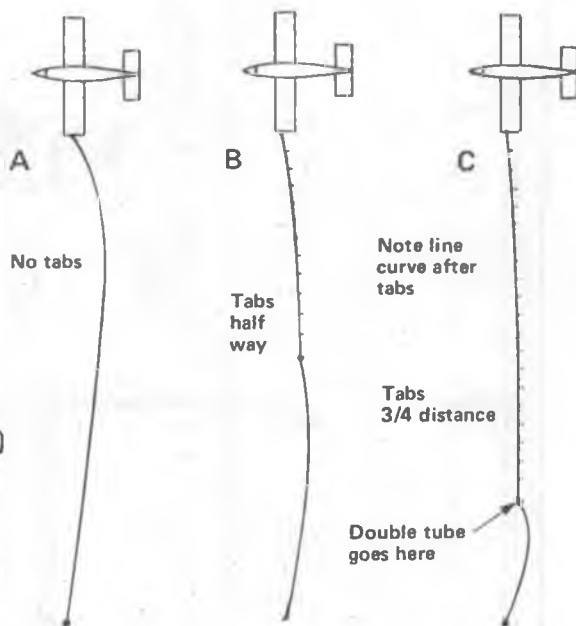
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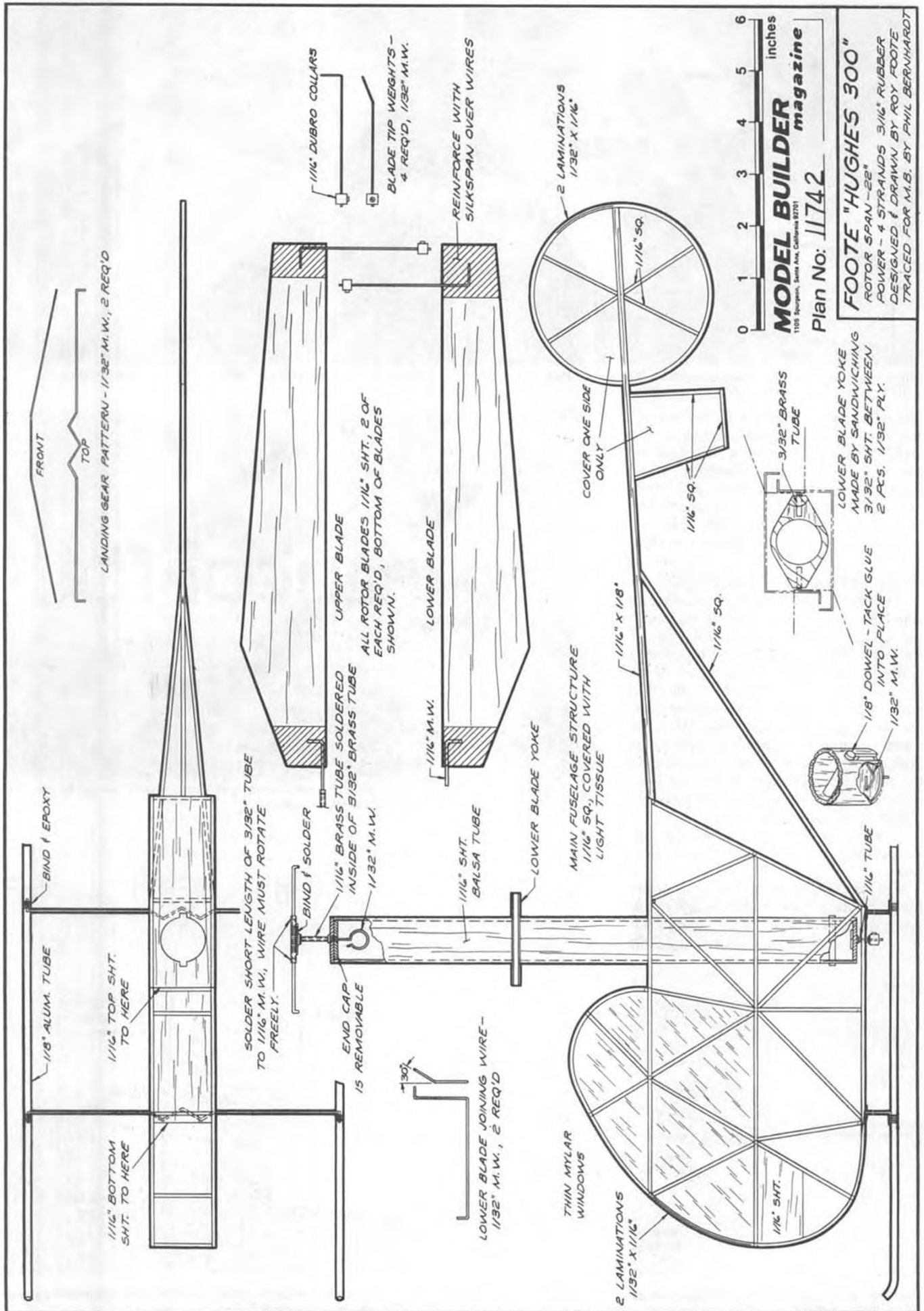
R/Cers attention! This tuned pipe racer with special machined cooling head belongs to the Rat Team of Dewey and Dewey. What WILL he do next!



This chart shows the relative drag along the control lines of the average speed model. Almost 100% of the drag appears to occur from half-way point on out.



The effect from installing coupling tabs which reduce drag. See text for more info on this subject.





HUGHES '300' HELICOPTER

This large, but lightweight rubber powered helicopter is one you can truly fly in the living room on cold winter evenings. Great subject for a club one-design contest at the local gym. By ROY FOOTE

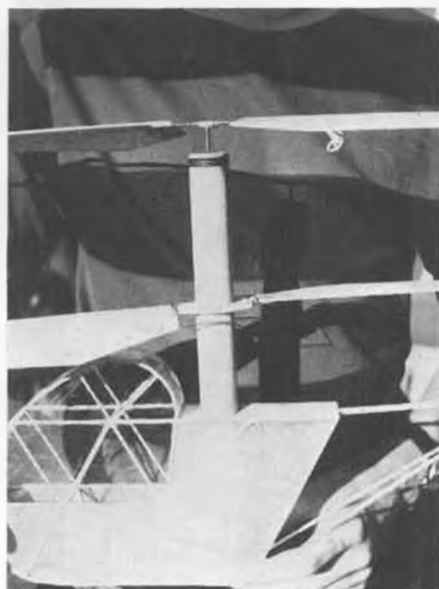
● This little, easy-to-build helicopter is a very stable and predictable flyer. It has an inherently stable contra-rotating rotor system which I copied from a sketch from Roy Clough Jr. in the October issue of *Air Trails*, 1953.

It can be trimmed to go straight up and down, or fly forward by adding nose weight.

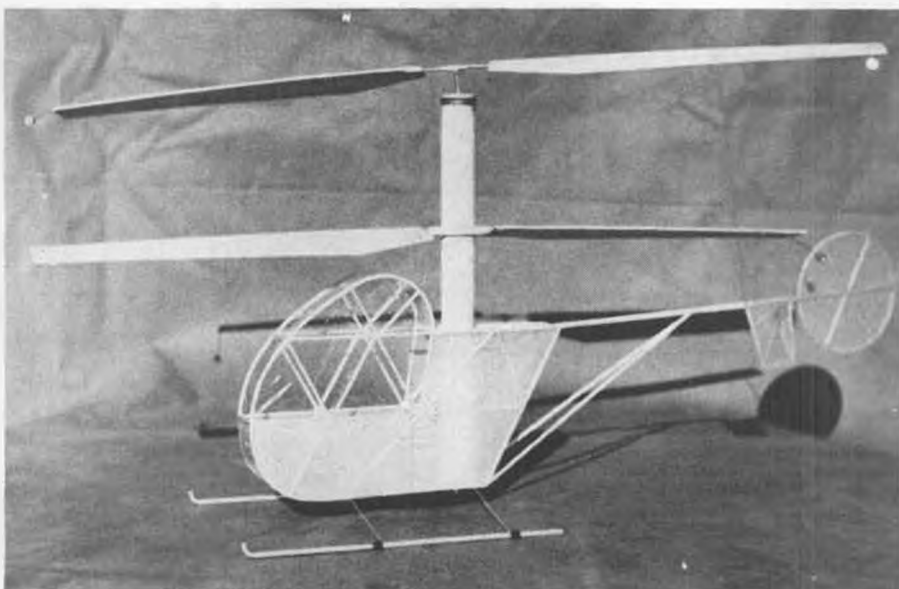
Start by building the rotor system, as you need the finished tube to determine the hole size in the top of the fuselage. The tube is 1/16x3 soft balsa about 10 1/4 inches long. Wet thoroughly and wrap it around a 3/4 inch diameter dowel. Hold with elastic bands. After drying, cut off overlap and butt glue edges together; wrap Saran Wrap around

the dowel to prevent glue from sticking to same. Wrap glued tube tightly with masking tape (sticky side out) to ensure a true round tube. Trim to 10 inches long. Reinforce top of tube with a few wraps of thread and glue.

All 4 rotor blades are the same size; 1/16 medium balsa is about right. Top rotor rotates counterclockwise and bot-



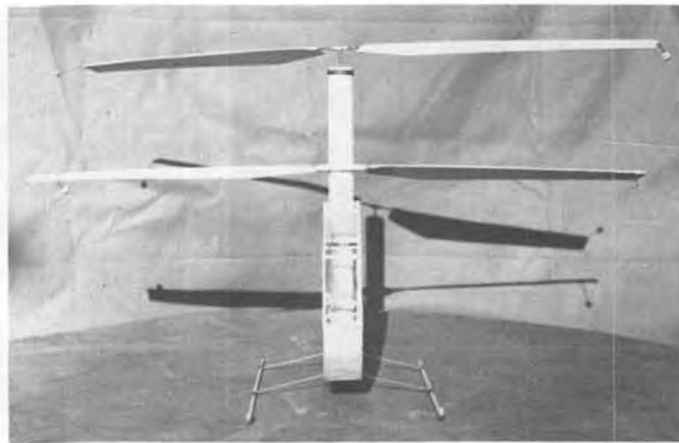
Close-up shot of the counter-rotating arrangement. Lower blades are fixed to tube.



Notice upper rotor tilt. Bearing should allow rotor to tilt about 10 degrees in any direction. Model is extremely stable (see photo at top of page), and may be flown indoors.



With no wind, or indoors, model will climb straight up and come straight down. Large space is not required . . . just height!



By adding a little nose weight, model can be made to fly forward. Looks like a great one-design event for the coming winter.

tom rotor clockwise. The 1/2 inch long brass tubing at the top of the rotor tube is a piece of 1/16 O.D. tube soldered inside a piece of 3/32 O.D. tube. The little ferrule in the removable top plug should have an ID large enough to let the 1/32 dia. wire tilt about 10° each side of center. This is to allow the top rotor to tilt. The bottom rotor does not tilt. Both rotors must be free to feather. All 4 blades have 15° of incidence. The bearing in the bottom of the fuselage is a 3/16 long piece of 1/16 O.D. brass tube. Align bearing and 1/32 wire carefully to avoid binding.

Slide some 1/16 O.D. nylon tube (or similar) on the 1/32 wire loop at top of tube. This is to prevent the wire from cutting the rubber motor.

The fuselage is straightforward, with the possible exception of how to form the curved portions. I cut 1/32x1/16

soft balsa strips of suitable length, soaked them in water, and wrapped them around a 3/4 inch dia. glass jar to dry. Next, glue two strips together to form a 1/16 sq. strip and leave on the same jar until the glue is dry. Do this 3 times; two for the canopy and one for the tail rotor disc.

Place plastic wrap over plans and make two side panels per plan. Cut top and bottom sheet pieces. Cut rotor tube hole in top piece. Do not drill lower bearing hole at this time. Drill after fuselage is complete. Locate lower hole directly under top piece hole. Cut 15 cross pieces from 1/16 sq. medium balsa. Join fuse sides together, first with top and bottom sheets, then add cross pieces. Install small balsa sheet in front for adding thumbtack weights. Cover with light tissue and thin mylar per plans.

Bend the landing skids and wires to

shape and install. Attach tailboom and braces. One last thing . . . using 5-minute epoxy, put a layer of glue on the inner edge of the tube hole in top sheeting and around tube at hole height, then sand it smooth. This acts as a tube bearing and is very important. A little oil at all metal bearing points will help also.

To balance the helicopter, pick it up by the upper rotor in the center. The rotor tube should hang straight down, or tilt slightly back (nose down). C.G. location is not critical.

The Hughes 300 flies best indoors (no wind). It is so predictable, that by counting the turns in the 4 strands of 3/16" rubber, it can take off and go up to 6 ft. and land back on the same spot. For indoor flying, start with about 80 turns and work up. Don't forget the rubber lube.

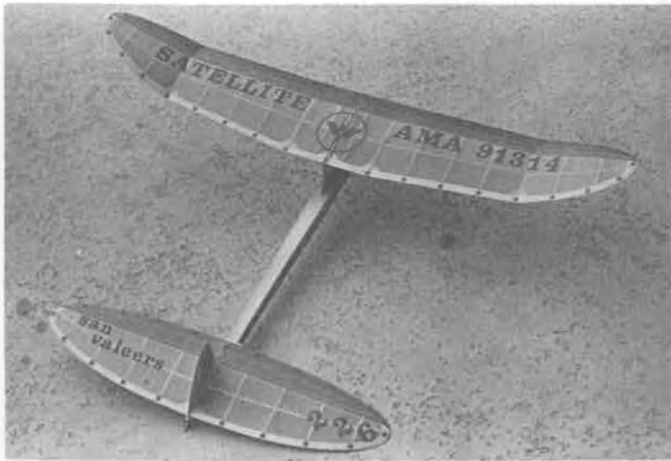
Many happy ups and downs! ●



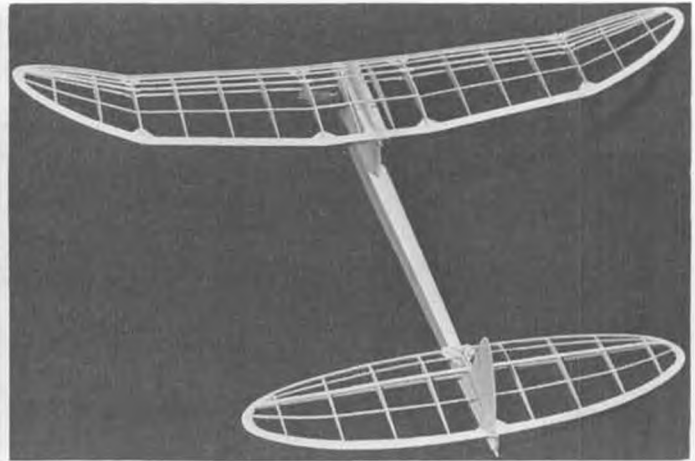
Roy's son Bob shows how to hold the 'copter for hand winding. It can also be winder wound from top end. Plug removable.



Bob shows how to hold both blades prior to launching. Hand bridges the top rotor and holds the tube just below. Let 'er go, Bob!



There's no mistaking the Satellite lines in this overhead shot of the test model. Its Sailplane heritage is also quite evident.



The Hunters took pity on kit builders and eliminated the geodetic construction in the wing and stab, so typical of the larger versions.

PRODUCTS IN USE

The 1/2A SATELLITE 226, by LEE HUNT

● Mention the word "thoroughbred" and a number of images come to mind; in horses, Secretariat; in cars, a Ferrari Daytona; in motorcycles, a Manx Norton; in free flight competition models, Satellite.

If the definition of "thoroughbred" means being bred of the best stock, what better ancestor could a free flight claim than Carl Goldberg's venerable and highly revered Sailplane? The original Satellite, a 1300 square incher, was based on the graceful, elliptical planform of Goldberg's contest winner.

From that early Satellite have emerged

countless other variations on the Satellite theme, ranging from the subject of this article, the Satellite 226, to the monstrous 1300's powered by Rossis and Super Tigres.

The evolution of the 1973 National Free Flight Society's award winner has run the gamut from Holland Hornet powered, styrofoam fuselage 1/2A's of the mid '50's, through plywood laden ships required to meet the AMA weight requirements of 1959-'60, and the built-up fuselage Satellites of the '60's.

What makes the Satellite a true thoroughbred is the continual development the design has undergone, unlike so many other designs of the mid '50's which were competitive on the contest field for several years, then fell by the wayside.

Bob and Bill Hunter's Satellite is

right in there, 17 years later, running with the best and giving away nothing to any design, whether it be high or low thrust, high or low aspect ratio, elliptical or rectangular planform.

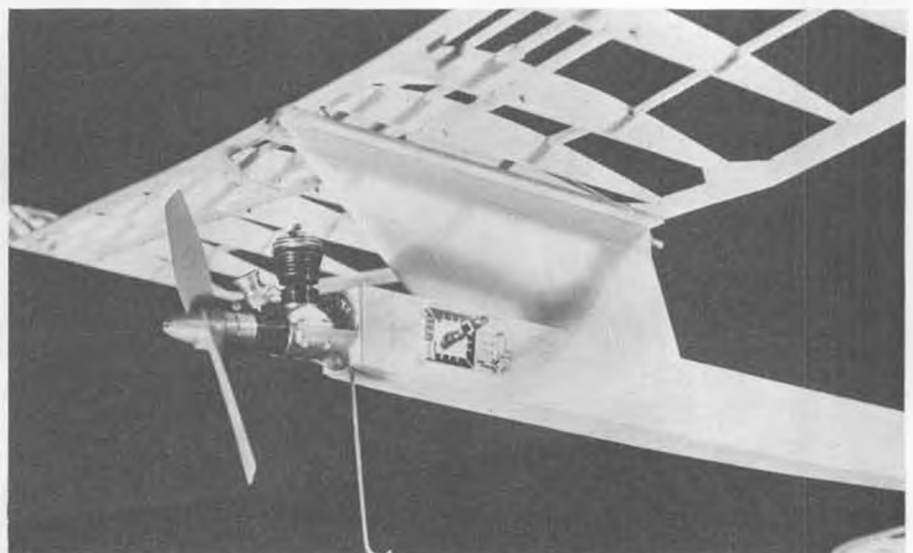
Recognizing that many modelers have limited time available for construction, Bill and Bob have made their Satellite 226 kits as straightforward as possible. As a result, geodetic wing and stab bracing have been eliminated, and wingtip laminations have been held to a minimum, resulting in a wing which has few if any more parts than the more common rectangular structure.

Neatly packaged and accurately cut wing and stab ribs ensure that construction time is further minimized. Other pre-cut parts include wing and stab tips, stab trailing edge, fuselage formers, plywood stab rest, firewall, and pylon parts. Part after part slips into place without any modification whatsoever, surely a testimony to the care with which the Satellite 226 kits are put together. Moreover, it is impossible to fault the Sig balsa selection.

A unique feature of the kit is that,
Continued on page 77



The "testor and the testee" pose for a formal portrait. Small size of the 226 is obvious.



Close-up photo of the Satellite 226 emphasizes the simple construction. We're betting you'll see a lot of these on the competition scene next summer.



Bill Caldwell's exquisite little CO₂ powered 1926 Monocoupe 113, sitting on its scale presentation book at the Lake Charles Nats.

FREE FLIGHT SCALE

By FERNANDO RAMOS

● I have heard a great deal about southern hospitality, and found it to be a fact at Lake Charles, Louisiana. The facilities for this year's Nats were very good with housing for both contestants and officials provided by McNeese College. The flying site was Chennault Air Force Base, and only seeing this site is believing! This base is enormous, with plenty of space for all of the flying events. Unfortunately, the attendance was considerably lower than last year and it was definitely reflected in F/F Scale. Taking the indoor scale event, for example, there were only about fourteen entries, which is pitifully low compared to previous Nats.

Tom Stark, the perennial winner in scale, did it again this year with a beautiful Monocoupe 90 in indoor scale (now kitted by Sig); an outstanding flying

Whitman Tailwind for outdoor rubber; and a Loening in F/F gas, with which he has won two previous Nats. One thing about Tom is that his models are well-tested, and he knows exactly how they are going to perform. Too often, this isn't the case with many other contestants. *(Could be that's why he wins! wcn).*

There aren't enough words to express the enjoyment of attending a Nationals. The life-time friends you meet and get to see each year, and being totally involved in modelling for an entire week are but two of the many great pleasures. If you haven't been before, try and make it next year... it is an unforgettable experience.

* * *

I. E. Coleman, of Canada, took the bull by the horns and hired some of the



Bill Wargo cranks up his Douglass O-46A for an official flight.

best modelers in this country and England, and came up with a plan book par excellence. It is very reminiscent of the Earl Stahl plan book of the '40's.

There are 12 exceptional rubber-



Scott Gesner, Woodbury Heights, N. J., was first in Jr/Sr Scale Gas with his J-3 Cub built from a Sig kit. MB sponsored trophy.



Tom Stark, Florissant, Mo. took first (again) in Open Scale Gas with his unbeatable Loening MB.



Tom Stark also took first in Open Rubber Scale with this Wittman Tailwind. It will be kitted by Sig Mfg. Co.



