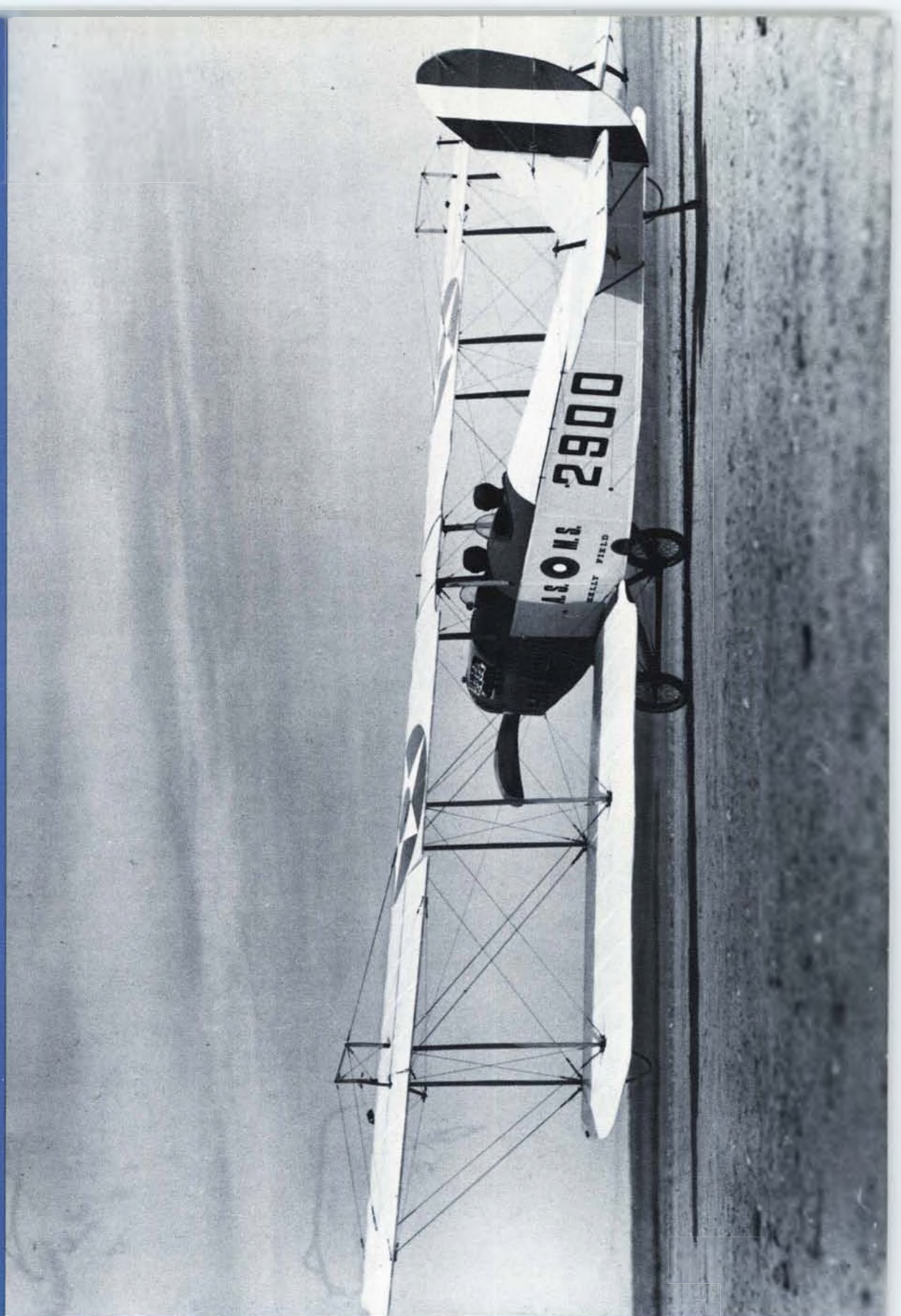


The **MODEL BUILDER**

AUGUST 1972

65 cents

volume 2, number 10





CARL GOLDBERG

ACCESSORIES

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PREFERRED BY THE EXPERTS!

NEW! 1972 MODEL CG RETRACTS

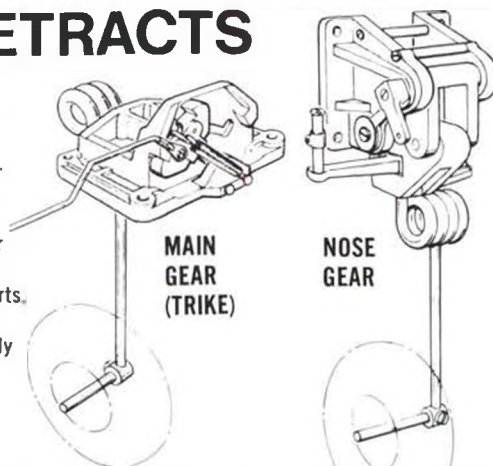


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TWIN
GEAR
DESIGN**

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TWIN GEAR Retracts — RG2 — \$9.95
TRI-GEAR Retracts — RG3 — \$19.95

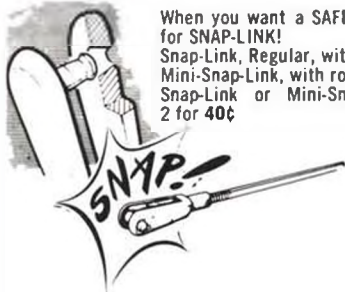


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(TRIKE)**

**NOSE
GEAR**

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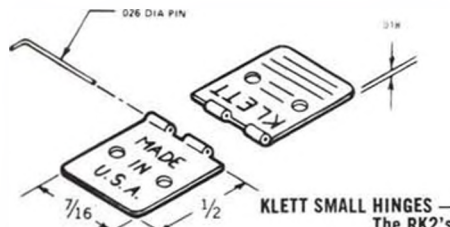


When you want a **SAFE** link . . . ask for **SNAP-LINK!**
Snap-Link, Regular, with rod } 29¢ each
Mini-Snap-Link, with rod }
Snap-Link or Mini-Snap, less rod } 2 for 40¢

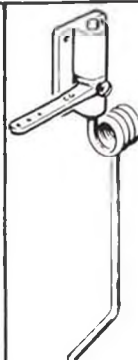
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R/C Fittings Set No. 1 for ship with standard ailerons—\$3.50
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Designed and Manufactured by Roy Klett, Originator of the World-Famous RK Hinges!
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STEERABLE NOSE GEAR

Versatile — steering arm can be to either side, or slightly up or down, or mounted on bottom with extra collar in slot. Steering arm is nylon, stiff enough for good control, yet can flex under shock to protect servo. Collar is hardened steel—won't strip like brass. Screw is hardened steel, too. You can really torque it and get good grip on music wire strut without a flat.

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NYLON STEERING ARM
Hardened steel collar and screw—75¢.



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One-piece design mounts to firewall without alignment problems. Includes blind nuts, screws and washers—75¢.



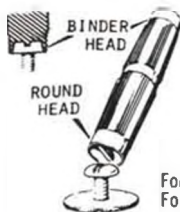
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Our new horns have the upright part rising from the center of the base for maximum stability. Holes are right size for ¼" wire; nut plate for simplest mounting. Long horns or short horns, with screws—50¢ for 2.



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This nylon reinforcing tape is extremely tough when applied with epoxy around the center when joining wing halves. 2½" wide x 5 ft.—50¢. ¾" wide x 5 ft.—25¢.



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SOCKETS DOWN ONTO SCREW HEAD — CAN'T SLIP OFF AND DAMAGE YOUR WING!
Takes Round Head Screws and Binder Head.

KLETT SAFETY DRIVER

For ¼" Nylon Screws } 98¢ each.
For #10 Nylon Screws }

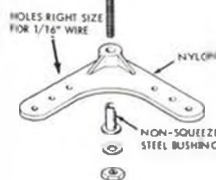
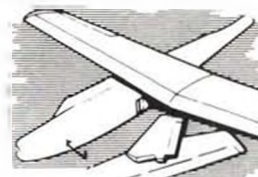


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Made of nylon, this new set provides smooth ½A control line operation. Easy on dacron lines, too —25¢.



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Like wood screws, but better. Sharp, clean, full-depth threads, hard and strong. Excellent for mounting servos, etc. Includes washers—#2 x ¾—30¢ for 10; #4 x ¾—30¢ for 8.

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*The Academy of Model Aeronautics—a non-profit organization, organized in 1936; guided by regional officers elected from among the membership. National headquarters is in Washington, D.C. AMA members have privileges in other organizations: National Miniature Pylon Racing Association (NMPRA) open only to AMA members. Membership in the Nat'l. Free Flight Society (NFFS) is \$1.00 less to AMA members. All AMA members are automatically part of the National Aeronautic Association (NAA) and the Federation Aeronautique Internationale (FAI); may become voting members of NAA—with other special benefits—for half price, and may obtain an FAI sporting license for international competition.

Liability Insurance is included with all AMA memberships. Bought separately, this insurance would cost more than the adult AMA membership fee. Coverage is for \$300,000!

Competition Privileges: All AMA members are licensed to enter the National Model Airplane Championships and all other non-restricted meets (over 500 each year—fun-flies, local, state and regional meets, and record trials); to establish national and international records; to compete on U.S. teams in World Championships (two held per year).

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TO JOIN AMA USE THE FORM BELOW: AMA membership ends each year on December 31, regardless of the date a membership application is received. Late-year membership policy is as follows: those who apply between August 1 and September 30 pay full one year rate, but will receive half-year credit toward the next year's membership—they must, however, use this credit by July 1 of the next year; those who apply between October 1 and December 31 pay full one year rate and receive full membership for the following year, plus whatever days of membership remain in year of application.

APPLICATION—1972 A.M.A. MEMBERSHIP

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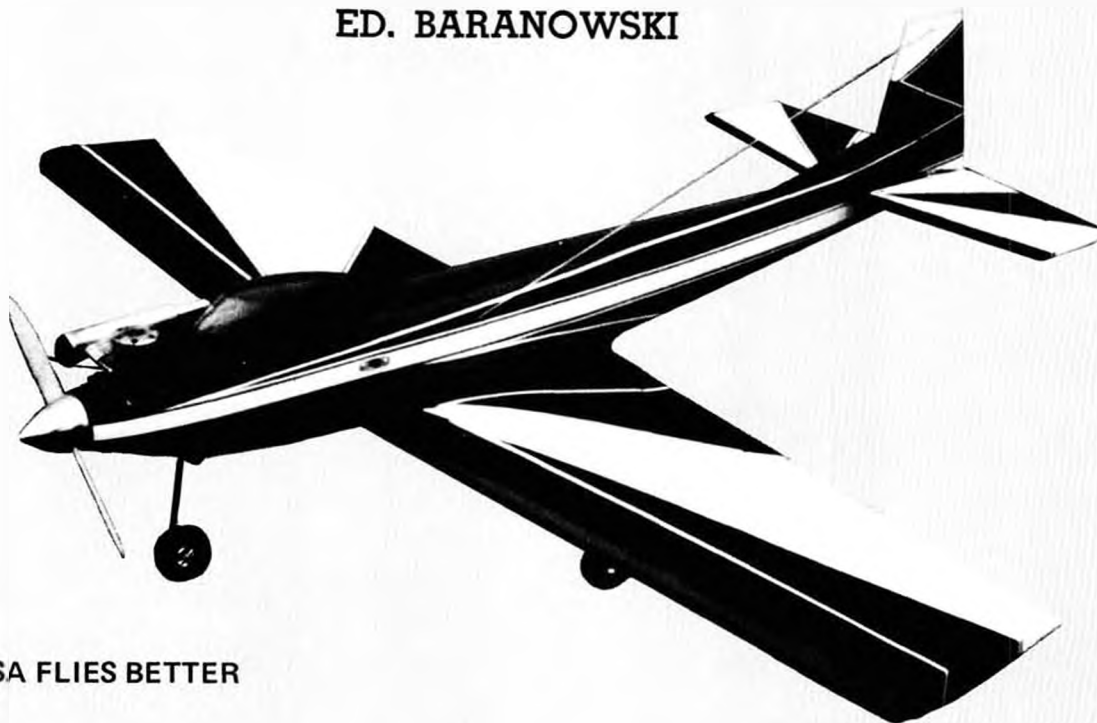
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SPECIFICATIONS

- Wing Span 58"
- Wing Area 625 Sq. In.
- 61 Engines
- Flying Weight 6 lbs.

KIT \$ 49⁹⁵
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The MODEL BUILDER

AUGUST

1972

volume 2, number 10

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Cover: Brad Allen, Sacramento, California, built this 2-1/2" scale Curtiss Jenny, which spans 9 feet, weighs 11 pounds, is powered by an HP .61 front rotary engine, and carries a Kraft radio. Plans were developed from Nieto drawings. B ad says it lies like the real thing . . . SLOW!



Another member of the Big John Society is heard from! This one, resplendent in its red, white, and blue finish, was built by Bob Milne, Roxboro, P.Q., Canada. Bob's son wants a ride!

from **Bill Northrop's workbench . . .**

WHAT NOW, LITTLE BUDDY?

● On Friday evening of the big MACS Trade Show, Convention Center, Anaheim, California, a few weeks ago, the Academy of Model Aeronautics held a meeting which was open to the public. On hand for the affair were the two Big Johns of AMA; the President, John Clemens, and the Executive Director, John Worth. They're also known, respectively, as "Free John" and "Pay John" . . . Clemens was elected, Worth is the top paid member of the permanent headquarters staff.

Following the meeting, a group of us went to a local "Greasy Spoon" (When you run a restaurant near Disneyland you can get away with murder!). The group included the two aforementioned Johns, Dist. X V.P. Alex Chisolm, LSF President and MB's Editorial Assistant Le Gray, plus this writer and wife Anita.

As might be expected, with Clemens around, the jokes and "Texas Tales" flowed rapidly. The topper, however, came from John Worth. . . Ask him to tell you about the guy who wanted half of his brain removed but the surgeon goofed and took out two-thirds instead.

Of course, the conversation, as usual, got around to the problems of running a huge organization such as AMA. And at one point, we took the opportunity of asking John Clemens a question about which we had been thinking for some time . . . Would he like to be AMA President for two more years?

We had several reasons for asking this question, but most of all, realizing that an election for AMA President would be coming up in the fall, we had started thinking about possible nominees, and by comparing each one with Johnny Clemens, we kept running into a stone wall.

The primary problem is that AMA has grown too big for the present manpower set up that depends on moonlighting officials as high as the office of President. In his almost two years as AMA President, Johnny has spent more time away from his personal business than he can afford. Monetary compensation couldn't make up for that time even if it was allowed by AMA. When you think about it, Johnny has really worked full time for AMA and part time for Johnny Clemens. How many people do you know who could not only *handle* the job of AMA President but could also *afford* it?

Frankly, Johnny's little Texas booties are going to be hard to fill, should he

decide to bow out. On the other hand, if he'll give us another chance to vote him in, we better by damn do it!

THINGS TO DO

NERCM, or New England Radio Control Modelers will be holding their NINETEENTH annual contest on August 26 and 27 at the Municipal Airport, Orange, Mass.

John Ross, long time leader in modeling activities and especially R/C, announces the above, and also points out that NERCM will introduce another first in competition, an event for R/C helicopters, to be held during this contest. Notice is kinda short to get the word out, but the helicopter rules, which will also be submitted to AMA as the



Brooklyn was never like this! Accompanied by the deep, gutsy roar of its Forster .99 ignition engine, Sal Taibi's Powerhouse takes off from Lake Elsinore. Spectators stop to watch.



The one and only Dick Korda, at a Cleveland AAHS dinner honoring him for being named to the AMA's Hall of Fame. Pylon Prints photo.



The famed Berkeley Sea Cat is still in service! Fred Sanford flies this one from Bemidji, in Minnesota. Enya .19, C-S 3 ch, 3 lbs., doped silk.

first set of national rules for such competition are summarized as follows:

No category separation at the outset, such as scale, semi-scale, legitimate, torque-reaction types, etc., except possibly a 0 to 10-percent-of-total-score bonus for scale types.

Flight score will be based on ability to takeoff and hover at 12 inches; climb to 10 feet over takeoff spot and move out and back in several directions, always returning over spot; rotate through 360 degrees; perform figure 8 at about 100 foot altitude; high speed pass at 10 foot altitude; and perform such scale operations as raise and lower rescue sling, pick up and release cargo, fire rocket and/or drop bomb, auto rotation landing to spot.

For more details, catch John at Sterling Drive, Dover, Mass 02030.

* * *

The 5th Annual Orange Coast R/C Club WW I contest will take place at Mile Square, Fountain Valley, Cal. (A few miles south of Disneyland) on November 12. Any WWI plane prior to 11-11-18 is eligible. Events will be

California Scale and Fun Fly. Contact Joe Tschirgi for info, at 1841 Whitestone, Santa Ana, Cal. 92705, phone 714-544-4735.

* * *

On Sunday, Aug. 13, from 9 A.M. to Noon, the North American-Rockwell Flightmasters will hold their second annual *rubber speed meet*. There will be three classes; scale, profile scale, and non-scale. Contestants will assemble at Russ-Craft Hobby Shop/Museum, 139 South "B" Street, San Marcos, CA. This will be FUN!

* * *

The MARCS Club of Mentor, Ohio will hold its 4th World Championships for Quarter Midget racers on October 1, at the MARCS home field near Mentor. Planes must qualify under QMPL rules. Write to C.D. Bob Penko, 21151 Westport Ave., Euclid, Ohio 44123, or phone 216-951-2220 for further details.

* * *

The Canadian R/C Nationals will take place on Aug. 5th and 6th at St. Jean P.Q. Municipal Airport (about 30 miles east southeast of Montreal.

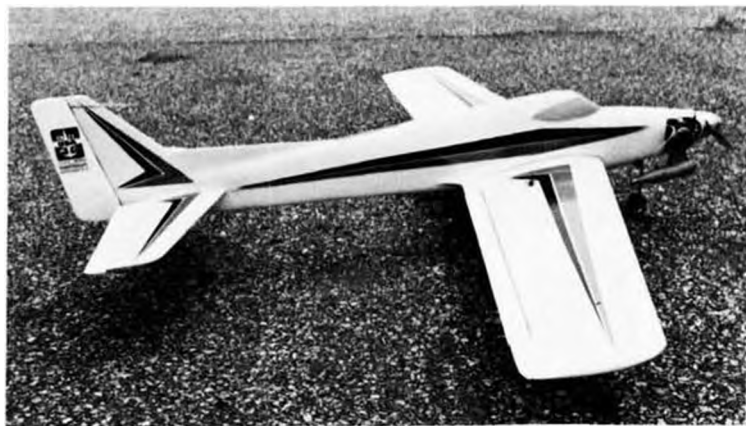
The contest will be hosted by the Model Aeronautic Radio Specialists (MARS Inc.), Montreal Radio Control Club, and the Escadrille Les Diablos Volants. Events will be ABC Pattern, Scale, and FAI Pylon.

* * *

The Fourth Annual Southwest Model Hobby Fair sponsored by the Oklahoma Science and Arts Foundation, will take place on October 28 and 29 in the Women's Building on the Oklahoma State Fairgrounds, N.W. 10th and May Ave., Oklahoma City. The exhibit area is 26,000 feet of floor space with all necessary facilities. Open hours are 10 AM to 6 PM Saturday and 10 AM to 4 PM Sunday. Two flight demonstration periods per day . . . Sounds like fun.

BOO BOO DEPARTMENT

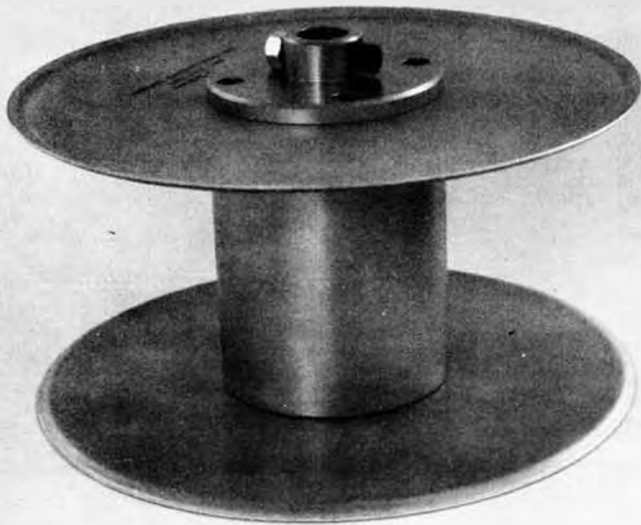
Last month we mentioned a book entitled "Beginners Guide to Building and Flying Model Airplanes." Through a typo error, it appeared that Harper and Row wrote and illustrated the book. Tain't so! Bob Lopshire did that part of it. Harper and Row *published* it.



Don Lowe's well known Phoenix-5 has been kitted by Long Island Hobbycrafts. Fiberglass fuselage, Glaskin covered flying surfaces.



Guenter-Wolsleger, Orange, Cal., makes these sleek fiberglass glider fuelages. Canopy, ribs, and plans with each. HP-14, AS-W15, Diamant.



Westlake Manufacturing Inc., Van Nuys, California is making this excellent, lightweight, gold anodized, aluminum drum for electric powered glider towing winches. Price is \$19.95.

Anyhow, every hobby shop should carry it . . . right next to The MODEL BUILDER.

THIS-N-THAT

Big John goes on and on. Our big ole biplane that was published in RCM in 1965 still crops up unexpectedly. Just received a letter and photos from Bob Milne, Roxboro, P.Q., Canada. Says there are several B.J.'s flying there in addition to his.

Bob plans to build a BD-5 scale job and wants to know about its flight characteristics. We kinda suspect that Mr. Bede would like to know too . . . if anybody happens to have that information!

Back to Big John, we also received a letter from John Carroll, Blackrock, Dublin, Ireland, who says the Dublin MFC has a brace (!) of Big Johns that are sometimes flown at full-size rallies, where they steal the show from the other

types, particularly when flown in formation! One of the latter flies on Orbit reeds at (get this) 10 lbs.-32 ounces and is the subject of a special insurance endorsement!

Bill Hannan said he couldn't wait 'til next month to pass on this observation:

"Has anyone else noticed that the name of Bruno Giezendanner's championship winning model sounds strangely like a Japanese Chevrolet."

Guess the main difference between them is the number of cylinders in the engines.

* * *

Looks as though we better arm our planes with live bombs and start fighting back!

Following the photo of Don Coleman's plane with a .22 caliber bullet hole in the rear fuselage, comes a report that in Everett, Washington, Wayne

Haring's plane was literally shot out of the air as he was flying it over Everett Junior High School playground. The newspaper reported this as the first anti-aircraft fire victim in Everett's history. Some joke.

* * *

On June 10, Cleveland, Ohio's Chapter of the American Aviation Historical Society had a dinner to honor Dick Korda, who has been named to the Academy of Model Aeronautics Hall of Fame.

Jim won the Wakefield Cup in 1939 when the finals were in the US as a result of Jim Cahill's bringing the cup here by winning in 1938.

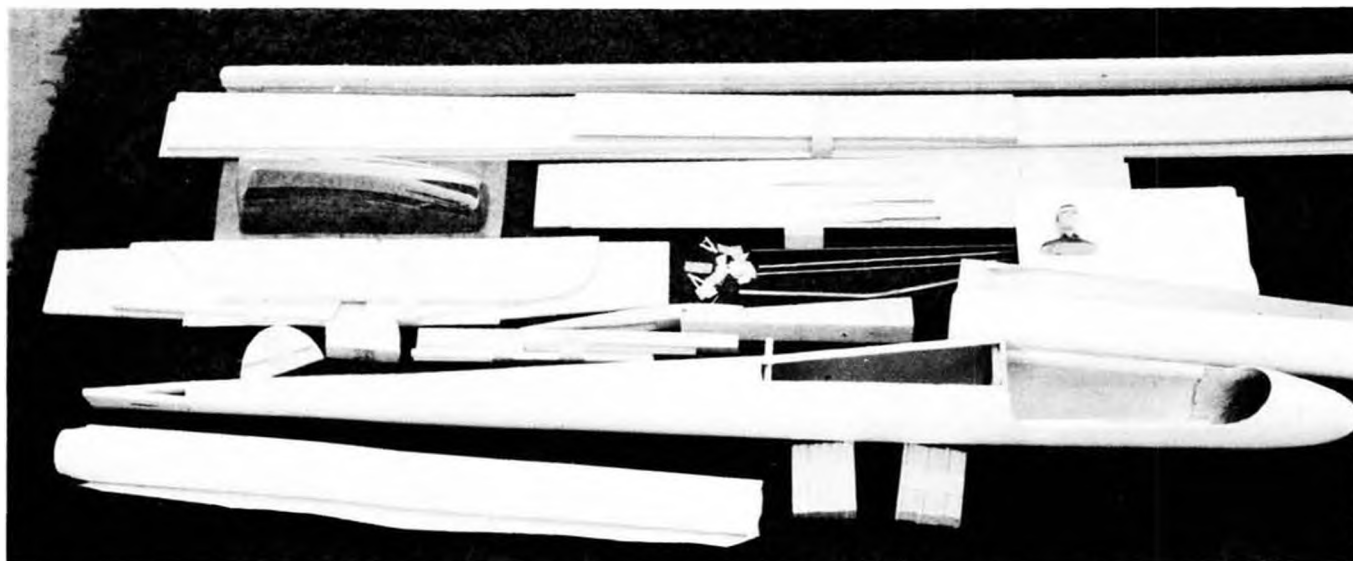
Korda's win is best remembered for the first flight of three, which just about sewed the whole contest up almost before it got started. The famous, large cross-sectioned design, with multi-spar wing and single bladed folding prop took off on its two wheeled gear and landed 43 minutes and 29 seconds later only a short distance from the takeoff point. The remaining two flights were only a couple of minutes, but the three-flight average came out to 15 minutes.