The .045 Mills diesel in Vic Larsen's Nieuport 11 warms itself up in preparation for an official flight in Scale Gas.

powered plans of favorite WW II aircraft. Each is a beauty and could easily win any rubber flying scale contest. Contributors to this fine MODEL BUILDER publication (edited by our fearless leader, Bill Northrop), are Bill Hannan, Doug McHard, and Clarence Mather just to mention a few. Included are articles on Covering and Trimming, Making It Fly, and Building and Finishing. This is one of the finest efforts I have seen in a long time. The cost is only \$7.95 and should be available from your local hobby dealer very soon. Ask him about it. If this book is well received, Mr. Coleman has many ideas for future publications.

Here are a few new items for the scale modeler that have just come across my desk. The first comes from Jim Crocket Replicas, 1442 N. Fruit Ave., Fresno, Calif. 93728. Jim has come out with several cast and polished aluminum items for competition type rubber models, and his latest products will be of great news to the Brown CO₂ fraternity. Jim has developed two different CO₂ engine mounting rings . . . one for the original .005 Brown engine and the other for the new Brown single and twin engines. The former ring uses 00-90 brass screws and the latter uses the 0-80 size, all of which are furnished with the rings. The cost is \$1.50 each or 2 for \$2.25, 3 for \$3.00. Be certain to identify which ring you want when ordering.



Roberti's Jenny takes off for an official attempt.

Bill Hannan has just added another sensational Peanut plan to his list of outstanding flying model plans and accessories. This newest gem is of the Farman F170 "Jaribu," and is designed by the original Peanut specialist, Dave Stott. The model is box-like, with only a few curves on the fuselage, making construction easy and quick. The cost of the plan is 70 cents, plus 25 cents postage!

The following hint comes from Jack McCracken and it is one that simplifies

the mounting of William Bros cylinders. First, if you feel that your particular model doesn't need any additional weight in the nose, you can ream out each cylinder, thus cutting the weight down considerably. Once this has been done, a balsa plug is inserted into the base of the cylinder, providing a material that can be glued to more readily than the plastic cylinder itself.

The Flightmasters Peanut/Jumbo Rubber Scale contest will be held at Lake Elsinore, California on Dec. 15. ●



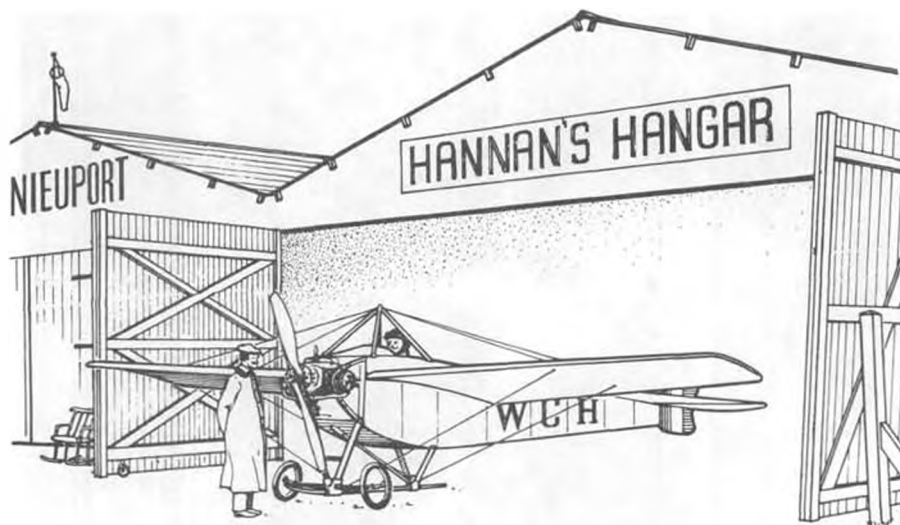
Ronald Roberti's JN-4D "Jenny" perched on its 3-views in the scale "cage" at Lake Charles.



Ralph Kuenz' Parnell Pixie in flight. It's a jumbo scale rubber ship.



Ralph "Cloudbuster Venture" Kuenz releases his Parnell Pixie.

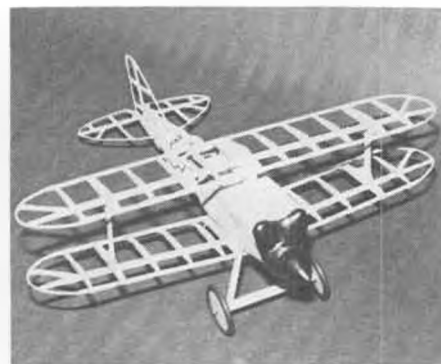


... being a collection of onward and upward oriented items ...

... being a collection of onward and upward oriented items.
PHINEAS RETURNS!

Best news of the month is the announcement by Bob Whittier, of Ace Publishers, that they have released "The Phineas Pinkham Scrapbook," containing reprints of a selection of these classic tales of World War I. Originally published in the much-lamented FLYING ACES

magazine, the Pinkham stories hold a fond place in the memories of virtually everyone who was exposed to them. Author Joe Achibald has a sense of humor which is literally timeless, and his stories are as entertaining today as they were when originally written in the 1930s. In addition, his facile penmanship in line-illustration served to bring each story vividly to life.



Joe Bickeinella's Curtiss R-6 Pulitzer Trophy Race winner in 1/2" scale comes out to 9-1/2" span. A fast Peanut!



Portugese "Fury" rubber scale by Dave Stott, was based on Cleveland plans.



Famous test pilot Tony LeVier prepares to try Volmer Jensen's latest hang glider, the "Sun Fun." Darn good looking bird. Photo by John Underwood.

Bob Whittier has provided a bonus, in the form of a glossary, to help uninitiated readers unravel the pseudo-German and French which added such delightful flavor to the Pinkham yarns. And to those among our youthful readers who think politicians and military brass have only lately started making colossal blunders, these stories should quickly set that notion straight. Phineas Pinkham will go down in history as the ace of wind-bag deflators! Copies of this treasury of humor are available for \$3.00 plus 25¢ postage from: ACE PUBLISHERS, Box T, Duxbury, Mass. 02332.

Continued on page 62



John Oldenkamp, San Diego, California, built this Peanut Scale Eastbourne from 3-views and information in a 1913 "Flight" magazine.



Peanut Seagull... Curtiss S03C-1

Our guest editor reaches into the bottomless Peanut barrel and pulls out a seldom seen model of a World War II reject. By PRES BRUNING

PHOTOS BY BOB MOSHER

● The "Seagull" was designed as a replacement for the SOC-1 Biplane for use as a scout observation plane with convertible land-sea use. In competition with the Chance-Vought "Kingfisher", the Seagull was a disappointment and was eventually cancelled. Several interesting features were incorporated in the test flying stages. The plane lacked sufficient dihedral, so an inexpensive

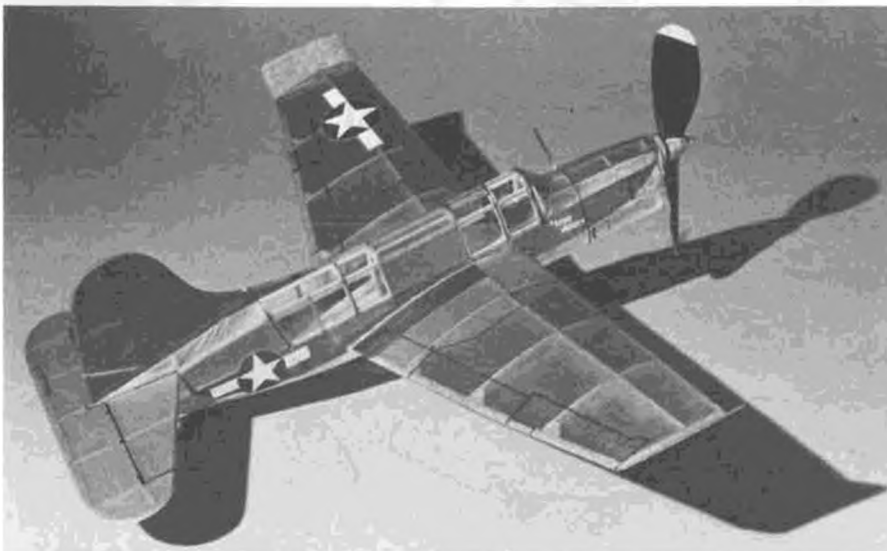
way out was to add dihedral plates at the wing tips. The landing gear was attached at the float pylon juncture. This resulted in the gear being set back close to the C.G. and being long, provides excellent opportunity for a big paddle prop on the scale model. The subject has ideal proportions for a flying scale model, with virtually no deviation from scale for flying purposes.

Let's start construction with the fuselage. This is accomplished by first building up a profile, then adding in the nose block bulkheads, plan view stringers and final stringers. Landing gear wire is 5-minute epoxied in before covering with tissue. Rather than airbrush the color separation from blue to light blue to white, I overlapped the white and blue tissue covering with clear dope thinned out 50-50 with thinner. I rendered the light blue area between white and blue by mixing a drop or two of blue dry-mark ink in the dope and brushing the tissue below the separation line.

Each wing half is built on the plan, removed and dry covered with thinned out Elmer's glue and attached to the fuselage at the dihedral angle shown on the plan. The leading and trailing edges of each wing half are joined in the fuselage with a drop of 5 minute epoxy on a stick. Next, with a wet cotton ball, shrink the tissue and dope with one coat of 1/2 dope and 1/2 thinner mixture. Make sure the right wing trailing edge is up 1/16 inch at the tip (may be done in construction phase).

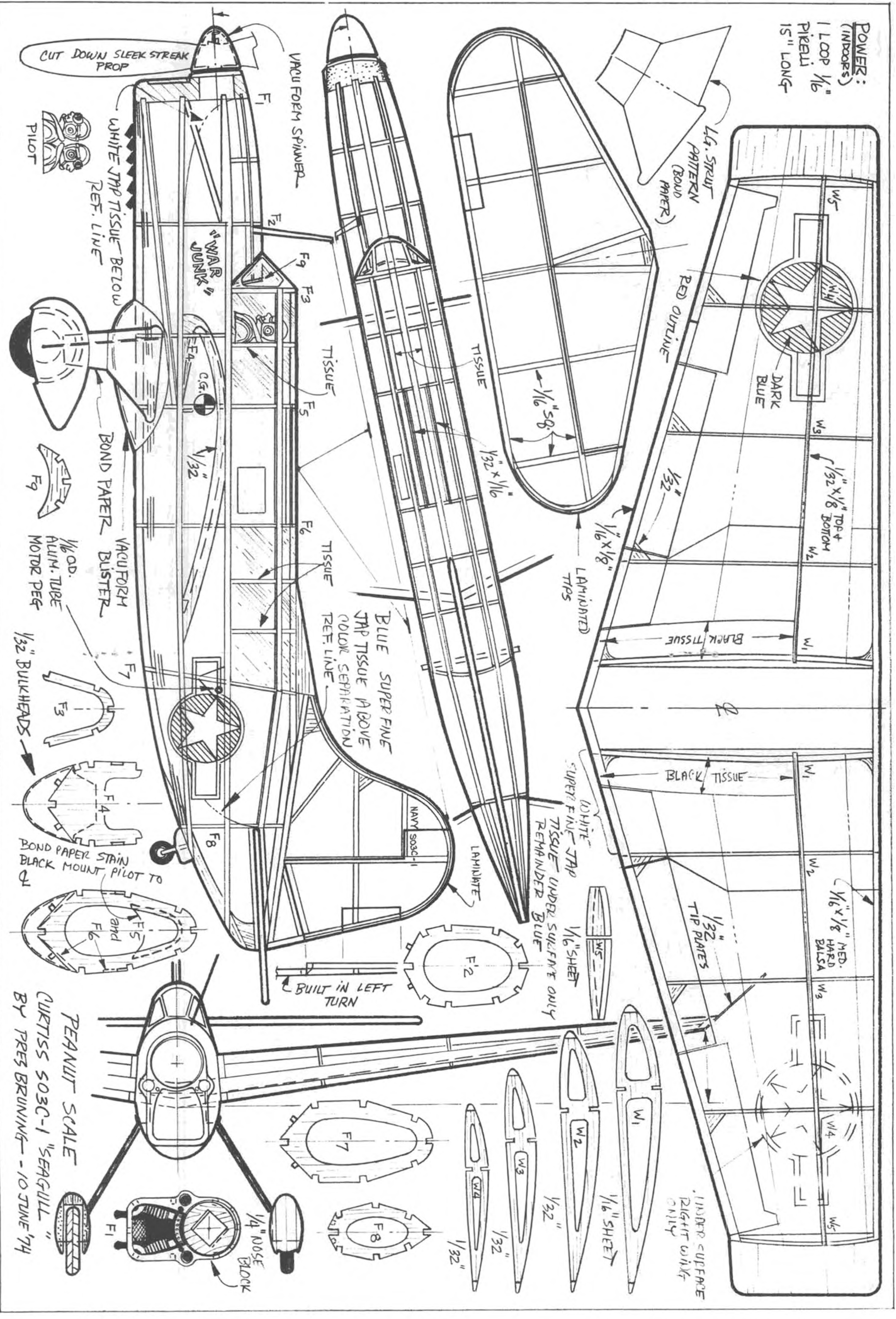
The horizontal stabilizer is built from 1/16 soft balsa to keep weight down in the tail area and the vertical stab has left trim built in before covering. The

Continued on page 69



No mistaking the kicked up wing tips of the "Seagull." Talk about modelers making "cut and try" modifications . . . these were added to the real prototype to improve stability!

POWER:
(INDOORS)
1 LOOP $\frac{1}{16}$ "
PIKALI
15" LONG



CUT DOWN SLEEK STREAK PROP



WHITE TAP TISSUE BELOW REF. LINE



BOND PAPER VACUFORM BUSTER



BOND PAPER STAIN BLACK MOUNT PILOT TO



PEANUT SCALE CURTISS SO3C-1 "SEAGULL" BY PRES BRUNING - 10 JUNE '74





Carl Linstrum and his 72" span, all sheet balsa wing and stab A/2 Nordic. Placed 3rd in Junior class at '74 Nats. Called the "Big Bird," it was designed by . . . who else . . . Papa Dave. Construction is ultra-simple. Uses Bahrman fiberglass boom.

FREE FLIGHT

By BOB STALICK

● Wow! Has a lot happened since the last time I wrote this column. The Nats . . . The Taft FAI Finals . . . All of this in just one month is a bit too much to cover . . . especially if you weren't even there! But there were people who covered the events for MODEL BUILDER. Never say die, that's us.

CANADA FLIES FREE FLIGHT

You bet they do! Take this month's airfoil. It was developed by the Toronto FAI Group as a still-air section in Nordic. It is a premier section. Peter Allnut, one of its developers, describes it:

"The G.F.6 has now become almost the only section used here in Toronto. This has provided us with some very interesting results. All the models go really great, but one has a much better still-air time than all the others. This one is the first G.F.6 I built (I have three of them). A careful examination of the section showed that it had distorted slightly about the spar. The reason being that I had not put in my usual 1/16 ply ribs every 6 inches. My other G.F.6 models had remained exactly as built, including a 5½ inch chord version which was only as good as the best 6 inch one."

The sketch this month also shows the tail section which Peter uses . . . and gets by with only 65 sq. inches of stab area.

I have had some experience with the G.F.6 section. My son, Ted, built the Hutchinson Ultimate Dragmaster as his first A/2 glider. The ship has an excellent and soft glide. I recommend the airfoil highly, especially for calm and moderate wind conditions.

NOVEMBER MYSTERY MODEL

Skipping a bit south of the Canadian

border and a bit back into the postwar world of U.S. modeling, we arrive at this puzzler for November. It had 700 sq. inches, and was powered by an Air-O Mighty Midget. Whatzit? Guess the right name, be the first one to send your correct guess to MODEL BUILDER, and you win a one year subscription to Uncle Bill's favorite magazine.

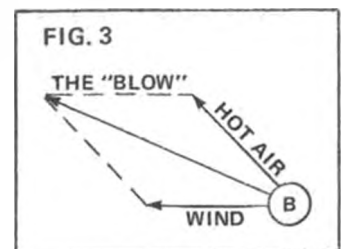
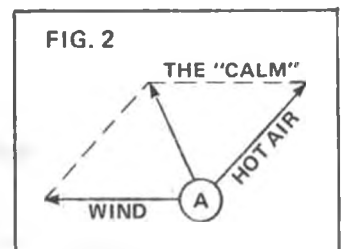
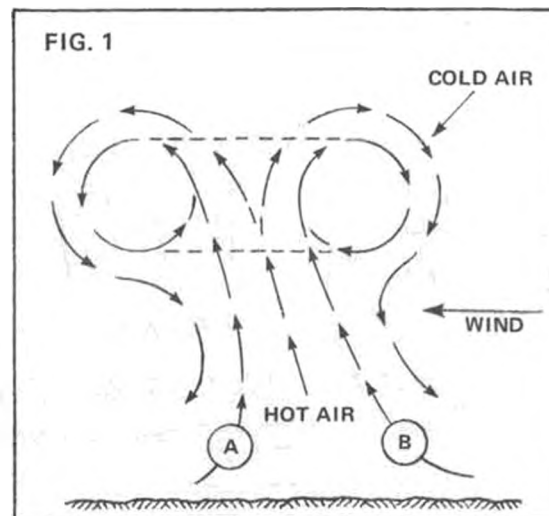
BACK TO CANADA

The Canadian version of AMA (MAAC) puts out an informative publication. In a recent issue, Andy DeMello, of Toronto, explored the whole issue of contest flying. Following are some of his comments:

"So much has been written in the past concerning building techniques, equipment reviews, gadgets, tips, and the like, that the most important thing has often been overlooked . . . when to fly the model during competition.

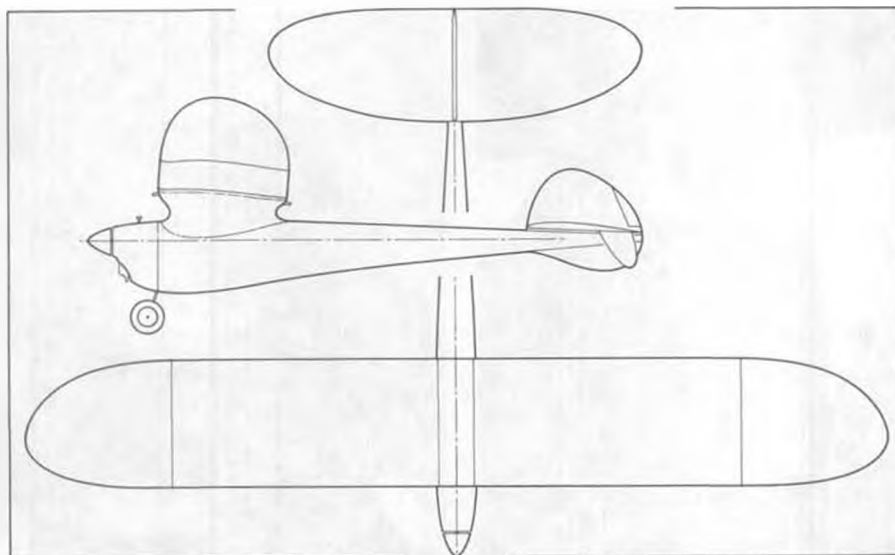
"Many a contest has been decided very early because smart contestants took advantage of the best period to fly, which is normally before noon when the air is stable, winds calm, and retrieving easy. A simple rule to decide when to fly is this; if your model is capable of 3 minutes plus without any thermal assistance, by all means start flying as early as possible, before any major thermal activity and its accompanying downdrafts are formed.

"If, on the other hand, you're flying a Nordic, HLG, or any model that needs help to max, then don't even consider taking your models out before 10 a.m., and then just check flights to determine the model trim and the thermal situation. Start flying officially only after you ascertain that: 1) the model is in trim, 2) thermal activity is present, and 3) your model can fly in a thermal.





George Moul, British Columbia, strains some more turns into his Unlim. Rubber ship. Seen at the 1974 N.W. F/F Championships.



Mystery Model for November

"Thermals are formed by the uneven heating of the ground by the sun. Darker areas such as plowed fields, blacktop roads, runways, and dark vegetation absorb heat, whereas the lighter colored areas tend to reflect sun rays and thus remain cooler. As the day wears on, the lingering ground heat starts to accumulate and eventually breaks away, rising toward the colder air in a swirling, donut-like form, expanding continuously until the air temperatures are eventually equalized (see Fig. 1). Displaced cold air descends at the same rate around the outside of the thermal, creating a down-draft.

"Thermal detection has evolved considerably through the years, from scantily-clad modelers with highly sensitive armpits, and other private parts, to today's array of mechanical devices...

ranging from Lawrence Welk type bubble spewing contraptions and pole mounted ultra light streamers, to the highly sophisticated electronic temperature detectors, which were supposed to provide the final answer, but turned out to be just as chancy as the armpit technique because they required careful interpretation of the indications due to constant changes of ambient conditions.