Dick Korda now flies his own full size Schwiezer glider and recently got back into modeling with a 2 channel radio in a vintage "Powerhouse".

OVER THE COUNTER

Received a note from Dwight Hartman, Hartman Fiberglass R/C, 233 Melrose St., Argenta, Ill. 62501, one of the pioneers in fiberglass for modeling. He sent the picture of Fred Johnson sailing his East Coast 12 meter yacht, which is based on the hull manufactured by Hartman.

Dwight says this is his 58th design in fiberglass, all of which are still available, including pattern, pylon, and sail planes, also many cowl sizes. Send him 24 cents for each of two catalogs describing all of the designs and parts for boats and



Paul Parszik's JP Models, Palos Verdes Peninsula, Ca., has added the 134.2" wingspan DART II to its line of gliders. Kits feature a fully assembled plywood fuselage with rugged fiberglass nose, all completely finished in white epoxy paint.

aircraft.

* * *
Westlake Manufacturing Inc., 14825 Aetna St., Van Nuys, Cal. 91401, has modified its anodized aluminum drum for electric towing winches. The revised model features an outside hub clamp so that the drum may be removed from the drive shaft without removing the tow line. This is particularly important if a line snarl develops, usually from backlash, in which case, during the rush of a contest, another drum could be substituted. Incidentally, this drum is less apt to cause backlash anyhow, because of its relatively low weight.

* * *
Long Island Hobbycrafts, Inc., 7600 Shore Front Parkway, Arverne, N.Y. 11692 (Phone 212-474-0879) is kitting Don Lowe's well known and respected pattern ship PHOENIX-5.

According to Hobbycrafts' Vice President, Richard Brooks, the kit is deluxe, featuring fiberglass fuselage and belly pan with firewall and engine mounts pre-installed, precovered in fiberglass (Glaskin) wing and stab, control horns, hinges, nylon wing bolts, strip aileron linkage, prebent landing gear, pre-shaped balsa ailerons, rudder, elevators, wing and stab tips, complete assembly instructions. Price is \$89.98.

* * *
Guenther-Wolsleger, 1024 N. Parker, Orange, California 92667, whose ad can be seen elsewhere in this issue, is offering three partial glider kits. By partial, we mean that each kit includes a fiberglass fuselage, molded canopy, and machine-cut ribs, along with complete plans and 3-views.

The 2 1/4 inch scale HP-14 (125 to 133 inch span) sells for \$35.00, while the 1/6 (2 inch) scale Diamant and AS-W15 are \$30.00 each.

The quality of workmanship in the fuselage and canopy is excellent. The fuse is finished in white gel-coat and can be used as is . . . with possibly a 1/8 to 1/4 wide striping tape over the joint. The canopy is clean and clear, and may be tinted in Rit dye for additional effect.

Incidentally, the HP-14, of which we have a sample, was designed by scale glider expert John Donelson, and besides being an excellent flyer, its scale accuracy will make it a top contender in this event.

* * *
The House of Balsa, 2814 East 56th Way, Long Beach, Ca 90805, is offering Fred Reese's Quarter Midget Shoestring in kit form. The kit is all balsa construction, but features fiberglass tube wing spars, fiberglass cowl, and a formed plastic canopy. The price is \$32.95. Kit also includes plans, detailed instructions, 3-views and decals.



Bob Peck displays the second model in a series of Peanut Scales being produced by him and marketed by Aurthur D. Way. Of course, it's the 1931 Pietenpol "Air Camper." Ain't that cute?

The design meets all QM specifications, and the wing, which is available as a separate, do-it-yourself kit for \$11.95, is one inch thick at the root and is 10 percent thick throughout.

* * *
J.P. Models, 26557 Mazur Dr., Palos Verdes Peninsula, Ca. 90274 has added a second sailplane to its product line. The New Dart II is actually a stretched version (134.2 inch span) of the popular 100 inch wingspan Dart introduced last year.

The Dart II sells for \$55.50 as compared to \$44.95 for the smaller Dart.

Both feature a rolled, 1/32 plywood fuselage with a thick molded fiberglass nose. The fuselage comes completely assembled and finished in white epoxy paint, making it more than comparable to a fiberglass fuselage.

Tail surfaces are sheet wood cut to outline shape. Lightening holes may be cut in them if desired. Wings are conventional construction, employing spruce spars, sheeted leading edges and machine and die-cut ribs.

Wing loading on the 134.2 inch Dart II is 7 oz./sq. ft., with an 8 ounce radio. ●



One of many fiberglass products from the 11 year old Hartman Fibreglass R/C Company is the hull for this East Coast 12 Meter yacht. The one shown is being sailed by Fred Johnson, Paris, Ill.



The business end of Steve Whitman's open-spinnered, 1937-38 Bonzo. The boxy but clean and simple lines were his trademark.

STEVE
WHITMAN'S

BONZO

by
FRED
STEFFEN

A good looking and excellent flying semi-scale model of a famous racer's famous racer. Suitable for Formula II and FAI, you can also bolt in a .60 and be legal for Open Pylon. Take yer cherche!

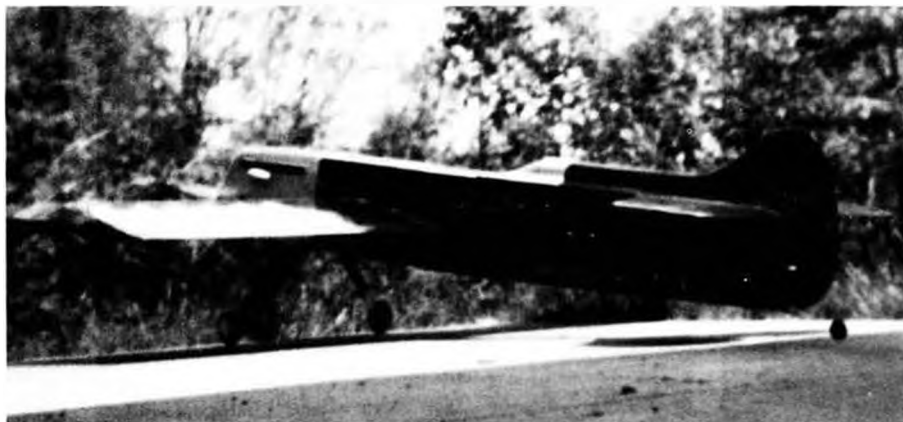
● The imaginative home-built aircraft flown during the Golden Age of Air Racing by the most skilled and daring pilots of the day will always be my special favorites. Many combinations of airplane and engine were tried to gain the biggest prize of all, the Thompson Trophy. The Trophy was presented to the winner of a closed course pylon race for aircraft of unlimited specifications. By the late '30's, the race had evolved into a 20 lap grind around a 15 mile course.

About 1934, Steve Wittman, who had already achieved considerable suc-

cess designing and racing smaller aircraft, decided to go after the Trophy. His approach was to wrap an extremely simple box-like airplane around a 1145 cu. in. Curtiss D-12 engine. The result was Bonzo, often referred to as the Flying Barn Door. Bonzo began life with a conical spinner and rectangular radiator mounted external to the cowl. A multi-strutted landing gear was attached to the fuselage and engine mount. By 1937, the patented Wittman single leaf spring landing gear was installed and a new radiator was fitted around the propeller shaft behind a

flow-through spinner containing fan blades. This spinner-radiator combination was the most successful cooling arrangement used on Bonzo, but the rather flimsy open-nosed spinner continually gave cause for concern. So in 1939, the spinner was removed completely and the formerly unpainted aluminum cowl and upper deck was painted red to match the rest of the airplane. This is the version which is on display at the EAA Museum at Hales Corners, Wisconsin.

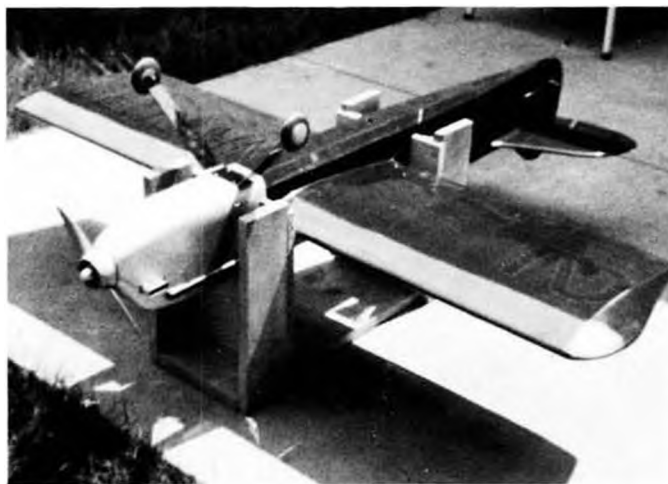
Primarily because of cooling problems, Bonzo never won the big race, but



This view accentuates the extremely simple lines of the Bonzo. Ship is exceptionally stable, even at the slow speed required for no-bounce, 3-point landings.



Cowl and hatch removed, it is possible to see the air ducting to the rear-rotary carburetor.



Except for the silver painted cowl, as on the 1937-38 Bonzo, the model is all red Monokote covered. Wing is 15 percent thick.

was the fastest qualifier in 1937 with a speed of 259.11 mph. Bonzo finished 2nd in 1935, 5th in 1937, 3rd in 1938, and 5th in 1939. Excellent 3-view drawings of the real Bonzo by William Kerka can be obtained from American Air Racing Society, P.O. Box 121, So. Euclid, Ohio 44121 for \$2.00.

The model racer presented here most closely resembles the 1937-38 open-spinnered version of Bonzo. It was designed primarily as a Formula II and F.A.I. pylon racer, but the 15 percent thick, 610 sq. in. wing permits it to be raced as a .60 powered sport-pylon ship as well. I have not as yet tried the latter, but I expect it would be a real threat.

To maintain the scale appearance of the low-aspect ratio, long fuselaged Bonzo, the wing was made as short as the rules allow, namely 50 in. With an area of 610 sq. in. required, the aspect ratio turns out to be about 4 which compares well with the real Bonzo's 3. The fuselage was then made as long as I thought weight and drag would permit. This also helps to make the wing appear shorter than it really is. Fuselage height and width were tailored to meet the model racing rules.



Although the wing sits high in the fuselage, the radio compartment still has plenty of room.



Fred's model closely resembles the famous Golden Age racer which is now in the EAA Museum at Hales Corner, Wisconsin.

Last summer, Bonzo was 3rd in both the Chardon 500 and the Mentor Firecracker 500 Formula II races and 4th in the Wright Brothers Memorial F.A.I. event. Incidentally, the model has not had cooling problems.

FUSELAGE CONSTRUCTION

The fuselage is a rather conventional plywood and balsa box structure. However, dummy stringers are glued to the sides and bottom of the box to give the appearance of real stringers and longerons when the structure is covered. The fuselage is begun by splicing the 3/32 inch plywood forward fuselage sides to the 3/32 inch balsa aft fuselage sides. If 3 inch wide balsa is used, longitudinal splices will have to be made in several of the balsa parts. The fuselage sides are then joined, upside down, using the 1/4 inch balsa top, the 1/4 inch ply firewall (laminated from two pieces of 1/8) and the 3 plywood bulkheads to square up the construction. If a Tatone engine mount is to be used, the front bulkhead should be tilted back about a degree so as to align the thrust line with the fuselage centerline.

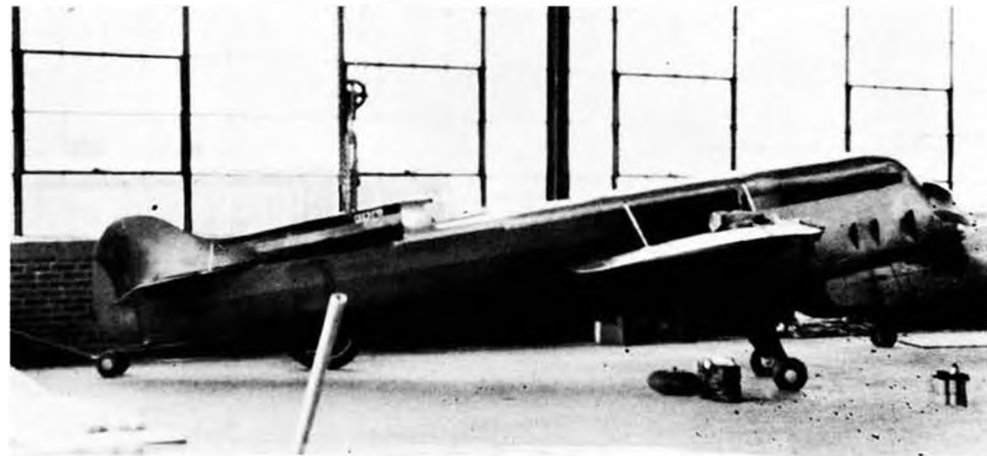
The original model has longitudinal maple servo rails running the full length

of the radio compartment, which makes the fuselage very rigid and crash resistant. KPS-9 servos are mounted across the rails.

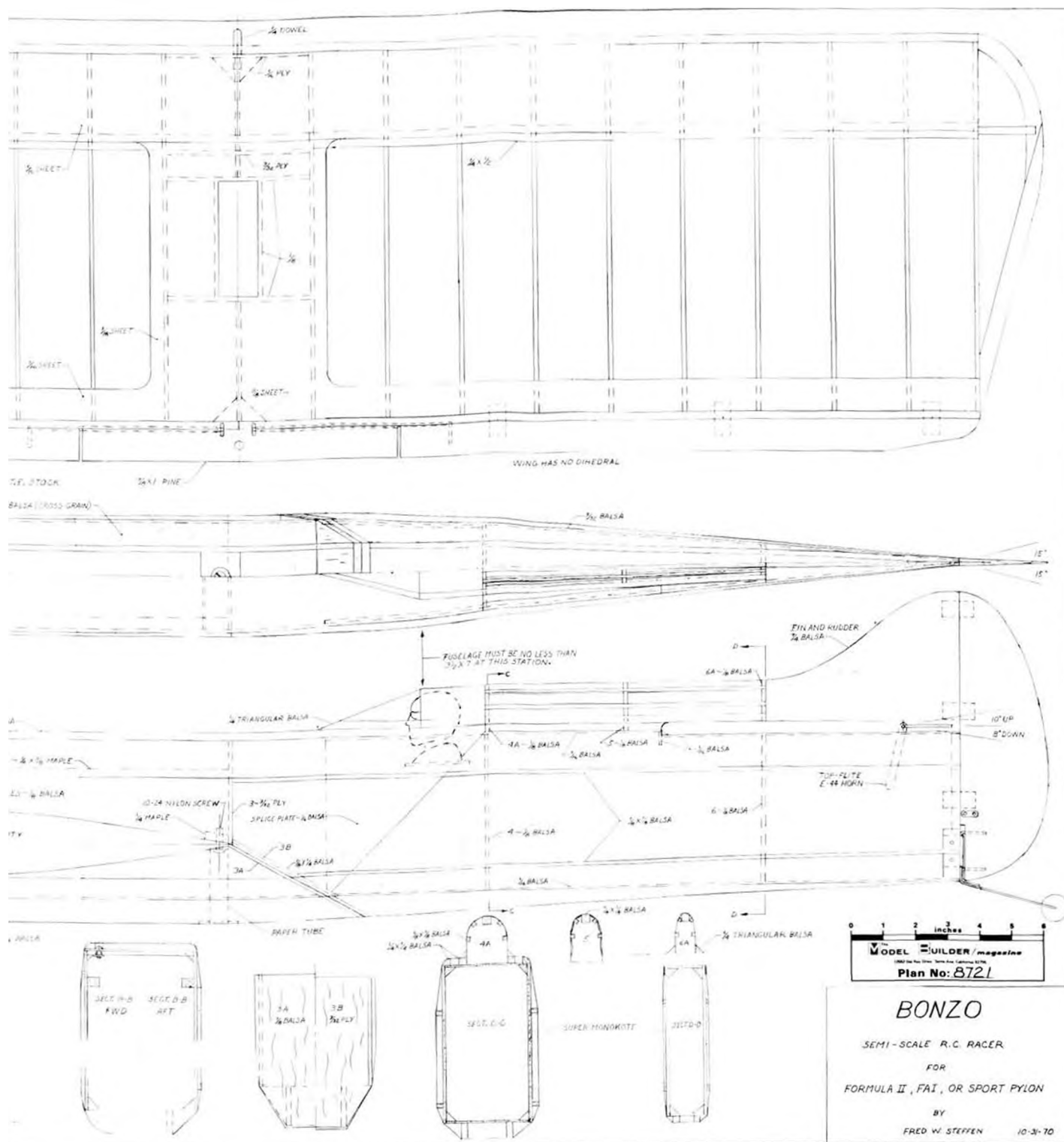
The aft balsa bulkheads are then inserted and the fuselage sides joined at the rear. Install the elevator and rudder push rods before attaching the aft fuselage top and bottom. Balsa blocks and 1/8 inch sheet are used to shape the fuselage in the tank area.

In all of the fuselage, liberal use is made of triangular stock corner bracing. This is not shown on the drawings since it was felt that the extra dashed lines would obscure the basic structural members.

A large chunk of pine, cut from a 2 x 4, is installed in the aft end of the tank compartment for the landing gear mount. A 1/8 inch plywood plate is attached to the pine with flat head machine screws and blind nuts. The heads of the screws are countersunk into the plywood. The hardened aluminum landing gear is attached to the 1/8 inch plywood with round head machine screws and blind nuts. When the landing gear meets with a strong fore or aft resistance, the shock will pull the plywood



How about those wheels! Look like Wms. Bros. 5" contours! And note the starting batteries. Wonder if they used a Tatone Chicken Stick! Detailers note louvers and wing and stab wires.



tank was pressurized from a fitting in the upper left hand corner of the engine backplate. The tank compartment lid is attached with four 4-40 screws and blind nuts.

The removable engine cowling is restrained with two 1/8 inch dowel pins fastened with a single 4-40 screw and blind nut at the upper rear. A standard glo-plug clip is inserted through the cooling air outlet for starting.

A 9x8-1/2 Top-Flite Pylon prop clip-

ped to 8-5/8 diameter was used for Formula II racing. An 8-3/8 diameter was necessary for F.A.I. fuels since a high compression head was not available to me. For F.A.I. racing, I would highly recommend a high compression head (if you can get one) and a larger diameter propeller.

A 2-1/2 inch diameter plastic spinner is adapted by epoxying the threaded nose in place and then cutting most of it away so that an electric starter can fit

within the spinner. For slightly more speed in F.A.I. racing, where realistic appearance is not very important, a full spinner could be substituted. I suppose one could defend this arrangement since the first flights of the real Bonzo were made with a full conical spinner.

COVERING AND FINISHING

The cowling and upper deck to the rear of the canopy are sealed and painted with silver dope. The landing gear was

Continued on page 54



NATIONAL **FREE FLIGHT**

Our columnist reports on the largest free-flight contest of the year . . . also the hottest . . . All results to fifth place. by Mel Schmidt



Andy DeMello, Quebec, Canada, launching his 1/2 A Nig Nog. A .15 for 330 sq. in., 13-1/2 oz.

● The meet that is destined to become classic in the free flight world is over for 1972. It reminded one somewhat of the AMA Nationals, only it was better. For example, the fences, trees and crowds were missing. What was there were lots of flyers representing many parts of the country, a large, spacious, thermal-laden field, and twenty-nine organized free-flight events. The press included The Model Builder, Model Airplane News, Flying Models, Competition Newsletter and the NFFS Digest. Frank Ehling, from AMA headquarters in Washington, D.C. was out to observe. At least two movies were made and the awards were shown on TV. The meet was organized and manned entirely by the eighteen free flight clubs of California. Al Vela and Gene Spence were the Contest and Field Managers. As Andy DeMello of Quebec, Canada put it, "I just had to come see what all the shouting was about."

One Southern flyer commented that piggybacking off of visible thermals should be outlawed. Many were truly visible because of the dusty and very hot conditions. Some were real "trash removers," picking up paper, plastic, bits of wood, airplane parts, cardboard boxes, etc., and sending everyone running to protect planes and/or hiding from the swirling dust cloud. Afternoon temperatures were over 100 degrees for all three days. This contest was very much a thermal game, with many available. Air conditions were solid lift at times, with treacherous downdrafts and thermals occurring in between. The evenings were fantastic, with over 125 campsites set up by Saturday night. The 100 degree weather Sunday took its toll of some of the less hearty modelers and their families, as there were about 100 campsites Sunday night . . . the heat drove the rest to the shade and the showers. Team Satellite had a real gang-



If there was such a thing as Olympic form in launching F/F power, this would have to be a demonstration of it. Bob Van Nest heaves.



"My God, it's hot!" Ralph Prey and his original C ship. Temperature over 100 every day of contest.



CHAMPIONSHIPS, TAFT, CALIFORNIA

style shower in the nearby town of Taft. The men put on trunks, the gals donned bikinis, and everyone had a squirting good time in the local car wash for a mere two bits!

The lift was very good Monday morning from 8 to about 11 AM, and then for about 3 hours, it was a matter of picking the air. As you'd expect at a meet this size, thermal sniffers were in abundance. George Xenakis was there with his recording drum detector. It works too, 'cause we saw George pick several boomers when the needle on the drum was going uphill like a rocket. Of course, other guys too were in the same thermal cause they piggy-backed George. George squeezed out 19:05 for 5th place in A-2 Nordic while Bob Van Nest took 1st with 30 minutes. Bob Van Nest and Bob Isaacson were in a flyoff for 1st. They each made a max after the meet was over so they went again. Wouldn't

you know it . . . the only two flyers on the huge field and they had a line tangle! However, both hooked into a thermal. Isaacson climbing high and fast. Van Nest bumped along near the ground. The outcome? Isaacson's model tightened up into a spin and wound in at 2:31. Van Nest maxed out. Crazy!

Another flyoff was in FAI power. There was Ed Carroll, Bill Hartill, and Ralph Prey. They had four minutes to get in an official flight with a three minute max. A small dust devil had gone through just before the start of the fly-off, prey went off first, but had a bad power run, and was down in 2:43. Ed and Bill both made their max. Finally, Ed Carroll eked out Bill Hartill by 14 seconds on the last flight to win. Bud Romak had a hot powered FAI ship, all auto surfaces, and he really had it working for him, but then he got his strings crossed and the auto surfaces triggered



Contest Manager, Al Vela. Judging by the relaxed smile, everything must have been in order.



Our F/F reporter and Dist. 10 AMA Contest Board rep, Mel Schmidt. Typical modeler . . . the batteries get the stool . . . not him. Plane is SHOCER, see Jan. '72 MB for plans. Son Steve (rt).



SHOC member Jim Waters gets his Wakefield off for a test flight.



One of the many "Visible Thermals" (Trash Removers) that had everyone running for cover.



Walt Ghio and his 2nd place Wakefield. Metal motor tube takes impact of exploding rubber. in reverse order. Needless to say, he dropped that flight. Ronnie Young came in 4th with a design of Al Vela's. Tom Hutchinson and Ralph Prey were the only ones using fixed surfaces.

Pay Load was won by Bill Tracy with five maxes. Bill quit flying when Casey Hornbeck ground looped on his fifth flight attempt.

Unlimited rubber saw many blown motors and destroyed ships. Bob White totaled his on a test flight when it zeroed in. Bud Romak put it all together for a fine 26:51. Jim Quinn had a motor blow just after he launched it . . . instant rubble. Jim Scarborough was winding his "Pool Cue" when it too blew a motor. Damage wasn't too bad, but he chose to use his Coupe ship for a 3rd flight. Good choice . . . he got a max! Joe Bonang damaged his unlimited rubber ship so he got out his helicopter and flew it to 3rd place in Junior rubber and set a Whirlybird record in the process. How's that for a switch!

Wakefield was quite a battle with three men in the flyoff. Bob White won with 24:30. Incidentally, his ship is featured in the June issue of The Model Builder!

Continued on page 44



Ed Bellinger's winning Class C. The "G" stands for "Go" You're on your own for the rest!



Doug Galbreath and his Rossi powered FAI ship. He's the Seelig timer man.



Ken Oliver and his FAI "Keno". Ken is a Capitol Condor from Sacramento, Calif.



Jack Transue (he's with Dumas) launches his Cleveland Playboy. Placed 2nd in C Old Timer.