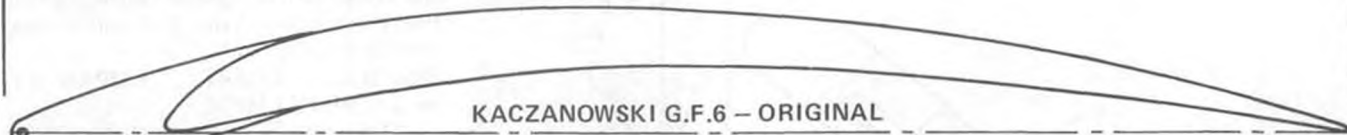
"Since electronic thermal detectors are not readily available to all, the varying wind speed inherent in a thermal can provide quite a good idea as to the location and size of it. It works like this: as a thermal approaches a person at position "A" (Fig. 1), hot air rushing towards the eye of the thermal counteracts the ambient wind, creating a calm spell (Fig. 2) which can last from a few second to ten minutes, depending on

the ambient wind and the size of the thermal. As the thermal is blown downwind, the calm starts to fade away, giving way to an increasing wind velocity (Fig. 3) when the hot air and ambient air combine into a gusty blow. At this stage, one can safely assume that the thermal has definitely passed by, and that any model launched then will most likely descend.

"When to launch a model during a thermal is a major decision that one has to make. Launch too soon (at point A) and you won't know if it's a real good one or just a little puff. Launch too late (at point B) and you'll end up in a down-draft. Experienced flyers prefer to wait through the calm in order to determine the size of the thermal and, if satisfactory, to launch as soon as the blow starts. The only way to be absolutely certain is

DARNED GOOD AIRFOILS

Note: Turbulator may not be essential although glide tests in a hanger show that the model can fly slower and more efficiently when turbulated. (Thin shirring elastic produced best results).



STATION	0	1.0	3.0	5.0	10.0	15.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100
UPPER	0.2	3.0	4.8	5.9	7.9	9.0	9.9	10.6	10.8	10.1	9.3	8.1	6.3	4.0	1.0
LOWER	0.2	0.0	0.4	0.8	2.0	3.0	3.8	4.9	5.5	5.6	5.2	4.4	3.3	2.0	0



STATION	0	1.25	2.5	5.0	10.0	15.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100
UPPER	0.5	3	3.9	5.3	7.4	8.5	9.3	9.8	9.8	9.4	8.7	7.5	5.8	3.7	1.0
LOWER	0.5	0	0.3	0.8	1.75	2.7	3.3	4.25	4.8	5.0	4.75	4.0	3.1	1.7	0





Jenny Weissenberger plants one on Bob White for a good proxy flying job at the San Valeers '74 Annual. Modeling CAN be romantic . . .



Canadian "Wild" Bill Giffen and his much modified Taibi Spacer . . . now called "Elongator." Has a beautiful glide. C Gas, with a green head Torp .35.

to use the above technique in conjunction with an electronic temperature detector and then wait patiently downwind for another modeler to fly first, and, if he hooks a thermal, launch under his rising model for a sure max. Not elegant, but effective."

MORE HINTS AND KINKS

Applying fiberglass resin: Use swabs made by fastening small pieces of sponge rubber to the end of a stick with a rubber band. Popsicle or coffee stirring sticks work fine. Use it just like a brush, and when you are finished, just throw the sponge away and keep the stick for next time. This works as well or better than a brush, and no clean up is required.

Clothespins: Have you ever wondered how you could get along without your model knife or your Dremel tool? Me

too. But how many of you use a cheap, easy-to-use and readily available clamp . . . the lowly common spring-type clothespin. A stack of wooden clothespins in a handy box by your bench can be really convenient. Used as is, there are numerous jobs they can perform. Or, if you need the opposite of a clamp, something to push things apart, the handle end of the clothespin may be just the thing. Another advantage is that the wooden ends can be trimmed to fit some special purpose . . . the only limit is your cleverness. I use them as soldering aids, and I have a couple tied to strings suspended from the workshop ceiling. Why? When I dope or watershrink a wing or stab, I clip the part to the clothespin until the thing dries. Reduces tension . . . mine!

T.D. Mounts: Mount the hot Tee Dee .049 or .051 radially by purchasing a Competition Models tankmount. The tank portion of the mount is then removed via a lathe or your own preferred method. A shoulder is left on the outside of the forward portion of the tank so that an insert of 1/16 epoxy board can be used to back up the mount. This board helps in adjusting offset so there is material against the firewall where the tank portion used to be before you cut it off.

Micro-Balloons: The local R/C boys have been singing the praises of K&B's micro-balloons for better than a year. Naturally, I'm skeptical about such rave reviews, but I found myself needing some fillet material for the new FAI power ship, so I let them talk me into buying Micro-Balloons. The result is fantastic! Mixed with K&B or Hobbypoxy Quick Prep resin, these little critters really do the trick, and are easy to work . . . you bet. I'm sold on them. You will be too, give them a try.

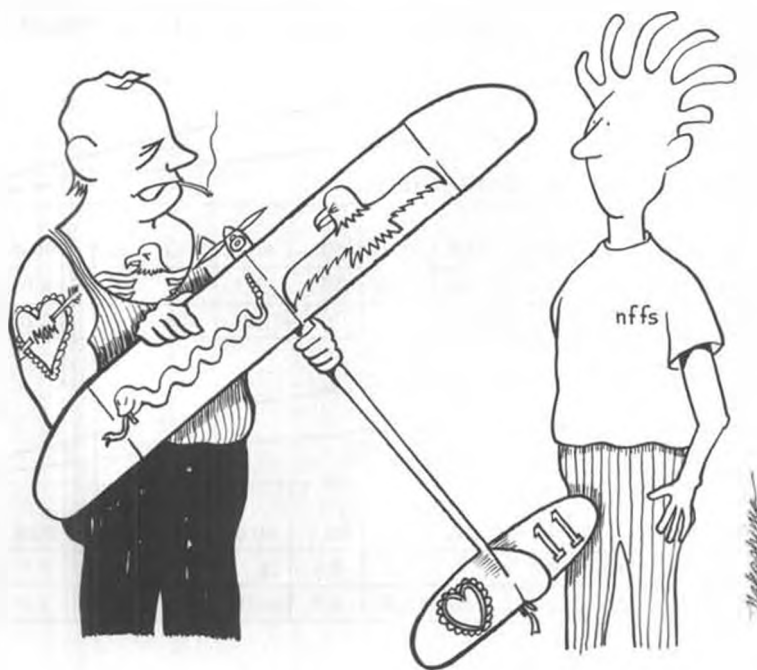
PRODUCT REPORT . . . TAIWAN 15 by STEVE HELMICK

"The Taipan might just become a very popular FAI Power engine. The "Heroes" might not use it because it won't beat a Rossi, no matter what you do with it. All it is is a cheap (er) imitation. This fact really hits you when you start measuring parts. Same numbers, just not quite as fancy.

"In some ways the Taipan is a very good engine. The front bearing is of larger I.D., giving a stronger crankshaft. Nice for those who pile 'em in occasionally . . . everybody. And being a close copy of the Rossi isn't exactly a stupid move either, you know.

"I was surprised to find the engine uses a 'stuffer' crank. The crank is actually made up of 4 pieces, including a pressed-in crank pin, an aluminum ring

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"I know, don't tell me . . . I look like my model."



Didja ever have the feeling that if Beth and Carl Goldberg didn't show up at a Nats, everybody would pack up and go home without flying?

AMA's 'Looziana' Free Flight Nats

By VIC NIPPERT

● So here I am, peeling odd bits of skin off my nose, chin, ear lobes, and other parts of my anatomy, trying to figure out how to start this report. I mean, how do you describe THE LAKE CHARLES EXPERIENCE?

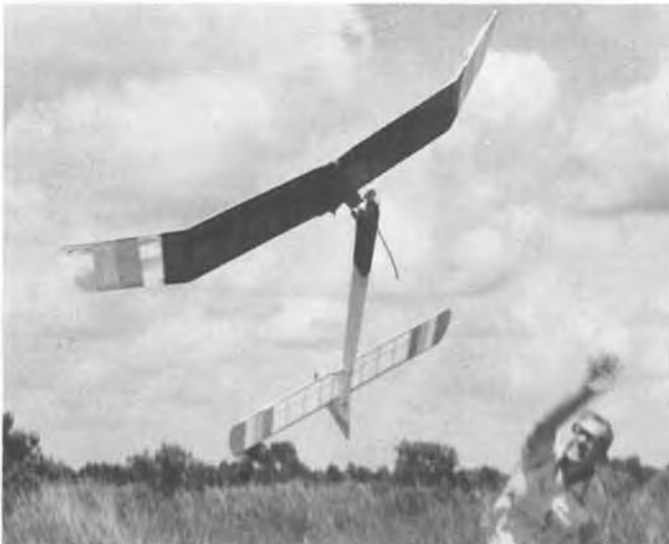
Picture heat and humidity so high that the effort of packing a Jetex motor causes sweat to drip off your nose and back. Or thousands of hovering dragon flies waiting to snatch mosquitoes out of the air. The standing joke going around, "Don't worry 'bout the snakes if y'all go off the field boys, the 'gators done et most of 'em." A kaleidoscope

of images . . . sheer exhaustion from just chasing one overfused flight way off the field, not caring if you put in another flight or not. Sucking on ice cubes with lips doubled in size from sunburn. Team Satellite boys looking more like a motocross race searching the boondocks for an off-field flight.

Well, let's start on the first day of Outdoor Free Flight, August 7th. For several days before the 7th, Lake Charles was hot and humid with winds that would rise almost steadily throughout the day, sometimes gusting to 25 mph

or better. We "cased" the area for several afternoons prior to competition to see what recovery problems would develop. The AMA leaders had outlined several possible sites for launching, taking into account wind shifts and, as things turned out, we eventually used two main areas. No more small-field fiasco!

The morning of August 7th, however, was a complete change in weather. Low overcast with scudding squall lines brought rain from the Gulf of Mexico toward the end of the first round of A/2 flying. No lift was evident. A half hour delay occurred while we moved the



The "Dixielander King," Merideth Chamberland, Pendleton, Indiana, launches his ST 65 powered D Class version for a test hop.



Dave Linstrum demonstrates the proper method of approaching Hardy Broderson when the latter is destruct testing a Rossi .15.



Nice action photo of Carl and Dave Linstrum (this is their issue!), as Carl launches his 1/2A Starduster. Carl placed 5th in Junior 1/2A Gas.



Bill Hunter lets go of his fabled ST 65 powered Satellite during the unofficial Class D event at '74 Nats.

launch site. Finally, the second round begins, still no lift, but the air is more stable. By noon time there is some lift, but very weak. The "B" ships are having no trouble in the occasional light showers but A/2 flyers are having trouble . . . only a few maxes and near maxes. The air improves by mid-afternoon and becomes helpful; many flyers finish with decent flights, even if they don't place.

Since Category II rules were in effect, "B" gas turned into who could max with less and less motor run. One Junior, James Coverdill, managed 660 seconds. At least the top five Seniors went to a fourth max, Randy Secor winning with 687 seconds. In the Open group, Mark Heller went to five maxes, five second engine run, to make 900 seconds . . . followed by Hulan Matthies and Chuck Markos. There were some fifty odd contestants in the open group alone. Sal Taibi had bad luck with an over run on his fourth flight.

In A/2 glider, as well as in all the other subsequent FAI flying, five rounds were flown of one and a half hours each. Recovery was never a problem on Wednesday, the 7th, but succeeding days turned into nightmares. Doug Marsh, from South Bend, Ind., won Junior with 540 seconds. James Van Nest (a name familiar to Nordic aficionados) was top Senior with a good 732 seconds. In Open with 34 contestants, Finn Bjerre from Denmark managed 792 seconds by maxing in rounds 3, 4, and 5. Followed, by of all people, Frank Parmenter! There were few, if any persons, using circle towing or catapult releases. Finn Bjerre

was the most relaxed flyer on the field. Once the ship was up on the line, he would trot upwind, downwind, crosswind, and wouldn't even look at the ship for minutes at a time!

Provisional Payload was flown in the afternoon with improving air, and we saw some nice flights. One fellow had the same idea I had and converted a Micro-Models Comet Clipper Mk.II to a dummy-hauler. Heat and humidity gave him a bad warp, though. George Pharr turned in 437 seconds for top time, followed by Harry Murphy and Mike Fedor. Only two juniors and one senior put in flights! C'mon you guys, this is a

good small field event and is a lot of fun. It deserves more support.

August 8th and the sun began burning through the haze like a big red eye-ball. Now the "Looseanna" weather began to show what it could really do.

There was a total of 138 contestants in 1/2A Gas, 90 of them in Open. The lift was very strong at times, and many ships left the field. I managed to put my "Starduster 350" into a whopper and it was sucked into a cloud base while D.T.'d. The Great God, Hung, finally spit it out about two miles down wind. We met John Carbone at the end of a

Continued on page 73



Bob Watson discusses 1974 design winner SHOCer 750-S by Mel Schmidt. AMA's two "Johns" look on from front row seats during the NFFS Symposium.



Co-designer Bob Stalick displays the clean lines of the "C-Quell". Geodetic wing and stab construction are essential in a ship this size, especially if a flexible covering material is to be used. Bob says NFFS decal is good for an additional 30 seconds on any model!

C-QUELL

Co-designers Al Grell and Bob Stalick present an all-out competition model for Class B/C free flight power. Ship is both functional and good looking . . . Nice to see elliptical tips. By BOB STALICK

● The C-Quell was almost called the Mexican Satell-Stick in honor of its ancestry, but Al Grell stopped me one day and suggested C-Quell. He reasoned that the design was, in fact, a "sequel" to the Mexi-Boy, the Satellite and the Lipstick, and it was designed to "Quell" the opposition in C gas, so C-Quell would be a logical title. Obviously, his reasoning won out and C-Quell it is.

The origin of the design dates back to 1964, when Al and I sat down one long and frenzied night and reduced Al Vela's outstanding design, the Mexi-Boy, to 3/4 size. This was done to accommodate our available engines . . . which were lesser in power than the K&B 35 Series 61 used on the original. Each of us built the reduced Mexi-Boy and flew them for years. Mine finally fell apart from use in 1968 (after spending 2 weeks in the Oregon rainforest on a flyaway), but Al's is still flying with a K&B .40 R.R.

After a couple of years of trying some other B-C gas designs, we began



Business end of the "C-Quell", showing the Tatone landing gear/engine mount. Engine timing is accomplished with a Tatone Flood-Off. Coil spring of L.G. should be closer to the mount.

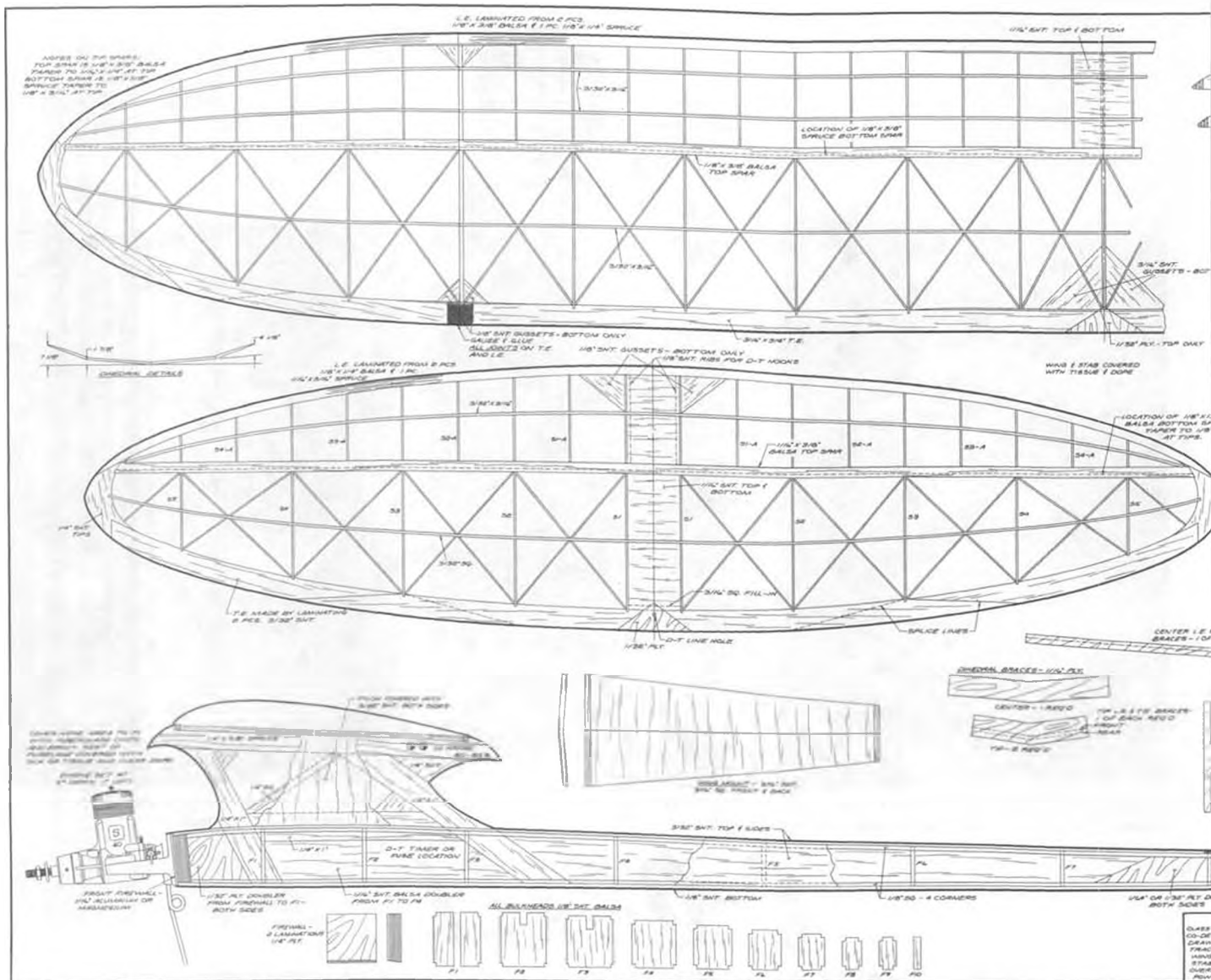
reminiscing about how good the old 3/4 Mexi-Boy flew . . . and what we might do to improve it.

First, we determined that we could lighten the wing structure and still retain enough rigidity and strength by using

the Satellite rib and spar system.

Second, we reasoned that the fin on the stab was a goof waiting to happen. So, a rear fin was incorporated.

Third, a longer tail moment arm should allow a more rearward C.G., and



FULL SIZE PLANS AND STICK 'EM PATTERNS AVAILABLE – SEE PAGE 80



Typical neat area around a busy free flyer's pit! Mexi-Boy and Satellite heritage very evident from this angle. Model handles a Torp .40 without trouble.

improve the already excellent glide.

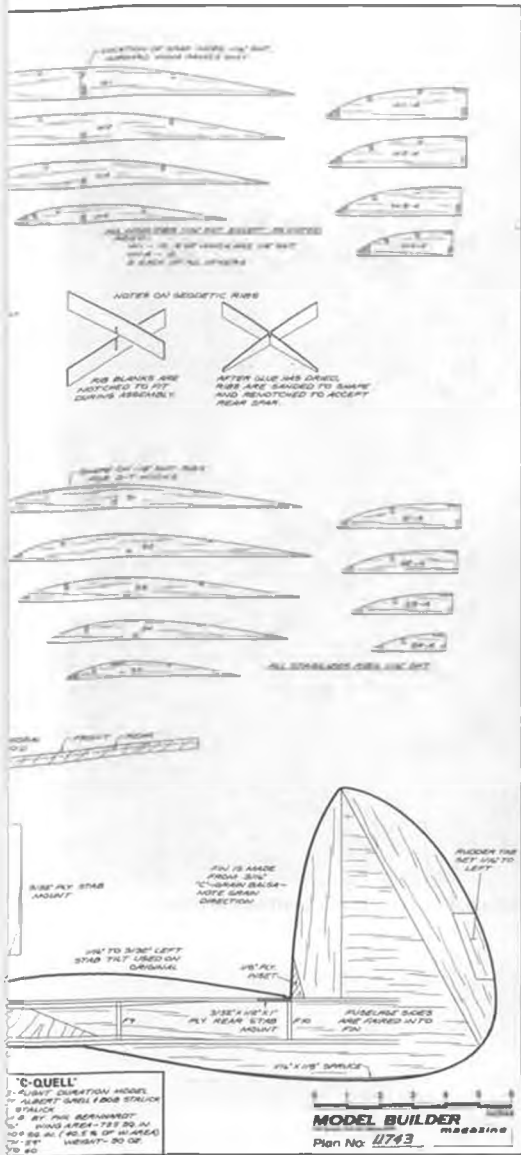
These features were designed into the C-Quell, and the results were as predicted. First flights indicated the need for slight left thrust and left rudder tab. With addition of left stab tilt, the model was ready for competition. Power pattern is a right spiral from an 80 degree V.T.O. or hand launch. The model makes one turn in 10 seconds and then gently transitions into a soft, floating left hand glide.

The model is flyable interchangeably with either a .29 or .40 engine, using either a Top Flite Wood 10x3½ or Tornado 10 x 4 nylon prop. The engines I use are the Torp .29F or the Torp .40F. Other good choices would be the Super Tigre or similar high performance engines.