Nick Sanford, Santa Rosa, Ca. and his Anderson powered "Scram", from Flying Aces magazine.



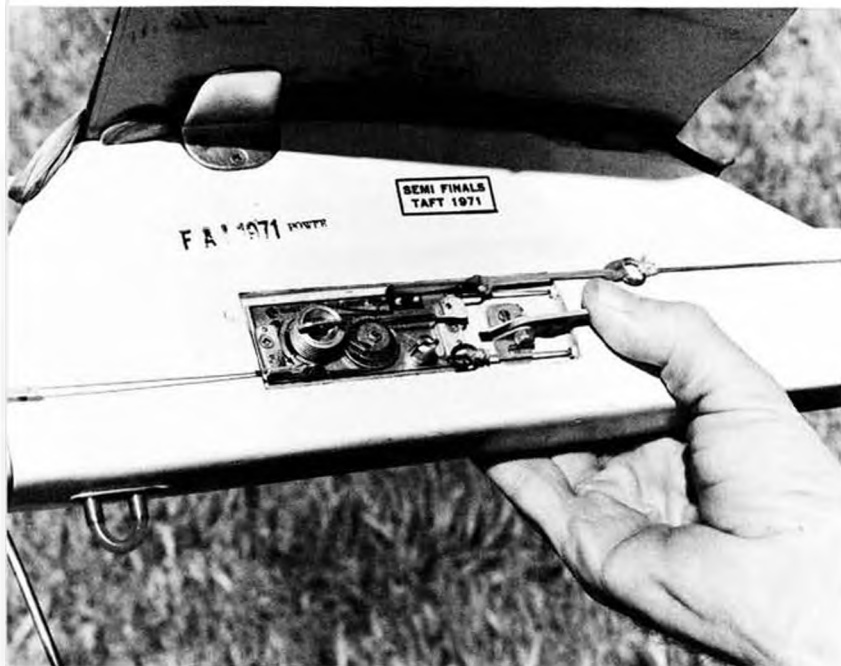
Miss America, in transparent red Monokote was O.T. entry by Roger Clark, Los Angeles, Ca.



Hal Cover tunes Super Cyclone ignition engine in his O.T. "Gladiator".

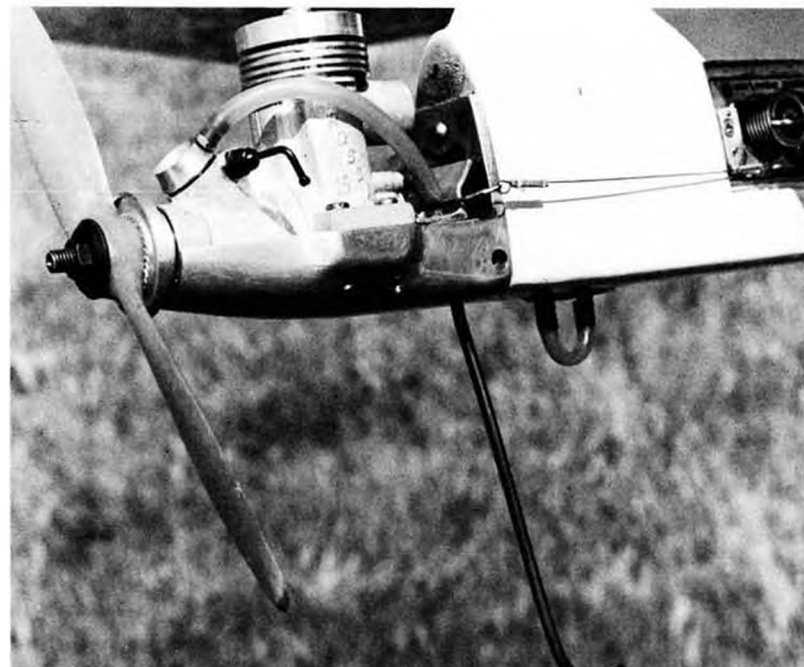


Looks like Hal is bowling a perfect strike! Note Zipper and New Ruler in background.



The four pictures on this page show close-up details of Bill Hartill's FAI Power model.

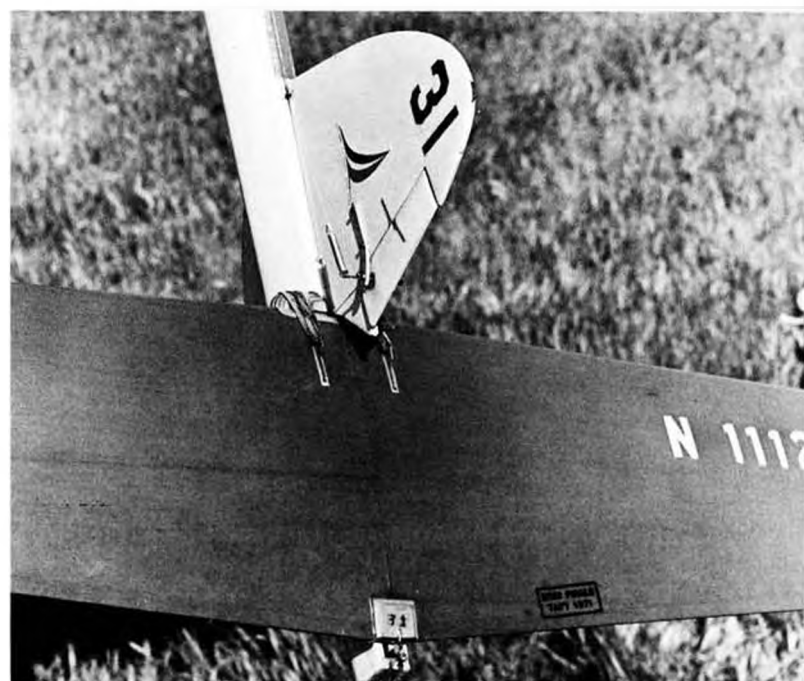
Left: Seelig timer is set up to operate fuel flood-off, auto stab, auto rudder, and D-T. Switch arm under thumb stops timer. With engine running, ready to fly, model is held with thumb on switch. Wire bail on service switch is then flipped, "arming" timer. On release, timer starts.



Right: Here's the "Go" department; Rossi engine, Van Nest fiberglass prop and cast aluminum, heat treated engine pan, also by Van Nest.



Left: Bill Hartill tuning engine, Russ Hartill holding Heathkit tach. Wing has Gottingen 123 section, with 1/16 top and 1/32 btm. sheeting. Monokote finish.



Right: Last part over the fence, showing the auto stab and auto rudder details. Fin is 1/8 frame covered with 1/32 sheet. Stab is 1/32 sheet covered top and bottom, finished in Monokote. Auto stab mechanism is toggle-controlled, rocking beam device. Adjustment screws and jam nuts are mounted in rear bulkhead.



How's this for public relations! The city of Bakersfield, California rolls out the welcome mat for the biggest race in R/C Pylon history!

PHOTOS BY CHUCK SMITH

pylon

By Chuck Smith

● The following contest report is from Ohio's Marv Kowalewski:

"The first United Pylon Racing Circuit contest was held on May 21 at Jamestown, New York. The contest director was Walter Johnson and the starter was Carl Malta, both from the Jamestown Flying Aces club.

"Forty two contestants raced in four events, the predominate being beginner and open pylon. It is felt that promotion

of future race enthusiasts is important, and this is noted in the prizes which were awarded to tenth place in each event.

"Some excellent times were posted in Formula II and it is believed that Marv Kowalewski set a Formula II record with his Miss B.S. at 1:37.4 and again at 1:37.8.

"A view of the times would indicate that some guys were going real fast but

had poor luck. A lean engine stopped Penry from a Formula I win and Landenfelt was just plain inconsistent.

"Perhaps the most exciting race occurred between DeBolt and Kowalewski. Flying thirty to fifty feet apart, both dived for the No. 2 pylon on the last lap. Kowalewski was ahead and simply gave no ground in the dive for the No. 2, DeBolt actually nicking the turf and breaking a prop. Mighty low diving attempt!

"All in all it was a fine season opener and there is more to come."



Local boy makes good! Clarence Neufield, Bakersfield, placed second, winning every heat and posting a 1:30.2 behind Bob Smith's 1:27.9. K & B's Al Strickland lends a helping hand.



Penford Racing Team, Dave Penry and MB reporter Marv Kowalewski, flew to fly! Jamestown, New York Formula I and II races.



Winner's circle at Bakerfield. Who said new judging system would promote sloppy work?



Don Singer on the Hot Line to John Brodbeck. Tom Pownall in back. Don's Minnow.



What do you do when you finally break 1:40? Smile a lot! Ron Schorr and Miss Dara did it.

RESULTS

FORMULA I

1. Hal DeBolt	'72 K&B	1:32.8
2. Kent Landenfelt	Tigre	1:50.8
3. B. Dart	K&B	1:54.8
4. Ernie Nickodem	K&B	1:59.5
5. Ed Mitchell	K&B	1:56.8
6. Dave Penry	HP	1:36.0
(Penford Racing Team)		

FORMULA II

1. Marv Kowalewski	'72 K&B	1:37.4
(Penford Racing Team)		
2. Dave Gierke	Tigre	1:54.4
3. Kent Landenfelt	Tigre	1:42.0
4. B. Derough	K&B	2:00.0
5. Hal DeBolt	HP	1:37.8

Ed Rankin sent these results from the May 28 Ft. Worth Thunderbirds' Formula I race:



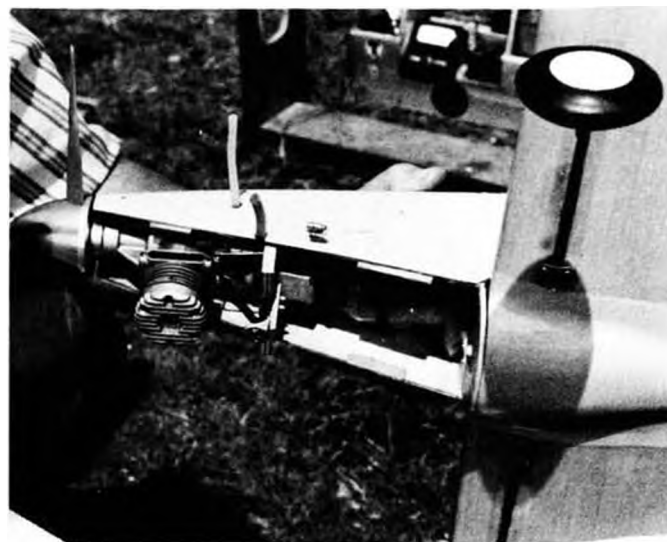
Broken Sharks never die, they get rebuilt by Harley Condra. This one a Stockwell castoff.



Pylon racing's top starter, Glen Spickler, and his assistant, Jean Christianson. They'll do the Nats.



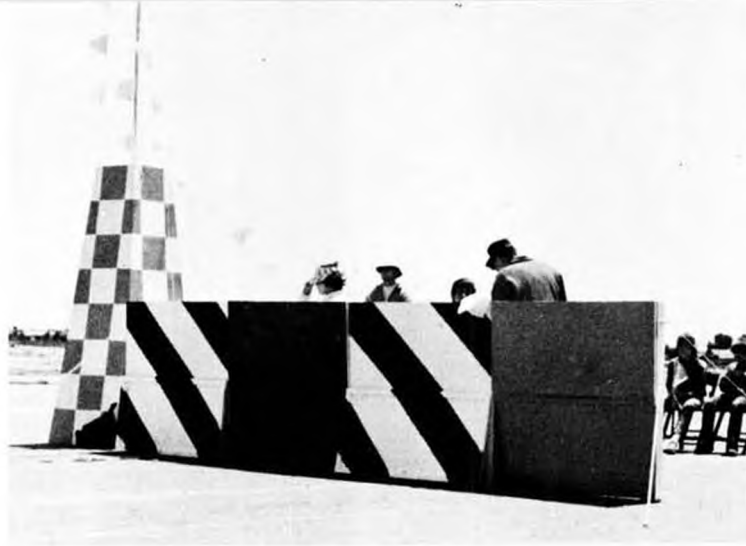
Hal deBolt, racing's eastern DOM, won at Jamestown, with this K&B '72 powered Mustang, 1:32.8. Hal is eastern rep for Orbit Electronics.



The "Go" department in Kent Landenfelt's Tigre powered P-40. Note the plumbing arrangement, vent and feed outlets.



Flagmen at No.1 pylon waiting for the arrival of their racers. Signal/barrier boards built by Bob and Chuck Smith. More info in text.



Upper portion of colored boards drop to reveal cut signal. Hinged at center, "latch string" pulls 'em up for next race. No visual problem!

RESULTS

Name	Aircraft	Engine	Time	Points
1. Jim Bertoglio	Ballerina	'72 K&B	1:47.5	23
2. Ed Rankin	Miss DARA	Tigre	1:36.5	20
3. Gale Helms	Mustang	Tigre	1:52.0	20
4. Ted White	Ballerina	K&B	1:47.2	20
5. Deeds Bigelow	Ballerina	K&B	1:51.5	19

The 1:36.5 is the first time that 1:40 has been broken in Texas, which is quite an accomplishment with 90 degree temperatures and 80% humidity. Ed turned this time in his race with Jim Bertoglio, which Jim actually won by 10 feet, but no time was recorded for him due to timer error. So Jim's best time with the new K&B was actually closer to 1:36.4.

On June 3-4 the BARKS of Bakersfield, California held what I believe was the largest Formula I race ever seen. A total of 95 pilots with 119 aircraft attended the meet under perfect race conditions at the Famosa airfield. Due to

the large number of entries, only seven rounds could be flown, but these seven rounds included a record number of 160 heats. This kept CD Glen Spickler and Starter Jerry Christianson (who will repeat their efforts for this year's Nats) and their extremely competent officials very busy. The BARKS have an agreement with the local boat club in which the boaters provide help for the aircraft contests and the flyers in turn help out at the boat contests. This system produced a list of workers longer than the average number of contestants at a normal Formula I contest. I think I speak for all California flyers when I express our gratitude to the BARKS for the effort they always put into their annual contest.

The task of scale judging the 119 aircraft was accomplished as swiftly as possible with Paul White's Minnow No. 1 and Bob Francis' new Shark (it looks

Continued on page 50



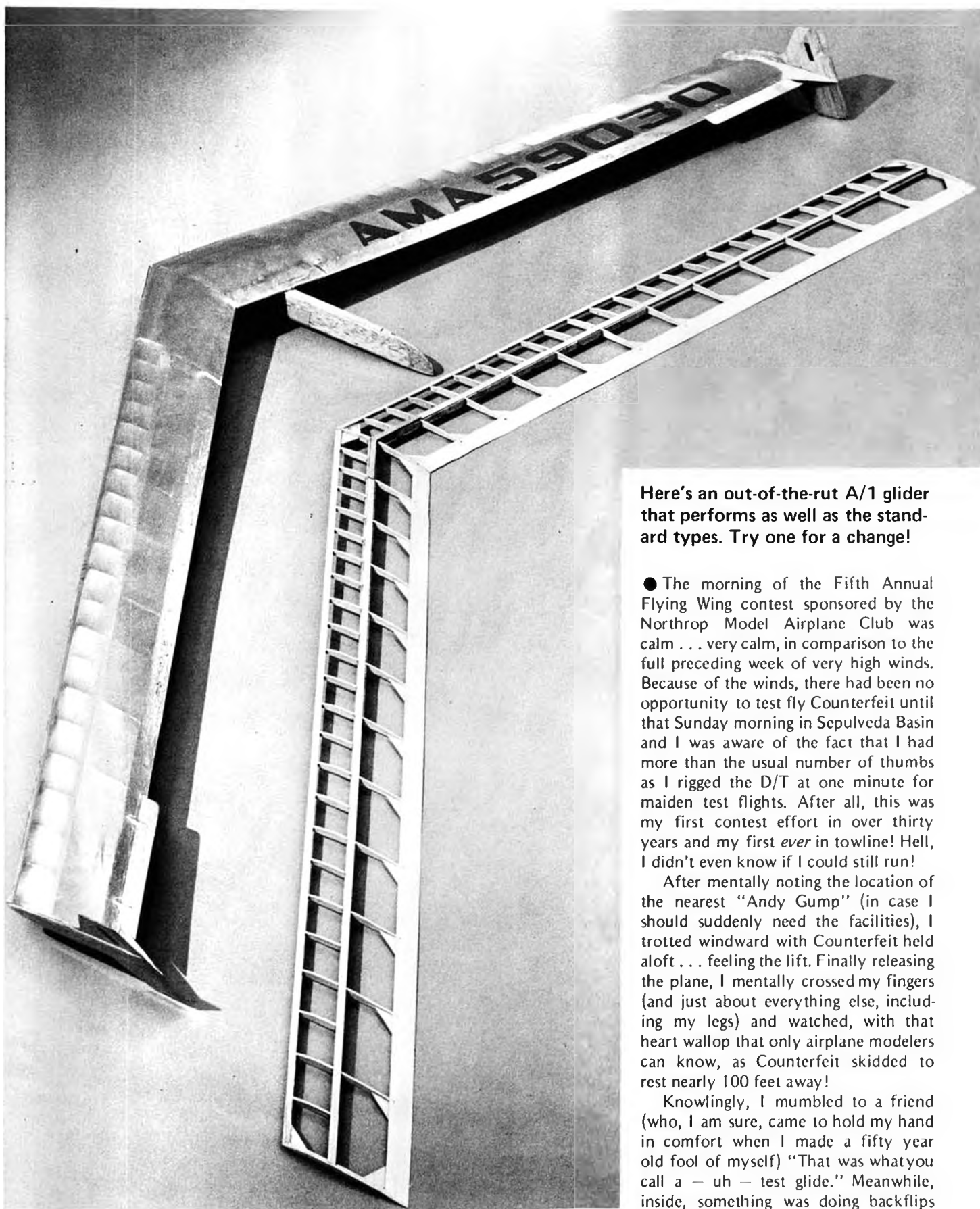
Pylons, also built by Bob and Chuck, give excellent protection to the judges.



Lap counters at start-finish line, equipped with hard hats and earphones. Note protective barrier in back. Boy Scout counters did great job under direction of head counter Jerry Christianson.

COUNTERFEIT

By Bob Provart

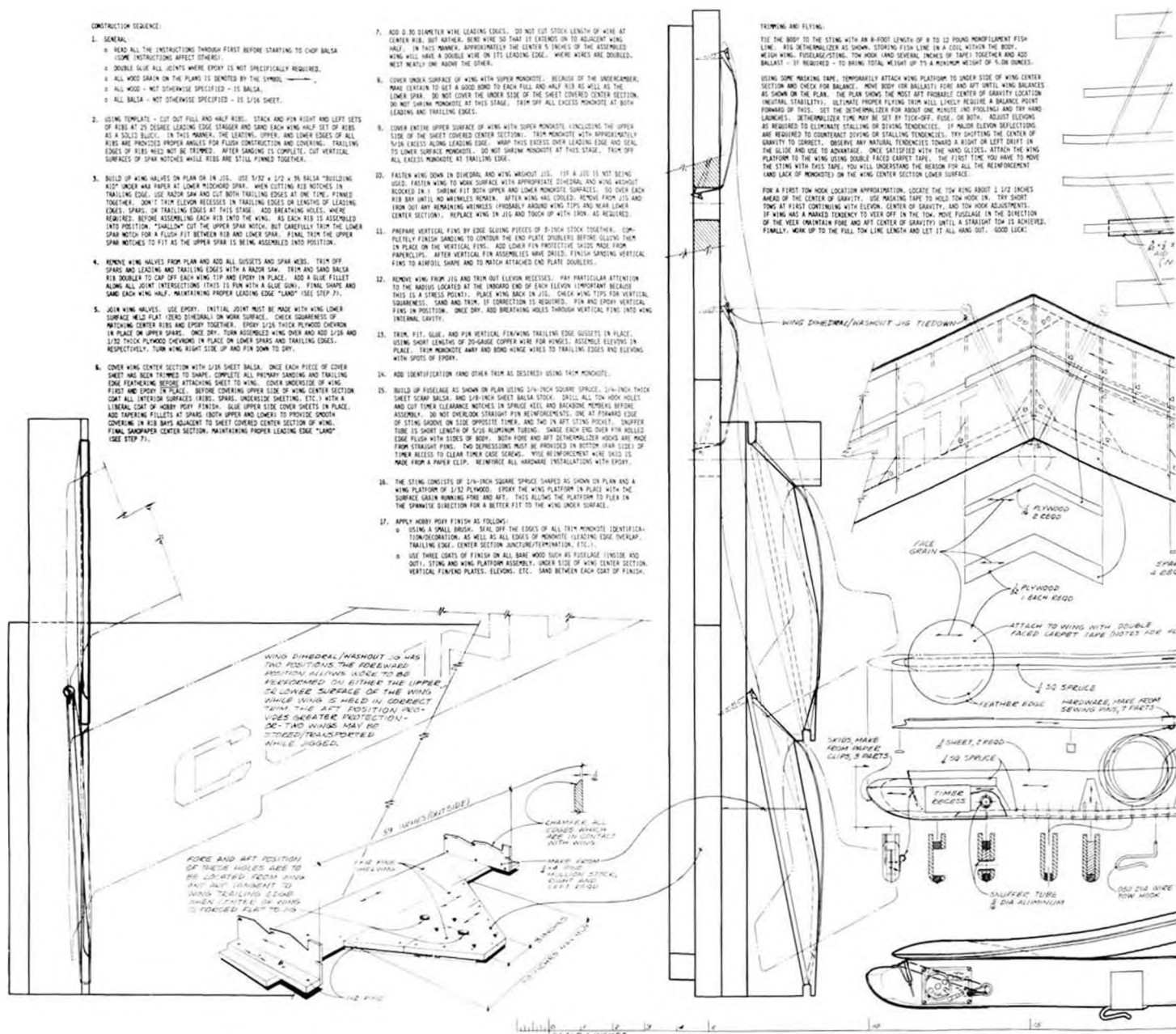


Here's an out-of-the-rut A/1 glider that performs as well as the standard types. Try one for a change!

● The morning of the Fifth Annual Flying Wing contest sponsored by the Northrop Model Airplane Club was calm . . . very calm, in comparison to the full preceding week of very high winds. Because of the winds, there had been no opportunity to test fly Counterfeit until that Sunday morning in Sepulveda Basin and I was aware of the fact that I had more than the usual number of thumbs as I rigged the D/T at one minute for maiden test flights. After all, this was my first contest effort in over thirty years and my first *ever* in towline! Hell, I didn't even know if I could still run!

After mentally noting the location of the nearest "Andy Gump" (in case I should suddenly need the facilities), I trotted windward with Counterfeit held aloft . . . feeling the lift. Finally releasing the plane, I mentally crossed my fingers (and just about everything else, including my legs) and watched, with that heart wallop that only airplane modelers can know, as Counterfeit skidded to rest nearly 100 feet away!

Knowingly, I mumbled to a friend (who, I am sure, came to hold my hand in comfort when I made a fifty year old fool of myself) "That was what you call a — uh — test glide." Meanwhile, inside, something was doing backflips



and triple summersaults and screaming "Something's there!" I realized suddenly that my throat had strangely and completely gone dry and I asked my friend if he had some gum. He was given some lame reason, like I might need it for ballast or something. His eight year old daughter sort of put everything in

perspective by providing a clump of grape flavored bubble gum... which I gladly accepted. After all, how are you gonna RUN all day with a towline if you can't work up any spit?

After a million (more or less) test flights, some lousy and some O.K., with various lengths of towline and various

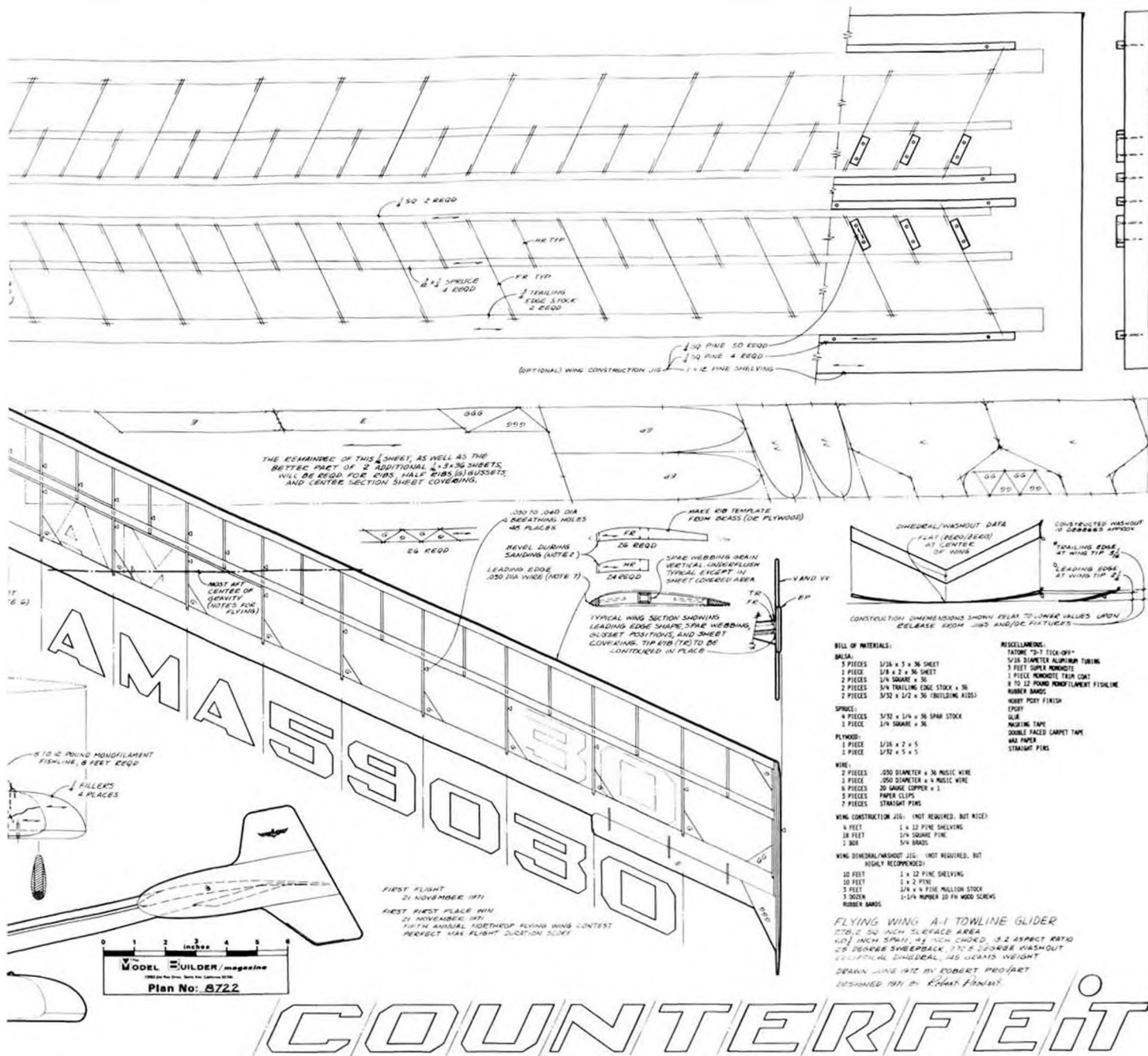
adjustments, the D/T was set to 1 1/2 minutes and a full length tow was attempted. A good release was accomplished directly overhead and Counterfeit picked into some nice air. As the wing lazily circled overhead, the field timer shouted "You should have made that an Official flight." D/T occurred at



Building and storage jig will hold two models at a time. If you have room in the family bus, it's also a good way to take 'em to the field.



Heating and shrinking the Monokote covering while wing is on jig provides the required dihedral and washout.



an altitude higher than release and my wife thought that Counterfeit had fallen apart in midair (she too, expecting disaster). Upon D/T the small fuselage galls away (tied by a length of fish line), unbalancing the model, which then comes down in a tight flat spin.

Aware of the flukes of lady luck, the process was repeated . . . with the same result! So I bit the bullet and called for my first official flight. It was now 10:30 and the contest closed at noon. Most of the towline fliers were on their third or fourth flight (out of six) and so far the best single flight to beat was 2:19 (out of contest maxes of 3:00 minutes).

The first official Counterfeit flight dethermalized at 3:17... almost out of sight. Because chrome Monokote covering was used, Counterfeit would flash

in the sun like a camera flashbulb and this kept the timer from "counting out."

The second max did not occur until the fifth flight (three poor launches . . . I'm a slow learner). Even the launch on that flight would turn the knowledgeable A-1 or A-2 towliner's hair grey, as I looped Counterfeit off the towline! *(That's the IN thing now, Bob! ED.)* Almost at a standstill at the top of the loop, and probably because a flying wing usually has a low moment of inertia in pitch, Counterfeit flipped over and commenced gliding at an altitude higher than that attained at towline release.

After a satisfying full day of running (let's see, college track was 28 years

Continued on page 55



Tatone D-T timer releases "fuselage" on 8 ft. monofilament line, making wing flat spin to ground.



Winners in "No Holds Barred" Quarter Midget races, San Diego: (rt) Paul White 1st, Minnow, ST .15; Sonny Meyers 2nd, Stafford P-51, O.S.; Henry Bartie, 3rd, Little Mike, O.S.

PYLON/4

By Fred Reese

● Last month's race held in San Diego by the San Diego Drones was an experiment in "no holds barred" QM racing. It was the first such race in Southern California and I think probably the last. There were no restrictions on fuel, engines or props, however many of the QMRC fliers flew by the club rules with stock engines, props and less than 15 percent nitro fuel (K&B 500) just to see what the difference would be. Let me say that there was a difference. There was no one who could keep up with Paul White's Minnow. His engine is stock but assembled from selected

parts and very carefully broken in. He used high nitro fuel and reworked props and made good use of his previous racing experience. Having tried it, we didn't like it and will use our regular rules for the next race.

One interesting note from the San Diego race was that Len Dean with his old Max powered Shoestring with a Mini Mambo wing almost beat Paul in one of the early heats. Paul said his engine was rich, but that wasn't the whole story. The San Diego course was short and Len could turn more quickly than Paul. Paul's speed was faster but Len

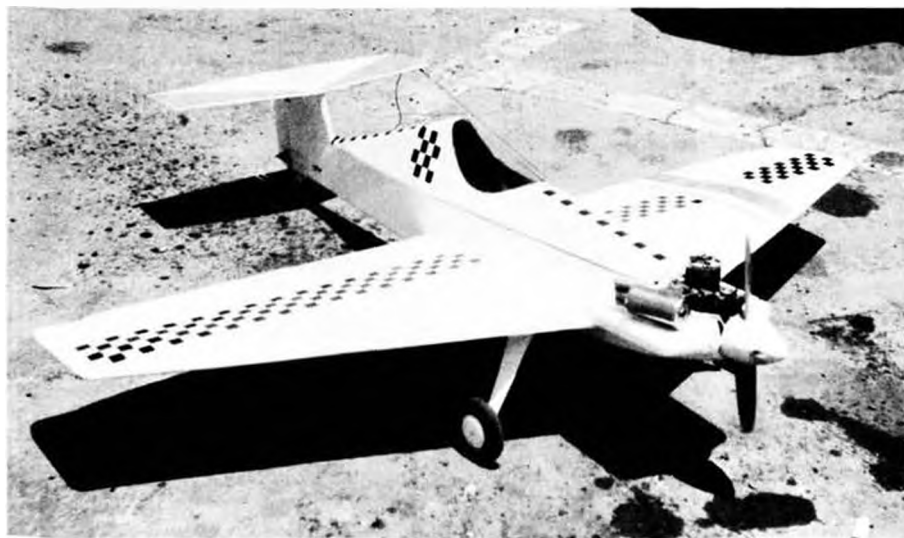
flew a shorter distance. Had the course been longer, it would have been no contest. The long 500 foot plus courses favor speed while the shorter 350 foot course tends to even things out, with the emphasis on piloting skill.

Last month I broke in a new Tigre .15 and made several important discoveries. Number One, the Tatone all metal test stand is the best way to mount an engine on the bench. I tried several wood mounts but all suffered from some vibration even with carefully balanced props. The Tatone test stand is well worth the \$4.95 price. Secondly the Tigre will break a 7 x 4 wood prop if it kicks back and gets you, so a Chicken Stick is mandatory. But, even more important, be sure you carefully check the prop each time it does kick back. Mine threw a blade once, but I was lucky and wasn't hit. Thirdly, if you use an electric starter, use a spinner. The pressure of the starter against the thin 7 x 4 props can crack the props and you won't know of the damage until the prop fails.

In the past I have not paid much attention to engine break in. I would run 3 or 4 tanks through with the engine rich and then go fly. My racing engines also run about 2000 rpm less than some others. I am changing my ways. Stock Tigres that are properly fit and broken in will turn a 7 x 4 prop 20,000 rpm on K&B 500 fuel. The secret is patience. The engine is run until it is ready and not just until you are ready for it to be ready.

Begin the break in with a balanced 7 x 4 and 75/25 fuel, such as K&B FAI fuel with no nitro, and run the engine very rich for 10 to 15 minutes, gradually increasing the rpm to where the engine starts to break into a two-cycle. For the next thirty minutes (or more, squeeze the fuel line every two minutes just long enough to bring the engine to peak rpm, then release. Continue running the engine, gradually increasing the rpm to a fast two-cycle. Do not progress to the next step until the engine will hold a maximum rpm needle setting without the rpm oscillating. Oscillation is easily visible on a Heath "Thumb Tach". The engine will go from 19,000 rpm back to 18,000 and then back up to 19,000 rpm. The difference is barely audible.

You can tell visibly if the engine is ready by checking the top ridge of the piston through the exhaust port between engine runs. As long as the top ridge of the piston is shiny (about .005 inches), continue running until the entire piston is dulled. The engine is now broken in to the FAI fuel, which means it is time



QM "T-Tail" Rivets from San Diego. Sorry, no further identification.



Dave Bates from Florida (!) raced at San Diego with this O.S. 15 powered P-39, scratch built from plans by Ed Nobora.



Bill McAlla built this O.M. Bearcat with ST .15. Best time is 2:42 on two mile course. Took first at Mansfield, O. Photo by Bob Penko.

to start adding nitro. Begin with a mild fuel of about 5 percent nitro, such as K&B 100. Each time the nitro content is increased, the engine must be run in again. Begin with a rich two cycle and squeeze the line until the engine will again hold a maximum setting without oscillating. The oscillation is caused by the piston expanding to the heat, whereupon it begins to drag and slow the engine . . . The engine slows, the temperature drops, the piston shrinks and the rpm goes back up. Again increase the nitro to your regular fuel such as K&B 500. Most QM rules limit nitro content to 15 percent. When the engine is running smoothly it is ready to race. This process takes about 2-4 hours depending on the engine. Be sure that you wear ear plugs during any engine break in or permanent ear damage may result.

Mount the newly run in engine in your airplane and with the SMAE prop, spinner and fuel, check the rpm. It should be the same as it was on the bench. If the engine loses rpm, the airplane is not absorbing all of the vibration. The front end of the airplane should be checked for loose mounting bolts or cracks . . . or it may just need beefing up.

My next point is one that I had hoped would not have to be brought up. Supertigre makes a G 15/19 for car racing. This is an RC engine that uses the same G 15 FI crankcase but the displacement of the engine is .19 cu. in. The bore is larger (16 mm. instead of 15 mm.) and the stroke is longer (16 mm. instead of 14 mm.). The point is, some unscrupulous hobby dealers are selling them as .15's. Also some fliers are seeking them out to use as .15's. Contest directors should pull the heads off of any suspicious Tigres and measure the bore and stroke. This should only take a few minutes and the loudest gripes will come from those who get caught.

LANCASTER, OHIO QUARTER MIDGET RACE

The first Quarter Midget race this season in Ohio came off real smoothly run by Jim Slater and the guys of the FORKS Club.

There were fourteen entries and several back-up planes, 2 bad crashes, no collisions, but only about half of the entries got in their required one landing with power on (plane must stop rolling with engine still turning over). Everyone we asked said they hadn't been having a

hard time making power-on landings, just bad luck. This knocked out about half the entries, so again we strongly advise using the new Quarter Midget Pylon League rule of a power-on landing after each heat but with a time or point penalty for failure to do so. (*The QMRC Idle Rule eliminates this anti-nose-over event. The winner should win in the air, not in a taxi contest. WCN*)

The list of pilots who had qualified was divided by two and the top man of the second half of the list was awarded "1st Novice." A good idea!

A couple of questions arose; one concerned two planes that were Goodyear racer types but without cheek cowl. The rules call for "semi-scale appearance." The interpretation here was that semi-scale called for prominent features of the prototype so the planes in question were required to install cheek cowl. This was done with tape (and their times decreased!)

So if you go to a Quarter Midget contest, have the major features on your plane, i.e., wings tapered if the real plane had tapered wings, turtle deck where required, midwing or low wing, tail surface outlined, cheek cowl on a

Continued on page 43



This P-40Q was built by Fred Johanson. Photo taken at Lancaster, Ohio meet by Bob Penko. ST .15 power.



Dick Weidner's Minnow. Ship was not legal until cheek cowl were taped on after photo was taken. Let's stick to the rules!



● This month, in answer to an avalanche of two requests, I'll discuss **ADVANCED TECHNIQUES FOR STUNT** (excerpted from my book "How to Fly U-Control"). **STYLE**

"The top competition stunt flyers all have distinctive flying styles, almost as if they were artists who leave their signatures on their canvas, except in this case it is the air. Many top flyers fly the maneuvers very large with rounded corners, emphasizing smoothness. (Detroit style) This is the style of 1970 World Champion Bill Werwage. Others, like many-time national champion Bob Giesecke, try to duplicate exactly the pattern maneuvers and altitudes in the rule book with razor sharp corners on squares and very slow flight (40-50 mph). (Texas style). This requires an exceptionally light, well-adjusted airplane, however, which is hard to build. Another style is best characterized as the "East-West Coast" style. This means a fast-flying (60 mph or over) model with snappy, but not always precise or smooth maneuvers — in the hope the judges will not detect little flaws due to the speed. Over the years, the Detroit and Texas styles have proven more successful because they do not place impossible demands on the flyer's reflexes and they can be judged and scored better because what they are doing is more discernable by the human eye. However, it is easier to build an airplane for the "Coast" style. I prefer a slow-flying plane (which means about 40-42 ounces for a .35 motor) with very sharp corners on square and triangular maneuvers, but with very smooth and large round maneuvers.

"Never do anything suddenly. Even when you are between maneuvers you should hold your five foot altitude smoothly. If you must climb to 45 de-

CONTROL-LINE

By Dick Mathis

grees to begin, say, the outside square, take a lap to descend to the five foot altitude again. That contributes to smoothness. In competition, every point counts and judges are human — so you should do everything you can to impress them favorably. Many think consistency is a highly desirable quality. I know of some top flyers who, if they happen to pull out a foot or two too high or low on their first maneuver, will adjust the pullouts of subsequent maneuvers to match the poor first one, on the belief that it will impress the judges more favorably. I doubt the value of this tactic. My study of judging shows that higher scores results from several brilliant maneuvers even if they are accompanied by several botched ones. In other words, it is probably better to be brilliant and inconsistent than to be consistent and mediocre.

IMPRESSION POINTS

"Top stunt flyers are funny (or human) in that they all try to get as many impression points as they can, but they rarely admit it and they criticize those who do it obviously. Their idea is to impress the judges in ways other than flying — like with your snazzy white jumpsuit that matches your airplane, or a pretty helper. It is up to you what you do, but keep this in mind. A sociological study I did on judging at the 1967 National Model Airplane Championships showed that the judges are most likely to score highest when they see something outstanding or unusual. What happens is the judge sees something that catches his attention and he overreacts to it compared to the monotony of the other flyers. The reaction may go either way — he may score much lower, or much higher. But chances are he will go higher. In my opinion, it is worth the risk to try to develop a distinctive presentation consisting of:

- (1) A personalized, interpretive pattern emphasizing what you do best.
- (2) A professional appearance on the part of you and your helper.
- (3) A distinctive airplane suited to your style.

- (4) Crisp, business-like procedure for setting up, starting, and leaving the circle.

What I am saying is — let your presentation be an expression of yourself. Don't hold yourself back. Then, the likelihood of it becoming the inspired, excellent kind of performance that wins contests will be greatly enhanced.

WHEN TO FLY IN COMPETITION

"When you have a choice, follow these general rules:

- (1) Try to be the last to fly (judges usually get more lenient as they judge more flights).

- (2) Try to fly immediately after the best flyer (he will have raised the judges' scores to a high plateau, and it will take a while for them to readjust downward).

- (3) Never be the first to fly (judges are super tight, you will not be settled down yet).

- (4) Observe other flights and scores to see what the judges like (big or small shapes and rounded or square corners?) to see if they are trending (scoring easier or harder). Adjust your plans accordingly.

- (5) Watch the weather so you do not get caught by high winds, rain, etc. Sometimes, conditions may improve if you wait. Time flight for sun position too, so it won't be in your eyes.

- (6) Try to fly when the most people (spectators and contestants) are around the circle watching. The bigger the crowd, the most likely the judges are to "blow" (suddenly jump into a higher scoring range).

- (7) If you do not feel right, do not fly — wait until your mind is right for maximum concentration and effort.

HOW TO PRACTICE

"You need to practice harder while learning the pattern than after you have mastered it. It is not uncommon for stunt flyers to fly over 100 flights per month before the contest season begins. One thing to remember is that the pattern, done well, is physically demanding on your muscles, nerves, and concentration. Respect this fact and limit your



This photo by George Bahrman is a caption writer's dream. How about, "The only man who grows his own control line cable," or, "After R/C Free Flight, my next campaign will be for Hand Launch Stunt Glider and then Microfilm Combat." OR, "Texas Team hand launch gliders are actually 'Made in Oklahoma!'" . . . Just one more, "Tom Peadon and my wife, Mary Kay, really wrote the book 'How To Fly U-Control.' I just kept 'em supplied with coffee and wake-up pills!"

practice flights to never more than six or seven in one session. More than that and you get sloppy from tiredness and lack of concentration, and it does no good to practice being sloppy! Similarly, you should not develop a casual attitude in practice and then expect to "rise to the occasion" in competition. If you don't grit your teeth and make each practice flight like you were flying the world championships you will likely blow under the pressure of competition — and, believe me, it is the same kind of pressure Super Bowl players experience.

"Never practice pattern maneuvers out of sequence — it can cost you under pressure when you forget a maneuver or do one out of order. At the same time,

once you have the pattern really mastered, it will throw your reflexes off to change sequences. If one or two maneuvers need special work, devote a whole flight to them, but don't try to do the pattern too.

"Before a contest, try to practice several flights the night before and then take one or two flights early in the morning to check the needle valve setting and relax yourself. Don't try to make these flights perfect — you should save that for the official flights. Try to psyche yourself for making your best flight your second official, since that is usually the one which determines the final results. The important thing is not to "peak" too soon.

"Practice in all kinds of weather. The hardest conditions are dead calm and high wind. In dead calm it may be necessary to speed the motor up to keep the lines from going slack. Never speed the motor up for high wind though. Merely adjust to the conditions by repositioning your maneuvers as discussed in Chapter Five. The wind will give your model plenty of speed. With top flyers you can rarely detect any difference in their pattern regardless of wind conditions.

EMERGENCIES

"Occasionally, an emergency will occur, like a motor failure. If it occurs during a maneuver, the first reflex is to merely dive and level off if the model has enough altitude and speed. However, if the model is inverted and does not have sufficient altitude or speed to be brought right-side-up, you should merely land it slowly on its back and accept the nicks and scratches or the broken rudder. Or, you can keep the model aloft by "whipping" and flying it into the arms of your helper very slowly. This often causes damage too when the helper catches the wing panel with his hand. I recommend landing it on the ground as safer in the long run.

"If there is a very strong wind, it is possible to bring a model deadstick (motor off) from inverted by "whipping" very fast and low nearly into the wind (your right) and giving hard down control letting the wind blow the model over like the second half of the lazy eight. Using this whipping technique and letting the wind do the work for you, you can even do loops and lazy eights without the motor running.

SOME MISCELLANEOUS TIPS FOR COMPETITION

"(1) Always perform your maneuvers directly across the circle from the judges. If the wind changes directions, ask the judges to move accordingly before you take off or through hand signals if you are already airborne. If the wind change is slight, merely reposition your maneuvers.

(2) Always give at least two laps between maneuvers so the judge does not get rushed.

(3) Clean lines of accumulated oil and dirt periodically so controls remain free.

(4) Try not to constantly change your needle valve setting. A good setting is achieved over many flights and should not be changed in the excitement of competition unless absolutely necessary.

(5) Have your helper stand directly downwind to give you the wind direction. But have him stand a good distance away from the circle so he does not give the judges an altitude reference too!" ●



Completely decked out in Kurtzer Air Service colors, all red with silver floats, our little 2-in-1 Taylorcraft makes a very appealing project.

T-CART FOR TWO

by Walt Mooney

This month, Walt comes up with a Peanut Scale the sneaky way. He built a 24" model, then dunked it in the water and shrank it to Peanut size! Build 'em both and you'll have a scale model of a scale model!

● This model was designed for the Flightmasters Seaplane scale contest, with a wingspan of 24 inches. The drawing was made so our illustrious editor (*Thanks Walt, I didn't think you had noticed. Ed.*) could also have it reduced to Peanut Scale size for the magazine. Since the model was intended to be built in two sizes there are no wood

dimension callouts on the plan, however it should be easy to determine the sizes required simply by looking carefully at the plan.

If you don't have a seaplane site available there are landplane details shown on the plan. If you intend to build the peanut scale version directly off the magazine plans, it's especially

important to select lightweight balsa for the model structure. As drawn, it will be stronger than absolutely necessary.

All the construction follows pretty standard practice and should not present any problems if you have built one or two models before. Some special items are worth considering, however.

While weight should be kept at a minimum, a seaplane needs fairly strong structure; first, because it takes a larger than usual rubber motor to get a seaplane off the water . . . almost twice as much power as is required by a landplane. Second, a seaplane requires several coats of dope to insure a waterproof airplane, and the extra dope may tend to warp a really lightweight structure. Last, the weight of the float installation results in a slightly higher gliding speed and thus harder landings.

Try to keep the tail structure light but don't omit the gussets. The contoured part of the nose of the model is mostly block balsa carved to shape after it is cemented in place on the fuselage structure. The fuselage side stringers, shown by the double dot dash lines on the side view, can be omitted from the small model with very little loss in scale realism.

The floats are constructed in egg-



Mr. Kurtzer, left, is the owner and operator of a small fleet of charter aircraft working out of Seattle, Washington. Walt flew the plane during a recent visit in the area. That's real research!



Two prize winners! At recent Flightmaster's ROW meet, Walt took second and son Douglas was first in his class, with these T-Carts.



Absorbed in his work (or is it 'saturated?'), Walt prepares to launch his T-Craft at the Lake Elsinore meet. Takeoff run is very short.

crate fashion by installing the slotted float formers in the slots in the center keel. After this assembly is dry add the float longerons two at a time so as to minimize the possibility of getting a crooked float assembly. Add a small scrap block to the nose of each float and carve it to the nose shape.

While the rest of the airplane should be covered like any other model, the floats should have a little special treatment. First, before covering, give the float structure two coats of thin dope. This will help seal the balsa wood and keep it from soaking up a lot of water if the covering gets punctured. Then cover the floats and double cover the bottoms. Apply as many coats of dope as it takes to get them absolutely water tight. If your dope is thin, this may take four or five coats. Note that on the full scale

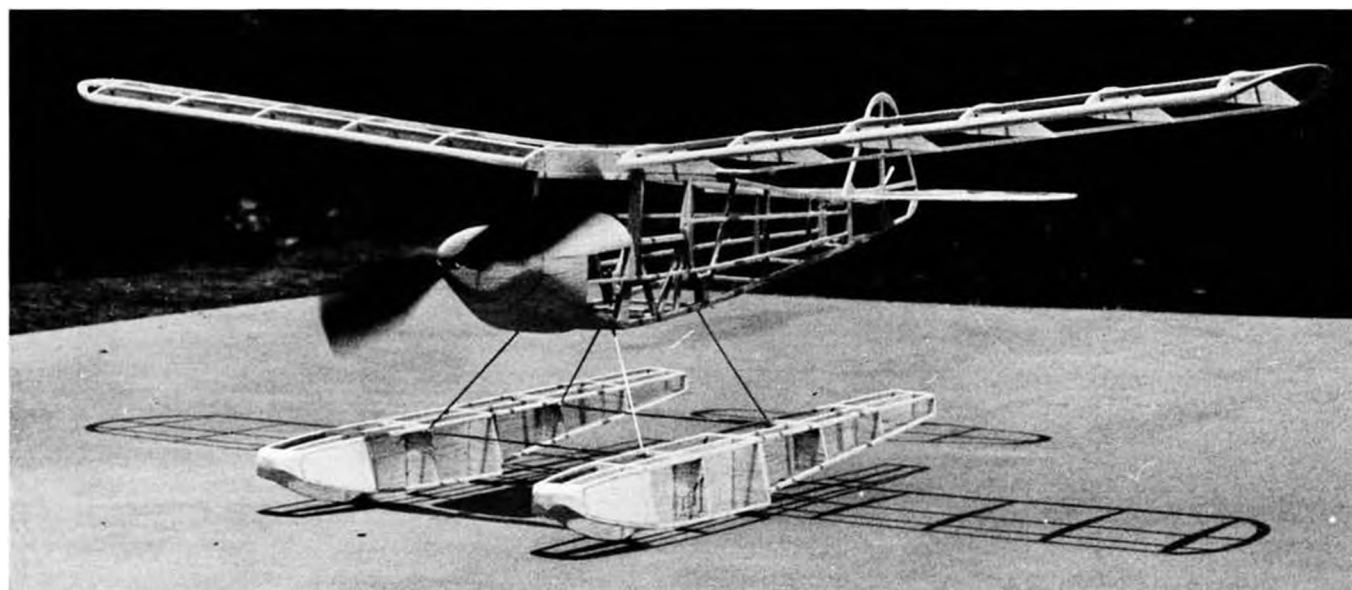
Taylorcraft, only one water rudder is fitted. Straight take off runs are a must for model seaplanes and you may find two water rudders are required.