I think the model is a superb performer. The climb is excellent and the glide is spectacular. Build one and see . . . here's how:

WING

Cut out all main wing ribs and false



Bob "javelins" the "C-Quell" into the air. Climb is a tight right spiral, transitioning into a left glide circle with aid of stab tilt and a little left rudder tab.

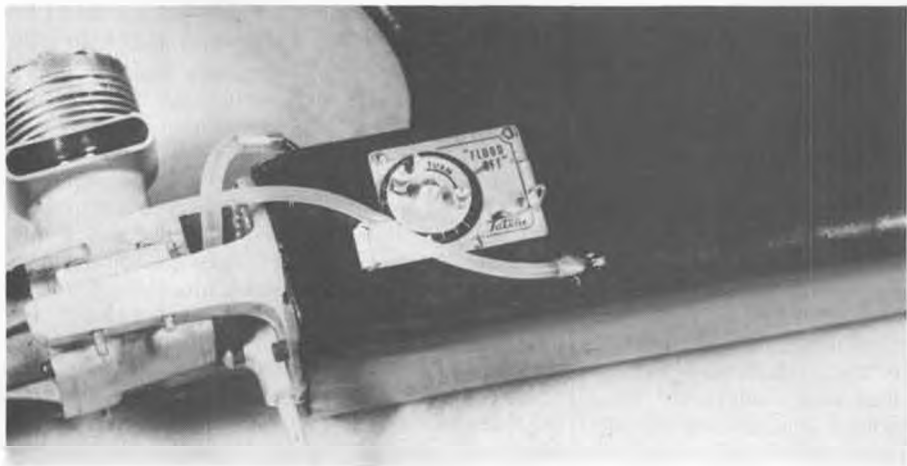
ribs, using a plywood or metal pattern. Laminate the leading edges for the main wing panels and assemble both main wing panels. Build in 3/16 inch washin on the right main panel. Pound pins into the building board, located at the back of the leading edge for the length of the tip. These pins should be about 1/2 inch apart as a laminating guide. Wet the tip leading edge strips and using TiteBond or similar adhesive to laminate, pull them into place and pin them there until dry.

Cut the trailing edge to shape from 3/32 sheet C grain, and laminate vertically as indicated on the plan... use a "hard" epoxy, such as Devcon. Glue the block tip into place. Glue in the 1/16 inch rib blanks cut to length as indicated. Sand to an airfoil section. As a guide, the rib high point falls 3/16 inch in front of the main spar. Rib depth at the high point is .57 inch at the main tip rib, .85 for the middle tip rib, and .95 at the tip rib closest to the dihedral break.

When the glue joints are dry, join all panels together, using gussets as indicated. When complete, notch all tip ribs to accept leading edge spar and main spars. Glue these into place. Glue in geodetic rib blanks as indicated between main spars and trailing edge. Sand to shape with a long sanding block. Cut spar notches and insert and glue in rear top spar. Shape leading edge and trailing

edge. Finish sanding and add center section sheeting, gauze reinforcement, etc. Add 1/16 sheet spar webs as indicated to the main spars. This web extends from the central dihedral break to one rib bay past the polyhedral break. Apply two coats of clear dope to the structure and sand lightly. Cover with Japanese tissue, or silk, and dope.

Continued on page 75



Close-up view of the Tatone engine Flood-Off timer.



Eastern Divisional 50/800 Championships. (l to r): Soling (197), Soling, Warrior II, Boomerang, Soling, Warrior II (the eventual winner), Soling, Soling.

STRICTLY SAIL

By ROD CARR

● The rapid growth of R/C model yachting as a competitive sport has thrust upon many new clubs the need to hold regattas open to AMYA-wide participation.

Three basic types of regattas emerge: a) Annual Class Championships (ACCR's), b) Regional or Divisional Class Championships, and c) Open or Invitational Events. ACCR's are usually 2-day affairs which are designed to gather the best skippers in each class for a knock-down drag-out determination of the national champion. Regionals are usually single-day events, and draw skippers from a specific geographical area. Open or Invitational Events can be either one or two day, and can cater to from 1 to 4 individual classes, depending on the desires of the sponsoring club, and on the density of racing skippers in the immediate area. The membership of AMYA recently voted overwhelmingly to require that each Sanctioned Club in AMYA hold at least one regatta out of the three types each year in order to maintain its sanctioned status.

Bidding for the right to hold events

starts in the year previous with communication between the individual clubs and the respective class secretary of concern. Agreements reached are then funneled to the AMYA Director who is Regatta Schedule Coordinator, and the spring issue of the Quarterly Newsletter carries a preliminary schedule of such events. Local series, or individual local fleet events are published as part of the Club News Column in that Quarterly.

With 37 clubs now holding AMYA Sanction, it is important that they immediately consider the events they wish to hold during the 1975 season, and commence the necessary communications to instigate the assignment process.

Based on my experience as a mid-Atlantic skipper, here are some general observations which may assist you in planning your regatta procedures. For Regional or ACCR competition, I hate to see more than 24 boats allowed into the action. For such events, it is important that each skipper sail every other skipper (except frequency partners) an equal number of times. This should all be accomplished using a heat list which

can be completed in a typical day of sailing. For our area, we can usually count on 24 heats per day, but plan the heat schedule so that it can be cut off after heats 6, 12, 18, or 24, with each skipper having sailed an equal number of times within the six race blocks.

Now, assuming 8 frequencies with 3 boats per frequency, we make the important discovery that there are 252 possible pairings of boats existing in the 24 boat group. A proper heat list will allow each of these pairings to occur, and occur an equal number of times. GOOD LUCK!! Even though I've heard tales about computer programs, crystal ball gazing, and other such techniques, not yet have I seen concrete evidence of any other method for putting a heat list together but sweat and pencil on paper. My recent bout with the EC/12 ACCR heat list, which will be sailed soon, has really hit home the need for making these top level events more selective as to the entrants. Out of the matrix fell a 12 race series, of two 6 race blocks. Of the 252 individual pairings which could and should have occurred:



Linda Carr shows off the Carr Sails' new car top carrier. A handy way to keep track of the competition record. Never mind that Rod. Just keep track of Linda!

26 pairings of the 252 occurred 0 times – 10.3 percent

122 pairing of the 252 occurred 1 time – 28.4 percent

81 pairings of the 252 occurred 3 times – 32.1 percent

15 pairings of the 252 occurred 3 times – 6.0 percent

Not perfect, but my best effort to date. If we look at individuals in the heat list:

Pairings Missed	No. of boats
0	0
1	6
2	9
3	6
4	3

This says that nobody sailed everybody,

and that there were three boats which would each miss sailing with 4 of the others.

It is at this juncture that the "seaman's eye" of the regatta director comes into the picture. We assign boats so that it is the better skippers who miss sailing the least people, this is to spread the scoring effect of a good skipper through the whole fleet of boats. Beginning or less developed skippers are assigned those spots which miss out on sailing with 3 or 4 others, since this really means that they sail against some people more than normal, but being lower in skill, they do not have a depressive effect on scoring up through the

fleet.

However, there is no reason for assignment to heats to be other than random, that is, the heat pairings should be able to be made to come out with everybody sailing against everybody the same number of times. How do I know this? Well, there may be 252 pairings in a 24 boat fleet, but if you start out totaling how many different ways there are to make up 8 boat heats, with three fellows per frequency, you'll find that there are 3^8 or $3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 = 6561$ different heats. *Somebody help us come up with a way for letting a computer sort through all those combinations and end up with the 6 or 12 good ones that we need!!!!*

We must return to the regatta site after that tirade. Regarding frequency control; we have been stabling frequency partners in the adjacent spots so that they can assist one another in and out of the water, and so that they can be handed the responsibility for frequency integrity among themselves. It takes one more duty off the shoulders of the race committee.

In the scorers tent we try to have a head scorer who is responsible for keeping the master score sheet, and updating the cumulative score board at appropriate intervals. (For the latter we merely use metal venetian blind slats, a crayon and a chunk of plywood with nails in it. A dry cloth rubs off the old scores, the slats are easily shuffled into increasing score order and put back up.)

The assistant scorer starts the tape recorder, helps identify that all boats

Continued on page 63



Eastern Divisional EC/12 Championships, at Richmond, Virginia. Boat No. 449, with the Wizard of Id, was recently stolen from the owner's car. Keep your eyes peeled for it!!



An attempt at a moving start in the So Cal '74 Formula Series warm-up race. We've gone to a staggered start . . . rows of twos, based on qualifying times. Looks exciting.

R/C AUTO NEWS

PHOTOS BY CHUCK

By CHUCK HALLUM

● Well, now that the 1974 ROAR Nationals are over, I can tell you how to build an open wheel car. I didn't want to tell you any of my secrets before the Nats . . . mostly because I didn't know if I had any. This year the oval race cars handled better because of the rules changes allowing the wing to be moved further aft and the use of larger tip plates. I'll tell you how and why I built my car the way I did.

First of all, I feel very lucky, because I did not have to make any basic changes to the car from the time I built it to the time it was raced at the Nats. The only changes were; stiffen the steering override, gears, the engine, front tires and wing angle. On the initial track ses-

sion at the Briggs Cunningham '72 Nats site the car drove beautifully with a relatively mild engine. The front wheels were wiggling in the turns so I stiffened up the steering override. Slight understeer and variable steering on bumps changed to a very controllable turn characteristic.

An engine which I had just built, and was in my sports car, sounded like it had good top end . . . so I dropped it into my oval car. Speed jumped fantastically! The rear wheels were breaking loose everywhere, even toward the end of the straight. But the car was completely controllable at all times with full throttle. In the turns, if the car started to slide (spin) all I had to do was turn the

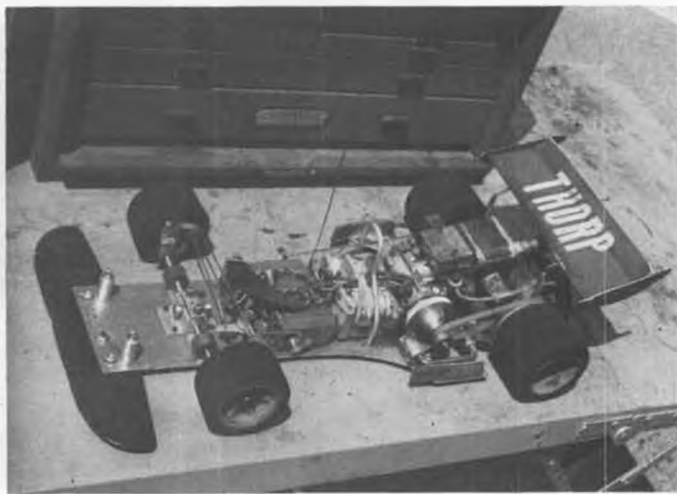
wheel into the slide and it would correct. Almost like dirt track technique. So after the first day on the track I knew I had the car, but was I ready?

At the Nats, the 1/8 scale racers were allowed to practice in the evenings on the 1/12 scale tracks, after the 1/12 scalers were finished (I don't think this should be allowed . . . but don't give any opportunity away to the other racers). By the time I got onto the 1/12 oval track it was almost dark . . . about 8-8:30 pm, but the lights were on. I was glad I had a white car. The car seemed to handle about right with no changes. so I put it away. Mike Morrissey was the only one running faster than I, but he has terrific night vision.

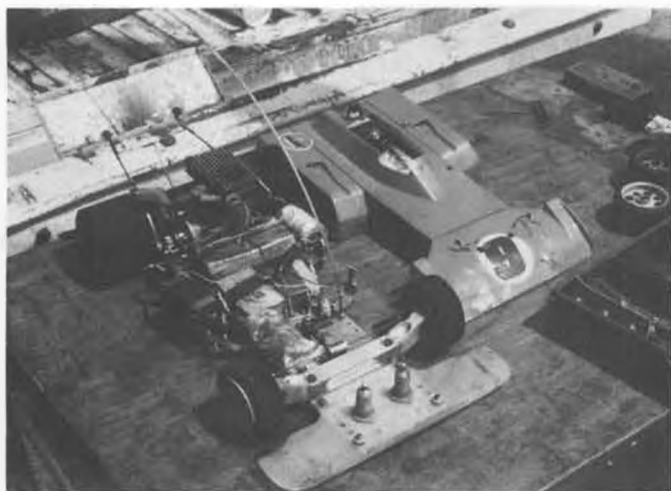
Looking at the 1/8 scale oval which had 30 foot radius corners, I figured the car would be going a little slower at the exits of the corners than on the 47 foot turn radius track in Southern California . . . and the straights were only 7 to 10



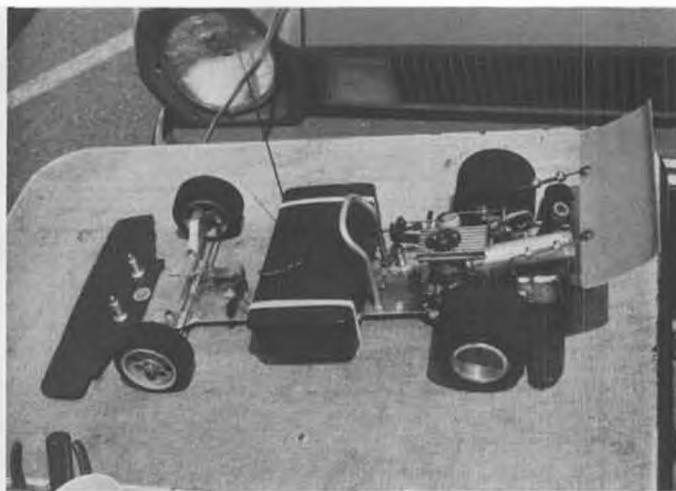
Bob Titterington ran away in the '74 Nats Amateur Oval with this car. Moved to Expert, and won So Cal Formula Series Warm-up.



Ray Charbonneau's car has laydown engine. More forward weight bias requires wider front tires for good front bite.



Mike Morrissey's car almost identical to Gary Kyes' '74 Nats winner. Aluminum front end for strength, components back as far as possible.



Super looking scratch-built car by Ed Felty. Always contender for top position. Interesting that experts no longer use radio box.

feet longer, therefore, the car could use a little more acceleration. Consequently I decided to change the gear ratio from 4.5:1 to 4.67:1.

The next day during a break before the 1/12 mains (I think), they allowed the 1/8 oval cars out for a short practice. I watched. Handling of most cars had changed to a very noticeable oversteer. Back to the van I went and changed to narrow front tires (1" vs 1.5") and cranked the wing angle up 'till I got the wing to the maximum legal height.

That afternoon, when official practice opened, I went out right away. The car had some oversteer, so I decided to wait 'till other cars would clear off the track. The second practice was a little better, but the car still had oversteer. I cut down the steering motion and lowered the the wing mounts so I could get a little more wing angle. Out again, I still had oversteer, and got in a wreck, knocking off the inside wing tip-plate . . . and the car battery also seemed to be going dead. Changed the battery but by that time my time was up.

The next time up, my car still seemed to be a pile. So, I decided to go back to to the original setup; found the missing tip plate and glued it on. Ready again, I

went to sign up and was informed I had used up my four official practice sessions. So there I was . . . not knowing whether I had the right setup or not.

The rest of the story is history, reported in last month's article; fastest qualifier and second place in the expert main. I lost only because of a severely cut outside rear tire on lap 89 when I had about a 2 lap lead on Gary Kyes, the eventual winner, Kyes passed me on the 100th lap. I was happy though, cause I knew I had the fastest car.

What did I do, or how did I build the car to get it to work so well? The wheel base was 11 $\frac{3}{4}$ in., weight 5 lb.-3 oz., caster angle 10-12 $^{\circ}$ (for my chassis flex) and c.g. about 4 $\frac{3}{4}$ inches ahead of the rear wheels. I used a Surtees body because it seems to give the right amount of front bite, an aerodynamic wing with a little extra kick-up on the trailing edge, and 2 by 4 inch tip plates. I really think tip plates are what made the car work or not work in the practice sessions discussed earlier.

The layout of components is shown in one of the photographs. The fuel tank is placed slightly toward the inside of the car (to the left side), the upright throttle servo is to the right of the tank,

and the receiver on the outside. The steering servo lays down (to keep the linkage about straight), and is to the left of the tank. The battery is placed behind the left front wheel to get the weight distribution to the inside. The wing is permanently attached to the rear of the car; I've seen too many of them come off during the tangles that you *will* get into during open wheel car racing. These were the important factors I considered during the building of the car.

After the practice and qualifying sessions, I discovered something else. Looking at the car that night (the main event was the next day) I saw white paint on the *top* of my front bumper. How could it have gotten there? From the boards obviously . . . But that meant the bumper was going under the boards! So, I bent the outside edge of the bumper up about $\frac{3}{8}$ inch to get it higher so it wouldn't wedge under the boards. The bumper was legal since it was parallel to the ground in the direction of travel. I thought about a rear bumper, but didn't think I'd need one. Actually, in the race, a rear bumper probably could have saved me the cut tire. In any case, I do think having the outside edges of the bumpers

Continued on page 78



Weight biased to inside for left turns in columnist's Nats fast qualifier. Car won't handle without tip plates. Caster is noticeable.



Chuck Engle's Amateur So Cal Formula Series warm-up winner. Uses exhaust pressure fuel system.



The apparent serenity of this scene belies the fact that the wind was hitting well over 25 knots most of the time. Trees in the area have taken a permanent set in a northerly direction!

1974 R/C MASTER'S TOURNAMENT By BILL NORTHROP

THE WIND BLEW, AND THE PILOTS FLEW... BUT ONLY A FEW...

● On the weekend of October 5 and 6, 1974, around 35 qualified R/C pilots (never did get an exact head count) gathered from all parts of the U.S. to fly in the 1974 Master's Tournament.

The focal point of this year's event, which is held primarily for the purpose of selecting a 3-man team to represent the USA in the R/C Aerobatic World Championships, was Hutchinson ("Hutch," to the local folk), Kansas. At nearly the geographical center of the country, Hutch is a medium size town, about 50 miles northwest of Wichita.

We had held this page of the November issue open until the last minute in hopes of being able to give our readers a real scoop... the names of the 1975 USA team members, along with photos and an advanced summary of the contest.

Well, sorry folks... it didn't happen! From the time many pilots arrived to practice early in the week, until well into Saturday night or early Sunday morning,

the wind blew... constantly... never below 15 knots, and very often gusting to 40 and 45. Actually, it never really stopped when the rain started, and by dawn of Sunday, it had settled into steady, solid rain that is best enjoyed in front of a glowing fireplace, with a glass of brandy, and an evenly matched pro football game on the TV. NFFS Executive Director Hardy Broderson, who had come to "Hutch" in order to appraise the situation for free fliers, was heard to mumble something about 5 second engine runs and one minute maxes, with the timers stationed a quarter-mile downwind. Actually, that's only surmise on our part, and we were simply basing it on the glazed expression in his eyes as his gaunt frame rested comfortably at a 30 degree angle into the wind!

Be that as it may, the Friday night pilots/judges briefing was held in the banquet room of the Royal Inn headquarters, and it was decided to go ahead with the contest, reserving a final decision for 0730 Saturday morning at the flight line.



Mark Radcliff prepares to start the last official flight before the contest was called off. For a local affair, it could have continued, but it was no way to select our FAI team!

With a Saturday forecast which allowed as how the wind *might* not exceed the FAI allowable limit of about 27 mph, the 10 judges, who had been flown in at AMA expense from various parts of the country, and line officials from the local area, were ready to receive the first round of contestants at 8 o'clock in the morning.

The first two planes in the air were being flown by Jim Osborne and Jim Whitley, and the moment they reached maneuvering altitude it became obvious the wind was even stronger fifty feet off the ground! Even at that, if any of us who were judging stood up to watch a landing, our chairs blew over... honest!

Whitley's Figure M was completed farther downwind than where it started (an up wind maneuver!), and downwind rolls were being done in 3 to 4 seconds in order to keep the planes from entering the next county!

Actually, rolls and loops were looking pretty good, but the Figure M's, Cuban Eights, and Rolling Eights were at times almost unrecognizable. Except in the downwind rolls, the ships bounced and flopped like corks in a rough sea.

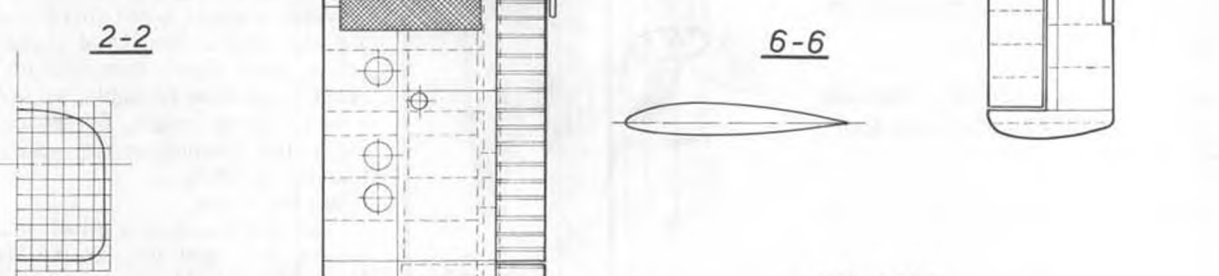
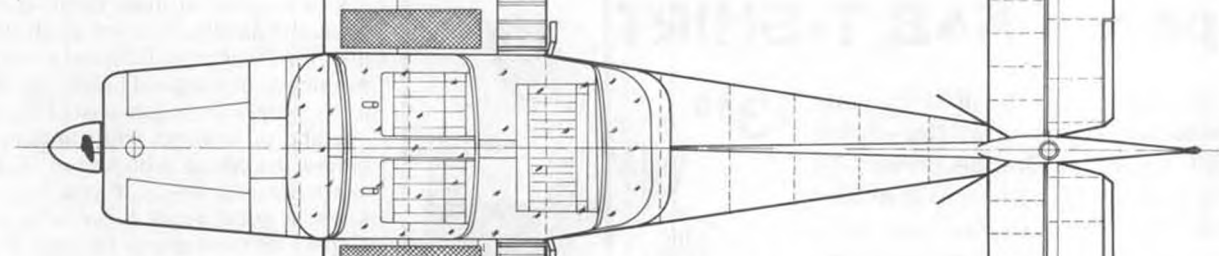
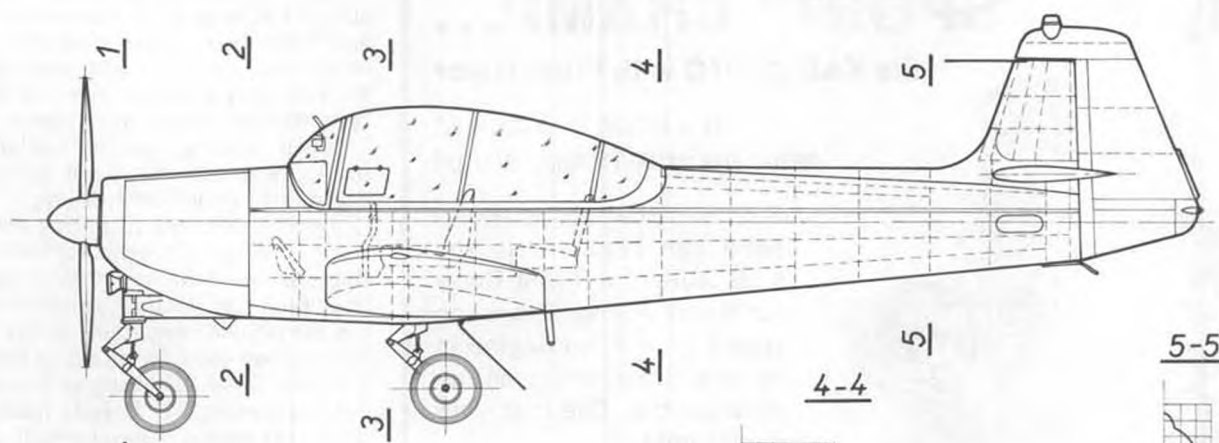
Finally, after about 5 or 6 pilots had flown at each line, the majority of remaining contestants simply went on strike and refused to fly. Don Lowe, who was next up on our line, removed his Phoenix from the No. 1 box and took it back to the pits, and others soon followed. The jury decided to call a halt... it was now 10 am... and called for another start at 2 pm, scratching all previous flights.

Gathered in the Hutchinson Naval Air Base control tower Saturday afternoon, with a minor gale still blowing outside, the fate of the 1974 Master's Tournament was finally sealed... and in one word, it was SCRATCH!

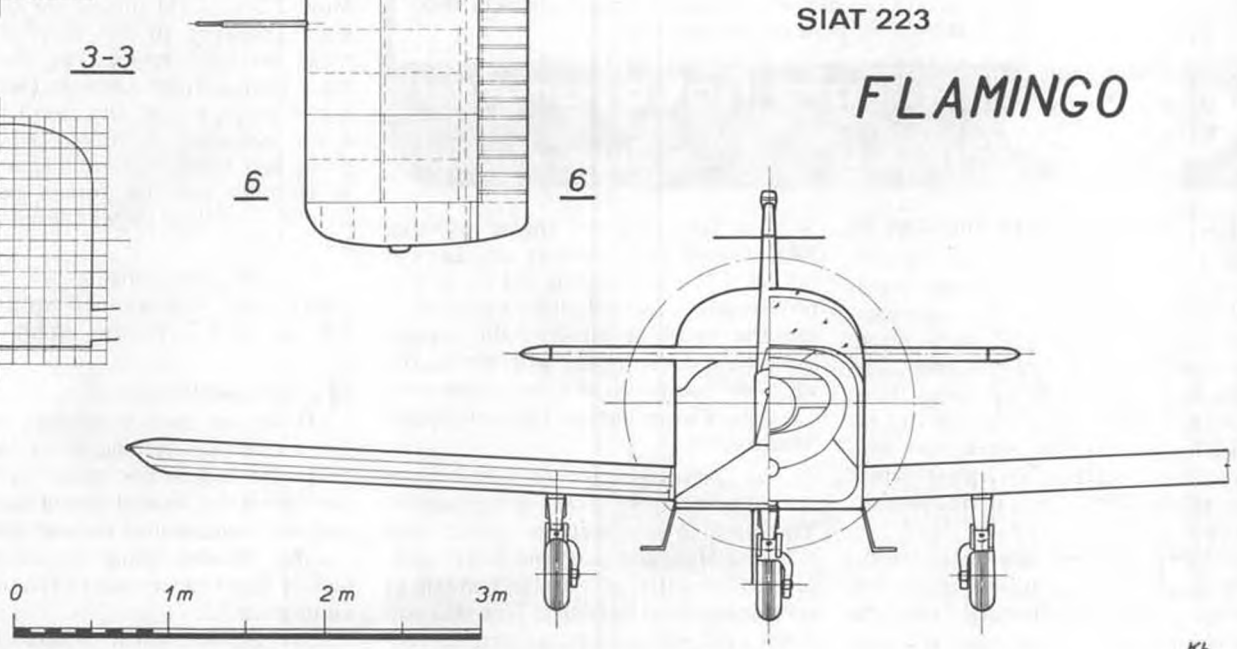
By vote of the pilots, it was decided to postpone the tournament until next summer, with one possibility... volunteered in the name of the WORKS Club (Western Ohio R/C Society) of Dayton, Ohio, by Don Lowe... to hold the contest in place of its annual Wright Memorial, in June.

For all who came to Hutchinson, Kansas, it was a bitter disappointment; for the pilots who took time off from work and paid all their own expenses, for the local R/Cers who worked hard to prepare the site and line up the needed labor, for the AMA officials who took time off from their own jobs, and for AMA, which paid the expenses for all out-of-town official help...

We hope the National Society of Radio Control Aerobatics realizes that a big fat ball has been dropped at its feet. It is an excellent opportunity for the Society to pick up the ball and show what it can do. The AMA is ready and willing to give its sanction if the NSRCA will only do the leg work. ●



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C/L Continued from page 31 running most .15 engines. Starting procedure includes flipping the prop sharply while slowly turning the compression screw in until the engine starts firing. Now start really hitting the prop, and getting clear quickly. This is quite different from a passive glow flip. (If you are hitting it correctly, you soon learn why most professional diesel men wear leather finger guards almost as a permanent accessory.)

Continue turning the compression screw in gently now. All being correct, the engine will start running. Leave the compression screw alone now, and start the needle valve in toward lean . . . slow-

ly. Too fast, and the engine will die. RPM should start picking up. Lean it out until it starts cutting out for several revolutions . . . we call this burping. Back out the needle a bit until the engines smooths out. Now play with the needle valve and compression screw, alternately . . . usually lower compression and leaner needle valve.

The sounds you use to tune a diesel are different from glow, so be careful. You have to interpret the sounds into rich and lean, and over and under-compressed . . . with an infinite number of combinations in between. This skill will come only with practice. Especially annoying is the fact that the diesel will

often make the same sound for several different conditions of mis-tuning! Notably, it will burp when under-compressed and when lean, either separately or in conjunction. Also, it will speed up and then abruptly sag when over-compressed (very dangerous) and when lean.

When running rich or just slightly over-compressed, the diesel will sound deceptively smooth and steady.

Another method of judging the tune is by "feeling" the exhaust. Stick your finger in the exhaust gas for a few seconds (you can stand it), and then examine the residue. Regardless of the lubricant you are using (synthetic or bean), if the color is black, the engine is seriously over-compressed. If it feels heavy and thick, the engine is running rich. If the 'feel' is thin and dry, the tune is good.

One happy note to all these differences is that the diesel is much stronger than a Glow engine and survives a good deal of mis-adjustment.

You will have plenty of time to learn the new techniques, because a diesel is broken in by endless running. The Glow engine method of short bursts does not work on diesels. It is not at all uncommon for 10 or more hours of continuous running to be required before the proper piston/sleeve fit is achieved. In fact, the rod and/or bearings will sometimes fail before the piston is broken in! The only alternative to this is if you happen to know a good *diesel tuner* who can fit and set up your engine for you. Beware, however, a diesel is not fitted at all like a Glow, and if your local speed tuner works your diesel over like his nitro burners, you have probably just acquired a new fishing weight. Better to spend the hours learning to run your diesel than going fishing.

A few last notes:

The premise that a diesel is a nice, rugged, low rpm torquer is a fallacy. Most 2.5 cc (.15) diesels are racing engines operating in the 15-17,000 rpm range on light props. Yes, they have more torque than a Glow and will swing bigger props per se, but don't fall into a rut operating them that way. Also, diesel fuel smells bad (stinks) and clings to clothing, but hot fuel is not mandatory . . . nitrate dopes can be used on the model.

P.S. A diesel engine will throttle nicely once it is warmed up properly. Put a good R.C. throttle on one and try it.

SPEED COMMENTS

There has been much talk the past few months concerning safety in regard to Junior and Senior speed flyers. The problem is that several young flyers have had their hands pulled through the pylon . . . the reasons being anything from lack of flight experience to too powerful equipment.

Sam Snyder, whose children fly very well, but are a little on the small side,



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Contest Director: CARL HATRAK

Chief Static Judge: RUSS BARRERA

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 from a Peck-Polymers kit, plus a few surprises.

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. Unlimited attempts subject to size of total entry. Highest individual flight and static points will also be honored. A three-man jury will preside over all decisions.

SCHEDULE: Register by mail on or before February 1, 1975.
Models to be on hand on or before April 1, 1975.
Contest to be held approximately April 15 to May 1, 1975.

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

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has come up with a unique speed handle arrangement. It consists of a metal 'D' handle for the Mono-Line twist unit that has a metal 'eye' built onto the handle. This 'eye' slips over one of the pylon forks and takes *all* of the pull during the flight.

Since it is rather difficult to drop the handle with the 'eye' onto the pylon fork during flight, Sam's 10 year old

daughter, Becky, takes the plane off with the handle already anchored in place. The only disadvantage of this arrangement is that the dolly has to be set so that it pulls more to the outside of the circle to maintain tension during takeoff. Too much or too little pull can cause some rather quick problems. Once the plane is released, there isn't much the flyer can do but hope it takes off...!

Check the picture sequence for proof that this setup will work. With this device, the only prerequisite to successful speed flying by a Junior is youthful coordination and intelligence. Strength is not a factor to be considered.

* * *

Here is some news for you 1/2/A proto flyers. Dale Kirn has come out with a prop information sheet that explains how to rework one of his injection-molded, left hand props, for use on an enclosed proto plane. The re-worked prop is good for 90-93 mph, says Dale... all other factors (engine, plane, fuel) being set up right, of course. Send a 10 cent stamp to Kirn-Kraft if you are interested (address in classifieds). Say you saw it in MODEL BUILDER.

FUNNY LINES

First some ancient history. Way back in 1964, Pete Soule carried out a great many investigations concerning the forces acting on control lines and what they do to model airplane flight. He engaged in practical experiments and computer analysis, and arrived at several definite conclusions. (See '71-'72 Aero-modeller Annual for a partial reprint of Pete's work).

Points of interest:

A. The wires take 30% (sport models) to 80% (speed models) of the engine horsepower.

B. 93.8% of all the drag comes from the last half of the lines nearest the model.

C. 68.3% of all the drag comes from the last fourth of the lines nearest the model.

D. 25% of the drag force is supported by the handle and 75% is supported by the model.

E. Pete's closing statement in his report was, "For the speed secret of the century, invent a practical streamline enclosure for the wires. The C_d for a



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streamline section . . . may be 1/3 to 1/5 of that for a circular wire of equal thickness."

The Italians figured out what to do to conquer most of this unwanted drag on a two wire control system. They developed a simple method of tying the wires close together so that they 'flew' in a streamlined condition, still maintaining full control.

Basically, extremely small diameter tubing sections are placed on the lines so that the wires are tight together but still slide, and a small tail or tab is placed on each tube to streamline and make it 'fly' level. The tubes are positioned close together . . . 3 or 4 inches being normal.

The only real testing so far has been with FAI models (.012 dia. wires). The tubing size used is .020 O.D. with .016 I.D. Can you imagine hollow carrier wires? That is what it amounts to!

The most common source of tubing is hypodermic needles. If you know a diabetic, insulin needles are just right. If you are going to try this on Rat, go to a veterinarian, he will have larger size needles. Stainless steel tubing in these small sizes and long lengths can be purchased from specialty tubing houses catering to industry and aerospace, but it is expensive!

The tubing must be cut into 1/4 inch lengths. The only practical method seems

to be to use a miniature emery cut-off disc. (Dremel makes them). The tubing must be de-burred, and you will need several hundred pieces (every 4 inches, at least half way down the line from the plane).

Oh! Did I tell you to be prepared to spend three to five hours constructing one set of wires? This is not for the faint-hearted or fumble-finger types.

Begin rigging by placing tubing pieces on the rear line only. The lines are then stretched tight and held exactly together and horizontal. Space the tubing out evenly starting from the airplane end, allowing for whatever portion will be inside the wing. Now, using Goodyear Plio-

IN THE AIR

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Kit S43 Span 20½" \$3.95

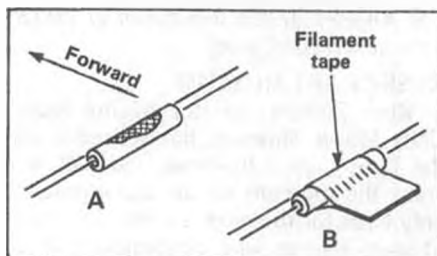
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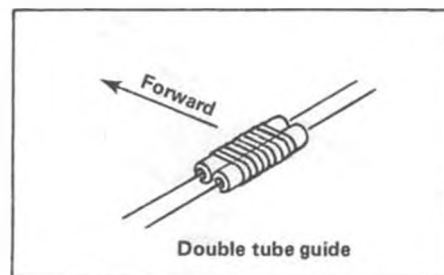
bond Adhesive and a toothpick applicator, glue the single leading wire to each tube with a small dab of glue in the center of the tube. Do not 'drag' the excess onto the bare double wires. While the glue is drying on all the tubes, cut 1/4 inch wide strips of nylon filament



tape. Wrap the tape over the wire and the tube to form a horizontal tail behind the tube. Finally, the tails must be trimmed to length. The length of the tapes is critical, as line flutter will occur if they are either too short or too long100" to .130" seems about right for FAI.

When flying your model with "plain" wires, you should be aware of the drastic bow, back from the wing tip. With the tabs in place the wires extend straight away from the model to the point of the last tab and they then bow back. So, the further out you can place your tabs the more drag you will eliminate.

Your last tube, closest to the handle should be a double, to prevent spreading of wire and tube. Wrap two tubes together with fine copper wire and solder them. This double will take the strain of the lines being separated by the handle.



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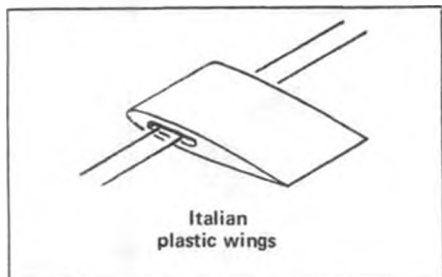
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This tape-and-glue method is not the only means devised so far to hold the wires together, but it is about the easiest(?) Some members of the Italian team molded hundreds of tiny plastic wings



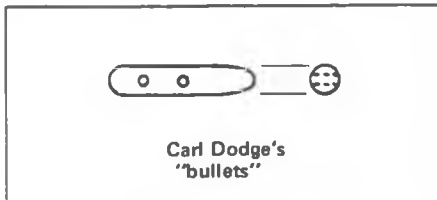
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with one oval hole through the center for the wires. Carl Dodge, of the U.S.A., formed individual bullets from solid aluminum rod and drilled .015 and .018 holes in each one. The benefit from the tabs, when they work (they do not always function properly, so be prepared), is proportional to your model speed



before adding the funny lines. If your model is flying about 90 mph (FAI team race), you can expect a 5 mph gain. If you are flying 150 mph (FAI speed) you can expect a 15 mph gain.

Also be prepared to change props, because when you reduce the drag and unload the engine, your old prop will not be enough. You will need more pitch and diameter!

By the way, I hope the AMA allows a reasonable time for people to try out this new technique before they pass a regulation banning their use (as was done with tuned pipes in some events). Reports indicate that the FAI Council might ban funny lines for international competition. But I do feel the Americans should be allowed to try out this new technique and then decide what they want to do about it here in the U.S.A.

Until next month: Don't go blind trying to "thread" those little tubes, get a jewelers loupe! ●

Hannan Continued from page 38 BASEBALL SPEEDS

Quite a controversy has developed among participants in the rubber-power speed contests, which are rapidly gaining attention. It seems one faction is strongly in favor of hand-launching, while an equally vocal contingent carries the torch for rise-off-ground (or table) starts. The argument of the latter has insisted that the initial heave given to the models represents an unfair advantage, and unduly affects the speed attained. The implication is that the more athletic modelers stand a better chance of turning in fast times.

Comments have even been heard suggesting that the propellers on certain models are only ornamental, and actually retard the passage through the air! Far be it from us to take sides in the matter, but it is interesting to note that the fastest times recently recorded (outside of Russia), have only been in the 60 mph plus range. Contrast this with carefully gauged baseball speeds, which according to the Associated Press have exceeded 90 mph by a considerable margin. For you sports nuts, the personalities involved and their throw speeds were:

1. Bob Feller 98.6 mph
2. Steve Barber 95.5 mph
3. Don Drysdale 95.3 mph
4. Sandy Koufax 93.2 mph

There must be a message there somewhere. Now perhaps if a guy were to enter a scale Sputnik . . . (After this was written, Nolan Ryan, pitcher for the Los Angeles Angels was timed at 100.8 for a new record. wcn)

RUSS-CRAFT MUSEUM

Russ Barrera, curator of the Russ-Craft Model Museum, has retired from the hobby shop business, and will operate the museum on an appointment-only basis for the next few months. Out-of-town visitors who contemplate visit-

ing the museum should drop Russ a line, well in advance of their intended arrival date.

The hobby shop portion of the Russ-Craft building has been taken over by genial Roy Stevens, who has established a new policy of being open evenings only during the week, plus Saturday and Sunday daytime hours. Both Russ and Roy can be contacted at: 139 Pawnee St., San Marcos, California, 92069. Inquiries about the museum should be directed to Russ-Craft, while hobby shop information should be sent to American Hobby Supply.

KODAK PUSHES PEANUTS

Eastman Kodak publishes a fine house organ called "Kodakery," which sometimes devotes space to employee avocations. The August 1, 1974 edition featured Bob Clemens and his outstanding Peanut Scale models, including two excellent photographs.

In the article, Bob points out that building these miniatures represents nostalgia for his boyhood days. "The major investment," Bob says, "in building peanut models is not a financial one. It is an investment of time. I have built six small planes and I think the shortest time I ever spent was 30 hours. Sometimes it can take over 50 hours to build a working replica." Incidentally, Clemens writes the scale section of the National Free Flight Society Digest.

MR. OLD TIMER MOVES

John Pond, the prime-mover behind the old timer movement, has a new address: 4269 Sayoko Circle, San Jose, Ca. 95136. John has retired from government service, and now hopes to devote more time to his extensive plans business. The San Diego Orbiters club hosted a pizza dinner as a send-off for John.

TIMELY TIPS

From Dave Acker comes this series of helpful hints:

... at the risk of re-inventing the wheel, these tips can be passed along:

"Fuselage: Split bamboo salvaged from a window curtain. About 1/32 square average, depending upon location. Easy to split and work with. The curtain yielded enough for about 4,000,000 more planes!

"Tail assembly on antique types such as the Demoiselle: Use airmail-type lightweight onionskin paper, which is quite stiff, but appropriately translucent.

"Wings: Undercambered ribs start as 1/16 square strips, and are rolled or pressed to about 1/20" thick. This gives them the consistency of cork, a slight camber, and they can be bent and pinned during construction without fear of splitting. Ribs are clear-doped to help maintain camber.

"Rigging: GUDBROD nylon 'sew-gud' color blending thread, from sewing supply stores, makes 6-10 lb. monofilament look like scale 1 inch rope. Run GUD-

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BROD through wing ribs and around eyes on mast and axle ends, for truly functional vintage rigging."