When your model is completed and you are ready to fly it, check to see that there are no warps in the wings or the tail. The model should balance right at the step. Since a float installation is draggy, don't expect a super glide; but it should be smooth and virtually straight. Test glide over a lawn. Wax the bottoms of the floats before you attempt a water take off. The wax will tend to reduce water drag.

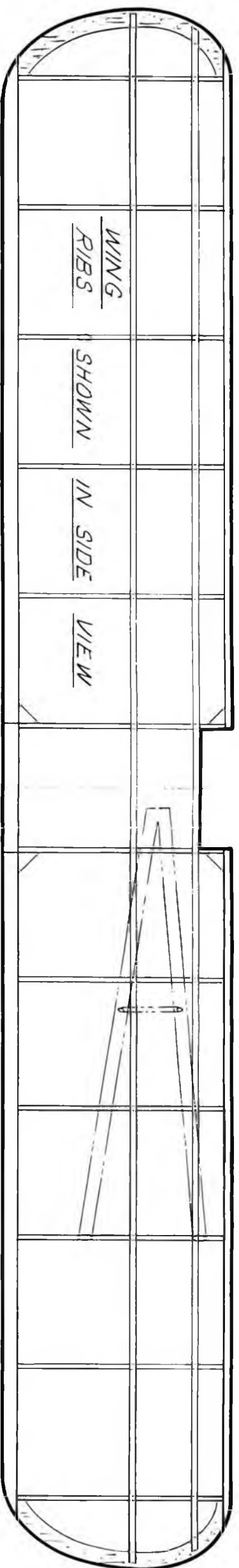
Test fly the model initially over land by hand launching. Start with only a few turns in the motor and work up to almost the maximum possible. The model motor should be capable of giving a fairly rapid climb and the flight path

during the early part of the climb should be straight. Apply thrust line adjustments to obtain a straight flight.

If your model will barely climb when hand launched, add a bigger motor or additional loops of rubber. It will never get off the water unless it will climb very well. It's astounding how much drag a little water has compared with the drag of the wheels we're all more used to. If your model turns under high power, adjust it to climb straight by adjusting the thrust line to point in the direction opposite to the turn. Any thing beyond the mildest of turns on the water will result in a turn-over. If the model dunks itself, it will generally get some water in the fuselage. Drain it out and let it dry or you'll be attempting to fly a model that is heavy and out of balance. ●



The undressed model reveals simple but sturdy and light construction. Floats employ fast-building egg-crate construction.



LIGHT WEIGHT TISSUE IS USED FOR COVERING,
DOUBLE COVER FLOAT BOTTOMS

F1 F2 F3 F4 F5 F6 F7

USE A PLASTIC
PROP.

USE MONOFILAMENT LINE FOR
WIRE BRACING

HORIZONTAL TAIL

FLOAT KEEL

TOP VIEW

2 STRINGERS ON FUSELAGE SIDES

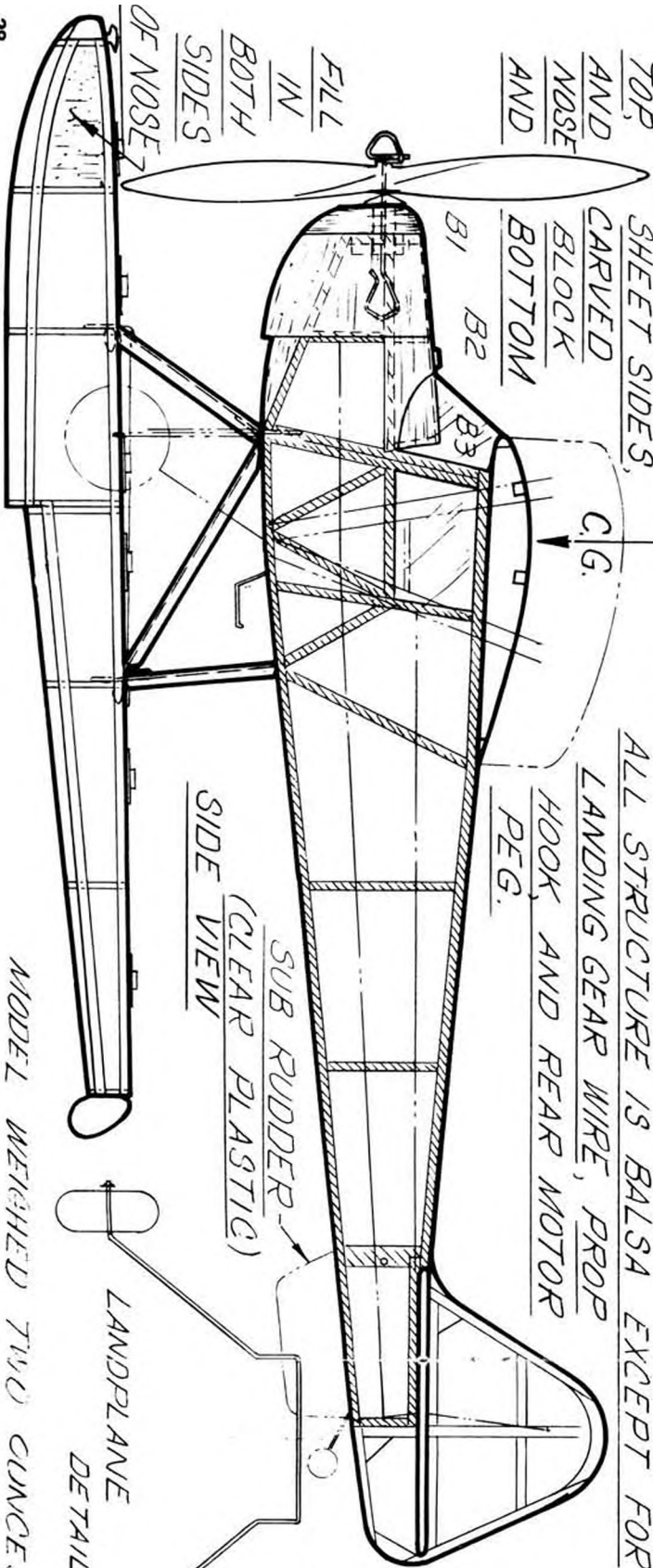
WATER RUDDER ON
LEFT FLOAT ONLY

DIHEDRAL

ALL STRUCTURE IS BALSAS EXCEPT FOR
LANDING GEAR WIRE, PROP
HOOK AND REAR MOTOR
PEG.

NOSE COWL HAS
WRAPPED SHEET
TOP,
AND CARVED
AND NOSE
BLOCK
BOTTOM
AND

FILL
IN
BOTH
SIDES
OF NOSE



SUB RUDDER
(CLEAR PLASTIC)
SIDE VIEW

LANDPLANE
DETAILS



B1
LANDING GEAR
FAIRING
BALSAS
PADDLE
USE HARD BALSAS
OR SPRUCE FOR
FLOAT STRUTS

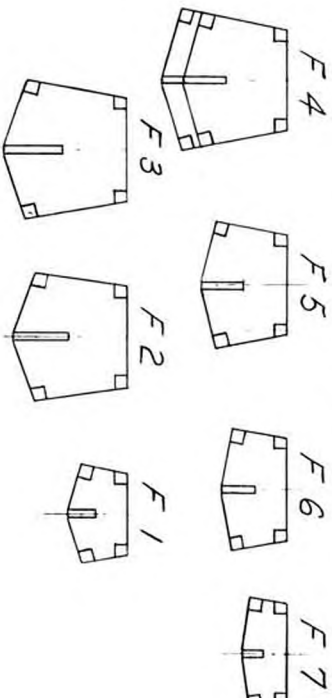
TAYLORCRAFT

Walt Mooney 5-14-72

MODEL WEIGHED TWO OUNCES - BEST TIME 50 FAR 30 SECONDS R.O.W.

MODEL BUILDER

AUG 1972 Vol 2 No 10



0 1 2 3 4 5 6
inches

THE MODEL BUILDER magazine
12552 Del Rey Drive, Santa Ana, California 92705
Plan No: 8723



The completed Curtiss Robin, sporting FH wire wheels and Wms. Bros. prop, is an excellent flyer. Notice shim for right thrust under button.

FREE FLIGHT ... SPORT & SCALE

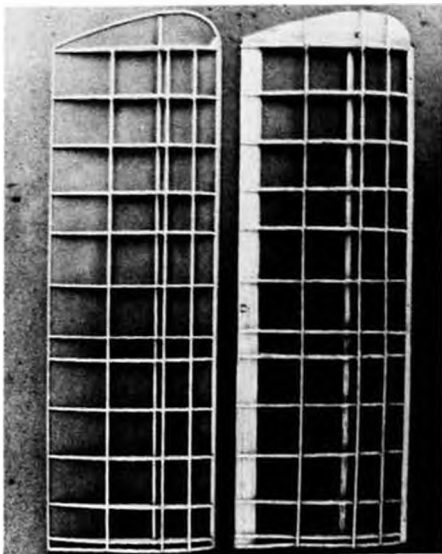
In which we conclude our aircraft diet program and find that our patient is no smaller than before, but a heck of a lot lighter . . . and able to leap tall buildings, etc. etc. By Fernando Ramos

● By now you've probably had sufficient time to digest the simple modification technique outlined in last month's MB. Perhaps you have chosen another Guillow or Sterling kit, rather than the Curtiss Robin, to modify into a lighter and better flying model. Well, since we made a good start on the Robin last month, let's continue its completion, outlining various construction methods and possibly adding some new twists for builders who are beginners in the hobby.

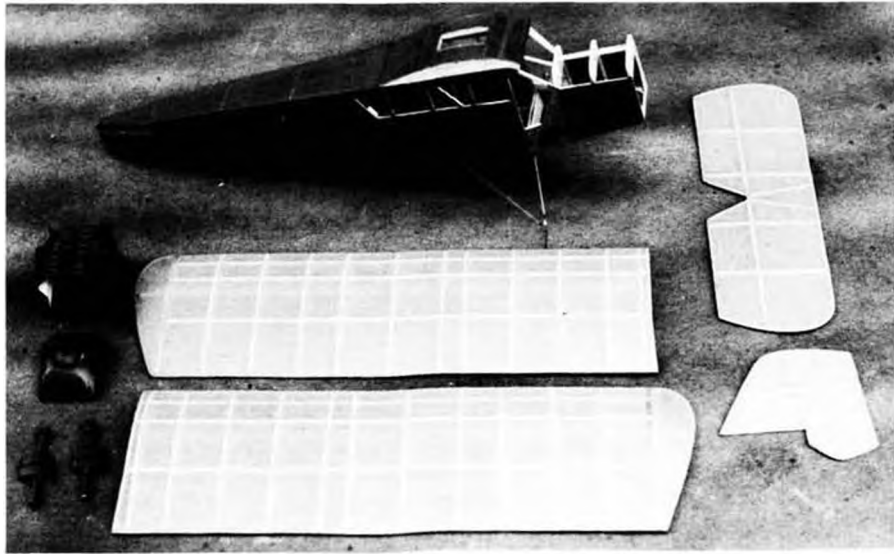
The wings still have to be built, and I usually save this necessary chore until after all other construction is finished. However, I have tried to short-cut wing building to the point where it isn't too bad a task any longer . . . but I still build them last anyway! The trailing edge and wing tip are made using the lamination method we described in a previous issue of MB. The stock is two laminations of 1/32 x 1/16 inch basswood, which may look small, particu-

larly when compared with the trailing edge used in the kit. However, you will find this is sufficiently strong and will resist warping surprisingly well. The main spar used in 1/16 x 1/4 inch and is placed in the same location as on the plan. Also the 1/16 inch square spars on top are incorporated just as in the original kit.

Using the wing rib on the plan, make a template out of 1/32 inch plywood or tagboard and proceed cutting out wing



Oh oh! Two left wing panels! But fear not, the one on the right will not be used.



All covered and ready for final assembly and trimming, the Robin's light framework is still very obvious. Go easy on the dope. Two very thin coats are sufficient. Plasticizer helps.

ribs, 24 out of light 1/32 inch sheet, and the two root ribs out of 1/16 inch sheet. The leading edge can be made just like the plan, that is, 1/16 x 1/8 inch stock on edge, rounded off in the usual manner when the wing is ready for overall sanding. However, I prefer square leading edge stock (in this case, 3/32 inch square) mounted diagonally, cutting a right angle notch in the leading edge of the wing ribs. Once this is glued in place, the mere rounding off is a simple matter, and the advantage, in my opinion is that the ribs themselves are not subject to careless sanding that can nick or break them.

The root rib, of course, should be installed after the rest of each wing panel is completed. The wing tip is propped up to a 1/2 inch, then the root rib is glued at right angles to the workboard. This completes the structure of the wing, and only light sanding is now required.

The modified wing half weighed in at 2.5 grams, as compared to the 8 grams of the original kit wing. This alone is a total saving of 11 grams (little more than 1/3 of an ounce) for the wings alone!

Covering is the next step, and a hint I picked up from Walt Mooney years ago makes this one of the easiest and neatest jobs of all. After lightly sanding all of the structures, make your choice of colored tissue. I chose the combination on the kit box, that is, blue fuselage and yellow wings and tail. Orange fuselage with yellow wings and tail is a common color combination found on the real Robins.

Let's start with the easy parts first, the stab and rudder. Cut the tissue just a little larger than the size of the structure, making certain the grain of the tissue goes on spanwise. Now, instead of using dope to adhere the tissue to the structure, use diluted white glue (about 60% glue to 40% water). All you have to do is brush on a coat of glue around the outer edge of the framework, then place the tissue on top. Press lightly all the way around while pulling to get the surface as wrinkle-free as possible. One precaution . . . do not press and hold any one spot too long, because the glue will come right on through the tissue, stick to your fingers, and possibly tear the paper. The entire covering job is done in the same manner. You'll find that you can get all of it done more quickly than expected, and with a little practice, this covering method is easily mastered. The advantages are many, principally you do not have to dope the entire framework, sand and redope, etc., before the covering is applied.



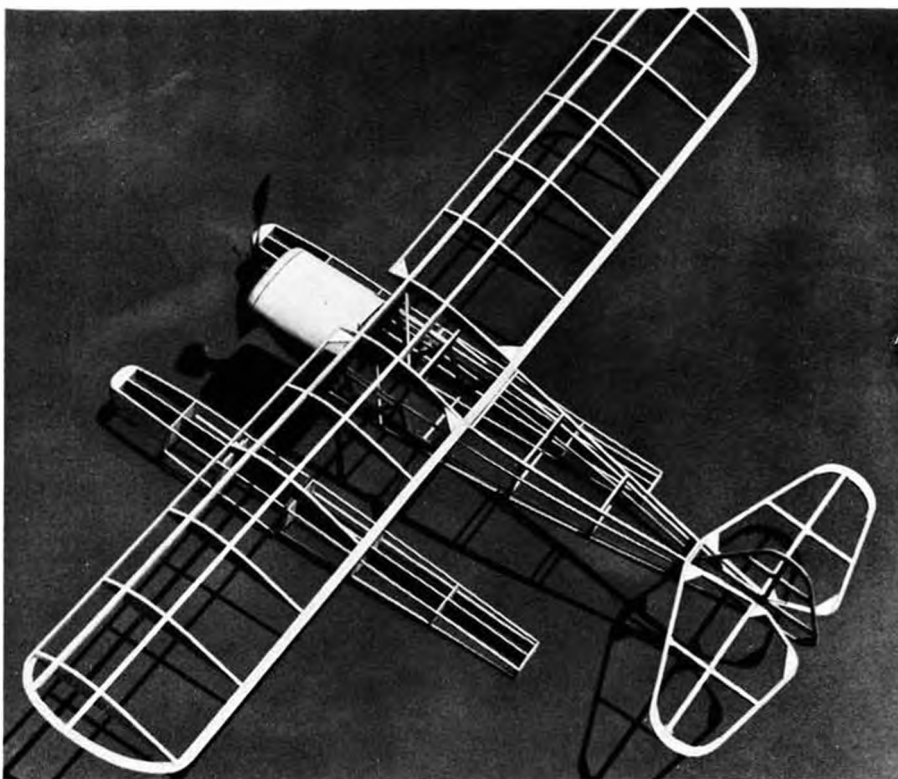
Proof of the pudding! Built expressly for this two-part article, the Robin turned out to be an even better flyer than expected! Almost no trimming was necessary to get fine, long flights.

Once dry, you can water shrink in the conventional way. (A fine mist, such as from a perfume sprayer, is best.) But, it is recommended that you pin the wings and tail to the workboard while they are drying. This will guarantee that they remain warp-free. For a light rubber model such as this, two coats of thinned dope (60% dope, 40% thinner

and about 10 drops of tricresyl phosphate per ounce of dope . . . an excellent plasticizer) is all that is required for a nice light finish. Again, pin structures down while dope is drying.

While you are waiting for the dope to dry on the flying surfaces, you can be installing the windshields. This can be a

Continued on page 47



Another example of light but sturdy framework, the Taylorcraft on floats as built by Walt Mooney and featured on page 26. Nothing extra . . . just what's needed.



... Being a column devoted to miscellaneous ramblings
of an aeronautical nature ... By Bill Hannan

VISIT YOUR LOCAL JUNQUE STORE!

● Those prices shown in our photo were honest-to-goodness 1972 rates for the items pictured. And, these represent only a few of the "treasures" found in such unlikely places as the Salvation Army Thrift Store, Goodwill Industries, antique shops, and plain old junk firms.

The 15 cent Cox .049 was incomplete, but proved a fine source of spare parts. The 50 cent Wen-Mac was complete (even the glo plug still worked) and runs quite well. Other engines, not illustrated, have included a K & B .19 at 50 cents, and a Mattel Vac-U-Form in perfect shape for 50 cents.

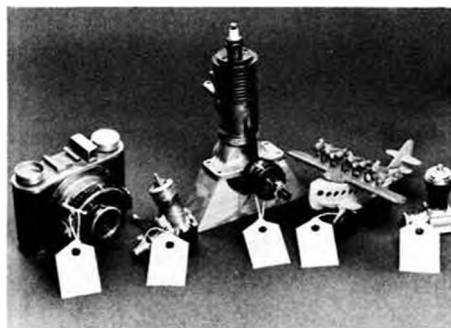
That little cast-iron DO-X toy required restoration, but is a highly valued and rare collector's piece. We found it

the collector's value of the Brown, this was a bargain indeed.

My interest in antique hunting came about as the result of suggestions made by Ginger Warner, wife of well-known scale modeler Bill Warner. She has been involved in antique collecting for a number of years, and has developed her knowledge of antiquities into a profitable hobby. She was quick to point out that the real "finds" are seldom made in antique stores, but in junk shops, garage sales, and swap meets.

Why not try your own hand at treasure hunting? Who knows, you might just stumble across a Morton M-5 out there!

* * *



among some old model trains in a local antique shop, and paid a mere two bits for it.

That tiny camera is unusual in that while it is physically smaller than most 35mm cameras, it uses 127 film, and is complete with a self-timer. A low-cost yet versatile camera such as this makes a fine addition to ones' field kit.

The gem of the collection is, of course, the Brown Junior spark ignition engine. This particular item came complete with a large free flight model, circa 1937, a timer, coil, condenser and battery box ... all for \$5.00! Considering

A BIT OF PHILOSOPHY FOR MODELERS

Irving Glotch points out that a really well-constructed model will still show its quality even after it has been repaired, gotten oily, etc., so do not use this fear as a reason for not test-flying before a contest! Similtude: An old neglected Nash is an abomination to the eye, but an old Porsche just looks a little more arrogant!

* * *

Should the pilot of a hang-glider be called a "hangar?"

* * *

A few years ago, Flightmaster Bill Krecek suggested taking delicate tissue-covered parts into a steamy shower room, to gently shrink the covering. But Walt Mooney reports that when he tried it, he dropped a bar of soap on his wing! (*See! It doesn't always pay to be clean! WCN*)

* * *

"Hey Dad, are OLD TIMER contests for old timers, or for old models?" (quote from Harold Osborne's son ... when he was still a junior)

* * *

Then there was the guy who painted his B-24 model pink, and called it the "Women's Liberator."

* * *

THE INTERIOR BIT

One of the areas frequently neglected in scale models is the pilot's compartment. This is particularly unfortunate in

Continued on page 47



"Baron Von Phinque dead-sticks in under the full moon." Actually, this is a straight-from-the-kit pre-war Comet Fokker D VII, built in Hannan's Hangar ... by the chief aviation mech.



About 300 feet of model wings and not an engine within sight . . . or sound. A beautiful site for an R/C glider contest, and plenty of lift.

R/C SOARING

By Dick Satterlee

Our Soaring editor, Le Gray, takes a month off while the newsletter editor of the Harbor Soaring Society gives us a "tow by tow" description of the club's 3rd Annual Western Soaring Championships.

● Garner Valley, California, 17 June 1972 . . . With comments like "Gorgeous!", "Like a picture book!", and "Sublime!" (wish I could remember who said that . . .), the 3rd Annual Western Soaring Championships got under way below cloudless skies and

ideal temperatures. On a 1,000 acre meadow graciously provided by Jack Garner and the Great American Land Company, 69 model sailplane enthusiasts turned out in force, representing 11 organized clubs from San Diego, north to Roy, Utah. America's oldest organ-

ized R/C Glider club, the Harbor Soaring Society of Southern California, sponsored the two day affair, and will be forever grateful to Great American for being allowed to "invade" their property. And unless you had attended the 1st and 2nd annual meetings, held at Lakeview Dry Lake, you wouldn't be aware of what a pleasure it is to fly in a grassy meadow after all those hours in the heat and dust of Lakeview! The 4,500 foot altitude at Garner Valley made some flyers apprehensive, but their fears were gone after the first round . . . they couldn't get down!

With two full days of flying planned by Lloyd Weaver, Tournament Director, and Mike Fox, Tournament Manager, many motor homes and campers were in evidence, and ample facilities were offered by Lake Hemet and Hurkey Creek camp grounds, as well as comfortable motel accommodations at Idyllwild, a few miles up the road. No formal plans were made for Saturday night, but many hungry pilots and their families had a fine dinner and bull session at one of the local steak houses, and Sunday's scores attested to the fact that everyone got to bed early . . . must have been the altitude!

Back to the flight line. Task I for



Mike Fox, Tournament Manager, takes a moment from duties to assemble his Graupner Cumulus. Trophies were well displayed, as were the names of the sponsors. There was merchandise too.



On a portion of the Great American Land Company's property, some 4,500 feet above sea level, the flying site was this beautiful meadow.



Unfortunately, the extremely dry season was enough reason for the owners to prohibit camping at site. However there was space nearby.



Mark Smith plunks his Windfree in the center square, assuring another win in the open class. Kelly Pike keeps tabs. Both are top glider pilots.



Pete Bechtel, proprietor of Windspiel Models, came down from Santa Rosa, Ca. with his son to compete. Company handles many glider kits.



Irv Stafford, San Diego, with HP-14, built from Guenther-Wolsleger kit, which features fiberglass fuselage, machine-cut ribs, complete plans and 3-views. Kit based on John Donelson design.

Saturday was Precision, with two two-minute flights and two perfect landings to accomplish a perfect 1,000 points. The secret was a short tow, for the lift was outstanding! Many pilots just plain got too high off the line, and couldn't possibly descend fast enough without tearing off a wing, or if they did, they were going so fast that they flew right past the runway and out of the landing circle. Frank Colver actuated his Santana's spoilers at just the right moment, but at that altitude they just weren't effective and he skidded right off the end of the runway. Mark Smith showed remarkable form as he touched down a hundred feet short of the strip, then milked a long, six inch high glide all the way to the 100 point mark and settled his Windfree in for a perfect score. Dietrich Kuhl mustered every ounce of body english but just couldn't get his Amigo to respond as it settled 10 feet short of the 100 point mark . . . at the same time, Irv Stafford whistled by with his HP-14 and missed by the



Dietrich Kuhl readies his Amigo for a flight with John Simone's help. Dapper(?) Rod Smith kibitzes from a safe distance.



Mike Fox about to give the heave-ho to our reporter Dick Satterlee's Cumulus. Dick is editor of Harbor Soaring Society's newsletter.



Tracy Smith and his Dart, by JP Models. Ship features rolled 1/32 plywood fuselage, which comes in kit complete and painted.



Randy Warner, from San Diego, about to launch his original design Coleen 12. Regular contest winner will be MB construction article.



Latest kit by Lee Renaud's Airtronics is this beautiful V-tail Grand Esprit, as built by John Simone. Needs spoilers to get it down!



John Baxter's Kestrel 19 by Hugh Stock. Kit to be available through Pete Bechtel's Windspiel Models. John won scale with it, and also placed high in regular competition.

same distance at the other end of the strip! John Simone, out with his new Grand Esprit by Airtronics, showed everyone how to fly a V-tail . . . and scored well, too.

By 2 p.m., everyone had flown his two rounds, and Task II loomed ahead; seven minute duration with three minutes more to get down to a 100 point landing for another 1,000 points. Now where was the lift that we all cursed at in the morning? It was there, but often

as not it blew slowly across the field and the unwary pilot would find himself in the trees, or worse, beyond the trees and off in the rocky foothills with no way back! Le Gray, with his classic Sorceress, found a 100 foot pine in his flight path and the sound when he hit still rings in our ears — CRACK!! — and the pieces came tumbling down. Mike Fox tried the same path with his Cumulus, but he was going a little

Continued on page 48

By Brad Shepherd

A black and white photograph of a white model airplane, likely a biplane or a single-engine propeller plane, resting on a dark, textured surface. The aircraft features the number '16' prominently on its upper wing and fuselage. The wings are white with dark outlines, and the fuselage is also white with dark detailing. The tail section is visible, showing a cross-shaped structure. The overall appearance is that of a vintage model aircraft.

in the lee..

Ben Hogsensen

● Perhaps the best known yacht race, in this country at least, is the race for the "Auld Mug," where since 1858, Twelve Meters have contested for the cup that was first won by the America.

When one speaks of the America's Cup, they are using a misnomer in calling it a cup . . . but let's let Ev Morris describe it for us: "The reverent speak of it only as the Cup, a misnomer sanctioned by time and custom. The prize, named for the rakish Yankee racing schooner

which brought it home in triumph from England in the middle of the nineteenth century is not a cup at all. It is a tall and rather grotesque sterling pitcher that lacks even the saving grace of utility; its bottom long ago was pierced for the bolt which moors it to a heavy oaken table in the New York Yacht Club's trophy room. In this yachting shrine, the America's Cup holds only the misty fabric of men's dreams, a gossamer powdered with the iridescent dust of history and sea romance. No festive wine pours from its spout at victory rites . . . even those who have won it may only look upon the receptacle and speculate as to its original capacity."

But the "Auld Mug" was not always raced for by Twelves, and perhaps the most graceful and magnificent boats to race for it were the enormous J boats.

Figure 1 shows the plan of a Twelve superimposed upon the plan of a J . . . much like superimposing the plan of a tiny 36/600 on the plan of an A boat or a Six Meter.

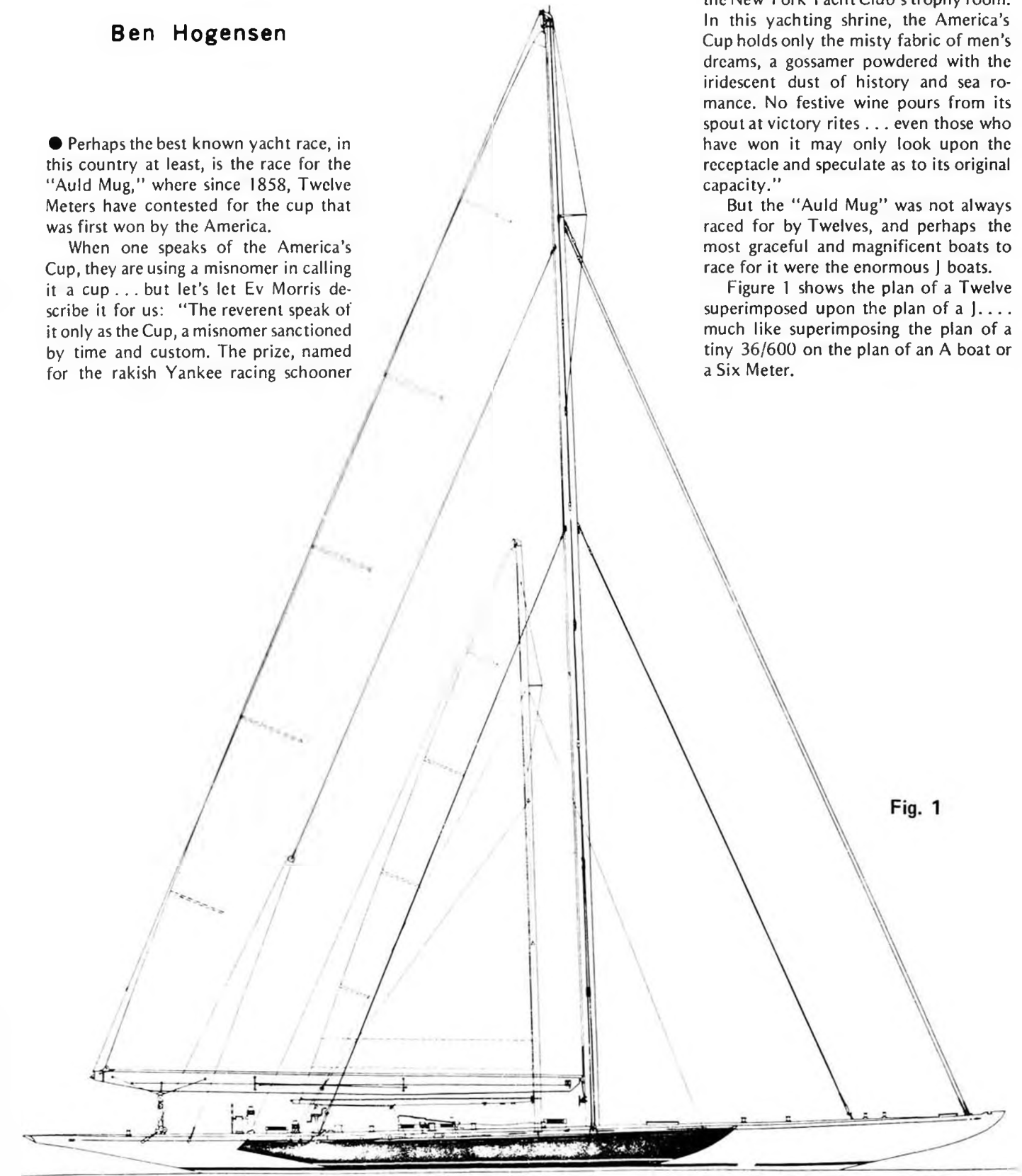


Fig. 1

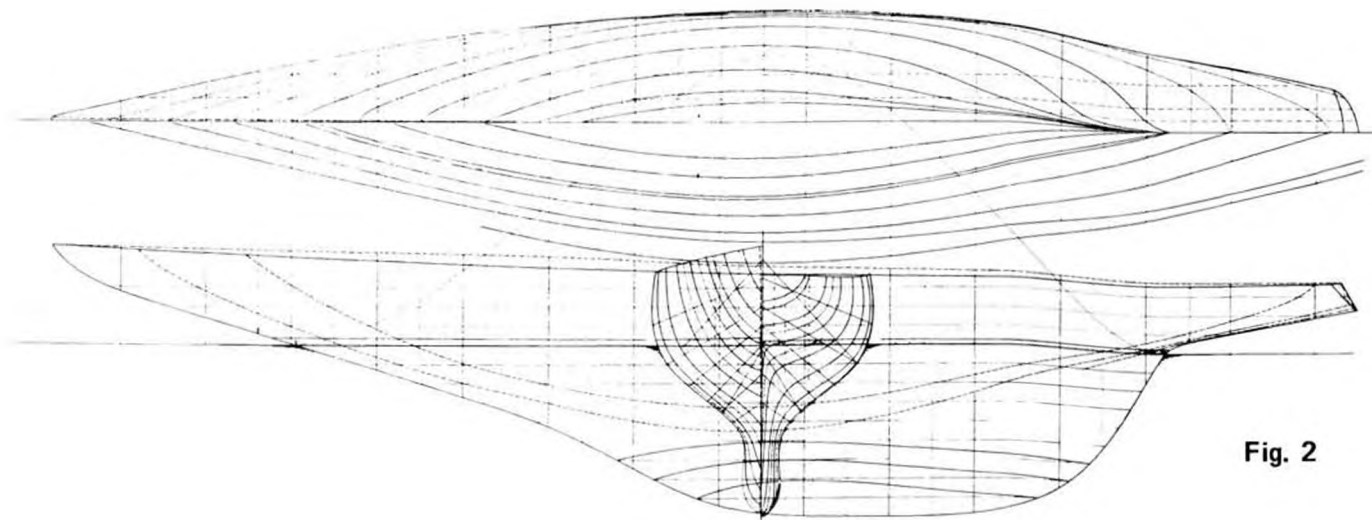


Fig. 2

To give an idea of size, let's compare the statistics of the *Ranger* against the statistics for the *Columbia*:

	<i>Ranger</i>	<i>Columbia</i>
Length overall	135' 2"	69' 5"
Length waterline	87'	45' 6"
Beam	20' 10"	11' 10"
Draft	15"	8' 11"
Sail area	7546 sq ft	1817 sq ft
Tons displacement	166	28.4
Mast height	160'	82'

To get a better understanding of the sizes, let's use 10 feet as the rough distance between floors of a skyscraper. So, by using this standard, we can say that the mast for the *Ranger* is as tall as a sixteen-story building and the mast for the *Columbia* is as tall as an eight-story building. No weekend sailors!

Looking at Figure 2, we see the lines of a Twelve which is the work of naval architect Alvin Mason. It is a fine example of the breed and shows the functioning of the formula by which all boats built to the Twelve Meter Rule must be measured.

So much for the man-carrying craft. And now to address ourselves to a question that has been asked in numerous

letters this last month. And, I am glad to report that there are Twelve Meter R/C boats on the pond!

If you will thumb to page 34 of the March/April issue of MODEL BUILDER you will find a picture of Fran Smith's East Coast 12 Meter.

The East Coast 12 Meters sail on a 42 inch load water line, are 58 inches long, displace 26 pounds and carry 1,250 square inches of sail. Anyone interested in building a boat of this class should contact Rod Carr, 2713 Blaine Drive, Chevy Chase, Maryland 20015, since Rod is the AMYA Class Secretary.

There is another class of Twelves known as the West Coast 12 Meters which sail on a 52 inch load water line, are 72 inches long, displace 40 pounds. Anyone interested in building a boat of this class should contact AMYA Class Secretary Chuck Black, 4761 Niagara Avenue, San Diego, California 92107.

Also, there is a smaller Twelve known as the Texas Twelve. Curtis W. Wright, 7801 Bissonnet No. 83, Houston, Texas 77036 can give you the details on these boats. Curtis is the Commodore of the Houston Model Yacht Club.

For those who may be interested in building a semi-scale Twelve, any of the above boats may be modified to rig a Genoa jib.

(One source of West Coast 12 meter model yachts is "Sparks" McClelland, proprietor of The Hobby Shop, 440 E. 17th St., Costa Mesa, Ca. 92627. Sparks, who was instrumental in development of the class, can furnish complete boats, kits, and parts. Write for his free brochure. WCN)

Now, down to the nitty-gritty of this month's column!

Since many of the manufacturers of Twelves, and other class yachts, do not offer a deck with the hulls, let us look into putting a deck on a hull that is constructed of fiberglass!

The first step to installing a deck is to build a boat stand! The second step is to put the stand on a flat and level table! The third step is to place the hull in the stand and check to see that it is in a true vertical position and is not higher on the port side than it is on the starboard side and the keel is perfectly vertical. (You will find that some hulls furnished are not trimmed to the final sheer line and that you have to check the keel to see that it is vertical!)

It may sound like a lot of hogwash to say that a stand is a *must*, but if you try to do it any other way, like temporarily blocking up the hull you can get into trouble! And, there is nothing more disappointing than to complete the deck

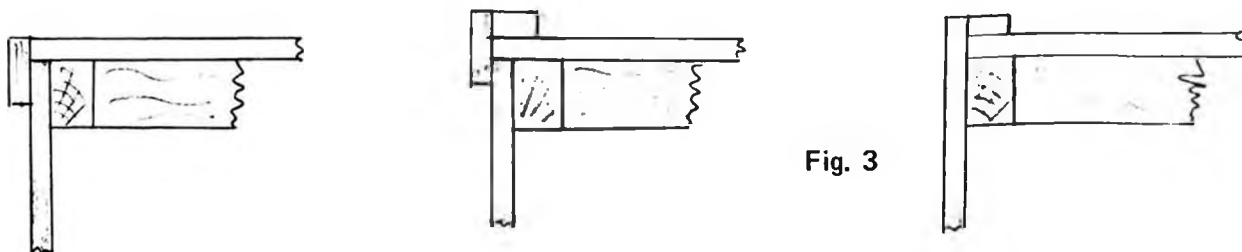
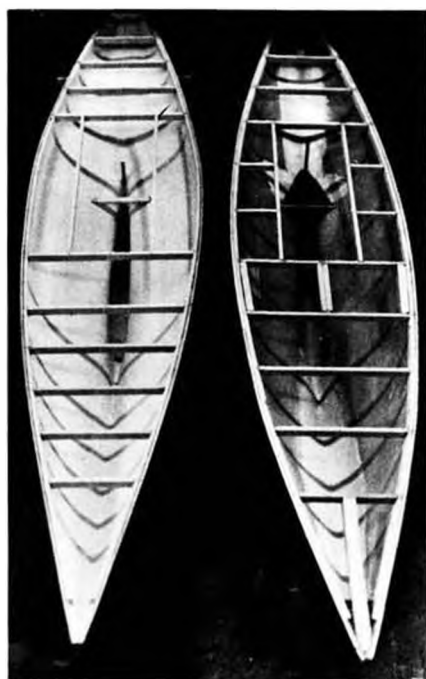


Fig. 3



Using straight deck beams with separate curved top pieces simplifies the installation. Keeping everything level during this step is of prime importance. Make and use a rigid boat stand!



Close spacing of deck beams is important if you want to have a warp-proof deck!

to find that it is warped and twisted . . . so the ounce of prevention is well worth eliminating the pound of cure!

Once we have the hull in the stand, we can locate the sheerline from the plans or instructions. (In cases where this is not given, we will have to locate our own sheerline and clamp location!)

To locate the sheerline, measure up from the table at spots about eight to twelve inches apart and make a mark on the outside of the hull on each side, making certain that the mark is the same height above the table on both sides. After the marking is done, clamp a batten to the side of the boat and mark the sheerline on both sides.

The next step is to trim the hull to the sheerline along both sides of the boat . . . all but the top of the transom area . . . at this time.

Once we have established the sheerline of our boat, we are ready to put in the supporting structure for the deck and the "hard points" where the shrouds and stays attach.

The first step is to put in the clamps that run along the sides of the hull. These can be flush with the sheerline or slightly below it, depending on the type of deck installation you are using. Figure 3 shows typical methods of installing a deck.

Next comes the deck beams . . . and the method of installing these has changed a bit from the traditional method! In the "old days" the crown of the deck was taken into account when making the deck beams, but it is far simpler to make the deck beams out of straight stock and then add a piece to it that is curved to the crown of the deck and allows for the thickness of the deck material.

In constructing a boat recently, I fell into a trap by following the instructions! The instructions called for the deck beams to be installed a bit over eight inches apart! No dice! The resulting deck was not tied down sufficiently to prevent it from warping and buckling! So the old adage of keeping the deck beams on a fairly close spacing is still true! On a small boat, the deck beams can be approximately 3 inches apart; on larger boats, about 5 or 6 inches apart.

Remember we said that the boat should be in a true vertical position when getting ready to install a deck? Now another advantage of a two-piece deck beam can be seen. When we put a deck beam in place we can put a level on it and see that it is in correct position beamwise! (Also, the boat stand makes certain that you will be measuring for trueness from a *fixed* position!)

In addition to the beams, provisions for reinforcing must be made in the areas

where the stays attach and the mast is located.

In the photograph of the two boats being decked, you will notice that the beam spacing varies, but both boats have the beams installed fairly close together. In the boat on the left, the deck beams along the sides of the hatch opening, the reinforcements for the stays, and mast step have not been installed.

In the boat on the right, the reinforcements are added. And, if you will notice the dark area in the stem, resin has been poured in the stem, and also at the transom, to secure the reinforcements for the jib rack and aft stay. This was accomplished by putting masking tape across the hull and standing the boat on end when the resin was poured.

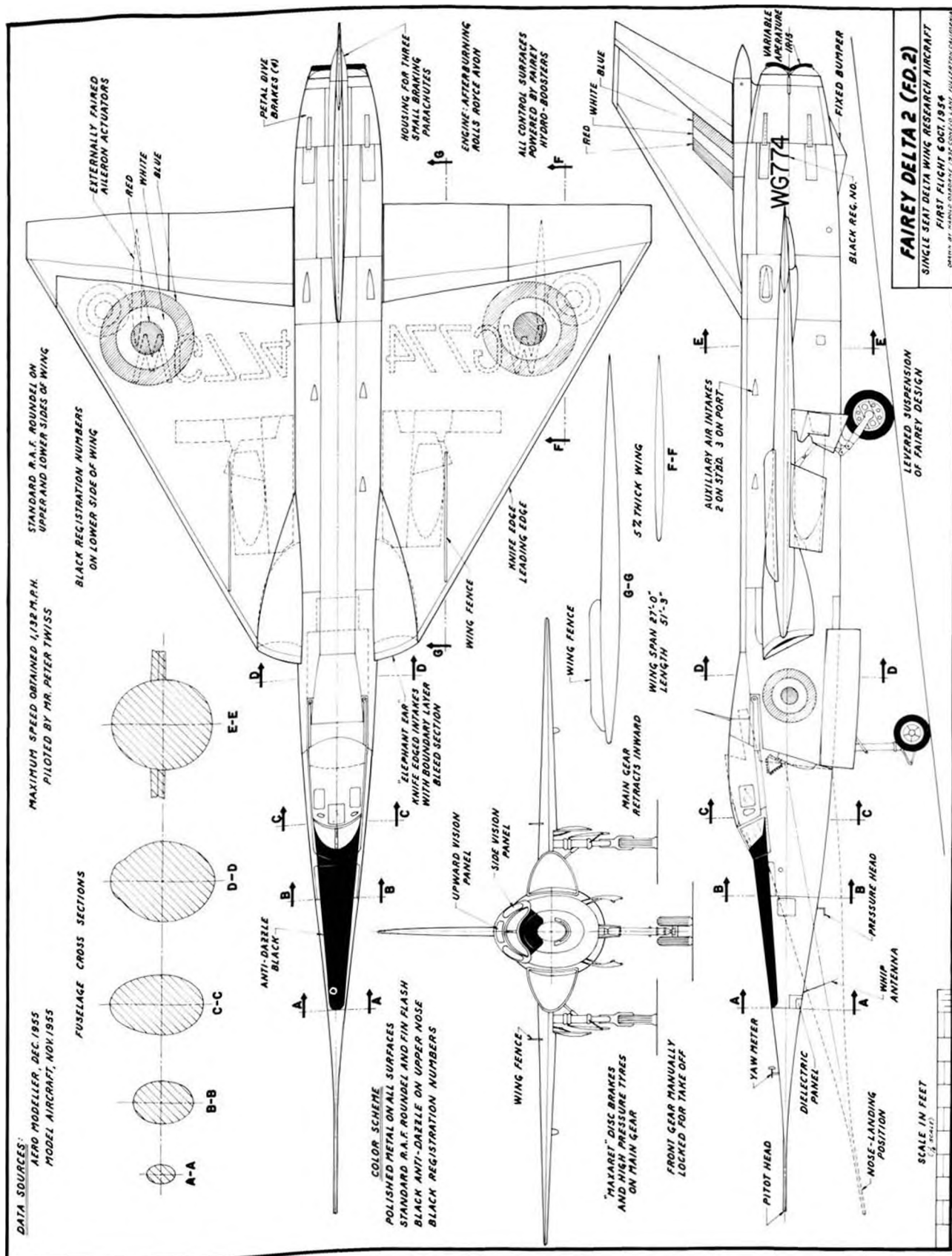
When framing a deck, it is recommended that the clamps and the ends of the deck beams are not sanded before the deck beams are installed. I prefer to leave a little "tooth" to the surfaces so that the epoxy can "dovetail" in and make a stronger joint. In place of the resin, Epoxolite may be used to secure the ends of the fore and aft stay reinforcements.

If the hull that you are working on is from light fiberglass and is warped, you can run a recessed strip down the full length of the boat instead of making local reinforcements for the fore and aft stays. Portions of this strip will be cut away in the areas where the hatches are installed but, to make certain that the hull is straightened by this process you must cut the notches in the *exact center* of each deck beam! The idea here is that forcing the strip into the notches automatically aligns the hull. Otherwise, if you cut the notches to fit the strip, you will not accomplish anything.

On my own boats, the full length strip is installed as a matter of course, because I have found that it is mighty handy to make a mark along its length to determine the centerline of the boat! Also, if you are planning to install a king plank, the strip can be a bit wide so that the king plank rests on top of it and the deck planking butts against the king plank and is supported by the strip.

Next month we will get into methods of decking . . . both the simple method and the "showcase" methods. Also, we'll deal with coamings for the hatches, rubstrips, and the like.

RED FACE DEPARTMENT . . . My apologies to Bud Salika! Bud's address is 3917 Sunnyside Ave., Brookfield, Ill. 60513 and not 3197 Sunnyside Ave. as reported earlier. If some of you have had your letters returned because of incorrectly addressed envelopes, now you know it was my clumsy fingers going astray on the letter mill! ●



SCALE VIEWS

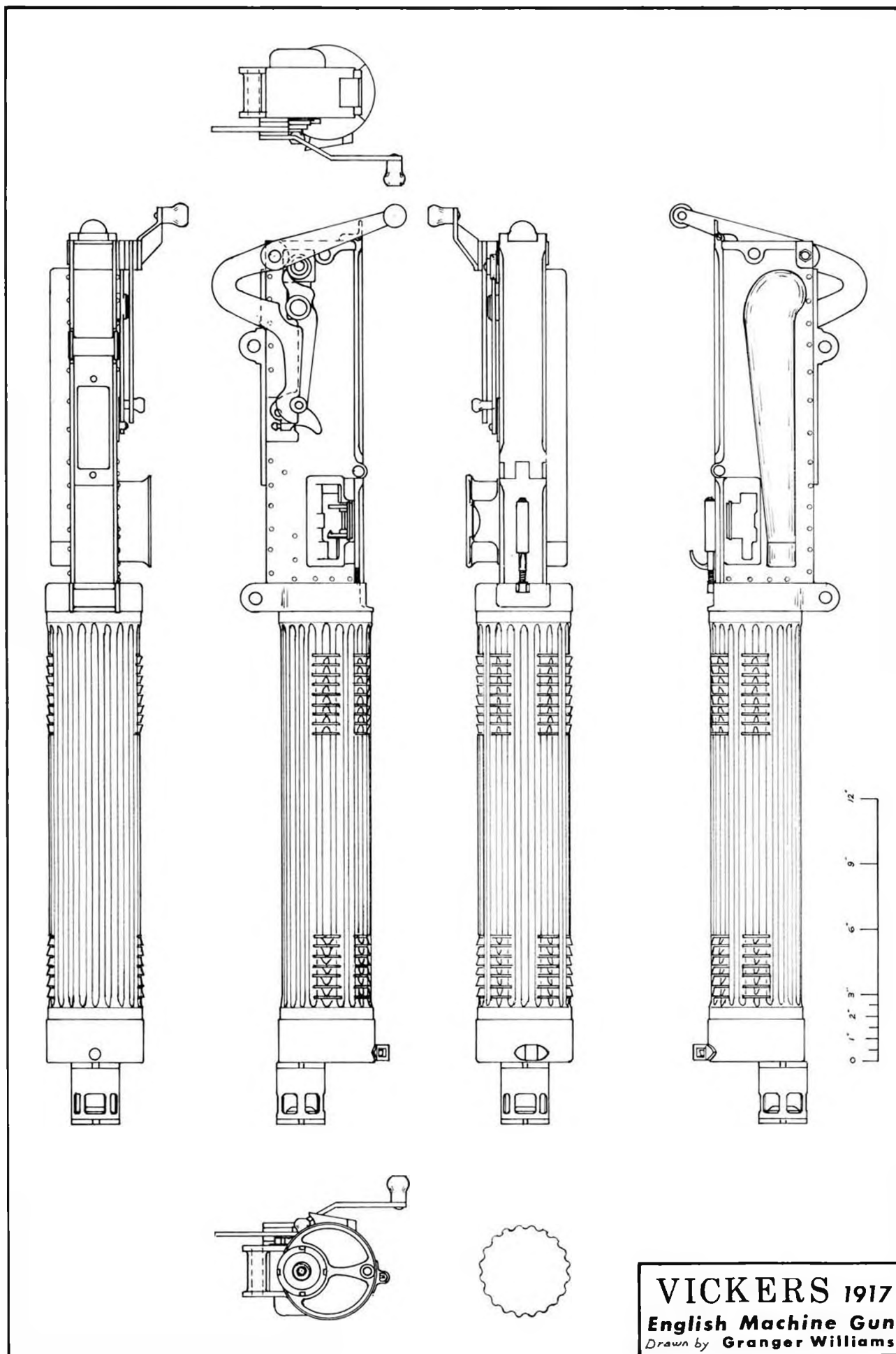
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The MODEL BUILDER



pylon/4..... *Continued from page 23*
Goodyear type, 2 or 3 wheel gear, ring cowl if a ring cowed radial engine had been used, and other unusual points like a T tail or Vee tail, gull wing, etc.