Dave plans to send us photos of one of his models constructed using these techniques, for a future issue.

CORN DEPARTMENT

Believe it or don't, many of our readers actually comment on this department. Of course it wouldn't do to reprint their comments here. The blame for this month's miserable humor can be assigned to the New England Sport Aviation News, edited by Bob Whittier and Frank Brown, 5 Centre Ave., Abington, Mass. 02351.

"The reason tailless airplanes never became popular is because most pilots

figured that when flying in one, they would not be able to take advantage of tail winds."

And, if that isn't bad enough, consider this one:

"Mechanic: One of the sparkplugs in your ship's engine went dead, so we buried it.

Pilot: What do you mean, you buried it?

Mechanic: We laid it away in a gasket!" ●

Sailing Continued from page 51 are in the water for the start of heats, and keeps a separate record of heat finish order, and foul points awarded. For race committee, we have a Regatta Di-

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rector and at least two helpers, stationed at widely spaced intervals in order that they have different angular views of mark roundings, etc. At morning check-in we give each competitor a 3x5 card with his heat assignments on it. We also fill out a form at check-in that gives each skipper's name, boat number, hull manufacturer, sailmaker, radio manufacturer, winch manufacturer. We feel that this information will be valuable to new skip-

pers who are planning on acquiring boats, as well as making interesting reading for winter evenings.

The skipper's meeting goes over points of local information for visiting competitors, such as weed patches, or submerged dangers. The Regatta Director touches upon rules of racing which continually need refreshment in our minds, such as starting procedures, buoy rounding, and finishing. Then he outlines the course and sets the tone for the pace at which the event will be run. Questions are called for and the starting tape played through to familiarize everyone with its peculiarities.

The race committeeman charged with watching the line at the start is armed with a loudhailer (bullhorn) in order that he be able to let early starters know it as soon as possible. The starting tape is played through a larger PA system which does a good job of drowning out background talking in the vicinity of the starting line.

I've purposely skipped the whole problem of registrations and measuring. We are developing some reasonable approaches to these, and they are really an important part of holding a regatta. Direct communication with each skipper as he registers via postcard is essential. A later mailing containing frequency, lunch and location information is made after registrations close. I favor a postmark closing date two full weeks in advance of the event.

Hosting a regatta is a big job. But later that winter, while everybody is looking at the movies, it sure does your heart good to hear someone say, "That was really a good contest."

I was happy to hear from my friends at Vortex Model Engineering recently. They wish to correct my comments about paneled sails and assure their Santa Barbara customers that Vortex paneled sails, for that vessel only, are still avail-

able. Paneled sails for the Soling can be gotten from the other lofts. Joyce Protheroe, Vortex sailmaker, made an interesting point when she mentioned the long life of paneled sails due to the double cloth thickness and the use of leech and foot hems (tabling) which make for a strong, stable sail. I would suspect that this is the first direct consideration which has been given to the needs of the R/C cruising yachtsman, the skipper who doesn't race, but rather enjoys sailing his boat on different waters under different conditions. Hats off to Vortex for showing a wide concern for the sail needs of both racer and cruiser.

I can't resist repeating that paneled sails, in my estimation, do not have the versatility nor the efficiency of single panel or modified single panel sails in the competition situation. I would also be the first to admit that there is more than one way to skin, or rig a cat, and rest my case.

With the 1974 Regatta season in full swing, we seem to have been spending a good deal of time traveling to and from the lake. The ever-increasing amount of "support equipment" such as folding chairs, bug spray, coolers, shade tents, finally proved too much for our 1970 Plymouth wagon. In order to leave room for the driver we have put together a 42 x 75 x 16 inch car top carrier. It is of 1/4 inch exterior plywood, with 1x2 interior framing, and nestles between the rails of the luggage rack. We can carry three EC/12's, four 50/800's, or 3 Santa Barbaras, and don't risk crinkling up the sails, nor having the dog decide to work on a rudder or two. As you can see from the photo, it makes a handy place to display the competition record our sails have garnered. Even wife Linda had to admit that it didn't turn out looking "like I had built it!", so she consented to show it off.

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The 1974 50/800 Eastern Divisional Championship was held in Washington, D.C. this year under the sponsorship of the Capital R/C Model Boat Club. Skippers from as far away as Boston and Canada journeyed to get into the fray. With a good 5-10 knot breeze all day long, some excellent racing ensued. The picture shows a typical approach to the first mark. Ten and eleven boat heats were the order of the day. By late afternoon, Bob Harris, incoming AMYA President, had established an unquestionable hold on first place. Second was held onto by this writer, and Soling skipper Ron Stephanz of Maryland took third. The hulls finished in order WARRIOR, BOOMERANG, SOLING, again indicating that skipper skill is still the most important ingredient for winning performance.

Richmond MYC, under the able direction of Ray Ihlenburg, held the East Coast 12-Meter Eastern Divisional Championship on Swan Lake, in that city, on July 21st. Gentle 12-meter friendly breezes prevailed, except for a couple of those drifters we all hate, around lunch time. When the smoke cleared, I managed a first place finish, with Bob Harris second and 15 year old Rob Woodbridge in third. This was the first open event hosted in Richmond, and they had done their homework and prepared an efficiently run event. A 36/600 was raffled off and two television stations sent crews to cover the action. The James C. Holland Memorial Trophy was awarded to the winning skipper. It is a perpetual trophy commemorating a well known Chesapeake Bay yachtsman.

Ron Stephanz of the Capital R/C Model Boat Club entered his first EC/12 Meter event, the 1974 Annual Class Championship, and two days later walked away with first place. Buddy Black, of Tampa, Florida, was second, and Bert Lott also of Tampa was third.

Ron used a completely stock kit East Coast 12 to garner his win. This underlined the importance of skipper skill as the *ingredient* in this popular one-design class. Ron's windward work was a joy to behold, and he has given heart to all of us who sail kit boats. It's us fellows, not the boat, which has been not doing so well. Hats off to Skipper Stephanz.

R/C News . . . Continued from page 15

7. Go the full length of aileron and wing.
8. Remove masking tape after silicone rubber has cured completely (about 12 hours).
9. Finish covering with your choice of material.

Two more things . . . your covering material must be separated along the hinge-line or you'll have a "hump" when the surface moves up and tension, restricting travel, when the surface moves down. By using black silicone for the hinge, and by keeping neat, straight lines along the gap when covering or Monokoting, you'll have a nice black aileron outline that really works!

Le Gray, who relayed this idea from George, also points out that it's possible with Saran Wrap and some sort of forming rod, to make centered hinges on symmetrical surfaces. See sketch.

FUN FLY FORMULA

Cooking up interesting flight tasks for a fun-fly contest can get sorta frantic after you've been through the usual bomb drops, most loops, most spins, Limbo, etc. Here's an interesting one used for the Texas City Summer Fun Fly, held on June 30, in that area. It's called the "Pilot's Delight."

Contestant attempts to fly exactly 3 minutes from takeoff to touch-down without aid of a watch or other assistance. While in the air, he attempts a maximum number of maneuvers within

UFO?



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the 3-minute period, and is scored as follows:

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5 points for each roll.

10 points for each loop.

5 points for each spin and spiral entry plus 3 points for each revolution.

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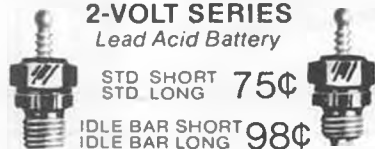


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of different maneuvers performed, times 5.

10 points for spot landing.
Sounds like fun.

In another event, called "Poker Hand," the runway is divided into 5 parts, each representing one card of a poker hand. The contestants poker hand for each round is obtained from the touch-down points of five consecutive touch-and-go's. Subsequent rounds are flown on an elimination basis.

That's one way to play poker without worrying about getting dealt from the bottom of the deck!

DROP US A NOTE

This writer would like to hear from R/Cers with suggestions on what they'd like to read in this column. Actually, R/C material is like the horn of plenty . . . endless, but we'd prefer to eliminate some subjects and go heavy on others . . . according to your preference.

So . . . is it competition, hints and kinks, basic how-to's, electronic projects, club activities, personalities, rules debates, design discussions, or a mixture of all and whatever? It's your column . . . we just write it.

Plug Sparks . . . Continued from page 27

for him, as Marv Bashaw looks like some real competition, taking a first and third in the rubber events.

The Old Timer Banquet held that evening, and used primarily as the vehicle to award the trophies, came off extremely well, with close to a hundred in attendance. The highlight of the evening was the Hall of Fame award presented to Sal Taibi by John Worth and John Clemens. Sal received a standing ovation lasting several minutes.

As a follow-up to the anecdote by John Worth on the problems of flying fields, Sal related the following about Van Courtland Park: This park, located in the heart of New York, was a most convenient and attractive place to fly gas models. Every Sunday morning, Sal and the gang would meet to fly. Around twelve o'clock when the picknickers started to arrive, the wise old Irish cop on the beat would go over and tell the modelers it was against city regulations to fly models in the park. This would always be met with the reply, "We didn't know it was against the law." This same scene was re-enacted time and time again, just goes to show you, cops in those days were quite tolerant and smart enough to know how to get along with the kids. We could use some of that common sense today.

Films, kindly loaned by Nick Sanford, of compressed air activities in 1932, and then of the 1935 and 1937 California State Fair Championships, were shown. The flights by Hughes Hobart and his compressed air models were quite impressive to the viewers. Of course, everyone enjoyed seeing Ohlsson, Atwood, Stiglemier, et al, in their younger days.

Even "Daddy Warbucks" was in the films.

Incidentally, the writer is still looking for the 1938 Nats films. The 1939 Nats film, by Comet, was donated to the AMA library by Frank Nekimenken. The 1940 films have also vanished. Any leads would be greatly appreciated, as these always form an enjoyable part of the Annual O/T Reunion Banquet. We'll be looking forward to seeing you next year!

* * *

FOUND! A model from 27 years ago! Many modelers will remember seeing a gull-winged version of the Cavalier appearing in the September 1947 issue of Air World, with Ed Berton proudly holding same. After all these years, Joe Guylas mentioned to this columnist that he had found the model but didn't know for the longest time who owned it. Are you listening Ed? (or possibly one of your buddies?) The model is in pretty sad shape but it is available from Joe Guylas, R.D. No. 3, Box 141A, Centerville, Md. 21617. Somebody contact Ed! MAIL BAG

Received probably the best Old Timer Club paper yet, from Sweden. Sent by Ove Pettersson, this newsletter is almost magazine size, with cover, articles, and plans; a real dedicated O/T club that can brag of 39 active modelers! To get on the exchange, contact Ove Pettersson, Ganglaten 25, 421-46 Vastra Frolunda, Sweden. It's in Swedish, of course! Yumpin Yiminy!

CONTEST SEASON

Well, they are finally here . . . the contests, that is. Been receiving quite a few reports. Let's acknowledge what has come in.

Dick Johnson, Dallas, Texas, writes to say this Old Timer flying is the berries (another convert!). The Cliff Cloud Climbers held a two day meet at the old Air Force Base near Bryan, Texas, about 200 miles south of Dallas. Most repeated comment among the contestants was to the effect that they forgot how much fun it was to watch their pride and joys rise off the ground. See what I have been preaching about?

Enthusiasm is running so high in the club that future meets and just plain fun-flies are being planned. Pay attention, Texans, there's something going on down there!

Erie, Pennsylvania: Old Recorder buddy for the Old Timer Events at the Nats, Vic Didelot, reports the Erie M.A.C. held their 10th Annual O/T Meet. In spite of the breeze, all concurred that it was a nice day for lots of good flying. Quite a few newcomers showed up (let's treat 'em right!) and also a few retreads, like Paul Kastory and Ron Ganser, both of Pittsburgh. Where ya been, men! It's over three years!

Dr. Vern Hacker showed up with four Playboys (Senior, Junior, Baby, and .020 Replica!). Talk about bum luck . . .

stacked each one in order mentioned! Good thing Vern wasn't at Las Vegas that day, he would have gone home in a barrel . . . if he didn't wager the barrel!

Saltair O/T Fun-Fli: Not to be confused with their annual, this O/T meet did enjoy a good attendance, with Tim Dannels and family coming from Denver, and Wally Leiper from Boulder, Colorado. Dick Dwyer, of San Jose, also put in an appearance. Trophies were very unusual, being topped with either Genie, Thor, or Rodgers engines . . . all of the same pot metal family. Mack Fechner, with help, was responsible for the novel trophies. Worth noting was that Mark won back one of the trophies by copping first in the Cabin Gas Event, with Les Payne and Ralph Day following. The Pylon Event was taken handily by Les Payne, with Wally Leiper and Ralph Day. Seems like it was time for a switch, so Ralph Day took the Antique Event with Mark again repeating a first in .020, and Wally Leiper showing the way in O.T. Rubber. An event not normally seen at O/T contests, Hand Launched Glider, was won by Mark Fechner. Wonder if this will ever be an event in the O/T Champs?

Washington-Oregon O/T Champs: For those westerners who couldn't make it to Lakehurst, the Boeing Hawks and Norwesterners MAC jointly sponsored a big O/T meet at Harts Lake Prairie, located outside of Fort Lewis, Washington. With Don Dodd, Tom Cope, and Jim Sharp organizing things, the meet had to be a success.

Received a good report from Don Dodd, C. D., and also from MB's F/F editor Bob Stalick, of the Willamette Modelers Club News, who sez he hates to admit it, but Don did a bangup job as contest director. Don, on the other hand asks how many contestants paid Stalick to keep him up until 2 a.m.?

Temperatures got up to 80, with big fleecy cumulus clouds dotting the sky. Wotta F/F day! John Ulver showed how to get attention when his sailplane knife edged to terra firma with full power on. Spectacular!

Dr. Dona showed off his doctoral

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proress by treating his own fingers after a short altercation with an Ohlsson 60. Not to be outdone, Tom Cope put in a request for a handicap because of his two stitched fingers from an Anderson 65.

We could go on about Tom Alden's

flawless performance on how to crunch your Wakefield, or Dick William's beautiful launch of his Alert with the D/T fuse at his feet. But . . . the best one of all is on the C. D., Don Dodd, who carries two types of fuels, one for standard glow operation, and of course, good

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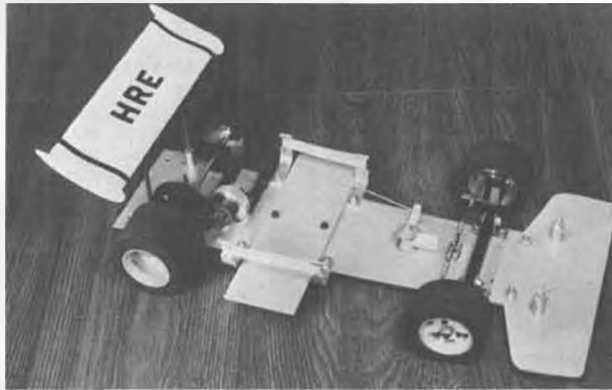
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old 3-in-1 for O/T. Guess why he had trouble starting his engines? Haw!!

According to Don Dodd, the boys are organizing a group to go to Denver to show that their California fiasco at the F/F Champs was not how they fly. Of course, the emphasis will be on fun, but it would be nice to take home a trophy, too!

WRAPUP

That's it for this time. Thanks to all those newsletters and reporters, we are starting to get a real good cross-section of the old timer activity. Keep the stuff coming! We appreciate it! ●

Choppers Continued from page 22

ter has also sent sample bell cranks, designed specifically for the "expert" system. They are very sturdy and should also prove valuable to the scratch builder. His "S" rotor head has been additionally modified to permit blade angle adjustment without "twisting" the strap holders. (part No. 757 at \$25.00 complete). Model Helicopters also has many spare parts for the H. B. Stamo 61 engine, including cooling fans, shrouds, and rear plates for blower conversion. Stock mufflers for H. B. Stamo, American and German Veco 61, (all the same) are available, with 27 mm and 42 mm pipe extension (45 degree angle).

FINAL APPROACH

That's it for this month fellas. Next issue I'll try to get out the data on

Charlie Gilbert's "Skeeter" that I promised for this month. As a hint, I'll tell you that it is very similar to Dave Keats' great example of a small chopper, the "Polecat," which was featured in RCM a couple of months ago. Who knows, these fine technicians may start a new trend in building and flying "sport-copters"!

BCNU next time around. ●

Chopper Nats . . . Continued from page 21

Most Outstanding Helicopter, Novice: BILL ELLIS

Most Outstanding Helicopter, Expert: MIKE BOSCH

Most Outstanding Helicopter, Scale: BILL ELLIS

Most Outstanding Scratchbuilt: FAYE PEOPLES

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WHAT DID THEY FLY:

Mike Bosch -	Kavan Jet Ranger (2)
Ralph Burch -	Dubro Shark
Steve Darlington -	Schuco-Hegi Cobra
Bill Ellis -	Kavan Jet Ranger (2)
Horace Hagen -	Kavan Jet Ranger
Grady Howard -	Dubro Shark
Ernie Huber -	Kavan Jet Ranger
Chuck Nowell -	Kavan Jet Ranger
Jim Osborne -	Kavan Jet Ranger
Faye Peoples -	Scratch-Built (2)
Aubry Radford -	Kavan Jet Ranger
John Simone -	Kavan Jet Ranger (2)
Ed Trice -	Kavan Jet Ranger
Ed Walther -	Schuco-Hegi Cobra (2)
Ron Wiensch -	Dubro Shark ●

R/C Soaring . . . Continued from page 29

Part of the joy of attending any tournament is examining the models and talking pros and cons with their owners. There are those who need a beautiful ship to inspire them, and those who feel that if they worry too much about looks, they won't take sufficient risks to win. Naturally, there are pilots everywhere between these extremes. Those who submit Scale ships are clearly of a single mind. These planes were judged on Saturday and flew only on Sunday, with flight points being awarded on the basis of performance on one round each of speed and duration.

Winches were provided and manned by volunteers from the Torrey Pines R/C Soaring Society. This took a lot of time and effort, and they deserved many thanks from all those who participated in this tourney.

Colonel Bob Thacker challenged the opposition with a Hobie Hawk as did Kelly Pike and others. Buck Faure (last year's LSF Champion) flew his Presbyterian. Lemon Payne flew the Legion Air with which he recently won at the Soaring Champs.

Most of the flights went well, but once in a while you'd hear "heads-up"

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or witness an unintended test of the runway hardness. There was a mid-air between a Cirrus and a Windfree. The former lost its right stab while the latter lost half of its left wing. To everyone's amazement the Windfree continued on to a smooth landing even though so severely disabled. Epoxy put the Cirrus right back in the air and Alex Mladineo borrowed a wing to make his Windfree whole again.

Anxious for altitude, I pulled back on the control stick during launch only to stall. I recovered via a neat roll... pretty tricky, even if I do say so myself. Later I asked the C.D. for extra points for this acrobatic exhibition but he was hard-nosed and gave me the expected "no dice."

The Saturday evening banquet included fine food fare and a review of LSF coming of age. There are now more than 1000 members with a major contingent being from overseas... a real demonstration of the strength of R/C soaring.

The results of the contest? Yes, there were some. The first five "Overall" were:

1. Mark Smith — 5357
2. Rick Walters — 5308
3. Dale Nutter — 5067
4. Rod Smith — 4982
5. Dave Shadel — 4912

Three out of the first 5 flew Windfrees. Now for Win, Place, and Show by category:

Precision in Open class: Jim Wiseman, John Baxter, and Dick Aubert.

Precision Standard: Rick Pierson, Dave Thornburg, and Richard Barker.

Duration Open: Dale Nutter, D. O. Darnell, and Marty Howard.

Duration Standard: Rod Smith, Max Mills, and Terry Malsbury.

Speed Open: Rick Walters, Lemon Paynes and Pat Potega.

Speed Standard: Mark Smith, Rick Pierson, and Bob Thacker.

Scale: Hugh Stock (Diamant), D. O. Darnell (Glasflugel 604), and Lee Renaud (Duster).

There were teams, but these were informally generated on-site and thus not representative of the participating clubs.

Contestants came from "all over," including New Mexico, Illinois, Arizona, Wisconsin, Texas, Oregon, and Washington. Their enthusiasm and enjoyment demonstrated that this tournament was a success. We all learned a lot. Now back to the drawing boards.

Peanut *Continued from page 39*
landing gear wire is covered with bond paper folded over and glued. Tissue may be doped over this to get the right color (light blue).

For my model, I carved a prop with integral spinner to keep the weight down because of the enormous nose overhang. However, you can achieve a similar result by sanding down a Slick Streak prop.

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The canopy was finished off by rubber cementing blue Japanese tissue cut in 1/16 inch strips to the thin celluloid to represent the framing. Add the linework (flaps, etc) with a water-proof prismacolor nylon tip pen. The aerial mast is cut from 1/64 inch white styrene and 5-minute epoxied to the fuselage. The insignia was added by doping on the dark blue tissue pie sections, using a pattern for positioning. The stars and bars were painted on with thinned out white latex paint. The red

was hand-brushed around the entire insignia... Oh, that's hard to do! If you have decals that size from plastic kits, I would suggest that route instead.