The other thing that surprised me were three flyers who talked freely about porting out the engines, line boring the bearing seats, etc. Now, ever since 1969 when the Q.M. rules were first published in the competition newsletter, the rules have called for a STOCK engine. The carburetor did not have to be stock, however.

No one protested the modified engines since they didn't run any better than the stocks. I've checked lots of engines I know to be stock and the souped engines didn't sound any better. Nevertheless, the rules say "stock." Admittedly it is difficult to prove an engine has been altered. I would suggest, though, that as long as we are on the honor system, a pilot should be asked to sign a paper at the contest stating no other work had been done on the engine than the removal of the bona-fide burrs. Then if he soups an engine, let it be on his conscience.

The following times are unofficial best times. The actual place was determined by averaging the best two times. A two mile course was used (2 pylons).

ARE QUARTER MIDGETS INSURED?

Probably, if they meet the conditions described below by RC Contest Board Chairman Bill Northrop. Bill and the AMA president have agreed on these conditions, in the form of a special safety ruling which, in effect adds to the current official AMA model aircraft regulations. This special ruling was considered necessary to prevent disruption of many currently planned contests for this very fast growing activity.

This addition is necessary to permit current Quarter Midget activity to enjoy sanctioned competition with normal insurance coverage. Such coverage depends upon models being flown in accordance with AMA regulations. Since Quarter Midgets do not conform to any other official racing class rules, there was a serious question of insurance applicability.

Adding to the confusion was the fact that Quarter Midgets or other RC planes not conforming to specific event rules could be flown with insurance coverage under Pattern rules with limits only concerning maximum engine size and weight. But they could only be flown in pattern meets or during 'Sunday' type sport flying.



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For sanctioned competition, however, some definitions of model and course specifications were considered necessary to be sure that insurance coverage is applicable. These specifications will serve as interim *minimum* rules for AMA sanctioned contests.

Since there is currently a rules freeze on, there will be no other official AMA rules for Quarter Midget racing until 1974. Sanctioned meets may include other requirements provided they are not in conflict with these minimum safety conditions. In any case, since the AMA rule book does not currently show any rules for Quarter Midget racing it is important for CD's to publicize well in advance which particular Quarter Midget rules variations will be used at their meets.

The approved conditions for insurance coverage:

The following minimum requirements for Quarter Midget Pylon Racing have been established as a basis for AMA sanctioning of contests which include this event. These are NOT to be considered as provisional or final rules, but are merely interim specifications which must be included in the rules put forth by individual clubs or groups, for the purpose of meeting AMA's insurance

requirements.

MODEL AIRCRAFT REQUIREMENTS:

Wing area — 300 sq. in. minimum (no deltas or tail-less airplanes).

Wing thickness — *Either* 7/8 inch at the root with not less than straight line tapers to the tip; *Or* 10 percent of chord (minimum) at any point . . . whichever is preferred.

Engine — Nominal .15 displacement (not more than .1526 cu. in.). Must demonstrate 10-second idle.

Weight — Minimum: 2-1/2 pounds, maximum: 4 pounds.

COURSE LAYOUT:

Three pylon course shall be similar to AMA layout for Formula I and II, FAI, and Sport Pylon, though distance between pylons may vary. Minimum distance between No. 2 and No. 3 shall be more than 75 from a line between No. 2 and No. 3.

A two pylon course may be used provided pilots stand at least 150 feet from a line between the pylons.

In either case, the spectator line must be no less than 100 feet from the course. ●

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F/F..... Continued from page 33

New design trends were most apparent in the gas events with pylon and rear fin ships being very in. There were definitely more pylon ships on the field than high thrust types. Sal Taibi flew a pylon/rear fin job in 1/2A as did Dick Mathis in 1/2A, A and B gas. Plane sizes varied a great deal within a class. Most noticeable were the variations in B Gas. For example, Tom Carmen flew a .29 powered "Texan" 1000, Walt Prey had a .29 powered 1200 sq. in. ship, while Dick Mathis flew a .23 powered "Pearl" 450. We flew a .29 powered "Shocer" 560. Frank Broeg's winning ship was .29 powered with a 600 sq. in. wing. In 1/2A, wing areas varied from 370 sq. in. to 200 sq. in. The 200 sq. in. ships proved to be at a disadvantage because of going out of site prior to a five minute max. The top five ships in 1/2A Open all had wing areas exceeding 280 sq. in. Auto surfaces on the FAI ships were commonplace, but just a few were seen in the AMA gas events. The quick d/t was seen in the AMA events. The Wakefields continue to be stretched out in length and aspect ratio. It was rumored that we were going to be treated to some circle towing in Nordic but it never came about.

Because of the heat, many ships covered in plastic films, such as Solarfilm, mylar and Monokote, were out of trim. We had ships covered with all of the above and some in Japanese tissue. The tissue covered ships were the only ones not affected by the heat. The Solarfilm and 1/2 mil mylar were loose after the first day. Even the Monokote had loosened by the third day. The temperature in my van was about 120 during the afternoons, which made the situation even worse. Anyway, back to tissue and dope for this flyer. (Or stay out of the heat!)

The Team Championship went to Bill Hunter, Bob Hunter, and Bob de Shields. Bob de Shields' high scores in HLG and A-1 glider, along with Bob and Bill Hunters' good flying in the gas events made the team win possible. Organization and team work were apparent, because as one would fly the others were there to assist. They received 677 points out of a possible 700. A much deserved win to "Team Satellite."

Randy Bunch, from Phoenix, Arizona, was the Junior Sweepstakes winner while Gerry Geraghty of Oakland, Calif. and Gerry Dyer of Los Angeles took the Senior and Open Sweepstakes events.

Jim Scarborough won the Grand Championship with 654 points out of a possible 700. Jim chose the same events that won for him last year; that is, four classes of AMA gas, night flying, Coupe and Unlimited Rubber. He feels that the above gas-rubber combination results in his best effort. We first met Jim at the 1957 Nationals and have been flying with him ever since. Jim has a definite strategy for flying any sweepstakes and he has won many. Believing strongly in the importance of reliability and consistency, he uses only thoroughly proven and time tested methods and materials. His ships are covered with tissue and doped with nitrate and fuel proofer. He still uses pinch-off timers and wouldn't get within twenty feet of any auto-surface. His favorite ship is the "Texan," which was designed some eighteen years ago by Ed Miller. But he is far from an old timer. His ships are light and fast, and he can pick air with the best. Jim's motto is, "If it isn't orange and a Texan, it won't fly." Although we may not agree with his motto, we surely agree with his philosophy about reliable and consistent airplanes.

As for the event winners, here is a complete rundown of all events through 5th place:

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D.F. Aker	28:47
Richard Wood	24:14
Wes Morris	24:12
Russ Backer	23:09

A Gas (sr/op)

Harold Thomas	35:06
George Batiuk, Sr.	31:04
Debbie Beron	27:29
Jack McDonald	25:00
Ray Faulkner	22:07

FAI Power

Ed Carroll	19:36
Bill Hartill	19:22
Ralph Prey	17:43
Ronnie Young	14:53
Tom Hutchinson	13:52

1/2 Gas (jr.)

Randy Bunch	19:04
Jamie Howard	15:00
Scott Valentine	14:05
Jim Kelley	13:50
Ken Bauer	13:18

A Gas (jr)

Kevin Booth	17:30
Randy Bunch	16:30
David Sbur	14:38
Scott Valentine	13:37
Randy Weiler	13:00

Wakefield

Bob White	25:00
Walt Ghio	21:08
Jud Saba	16:43
Irv Aker	13:57
Howard Doering	13:43

HL Glider (sr/op)

Bob deShields	11:08
Dick Mathis	10:43
Charles Primbs	10:35
Bob Isaacson	9:28
Jeff Kerkendall	6:54

C Gas

Ed Bellinger	31:41
Bill Hunter	27:09
Joe Norcross	25:52
Robt. Hammer	21:48
Dick Myers	18:24

A/1 Glider (sr/op)

Ralph Miller	43:32
Larry Pezzollo	17:31
Russ Backer	14:58
Bob Isaacson	13:32
Bob deShields	12:38

HL Glider (jr)

Gary Stout	5:33
Jim Kelley	4:24
Jim Bayly	3:17
Daryl Perkins	3:13
Floyd Aker	3:01

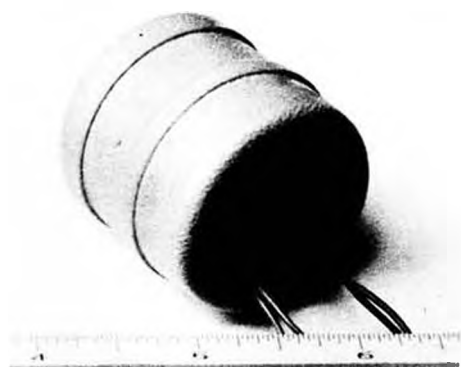
D Gas

Bill Hunter	23:38
Bob Hunter	15:00
Mike Schwartz	14:45
Jim Scarborough	14:28
Red Johnson	12:14

A/1 Glider (jr)

Randy Secor	15:00
Danny Diez	12:04
Kurt Van Nest	10:38
Gary Stout	10:20
Dan Sbur	9:42

FOR SOARING . .



JANSSON THERMAL SENSOR

Here is a commercially produced, crystal controlled, lightweight telemetry sensor for every glider fan. Available on 146.385, 146.565, 146.745, 146.925 and 147.285 MHz.

Transmits under FCC Vol. 4 Part 97 on 2 meter head ham band, and requires a technician class license.

1 5/8" diameter x 1 1/2" long. Weight is 1 1/2 oz., and drain is 35 milliamps. Uses 4.8 volts, which may be taken from either a separate 250 maH battery, or taken from the airborne receiver battery pack. No connectors are furnished.

Packaged in a small crash resistant container and provides a range of over one mile.

Jansson Thermal Sensor broadcasts baro-

metric changes (thermal air) by variation in tone - Low Tone: Descending - High Tone: Ascending. The audibly detected tone stabilizes at about 1000 Hz and increases (or decreases) at 3 ft. per second rate of change. It will broadcast thermal activity before the effect of rising air on the airborne glider is visibly detected.

Requires a pocket size portable receiver capable of receiving 146-175 MHz. Recommended for this use are either 99-35313L from Lafayette Radio Electronics or A-2587 from Allied Radio Corporation. These units sell for less than \$20.00, and also receive broadcast band signals; test proven to be the best available for the money. They are not furnished with the Thermal Sensor, but must be purchased separately.

The Thermal Sensor will be drop shipped from the Jansson factory. Allow 2 weeks for delivery. If airmail is desired, add \$1.00. Also please state frequency preferred.

(Drop shipped from Massachusetts)
No. 11A8-Jansson Thermal Sensor \$75.00



B Gas

Frank Broeg	21:58
Gerry Dyer	21:53
Dick Mathis	15:00
Lee Schroeder	15:00
Red Johnson	14:50

BC Gas (jr.)

Randy Weiler	14:15
Randy Bunch	10:40

FF Scale (Rubber)

Clarence Mather	76
Hal Cover	49
Bill Hannah	40
Bob deShields	
Bill Stroman	

B Old Timer

Gene Wallock	11:43
L.L. Holland	7:40
Bruce Chandler	5:10
Harry Lowe	5:09
Cliff Silva	4:27

C Old Timer

L.L. Holland	12:30
Jack Transue	12:27
N. Sanford	11:22
Bill Bowen	10:21
Ron Martin	9:42

Unlimited Rubber (sr/op)

Bud Romak	26:51
Bob Sundberg	24:42
Bob Isaacson	24:19
Andy Faykun	17:55
Jim Quinn	14:08

A/2 Glider

Bob Van Nest	30:00
Bob Isaacson	29:31
Tom Hutchinson	26:28
Lee Polansky	20:39
George Xenakis	19:05

.020 Old Timer

Bob Hunter	15:50
Bob Oslan	13:19
Ken Sykora	13:03
Andy Faykun	11:54
Brick Brickner	11:00

Unlimited Rubber (jr)

Randy Secor	14:19
Joel Rieman	7:19
Joe Bonang	5:01
Jim Johnson	4:08
Dennis Chadd	3:06

Payload

Bill Tracy	18:00
Casey Hornbeck	13:01
Chuck Ripley	4:12
Sal Taibi	3:44
Larry Norvall	3:21

Old Time Rubber

Earl Johnson	15:00
Warren Williams	14:06
Dick Seifried	13:55
Jim Quinn	12:00
Bob Oslan	11:19

Coupe d'Hiver

Harold Thomas	9:34
Jim Scarborough	9:30
Jim Quinn	9:29
Bob White	9:24
Gerry Dyer	9:13

Rocket

Ron Wittman	8:48
Bill Booth	6:19
Warren Williams	5:16
Richard Wood	2:04
Tom Carman	1:09

A Old Timer

Otto Bernhardt	11:49
Del Rheume	11:07
Larry Boyer	7:29
Abe Gallas	7:16
Phil McCarey	7:10

Night Flying

Mike Taibi	23:09
Tom Peadon	19:49
Bill Hunter	17:51
Jim Scarborough	14:45
Dennis Bronco	13:48

FF Scale (Gas)

Bill Warner	531
Chuck West	474
Bill Hannah	468
Bert Dugan	419
Ken Sykora	345

Antique

Otto Bernhardt	11:53
Abe Gallas	10:32
Phil McCary	10:04
N. Sanford	8:05
John Drobshoff	7:54



EAST COAST SOARING SOCIETY

ECSS members attended a series of six soaring contests that were open to all AMA members. Members of the ECSS were included in a percentage point system that led to the final ECSS championship at the close of the 1971 season. The ECSS has sponsored 10 contests since its beginning in 1970. Contests were held in four states this season, many more states and contests are contemplated for the 1972 season.

R/C Clubs that expressed an interest in sponsoring a contest under the ECSS program received a free booklet containing complete information for conducting successful soaring contest for as little as \$5, to as many as 100 contestants. This booklet contains useful data on personnel needed, equipment required, frequency control for a maximum number of rounds per day, timer and contestant briefing, advertising, and many other bits of useful information to guide them when planning their first soaring contest or possibly the biggest contest yet.

Members of the ECSS receive a monthly Newsletter that contains articles on official business of the Society, keeping the membership current on contest rules and regulations, proposed and passed amendments to their Constitution and By-Laws, ECSS proposals to the AMA, FAI and CIAM, and minutes of the 9-Member Board of Director's meetings.

On the lighter side of things, passed ECSS Newsletters contained approximately 100 pictures of sailplanes from all over the United States. Also, twelve separate articles on contest winning glider designs, including 3-view drawings of each winning model. Other articles reported in the various ECSS Newsletters were: Before and after reports on contests, maps, reports on products that became available during the past season, a complete membership roster, articles on soaring clubs, where they fly, and how to join the ECSS. The ECSS Newsletters published interesting technical articles on thermals, winches, aerodynamics, towing gliders with a powered airplane, construction articles on hand-operated winches, parachutes for retrieving towlines, wings with fiberglass shaft spars, up to the second news on AMA, FAI and CIAM proposals, rulings and meetings, and many other items of interest to the soaring enthusiast.

The East Coast Soaring Society plans to and will be bigger and better in the coming season. Come soar with us or just keep current in "what's happening" in R/C soaring this year by joining the ECSS. For additional information, a free copy of the ECSS NEWSLETTER and an application blank, forward your request to: THE EAST COAST SOARING SOCIETY, 9410 N. Penfield Road, Ellicott City, Maryland 21043. Attention: Treas. 71

hannan..... *Continued from page 32*
open cockpit machines, where you might almost consider this area as EXTERIOR, in terms of visual impact. The materials required to furnish a cockpit are, for the most part, inexpensive and easily obtainable. The secret ingredient, however, is *time*. If satisfying results are to be achieved, sufficient hours must be devoted. A few guidelines to contemplate

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Each kit contains six metal instrument cases, turned and plated. Six glasses and backs to fit cases. Twenty typical instrument faces included. Complete with instructions, easy to install.
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BOOSTER CHARGER
4.25 Cat. No. 96

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89c Cat. No. 51

"PEACE PIPE" MUFFLERS
models for all side port engines. No fitting req.
No. 101 .09-.19
No. 102 .39-.40
No. 103 .45-.65
Cat. No. 95

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.15	LONG OR SHORT	LONG ONLY	2.25
.18	LONG OR SHORT	LONG ONLY	2.25
.22-.40	LONG OR SHORT	LONG ONLY	2.50
.45-.58	LONG OR SHORT	LONG ONLY	3.00
.60	LONG OR SHORT	LONG ONLY	3.50
.60	LONG OR SHORT	SHORT ONLY	3.00

EXTENDED
No. 101L .09-.19
No. 102L .39-.40
No. 103L .45-.65
\$5.95

are:

1. All balsa wood in the cockpit area which will be visible to a viewer should be painted or covered; otherwise it will look exactly like what it is... balsa wood. Painted paper is one good approach to covering interior wall and flooring. The coated variety, as featured in high quality magazines (such as this one!) will take paint much better than common bond or typewriter paper.
2. If pins are used to represent knobs, throttles, etc., they will look exactly like pins. This comment also applies to other easily-identified household items. Such things can be used as the *basis* of interior details, but should be suitably modified so that they will more nearly resemble the intended parts.
3. Whenever feasible, the cockpit components should be painted prior to assembly. Trying to paint rudder pedals with a long, thin brush after assembly is not conducive to tranquility (or neatness either).
4. Exposed glue joints should be carefully avoided. Probably the best way to assure a neat appearance, is to mechanically fasten the cockpit details, which will then require only a

minimal amount of glue. As an example, the control stick can, in some cases, extend through the floorboard, and be glued on the underside only, thereby presenting an absolutely glue-free juncture as seen from the top. This combination mechanical/adhesive method of installing details has the added advantage of keeping everything "tied down" in the event of a prang.

Remember: The *quality* of cockpit details is far more important than the quantity. ●

f/f scale..... *Continued from page 49*
33 grams. So you can see the construction makes a tremendous amount of difference.

The model was powered with one loop of 5/32 inch rubber and required no ballast of any kind. It literally flew right off the board, and is an excellent flyer. Flights of 40 to 60 seconds are quite easy.

I hope that you found this article interesting, and also, informative. We want to show beginners, as well as experienced modelers, how to improve by using tested shortcuts and modifications with satisfactory results. Happy flying! ●

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soaring..... Continued from page 35
slower and suffered only a red face as his bird fluttered down, no worse for the experience. Meanwhile, Jim Haldy and his Windfree were quietly racking up the flight points, and Roy Stowers showed the crowd how to find lift with his Olympic 99 — made it seem so easy! A small frequency pileup was resolved in good time, leaving an hour for fun fly and repairs before shutting down the lines and packing up for the night. Even though Great American offered a grassy green meadow, the fire danger was still severe, and no camping was permitted on the field. The appetizing odor of barbecues filled the air, nevertheless, as the campers, only a mile away, prepared their meals and planned for Sunday's renewal of the battle.

The scale flyers presented some outstanding, to quote Le Gray, "Works of Art", and their flight points proved that they hold their own in flight competition as well. John Baxter flew his new Kestrel 19 to an outstanding 1st in Scale, then went on to score well with it in regular competition, as did Jeff Watson, Hugh Stock, and Konrad Nierich. Scale judges had a real challenge, determining a winner from a list including John's Kestrel 19, Jeff Watson's Nimbus II, Konrad Nierich's ASW-17, and Bob Thacker's beautiful Kestrel. John Donelson brought out his very realistic Phoebus C, and Hugh Stock's Kestrel 19 caught everyone's attention. Both Buck Faure and Pete Bechtel (Mr. Windspiel models) entered their ASW-15's, adding to the glamour of the scale display.

Again, on Sunday, the weatherman smiled his brightest, and Rick Walters was out with his White Trash long before the pilot's meeting, hand launching it into the slightest lift and soaring out hundreds of feet before swinging it back to a perfect spot landing. A few of us "old men" could profit just by

watching him for a while.

The task for Sunday was Precision Duration, with a 12 minute goal and three bonus landings, again a possible 1,000 points to the winner. Lloyd Weaver set up a five minute max program, allowing the pilot three minutes to get down after any max with the third flight timed to and at precisely 12 minutes of duration. Here the Jr./Sr. class showed its mettle, with Rick Walters, Paul Christian, and Jeff Walters putting on a fine show, and with John Simone, Jr. and Mark Hanson hot on their heels. On the "old man" side of the ledger, Chuck Beeman took his FK-3 almost out of sight on two fine launches, then dropped the ball with an aborted tow . . . somebody goofed. Kelly Pike, another Windfree proponent, pulled out all the stops and turned in spectacular times, but just couldn't find the runway when he needed it most. Kelly, by the way, was always right there when you

needed a timer, or a hand with the winch, or an expert launch, and he put several miles on his Keds, retrieving whenever the call went out. We'll make sure he's at all HSS affairs from now on — great example!

Dick Connors, down from Utah with his family (and his Cirrus) had his own rooting section parked under the trees, but they couldn't quite huff and puff hard enough to keep him in the air for a max. As consolation, however, he took home a fine prize for having traveled the longest distance to get to Garner Valley!

Third round almost at an end, and it looks as if Mark Smith has done it again! He and his Windfree have amassed 2,976 points out of a possible 3,000! And in the Jr./Sr. group, guess what Rick Walters brought home . . . 2,999 out of 3,000! (That's OK, you guys — next year he's 19 and must fly Open with the rest of you . . . Shape up!)

The shadows are lengthening, and the

RESULTS

OPEN CLASS (Over 18)

1.	Mark Smith	Windfree	2,976
2.	Jim Haldy	Windfree	2,159
3.	Roy Stowers	Olympic 99	1,983
4.	Chuck Beeman	FK-3	1,948
5.	Randy Warner	Coleen 12	1,860
6.	John Simone, Sr.	Grand Esprit	1,851
7.	Kelly Pike	Windfree	1,836
8.	Paul Denson	White Trash	1,841
9.	Chris Mauntz	ASW-15P	1,755
10.	John Donelson	Windfree	1,704

JR./SR. (18 and under)

1.	Rick Walters	White Trash	2,999
2.	Paul Christian	Diamont	2,618
3.	Jeff Walters	White Trash	2,419
4.	John Simone, Jr.	Windfree	2,344
5.	Mark Hanson	Azizo	2,077

SCALE

1.	John Baxter	Kestrel 19	6,022
2.	Jeff Watson	Nimbus II	3,367
3.	Konrad Nierich	ASW-17	3,351

score keepers are ready . . . time for the awards! Mike Fox has assembled an outstanding array of trophies and cups, totaling over \$500.00 in value. The Kraft KP2S radio, offered for a \$1.00 donation to any entrant or helper, went to Audrey McDonald, our tireless score-keeper! Well deserved, and Frank will have her in the air any day now. Trophies were awarded on a total score basis, and the merchandise prizes; four Olympic kits from Airtronics, three engines from L. M. Cox Manufacturing for the power pod bunch, and an assortment of merchandise from Hobby Shack, Century Hobby, Col. Bob's Hobbies, and Lakewood Village Hobby Shop, were well received by the top scorers — thank you all! Oh, and Bill Northrop awarded five subscriptions for the MODEL BUILDER to five Juniors, just as an incentive to keep them learning and keep them in the hobby . . . we need them!

The Harbor Soaring Society again extends a special thanks to the Great American Land Company, and especially John Edmondson, Dave Seager, and Ken Schneider for their generosity in allowing us to use the Garner Ranch for this contest. Since the late 19th Century, this area of Southern California has been a source of amazement to all for its beauty and climate, and we feel privileged to bring our activity to this historic setting. Thanks again. ●

i/f scale..... *Continued from page 31*
grim task, especially if the glue oozes from under the acetate, ruining an otherwise good job. However, this does not have to be the case. Another hint given to me years ago by our spoked wheel man, Don Typond, is to use film splicing cement (available at most all camera stores) in the following manner. First, put on about 3 or 4 coats of dope around the edges of the framework where the acetate will be in contact with the fuselage. When this is dry, place your previously fitted windshield in the proper location and carefully, a section at a time, apply the film splicing cement to the very edge of the windshield with a fine tip brush. The cement will travel by capillary action, and will adhere beautifully to the fuselage without any mess at all. Try it, you'll like it!

Cut out the plastic cowl parts, paint them in the appropriate color using enamel paint, and set aside to dry. The exhaust stacks should be made from 4 laminations of 1/32 inch sheet with the grain running in different directions

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similar to plywood. It is nearly impossible to sand the stacks found in the kit to a proper shape without breaking.

Before assembling the flying structures to the fuselage, take a ruling pen (preferably a Rapidograph or equivalent) and scribe in hinge lines, ailerons, doors, access hatches, etc. Having done this, glue the stab into the slot provided in the fuselage. Then glue the rudder onto the fuselage, making certain it is at right angles to the stab. Now attach the wings. The best method here is to use contact cement. For those of you who may not be familiar with this type of adhesive, it is the kind that requires a coat of cement on each half to be joined, after which, they are set aside to dry. When the parts no longer feel tacky, carefully align and press both sides together . . . never to be separated again! The advantage in its use here is that once the wings are attached to the fuselage, you do not have to hold them in place and wait for the glue to set up, not even for the five minutes required by the fast epoxies!

You may want to place the registration decals in their proper place on the wings and tail, particularly the wings, before adding the wing struts. This way you won't have to work around the struts. I have chosen not to use the lifting type struts as shown on the plan: weight, you know. Usually, Robins that were powered by the radial engine had the narrow struts, while the OX-5 powered version had the lifting type. However, the narrow struts were also

used with the inline version. The stock used for this purpose was 1/16 x 1/8 inch, sanded to an airfoil shape.

The painting of all the struts can be done in the following way: Once you have finished sanding, brush on a coat of Floquil model railroad paint. (Floquil comes in many different colors.) When dry, sand lightly, and paint again. This is all it takes to make them smooth, with no fuzz or wood grain showing, ready to be applied to your model. I can't say enough about the excellent qualities of Floquil, it is a most remarkable product. We will discuss more uses for this paint in future articles.

With all struts, wings and landing gear in place, using contact cement for quickness and a little flexibility, there are only a few more items remaining. The wheels that came in the kit are heavy, but can be used. We used wire wheels made by Fulton Hungerford, described in the July MB. They are strong and light.

Make up the prop assembly as shown on the plan, add the rear motor peg, the tail skid, and that should about do it . . . except perhaps, for one last item. If you do not like the glossy appearance of the decals, you can take a product such as Testor's Dullcote, spray on a coat and kill the gloss.

The model in its completed form (less rubber motor) weighed 29.3 grams, which is just a hair over an ounce. For comparison, the kit-built fuselage, wings and tail only, (uncovered) weighed

Continued on page 54



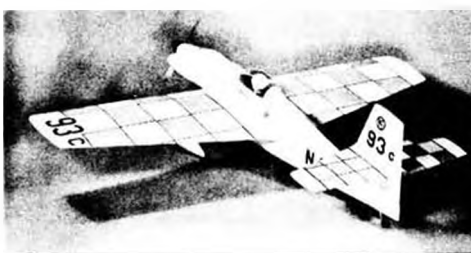
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pylon..... *Continued from page 18*
like the full size one now) No. 2. The competition was extremely close throughout the two days of racing, with no less than 27 pilots having times under 1:40. After Saturday's racing, four pilots were tied for first: Clarence Neufield, Terry Prather, Bob Smith and myself. The first round on Sunday finally saw Bob Smith and Terry Prather race each other for the first time this year, with Bob winning hands down. Terry was nosed out for second at the finish line by Jack Hertenstein. Terry switched to his faster back-up aircraft for Sunday's third round when he had to race me (just my luck). Before this heat, I had never really gotten shook during a heat and was beginning to feel I never would. Things were different in this race, though, I was in front of Terry on the fourth lap by about 300 feet when all of a sudden I couldn't fly straight because my hands were shaking so much. Terry won the heat, with both of us turning our best times, and I was put into a tie for third with Bob Bleadon.

The most exciting race of the contest was between Ed Hotelling and Bob Smith. They were within, at most, 20 feet of each other through the whole

race. Ed passed Bob on the seventh lap but cut the No. 1 pylon on the ninth lap and had to settle for second.

There was an interesting battle to see who could post the fastest time. Bob Smith was the first to break 1:30 with a 1:29.8 in the sixth round. Larry Leonard, who was prevented from capturing this third second place finish in a row by a basket case in the second round, came right back with a 1:29.4. Bob put it all

together in the seventh round, however, and flew a perfect course for a record 1:27.9.

Clarence Neufield from Bakersfield was the only flyer to match Bob's seven heat wins. Clarence's toughest race was also against Ed Hotelling when he flew his fastest race ever, 1:30.2, against Ed's '72 K&B powered Ballerina. It was hard to recognize Clarence in the air since his Minnow was not painted his familiar pink and black.

The contest promised to have an exciting finish in that there were four fly-offs to determine the first eleven places. In the four-way "Kraft" fly-off for eighth, Larry Leonard turned a 1:29.8 taking off *fourth* and beating out Joe Martin, Chuck Hayes and Jeff Bertken. Chuck did surprisingly well in his first race in a long time. Jeff Bertken seems to have learned a few tricks while calling for his partner Bob Smith, and turned a 1:31.0 earlier on Sunday, barely nosing out the DOM Cliff Weirick.

In the fly-off for sixth, it was obvious that Terry Prather was trying to break Bob Smith's record since he more than lapped Bob Francis but received two cuts in the process. Bob turned a 1:39, so Terry might have made it without the cuts. It was good to see Bob flying again after a long layoff. He actually has most of his old form back already.

Bob Bleadon and myself had been waiting all year to meet head to head in Formula I and it finally came to pass in the fly-off for third. It was nip and tuck for the first four laps but Bob had to spoil it by cutting the No. 1 pylon twice. He claimed that he was handicapped since his plane had just been rebuilt from his mid-air a month earlier. All he could say was, "Wait till the Nats."

RESULTS

Bakersfield, California, June 3-4

Name	Aircraft	Engine	Time	Points
1. Bob Smith	Miss DARA	'72 K&B	1:27.9	28
2. Clarence Neufield	Minnow	'72 K&B	1:30.2	28
3. Chuck Smith	Miss DARA	'72 K&B	1:34.2	27
4. Bob Bleadon	Miss DARA	'72 K&B	1:37.9	27
5. Bob Francis	Shark	'72 K&B	1:37.7	26
6. Terry Prather	Minnow	Tigre	1:32.5	26
7. Ron Russell	DeNight	K&B	1:53.5	24
8. Larry Leonard	Miss DARA	'72 K&B	1:29.4	23
9. Joe Martin	Minnow	'72 K&B	1:39.4	23
10. Chuck Hayes	Shark	'72 K&B	1:39.8	23
11. Jeff Bertken	Miss DARA	'72 K&B	1:31.0	23
12. Joe Vartanian	Miss Dallas	Tigre	1:30.9	22
13. Whit Stockwell	Shark	Tigre	1:37.2	22
14. Dan McCan	Miss DARA	'72 K&B	1:37.3	22
15. Joe Foster	Shark	'72 K&B	1:39.5	22

The fly-off for first was rather anticlimactic since Clarence blew a plug and didn't get into the air. All Bob had to do was fly eleven laps (he cut) for the first place trophy.

One interesting episode from this meet was the fall and rise of Ron Schorr. Ron crashed his number one plane on Saturday and afterward was willing to sell all his equipment and planes for \$25 and get back into drag racing. But he stuck with it and got his number two plane ready. On Sunday he must have become possessed in his race with his arch nemesis, Whit Stockwell. Ron was flying his K&B powered Miss DARA so well that I had to look down to see if his caller, Bob Smith, had taken over control. He beat Whit handily with a time of 1:37.5. Needless to say, he was on cloud nine for several days. This story has an unfortunate ending, however. When Ron returned to his North Hollywood home, he left his plane inside his car wrapped in a towel. Two days later he took his wing out and discovered the sun had melted the foam inside the right hand panel. Anyone want to buy some good Kraft equipment for \$25?

The southeastern flyers are continuing their very busy and competitive season. The following reports come again from Jack Fehling:

"The big news from the Orlando, Florida races on April 30 was that after three years and a countless number of second places, Ed Weitock finally flew his way to a well deserved first place. With temperatures in the mid-80's, humidity 95%+ and a light rain falling, Ed was still able to turn a fast time of 1:38.5.

RESULTS

Orlando, Florida, April 30

1. Ed Weitock	Ballerina	Tigre	1:38.5
2. Jim DeMeritte	Ballerina	Tigre	1:40.8
3. Bill Williamson	M/W Cosmic Wind	Tigre	1:46.3
4. Chuck Baucom	Shoestring	K&B	1:48.3
5. Jim Maki	Shoestring	Tigre	1:52.2

RESULTS

Atlanta, Georgia May 20-21

1. Harold Coleson	Stegall Minnow	K&B	1:36.2
2. D.C. May	Stegall Minnow	K&B	1:36.0
3. Ed Weitock	Ballerina	Tigre	1:45.5
4. Tom Baker	Stegall Minnow	K&B	1:45.0
5. Jim Stegall	Stegall Minnow	K&B	1:47.0

RESULTS

Hampshire, Connecticut Showdown Races, May 7

1. Jerry Wagner	M/W Minnow	Tigre	1:33.2
2. Mike Helsel	Minnow	Tigre	1:34.0
3. Sam Griswald	Minnow	Tigre	1:42.0

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"This year's Nats should be very exciting when Weitock, DeMeritte, Williamson and others from the South get a chance to compete with the rest of the nation on neutral ground."

I received the following report from Mike Helsel, Dover, Pennsylvania, on the Hampshire, Connecticut Showdown Races held on May 7:

"We started the day with typical New England weather (clouds, wind and some rain) for Formula II. There were 10 entries and when the smoke cleared Mike Helsel took first with all wins, Bob Barkowski was second and Pete Reed earned third place in a fly-off with Jack Secondo. The middle of the day was spent on stand-off scale and sport pylon.

"Formula I started with 20 entries. As races were completed there were three pilots with perfect scores: Jerry Wagner, Sam Griswald and Mike Helsel.

"Now the stage was set for the best race of the day. All pilots had posted time in the low 1:40's. What a race. Jerry Wagner took off first and led until the fifth lap when I passed him on the 2&3. He regained the lead on the seventh lap only to lose it on the ninth lap. On lap ten, I was all alone in the lead until on pylon No. 3, Jerry's Blue Beast passed me and won by one tenth of a second at 1:33.2. A good time was had by all."

I was CD for the Valley Flyers at their first FAI Pylon races on June 10-11. We again used racehorse starts with good success in three-plane heats. There was only one mid-ground collision through ten rounds of 24 entries. These simultaneous take-offs hopefully will become common practice for FAI, since they



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eliminate the luck of the draw from racing.

One strange incident occurred to Ed Foster, Joe's brother, who was in second

place going into the last round. He over-rolled his P-51 at the number one in his last race and set a record for low level flight. His aircraft almost disappeared

in the weeds that line the runway at Mile Square as he was heading toward the number two pylon. Miraculously, it reappeared but was minus the prop and the engine head! The head bolts were ripped right out of the case. He continued his glide with weeds streaming from his landing gear and landed in a tomato patch. I've had planes come that close before but they didn't fly away (they were basket cases).

The Valley Flyers Formula I Air Races on May 6-7 was the first pylon contest at which I was Contest Director. I had two main objectives in mind when preparing for this contest: first, and most important, was to provide for the safety and comfort of the officials, and second, to increase the communications between the officials, flyers and spectators.

We took several steps to provide protection for workers on the course. First was the design of the pylons. These are basically four sided, open top structures built mostly of 1/8 inch plywood. The bottom half has one open side so that the pylon judge can sit in a chair partially inside the pylon. The side of the pylon on the left of the judge is made from 1/2 inch plywood, which hopefully will protect the judge in case some pilot flies too low and too tight. The basic pylon is eight feet high with a three foot square base and can be easily disassembled into two sections, the top section fitting inside the bottom for storage and transportation.

One inch I.D. pipe extends up through the top of the pylon to a height of 18 feet for the No. 2 and 3 pylons and 25 feet for the No. 1 pylon. The sections of pipe are connected with lengths of 1 inch dowel, which are sawed half way through so that they will break when some pilot tries to test their strength with his racer.

So far, these pylons have given the pylon judges a degree of securing which they have never had before. Our club found it difficult in the past to find volunteers for the No. 3 pylon (several had ended up flat on their faces trying to avoid low flying aircraft) but after our first race this year, we had two club members insist that they be put to work only at the No. 3 pylon at future contests. They say that it's now the best place from which to watch the races.

Over the past few years in Southern California, we have tried several methods for counting laps. We found that the lap card system, used by the San Gabriel club, is the most reliable and the easiest to administer. To improve on the existing system, we constructed a lap counting board behind which the lap counters could sit. The fatigue rate was rather high

RESULTS

Mile Square, Fountain Valley, California, June 10-11

Name	Aircraft	Engine	Retracts	Time
1. Bob Smith	Miss B.S.	Lee K&B	-----	1:43.5
2. Garry Korpi	Miss FAI	Roy K&B	Rom-Air	1:50.4
3. Joe Foster	P-39	Roy K&B	Rom-Air	1:53.5
4. Terry Prather	Miss B.S.	Tigre	Goldberg	1:51.5
5. Ed Foster	Francis P-51	K&B	-----	1:53.5
6. Jeff Bertken	Miss B.S.	K&B	Goldberg	1:54.6

in past contests when the lap counters were almost constantly standing, but in our two contests this season, we were able to use the same set of lap counters through two days of racing with their only break being for lunch.

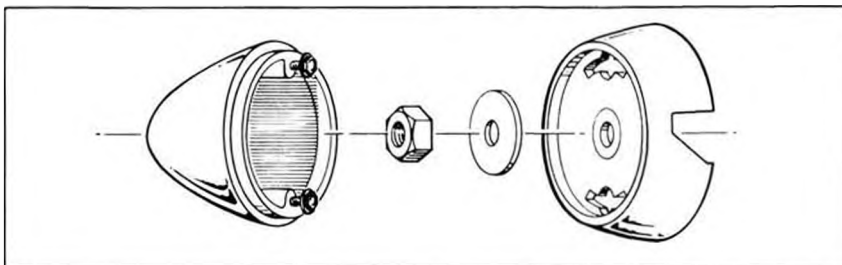
The four sets of lap cards are colored to correspond to the starting position of the aircraft. They are placed near the starting line and are angled so that the Starter, pilots and spectators can all see them. In addition, each lap counter has two cut cards which he can flip over: a red one to indicate one cut and a black one for two cuts.

Each lap counter, is equipped with a hardhat and stopwatch, and has an earphone that is connected to the central switchboard, which the head lap counter operates while sitting at a table to the left of the lap counters. The earphones are plugged into a transistor radio, which is tuned to the loudest station in the area. The head lap counter has four switches which he can turn on to notify the appropriate lap counter of a cut. This eliminates most of the misunderstood shouting that was necessary in the past. Whenever a lap counter hears music in his ear, he turns to the head lap counter to confirm the cut and then flips over a cut card instead of a lap card for that lap. When an aircraft is on its last lap, the lap counters stand up and point at the plane so that the Starter will know which one to give the checkered flag to. If a cut occurs on the last lap, the lap counter immediately sits down so that the starter doesn't flag the plane. This doesn't always work out right, however, so we still have to state at the pilots briefing that if an aircraft cuts a pylon on the final lap and still receives the flag, the pilot must still fly another lap before he has officially finished the race.

To insure that no cuts would go unnoticed, we obtained a communications system from the Telectric Co., 1218 Venice Blvd., Los Angeles, Ca. 90006 for under \$300. This consists of a double headset and a switchboard with which the head lap counter can talk to all the pylons and the registration desk. Each pylon judge has a headset over which he relays all cuts. When a flagman calls a cut at the No. 1 pylon, the pylon judge relays the number (starting position) of the aircraft. Before each heat, the head lap counter writes down the color of the aircraft in each starting position. When a plane cuts either the No. 2 or No. 3 pylons, the judge blows a Freon powered airhorn (available at most boat shops) and tells the head lap counter the color of the plane that cut, who then notifies the appropriate lap counter.

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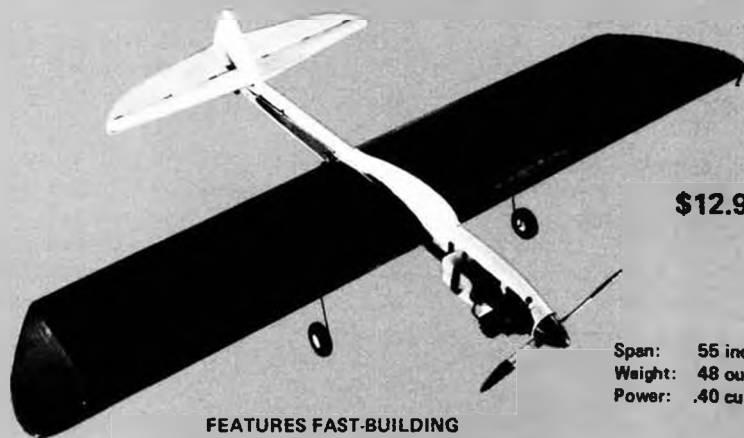
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The head lap counter also has contact with the registration desk through a telephone. After each heat, he can ring the desk and immediately give them the official results, which is then announced to the pit and spectator areas over the PA system. Officials in the pits can relay

messages to the flight line at any time by just picking up the phone.

To protect the vulnerable back side of the lap counters, a four foot high 1/2 inch plywood barrier is set up behind them. I spent most of my time as head lap counter at our Formula I contest and this

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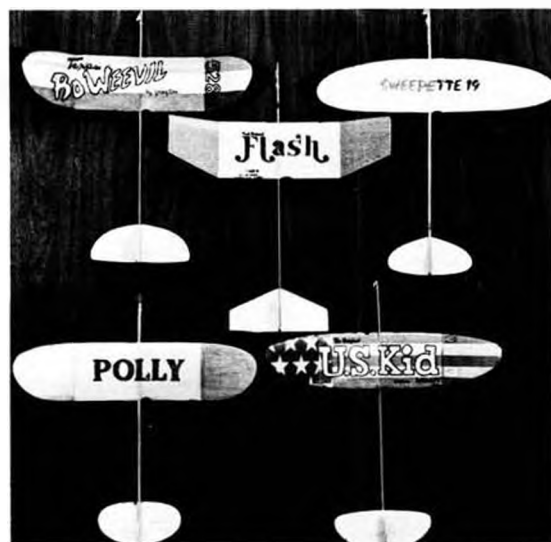
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barrier greatly reduced the sense of impending danger on the flight line.

One other very essential provision on the flight line and at the No. 1 pylon is a cooler full of cokes and beer (hot coffee for you suffering people in the East). This keeps the workers happy (the CD must be careful that they don't get too "happy"), which is very important if a Contest Director expects them to volunteer for future contests. Conveniently located heads and plenty of chairs are also important for the worker's comfort. We had a situation at our last contest which led to discomfort for the workers that I had not prepared for. It seems that a swarm of flying ants were attracted to the orange and white pylons and the colored hard hats the workers were wearing. The purchase of bug spray during the lunch break alleviated this problem, however.

At the Number One pylon we built two 4' x 8', 1/2 inch thick plywood barriers which the flagmen stand behind. The one innovation on these is a system which indicates throughout a heat when a plane has cut the No. 1 pylon. To accomplish this, four 2' x 4' sections of 1/8 inch plywood are hinged down the center of the barriers and held in an upright position by screen door hooks at the top of the barriers. One half of each barrier is painted the color corresponding to each starting position (No. 1 yellow, No. 2 green, No. 3 white and No. 4 orange). All the pylons and barriers are painted with K&B Superpoxy which was donated by K&B. The back of the 2' x 4' sections and the top half of the barriers are painted with black and white diagonal strips. When an aircraft cuts the pylon, the hinged section is unhooked and the

color of the position disappears and only the strips are visible. This appears throughout the rest of the heat and is visible to all contestants in the heat and to the spectators. A rope is attached to the hinged sections so that the flagmen can pull them back into place before the next heat without leaving their positions.

There has been one complaint about this system and that is that a plane usually reaches the No. 2 or 3 pylon before the cut is indicated. To speed up the operation of the system, we are replacing the hooks with magnetic latches so that the hinged sections can be pushed down immediately. One problem we have run into is that many callers do not look at the flagmen before they say turn and sometimes call their second cut before they notice the first one. But this system allows an alert pilot and caller to know exactly what is happening in their heat.

Another change we made in the procedures we followed was having the aircraft land on the side of the course opposite the pit area. This way, the heat on the ready line does not have to wait for all the aircraft in the previous heat to land and can start walking to the starting line as soon as the last plane crosses the finish line. The procedure is safer in addition to saving about one minute per heat.

It would be almost impossible to run a successful pylon contest without the help of competent officials. At the Valley Flyers Formula I contest, I had the help of some of the most experienced officials in the nation, Betty Stream organized the registration desk and did the thankless job of setting up the heats. Glen Spickler and Jerry and Jean Christianson made the three hour drive from Bakersfield to do

their usual superb job on the starting line. They'll be at Chicago this summer to make this year's Nats one of the best ever.

The Valley Flyers this year had a problem in that our home field, the Sepulveda Basin, is unsuitable for a Formula I contest due to construction. We therefore held the contest at Mile Square, which is over 50 miles away. We knew that because of this we would have great difficulty getting volunteers from the club to help out. Therefore, with invaluable help from Jack Fabbri, who taught Betty Stream how to set up heats and swears he'll never do it again, we enlisted the services of a local Boy Scout troop to act as lap counters and flagmen. To the surprise of practically everybody, these kids, under the guidance of their Scout Masters, Jack and myself, did their job as good as or better than any other experienced workers we have seen. We donated a portion of the entry fee to the Scouts for a job which they really enjoyed doing. I think that clubs all over the nation should investigate the use of Scouts at contests when the list of volunteer club members is a little sparse. They do a great job.

All the procedures which we use at our contests are outlined in detail in the 1972 Race Procedure Guide available from the NMPRA. This guide is also reprinted in the July issue of RCM. ●

Bonzo..... Continued from page 11
sprayed with competition orange enamel until it matched the color of Missile Red Super Monokote. These parts, as well as

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the inside of the cowl and tank compartment are then given a coat of clear Hobbypoxy to make them nitro-proof.

The rest of the ship is covered with Missile Red Super Monokote. Note that the Monokote defines the external lines of the fuselage in many places. Except for underneath the stab, the fuselage structure provides surfaces to attach the edges of the Monokote. Under the stab, a thin wedge shaped strip of balsa can be added to provide a surface for attachment of the covering material. Black Regular Monokote was used for all trim and lettering.

FLYING

With the center of gravity no farther aft than shown, and with the control surface movements limited to those shown, Bonzo is a relatively easy racer to take-off, fly, and land. For take-off, the elevator trim is set in neutral and full up elevator is held so that the tail-wheel can act as an effective steering device. Up elevator is relaxed immediately after the plane leaves the ground. The race is also flown with the neutral elevator trim. For landing, the engine is shut off and except on extremely windy days, the elevator trim can be moved to about full up. This makes control of the airspeed during the dead-stick approach much easier than if back pressure is held on the stick. Back pressure is applied only during the flare to the three point landing and the landing itself. The airplane must be landed very slowly, in a full stall, to prevent bouncing. The major difficulty in doing this is to convince oneself that a six pound, high speed airplane can be flown as slowly as Bonzo can. Happy pylon polishing! ●

counterfeit.. Continued from page 21 ago), I knew I would ache from head to toe with a zillion forgotten muscles. You know, I felt just fine the following day

except for one thing. I couldn't eat anything except soup because my jaw muscles ached from the bubble gum. A friend of mine claims it wasn't the gum, but rather, from smiling a lot. And I guess I did smile a lot. Not one other max was flown on that beautiful Sunday by any other towline model and Counterfeit came in with a full score of two (all that was required) for the win.

DESIGN

With an eye towards "straight" competition, Counterfeit was designed to AMA specifications for A-1 Towline with 278.2 square inches of wing area and weighing 145 grams, as built, without ballast. The under cambered airfoil has a thickness of 9 percent, although when the constructed wing has been sanded, it is probably closer to 8 percent. The aspect ratio of 13.2 is effectively increased to over 14 by tip plates. (The vertical fin areas incorporated in addition to the tip plates are largely ornamental . . . be my guest . . . as directional control is attained primarily by elevator trim). As constructed, the wing has 25 degree sweep back, elliptical dihedral, and jig constructed tip washout of 10

degrees (which springs back to something between 7 and 8 degrees out of the jig). Rigidity of the wing structure has been graduated to force the effects of dihedral and washout in gradually increasing amounts toward the wing tips.

CONSTRUCTION

One of the beautiful things about building a flying wing is that when you are through building the wing, you have basically completed the construction. There is only a vestigial fuselage required to locate the tow hook near the center of gravity. (The only drawback I have really observed is that because of the single unit construction and sweep back, the wing is awkward to transport. It takes a lot of space!). A wing dihedral/washout/construction jig is highly recommended, as described on the plans. This jig may also be used for storage and transport of completed wings.

So if you'd like to get out of a rut and try something different — sweep (no pun intended) all that conventional stuff off your workbench and build a Counterfeit. All construction, flying, and trimming information is provided on the plans. ●

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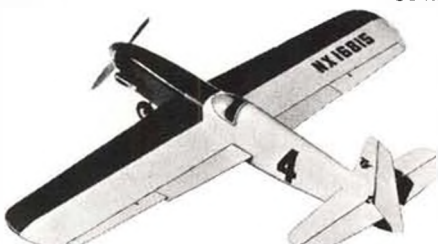
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