The model, complete with motor, weighs 12 grams. In flying, the only adjustment was to prop up the trailing edge of the horizontal stab due to the closeness of the wing. However, the corrections have been drawn on the plan. I'm happy to say the model flew right off the board, with very few adjustments, and flies slow and climbs

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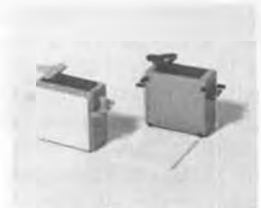


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well because of the thick wing. Indoors, I've been averaging 43 seconds with a 30 foot ceiling. Outdoors, at a recent contest, I thermalled it for a 65 second flight, using the indoor motor (in 4 mph winds). So, build it light for best results.

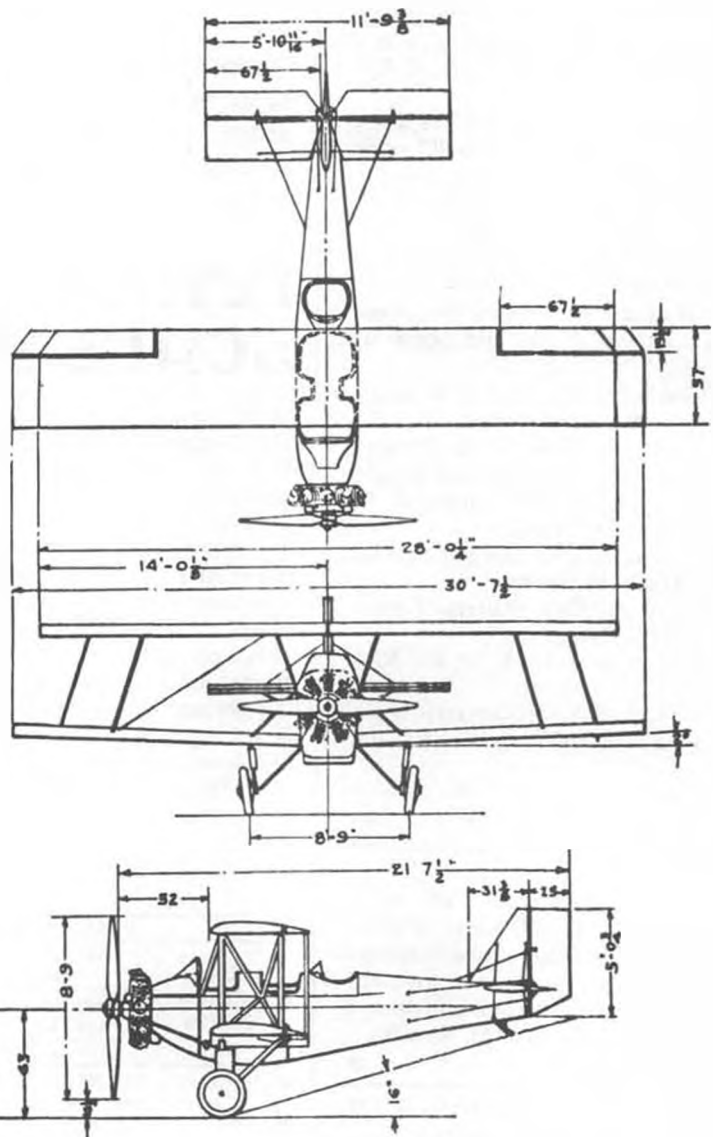
REFERENCES

- 1) "Curtiss S03C Seagull", by Paul Matt. AAM, May, 1967.
- 2) "War Planes of the Second World War", FLOATPLANES Volume 6, by William Green, pp. 161 - 165.

R/C Cessna . . . Continued from page 10
use 1/16 inch music wire with a 90 degree bend at the servos and a solder link at the control horns. Use the outside hole on short control horns and the inner hole on the servo output wheel.

Give the inside of the cowl and cabin 2 to 3 coats of clear dope and seal the edges of the Solarfilm around the cowl with epoxy. When the engine, tank, servos, pushrods and control surfaces have been installed, adjust the CG by shifting the battery pack and fill any remaining cavities inside the cabin with foam.

The wheel pants and struts are optional, but add to the realism of the model. The simple, plug-in balsa struts have not caused any trouble and have stayed in place through some very violent maneuvers. I broke the nose gear pant loose on the first landing when I



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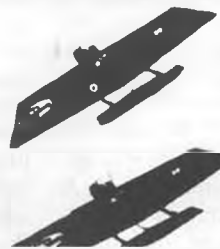
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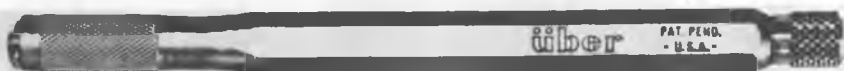
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underestimated the glide and overshot the landing into a rocky area. Since then, I have been able to make very soft landings with no further damage to the wheel pants. I have epoxied the wheel pants to wire gears on two previous 1/2A models with good results. ●

Rhinebeck . . . Continued from page 19

similar "flights" of a 1910 Short Biplane and a 1910 Hanriot flown by Palen. A hilarious "race," which required the contestants to start by leaving their pants on the ground, gave the crowd a chance to enjoy simultaneous flights by a Taylor Cub, Aeronca C-3, and a Funk. The race concluded with the contestants

landing and redressing.

Saturday evening again saw a buffet style banquet at the Red Hook VFW Hall, with a delightful after-dinner speech by Dave Fox, who showed two films demonstrating that modelers are not the only ones who crack up airplanes. Most impressive were shots showing how Palen's Snipe was demolished by an inexperienced pilot whose life was saved only because his "1918" harness broke and threw him free as the ship flipped. As Fox pointed out, "It is sometimes better not to be tied to these ornery machines." Had the Snipe pilot been held in the cockpit, he almost certainly would have broken his neck. Fox also

reminded about the barnstorming days when he and Palen were touring, and often forced to land in corn fields and backyards.

On Sunday, the crowd was treated to Palen's comical pantomime melodrama of the trials and tribulations of Sir Percy Goodfellow, Trudy Truelove, the Black Baron and his Bad boyz, Keystone Cops, a rooty-toot band, and others, whose antics were accompanied by flights of a Thomas Morse Scout, FE 8, Fokker D-VII, Sopwith Camel, Sopwith Pup, and an Avro 504.

The meet was concluded by another stirring chapter of the continuing battle between Snoopy (helped by Hollis Hutchinson) and the Red Baron (Bud Rowan). Snoopy had engine trouble before Palen's show, but worked like a dog (who could resist that one, after seeing Palen's corn) and got his "canine cottage" off to the gleeful cheers of every kid there. To no one's surprise, the Red Baron won again, but Snoopy, cursing as usual, vowed to fight again at the 1975 Jamboree!

WINNERS AT THE 1974 RHINEBECK MEET

SCALE:

- 1st - Frank Evans
- 2nd - Ralph Jackson
- 3rd - Barry Smith

MANEUVERS:

- 1st - Dennis Donohue
- 2nd - Frank Knowles
- 3rd - Frank Stanton

MISSION:

- 1st - Nick Zirolì
- 2nd - Dennis Donohue
- 3rd - William Cuff

COMBAT:

- 1st - Allen/Jaggie
- 2nd - Pickwood/Zirolì
- 3rd - Dietrich/Knowles

Free Flight . . . Continued from page 44

on the presumably internally counter-balanced main crankshaft, and a separate prop stud (a la MVVS). A nice deal, all around.

"The prop driver is mounted via tapered collet (a la Super Tigre), but a Rossi or S.T. spinner will not fit. A new propdriver/backplate combination could be made, or perhaps a Rossi Propdriver adapted by boring the collet seat out bigger and more taper . . . Shucks.

"No crankcase pressure provisions are made, and the venturi is strictly trash. (You any relation to Jed Kusik, Steve? wcn) You simply have to make or adapt a venturi. My idea is to use a collector ring from a K&B .40 R.V. and make a new venturi to fit that . . . using the K&B needle valve parts, which should be fairly easy to come by. The K&B .40 needle will also screw in place of the set screws which hold the stock venturi.

"The conrod should be drilled for oil holes on the lower end. The Rossi glow plug inserts will fit the Taipan

with only a thin gasket or two for shimming (use Cox .15 gaskets), and of course a clamping ring (the stock head can be modified into a clamp ring.)

"All in all, it should be a good engine, probably good for about 2,000 rpm below what the current Rossi will turn. I don't think that is too bad, do you? It sells for \$32.88 from Hobby Shack.

"Addenda: Jim Kloth, from Florida-way, says he has his Taipan turning 22,500 on FAI fuel and a Hagel fiberglass prop. Not bad. However, it was necessary to fit the engine with a different venturi. Jim uses a K&B .15 Schnuerle-Port venturi, which adapts nicely if a .005" shim is wrapped around the barrel. Jim also has a bit more news on the new S.T. X-15. He says that although the mill performs well, it has burned out plugs on nearly every run. Anybody out there run into this problem? What have you done to correct it?

LINSTRUM COUPE PROPOSAL

There has been a near-violent controversy raging in the free flight columns and newsletters about the recently adopted FAI rules concerning the 100 gram Coupe d'Hiver. In order to promote my own feelings into this debate, I have taken the liberty of including in this month's column a proposal by Dave Linstrum on changing the Coupe rules. I have included it because I approve of the proposal.

"Mr. John Worth
CIAM Voting Delegate
Academy of Model Aeronautics
806 Fifteenth St. NW
Washington, D.C. 20005
August 24, 1974

"Dear John:

"This is to ask you to submit an agenda item to the CIAM for consideration at their Fall meeting in Paris. A similar suggestion was made last year regarding a rule change for FAI Provisional Event Coupe d'Hiver, but met with a tie vote in the Plenary meeting. Since a tie gave no sense of direction, no action was taken by CIAM. However, the fact that half of the delegates were in favor of a change indicates that there is substantial support for new Coupe d'Hiver rules. There have been ongoing discussions in my column in *Model Airplane News*, in John O'Donnell's column in *Aeromodeller*, and in *Free Flight the Digest of the National Free Flight Society*. This dialogue was an expression of flyer opinion and has received positive feed-back.

"The basic problem with the current CdH rules is that the models are too underpowered to climb and perform well under power. This is not a major problem to the expert, who can wind to max turns, use sophisticated equipment or expertise to launch into a thermal, or perfect and construct gadgetry such as auto-surfaces and delayed-release propellers. The problem comes to the beginner and intermediate flyer, who experiences

such poor performance (usually well under a minute) without thermal help that the 100 gram Coupe event loses interest for them. Wakefield was always meant to be an event for experts, for potential World Champions. Coupe was originally flown as a beginner event, and it achieved great popularity under the old 80 gram rules. Popularity under 100 gram rules has been waning in many countries, except with certain die-hard experts.

"I suggest the following proposal be submitted:

"Inasmuch as the current Coupe d'Hiver rules discourage beginner and intermediate interest in the event due to the poor performance of 90 gram airframes powered by 10 gram motors, consideration should be given to changing power/weight ratios to achieve more satisfying flights without thermal assistance. This could be achieved by reverting to the original CdH rules (which stood the test of 25 years) using 70 gram airframes, 10 gram motors, or by keeping the present 90 gram airframe rule, but allowing a 20 gram motor for a 110 gram all-up weight. The result of such a change will be a resurgence of flight in one event whose popularity is now waning due to the short, dissatisfying flights possible with underpowered models."

Respectfully submitted,
David B. Linstrum

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If you approve or have an opinion, drop me a line . . . or better yet, send a note to our CIAM representative, John Worth, in care of the Academy of Model Aeronautics.

Sorry, but we didn't have space for the *Mystery Model* subscription winner last month, so now we give you the names of the winners both for July and August.

July's MM was the Sabre Wing, designed by Don C. Broggin, and the first correct identification, with handicap, came from Jules Damare, Jr., New Orleans, Louisiana.

The *Mystery Model* for August was the PAA-RAY, by Ralph Ray, and the first correct answer was a tie between Lee Hines, Newport Beach, California, and, with a handicap, Steve Landy, from way off in Newton Centre, Mass.

CONCLUSION

You, dear reader, will note with some relief that there is no humor section, nor any November Model Design of the Month. Both of these features will return next month. We are using the space normally allocated to them for reports on the Nats and the Taft FAI Team Selection finals. I'm sure you'll enjoy the change. See you next month. ●

F/F Nats Continued from page 46 road looking for his ship, too. Finally, we resorted to hiring a search plane from the local airport. Although John

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never did find his ship, he did spot mine and a couple of others. Meanwhile, things were really getting hot back at the field; drift was faster and a lot of fellows were going into fly-off rounds. By the time I got back, Hulan Matthies, Harry Murphy, and Dave Bevan all had 4 maxes. The next flight was on 5 second motor runs, and I personally timed Hulan and Harry's flights. Hulan piggy-backed in good air with his "Satellite" and just maxed for 900 seconds. Harry Murphy looked pretty exhausted, and put his "Lunar-tic" in bad air for 814 seconds. Dave Bevan almost beat Harry with 812 seconds.

Wakefield (as well as Nordic and FAI Power) was not well supported, most of the top contestants saving their ships for the Taft FAI Finals only three weeks away. However, Fred Pearce and Bob Lipori managed to max out, and went into a fly-off. The wind had swung diagonally across the runway and Pete Sotich, CD-Emeritus, moved the launch

point to make recovery easier. However, this proved to be a disadvantage, as the wind was tumbling across trees in front of the launch point, and neither Wakefield seemed to reach its normal climb height. Fred Pearce managed 1052 seconds, while Bob reached 1033 seconds for runner-up position. Bob Dunham took 3rd place, while his son took first as a Senior. Some team!

While all the above was going on, A/1 Towline, which was being conducted separately, from A/2's for the first time at the Nat's in a long time, proved to have plenty of competition. Five flights were required, while three minute maxes and rising, gusty winds made towing tough. I was so beat from my long chase in 1/2/A that I opted to sit out this event and just observe. Surprisingly, a Senior, Randy Secor, had top time with a very respectable 866 seconds.

Jim Haight, who won Open Class, impressed me with his towing; at one time holding the ship on tow for at

least five minutes. He was flying a Mike Secor design and it sure didn't fly like an A/1. In fact, the level of competition in this event was very high. There were many original designs, as well as the usual "Topkicks," and I have the feeling this event will rival 1/2/A Gas in popularity in a few years.

Friday, August 9th, was an off day for me, so I had plenty of opportunity to observe what was going on. The temperature and humidity and wind were higher, from early in the day to late afternoon. The elements were combining to make a rough competition!

Helicopter had two competitors! Perennial winner Glenn Lee managed 122.7 points in the gusty winds, to practically steal a first place trophy. Unless this event gets more support, I'm sure AMA Officials will wind up dropping it from Nationals level competition.

Unlimited Rubber, which had usually turned into a marathon in previous years, really got scrubbed by the weather. Jim Lewis, from College Park, Georgia, was the only one to go to a fourth flight and made 720 seconds for first place in Open. Wings were snapping in the wind and fuselages exploded as rubber motors disintegrated. George Perryman took three attempts, made a max on his fourth, and hit a parked airplane at the near-by municipal airport, which did some hidden damage. On his next attempt for flight... 2 seconds, and out of the competition.

Meanwhile, FAI Power, which should have been the "class" event, was suffering too. The fast drift at altitude was only part of the problem... many ships were being lost from sight before maxing (no binoculars were allowed for timing). Tom McLaughlin only managed third, despite having the highest climb I've ever seen (recorded at over 800 feet). Bob Hunter literally took the shirt off his back to help Bill Chenault take second. They had to "Hot Stuff" the fire wall of his "Midi-Pearl" back on, re-enforcing it with a patch from Bob's shirt. Meredith Chamberlain provided comic relief, inadvertently, when he launched his ship and the wing stayed right there while the fuselage and stab screamed across the field. All six rubber bands holding the wing had snapped simultaneously, and on a "soft" launch too! Charley Markos was the only one to max out. He calls his ship Par-FAI cause he like ice-cream.

Incidentally, a Junior to watch is Doug Marsh from South Bend, Indiana. He made 845 in FAI Power for first, also a first in A/2, and a third in C Gas.

Peanut Scale was also flown early on Friday and the wind was just too much for most ships. Fred Stark won with 233.6 seconds, followed closely by Ted Dock with 205 seconds. They both completely outclassed everyone else, with only nine contestants taking attempts. No Seniors flew!

Saturday, August 10th proved that every dog has his day. Determined to avoid the ever rising winds and fly relatively early in Scale Gas, I managed good enough flight points to take second with my well worn Porterfield Collegiate on 381 points; just edging out Gene Simpson flying a small Fokker E III. Fred Stark was still flying his previous Nats winning Loening, and did it again with a whopping 606 points. Scot Gesner, from New Jersey, won combined Jr.-Sr. with 416 points, but I'm sorry to say I didn't see his flight or model as I still, very shakey-kneed and dry of mouth, quickly headed for the Hand-Launch Glider area.

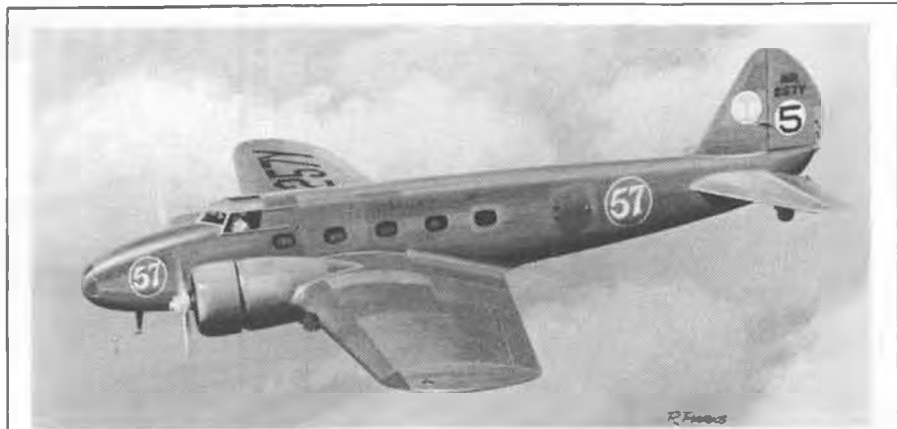
Just before leaving the scale area I did see Fred Stark put in a nice flight in Rubber Scale with a Wittman Tailwind. He won, of course, with 145 points, followed by Andy Mac Isaac flying an "Itoh," to second place with 114.5 points.

Hand-Launch Glider had a large turnout, with over seventy contestants in Open. Lift, although quite adequate, was hard to pick, due to the wind rolling off the trees, and many modelers were tricked by Mylar strips into launching too early or late. Even with two minute maxes, if you did find lift, the flight was an eye-strainer. Two Seniors, Mike Stoy and Gerry Comp, did very well, with 341 and 325, in that order. In Open, Jim Lewis managed 336 for first, with Bill Jenkins breathing down Jim's neck with 334. I managed 298 for third, nipping (nippert-ing?) Glenn Lee, who had 297. Lots of M&P Enterprise designs on the field; "Bo-Weevils," "Flashes," etc. As the winds continued to rise during the day, my strategy of flying early paid off; having finished my attempts just after 11 AM!

Farther up the field, C Gas was a veritable din of noise and high climbing ships with floating glides. Top times belonged to the Open Class Contestants, with who else but the old master, Sal Taibi, winning with a 976 second total. Apparently, the high altitude these ships gained kept them from the turbulence and down air that was affecting Coupe D'Hiver and Hand-Launch Glider. Fred Calhoun won Junior C Gas with 640 seconds. I think he flew a Satellite. The Senior group did well; Ron St. Clair winning with 708 seconds, being followed by three others who also made fourth or fifth flights after three maxes.

Coupe D'Hiver was really affected by the winds and turbulence, since their performance is marginal anyway. Even so, Ken Bauer managed 519 seconds in Jr.-Sr. Combined, while in Open, Jim Lewis had 562 seconds, followed closely by Bob Lipori, 546, and James Clark with 517.

On Sunday, August 11th, the last day of Free Flight, the morning was extremely humid, little drift and lots of lift. Just right for high times, and boy,



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We're not forgetting the "bargain hunters" who responded so enthusiastically to last month's ad. The \$2.00 "mini" charts, when bought with the new "E-Z Lock" hobby knife, sets you back only \$4.00 — (you save 95 cents). "Mini" charts plus heavy duty E-Z Lock knife (adds up to \$5.95) are \$5.00 postpaid. Ready for the **BIG DEAL?** "Mini" charts plus *both* sizes of E-Z Lock knives go for \$6.50 (a \$7.95 value). Take your pick... remember, all prices are postage paid. No "handling charges" or gimmicks. Sorry about you California cats—gotta cough up the 6% sales tax. Prompt delivery.

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did we ever get 'em.

Jetex flying was terrific. I have never seen such high climbing ships and so many in one meet! Chuck Markos put up a record of 481 seconds. He did everything just right, the ship was very safe under power, and had a good glide. After seeing the Jetex flying this year, I am convinced that some kind of breakthrough has occurred. Certainly the new fuse had something to do with it; I managed six straight ignitions in that very high humidity.

Team Satellite really turned it on this last day. Hulan Matthies, flying a "Satellite 300" with a Cox .09 weighing 9 oz., won with 1,027 seconds. Bill Hunter came close with 1,022, also flying a Satellite.

Randy Secor, a Senior, had the top time and a new record with 1,057 seconds, WOW!

Just to make the last Free Flight day perfect, the Lake Charles sky opened up with a real frog-strangler and dumped about an inch of rain in half an hour, so the unofficial NFFS sponsored ROW

contest was flown in a three or four inch deep pond at least a hundred feet in diameter.

Well, that's about it. We had a rough contest in some ways, nice in others. The number of contestants was down, the quality of FAI events was low. But the officials worked hard to get us elbow room to fly in, and certainly, the people in Louisiana taught us what "Southern Hospitality" really means.

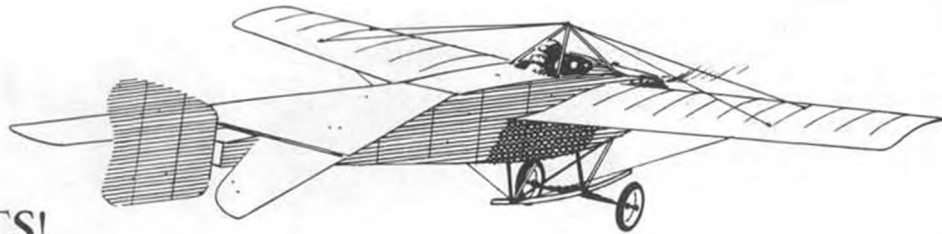
"Thanks, you all."

C-Quell Continued from page 49
STAB

The stab is built similarly to the wing, however, do not add any spars until all of the ribs are shaped. As a guide to shaping the ribs, the high point is a 1/2 inch in front of the main spar at the center and an 1/8 inch behind the main spar at the tip rib location. Rib thickness at the tip rib is .45 inches. After sanding ribs to airfoil shape, add all spars, shape leading and trailing edges, pre-dope, cover with Japanese tissue, but use a low shrink dope to minimize rib

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Hope you enjoy yours as much as I
enjoy mine.
Thermals!

R/C Pylon . . . Continued from page 11
October 1973-April 1974! That might
seem very hard to believe if you are
familiar with the weather around Seattle!
Now that doesn't mean that we had
perfect weather each time, by no means.
In the January '73 race, the wind was
blowing at 25 MPH and the temperature
was only 29 degrees!!! Have you ever
tried starting an .051 engine with a Cox
gray prop? That can really smart! Start-
ing was probably the most frustrating
part of the day. Flying in that wind with
half-frozen fingers, toes and noses made
you think perhaps we were all a bunch
of nuts.

January was bad enough, but then
came the February '73 race. Three to
four inches of snow lay frozen on the
ground, but that was not enough to hold
anyone back! There were a dozen entries
this time! Not only flyers, but many
spectators came out to brave the ele-
ments. I counted two dozen cars in the
parking area. This time, the engines
really were a problem. There were a cou-
ple of heats when all four failed to start
in the 1½ minute limit. Maybe that ex-
plains why there were as many planes
left after it was over as there were that
entered!

Flying times varied from 1:54 to as
much as 4:38 during the first winter sea-
son. This year they have dropped to the
mid 1:40's. All the races have been flown
using the May 1971 RCM rules as a
guideline. The only exceptions were
using three pylons instead of two, for
obvious safety reasons, and that all
planes are required to have landing gears.
In every race, each entry had five heats
to fly. If you had consistent engine starts
and flew a reasonable course, you had a
real good chance to win. While some
planes flew much faster, it seemed the
more experienced flyer stayed in closer
and won!

For both years now, we have awarded
the top five flyers trophies for the most
accumulated points. For each individual

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compression. FUSELAGE

Structure here is conventional. Start
by constructing the firewall, the pylon,
and the fin. Then cut the fuselage sides
to size, add all doublers and longerons
and cut the fuselage bottom to shape.
Pin the bottom to a straight board, glue
in the firewall, the fuselage sides, the
fuel tank, the pylon, and all fuse-
lage formers, in that order. The fuselage
top and the wing mount are installed
next and then the fin is lined up and
glued in. Pull the fuselage sides together
at the rear and blend into the fin. Fill in
around the fin/fuselage joint with scrap

balsa and sand the entire structure. Add
the stab mount platforms. I strongly
recommend the S.H.O.C. type mount
as shown on the plans. Install a d.t.
line guide through the fuselage rear,
starting alongside the subrudder and
leading through the rear stab mount.

Use lightweight fiberglass cloth
around the firewall. Adhere with several
coats of epoxy cement or resin. Cover
the remainder of the fuselage with tis-
sue or silk.

Assemble the model, add timers, en-
gine, prop., etc. Check the balance
point . . . it should fall into the 80-85%
range. If not, add weight accordingly.
First test flights will probably indicate
the need for some left stab tilt and
some left rudder tab. Add in small in-
crements. The ship should climb in a
wide right hand spiral . . . making 1 to
1½ turns in ten seconds. If it makes
more than 1½ turns, add a 1/32 inch
shim under the leading edge of the stab.
The transition should be a gentle turn to
a wide left hand glide. If you fly in
windy conditions, the glide turn may be
too wide . . . decrease the size of the
glide circle using more left stab tilt.

If your C-Quell weighs in at not much
over 30 oz., you will be impressed with
its climb and spectacular glide. The ship
will handle hot engines with ease, so
pour on the power . . . it only climbs
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race, the first three places split the cash entry fees.

The 1/2A Class racing season has proven to be a good training ground for the guy who plans to go into the faster FAI and Formula I racing. More races are planned here in the Puget Sound area for those who like competition at a more economical level, especially for the beginning racer.

The largest race we had was with twenty-two entries; twenty-three heats were flown and all in just three hours! So it's easy to do and a lot of fun to be had!

The next time you think you hear a swarm of hornets near by, take a look at the local flying site, grab your gear and have a ball in a 1/2A race! I guarantee you will love it!

Nutcracker . . . Continued from page 23 will have no trouble in constructing this kit.

Charles used a light grade of fiberglass and sanding resin on all balsa parts.

A set of Rom-Air landing gears were installed to take care of retracting and extending chores. Charles uses a Sonic Systems air pump in lieu of a can of Freon to charge his system and it works very well. I understand most pattern flyer's using the pneumatic gears are going to this system. You can't beat the price of compressed air!

Two coats of K and B primer, followed with a very colorful combination of Navy blue, yellow, and a dash of red (K & B Superpoxy), and the "Nutcracker" was ready to go.

A K & B 61, customized by engine man Clarence Lee, supplies the power for Larkey's "Nutcracker."

Charles uses an S & O six channel radio to "bend" the bird through the air. The S & O radio was designed by Jim Oddino and Bill Solkowski, and in my opinion, it is one of the finest pieces of equipment you can buy... a good choice for the discriminating flyer.

Charles tells me his bird weighs about 7 1/2 lbs., with 4 oz. of lead in the nose to correct a slight tail heavy condition.

I flew this beautiful piece of work

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by Mr. Larkey, and it handles very well. I'm sure Charles had his heart in his throat when he handed me the transmitter, and was relieved when I didn't turn his bird back into a kit!

Anyway, the Nutcracker is a fine pattern ship and it is capable of meeting the demands of the new class D maneuvers.

I'm sure with Charles Larkey's determination and talent, he will soon be competing with the top flyers in the country.

Satellite Continued from page 35

not unlike the MODEL BUILDER's new "Stick 'em Patterns," fuselage sides, gussets, and dihedral braces are printed on a piece of paper which has been lightly cemented to a 1/16 x 3 balsa sheet. The builder simply cuts around the patterns, then peels them off.

The plans for the 226 are elaborately and accurately detailed, including many helpful building hints. Even the relatively inexperienced builder will find that the Hunter's 17 years of experience with this design have long ago eliminated any construction difficulties or design weaknesses.

Your \$9.95 also buys a design with an impeccable track record. Few designs can begin to claim to equal the number of AMA records currently held by Satellites. Perhaps an even more impressive

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measure of the Satellite's ability is its success in night flying and "Shoot the Moon" competition. Surely it is more than luck that this design has become the one to beat during night flying, an event which minimizes luck and places great emphasis on design efficiency. Fellow San Valeer Hulan Mathies' 1/2A Satellite, competing against C and D ships, posted a rather astonishing 23 minutes at night. In "Shoot the Moon," an event which allows the contestant one flight between 7 and 8 A.M., when lift is minimal, Hulan put his 1188 Satellite up for 10 minutes plus on a sub-13 second engine run.



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A thoroughbred in every respect, the 226 is well worth your consideration, especially if your present stable of airplanes doesn't seem to have it when the chips are down. If your taste runs to things a bit larger, I understand both 450 and 688 Satellite kits are in the works to complement the presently available 226 and 1000 kits. ●

R/C Auto Continued from page 53

higher, say near 1 inch above ground, definitely helps. From now on I will probably run a rear bumper because of what happened at the Nats.

The fuel tank had a vee bottom with the fuel pickup in the front, and was tilted forward considerably. Of course, it was in front of the engine. With the tilt and the forward fuel pickup, there is a warning that the fuel is low. Under hard acceleration, the fuel moves away from the pickup and the engine leans out noticeably or starts to die. As car speed drops off the engine begins to pick up fuel and takes off again. You've had the warning the amount of laps you can get after this is dependent on the tank tilt. More tilt means less time from the warning to when the tank runs out of fuel. I usually set the tilt so that I can get 2 to 3 laps more, before the engine will die.

As I mentioned earlier, the wing tip-

plates are probably very important. A maximum tip plate size of 4 by 3 inches is allowed by the 1974 ROAR rules. Last year it was 4 by 1. However, I think that increasing the tip plates beyond 4 x 2, which I used, only gives a negligible increase in down force. On full size cars, the tip plates become more important as the wing span decreases, and the same applies here. Just look at some pictures of full size cars.

For the body, I chose the Surtees formula car. I know this body worked well, giving good front downforce, because we ran one last year. Front downforce is more important than ever now because of the new wing position and tip-plate rules. With more rear downforce you need more front downforce or there will be severe high speed understeer. I think the body styles with the full sloped noses give the best aerodynamic downforce, such as the Surtees, Parnelli, or Techno. The McLaren, Mongoose, and Eagle are probably the worst on this score, but with good front wings added, may be made to be acceptable. The full nosed bodies undoubtedly have more structural integrity. I don't think any open wheel cars have intermediate speed downforces approaching those of sports cars. Open wheel cars will be a handful on road courses.

As far as weight and c.g. location

goes; for the oval, a lightweight car (5 lb to 5 1/4 lb) is probably best with the c.g. about 5 inches ahead of the rear axle . . . for a 11 1/2 to 12 inch wheelbase car. The weight should be biased to the left of the car. In my oval car, the fuel tank was a little to the left and the battery as far left as possible (see one of the photos for the chassis layout). For conversion to a clockwise road course I was planning to move the battery to the right side. It may also be a good idea to add about 4 oz. to the car weight without moving the fore and aft c.g. location, but moving the c.g. to the right side of the car. I can't very well do this with my Nats oval car, since I gave it away in a drawing to an amateur at the Nats banquet!

In the all-important tire department, my standard mix of available rubber is 2 types of rear soft rubber, 2 sets of 1.5 inch wide front medium rubber (standard), a set of 1 inch front medium, a set of 1.5 inch soft front rubber, and a set of 1 inch hard front rubber. As you can see, I go for the maximum rear bite and then adjust the front bite as required. I guess I do vary the wing angle . . . up to about 30° maximum . . . to control rear bite to what I think I need, then juggle the front bite. I use caster, steering arm length (Ackerman action), steering motion, and the tires, in adjusting the front bite. I strive to get a little understeer at high speed and controllable acceleration from low speed.

Now I like to have my car set up so that I use full steering lock to get around the corners when I'm on the track alone. Hopefully, the car is running near full throttle through the corners, or requires only a hesitation on the throttle . . . off the throttle and back on very rapidly . . . to get the car set up for the corner. With the car set up this way, you are less likely to make errors, since you just go full steering lock and then adjust or feather the throttle 'till you are on the correct line. If you have too much steering all you're going to do is get yourself in trouble with power oversteer, and spin . . . or not make a smooth line around the corner and lost time. I must admit that on the '74 Nats oval, I was only full left for about the first quarter or third of the corner, then I had to back off the steering and have it almost straight for the last quarter of the turn. About one out of six to eight times I would hit the corner to the left (of the drivers stand) properly and be able to take it at full throttle. I think I had to back off a little all the time on the turn to the right.

Well, I hope this session has hit on a couple of items that may help you. If you have suggestions for topics of articles, questions, or comments, drop me a line. This column is supposed to be helpful to you and it will do a better job if you comment. Write to me c/o MODEL BUILDER, or c/o HRE Inc.,

P.O. Box 4658, Irvine, CA 92664. Now I have to get to work to build another formula car. Hope it works as good as the last one. ●

Counter Continued from page 7

sander. The mating surfaces have a patented saw-tooth surface which acts as a ratchet. A belt of 1/8 inch thick foam rubber is placed over the two moldings, followed by a joined strip of sandpaper . . . pre-cut strips are available in packs, but any sheet sandpaper may be cut in strips and used in a similar fashion . . . once foam and paper is in place, the two molded pieces are gently pulled, expanding the length and tightening the belt. The ratchet surface locks the molded pieces in place and you're ready to sand.

Introductory price is \$1.50 for the Mini-Sander and \$1.00 per package of replacement paper. Wet-or-dry replacements are now available. You may order direct until dealers are stocked.

* * *

Following up closely on the great success of its Messerschmitt 109 stunt ship, L. M. Cox Company is now offering its version of Art Scholl's famous modified Chipmunk stunt plane. Powered by the double-ported Cox .049 engine. The new ship spans 30½ inches and features the shell foam wings and elevator limiter introduced on the Me-109.

* * *

Fallston Plans Service, P.O. Box 133, Phoenix, Maryland 21131, specializes in old time rubber scale plans from kits and magazines, plus a series of original Peanuts and "Jumbo Peanuts." See "classifieds" for ordering information. The samples we examined are well drawn, easy to read, and wood sizes agree with call-outs. Color information is given, along with recommended prop and rubber size. ●

Workbench Continued from page 5

styles. Really, the most fun is emptying the cans before cutting out the required pieces!

AND SPEAKING OF CANS!

A little more on the serious side, we received the following letter quite some time ago, put it away, and just recently turned it up. The warning therein is very current. It comes from Lloyd G. Williams, Spring Grove, Pa.

"The pressurized cans used to power small paint sprayers and more recently to power retract landing gears, have some characteristics which should be understood by the user.

"The fluid in the can is usually Refrigerant 12. If exposed to 30° temperature, the pressure in the can will be 28.5 lbs.; at 80°, 84.2 lbs.; at 100°, 117.2 lbs.; and the pressure at 120° is 157.7 lbs.

"Note that above 80°, the can becomes more and more like a bomb. A can left in the sun and accidentally

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Best In Scale Catalog. 18 pages M.A.P. scale plans and 3-views. New Towner plans: 1/2A Tiger Moth, Curtiss SBC-3, 27¼" rubber B. P. Defiant, \$2.75 each. Bob Holman, Box 741B, San Bernardino, Ca. 92402.

Kirn reworked Tee Dee engines dominated winner's circle at the 1974 Nats! If you're really serious about 1/2A, fly what the champions fly. . . Kirn-Kraft left-hand Tee Dees, props, tanks, speed kits, accessories, etc. Send stamped self-addressed envelope for free complete list: Kirn-Kraft, Dept. M, P. O. Box 224, Anaheim, Calif. 92805.

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"Sailplane Designer's Handbook" - Performance, stability, aerodesign instructions, tables, charts, airfoils. \$4.96. Eric Lister, 953 Kleckner Rd., Trenton, N. J. 08619.

Model airplane plans. Peanut, rubber, CO2, gas. Free list. Send self addressed, stamped envelope to: Modernistic Models, Box 6932 Burbank, California 91510.

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kicked over, may cause considerable damage if the valve or can is ruptured.

"Pressurizing a retract system with a 'hot' can might cause hoses or fittings to blow loose or worse.

"One danger to consider is the fact that if liquid refrigerant is released from the can, the liquid immediately vaporizes and its temperature will be reduced to -21°. This liquid, sprayed on the human skin can cause very painful "burns," if sprayed in the eyes . . . instant frozen eyeballs.

"Incidentally, if you do considerable spray painting in your basement and the propellant "burns" in your furnace, it will release among other chemicals, hydrochloric acid, which will literally "eat" your furnace and associated combustion piping. You can always blame your wife's hairspray because it uses the same propellant."

SAD NOTE

Remember our unsuccessful attempt to distribute the Australian model magazine AIRBORNE? Shipping by air was out of the question costwise, and by sea was extremely slow, unreliable, and many copies arrived damaged.

We have just learned from an Australian friend of Bill Hannan's that Airborne's editor and chief motivating force, Ron King, passed away on August 16. The letter to Bill from Bruce Kennewell revealed an amazing story of courage and determination in the face of hopeless odds. Ron was a complete paraplegic and had been for several years after being hit by polio. He had developed a respiratory infection and did not recover. As a result, he could move no part of his body but his head. He typed by holding

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a probe in his mouth, using an electric typewriter. His wife did the majority of layout and paste-up. They had a special van with side-opening doors. Ron's bed was wheeled into the van and thus he rode to just about every modeling event in the Sydney (Australia) area. He had even started to fly a little R/C using a buddy-box system and a single-stick transmitter which he operated with his mouth! Death came after six weeks in the hospital. Ron's wife and Airborne publishers have not yet made a decision about the fate of the magazine.

CLUBS IN THE NEWS

Glenn Schautz, newsletter editor for the Lansing (Michigan) Flying Aces, writes to tell of the clubs participation in the Jerry Lewis Telethon against Muscular Dystrophy.

"The original intent was to have a general fun fly flying session in the parking lot with U/C planes. We would put up a hundred flights. We would solicit sponsors from the crowd for one cent per flight or two cents a flight, etc., and put the donation in a 'wishing well.' Unfortunately, the weather didn't cooperate and so we held an exposition inside the Mall. It worked pretty good there too. We flew Delta Darts and small rubber jobs for the crowd. Some pretty good flights too! A few of the members appeared on local TV for the presentation. The "Fly-A-Thon" resulted in raising \$73.43 for the cause."

As Glenn points out, activities of this type, in these days of diminishing flying sites, can be very helpful to the public image of our hobby, and all clubs should make every effort to become

involved in civic matters.

* * *

Five members of the Flying Dutchmen Aeromodelers Club from the Reading area of Pennsylvania went to Lakehurst, N.J. for the World Championships, and at least one came home with a feeling of having made a point for Russian-American relationships.

Stanley Sajdak was watching Ivan Tokarov, one of the Russian control line scale team members, in action, and through an interpreter, made a deal with the Russian to exchange hats. Ivan went home with a wide-brimmed farmer's straw hat, complete with AMA emblem, while Stanley returned to Reading wearing Ivan's competition hat with a Russian airplane pin on it. Others with Sajdak were club president Alvah Schaeffer, treasurer Bob Diefenderfer, and club members Lee Waninger and Stanley Sands.

* * *

The Goodyear Model Aircraft Club announces its 9th Annual Chapel Hill Static Contest and Display, to be held at Chapel Hill Mall, Brittain Road, Akron, Ohio. Dates are January 31, and February 1 and 2 of 1975. The following events are included:

Radio Control . . . AMA Scale, Sport Scale, Pattern, General, Pylon (Form 1 and 2, Quarter Midget), Gliders, Sport Biplane, Helicopter, Competition Boats, Scale Boats, and Sport Boats.

Control Line: Scale, Fuselage and Profile.

Free Flight: Tow Line Glider, Gas Power, Scale Gas, Rubber Flying Scale

and Rubber General.

There'll also be awards for Best Paint Finish, Best Monokote Finish, Best of Show, and Best Junior Models.

* * *

Don't forget the Annual Southwest Quarter Midget Championships on December 7 and 8, hosted by the Chula Vista (California) Model and Radio Control Club. Write to Ramzi Thomas, 3716 Duffy Way, Bonita, Ca. 92002 before the November 25 deadline, giving AMA No., frequency, and FCC license . . . also your name and address, dummy!

If you have any questions, contact Ramzi at (714) 479-7748, or Bob Nickle at (213) 593-8411.

DO US A FAVOR

You'll note a new message at the bottom of each page of MB that contains advertising. It is truly a great help to us if you'll mention that you "saw it in MODEL BUILDER" whenever you contact an advertiser. If you write, be sure to use the complete address, as quite often it is key coded to indicate which magazine you were reading when you were inspired to write in.

In some ads you'll see "Joe Blow's Models, Dept MB," or "Dept. MAN," or Dept. AAM" . . . guess which one is us! What's really frustrating is when a modeler says he'd rather cut a coupon from another magazine so as not to mess up his copy of MB! Hey, thanks for the compliment fella, but the advertiser gives the credit to Brand X magazine for getting him a potential customer! Use a Xerox copy of MB's ad, or just write without the coupon but whatever you do, "Tell 'em we sent ya!" ●

ON TOP OF THE PROBLEM

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